

LOCATION MAP

LATITUDE: 40 °07'08" LONGITUDE: 82 °52 '59"



PORTION TO BE IMPROVED	—————
INTERSTATE HIGHWAY	=====
FEDERAL ROUTES	=====
STATE ROUTES	=====
COUNTY & TOWNSHIP ROADS	=====
OTHER ROADS	—————

**DESIGN DESIGNATION**

CURRENT ADT (2024)	64,716
DESIGN YEAR ADT (2045)	86,550
DESIGN HOURLY VOLUME (2045)	9,080
DIRECTIONAL DISTRIBUTION	50%
TRUCKS (24 HOUR B&C)	8%
DESIGN SPEED	70 MPH
LEGAL SPEED	65 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
02 OTHER FREEWAY & EXPRESSWAY (URBAN)	
NHS PROJECT	YES

**DESIGN EXCEPTIONS**

NONE REQUIRED

**ADA DESIGN WAIVERS**

NONE REQUIRED

**UNDERGROUND UTILITIES**  
 Contact Two Working Days  
 Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764  
 (Non members must be called directly)

PLAN PREPARED BY:  
 ARCADIS - IBI GROUP  
 8101 North High Street  
 Columbus, OH 43235  
 tel 614 818 4900 fax 614 818 4901

**Floodplain** COLUMBUS

COMMENTS NO COMMENTS

mvansickle

SUBMITTAL# Stage 3 04/29/2024

Please see repeat floodplain comments & questions on p. 3, 4, 30, 31, 36, 49, 55 & 56. Renee VanSickle, 4-29-2024.

ARCADIS RESPONSE: We believe we complied.

FIRM PANELS: 39049C0203K  
 MAP EFFECTIVE DATE: JUNE 17, 2008  
 BFE: 957.40  
 FLOOD ZONES AE & X

FIRM PANELS: 39049C0204K  
 MAP EFFECTIVE DATE: JUNE 17, 2008  
 BFE: 974  
 FLOOD ZONES AE & X

NO FILL WILL BE ADDED IN THE 100-YEAR FLOOD PLAIN.

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-5.1	7/15/22	MT-95.30	7/19/19	TC-41.10	1/19/13	800-2023	7/19/24		
		MT-95.40	7/21/23	TC-41.20	10/18/13	821	4/20/12		
DM-1.1	7/17/20	MT-95.45	7/21/23	TC-42.10	10/18/13	832	7/21/23		
DM-1.2	7/16/21	MT-95.50	7/21/17	TC-42.20	10/18/13	921	4/20/12		
DM-4.1	7/17/20			TC-51.11	1/15/16				
F-1.1	7/19/13	MT-98.10	1/17/20	TC-61.30	7/19/19				
F-3.3	7/19/13	MT-98.21	1/17/20	HL-30.31	1/19/24				
F-3.4	7/19/13	MT-98.22	1/17/20						
MGS-1.1	7/16/21	MT-98.29	1/17/20	BR-1 REV.	4/03/90				
MGS-2.1	1/19/18	MT-99.20	4/19/19	RM-4.3	1/21/22				
MGS-3.1	1/19/18	MT-101.70	4/21/23						
MGS-5.3	7/15/16	MT-101.75	7/21/23						
NBS-1-09	7/15/22								

STAGE 3 SUBMITTAL 03/27/24

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# STATE OF OHIO DEPARTMENT OF TRANSPORTATION

## FRA-161-15.80 NOISE WALLS

CITY OF COLUMBUS AND NEW ALBANY  
 PLAIN TOWNSHIP  
 FRANKLIN COUNTY

**FEDERAL PROJECT NUMBER**

NON-FEDERAL

**RAILROAD INVOLVEMENT**

NONE

**PROJECT DESCRIPTION**

INSTALLATION OF 8,422 FEET OF NOISE WALL AND 4,836 FEET OF 81" SINGLE SLOPE BARRIER AT VARIOUS LOCATIONS ALONG STATE ROUTE 161 BETWEEN ULRY ROAD AND US 62. THIS PROJECT SUPPLEMENTS THE FRA-161-15.80 WIDENING PROJECT.

**EARTH DISTURBED AREAS**

PROJECT EARTH DISTURBED AREA:	7.95 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	8.20 ACRES

**LIMITED ACCESS**

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

**2023 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

**DOSD/Storm&Sanitary** COLUMBUS

COMMENTS NO COMMENTS

COMMENTS (COMPLIANCE REVIEW ELIGIBLE)

tistewart

SUBMITTAL# Stage 3 04/29/2024

**DOSD/SWPPP** COLUMBUS

COMMENTS NO COMMENTS

COMMENTS (COMPLIANCE REVIEW ELIGIBLE)

tistewart

SUBMITTAL# Stage 3 04/29/2024

**Division of Power** COLUMBUS

COMMENTS NO COMMENTS

COMMENTS (COMPLIANCE REVIEW ELIGIBLE)

sawolfe

SUBMITTAL# 04/03/2024

**Division of Power** COLUMBUS

COMMENTS NO COMMENTS

COMMENTS (COMPLIANCE REVIEW ELIGIBLE)

klrhynhard

SUBMITTAL# 3rd Review 04/19/2024

**Division of Water** COLUMBUS

COMMENTS NO COMMENTS

COMMENTS (COMPLIANCE REVIEW ELIGIBLE)

dahill

SUBMITTAL# Stg.3 Review 04/23/2024

**ENGINEER'S SEAL**

*Anthony C. Turowski*  
 Anthony C. Turowski, P.E.  
 District 06 Deputy Director

*Jack Marchbanks*  
 Jack Marchbanks, PhD  
 Director, Department of Transportation

**NOTE:**  
 FOR CITY OF COLUMBUS AND CITY OF NEW ALBANY SIGNATURES, SEE SEPARATE SIGNATURE PAGE

DESIGN AGENCY  
**ARCADIS**  
 1000 WEST HIGHWAY 100  
 SUITE 100  
 COLUMBUS, OH 43260  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH** 03-27-24

PROJECT ID  
**117607**

SHEET TOTAL  
**P.1 P.295**

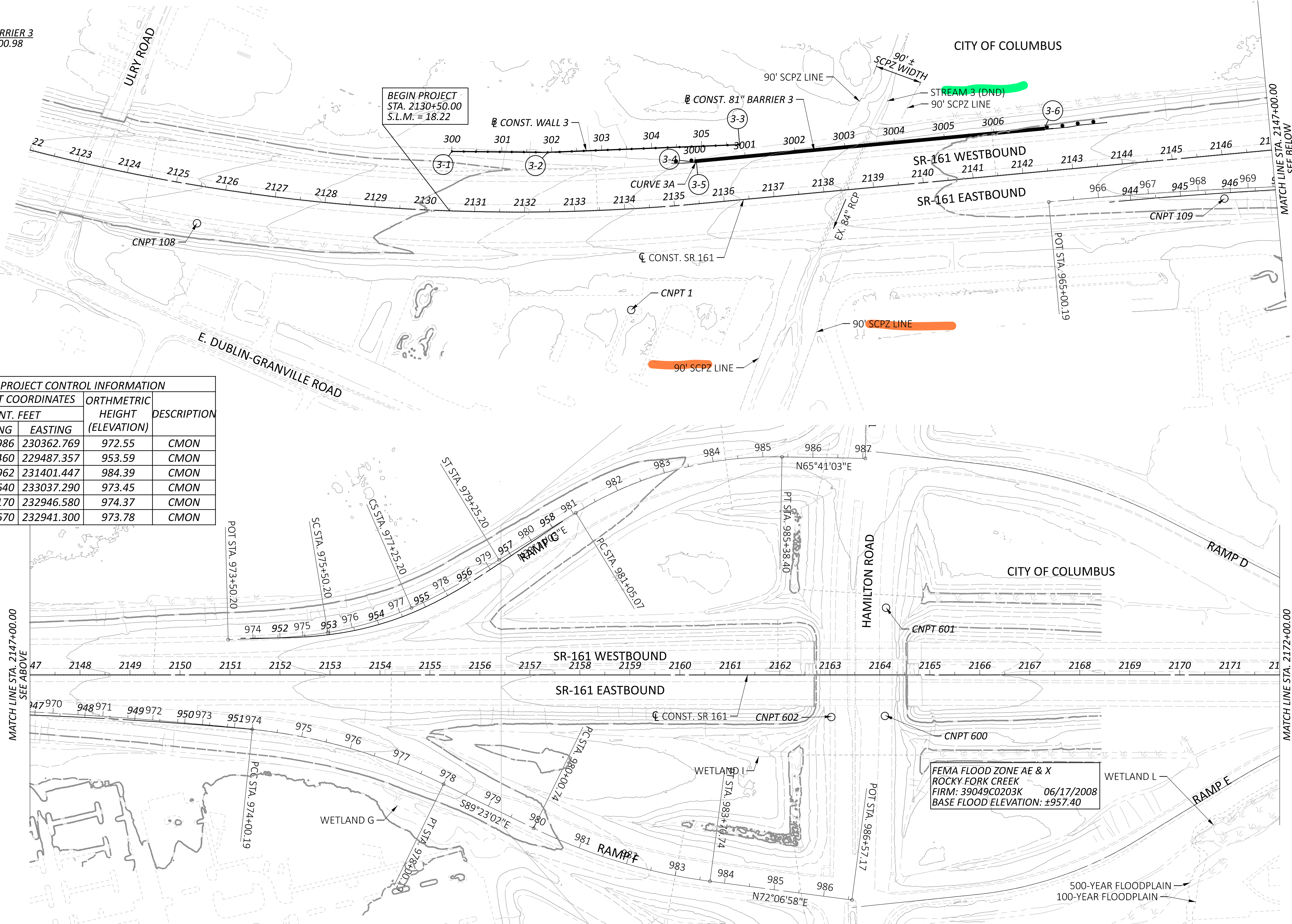
BASELINE GEOMETRY - NOISE WALL 3

P.I. NUMBER	NOISE BARRIER STATION	SR-161 STATIONING		NORTHING	EASTING	BEARING
		STATION	OFFSET			
3-1	300+00.00	2130+50.00	119.00' LT	612183.0140	229916.9520	N 70°31'40" E
3-2	301+92.00	2132+48.06	119.00' LT	612247.0170	230097.9700	N 67°40'14" E
3-3	305+76.00	2136+41.07	110.00' LT	612392.9100	230453.1760	N/A

BASELINE GEOMETRY - 81" BARRIER 3

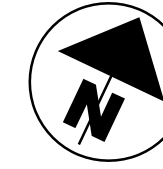
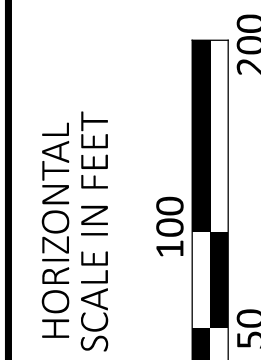
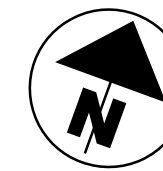
P.I. NUMBER	81" BARRIER STATION	SR-161 STATIONING		NORTHING	EASTING	BEARING
		STATION	OFFSET			
3-4	3000+00.00	2135+50.00	83.50' LT	612329.9490	230382.2990	CURVE 3A
3-5	3000+01.96	2135+52.00	83.50' LT	612330.7890	230384.0710	N 64°36'58" E
3-6	3006+99.96	2142+50.00	83.50' LT	612630.0060	231014.6800	N/A

3A CURVE DATA  
 CONST. 81" BARRIER 3  
 P.I. = STA. 3000+00.98  
 $\Delta = 00^{\circ}01'46" \text{ LT}$   
 $D_c = 01^{\circ}29'57" \text{ LT}$   
 $R = 3,822.15'$   
 $T = 0.98'$   
 $L = 1.96'$   
 $E = 0.00'$



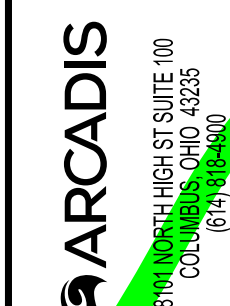
PRIMARY PROJECT CONTROL INFORMATION

POINT NUMBER	PROJECT COORDINATES		ORTHOMETRIC HEIGHT (ELEVATION)	DESCRIPTION
	NORTHING	EASTING		
CNPT 1	612007.986	230362.769	972.55	CMON
CNPT 108	611873.460	229487.357	953.59	CMON
CNPT 109	612623.962	231401.447	984.39	CMON
CNPT 600	613406.640	233037.290	973.45	CMON
CNPT 601	613603.170	232946.580	974.37	CMON
CNPT 602	613358.670	232941.300	973.78	CMON



SCHMATIC PLAN  
 STA. 2122+00.00 TO STA. 2172+00.00

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

JDH 03-27-24

PROJECT ID

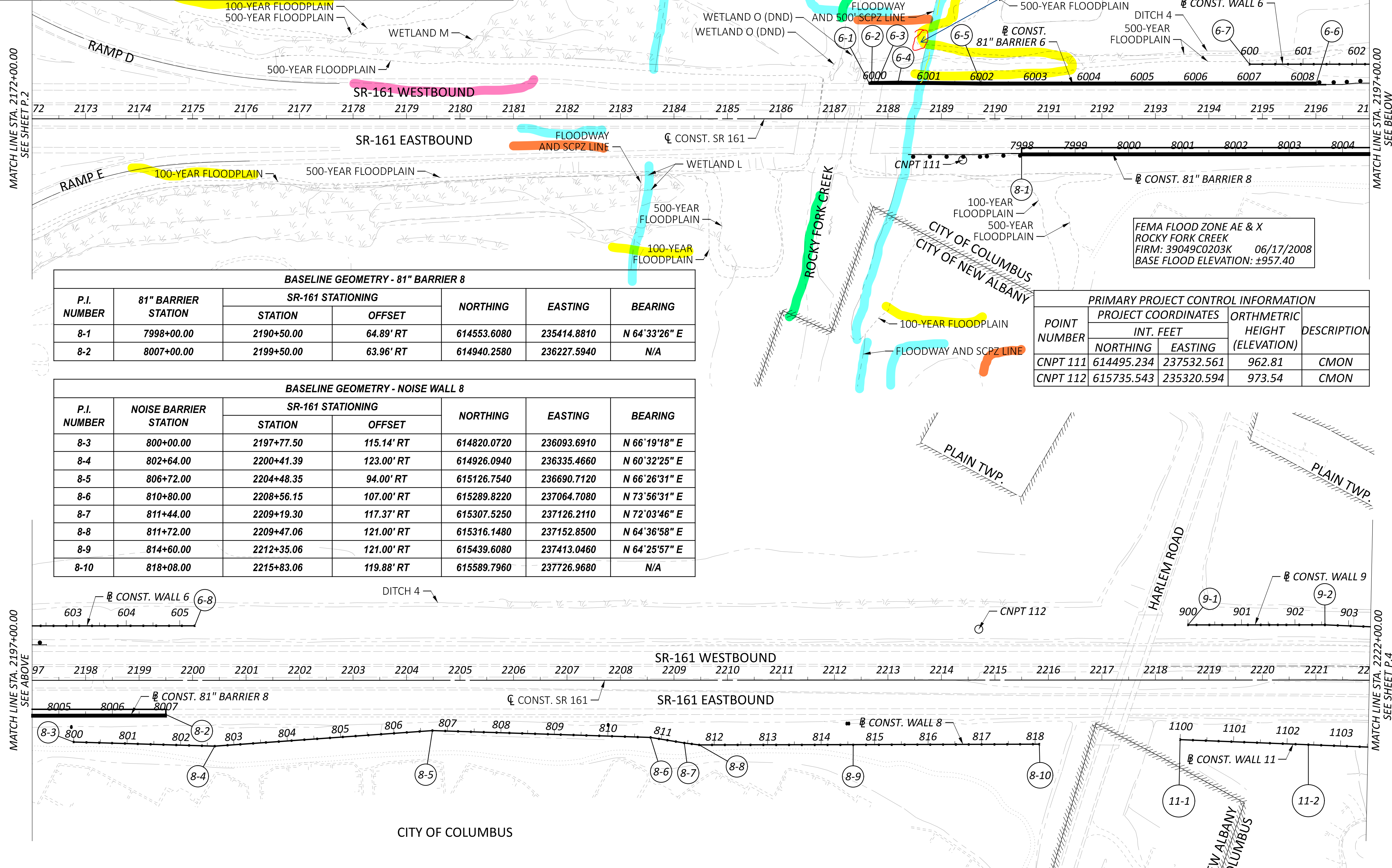
117607

SHEET TOTAL

P.2 P.295

BASELINE GEOMETRY - 81" BARRIER 6						
P.I. NUMBER	81" BARRIER STATION	SR-161 STATIONING		NORTHING	EASTING	BEARING
		STATION	OFFSET			
6-1	5999+90.38	2187+65.40	66.09' LT	614549.9420	235101.6040	N 64°36'58" E
6-2	5999+94.38	2187+69.40	66.09' LT	614551.6570	235105.2180	N 64°08'19" E
6-3	6000+04.38	2187+79.40	66.18' LT	614556.0190	235114.2170	N 65°23'48" E
6-4	6000+43.39	2188+18.40	65.65' LT	614572.2570	235149.6800	N 65°13'07" E
6-5	6002+00.00	2189+75.00	64.00' LT	614637.9020	235291.8700	N 64°36'58" E
6-6	6008+25.00	2196+00.00	64.00' LT	614905.8270	235856.5300	N/A

BASELINE GEOMETRY - NOISE WALL 6						
P.I. NUMBER	NOISE BARRIER STATION	SR-161 STATIONING		NORTHING	EASTING	BEARING
		STATION	OFFSET			
6-7	600+00.00	2194+76.00	102.00' LT	614887.0020	235728.2120	N 64°36'58" E
6-8	605+28.00	2200+04.00	102.00' LT	615113.3450	236205.2370	N/A



BASELINE GEOMETRY - 81" BARRIER 8						
P.I. NUMBER	81" BARRIER STATION	SR-161 STATIONING		NORTHING	EASTING	BEARING
		STATION	OFFSET			
8-1	7998+00.00	2190+50.00	64.89' RT	614553.6080	235414.8810	N 64°33'26" E
8-2	8007+00.00	2199+50.00	63.96' RT	614940.2580	236227.5940	N/A

BASELINE GEOMETRY - NOISE WALL 8						
P.I. NUMBER	NOISE BARRIER STATION	SR-161 STATIONING		NORTHING	EASTING	BEARING
		STATION	OFFSET			
8-3	800+00.00	2197+77.50	115.14' RT	614820.0720	236093.6910	N 66°19'18" E
8-4	802+64.00	2200+41.39	123.00' RT	614926.0940	236335.4660	N 60°32'25" E
8-5	806+72.00	2204+48.35	94.00' RT	615126.7540	236690.7120	N 66°26'31" E
8-6	810+80.00	2208+56.15	107.00' RT	615289.8220	237064.7080	N 73°56'31" E
8-7	811+44.00	2209+19.30	117.37' RT	615307.5250	237126.2110	N 72°03'46" E
8-8	811+72.00	2209+47.06	121.00' RT	615316.1480	237152.8500	N 64°36'58" E
8-9	814+60.00	2212+35.06	121.00' RT	615439.6080	237413.0460	N 64°25'57" E
8-10	818+08.00	2215+83.06	119.88' RT	615589.7960	237726.9680	N/A

BASELINE GEOMETRY - NOISE WALL 9						
P.I. NUMBER	NOISE BARRIER STATION	SR-161 STATIONING		NORTHING	EASTING	BEARING
		STATION	OFFSET			
9-1	900+00.00	2218+61.00	103.00' LT	615910.3080	237882.5260	N 64°36'58" E
9-2	902+56.00	2221+17.00	103.00' LT	616020.0500	238113.8110	N 67°00'42" E

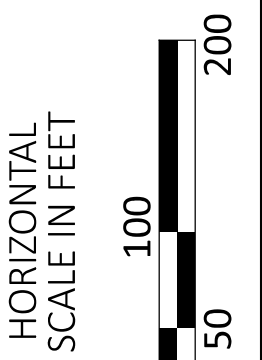
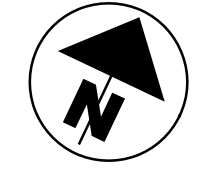
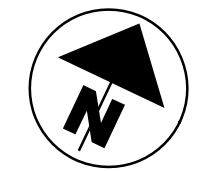
BASELINE GEOMETRY - NOISE WALL 11						
P.I. NUMBER	NOISE BARRIER STATION	SR-161 STATIONING		NORTHING	EASTING	BEARING
		STATION	OFFSET			
11-1	1100+00.00	2218+46.22	111.43' RT	615710.2410	237961.0980	N 66°54'02" E
11-2	1102+40.00	2220+86.03	121.00' RT	615804.4000	238181.8560	N 66°54'02" E

ARCADIS RESPONSE: Complied

This is wrong. It should be Floodway here.

FEMA FLOOD ZONE AE & X  
 ROCKY FORK CREEK  
 FIRM: 39049C0203K 06/17/2008  
 BASE FLOOD ELEVATION: ±957.40

PRIMARY PROJECT CONTROL INFORMATION				
POINT NUMBER	PROJECT COORDINATES		DESCRIPTION	
	INT. FEET	ORTHOMETRIC HEIGHT (ELEVATION)		
CNPT 111	614495.234	237532.561	962.81	CMON
CNPT 112	615735.543	235320.594	973.54	CMON



SCHEMATIC PLAN  
 STA. 2172+00.00 TO STA. 2222+00.00

DESIGN AGENCY  
**ARCADIS**  
 110 NORTH HIGHWAY 100  
 SUITE 100  
 COLUMBUS, OH 43240  
 TEL: 614.881.4900  
 WWW.ARCADIS.COM

DESIGNER  
 JMK

REVIEWER  
 JDH 03-27-24

PROJECT ID  
 117607

SHEET TOTAL  
 P.3 P.295

BASELINE GEOMETRY - NOISE WALL 9

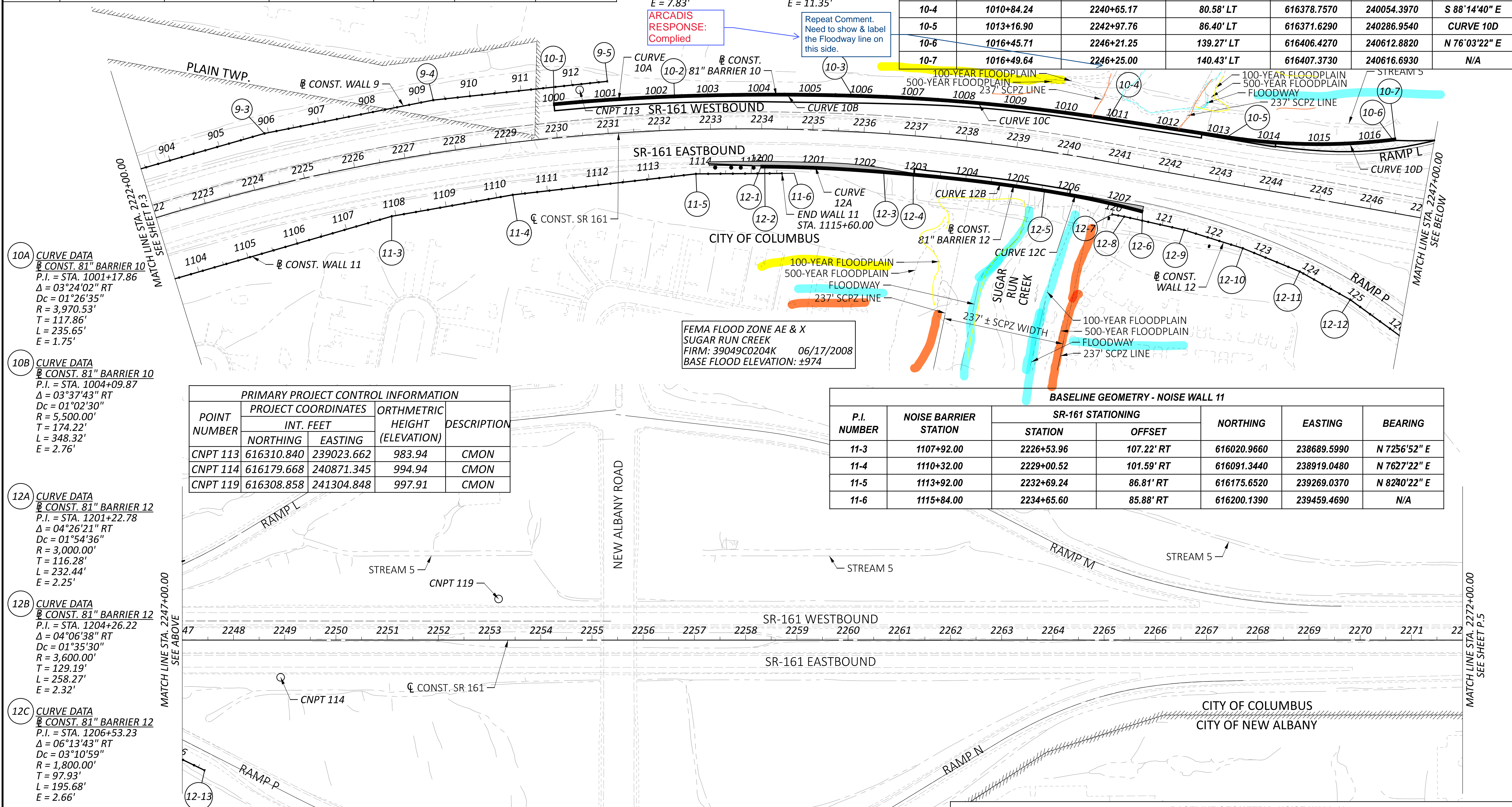
P.I. NUMBER	NOISE BARRIER STATION	SR-161 STATIONING		NORTHING	EASTING	BEARING
		STATION	OFFSET			
9-3	905+92.00	2224+44.48	103.00' LT	616151.2730	238423.1270	N 71°48'52" E
9-4	909+28.00	2227+71.94	103.00' LT	616256.1370	238742.3440	N 76°49'40" E
9-5	912+70.00	2231+05.30	102.00' LT	616334.0720	239075.3460	N/A

10C CURVE DATA  
 @ CONST. 81" BARRIER 10  
 P.I. = STA. 1008+34.43  
 $\Delta = 07^{\circ}09'57''$  RT  
 $Dc = 01^{\circ}25'57''$   
 $R = 4,000.00'$   
 $T = 250.46'$   
 $L = 500.27'$   
 $E = 7.83'$

10D CURVE DATA  
 @ CONST. 81" BARRIER 10  
 P.I. = STA. 1014+82.35  
 $\Delta = 15^{\circ}41'58''$  LT  
 $Dc = 04^{\circ}46'29''$   
 $R = 1,200.00'$   
 $T = 165.44'$   
 $L = 328.81'$   
 $E = 11.35'$

BASELINE GEOMETRY - 81" BARRIER 10

P.I. NUMBER	81" BARRIER STATION	SR-161 STATIONING		NORTHING	EASTING	BEARING
		STATION	OFFSET			
10-1	1000+00.00	2230+00.00	64.00' LT	616275.1150	238977.7230	CURVE 10A
10-2	1002+35.65	2232+31.85	64.00' LT	616319.0190	239209.2100	CURVE 10B
10-3	1005+83.97	2235+74.40	68.24' LT	616362.8150	239554.7080	CURVE 10C
10-4	1010+84.24	2240+65.17	80.58' LT	616378.7570	240054.3970	S 88°14'40" E
10-5	1013+16.90	2242+97.76	86.40' LT	616371.6290	240286.9540	CURVE 10D
10-6	1016+45.71	2246+21.25	139.27' LT	616406.4270	240612.8820	N 76°03'22" E
10-7	1016+49.64	2246+25.00	140.43' LT	616407.3730	240616.6930	N/A



10A CURVE DATA  
 @ CONST. 81" BARRIER 10  
 P.I. = STA. 1001+17.86  
 $\Delta = 03^{\circ}24'02''$  RT  
 $Dc = 01^{\circ}26'35''$   
 $R = 3,970.53'$   
 $T = 117.86'$   
 $L = 235.65'$   
 $E = 1.75'$

10B CURVE DATA  
 @ CONST. 81" BARRIER 10  
 P.I. = STA. 1004+09.87  
 $\Delta = 03^{\circ}37'43''$  RT  
 $Dc = 01^{\circ}02'30''$   
 $R = 5,500.00'$   
 $T = 174.22'$   
 $L = 348.32'$   
 $E = 2.76'$

12A CURVE DATA  
 @ CONST. 81" BARRIER 12  
 P.I. = STA. 1201+22.78  
 $\Delta = 04^{\circ}26'21''$  RT  
 $Dc = 01^{\circ}54'36''$   
 $R = 3,000.00'$   
 $T = 116.28'$   
 $L = 232.44'$   
 $E = 2.25'$

12B CURVE DATA  
 @ CONST. 81" BARRIER 12  
 P.I. = STA. 1204+26.22  
 $\Delta = 04^{\circ}06'38''$  RT  
 $Dc = 01^{\circ}35'30''$   
 $R = 3,600.00'$   
 $T = 129.19'$   
 $L = 258.27'$   
 $E = 2.32'$

12C CURVE DATA  
 @ CONST. 81" BARRIER 12  
 P.I. = STA. 1206+53.23  
 $\Delta = 06^{\circ}13'43''$  RT  
 $Dc = 03^{\circ}10'59''$   
 $R = 1,800.00'$   
 $T = 97.93'$   
 $L = 195.68'$   
 $E = 2.66'$

PRIMARY PROJECT CONTROL INFORMATION

POINT NUMBER	PROJECT COORDINATES		ORTHOMETRIC HEIGHT (ELEVATION)	DESCRIPTION
	NORTHING	EASTING		
CNPT 113	616310.840	239023.662	983.94	CMON
CNPT 114	616179.668	240871.345	994.94	CMON
CNPT 119	616308.858	241304.848	997.91	CMON

FEMA FLOOD ZONE AE & X  
 SUGAR RUN CREEK  
 FIRM: 39049C0204K 06/17/2008  
 BASE FLOOD ELEVATION: ±974

BASELINE GEOMETRY - NOISE WALL 11

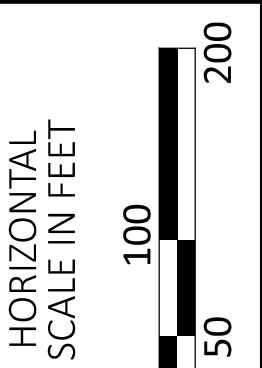
P.I. NUMBER	NOISE BARRIER STATION	SR-161 STATIONING		NORTHING	EASTING	BEARING
		STATION	OFFSET			
11-3	1107+92.00	2226+53.96	107.22' RT	616020.9660	238689.5990	N 72°56'52" E
11-4	1110+32.00	2229+00.52	101.59' RT	616091.3440	238919.0480	N 76°27'22" E
11-5	1113+92.00	2232+69.24	86.81' RT	616175.6520	239269.0370	N 82°0'22" E
11-6	1115+84.00	2234+65.60	85.88' RT	616200.1390	239459.4690	N/A

BASELINE GEOMETRY - 81" BARRIER 12

P.I. NUMBER	81" BARRIER STATION	SR-161 STATIONING		NORTHING	EASTING	BEARING
		STATION	OFFSET			
12-1	1200+00.00	2234+00.00	72.00' RT	616207.1220	239394.0850	N 83°25'39" E
12-2	1200+06.51	2234+06.63	71.99' RT	616207.8670	239400.5490	CURVE 12A
12-3	1202+38.95	2236+43.45	73.56' RT	616225.5050	239632.2600	N 87°52'00" E
12-4	1202+97.02	2237+02.65	74.00' RT	616227.6670	239690.2970	CURVE 12B
12-5	1205+55.30	2239+65.92	74.56' RT	616228.0190	239948.5140	CURVE 12C
12-6	1207+50.97	2241+63.30	82.30' RT	616210.6620	240143.3220	N/A

BASELINE GEOMETRY - NOISE WALL 12

P.I. NUMBER	NOISE BARRIER STATION	SR-161 STATIONING		NORTHING	EASTING	BEARING
		STATION	OFFSET			
12-7	120+00.00	2241+06.19	100.00' RT	616196.1680	240085.3170	S 86°49'03" E
12-8	120+24.00	2241+30.19	100.00' RT	616194.8350	240109.2800	S 84°25'26" E
12-9	121+44.00	2242+50.09	105.00' RT	616183.1750	240228.7120	S 79°37'52" E
12-10	122+64.00	2243+69.15	120.00' RT	616161.5770	240246.7530	S 74°47'14" E
12-11	123+84.00	2244+86.51	145.00' RT	616130.0880	240462.5480	S 67°50'46" E
12-12	124+97.00	2245+93.38	181.72' RT	616087.4760	240567.2050	S 60°56'13" E
12-13	126+64.00	2247+43.64	254.60' RT	616006.3520	240713.1780	N/A



SCHEMATIC PLAN  
 STA. 2222+00.00 TO STA. 2272+00.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH RIVER ROAD, SUITE 100  
 COLUMBUS, OH 43240-1490  
 www.arcadis.com

DESIGNER  
**JMK**

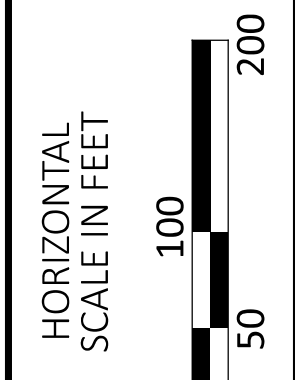
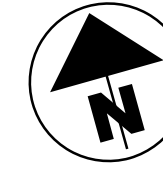
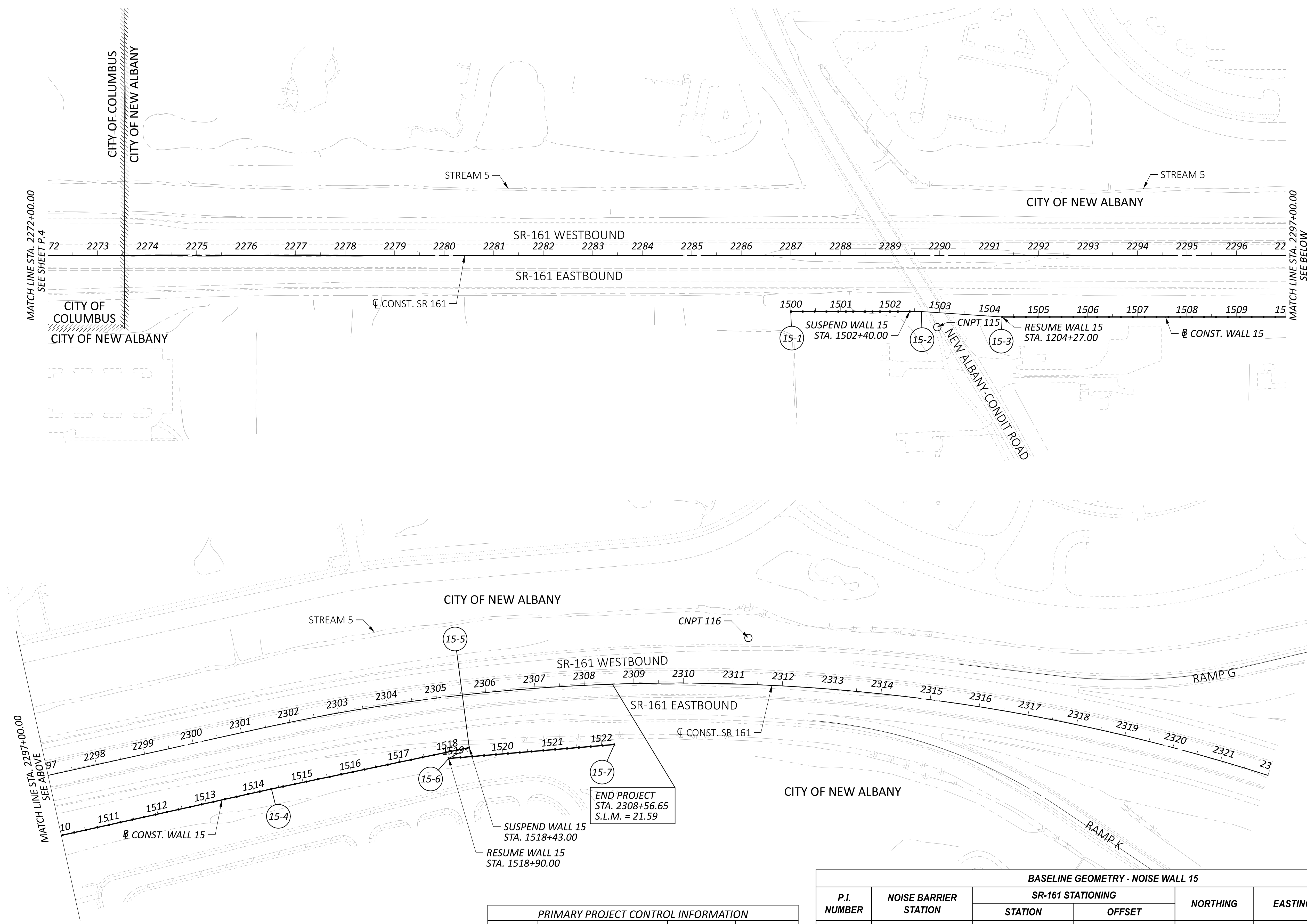
REVIEWER  
 JDH 03-27-24

PROJECT ID  
 117607

SHEET TOTAL  
 P.4 P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: CLP\_SR161 - Plan 7 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 3:06:56 PM USER: jennifer.kelley  
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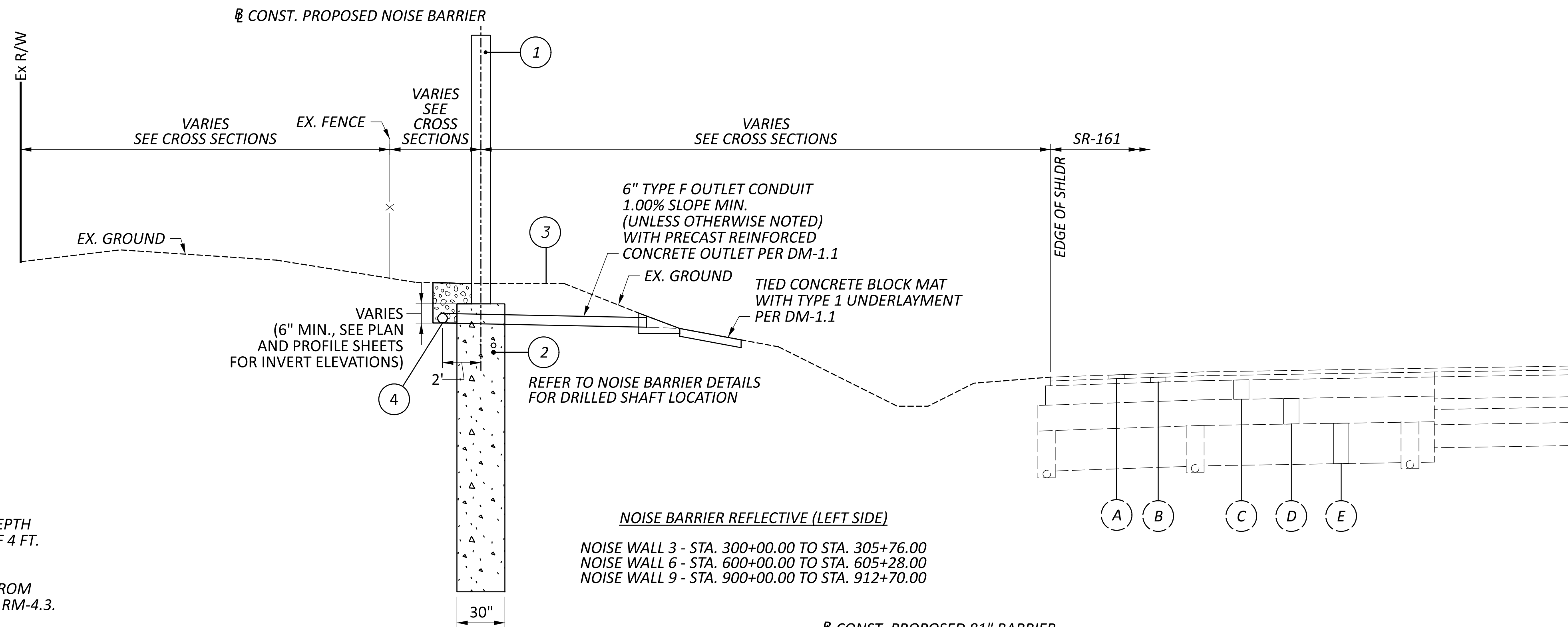
**SCHEMATIC PLAN**  
 STA. 2272+00.00 TO STA. 2322+00.00

PRIMARY PROJECT CONTROL INFORMATION				
POINT NUMBER	PROJECT COORDINATES		ORTHOMETRIC HEIGHT (ELEVATION)	DESCRIPTION
	NORTHING	EASTING		
CNPT 115	615879.718	244964.871	1045.73	CMON
CNPT 116	615870.875	247112.825	1043.63	CMON

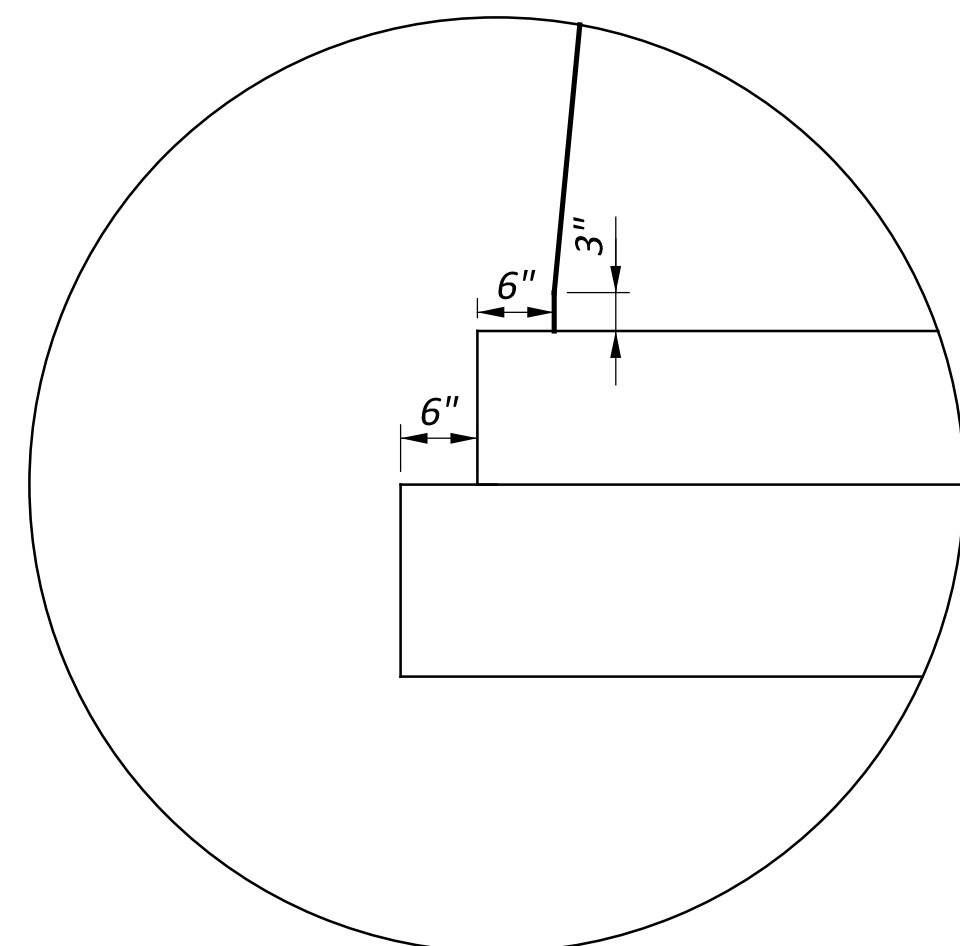
BASELINE GEOMETRY - NOISE WALL 15						
P.I. NUMBER	NOISE BARRIER STATION	SR-161 STATIONING		NORTHING	EASTING	BEARING
		STATION	OFFSET			
15-1	1500+00.00	2287+00.00	113.00' RT	615927.7020	244671.2920	S 86°48'42" E
15-2	1502+64.00	2289+64.00	113.00' RT	615913.0190	244934.8830	S 82°56'32" E
15-3	1504+27.00	2291+26.63	124.00' RT	615892.9920	245096.6480	S 86°48'42" E
15-4	1514+35.00	2301+34.63	124.00' RT	615836.9310	246103.0880	S 86°10'26" E
15-5	1518+43.00	2305+54.77	107.00' RT	615809.7050	246510.1780	S 77°45'25" W
15-6	1518+90.00	2305+09.61	124.00' RT	615799.7390	246464.2470	S 79°09'57" E
15-7	1522+26.00	2308+56.65	122.00' RT	615736.5810	246794.2580	N/A

DESIGN AGENCY  
**ARCADIS**  
 1000 WEST HIGHWAY 50 SUITE 100  
 BOULDER, CO 80502  
 WWW.ARCADIS.COM

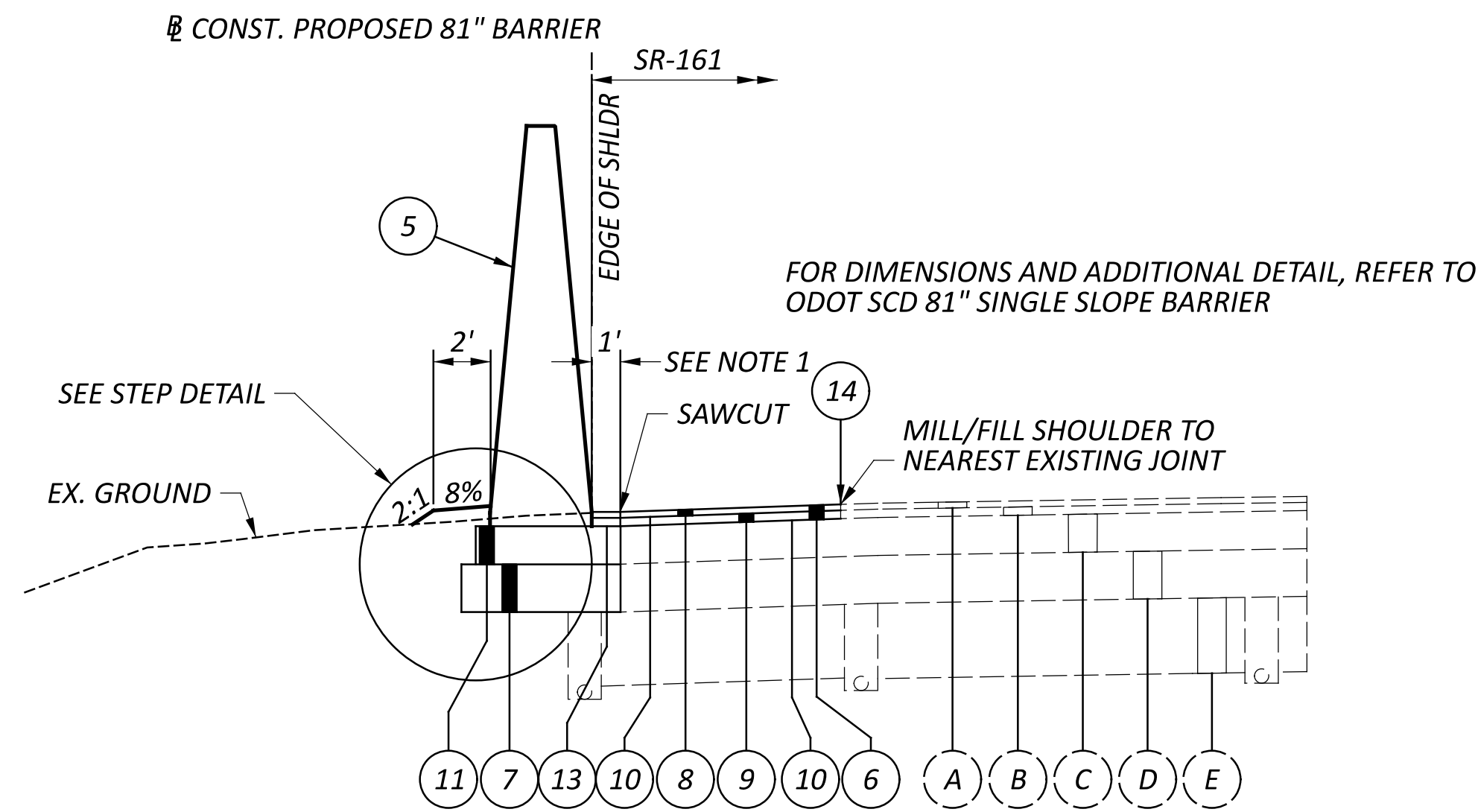
DESIGNER: JMK  
 REVIEWER: JMK  
 PROJECT ID: JDH\_03-27-24  
 SHEET: 117607  
 TOTAL: P.5 P.295



- NOTES:
- 1.) AT LOCATIONS OF BARRIER INLETS, 81" SSB, THE FULL DEPTH WIDTH WILL BE 4 FT. REFER TO SHEET P.226 FOR LIMITS OF 4 FT. DEPRESSED APRON.
  - 2.) FOOTER FOR 81" BARRIER WILL BE POURED SEPARATE FROM 81" BARRIER. PROVIDE DOWELS PER DOWELING DETAIL OF RM-4.3.
  - 3.) DO NOT DISTURB EXISTING UNDERDRAINS AND ENSURE FLOW IS MAINTAINED TO THE EXISTING UNDERDRAINS.



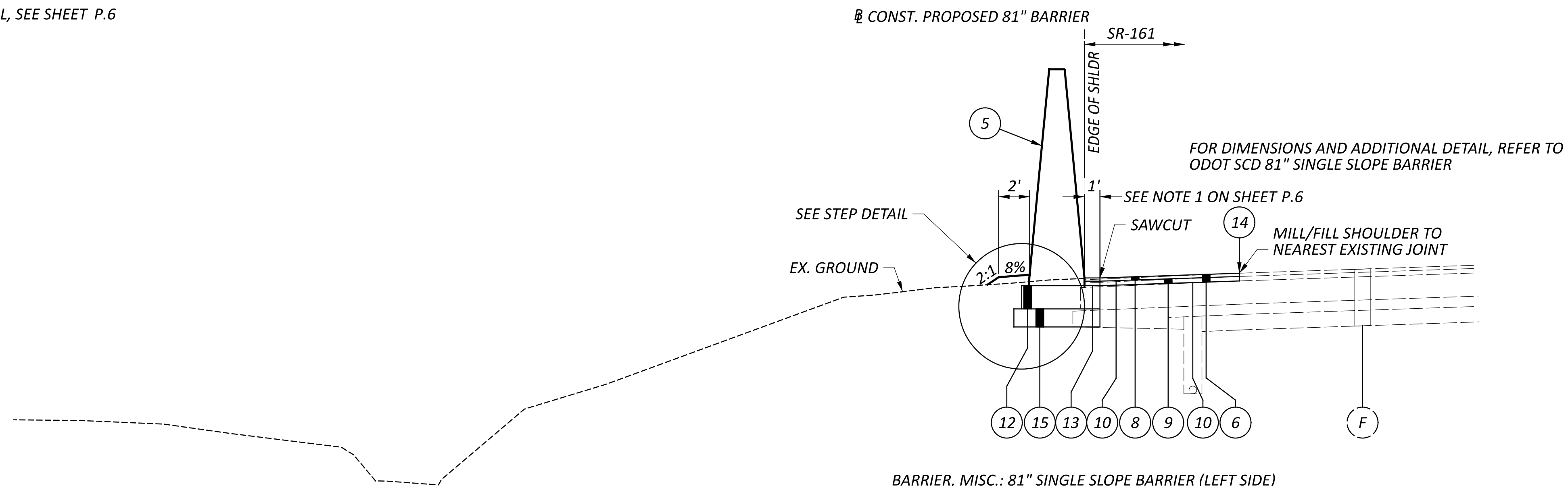
STEP DETAIL  
81" BARRIERS 8, 10, 12



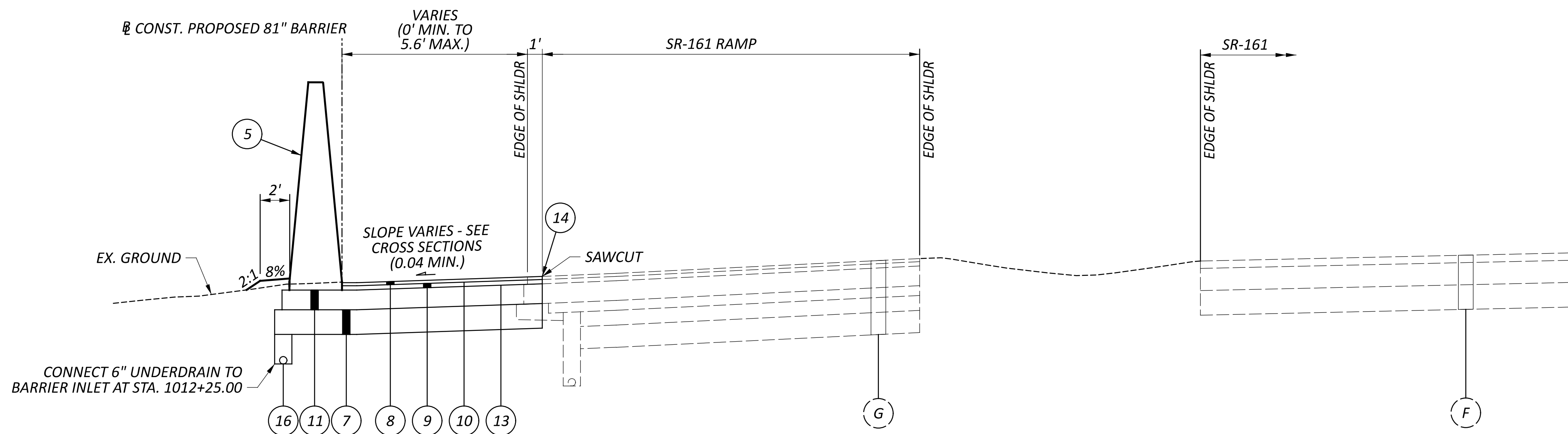
LEGEND

- |  |   |  |   |  |
|--|---|--|---|--|
| 1 ITEM 606 - SPECIAL - NOISE BARRIER (REFLECTIVE)  | 6 ITEM 254 - 3" PAVEMENT PLANING, ASPHALT CONCRETE  | 11 ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P         | 16 ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS           | (D) 10"± EX. AGGREGATE BASE  |
| 2 ITEM 524 - DRILLED SHAFTS (TO BE PAID WITH ITEM 606 - SPECIAL - NOISE BARRIER)   | 7 ITEM 304 - 10" AGGREGATE BASE   | 12 ITEM 452 - 9" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P         | 17 ITEM 606 - GUARDRAIL, TYPE MGS                   | (E) EX. SUBBASE (DEPTH VARIES)   |
| 3 ITEM 659 - SEEDING AND MULCHING  | 8 ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PG70-22M | 13 ITEM 407 - TACK COAT (RATE AS PER C&MS TABLE 407.06-1)              | (A) 1.5"± EX. ASPHALT CONCRETE SURFACE COURSE       | (F) 3" ASPHALT ON 9" CONCRETE BASE ON 10" STONE BASE   |
| 4 ITEM 605 - 6" UNCLASSIFIED UNDERDRAIN AND GRANULAR MATERIAL PER CMS 605.02 (GRANULAR MATERIAL INCLUDED WITH NOISE BARRIER FOR PAYMENT) | 9 ITEM 442 - 1.5" ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)                   | 14 ITEM 872 - VOID REDUCING ASPHALT MEMBRANE (AT ALLOWABLE COLD JOINT) | (B) 1.75"± EX. ASPHALT CONCRETE INTERMEDIATE COURSE | (G) 3" ASPHALT ON 8" CONCRETE BASE ON 10" AGGREGATE BASE WITH 9" LIME SOIL STABILIZED SUBGRADE |
| 5 ITEM 622 - BARRIER, MISC.: 81" SINGLE SLOPE BARRIER  | 10 ITEM 407 - NON-TRACKING TACK COAT (RATE AS PER C&MS TABLE 407.06-1)                          | 15 ITEM 304 - 7" AGGREGATE BASE  | (C) 7.5"± EX. ASPHALT CONCRETE BASE                 |  |

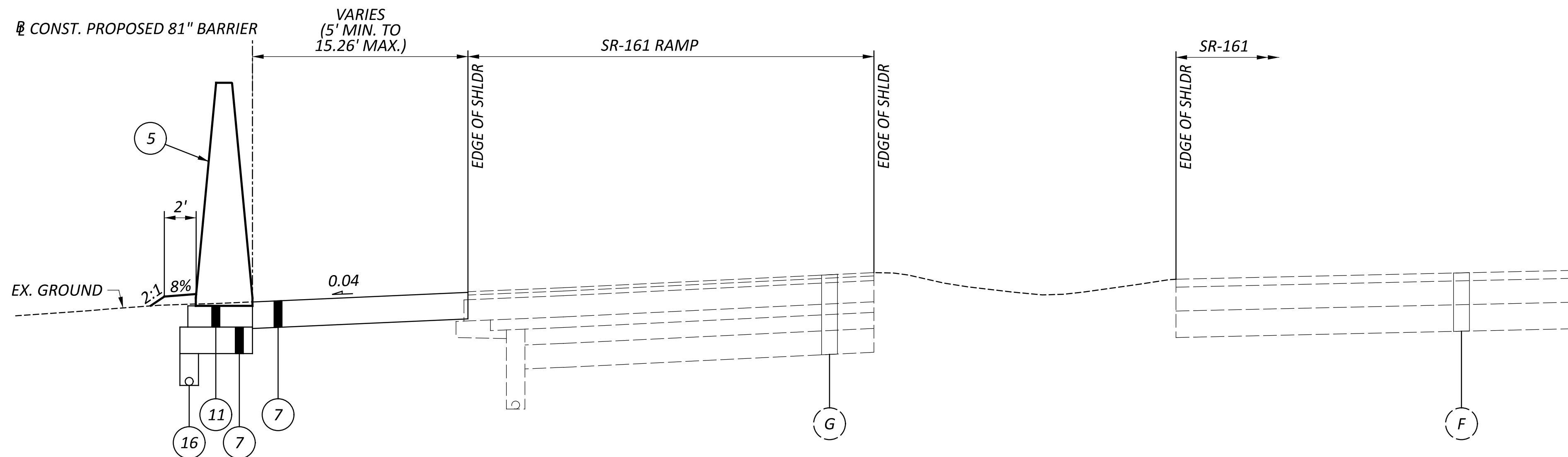
FOR LEGEND AND STEP DETAIL, SEE SHEET P.6



**BARRIER, MISC.: 81" SINGLE SLOPE BARRIER (LEFT SIDE)**  
 81" BARRIER 6 - STA. 5999+90.38 TO STA. 6008+25.00  
 81" BARRIER 10 - STA. 1000+00.00 TO STA. 1012+70.07



**BARRIER, MISC.: 81" SINGLE SLOPE BARRIER (LEFT SIDE SHIFTED FROM EXISTING PAVEMENT EDGE)**  
 81" BARRIER 10 - STA. 1012+70.07 TO STA. 1014+15.44



**BARRIER, MISC.: 81" SINGLE SLOPE BARRIER (LEFT SIDE SHIFTED FROM EXISTING PAVEMENT EDGE)**  
 81" BARRIER 10 - STA. 1014+15.44 TO STA. 1016+49.64

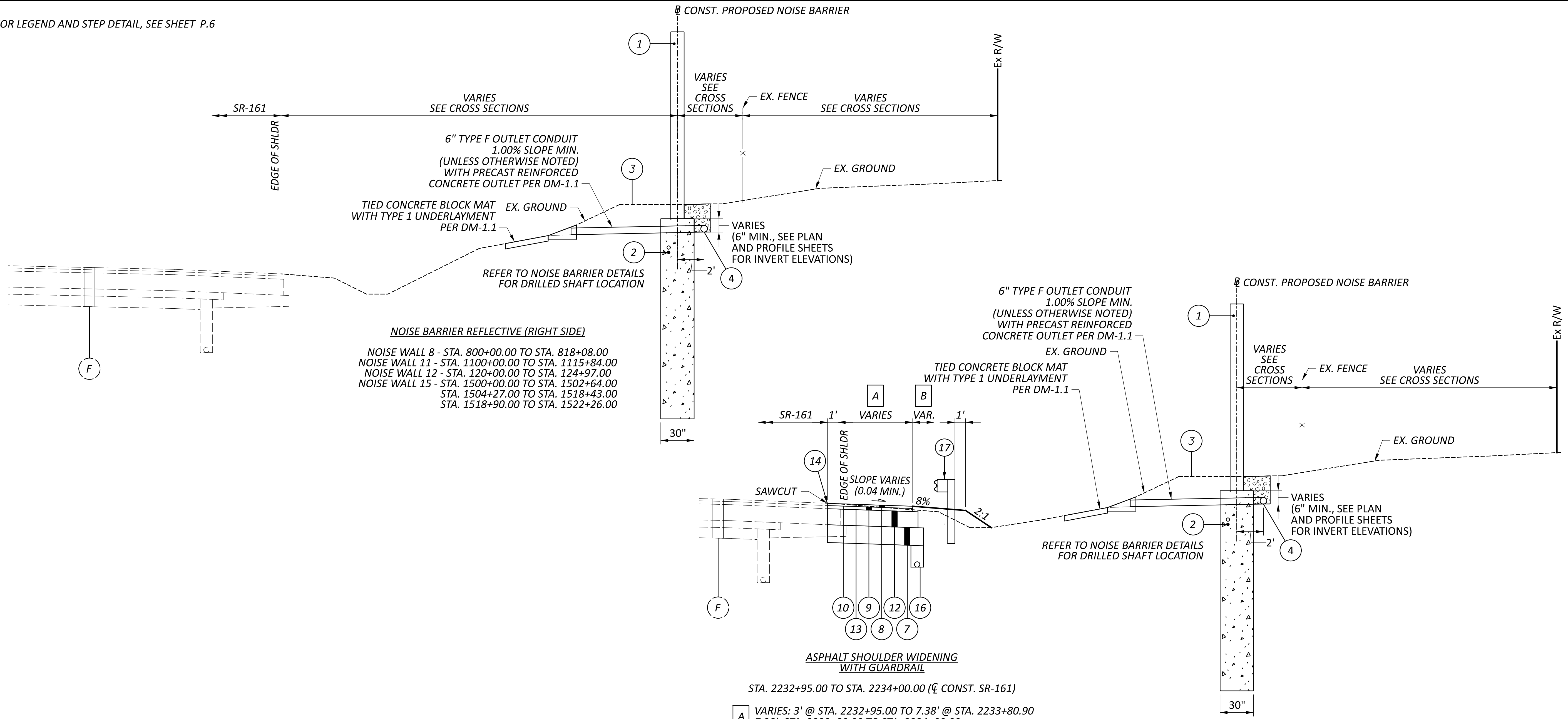
TYPICAL SECTIONS

FRA-161-15.80 NOISE WALLS

MODEL: GY002 PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 2:46:31 PM USER: jennifer.kelley  
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DESIGN AGENCY	ARCADIS
DESIGNER	NRS
REVIEWER	JDH
PROJECT ID	117607
SHEET TOTAL	P. 7 / P. 295

FOR LEGEND AND STEP DETAIL, SEE SHEET P.6



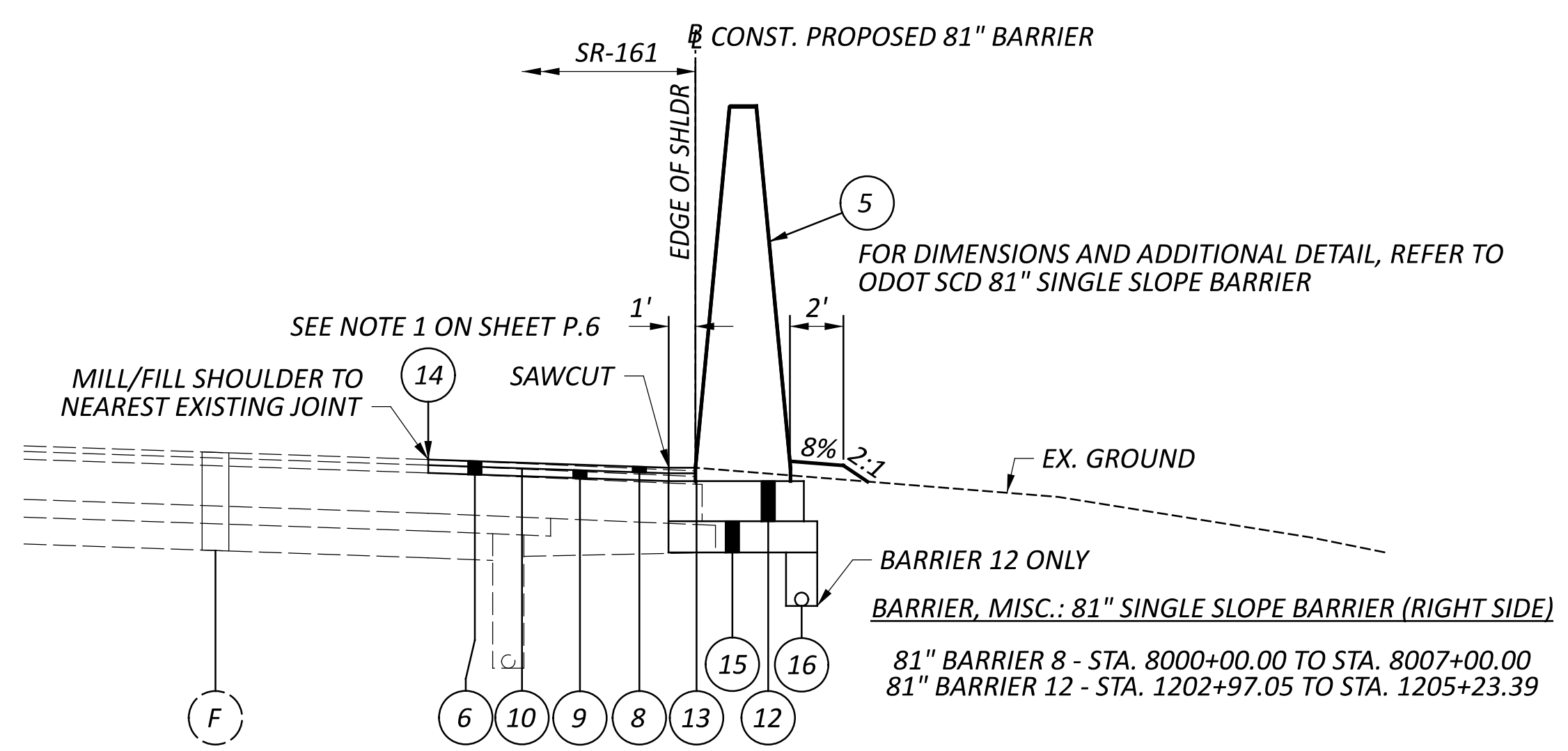
**NOISE BARRIER REFLECTIVE (RIGHT SIDE)**  
 NOISE WALL 8 - STA. 800+00.00 TO STA. 818+08.00  
 NOISE WALL 11 - STA. 1100+00.00 TO STA. 1115+84.00  
 NOISE WALL 12 - STA. 120+00.00 TO STA. 124+97.00  
 NOISE WALL 15 - STA. 1500+00.00 TO STA. 1502+64.00  
 STA. 1504+27.00 TO STA. 1518+43.00  
 STA. 1518+90.00 TO STA. 1522+26.00

**ASPHALT SHOULDER WIDENING WITH GUARDRAIL**  
 STA. 2232+95.00 TO STA. 2234+00.00 (CONST. SR-161)  
**A** VARIES: 3' @ STA. 2232+95.00 TO 7.38' @ STA. 2233+80.90  
 7.38': STA. 2233+80.90 TO STA. 2234+00.00  
**B** VARIES: 3.18' @ STA. 2232+95.00 TO 0' @ STA. 2233+80.90  
 0': STA. 2233+80.90 TO STA. 2234+00.00

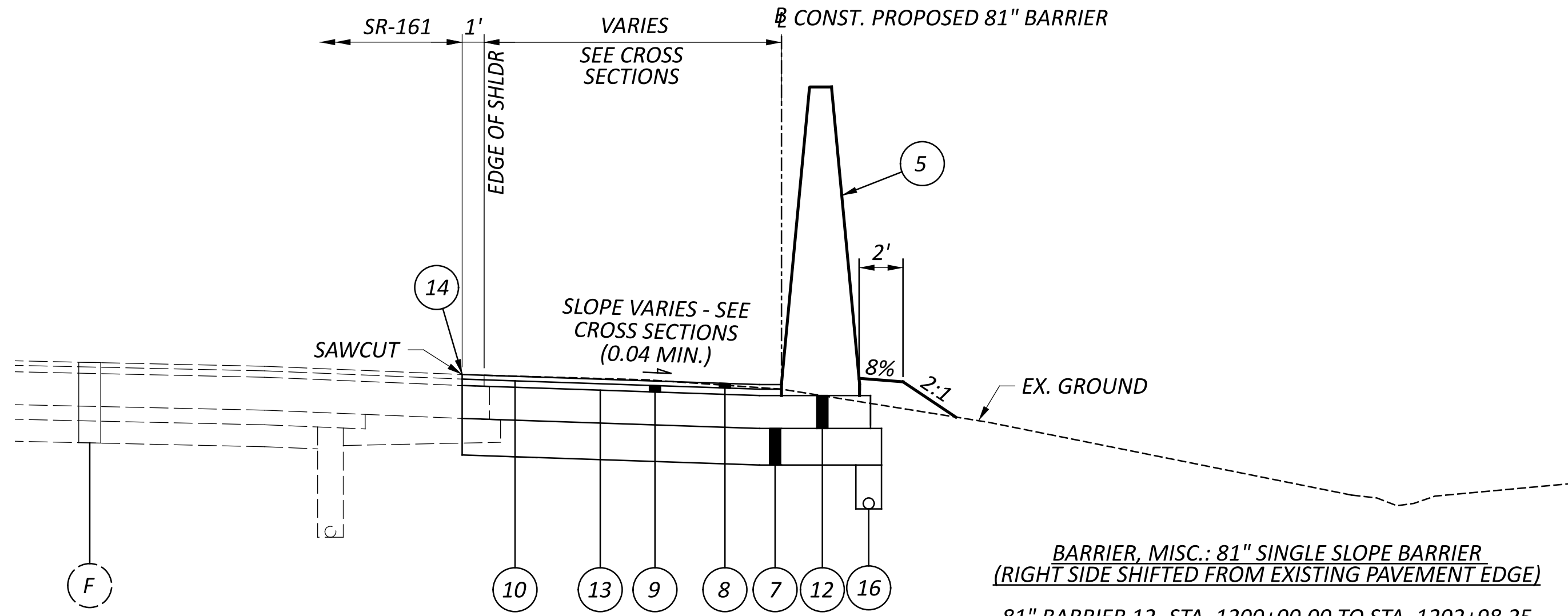
TYPICAL SECTIONS

FRA-161-15.80 NOISE WALLS

MODEL: GY003 PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 2:46:31 PM USER: jennifer.kelley  
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**BARRIER 12 ONLY**  
**BARRIER, MISC.: 81" SINGLE SLOPE BARRIER (RIGHT SIDE)**  
 81" BARRIER 8 - STA. 8000+00.00 TO STA. 8007+00.00  
 81" BARRIER 12 - STA. 1202+97.05 TO STA. 1205+23.39



**BARRIER, MISC.: 81" SINGLE SLOPE BARRIER (RIGHT SIDE SHIFTED FROM EXISTING PAVEMENT EDGE)**  
 81" BARRIER 12 - STA. 1200+00.00 TO STA. 1202+98.25  
 STA. 1205+23.39 TO STA. 1207+50.97

DESIGN AGENCY	ARCADIS
DESIGNER	NRS
REVIEWER	JDH
PROJECT NO.	17607
SHEET NO.	P.8
TOTAL SHEETS	P.295



**UTILITIES**

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

**GAS**  
COLUMBIA GAS OF OHIO  
3550 JOHNNY APPESEED COURT  
COLUMBUS, OH 43231  
ATTN: ROB CALDWELL  
OFFICE: 614-818-2104  
CELL: 614-370-1906  
CUSTOMER SERVICE: 1-800-344-4077  
DAMAGE PREVENTION: 1-866-632-6243  
COLUMBIAGAS\_COLUMBUSENG@NISOURCE.COM  
RCALDWELL@NISOURCE.COM

COLUMBIA GAS OF OHIO  
TRANSMISSION  
1600 EASTGATE PKWY  
GAHANNA, OH 43230  
ATTN: ROBERT REED  
PHONE: 740-279-0870  
ROBERT1\_REED@TCENERGY.COM

**TELEPHONE/CABLE/FIBER**  
AMERICAN ELECTRIC POWER (TELECOM)  
777 HOPEWELL DRIVE  
HEATH, OHIO 43056  
ATTN: UNA BLANUSA  
AEP SOLUTION CENTER: 800-277-2177  
OHPFIBERRELOCATE@AEP.COM

AT&T - OHIO  
111 N. 4TH STREET  
COLUMBUS, OH 43215  
ATTN: DONALD G. MARSHALL, JR.  
CELL: 614-216-2396  
AT&T REPAIR SERVICE: 888-611-4466  
DAMAGE PREVENTION: 937-296-3929  
G01553@ATT.COM

AT&T (TRANSMISSION)  
METROPOLITAN COMM. GROUP OHIO (MCG)  
155 COMMERCE PARK DRIVE, SUITE 1  
WESTERVILLE, OH 43082  
ATTN: JAMES SCHNEIDER (PROJECT MANAGER)  
CELL: 440-525-4322  
JAMES.SCHNEIDER@MCGFIBER.COM  
ATTN: WILLIAM TAGGART (FIELD ENGINEER)  
CELL: 614-370-5414

CHARTER COMMUNICATIONS / SPECTRUM  
3760 INTERCHANGE ROAD  
COLUMBUS, OH 43204  
DL-MOH-CONSTRUCTION-FRELO-TEAM@CHARTER.COM

COLUMBUS FIBERNET  
1600 WALCUTT ROAD  
COLUMBUS, OH 43228  
PHONE: 614-921-8524  
ATTN: MATT BLACKSTONE  
MABLACKSTONE@COLUMBUSFIBER.NET  
CFNINFO@COLUMBUSFIBER.NET

LUMEN  
250 W. OLD WILSON BRIDGE, SUITE 130  
WORTHINGTON, OH 43085  
ATTN: HALEY WOOD  
RELOCATIONS@LUMEN.COM  
RELOCATIONS@BRIGHTSPEED.COM  
HALEY.WOOD@LUMEN.COM

CROWN CASTLE FIBER  
2 EASTON OVAL, SUITE 425  
COLUMBUS, OH 43219  
ATTN: JON TARNOWSKI  
OFFICE: 585-445-5813  
CELL: 614-940-2462  
JON.TARNOWSKI@CROWNCastle.COM

VERIZON BUSINESS (AKA MCI/XO)  
757 COMMERCE CT.  
LEWIS CENTER, OH 43035  
CELL: 614-593-6685 (MAURICE JONES)  
CELL: 614-816-0361 (BOB DILLOW)  
VZ.NET.COLUMBUS@VERIZON.COM  
BRIAN.ANSEL@VERIZON.COM  
TERRY.SHUMATE@VERIZONWIRELESS.COM  
JOHN.CORNELL@VERIZONWIRELESS.COM  
MICHAEL.HENNON@VERIZONWIRELESS.COM  
MICHAEL.BONDY@VERIZONWIRELESS.COM  
SVEN.CHRISTIANSON@VERIZONWIRELESS.COM

**WATER**  
CITY OF COLUMBUS DIVISION OF WATER  
910 DUBLIN RD.  
COLUMBUS, OH 43215  
PHONE: 614-645-7788

**WATER (CONT.)**  
AQUA OHIO - WATER  
5481 BUENOS AIRES BLVD.  
WESTERVILLE, OH 43081  
ATTN: JAKE LOGAN  
PHONE: 614-882-6586 X50559  
JELOGAN@AQUAAMERICA.COM

CITY OF NEW ALBANY  
PUBLIC SERVICE  
7800 BEVELHYMER ROAD  
NEW ALBANY, OH 43054  
PHONE: 614-855-0076  
PUBLICSERVICE@NEWALBANYOHIO.ORG

**ELECTRIC**  
AMERICAN ELECTRIC POWER (DISTRIBUTION)  
777 HOPEWELL DRIVE  
HEATH, OHIO 43056  
ATTN: PAUL PAXTON  
PHONE: 740-348-5322  
AEP SOLUTION CENTER: 800-277-2177  
PTPAXTON@AEP.COM

AMERICAN ELECTRIC POWER (TRANSMISSION)  
8600 SMITHS MILL ROAD  
NEW ALBANY, OH 43054  
ATTN: MICHAEL CARR  
PHONE: 380-205-5072  
TL\_PUBLICPROJECTS@AEP.COM

CITY OF COLUMBUS  
DIVISION OF POWER  
3500 INDIANOLA AVE.  
COLUMBUS, OH 43214  
ATTN: CHARLES HORNER  
PHONE: 614-645-7569  
DISPATCH CENTER: 614-645-7627  
CRHORNER@COLUMBUS.GOV

**SANITARY & STORMWATER:**  
CITY OF COLUMBUS DPU  
DIVISION OF SEWERAGE & DRAINAGE  
1250 FAIRWOOD AVENUE  
COLUMBUS, OH 43206  
PHONE: 614-645-7102

AQUA OHIO - SEWER  
5481 BUENOS AIRES BLVD.  
WESTERVILLE, OH 43081  
ATTN: JAKE LOGAN  
PHONE: 614-882-6586 X50559  
JELOGAN@AQUAAMERICA.COM

CITY OF NEW ALBANY  
PUBLIC SERVICE  
7800 BEVELHYMER ROAD  
NEW ALBANY, OH 43054  
PHONE: 614-855-0076  
PUBLICSERVICE@NEWALBANYOHIO.ORG

**ITS/CTSS/TRAFFIC**  
ODOT CENTRAL OFFICE ITS  
929 EASTWIND DRIVE  
SUITE 201  
WESTERVILLE, OH 43081  
ATTN: EVAN KRAUS  
PHONE: 614-948-0537  
EVAN.KRAUS@SAM.BIZ

CITY OF COLUMBUS  
TRAFFIC SIGNALS  
1820 E. 17TH AVENUE  
COLUMBUS, OH 43219  
ATTN: BRAD HEGWOOD  
PHONE: 614-560-0839  
BDHEGWOOD@COLUMBUS.GOV

ODOT DISTRICT 6 TRAFFIC  
400 E. WILLIAM STREET  
DELAWARE, OH 43015  
PHONE: 740-833-8000  
ATTN: TROY BRYANT

CITY OF NEW ALBANY  
PUBLIC SERVICE  
7800 BEVELHYMER ROAD  
NEW ALBANY, OH 43054  
PHONE: 614-855-0076  
PUBLICSERVICE@NEWALBANYOHIO.ORG

**SURVEYING PARAMETERS**

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET P.2 - P.5 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

**PROJECT CONTROL**

POSITIONING METHOD: ODOT VRS  
MONUMENT TYPE: CLASS A

**VERTICAL POSITIONING**

ORTHOMETRIC HEIGHT DATUM: NAVD88  
GEOID: GEOID 18

**HORIZONTAL POSITIONING**

REFERENCE FRAME: NAD83 (2011)  
ELLIPSOID: GRS80  
MAP PROJECTION: LAMBERT CONFORMAL CONIC  
COORDINATE SYSTEM: FRANKLIN COUNTY LDP  
COMBINED FACTOR SCALE: 1.00000000  
ORIGIN OF COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN INTERNATIONAL FT (ft).

**CONSTRUCTION NOISE**

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 7:00 PM AND 7:00 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

**ITEM 524 - DRILLED SHAFTS**

FOLLOW STANDARD DRAWING NBS-1-09 AND THE DETAILS OF THESE PLANS.

PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM 606 - SPECIAL - NOISE BARRIER (REFLECTIVE) UNLESS OTHERWISE NOTED, AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM 606 - SPECIAL - NOISE BARRIER (REFLECTIVE)**

THIS ITEM WILL BE USED TO INSTALL REFLECTIVE FIBERGLASS NOISE PANELS. SEE SHEET P.217 FOR COLOR, TEXTURE, AND LOCATION OF INSTALLATION.

NOISE WALL CONSTRUCTION SHALL ADHERE TO NBS-1-09.

SEEDING AND MULCHING IS REQUIRED. FOR AREAS ADJACENT TO A RESIDENTIAL PROPERTY, USE CMS 659 LAWN MIXTURE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM 606 - SPECIAL - NOISE BARRIER (REFLECTIVE) UNLESS OTHERWISE NOTED, AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

**ITEM SPECIAL - SURVEY CONTROL VERIFICATION**

THE CONTRACTOR SHALL PERFORM THIS WORK TO VERIFY THE PROVIDED SURVEY CONTROL. THE CONTRACTOR WILL PERFORM THE VERIFICATION USING ONE OF THE TWO METHODS BELOW DEPENDENT UPON THE CONTRACTOR'S CHOSEN MEANS OF SURVEY CONTROL TO BE USED ON THE PROJECT. THE WORK SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF AN OHIO LICENSED SURVEYOR.

1) IF USING GPS DEVICES TO ESTABLISH AND OR PROVIDE SUPPLEMENTAL HORIZONTAL AND VERTICAL SURVEY CONTROL:

- A. LOCATE VERTICAL CONTROL POINTS PROVIDED IN THE PLANS AND PERFORM A DIFFERENTIAL LEVEL CIRCUIT.
- B. PERFORM A SITE CALIBRATION UTILIZING THE AVAILABLE HORIZONTAL AND VERTICAL CONTROL POINTS PROVIDED IN THE PLAN.
- C. PROVIDE A REPORT, SIGNED BY AN OHIO LICENSED SURVEYOR, TO THE PROJECT ENGINEER COMPARING THE OBSERVED DATA TO THE PLAN DATA ALONG WITH A NARRATIVE DETAILING ANY DISCREPANCIES FOUND.

2) IF USING CONVENTIONAL SURVEY INSTRUMENTATION TO ESTABLISH AND OR PROVIDE SUPPLEMENTAL HORIZONTAL AND VERTICAL SURVEY CONTROL:

- A. LOCATE VERTICAL CONTROL POINTS PROVIDED IN THE PLANS AND PERFORM A DIFFERENTIAL LEVEL CIRCUIT.
- B. LOCATE AND OBSERVE ANGLE AND DISTANCE TO ALL AVAILABLE HORIZONTAL CONTROL POINTS PROVIDED IN THE PLAN.
- C. PROVIDE A REPORT, SIGNED BY AN OHIO LICENSED SURVEYOR, TO THE PROJECT ENGINEER COMPARING THE OBSERVED DATA TO THE PLAN DATA ALONG WITH A NARRATIVE DETAILING ANY DISCREPANCIES FOUND.

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID ITEM.

A LUMP SUM QUANTITY FOR ITEM SPECIAL - SURVEY CONTROL VERIFICATION HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE WORK DESCRIBED ABOVE.

**CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES**

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, NOTIFY THE ENGINEER BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, NOTIFY THE ENGINEER BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE IS INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

**REVIEW OF DRAINAGE FACILITIES**

PRIOR TO THE START OF WORK AND AGAIN BEFORE FINAL ACCEPTANCE, PERFORM AN INSPECTION WITH REPRESENTATIVES OF THE DEPARTMENT, CONTRACTOR AND LOCALS OF ALL EXISTING DRAINAGE FACILITIES THAT ARE TO REMAIN IN SERVICE WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES IS DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION ARE MAINTAINED BY THE DEPARTMENT.

CONFIRM ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE-MENTIONED PARTIES ARE MAINTAINED AND LEFT IN A CONDITION COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. THE CONTRACTOR IS RESPONSIBLE TO CORRECT ANY CHANGE IN THE CONDITION RESULTING FROM THEIR OPERATIONS AS DIRECTED AND APPROVED BY THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE IS INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

**BENCHING OF FOUNDATION SLOPES**

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN SECTION 203.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS). NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF SECTION 203.05.

**SEEDING AND MULCHING**

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST	1 EACH
659, TOPSOIL	887 CU. YD.
659, SEEDING AND MULCHING	7985 SQ. YD.
659, REPAIR SEEDING AND MULCHING	400 SQ. YD.
659, INTER-SEEDING	400 SQ. YD.
659, COMMERCIAL FERTILIZER	1.08 TON
659, LIME	1.65 ACRES
659, WATER	45 M. GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS AND HAVE BEEN DETERMINED USING CAD GENERATED AREAS. FOR AREAS ADJACENT TO A RESIDENTIAL PROPERTY, USE CMS 659 LAWN MIXTURE.

**CLEARING AND GRUBBING, AS PER PLAN**

THIS LUMP SUM ITEM SHALL BE USED TO CLEAR BRUSH AND THE NEAT TRIMMING AND/OR REMOVAL OF TREES IN CONFLICT WITH THE PROPOSED NOISE WALL LOCATIONS. TREES SCHEDULED TO BE TRIMMED OR REMOVED SHALL BE MARKED AND APPROVED BY THE PROJECT ENGINEER PRIOR TO THE WORK BEING PERFORMED.

ON THE FREEWAY SIDE OF THE NOISE WALL, THE CONTRACTOR SHALL PERFORM CLEARING AND GRUBBING IN THE AREA BETWEEN THE FACE OF THE NOISE WALL AND THE EDGE OF SHOULDER OF SR-161. THIS WORK AREA SHALL BE USED BY THE CONTRACTOR'S EQUIPMENT TO PERFORM WORK NECESSARY TO INSTALL THE NOISE WALL.

FOR CLARIFICATION, TREES SHALL BE INTERPRETED AS ANY GROWTH WITH A TRUNK DIAMETER OF AT LEAST THREE (3) INCHES.

IN THE AREA BETWEEN THE BACK OF THE NOISE WALL AND EXISTING FENCE, WHERE THE FENCE IS TO BE REMOVED, AND THE ADJOINING PROPERTY IS RESIDENTIAL, THE AREA SHALL BE RESTORED TO A STATE COMPARABLE TO THE ADJOINING PROPERTY.

**EXISTING SUBSURFACE DRAINAGE**

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE. UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 601, TIED CONCRETE BLOCK MAT, TYPE 1	10 SQ. YD.
ITEM 605, AGGREGATE DRAINS	50 FT.
ITEM 611, 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	25 FT.
ITEM 611, PRECAST REINFORCED CONCRETE OUTLET	5 EACH
ITEM 605, 6" UNCLASSIFIED PIPE UNDERDRAINS	50 FT.

**SPECIFIC SERVICE AND TOURIST-ORIENTED DIRECTIONAL SIGNS REMOVAL AND RELOCATION**

PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT KEVIN MCDERMOTT AT OHIO LOGOS, INC. AT (800) 860-5646 TO COORDINATE THE REMOVAL AND RELOCATION OF THE SPECIFIC SERVICE SIGNS (LOGO) AND TOURIST-ORIENTED DIRECTIONAL SIGNS (TODS) LOCATED NEAR STA. 2238+00, AS SHOWN ON PLAN SHEET P.48. OHIO LOGOS, INC. WILL RELOCATE THE SIGN UPON COMPLETION OF CONSTRUCTION.

**ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**ITEM 633 - CONTROLLER WORK PAD, AS PER PLAN**

IF NECESSARY, THE CONTRACTOR SHALL REPAIR THE CONCRETE WORK PAD LOCATED AT SR-161 STA. 2219+37.32, OFFSET 90.38' LT / NOISE WALL 9 STA. 900+76.32, OFFSET 12.62' RT IF DAMAGED DURING THE INSTALLATION OF THE NOISE WALL AND DRILLED SHAFTS. IF NECESSARY, THE CONTRACTOR SHALL GRADE THE SURROUNDING AREA SLIGHTLY IN ORDER TO INSTALL A LEVEL WORK PAD AND RESTORE SITE CONDITIONS AS APPROVED BY THE PROJECT ENGINEER. PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR ITEM 633, CONTROLLER WORK PAD, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO CONSTRUCT THE ITEM.

**VEGETATED FILTER STRIP**

THIS PLAN UTILIZES VEGETATED FILTER STRIPS FOR POST CONSTRUCTION STORM WATER TREATMENT. PLACE EITHER ITEM 660 - SODDING OR ITEM 659 - SEEDING AND MULCHING WITH A 4-INCH LIFT OF TOPSOIL AND ITEM 670 - SLOPE EROSION PROTECTION TO ALL DISTURBED AREAS DESIGNATED AS VEGETATED FILTER STRIPS, THE EDGE OF SHOULDER, AND THE FORESLOPE AS SPECIFIED IN THE PLANS. AREAS OUTSIDE OF THE CONSTRUCTION LIMITS DO NOT REQUIRE PLACEMENT OF ITEM 660 OR 659/670. TREATMENT WILL BE CLAIMED USING THE ESTABLISHED EXISTING VEGETATION.

**FOR THE CITY OF COLUMBUS DIVISION OF POWER**

THE DIVISION OF POWER (DOP) MAY HAVE UNDERGROUND OR OVERHEAD PRIMARY POWER, SECONDARY POWER, CONDUIT SYSTEMS AND STREET LIGHTING AT THIS WORK LOCATION. THE CONTRACTOR IS HEREBY REQUIRED TO CONTACT OUPS AT 811 OR 1-800-362-2764 FORTY EIGHT HOURS PRIOR TO CONDUCTING ANY ACTIVITY WITHIN THE CONSTRUCTION AREA.

ANY REQUIRED RELOCATION, SUPPORT, PROTECTION, OR ANY OTHER ACTIVITY CONCERNED WITH THE CITY'S ELECTRICAL FACILITIES IN THE CONSTRUCTION AREA IS TO BE PERFORMED BY THE CONTRACTOR UNDER THE DIRECTION OF DOP PERSONNEL AND AT THE EXPENSE OF THE PROJECT. DOP SHALL MAKE ALL FINAL CONNECTIONS TO DOP'S EXISTING ELECTRICAL SYSTEM AT THE EXPENSE OF THE PROJECT. THE CONTRACTOR SHALL USE MATERIAL AND MAKE REPAIRS TO A CITY OF COLUMBUS STREET LIGHTING SYSTEM BY FOLLOWING DOP'S "MATERIAL AND INSTALLATION SPECIFICATIONS" (MIS) AND THE CITY OF COLUMBUS "CONSTRUCTION AND MATERIAL SPECIFICATIONS" (CMSC). ANY NEW OR RE-INSTALLED UNDERGROUND STREETLIGHT SYSTEM SHALL REQUIRE TESTING AS REFERRED TO IN SECTION 1001.18 OF THE CMSC MANUAL. THE CONTRACTOR SHALL CONFORM TO DOP'S EXISTING STREET LIGHTING LOCKOUT/TAGOUT (LOTO) PROCEDURE, MIS-01, COPIES OF WHICH ARE AVAILABLE AT:  
<https://www.columbus.gov/WorkArea/DownloadAsset.aspx?id=2147503200>

IF ANY ELECTRIC FACILITY BELONGING TO DOP IS DAMAGED IN ANY MANNER BY THE CONTRACTOR, ITS AGENTS, SERVANTS, OR EMPLOYEES, AND REQUIRES EMERGENCY REPAIRS, THE DOP DISPATCH OFFICE SHOULD BE CONTACTED IMMEDIATELY AT (614) 645-7627. DOP SHALL MAKE ALL NECESSARY REPAIRS, AND THE EXPENSE OF SUCH REPAIRS AND OTHER RELATED COSTS SHALL BE PAID BY THE CONTRACTOR TO THE DIVISION OF POWER, CITY OF COLUMBUS, OHIO.

**CITY OF COLUMBUS DIVISION OF WATER GENERAL NOTES**

THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS, 2018 EDITION AND ALL REVISIONS, INCLUDING ALL SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS THAT ARE A PART OF THIS PLAN, UNLESS OTHERWISE NOTED.

ALL WATER MAIN MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS OF THE CITY OF COLUMBUS, DIVISION OF WATER. ALL CITY OF COLUMBUS, DIVISION OF WATER STANDARD DRAWINGS SHALL APPLY TO THE PROJECT, UNLESS OTHERWISE NOTED.

FOR ANY EMERGENCIES INVOLVING THE WATER DISTRIBUTION SYSTEM, PLEASE CONTACT THE DIVISION OF WATER DISTRIBUTION MAINTENANCE OFFICE AT 614-645-7788.

ALL BRASS FITTINGS ASSOCIATED WITH WATER WORK, INCLUDING REPAIRS TO THE EXISTING SYSTEM, SHALL CONFORM TO THE REVISED ALLOWABLE LEAD EXTRACTION LIMIT PER THE UPDATED NSF/ANSI 61 STANDARD. THE DIVISION OF WATER'S APPROVED MATERIALS LIST HAS BEEN UPDATED TO REFLECT THIS REQUIREMENT.

IT SHALL BE UNLAWFUL FOR ANY PERSON TO PERFORM ANY WORK ON CITY OF COLUMBUS WATER MAIN SYSTEMS WITHOUT FIRST SECURING LICENSE TO ENGAGE IN SUCH WORK, AS INDICATED IN COLUMBUS CITY CODE SECTION 1103.02 AND 1103.06. THIS WORK INCLUDES ANY ATTACHMENTS, ADDITIONS TO OR ALTERATIONS IN ANY CITY SERVICE PIPE OR APPURTENANCES (INCLUDING WATER SERVICE LINES AND TAPS). THIS REQUIREMENT MAY BE MET BY UTILIZATION OF A SUBCONTRACTOR WHO HOLDS A CITY OF COLUMBUS WATER CONTRACTOR LICENSE OR A COMBINED WATER/SEWER CONTRACTOR LICENSE TO PERFORM THIS WORK. UTILIZATION OF A SUBCONTRACTOR MUST MEET THE LICENSING REQUIREMENTS OF CITY OF COLUMBUS BUILDING CODE, IN PARTICULAR SECTION 4114.119 AND 4114.529.

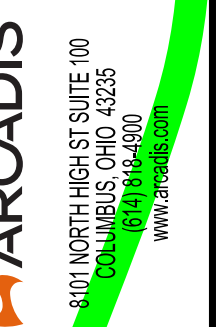
NO PERSON SHALL BEGIN CONSTRUCTION OR INSTALLATION OF A PUBLIC WATER MAIN UNTIL PLANS HAVE BEEN APPROVED BY THE STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA).

THE CONTRACTOR SHALL OBTAIN THE PROPER HYDRANT PERMIT(S), AND PAY ANY APPLICABLE FEES, FOR ANY APPROVED HYDRANT USAGE DEEMED NECESSARY FOR WORK UNDER THIS IMPROVEMENT. PERMITS MAY BE OBTAINED THROUGH THE DIVISION OF WATER PERMIT OFFICE (645-7330). THE CONTRACTOR SHALL ADHERE TO ALL RULES & REGULATIONS GOVERNING SAID PERMIT AND MUST HAVE THE ORIGINAL PERMIT ON SITE ANYTIME IN WHICH THE HYDRANT IS IN USE. PERMITS MAY BE OBTAINED BY ACCESSING [HTTP://PORTAL.COLUMBUS.GOV/PERMITS/](http://portal.columbus.gov/permits/). COST TO BE INCLUDED IN THE VARIOUS BID ITEMS.

WHERE NEW CONDUIT IS PROPOSED TO CROSS AN EXISTING OR PROPOSED WATER MAIN OR WATER TAP/SERVICE LINE, A MINIMUM OF 12-INCHES OF VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN THE CONDUIT AND THE WATER MAIN OR TAP/SERVICE LINE. A MINIMUM OF 3-FEET OF HORIZONTAL CLEARANCE (OUT TO OUT) IS REQUIRED AT LOCATIONS WHERE THE CONDUIT IS PARALLEL TO THE WATER MAIN AND AT LOCATIONS OF WATER MAIN THRUST BLOCKS.

A MINIMUM OF 3 FEET OF HORIZONTAL CLEARANCE (OUT TO OUT) SHALL BE MAINTAINED BETWEEN ALL EXISTING WATER MAINS AND FOUNDATIONS FOR POLES, PULL BOXES, PUSH BUTTON PEDESTALS, AND ANY OTHER MISCELLANEOUS ELECTRICAL STRUCTURE.

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

JDH 03-27-24

PROJECT ID

117607

SHEET TOTAL

P.10 | P.295



**MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION**

CONSTRUCT FOUNDATIONS, GRADING, PAVEMENT WIDENING, AND 81 INCH BARRIER 3 USING SHOULDER CLOSURES WITH PORTABLE BARRIER PER MT-95.45. RIGHT LANE WIDTH MAY BE REDUCED TO 11 FT MINIMUM.

CONSTRUCT 81 INCH BARRIERS 6, 8, 10, AND 12 USING SINGLE LANE CLOSURES WITH PORTABLE BARRIER PER MT-95.40. LANE AND RAMP CLOSURES SHALL BE LIMITED TO HOURS LISTED IN THE LANE VALUE CONTRACT TABLE.

CONSTRUCT NOISE WALLS USING SHOULDER CLOSURES WITH DRUMS. ALL LANES ALONG SR-161 EASTBOUND AND WESTBOUND WILL BE MAINTAINED.

**ITEM 614, MAINTAINING TRAFFIC**

ALL EXISTING LANES ON SR-161 SHALL BE MAINTAINED AT ALL TIMES EXCEPT FOR SHORT TERM SINGLE LANE CLOSURES DURING ALLOWABLE PERIODS PER THE LANE VALUE CONTRACT TABLE. A MINIMUM OF ONE LANE OF TRAFFIC SHALL BE MAINTAINED ON RAMPS AT ALL TIMES EXCEPT THE NEW ALBANY RD TO SR-161 WB RAMP MAY BE CLOSED DURING ALLOWABLE PERIODS PER THE LANE VALUE CONTRACT TABLE.

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

NEW YEAR'S (OBSERVED)	GENERAL/REGULAR ELECTION DAY (NOV)
MEMORIAL DAY	THANKSGIVING
FOURTH OF JULY (OBSERVED)	CHRISTMAS (OBSERVED)
LABOR DAY	

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00 N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00 N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00 N MONDAY THROUGH 6:00 AM WEDNESDAY
TUESDAY (GEN./REG. ELECTION)	5:00 AM TUESDAY THROUGH 12:00 AM WEDNESDAY
WEDNESDAY	12:00 N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00 N WEDNESDAY THROUGH 6:00 AM FRIDAY
THURSDAY (THANKSGIVING ONLY)	6:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00 N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00 N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE PER THE LANE VALUE CONTRACT (PN 127).

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW.

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

NOTICE OF CLOSURE SIGN TIME TABLE		
ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD CLOSURES	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRICT RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

**COORDINATION BETWEEN CONTRACTORS**

THE CONTRACTOR SHALL COORDINATE WORK WITH ODOT AND THE CONTRACTORS ON THE ADJACENT PROJECTS. COORDINATION SHALL BE MADE TO PREVENT CONFLICTING ADVANCE WARNING SIGNS, CONFLICTING DETOUR ROUTES, OVERLAPPING/CONFLICTING LANE CLOSURES, AND TO ENSURE THAT A MINIMUM DISTANCE OF 2 MILES BETWEEN ADJACENT LANE CLOSURES IS MAINTAINED. THIS IS NOT AN EXHAUSTIVE LIST OF COORDINATION ITEMS THAT MAY NEED TO BE RESOLVED BETWEEN PROJECTS. THE DEPARTMENT RESERVES THE RIGHT TO DECIDE WHICH PROJECT'S ACTIVITIES TAKE PRECEDENCE. PROJECTS THAT HAVE ACTIVITIES DELAYED DUE TO CONFLICTS WILL CONSIDER THIS AN EXCUSABLE, NON-COMPENSABLE DELAY PER 108.06.B. ON PROJECTS THAT HAVE ACTIVITIES DELAYED DUE TO CONFLICTS WHERE THE CONTRACTOR FAILED TO MEET THE NOTIFICATION REQUIREMENTS, THE DELAYS SHALL NOT BE CONSIDERED EXCUSABLE OR COMPENSABLE.

ATTENDANCE AT DEPARTMENT ORDERED TRAFFIC COORDINATION MEETINGS BETWEEN ADJACENT PROJECTS SHALL BE CONSIDERED MANDATORY FOR EACH PROJECT'S SUPERINTENDENT, AND INCIDENTAL TO THE LUMP SUM MAINTENANCE OF TRAFFIC PAYMENT ITEM.

THE FOLLOWING PROJECTS MAY HAVE CONFLICTS:  
 FRA-161-15.80, PID 116322  
 D05/D06-ITS EXPANSION-FY23, PID 117546

**FLOODLIGHTING**

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

**DUST CONTROL**

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 50 M. GAL.

**ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**DELINEATION OF PORTABLE AND PERMANENT BARRIER**

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL; AND, ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

**ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS**

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION (OR AT THE POINT OF ROAD CLOSURE), AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE THAT SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 300 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN**

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 4 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN, CONT'D**

(THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.) THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN,  
 AS PER PLAN 96 SIGN MONTH  
 ASSUMING 4 PCMS SIGNS FOR 24 MONTHS

**NOTIFICATION OF TRAFFIC RESTRICTIONS**

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE BUT IS NOT LIMITED TO ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION OF TRAFFIC RESTRICTIONS TIME TABLE

ITEM	DURATION OF CLOSURE	NOTIFICATION DUE TO DISTRICT 4 COMMUNICATIONS OFFICE
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME FRAME TABLE.

**LANE AND RAMP CLOSURE TABLES**

ODOT RESERVES THE RIGHT TO AMEND THE LANE AND RAMP CLOSURE TABLES. NO ADJACENT RAMP CLOSURES SHALL OCCUR CONCURRENTLY.

LANE VALUE CONTRACT TABLE						
FRA-161						
SECTION (SLM)	EXISTING NUMBER OF LANES PER DIRECTION	LANE CLOSURES NOT PERMITTED				DISINCENTIVE PER MINUTE PER LANE
		LANE REDUCTION	MON TO FRI	SAT	SUN	
LITTLE TURTLE WAY (17.31) TO HAMILTON ROAD (18.60)	4	4 TO 3	6 AM - 9 AM 3 PM - 6 PM	NO RESTRICTION	NO RESTRICTION	\$180
		4 TO 2	5 AM - 9 AM 2 PM - 7 PM	9 AM - 6 PM	10 AM - 5 PM	
		4 TO 1	5 AM - 9 PM	6 AM - 7 PM	8 AM - 7 PM	
HAMILTON ROAD (18.60) TO KITZMILLER ROAD (22.40)	3	3 TO 2	6 AM - 9 AM 3 PM - 6 PM	NO RESTRICTION	NO RESTRICTION	\$250
		3 TO 1	5 AM - 7 PM	8 AM - 7 PM	8 AM - 7 PM	
SHORT TERM SHOULDER CLOSURES ARE NOT PERMITTED 6 AM - 9 PM & 3 PM - 6 PM MONDAY - FRIDAY						

RAMP CLOSURE RESTRICTIONS					
SR-161					
SECONDARY ROUTE: NEW ALBANY					
RAMP DESIGNATION	MOVEMENT	NO CLOSURES ALLOWED		PRIMARY DETOUR ROUTE	SECONDARY DETOUR ROUTE
		MON - FRI	SAT - SUN		
L	NEW ALBANY RD TO SR-161 WB	5 AM - 9 PM	8 AM - 8 PM	RAMP N TO SR-161 EB TO RAMP K TO JOHNSTOWN RD NB TO RAMP G TO SR-161 WB	NONE
P	SR-161 EB TO NEW ALBANY RD	5 AM - 9 PM	8 AM - 8 PM	SR-161 EB TO RAMP K TO JOHNSTOWN RD NB TO RAMP G TO SR-161 WB TO RAMP M TO NEW ALBANY RD	NONE

**SHORT DURATION RAMP CLOSURES**

FOR THE PURPOSE OF PERFORMING THE REQUIRED WORK, RAMPS MAY BE CLOSED FOR SHORT DURATIONS AND DETOURED IN ACCORDANCE WITH THE RAMP CLOSURE TABLE IF APPROVED BY THE ENGINEER. RAMP CLOSURES ARE SUBJECT TO DISINCENTIVES.

FOR ALL SERVICE RAMP CLOSURES LASTING MORE THAN 12 HOURS BUT LESS THAN 60 HOURS, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING:

A MINIMUM OF TWO PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) PLACED, AS DIRECTED BY THE ENGINEER, TO WARN DRIVERS OF THE CLOSURE AND TO PROVIDE THE DESIGNATED DETOUR ROUTE. POSITIVE GUIDANCE ALONG THE DETOUR ROUTE WITH DETOUR SIGNS (M4-9 SERIES) IN ACCORDANCE WITH THE DETOUR SIGNS NOTE.

FOR ALL RAMP CLOSURES LASTING LESS THAN 12 HOURS, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING:

A MINIMUM OF TWO PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) PLACED, AS DIRECTED BY THE ENGINEER, TO WARN DRIVERS OF THE CLOSURE AND TO PROVIDE THE DESIGNATED DETOUR ROUTE.

WHEN CLOSING ENTRANCE RAMPS, CORRESPONDING LEAD-IN LANES AND TURN LANES SHALL ALSO BE CLOSED.

IF A DESIGNATED DETOUR ROUTE IS NOT PROVIDED IN THE PLANS, TRAFFIC SHALL BE DIRECTED TO THE NEXT INTERCHANGE, IF AVAILABLE, TO TURN AROUND. IF THE USE OF THE NEXT INTERCHANGE IS NOT POSSIBLE, AN ALTERNATIVE DETOUR ROUTE SHALL BE PROVIDED BY THE ENGINEER.

**DETOUR SIGNING**

SIZE AND PLACEMENT OF DETOUR SIGNS (M4-9) SHOULD FOLLOW THE REQUIREMENTS OF THE ODOT SECTION 6F.03, SECTION 2A.11 AND TABLE 6F-01.

DETOUR SIGNING SHALL PROVIDE DRIVERS ADEQUATE TIME TO CLEARLY READ THE SIGNS AND MAKE THE PROPER DECISIONS AT EACH REQUIRED TURNING MOVEMENT. THE DESIGNATED DETOUR ROUTE SHALL BE SIGNED IN ACCORDANCE WITH THE REQUIREMENTS BELOW:

- APPROXIMATELY 1500 FEET PRIOR TO TIP OF THE PAINTED GORE AT AN INTERCHANGE WHEN EXITING A HIGH SPEED (45 MPH OR HIGHER) FACILITY.
- AT OR NEAR THE EXISTING SIGN IN THE GORE OF AN INTERCHANGE RAMP.
- AT OR NEAR THE FIRST EXISTING LANE ASSIGNMENT SIGN ON AN INTERCHANGE EXIT RAMP.
- AT OR NEAR THE EXISTING LANE ASSIGNMENT SIGN OR EXISTING ROUTE MARKER AT THE END OF AN EXIT RAMP.
- APPROXIMATELY 500 FEET PRIOR TO A REQUIRED TURN AT AN INTERSECTION NOT CONTROLLED BY A STOP SIGN (FOR 45 MPH OR HIGHER ONLY).
- AT OR NEAR THE EXISTING LANE ASSIGNMENT SIGN OR EXISTING ROUTE MARKER AT AN INTERSECTION.
- EVERY TWO MILES ALONG A TANGENT SECTION BETWEEN TURNING MOVEMENTS OUTSIDE A CITY.
- EVERY TWO BLOCKS ALONG A TANGENT SECTION BETWEEN TURNING MOVEMENTS WITHIN A CITY.
- AT ANY OTHER INTERSECTION OR DECISION POINT WHERE THE DETOUR ROUTE IS CONTRARY TO THE NORMAL, EXPECTED TURNING MANEUVER OR OTHERWISE UNCLEAR.

DETOUR SIGNS SHALL BE PLACED, WHEN POSSIBLE, NEXT TO BUT NOT BLOCKING EXISTING ROUTE MARKERS OR LANE ASSIGNMENT SIGNS. DETOUR SIGNS SHALL NOT OBSCURE OR BE OBSCURED BY OTHER EXISTING OR TEMPORARY SIGNS.

DETOUR SIGNS SHALL BE ERECTED AND/OR UNCOVERED PRIOR TO THE ROAD OR RAMP BEING CLOSED TO TRAFFIC BUT NO EARLIER THAN FOUR HOURS PRIOR TO THE CLOSURE. DETOUR SIGNS SHALL BE COVERED AND/OR REMOVED NO LATER THAN FOUR HOURS FOLLOWING THE ROAD OR RAMP RE-OPENING TO TRAFFIC.

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, PROPER SIGN PLACEMENT AND SIZING, TIMELY ERECTING AND/OR UNCOVERING OF SIGNS, MAINTAINING SIGNS, AND TIMELY COVERING AND/OR REMOVING SIGNS AND SUPPORTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.  
 ITEM 614 - DETOUR SIGNING = LUMP SUM

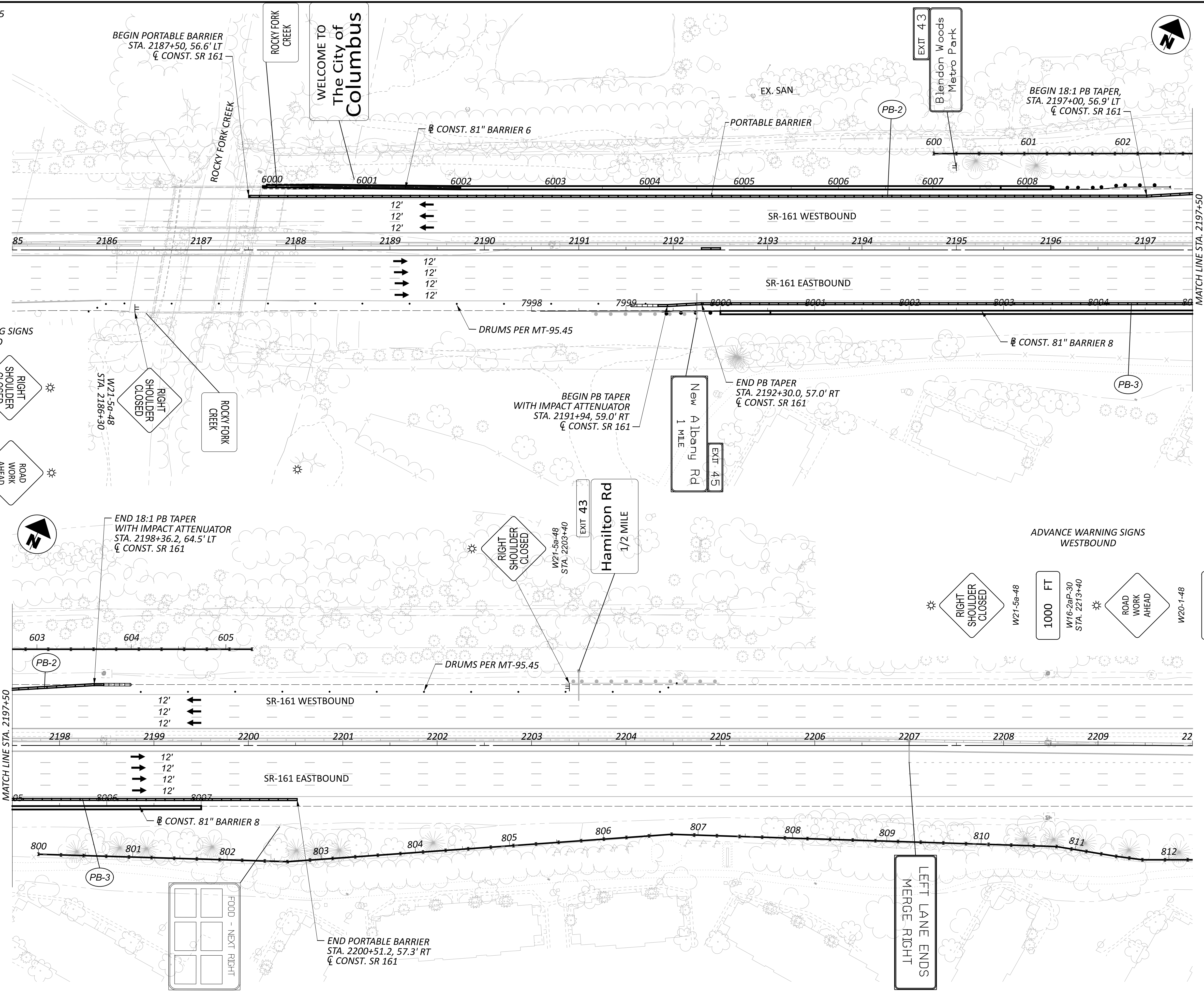


END ROAD WORK  
 G20-2-48  
 STA. 2177+50

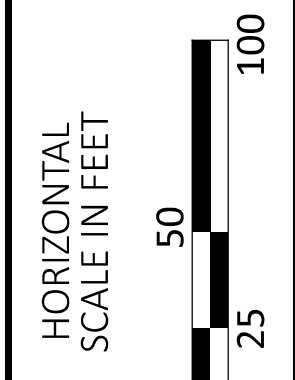
ADVANCE WARNING SIGNS  
 EASTBOUND

1100 FT  
 W16-2aP-30  
 STA. 2176+30

1/2 MILE  
 W16-2aP-30  
 STA. 2161+30



END ROAD WORK  
 G20-2-48  
 STA. 2210+50



MAINTENANCE OF TRAFFIC PLAN  
 81" BARRIERS 6 AND 8

DESIGN AGENCY  
**ARCADIS**  
 5141 NORTH HIGGINS SITE 100  
 13100 NORTH HIGGINS SITE 100  
 13100 NORTH HIGGINS SITE 100  
 WWW.ARCADIS.COM

DESIGNER  
**NRS/BSS**

REVIEWER  
**JDH** 03-27-24

PROJECT ID  
**117607**

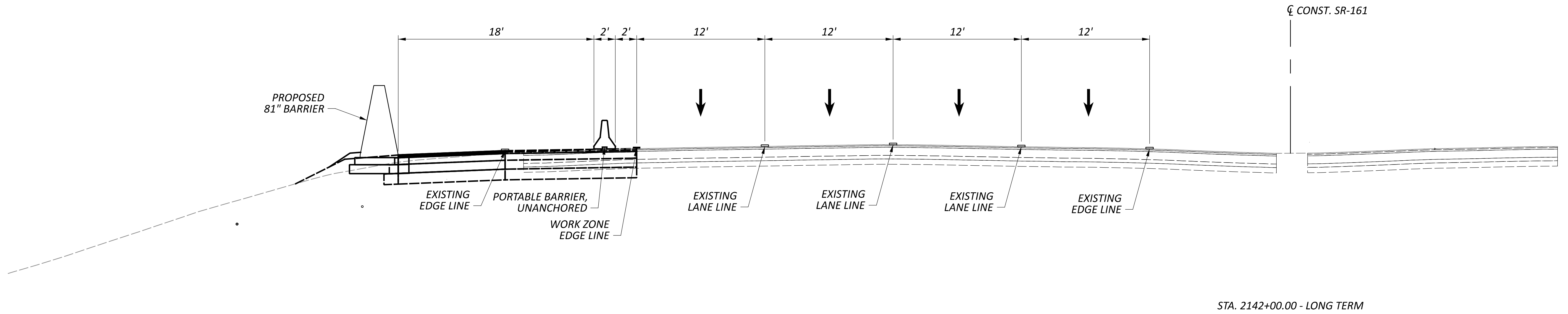
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**FRA-161-15.80 NOISE WALLS**

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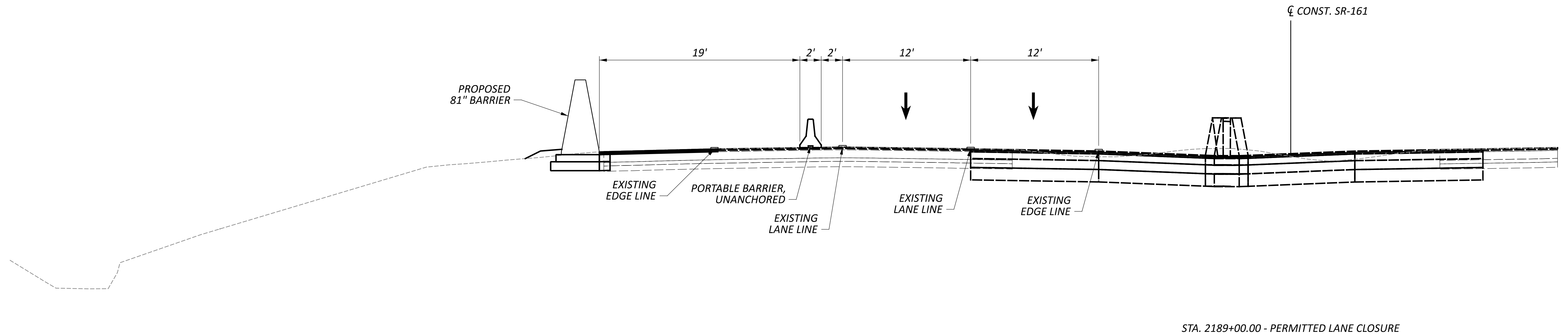
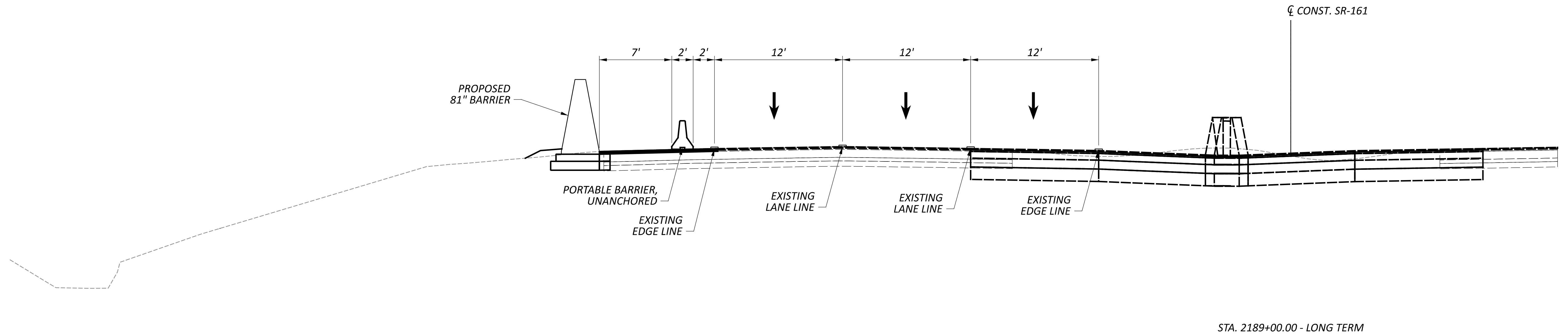


**MAINTENANCE OF TRAFFIC TYPICAL SECTIONS  
 BARRIER 3 - STA. 2142+00 WESTBOUND**

DESIGN AGENCY	
<b>ARCADIS</b>	441 NORTH HIGHTS SUITE 100 1000 WEST 10TH AVENUE DENVER, CO 80202 www.arcadis.com
DESIGNER	
BSS	
REVIEWER	
JDH	03-27-24
PROJECT ID	
117607	
SHEET	TOTAL
P.18	P.295

FRA-161-15.80 NOISE WALLS

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MAINTENANCE OF TRAFFIC TYPICAL SECTIONS  
 BARRIER 6 - STA. 2189+00 WESTBOUND

DESIGN AGENCY



8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 614.881.4900  
 www.arcadis.com

DESIGNER

BSS

REVIEWER

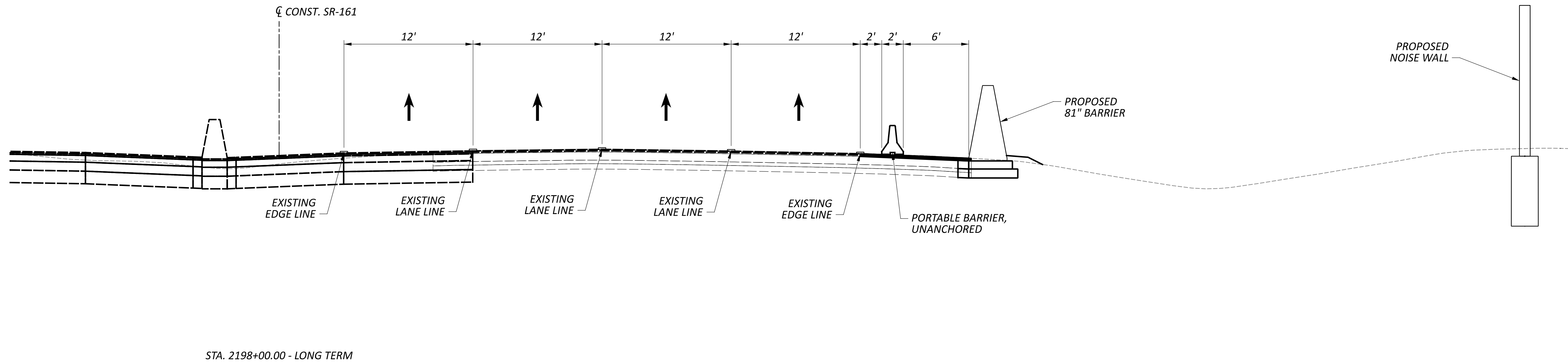
JDH 03-27-24

PROJECT ID

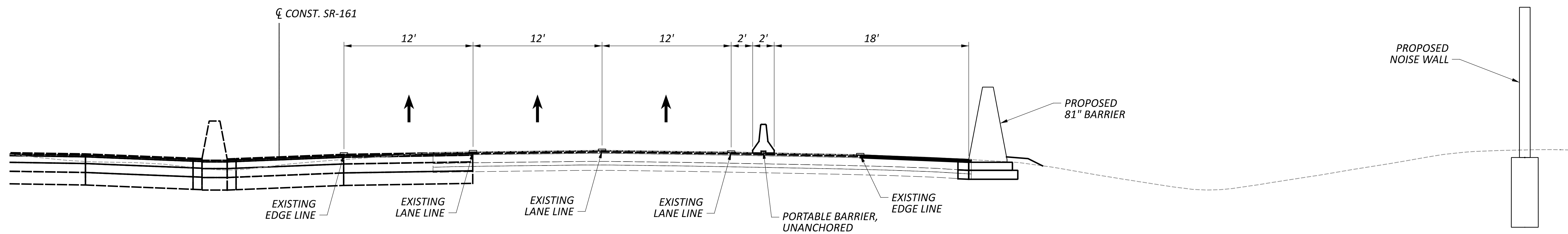
117607

SHEET TOTAL

P.19 | P.295



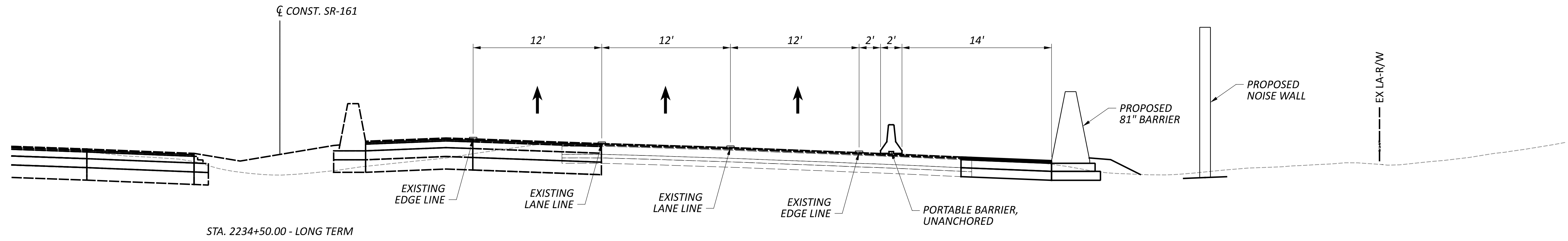
STA. 2198+00.00 - LONG TERM



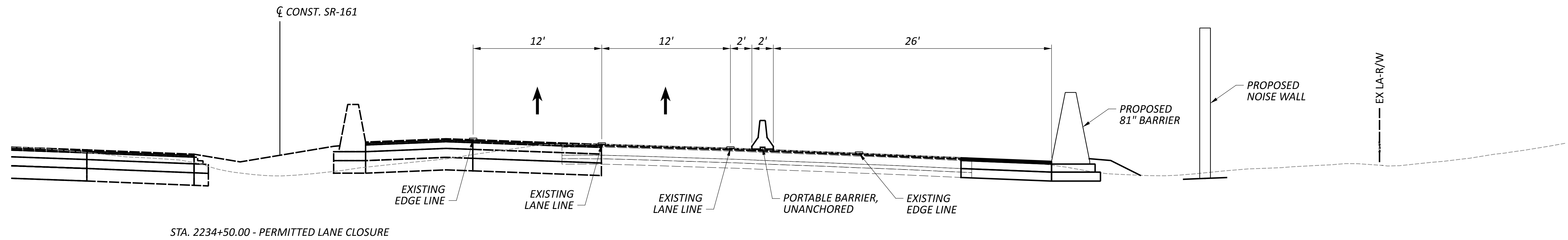
STA. 2198+00.00 - PERMITTED LANE CLOSURE

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS  
 BARRIER 8 - STA. 2198+00 EASTBOUND

DESIGN AGENCY	
ARCADIS	
1000 WEST HIGHWAY 300 SUITE 100 CHANDLER, AZ 84925 www.arcadis.com	
DESIGNER	BSS
REVIEWER	JDH
PROJECT ID	03-27-24
SHEET	117607
TOTAL	P.20
	P.295



STA. 2234+50.00 - LONG TERM



STA. 2234+50.00 - PERMITTED LANE CLOSURE

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS  
 BARRIER 12 - STA. 2234+50 EASTBOUND

DESIGN AGENCY

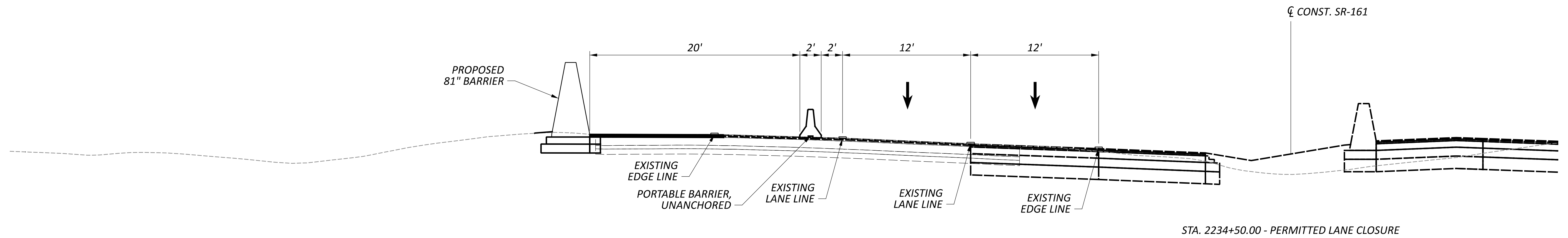
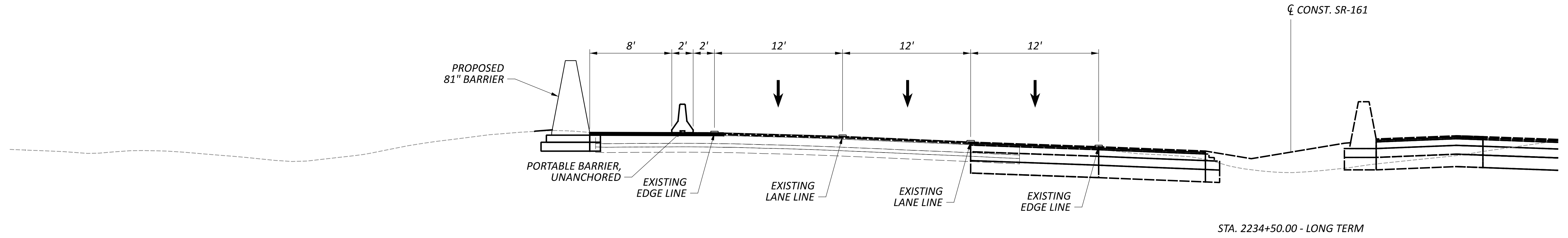


DESIGNER  
 BSS

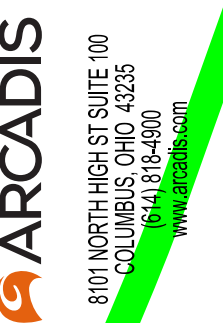
REVIEWER  
 JDH 03-27-24

PROJECT ID  
 117607

SHEET TOTAL  
 P.21 | P.295



DESIGN AGENCY



DESIGNER

BSS

REVIEWER

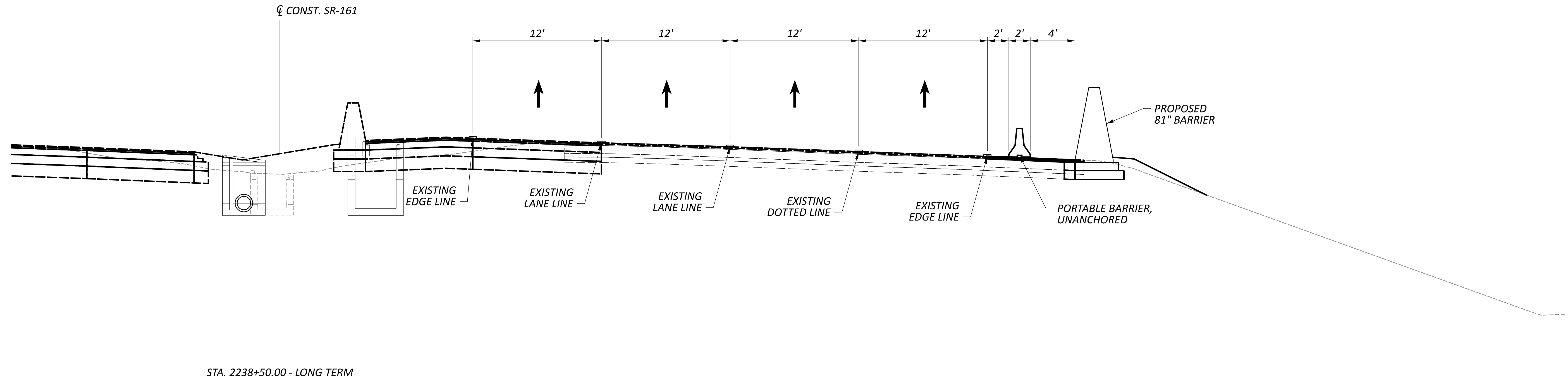
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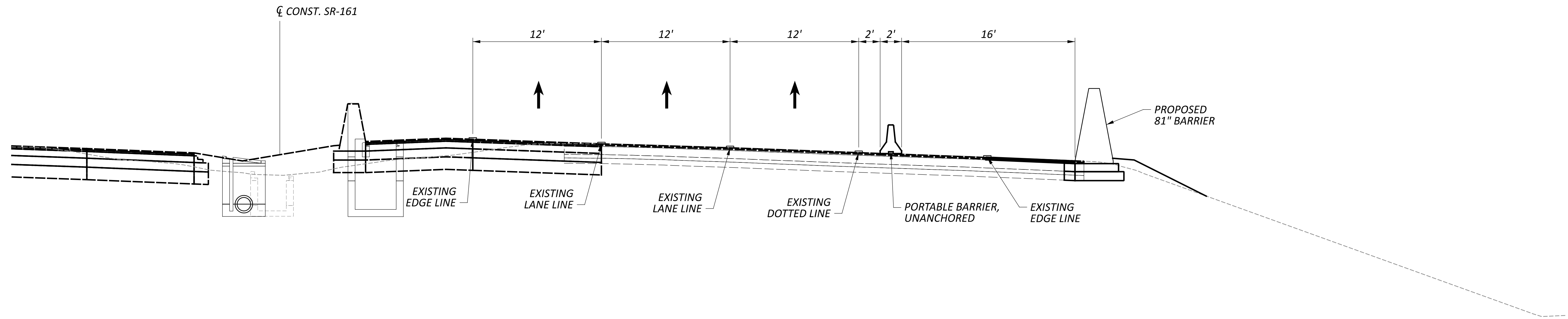
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P.22 P.295



STA. 2238+50.00 - LONG TERM



STA. 2238+50.00 - PERMITTED RAMP/LANE CLOSURE

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS  
 BARRIER 12 - STA. 2238+50 EASTBOUND

DESIGN AGENCY



DESIGNER

BSS

REVIEWER

JDH 03-27-24

PROJECT ID

117607

SHEET TOTAL

P.23 P.295

**FRA-161-15.80 NOISE WALLS**

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SHEET NUM.							PART.			ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
P.9	P.10	P.12	P.26	P.27	P.28	P.222				EXT	TOTAL				
<b>ROADWAY</b>															
LS				1,262					201	11000	LS		CLEARING AND GRUBBING	P.9	
				1					202	38000	1,262	FT	GUARDRAIL REMOVED		
				3,942					202	42040	1	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T		
					2,229				202	75000	3,942	FT	FENCE REMOVED		
									203	10000	2,229	CY	EXCAVATION		
					684				203	20000	684	CY	EMBANKMENT		
					67				203	98000	67	CY	ROADWAY, MISC.: TEMPORARY OVER-STEEPENED FILL		
				201					607	35000	201	FT	FENCE REMOVED AND REBUILT		
<b>EROSION CONTROL</b>															
1									659	00100	1	EACH	SOIL ANALYSIS TEST		
887									659	00300	887	CY	TOPSOIL		
				955					659	00590	955	SY	SEEDING AND MULCHING, CLASS 6		
7,985									659	10000	7,985	SY	SEEDING AND MULCHING		
400									659	14000	400	SY	REPAIR SEEDING AND MULCHING		
400									659	15000	400	SY	INTER-SEEDING		
1.08									659	20000	1.08	TON	COMMERCIAL FERTILIZER		
1.65									659	31000	1.65	ACRE	LIME		
45	50								659	35000	95	MGAL	WATER		
				9,090					670	00500	9,090	SY	SLOPE EROSION PROTECTION		
									832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN		
									832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS		
									832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE		
									832	30000	170,204	EACH	EROSION CONTROL		
<b>DRAINAGE</b>															
	10			235					601	21050	245	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT		
			2.97						602	20000	2.97	CY	CONCRETE MASONRY		
	50			9,349					605	13300	9,399	FT	6" UNCLASSIFIED PIPE UNDERDRAINS		
	50								605	31100	50	FT	AGGREGATE DRAINS		
	25			524					611	00510	549	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS		
									611	06100	275	FT	15" CONDUIT, TYPE C		
									611	06700	92	FT	15" CONDUIT, TYPE F		
	5			24					611	99710	29	EACH	PRECAST REINFORCED CONCRETE OUTLET		
<b>PAVEMENT</b>															
			4,822						254	01000	4,822	SY	PAVEMENT PLANING, ASPHALT CONCRETE		
			998						304	20000	998	CY	AGGREGATE BASE, 10"		
			219						407	10000	219	GAL	TACK COAT		
			760						407	20000	760	GAL	NON-TRACKING TACK COAT		
			188						442	10001	188	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, 1.5"		
									442	10100	188	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446), 1.5"		
									452	12010	1,803	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P		
									452	13010	1,147	SY	9" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P		
									872	10000	4,401	FT	VOID REDUCING ASPHALT MEMBRANE (VRAM)		
<b>NOISE BARRIERS</b>															
						4			519	11101	4	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN		
			115,234						SPECIAL	60610210	115,234	SF	NOISE BARRIER (REFLECTIVE)	P.9	
			362						606	15050	362	FT	GUARDRAIL, TYPE MGS		
			3						606	26150	3	EACH	ANCHOR ASSEMBLY, MGS TYPE E		
			4						606	35002	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1		
			1						606	35102	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2		
									609	24000	108	FT	CURB, TYPE 4-A		
									611	99500	11	EACH	INLET, MISC.: BARRIER INLET, 81" SSB	P.226	
									622	90000	3,743	FT	BARRIER, MISC.: 81" SINGLE SLOPE BARRIER	P.224	
									622	90000	29	FT	BARRIER, MISC.: 81" SINGLE SLOPE BARRIER END ANCHORAGE, REINFORCED	P.224	
									622	90200	6	EACH	BARRIER, MISC.: BARRIER DRAINAGE WINDOW SECTION	P.228	
									622	90200	6	EACH	BARRIER, MISC.: 81" CONCRETE BARRIER END SECTION	P.223	
	1								633	67201	1	EACH	CONTROLLER WORK PAD, AS PER PLAN	P.10	

**GENERAL SUMMARY**

DESIGN AGENCY  
**ARCADIS**  
 8100 HIGHWAY SUITE 100  
 COLUMBIA, MD 21046  
 (410) 326-7000  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JMK**

PROJECT ID  
**117607**

SHEET TOTAL  
 P.24 P.295




**FRA-161-15.80 NOISE WALLS**

MODEL: GG002 PAPER:SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 4:00:53 PM USER: jennifer.kelley  
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SHEET NUM.										PART.			ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE
P.13	P.14	P.26											EXT	TOTAL			SHEET NO.	
		6.7											630	03100	6.7	FT	<b>TRAFFIC CONTROL</b> GROUND MOUNTED SUPPORT, NO. 3 POST	
		39.9											630	07000	39.9	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W8X18	
		2											630	81020	2	EACH	CONCRETE MEDIAN BARRIER SIGN BRACKET	
		1											630	82000	1	EACH	SIGN BACKING ASSEMBLY	
		2											630	84500	2	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	
		3											630	85100	3	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
		1											630	85600	1	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION	
		2											630	86002	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
		2											630	86102	2	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	
		0.45											807	13110	0.45	MILE	WET REFLECTIVE SPRAY THERMOPLASTIC PAVEMENT MARKING, LANE LINE, 6"	
																	<b>MAINTENANCE OF TRAFFIC</b>	
300													614	11110	300	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
	LS	5											614	12380	5	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	
		119											614	12420	LS		DETOUR SIGNING	P.14
		119											614	13310	119	EACH	BARRIER REFLECTOR, TYPE 1 (ONE-WAY)	
		119											614	13350	119	EACH	OBJECT MARKER, ONE WAY	
96													614	18600	96	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN	P.13
		0.63											614	22210	0.63	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I	
		780											614	24402	780	FT	WORK ZONE DOTTED LINE, CLASS I, 6", 740.06, TYPE I	
		13,700											622	41100	13,700	FT	PORTABLE BARRIER, UNANCHORED	
																	<b>INCIDENTALS</b>	
													614	11000	LS		MAINTAINING TRAFFIC	
													619	16010	24	MNTH	FIELD OFFICE, TYPE B	
													623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													624	10000	LS		MOBILIZATION	
													SPECIAL	69021000	LS		SURVEY CONTROL VERIFICATION	P.9

**GENERAL SUMMARY**

DESIGN AGENCY  
  
 610 NORTH HIGGINS SUITE 100  
 10000 BENTLEY AVENUE  
 HOUSTON, TEXAS 77041-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH**

PROJECT ID  
**17607**

SHEET TOTAL  
**P.25 P.295**



**FRA-161-15.80 NOISE WALLS**

MODEL: GS002 PAPER: 34x22 (in.) DATE: 2024-03-27 TIME: 4:01:20 PM USER: jennifer.kelley  
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SHEET NO.	REF. NO.	STATION		SIDE	601	605	611	611
		FROM	TO		TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	6" UNCLASSIFIED PIPE UNDERDRAINS	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	PRECAST REINFORCED CONCRETE OUTLET
WALL 3 / BARRIER 3					SY	FT	FT	EACH
P.33	UD-1	300+00.00	302+74.00	LT	2	279	12	1
P.33 - P.34	UD-2	302+78.00	305+76.00	LT	2	298	25	1
P.34	EC-1	2135+44.37	2135+50.00	LT	2			
P.34	EC-2	2136+45.04	2136+55.04	LT	12			
	EC-3	NOT USED						
WALL 6 / BARRIER 6								
	EC-4	NOT USED						
	EC-5	NOT USED						
	EC-18	NOT USED						
	EC-6	NOT USED						
P.37	UD-3	600+00.00	602+02.00	LT	2	207	12	1
P.37 - P.38	UD-4	602+06.00	605+28.00	LT	2	322	16	1
WALL 8 / BARRIER 8								
P.39	EC-7	2190+25.79	2190+31.29	RT	24			
P.41	EC-8	805+47.00	805+57.00	LT	25			
	EC-19	NOT USED						
P.40	EC-9	2196+45.02	2196+55.02	RT	21			
P.40 - P.42	UD-5	800+00.00	809+96.00	RT	2	1001	29	1
P.42	UD-6	810+00.00	812+40.00	RT	2	240	22	1
P.42 - P.43	UD-7	812+44.00	814+48.00	RT	2	204	41	1
P.43	UD-8	814+52.00	818+08.00	RT	2	356	41	1
WALL 9								
P.44 - P.45	UD-9	900+00.00	904+34.00	LT	2	439	26	1
P.45	UD-10	904+38.00	908+42.00	LT	2	404	24	1
P.45 - P.46	UD-11	908+46.00	911+92.00	LT	2	346	22	1
P.46	UD-12	911+96.00	2231+10.24	RT	2	79	30	1
BARRIER 10								
P.47	EC-10	2229+94.60	2230+00.00	LT	6			
P.47	EC-11	2230+93.49	2231+03.31	LT	8			
P.47	EC-12	2233+88.33	2233+98.11	LT	26			
P.48	EC-13	2236+82.81	2236+92.55	LT	29			
P.49 - P.50	UD-22	1012+25.00	1015+50.00	LT		395	1	
	EC-20	NOT USED						
	EC-15	NOT USED						
WALL 11								
P.51 - P.54	UD-22	1099+95.00	1115+60.00	RT	6	1565	77	3
P.51 - P.54	EC-14		1107+90.00	LT	30			
WALL 12 / BARRIER 12								
P.55	EC-16	2233+75.29	2233+80.90	RT	4			
	EC-17	NOT USED						
P.56	UD-13	120+00.00	121+96.00	LT	2	201	10	1
P.56 - P.57	UD-14	122+00.00	124+97.00	LT	2	297	17	1
P.56 - P.57	UD-23	1200+00.00	1207+51.00	LT	2	721	1	1
WALL 15								
P.58	UD-15	1500+00.00	1502+40.00	RT	2	245	16	1
P.59	UD-16	1504+27.00	1507+03.00	RT	2	276	18	1
P.59 - P.60	UD-17	1507+07.00	1509+18.00	RT	2	211	24	1
P.60 - P.61	UD-18	1509+22.00	1514+20.00	RT	2	498	43	1
P.61	UD-19	1514+20.00	1517+33.00	RT		313		
P.61	UD-20	1517+37.00	1518+43.00	RT	2	111	6	1
P.61 - P.62	UD-21	1518+90.00	2308+61.91	RT	2	341	11	1
TOTALS					235	9,349	524	24

SHEET NO.	REF. NO.	STATION		SIDE	202	202	202	607	659	670
		FROM	TO		GUARDRAIL REMOVED	ANCHOR ASSEMBLY REMOVED, TYPE T	FENCE REMOVED	FENCE REMOVED AND REBUILT	SEEDING AND MULCHING, CLASS 6	SLOPE EROSION PROTECTION
WALL 3 / BARRIER 3					FT	EACH	FT	FT	SY	SY
P.29	VF-1	299+99.94	305+75.94	RT						1572
P.29	SM-1	3002+79.85	3003+94.48	CEN					86	
WALL 6 / BARRIER 6										
P.37 - P.38	R-1	600+00.00	605+28.00	LT			528			
P.36	R-6	2187+65.24	2189+58.43	LT	195					
P.30	VF-2	601+99.88	605+27.88	RT						935
P.30	SM-2	5999+74.18	6000+83.57	CEN					141	
WALL 8 / BARRIER 8										
P.40 - P.43	R-2	800+00.00	818+08.00	RT			1808			
P.39	R-7	7998+63.74	7999+76.24	RT	113	1				
P.30	VF-3	810+49.84	818+10.87	LT						3387
WALL 9										
P.44 - P.46	R-3	900+00.00	912+70.00	LT			1270			
P.30 - P.31	VF-4	899+99.82	911+99.82	RT						3196
BARRIER 10										
P.48 - P.49	R-8	1008+56.41	1012+83.96	LT	428					
P.31	SM-3	1010+49.68	1012+13.57	CEN					217	
WALL 11										
P.51	R-5	1099+94.42	1101+92.46	RT				201		
WALL 12 / BARRIER 12										
P.55 - P.56	R-9	1202+02.04	1207+26.90	RT	526					
P.31	SM-4	1204+13.85	1206+52.61	CEN					511	
WALL 15										
P.61 - P.62	R-4	1518+90.00	1522+26.00	RT			336			
TOTALS					1,262	1	3,942	201	955	9090

**SUBSUMMARY**

DESIGN AGENCY	
<b>ARCADIS</b>	4101 NORTH HIGH ST SUITE 100 COLUMBUS, OHIO 43226 (614) 462-6000 www.arcadis.com
DESIGNER	JMK
REVIEWER	JDK
PROJECT ID	03-27-24
SHEET	117607
TOTAL	P.27   P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: GS002 PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 4:01:34 PM USER: jennifer.kelley  
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SHEET NO.	203	203	203
	EXCAVATION	EMBANKMENT	ROADWAY, MISC.: TEMPORARY OVER- STEEPENED FILL
	CY	CY	CY
<b>WALL 3 / 81" SSB 3</b>			
P.63	0	0	0
P.64	0	0	0
P.65	0	0	0
P.66	0	0	0
P.67	0	0	0
P.68	0	0	0
P.69	0	0	0
P.70	20	6	0
P.71	16	14	0
P.72	29	14	0
P.73	22	8	0
P.74	14	13	0
P.75	24	22	0
<b>WALL 6 / 81" SSB 6</b>			
P.76	2	0	0
P.77	44	4	0
P.78	44	2	0
P.79	44	2	0
P.80	44	2	0
P.81	44	1	0
P.82	44	1	0
P.83	44	0	0
P.84	44	1	0
P.85	11	0	0
P.86	0	0	0
P.87	0	0	0
P.88	0	0	0
P.89	0	0	0
P.90	0	0	0
P.91	0	0	0
P.92	0	0	0
P.93	0	0	0
<b>81" SSB 8 / WALL 8</b>			
P.94			0
P.95			0
P.96			0
P.97			0
P.98			0
P.99			0
P.100			0
P.101			0
P.102			0
P.103			0
P.104			0
P.105			0
P.106			0
P.107			0
P.108			0
P.109			0
P.110			0
P.111			0
P.112			0
P.113			0
P.114			0
P.115			0
P.116			0
P.117			0
P.118			0
P.119			0
P.120			0
P.121			0
P.122			0
P.123			0
<b>WALL 8 TOTAL</b>	<b>200</b>	<b>20</b>	<b>0</b>
<b>SUBTOTAL</b>	<b>690</b>	<b>110</b>	<b>0</b>

SHEET NO.	203	203	203
	EXCAVATION	EMBANKMENT	ROADWAY, MISC.: TEMPORARY OVER- STEEPENED FILL
	CY	CY	CY
<b>WALL 9</b>			
P.124	0	0	0
P.125	0	0	0
P.126	0	0	0
P.127	0	0	0
P.128	0	0	0
P.129	0	0	0
P.130	0	0	0
P.131	0	0	0
P.132	0	0	0
P.133	0	0	0
P.134	0	0	0
P.135	0	0	0
P.136	0	0	0
P.137	0	0	0
P.138	0	0	0
P.139	0	0	0
<b>81" SSB 10</b>			
P.140	0	0	0
P.141	44	2	0
P.142	68	2	0
P.143	72	0	0
P.144	72	0	0
P.145	46	0	0
P.146	45	1	0
P.147	42	2	0
P.148	41	2	0
P.149	40	2	0
P.150	20	1	0
P.151	39	4	0
P.152	39	3	0
P.153	48	2	0
P.154	58	3	0
P.155	71	4	0
P.156	33	1	0
<b>WALL 11</b>			
P.140	0	0	0
P.141	0	0	0
P.142	0	0	0
P.143	0	0	0
P.144	0	0	0
P.145	0	0	0
P.146	0	0	0
P.147	0	0	0
P.148	0	0	0
P.149	0	0	0
P.150	0	0	0
P.151	0	0	0
P.152	0	0	0
P.153	0	0	0
P.154	0	0	0
P.155	0	0	0
P.156	0	0	0
<b>SUBTOTAL</b>	<b>778</b>	<b>29</b>	<b>0</b>

SHEET NO.	203	203	203
	EXCAVATION	EMBANKMENT	ROADWAY, MISC.: TEMPORARY OVER- STEEPENED FILL
	CY	CY	CY
<b>81" SSB 12 / WALL 12</b>			
P.174	72	11	0
P.175	81	9	0
P.176	62	4	0
P.177	44	5	0
P.178	88	74	14
P.179	180	200	27
P.180	160	180	22
P.181	74	62	4
P.182	0	0	0
P.183	0	0	0
P.184	0	0	0
P.185	0	0	0
P.186	0	0	0
P.187	0	0	0
P.188	0	0	0
P.189	0	0	0
<b>WALL 15</b>			
P.190	0	0	0
P.191	0	0	0
P.192	0	0	0
P.193	0	0	0
P.194	0	0	0
P.195	0	0	0
P.196	0	0	0
P.197	0	0	0
P.198	0	0	0
P.199	0	0	0
P.200	0	0	0
P.201	0	0	0
P.202	0	0	0
P.203	0	0	0
P.204	0	0	0
P.205	0	0	0
P.206	0	0	0
P.207	0	0	0
P.208	0	0	0
P.209	0	0	0
P.210	0	0	0
P.211	0	0	0
P.212	0	0	0
P.213	0	0	0
<b>SUBTOTAL</b>	<b>761</b>	<b>545</b>	<b>67</b>
<b>TOTAL CARRIED TO GENERAL SUMMARY</b>	<b>2,229</b>	<b>684</b>	<b>67</b>

**SUBSUMMARY**

DESIGN AGENCY  
**ARCADIS**  
 100 NORTH HIGH ST SUITE 100  
 COLUMBUS, OHIO 43215  
 614.778.6000  
 www.arcadis-us.com

DESIGNER  
**JMK**

REVIEWER  
**JDH** 03-27-24

PROJECT ID  
**117607**

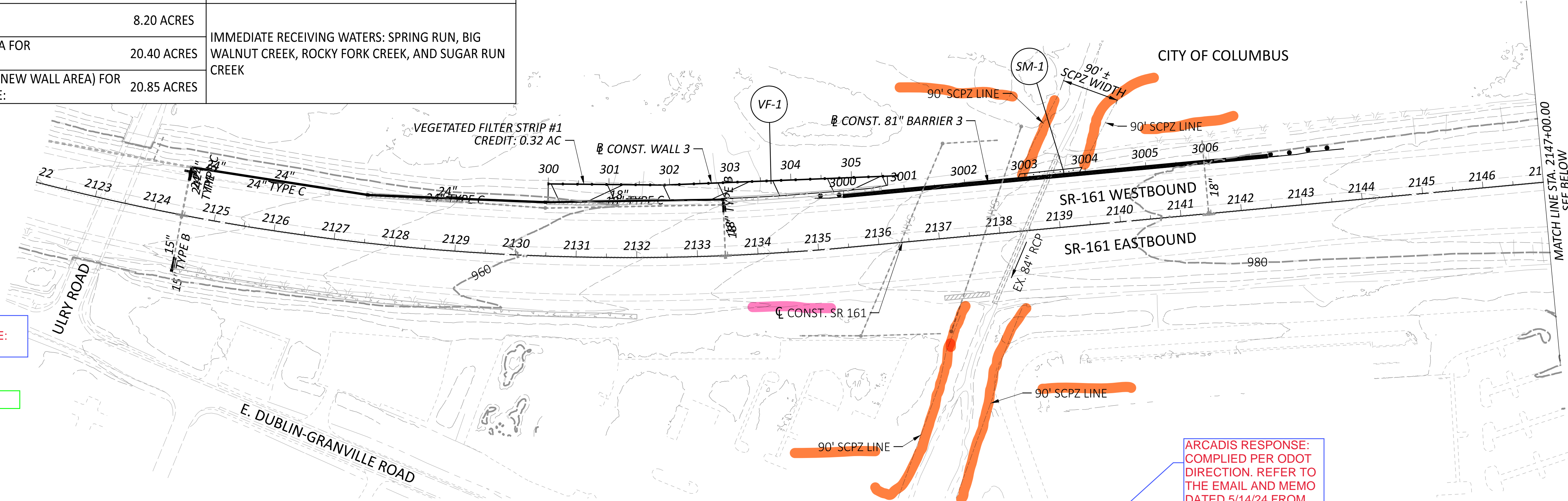
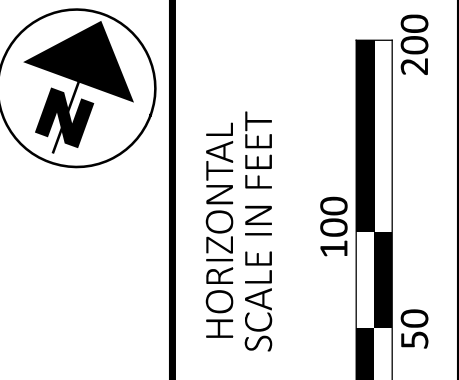
SHEET TOTAL  
 P.28 P.295

MODEL: CLP\_Sr161 - Plan 1 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 9:18:38 AM USER: jennifer.kelley  
 pw:\arcadis-us-pw-bentley.com\arcadis-us-01\Active Projects\143720\400\_CAD\400-Engineering\Drainage\Sheets\117607\_DE001.dgn

PROJECT DATA			
TOTAL AREA (RIGHT-OF-WAY):	42.77 ACRES	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE:	0.56
PROJECT EARTH DISTURBED AREA:	7.95 ACRES	RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE:	0.58
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25 ACRES	POST CONSTRUCTION BMP: VEGETATED FILTER STRIPS	
NOTICE OF INTENT EARTH DISTURBED AREA:	8.20 ACRES	IMMEDIATE RECEIVING WATERS: SPRING RUN, BIG WALNUT CREEK, ROCKY FORK CREEK, AND SUGAR RUN CREEK	
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE:	20.40 ACRES		
IMPERVIOUS (PAVED AND NEW WALL AREA) FOR POST-CONSTRUCTION SITE:	20.85 ACRES		

**USGS MAPS:**  
 NORTHEAST COLUMBUS, OH TNM GEOSPATIAL  
 NEW ALBANY, OH TNM GEOSPATIAL  
 LATITUDE: 40° 07' 08"  
 LONGITUDE: 82° 52' 59" W  
 \*LATITUDE AND LONGITUDE TO APPROX. CENTER OF PROJECT

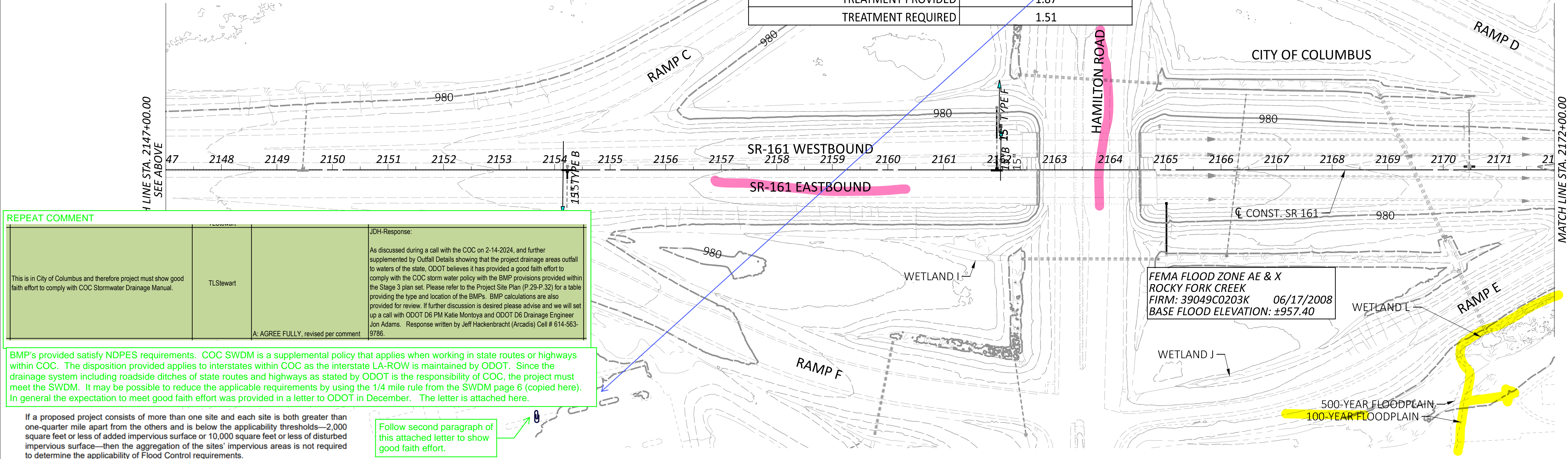
**PROJECT DESCRIPTION**  
 INSTALLATION OF 8,422 FEET OF NOISE WALL AND 4,836 FEET OF 81" SINGLE SLOPE BARRIER AT VARIOUS LOCATIONS ALONG STATE ROUTE 161 BETWEEN ULRY ROAD AND US 62. THIS PROJECT SUPPLEMENTS THE FRA-161-15.80 WIDENING PROJECT.



ARCADIS RESPONSE: Complied  
 City of Columbus

ARCADIS RESPONSE: COMPLIED PER ODOT DIRECTION. REFER TO THE EMAIL AND MEMO DATED 5/14/24 FROM KATHERINE MONTOYA.

Maintenance Ownership	BMP TYPE	NORTHING		EASTING		BMP WIDTH	EDA TREATMENT CREDIT
		BEGIN	END	BEGIN	END		
ODOT	VEGETATED FILTER STRIP 1	612181.7892	612385.2908	229916.4923	230437.1461	15' MIN.	0.32
ODOT	VEGETATED FILTER STRIP 2	614971.5085	615112.1153	235908.4312	236204.7643	24' MIN.	0.19
ODOT	VEGETATED FILTER STRIP 3	615276.6007	615588.5647	237036.7344	237726.4929	23' MIN.	0.70
ODOT	VEGETATED FILTER STRIP 4	615909.0762	237882.0507	616316.8878	239006.7099	21' MIN.	0.66
TREATMENT PROVIDED							1.87
TREATMENT REQUIRED							1.51



**REPEAT COMMENT**

This is in City of Columbus and therefore project must show good faith effort to comply with COC Stormwater Drainage Manual.	TL Stewart	JDH-Response: As discussed during a call with the COC on 2-14-2024, and further supplemented by Outfall Details showing that the project drainage areas outfall to waters of the state, ODOT believes it has provided a good faith effort to comply with the COC storm water policy with the BMP provisions provided within the Stage 3 plan set. Please refer to the Project Site Plan (P.29-P.32) for a table providing the type and location of the BMPs. BMP calculations are also provided for review. If further discussion is desired please advise and we will set up a call with ODOT D6 PM Katie Montoya and ODOT D6 Drainage Engineer Jon Adams. Response written by Jeff Hackenbracht (Arcadis) Cell # 614-563-9786.
--	------------	---

A: AGREE FULLY, revised per comment.

BMP's provided satisfy NDPES requirements. COC SWDM is a supplemental policy that applies when working in state routes or highways within COC. The disposition provided applies to interstates within COC as the interstate LA-ROW is maintained by ODOT. Since the drainage system including roadside ditches of state routes and highways as stated by ODOT is the responsibility of COC, the project must meet the SWDM. It may be possible to reduce the applicable requirements by using the 1/4 mile rule from the SWDM page 6 (copied here). In general the expectation to meet good faith effort was provided in a letter to ODOT in December. The letter is attached here.

If a proposed project consists of more than one site and each site is both greater than one-quarter mile apart from the others and is below the applicability thresholds—2,000 square feet or less of added impervious surface or 10,000 square feet or less of disturbed impervious surface—then the aggregation of the sites' impervious areas is not required to determine the applicability of Flood Control requirements.

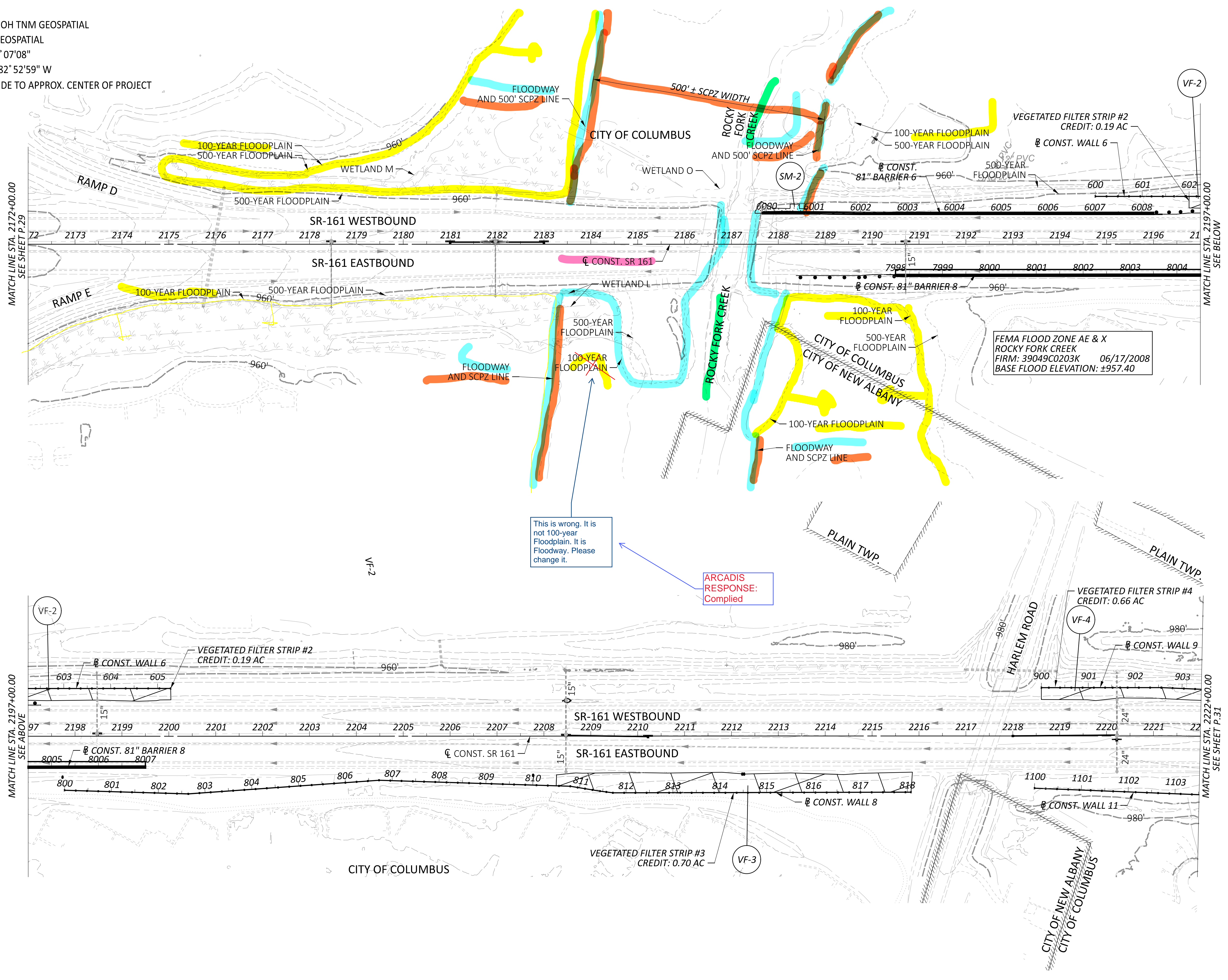
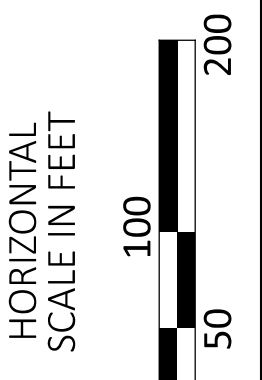
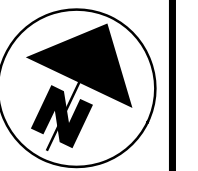
Follow second paragraph of this attached letter to show good faith effort.



PROJECT SITE PLAN  
 STA. 2122+00.00 TO STA. 2172+00.00

DESIGN AGENCY	ARCADIS
DESIGNER	JMK
REVIEWER	JDH
PROJECT ID	117607
SHEET	P.29
TOTAL	P.295

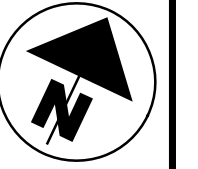
**USGS MAPS:**  
 NORTHEAST COLUMBUS, OH TNM GEOSPATIAL  
 NEW ALBANY, OH TNM GEOSPATIAL  
 LATITUDE: 40° 07'08"  
 LONGITUDE: 82° 52'59" W  
 \*LATITUDE AND LONGITUDE TO APPROX. CENTER OF PROJECT



FEMA FLOOD ZONE AE & X  
 ROCKY FORK CREEK  
 FIRM: 39049C0203K 06/17/2008  
 BASE FLOOD ELEVATION: ±957.40

This is wrong. It is not 100-year Floodplain. It is Floodway. Please change it.

ARCADIS RESPONSE: Complied



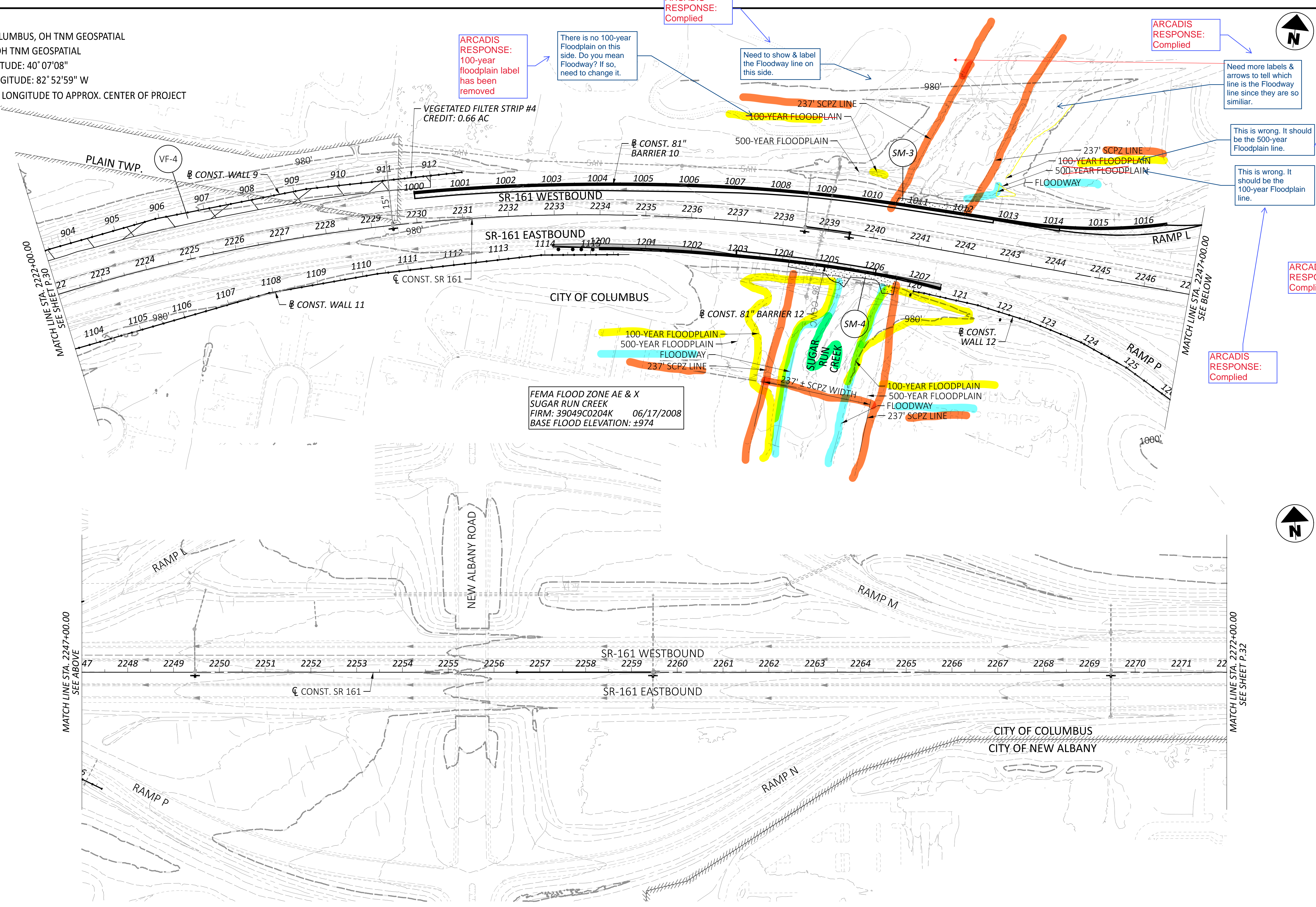
**PROJECT SITE PLAN**  
 STA. 2172+00.00 TO STA. 2222+00.00

**FRA-161-15.80 NOISE WALLS**

MODEL: CLP\_SR161 - Plan 3 [Sheet] PAPER: 34x22 (in.) DATE: 2024-03-27 TIME: 9:18:51 AM USER: jennifer.kelley  
 pw:\arcadis-us-pw\benitey.com\arcadis-us-01\Documents\143720\400\_CAD\400-Engineering\Drainage\Sheets\117607\_DE001.dgn

DESIGN AGENCY	ARCADIS
DESIGNER	JMK
REVIEWER	JDK
DATE	03-27-24
PROJECT ID	117607
SHEET	P.30
TOTAL	P.295

USGS MAPS:  
NORTHEAST COLUMBUS, OH TNM GEOSPATIAL  
NEW ALBANY, OH TNM GEOSPATIAL  
LATITUDE: 40° 07'08"  
LONGITUDE: 82° 52'59" W  
\*LATITUDE AND LONGITUDE TO APPROX. CENTER OF PROJECT



ARCADIS RESPONSE: 100-year floodplain label has been removed

There is no 100-year Floodplain on this side. Do you mean Floodway? If so, need to change it.

ARCADIS RESPONSE: Complied

Need to show & label the Floodway line on this side.

ARCADIS RESPONSE: Complied

Need more labels & arrows to tell which line is the Floodway line since they are so similar.

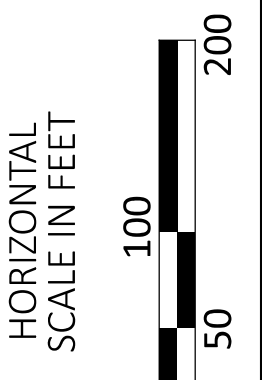
This is wrong. It should be the 500-year Floodplain line.

This is wrong. It should be the 100-year Floodplain line.

ARCADIS RESPONSE: Complied

ARCADIS RESPONSE: Complied

FEMA FLOOD ZONE AE & X  
SUGAR RUN CREEK  
FIRM: 39049C0204K 06/17/2008  
BASE FLOOD ELEVATION: ±974



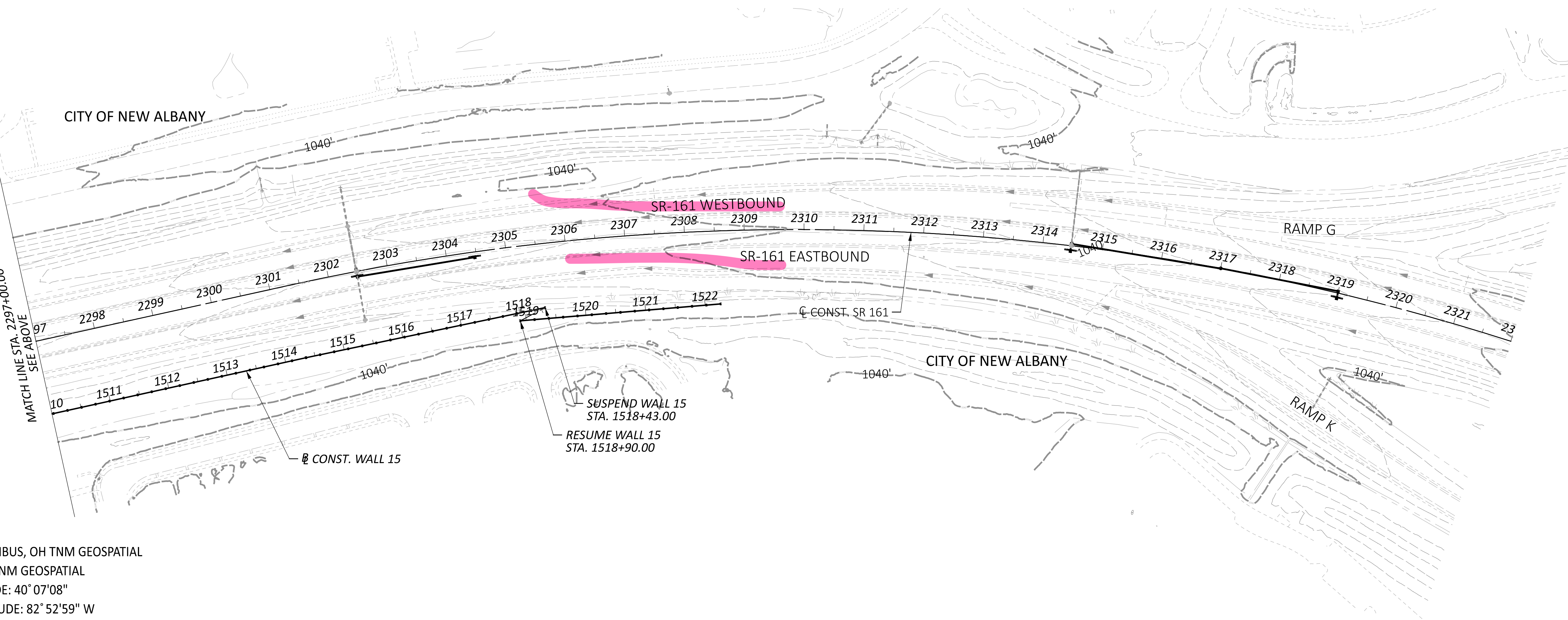
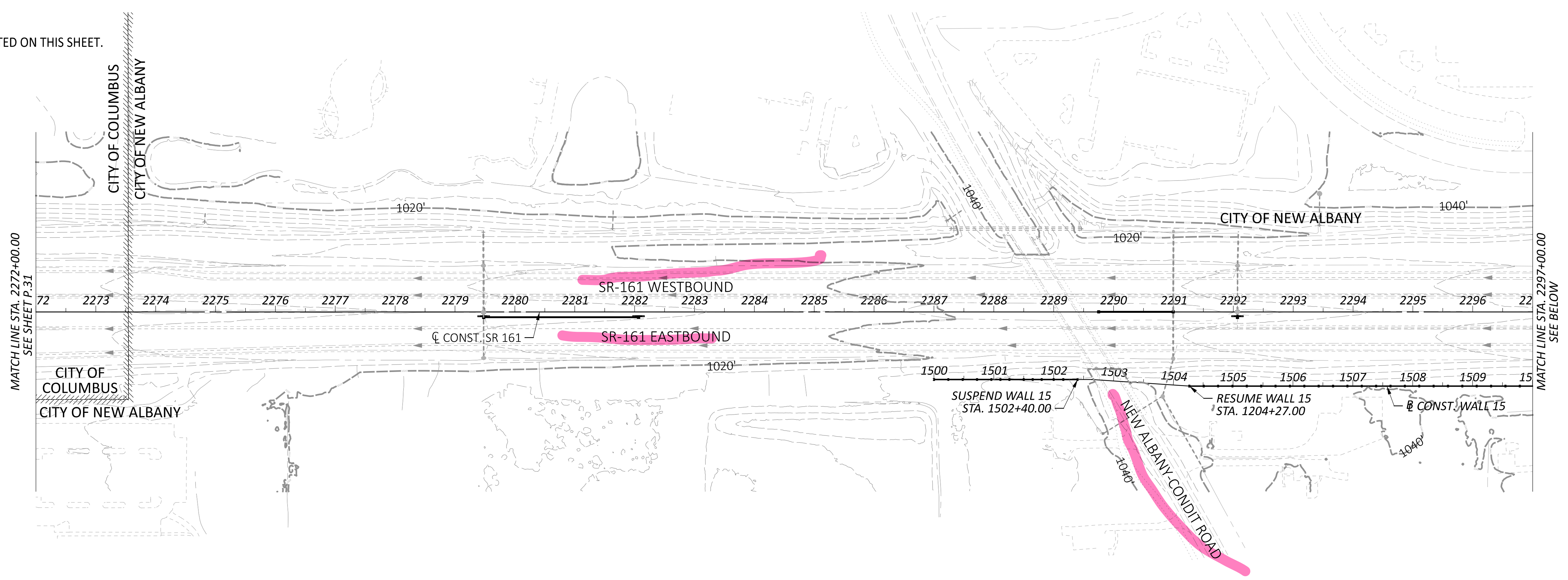
PROJECT SITE PLAN  
STA. 2222+00.00 TO STA. 2272+00.00

DESIGN AGENCY	
ARCADIS	
8100 N. HIGHWAY 161, SUITE 100 COLUMBUS, OH 43240-2955 614.810.4500 www.arcadis.com	
DESIGNER	JMK
REVIEWER	JDK
PROJECT ID	03-27-24
SHEET	117607
TOTAL	P.295

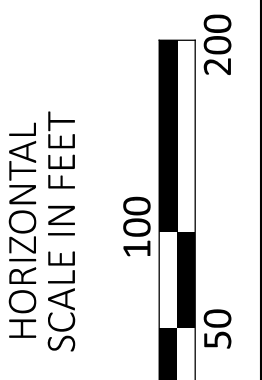
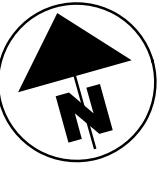
**FRA-161-15.80 NOISE WALLS**

MODEL: CLP\_SR161 - Plan 7 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 9:19:01 AM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Drainage\Sheets\117607\_DE001.dgn

**NOTE:**  
 NO BMPs ARE LOCATED ON THIS SHEET.



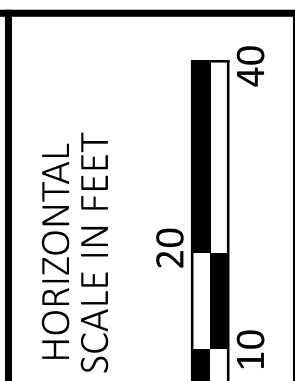
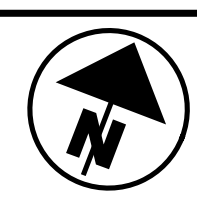
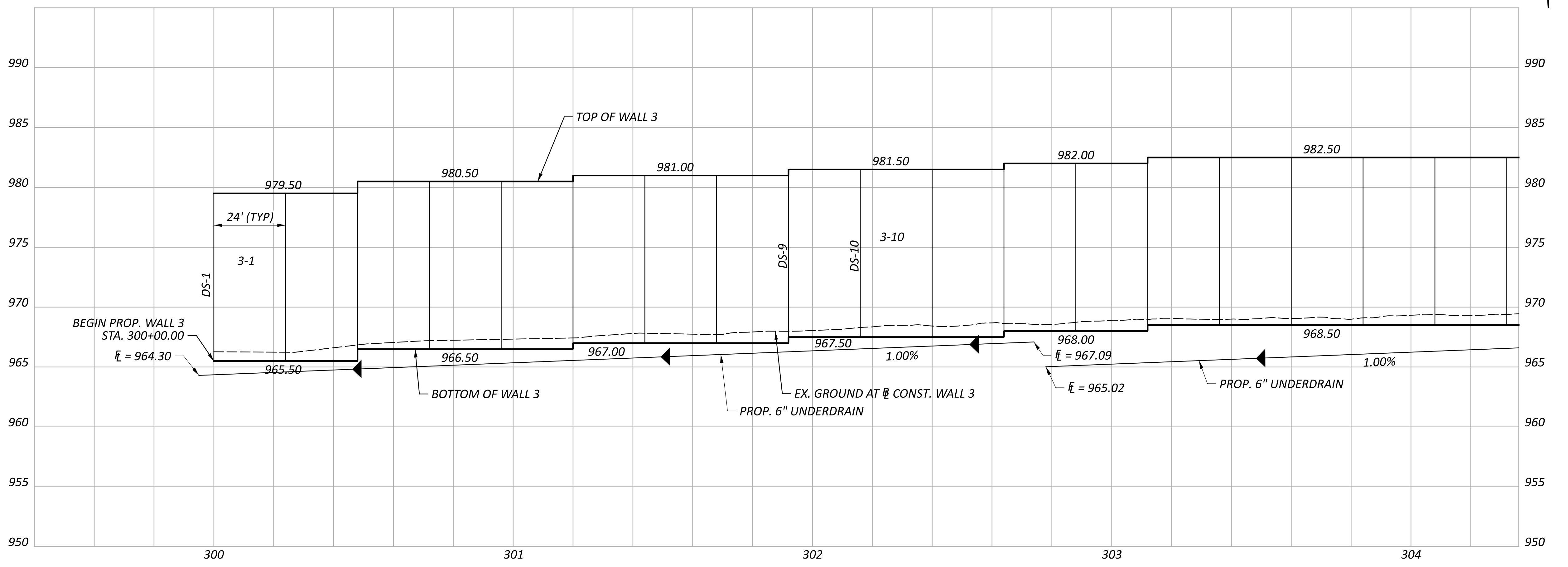
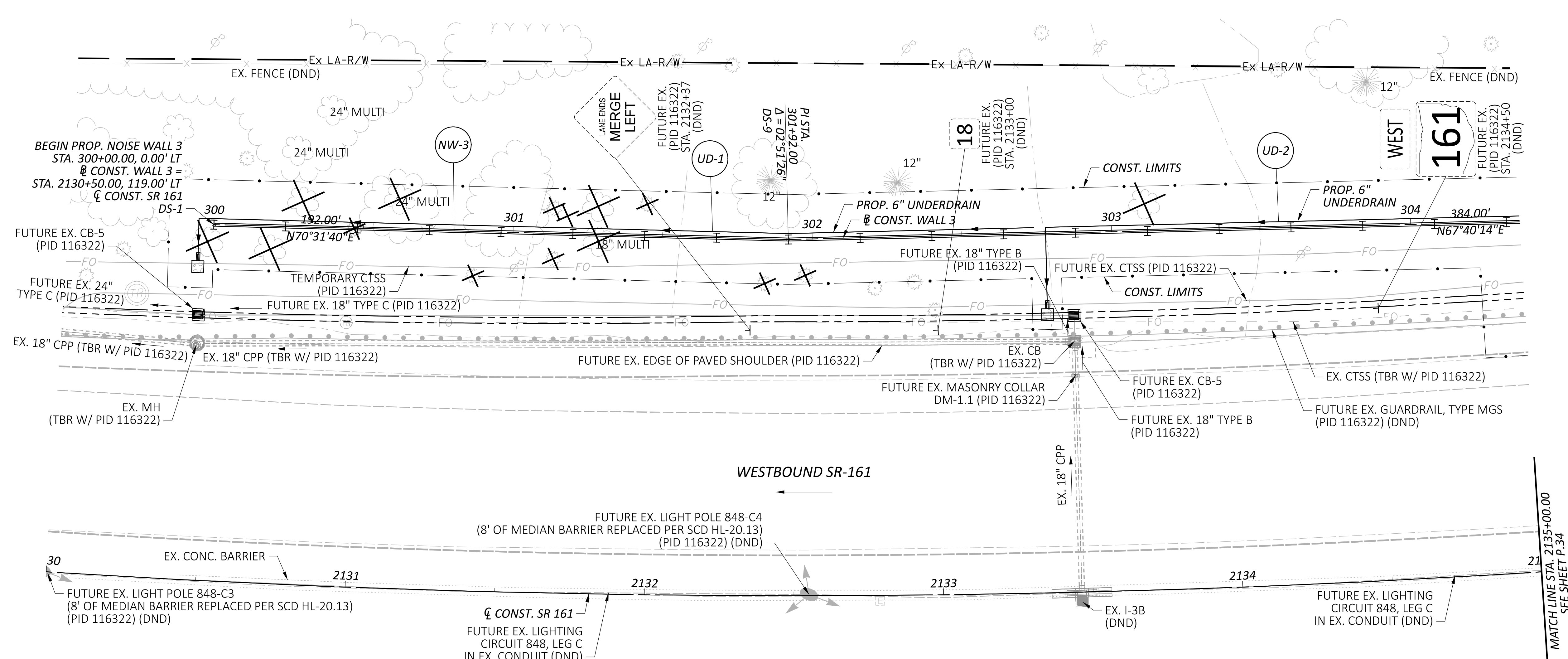
**USGS MAPS:**  
 NORTHEAST COLUMBUS, OH TNM GEOSPATIAL  
 NEW ALBANY, OH TNM GEOSPATIAL  
 LATITUDE: 40° 07'08"  
 LONGITUDE: 82° 52'59" W  
 \*LATITUDE AND LONGITUDE TO APPROX. CENTER OF PROJECT



**PROJECT SITE PLAN**  
 STA. 2272+00.00 TO STA. 2322+00.00

DESIGN AGENCY	
<b>ARCADIS</b> <small>8100 NORTH ALBANY STREET SUITE 100          COLUMBUS, OH 43228-4255          www.arcadis.com</small>	
DESIGNER	JMK
REVIEWER	JDH
PROJECT ID	03-27-24
SHEET	117607
TOTAL	P.295

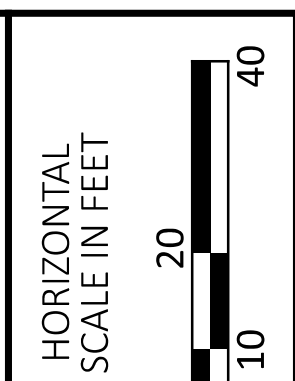
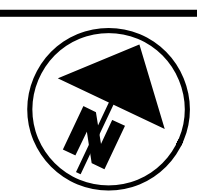
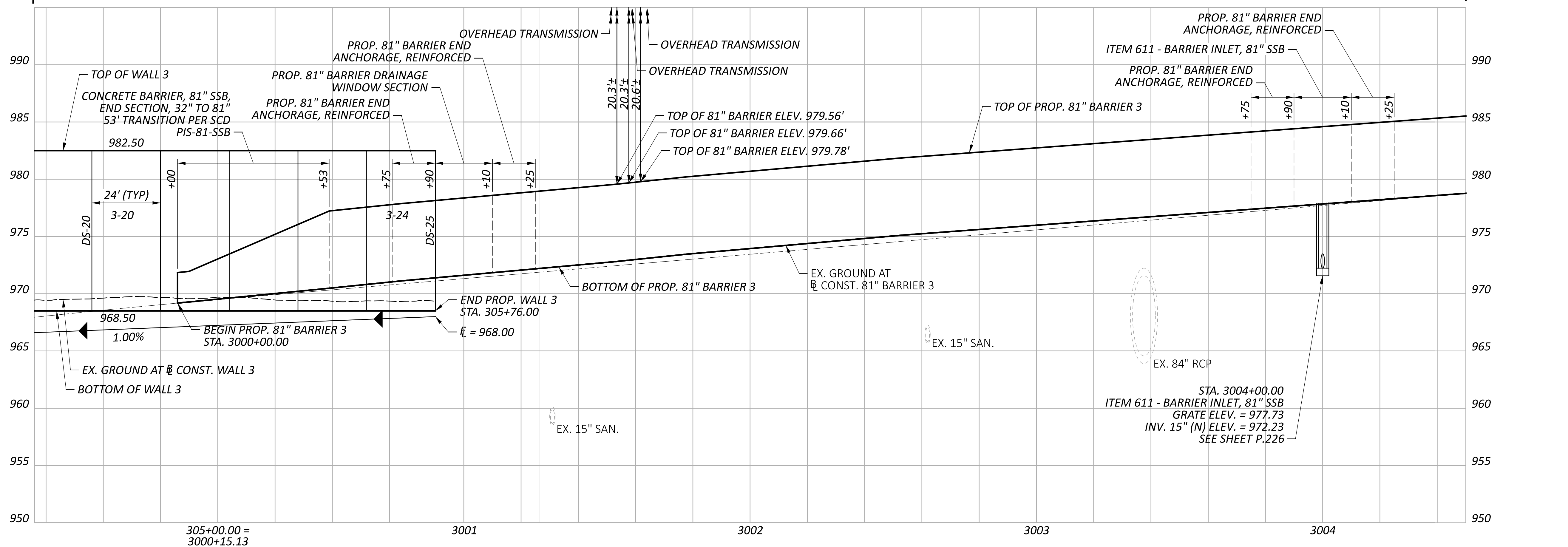
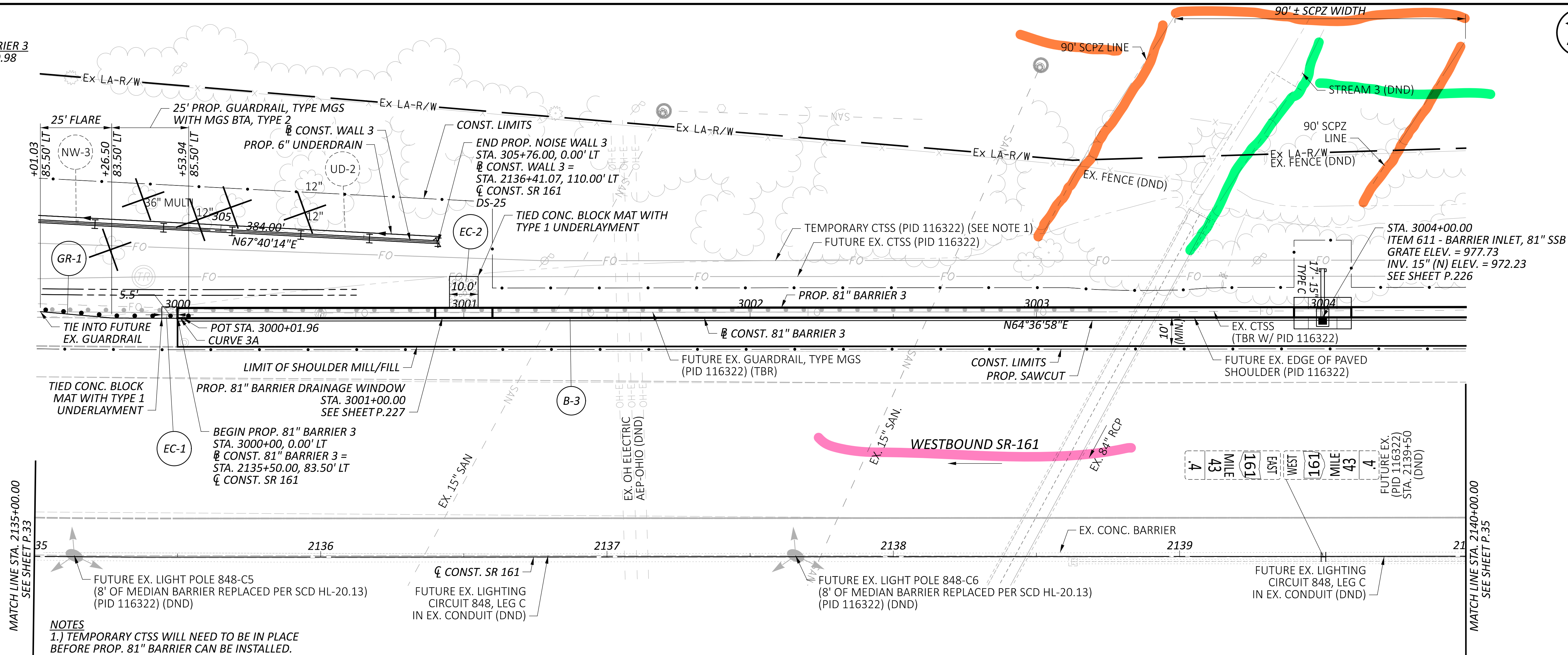




PLAN & PROFILE - WALL 3  
 STA. 2130+00.00 TO STA. 2135+00.00

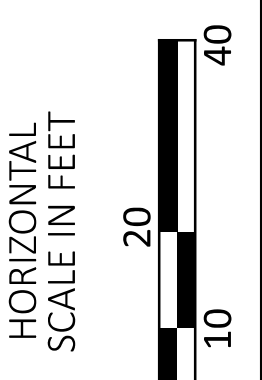
DESIGN AGENCY	ARCADIS
DESIGNER	JMK
REVIEWER	JDK
PROJECT ID	117607
SHEET TOTAL	P.33 P.295

3A CURVE DATA  
 CONST. 81" BARRIER 3  
 P.I. = STA. 3000+00.98  
 $\Delta = 00^{\circ}01'46''$  LT  
 $D_c = 01^{\circ}29'57''$   
 $R = 3,822.15'$   
 $T = 0.98'$   
 $L = 1.96'$   
 $E = 0.00'$



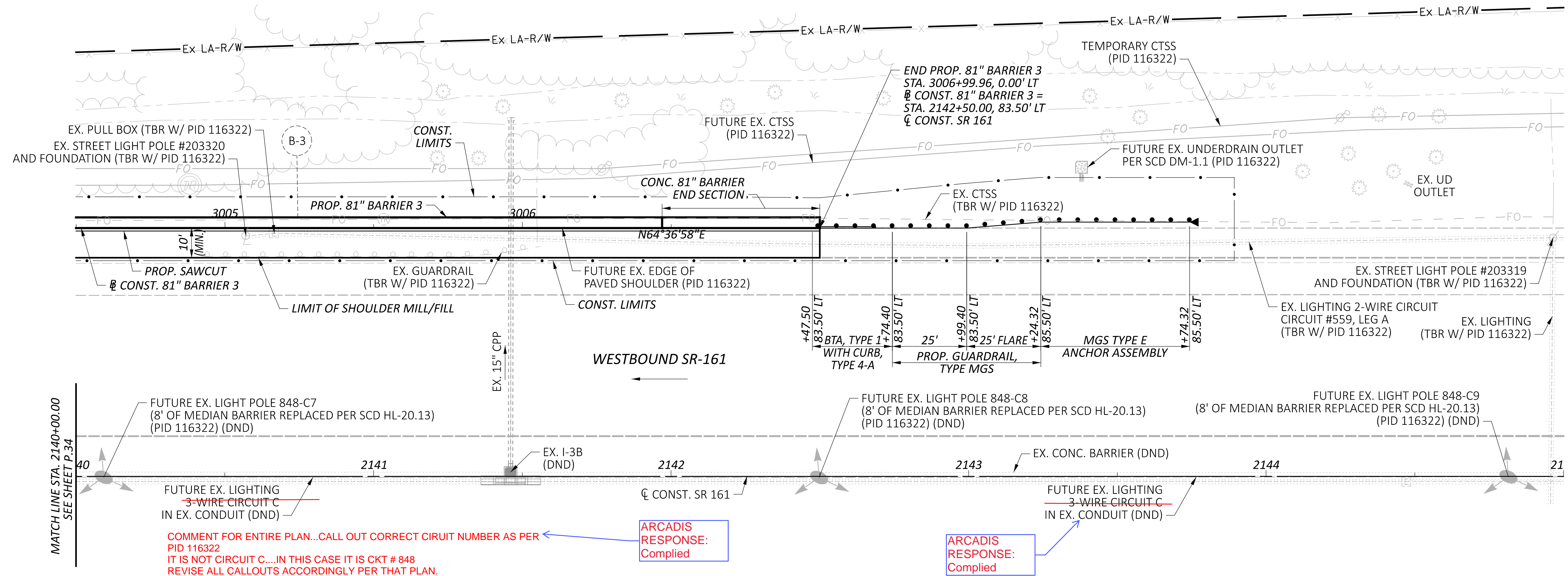
PLAN & PROFILE - WALL 3 / 81" BARRIER 3  
 STA. 2135+00.00 TO STA. 2140+00.00

DESIGN AGENCY	
ARCADIS	
8100 UNIVERSITY BLVD, SUITE 100 COLUMBIANA, OH 43085-4953 www.arcadis.com	
DESIGNER	JMK
REVIEWER	JDH
PROJECT ID	117607
SHEET	P.34
TOTAL	P.295



PLAN & PROFILE - 81" BARRIER 3  
 STA. 2140+00.00 TO STA. 2145+00.00

DESIGN AGENCY	
8101 NORTH HIGHTS DRIVE, SUITE 100 COLUMBIA, MO 65203 616.448.4900 www.arcadis.com	
DESIGNER	JMK
REVIEWER	JDH
PROJECT ID	117607
SHEET	P.35
TOTAL	P.295

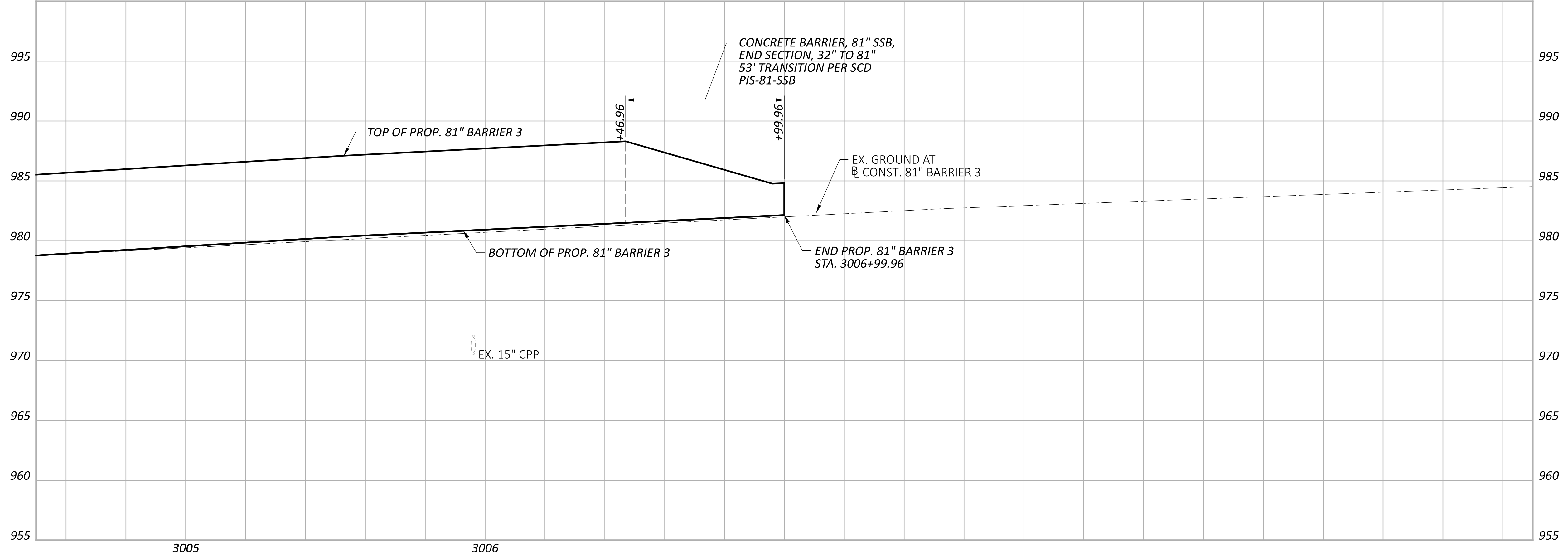


MATCH LINE STA. 2140+00.00  
SEE SHEET P-34

COMMENT FOR ENTIRE PLAN...CALL OUT CORRECT CIRCUIT NUMBER AS PER  
 PID 116322  
 IT IS NOT CIRCUIT C...IN THIS CASE IT IS CKT # 848  
 REVISE ALL CALLOUTS ACCORDINGLY PER THAT PLAN.

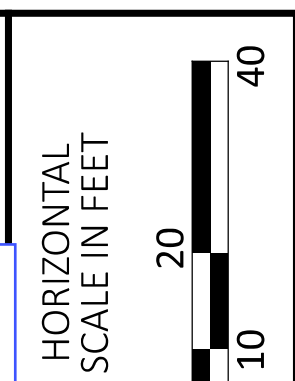
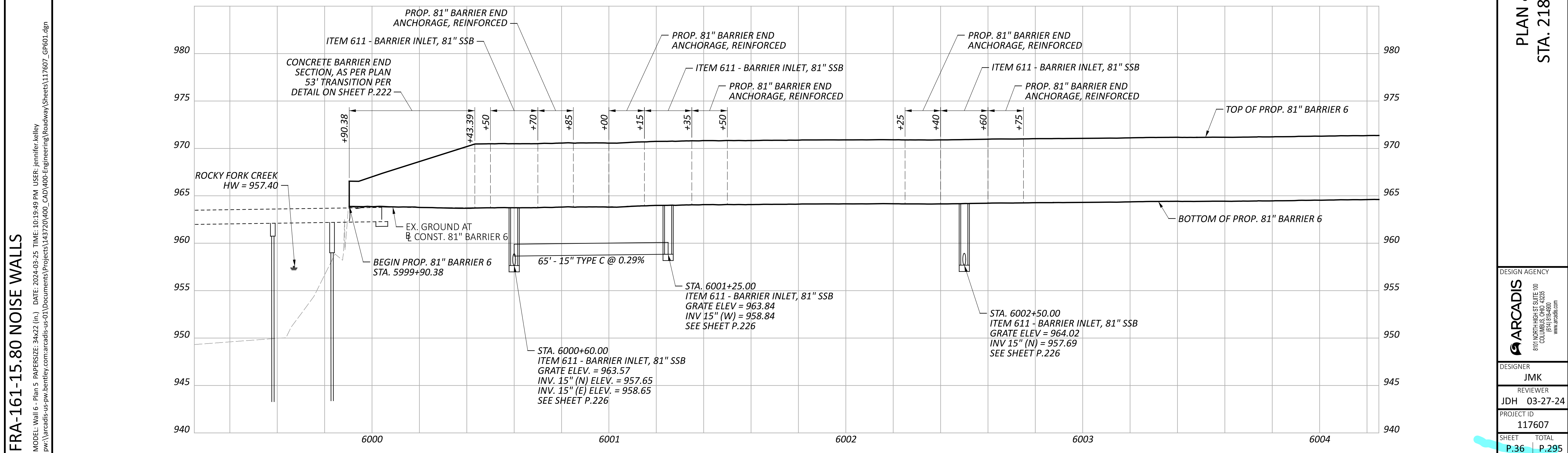
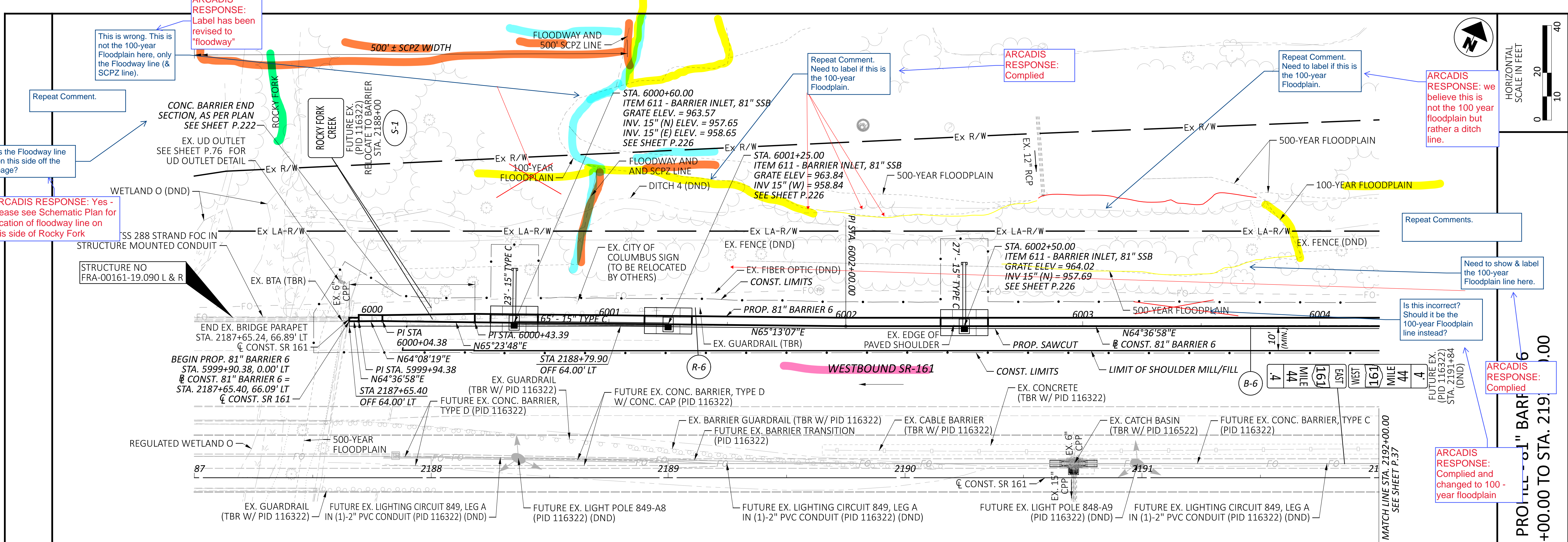
ARCADIS  
 RESPONSE:  
 Complied

ARCADIS  
 RESPONSE:  
 Complied



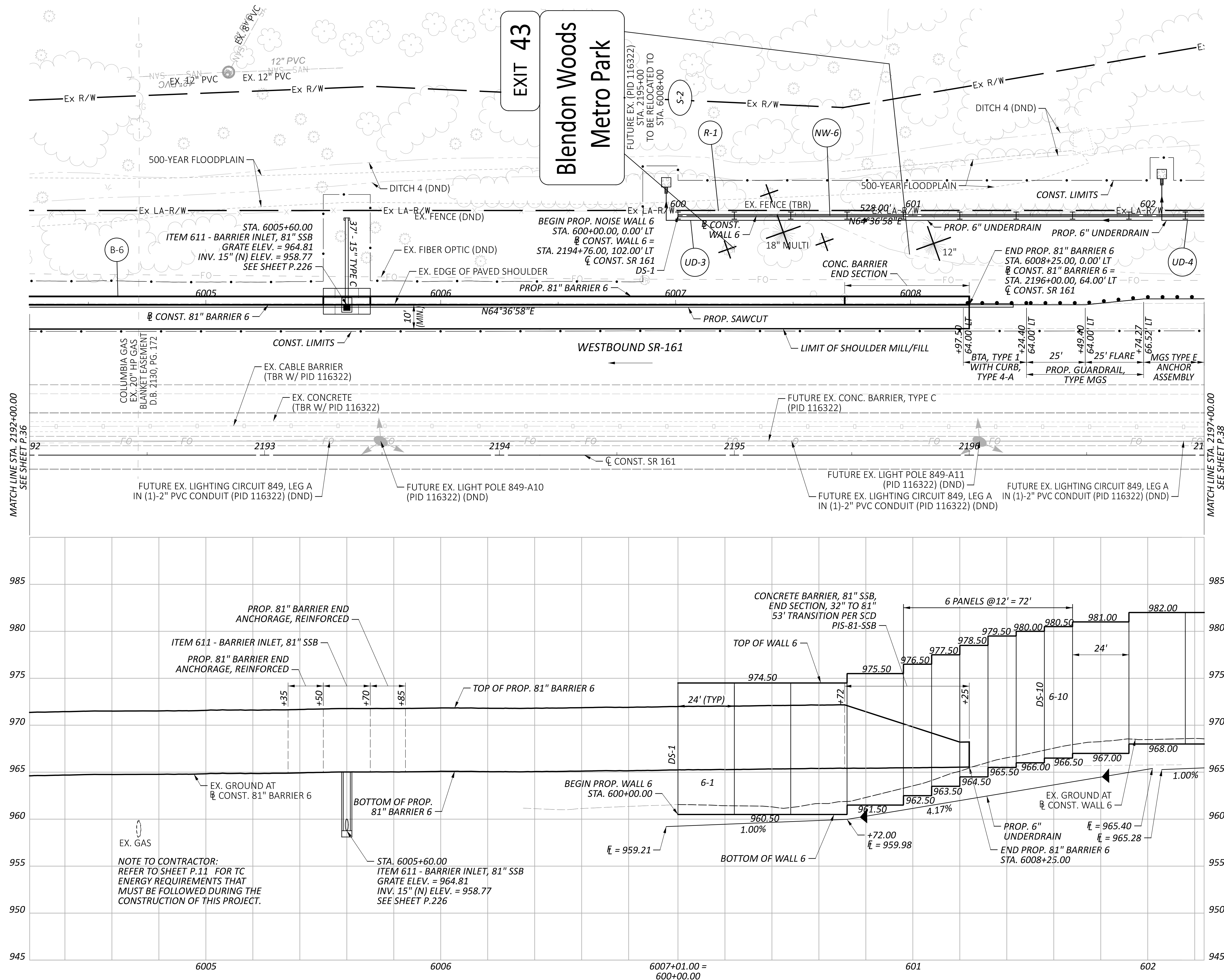
955  
960  
965  
970  
975  
980  
985  
990  
995

3005 3006

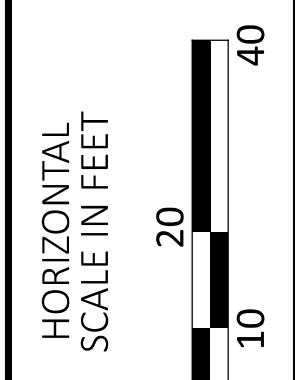
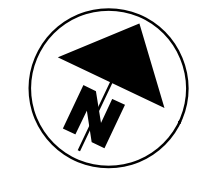


PLAN & PROFILE OF 81" BARRIER  
STA. 2187+00.00 TO STA. 2191+00.00

DESIGN AGENCY	
ARCADIS	
8101 NORTH HIGHWAY 30, SUITE 100 COLUMBIA, MO 65203 646.44.814-4900 www.arcadis.com	
DESIGNER	
JMK	
REVIEWER	
JDH 03-27-24	
PROJECT ID	
117607	
SHEET	TOTAL
P.36	P.295



**EXIT 43**  
**Blendon Woods Metro Park**

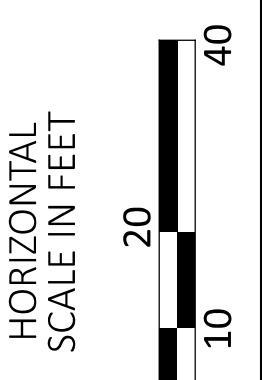
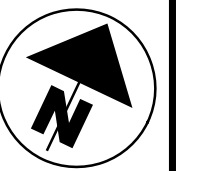
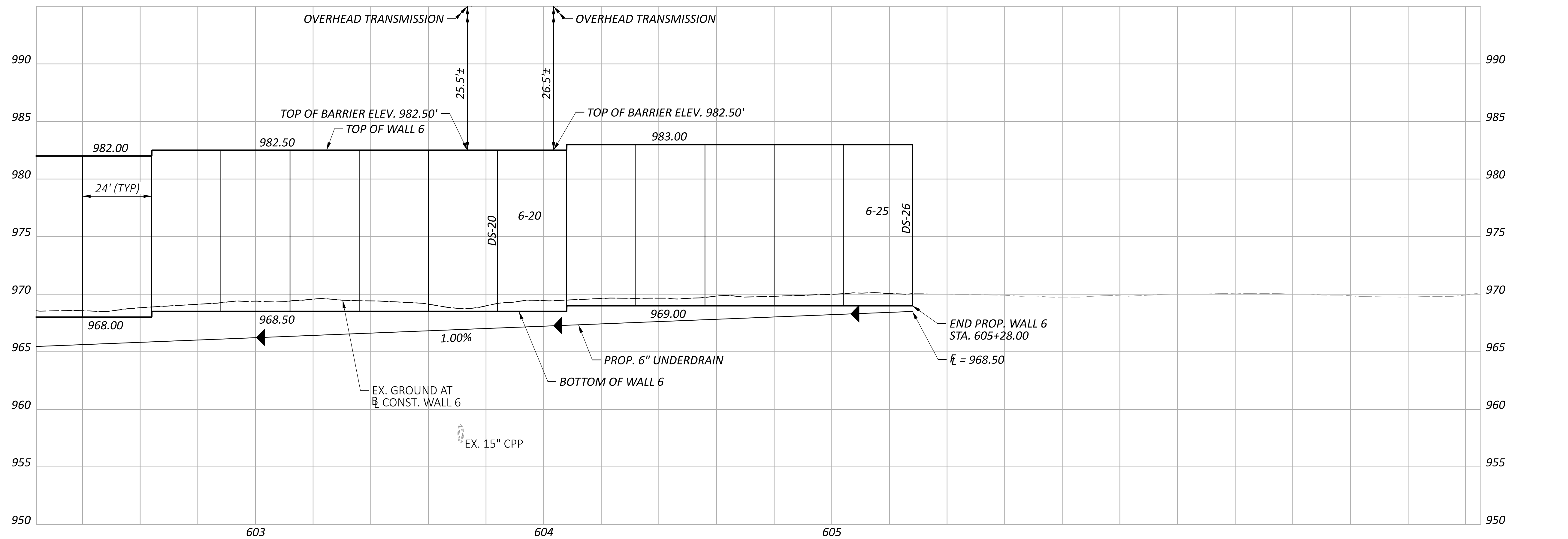
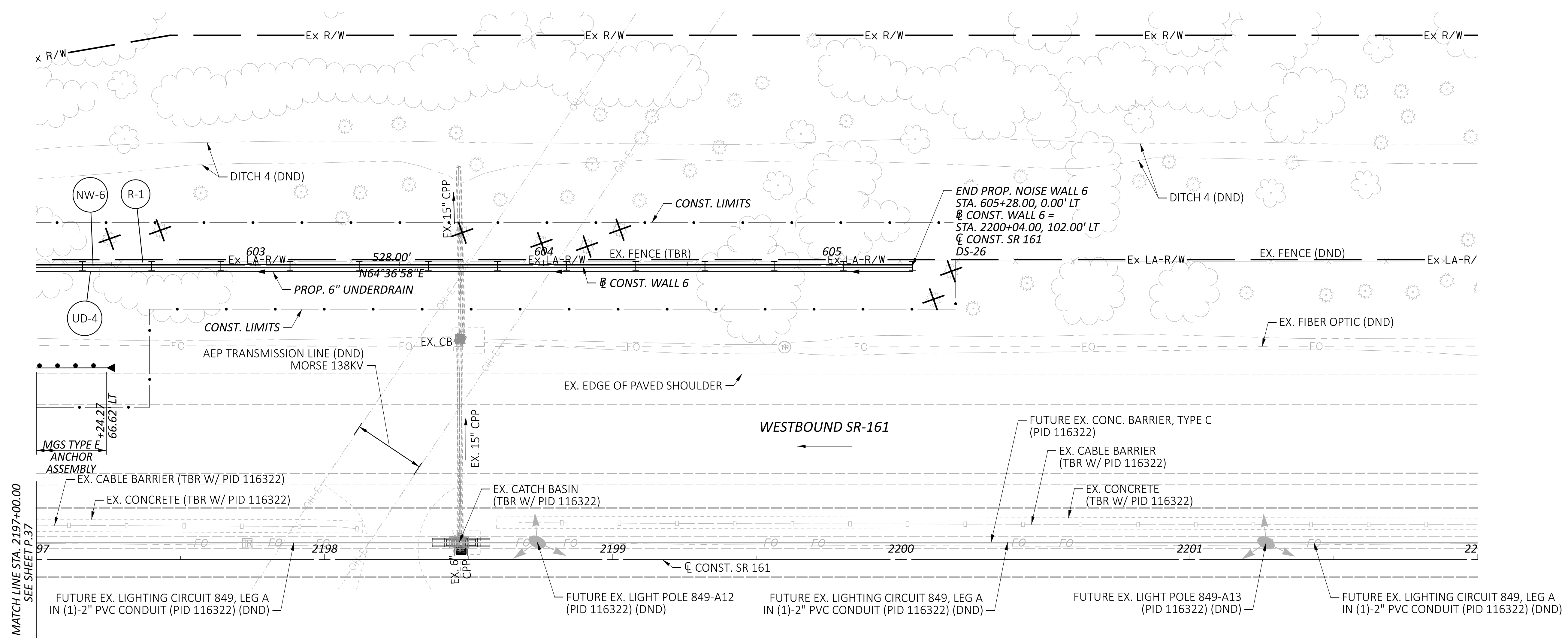


**PLAN & PROFILE - 81" BARRIER 6 / WALL 6**  
**STA. 2192+00.00 TO STA. 2197+00.00**

DESIGN AGENCY	
<b>ARCADIS</b>	
8101 NORTH HIGGINS AVE SUITE 100 COLUMBIANA, OH 43082 (614) 814-4900 www.arcadis.com	
DESIGNER	JMK
REVIEWER	JDH
PROJECT ID	03-27-24
SHEET NO.	117607
TOTAL SHEETS	P.295

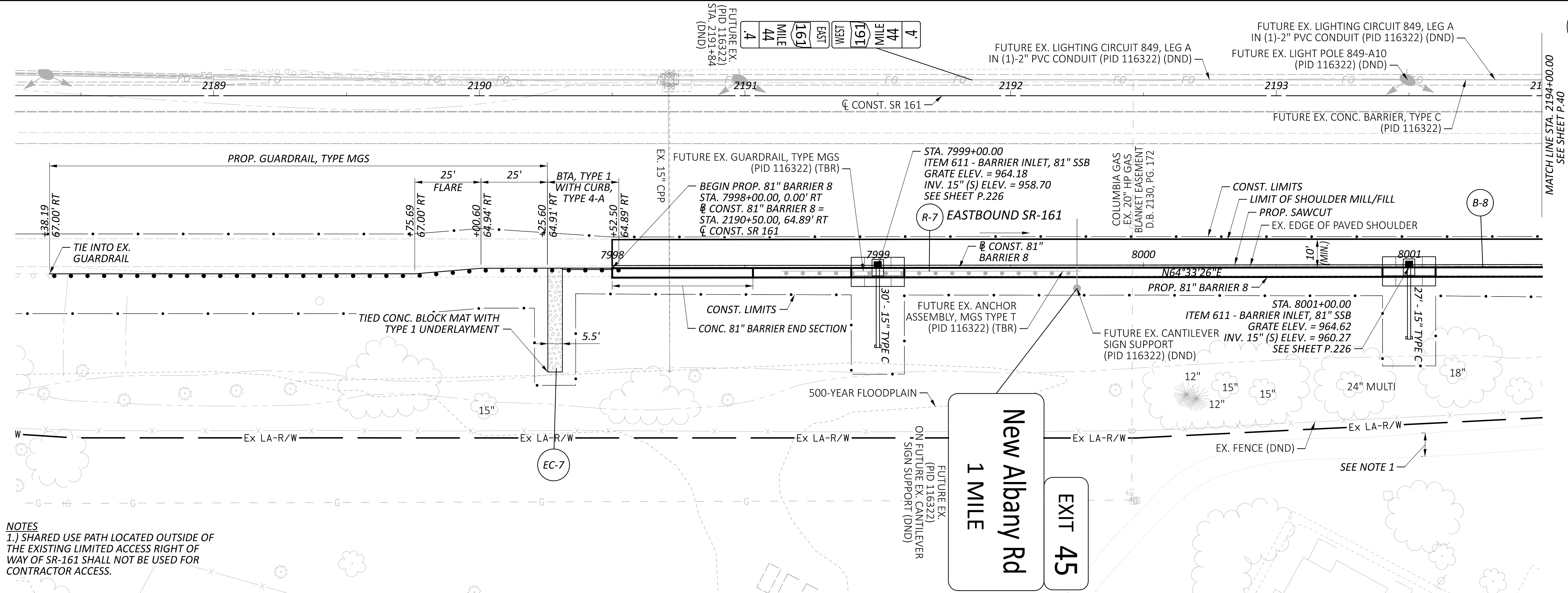
**FRA-161-15.80 NOISE WALLS**

MODEL: Wall 6 - Plan 28 PAPER/SCALE: 34x22 (in.) DATE: 2024-03-25 TIME: 10:21:04 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\Projects\143720\000\_CAD\400-Engineering\Roadway\Sheets\117607\_GP603.dgn

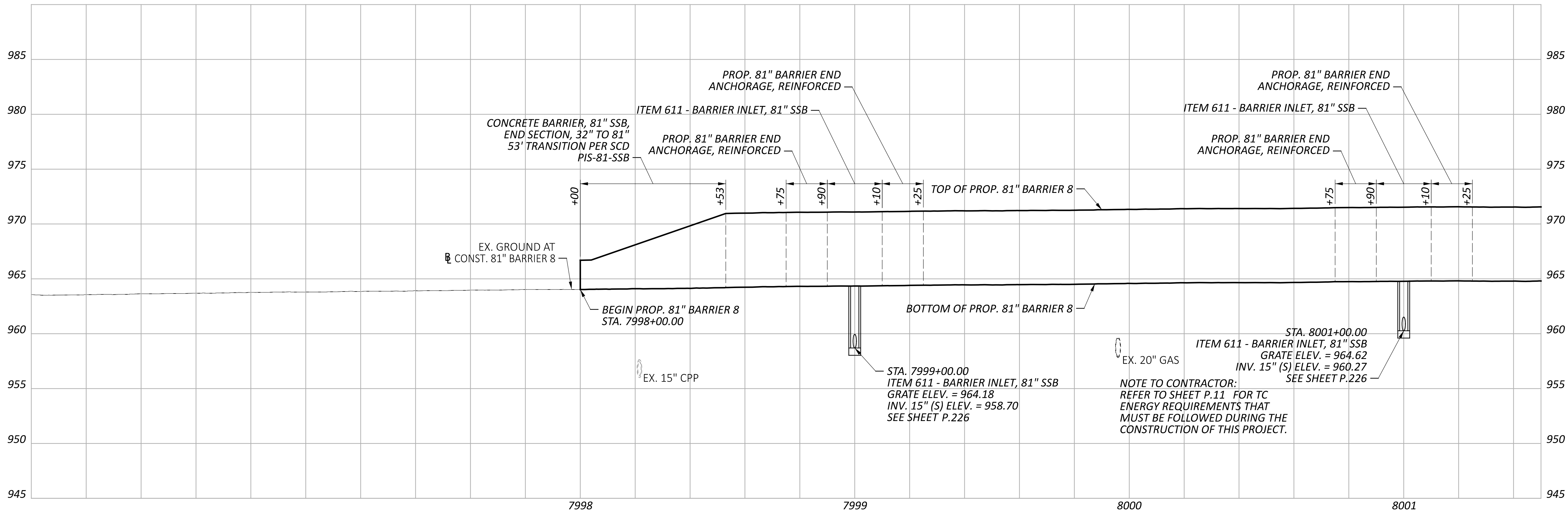


**PLAN & PROFILE - WALL 6  
 STA. 2197+00.00 TO STA. 2202+00.00**

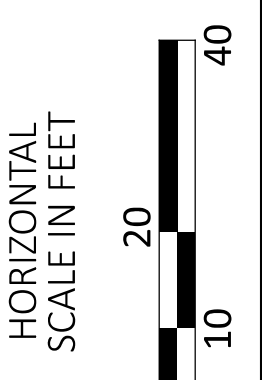
DESIGN AGENCY	ARCADIS
DESIGNER	JMK
REVIEWER	JDH
PROJECT NO.	117607
SHEET NO.	P.38
TOTAL SHEETS	P.295



**NOTES**  
 1.) SHARED USE PATH LOCATED OUTSIDE OF THE EXISTING LIMITED ACCESS RIGHT OF WAY OF SR-161 SHALL NOT BE USED FOR CONTRACTOR ACCESS.

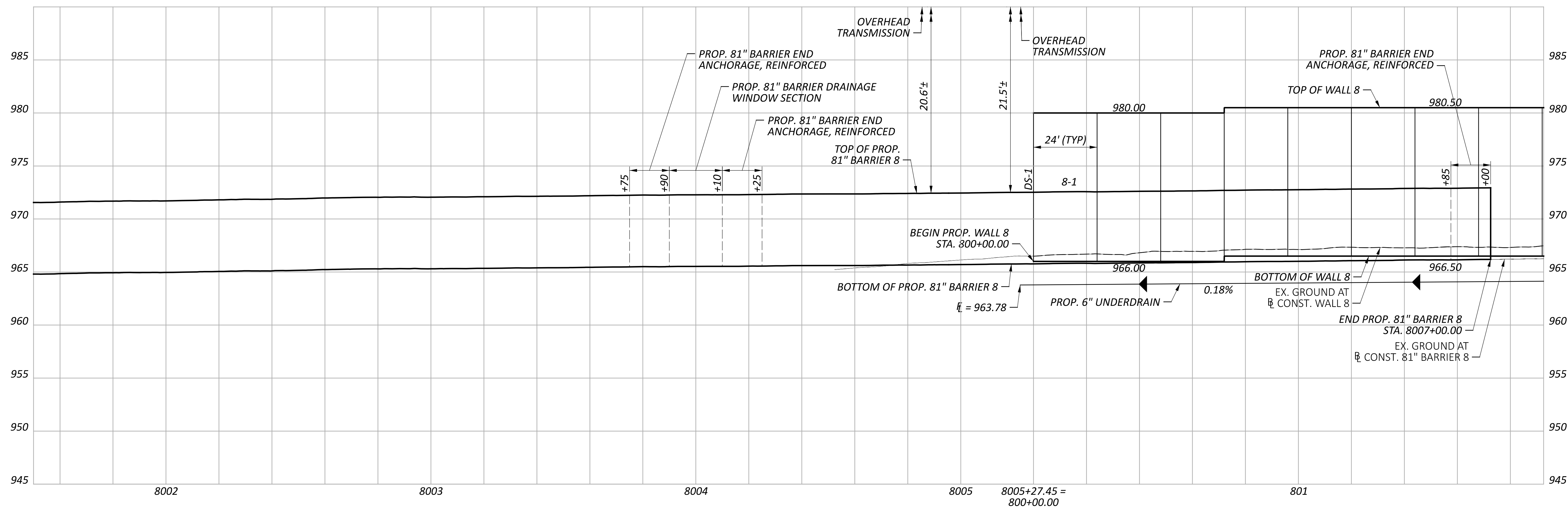
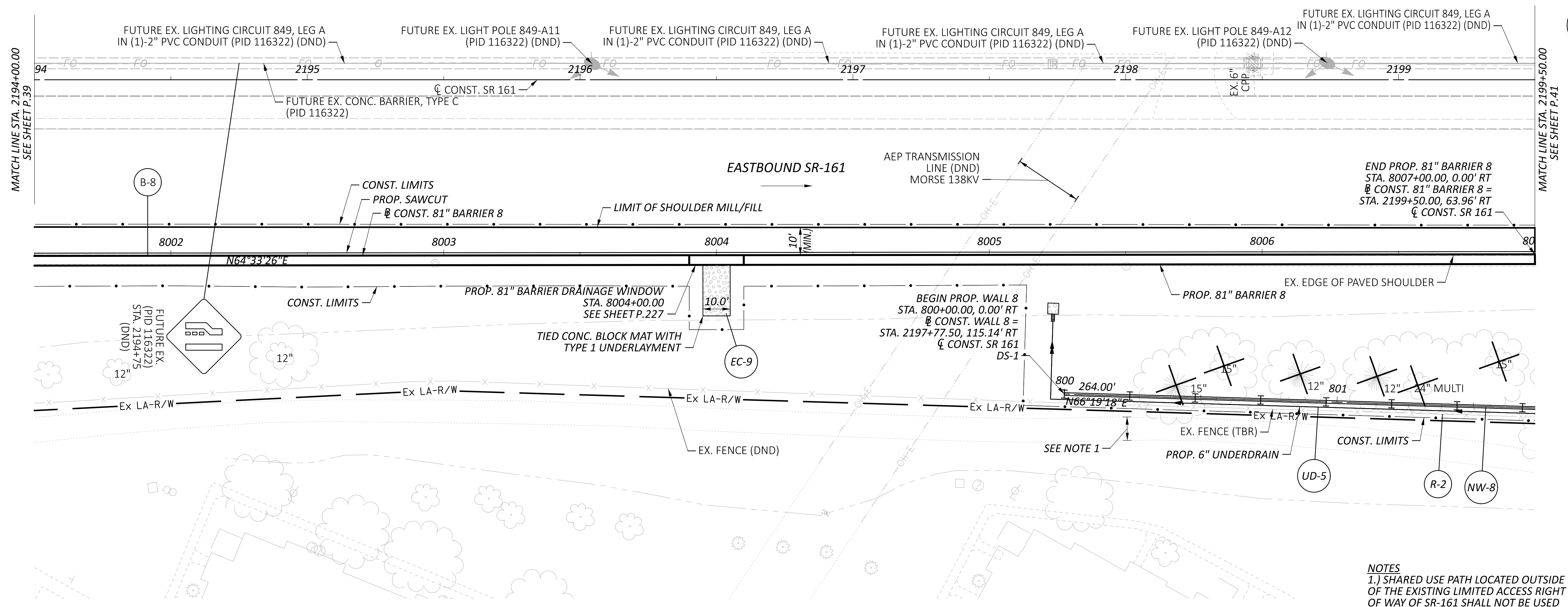


**NOTE TO CONTRACTOR:**  
 REFER TO SHEET P.11 FOR TC ENERGY REQUIREMENTS THAT MUST BE FOLLOWED DURING THE CONSTRUCTION OF THIS PROJECT.

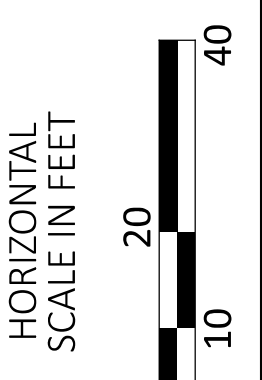
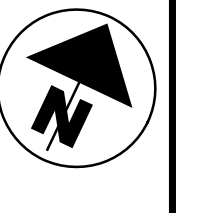


**PLAN & PROFILE - 81" BARRIER 8  
 STA. 2188+00.00 TO STA. 2194+00.00**

DESIGN AGENCY	<b>ARCADIS</b> 8101 NORTH HIGGINS AVE SUITE 100 COLUMBIA, MO 64203 TEL: (417) 874-4900 WWW.ARCADIS.COM
DESIGNER	JMK
REVIEWER	JDH
PROJECT ID	03-27-24
SHEET TOTAL	117607 / P.295



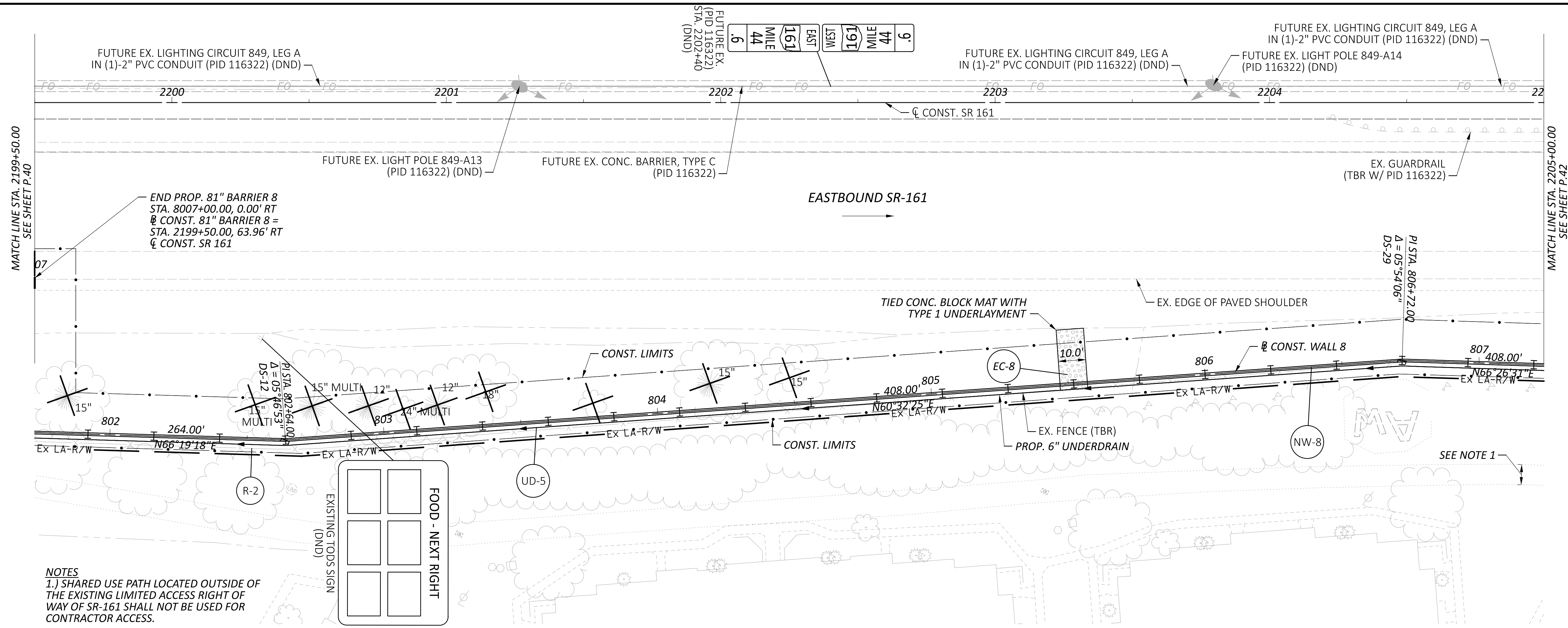
NOTES  
 1.) SHARED USE PATH LOCATED OUTSIDE OF THE EXISTING LIMITED ACCESS RIGHT OF WAY OF SR-161 SHALL NOT BE USED FOR CONTRACTOR ACCESS.



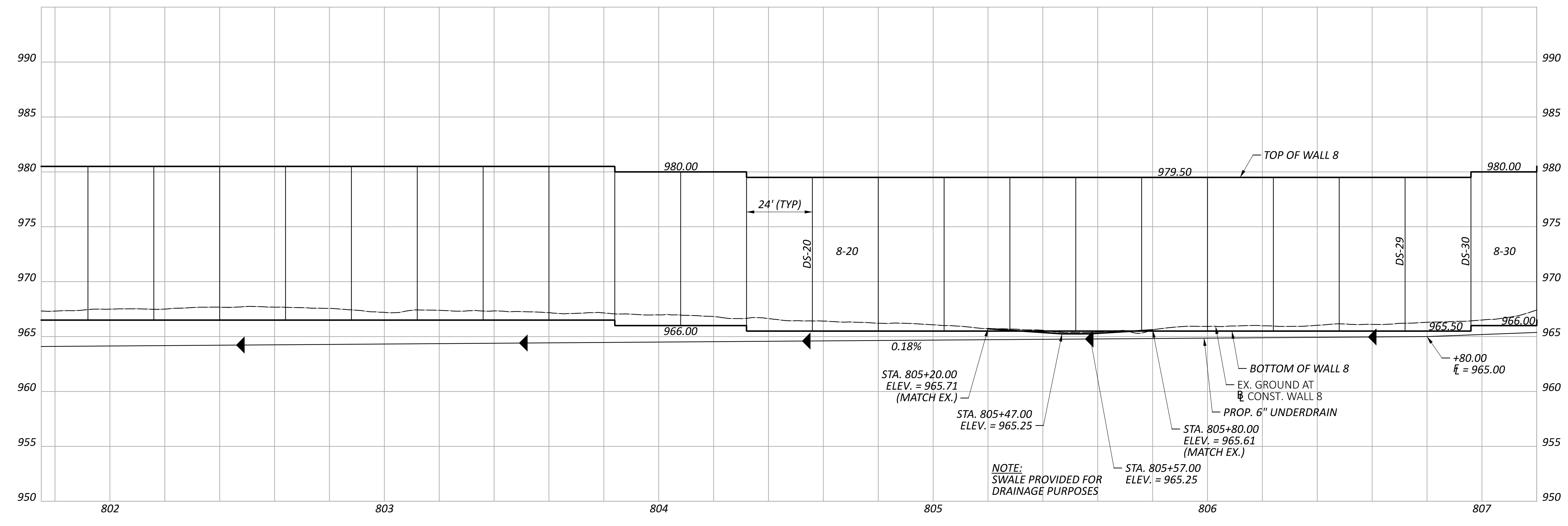
PLAN & PROFILE - 81" BARRIER 8 / WALL 8  
 STA. 2194+00.00 TO STA. 2199+50.00

DESIGN AGENCY	ARCADIS
DESIGNER	JMK
REVIEWER	JDH
PROJECT ID	03-27-24
SHEET TOTAL	117607 / P.295

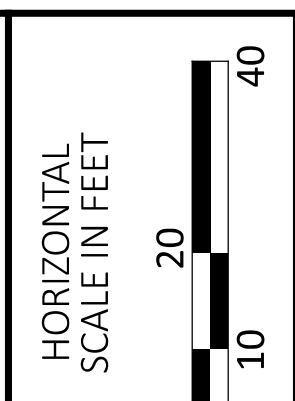
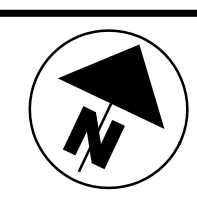




**NOTES**  
 1.) SHARED USE PATH LOCATED OUTSIDE OF THE EXISTING LIMITED ACCESS RIGHT OF WAY OF SR-161 SHALL NOT BE USED FOR CONTRACTOR ACCESS.

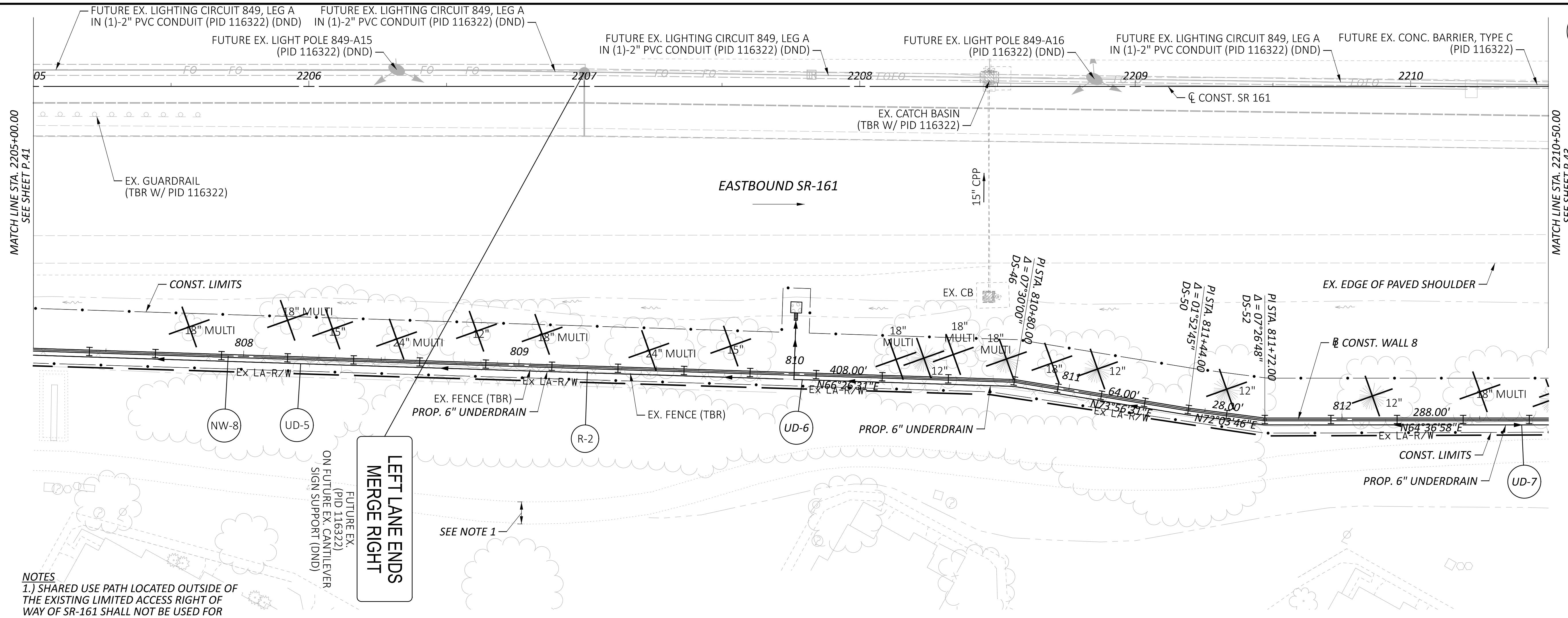


**NOTE:**  
 SWALE PROVIDED FOR DRAINAGE PURPOSES



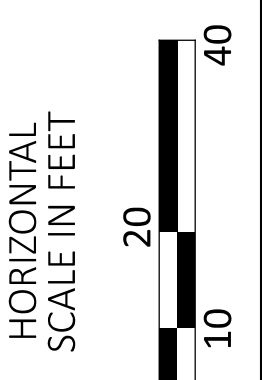
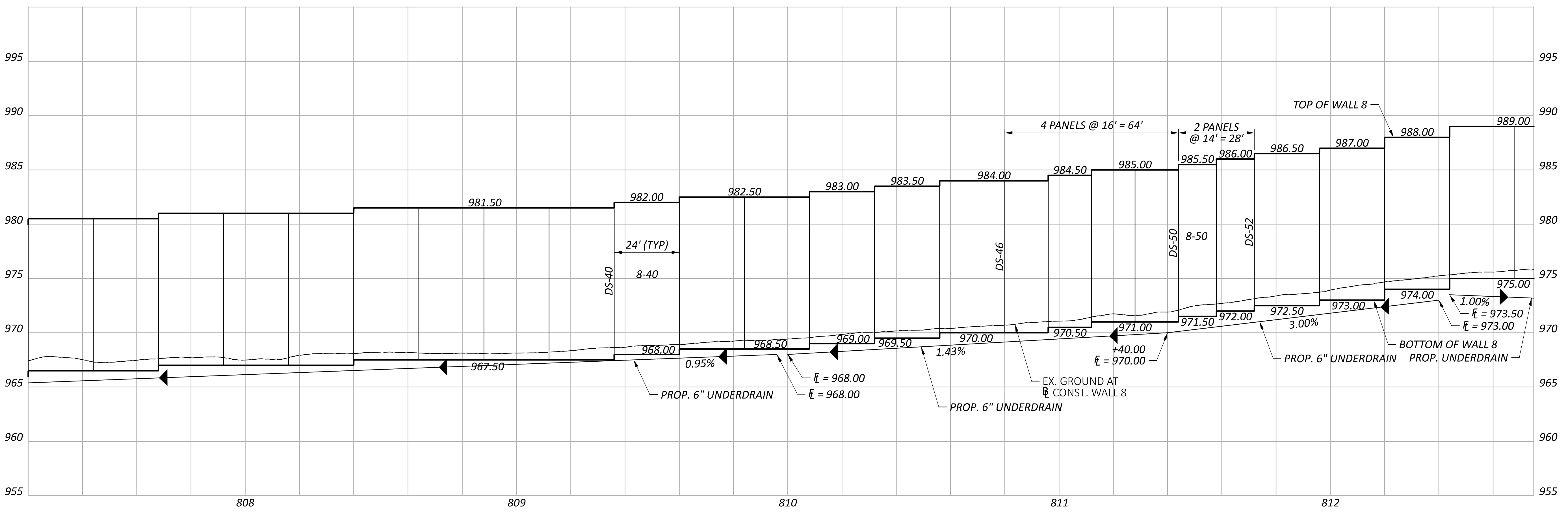
**PLAN & PROFILE - WALL 8**  
 STA. 2199+50.00 TO STA. 2205+00.00

DESIGN AGENCY	
ARCADIS	
8161 NORTH HIGHWAY 200 SUITE 100 COLUMBIA, MO 65203 TEL: (646) 914-4900 WWW.ARCADIS.COM	
DESIGNER	JMK
REVIEWER	JDH
PROJECT ID	117607
SHEET	P.41
TOTAL	P.295



**NOTES**  
 1.) SHARED USE PATH LOCATED OUTSIDE OF THE EXISTING LIMITED ACCESS RIGHT OF WAY OF SR-161 SHALL NOT BE USED FOR CONTRACTOR ACCESS.

**LEFT LANE ENDS  
 MERGE RIGHT**



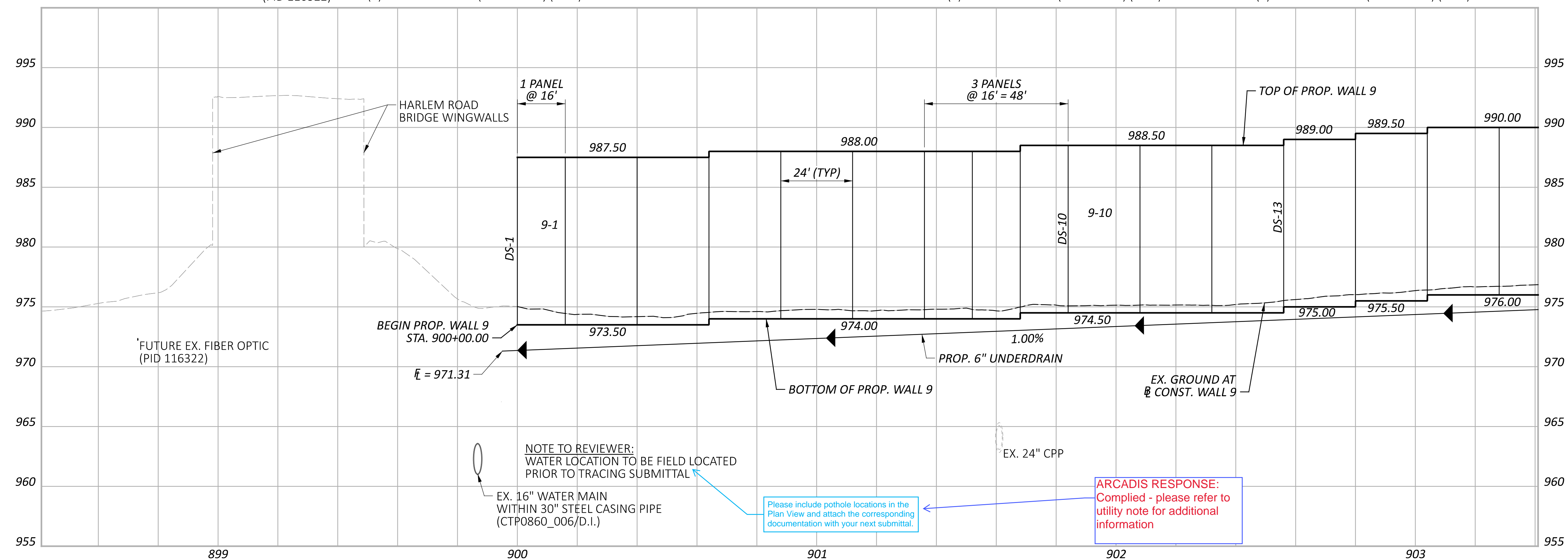
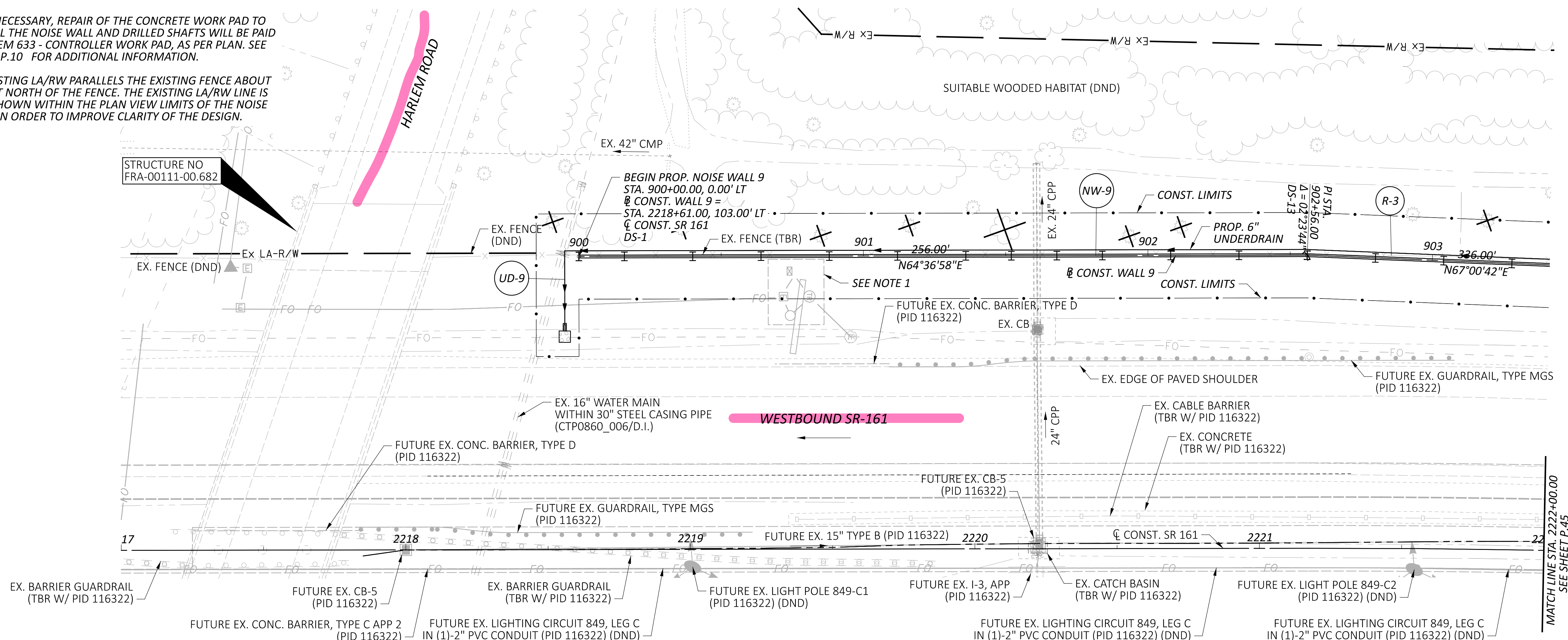
**PLAN & PROFILE - WALL 8  
 STA. 2205+00.00 TO STA. 2210+50.00**

DESIGN AGENCY	<b>ARCADIS</b>
DESIGNER	JMK
REVIEWER	JDH
PROJECT ID	117607
SHEET TOTAL	P.42 P.295



NOTES  
 1.) IF NECESSARY, REPAIR OF THE CONCRETE WORK PAD TO INSTALL THE NOISE WALL AND DRILLED SHAFTS WILL BE PAID PER ITEM 633 - CONTROLLER WORK PAD, AS PER PLAN. SEE SHEET P.10 FOR ADDITIONAL INFORMATION.

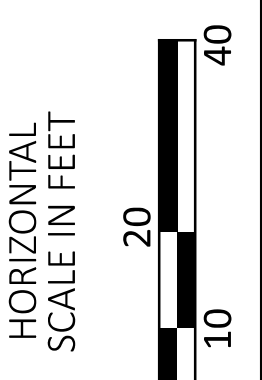
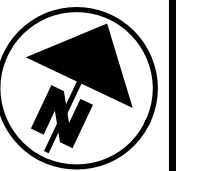
2.) EXISTING LA/RW PARALLELS THE EXISTING FENCE ABOUT 1 FOOT NORTH OF THE FENCE. THE EXISTING LA/RW LINE IS NOT SHOWN WITHIN THE PLAN VIEW LIMITS OF THE NOISE WALL IN ORDER TO IMPROVE CLARITY OF THE DESIGN.



NOTE TO REVIEWER:  
 WATER LOCATION TO BE FIELD LOCATED  
 PRIOR TO TRACING SUBMITTAL

Please include pothole locations in the  
 Plan View and attach the corresponding  
 documentation with your next submittal.

ARCADIS RESPONSE:  
 Complied - please refer to  
 utility note for additional  
 information



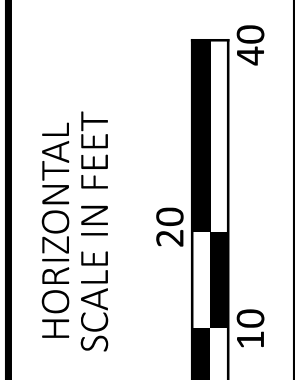
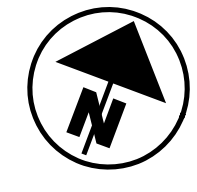
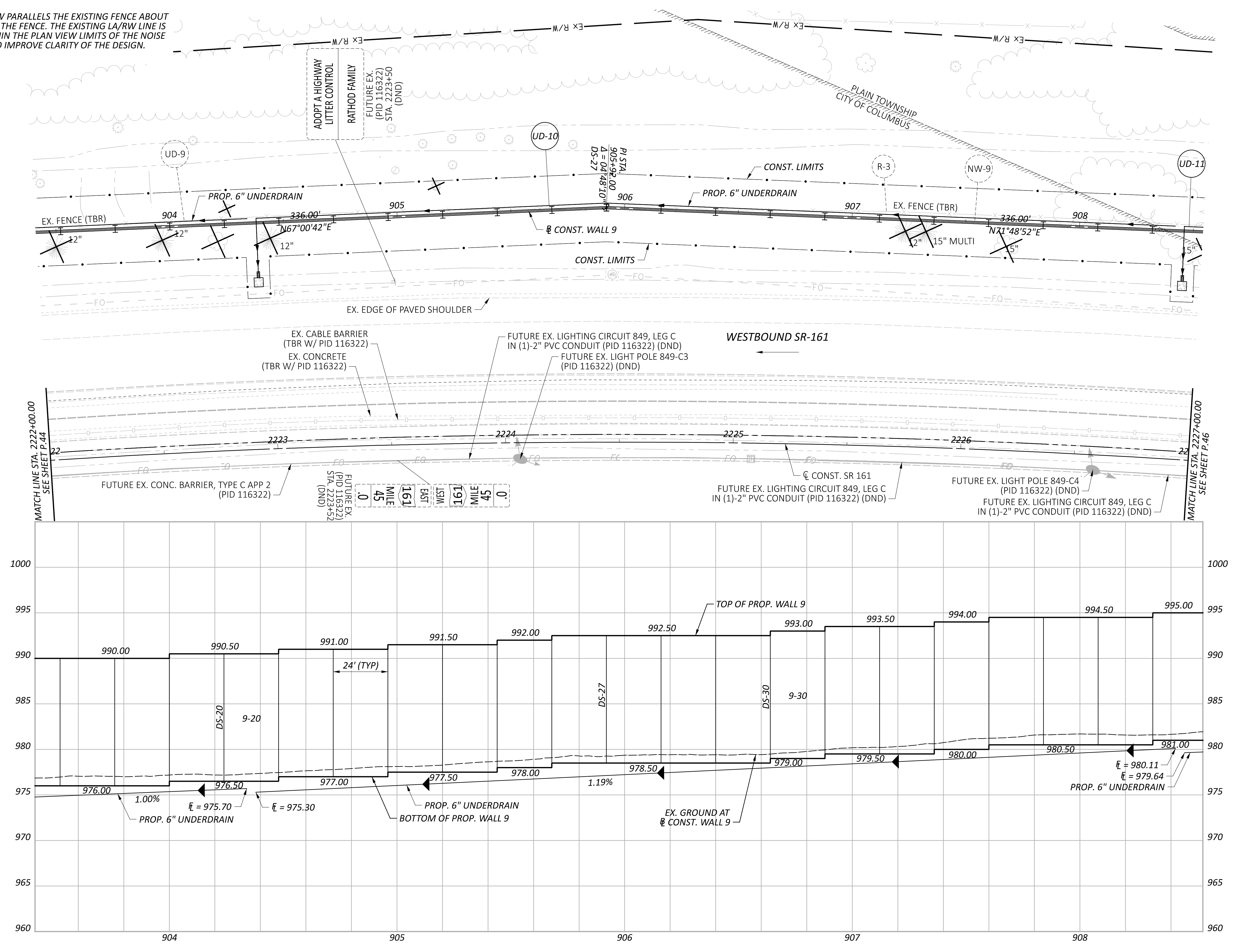
PLAN & PROFILE - WALL 9  
 STA. 2217+00.00 TO STA. 2222+00.00

DESIGN AGENCY	
ARCADIS	
8101 NORTH HIGHWAY 200 SUITE 100 COLUMBIA, MD 21046-3225 410.311.4900 www.arcadis.com	
DESIGNER	
JMK	
REVIEWER	
JDH 03-27-24	
PROJECT ID	
117607	
SHEET	TOTAL
P.44	P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: Wall 9 - Plan 13 PAPER/SCALE: 34x22 (in.) DATE: 2024-03-27 TIME: 2:36:03 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_GP902.dgn

**NOTES:**  
 1.) EXISTING LA/RW PARALLELS THE EXISTING FENCE ABOUT 1 FOOT NORTH OF THE FENCE. THE EXISTING LA/RW LINE IS NOT SHOWN WITHIN THE PLAN VIEW LIMITS OF THE NOISE WALL IN ORDER TO IMPROVE CLARITY OF THE DESIGN.



**PLAN & PROFILE - WALL 9  
 STA. 2222+00.00 TO STA. 2227+00.00**

DESIGN AGENCY  
**ARCADIS**  
 9000 HIGHWAY 100 SUITE 100  
 COLUMBUS, OH 43240-2255  
 www.arcadis.com

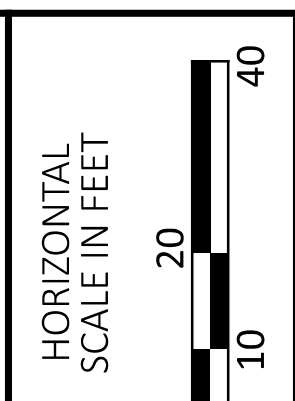
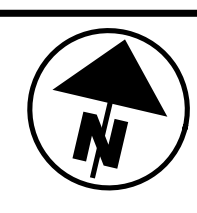
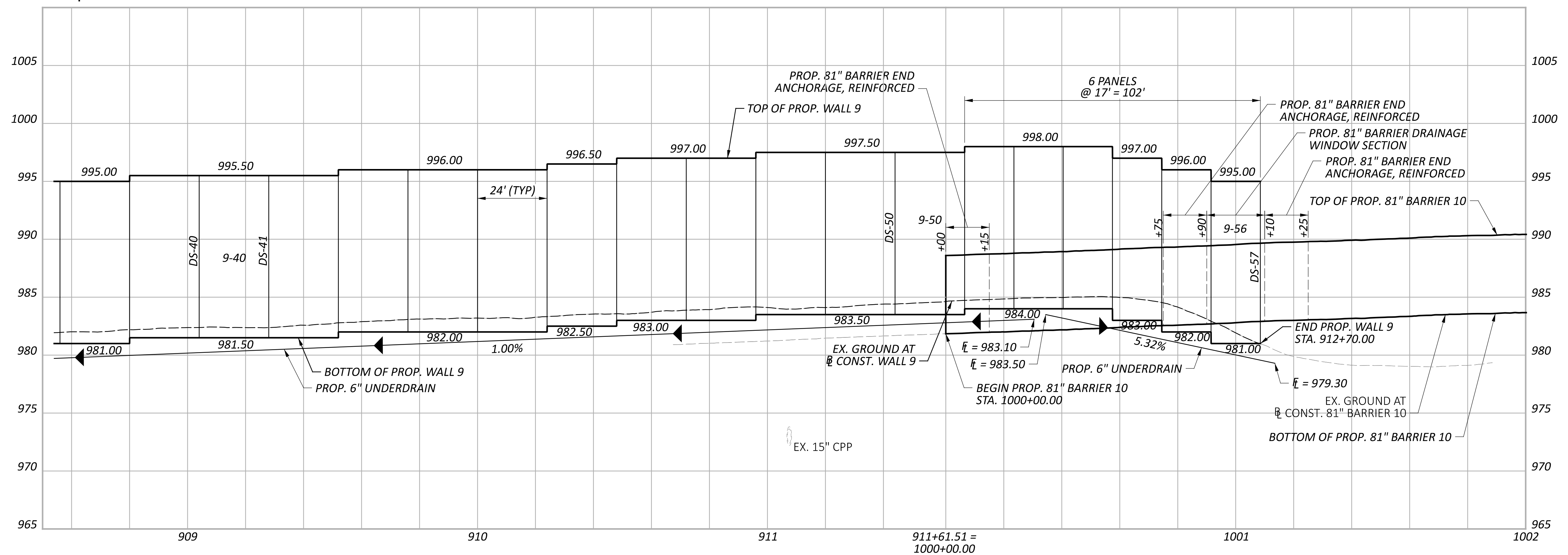
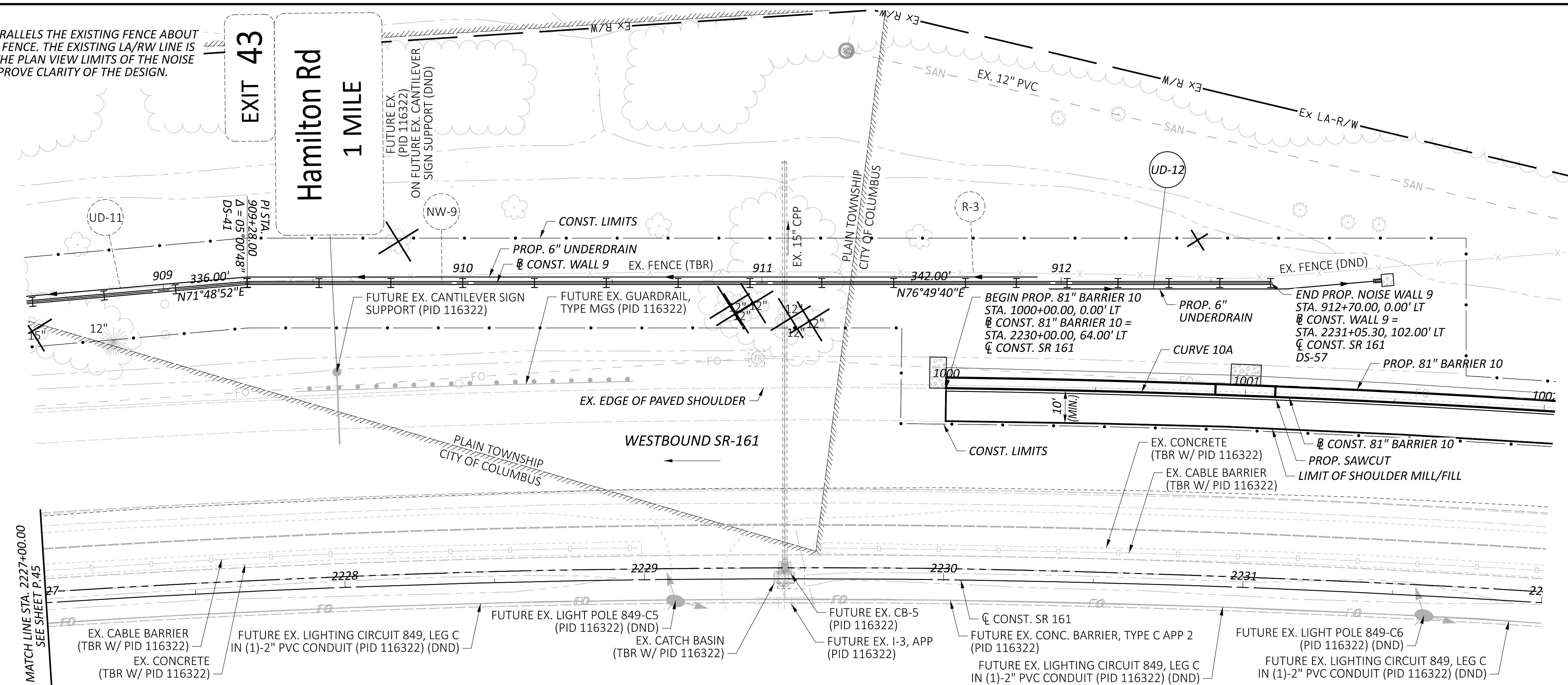
DESIGNER  
**JMK**

REVIEWER  
**JDH** 03-27-24

PROJECT NO.  
**117607**

SHEET TOTAL  
 P.45 P.295

NOTES:  
 1.) EXISTING LA/RW PARALLELS THE EXISTING FENCE ABOUT 1 FOOT NORTH OF THE FENCE. THE EXISTING LA/RW LINE IS NOT SHOWN WITHIN THE PLAN VIEW LIMITS OF THE NOISE WALL IN ORDER TO IMPROVE CLARITY OF THE DESIGN.



PLAN & PROFILE - WALL 9  
 STA. 2227+00.00 TO STA. 2232+00.00

DESIGN AGENCY  
**ARCADIS**  
 8100 NICHOLS CREEK, SUITE 100  
 COLUMBUS, OH 43240  
 614.814.4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
 JDH 03-27-24

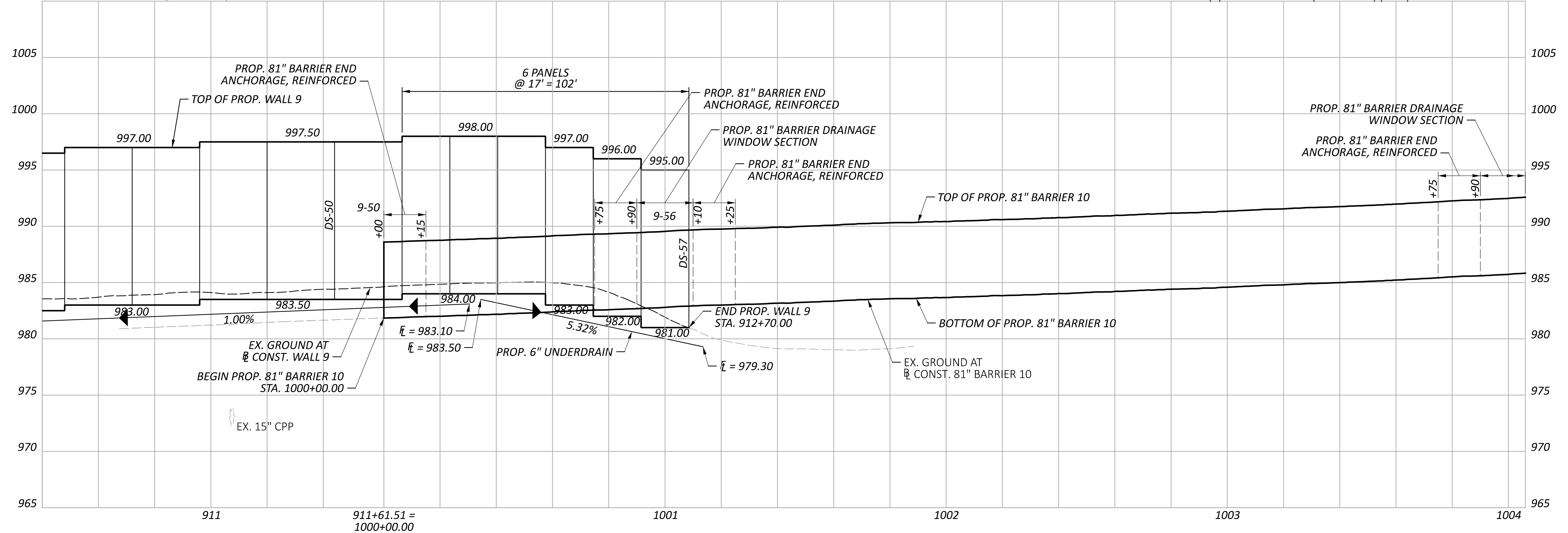
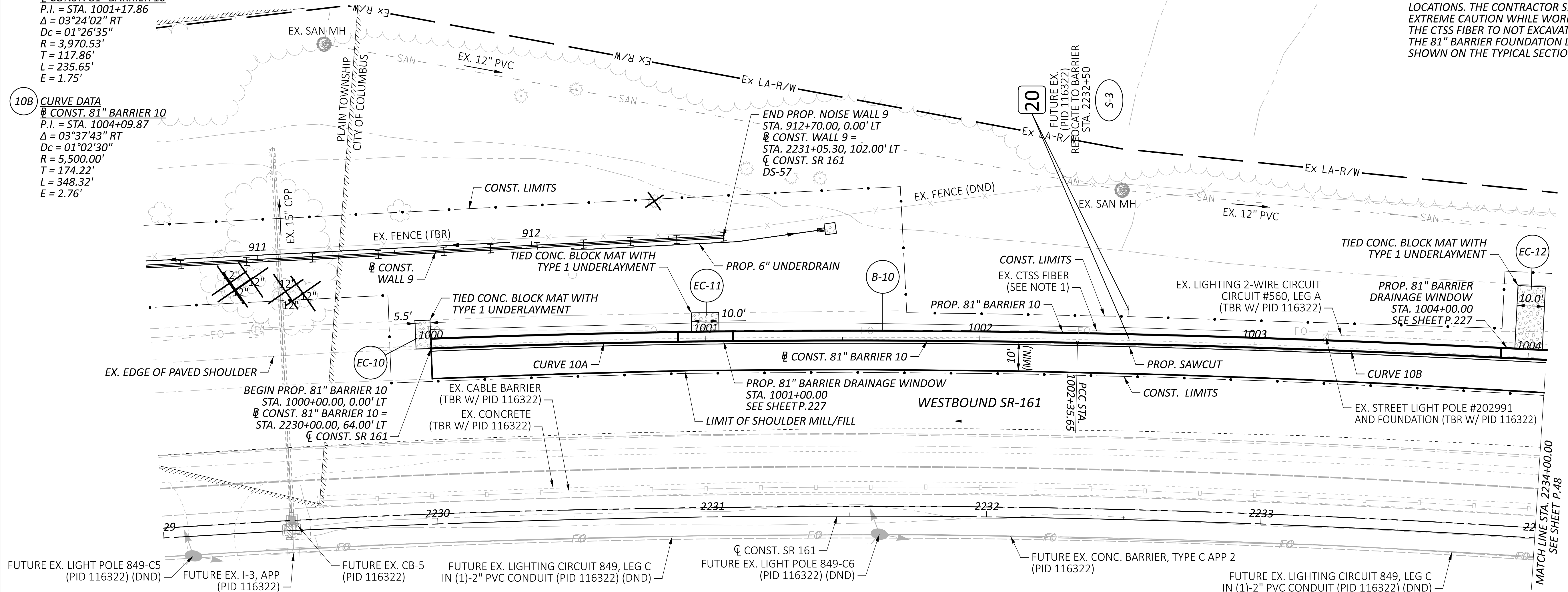
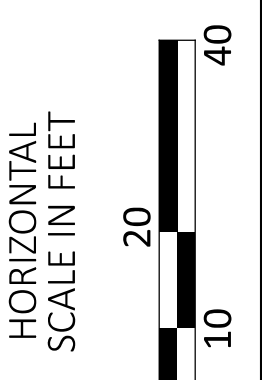
PROJECT ID  
 117607

SHEET TOTAL  
 P.46 P.295

10A CURVE DATA  
 CONST. 81" BARRIER 10  
 P.I. = STA. 1001+17.86  
 $\Delta = 03^{\circ}24'02''$  RT  
 $D_c = 01^{\circ}26'35''$   
 $R = 3,970.53'$   
 $T = 117.86'$   
 $L = 235.65'$   
 $E = 1.75'$

10B CURVE DATA  
 CONST. 81" BARRIER 10  
 P.I. = STA. 1004+09.87  
 $\Delta = 03^{\circ}37'43''$  RT  
 $D_c = 01^{\circ}02'30''$   
 $R = 5,500.00'$   
 $T = 174.22'$   
 $L = 348.32'$   
 $E = 2.76'$

NOTES  
 1.) CAUTION: EX. CTSS FIBER DEPTH BASED ON FIELD SURVEY SHOTS AT EX. PULL BOX LOCATIONS. THE CONTRACTOR SHALL USE EXTREME CAUTION WHILE WORKING NEAR THE CTSS FIBER TO NOT EXCAVATE BELOW THE 81" BARRIER FOUNDATION LIMITS SHOWN ON THE TYPICAL SECTIONS.

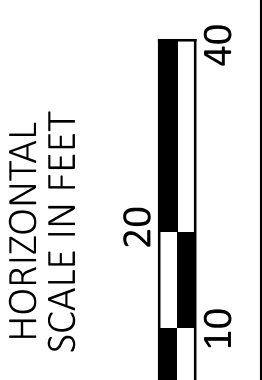
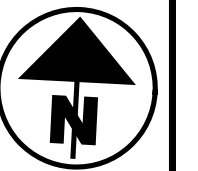
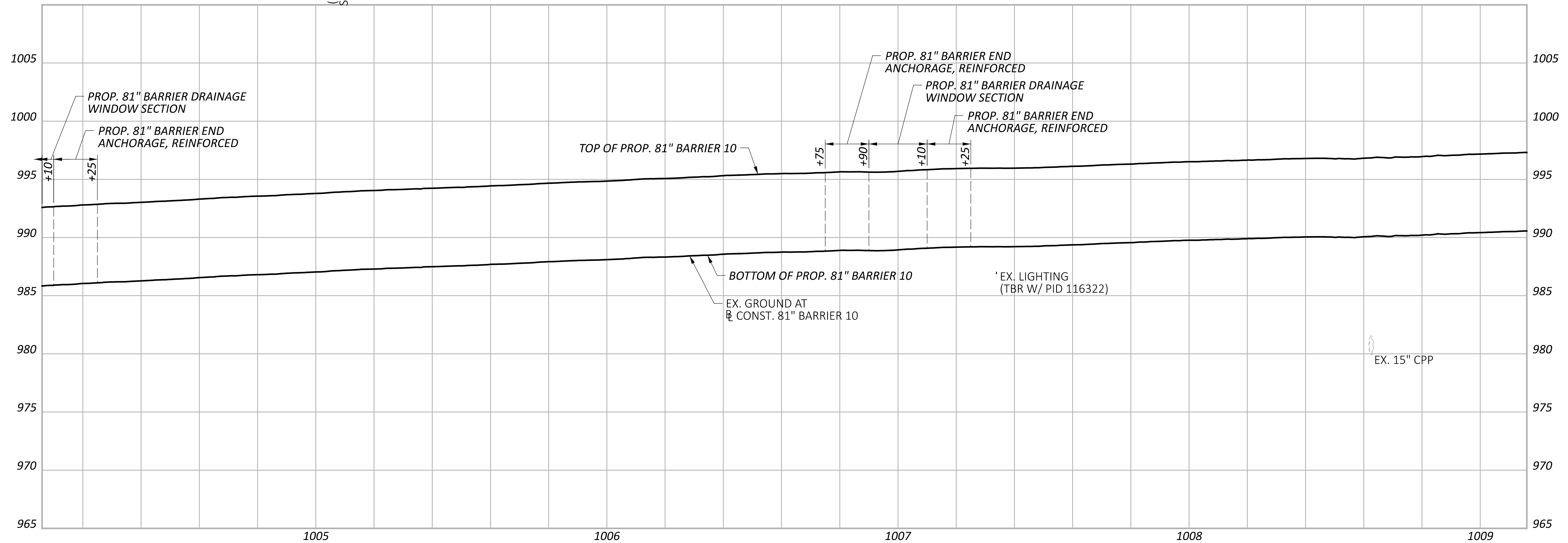
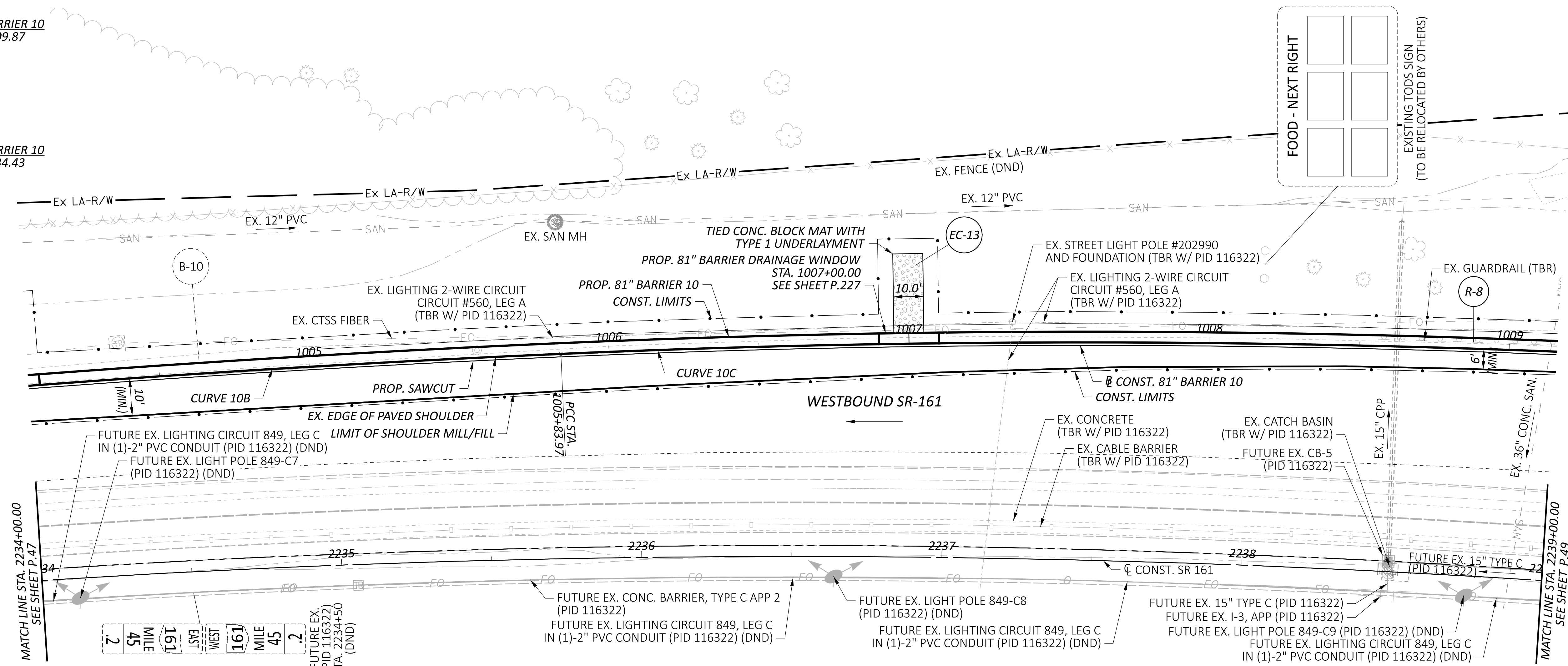


PLAN & PROFILE - 81" BARRIER 10  
 STA. 2229+00.00 TO STA. 2234+00.00

DESIGN AGENCY	ARCADIS
DESIGNER	JMK
REVIEWER	JDK
PROJECT ID	117607
SHEET	P.47
TOTAL	P.295

10B CURVE DATA  
 CONST. 81" BARRIER 10  
 P.I. = STA. 1004+09.87  
 $\Delta = 03^{\circ}37'43"$  RT  
 $D_c = 01^{\circ}02'30"$   
 $R = 5,500.00'$   
 $T = 174.22'$   
 $L = 348.32'$   
 $E = 2.76'$

10C CURVE DATA  
 CONST. 81" BARRIER 10  
 P.I. = STA. 1008+34.43  
 $\Delta = 07^{\circ}09'57"$  RT  
 $D_c = 01^{\circ}25'57"$   
 $R = 4,000.00'$   
 $T = 250.46'$   
 $L = 500.27'$   
 $E = 7.83'$



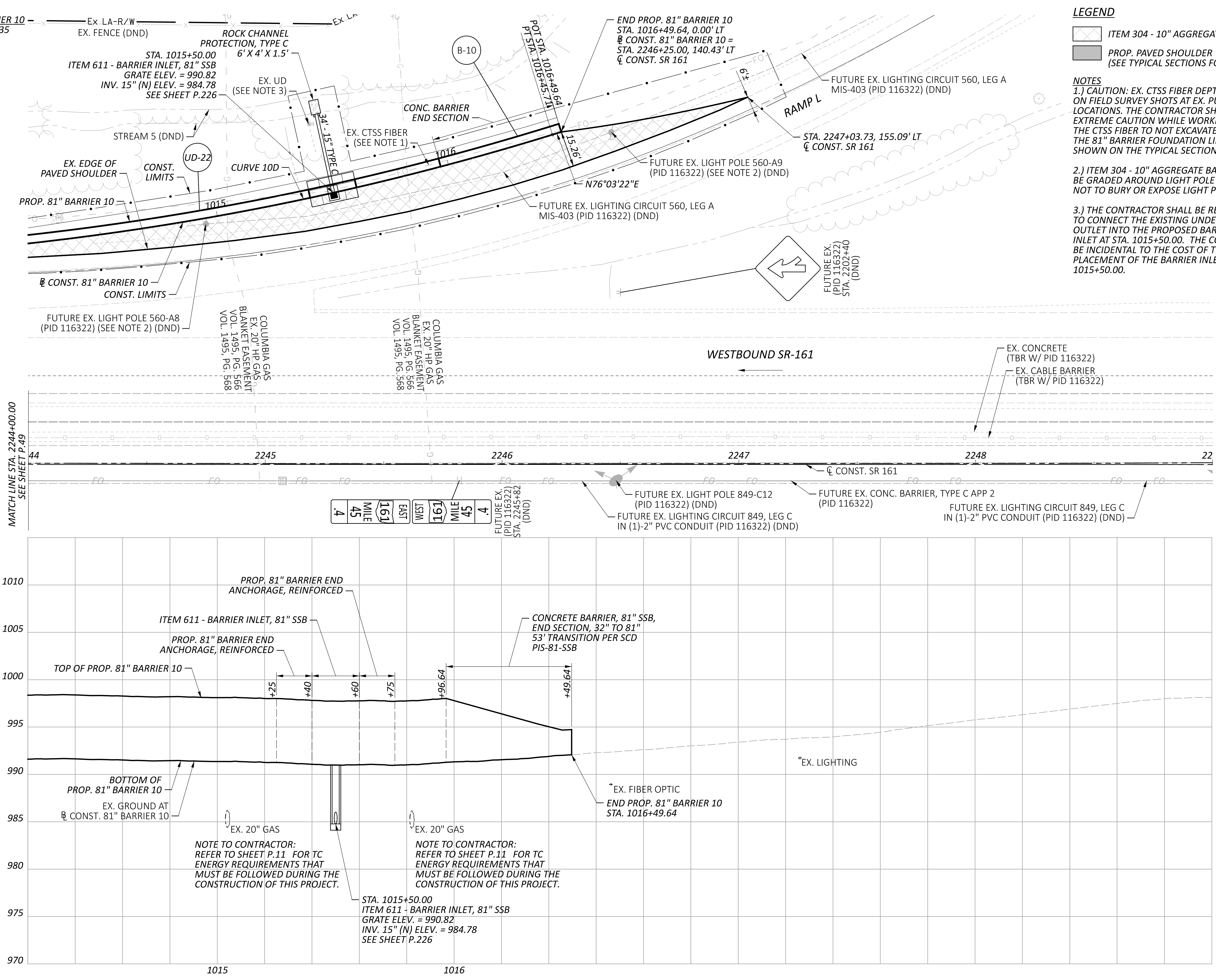
PLAN & PROFILE - 81" BARRIER 10  
 STA. 2234+00.00 TO STA. 2239+00.00

DESIGN AGENCY	
8100 NORTH STATE STREET SUITE 100 COLUMBIANA, OH 43081-4901 www.arcadis.com	
DESIGNER	JMK
REVIEWER	JDH
PROJECT ID	117607
SHEET	P.48
TOTAL	P.295





**10D CURVE DATA**  
 CONST. 81" BARRIER 10  
 P.I. = STA. 1014+82.35  
 $\Delta = 15^\circ 41' 58''$  LT  
 $D_c = 04' 46' 29''$   
 $R = 1,200.00'$   
 $T = 165.44'$   
 $L = 328.81'$   
 $E = 11.35'$

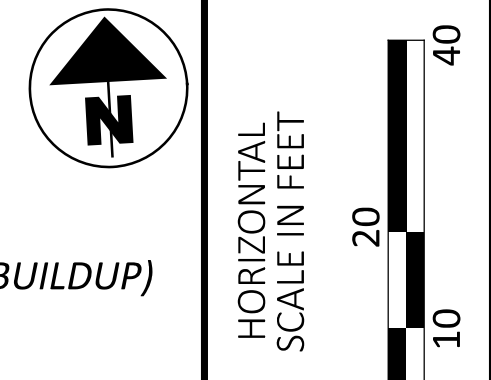


**LEGEND**

- ITEM 304 - 10" AGGREGATE BASE
- PROP. PAVED SHOULDER (SEE TYPICAL SECTIONS FOR PAVEMENT BUILDUP)

**NOTES**

- CAUTION: EX. CTSS FIBER DEPTH BASED ON FIELD SURVEY SHOTS AT EX. PULL BOX LOCATIONS. THE CONTRACTOR SHALL USE EXTREME CAUTION WHILE WORKING NEAR THE CTSS FIBER TO NOT EXCAVATE BELOW THE 81" BARRIER FOUNDATION LIMITS SHOWN ON THE TYPICAL SECTIONS.
- ITEM 304 - 10" AGGREGATE BASE SHALL BE GRADED AROUND LIGHT POLE SO AS NOT TO BURY OR EXPOSE LIGHT POLE BASE.
- THE CONTRACTOR SHALL BE REQUIRED TO CONNECT THE EXISTING UNDERDRAIN OUTLET INTO THE PROPOSED BARRIER INLET AT STA. 1015+50.00. THE COST SHALL BE INCIDENTAL TO THE COST OF THE PLACEMENT OF THE BARRIER INLET AT STA. 1015+50.00.

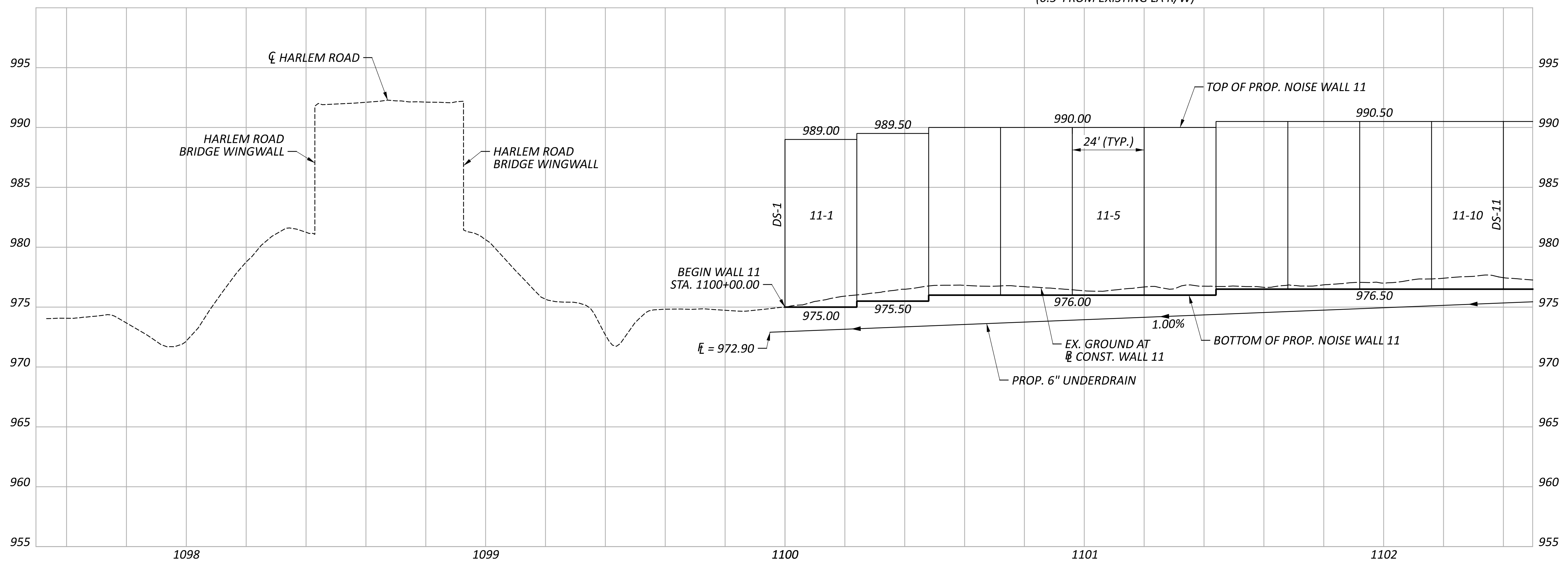
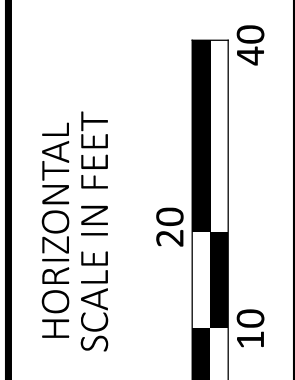
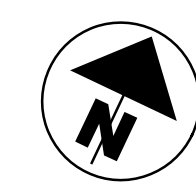
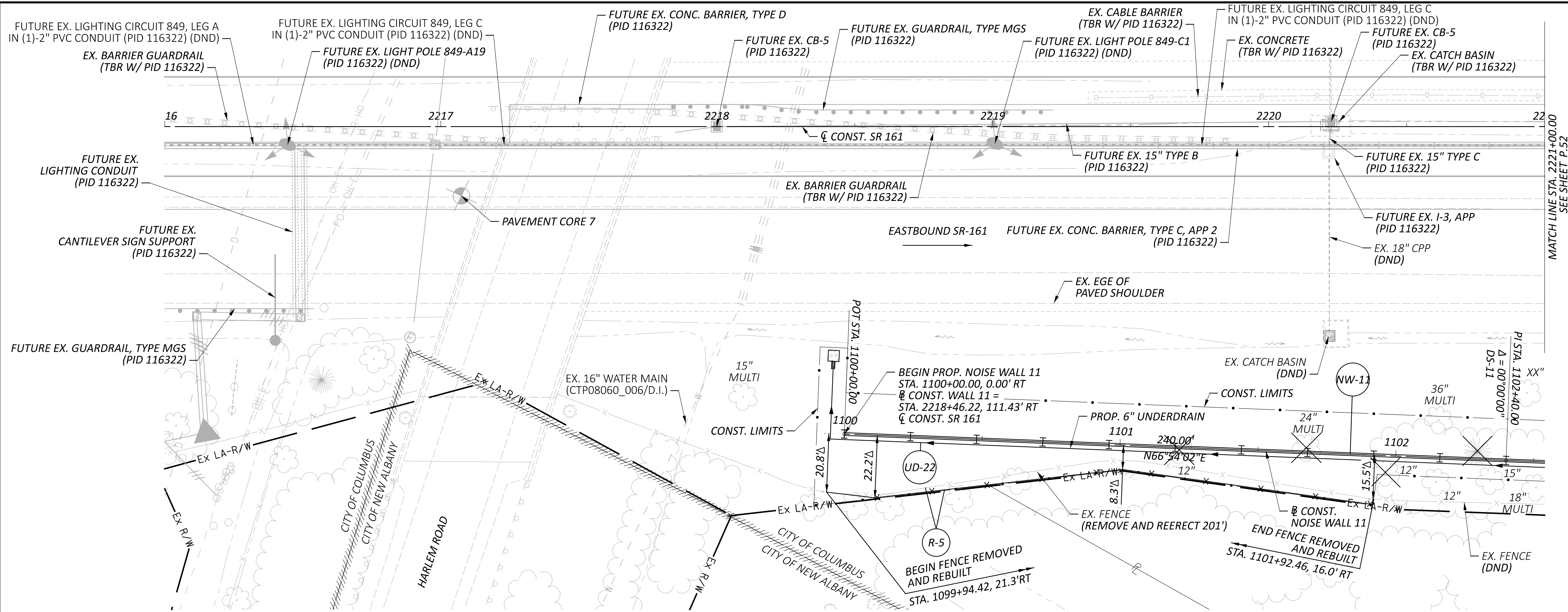


**PLAN & PROFILE - 81" BARRIER 10  
 STA. 2244+00.00 TO STA. 2249+00.00**


DESIGN AGENCY	ARCADIS
DESIGNER	JMK
REVIEWER	JDK
PROJECT ID	117607
SHEET	P.50
TOTAL	P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: Plan PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:21:25 PM USER: JPerchinske  
 pw:\arcds-us-pw.bentley.com\arcds-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_GP1101.dgn



**PLAN & PROFILE - WALL 11  
 STA. 2216+00.00 TO STA. 2221+00.00**

DESIGN AGENCY  
  
 5560 WILCOX PLACE, SUITE C  
 DUBLIN, OHIO 43017

DESIGNER  
 JEP

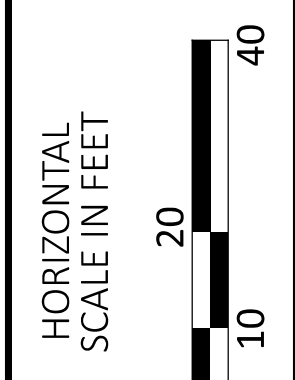
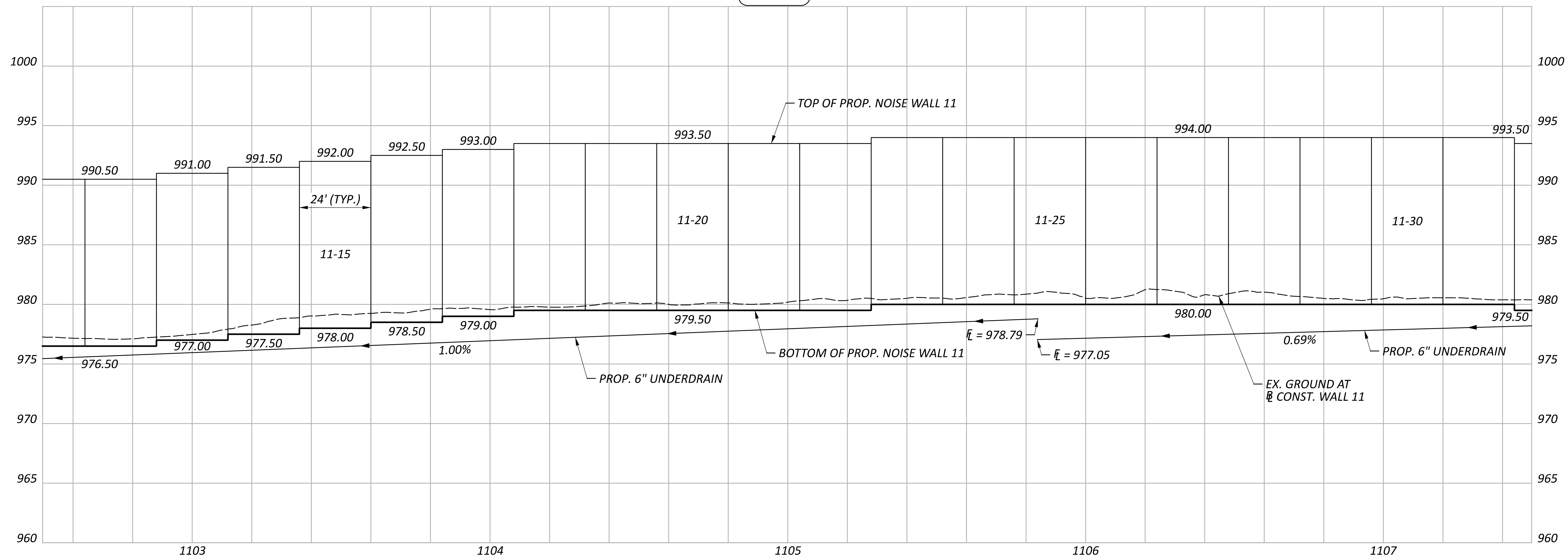
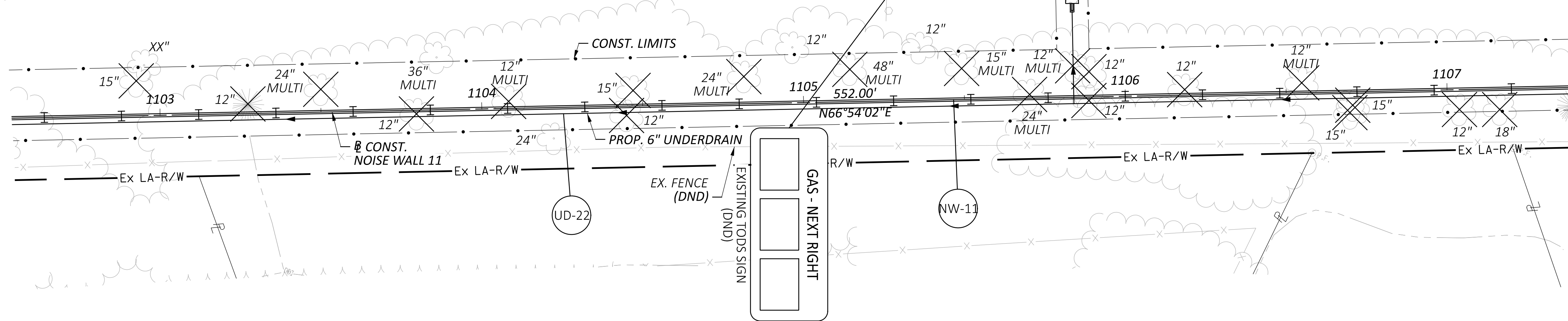
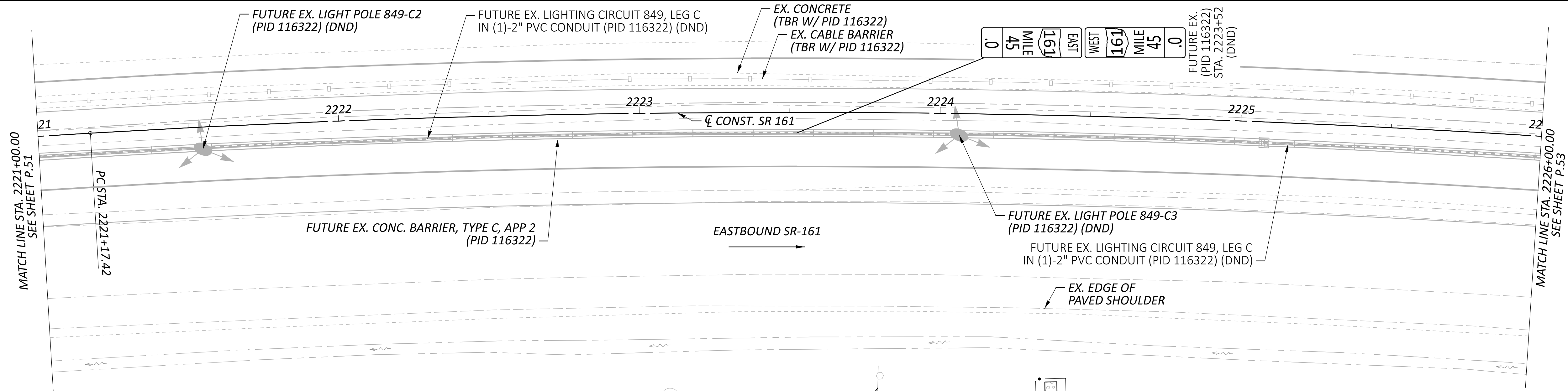
REVIEWER  
 RG 03-27-24

PROJECT ID  
 117607


SHEET TOTAL  
 P.51 P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: Plan-1 PAPER SIZE: 34x42 (in.) DATE: 3/25/2024 TIME: 3:21:43 PM USER: JPerchinske  
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**PLAN & PROFILE - WALL 11**  
**STA. 2221+00.00 TO STA. 2226+00.00**

DESIGN AGENCY  
  
 5560 WILCOX PLACE, SUITE C  
 DUBLIN, OHIO 43016

DESIGNER  
 JEP

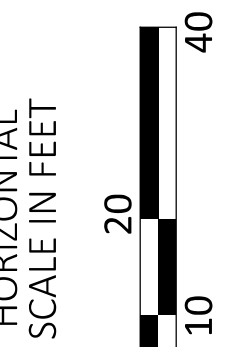
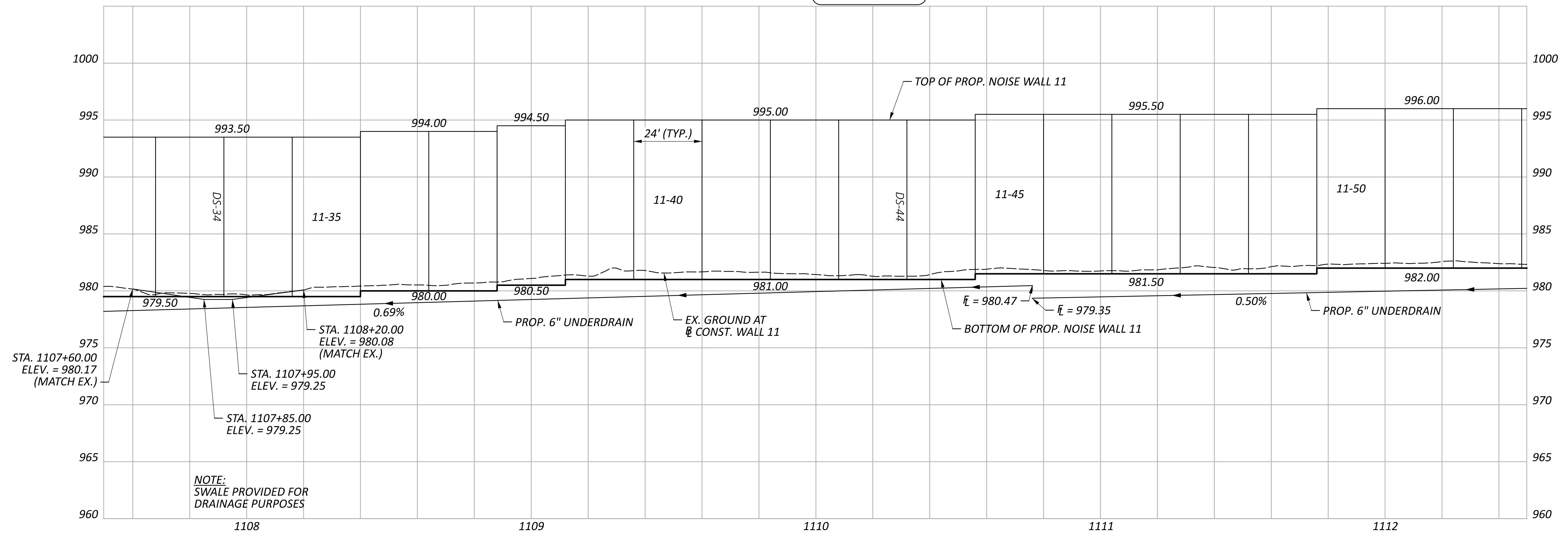
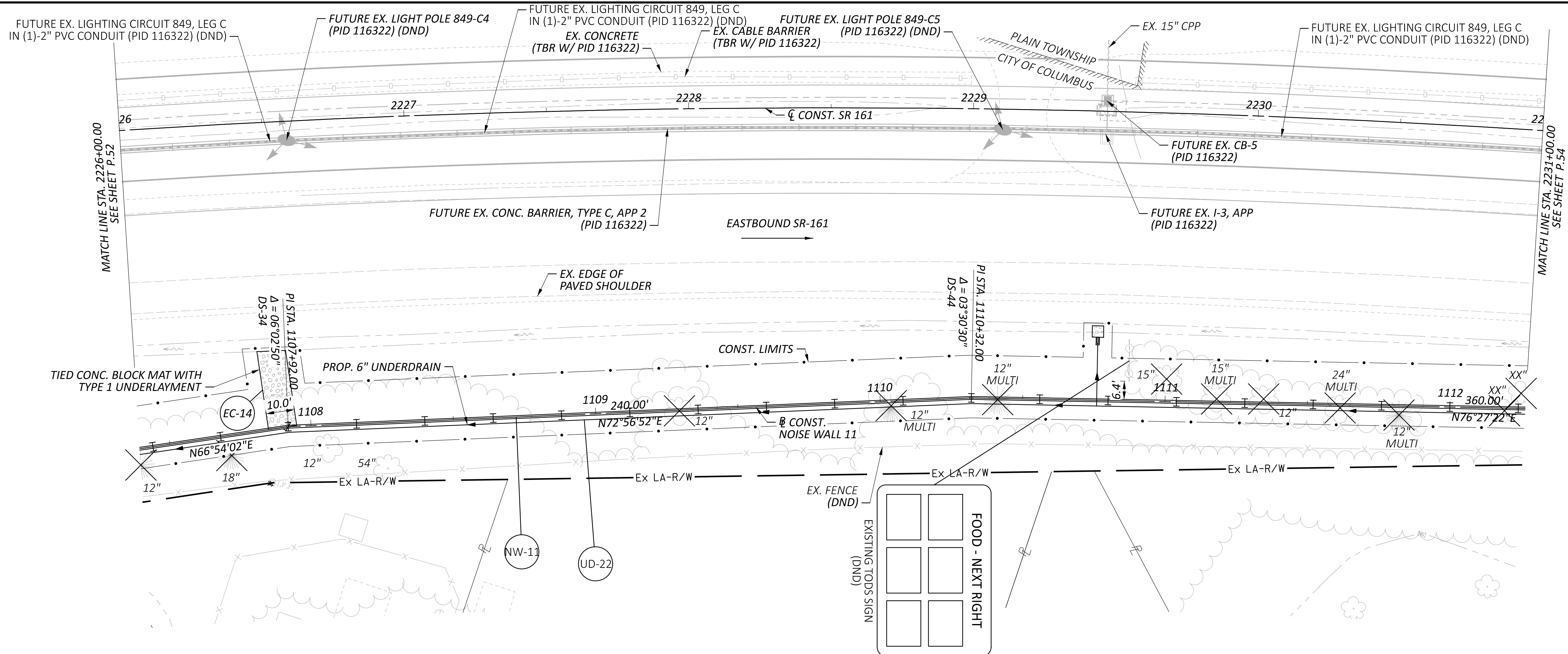
REVIEWER  
 R6 03-27-24

PROJECT ID  
 117607

SHEET TOTAL  
 P.52 P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: Plan-2 PAPER SIZE: 34x42 (in.) DATE: 3/25/2024 TIME: 3:22:02 PM USER: JPerchinske  
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**PLAN & PROFILE - WALL 11  
 STA. 2226+00.00 TO STA. 2231+00.00**

DESIGN AGENCY



DESIGNER: JEP

REVIEWER: RG

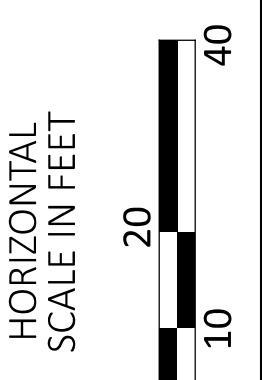
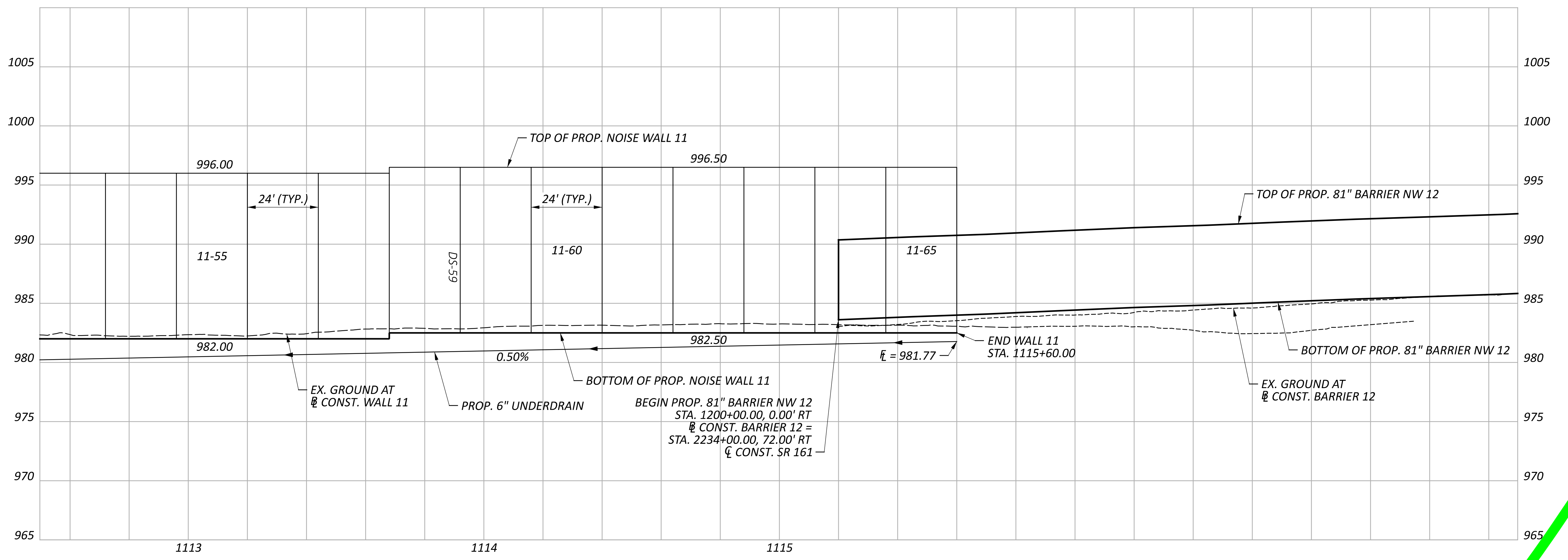
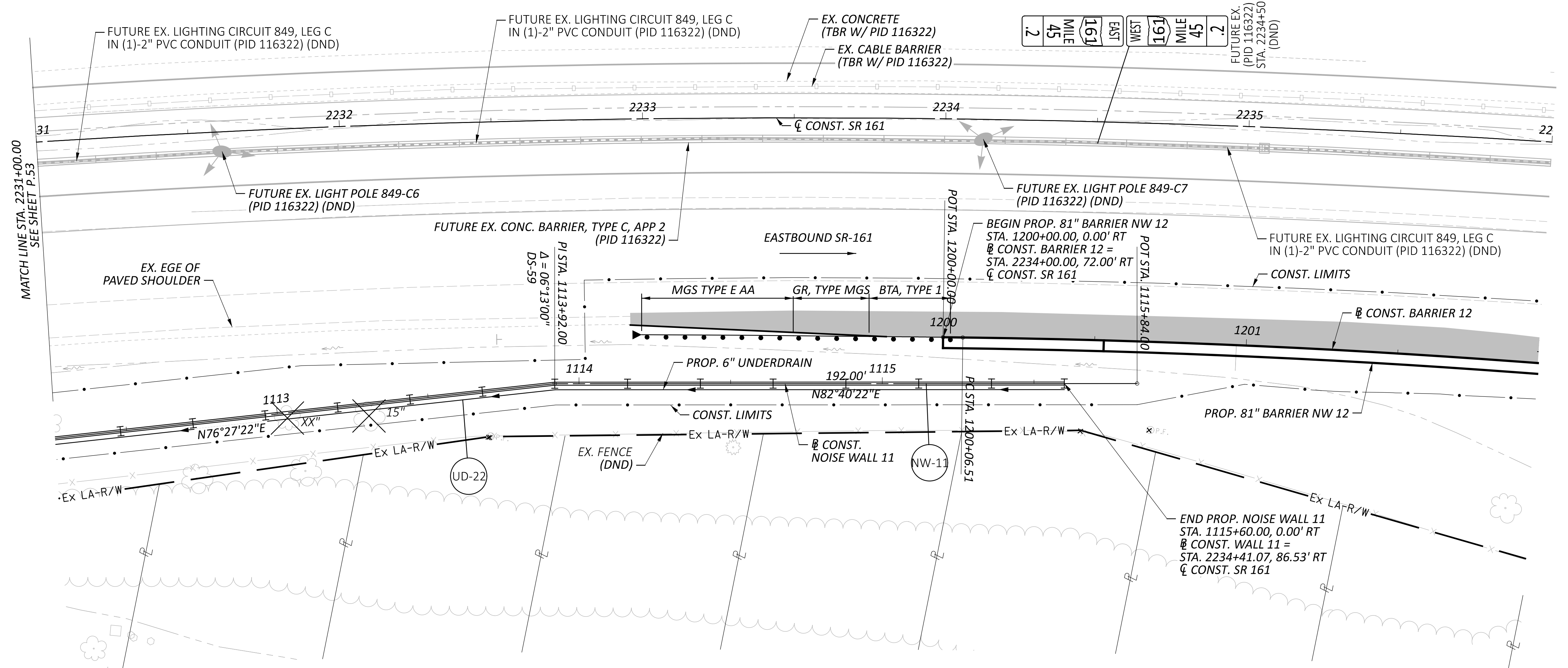
PROJECT ID: 03-27-24

SHEET: 117607


TOTAL: P.53 P.295

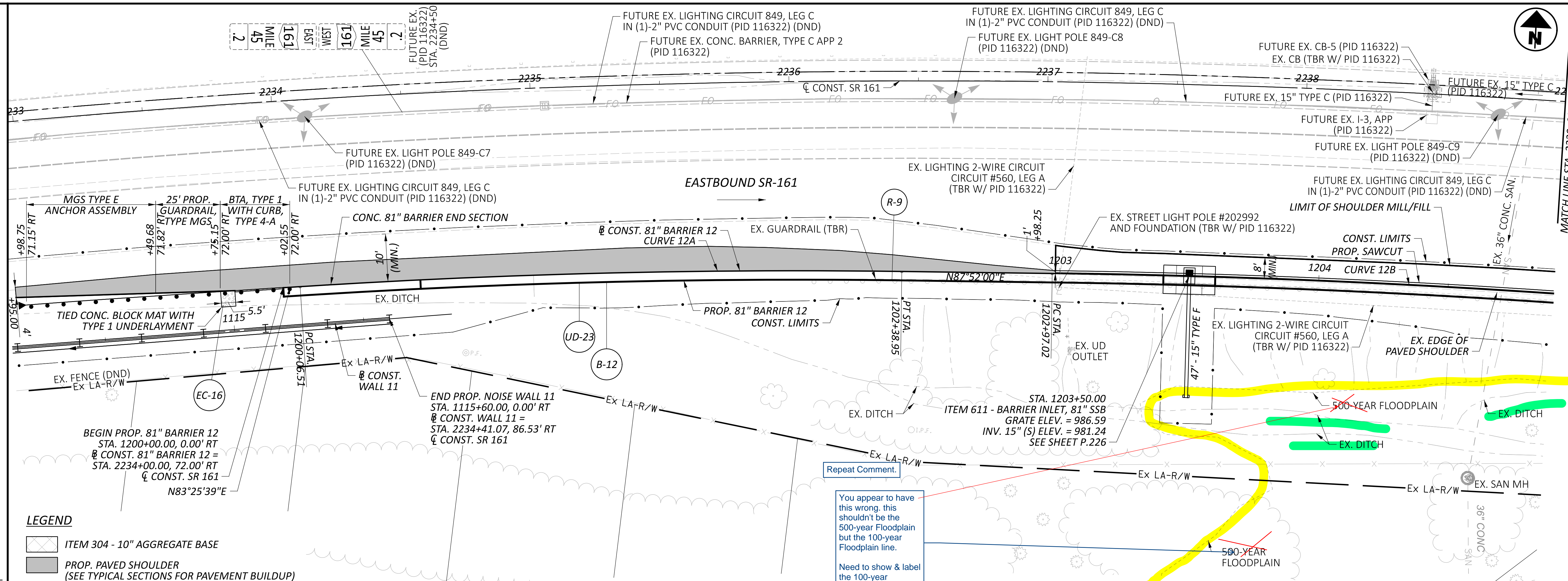
**FRA-161-15.80 NOISE WALLS**

MODEL: Plan-3 PAPER SIZE: 34x42 (in.) DATE: 3/26/2024 TIME: 8:50:17 AM USER: jperchinske  
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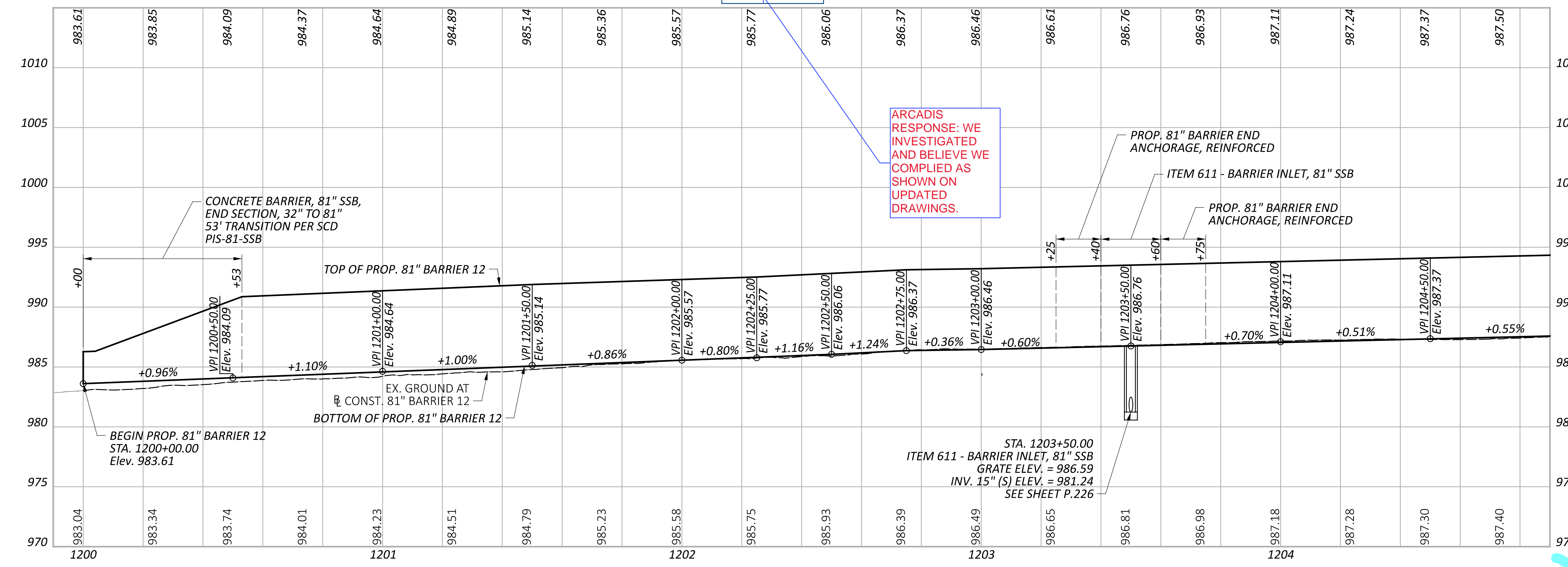
**PLAN & PROFILE - WALL 11  
 STA. 2231+00.00 TO STA. 2236+00.00**

DESIGN AGENCY	
	
5860 WILCOX PLACE, SUITE C DUBLIN, OHIO 43016	
DESIGNER	JEP
REVIEWER	RG
PROJECT ID	03-27-24
SHEET	117607
TOTAL	P.54 P.295



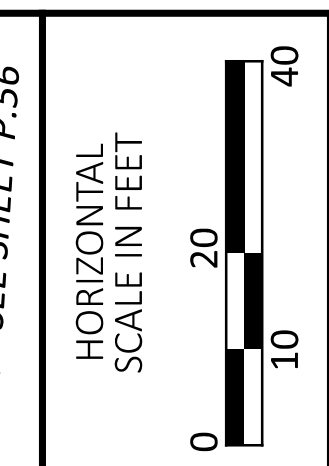
- LEGEND**
- ITEM 304 - 10" AGGREGATE BASE
  - PROP. PAVED SHOULDER (SEE TYPICAL SECTIONS FOR PAVEMENT BUILDUP)

- 12A CURVE DATA**  
 CONST. 81" BARRIER 12  
 P.I. = STA. 1201+22.78  
 $\Delta = 04^{\circ}26'21''$  RT  
 $D_c = 01^{\circ}54'36''$   
 $R = 3,000.00'$   
 $T = 116.28'$   
 $L = 232.44'$   
 $E = 2.25'$
- 12B CURVE DATA**  
 CONST. 81" BARRIER 12  
 P.I. = STA. 1204+26.22  
 $\Delta = 04^{\circ}06'38''$  RT  
 $D_c = 01^{\circ}35'30''$   
 $R = 3,600.00'$   
 $T = 129.19'$   
 $L = 258.27'$   
 $E = 2.32'$



Repeat Comment.  
 You appear to have this wrong, this shouldn't be the 500-year Floodplain but the 100-year Floodplain line.  
 Need to show & label the 100-year Floodplain lines.

ARCADIS RESPONSE: WE INVESTIGATED AND BELIEVE WE COMPLIED AS SHOWN ON UPDATED DRAWINGS.



HORIZONTAL SCALE IN FEET  
 0 20 40

PLAN & PROFILE - 81" BARRIER 12  
 STA. 2233+00.00 TO STA. 2239+00.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 2500  
 COLUMBIA, MO 65203  
 TEL: (648) 818-4900  
 www.arcadis.com

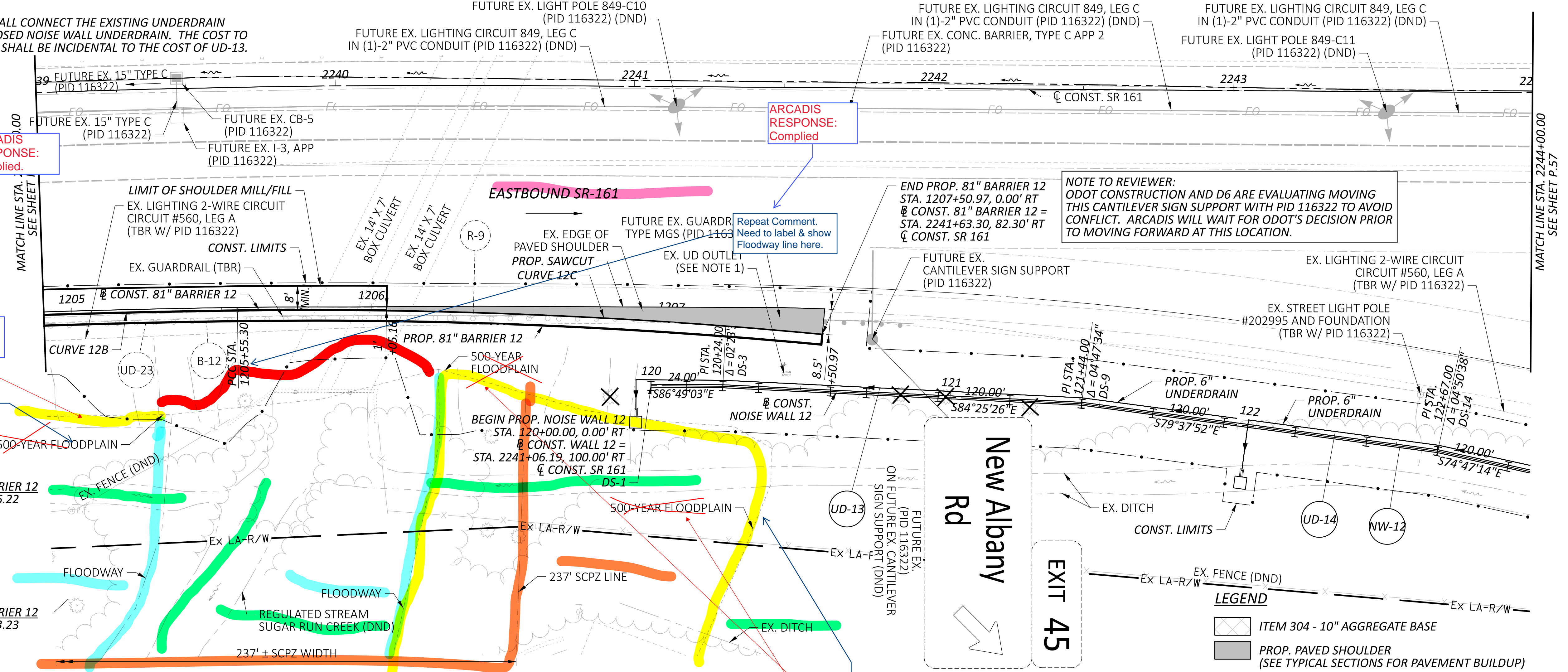
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

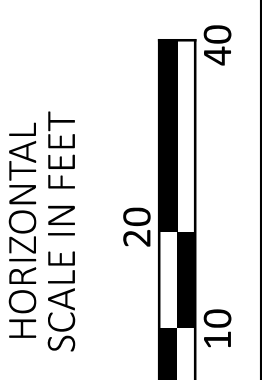
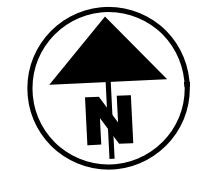
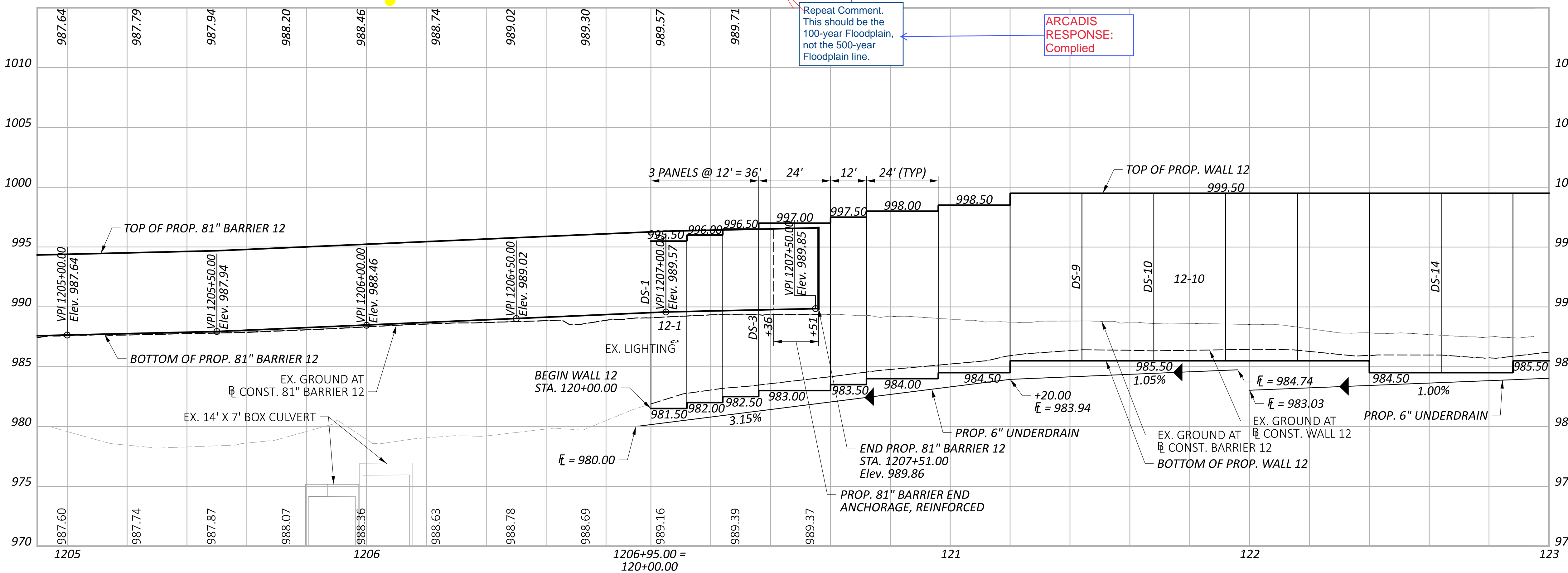
SHEET TOTAL  
**P.55 P.295**

NOTES:  
 1.) THE CONTRACTOR SHALL CONNECT THE EXISTING UNDERDRAIN OUTLET INTO THE PROPOSED NOISE WALL UNDERDRAIN. THE COST TO MAKE THE CONNECTION SHALL BE INCIDENTAL TO THE COST OF UD-13.



12B CURVE DATA  
 CONST. 81" BARRIER 12  
 P.I. = STA. 1204+26.22  
 $\Delta = 04^{\circ}06'38''$  RT  
 $D_c = 01^{\circ}35'30''$   
 $R = 3,600.00'$   
 $T = 129.19'$   
 $L = 258.27'$   
 $E = 2.32'$

12C CURVE DATA  
 CONST. 81" BARRIER 12  
 P.I. = STA. 1206+53.23  
 $\Delta = 06^{\circ}13'43''$  RT  
 $D_c = 03^{\circ}10'59''$   
 $R = 1,800.00'$   
 $T = 97.93'$   
 $L = 195.68'$   
 $E = 2.66'$



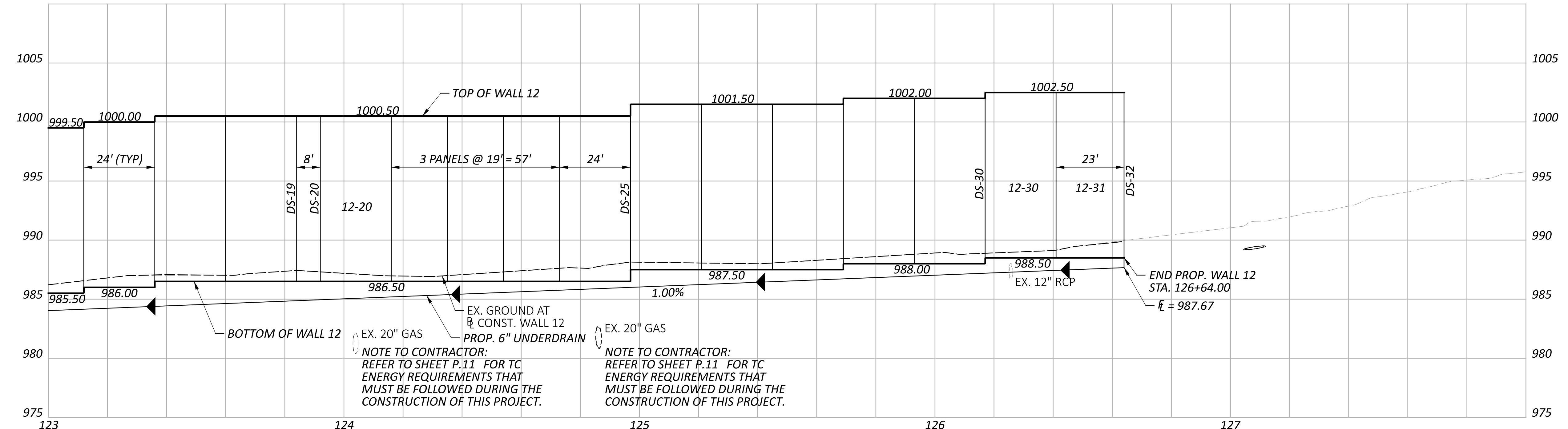
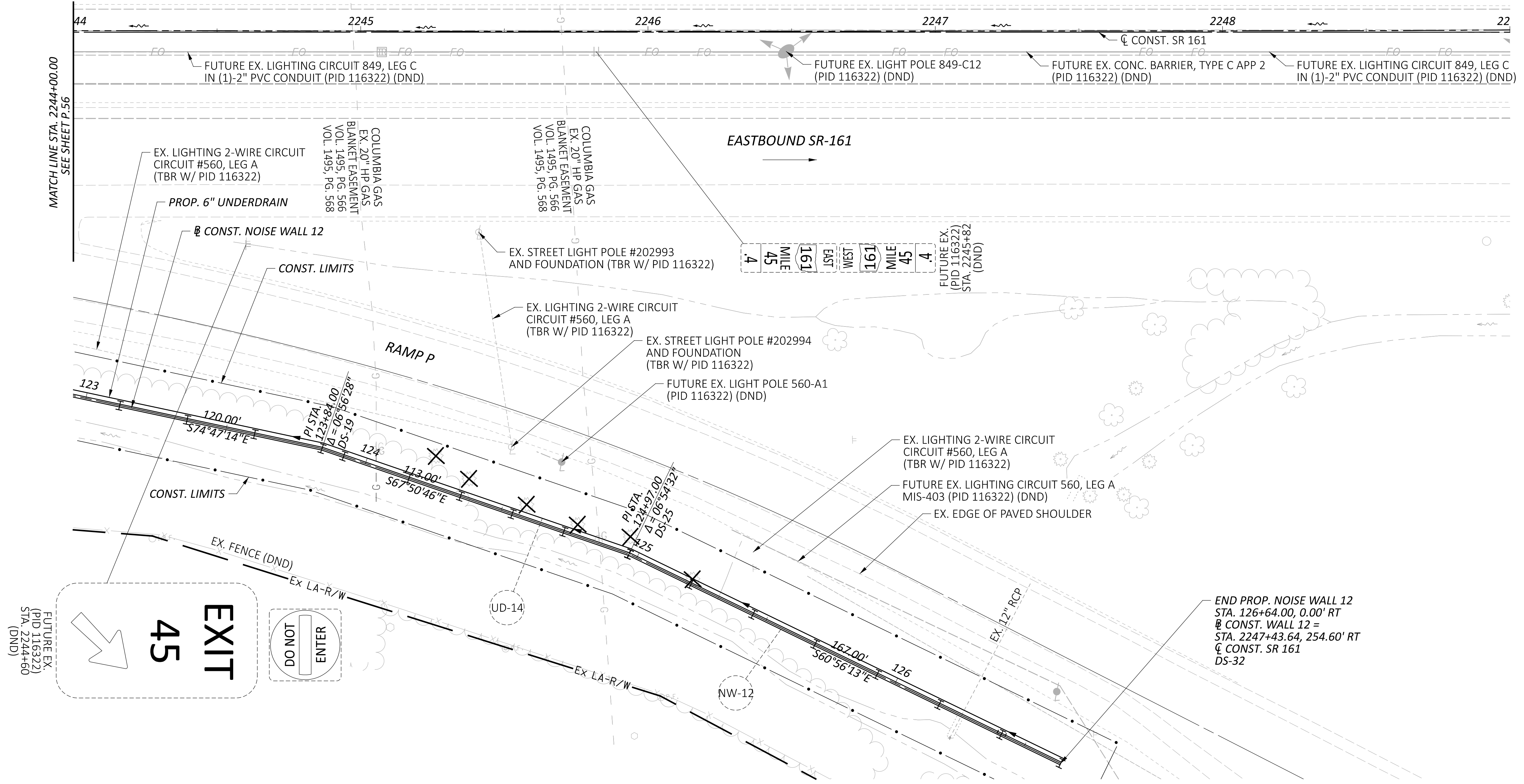
PLAN & PROFILE - 81" BARRIER 12 / WALL 12  
 STA. 2239+00.00 TO STA. 2244+00.00

DESIGN AGENCY	ARCADIS
DESIGNER	JMK
REVIEWER	JDH
PROJECT ID	117607
SHEET	P.56
TOTAL	P.295



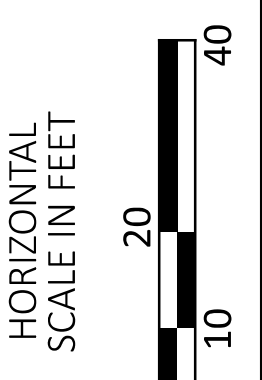
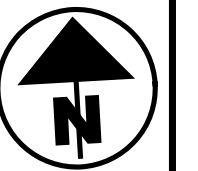
**FRA-161-15.80 NOISE WALLS**

MODEL: Wall 12 - Plan 21 PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 1:36:27 PM USER: jennifer.kelley  
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**NOTE TO CONTRACTOR:**  
 REFER TO SHEET P.11 FOR TC ENERGY REQUIREMENTS THAT MUST BE FOLLOWED DURING THE CONSTRUCTION OF THIS PROJECT.

**NOTE TO CONTRACTOR:**  
 REFER TO SHEET P.11 FOR TC ENERGY REQUIREMENTS THAT MUST BE FOLLOWED DURING THE CONSTRUCTION OF THIS PROJECT.

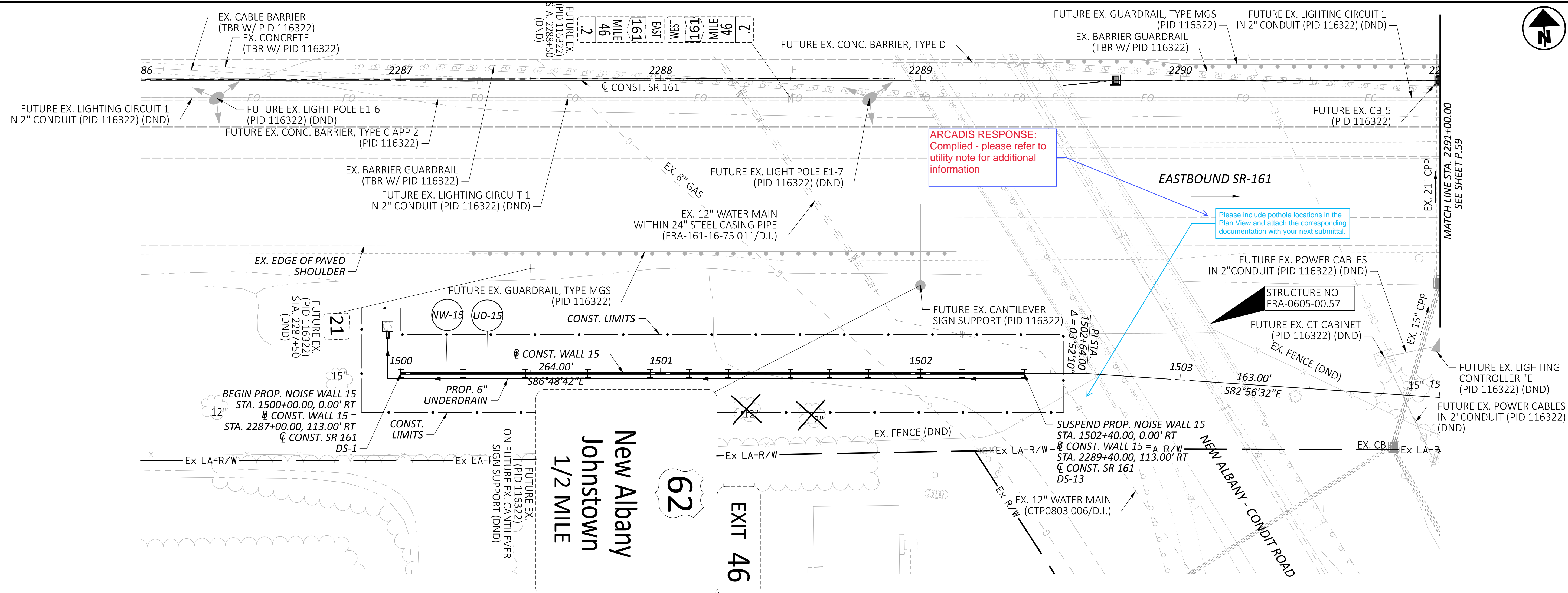


**PLAN & PROFILE - WALL 12  
 STA. 2244+00.00 TO STA. 2249+00.00**

DESIGN AGENCY	<b>ARCADIS</b>
DESIGNER	<b>JMK</b>
REVIEWER	<b>JDH</b>
PROJECT ID	<b>117607</b>
SHEET TOTAL	<b>P.57 P.295</b>

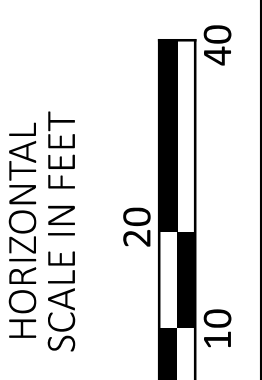
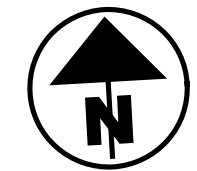
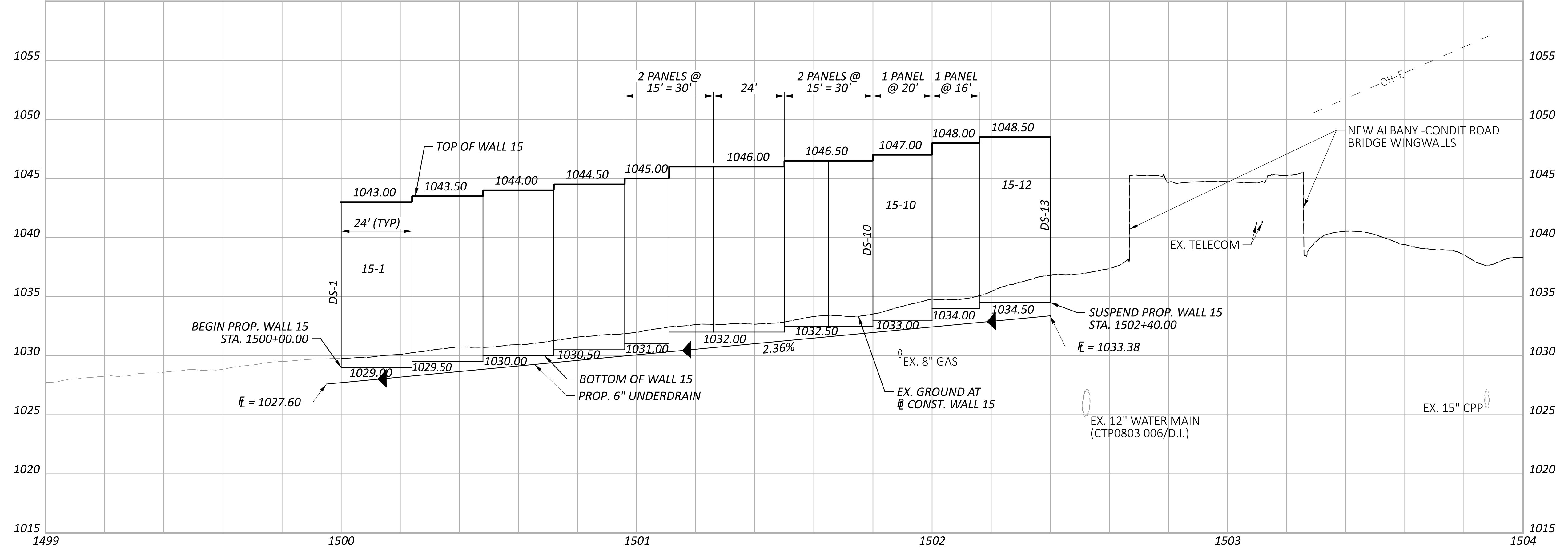
FRA-161-15.80 NOISE WALLS

MODEL: Wall 15 - Plan 22 PAPER SIZE: 34x22 (in.) DATE: 2024-03-26 TIME: 8:52:53 AM USER: jennifer\_kelley  
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ARCADIS RESPONSE:  
 Complied - please refer to utility note for additional information

Please include pothole locations in the Plan View and attach the corresponding documentation with your next submittal.



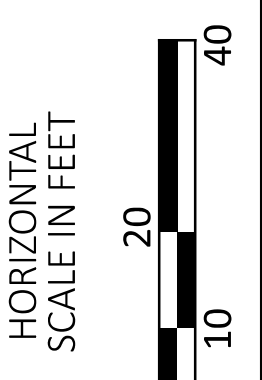
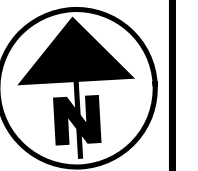
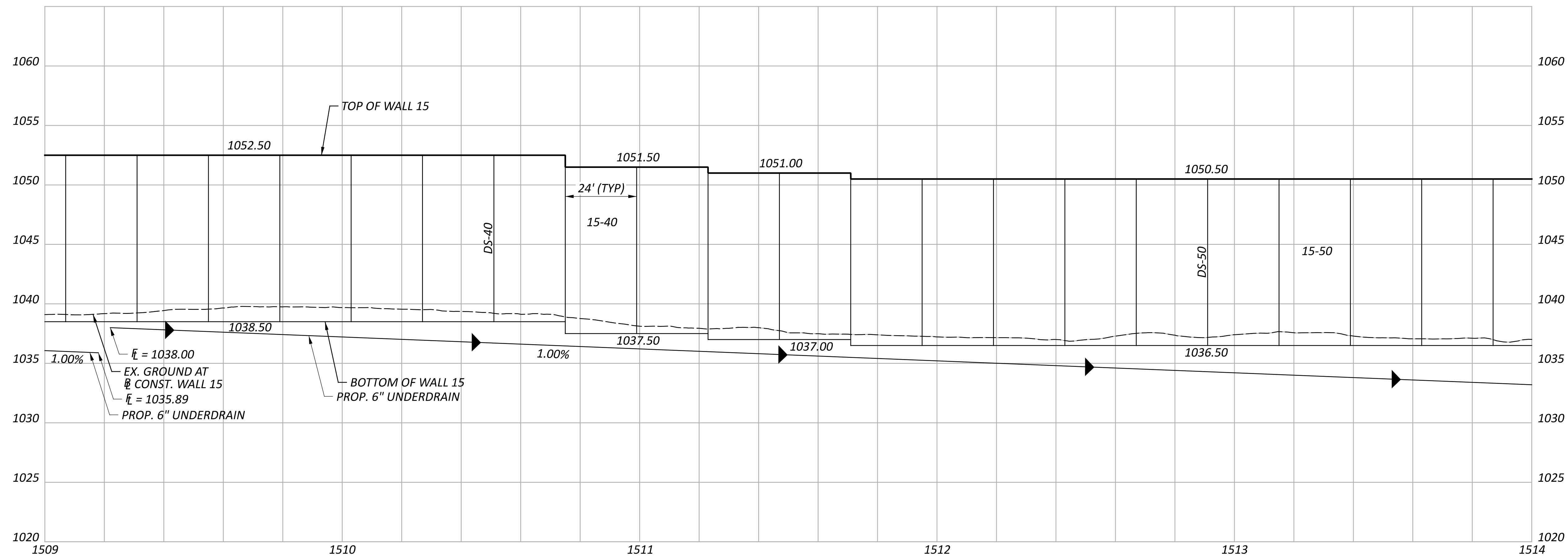
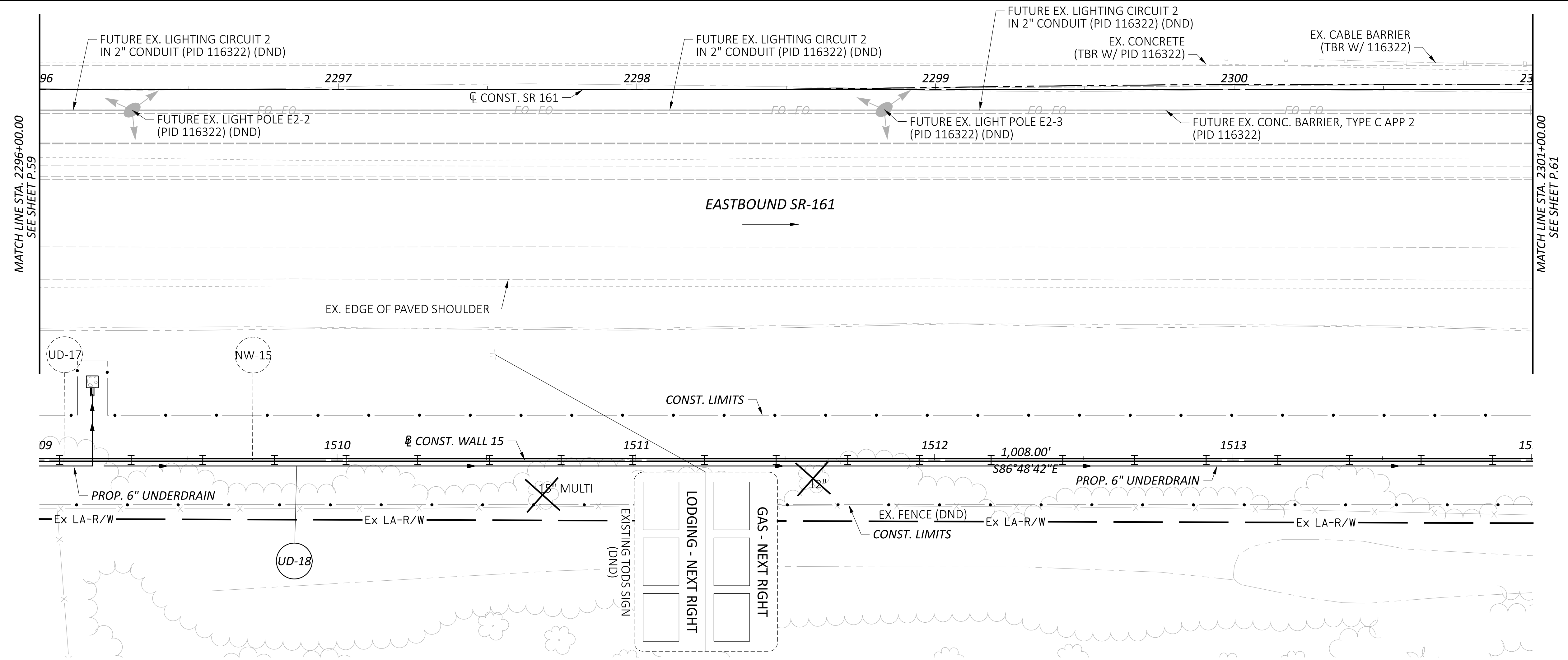
PLAN & PROFILE - WALL 15  
 STA. 2286+00.00 TO STA. 2291+00.00

DESIGN AGENCY	
<b>ARCADIS</b>	
8101 NORTH HIGGINS SITE 100 COLUMBIANA, OH 43082 614.814.4900 www.arcadis.com	
DESIGNER	
<b>JMK</b>	
REVIEWER	
<b>JDH 03-27-24</b>	
PROJECT ID	
<b>117607</b>	
SHEET	TOTAL
<b>P.58</b>	<b>P.295</b>



**FRA-161-15.80 NOISE WALLS**

MODEL: Wall 15 - Plan 24 PAPER SIZE: 34x22 (in.) DATE: 2024-03-26 TIME: 8:53:53 AM USER: jennifer\_kelley  
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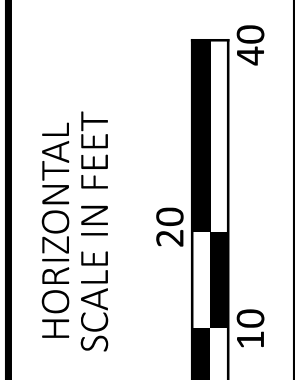
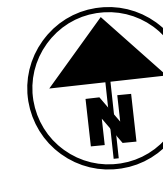
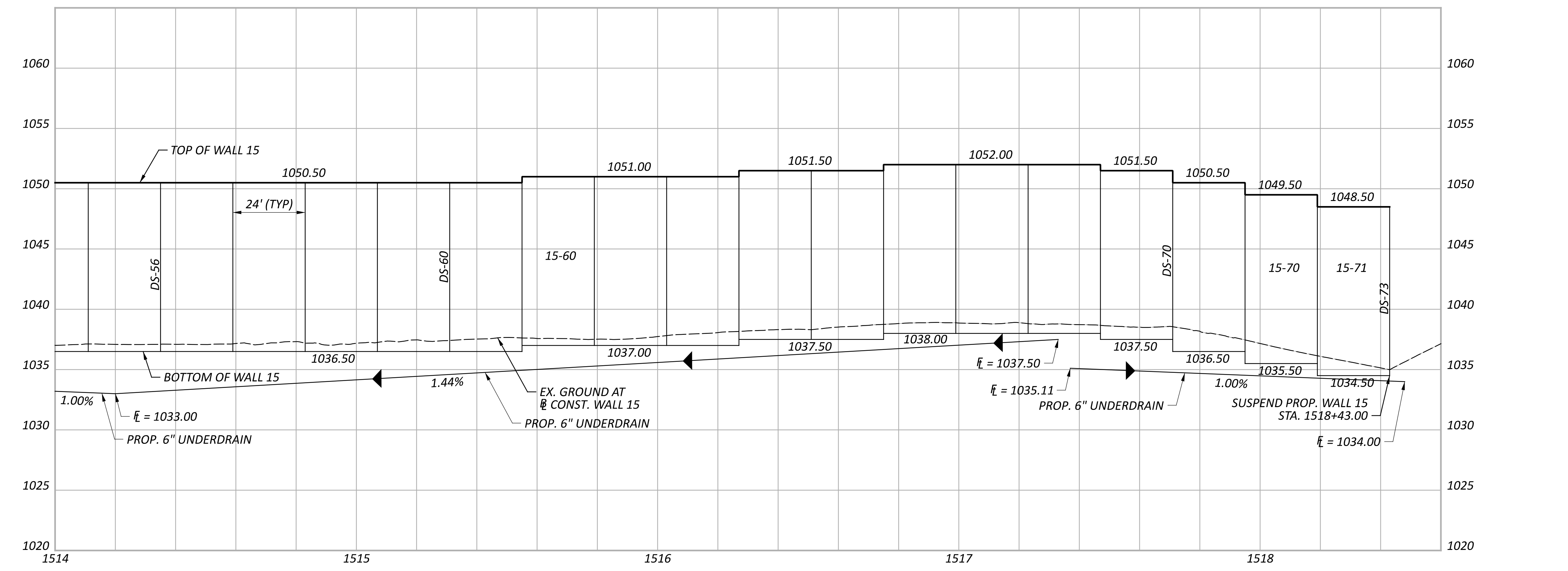
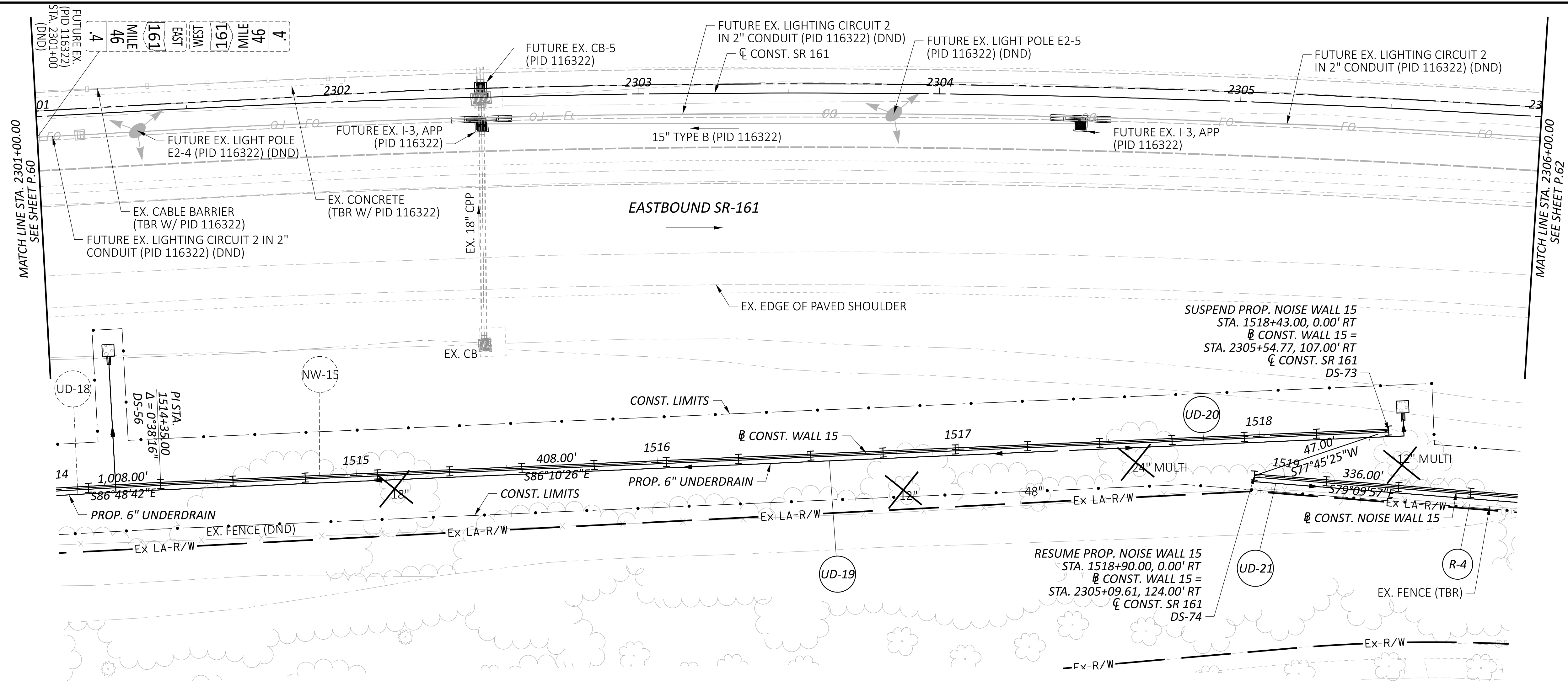


**PLAN & PROFILE - WALL 15  
 STA. 2296+00.00 TO STA. 2301+00.00**

DESIGN AGENCY	
<b>ARCADIS</b>	ARCADIS US, INC. 1000 HIGHWAY 30, SUITE 100 COLUMBIA, SC 29203 www.arcadisusa.com
DESIGNER	JMK
REVIEWER	JDH
PROJECT ID	03-27-24
	117607
SHEET	TOTAL
P.60	P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: Wall 15 - Plan 25 PAPER SIZE: 34x22 (in.) DATE: 2024-03-26 TIME: 8:54:21 AM USER: jennifer\_kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\Projects\143720\000\_CAD\400-Engineering\Roadway\Sheets\117607\_GP1504.dgn

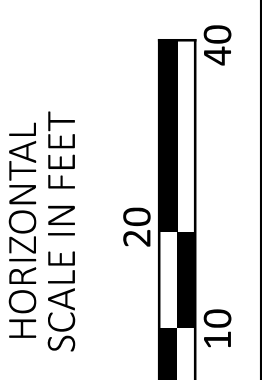
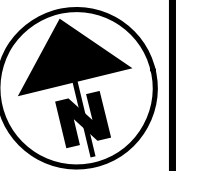
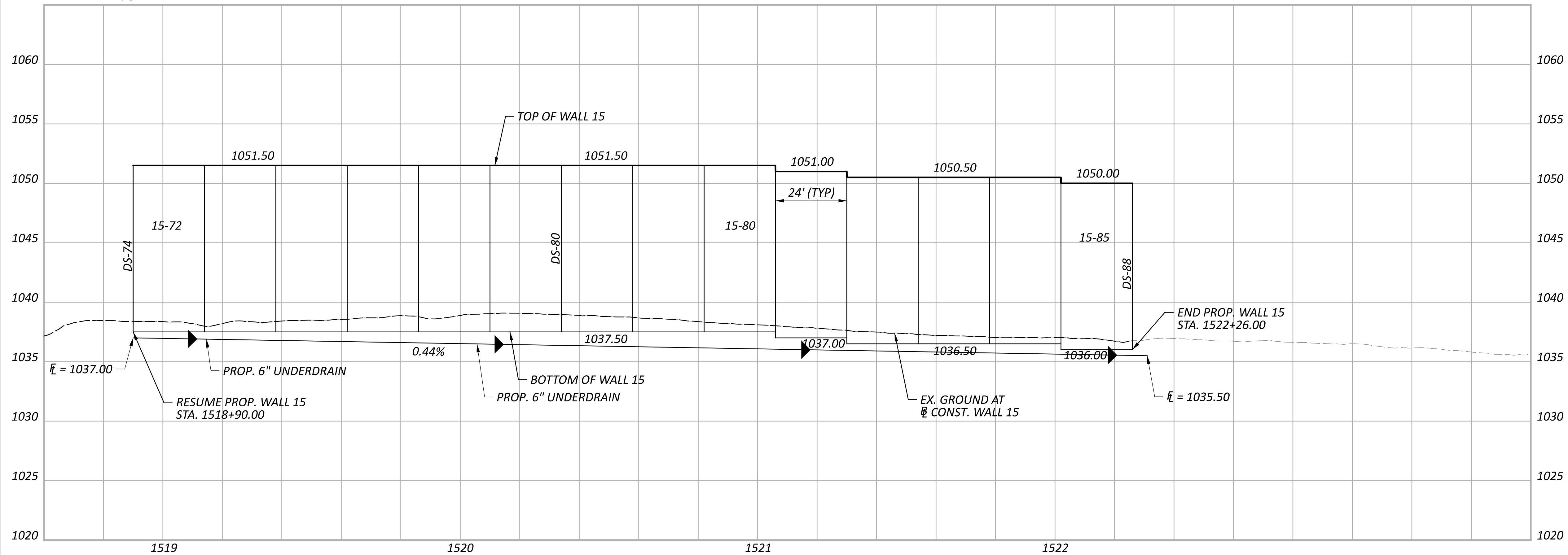
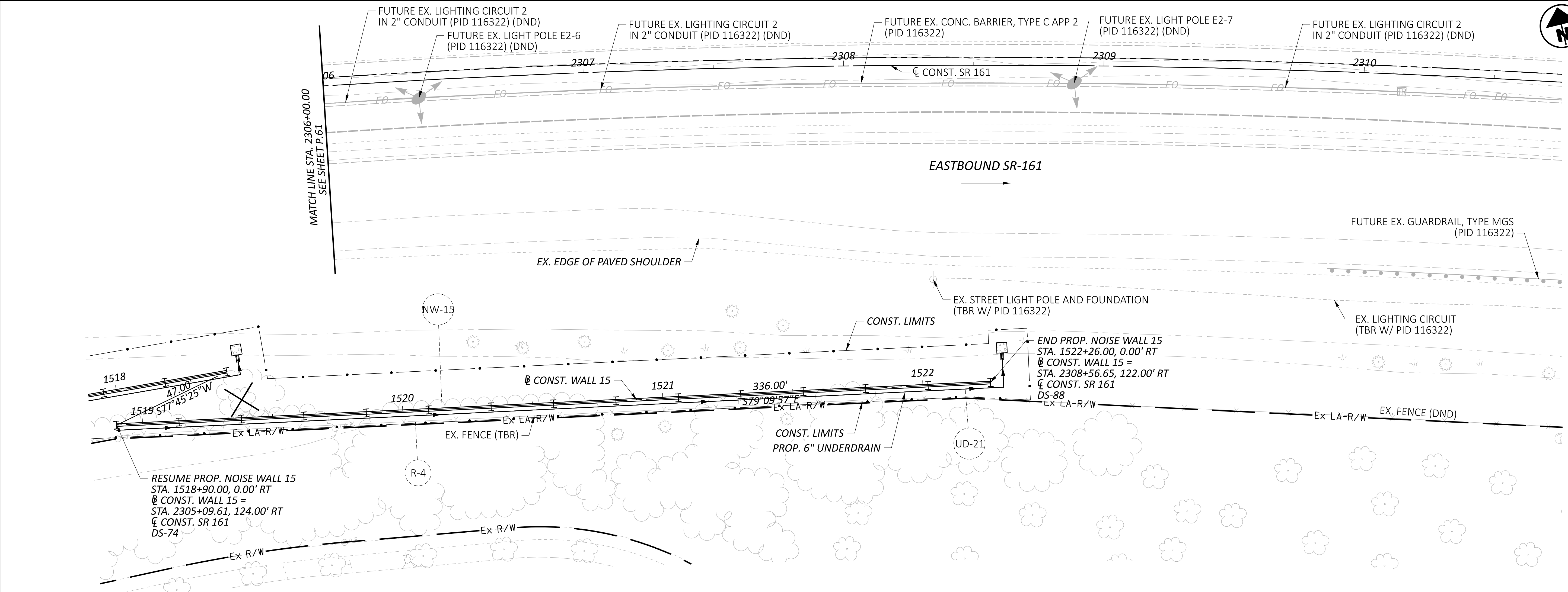


**PLAN & PROFILE - WALL 15  
 STA. 2301+00.00 TO STA. 2306+00.00**

DESIGN AGENCY	
<b>ARCADIS</b>	
HIGHWAY SITE 100 143720\000_CAD\400-Engineering\Roadway\Sheets\117607_GP1504.dgn www.arcadis.com	
DESIGNER	
JMK	
REVIEWER	
JDH 03-27-24	
PROJECT ID	
117607	
SHEET	TOTAL
P.61	P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: Wall 15 - Plan 26 PAPER SIZE: 34x22 (in.) DATE: 2024-03-26 TIME: 8:54:47 AM USER: jennifer\_kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\Projects\143720\000\_CAD\400-Engineering\Roadway\Sheets\117607\_GP1505.dgn

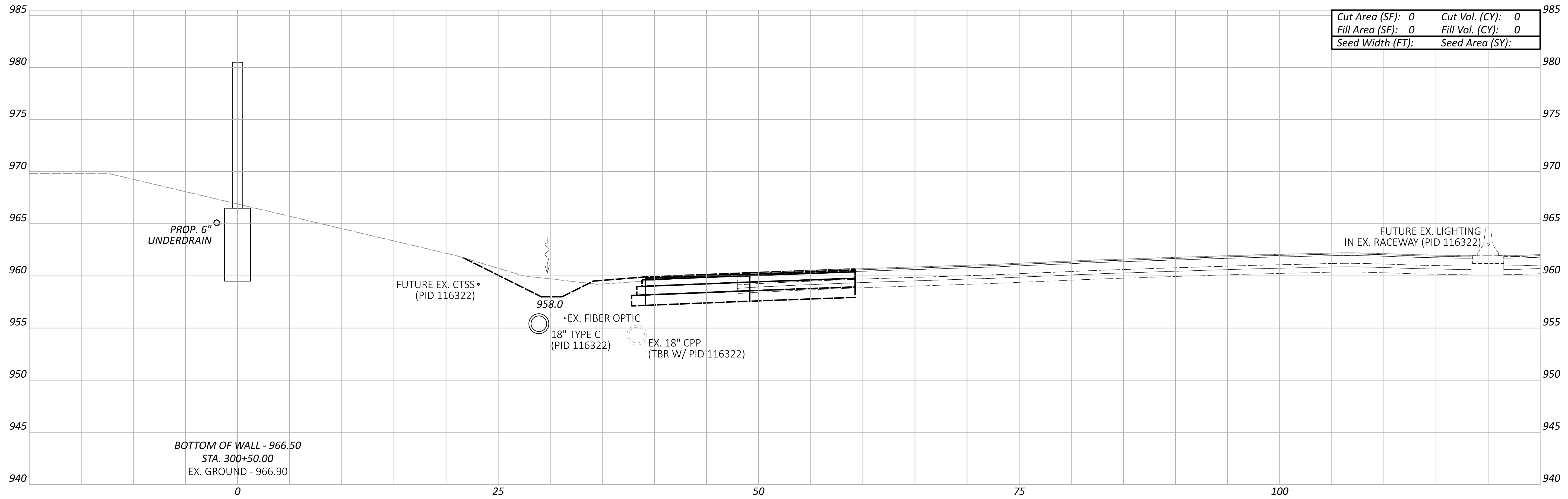


**PLAN & PROFILE - WALL 15  
 STA. 2306+00.00 TO STA. 2311+00.00**

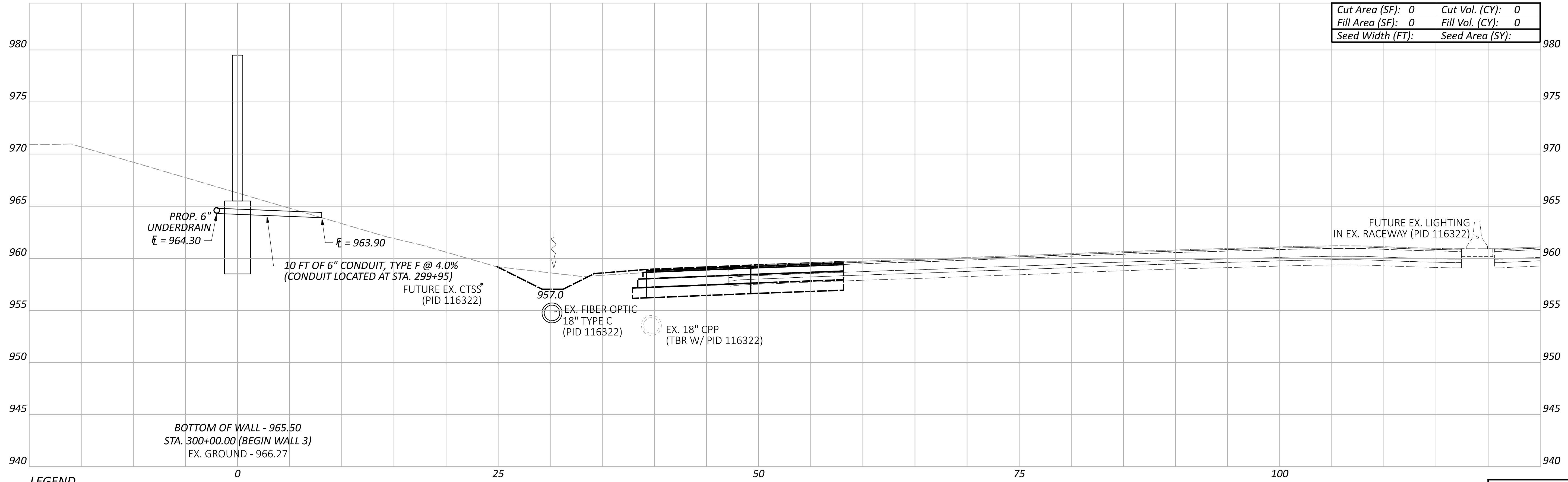
DESIGN AGENCY	
<b>ARCADIS</b>	
8101 NORTH HIGHWAY 200 SUITE 100 COLUMBIA, MO 65203 TEL: 314.444.8100 FAX: 314.444.8101 WWW.ARCADIS.COM	
DESIGNER	
JMK	
REVIEWER	
JDH 03-27-24	
PROJECT ID	
117607	
SHEET	TOTAL
P.62	P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL3 - 300+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 7:34:53 PM USER: jennifer.kelley  
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Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.63	P.295

**CROSS SECTIONS - WALL 3  
 STA. 300+00.00 TO STA. 300+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 819-4900  
 www.arcadis.com

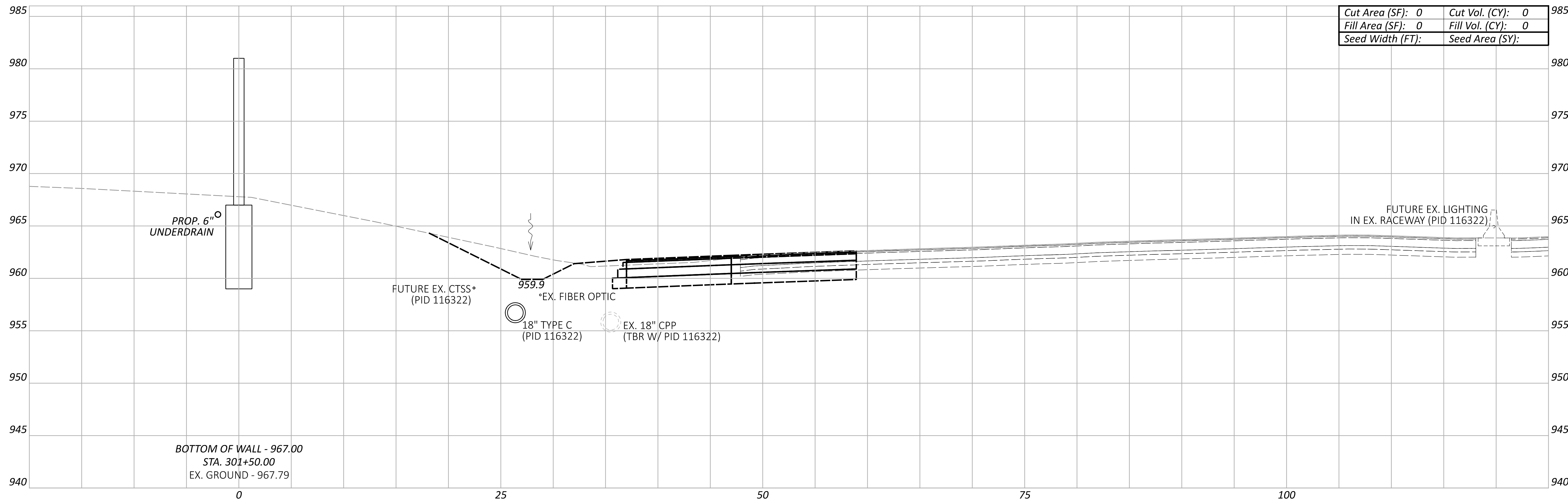
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL3 - 301+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 5:08:50 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS003A.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

PROP. 6" UNDERDRAIN

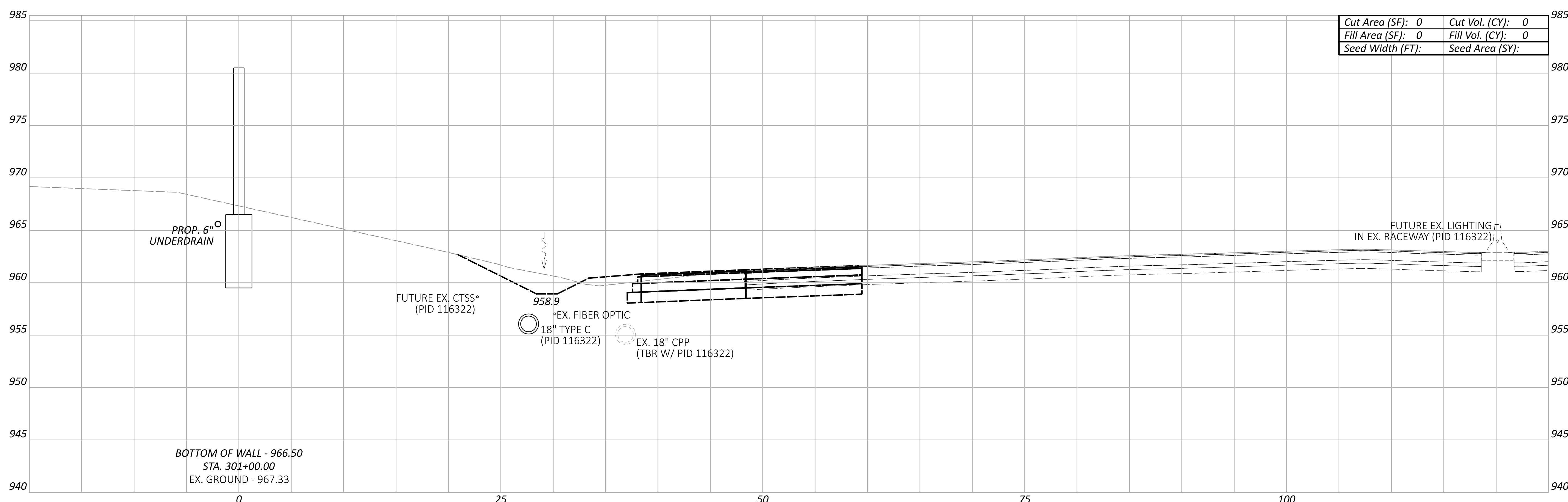
FUTURE EX. CTSS\* (PID 116322)

959.9  
 \*EX. FIBER OPTIC  
 18" TYPE C (PID 116322)

EX. 18" CPP (TBR W/ PID 116322)

FUTURE EX. LIGHTING IN EX. RACEWAY (PID 116322)

BOTTOM OF WALL - 967.00  
 STA. 301+50.00  
 EX. GROUND - 967.79



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

PROP. 6" UNDERDRAIN

FUTURE EX. CTSS\* (PID 116322)

958.9  
 \*EX. FIBER OPTIC  
 18" TYPE C (PID 116322)

EX. 18" CPP (TBR W/ PID 116322)

FUTURE EX. LIGHTING IN EX. RACEWAY (PID 116322)

BOTTOM OF WALL - 966.50  
 STA. 301+00.00  
 EX. GROUND - 967.33

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 3  
 STA. 301+00.00 TO STA. 301+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIA, MO 65203  
 (64) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

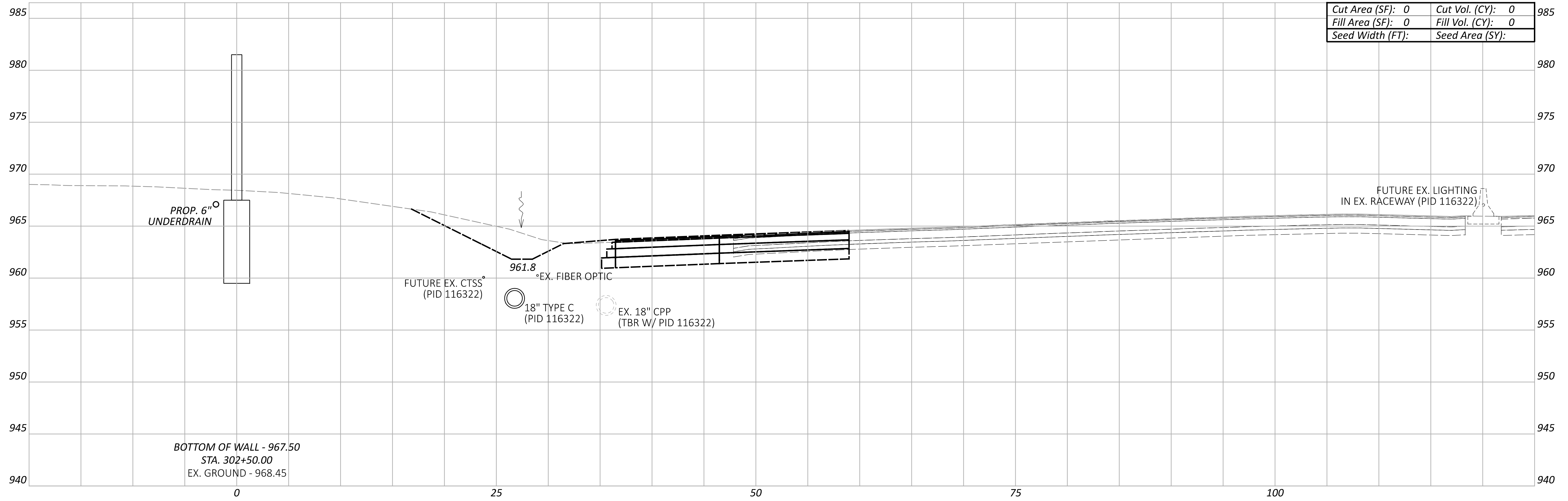
PROJECT ID  
**117607**

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
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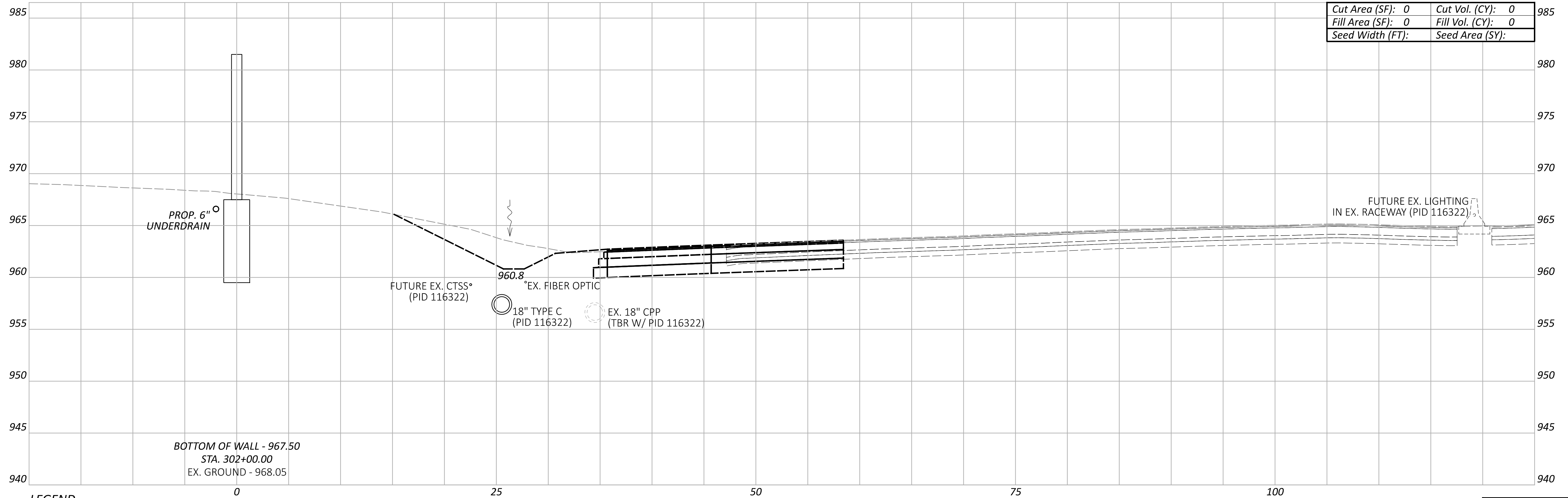


**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL3 - 302+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 5:09:37 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS003A.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 3  
 STA. 302+00.00 TO STA. 302+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIA, MO 65203  
 (646) 810-4900  
 www.arcadis.com

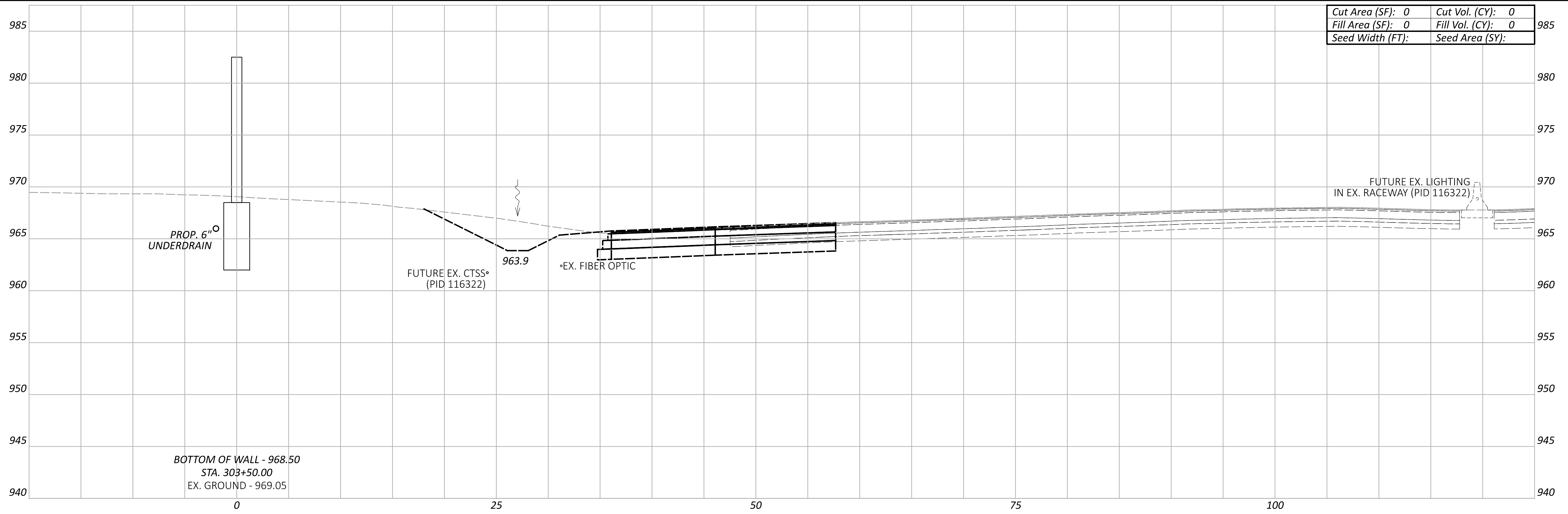
DESIGNER  
**JMK**  
 REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

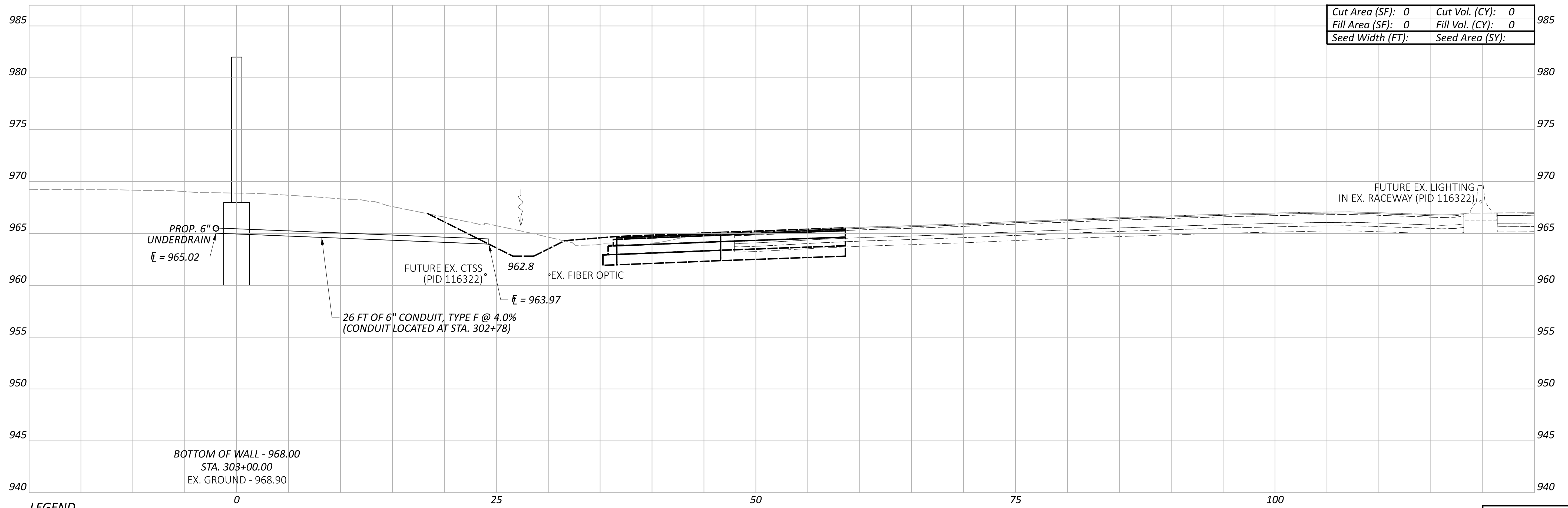
Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
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**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL3 - 303+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 5:10:01 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS003A.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.66   P.295

**CROSS SECTIONS - WALL 3  
 STA. 303+00.00 TO STA. 303+50.00**

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

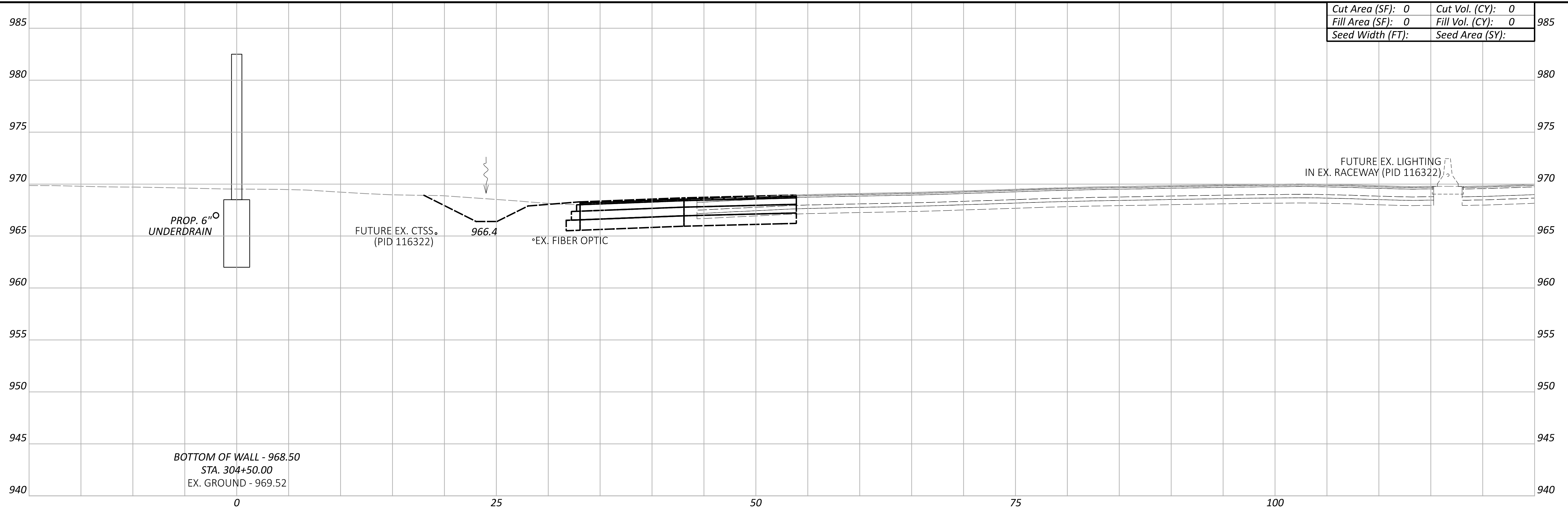
JDH 03-27-24

PROJECT ID

117607

**FRA-161-15.80 NOISE WALLS**

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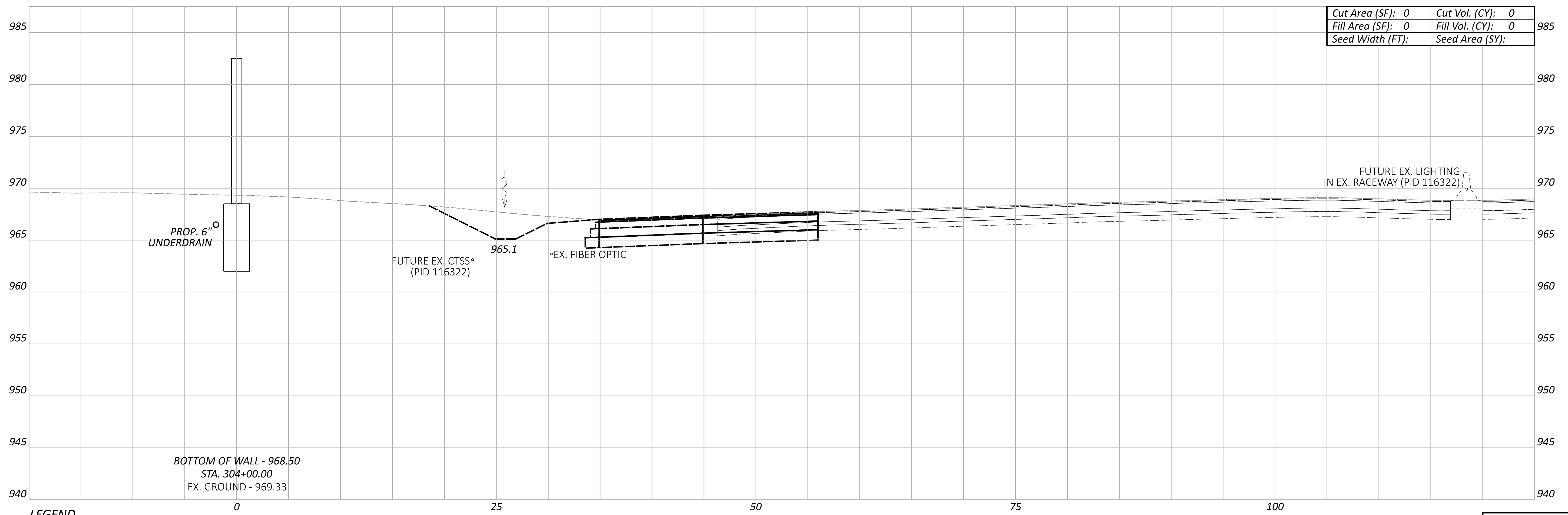
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Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 968.50  
 STA. 304+50.00  
 EX. GROUND - 969.52

966.4

\*EX. FIBER OPTIC

FUTURE EX. LIGHTING  
 IN EX. RACEWAY (PID 116322)



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 968.50  
 STA. 304+00.00  
 EX. GROUND - 969.33

965.1

\*EX. FIBER OPTIC

FUTURE EX. LIGHTING  
 IN EX. RACEWAY (PID 116322)

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 3  
 STA. 304+00.00 TO STA. 304+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 30, SUITE 100  
 COLUMBIA, MD 21046-4225  
 (410) 814-4900  
 www.arcadis.com

DESIGNER  
**JMK**

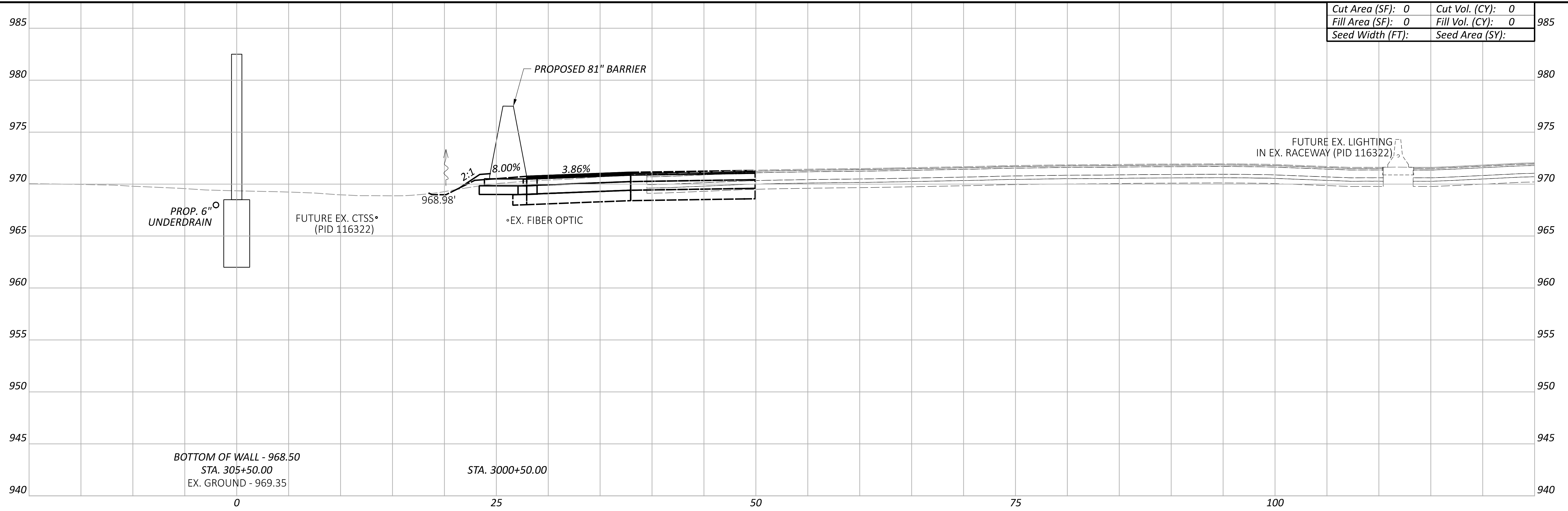
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

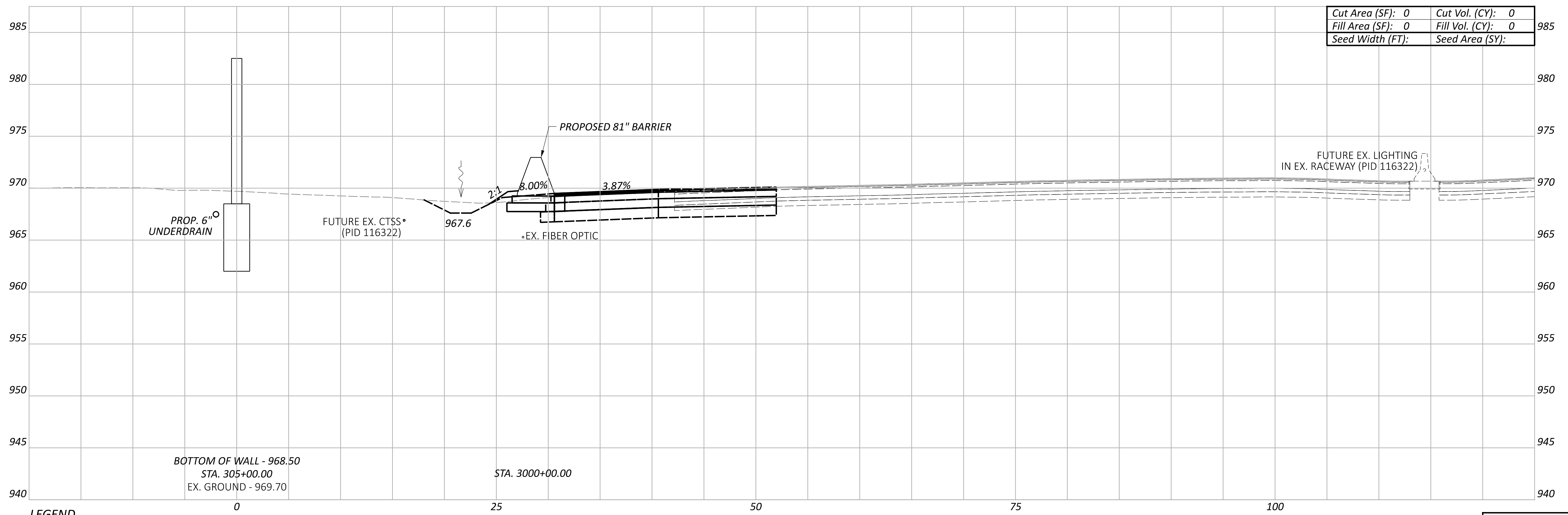
Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
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**FRA-161-15.80 NOISE WALLS**

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Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 3  
 STA. 305+00.00 TO STA. 305+50.00**

DESIGN AGENCY



DESIGNER

JMK

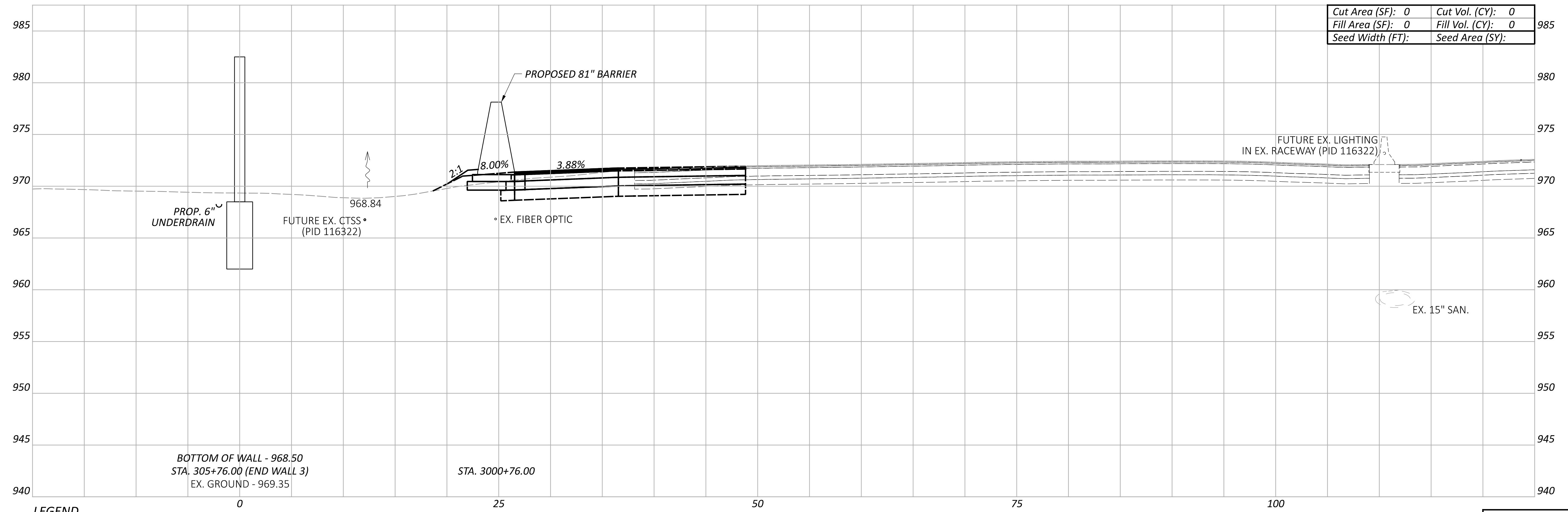
REVIEWER

JDH 03-27-24

PROJECT ID

117607

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.68	P.295
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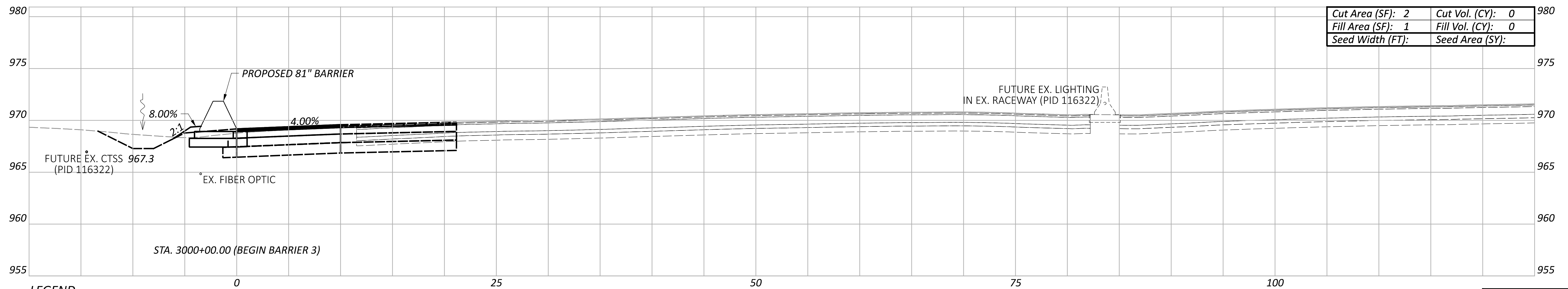
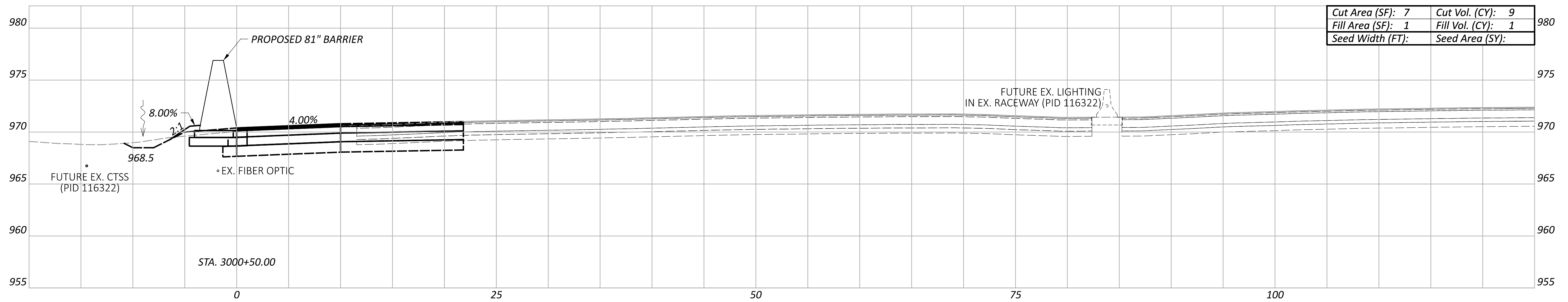
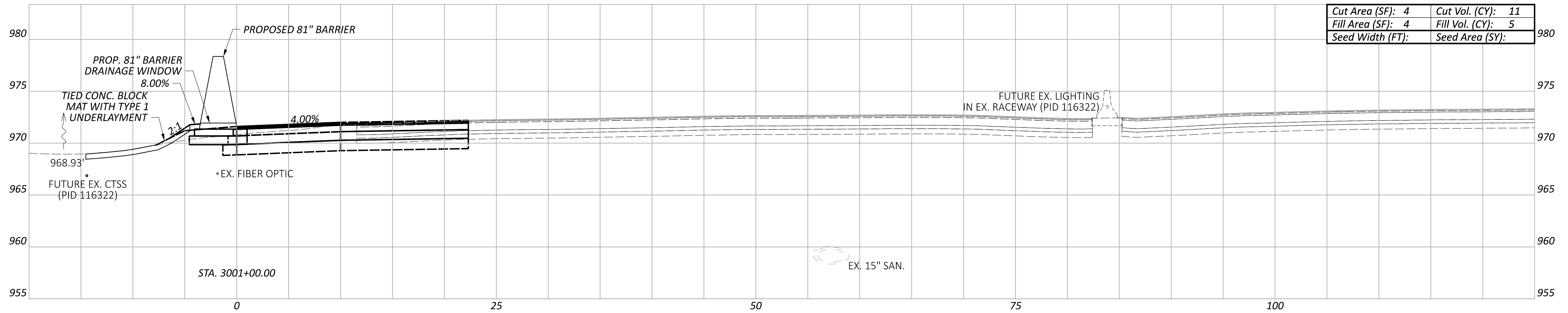


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Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

---	EXISTING SR-161 PRIOR TO PID 116322
---	FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

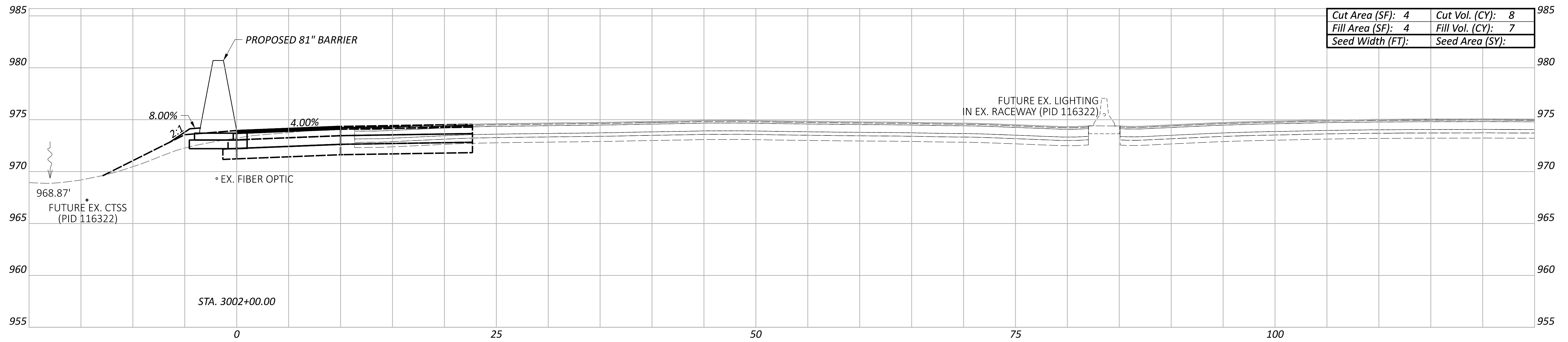
Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.69   P.295



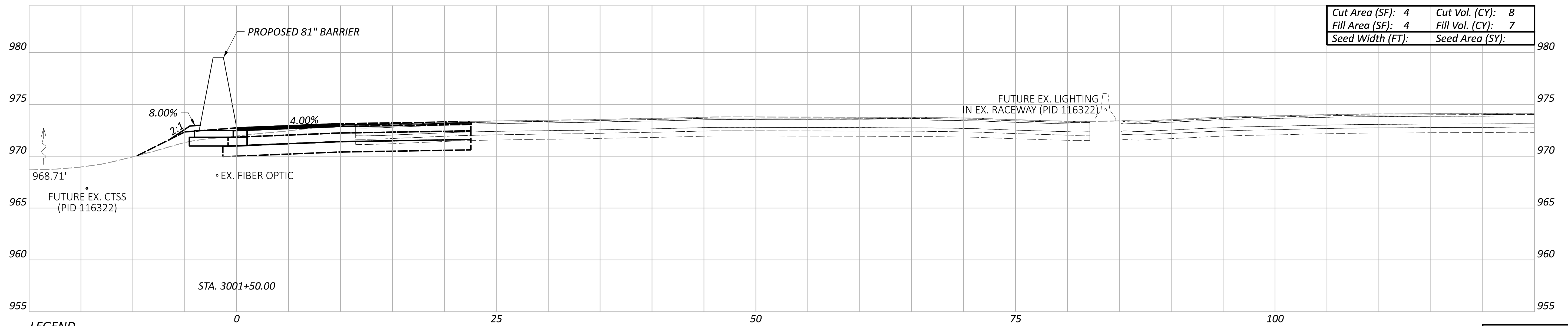
LEGEND

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
	20	6	P.70	P.295



Cut Area (SF):	4	Cut Vol. (CY):	8
Fill Area (SF):	4	Fill Vol. (CY):	7
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	4	Cut Vol. (CY):	8
Fill Area (SF):	4	Fill Vol. (CY):	7
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
	16	14	P.71	P.295

DESIGN AGENCY



DESIGNER

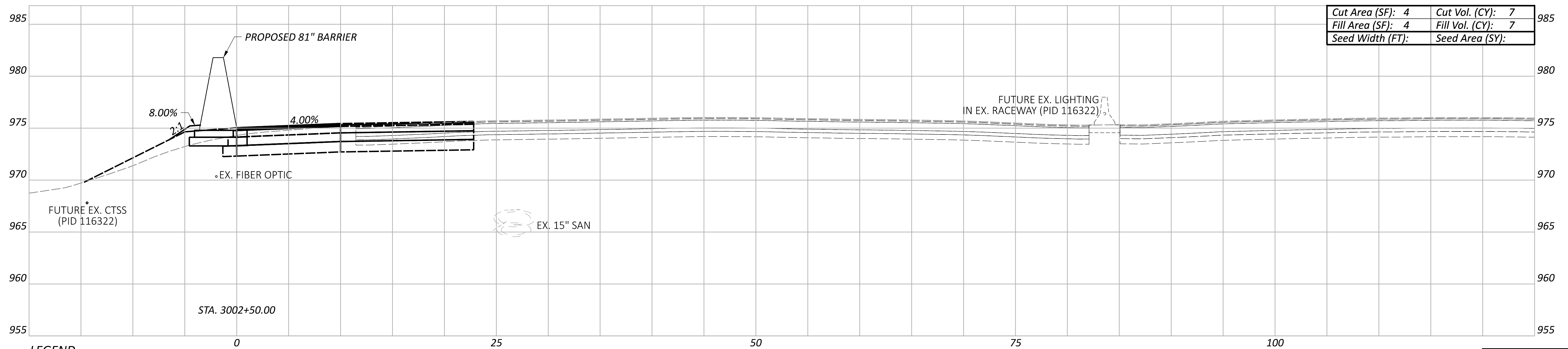
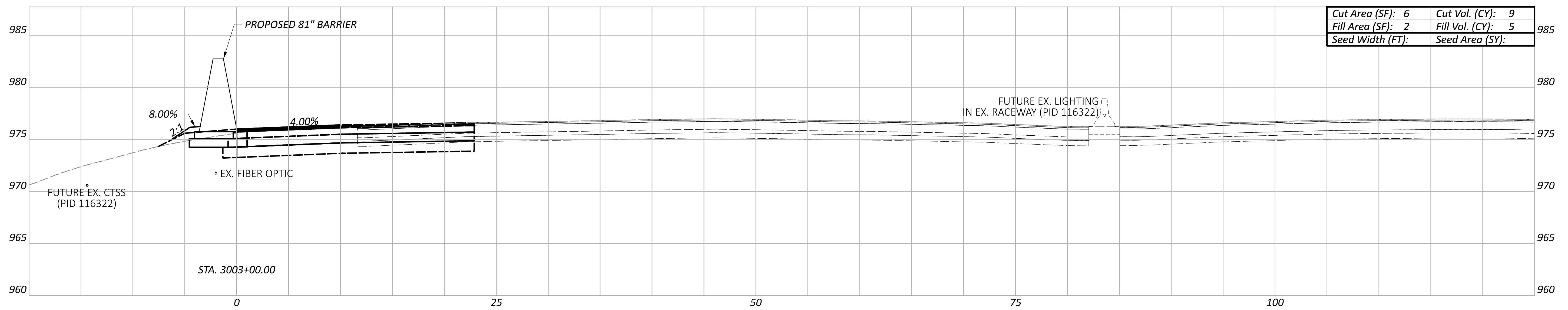
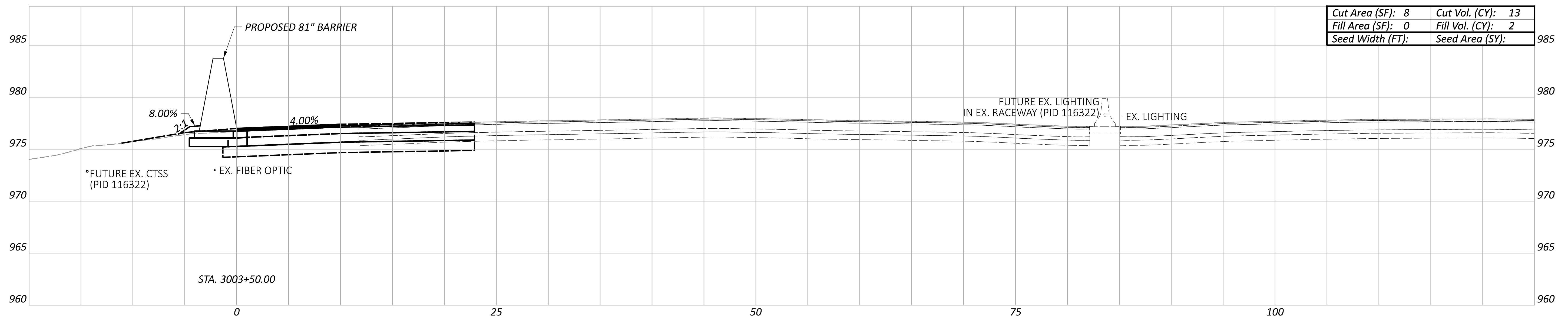
JMK

REVIEWER

JDH 03-27-24

PROJECT ID

117607



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
	29	14	P.72	P.295

**CROSS SECTIONS - 81" BARRIER 3**  
 STA. 3002+50.00 TO STA. 3003+50.00

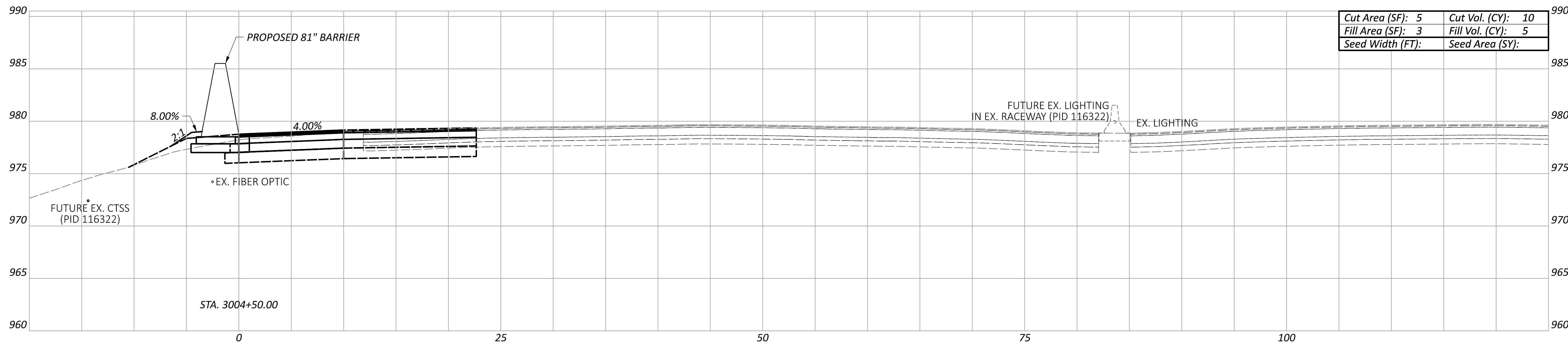
DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 30, SUITE 100  
 COLUMBIA, SC 29223  
 (803) 799-4900  
 www.arcadis.com

DESIGNER  
**JMK**

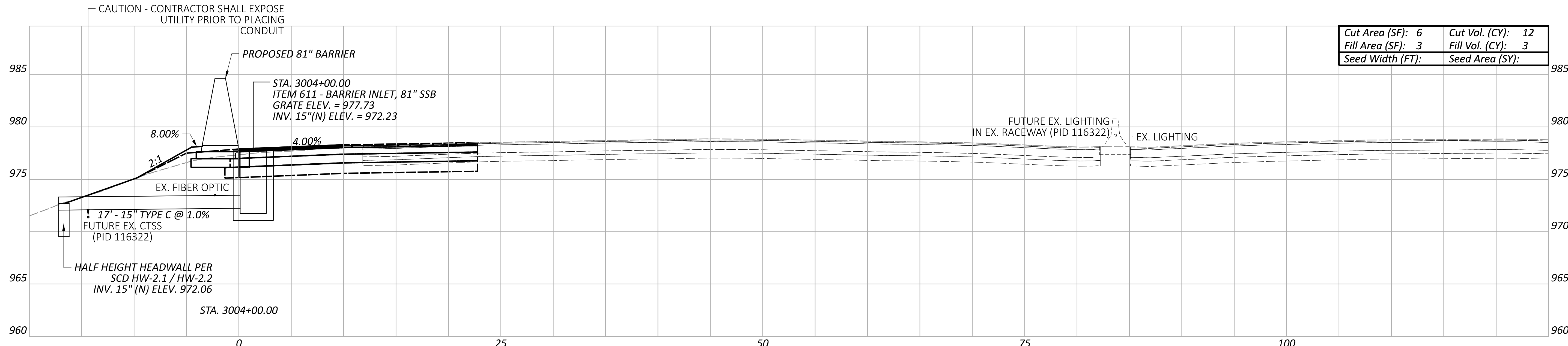
REVIEWER  
 JDH 03-27-24

PROJECT ID  
**117607**





Cut Area (SF):	5	Cut Vol. (CY):	10
Fill Area (SF):	3	Fill Vol. (CY):	5
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	6	Cut Vol. (CY):	12
Fill Area (SF):	3	Fill Vol. (CY):	3
Seed Width (FT):		Seed Area (SY):	

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

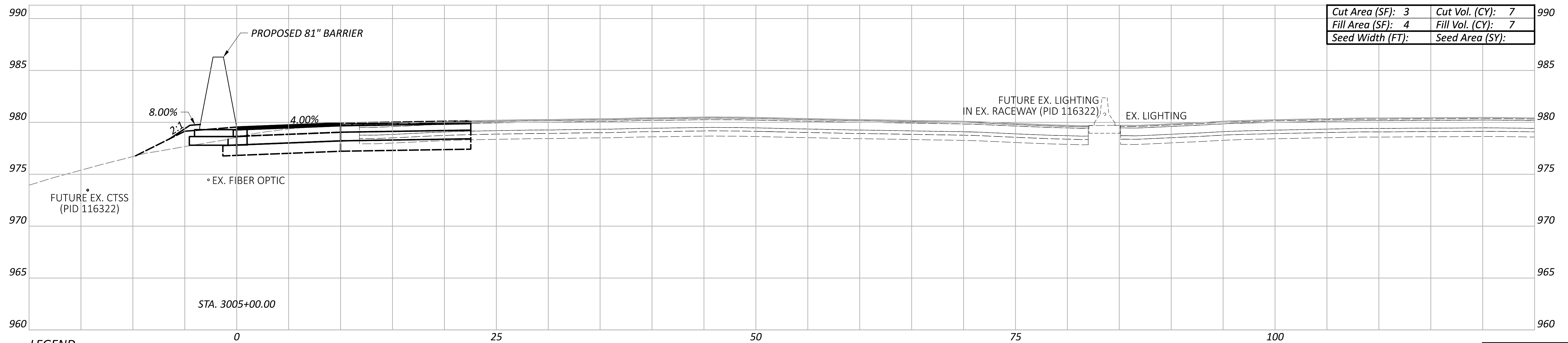
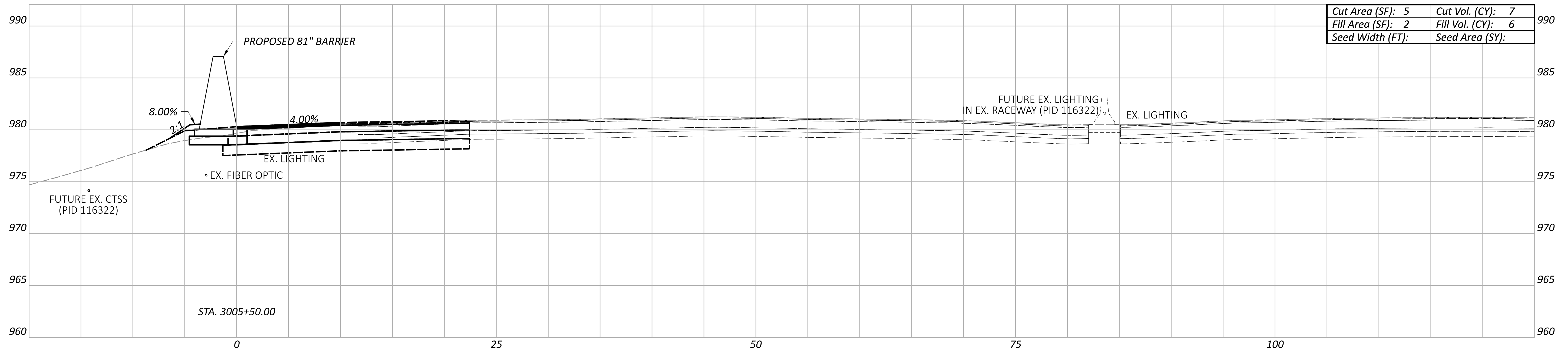
Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
	22	8	P.73	P.295

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIA, MO 65203  
 (616) 491-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



**LEGEND**

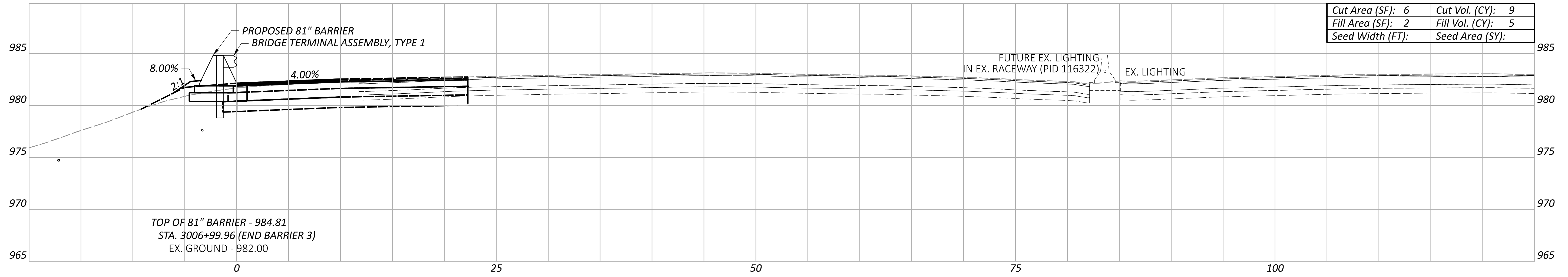
- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
	14	13	P.74	P.295

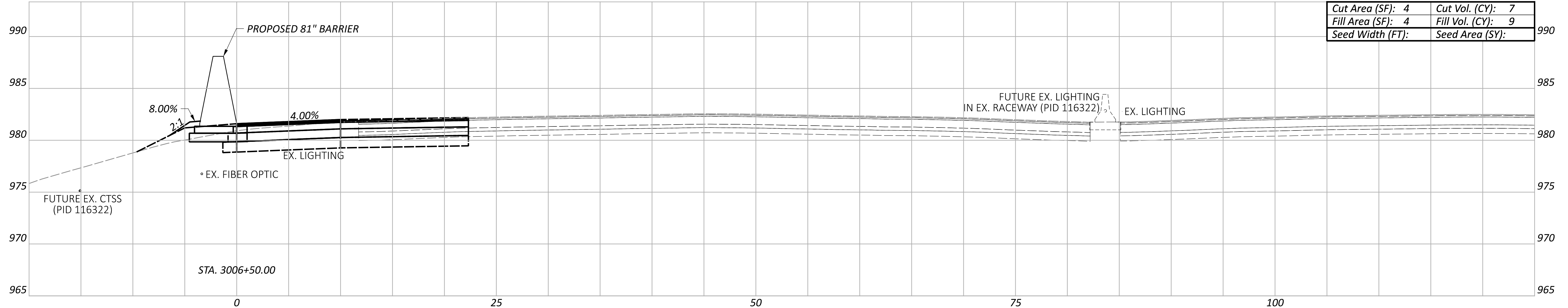
**CROSS SECTIONS - 81" BARRIER 3**  
 STA. 3005+00.00 TO STA. 3005+50.00

DESIGNER AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIA, MO 65203  
 (616) 441-4900  
 www.arcadis.com

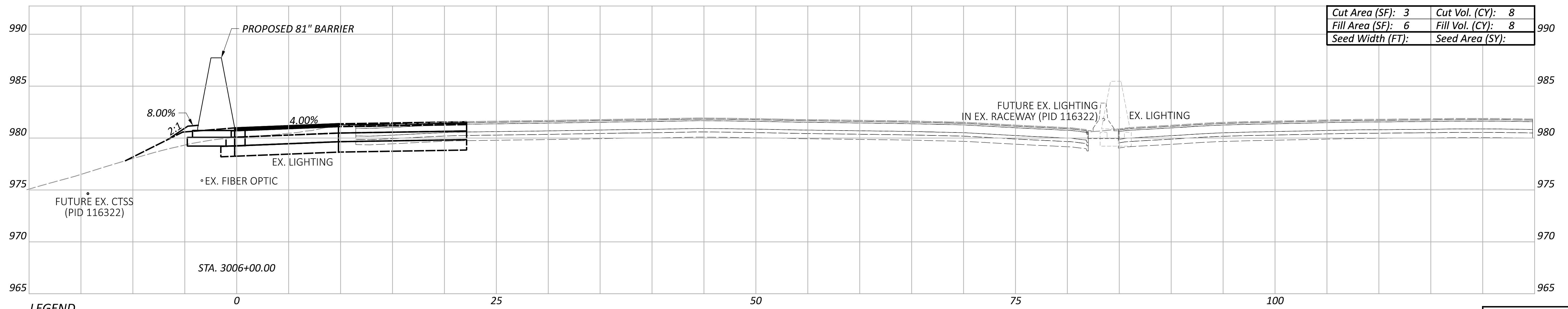
DESIGNER  
**JMK**  
 REVIEWER  
 JDH 03-27-24  
 PROJECT ID  
 117607



Cut Area (SF):	6	Cut Vol. (CY):	9
Fill Area (SF):	2	Fill Vol. (CY):	5
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	4	Cut Vol. (CY):	7
Fill Area (SF):	4	Fill Vol. (CY):	9
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	3	Cut Vol. (CY):	8
Fill Area (SF):	6	Fill Vol. (CY):	8
Seed Width (FT):		Seed Area (SY):	

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
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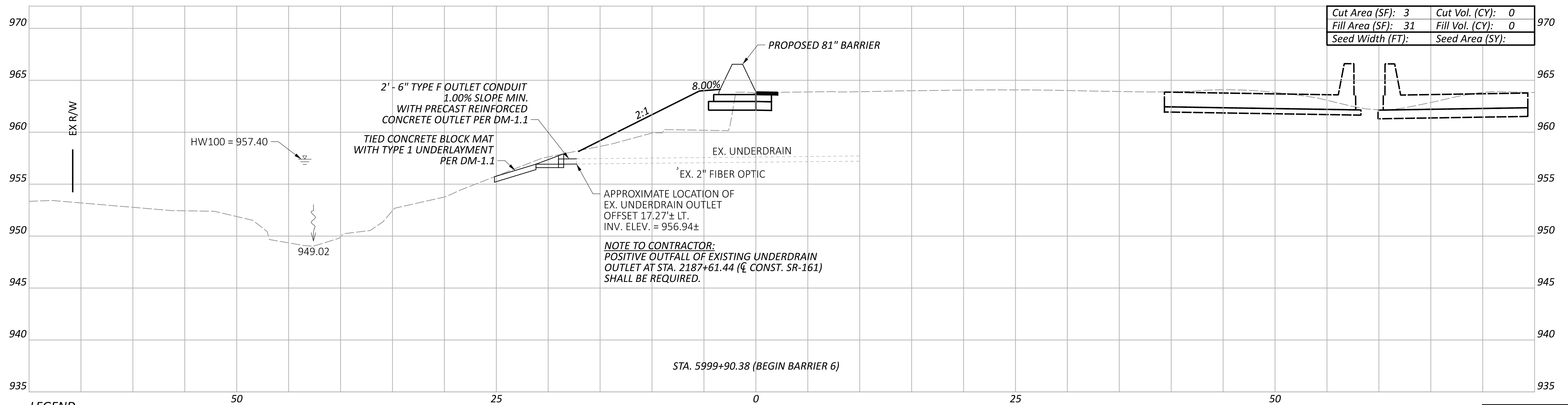
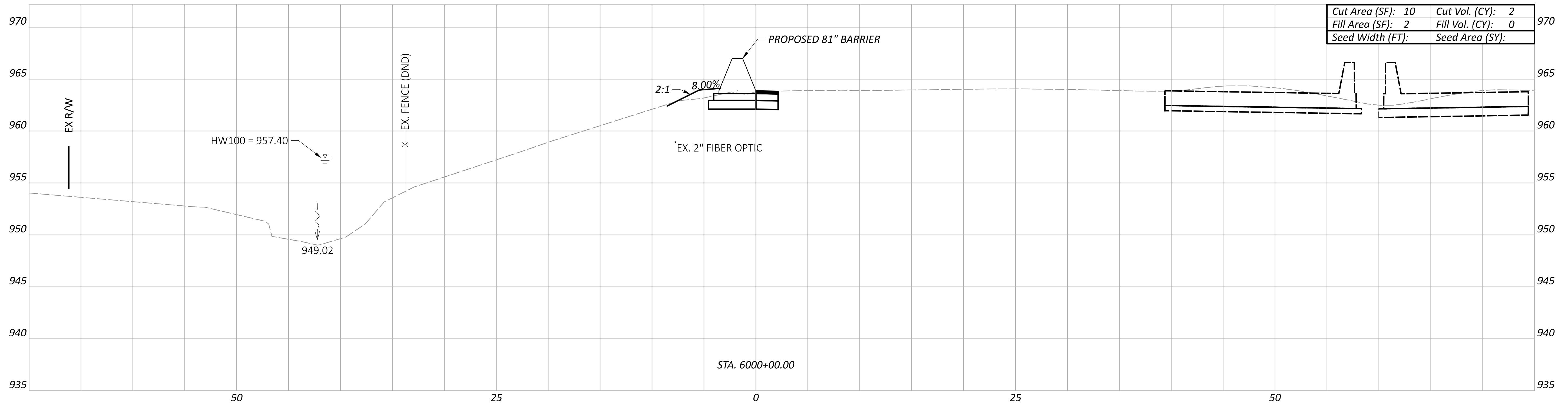
CROSS SECTIONS - 81" BARRIER 3  
 STA. 3006+00.00 TO STA. 3006+99.96

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 200 SUITE 100  
 COLUMBIA, MD 21046  
 (410) 321-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
2	0		P.76   P.295

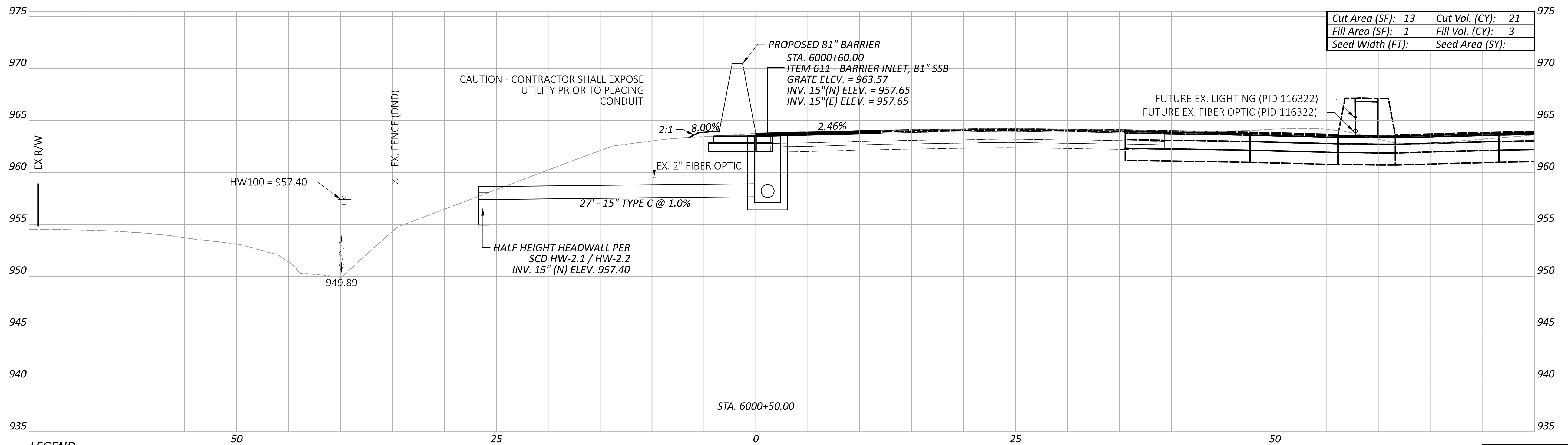
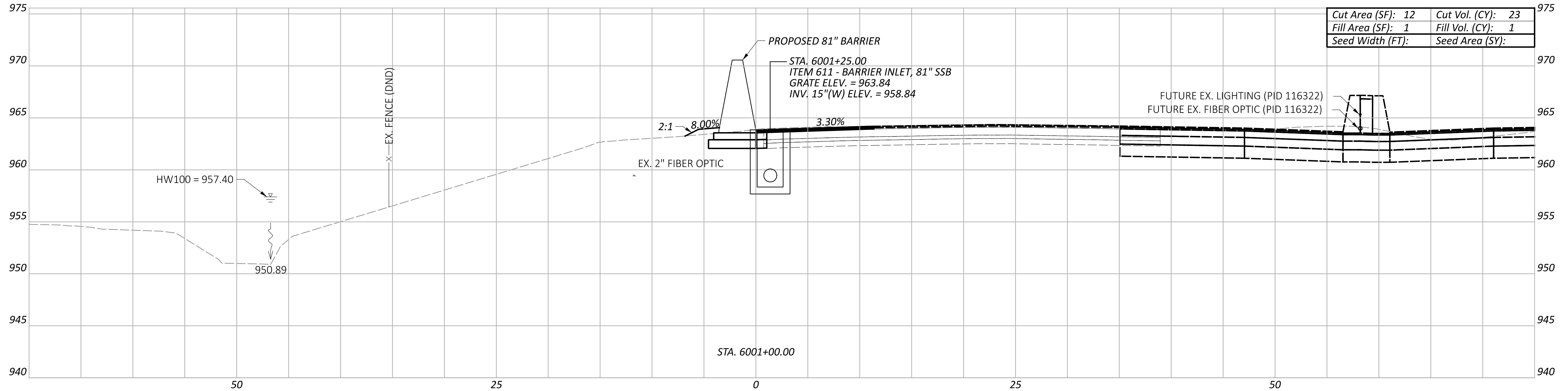
CROSS SECTIONS - 81" BARRIER 6  
 STA. 5999+90.38 TO STA. 6000+00.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE. SUITE 100  
 COLUMBIANA, OH 43085  
 614.894.8100  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

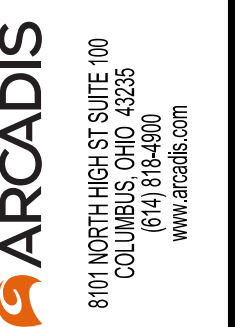


LEGEND

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
	44	4	P.77   P.295

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

JDH 03-27-24

PROJECT ID

117607

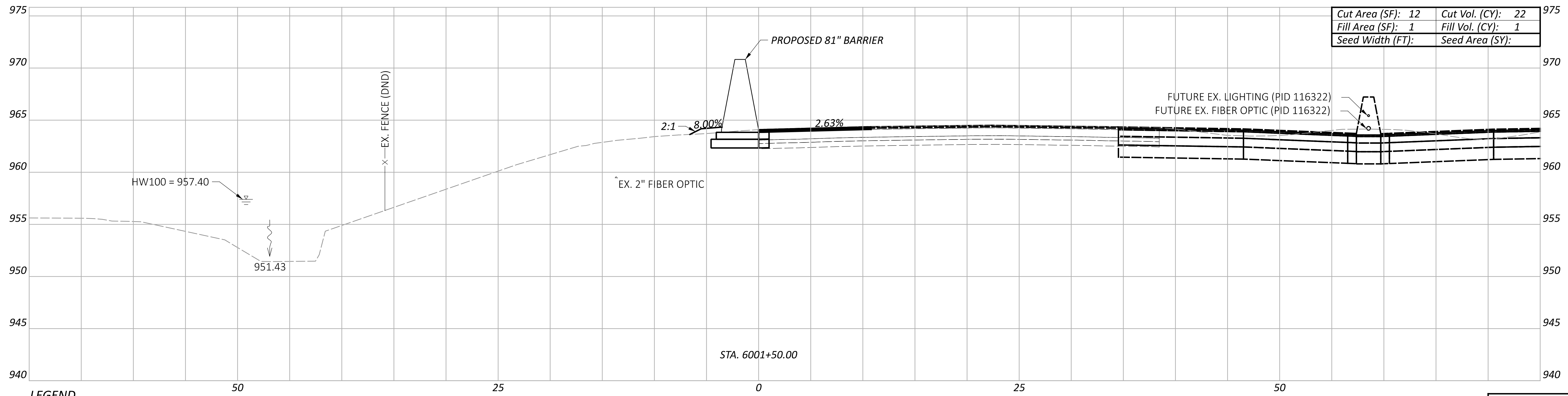
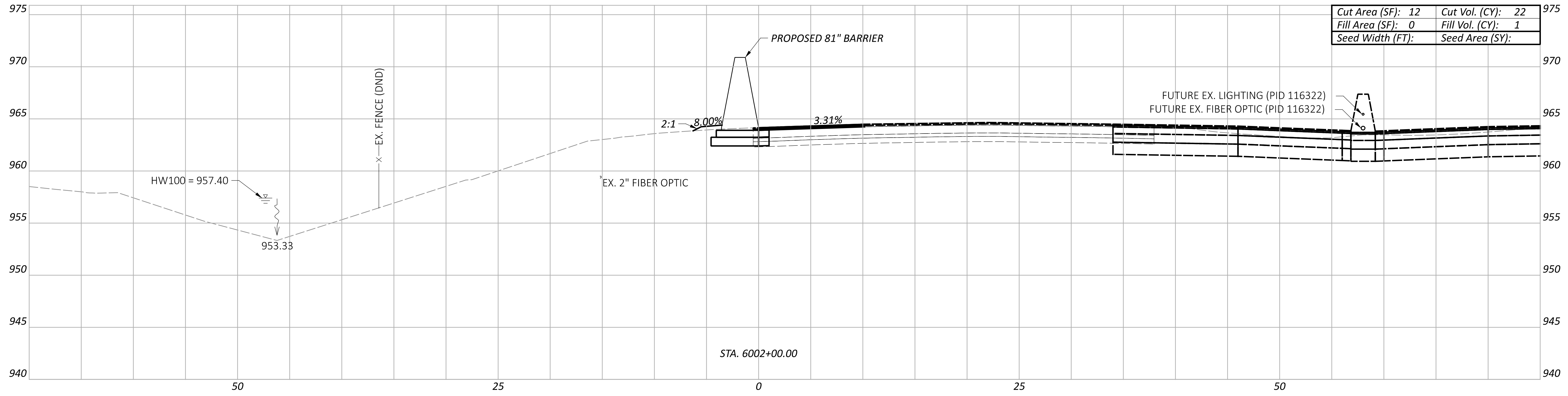
SHEET

P.77 | P.295

CROSS SECTIONS - 81" BARRIER 6  
 STA. 6000+50.00 TO STA. 6001+00.00

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIERE - 6001+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 7:48:08 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS006A.dgn



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
	44	2	P.78	P.295

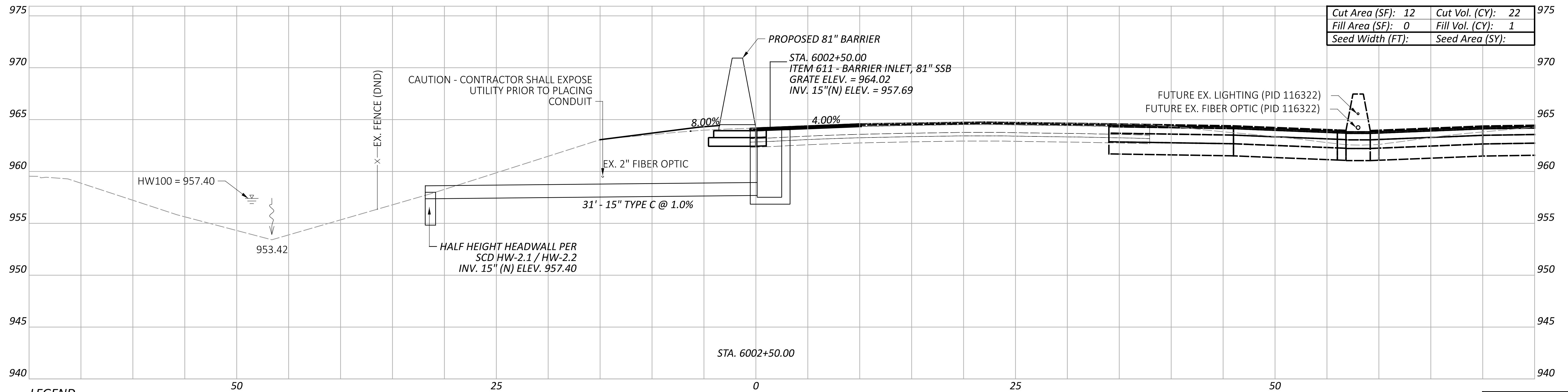
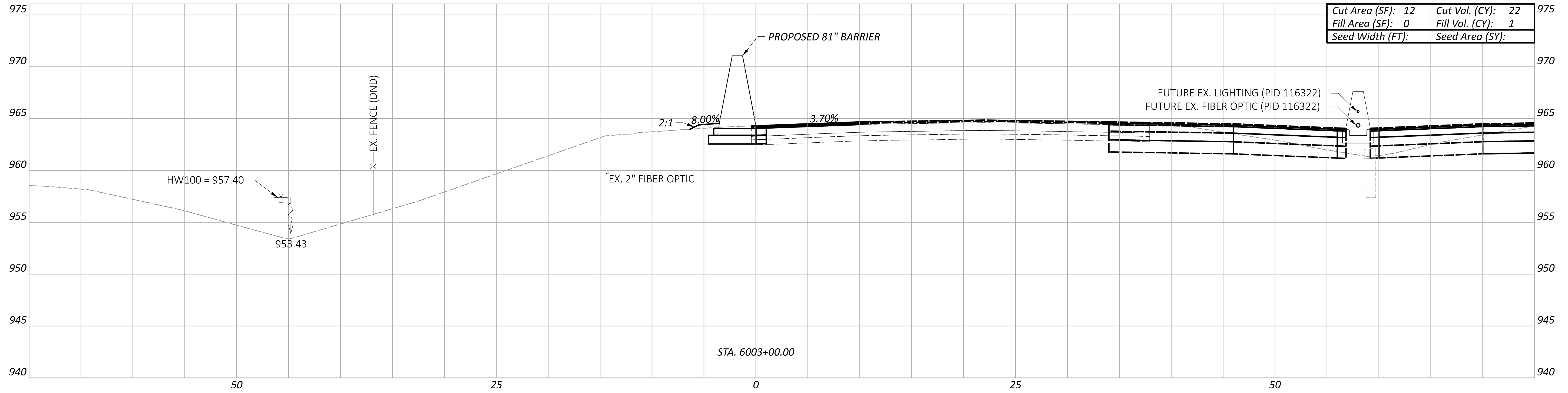
DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**CROSS SECTIONS - 81" BARRIER 6  
 STA. 6001+50.00 TO STA. 6002+00.00**

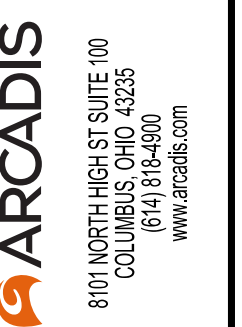


**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
44	2		P.79   P.295

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

JDH 03-27-24

PROJECT ID

117607

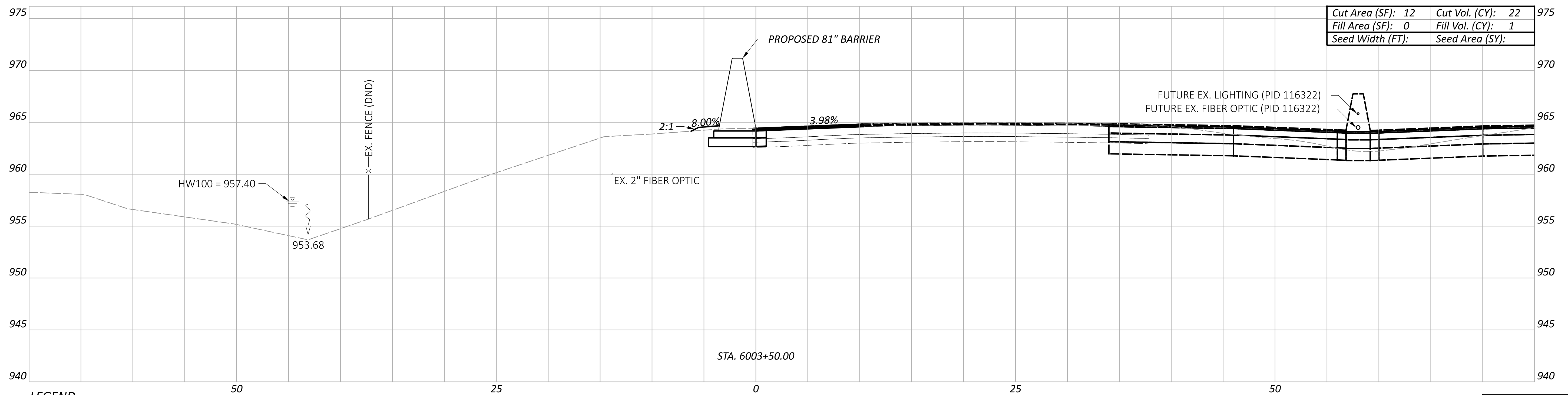
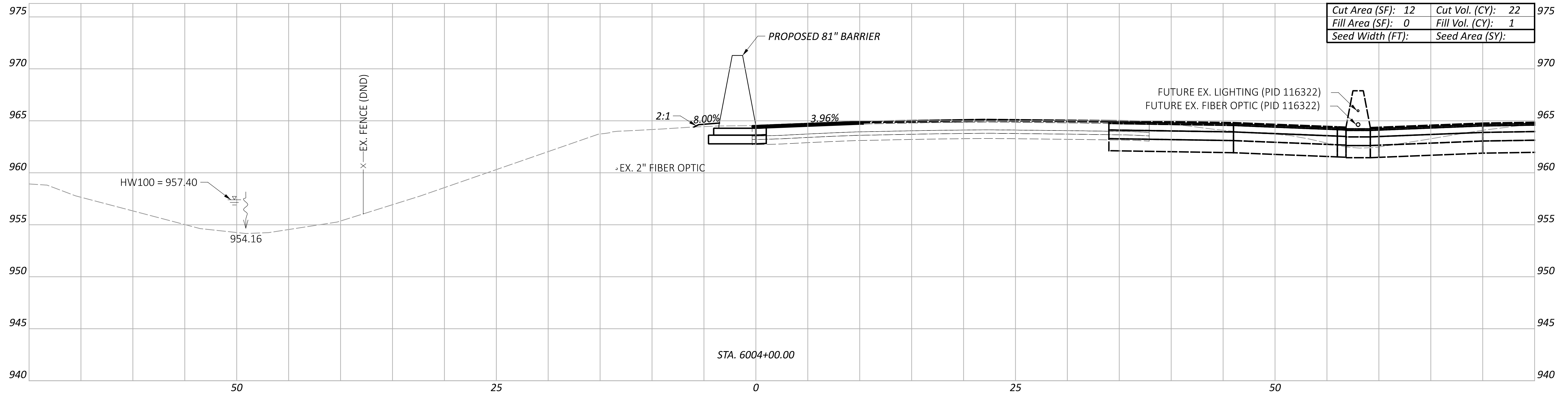
SHEET

P.79 | P.295

CROSS SECTIONS - 81" BARRIER 6  
 STA. 6002+50.00 TO STA. 6003+00.00

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER6 - 6003+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 7:48:49 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS006A.dgn



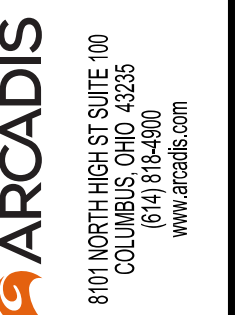
**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
	44	2	P.80	P.295

**CROSS SECTIONS - 81" BARRIER 6  
 STA. 6003+50.00 TO STA. 6004+00.00**

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

JDH 03-27-24

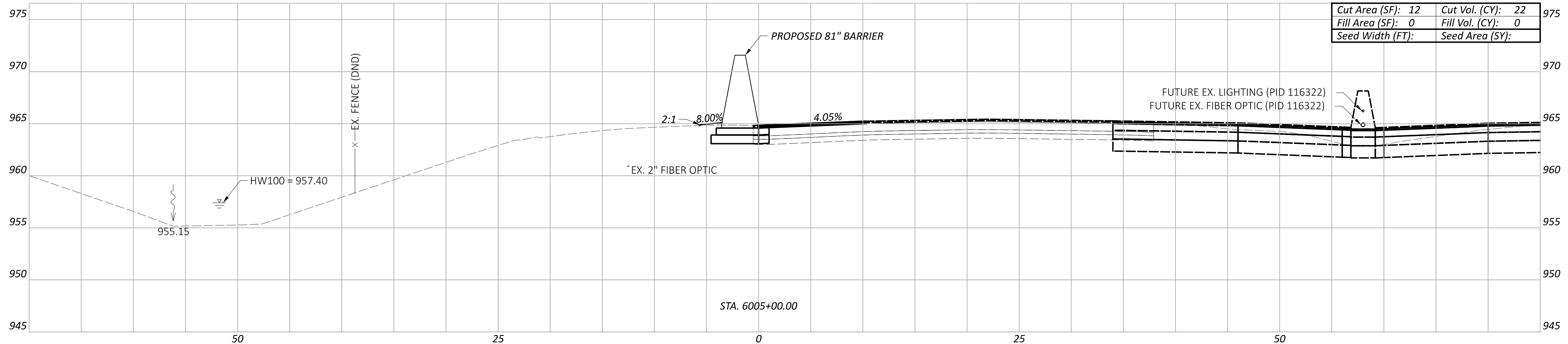
PROJECT ID

117607

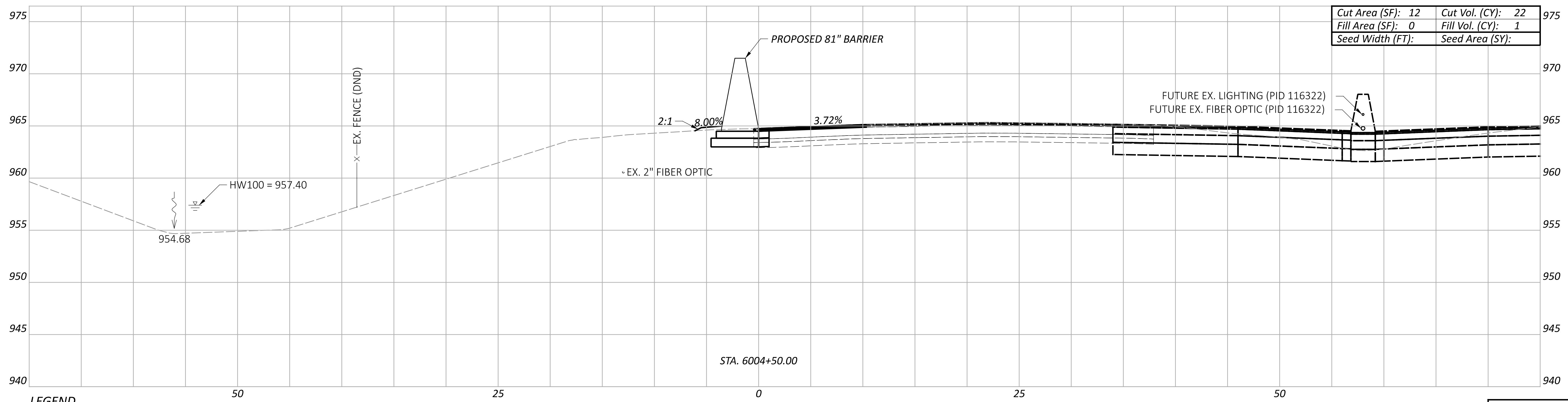


**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER6 - 6004+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 7:49:08 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS006A.dgn



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Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	12	Cut Vol. (CY):	22
Fill Area (SF):	0	Fill Vol. (CY):	1
Seed Width (FT):		Seed Area (SY):	

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
44	1		P.81 P.295

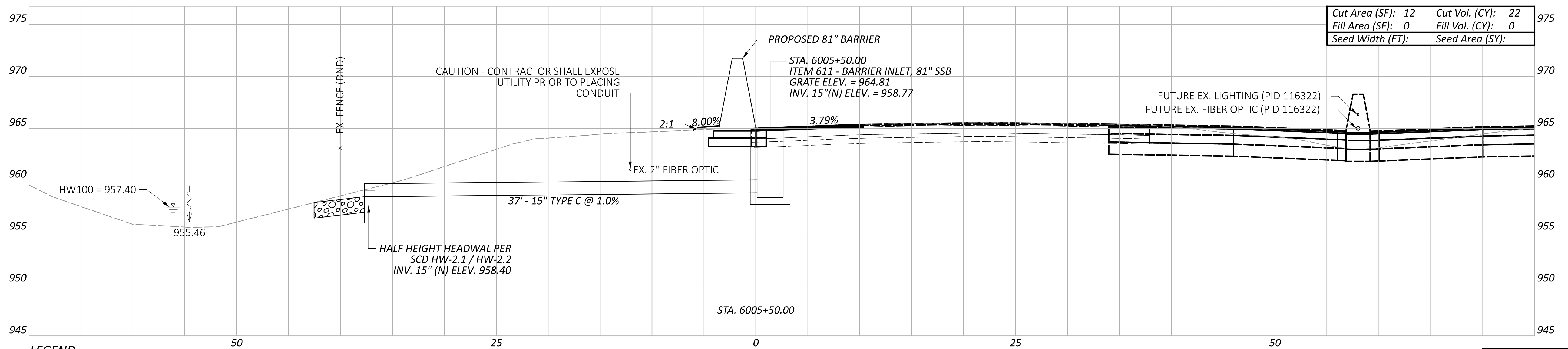
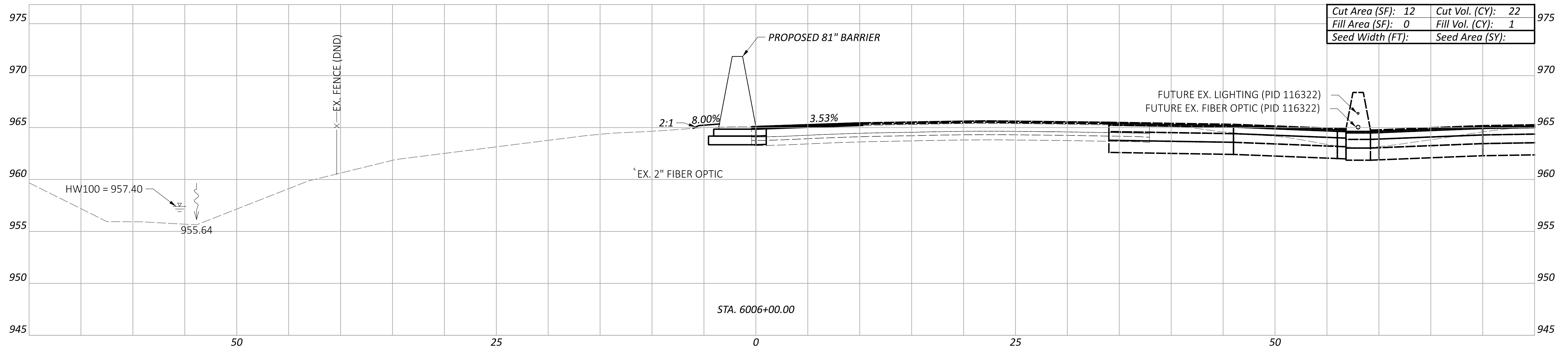
**CROSS SECTIONS - 81" BARRIER 6**  
 STA. 6004+50.00 TO STA. 6005+00.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
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 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

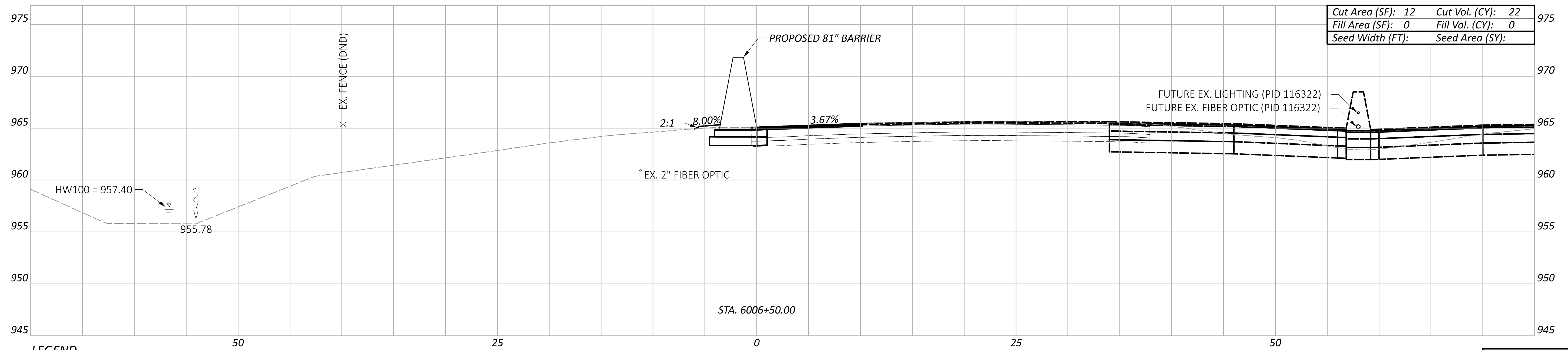
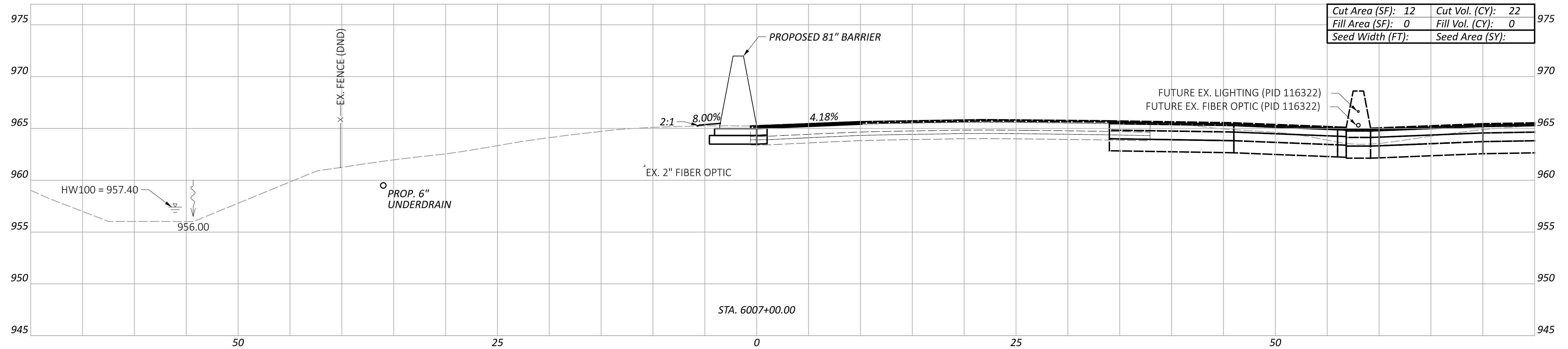
PROJECT ID  
**117607**



LEGEND

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

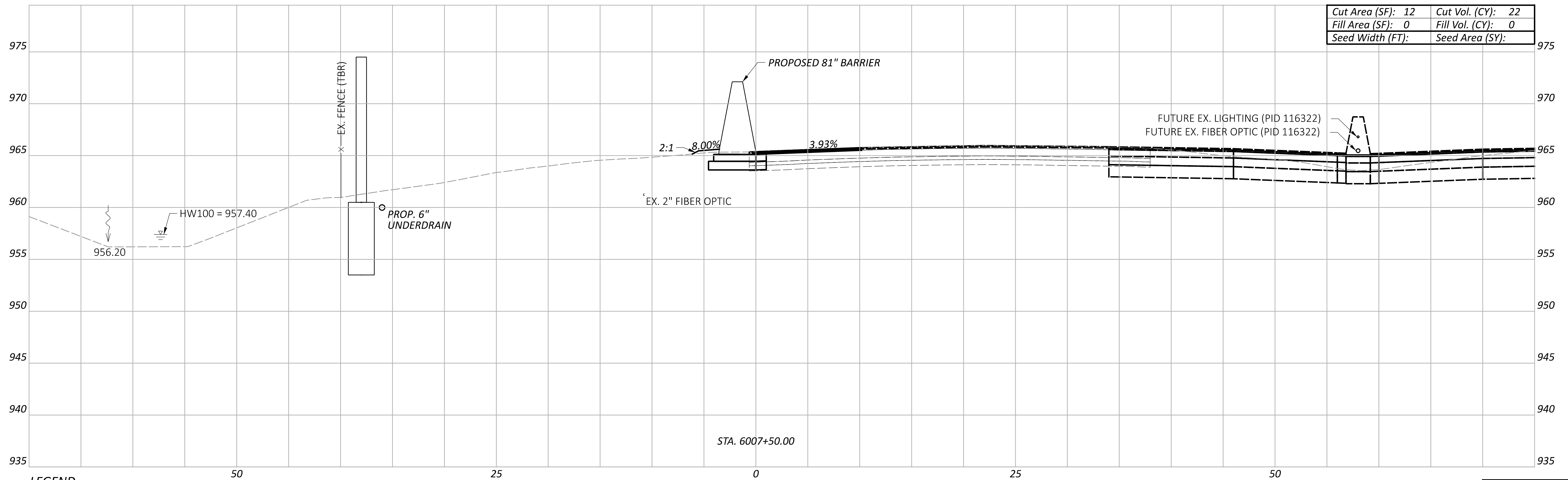
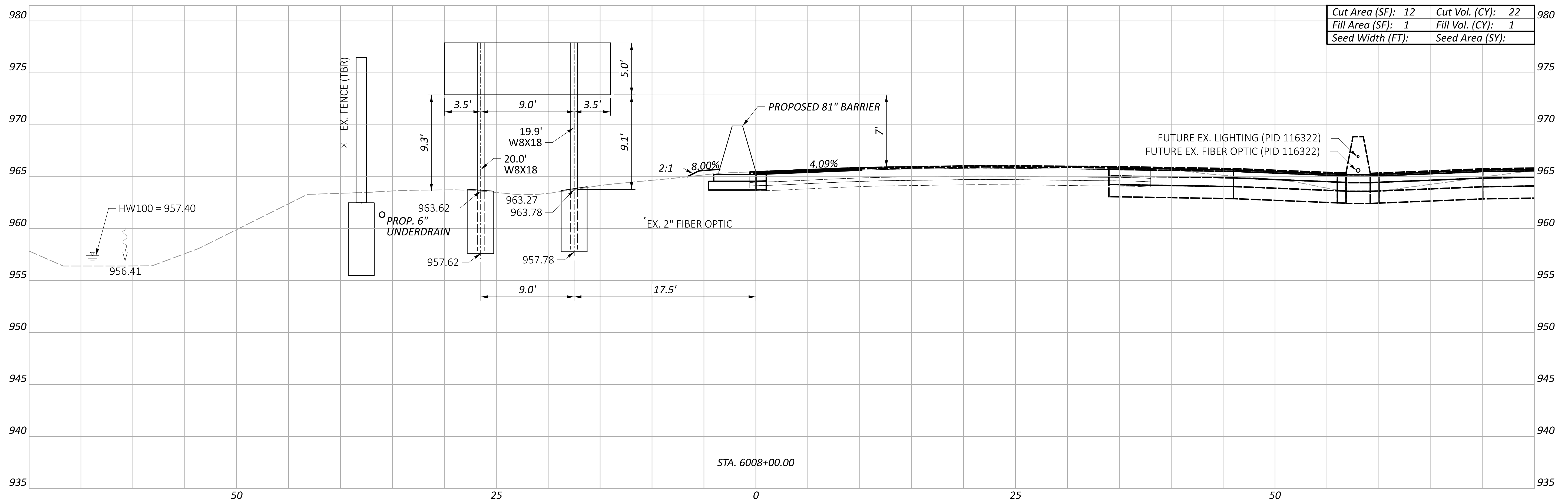
Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
44	1		P.82	P.295



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
44	0	0	P.83	P.295



**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
	44	1	P.84	P.295

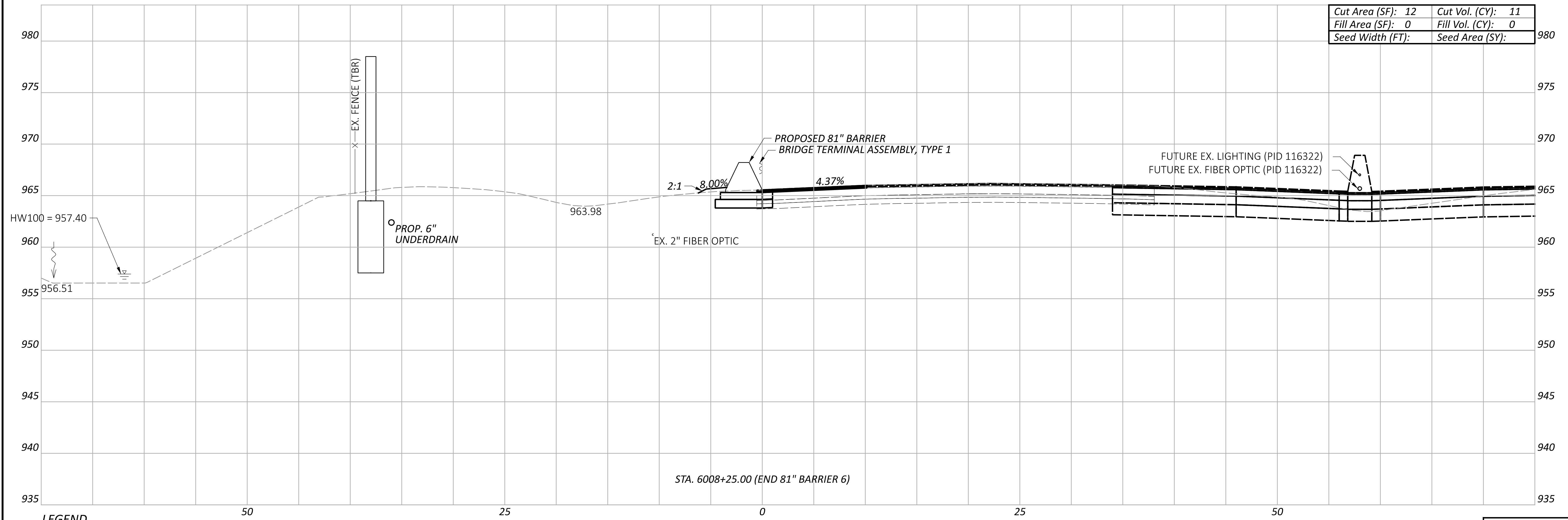
CROSS SECTIONS - 81" BARRIER 6  
 STA. 6007+50.00 TO STA. 6008+00.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIA, MO 65203  
 (616) 414-4900  
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DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



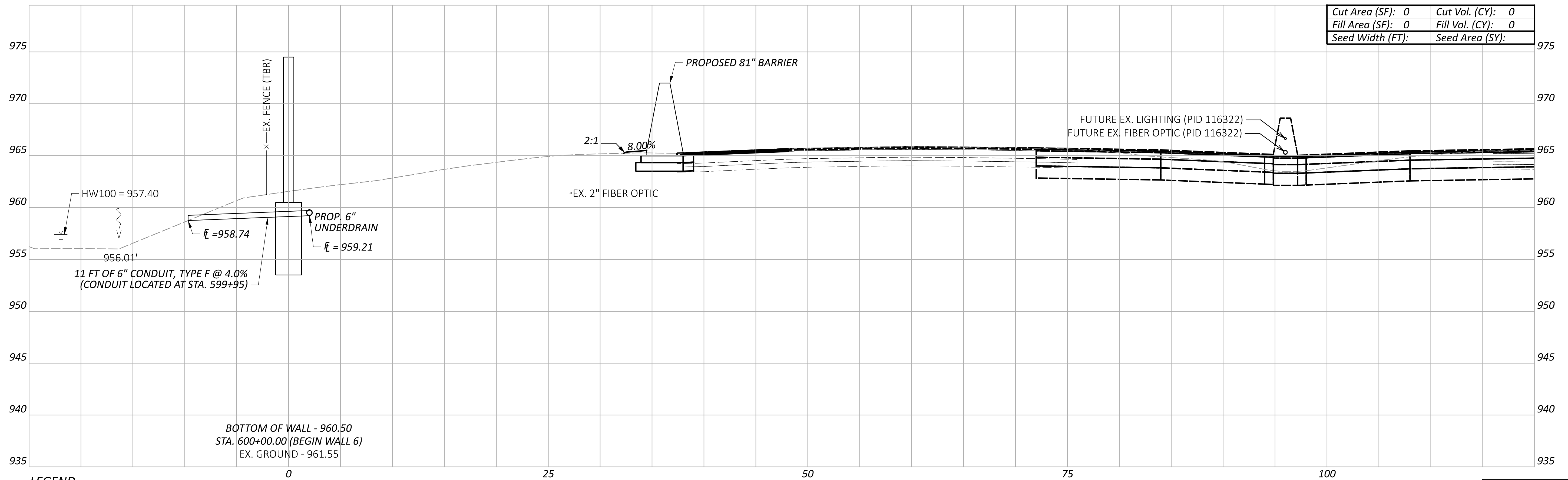
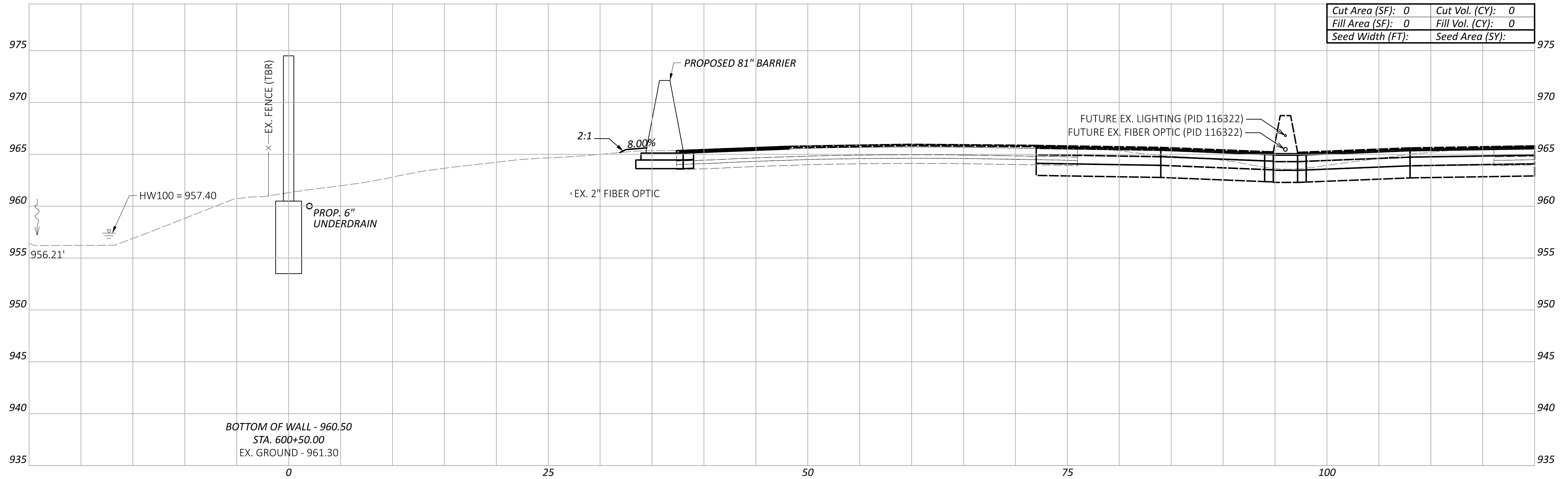
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Seed Width (FT):		Seed Area (SY):	

**LEGEND**

---	EXISTING SR-161 PRIOR TO PID 116322
---	FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

STA. 6008+25.00 (END 81" BARRIER 6)

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
	11	0	P.85   P.295



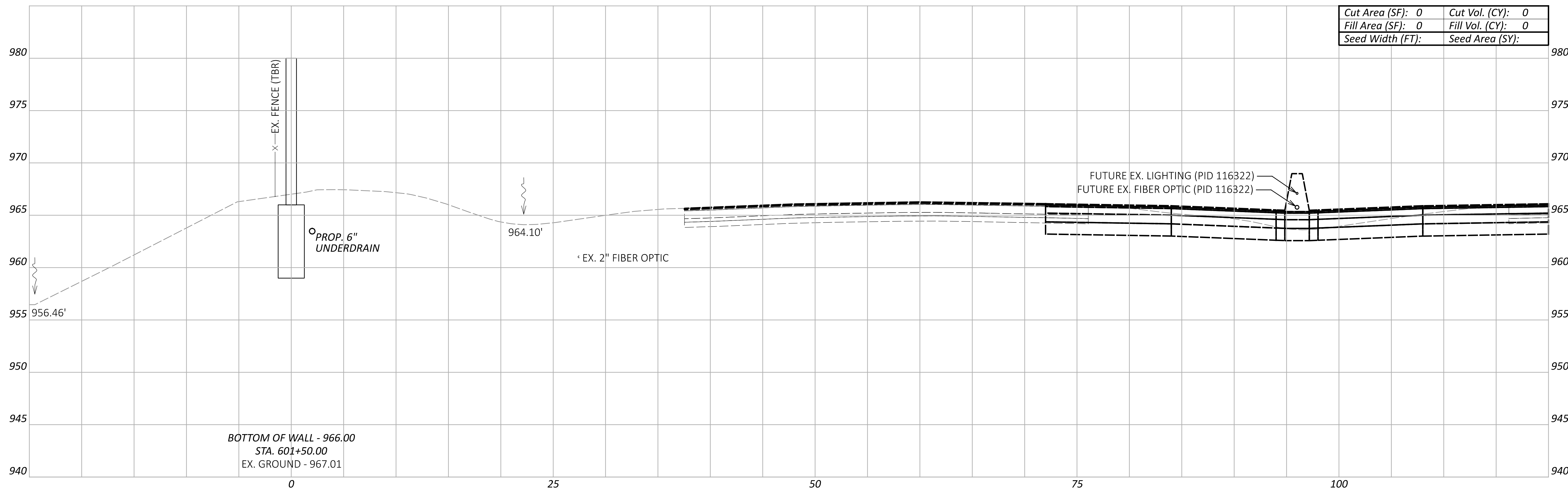
**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

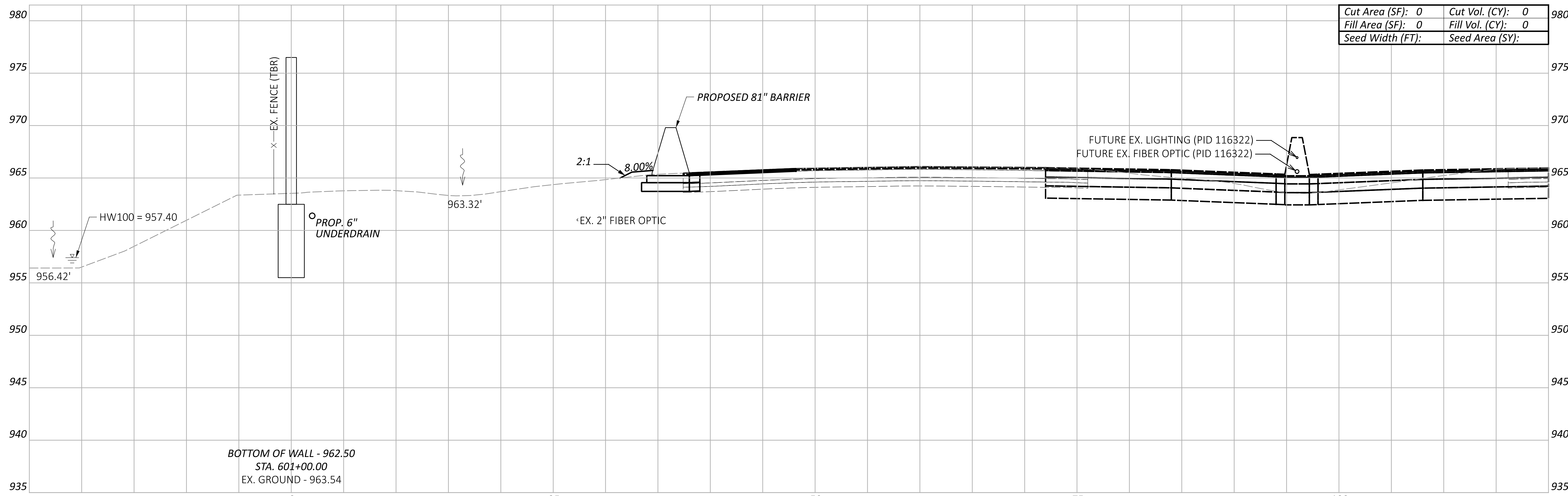
Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.86 P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL6 - 601+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 7:51:27 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS006B.dgn



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Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 6  
 STA. 601+00.00 TO STA. 601+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 614.894.8100-4900  
 www.arcadis.com

DESIGNER  
**JMK**

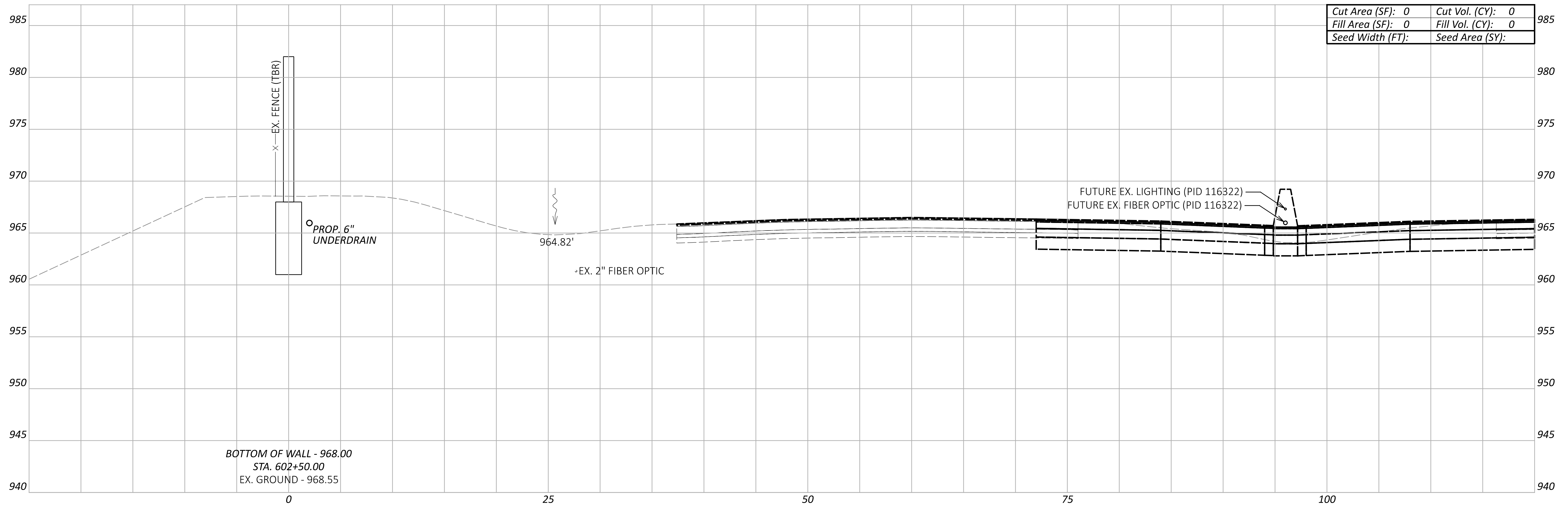
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

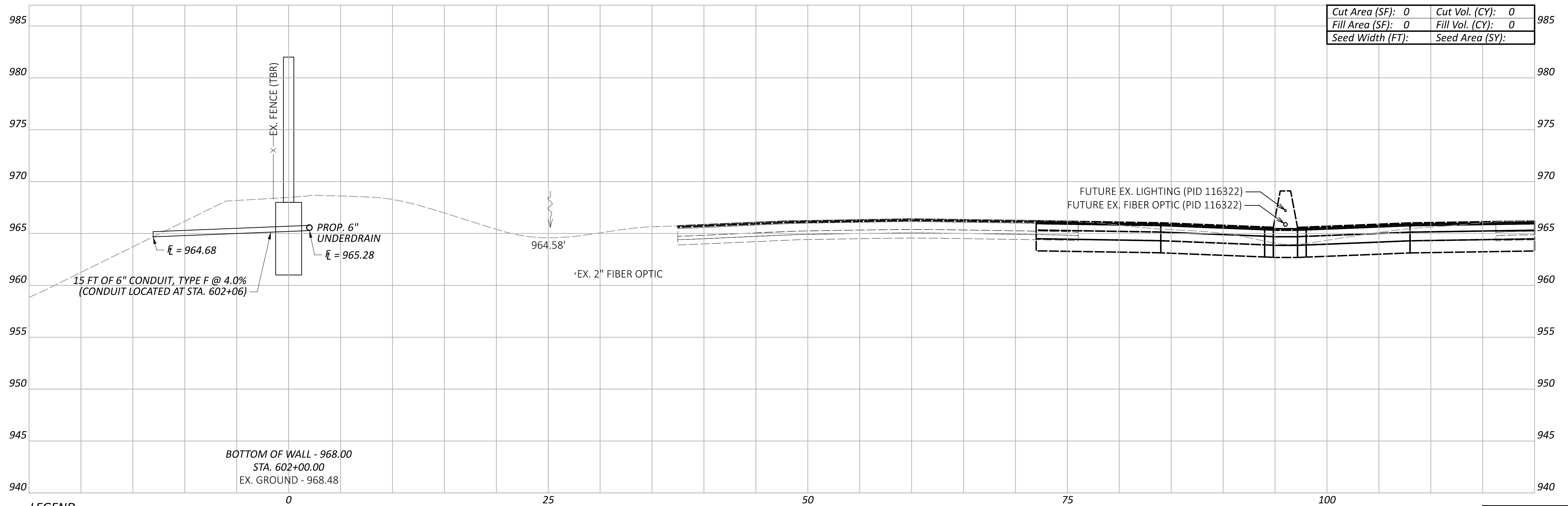
Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.87	P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL6 - 602+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 7:51:50 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS006B.dgn



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Seed Width (FT):		Seed Area (SY):	



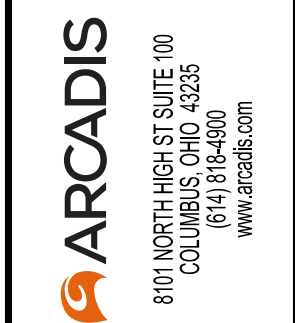
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Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 6  
 STA. 602+00.00 TO STA. 602+50.00**

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

JDH 03-27-24

PROJECT ID

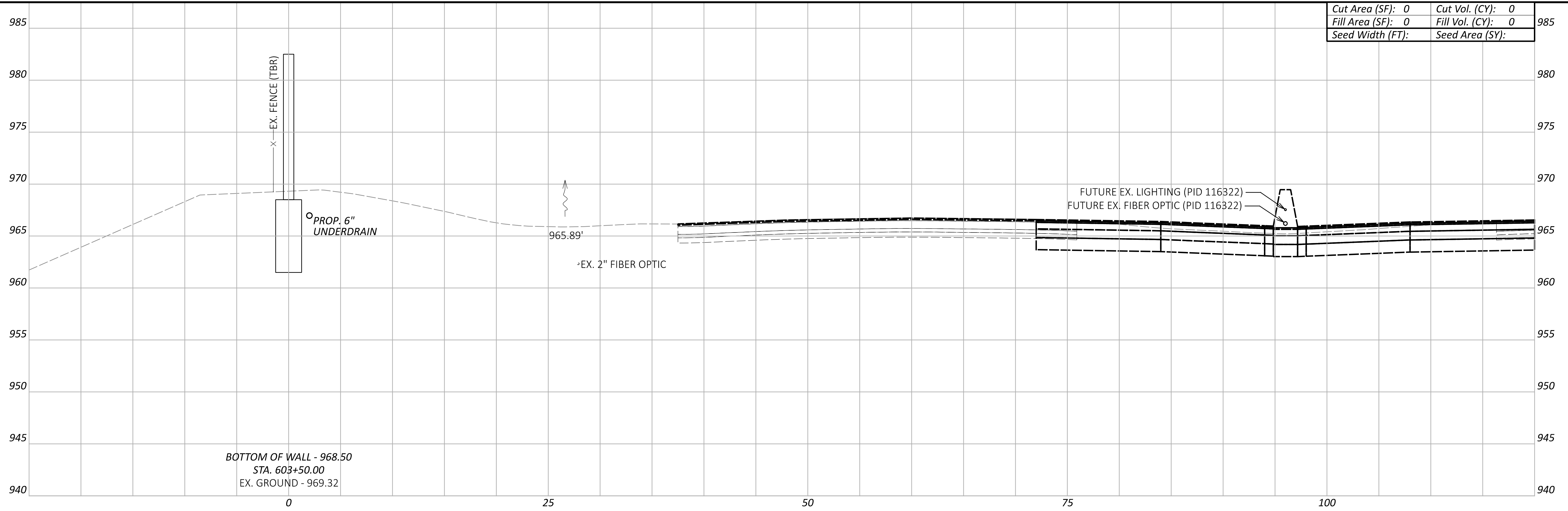
117607

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.88	P.295
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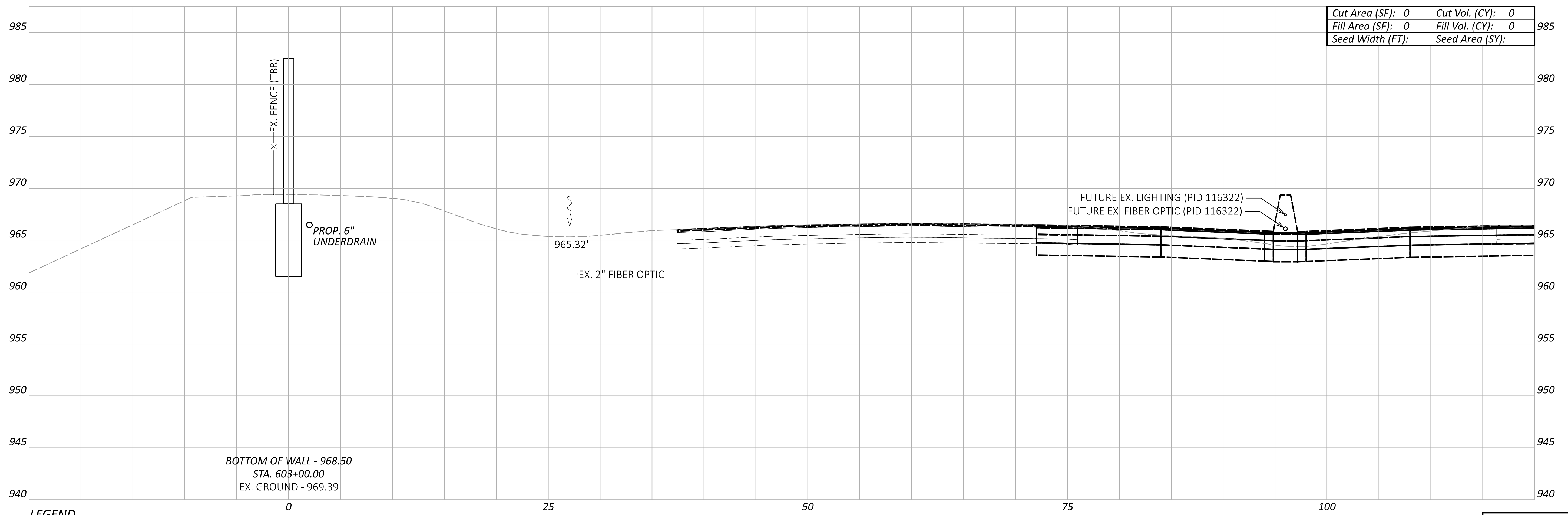


**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL6 - 603+00.00 [Sheet] PAPER: 34x22 (in.) DATE: 2024-03-22 TIME: 7:52:12 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS006B.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
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Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 6  
 STA. 603+00.00 TO STA. 603+50.00**

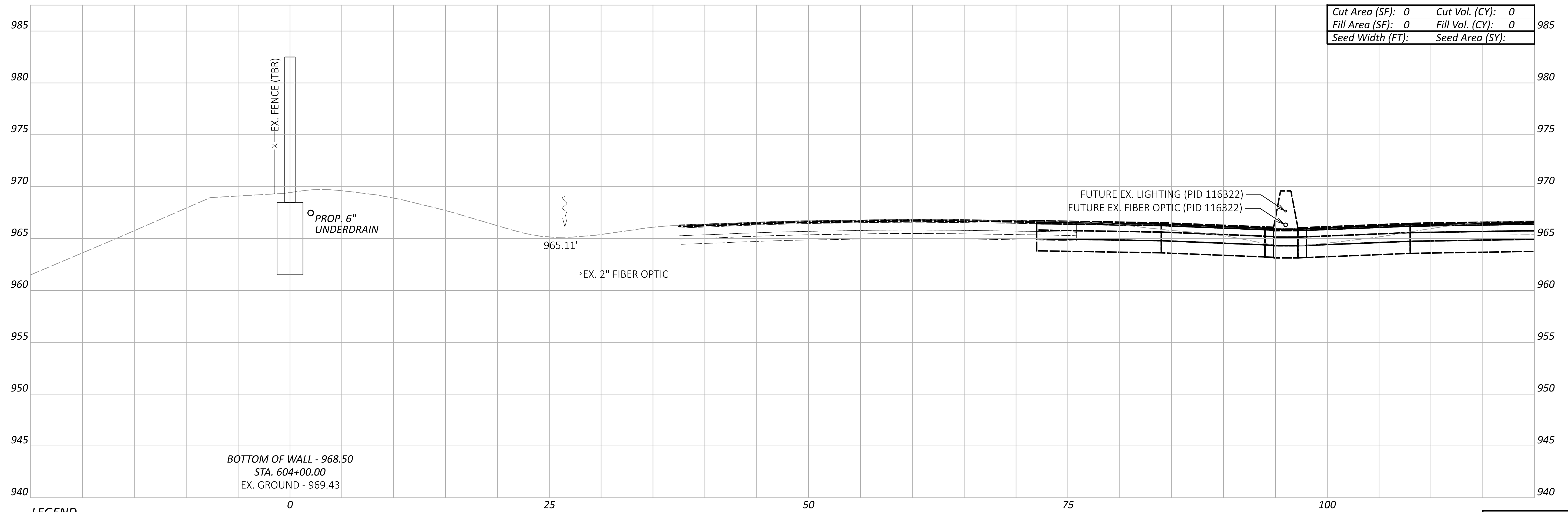
DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 200 SUITE 100  
 COLUMBIA, MO 65203  
 616.441.4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.89   P.295



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

BOTTOM OF WALL - 968.50  
 STA. 604+00.00  
 EX. GROUND - 969.43

EX. FENCE (TBR)

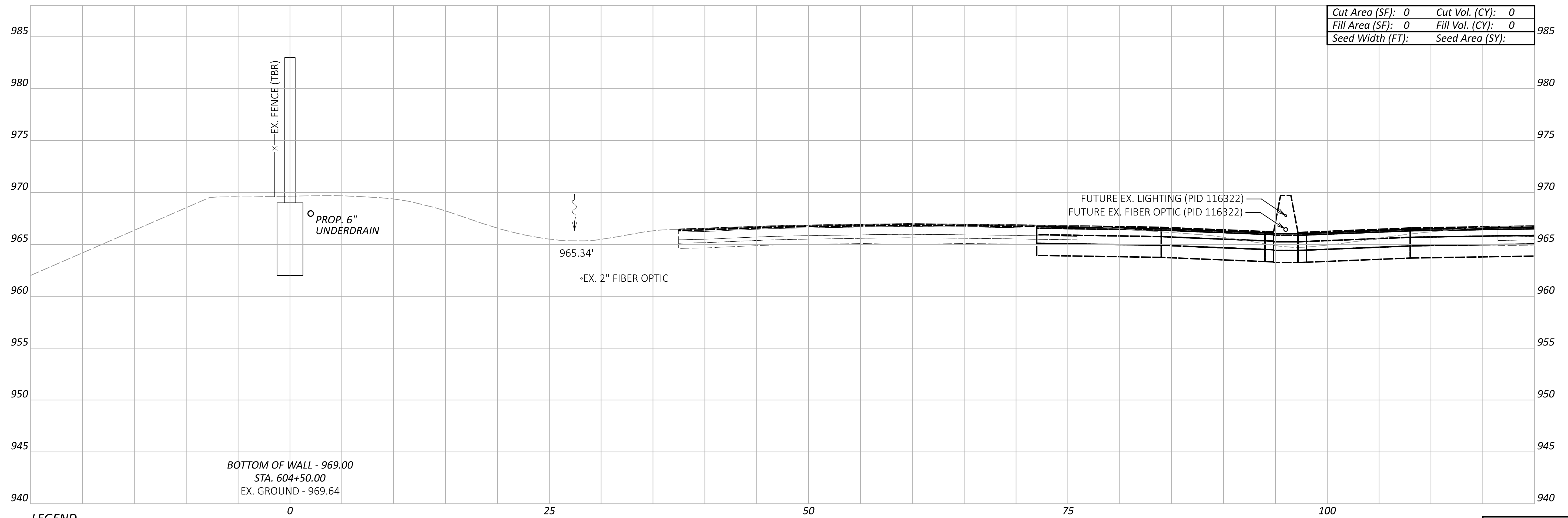
PROP. 6" UNDERDRAIN

965.11'

EX. 2" FIBER OPTIC

FUTURE EX. LIGHTING (PID 116322)  
 FUTURE EX. FIBER OPTIC (PID 116322)

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.90	P.295
0	0	0		



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

BOTTOM OF WALL - 969.00  
 STA. 604+50.00  
 EX. GROUND - 969.64

EX. FENCE (TBR)

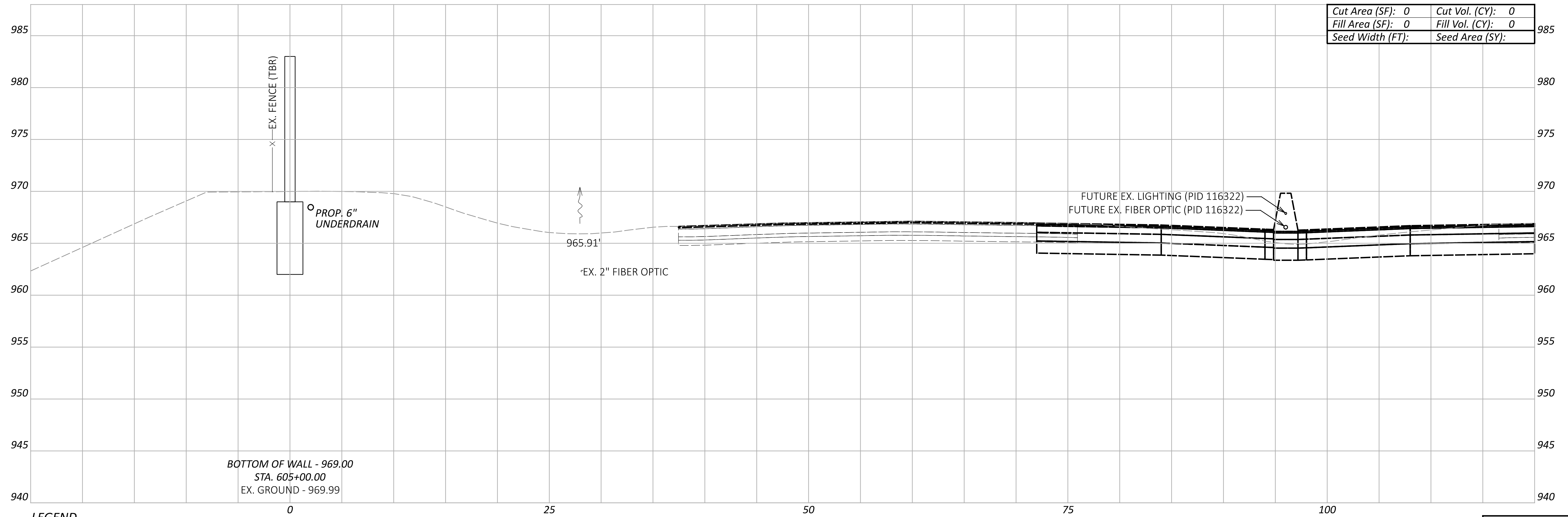
PROP. 6" UNDERDRAIN

965.34'

EX. 2" FIBER OPTIC

FUTURE EX. LIGHTING (PID 116322)  
 FUTURE EX. FIBER OPTIC (PID 116322)

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.91	P.295
0	0	0		



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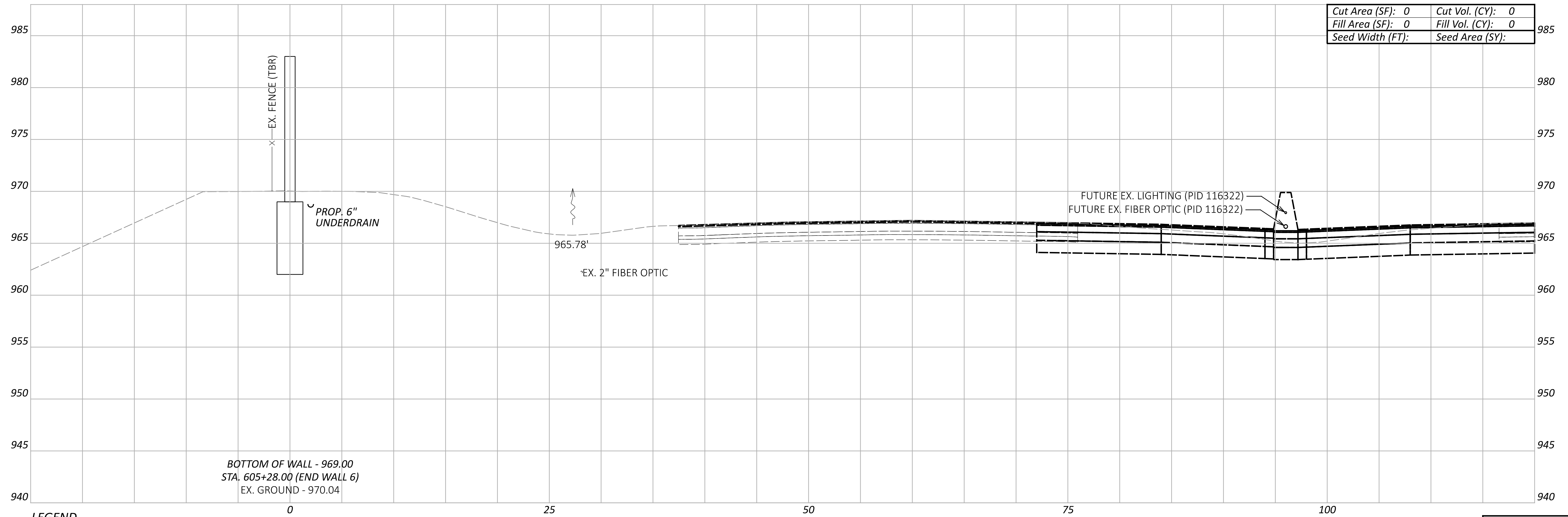
**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.92   P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL6 - 605+28.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 7:53:13 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS006B.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

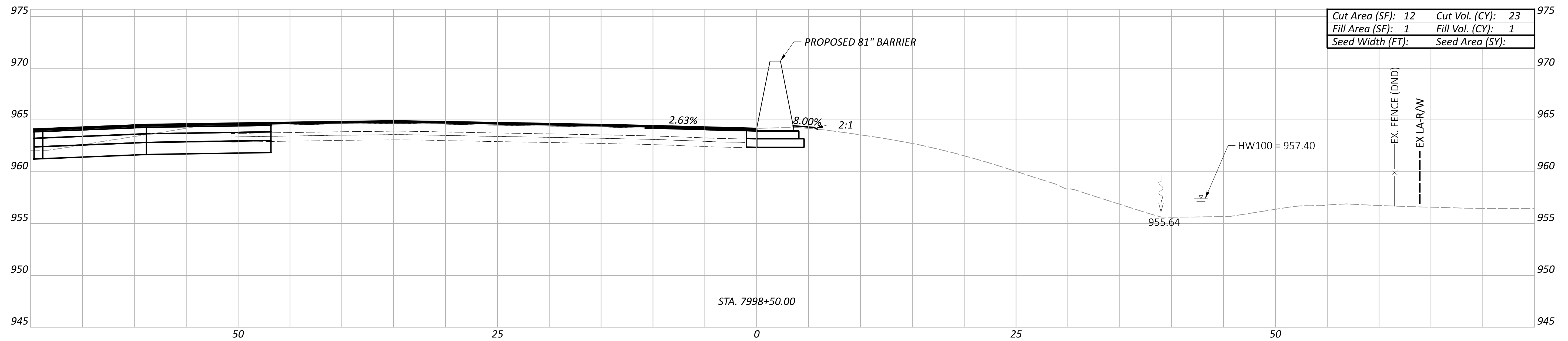
Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.93   P.295

**CROSS SECTIONS - WALL 6  
 STA. 605+28.00**

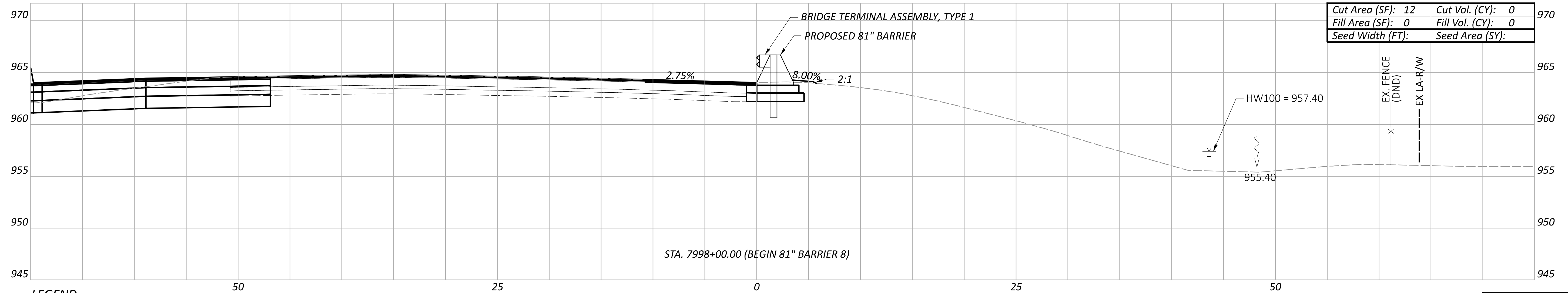
DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**  
 REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



Cut Area (SF):	12	Cut Vol. (CY):	23
Fill Area (SF):	1	Fill Vol. (CY):	1
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	12	Cut Vol. (CY):	0
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Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.94	P.295

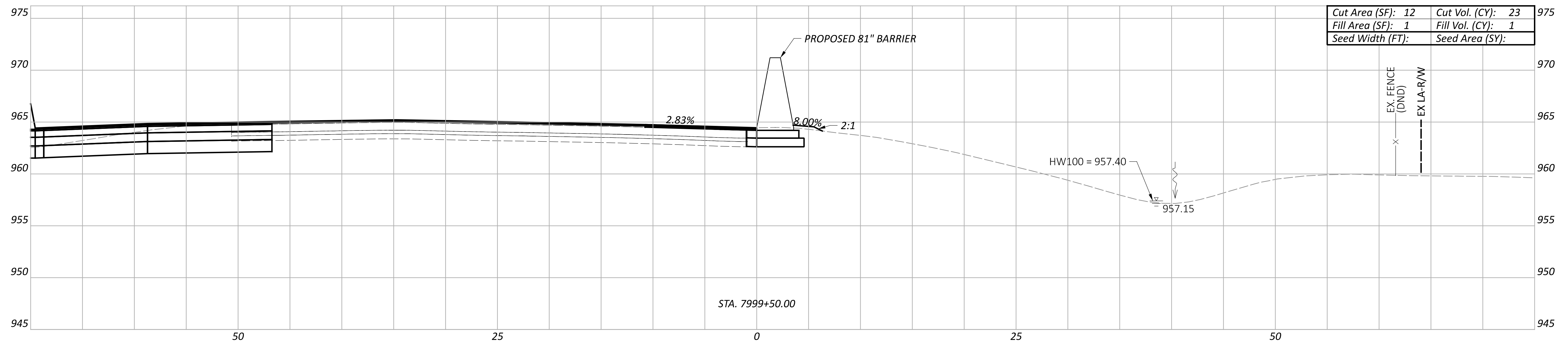
**CROSS SECTIONS - 81" BARRIER 8**  
 STA. 7998+00.00 TO STA. 7998+50.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHEST SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 810-4900  
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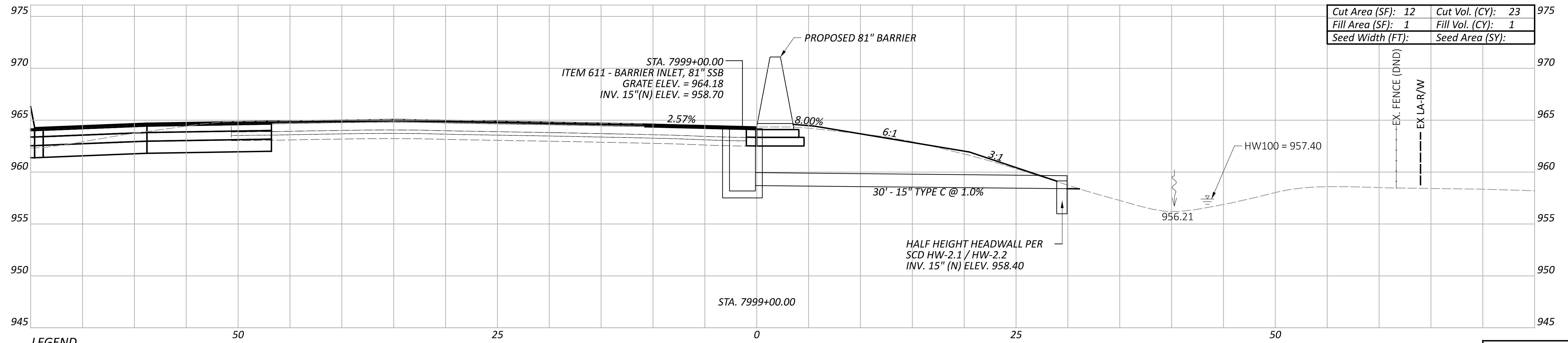
DESIGNER  
**JMK**

REVIEWER  
 JDH 03-27-24

PROJECT ID  
**117607**



Cut Area (SF):	12	Cut Vol. (CY):	23
Fill Area (SF):	1	Fill Vol. (CY):	1
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	12	Cut Vol. (CY):	23
Fill Area (SF):	1	Fill Vol. (CY):	1
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.95	P.295

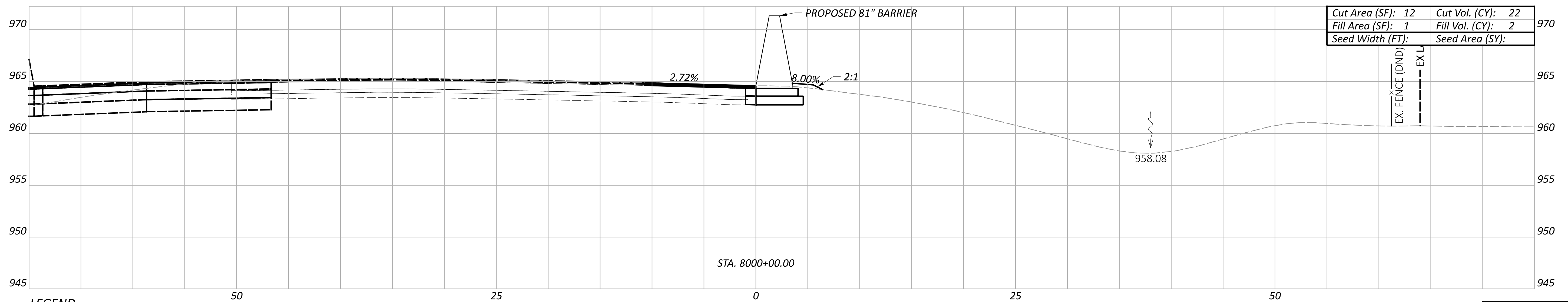
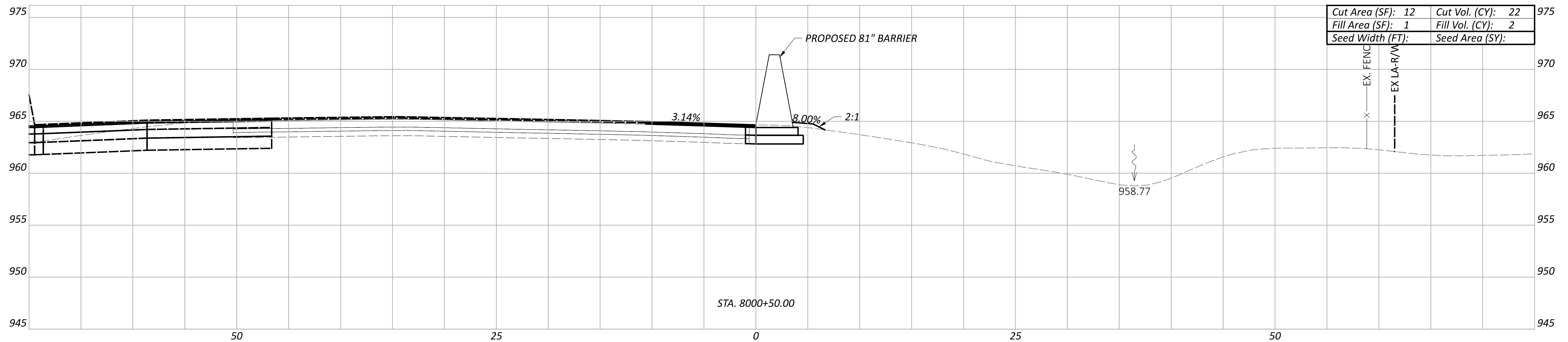
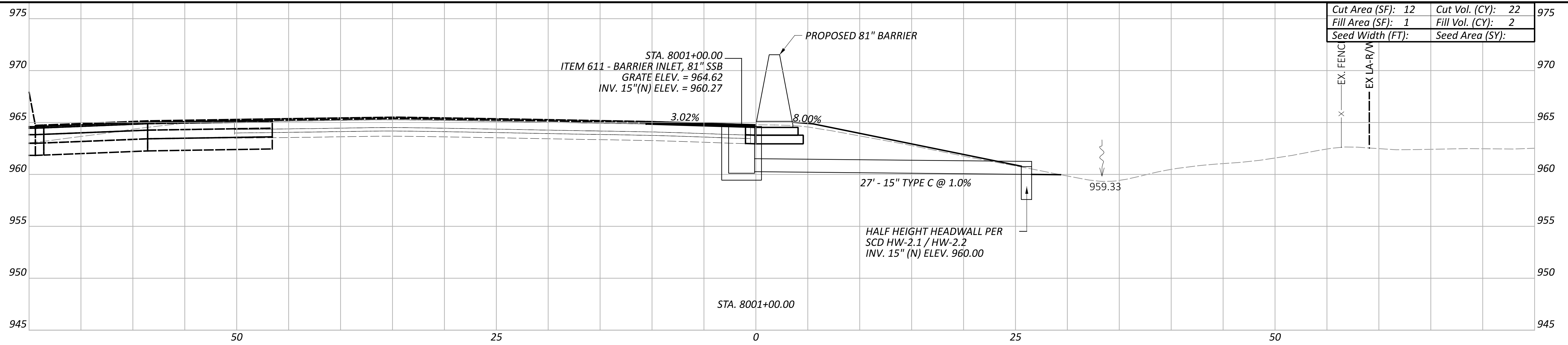
**CROSS SECTIONS - 81" BARRIER 8**  
 STA. 7999+00.00 TO STA. 7999+50.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
 JDH 03-27-24

PROJECT ID  
**117607**



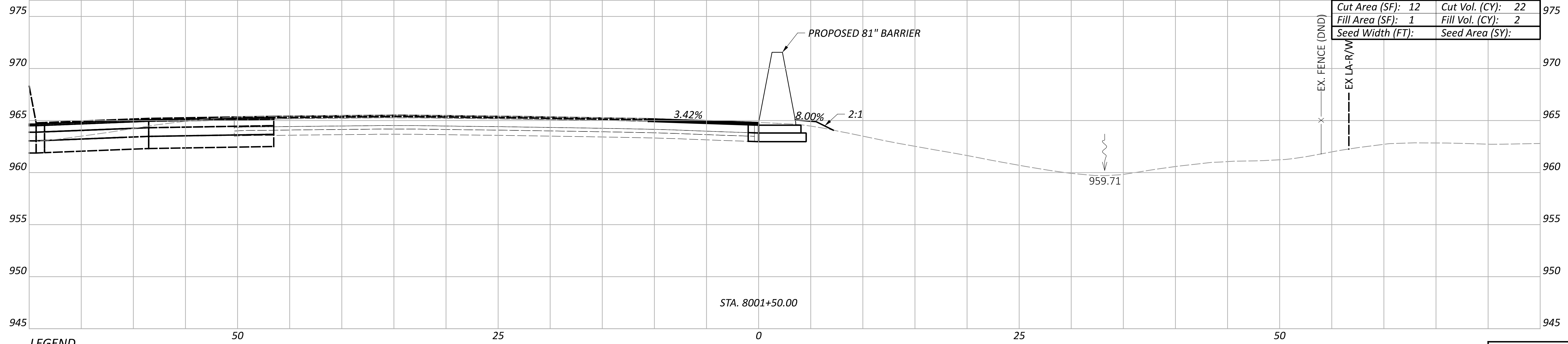
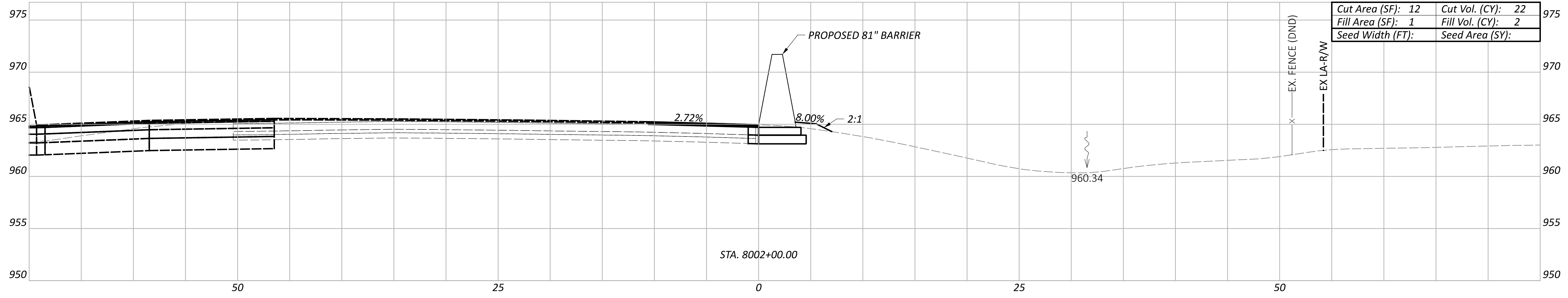
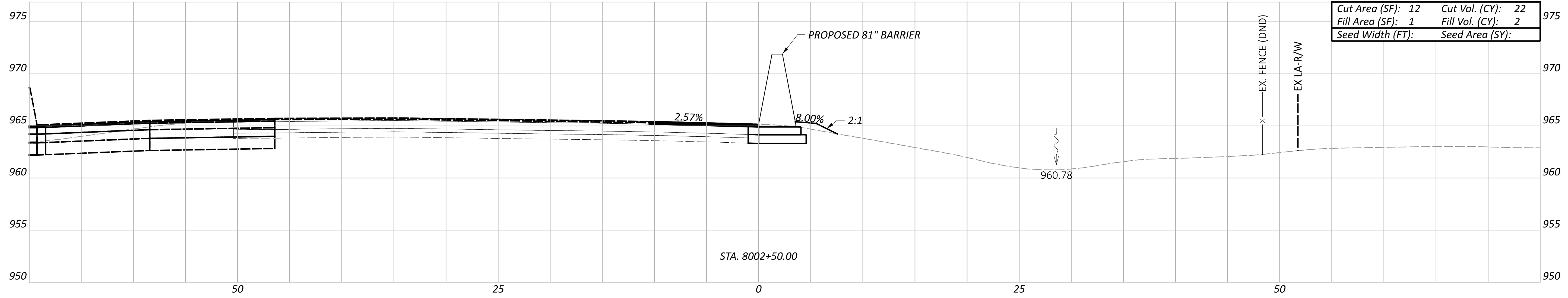
LEGEND

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	SHEET TOTAL
			P.96 P.295

CROSS SECTIONS - 81" BARRIER 8  
 STA. 8000+00.00 TO STA. 8001+00.00





**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.97	P.295

CROSS SECTIONS - 81" BARRIER 8  
 STA. 8001+50.00 TO STA. 8002+50.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 614.894.8100-4900  
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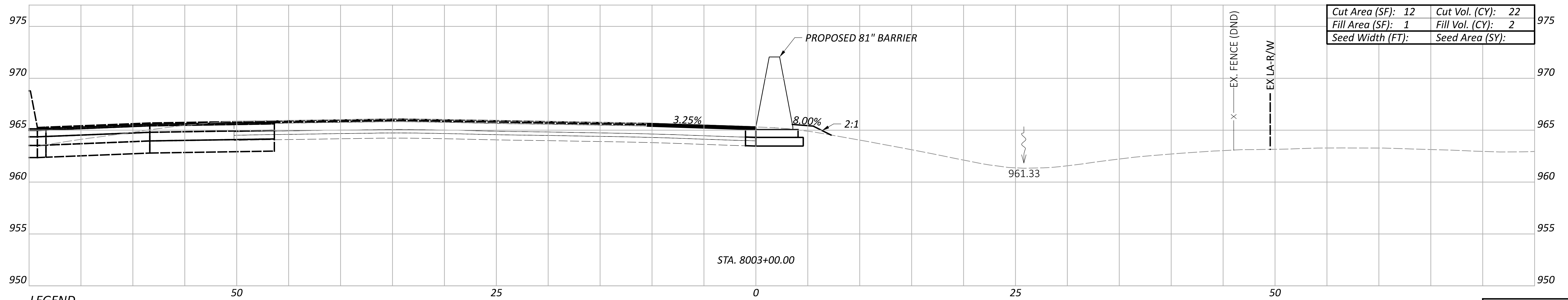
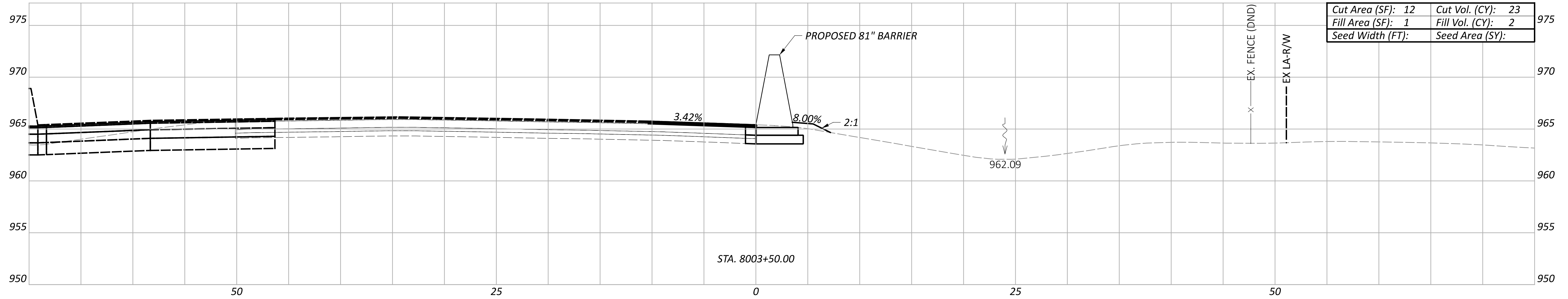
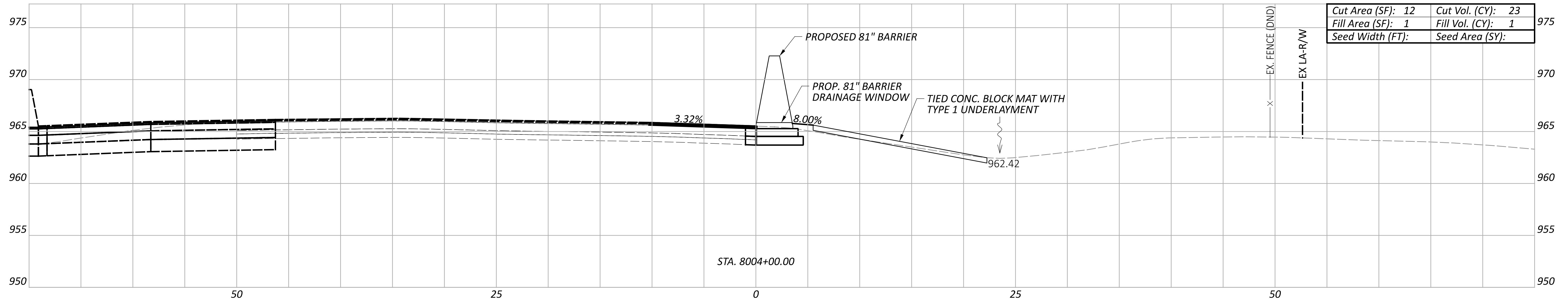
DESIGNER  
**JMK**

REVIEWER  
 JDH 03-27-24

PROJECT ID  
 117607

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER8 - 8003+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 12:32:01 AM USER: jennifer.kelley  
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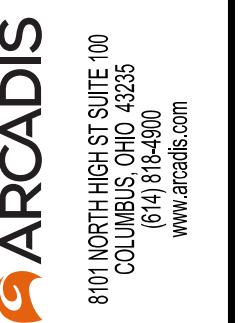
**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.98	P.295

**CROSS SECTIONS - 81" BARRIER 8  
 STA. 8003+00.00 TO STA. 8004+00.00**

DESIGN AGENCY



DESIGNER

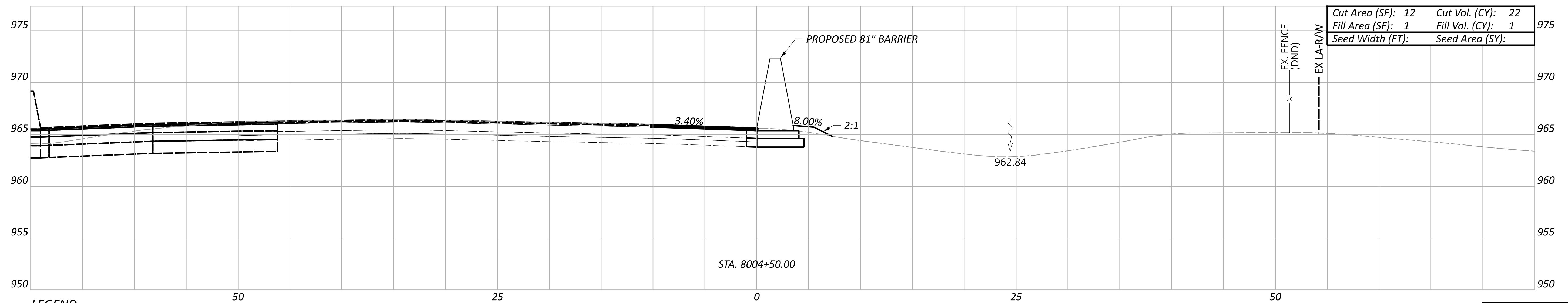
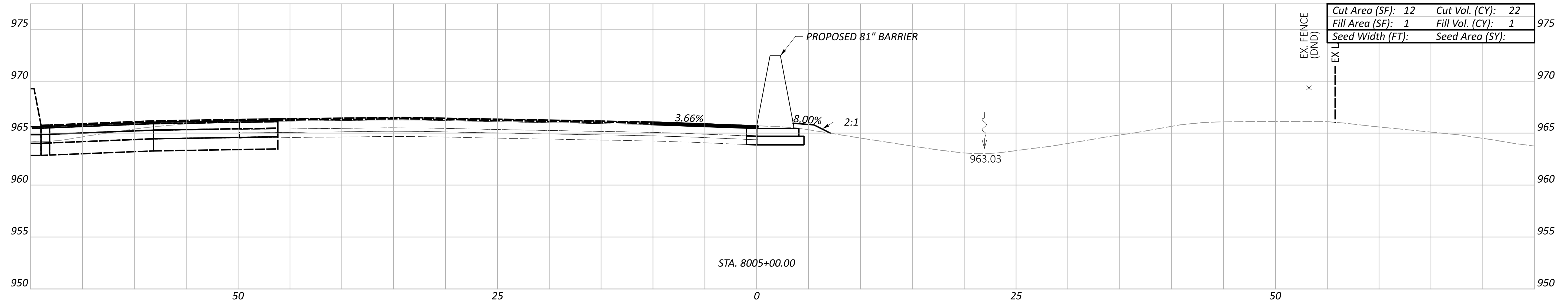
JMK

REVIEWER

JDH 03-27-24

PROJECT ID

117607

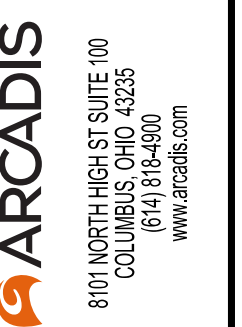


LEGEND

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.99	P.295

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

JDH 03-27-24

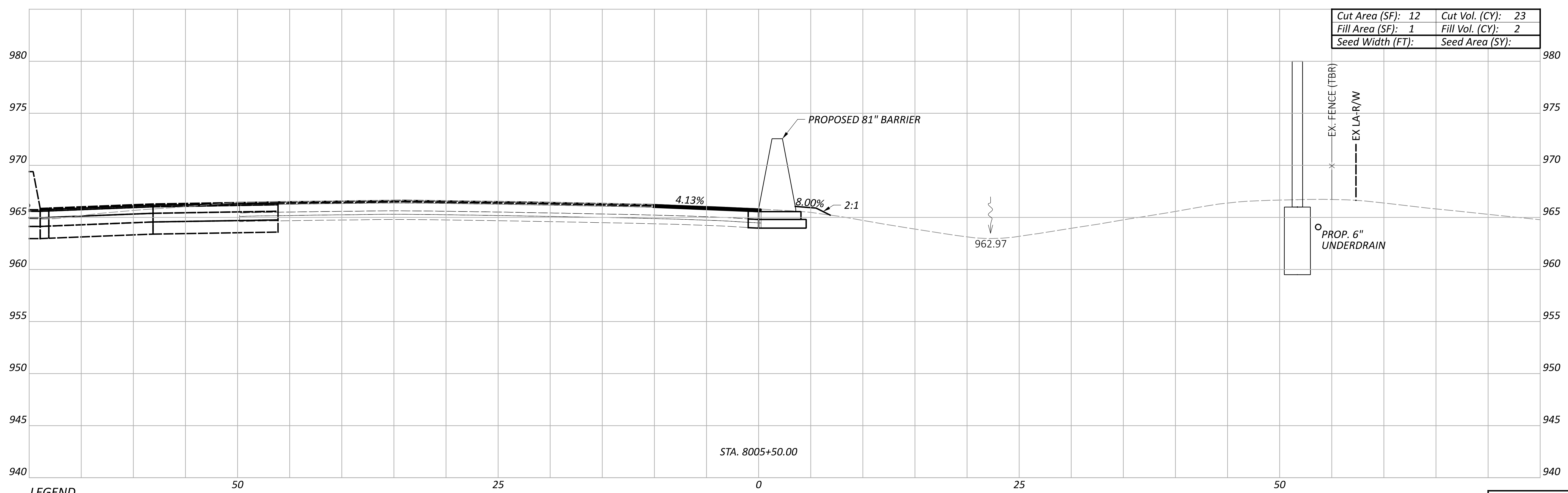
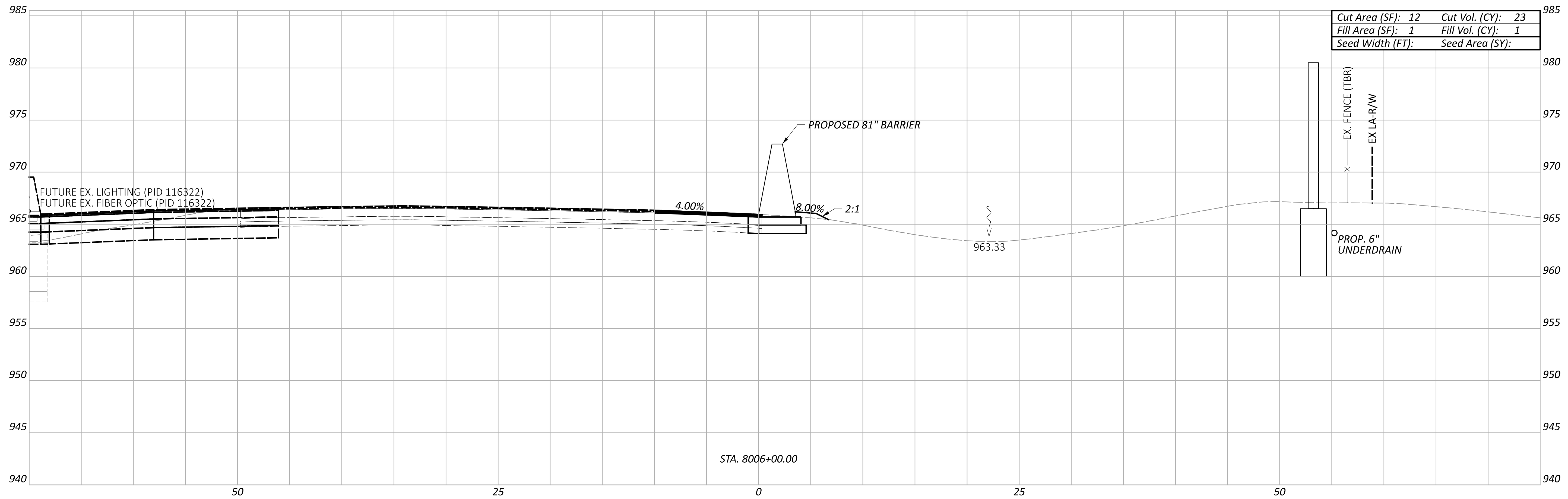
PROJECT ID

117607

CROSS SECTIONS - 81" BARRIER 8  
 STA. 8004+50.00 TO STA. 8005+00.00

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER8 - 8005+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 12:32:33 AM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS008A.dgn



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.100	P.295

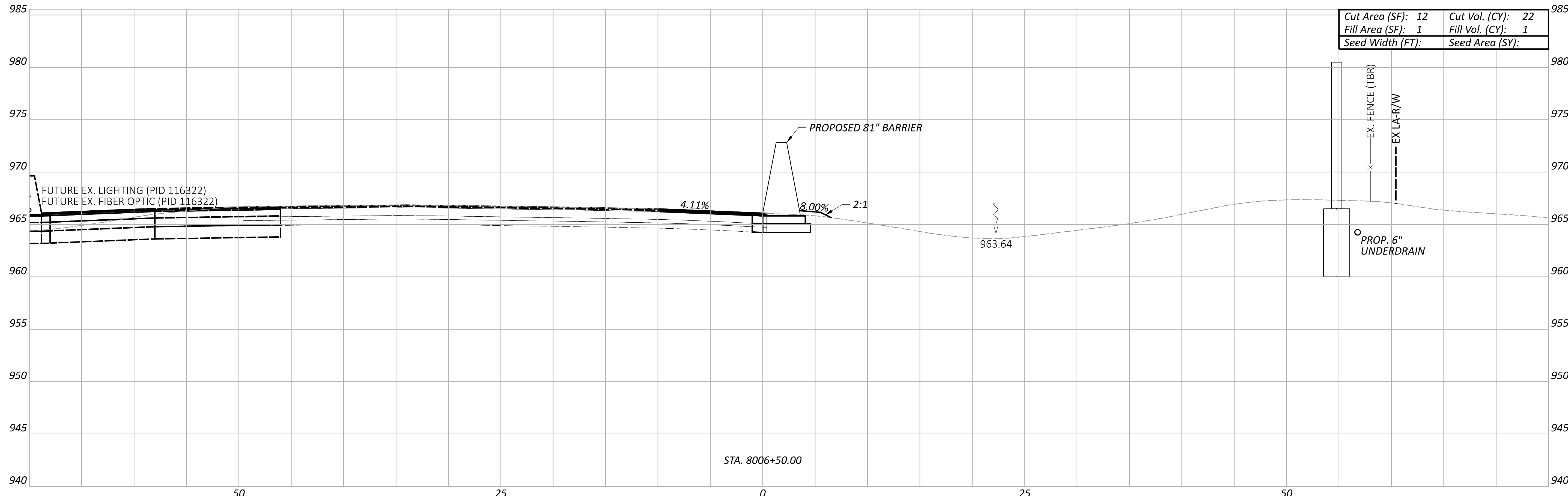
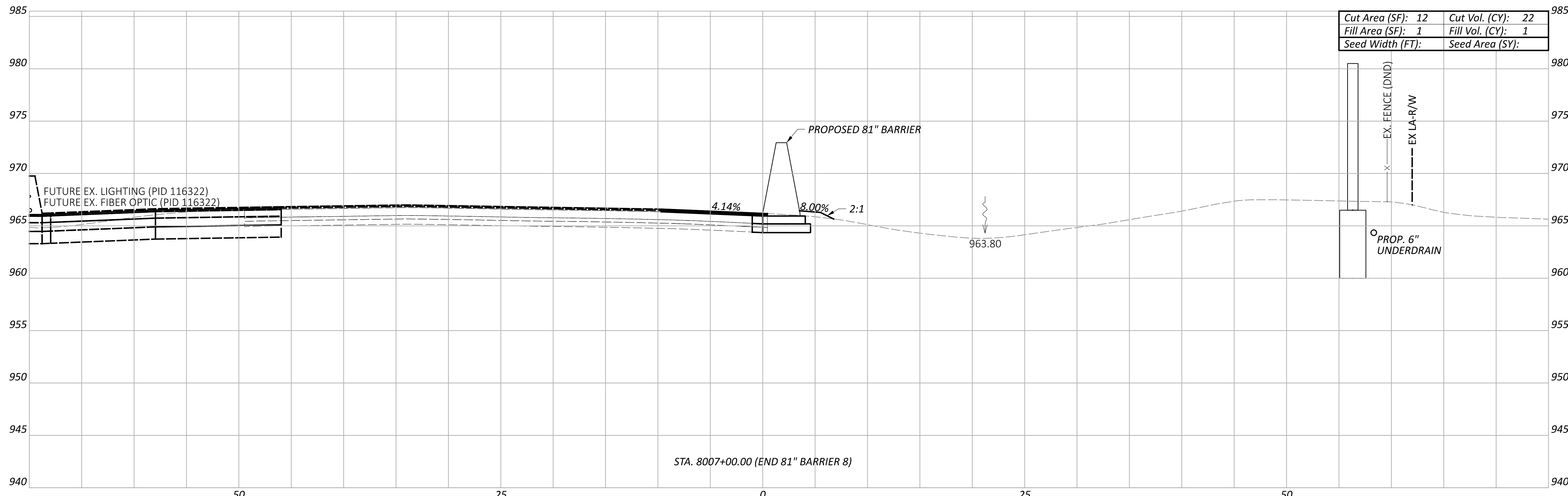
DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIA, MO 65203  
 (616) 419-4900  
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 JDH 03-27-24

PROJECT ID  
**117607**

**CROSS SECTIONS - 81" BARRIER 8  
 STA. 8005+50.00 TO STA. 8006+00.00**



**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.101	P.295

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**

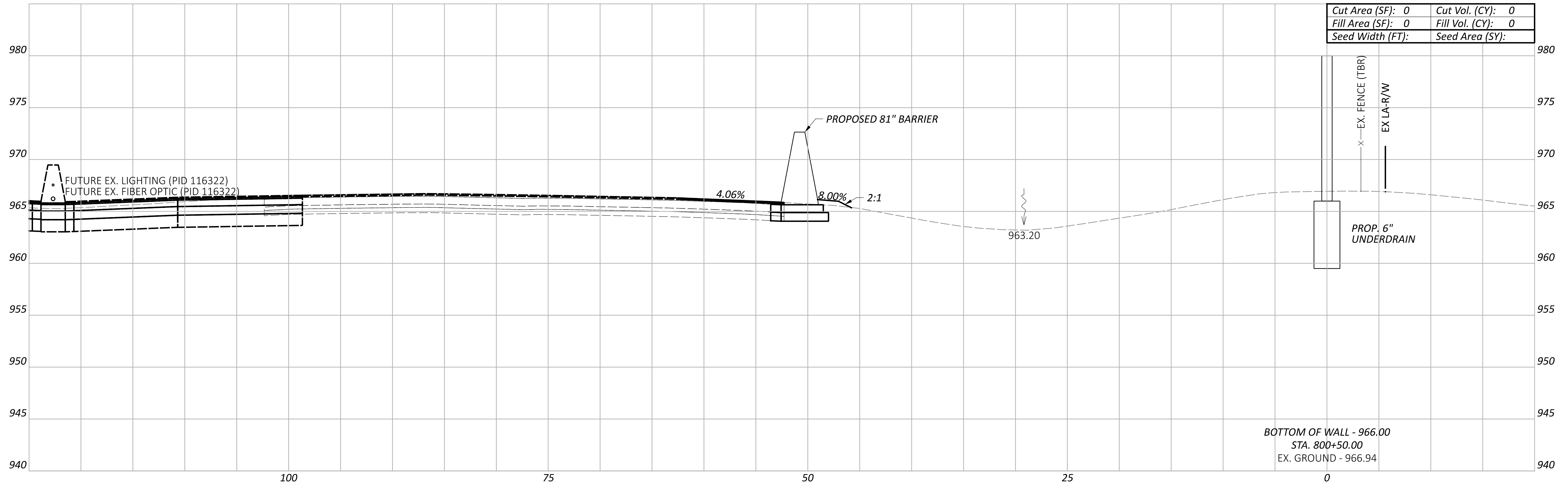
REVIEWER  
 JDH 03-27-24

PROJECT ID  
**117607**

**CROSS SECTIONS - 81" BARRIER 8**  
 STA. 8006+50.00 TO STA. 8007+00.00

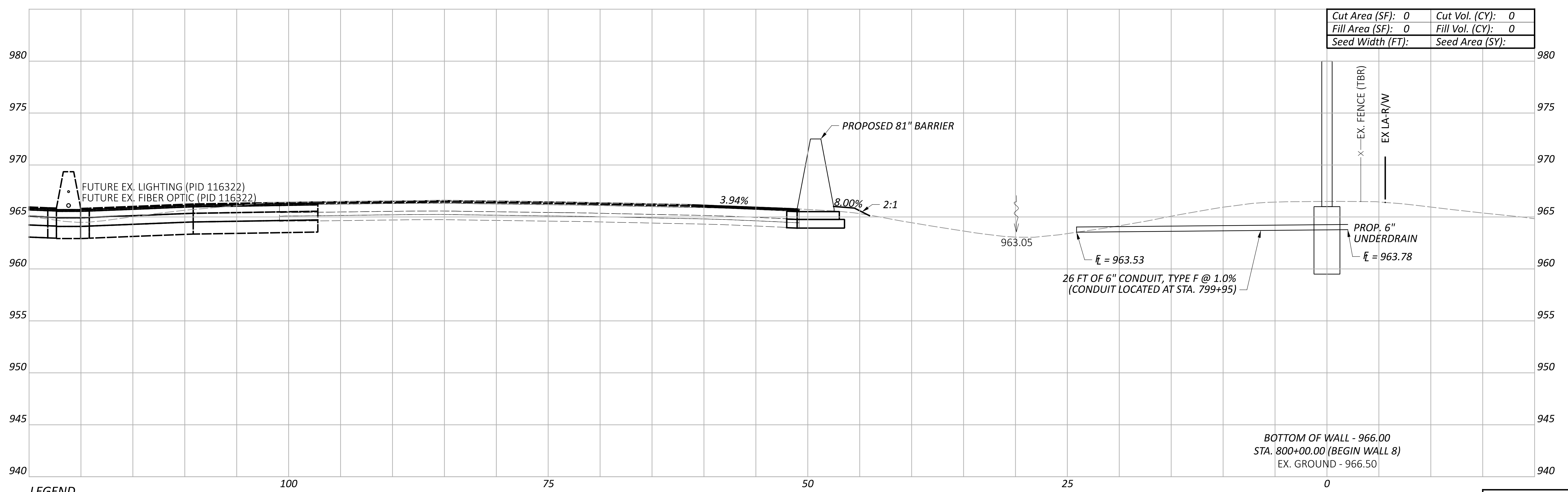
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 800+00.00 [Sheet] PAPER: SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 7:57:16 PM USER: jennifer.kelley  
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Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 966.00  
 STA. 800+50.00  
 EX. GROUND - 966.94



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 966.00  
 STA. 800+00.00 (BEGIN WALL 8)  
 EX. GROUND - 966.50

26 FT OF 6" CONDUIT, TYPE F @ 1.0%  
 (CONDUIT LOCATED AT STA. 799+95)

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
			P.102 P.295

**CROSS SECTIONS - WALL 8  
 STA. 800+00.00 TO STA. 800+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 30, SUITE 100  
 COLUMBIA, MO 65203  
 (616) 441-4900  
 www.arcadis.com

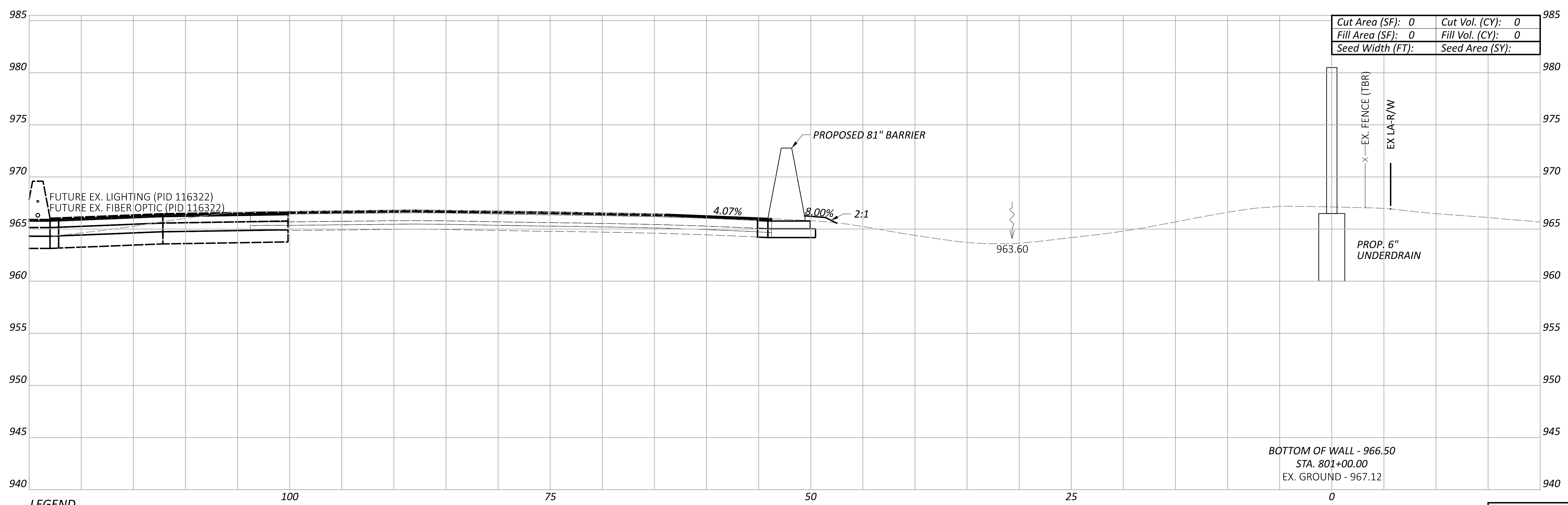
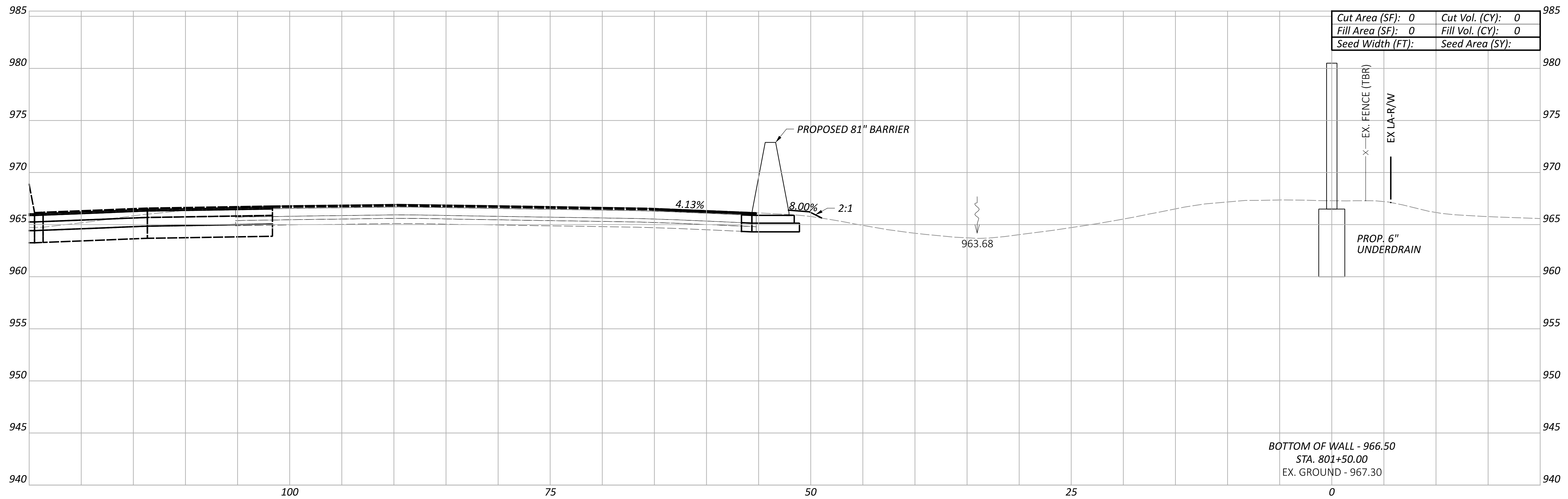
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 801+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 7:57:52 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS0088.dgn



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
			P.103 P.295

**CROSS SECTIONS - WALL 8  
 STA. 801+00.00 TO STA. 801+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIANA, OH 43085  
 614.894.8100-8900  
 www.arcadis.com

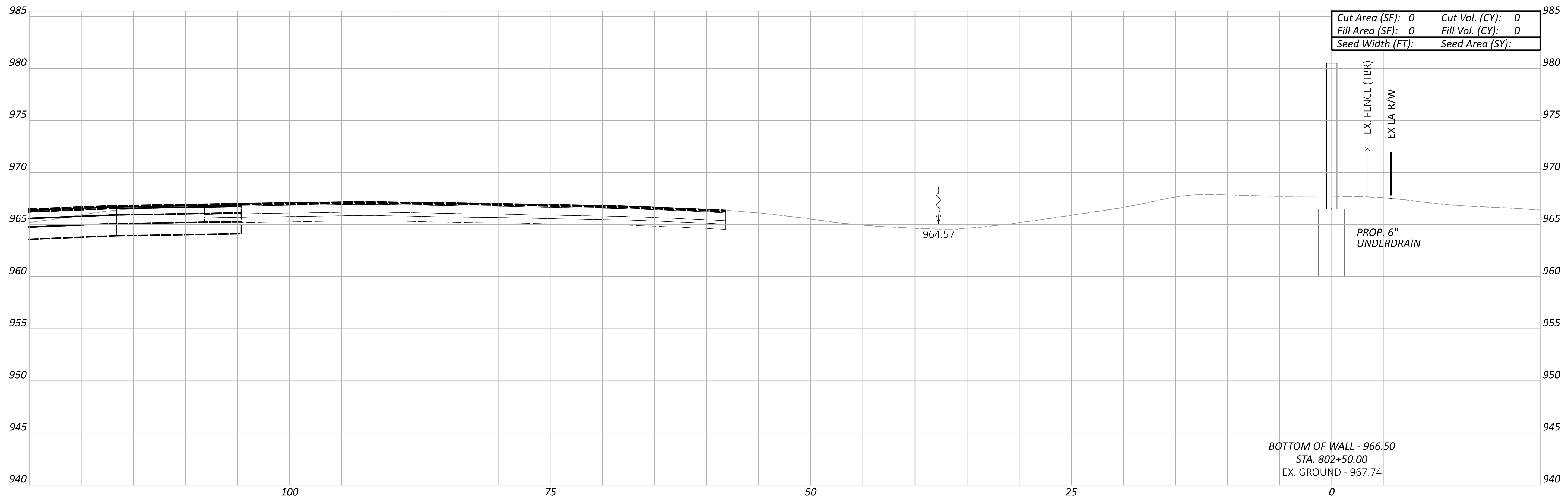
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

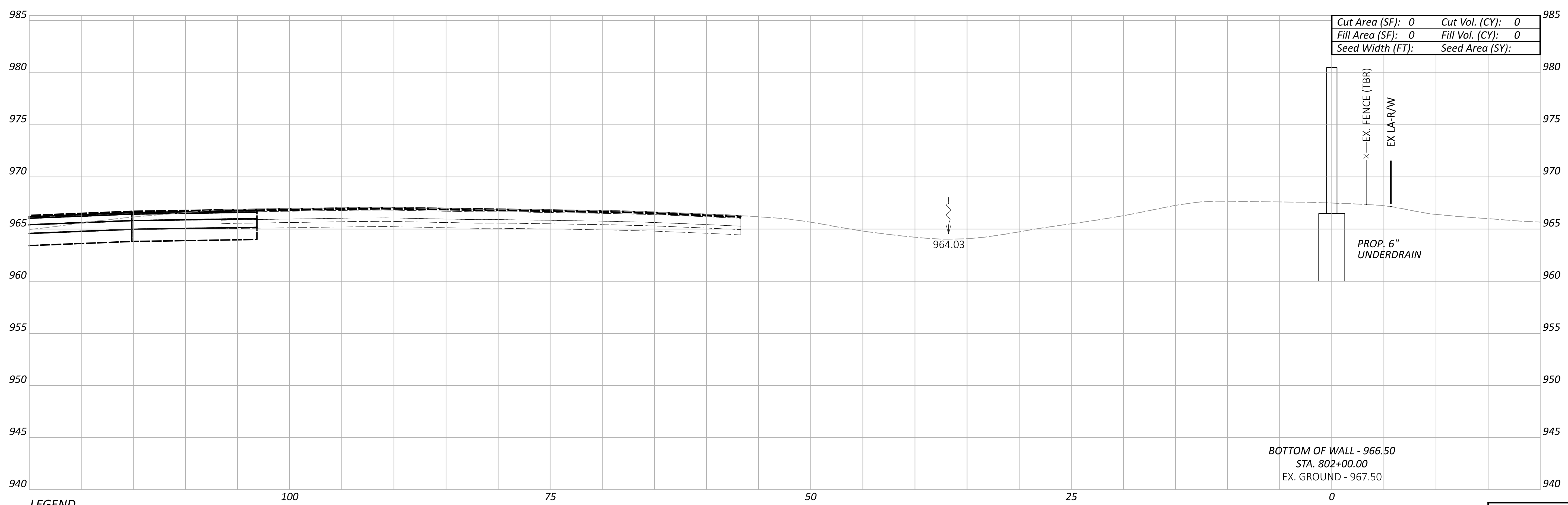
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 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS0088.dgn



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 966.50  
 STA. 802+50.00  
 EX. GROUND - 967.74

964.57



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 966.50  
 STA. 802+00.00  
 EX. GROUND - 967.50

964.03

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.104	P.295

**CROSS SECTIONS - WALL 8  
 STA. 802+00.00 TO STA. 802+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 614.894.8100-4900  
 www.arcadis.com

DESIGNER  
**JMK**

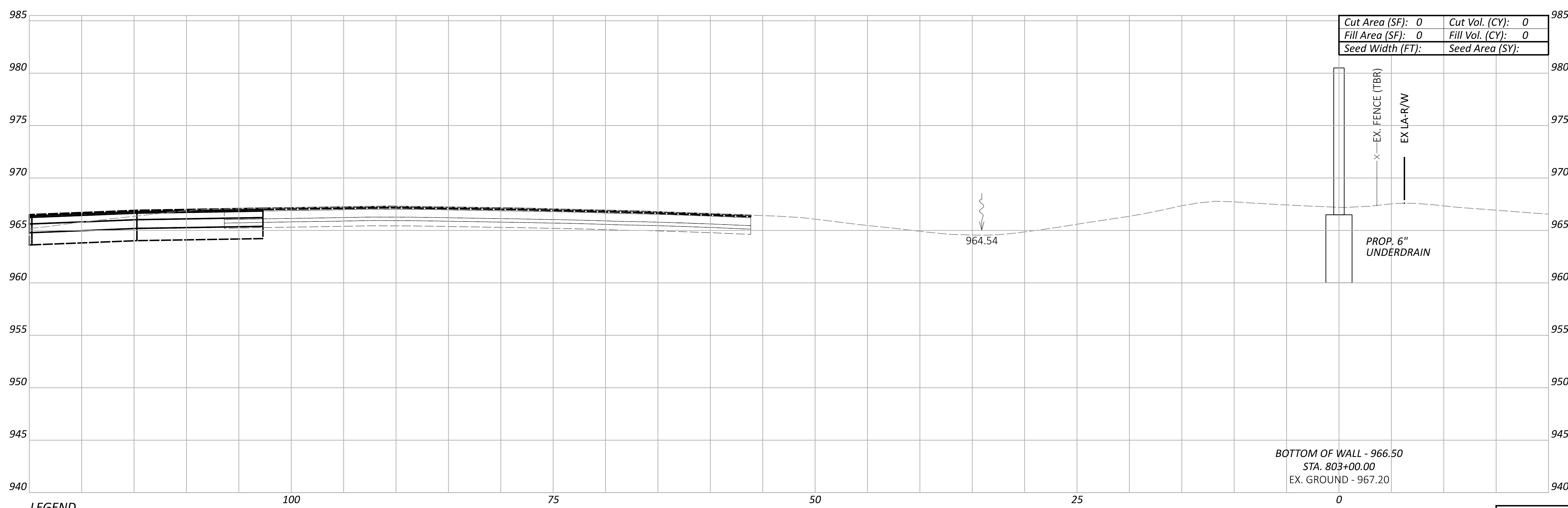
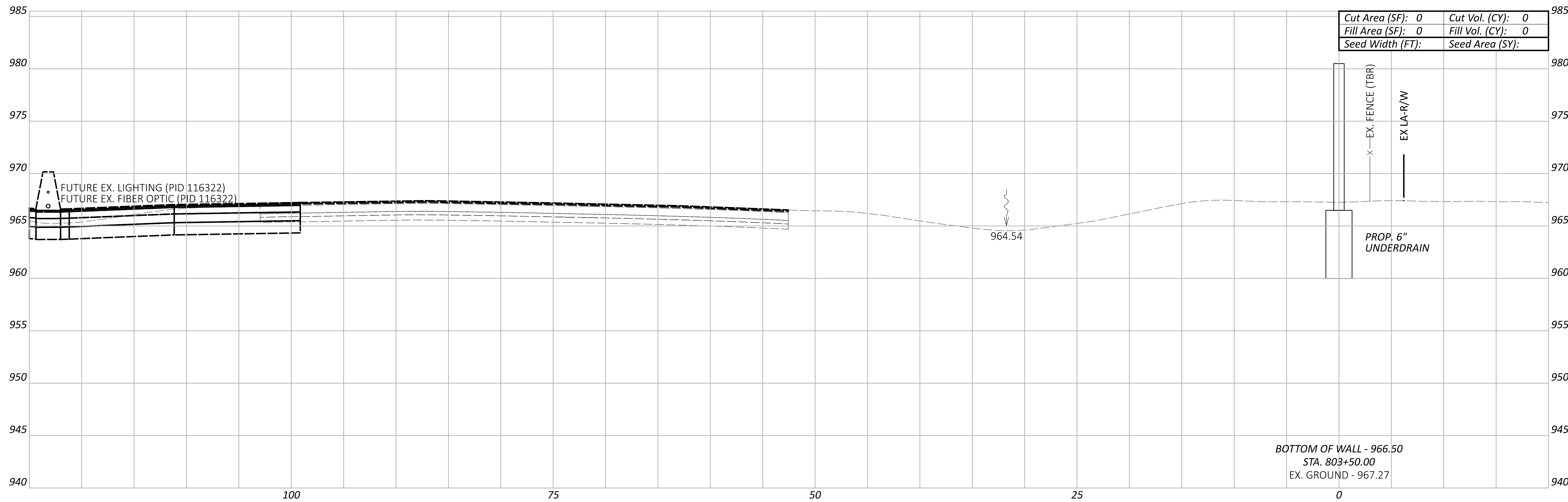
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 803+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 7:59:00 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS088.dgn



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.105	P.295

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 819-4900  
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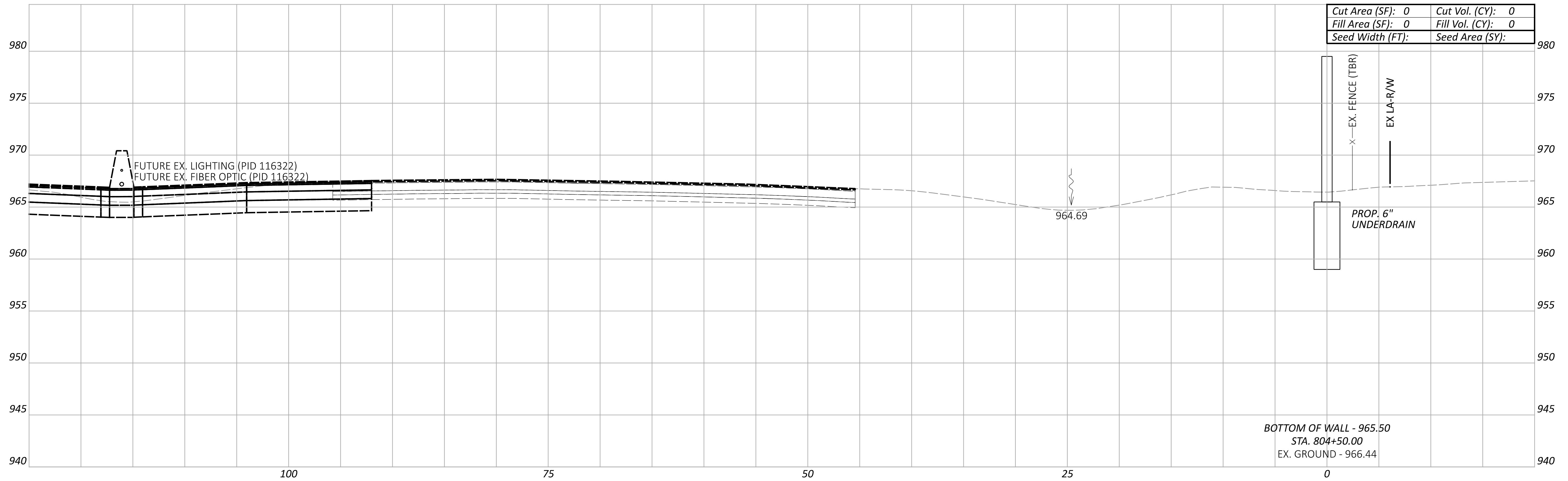
DESIGNER  
**JMK**  
 REVIEWER  
**JDH** 03-27-24

PROJECT ID  
**117607**

**CROSS SECTIONS - WALL 8  
 STA. 803+00.00 TO STA. 803+50.00**

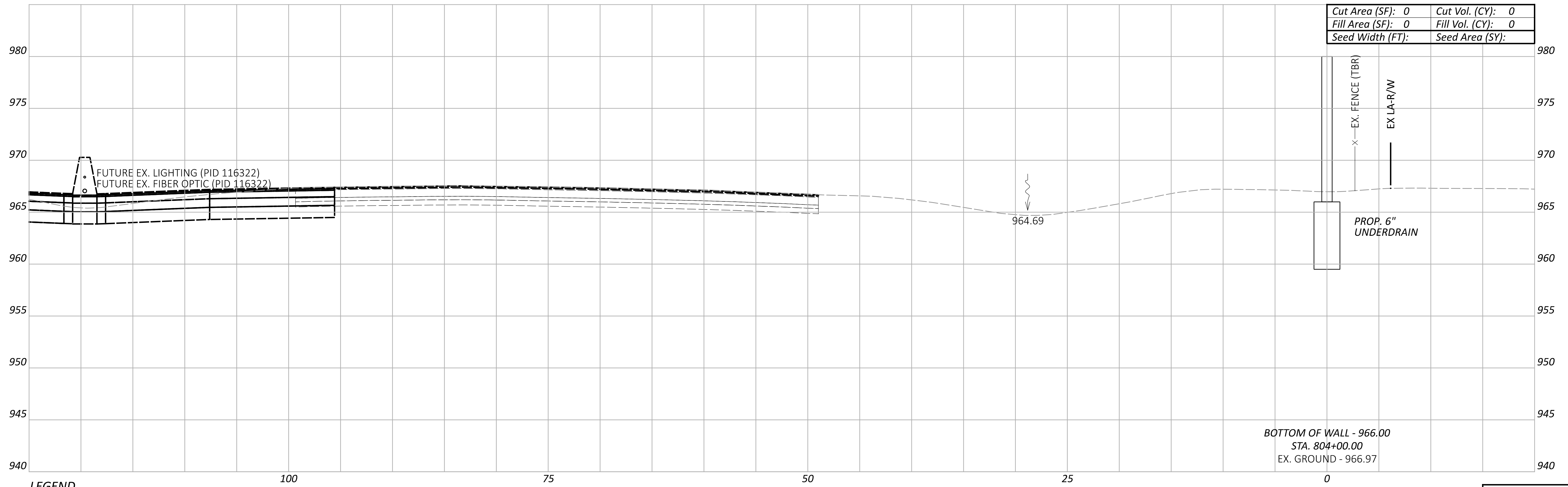
**FRA-161-15.80 NOISE WALLS**

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 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS0088.dgn



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Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 965.50  
 STA. 804+50.00  
 EX. GROUND - 966.44



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 966.00  
 STA. 804+00.00  
 EX. GROUND - 966.97

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.106	P.295

**CROSS SECTIONS - WALL 8  
 STA. 804+00.00 TO STA. 804+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 20 SUITE 100  
 COLUMBIANA, OH 43085  
 614.849.4900  
 www.arcadis.com

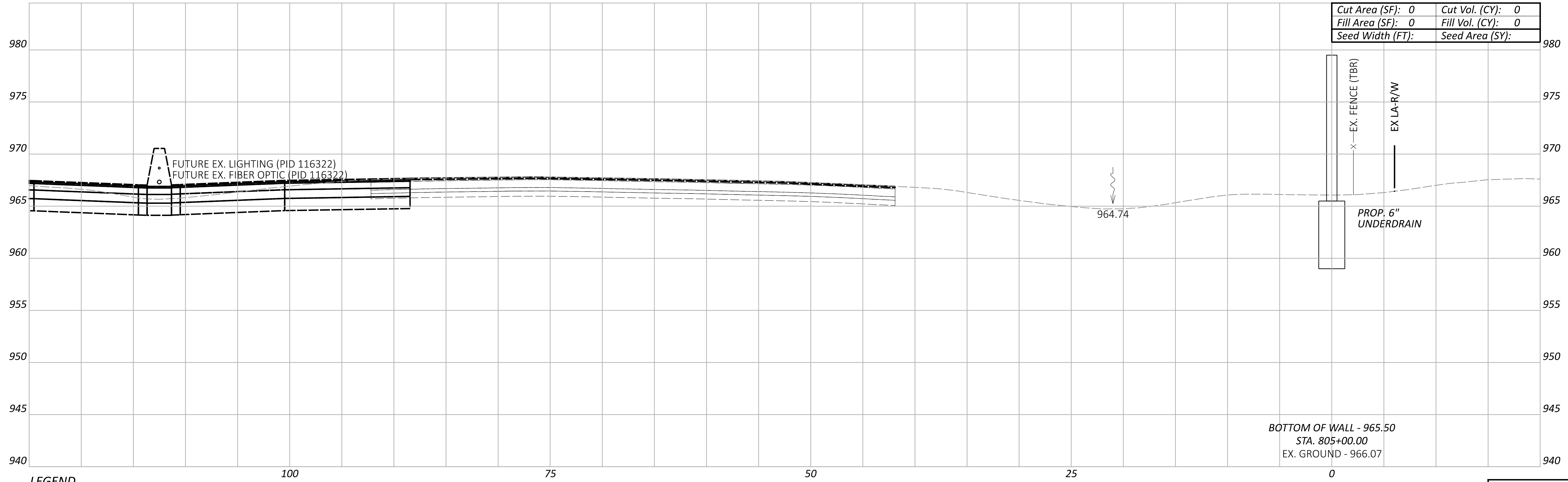
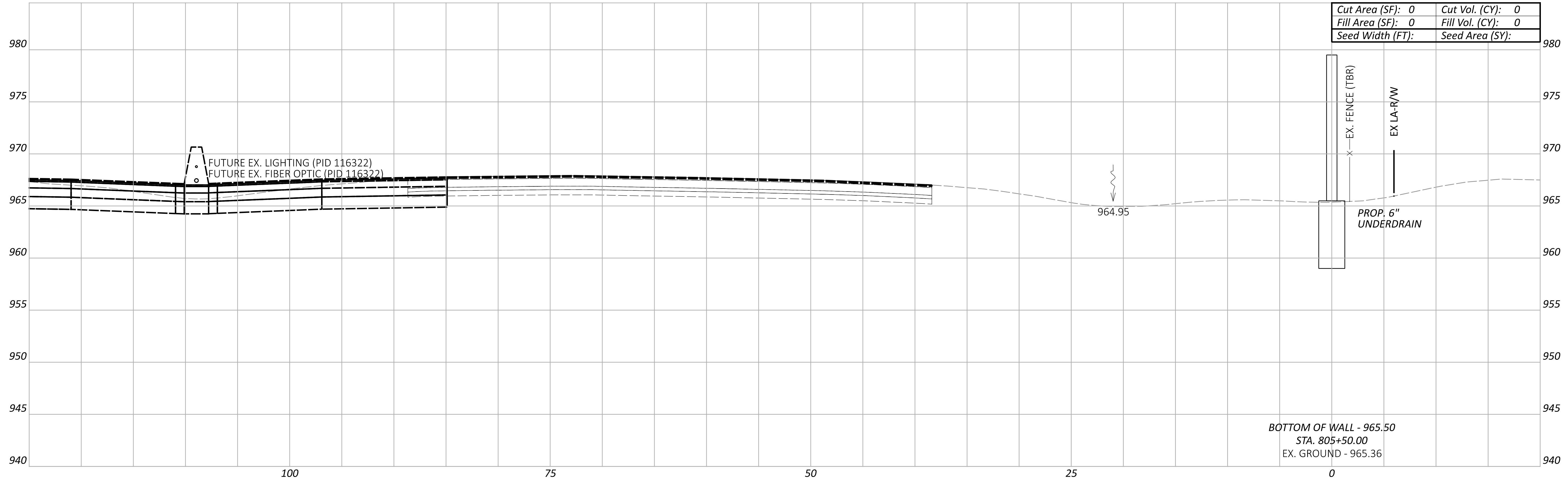
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 805+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 7:59:52 PM USER: jennifer.kelley  
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**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.107	P.295

**CROSS SECTIONS - WALL 8  
 STA. 805+00.00 TO STA. 805+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 810-4900  
 www.arcadis.com

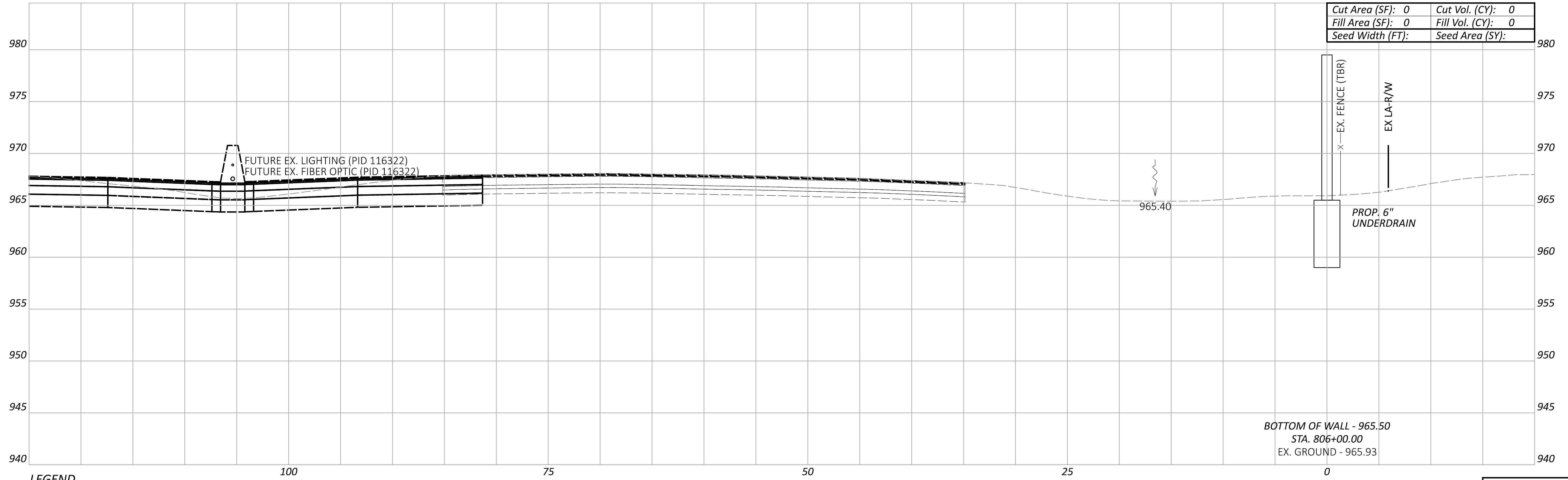
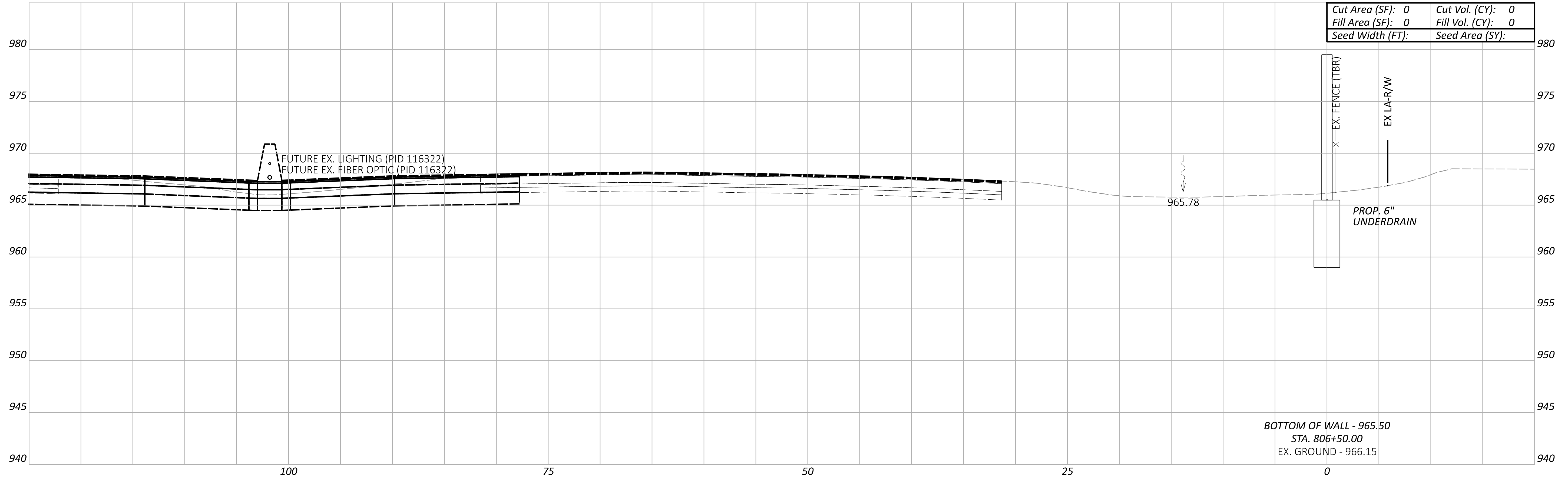
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 806+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:00:18 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS0088.dgn



**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.108	P.295

**CROSS SECTIONS - WALL 8  
 STA. 806+00.00 TO STA. 806+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 614.894.8100-8900  
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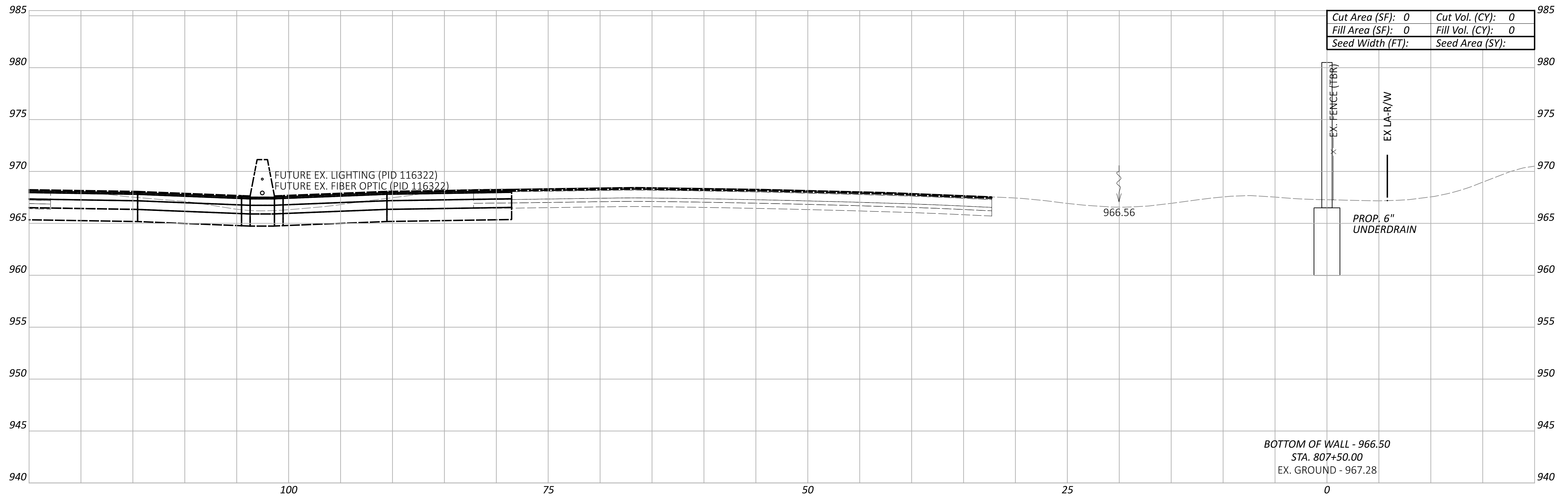
DESIGNER  
**JMK**

REVIEWER  
**JDH** 03-27-24

PROJECT ID  
**117607**

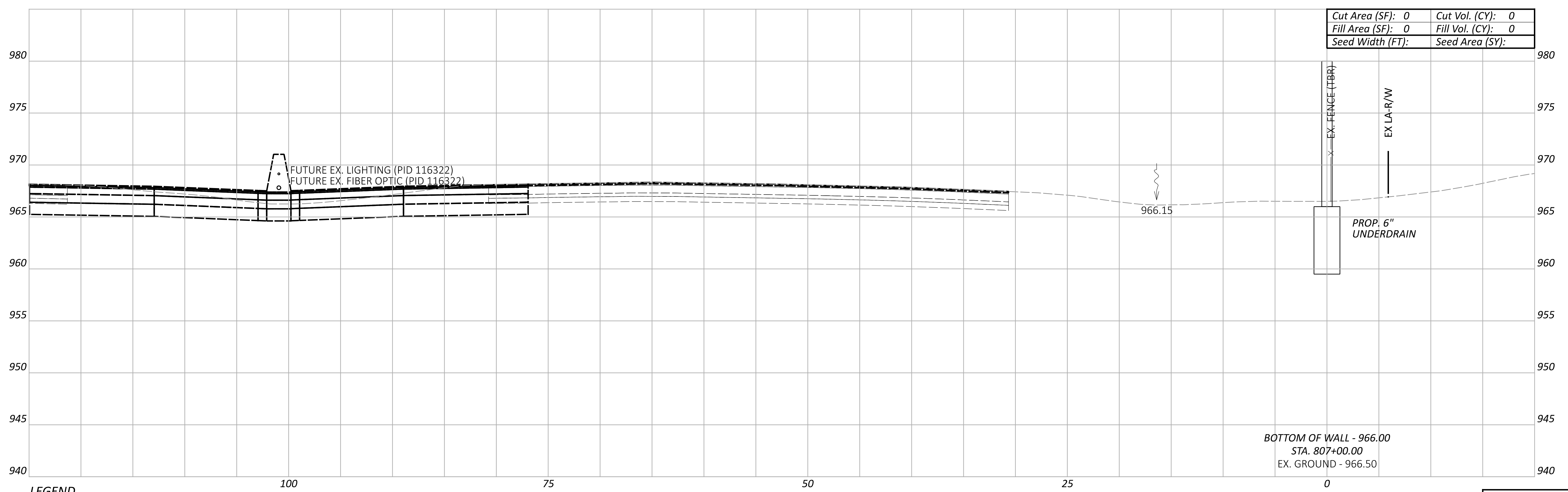
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 807+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:00:42 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS0088.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 966.50  
 STA. 807+50.00  
 EX. GROUND - 967.28



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 966.00  
 STA. 807+00.00  
 EX. GROUND - 966.50

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 8  
 STA. 807+00.00 TO STA. 807+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIA, MO 65203  
 (616) 419-4900  
 www.arcadis.com

DESIGNER  
**JMK**

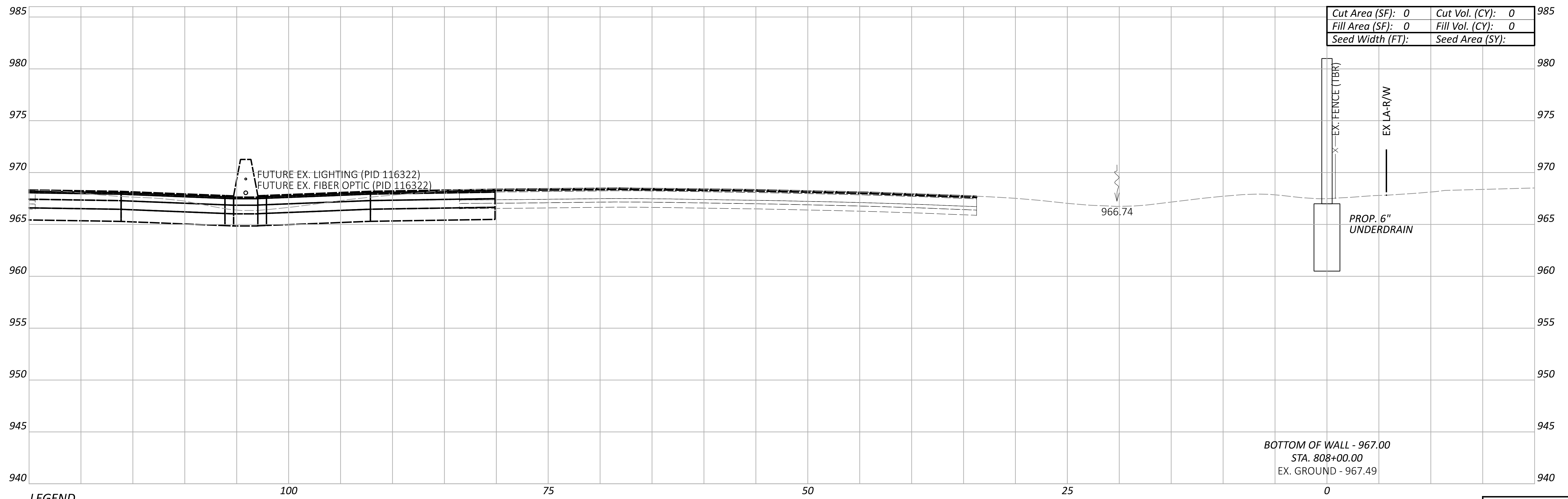
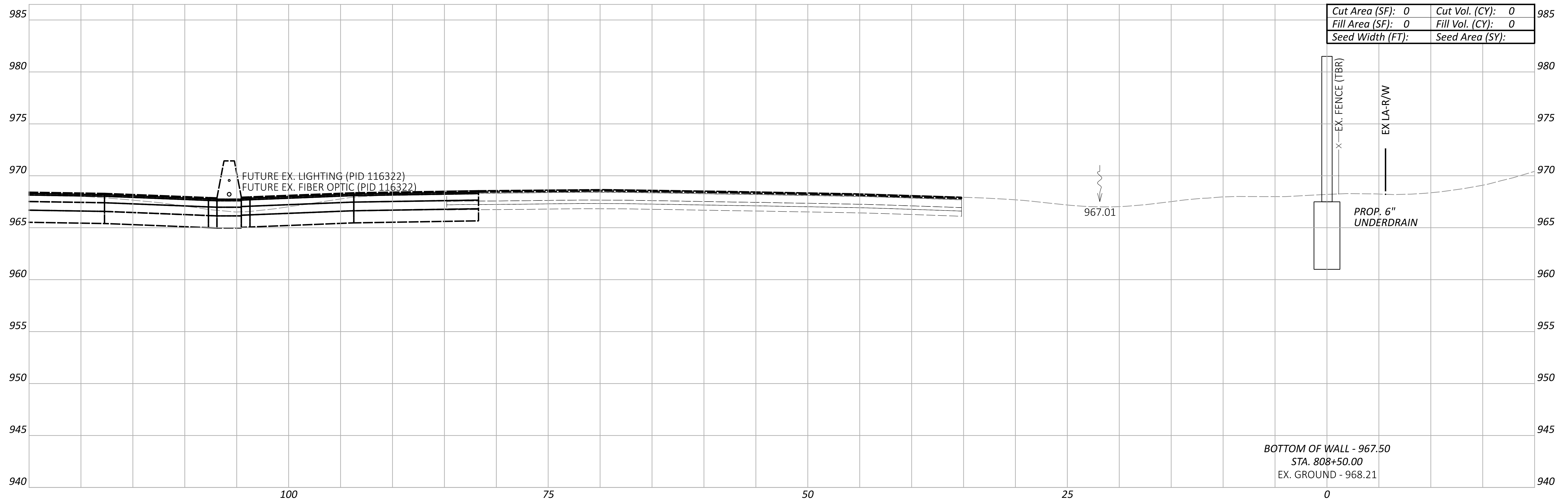
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
			P.109 P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 808+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:01:08 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS008B.dgn



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.110	P.295

**CROSS SECTIONS - WALL 8  
 STA. 808+00.00 TO STA. 808+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 240 SUITE 100  
 COLUMBIA, MO 65203  
 (616) 414-4900  
 www.arcadis.com

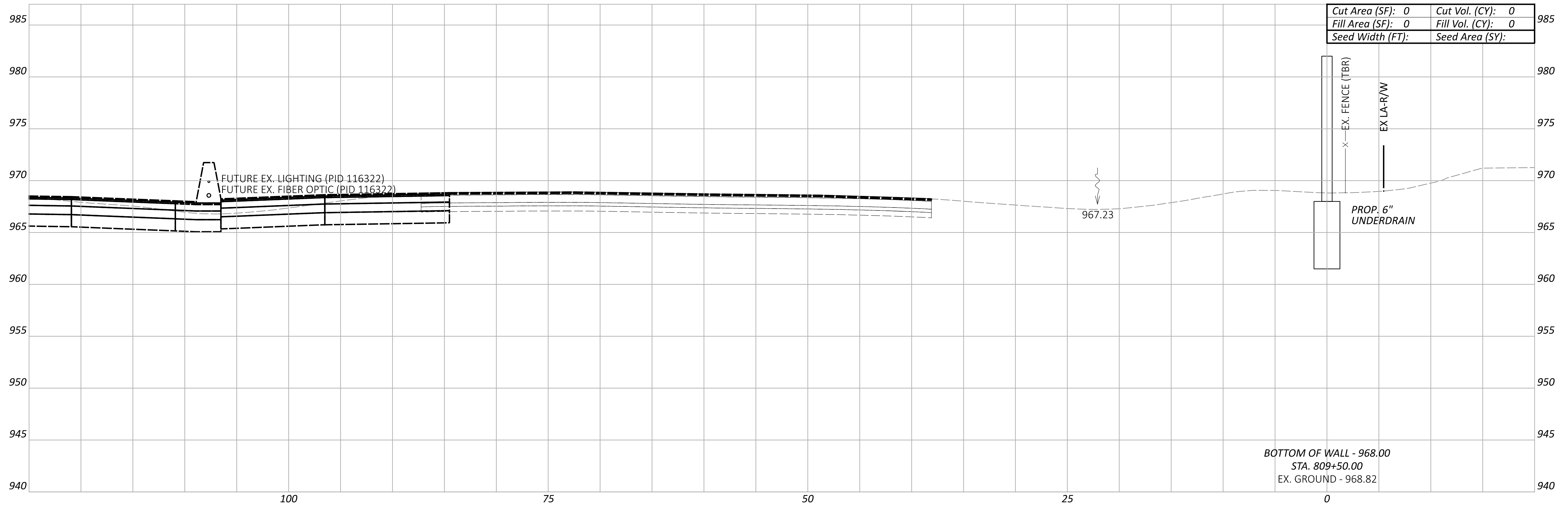
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

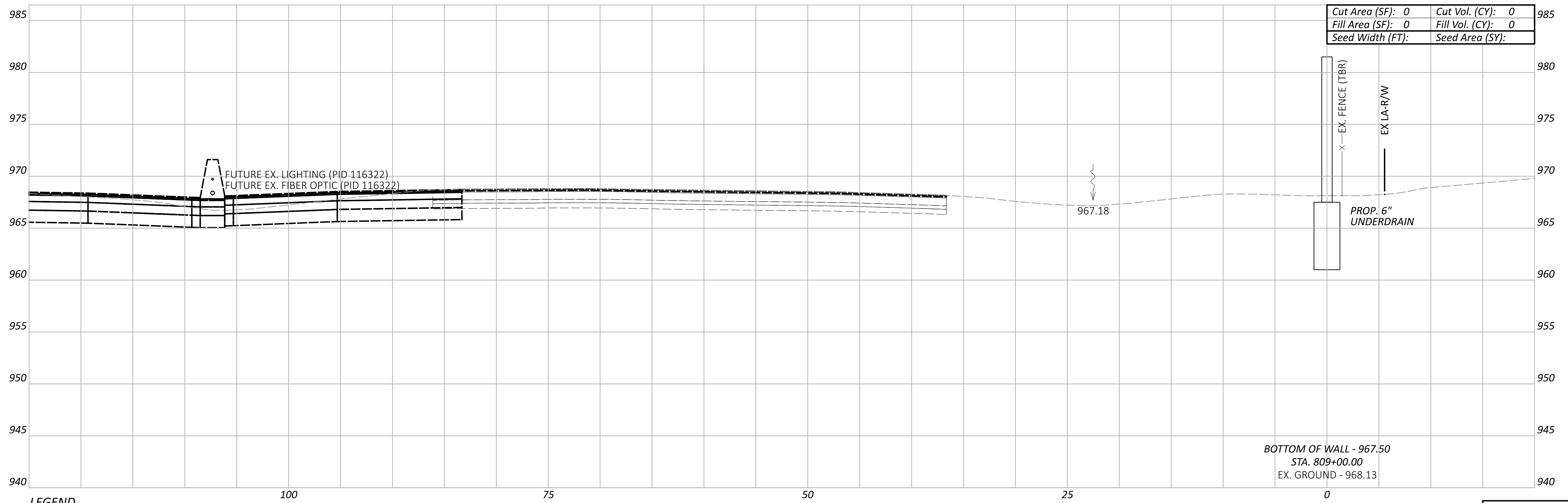
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 809+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:01:34 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS0088.dgn



BOTTOM OF WALL - 968.00  
 STA. 809+50.00  
 EX. GROUND - 968.82

Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



BOTTOM OF WALL - 967.50  
 STA. 809+00.00  
 EX. GROUND - 968.13

Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.111	P.295

**CROSS SECTIONS - WALL 8**  
 STA. 809+00.00 TO STA. 809+50.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 34, SUITE 100  
 COLUMBIA, MO 65203  
 (616) 441-4900  
 www.arcadis.com

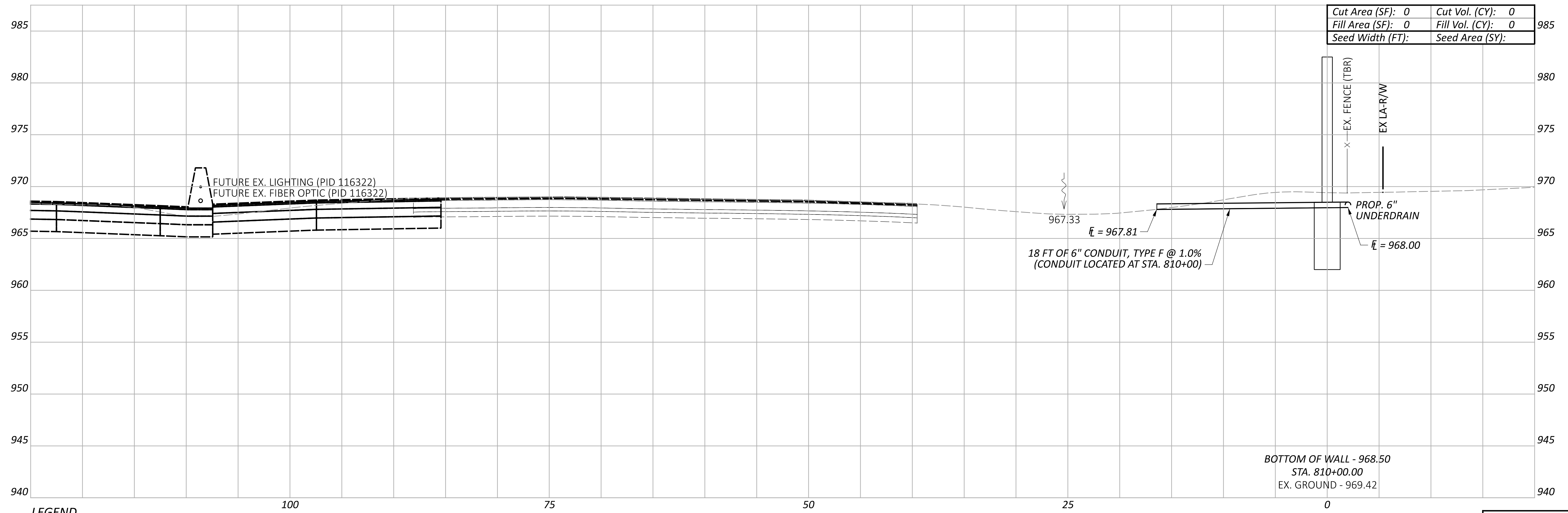
DESIGNER  
**JMK**

REVIEWER  
**JDH** 03-27-24

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 810+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:01:59 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS0088.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

BOTTOM OF WALL - 968.50  
 STA. 810+00.00  
 EX. GROUND - 969.42

Sheet Totals			117607
Seeding	Cut	Fill	
P.112			P.295

**CROSS SECTIONS - WALL 8  
 STA. 810+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**

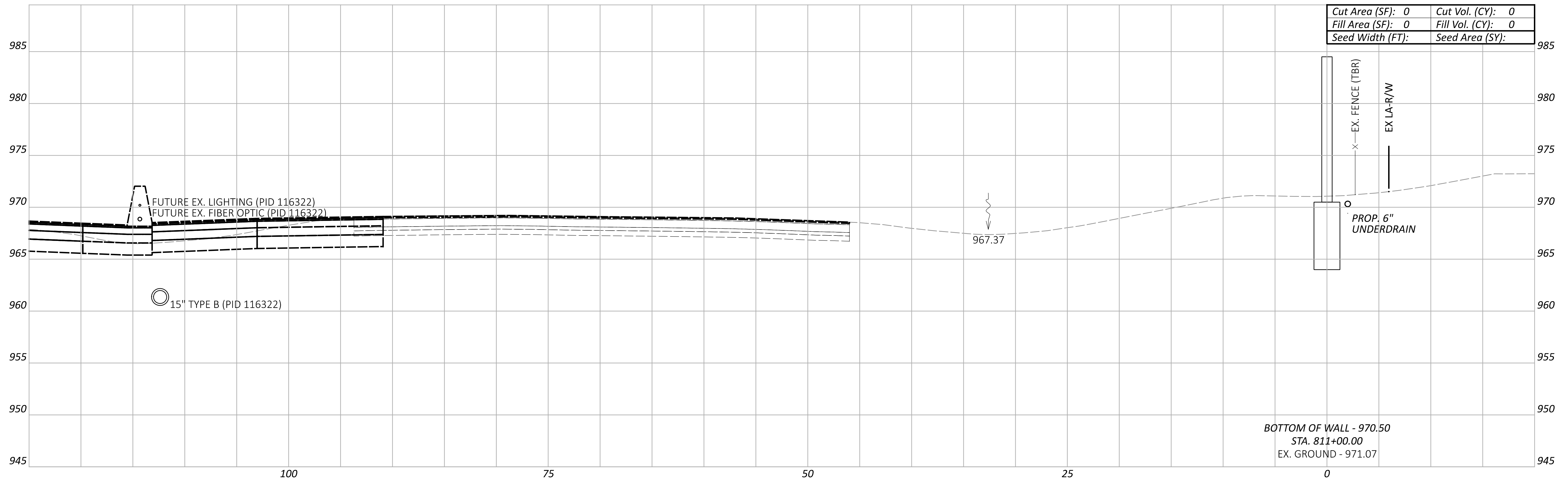
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



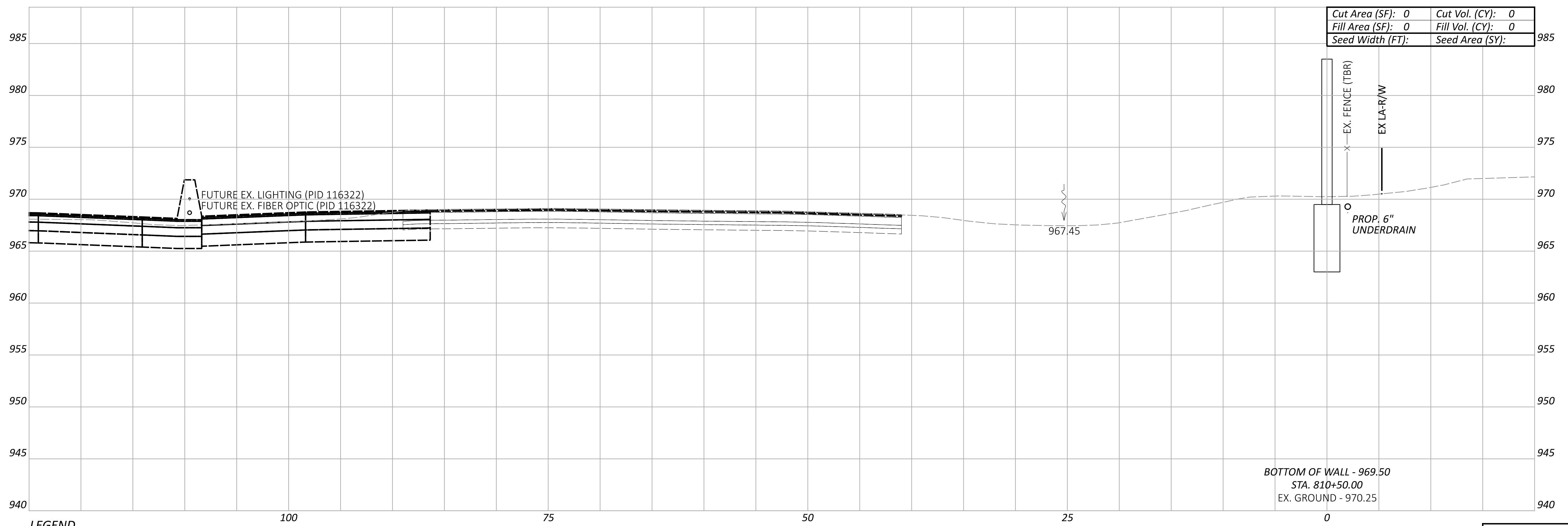
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MODEL: BLP\_WALL9 - 810+50.00 [Sheet] PAPER/SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:02:14 PM USER: jennifer.kelley  
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Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 970.50  
 STA. 811+00.00  
 EX. GROUND - 971.07



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 969.50  
 STA. 810+50.00  
 EX. GROUND - 970.25

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.113	P.295

**CROSS SECTIONS - WALL 8  
 STA. 810+50.00 TO STA. 811+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 200 SUITE 100  
 COLUMBIA, MO 65203  
 (646) 810-4900  
 www.arcadis.com

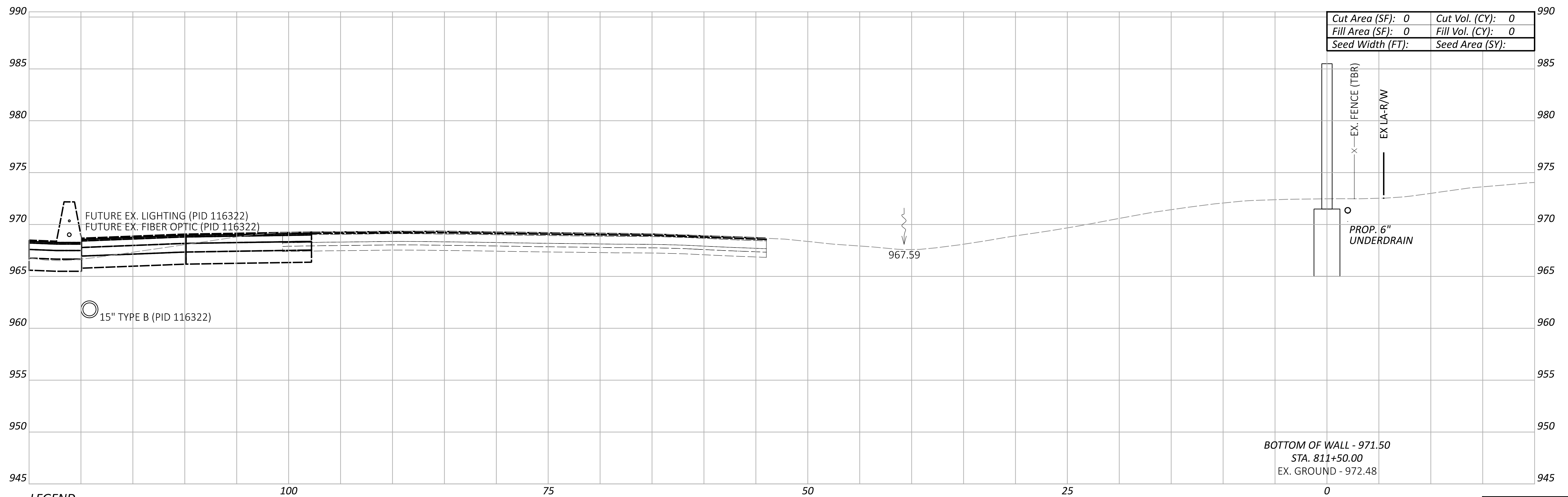
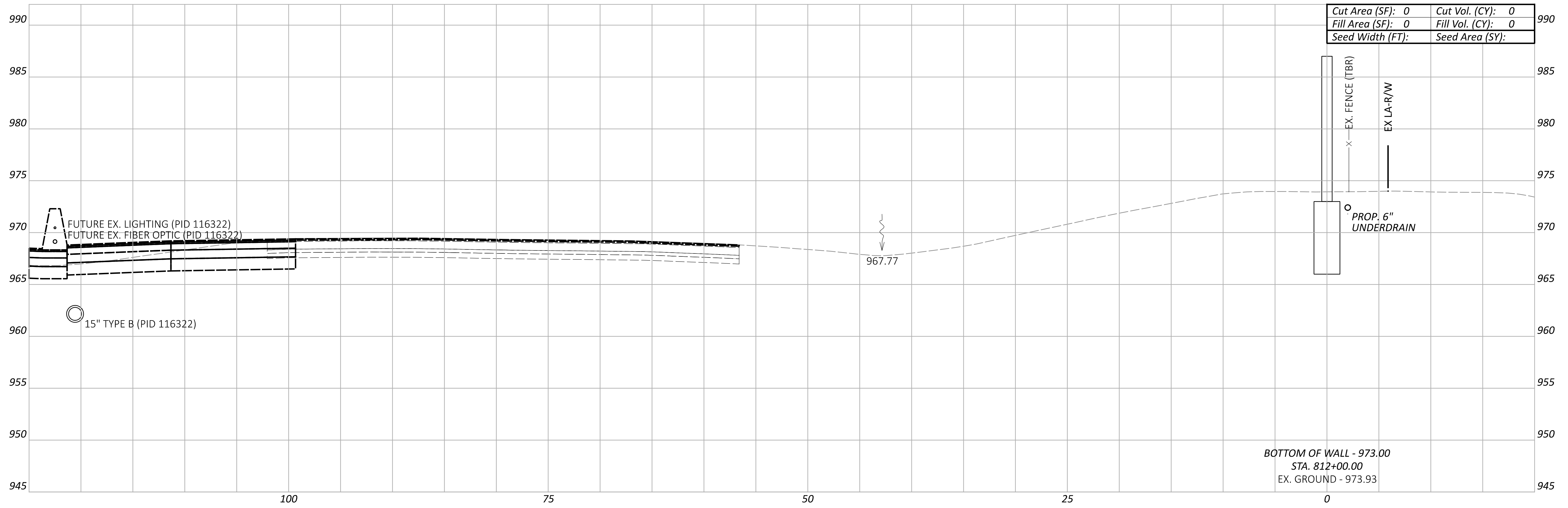
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 811+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:02:40 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS0088.dgn



**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.114	P.295

**CROSS SECTIONS - WALL 8**  
**STA. 811+50.00 TO STA. 812+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 38, SUITE 100  
 COLUMBIA, MO 65203  
 (646) 814-4900  
 www.arcadis.com

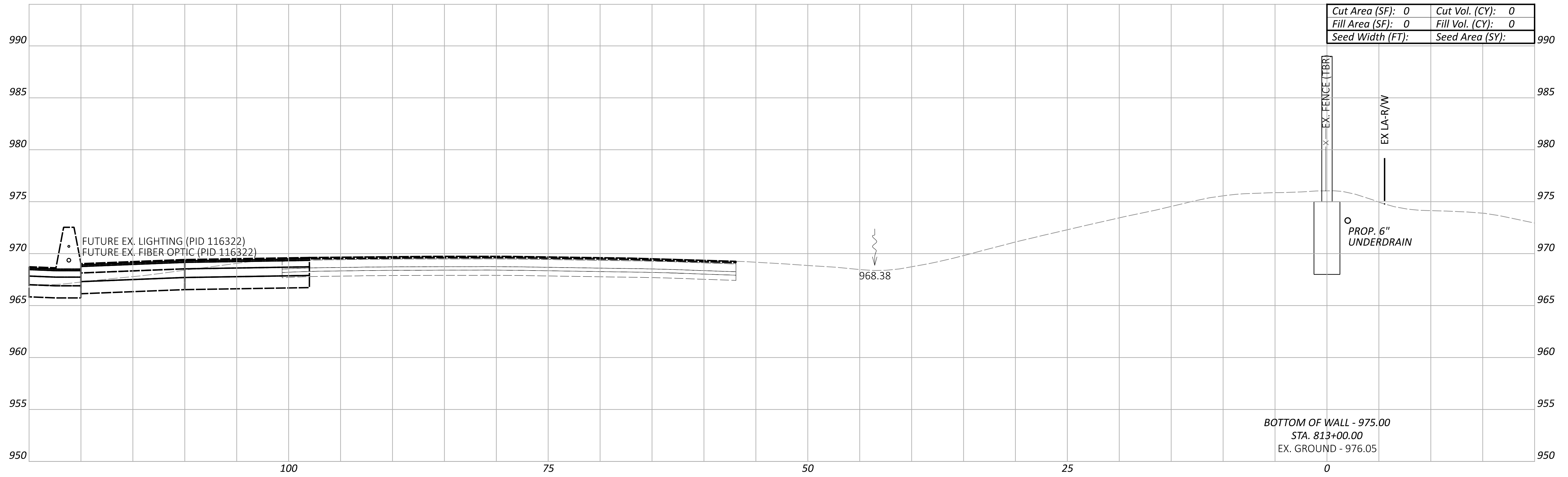
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

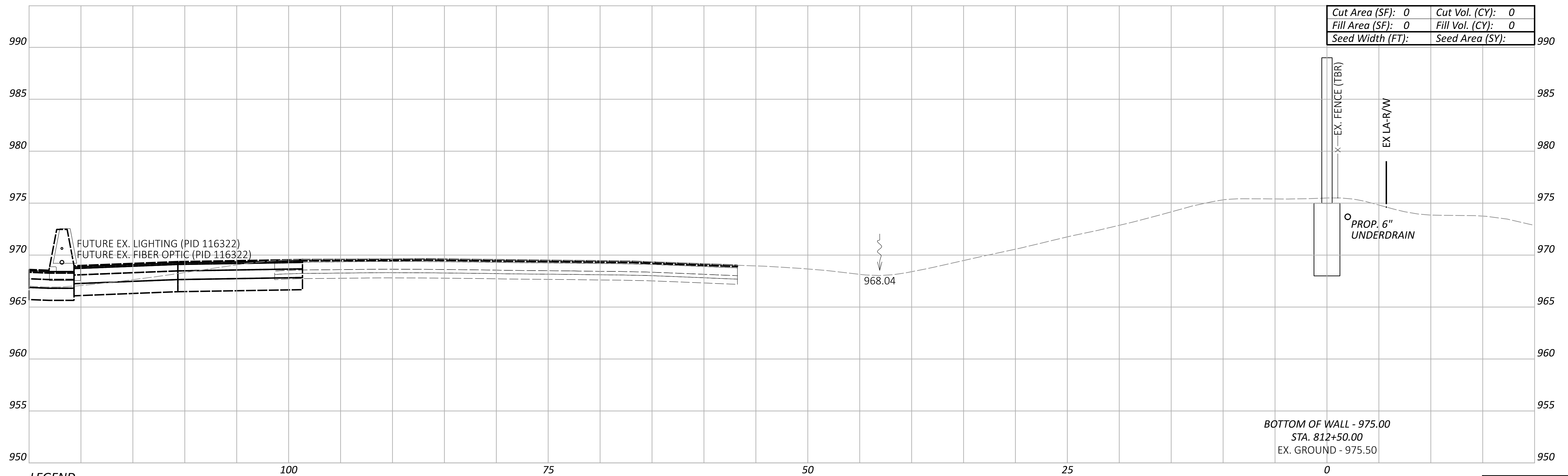
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 812+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:03:03 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS0088.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 975.00  
 STA. 813+00.00  
 EX. GROUND - 976.05



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 975.00  
 STA. 812+50.00  
 EX. GROUND - 975.50

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
			P.115 P.295

**CROSS SECTIONS - WALL 8  
 STA. 812+50.00 TO STA. 813+00.00**

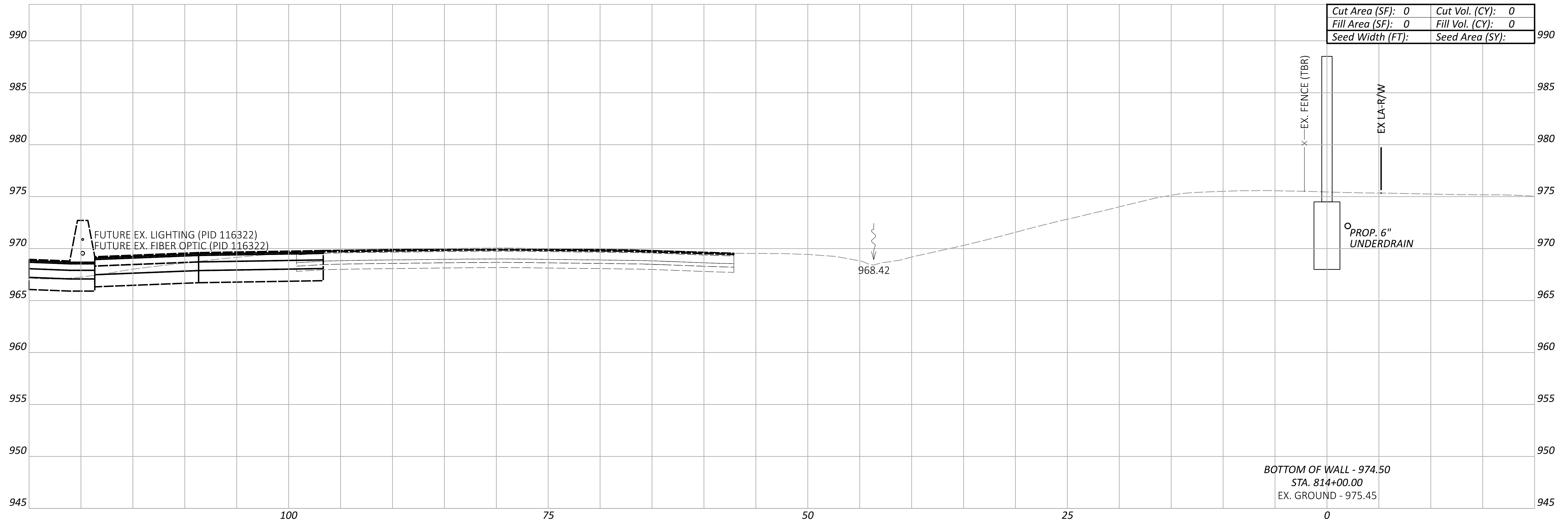
DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 20 SUITE 100  
 COLUMBIA, MO 65203  
 (616) 414-4900  
 www.arcadis.com

DESIGNER  
**JMK**  
 REVIEWER  
**JDH** 03-27-24

PROJECT ID  
**117607**

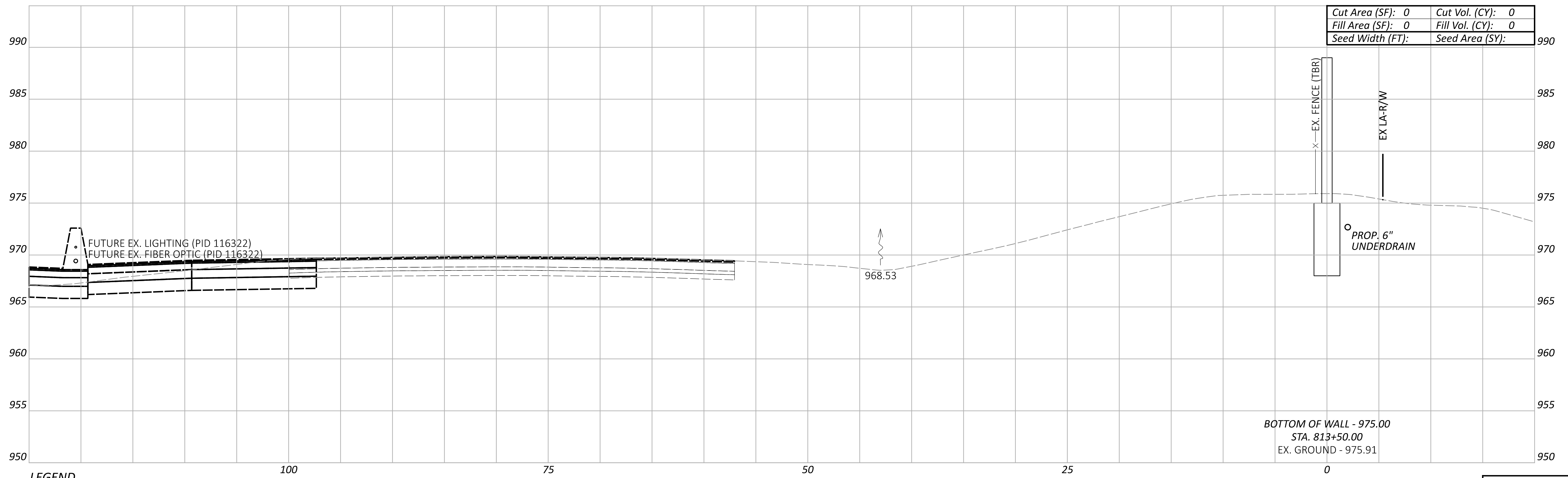
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 813+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:03:27 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS0088.dgn



BOTTOM OF WALL - 974.50  
 STA. 814+00.00  
 EX. GROUND - 975.45

Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



BOTTOM OF WALL - 975.00  
 STA. 813+50.00  
 EX. GROUND - 975.91

Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.116	P.295

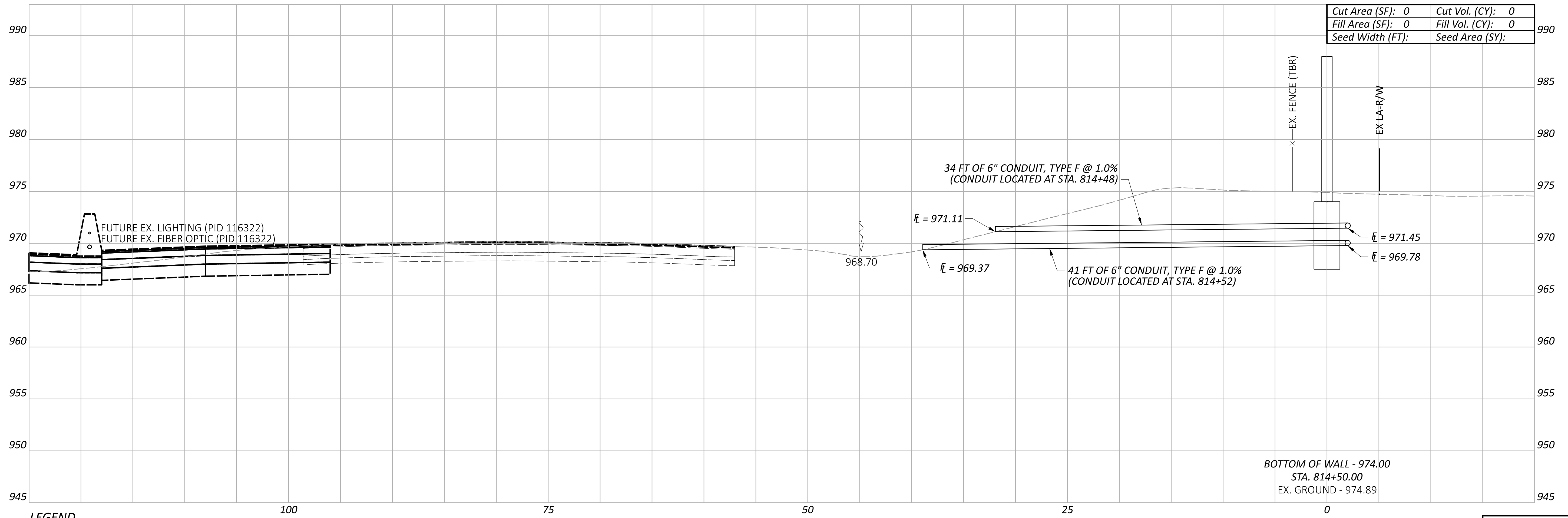
**CROSS SECTIONS - WALL 8  
 STA. 813+50.00 TO STA. 814+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 30, SUITE 100  
 COLUMBIA, MO 65203  
 (616) 841-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

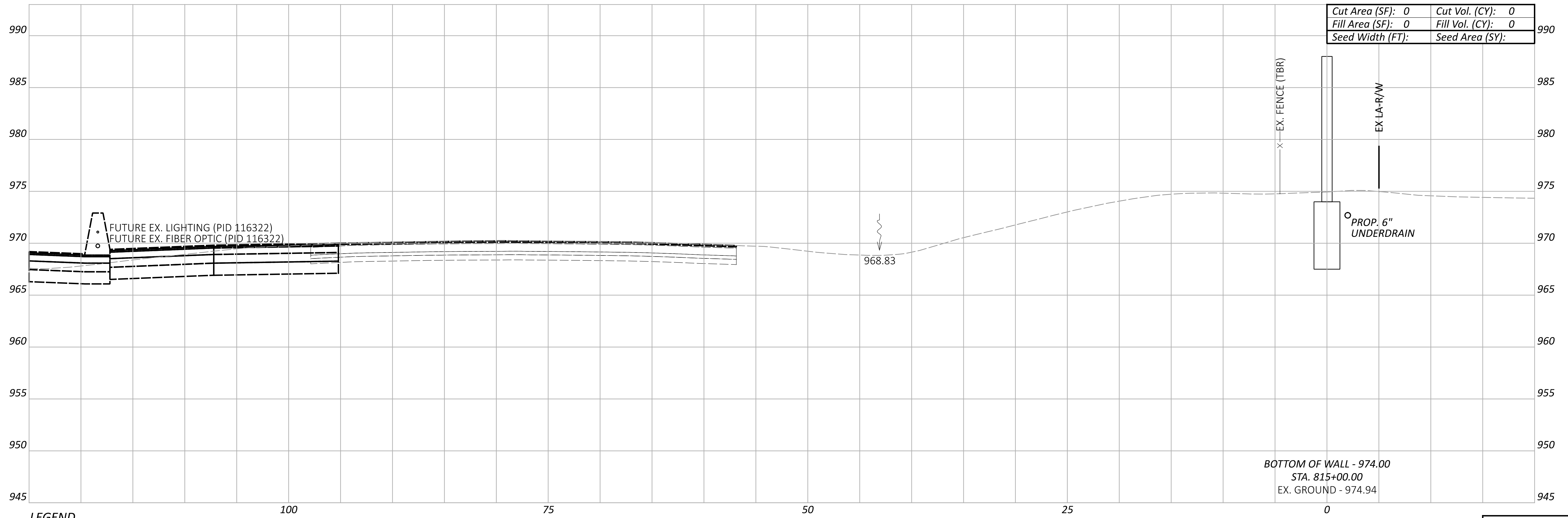
Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.117	P.295

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 36, SUITE 100  
 COLUMBIANA, OHIO 43085  
 (614) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

	EXISTING SR-161 PRIOR TO PID 116322
	FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

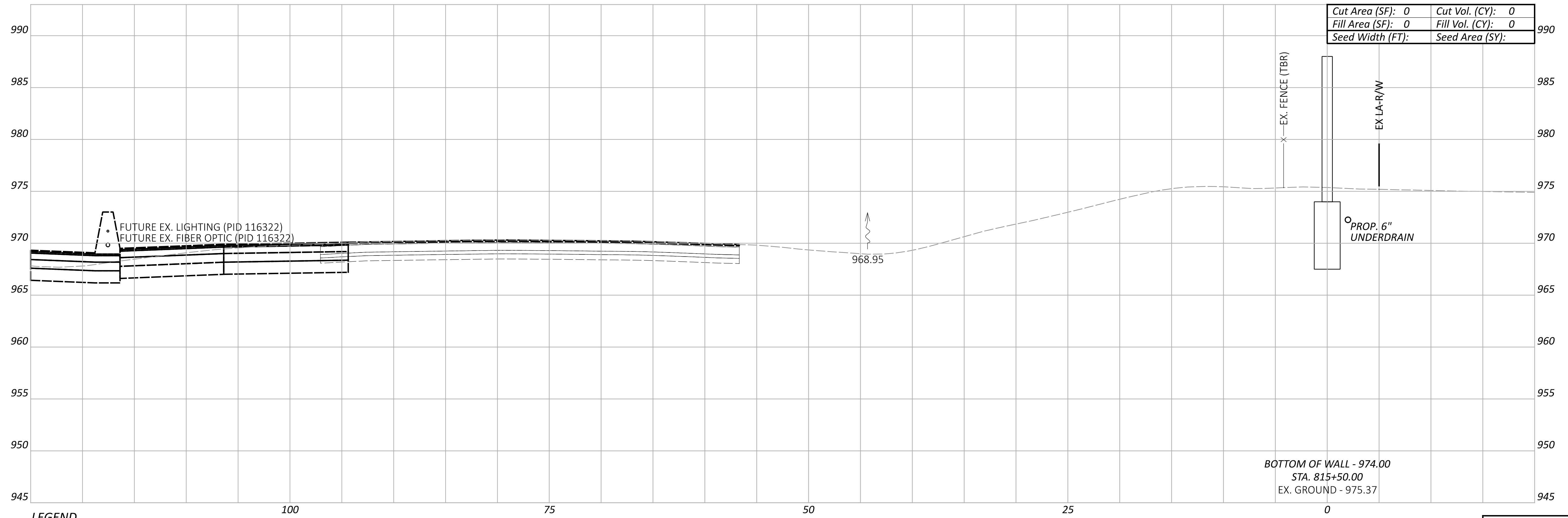
Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
			P.118   P.295

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 819-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



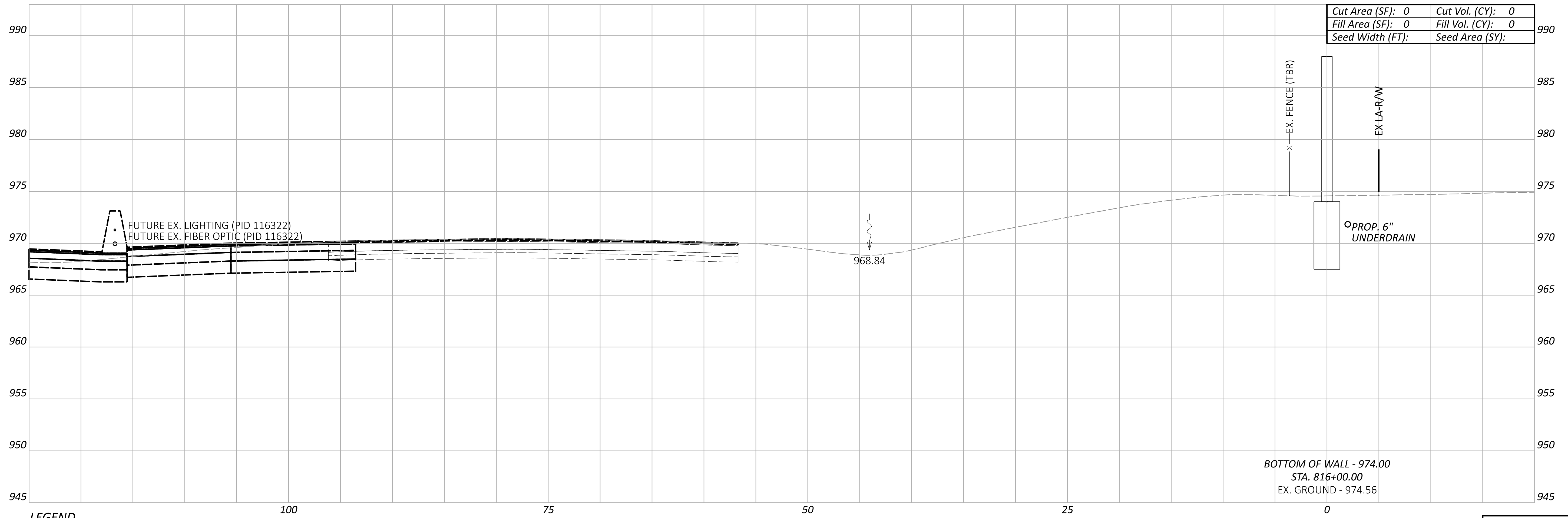
**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.119	P.295

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIANA, OHIO 43085  
 (614) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**  
 REVIEWER  
**JDH 03-27-24**



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.120	P.295

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIANA, OHIO 43085  
 (614) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**

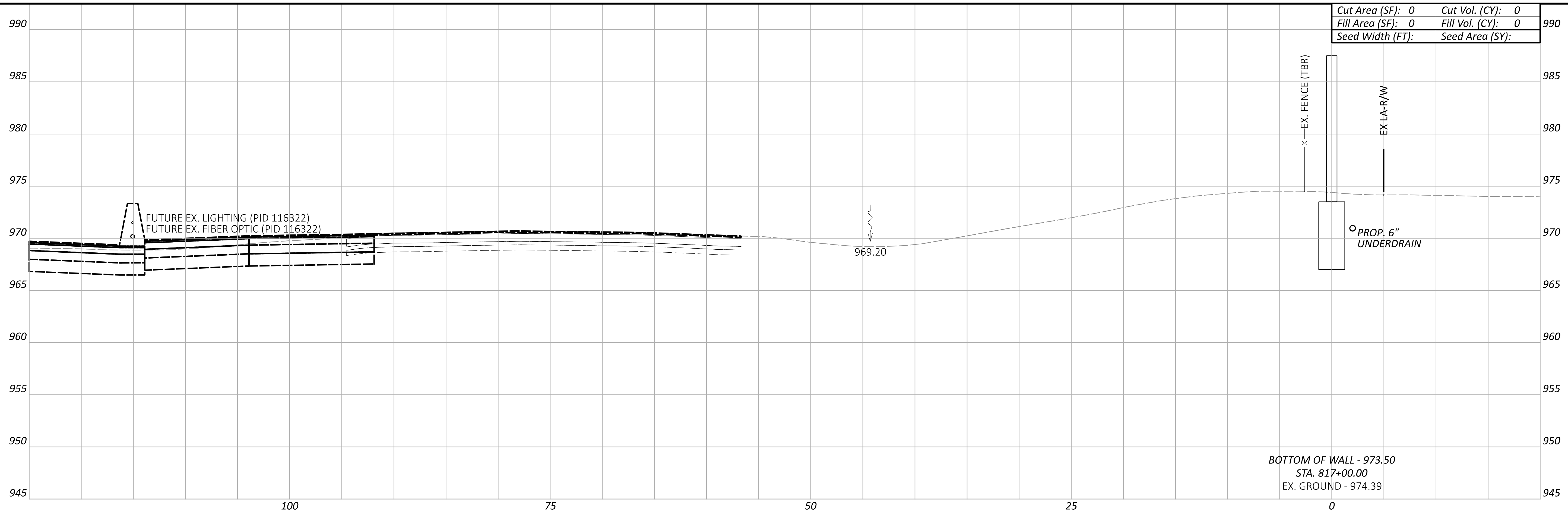
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

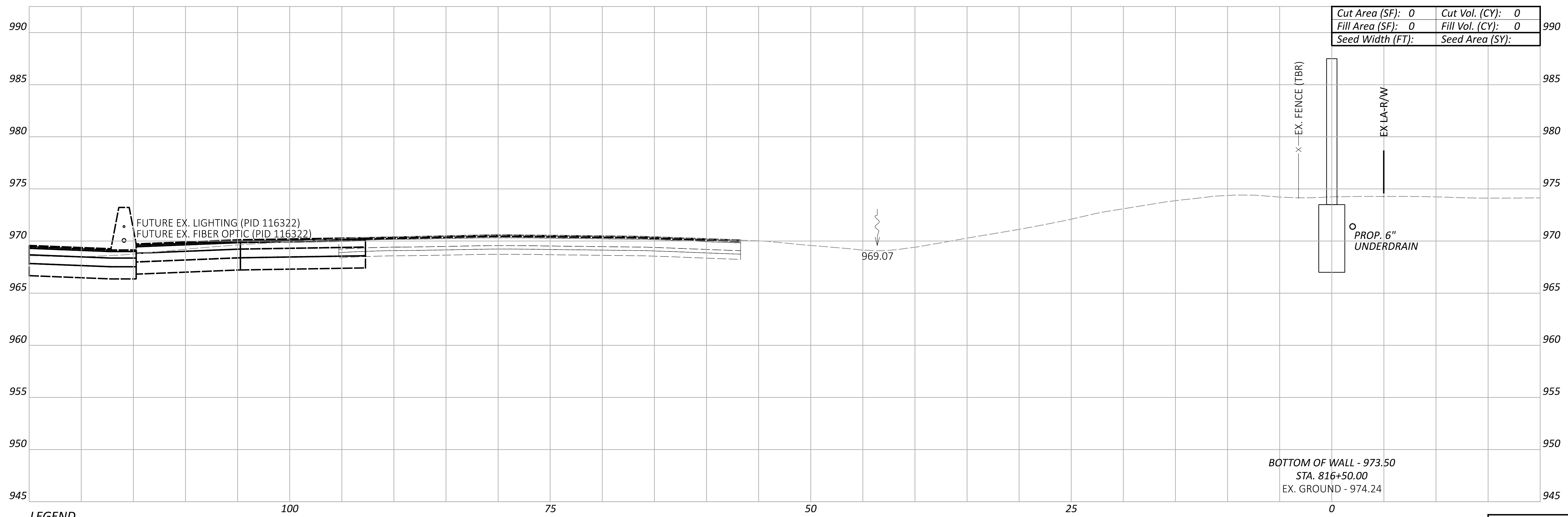


**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 816+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:04:43 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS0088.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.121	P.295

**CROSS SECTIONS - WALL 8**  
 STA. 816+50.00 TO STA. 817+00.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 819-4900  
 www.arcadis.com

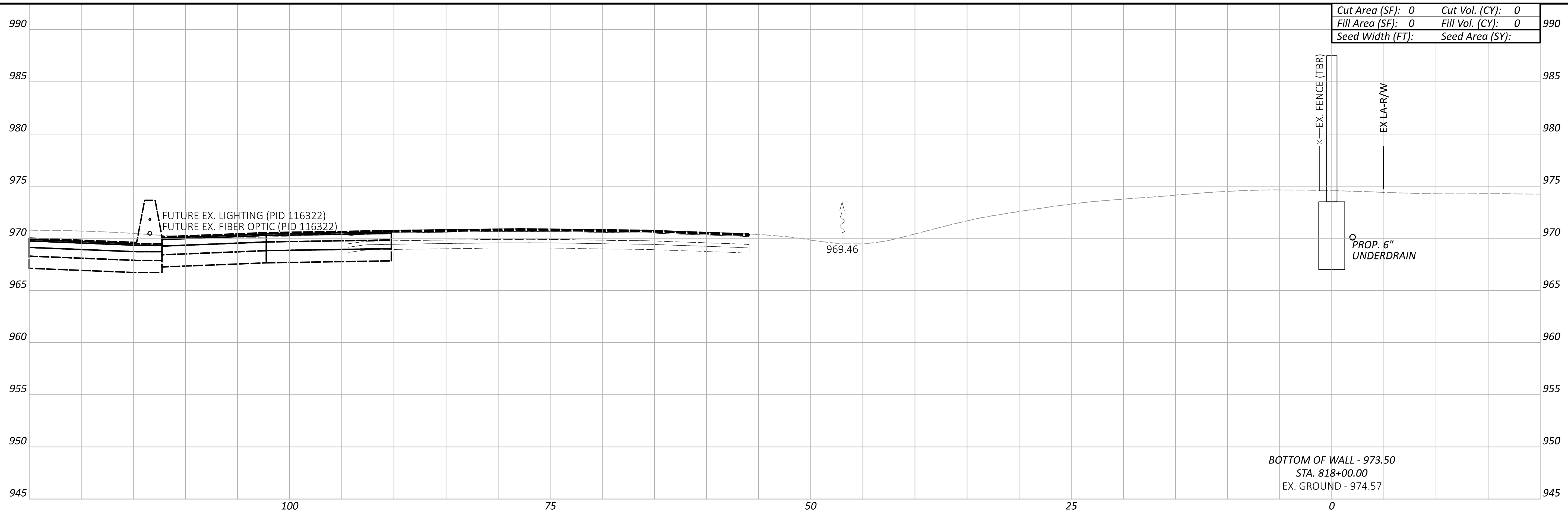
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

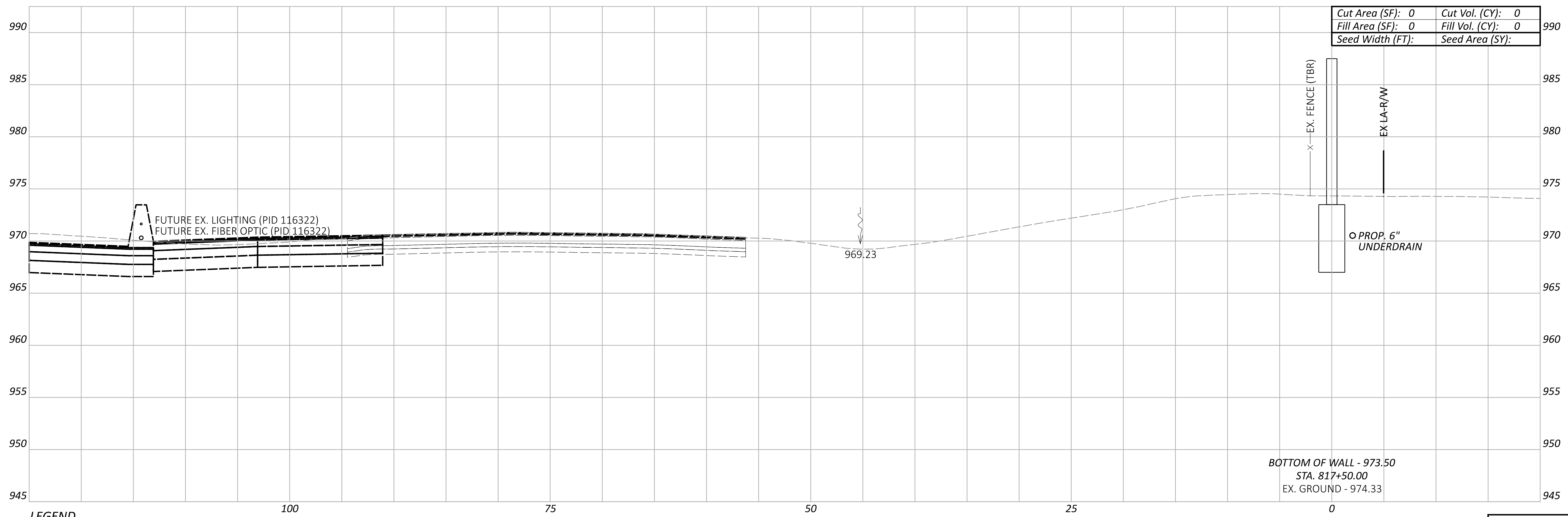
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 817+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:05:07 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS0088.dgn



BOTTOM OF WALL - 973.50  
 STA. 818+00.00  
 EX. GROUND - 974.57

Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



BOTTOM OF WALL - 973.50  
 STA. 817+50.00  
 EX. GROUND - 974.33

Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.122	P.295

**CROSS SECTIONS - WALL 8  
 STA. 817+50.00 TO STA. 818+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 30, SUITE 100  
 COLUMBIA, MO 65203  
 (646) 814-4900  
 www.arcadis.com

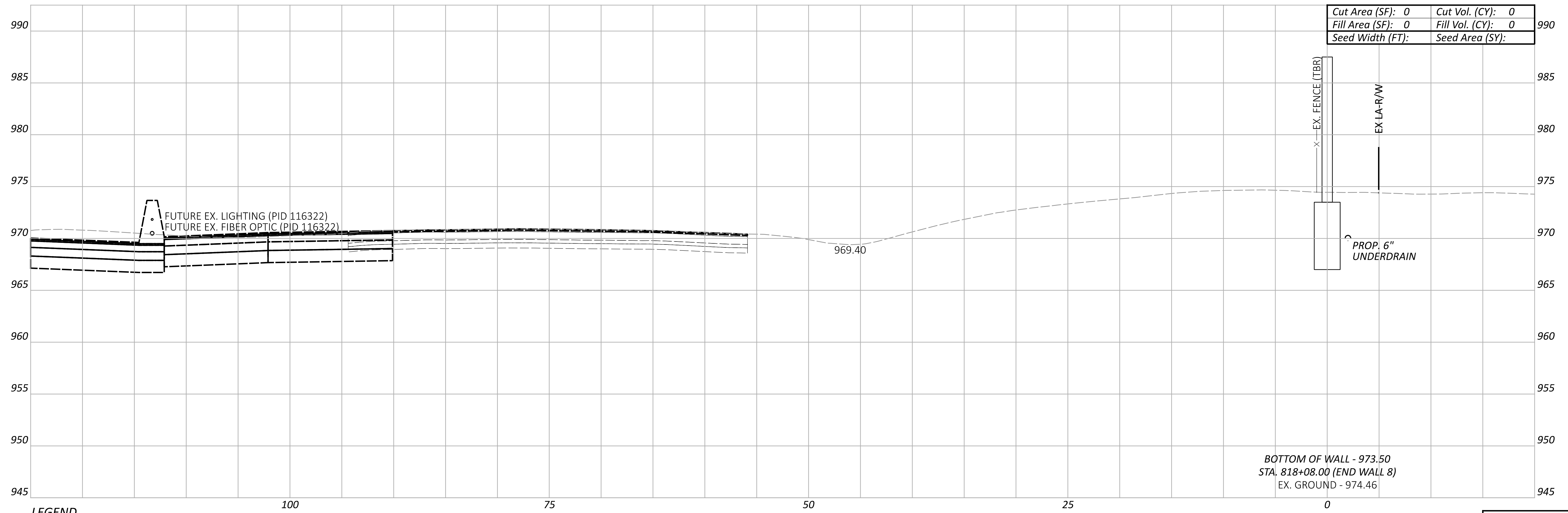
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 818+08.00 (Sheet) PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:05:30 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS0088.dgn



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 973.50  
 STA. 818+08.00 (END WALL 8)  
 EX. GROUND - 974.46

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.123	P.295

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIANA, OHIO 43085  
 (614) 810-4900  
 www.arcadis.com

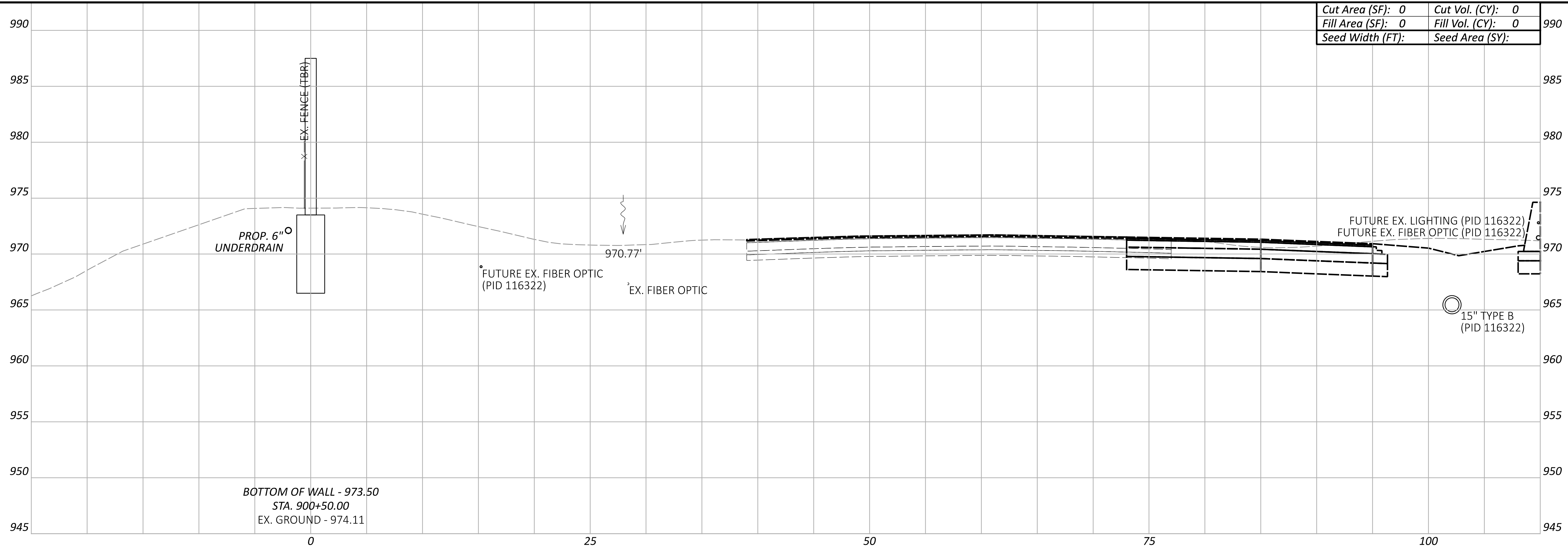
DESIGNER  
**JMK**  
 REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

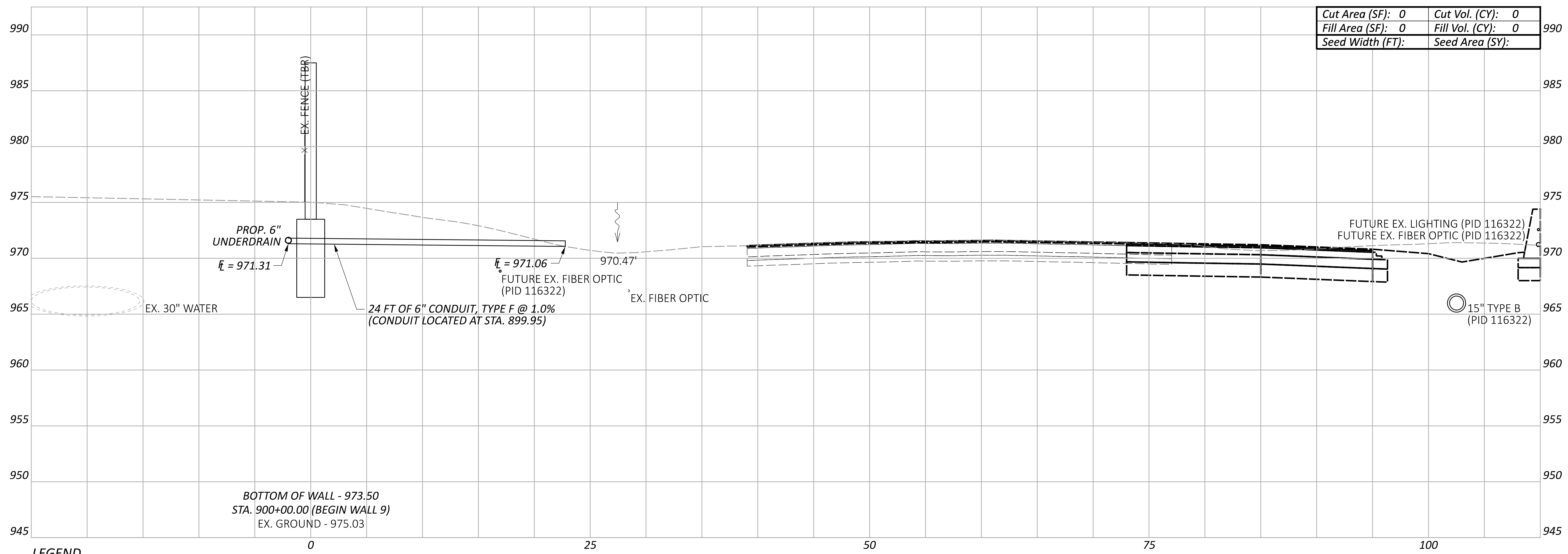
**CROSS SECTIONS - WALL 8  
 STA. 818+08.00**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 900+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:06:06 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS009.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 9  
 STA. 900+00.00 TO STA. 900+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIA, MO 65203  
 (646) 414-4900  
 www.arcadis.com

DESIGNER  
**JMK**

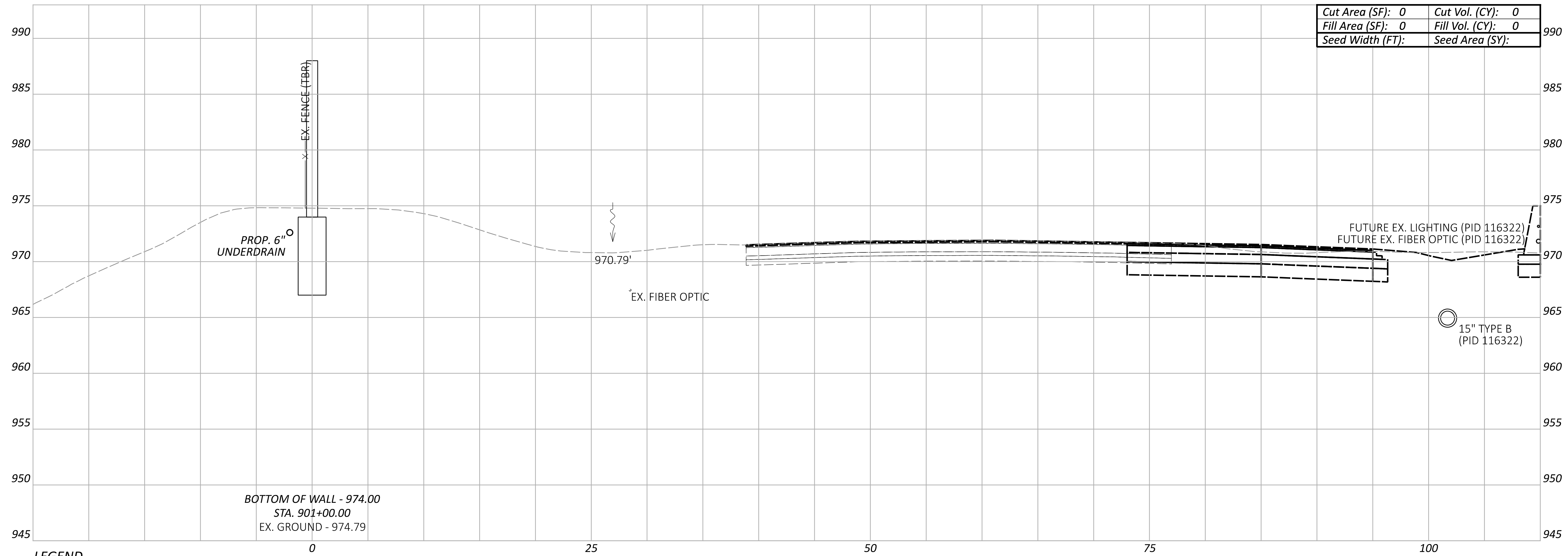
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.124	P.295
0	0	0		

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 901+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:06:52 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS009.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.125	P.295

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 34, SUITE 100  
 COLUMBIA, MO 65203  
 (644) 810-4900  
 www.arcadis.com

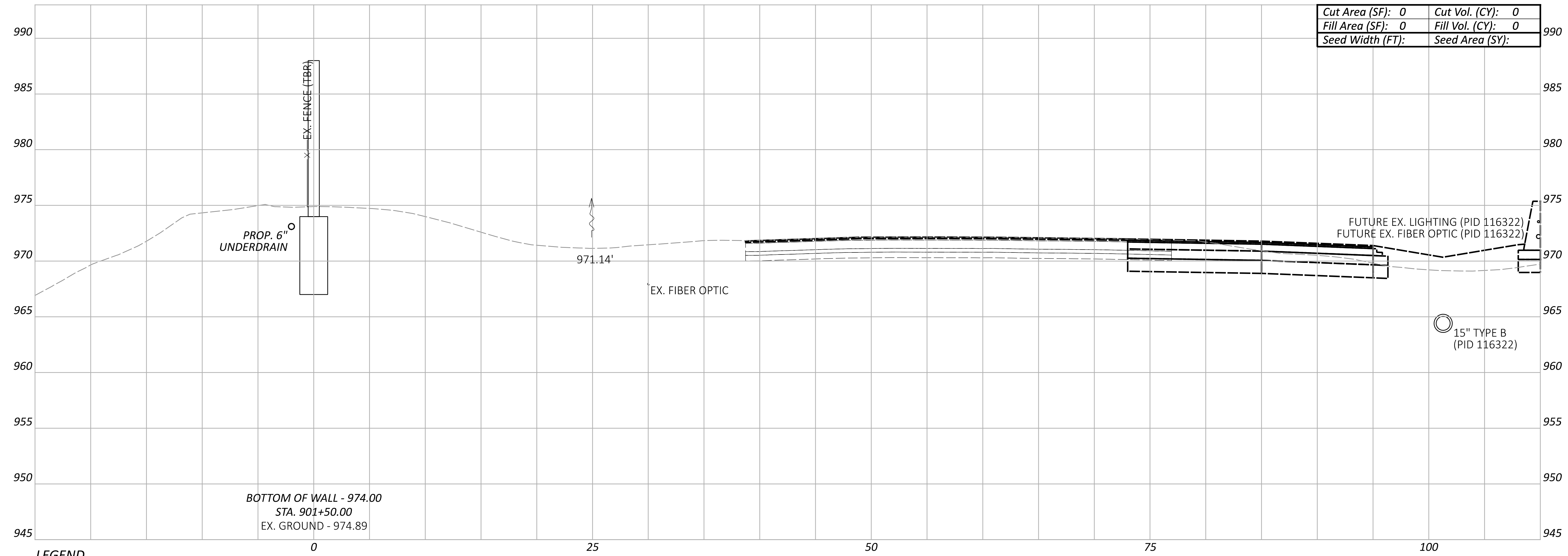
DESIGNER  
**JMK**  
 REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**CROSS SECTIONS - WALL 9  
 STA. 901+00.00**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 901+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:07:15 PM USER: jennifer.kelley  
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Seed Width (FT):		Seed Area (SY):	

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 9  
 STA. 901+50.00**

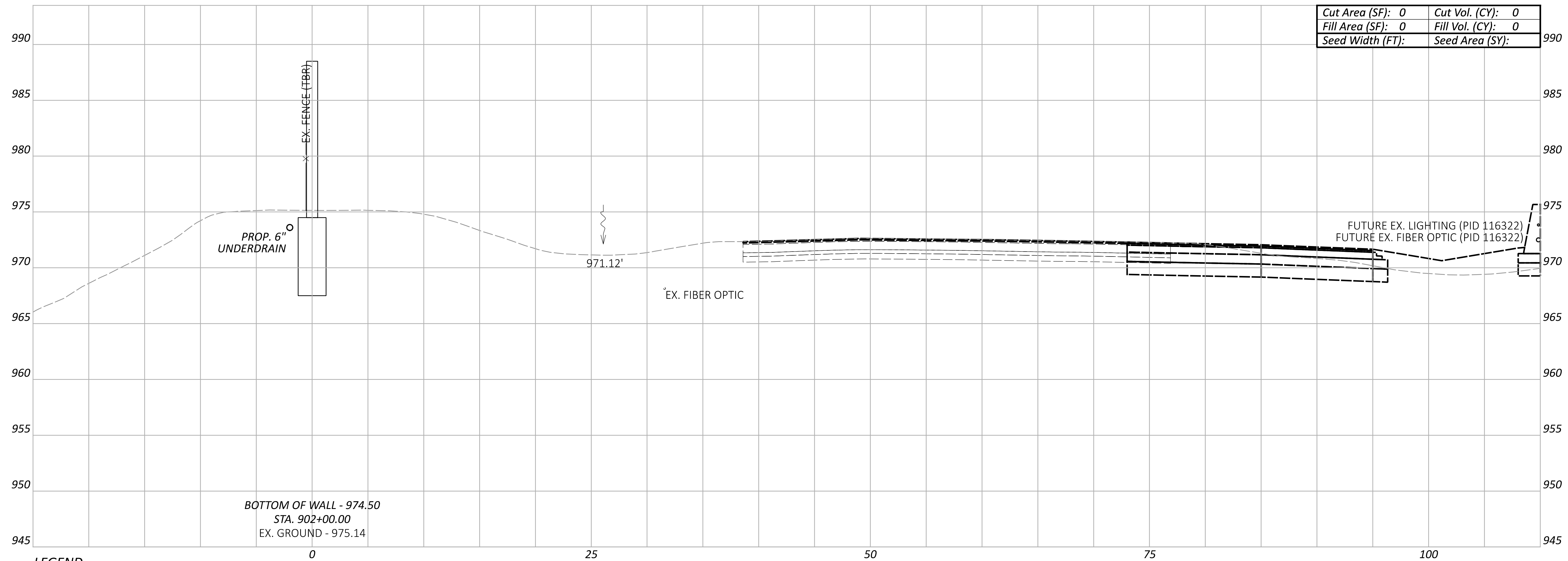
DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
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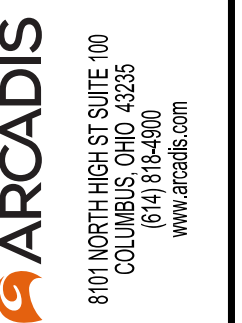
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Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
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DESIGN AGENCY



DESIGNER

JMK

REVIEWER

JDH 03-27-24

PROJECT ID

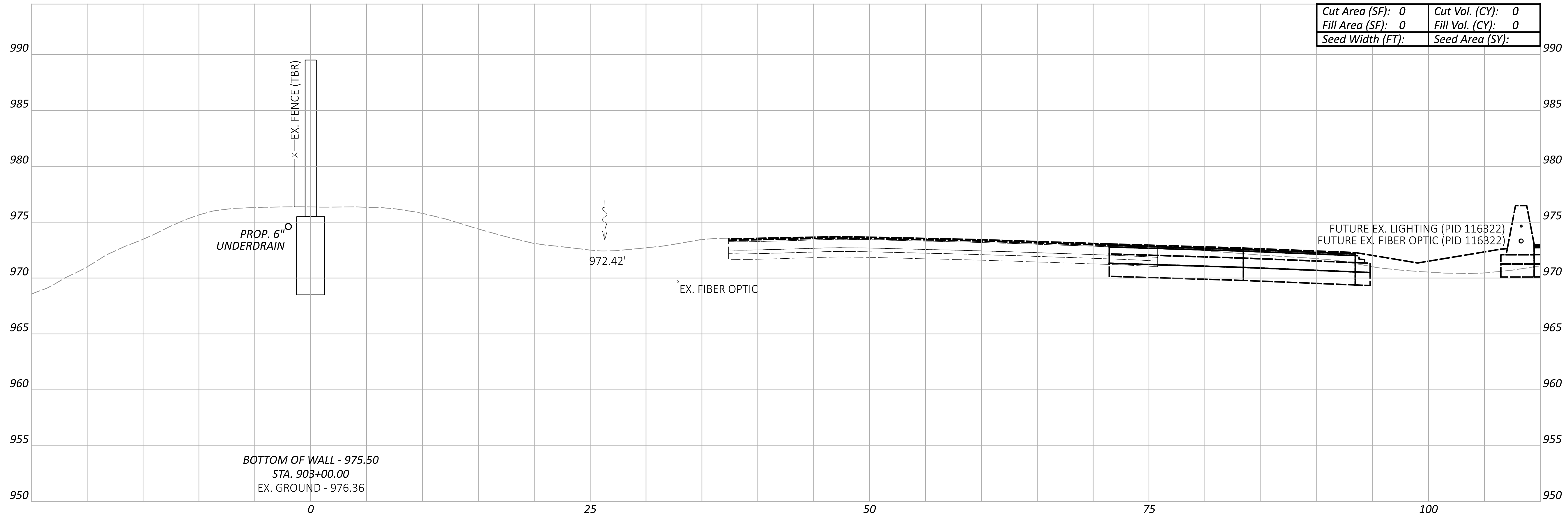
117607

SHEET

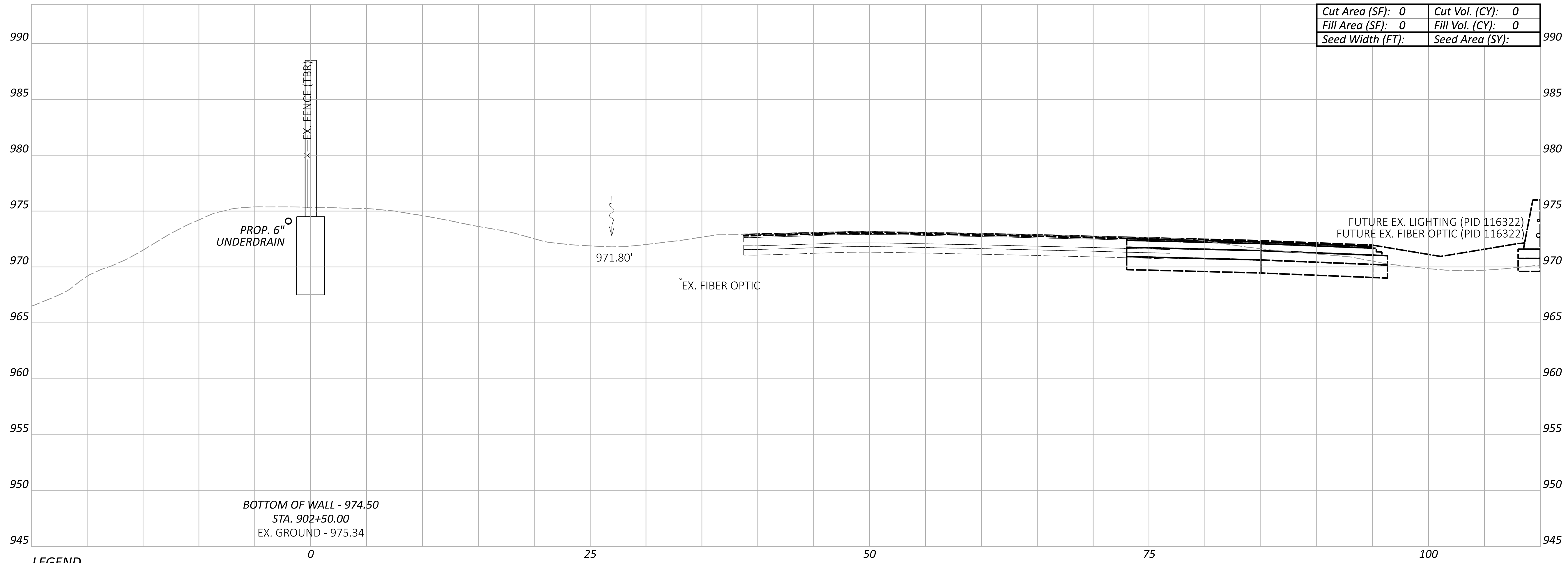
P.127 P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 902+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:07:59 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS009.dgn



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Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 9  
 STA. 902+50.00 TO STA. 903+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 32, SUITE 100  
 COLUMBIA, MO 65203  
 (646) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**  
 REVIEWER  
**JDH** 03-27-24

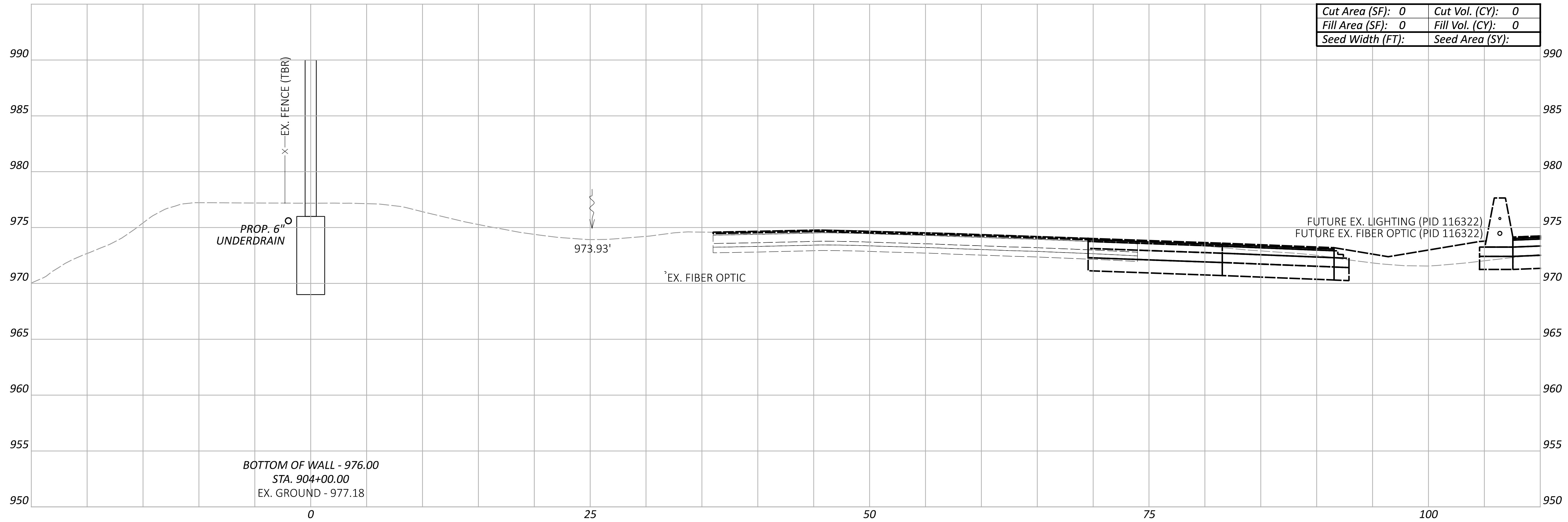
PROJECT ID  
**117607**

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.128	P.295
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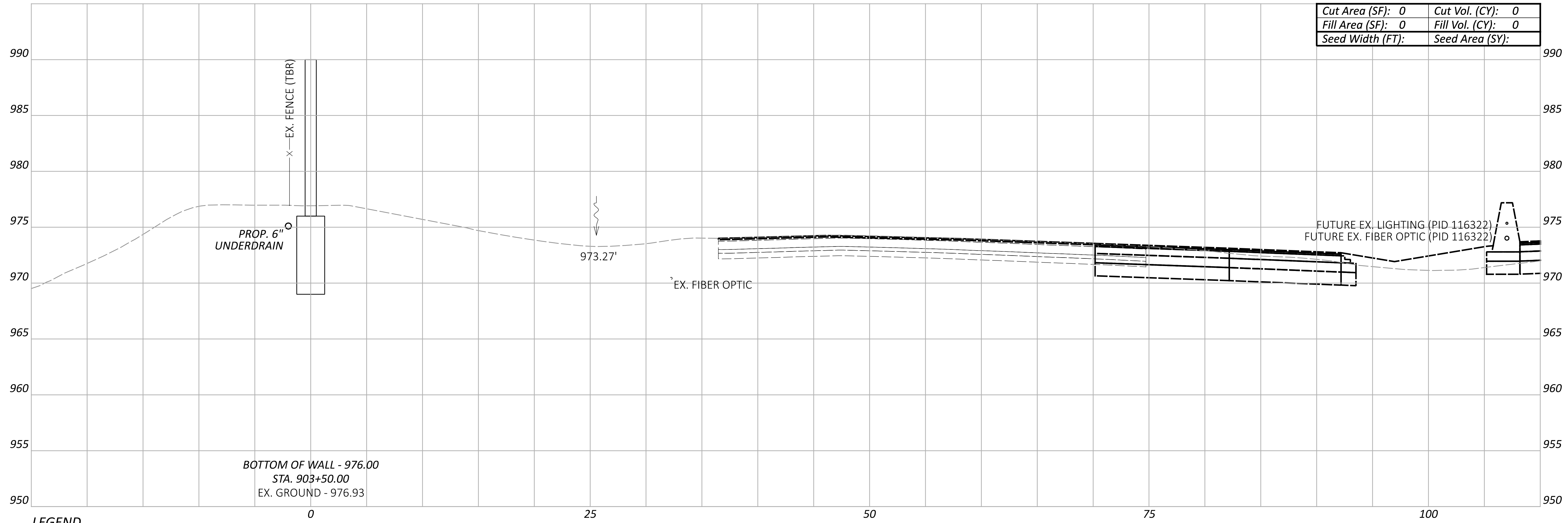


**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 903+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:08:35 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS009.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
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Cut Area (SF):	0	Cut Vol. (CY):	0
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Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 9  
 STA. 903+50.00 TO STA. 904+00.00**

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

JDH 03-27-24

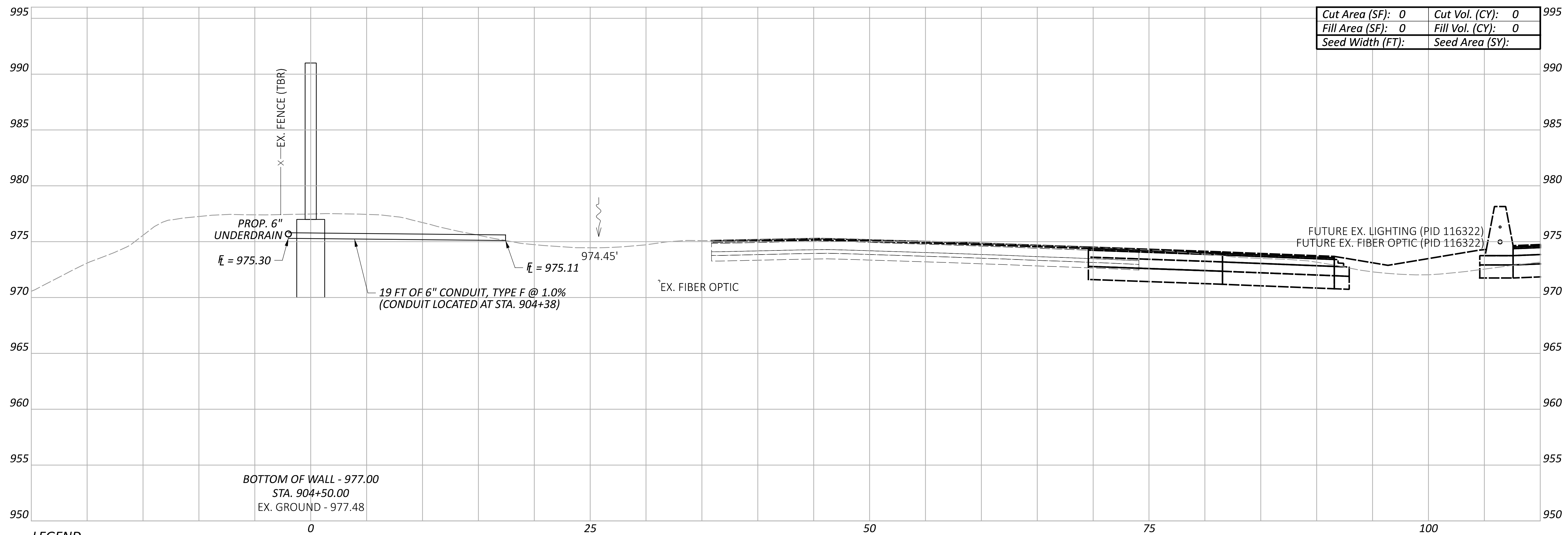
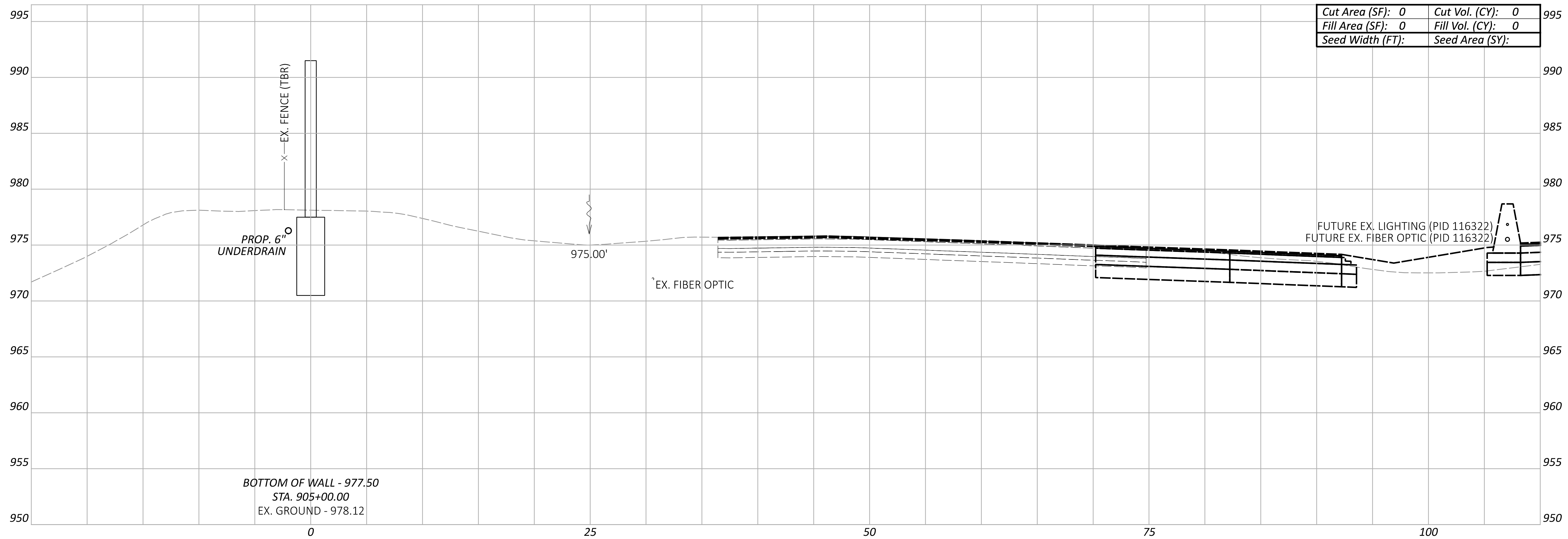
PROJECT ID

117607

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
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**FRA-161-15.80 NOISE WALLS**

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**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 9  
 STA. 904+50.00 TO STA. 905+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIA, MO 65203  
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DESIGNER  
**JMK**

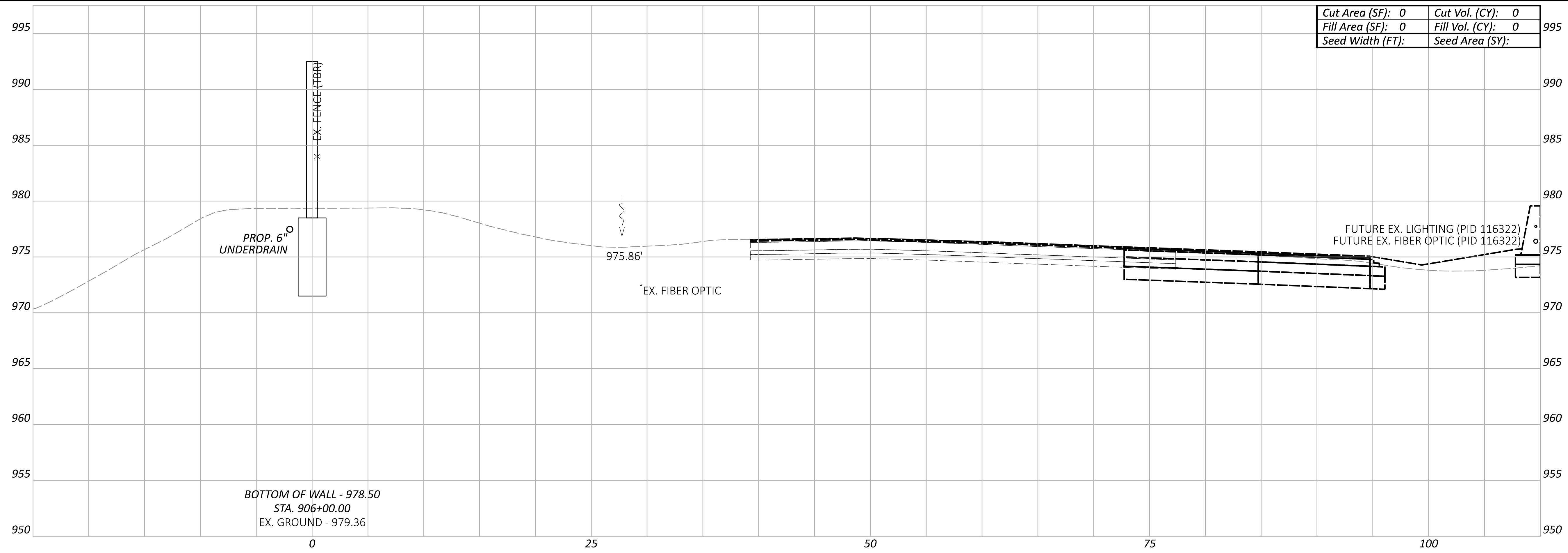
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

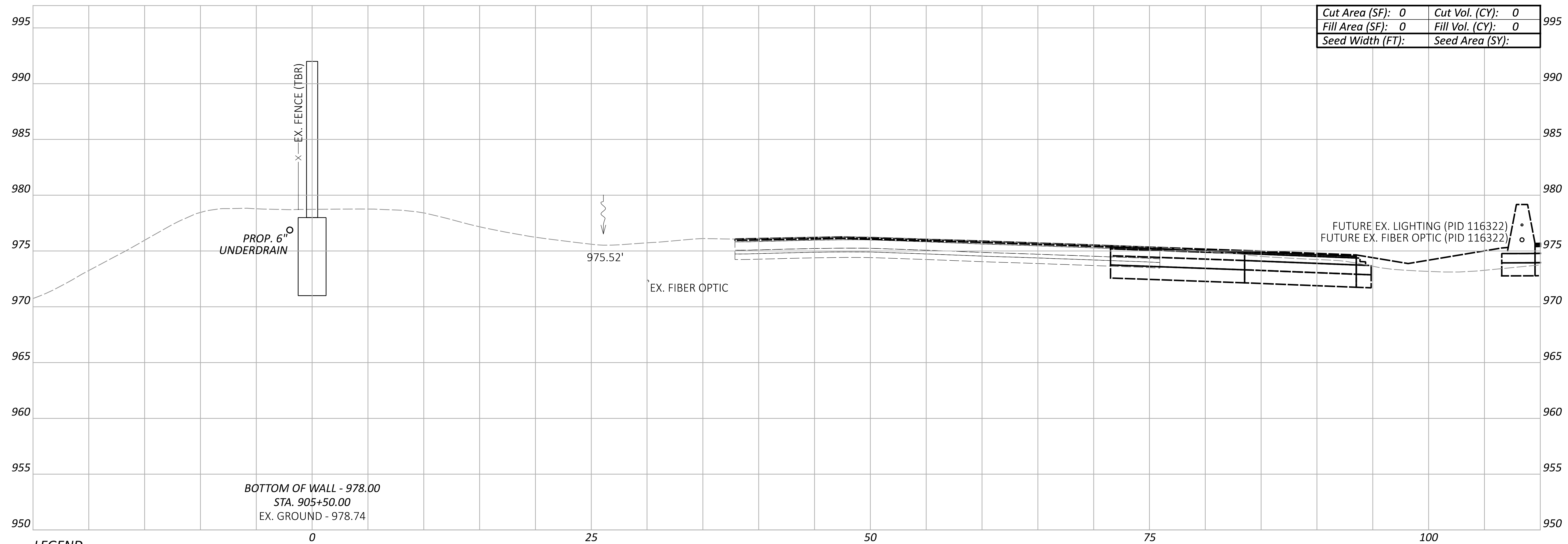
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**FRA-161-15.80 NOISE WALLS**

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Seed Width (FT):		Seed Area (SY):	



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**LEGEND**

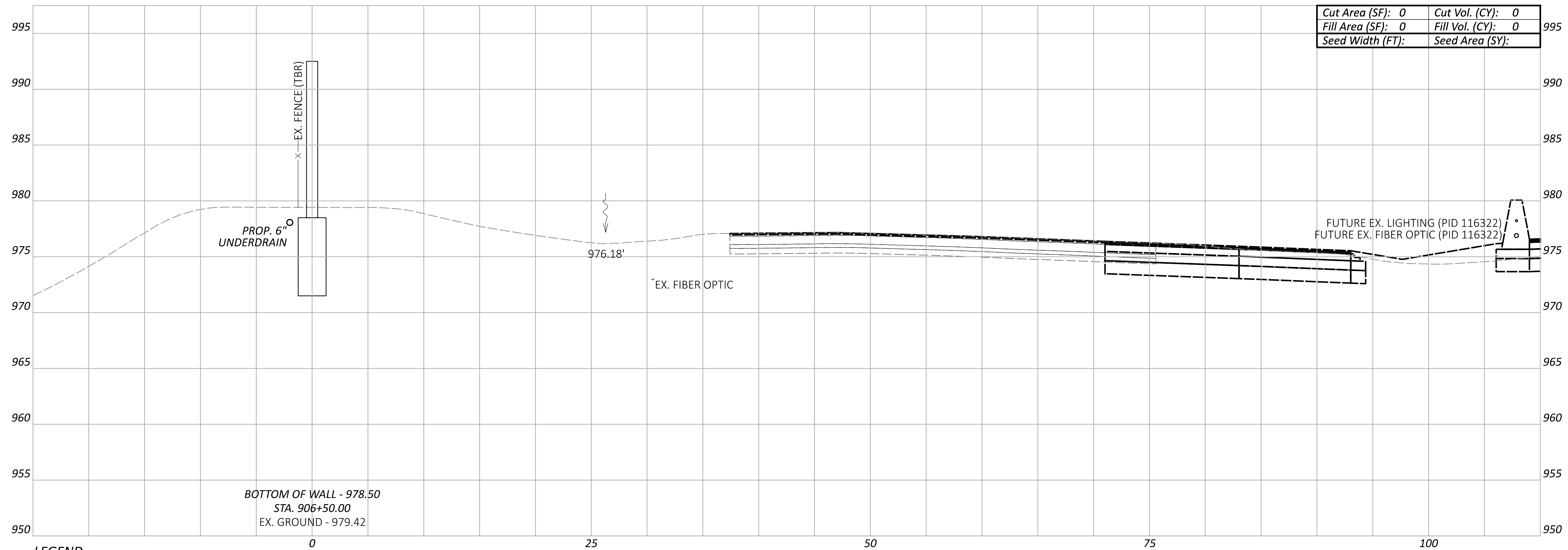
- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 9  
 STA. 905+50.00 TO STA. 906+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 614.849.4900  
 www.arcadis.com

DESIGNER  
**JMK**  
 REVIEWER  
**JDH** 03-27-24  
 PROJECT ID  
**117607**

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
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**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 9**  
**STA. 906+50.00**

DESIGN AGENCY  
**ARCADIS**  
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 COLUMBIANA, OH 43085  
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DESIGNER  
**JMK**

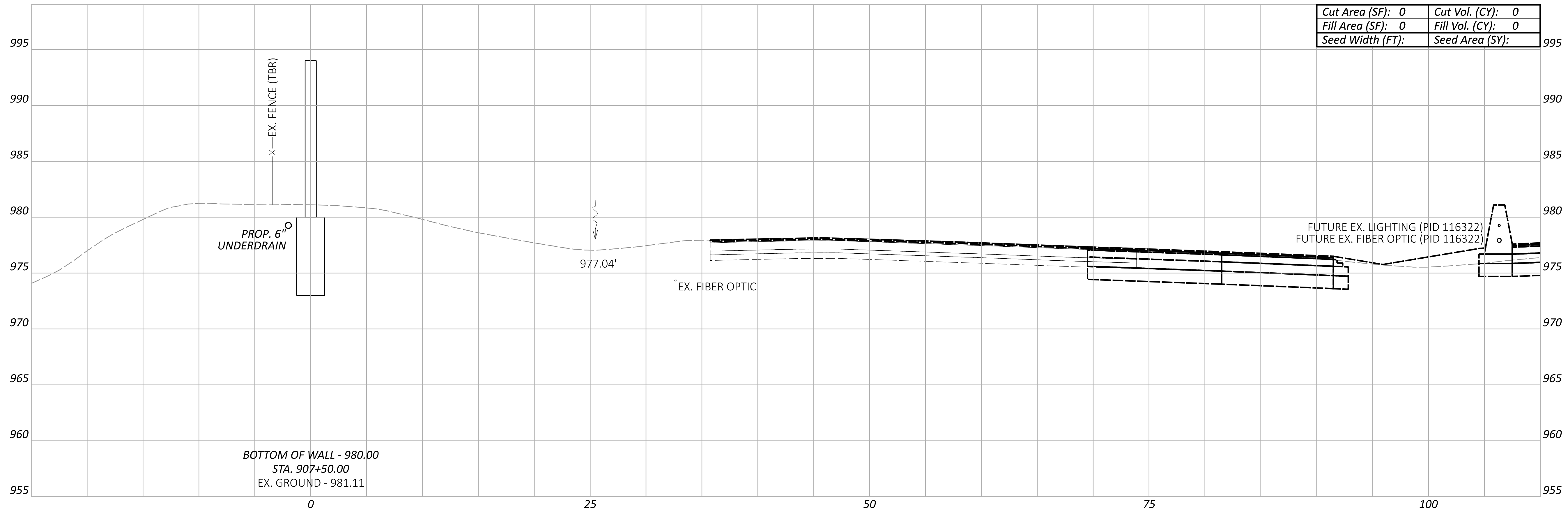
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

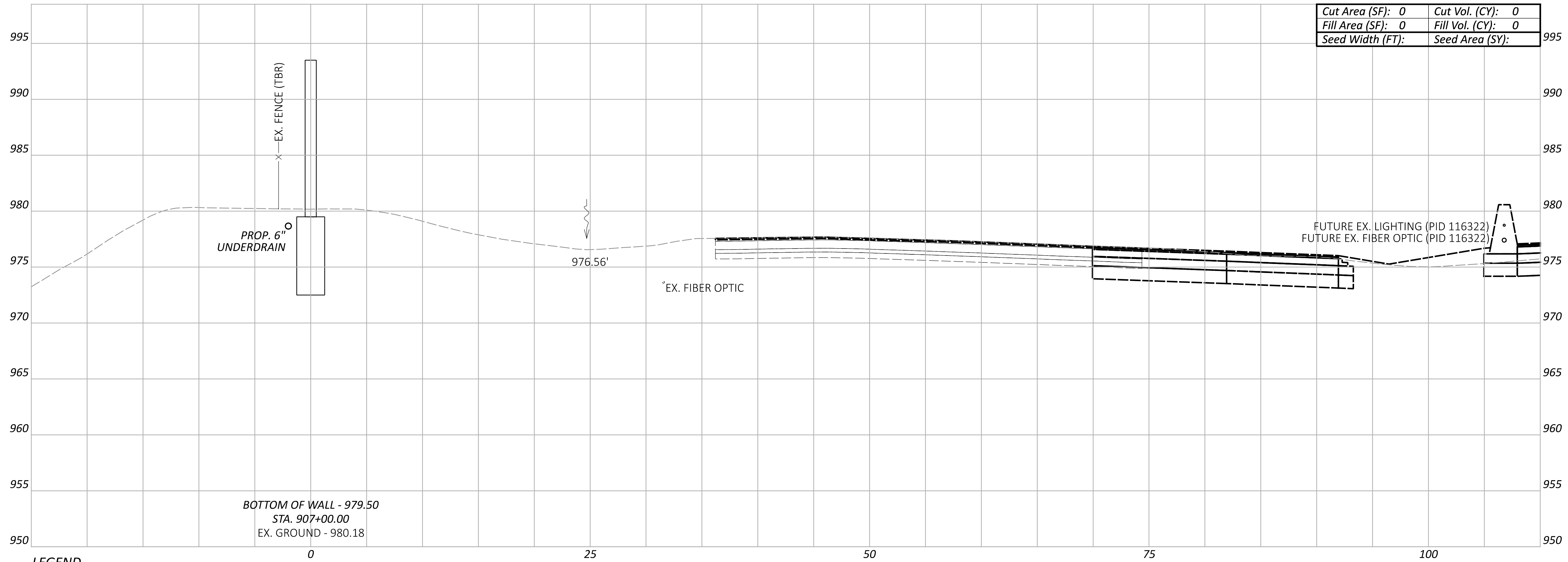
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**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 907+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:10:30 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS009.dgn



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Cut Area (SF):	0	Cut Vol. (CY):	0
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Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 9  
 STA. 907+00.00 TO STA. 907+50.00**

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

JDH 03-27-24

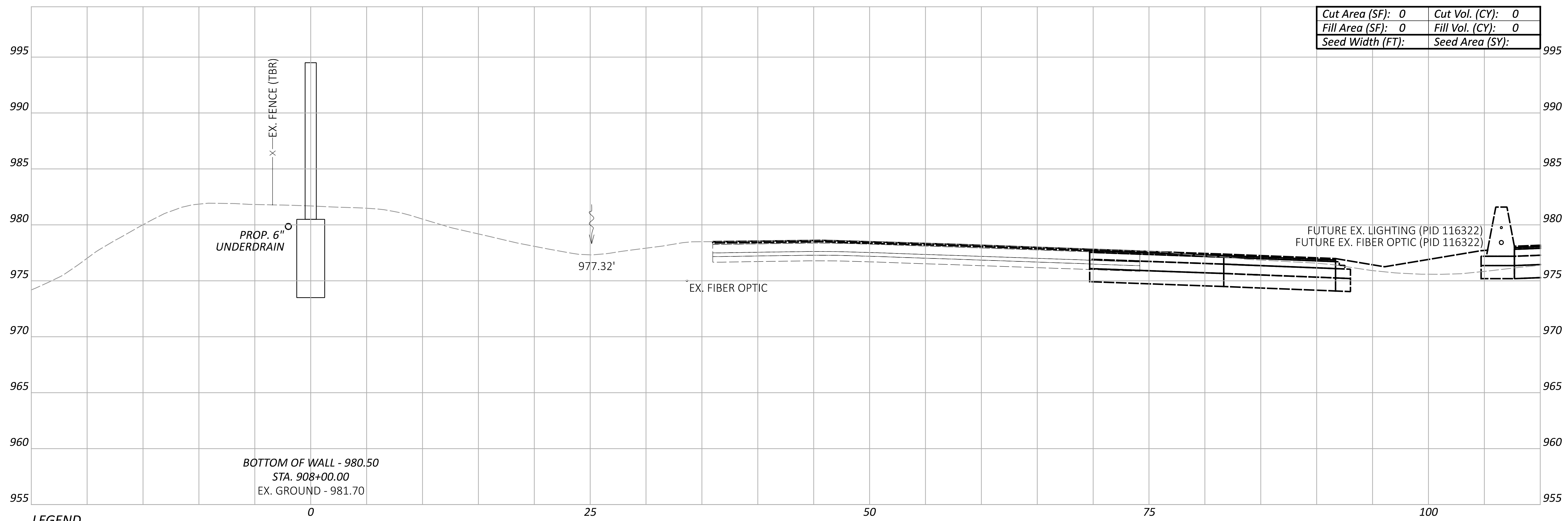
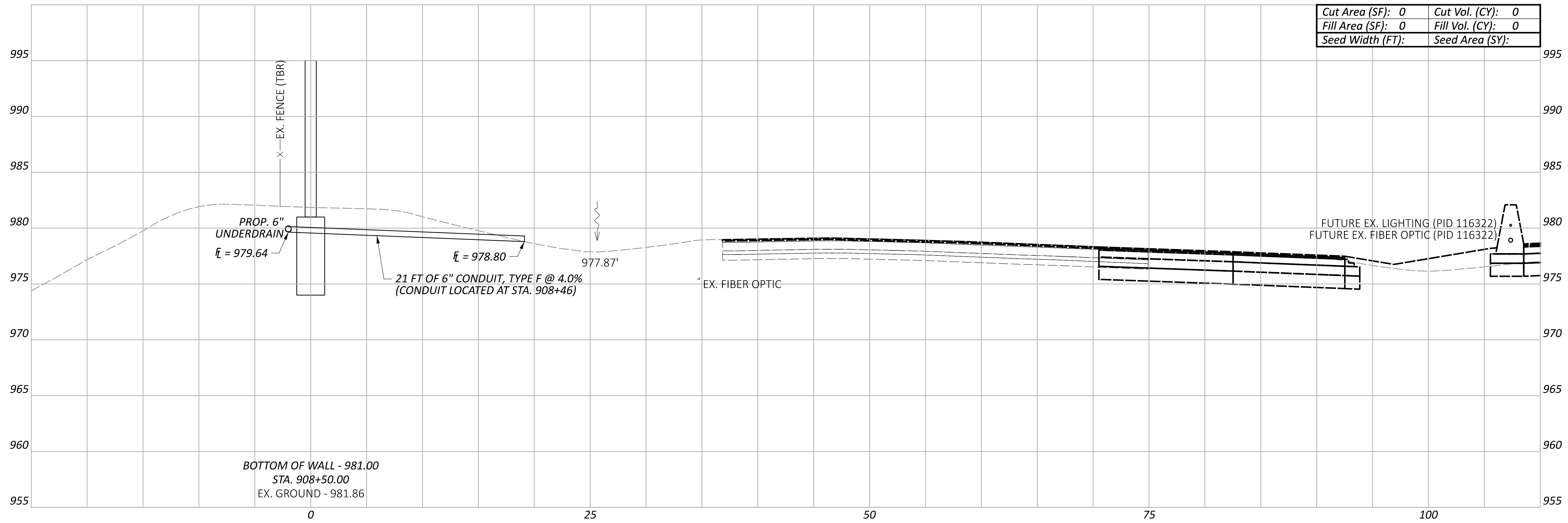
PROJECT ID

117607

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
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**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 908+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:10:58 PM USER: jennifer.kelley  
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**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.134	P.295

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIA, MO 65203  
 (616) 419-4900  
 www.arcadis.com

DESIGNER  
**JMK**

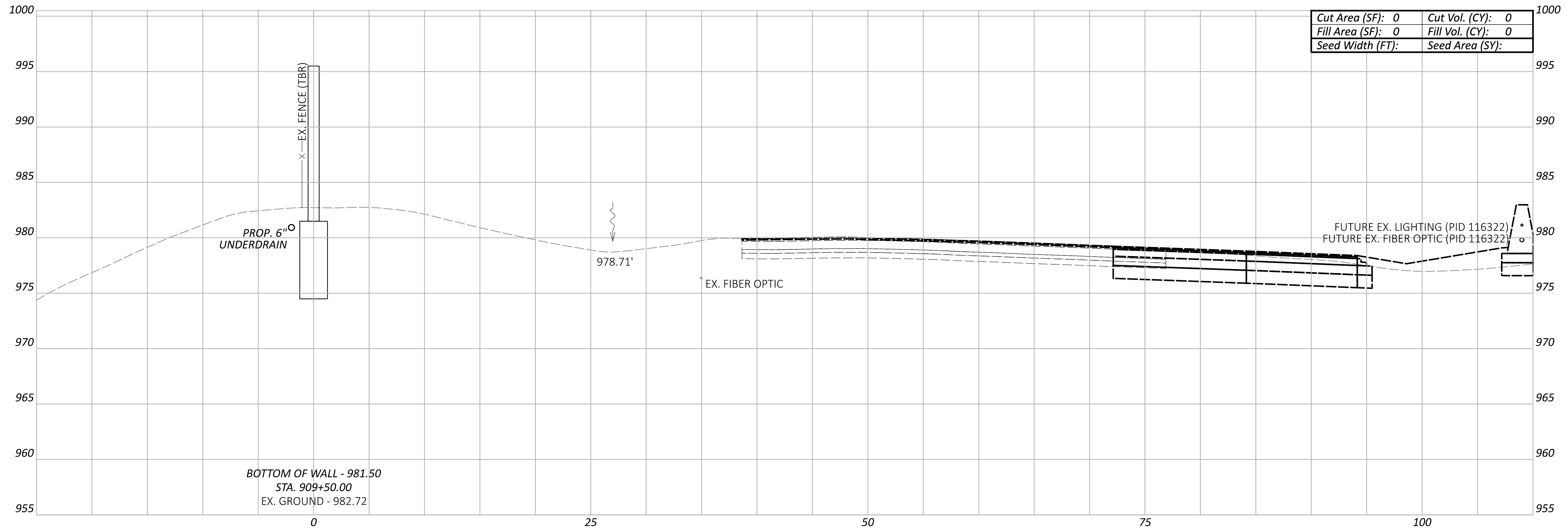
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

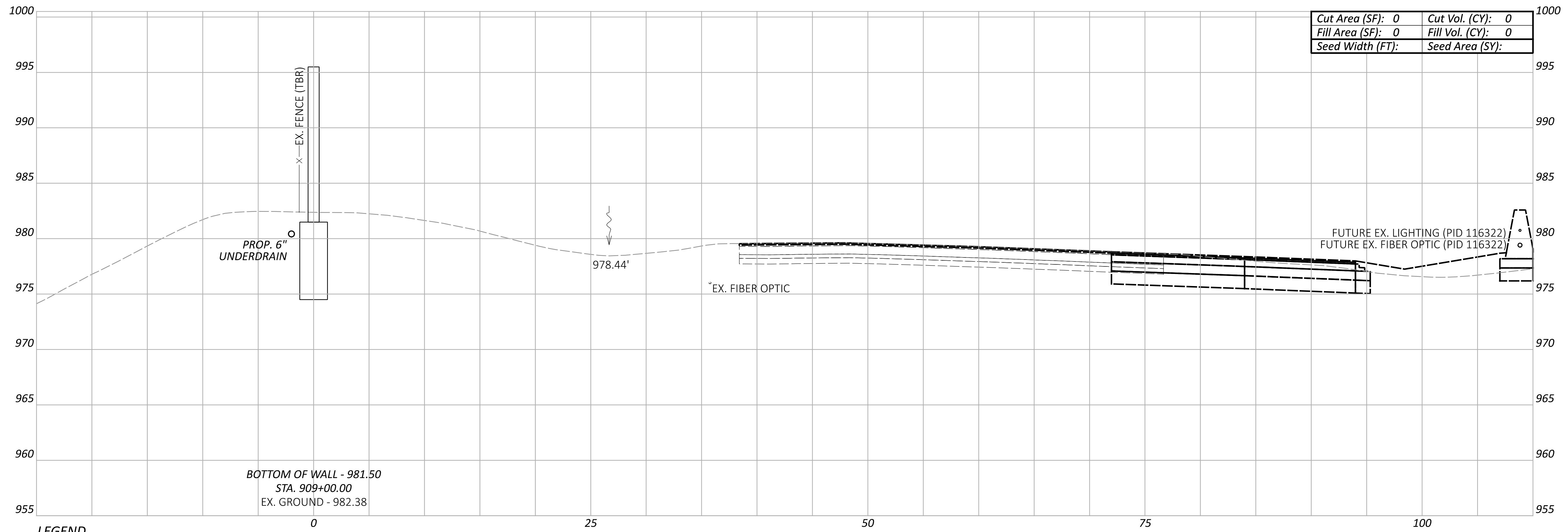
**CROSS SECTIONS - WALL 9**  
**STA. 908+00.00 TO STA. 908+50.00**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 909+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:11:24 PM USER: jennifer.kelley  
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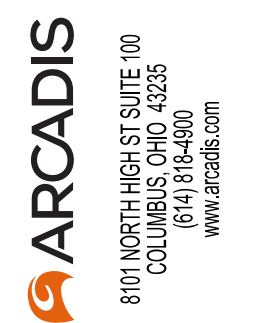
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Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 9  
 STA. 909+00.00 TO STA. 909+50.00**

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

JDH 03-27-24

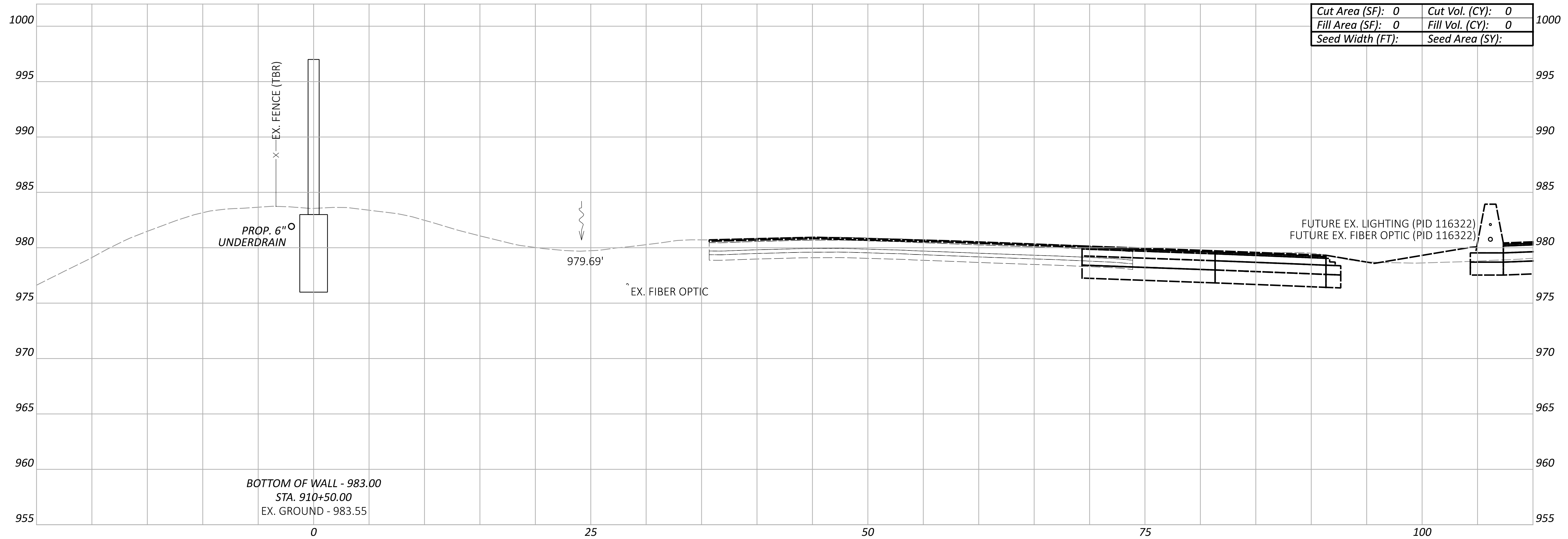
PROJECT ID

117607

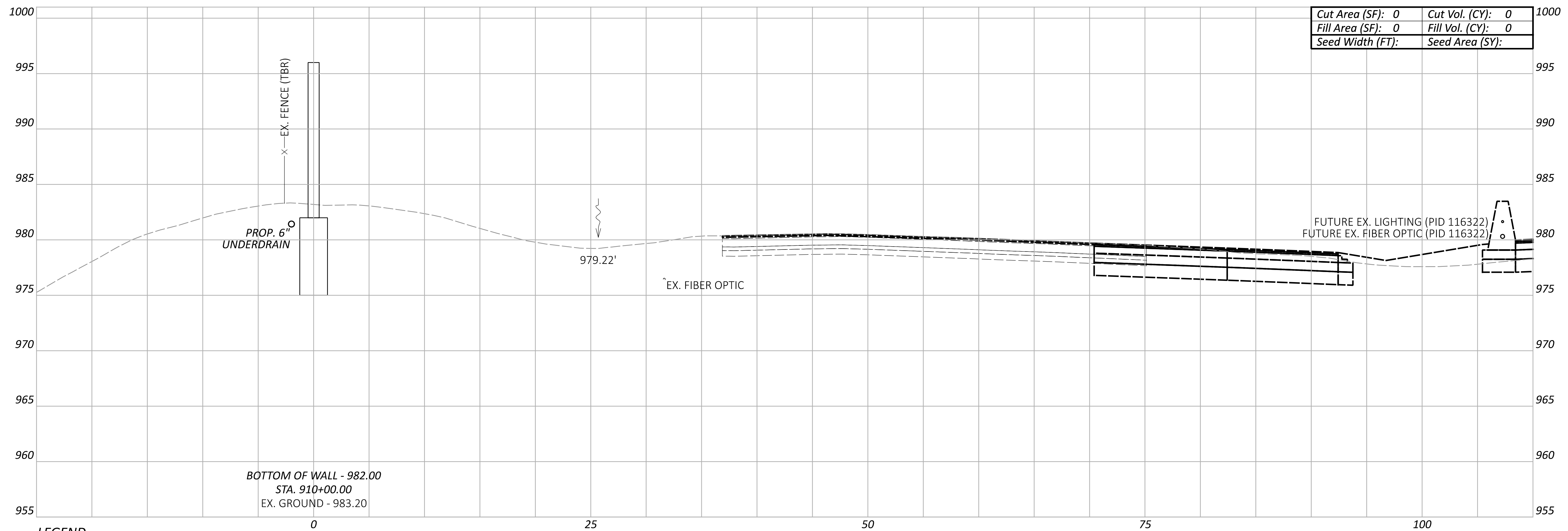
Sheet Totals			TOTAL	
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**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 910+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:11:46 PM USER: jennifer.kelley  
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Seed Width (FT):		Seed Area (SY):	



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Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 9  
 STA. 910+00.00 TO STA. 910+50.00**

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

JDH 03-27-24

PROJECT ID

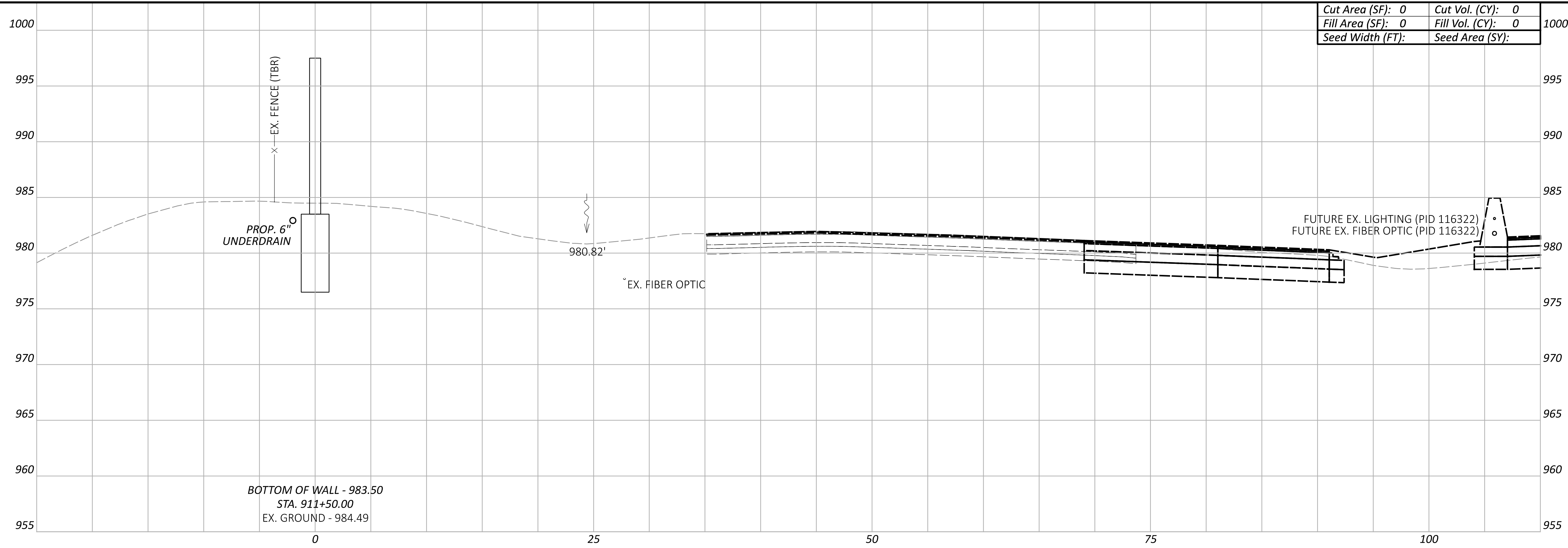
117607

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.136	P.295
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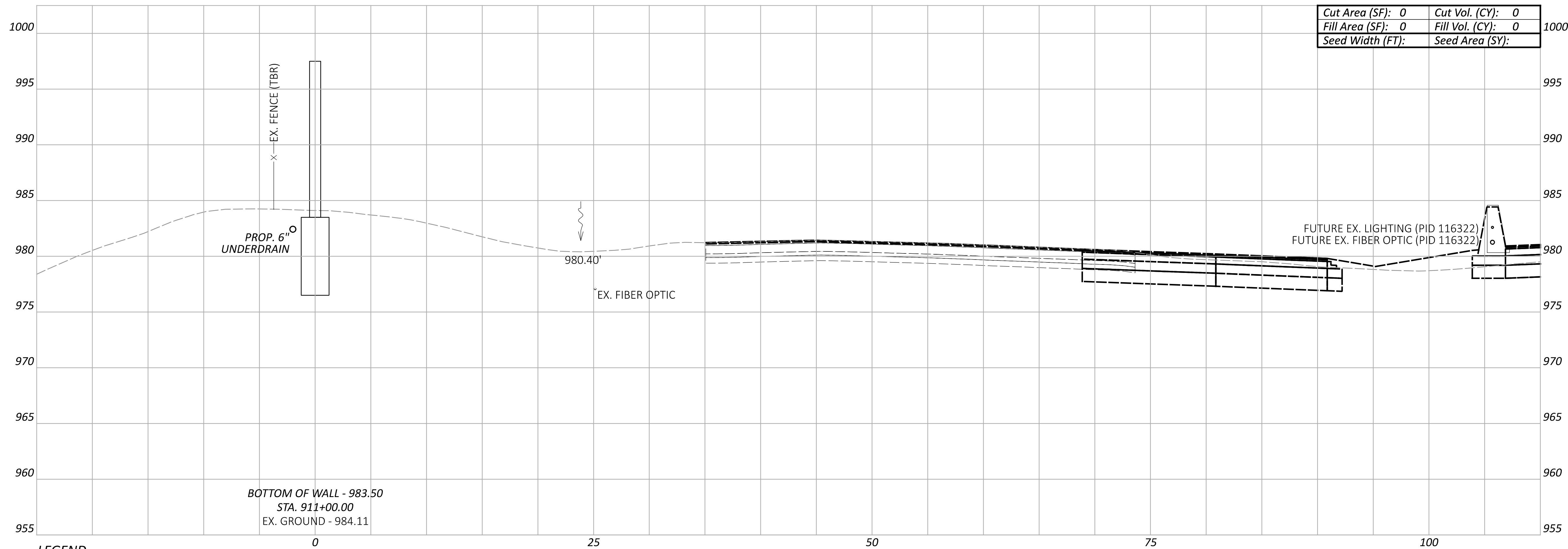


**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 911+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:12:07 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS009.dgn



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Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

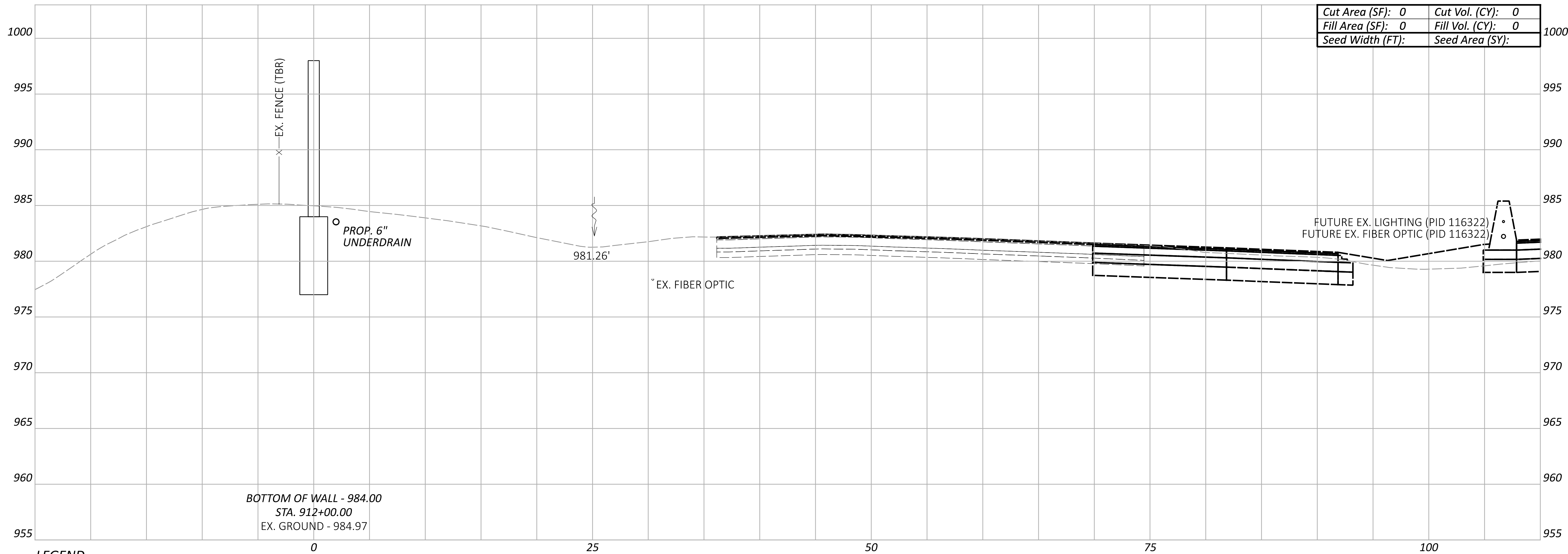
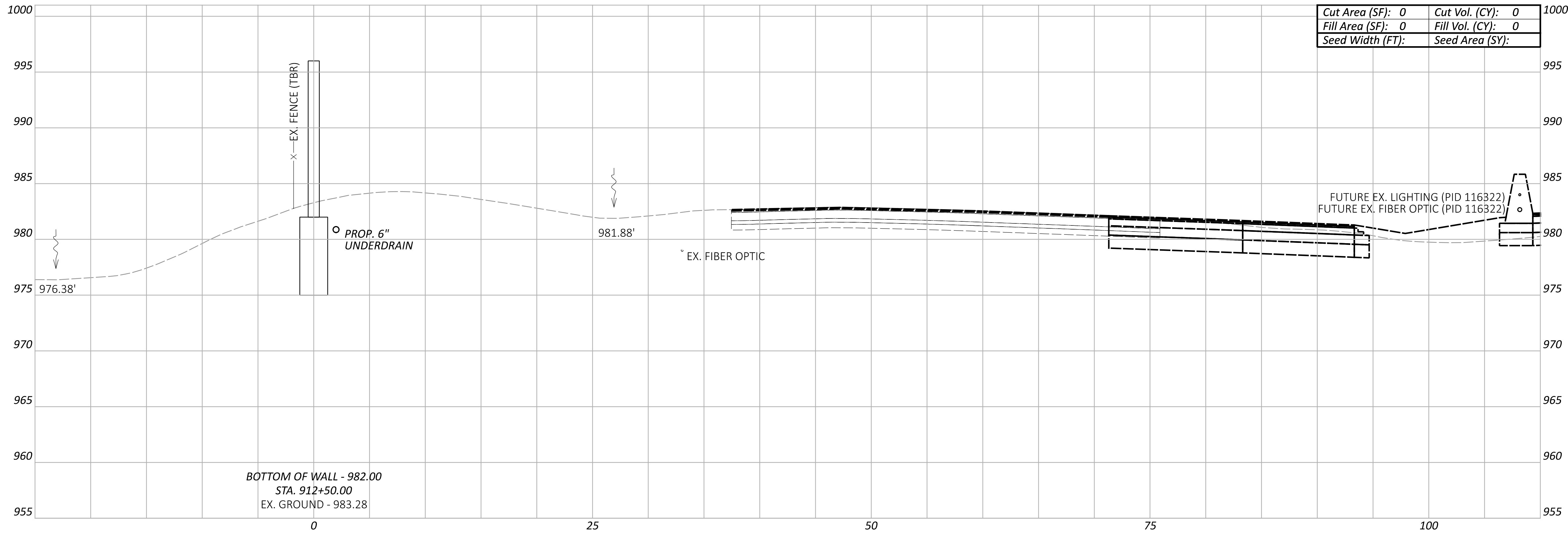
**CROSS SECTIONS - WALL 9  
 STA. 911+00.00 TO STA. 911+50.00**

DESIGN AGENCY	ARCADIS
DESIGNER	JMK
REVIEWER	JDH
PROJECT ID	117607

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0		P.137 P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL9 - 912+00.00 [Sheet] PAPER/SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:12:28 PM USER: jennifer.kelley  
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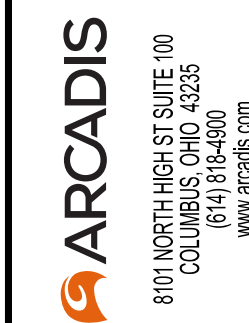


**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 9  
 STA. 912+00.00 TO STA. 912+50.00**

DESIGN AGENCY



DESIGNER

JMK

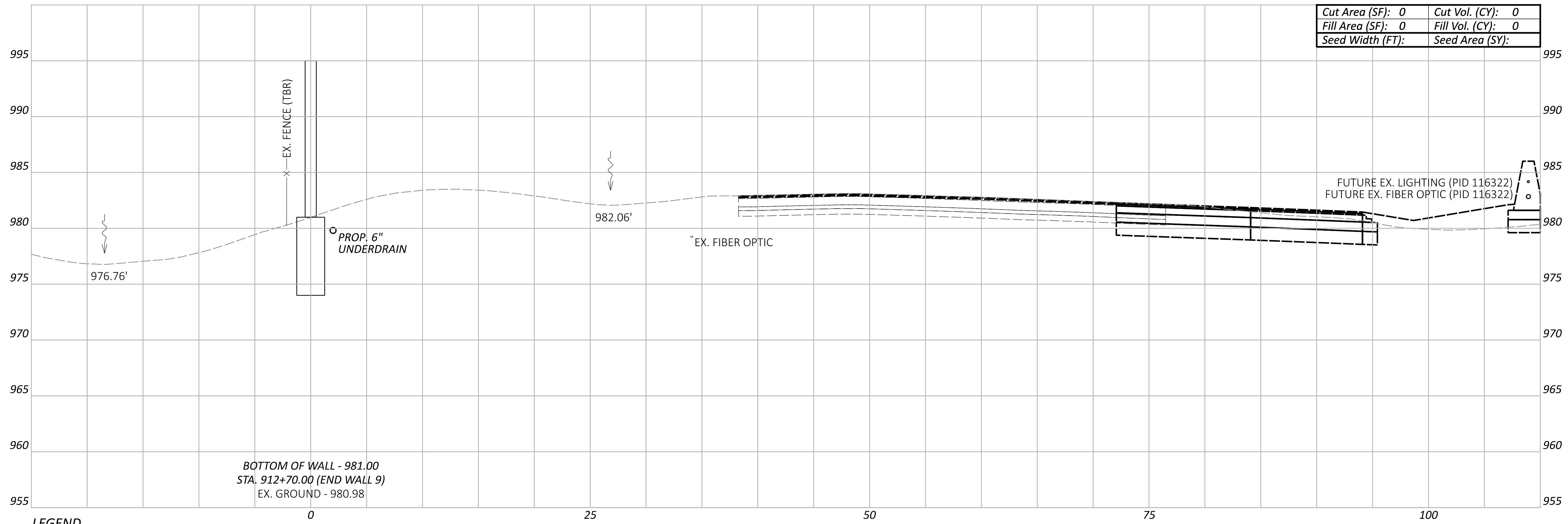
REVIEWER

JDH 03-27-24

PROJECT ID

117607

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.138	P.295
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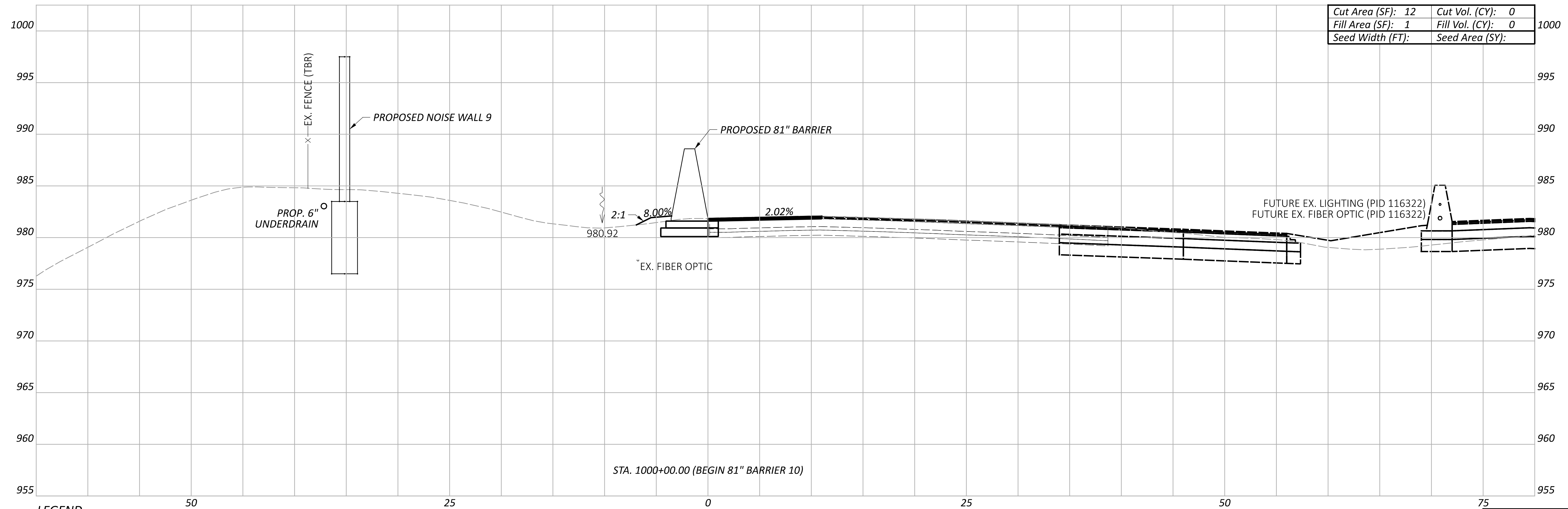


**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

BOTTOM OF WALL - 981.00  
 STA. 912+70.00 (END WALL 9)  
 EX. GROUND - 980.98

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.139	P.295
0	0	0		



Cut Area (SF):	12	Cut Vol. (CY):	0
Fill Area (SF):	1	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - 81" BARRIER 10**  
 STA. 1000+00.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE. SUITE 100  
 COLUMBIANA, OH 43085  
 614.894.8100  
 www.arcadis.com

DESIGNER  
**JMK**

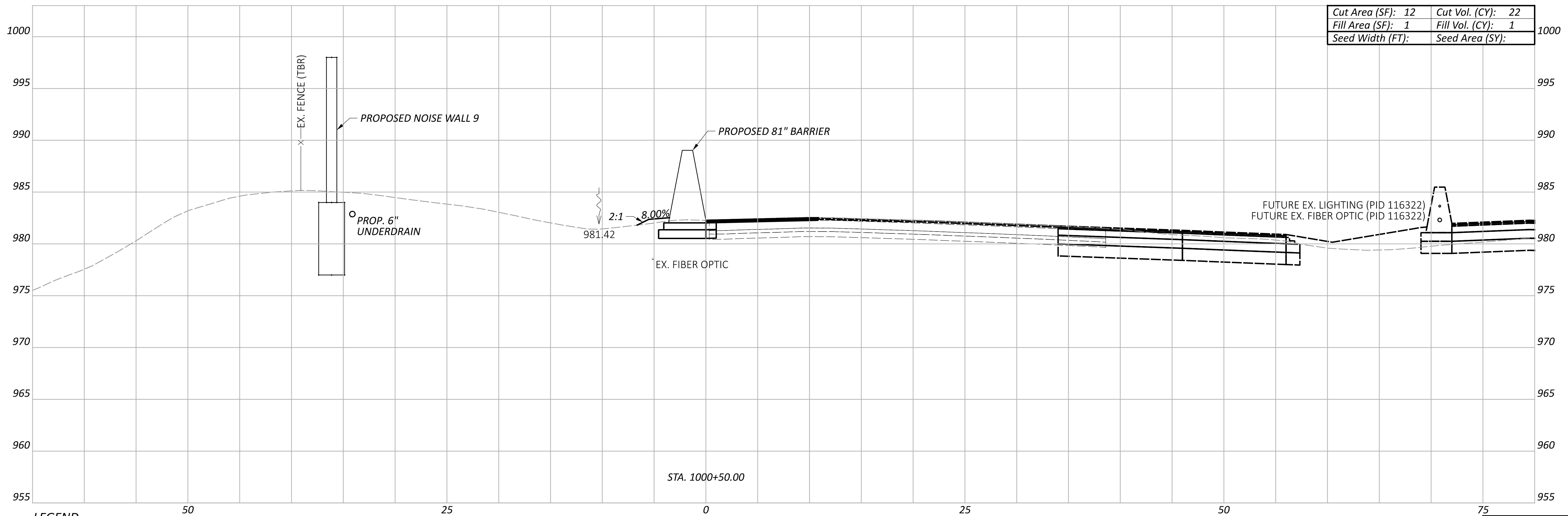
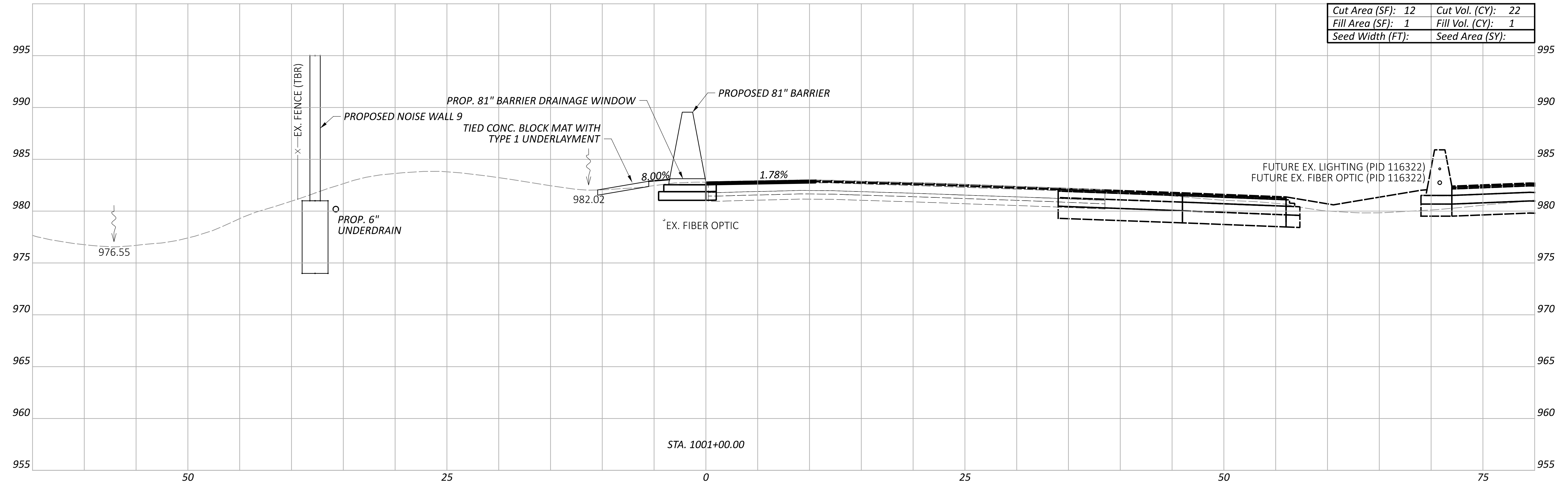
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.140	P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER11 - 1000+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:13:43 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS010.dgn



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
44	2		P.141	P.295

**CROSS SECTIONS - 81" BARRIER 10  
 STA. 1000+50.00 TO STA. 1001+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 891-4900  
 www.arcadis.com

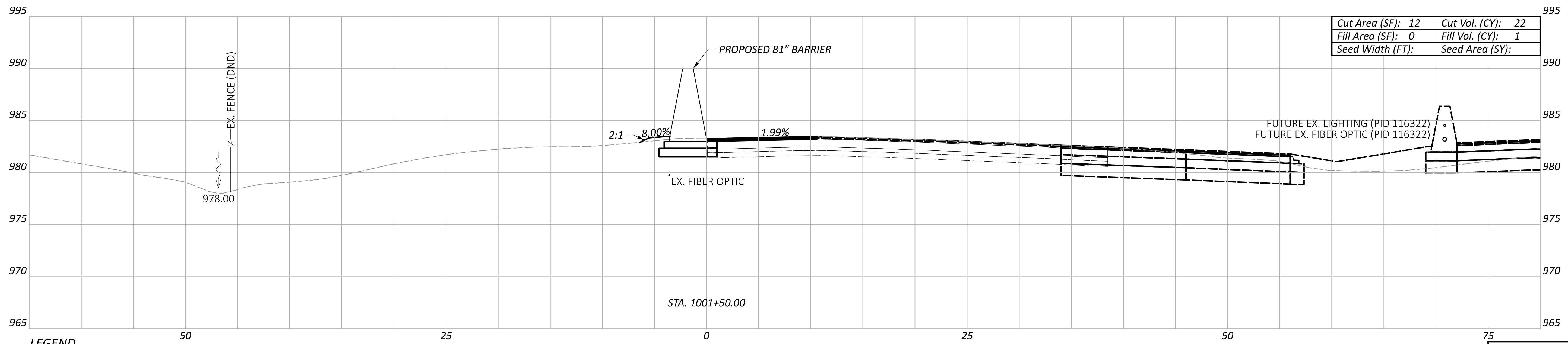
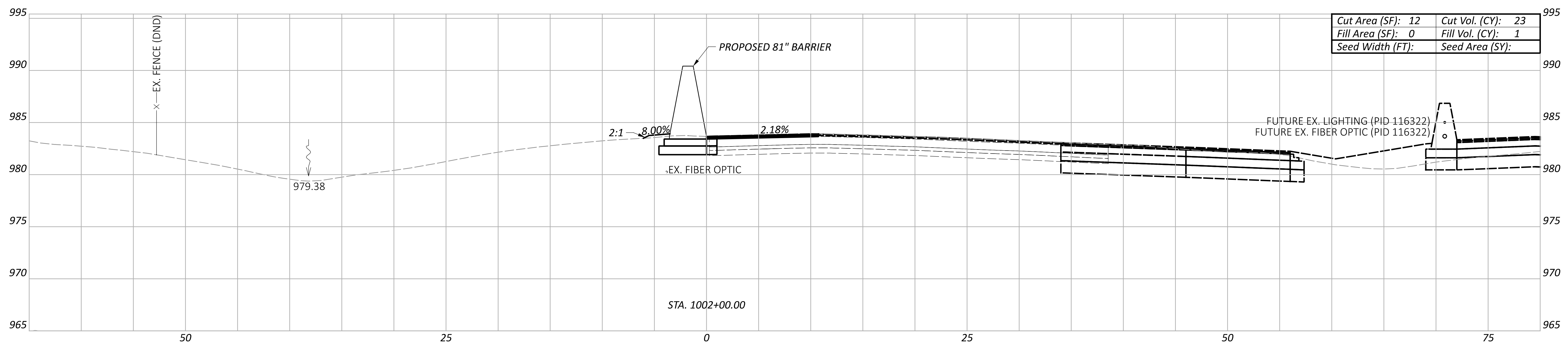
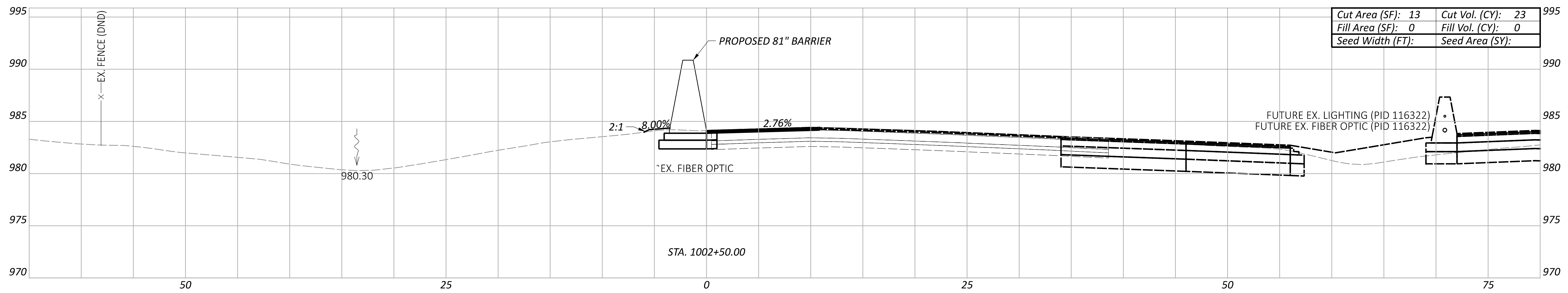
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER11 - 1001+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:14:08 PM USER: jennifer.kelley  
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**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - 81" BARRIER 10  
 STA. 1001+50.00 TO STA. 1002+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**

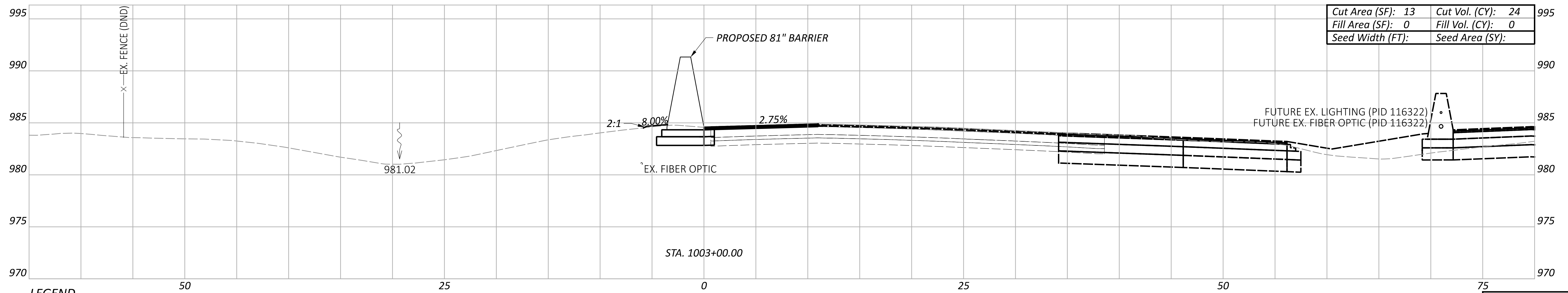
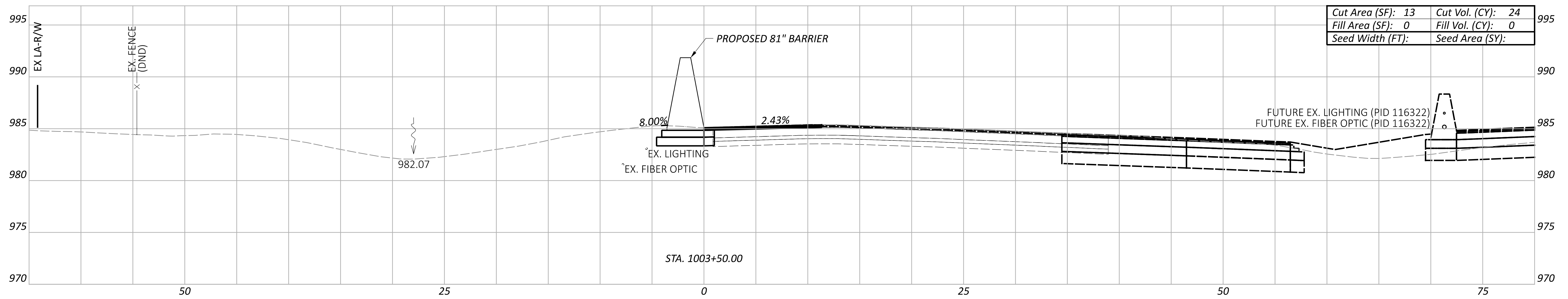
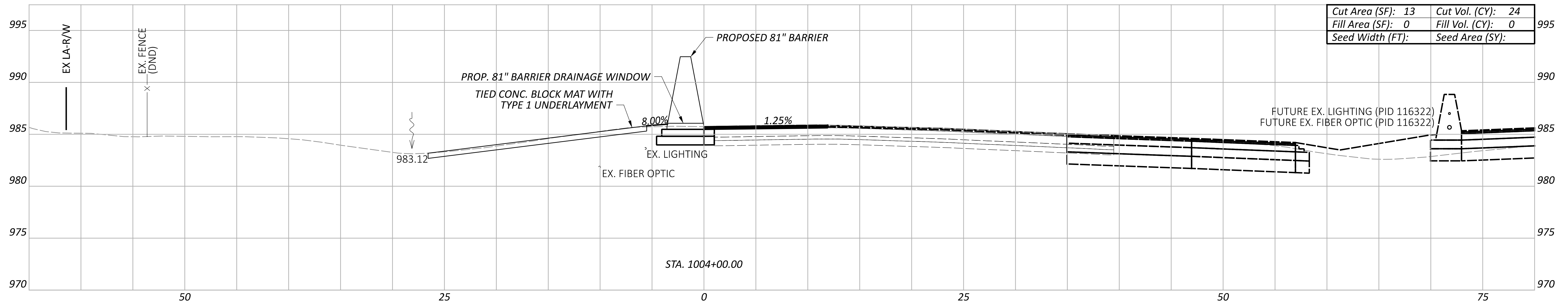
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.142	P.295
	68	2		

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER11 - 1003+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:14:45 PM USER: jennifer.kelley  
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**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
72	0	0	P.143	P.295

**CROSS SECTIONS - 81" BARRIER 10  
 STA. 1003+00.00 TO STA. 1004+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 819-4900  
 www.arcadis.com

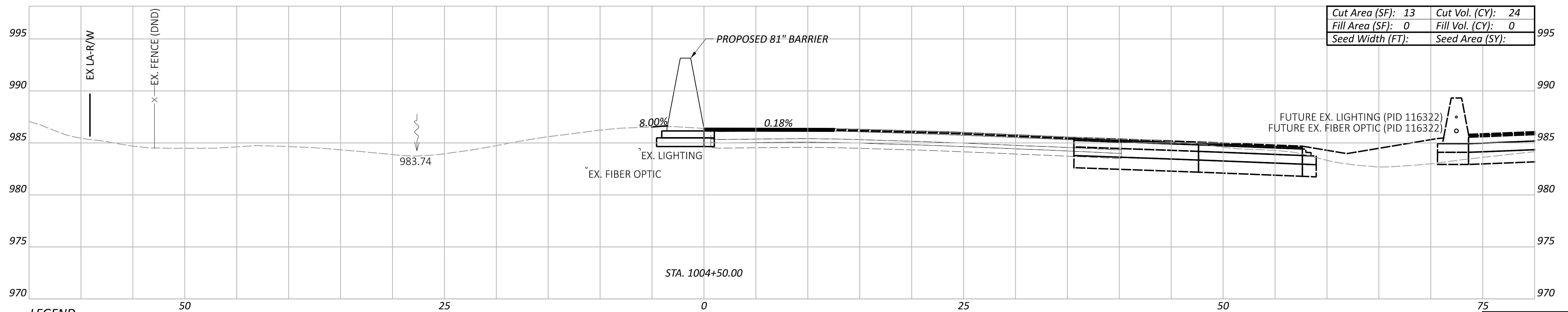
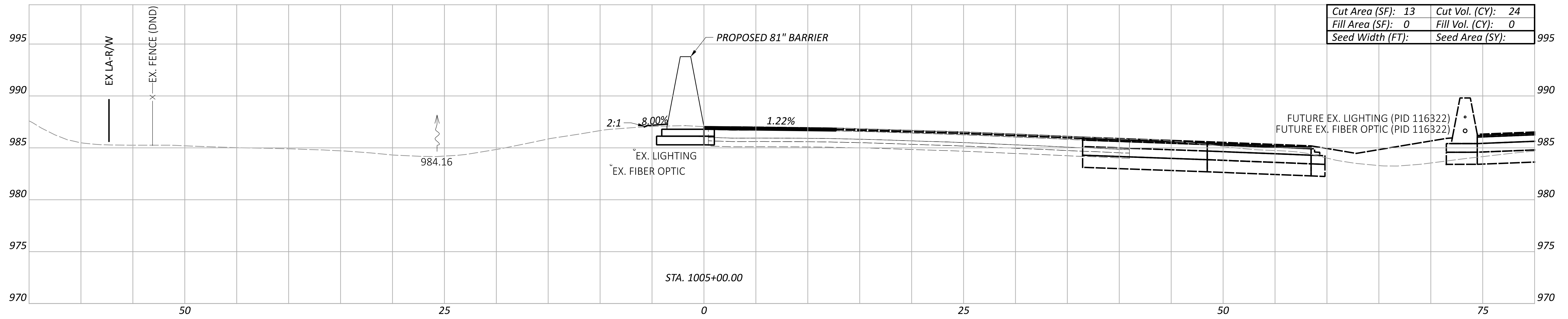
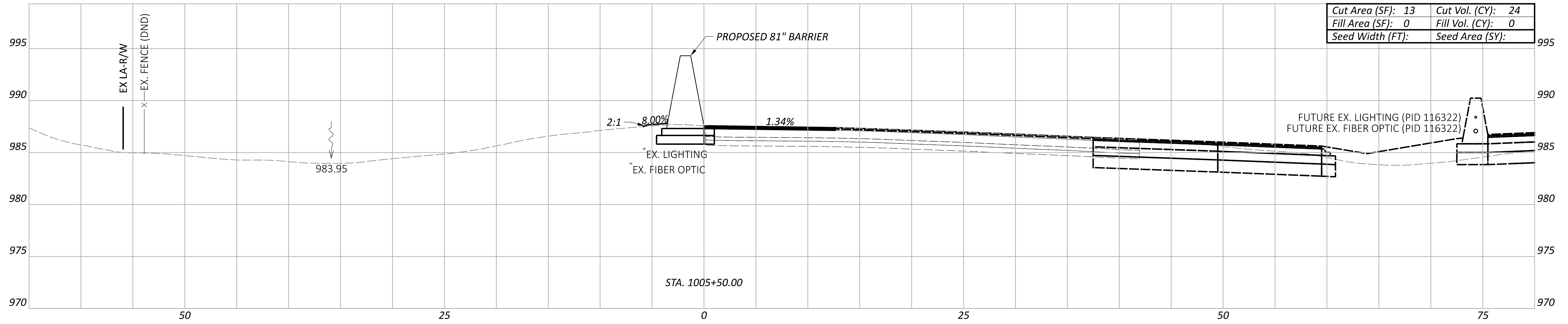
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER11 - 1004+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:15:20 PM USER: jennifer.kelley  
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**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
	72	0	P.144 P.295

**CROSS SECTIONS - 81" BARRIER 10  
STA. 1004+50.00 TO STA. 1005+50.00**

DESIGNER  
**JMK**

REVIEWER  
JDH 03-27-24

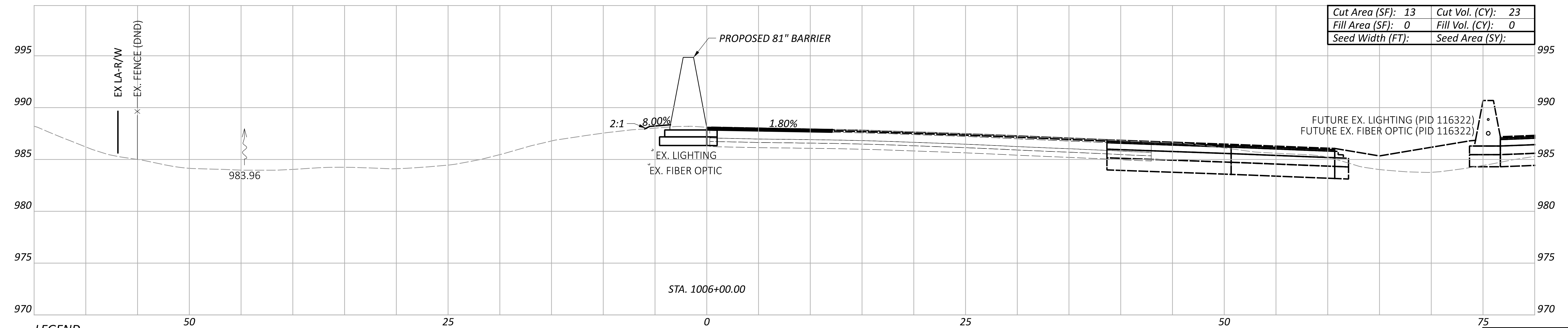
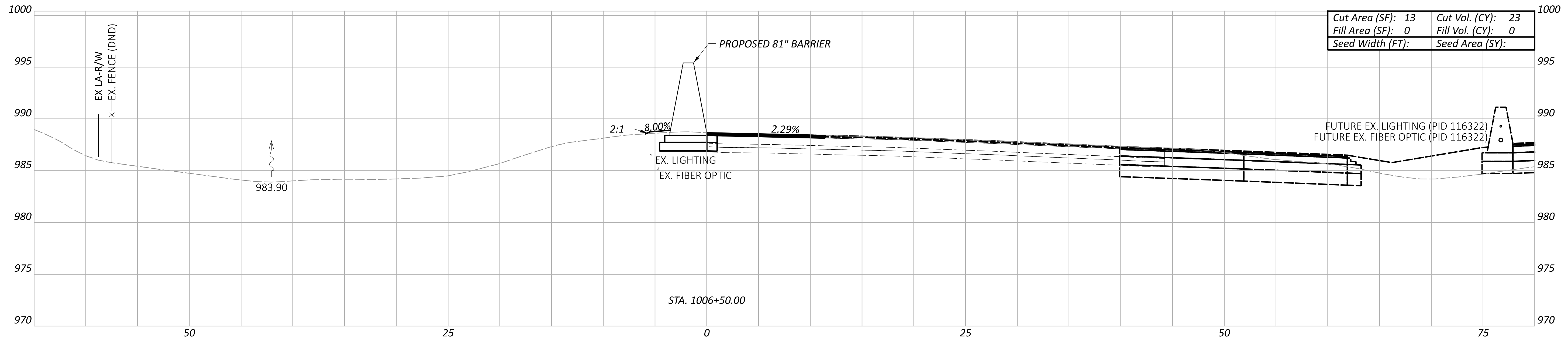
PROJECT ID  
117607

ARCADIS  
8101 NORTH HIGHWAY SUITE 100  
COLUMBIANA, OHIO 43085  
614.841.4900  
www.arcadis.com



**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER11 - 1006+00.00 [Sheet] PAPER/SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:15:53 PM USER: jennifer.kelley  
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**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
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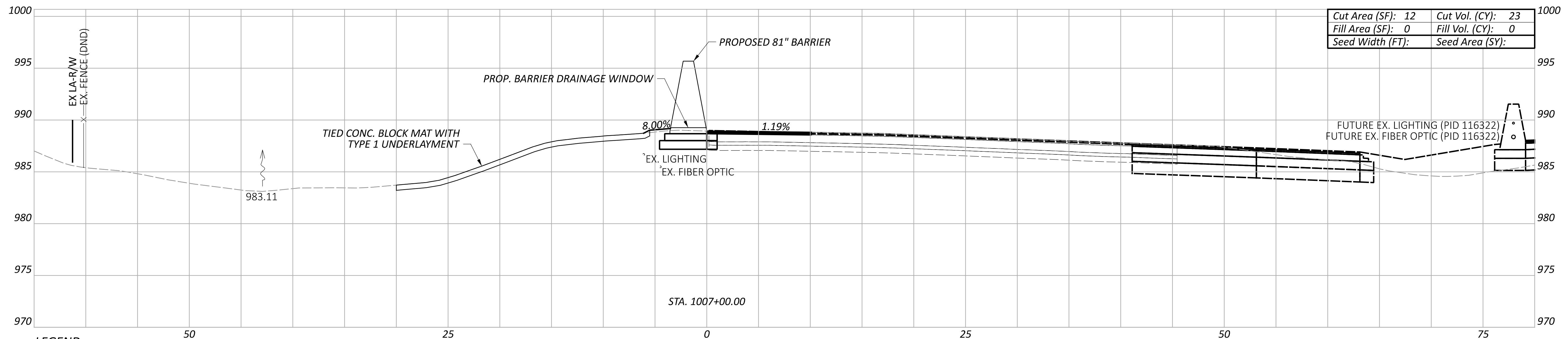
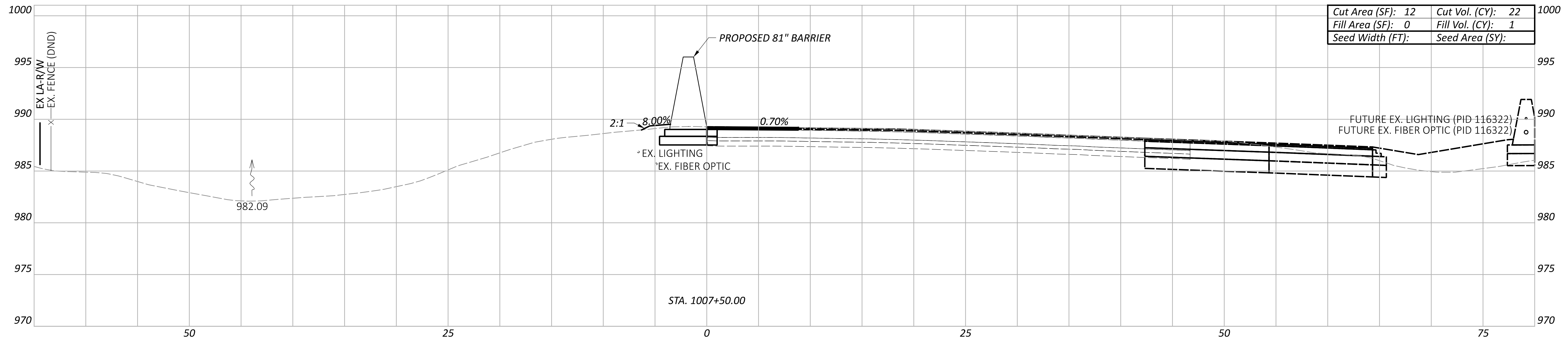
**CROSS SECTIONS - 81" BARRIER 10  
 STA. 1006+00.00 TO STA. 1006+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 891-4900  
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DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
45	1		P.146 P.295

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 810-4900  
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DESIGNER  
**JMK**

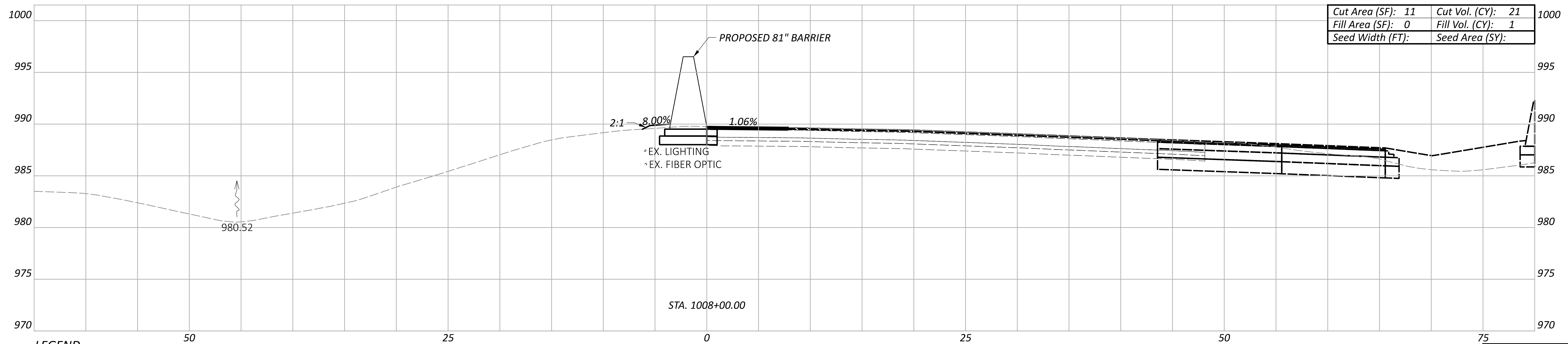
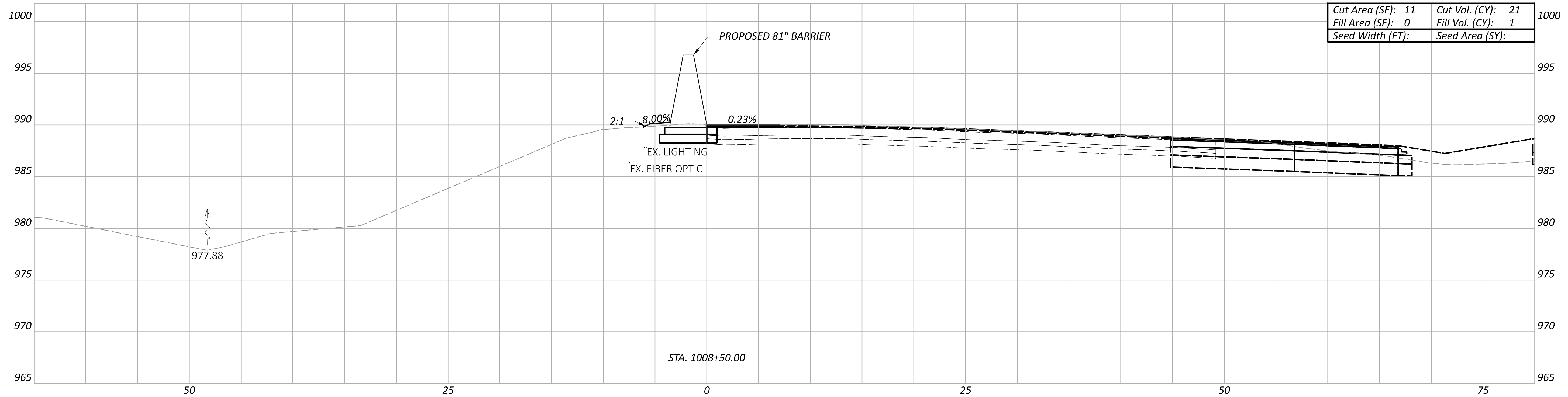
REVIEWER  
 JDH 03-27-24

PROJECT ID  
 117607

CROSS SECTIONS - 81" BARRIER 10  
 STA. 1007+00.00 TO STA. 1007+50.00

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER11 - 1008+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:16:36 PM USER: jennifer.kelley  
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**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - 81" BARRIER 10  
 STA. 1008+00.00 TO STA. 1008+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**

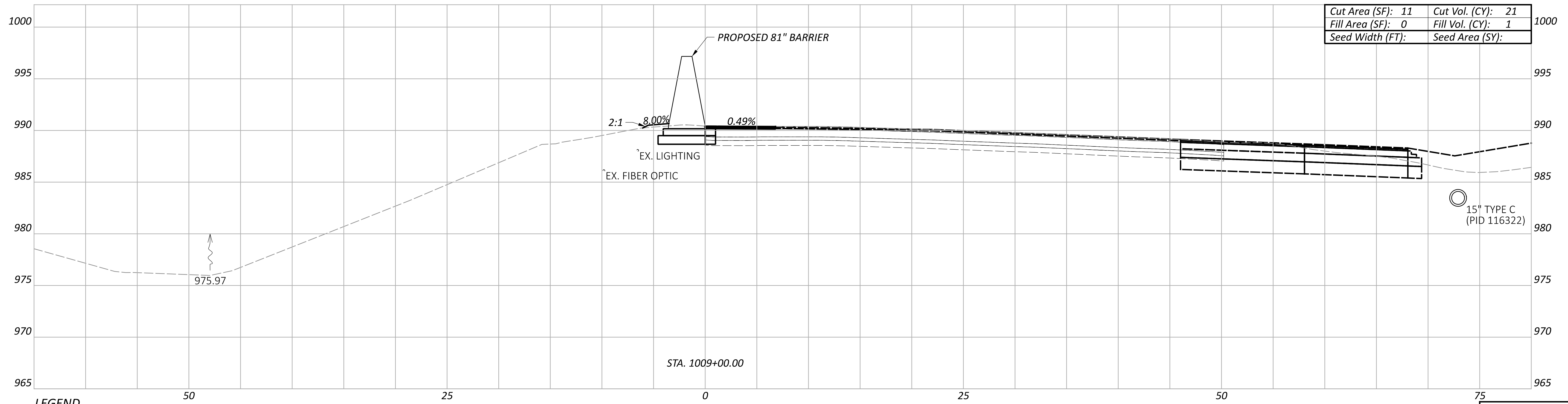
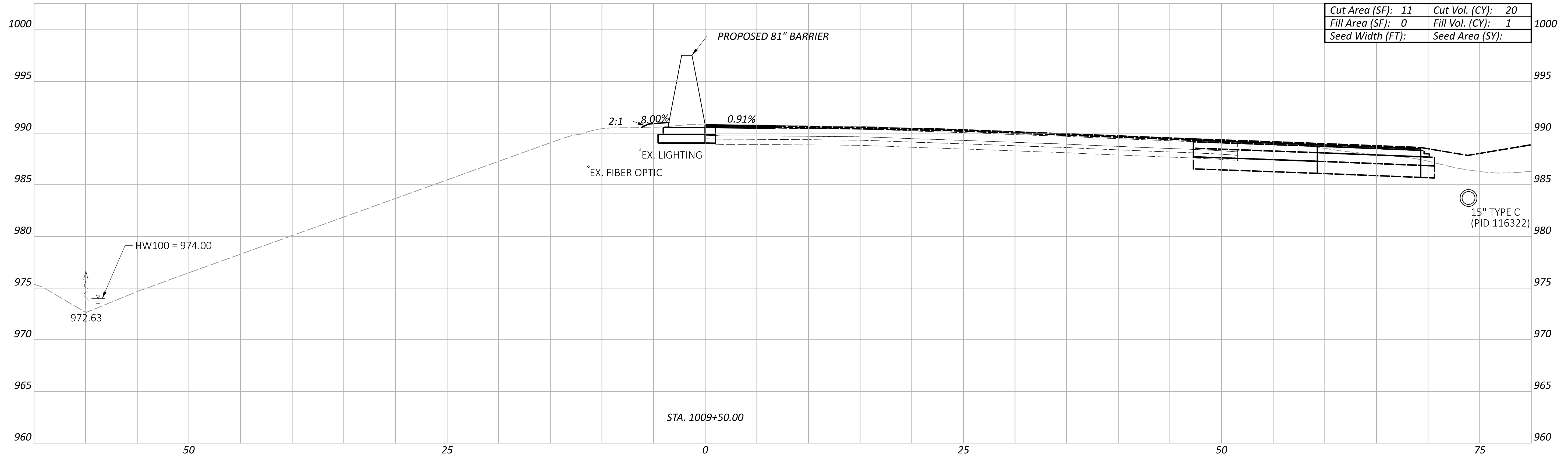
REVIEWER  
 JDH 03-27-24

PROJECT ID  
**117607**

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
	42	2	P.147	P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER11 - 1009+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:16:55 PM USER: jennifer.kelley  
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**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
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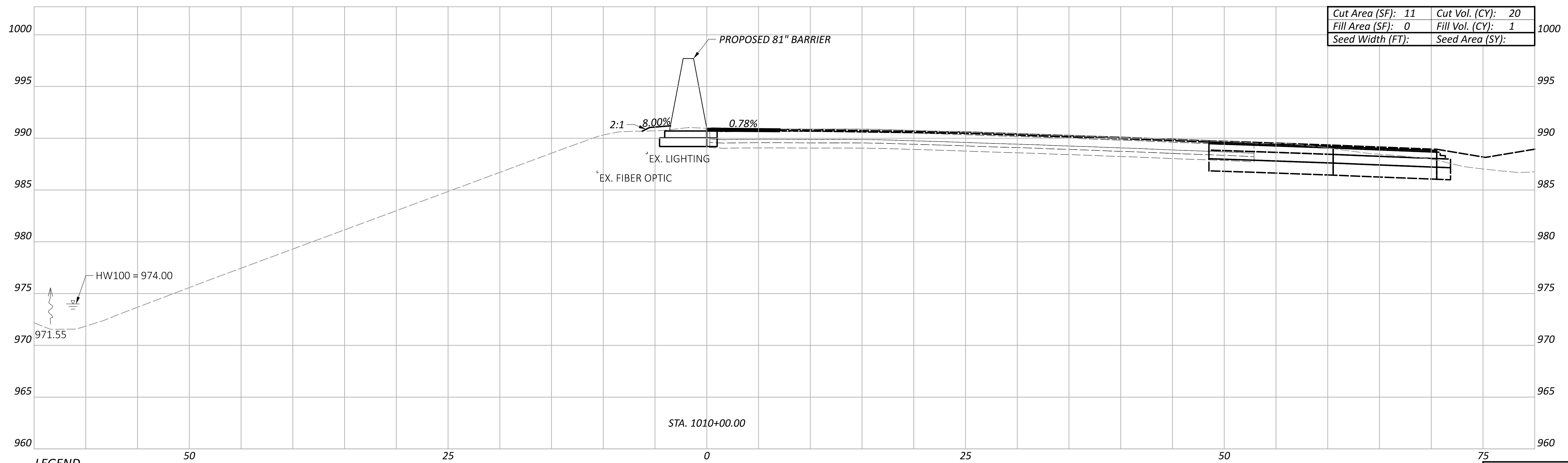
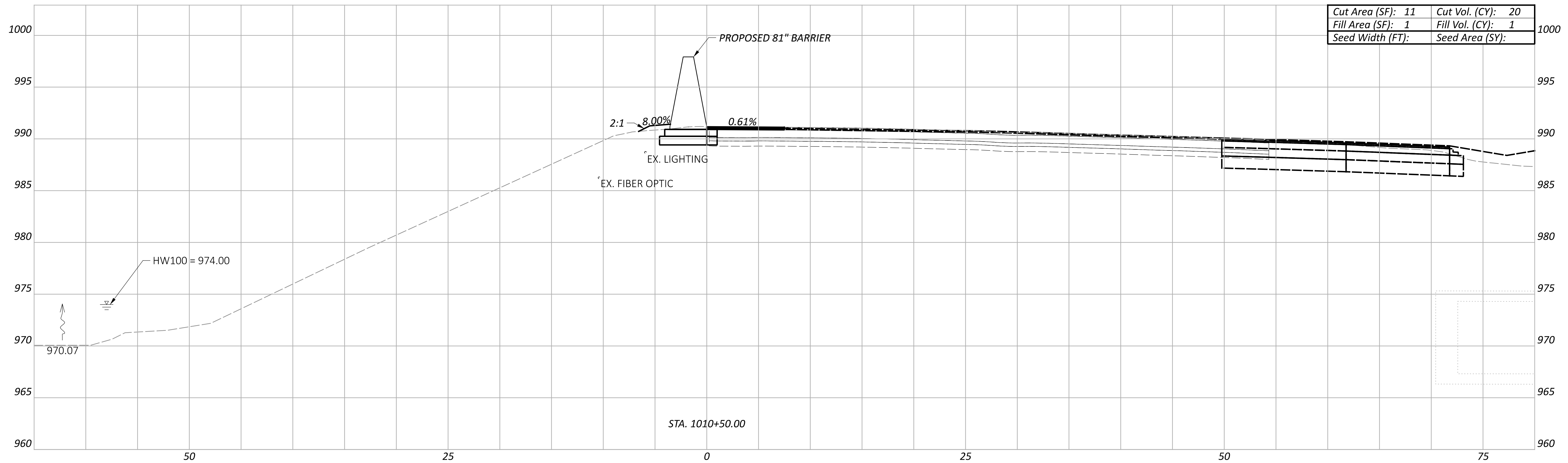
**CROSS SECTIONS - 81" BARRIER 10  
 STA. 1009+00.00 TO STA. 1009+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
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 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

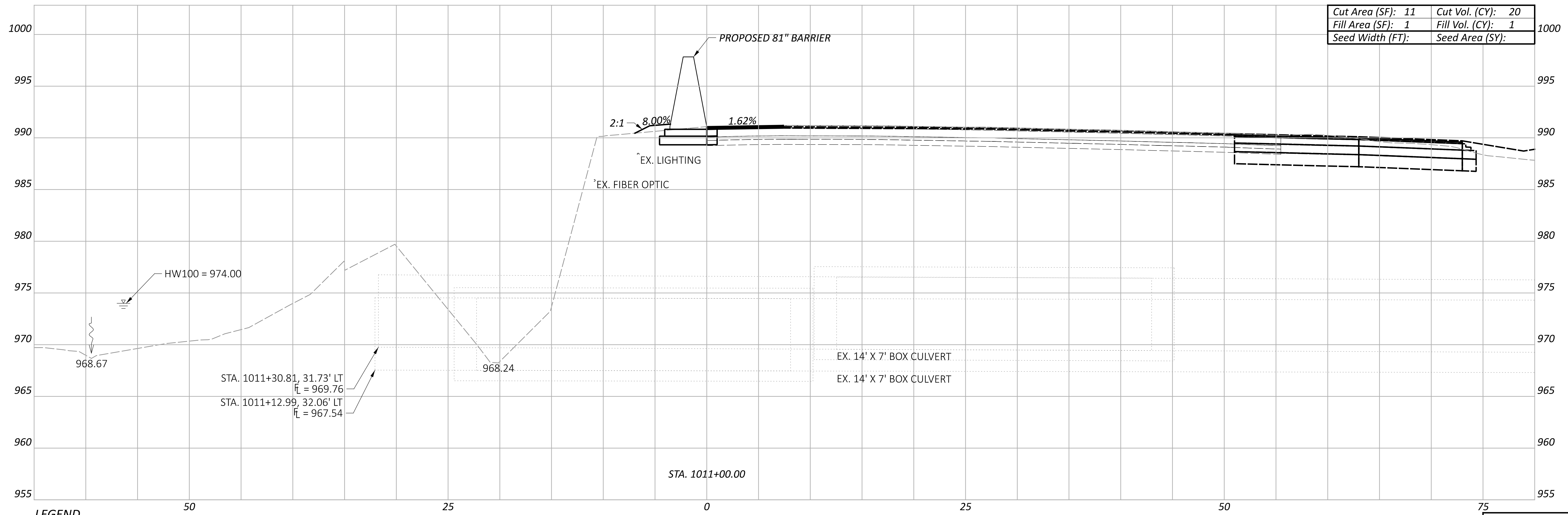


**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - 81" BARRIER 10  
 STA. 1010+00.00 TO STA. 1010+50.00**

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
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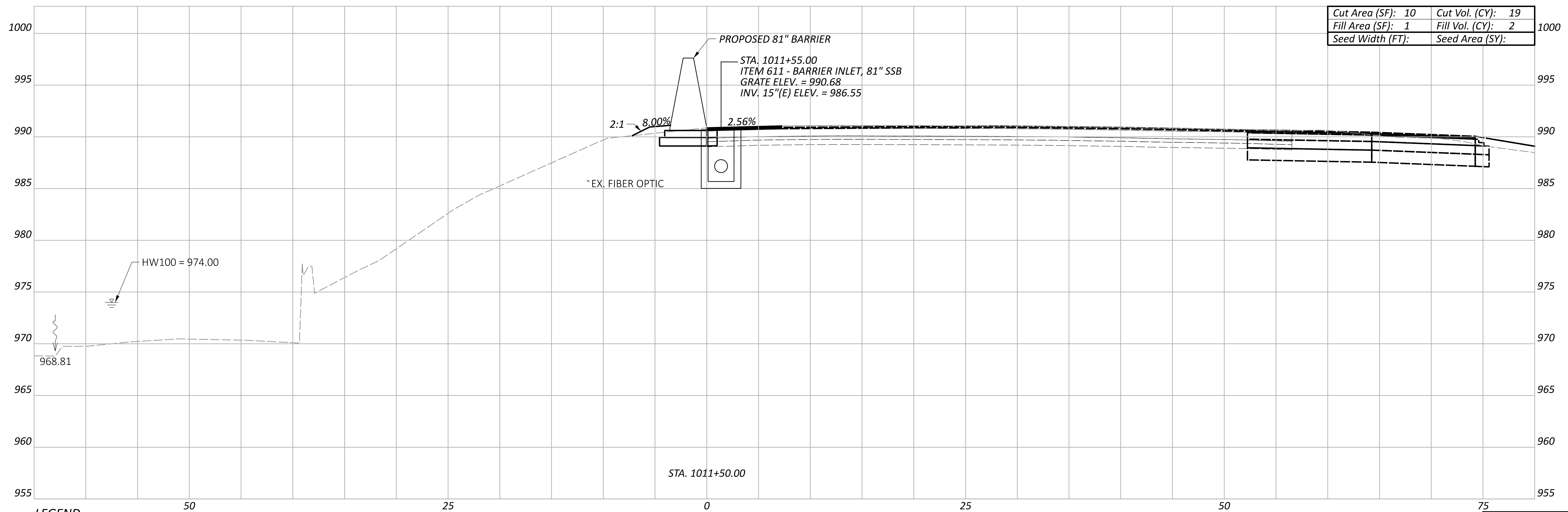
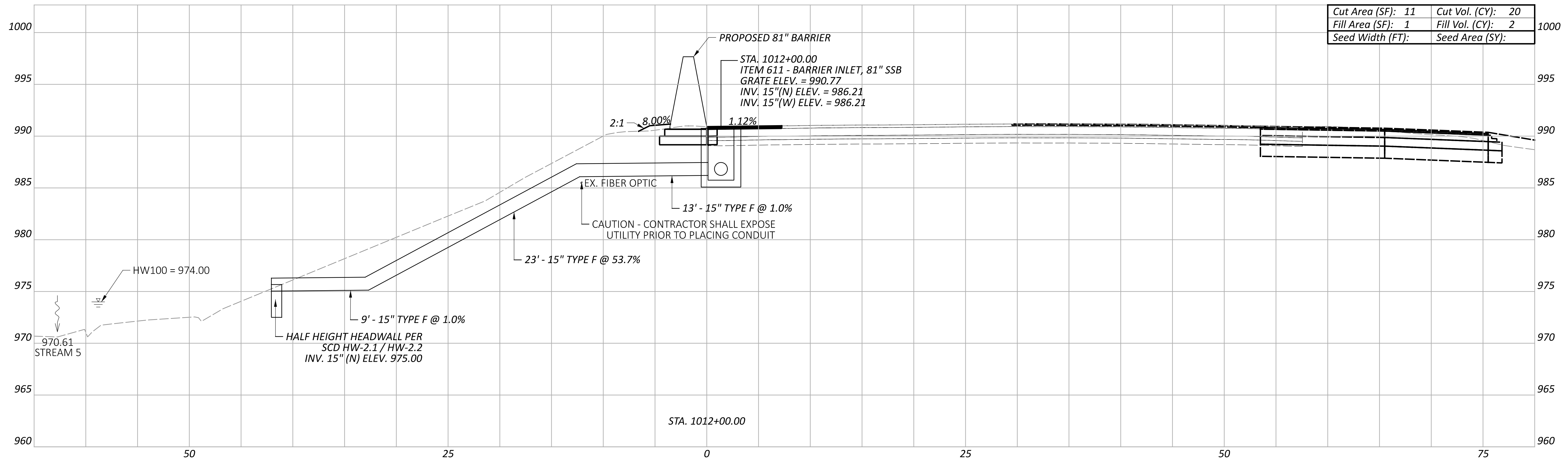
**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.150	P.295
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**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER11 - 1011+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 12:58:43 AM USER: jennifer.kelley  
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**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
	39	4	P.151	P.295

**CROSS SECTIONS - 81" BARRIER 10  
 STA. 1011+50.00 TO STA. 1012+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 200 SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 819-4900  
 www.arcadis.com

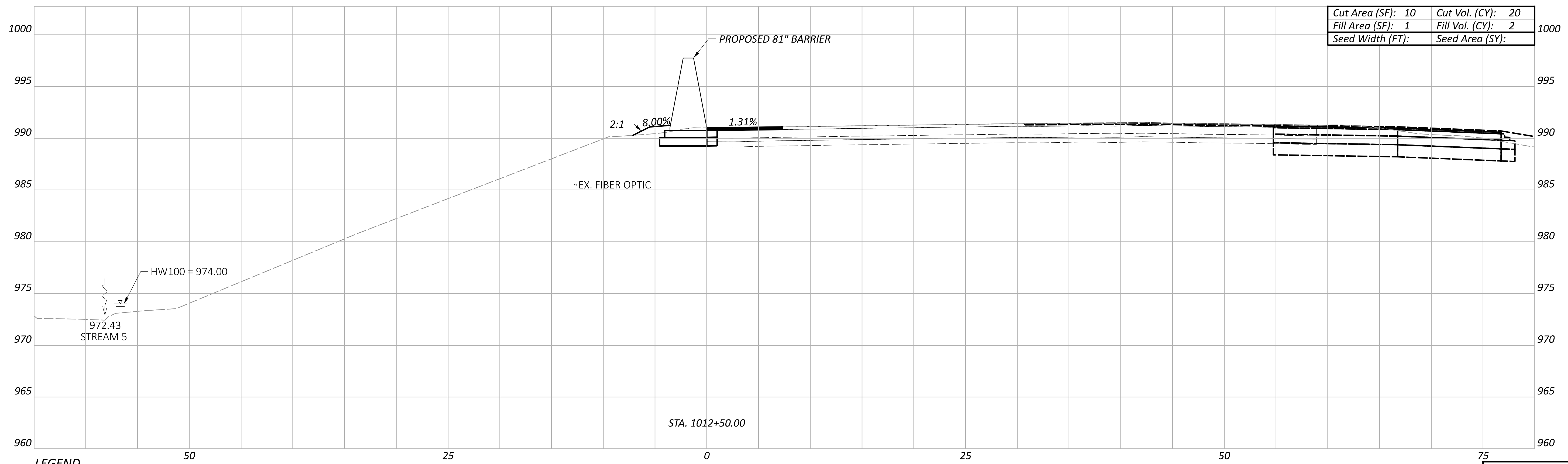
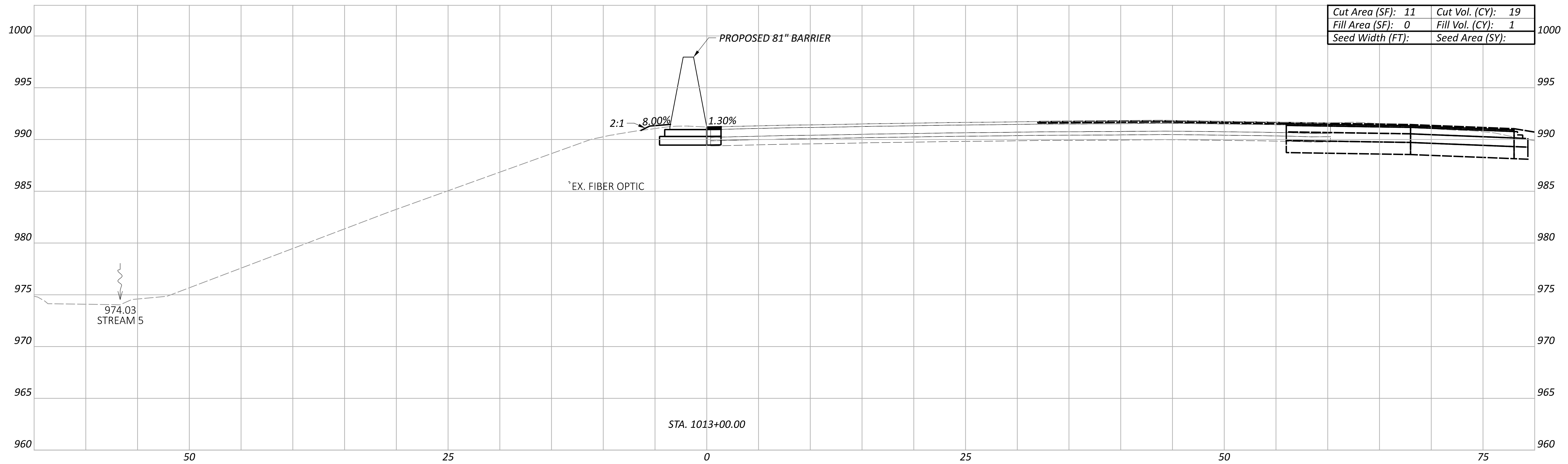
DESIGNER  
**JMK**

REVIEWER  
 JDH 03-27-24

PROJECT ID  
 117607

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER11 - 1012+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:17:50 PM USER: jennifer.kelley  
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**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
	39	3	P.152	P.295

**CROSS SECTIONS - 81" BARRIER 10**  
 STA. 1012+50.00 TO STA. 1013+00.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 819-4900  
 www.arcadis.com

DESIGNER  
**JMK**

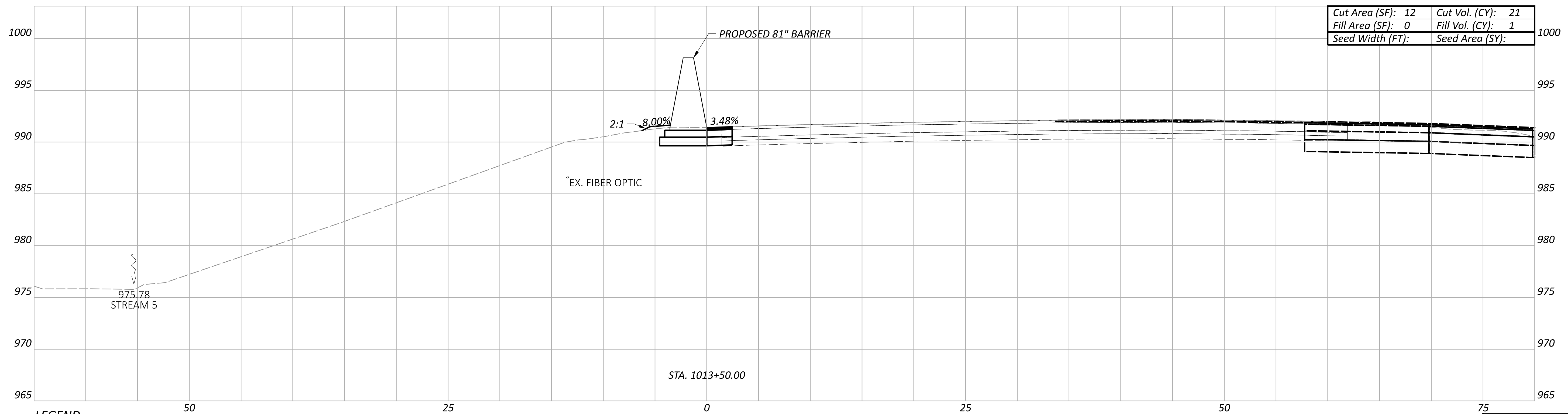
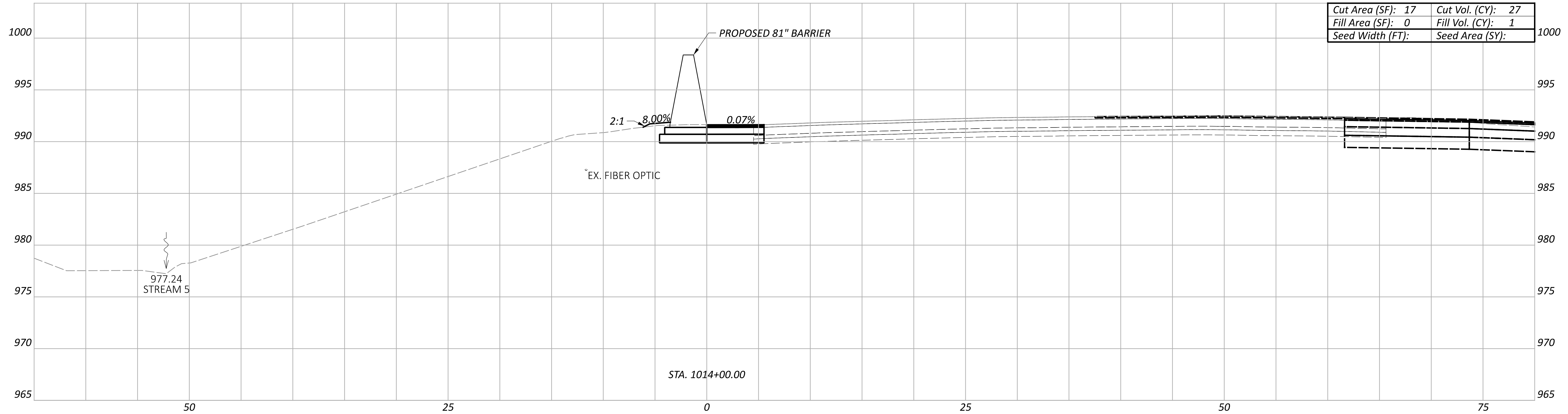
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER11 - 1013+50.00 (Sheet) PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:18:06 PM USER: jennifer.kelley  
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**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - 81" BARRIER 10  
 STA. 1013+50.00 TO STA. 1014+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE. SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**

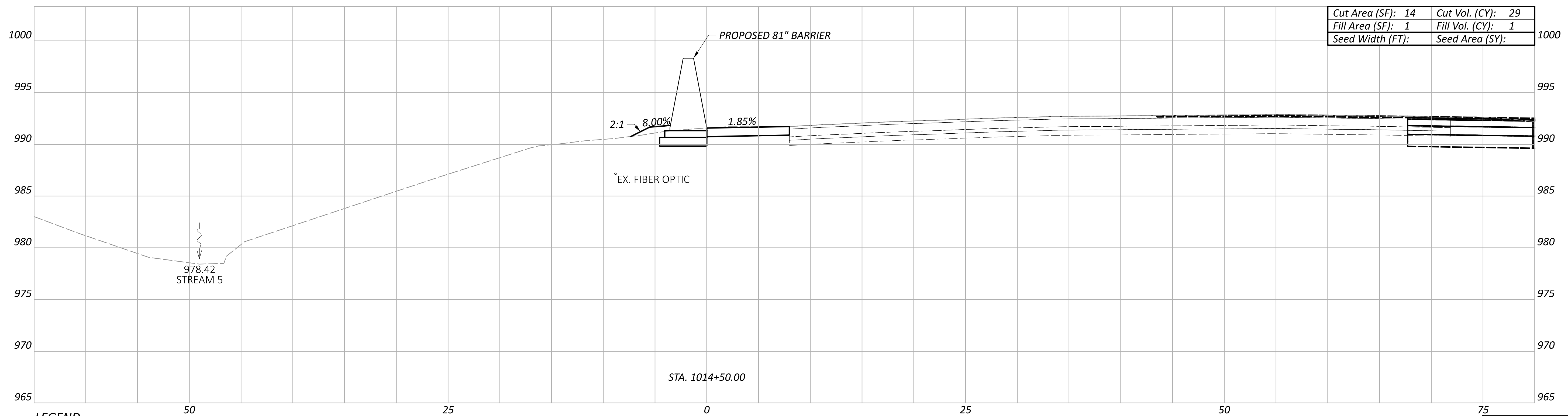
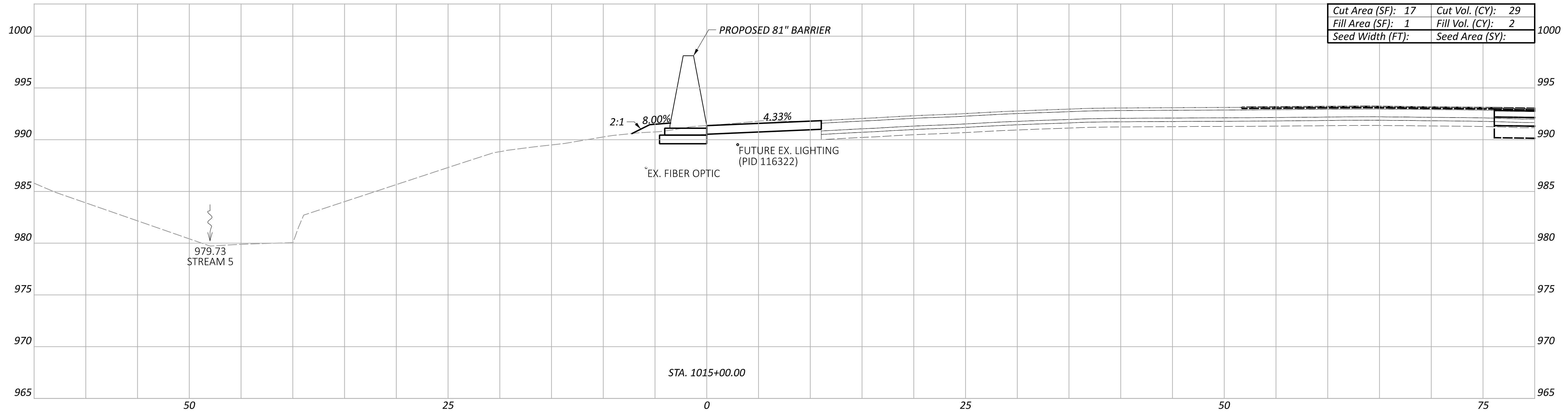
REVIEWER  
 JDH 03-27-24

PROJECT ID  
**117607**

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
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**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER11 - 1014+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:18:22 PM USER: jennifer.kelley  
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**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - 81" BARRIER 10  
 STA. 1014+50.00 TO STA. 1015+00.00**

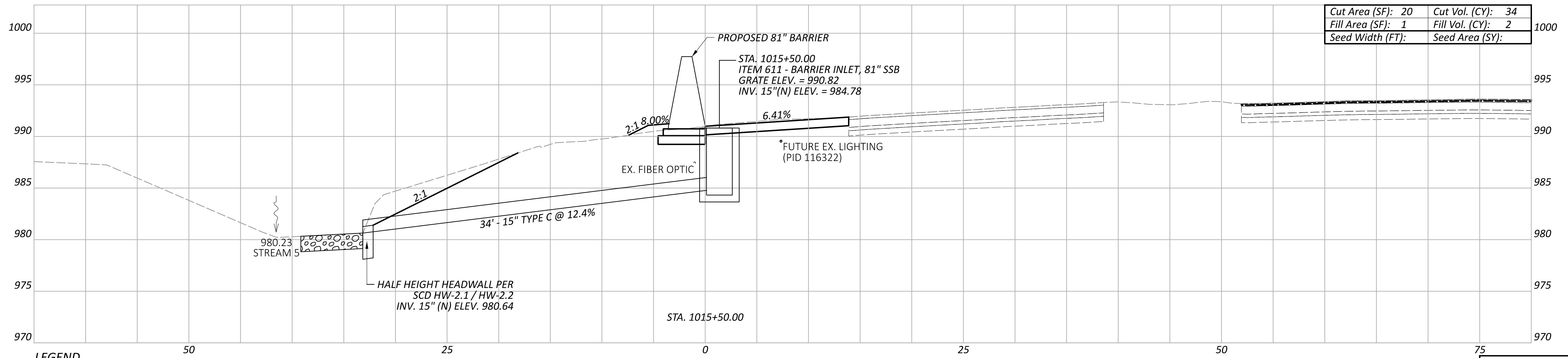
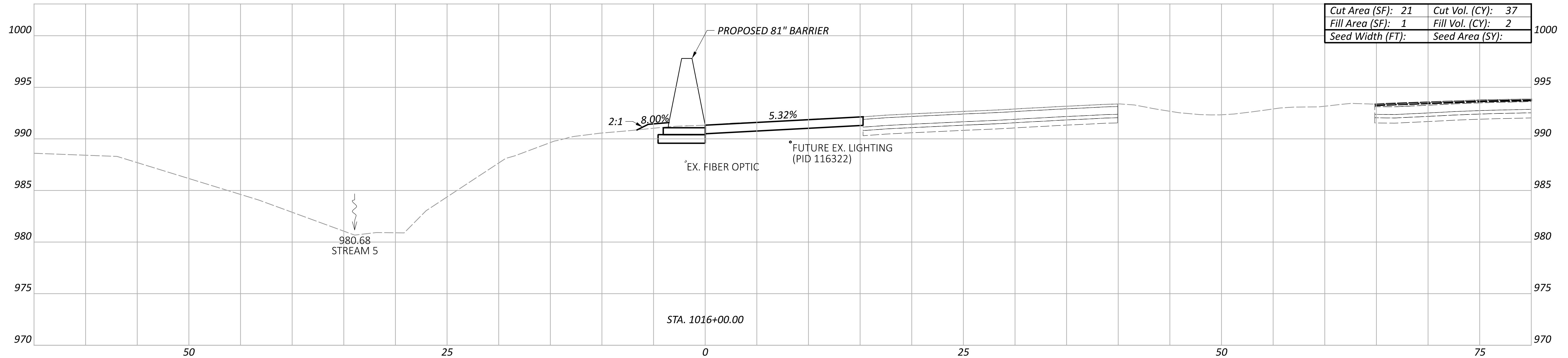
DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHTS SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.154	P.295
58	3			



**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
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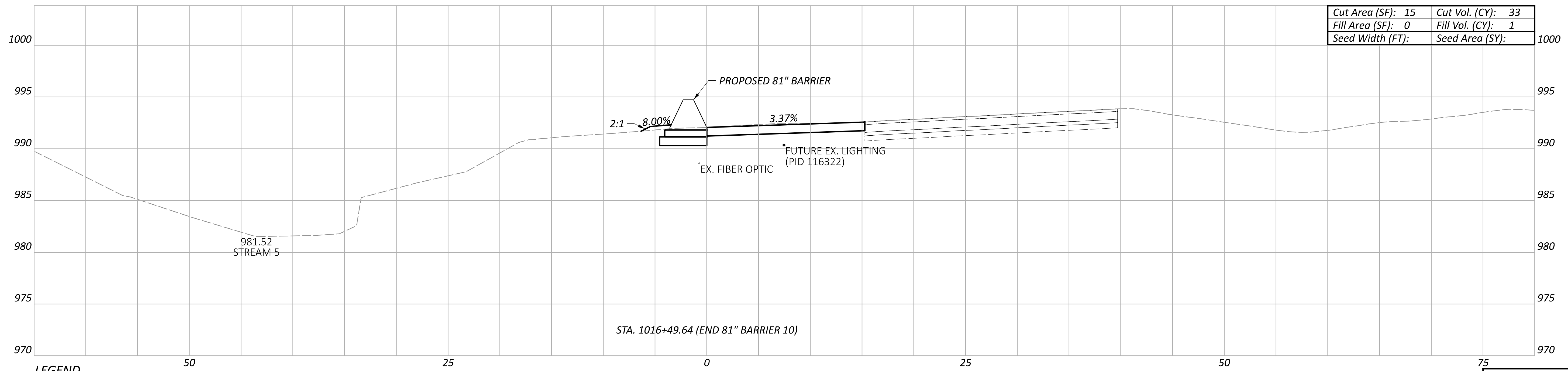
CROSS SECTIONS - 81" BARRIER 10  
 STA. 1015+50.00 TO STA. 1016+00.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 200 SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 871-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



**LEGEND**

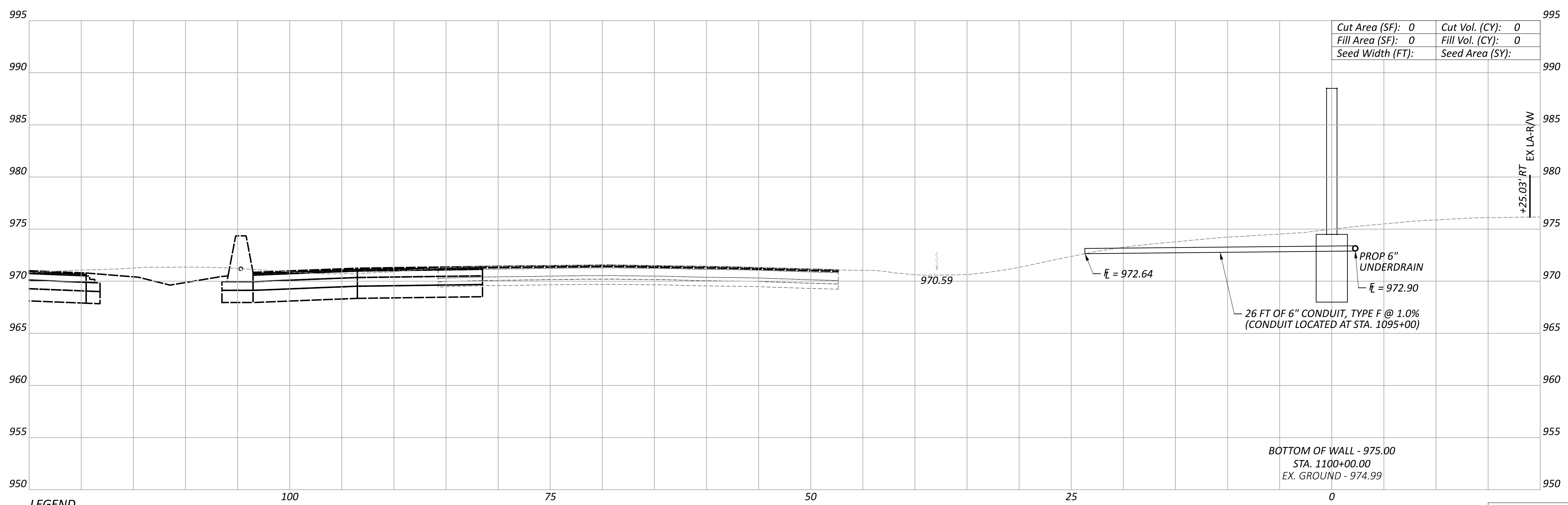
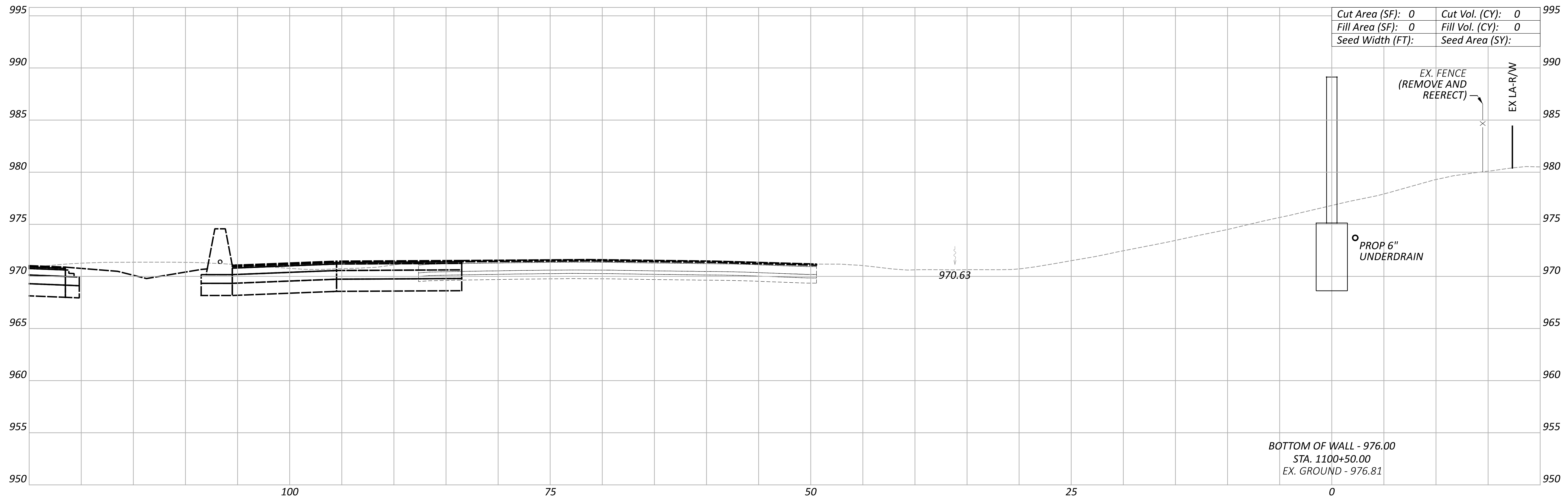
	EXISTING SR-161 PRIOR TO PID 116322
	FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Cut Area (SF):	15	Cut Vol. (CY):	33
Fill Area (SF):	0	Fill Vol. (CY):	1
Seed Width (FT):		Seed Area (SY):	

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
	33	1	P.156	P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: 1100+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:35:26 PM USER: JPerchinske  
 pw:\arcds-us-pw.bentley.com\arcds-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS011.dgn



**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
			P.157 P.295

**CROSS SECTIONS - WALL 11  
 STA. 1100+00.00 TO STA. 1100+50.00**

DESIGN AGENCY  
**BG**  
 www.bgengineering.com  
 5560 WILCOX PLACE, SUITE C  
 DUBLIN, OHIO 43016

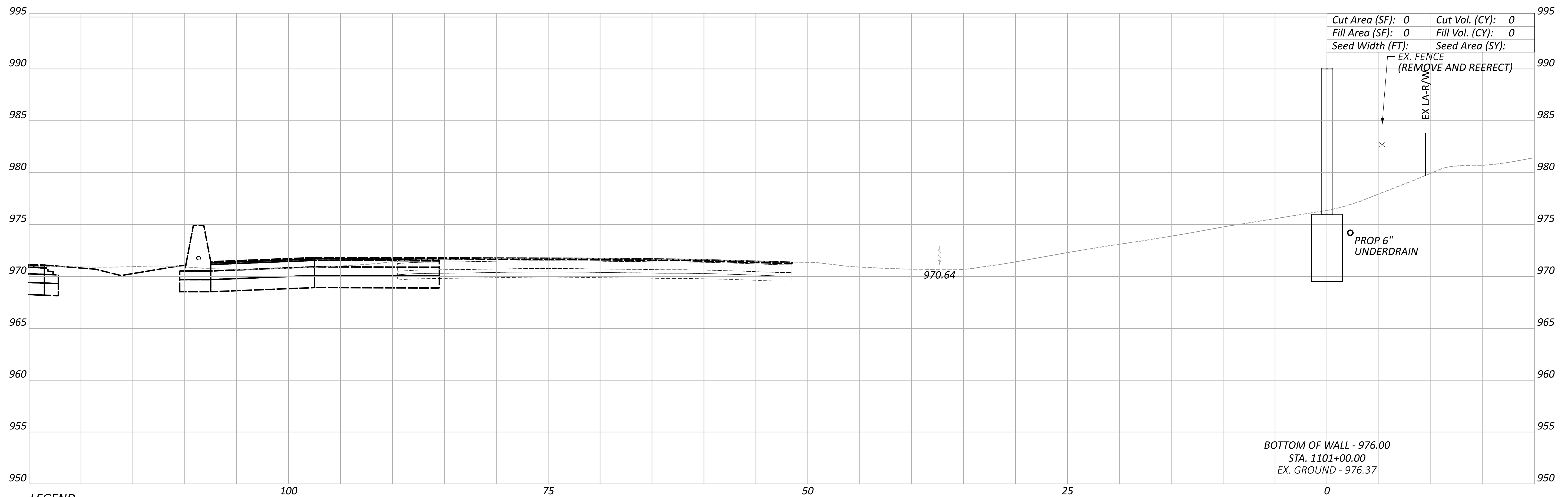
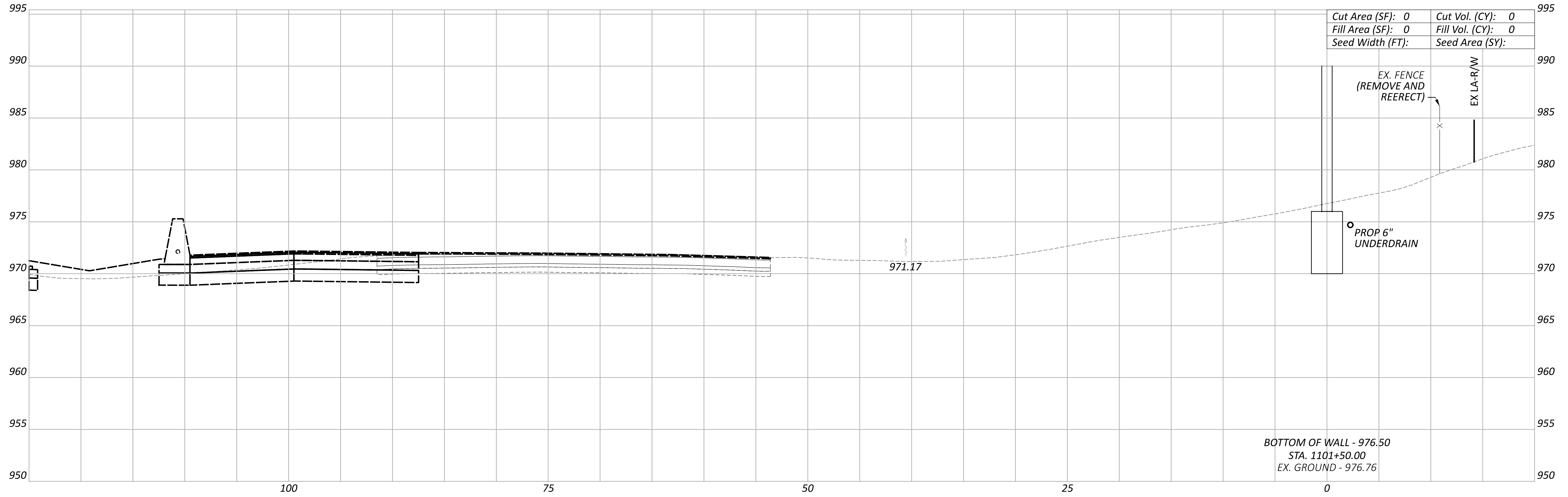
DESIGNER  
 JEP

REVIEWER  
 RG 03-27-24

PROJECT ID  
 117607

**FRA-161-15.80 NOISE WALLS**

MODEL: 1101+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:35:43 PM USER: JPerchinske  
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**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals		
Seeding	Cut	Fill

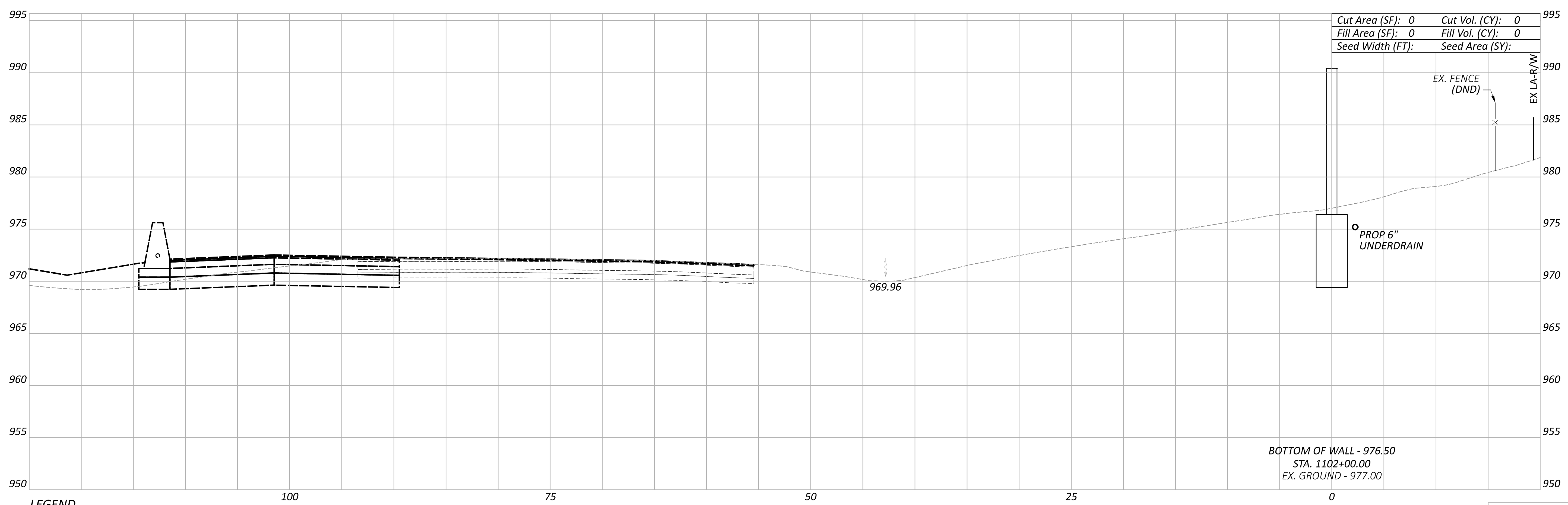
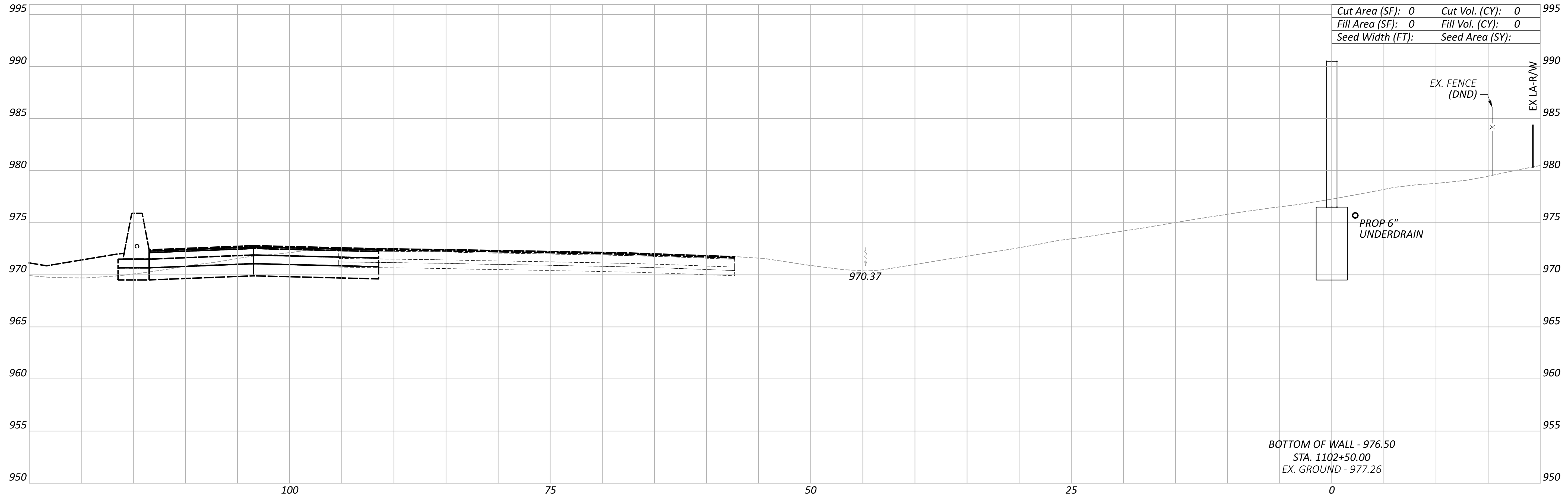
**CROSS SECTIONS - WALL 11  
 STA. 1101+00.00 TO STA. 1101+50.00**



DESIGNER	JEP
REVIEWER	RG
PROJECT ID	117607
SHEET	P.158
TOTAL	P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: 1102+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:35:51 PM USER: JPerchinske  
 pw:\arcds-us-pw.bentley.com\arcds-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS011.dgn



**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals		
Seeding	Cut	Fill

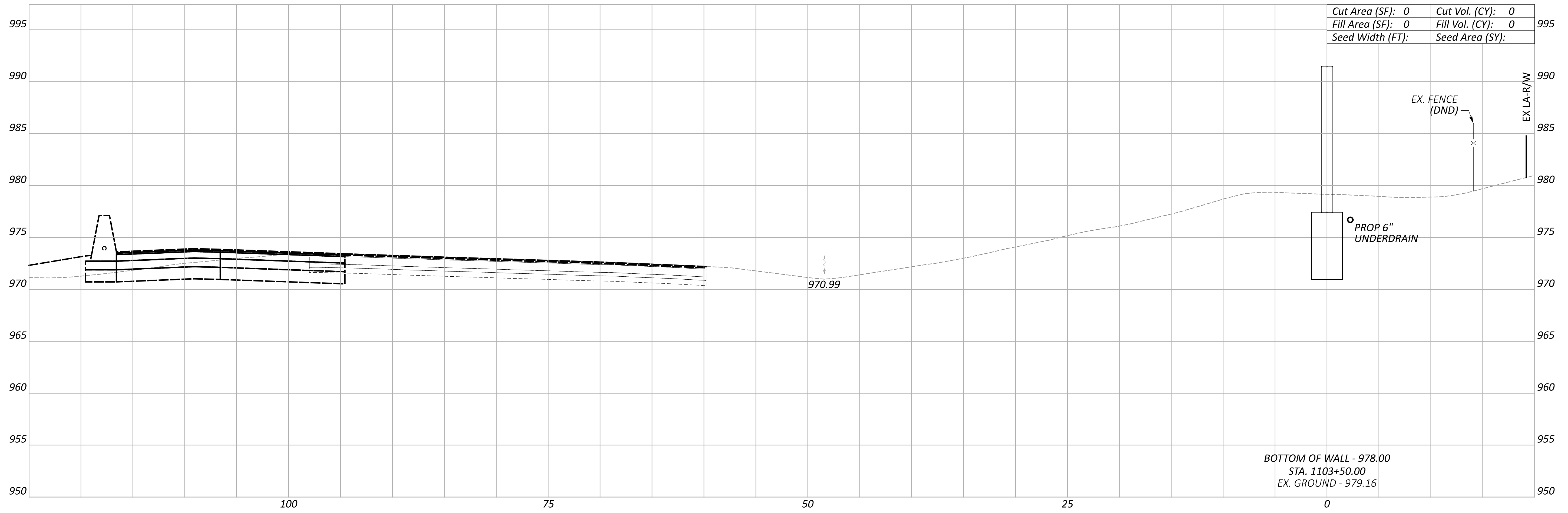


DESIGNER: JEP  
 REVIEWER: RG  
 PROJECT ID: 117607  
 SHEET: P.159  
 TOTAL: P.295

**CROSS SECTIONS - WALL 11  
 STA. 1102+00.00 TO STA. 1102+50.00**

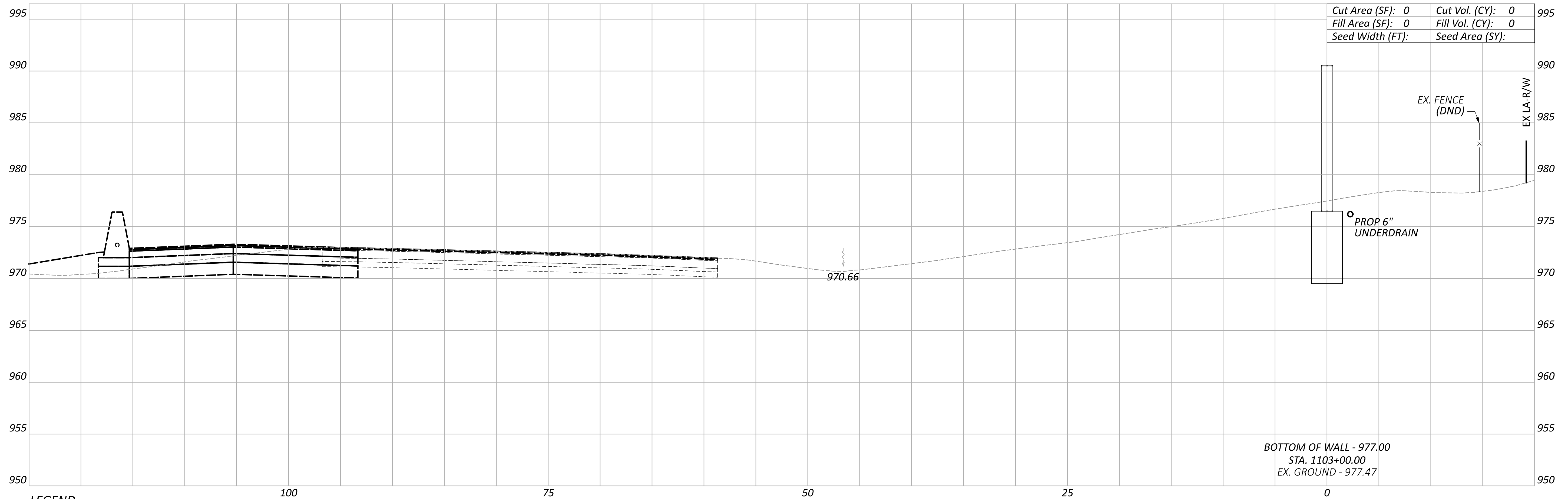
**FRA-161-15.80 NOISE WALLS**

MODEL: 1103+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:36:00 PM USER: JPerchinske  
 pw:\arcds-us-pw.bentley.com\arcds-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS011.dgn



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 978.00  
 STA. 1103+50.00  
 EX. GROUND - 979.16



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 977.00  
 STA. 1103+00.00  
 EX. GROUND - 977.47

**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals		
Seeding	Cut	Fill



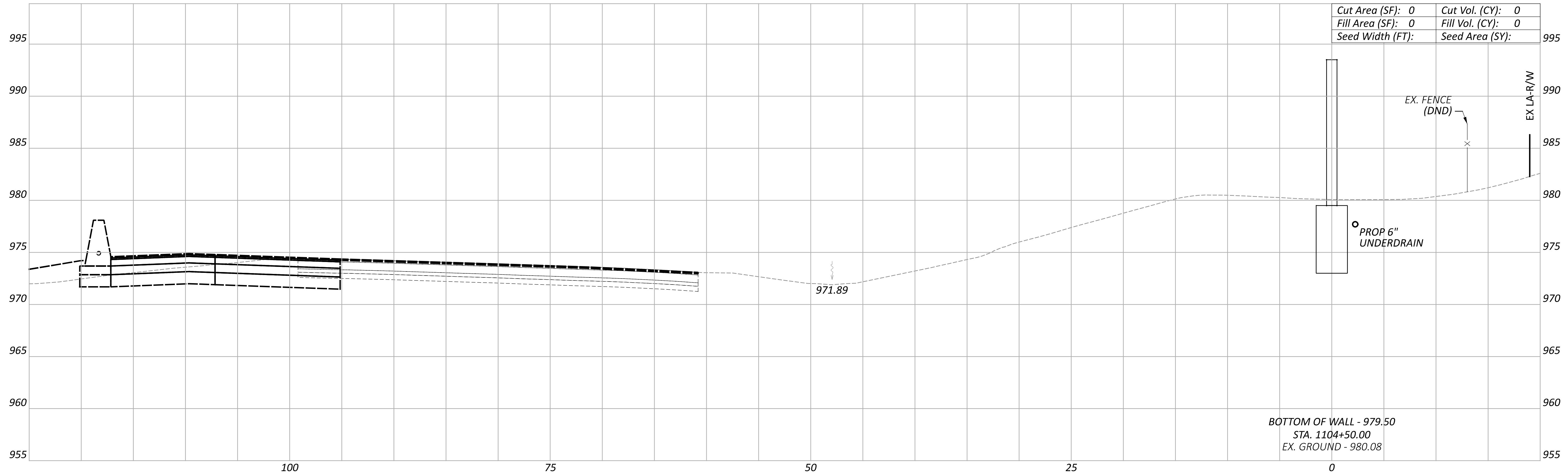
DESIGNER  
 JEP  
 REVIEWER  
 RG 03-27-24  
 PROJECT ID  
 117607  
 SHEET TOTAL  
 P.160 P.295

**CROSS SECTIONS - WALL 11  
 STA. 1103+00.00 TO STA. 1103+50.00**



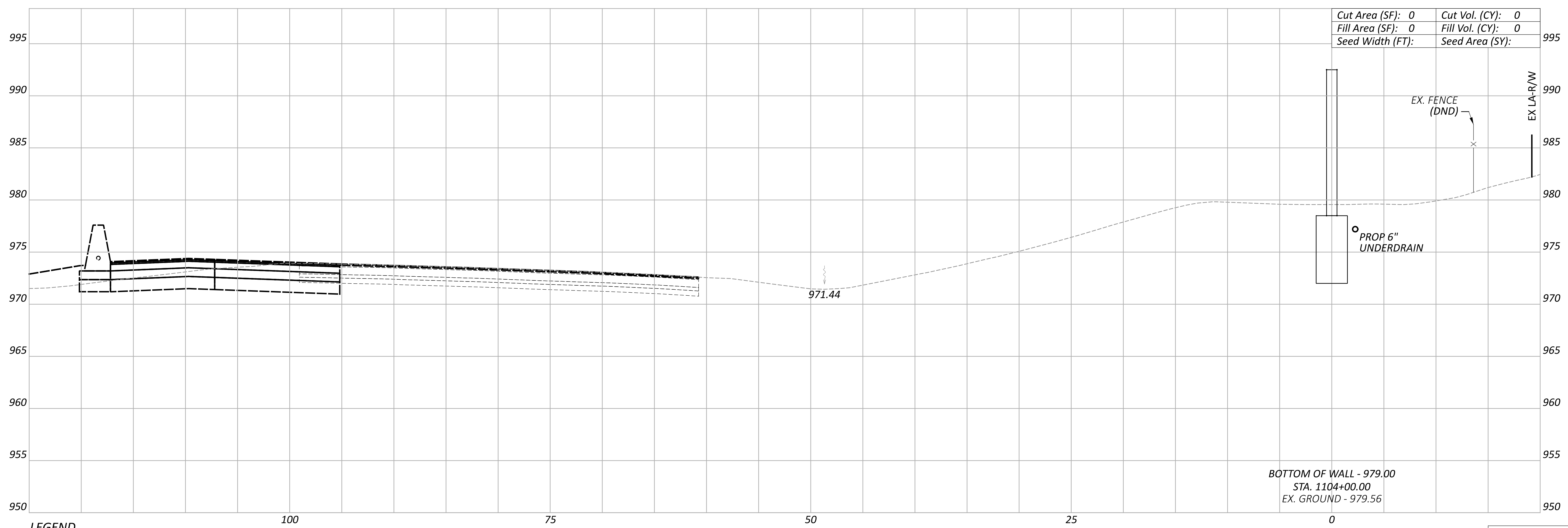
**FRA-161-15.80 NOISE WALLS**

MODEL: 1104+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:36:08 PM USER: JPerchinske  
 pw:\arcds-us-pw.bentley.com\arcds-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS011.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 979.50  
 STA. 1104+50.00  
 EX. GROUND - 980.08




Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 979.00  
 STA. 1104+00.00  
 EX. GROUND - 979.56

**LEGEND**  
 — EXISTING SR-161 PRIOR TO PID 116322  
 — FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
			P.161 P.295

**CROSS SECTIONS - WALL 11  
 STA. 1104+00.00 TO STA. 1104+50.00**

DESIGN AGENCY  
  
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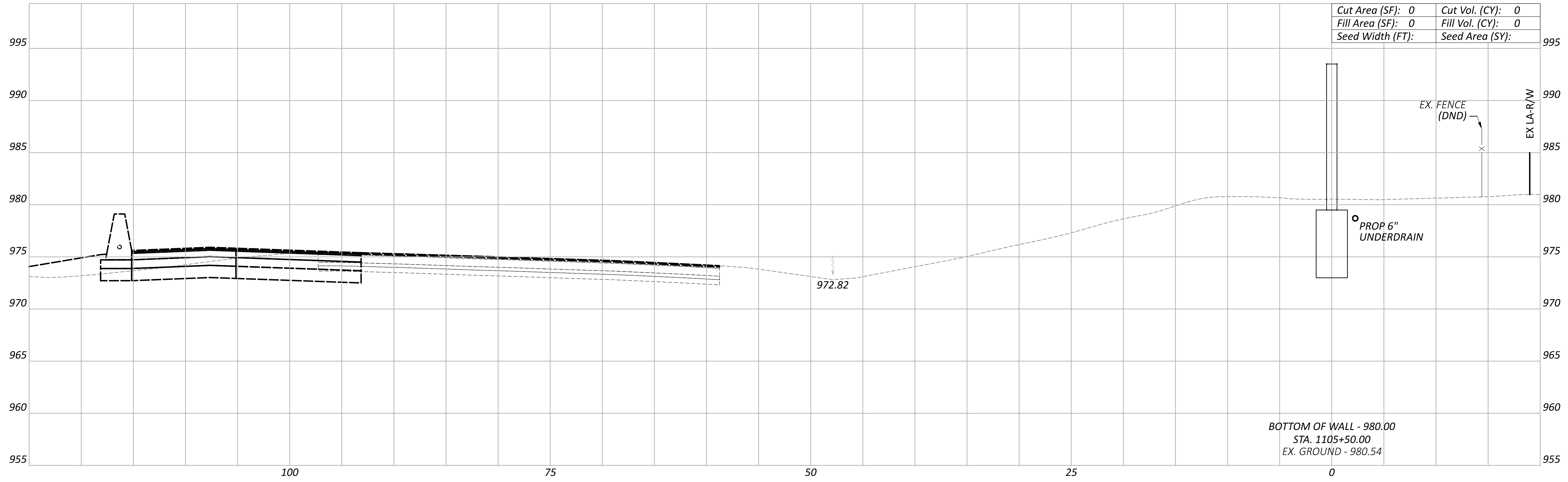
DESIGNER  
 JEP

REVIEWER  
 RG 03-27-24

PROJECT ID  
 117607

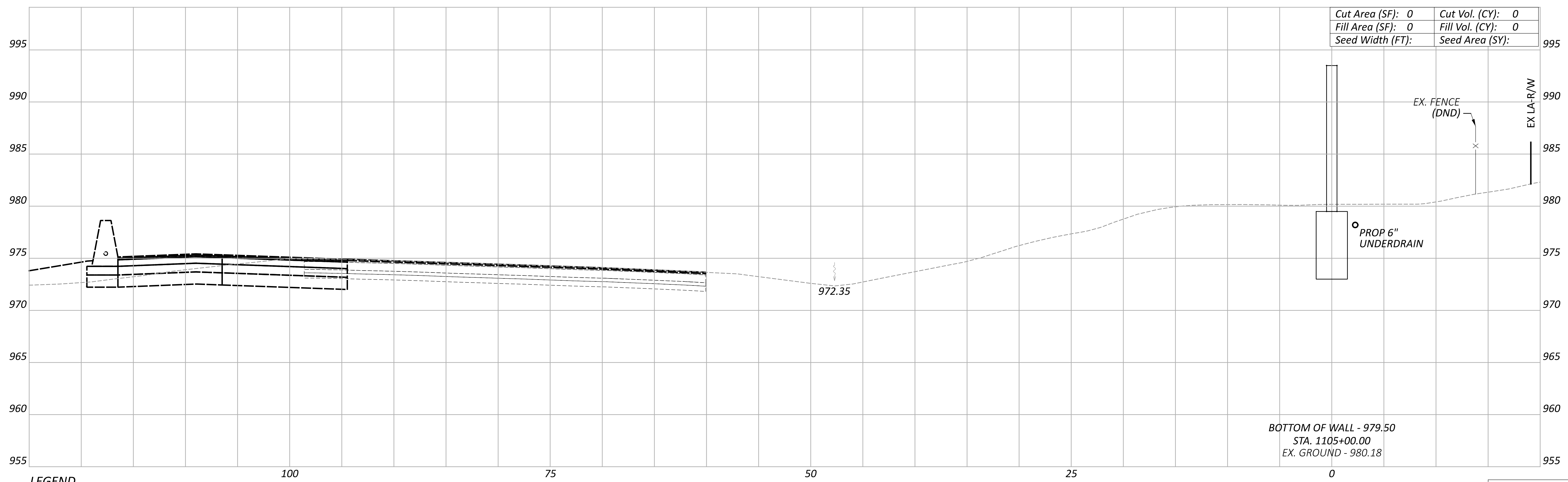
**FRA-161-15.80 NOISE WALLS**

MODEL: 1105+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:36:16 PM USER: JPerchinske  
 pw:\arcds-us-pw.bentley.com\arcds-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS011.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 980.00  
 STA. 1105+50.00  
 EX. GROUND - 980.54



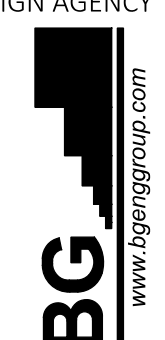
Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 979.50  
 STA. 1105+00.00  
 EX. GROUND - 980.18

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 — FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
			P.162 P.295

**CROSS SECTIONS - WALL 11  
 STA. 1105+00.00 TO STA. 1105+50.00**

DESIGN AGENCY  
  
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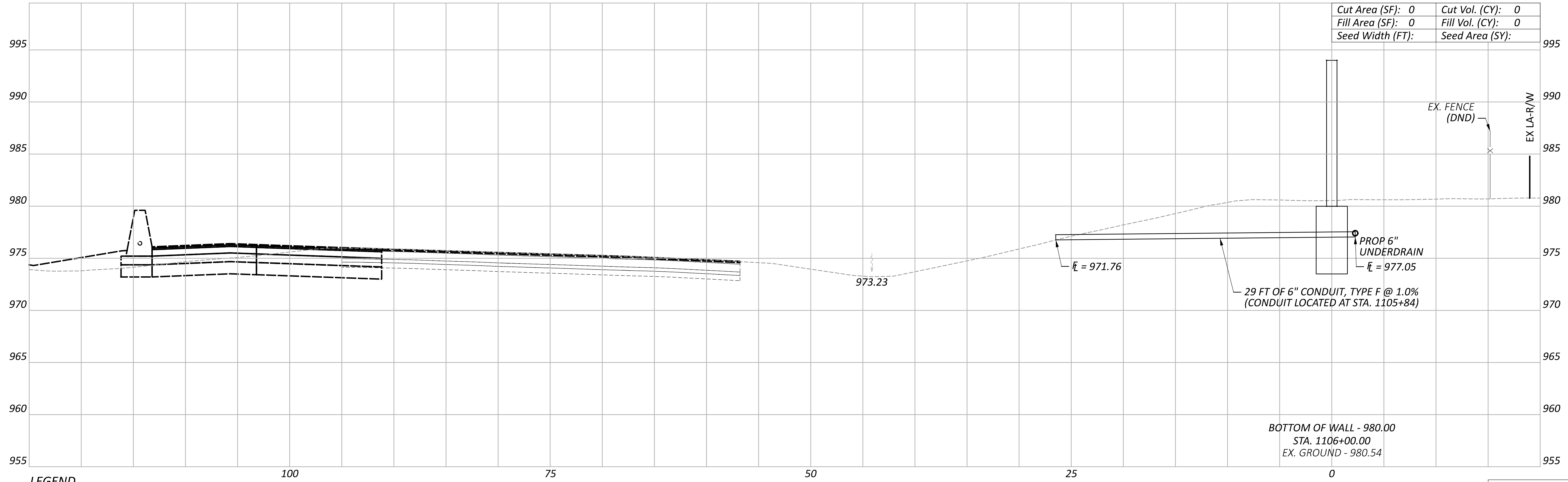
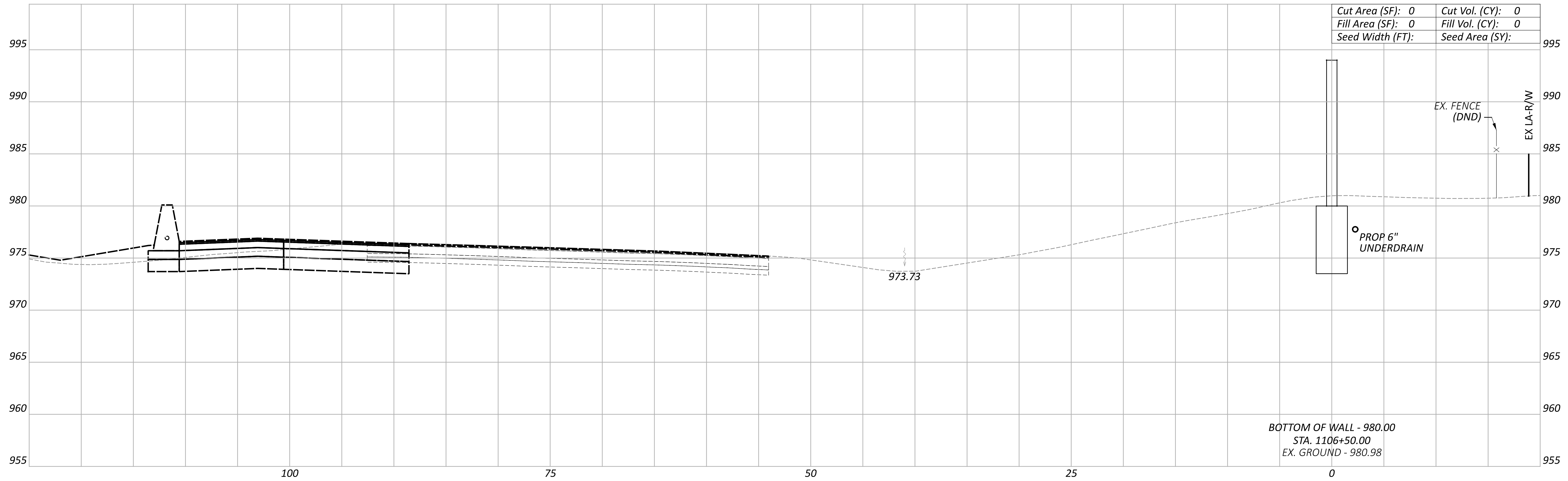
DESIGNER  
 JEP

REVIEWER  
 RG 03-27-24

PROJECT ID  
 117607

**FRA-161-15.80 NOISE WALLS**

MODEL: 1106+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:36:24 PM USER: JPerchinske  
 pw:\arcds-us-pw.bentley.com\arcds-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS011.dgn



**LEGEND**  
 — EXISTING SR-161 PRIOR TO PID 116322  
 — FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
			P.163 P.295

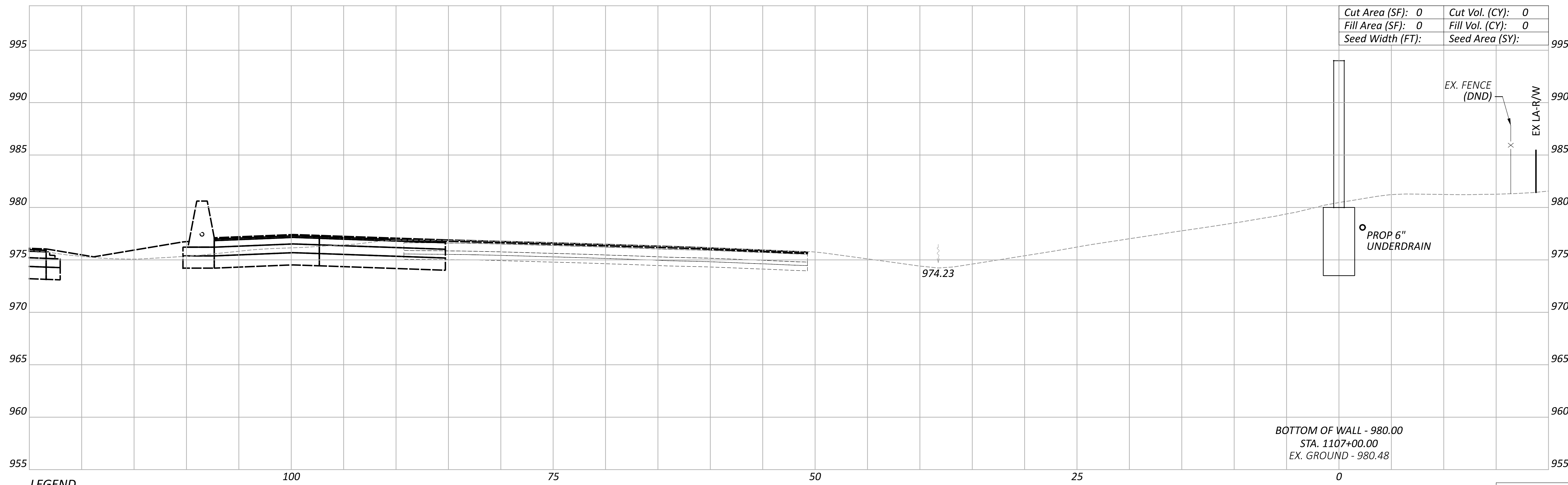
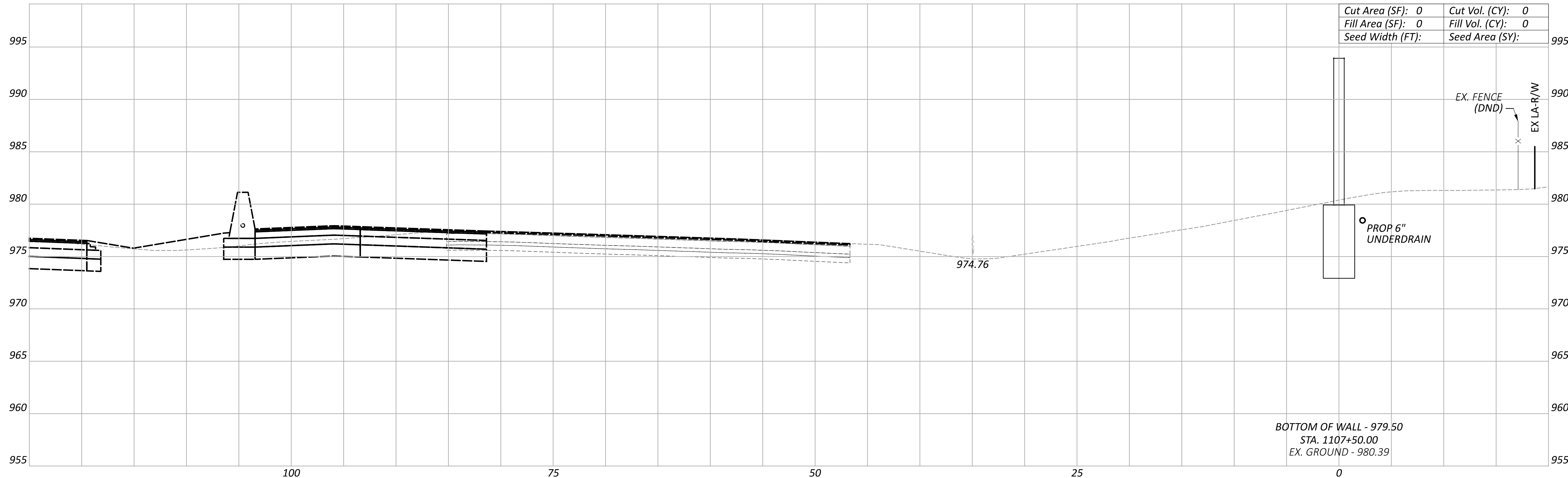


DESIGNER: JEP  
 REVIEWER: RG  
 PROJECT ID: 03-27-24

**CROSS SECTIONS - WALL 11  
 STA. 1106+00.00 TO STA. 1106+50.00**

**FRA-161-15.80 NOISE WALLS**

MODEL: 1107+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:36:32 PM USER: JPerchinske  
 pw:\arcds-us-pw.bentley.com\arcds-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS011.dgn



**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals		
Seeding	Cut	Fill

DESIGN AGENCY  
**BG**  
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 JEP

REVIEWER  
 RG 03-27-24

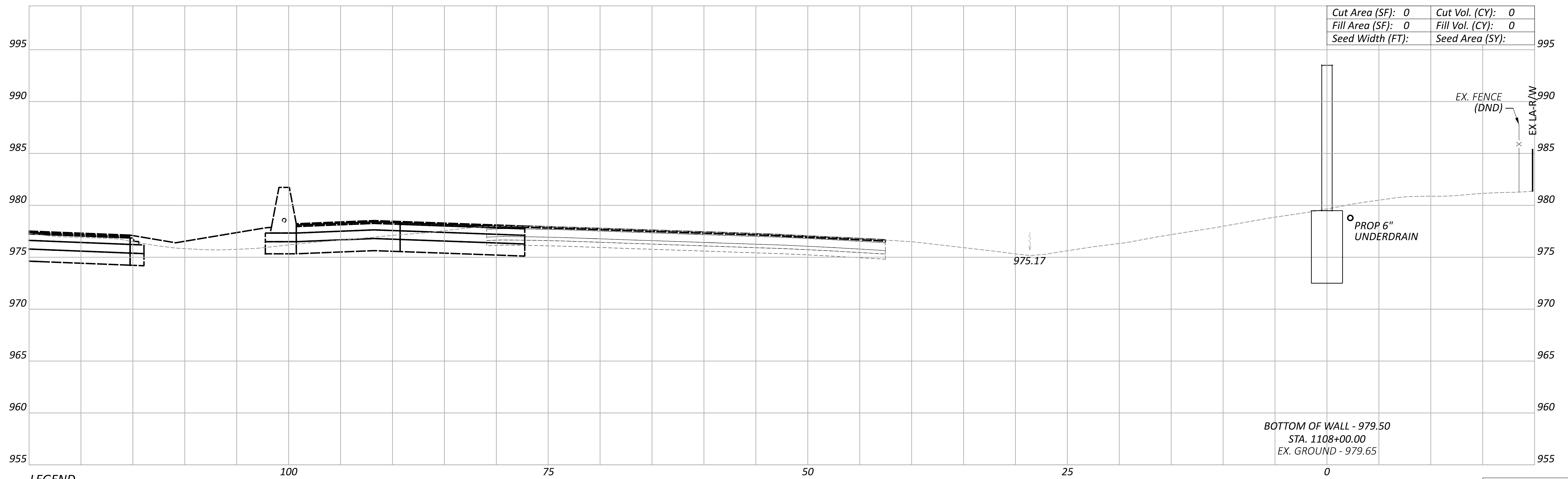
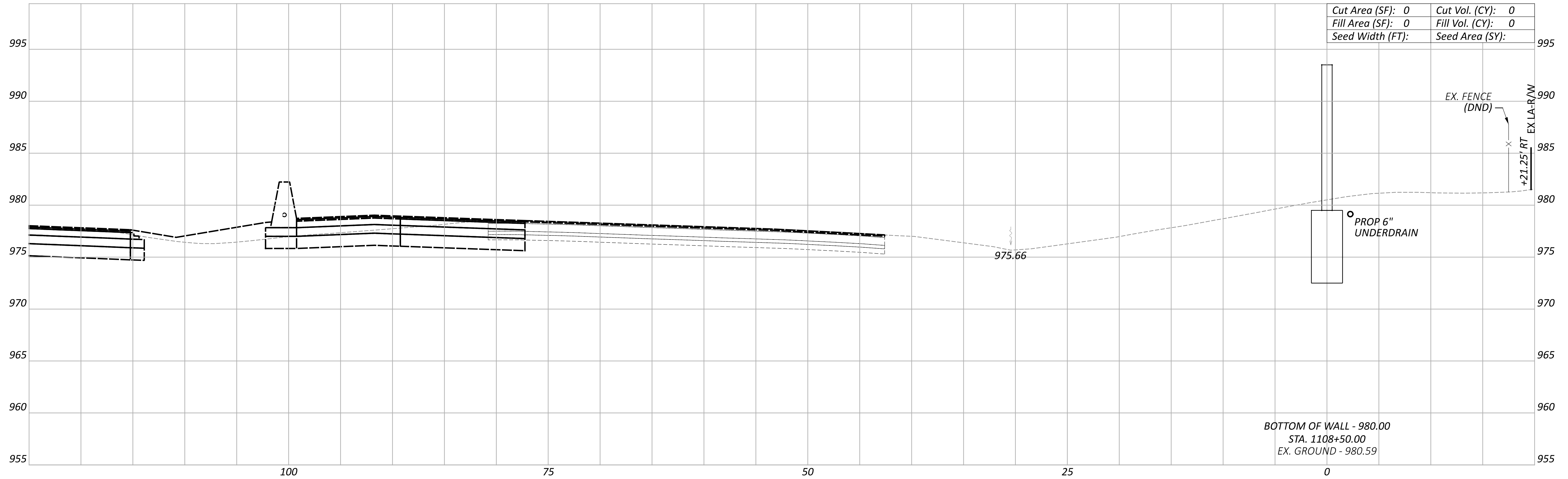
PROJECT ID  
 117607

SHEET	TOTAL
P.164	P.295

**CROSS SECTIONS - WALL 11  
 STA. 1107+00.00 TO STA. 1107+50.00**

**FRA-161-15.80 NOISE WALLS**

MODEL: 1108+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:36:40 PM USER: JPerchinske  
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**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
			P.165	P.295

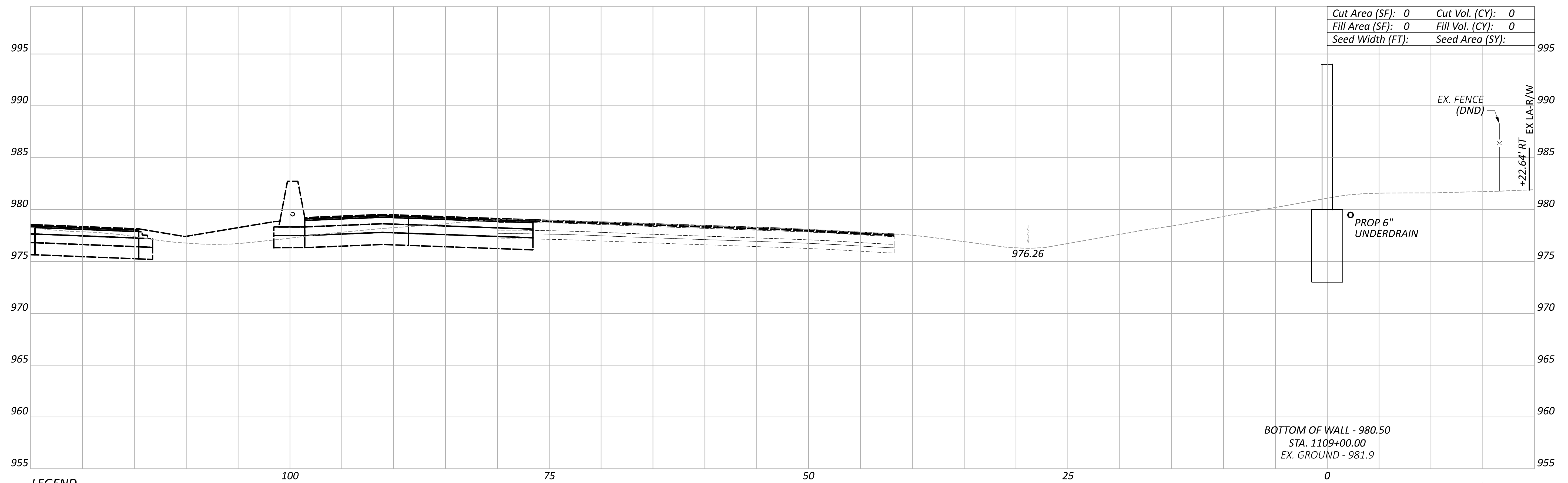
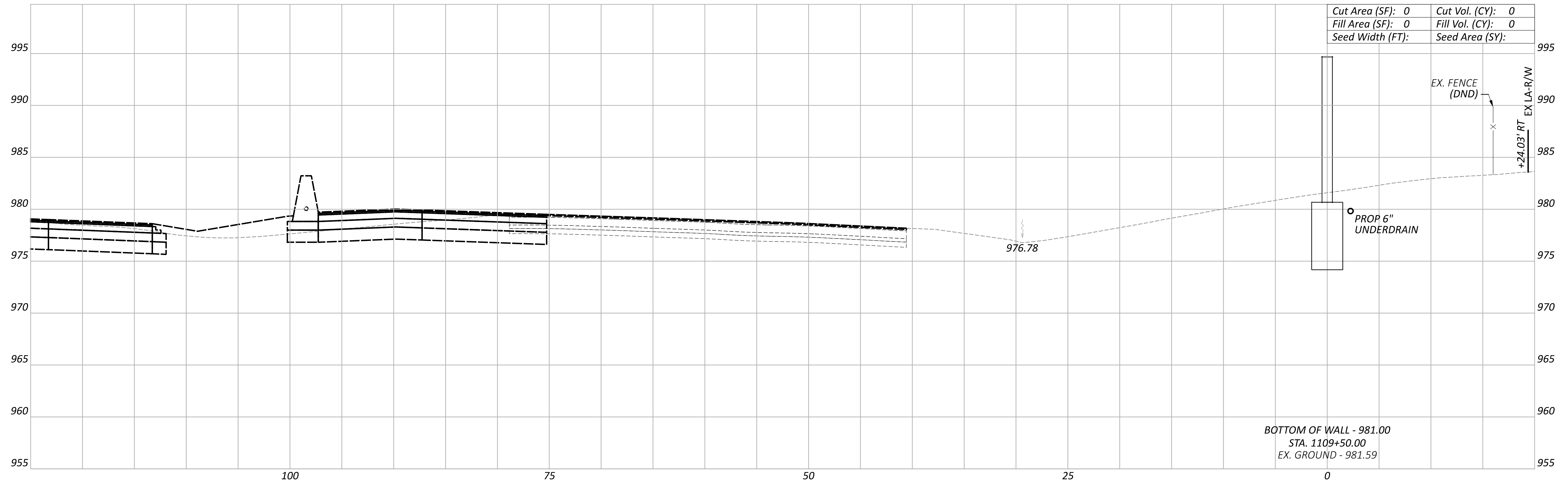
**CROSS SECTIONS - WALL 11  
 STA. 1108+00.00 TO STA. 1108+50.00**



DESIGNER: JEP  
 REVIEWER: RG  
 PROJECT ID: 117607

**FRA-161-15.80 NOISE WALLS**

MODEL: 1109+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:36:49 PM USER: JPerchinske  
 pw:\arcds-us-pw.bentley.com\arcds-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS011.dgn



**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

Sheet Totals		
Seeding	Cut	Fill

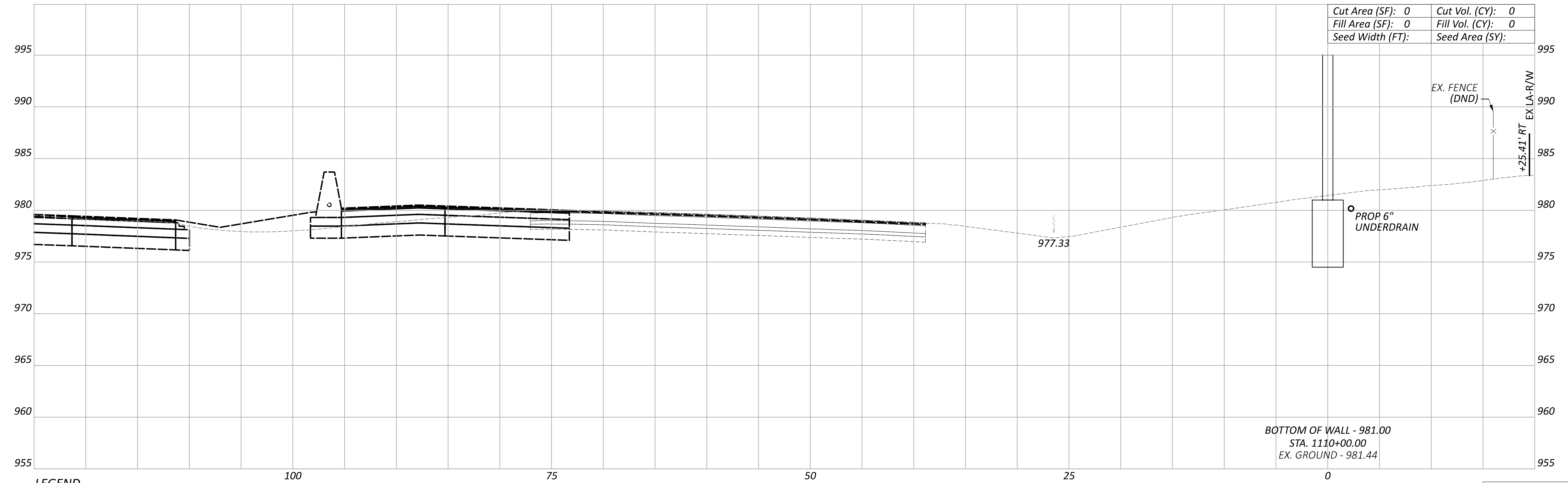
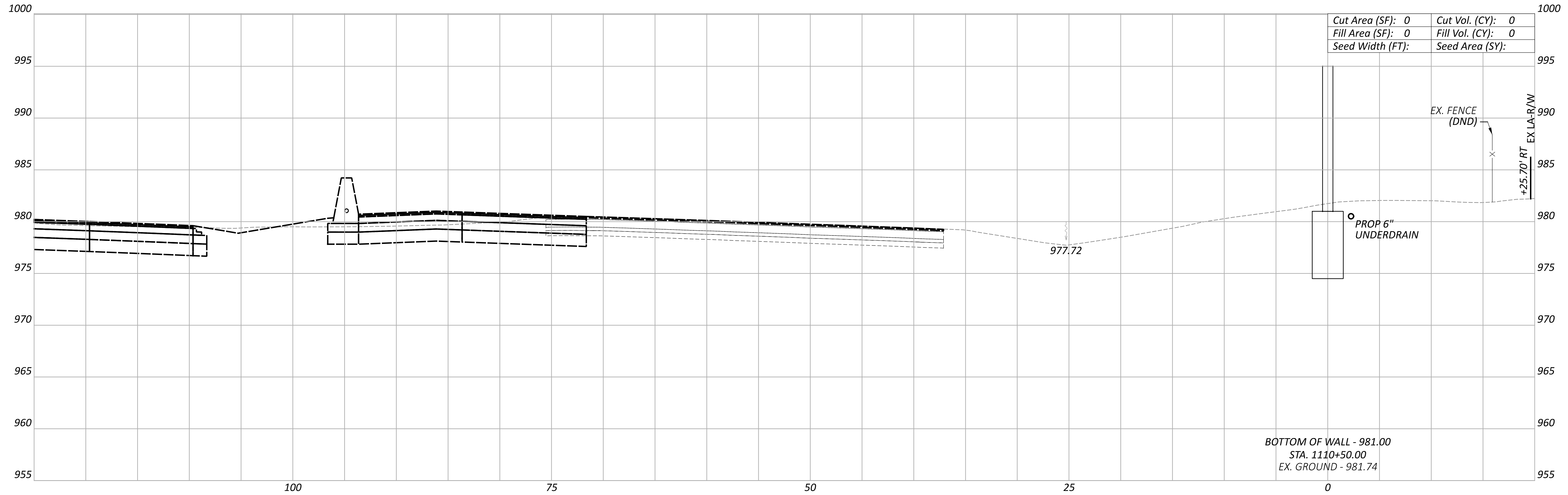


DESIGNER: JEP  
 REVIEWER: RG  
 PROJECT ID: 117607  
 SHEET: P.166  
 TOTAL: P.295

**CROSS SECTIONS - WALL 11  
 STA. 1109+00.00 TO STA. 1109+50.00**

**FRA-161-15.80 NOISE WALLS**

MODEL: 1110+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:36:58 PM USER: JPerchinske  
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**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals		
Seeding	Cut	Fill

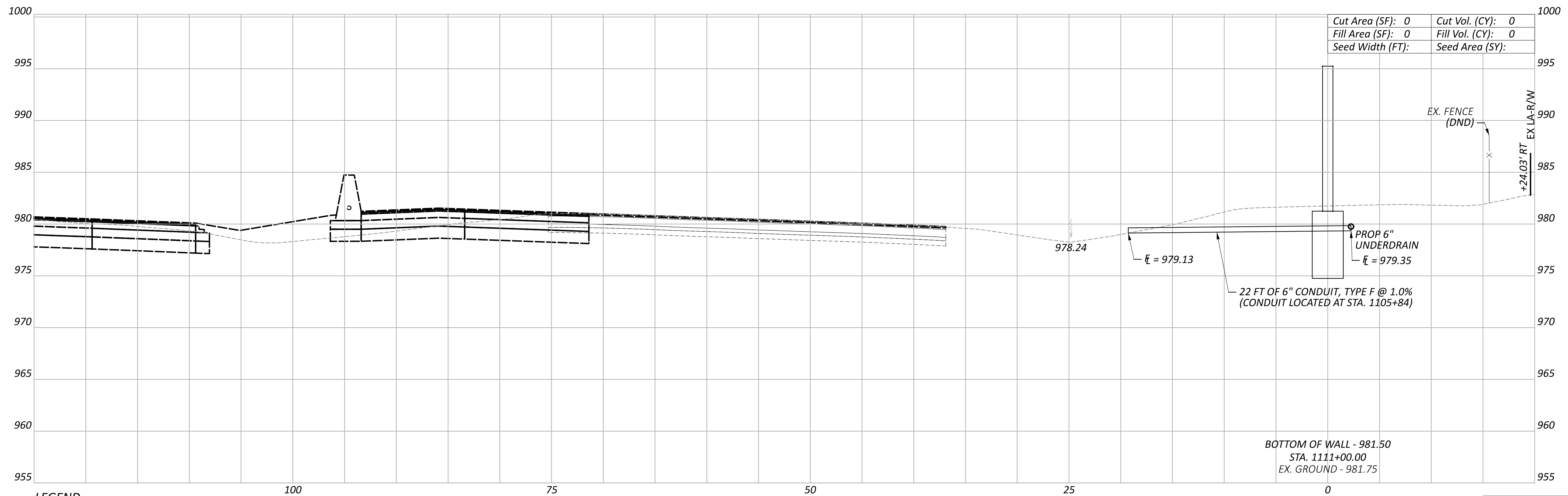
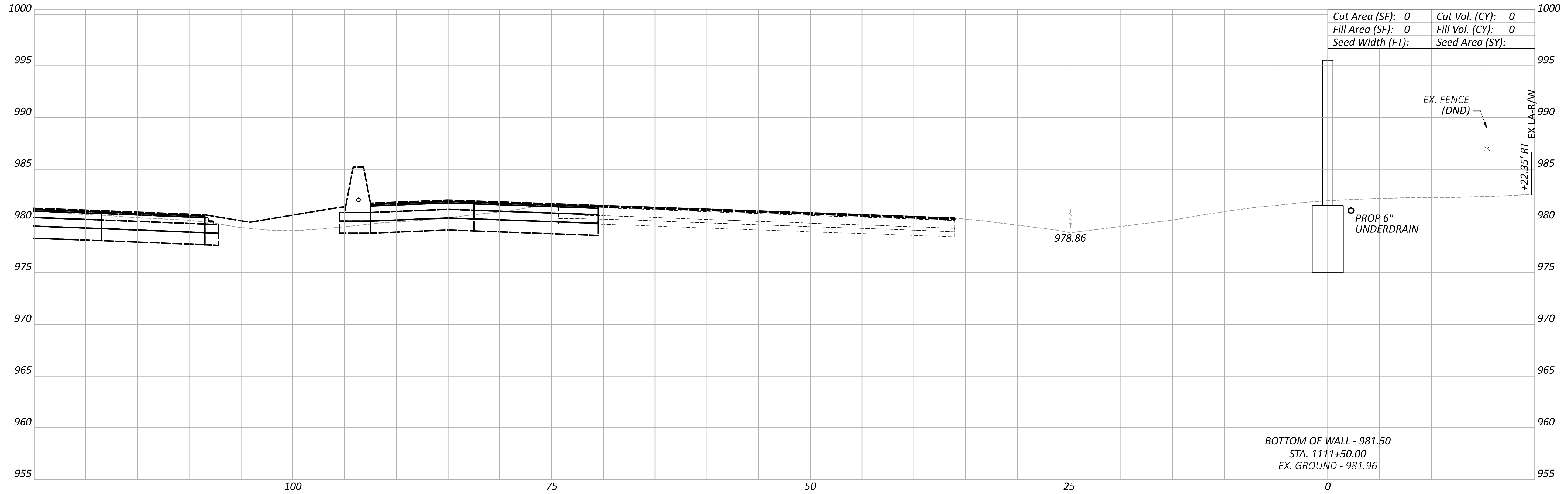
**CROSS SECTIONS - WALL 11  
 STA. 1110+00.00 TO STA. 1110+50.00**



DESIGNER	JEP
REVIEWER	RG
PROJECT ID	117607
SHEET	P.167
TOTAL	P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: 1111+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:37:06 PM USER: JPerchinske  
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**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals		
Seeding	Cut	Fill

**CROSS SECTIONS - WALL 11  
 STA. 1111+00.00 TO STA. 1111+50.00**

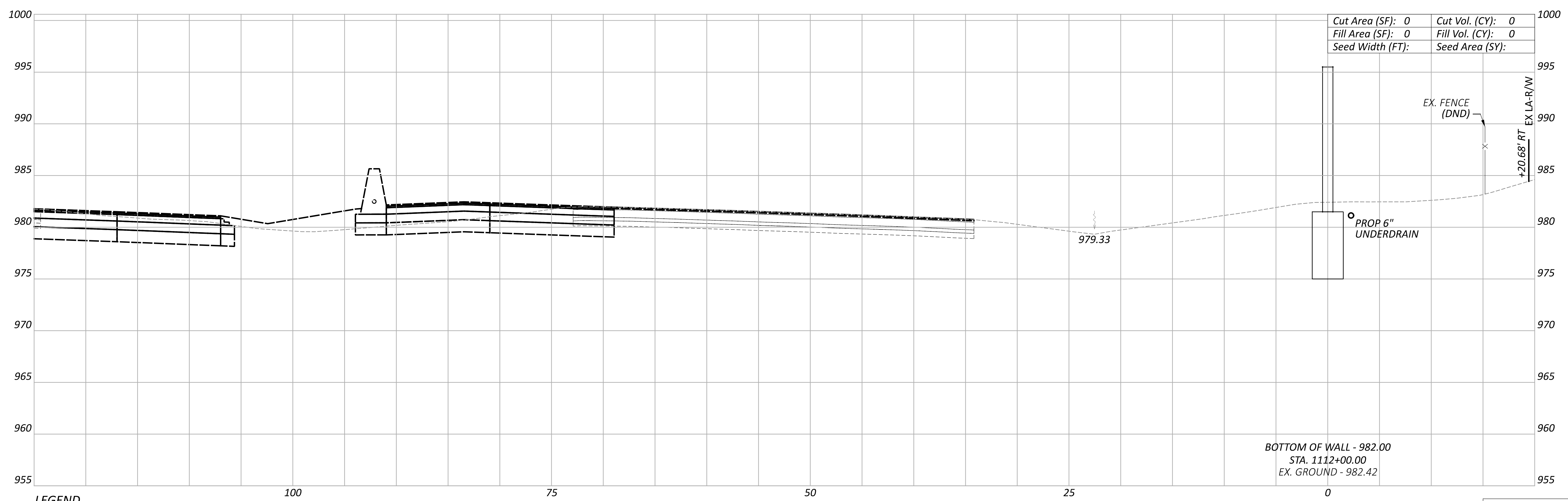
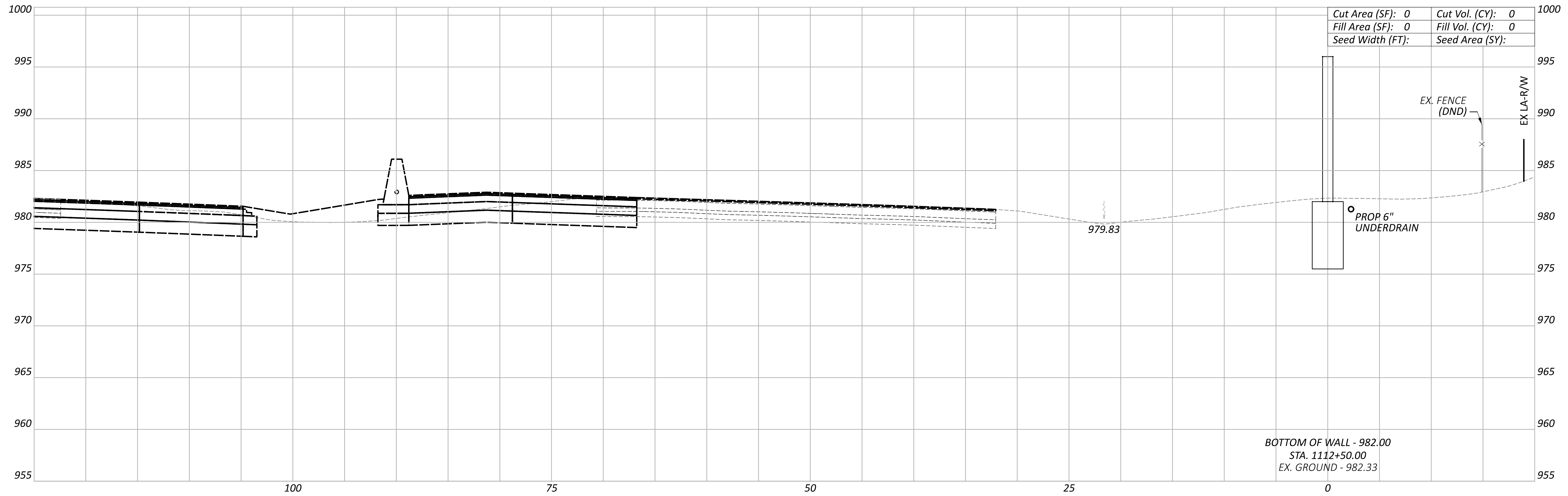


DESIGNER	JEP
REVIEWER	RG
PROJECT ID	117607
SHEET	P.168
TOTAL	P.295



**FRA-161-15.80 NOISE WALLS**

MODEL: 1112+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:37:16 PM USER: JPerchinske  
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**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
P.169	P.295		

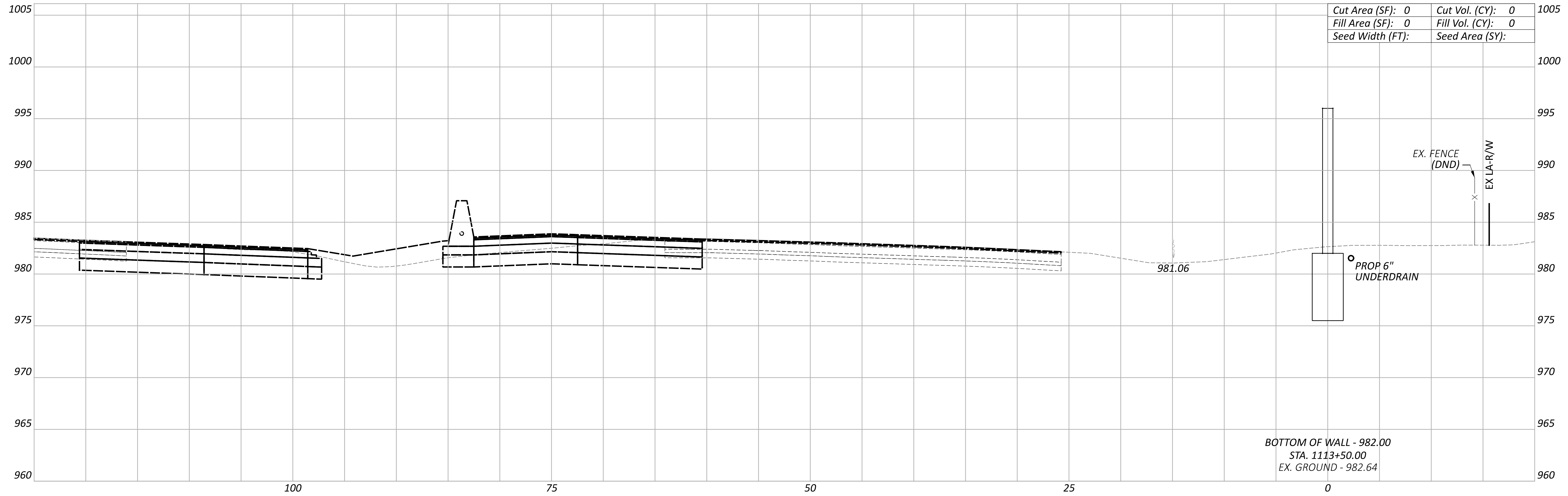
**CROSS SECTIONS - WALL 11  
 STA. 1112+00.00 TO STA. 1112+50.00**



DESIGNER: JEP  
 REVIEWER: RG  
 PROJECT ID: 117607  
 SHEET: P.169  
 TOTAL: P.295

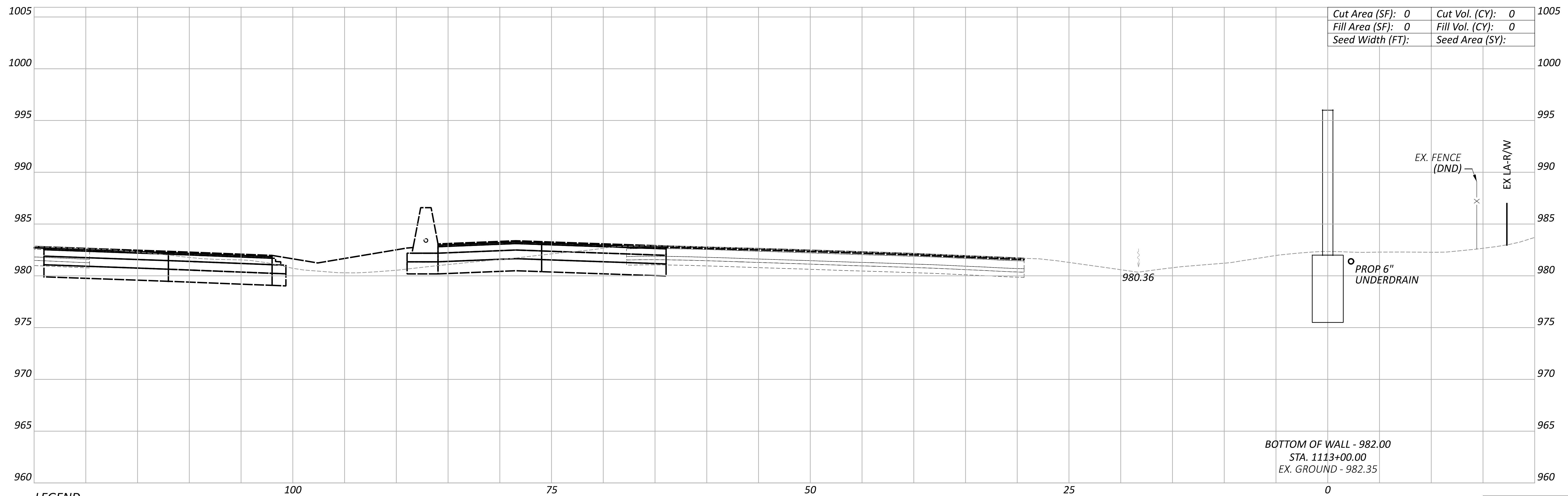
**FRA-161-15.80 NOISE WALLS**

MODEL: 1113+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:37:24 PM USER: JPerchinske  
 pw:\arcds-us-pw.bentley.com\arcds-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS011.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 982.00  
 STA. 1113+50.00  
 EX. GROUND - 982.64



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 982.00  
 STA. 1113+00.00  
 EX. GROUND - 982.35

**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals		
Seeding	Cut	Fill

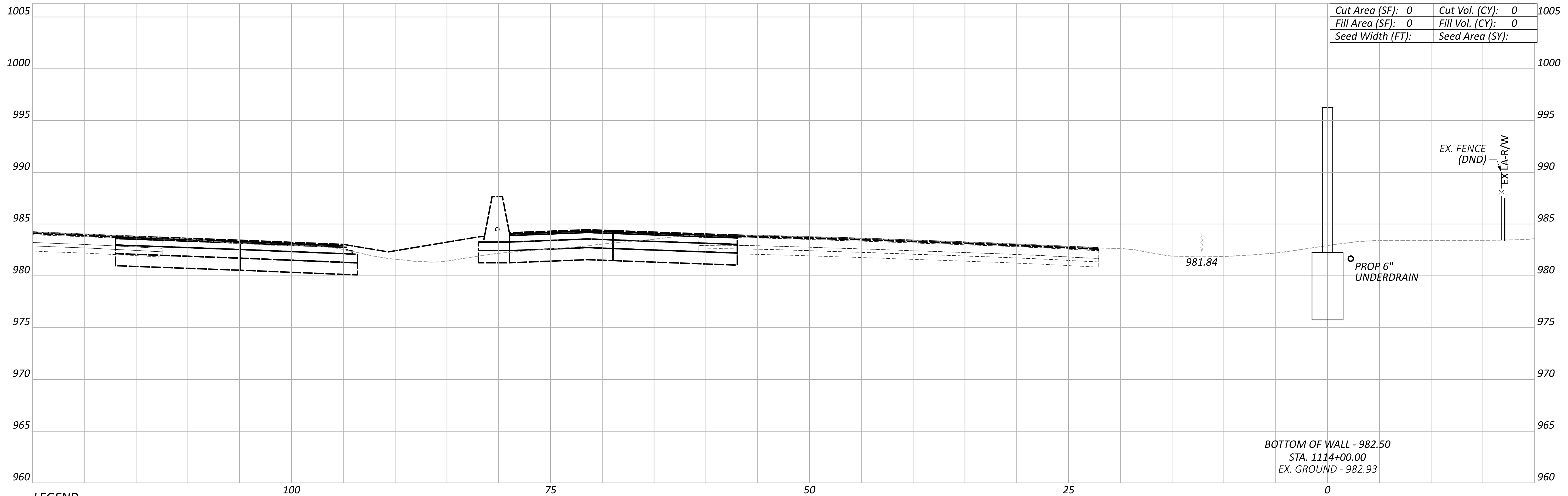
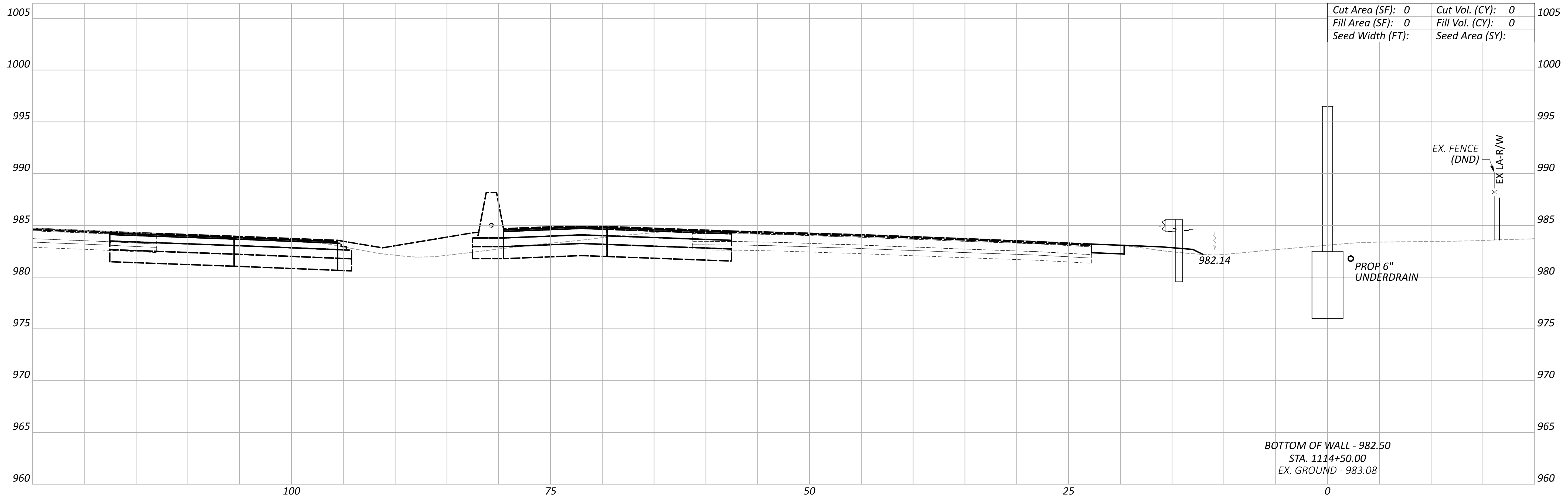
**CROSS SECTIONS - WALL 11  
 STA. 1113+00.00 TO STA. 1113+50.00**



DESIGNER	JEP
REVIEWER	RG
PROJECT ID	117607
SHEET	P.170
TOTAL	P.295

**FRA-161-15.80 NOISE WALLS**


MODEL: 1114+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:37:34 PM USER: JPerchinske  
 pw:\arcds-us-pw.bentley.com\arcds-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS011.dgn



**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals		
Seeding	Cut	Fill

DESIGN AGENCY  
  
 www.bgengineering.com  
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DESIGNER  
 JEP

REVIEWER  
 RG 03-27-24

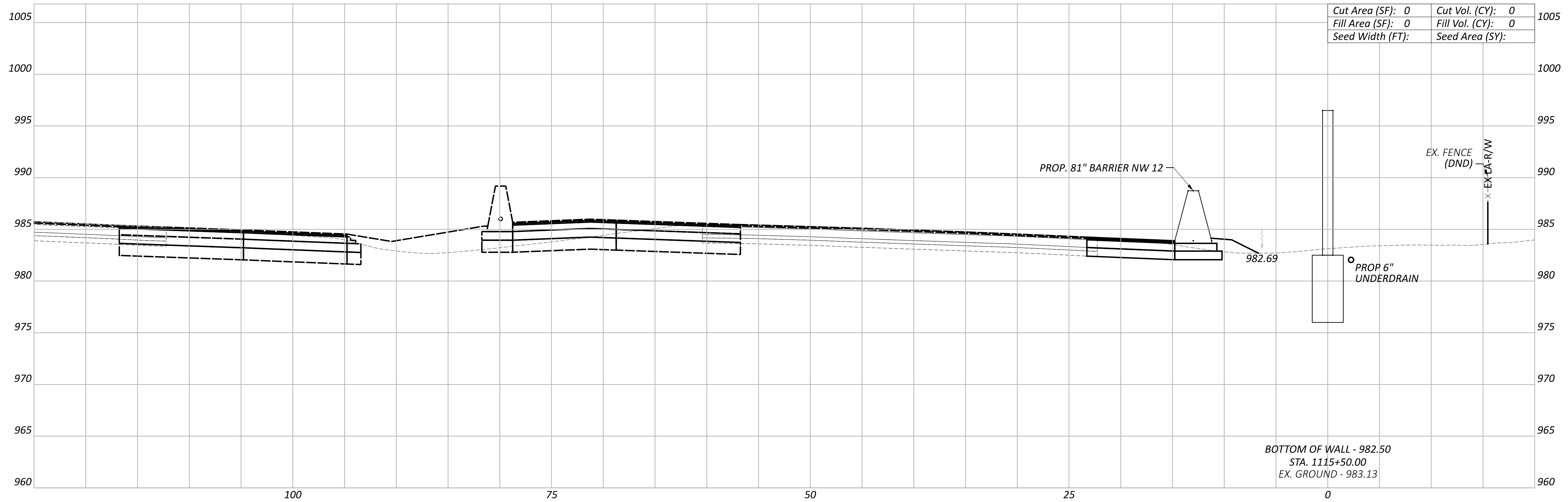
PROJECT ID  
 117607

SHEET	TOTAL
P.171	P.295

**CROSS SECTIONS - WALL 11  
 STA. 1114+00.00 TO STA. 1114+50.00**

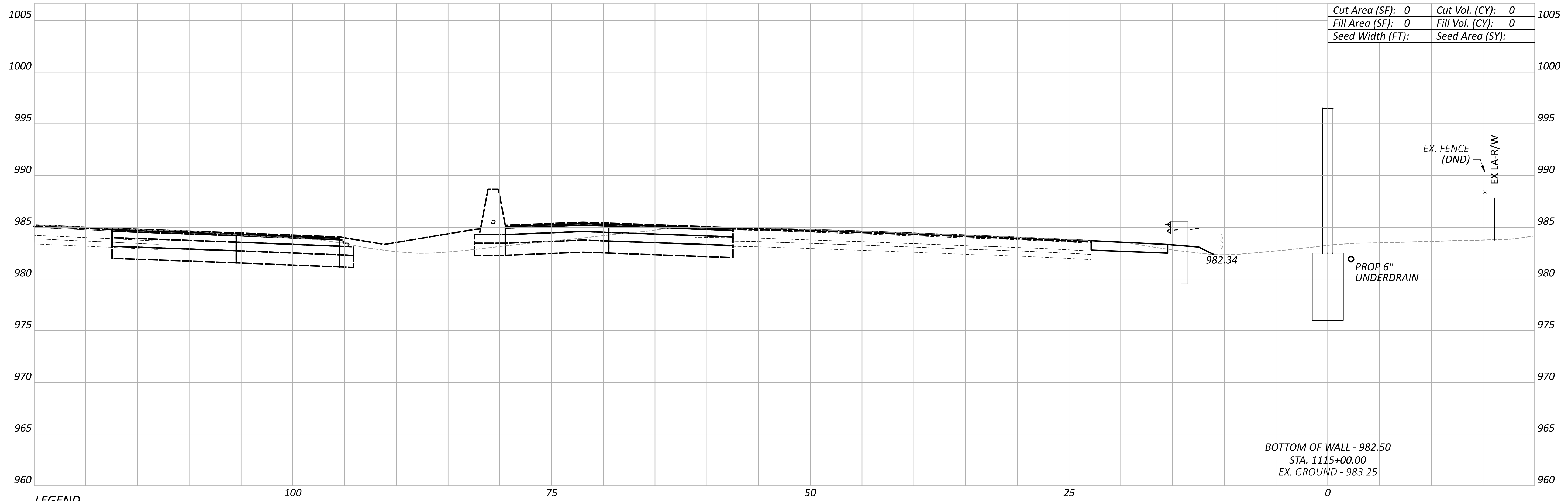
**FRA-161-15.80 NOISE WALLS**

MODEL: 1115+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 3/25/2024 TIME: 3:37:43 PM USER: JPerchinske  
 pw:\arcds-us-pw.bentley.com\arcds-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS011.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 982.50  
 STA. 1115+50.00  
 EX. GROUND - 983.13



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 982.50  
 STA. 1115+00.00  
 EX. GROUND - 983.25

**LEGEND**

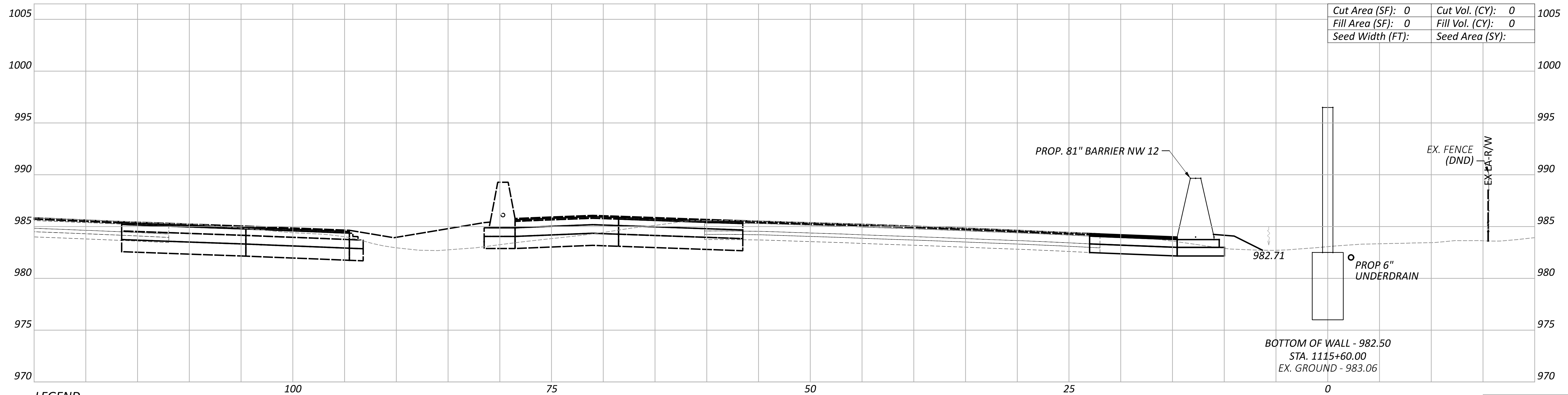
- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
P.172			P.295

**CROSS SECTIONS - WALL 11  
 STA. 1115+00.00 TO STA. 1115+50.00**




DESIGNER: JEP  
 REVIEWER: RG  
 PROJECT ID: 117607  
 SHEET: P.172  
 TOTAL: P.295



**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals		
Seeding	Cut	Fill

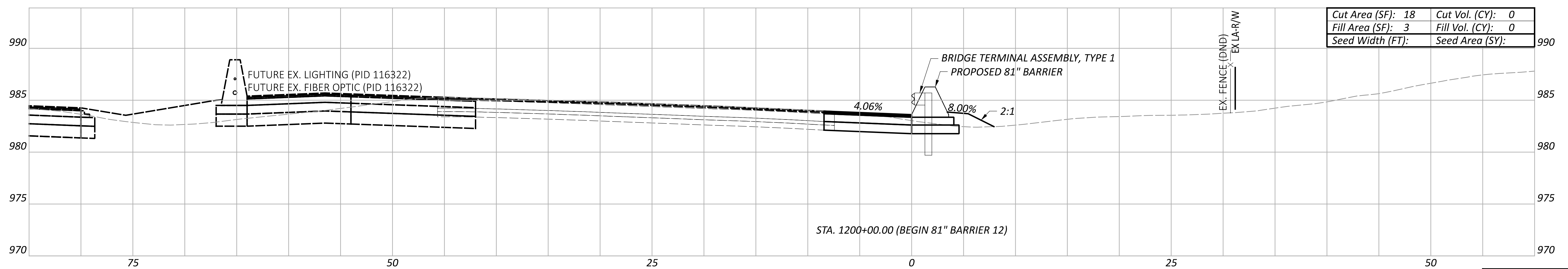
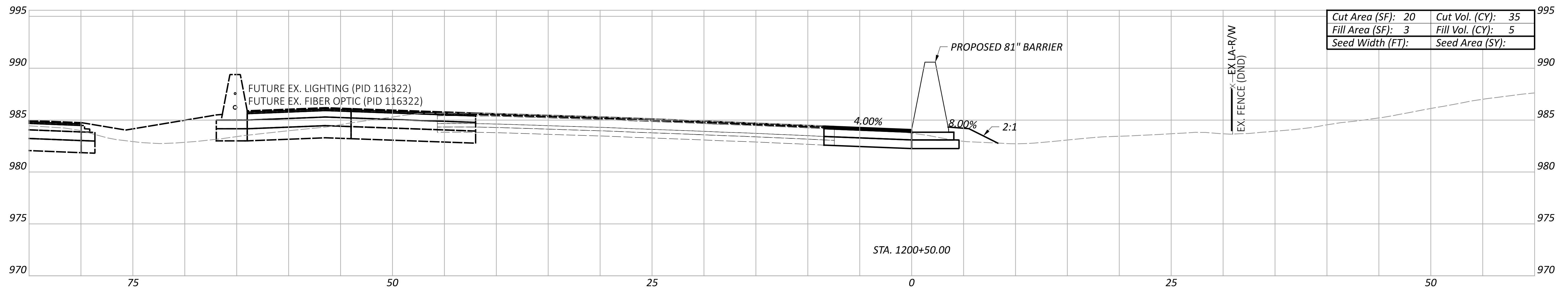
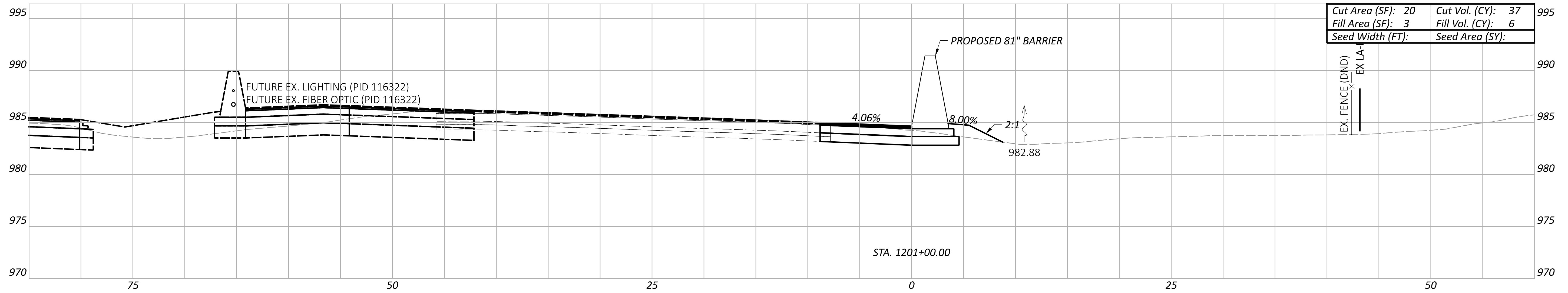
DESIGN AGENCY  
  
 www.bgengr.com  
 5560 WILCOX PLACE, SUITE C  
 DUBLIN, OHIO 43016

DESIGNER  
 JEP

REVIEWER  
 RG 03-27-24

PROJECT ID  
 117607

SHEET TOTAL  
 P.173 P.295

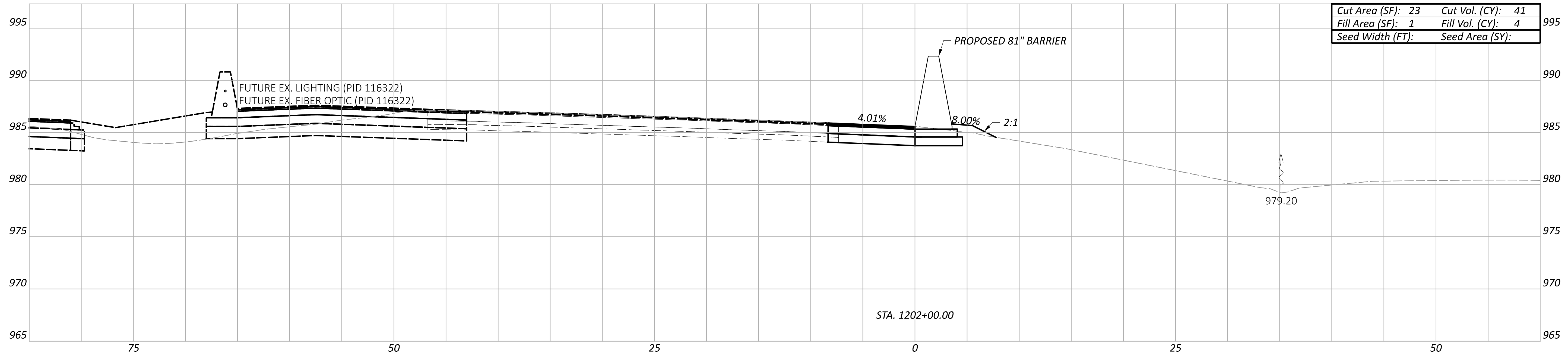


Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
72	11		P.174	P.295

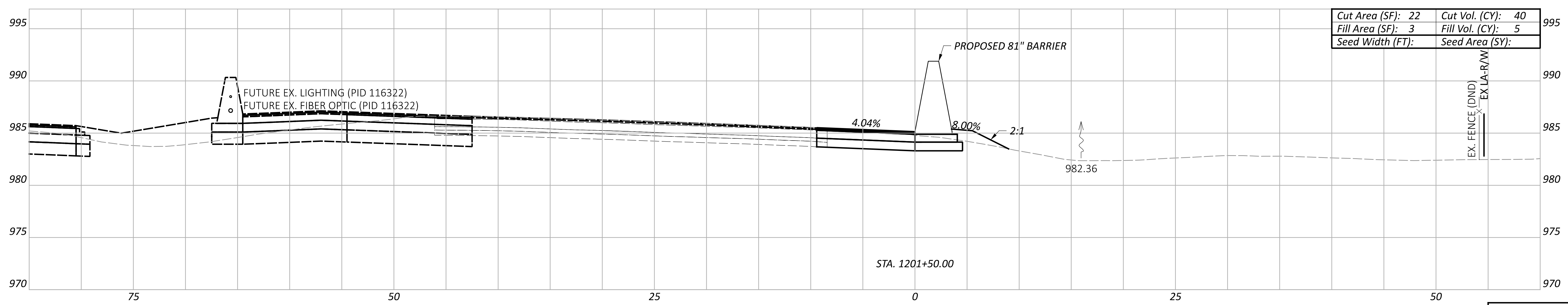
CROSS SECTIONS - 81" BARRIER 12  
 STA. 1200+00.00 TO STA. 1201+00.00

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER12 - 1201+50.00 [Sheet] PAPER/SCALE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:28:31 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS012A.dgn



Cut Area (SF): 23	Cut Vol. (CY): 41
Fill Area (SF): 1	Fill Vol. (CY): 4
Seed Width (FT):	Seed Area (SY):



Cut Area (SF): 22	Cut Vol. (CY): 40
Fill Area (SF): 3	Fill Vol. (CY): 5
Seed Width (FT):	Seed Area (SY):

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
	81	9	P.175	P.295

**CROSS SECTIONS - 81" BARRIER 12  
 STA. 1201+50.00 TO STA. 1202+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIA, MO 65203  
 (616) 414-4900  
 www.arcadis.com

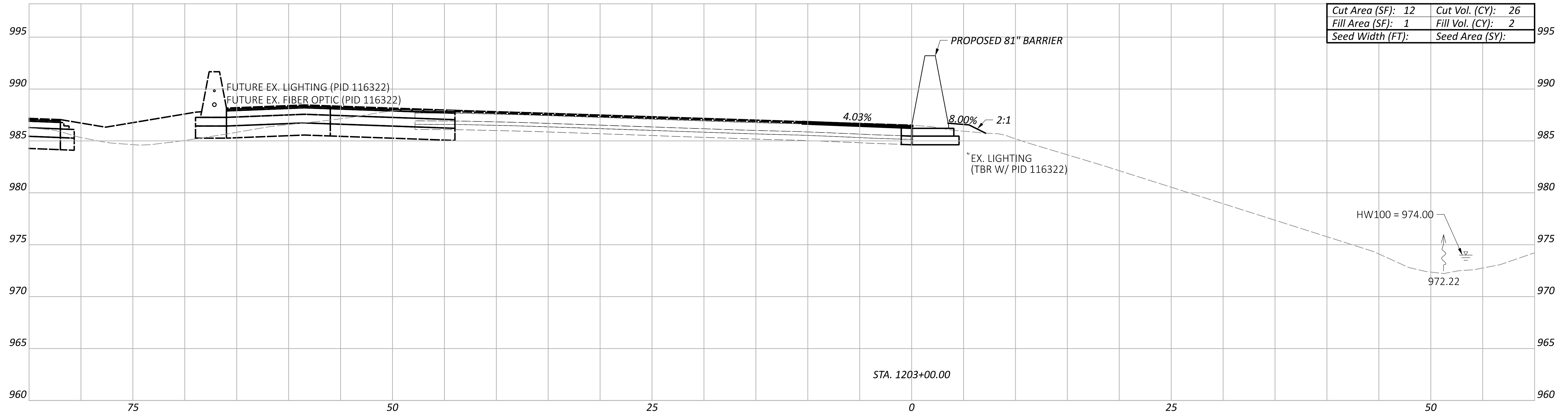
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

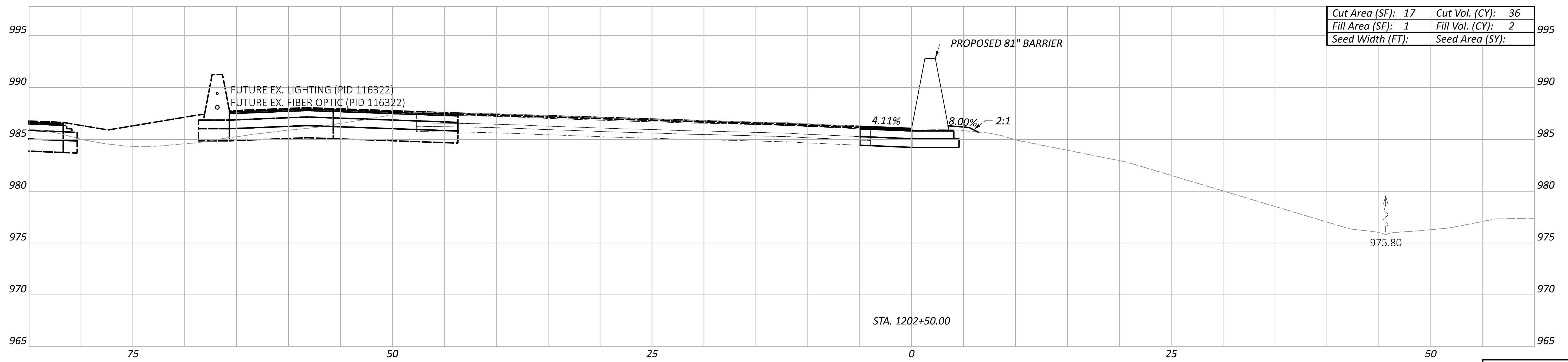
PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER12 - 1202+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:29:01 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS012A.dgn



Cut Area (SF):	12	Cut Vol. (CY):	26
Fill Area (SF):	1	Fill Vol. (CY):	2
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	17	Cut Vol. (CY):	36
Fill Area (SF):	1	Fill Vol. (CY):	2
Seed Width (FT):		Seed Area (SY):	

Sheet Totals				117607	
Seeding	Cut	Fill	SHEET	TOTAL	
	62	4	P.176	P.295	

**CROSS SECTIONS - 81" BARRIER 12  
 STA. 1202+50.00 TO STA. 1203+00.00**

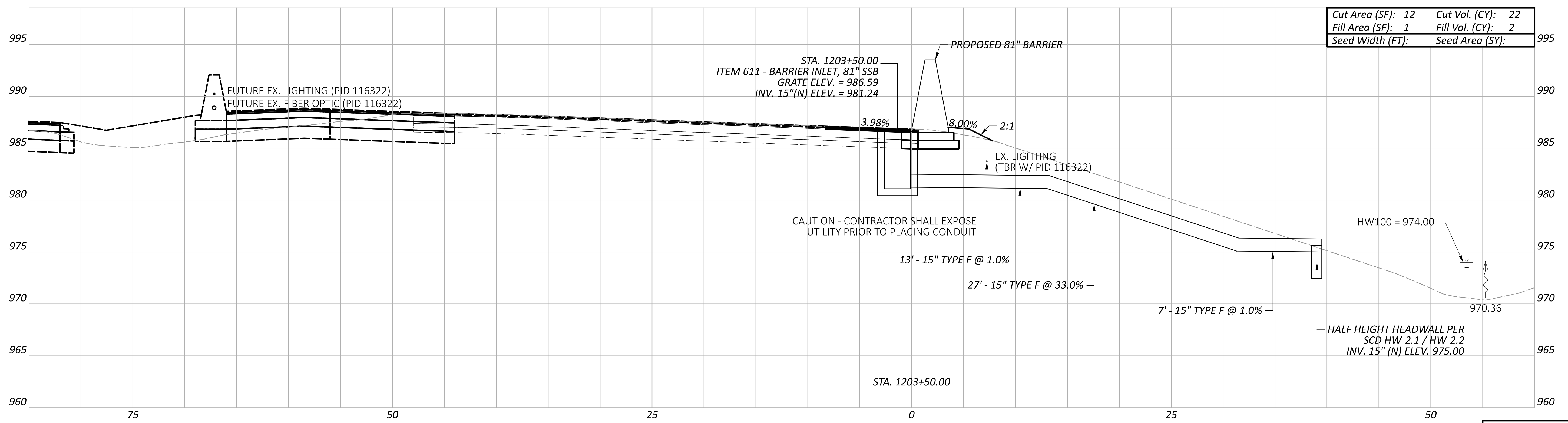
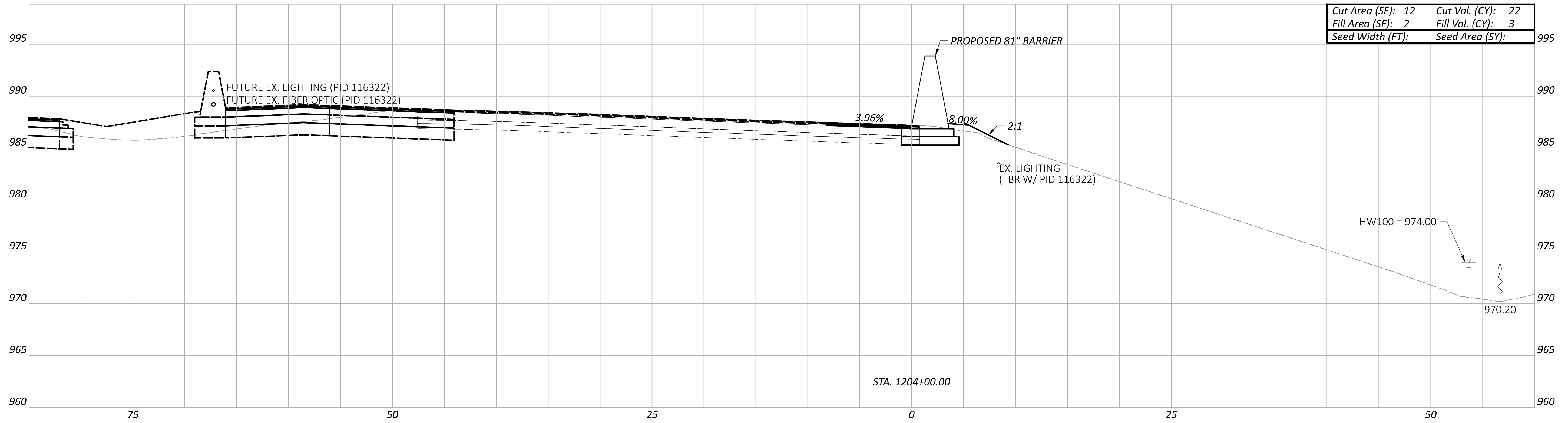
DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 819-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

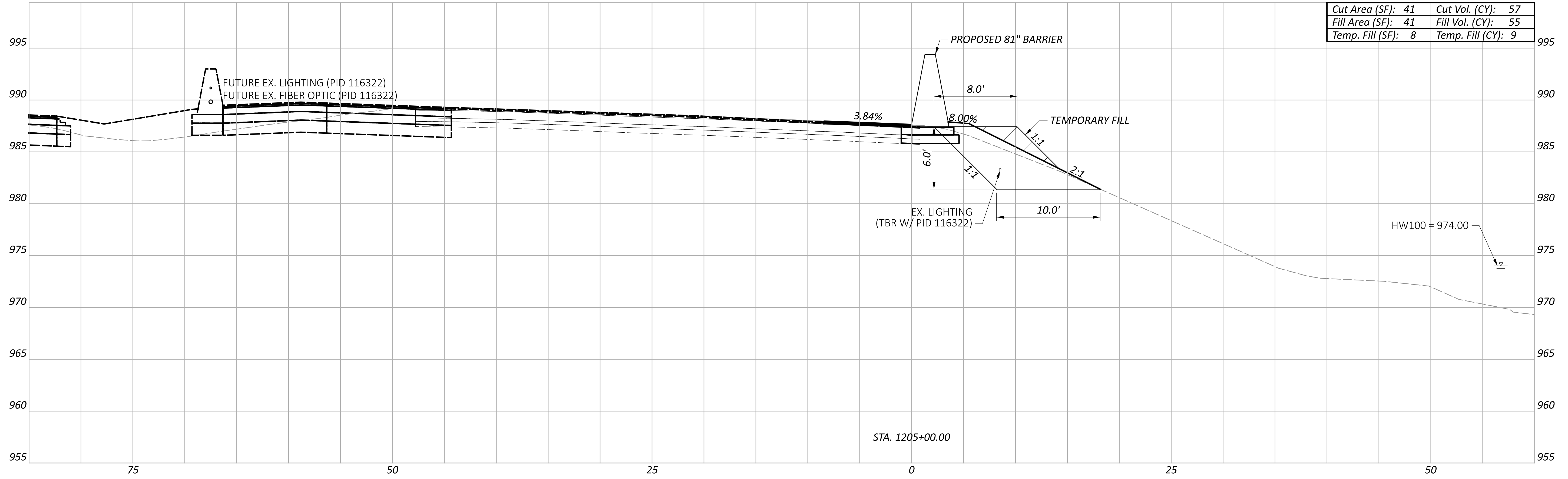
PROJECT ID  
**117607**



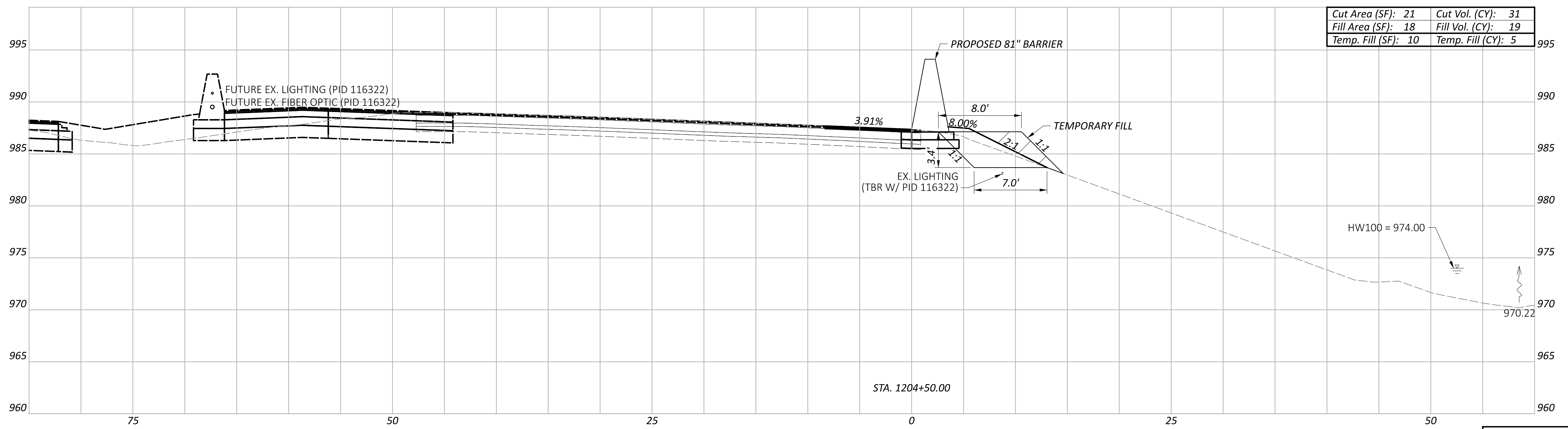


CROSS SECTIONS - 81" BARRIER 12  
 STA. 1203+50.00 TO STA. 1204+00.00

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.177	P.295
	44	5		



Cut Area (SF):	41	Cut Vol. (CY):	57
Fill Area (SF):	41	Fill Vol. (CY):	55
Temp. Fill (SF):	8	Temp. Fill (CY):	9



Cut Area (SF):	21	Cut Vol. (CY):	31
Fill Area (SF):	18	Fill Vol. (CY):	19
Temp. Fill (SF):	10	Temp. Fill (CY):	5

Sheet Totals			117607
Temp. Fill	Cut	Fill	TOTAL
14	88	74	P.178 P.295

CROSS SECTIONS - 81" BARRIER 12  
 STA. 1204+50.00 TO STA. 1205+00.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIA, MO 65203  
 (616) 441-4900  
 www.arcadis.com

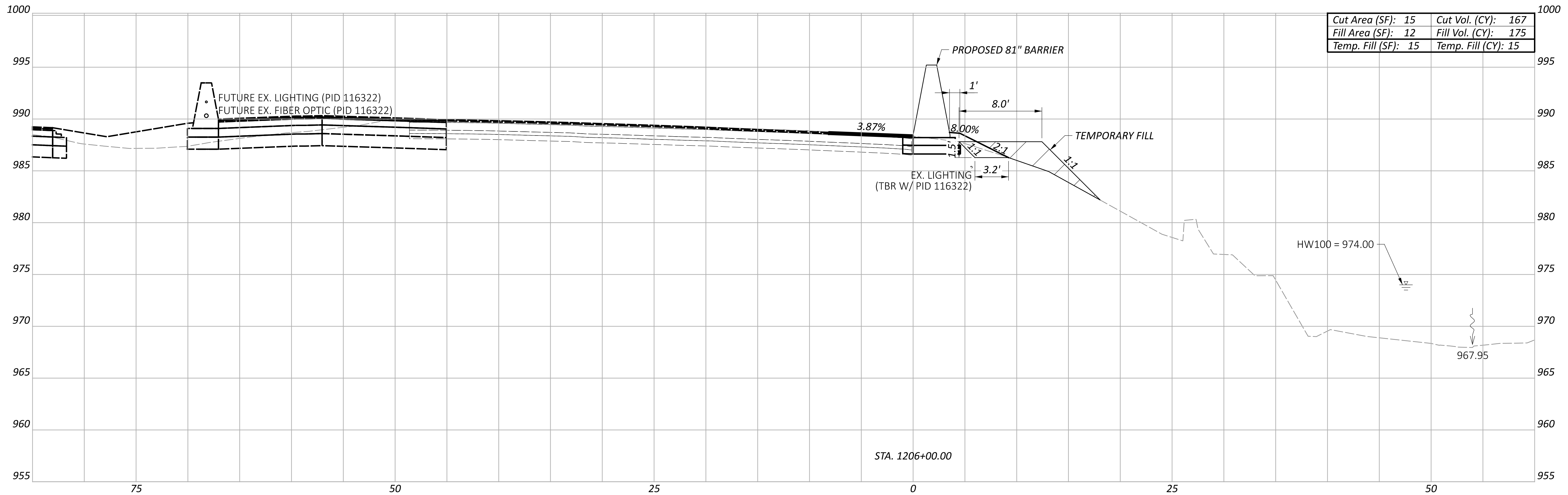
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

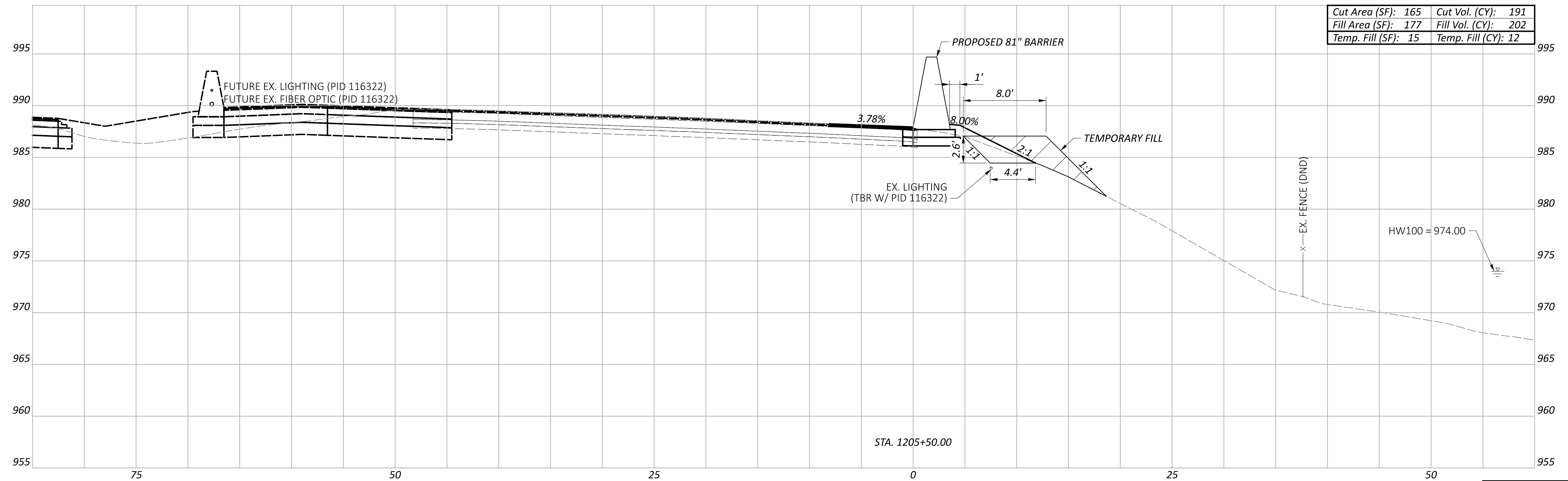
PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER12 - 1205+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 1:43:54 AM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS012A.dgn



Cut Area (SF):	15	Cut Vol. (CY):	167
Fill Area (SF):	12	Fill Vol. (CY):	175
Temp. Fill (SF):	15	Temp. Fill (CY):	15



Cut Area (SF):	165	Cut Vol. (CY):	191
Fill Area (SF):	177	Fill Vol. (CY):	202
Temp. Fill (SF):	15	Temp. Fill (CY):	12

**CROSS SECTIONS - 81" BARRIER 12  
 STA. 1205+50.00 TO STA. 1206+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIA, MO 65203  
 (616) 414-4900  
 www.arcadis.com

DESIGNER  
**JMK**

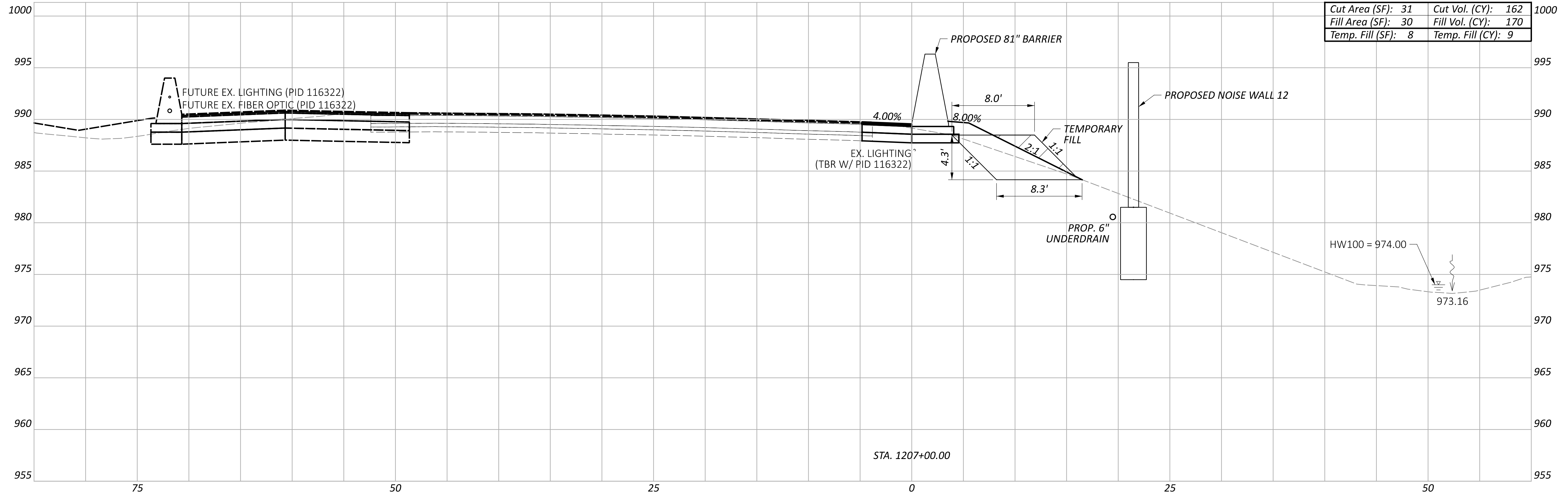
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

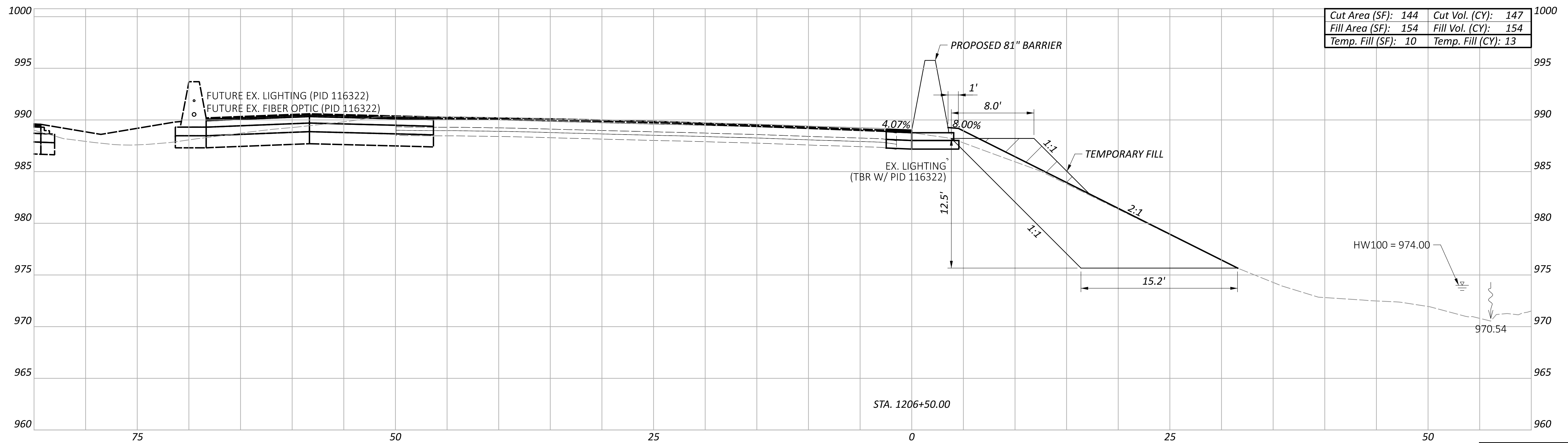
Sheet Totals			117607
Temp. Fill	Cut	Fill	TOTAL
27	358	377	P.179 P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_BARRIER12 - 1206+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-27 TIME: 1:44:29 AM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS012A.dgn



Cut Area (SF):	31	Cut Vol. (CY):	162
Fill Area (SF):	30	Fill Vol. (CY):	170
Temp. Fill (SF):	8	Temp. Fill (CY):	9



Cut Area (SF):	144	Cut Vol. (CY):	147
Fill Area (SF):	154	Fill Vol. (CY):	154
Temp. Fill (SF):	10	Temp. Fill (CY):	13

**CROSS SECTIONS - 81" BARRIER 12  
 STA. 1206+50.00 TO STA. 1207+00.00**

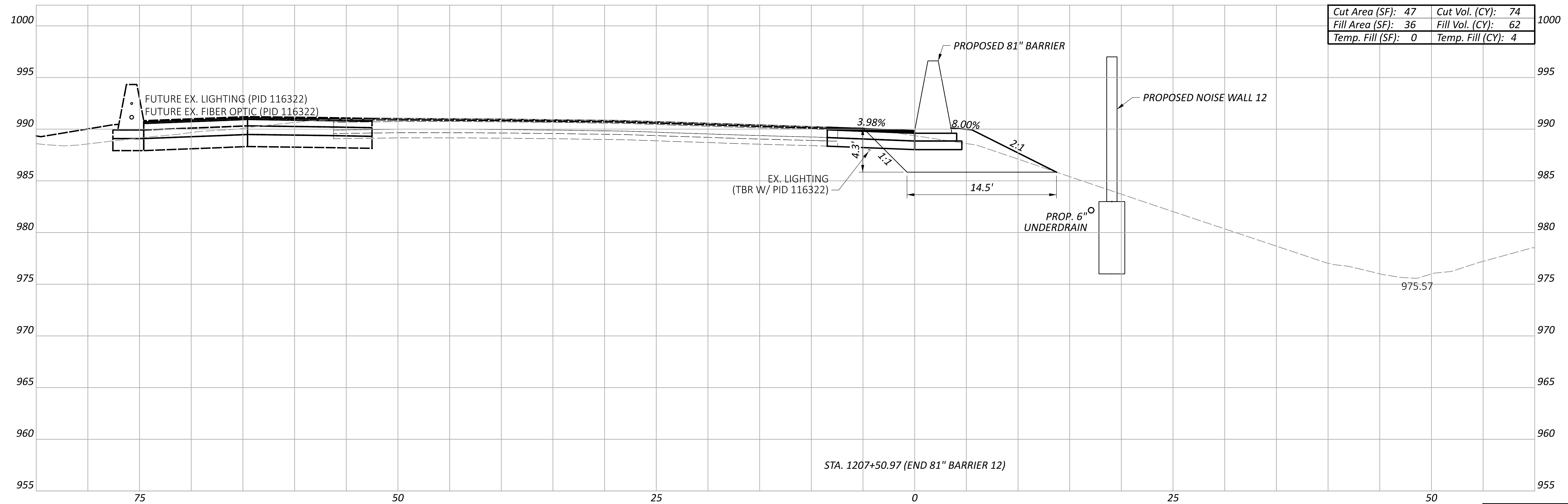
DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIA, MO 65203  
 (646) 441-4900  
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DESIGNER  
**JMK**

REVIEWER  
 JDH 03-27-24

PROJECT ID  
**117607**

Sheet Totals			117607
Temp. Fill	Cut	Fill	TOTAL
22	309	324	P.180 P.295



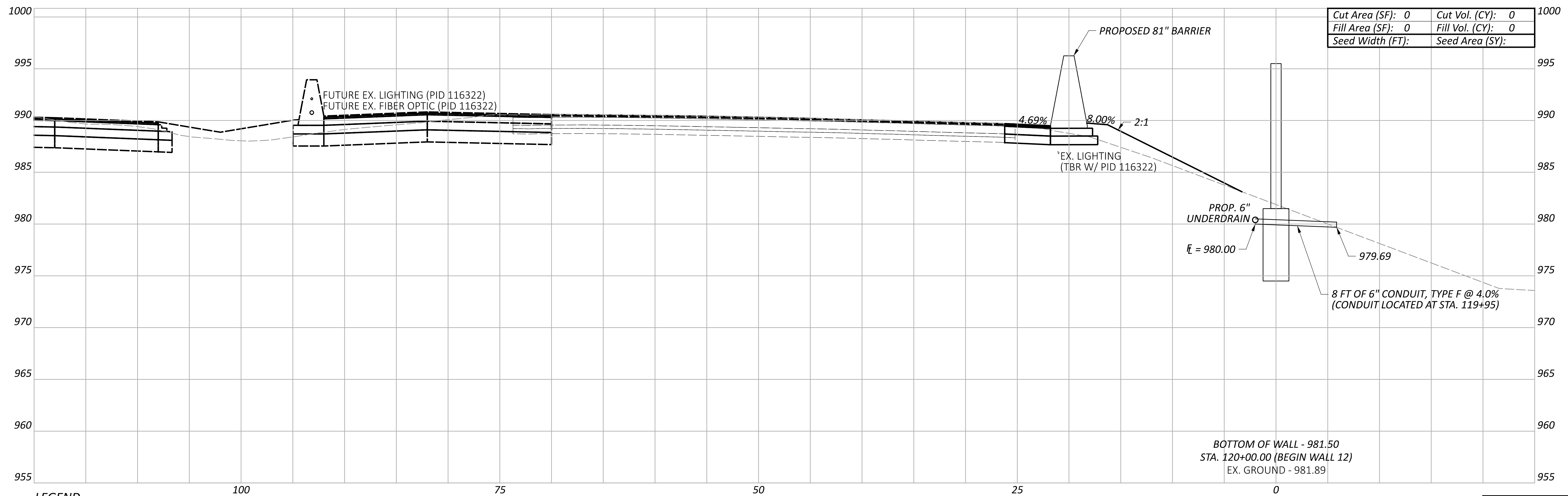
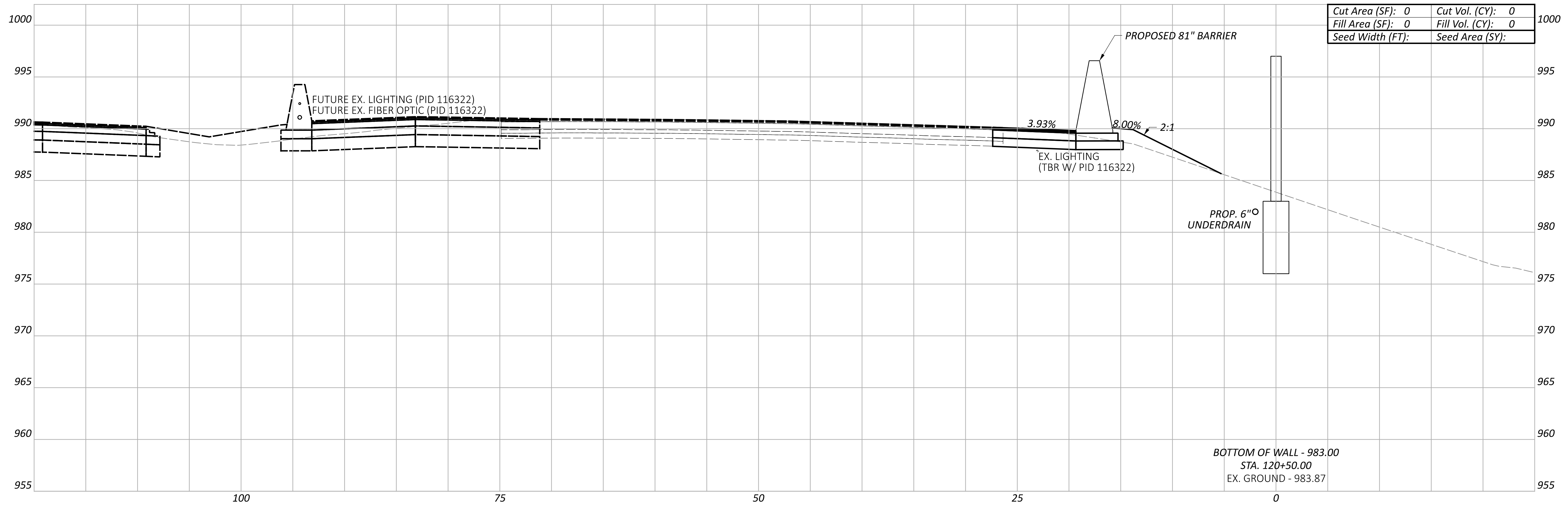
Cut Area (SF):	47	Cut Vol. (CY):	74
Fill Area (SF):	36	Fill Vol. (CY):	62
Temp. Fill (SF):	0	Temp. Fill (CY):	4

STA. 1207+50.97 (END 81" BARRIER 12)

Sheet Totals			117607
Temp. Fill	Cut	Fill	TOTAL
4	74	62	P.181   P.295

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL13 - 120+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:31:25 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS012B.dgn



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.182	P.295

**CROSS SECTIONS - WALL 12  
 STA. 120+00.00 TO STA. 120+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIANA, OH 43085  
 614.894.9900  
 www.arcadis.com

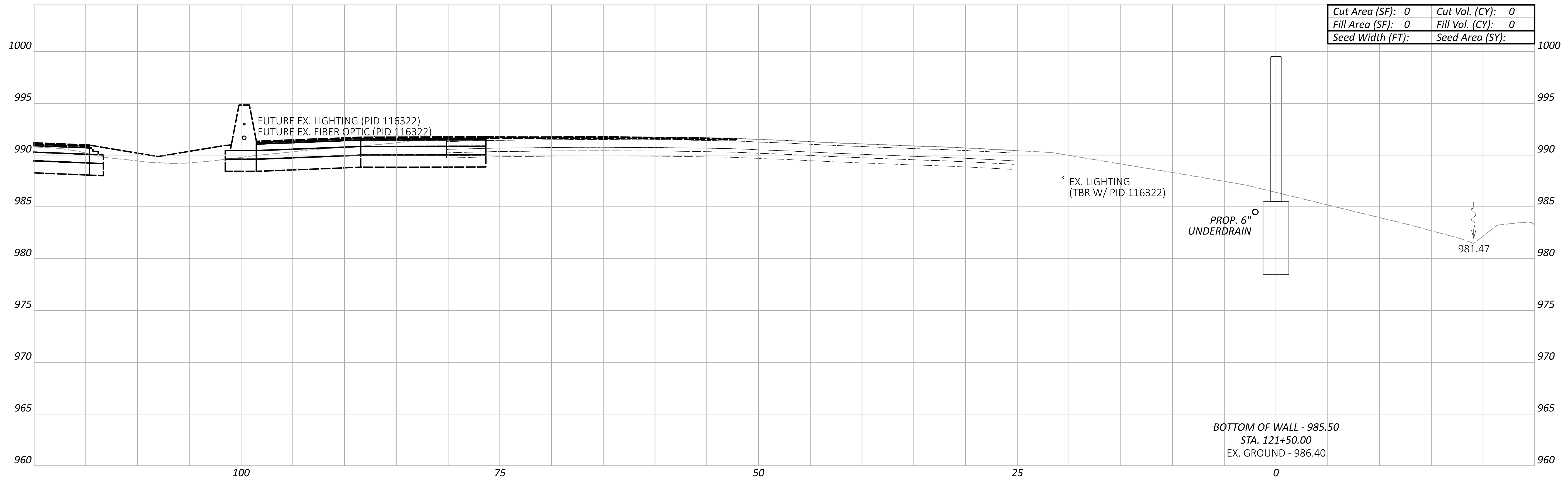
DESIGNER  
**JMK**

REVIEWER  
**JDH** 03-27-24

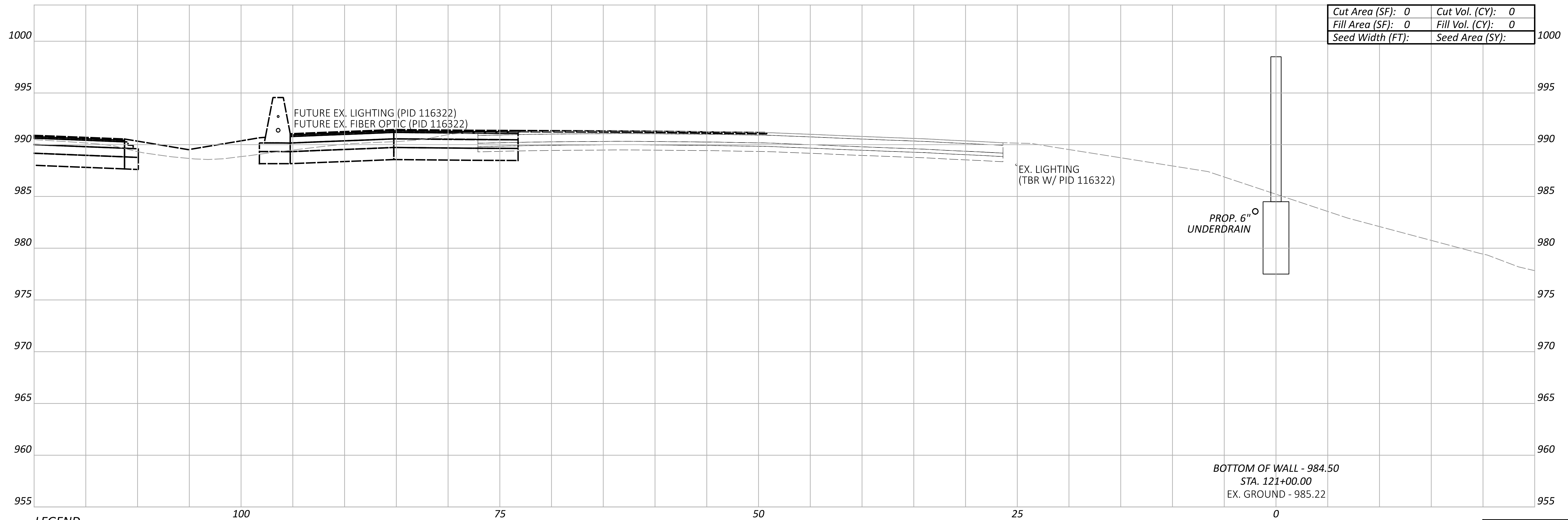
PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL13 - 121+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:32:22 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS012B.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.183 P.295

**CROSS SECTIONS - WALL 12  
 STA. 121+00.00 TO STA. 121+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIANA, OHIO 43085  
 614.849.4900  
 www.arcadis.com

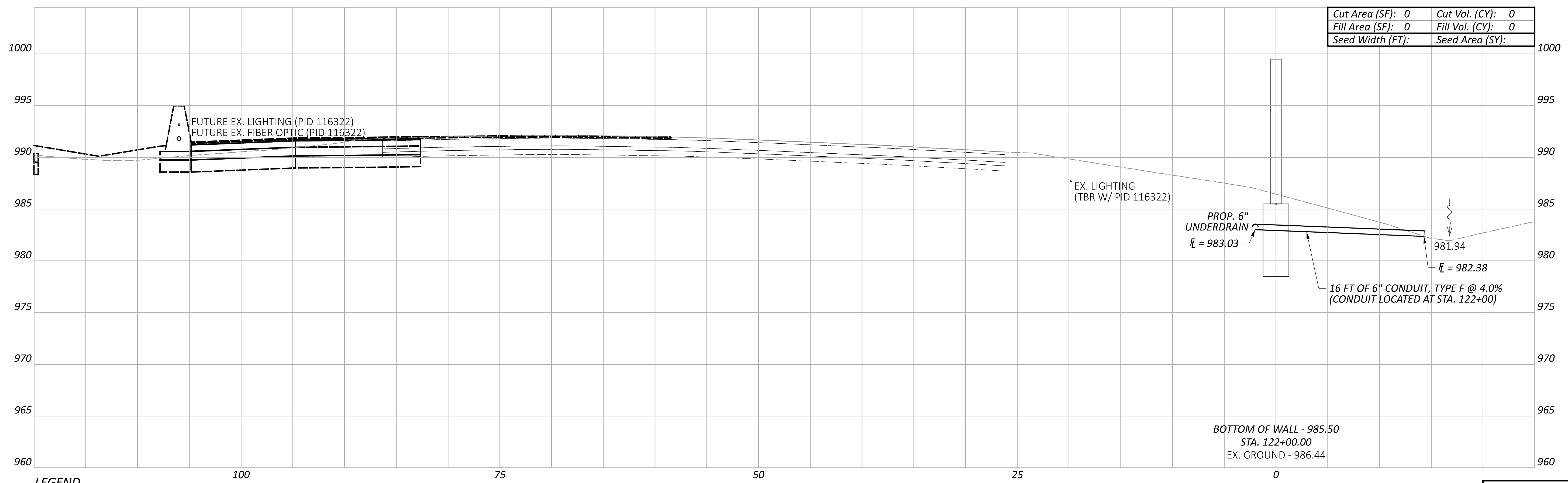
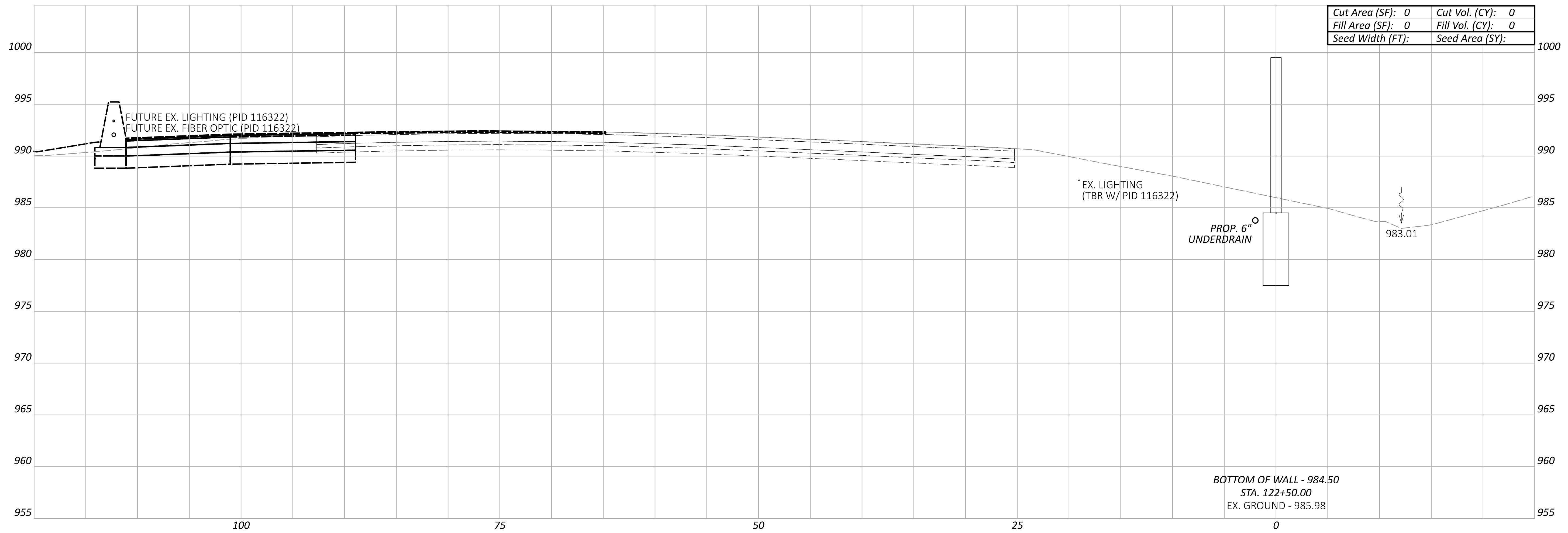
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL13 - 122+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:33:10 PM USER: jennifer\_kelley  
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**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.184 P.295

**CROSS SECTIONS - WALL 12  
 STA. 122+00.00 TO STA. 122+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 130 SUITE 100  
 COLUMBIA, MO 65203  
 (616) 419-4900  
 www.arcadis.com

DESIGNER  
**JMK**

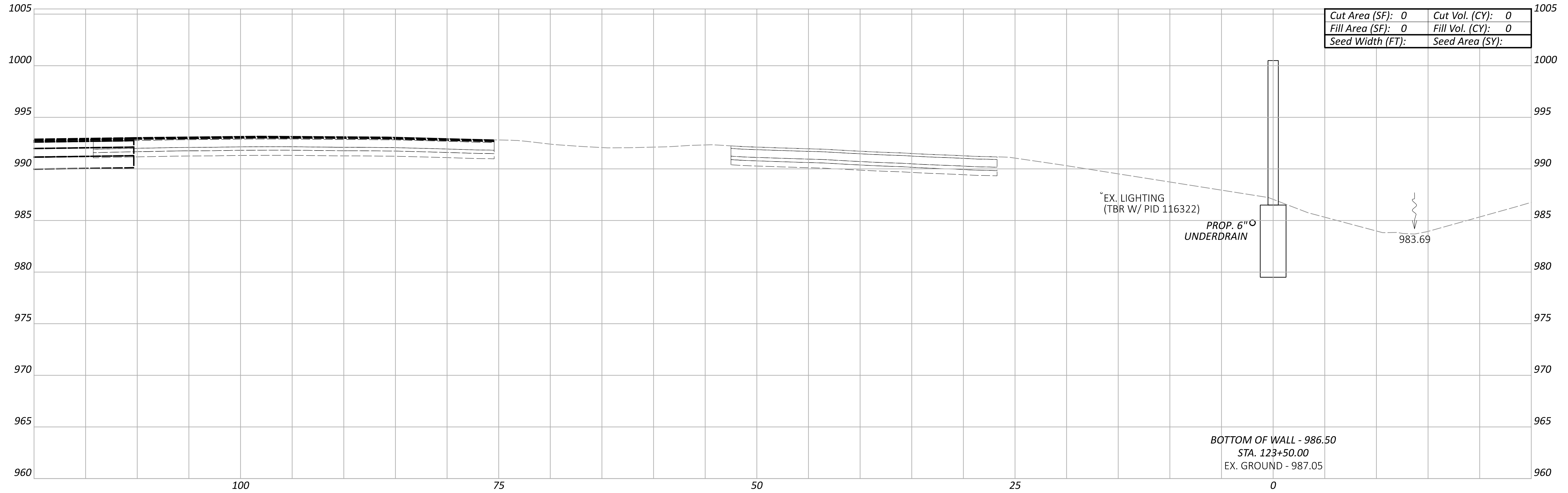
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



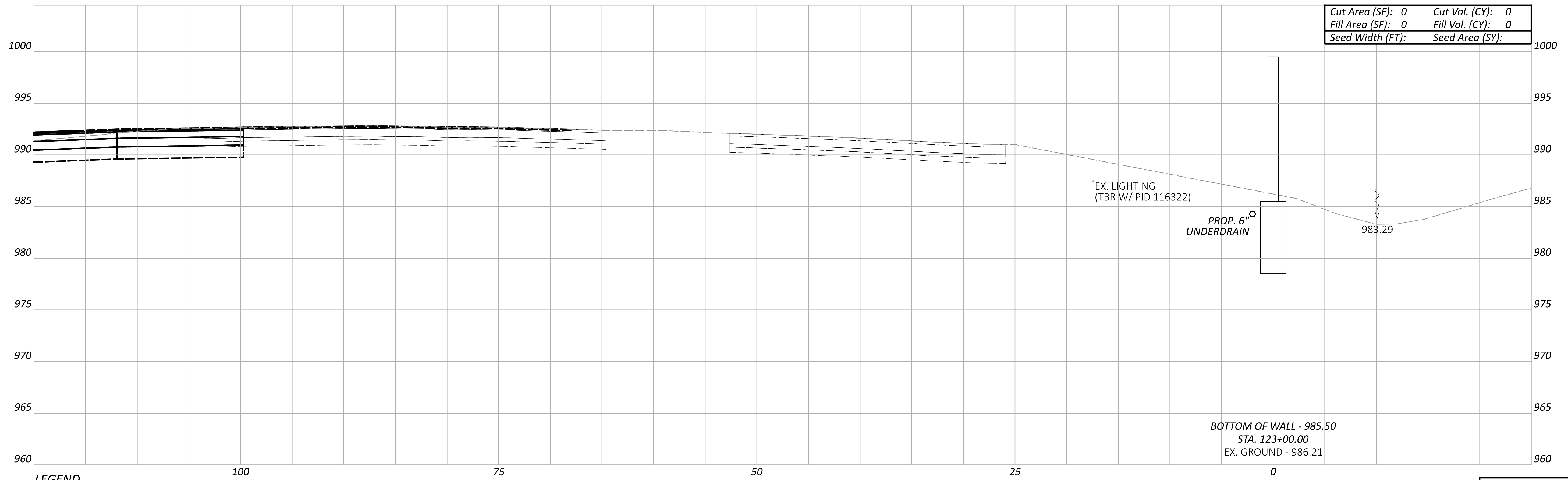
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL13 - 123+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:33:55 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS012B.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 986.50  
 STA. 123+50.00  
 EX. GROUND - 987.05



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 985.50  
 STA. 123+00.00  
 EX. GROUND - 986.21

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.185	P.295

**CROSS SECTIONS - WALL 12  
 STA. 123+00.00 TO STA. 123+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIA, MO 65203  
 (646) 441-4900  
 www.arcadis.com

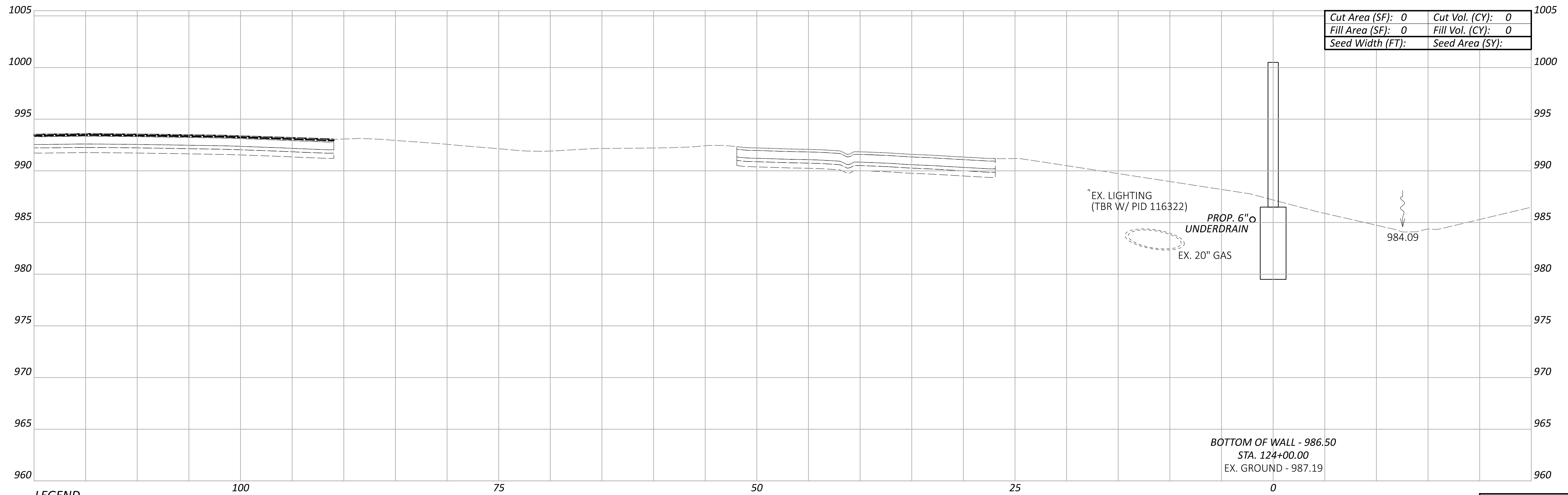
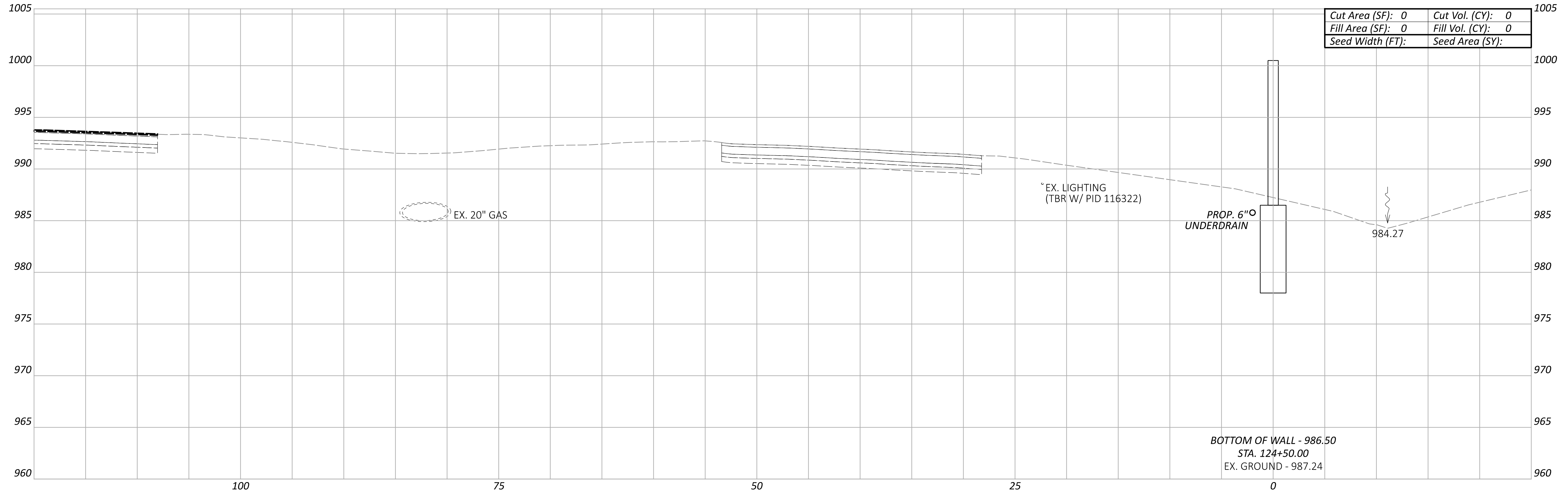
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL13 - 124+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:34:38 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS012B.dgn



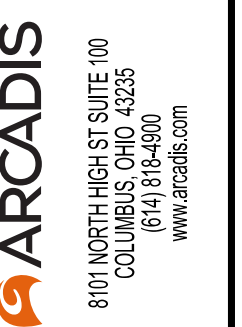
**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.186	P.295

**CROSS SECTIONS - WALL 12  
 STA. 124+00.00 TO STA. 124+50.00**

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

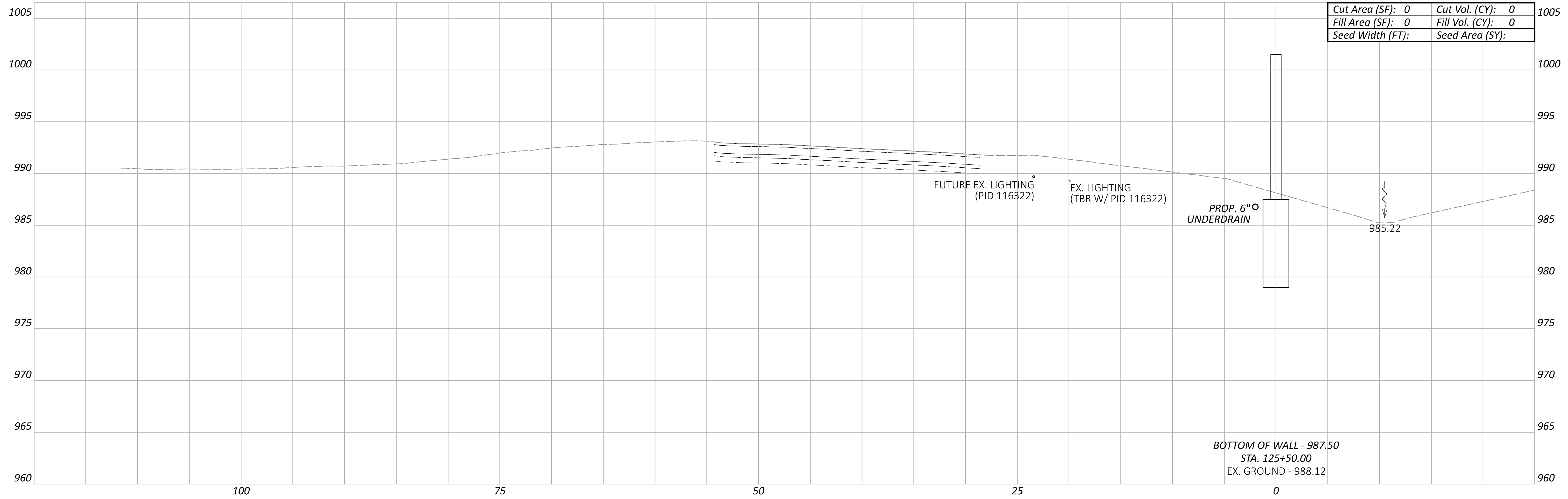
JDH 03-27-24

PROJECT ID

117607

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL13 - 125+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:35:35 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS012B.dgn

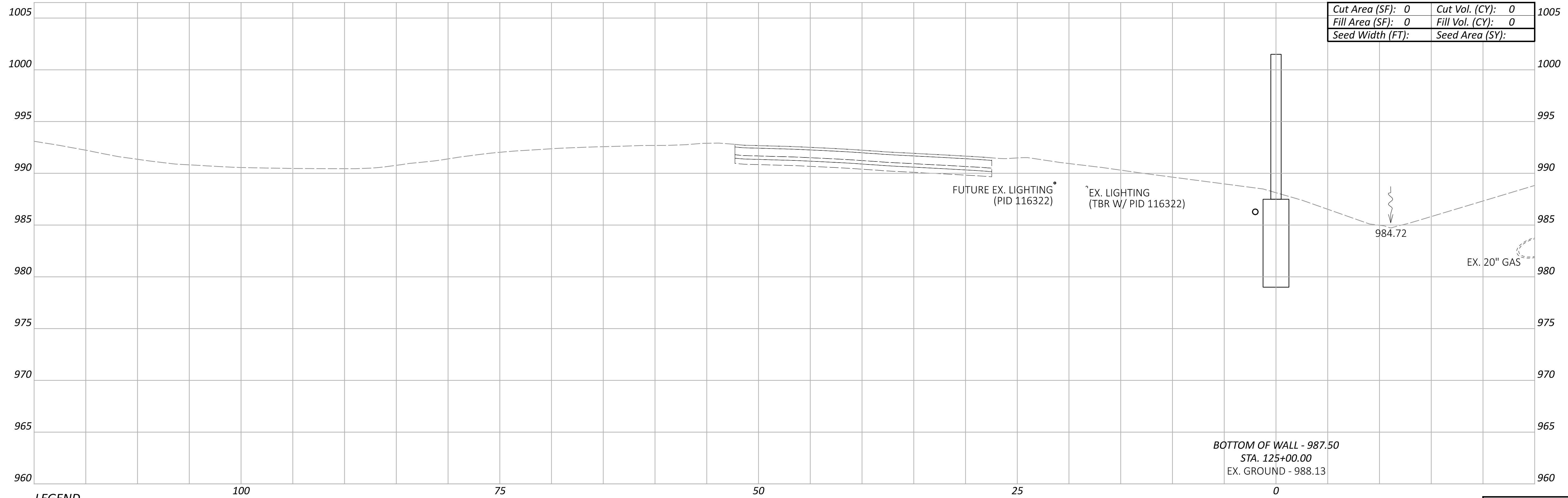


Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

PROP. 6" O UNDERDRAIN

BOTTOM OF WALL - 987.50  
 STA. 125+50.00  
 EX. GROUND - 988.12

985.22



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 987.50  
 STA. 125+00.00  
 EX. GROUND - 988.13

984.72

EX. 20" GAS

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.187 P.295

**CROSS SECTIONS - WALL 12  
 STA. 125+00.00 TO STA. 125+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 38, SUITE 100  
 COLUMBIA, MO 65203  
 (646) 441-4900  
 www.arcadis.com

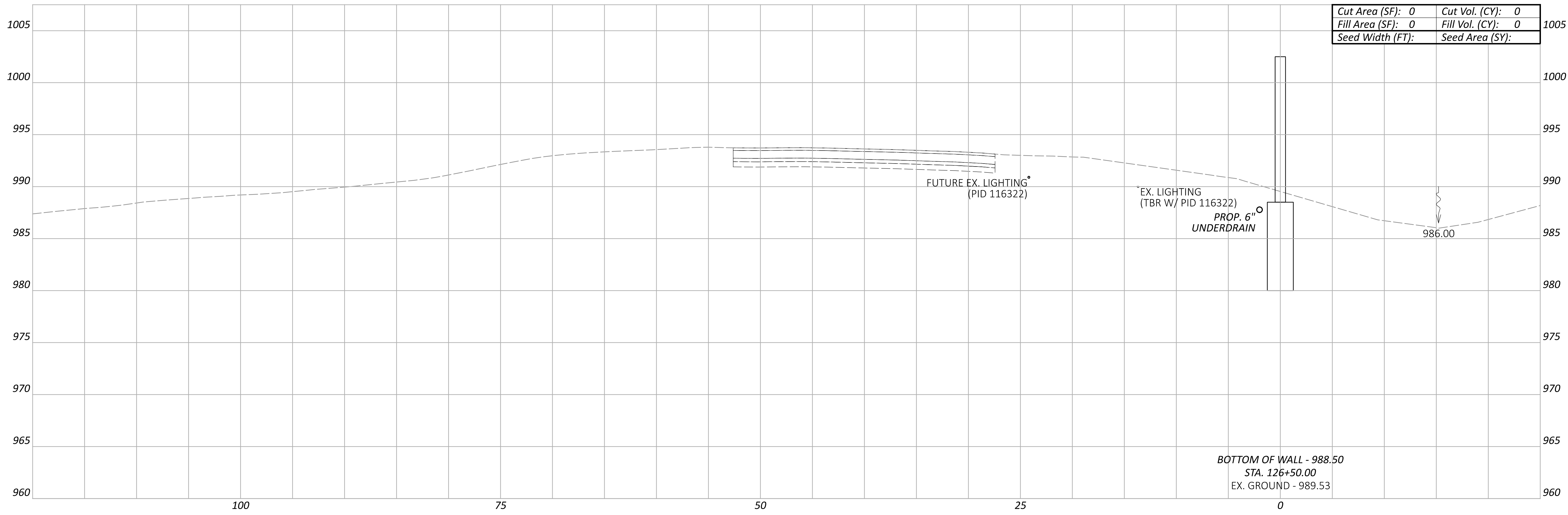
DESIGNER  
**JMK**

REVIEWER  
**JDH** 03-27-24

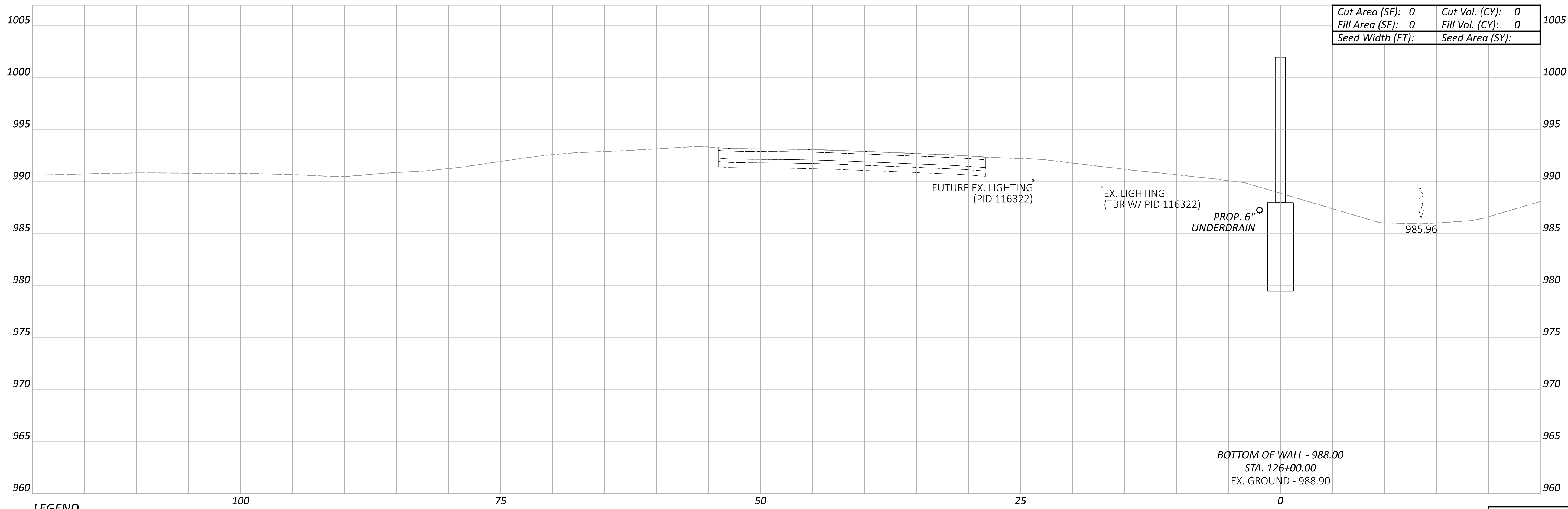
PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL13 - 126+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:37:14 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS012B.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**  
 - - - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.188	P.295

**CROSS SECTIONS - WALL 12  
 STA. 126+00.00 TO STA. 126+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIA, MO 65203  
 (646) 441-4900  
 www.arcadis.com

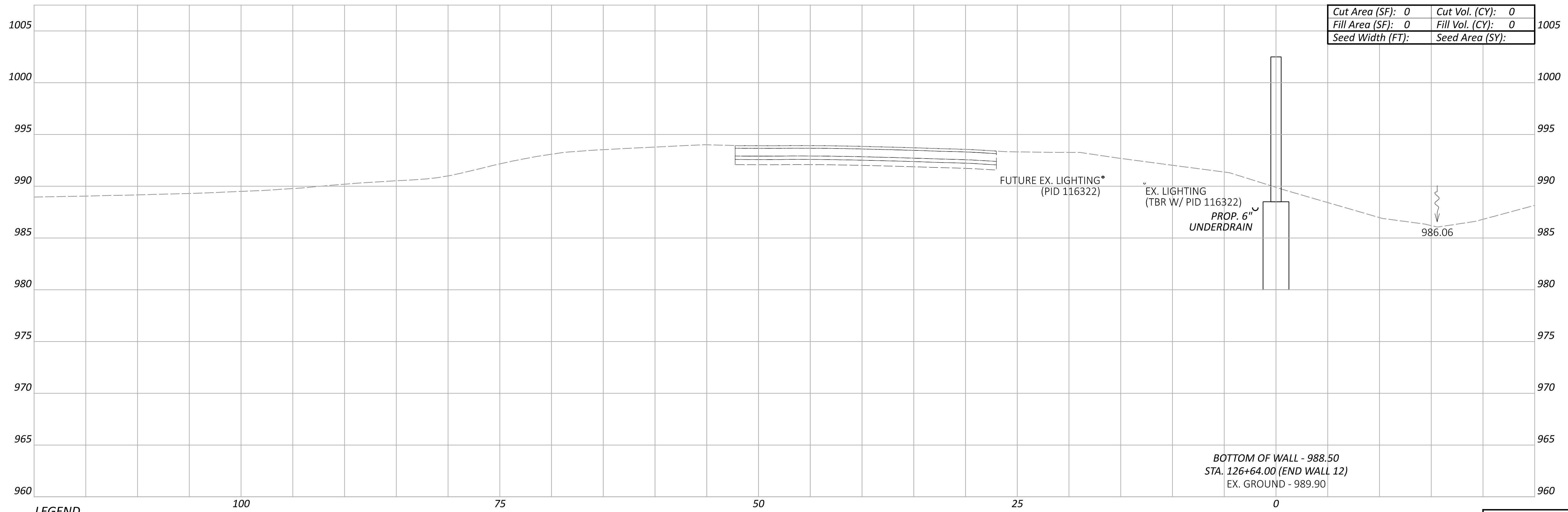
DESIGNER  
**JMK**

REVIEWER  
**JDH** 03-27-24

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL13 - 126+64.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:38:50 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS012B.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

---	EXISTING SR-161 PRIOR TO PID 116322
---	FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

BOTTOM OF WALL - 988.50  
 STA. 126+64.00 (END WALL 12)  
 EX. GROUND - 989.90

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0		P.189   P.295

**CROSS SECTIONS - WALL 12  
 STA. 126+64.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY SUITE 100  
 COLUMBIANA, OHIO 43082  
 (614) 819-4900  
 www.arcadis.com

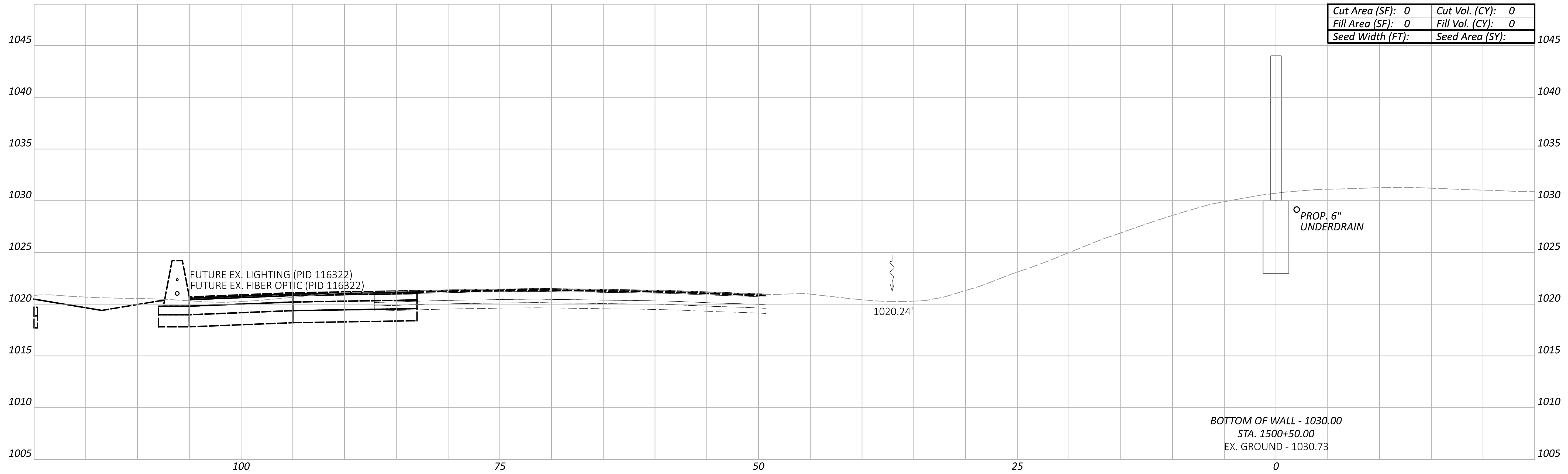
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

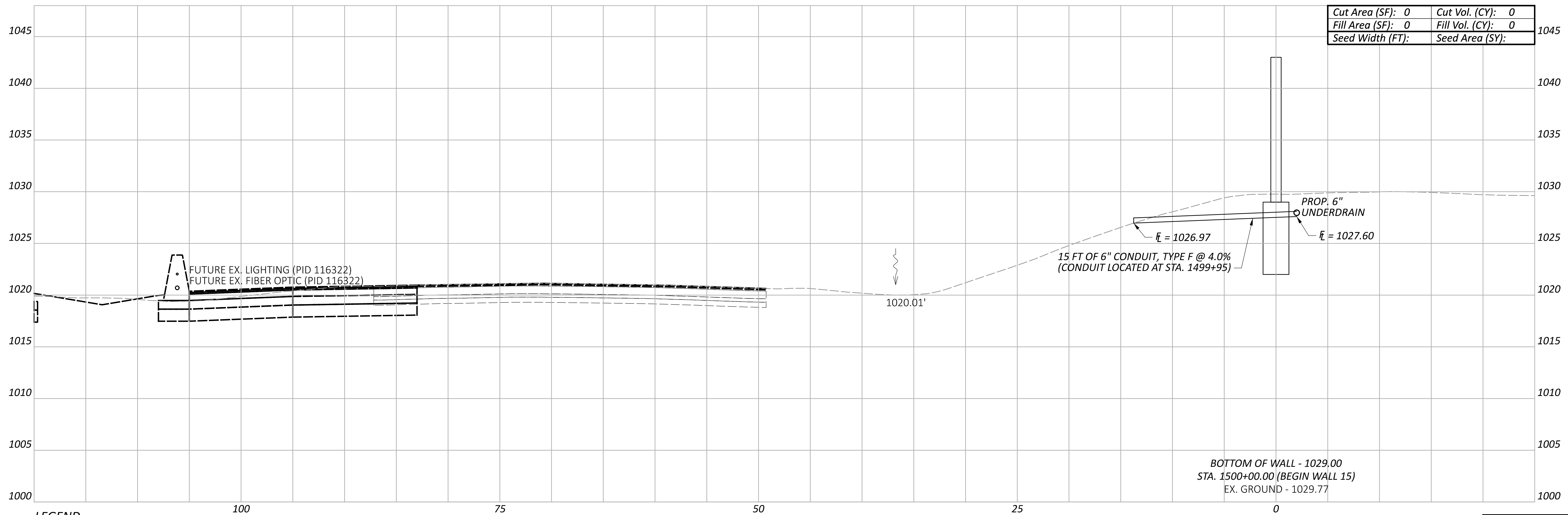
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1500+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:40:12 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw\benitey.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS015.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 1030.00  
 STA. 1500+50.00  
 EX. GROUND - 1030.73



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 1029.00  
 STA. 1500+00.00 (BEGIN WALL 15)  
 EX. GROUND - 1029.77

15 FT OF 6" CONDUIT, TYPE F @ 4.0%  
 (CONDUIT LOCATED AT STA. 1499+95)

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 15  
 STA. 1500+00.00 TO STA. 1500+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 130, SUITE 100  
 COLUMBIA, MO 65203  
 (616) 414-4900  
 www.arcadis.com

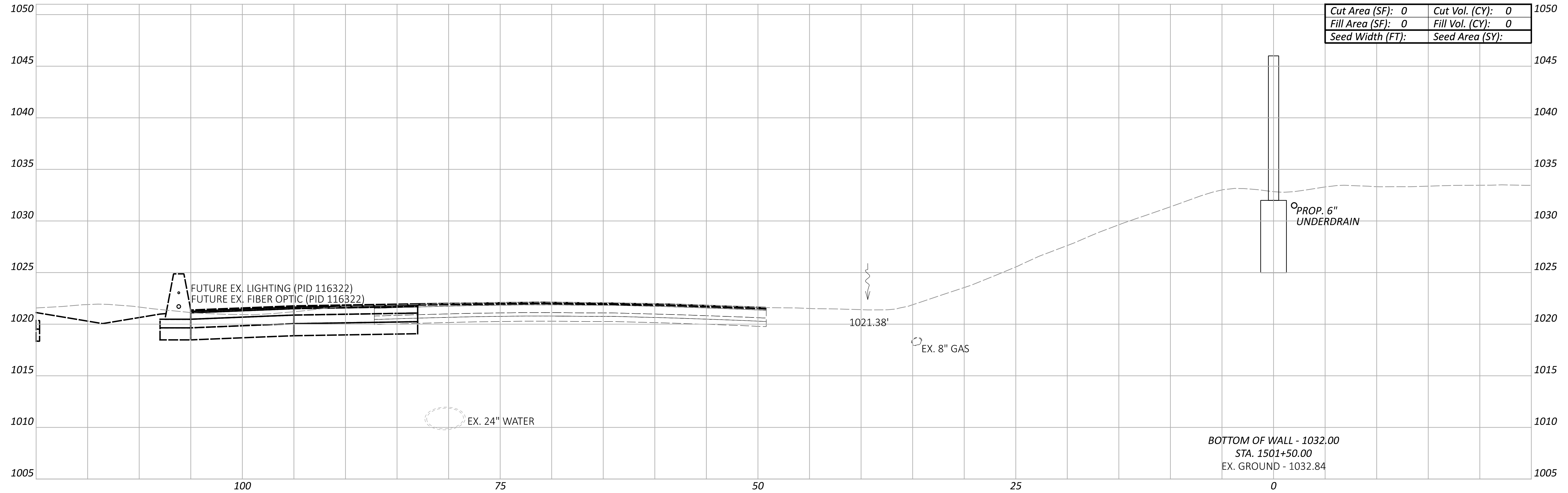
DESIGNER  
**JMK**  
 REVIEWER  
**JDH** 03-27-24

PROJECT ID  
**117607**

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.190	P.295

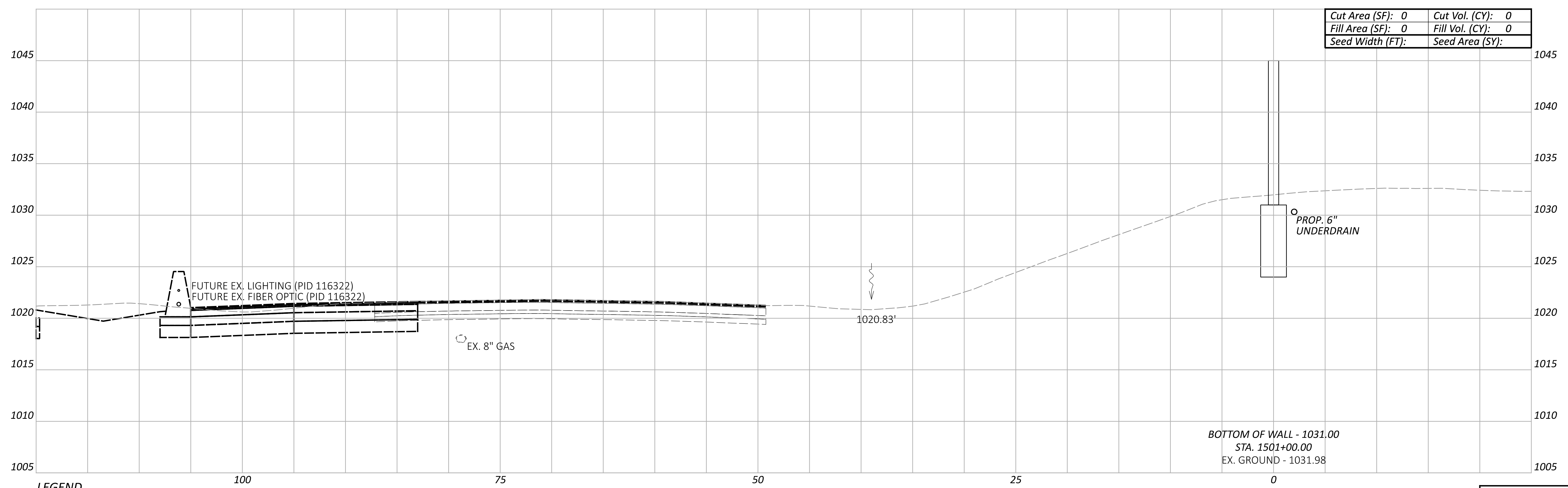
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1501+00.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:40:43 PM USER: jennifer.kelley  
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Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 1032.00  
 STA. 1501+50.00  
 EX. GROUND - 1032.84



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 1031.00  
 STA. 1501+00.00  
 EX. GROUND - 1031.98

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.191 P.295

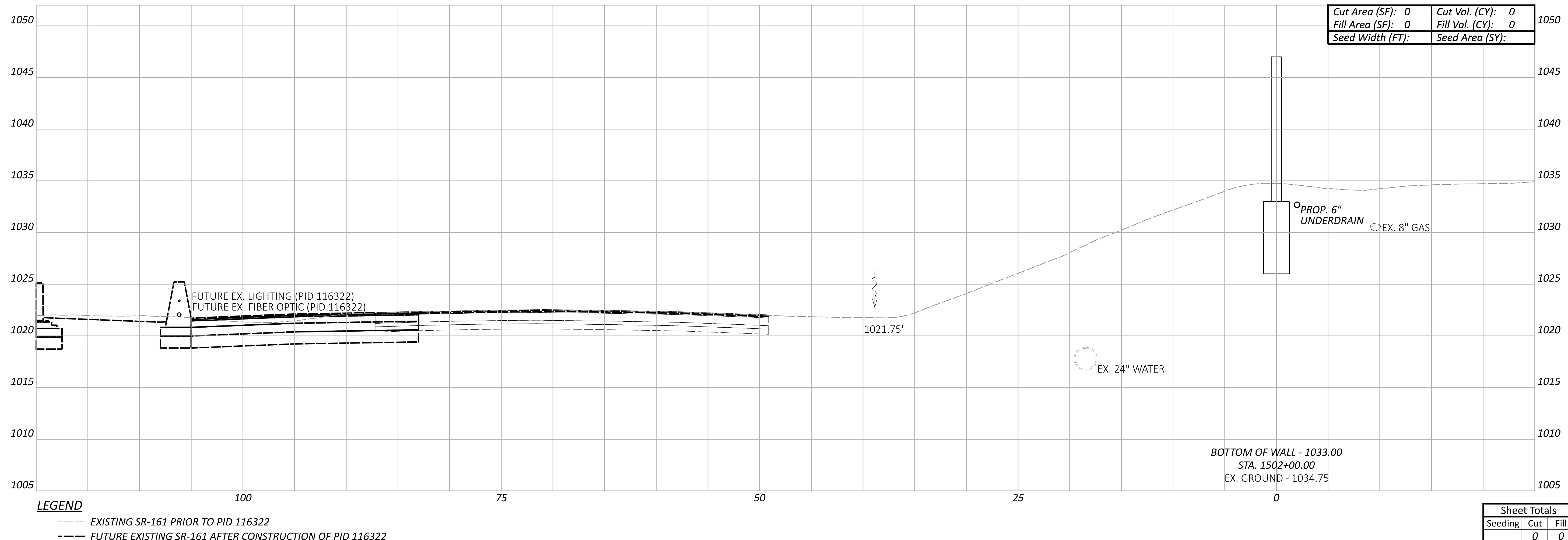
**CROSS SECTIONS - WALL 15  
 STA. 1501+00.00 TO STA. 1501+50.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 819-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH** 03-27-24

PROJECT ID  
**117607**



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.192 P.295

CROSS SECTIONS - WALL 15  
 STA. 1502+00.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 819-4900  
 www.arcadis.com

DESIGNER  
**JMK**

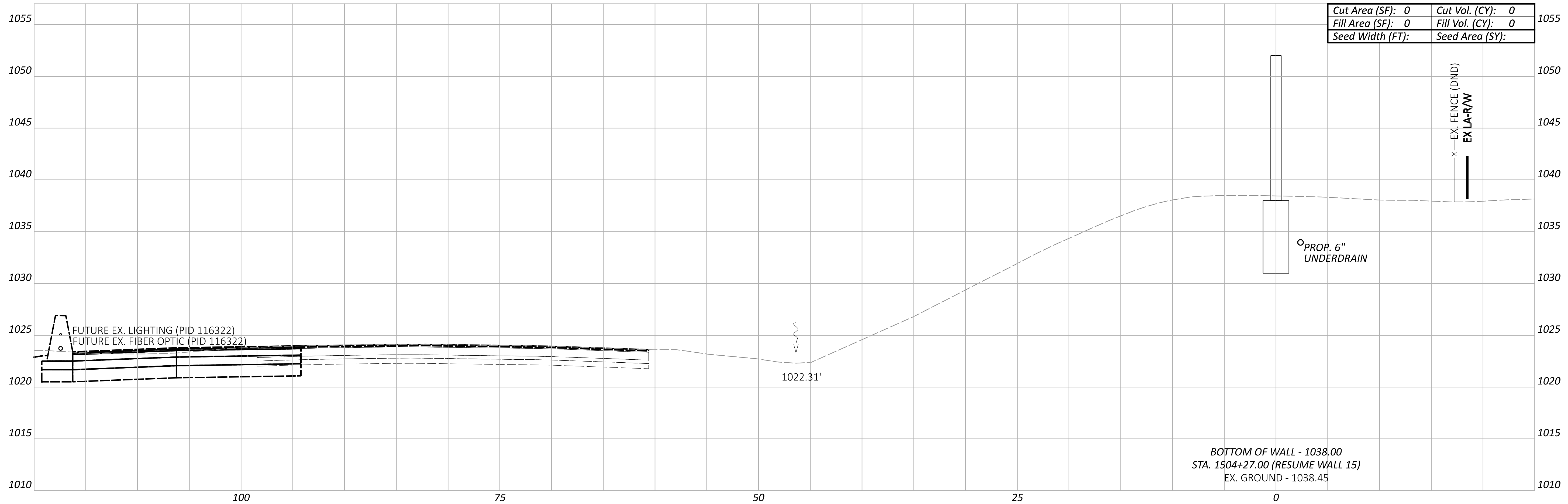
REVIEWER  
**JDH** 03-27-24

PROJECT ID  
**117607**



**FRA-161-15.80 NOISE WALLS**

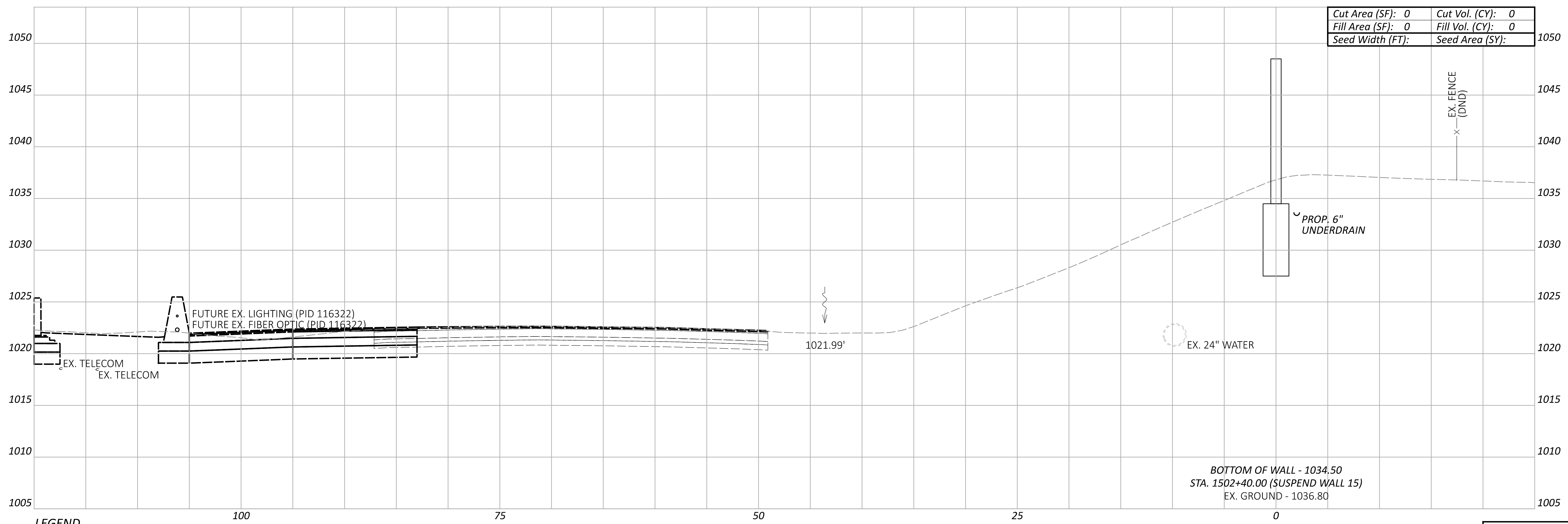
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Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

x - EX. FENCE (DND)  
**EX LA-R/W**

BOTTOM OF WALL - 1038.00  
 STA. 1504+27.00 (RESUME WALL 15)  
 EX. GROUND - 1038.45



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

x - EX. FENCE (DND)

BOTTOM OF WALL - 1034.50  
 STA. 1502+40.00 (SUSPEND WALL 15)  
 EX. GROUND - 1036.80

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 15  
 STA. 1502+40.00 TO STA. 1504+27.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIANA, OHIO 43085  
 (614) 819-4900  
 www.arcadis.com

DESIGNER  
**JMK**

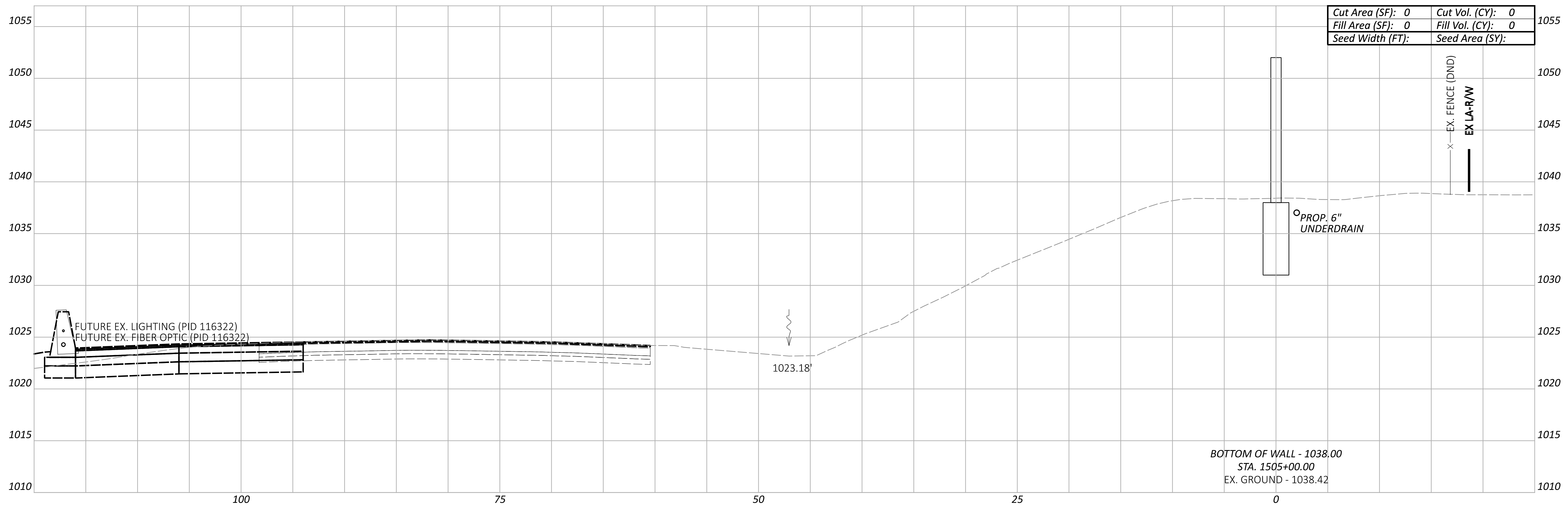
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
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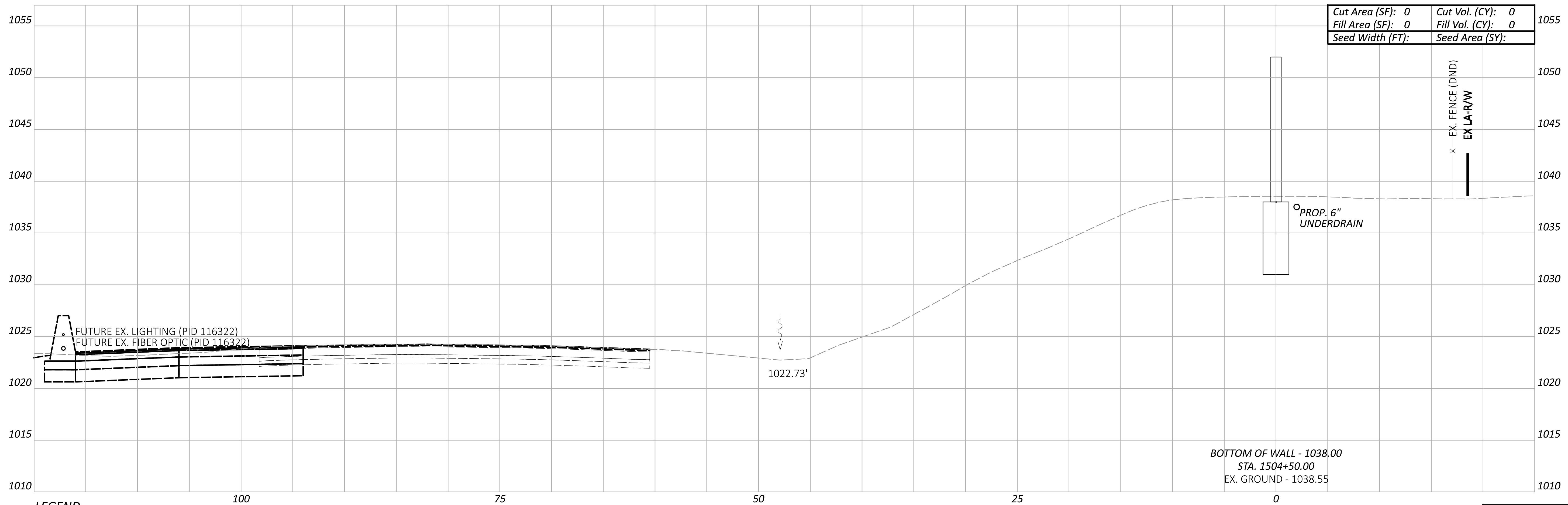
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1504+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:41:41 PM USER: jennifer.kelley  
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Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 1038.00  
 STA. 1505+00.00  
 EX. GROUND - 1038.42



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 1038.00  
 STA. 1504+50.00  
 EX. GROUND - 1038.55

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.194 P.295

**CROSS SECTIONS - WALL 15  
 STA. 1504+50.00 TO STA. 1505+00.00**

DESIGNER AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OHIO 43085  
 (614) 810-4900  
 www.arcadis.com

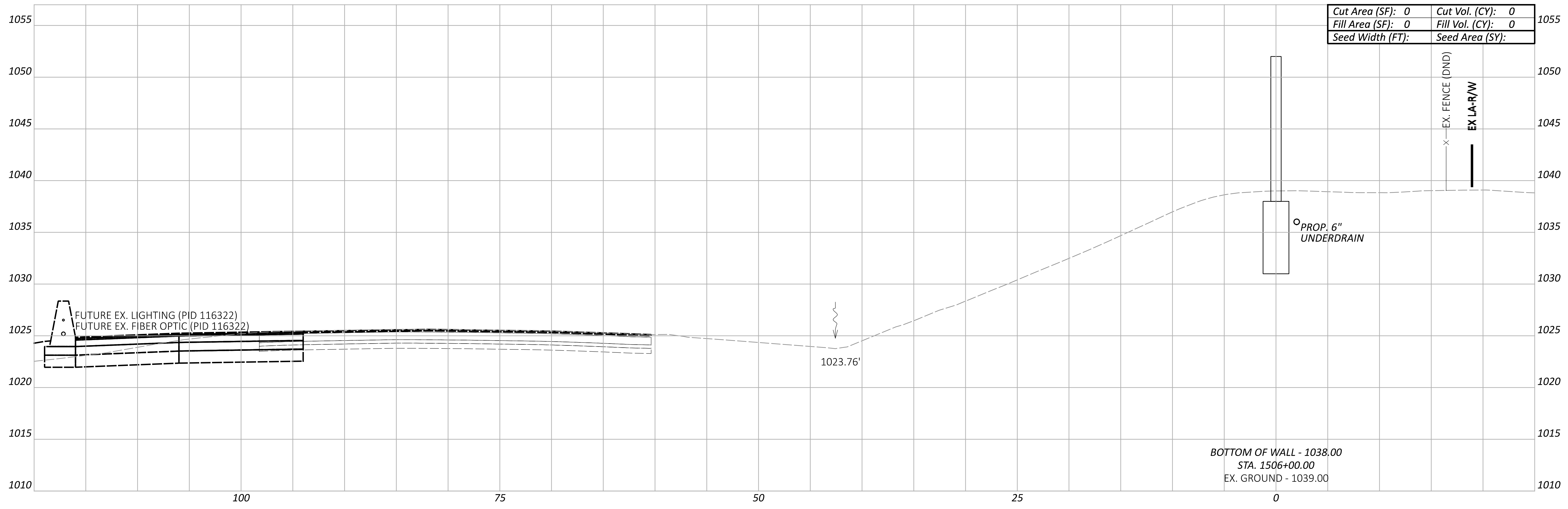
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

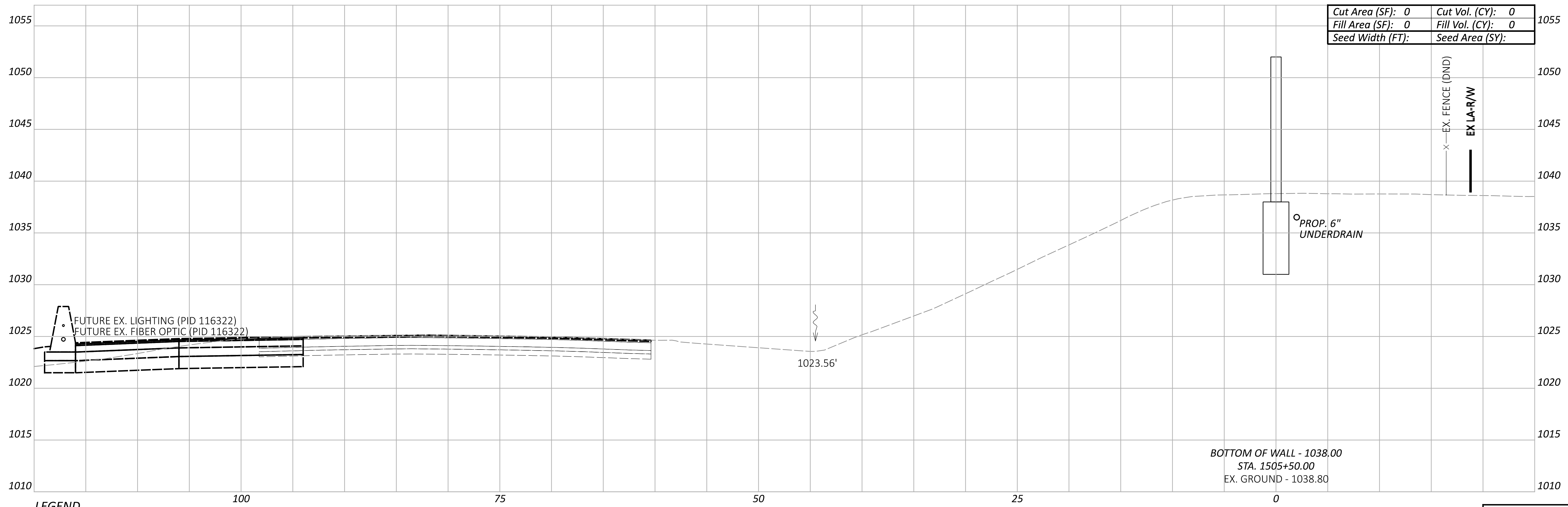
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1505+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:42:03 PM USER: jennifer.kelley  
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Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 1038.00  
 STA. 1506+00.00  
 EX. GROUND - 1039.00



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 1038.00  
 STA. 1505+50.00  
 EX. GROUND - 1038.80

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.195	P.295

**CROSS SECTIONS - WALL 15**  
 STA. 1505+50.00 TO STA. 1506+00.00

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 240 SUITE 100  
 COLUMBIA, MO 65203  
 (616) 414-4900  
 www.arcadis.com

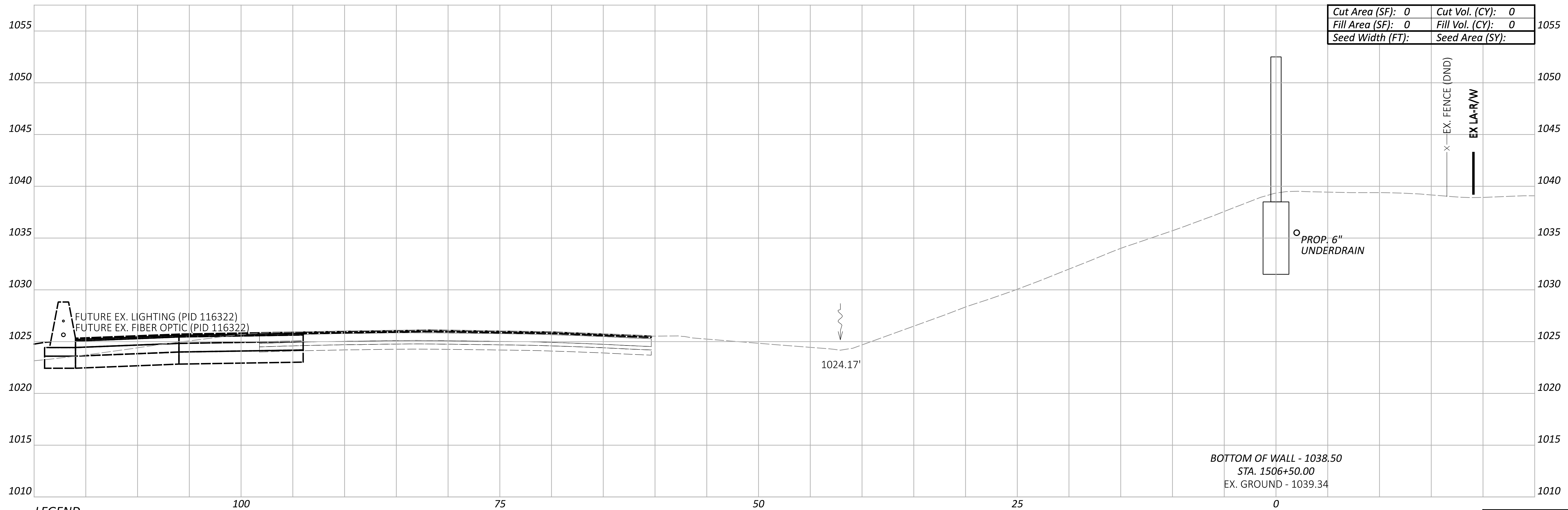
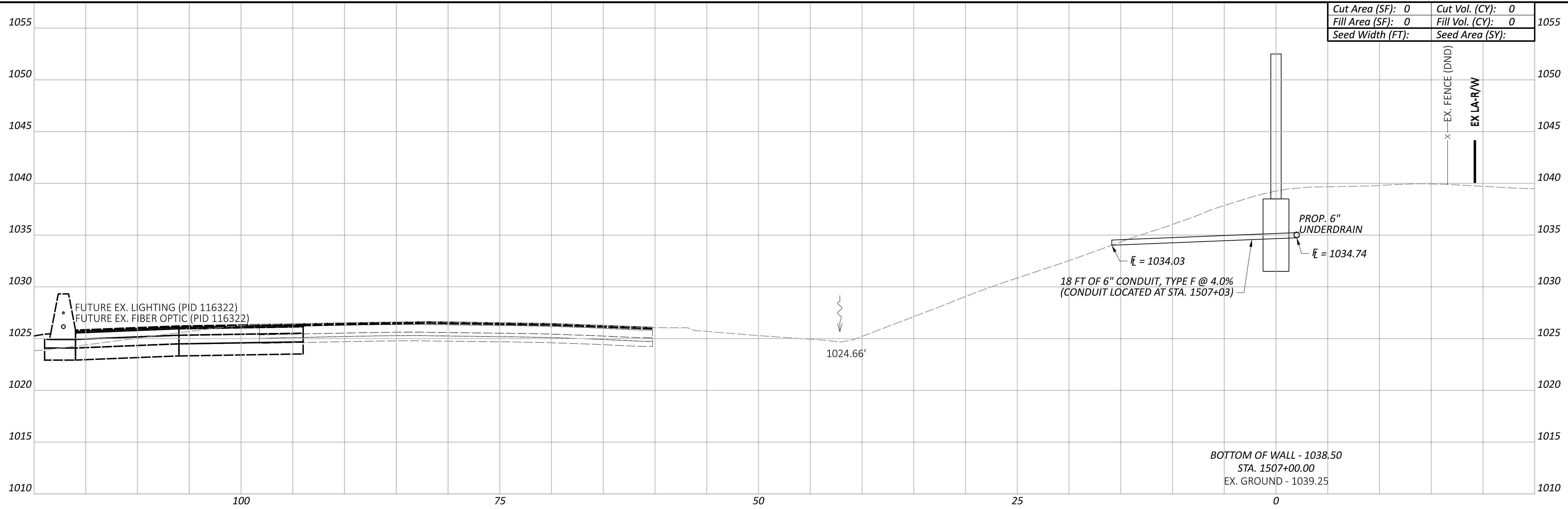
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1506+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:42:25 PM USER: jennifer.kelley  
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**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0		P.196 P.295

**CROSS SECTIONS - WALL 15  
 STA. 1506+50.00 TO STA. 1507+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHEST SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 819-4900  
 www.arcadis.com

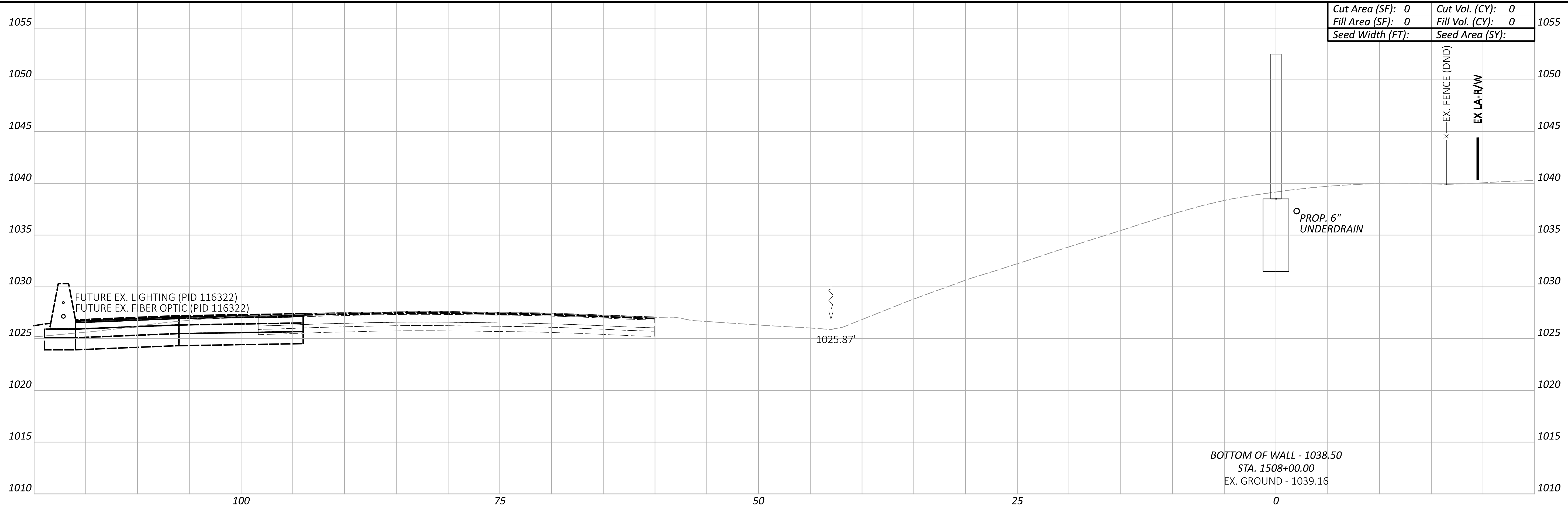
DESIGNER  
**JMK**

REVIEWER  
**JDH** 03-27-24

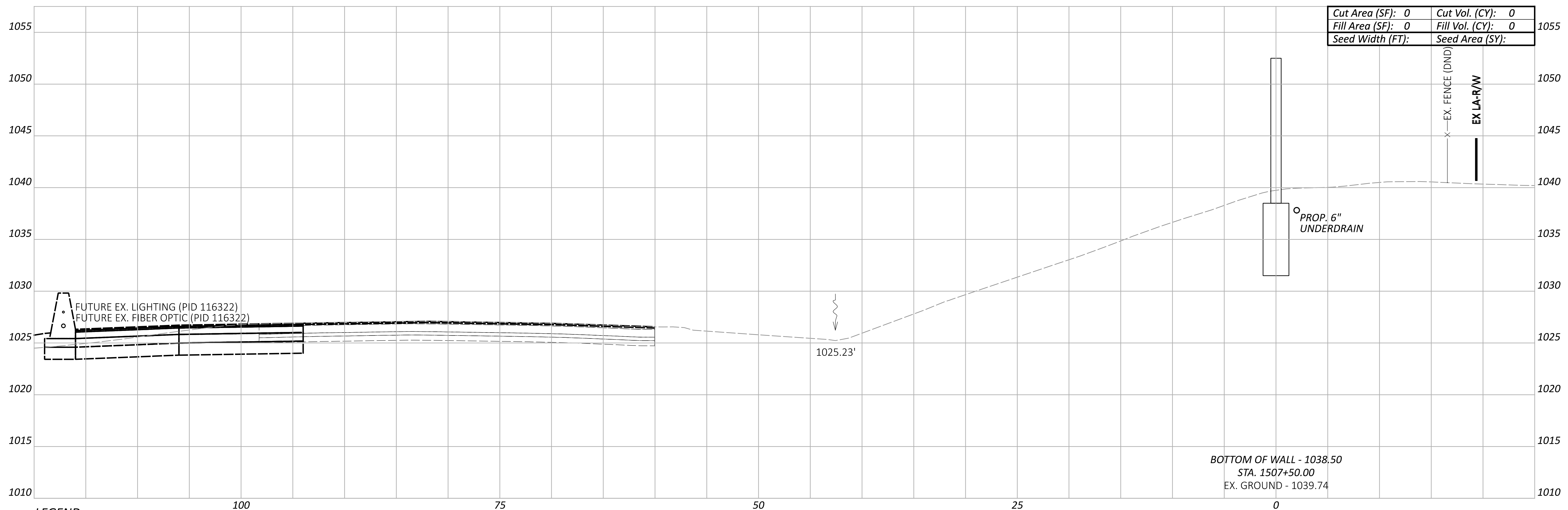
PROJECT ID  
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**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1507+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:42:47 PM USER: jennifer.kelley  
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Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0		P.197 P.295

**CROSS SECTIONS - WALL 15  
 STA. 1507+50.00 TO STA. 1508+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIANA, OHIO 43085  
 614.841.4900  
 www.arcadis.com

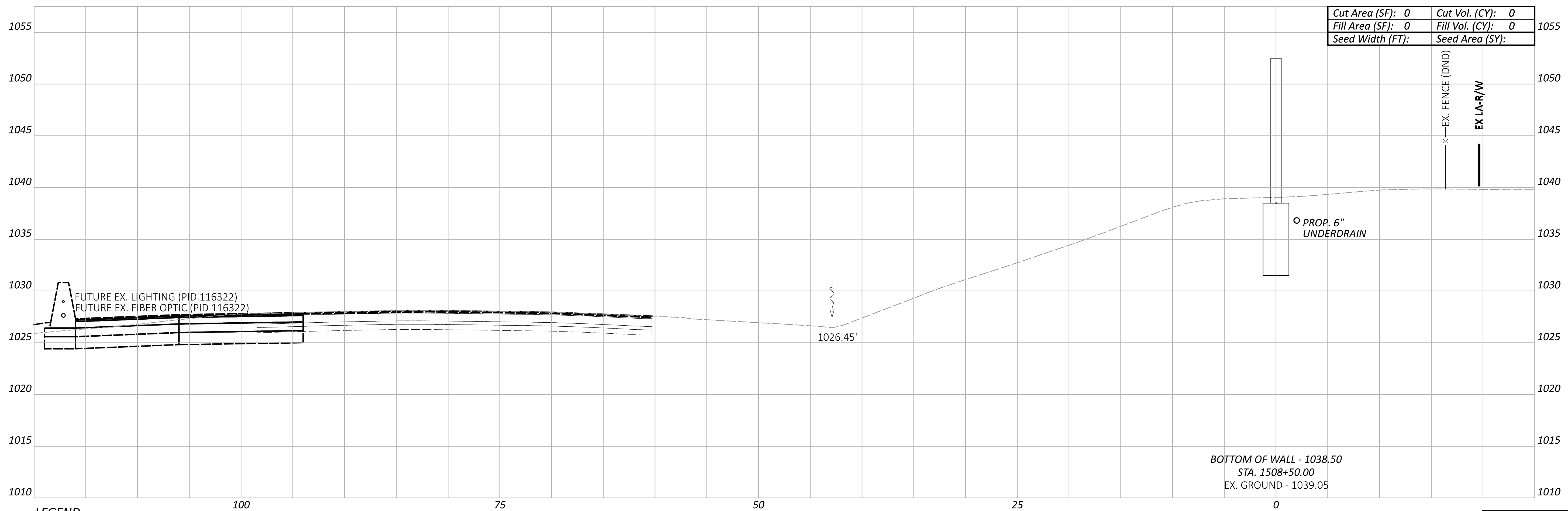
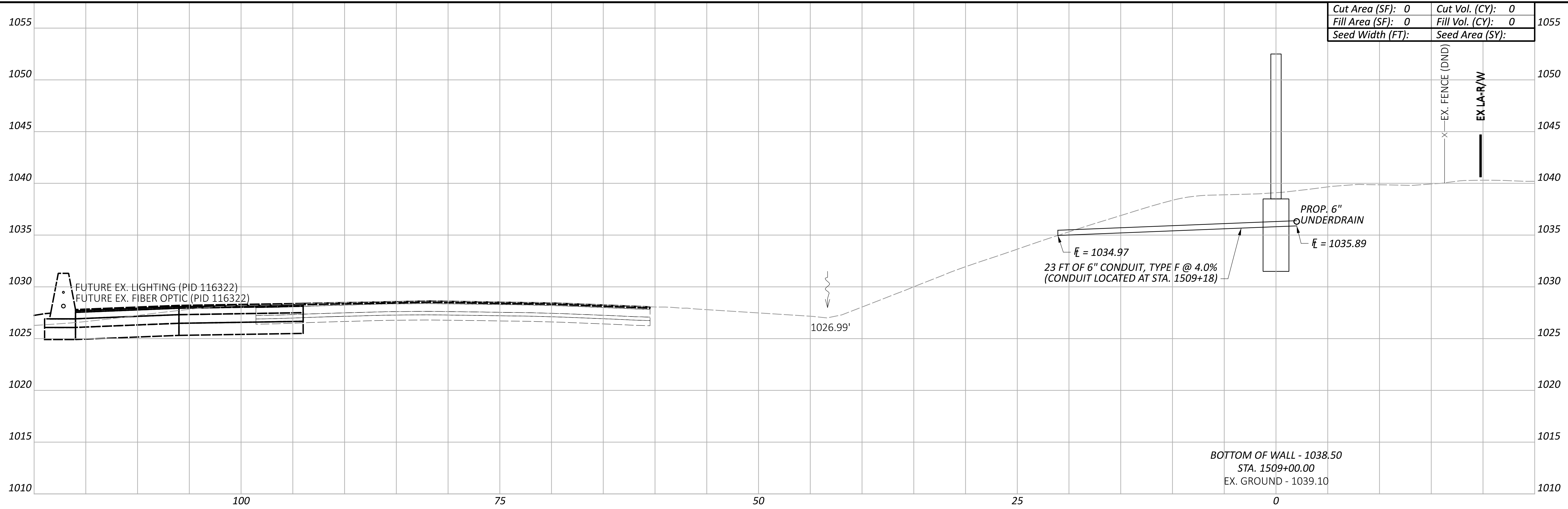
DESIGNER  
**JMK**

REVIEWER  
**JDH** 03-27-24

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1508+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-26 TIME: 4:57:06 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw\benitey.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS015.dgn



**LEGEND**

- EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.198	P.295

**CROSS SECTIONS - WALL 15  
 STA. 1508+50.00 TO STA. 1509+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHEST SUITE 100  
 COLUMBIANA, OHIO 43085  
 (614) 819-4900  
 www.arcadis.com

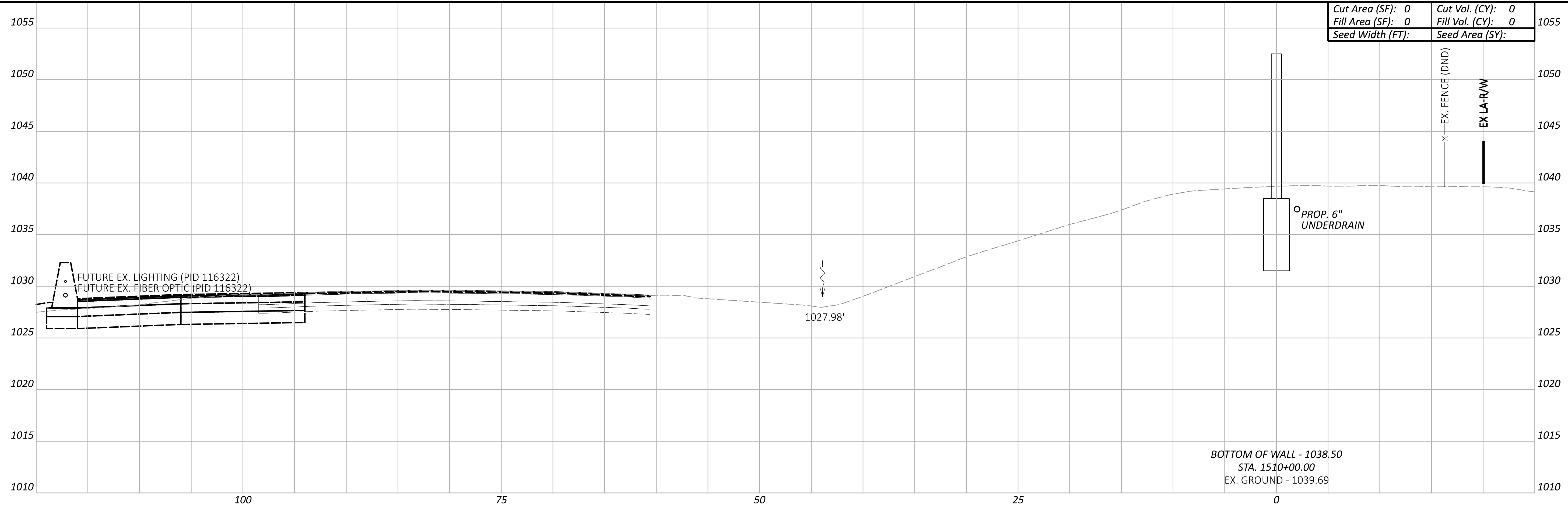
DESIGNER  
**JMK**

REVIEWER  
**JDH** 03-27-24

PROJECT ID  
**117607**

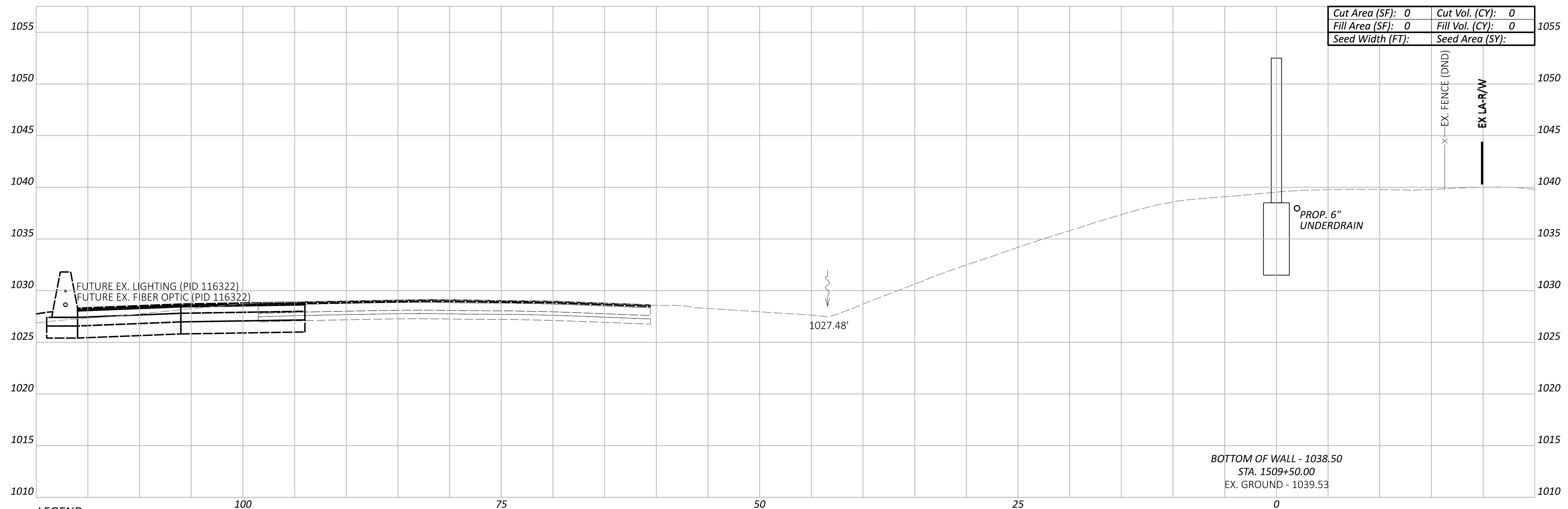
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1509+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:43:30 PM USER: jennifer.kelley  
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Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 1038.50  
 STA. 1510+00.00  
 EX. GROUND - 1039.69



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 1038.50  
 STA. 1509+50.00  
 EX. GROUND - 1039.53

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 15  
 STA. 1509+50.00 TO STA. 1510+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHEST SUITE 100  
 COLUMBIA, MO 65203  
 (646) 441-4900  
 www.arcadis.com

DESIGNER  
**JMK**

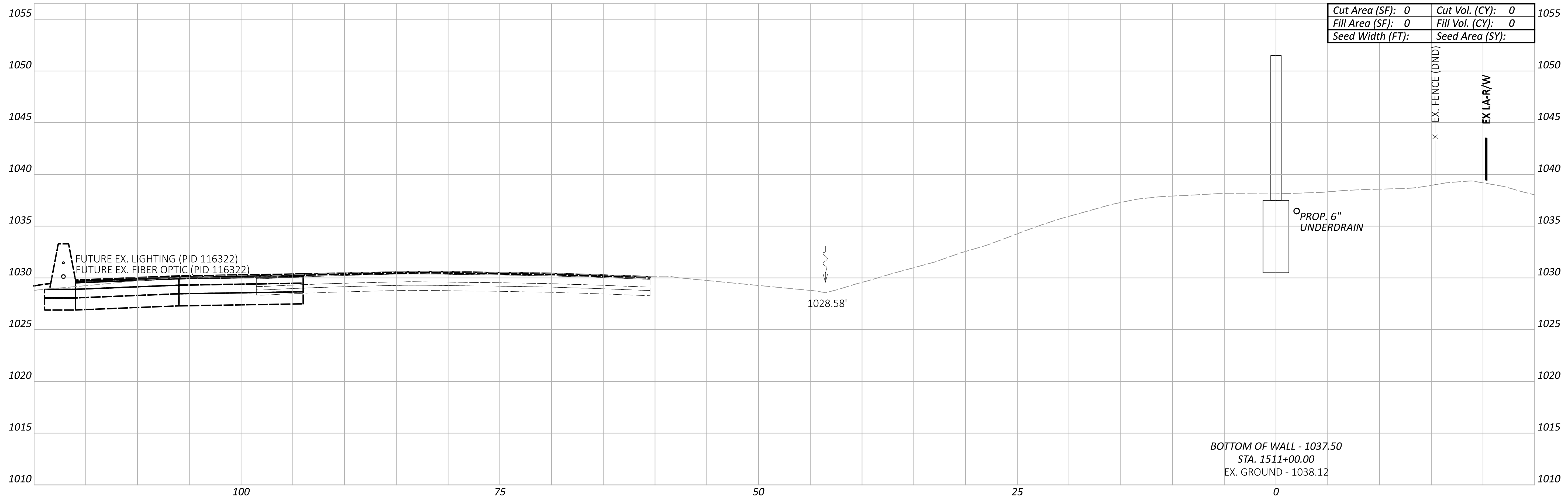
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
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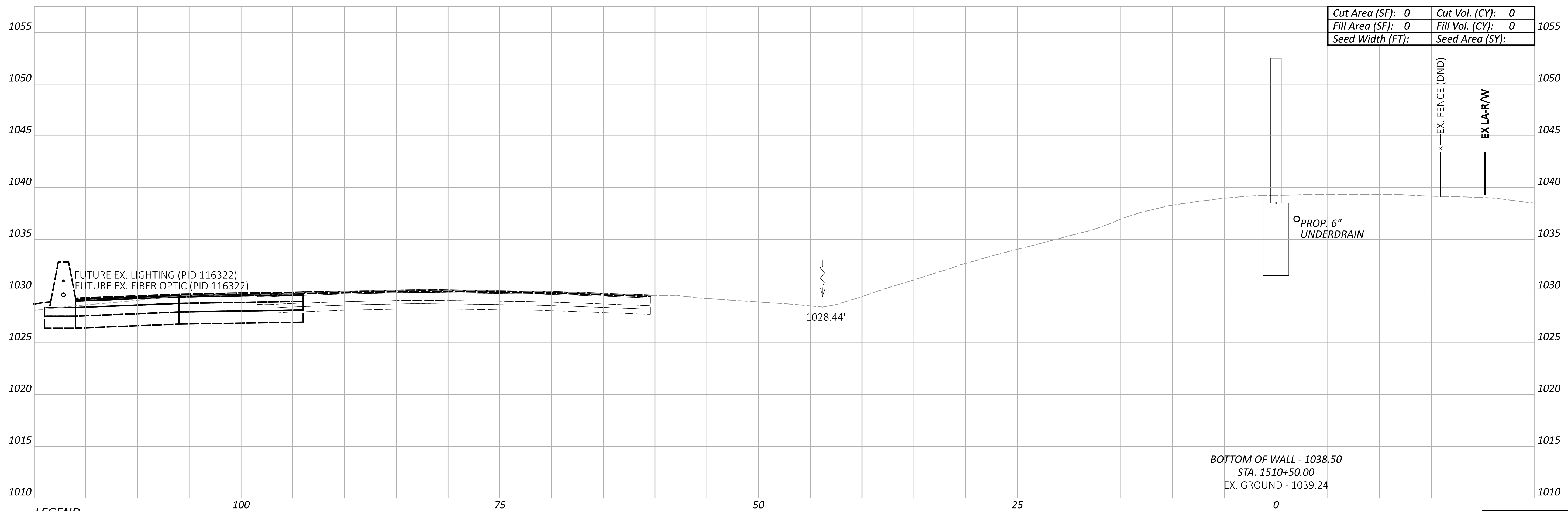
**FRA-161-15.80 NOISE WALLS**

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Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 1037.50  
 STA. 1511+00.00  
 EX. GROUND - 1038.12



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 1038.50  
 STA. 1510+50.00  
 EX. GROUND - 1039.24

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.200	P.295

**CROSS SECTIONS - WALL 15  
 STA. 1510+50.00 TO STA. 1511+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 819-4900  
 www.arcadis.com

DESIGNER  
**JMK**

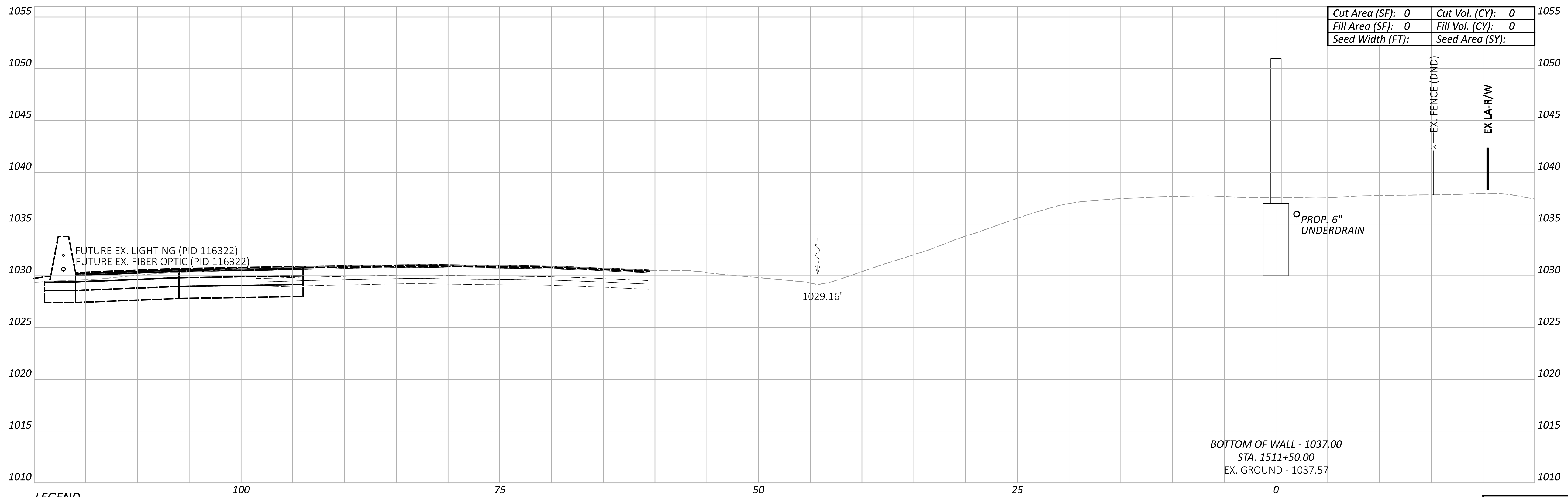
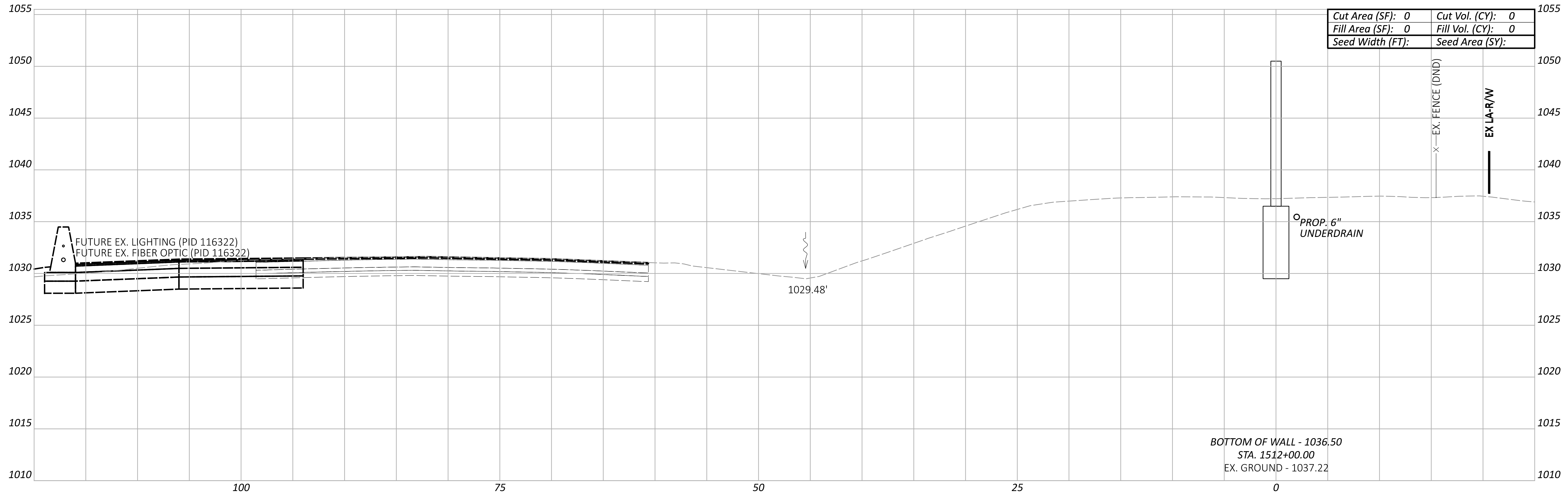
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1511+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:44:14 PM USER: jennifer.kelley  
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**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0		P.201 P.295

**CROSS SECTIONS - WALL 15  
STA. 1511+50.00 TO STA. 1512+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 819-4900  
 www.arcadis.com

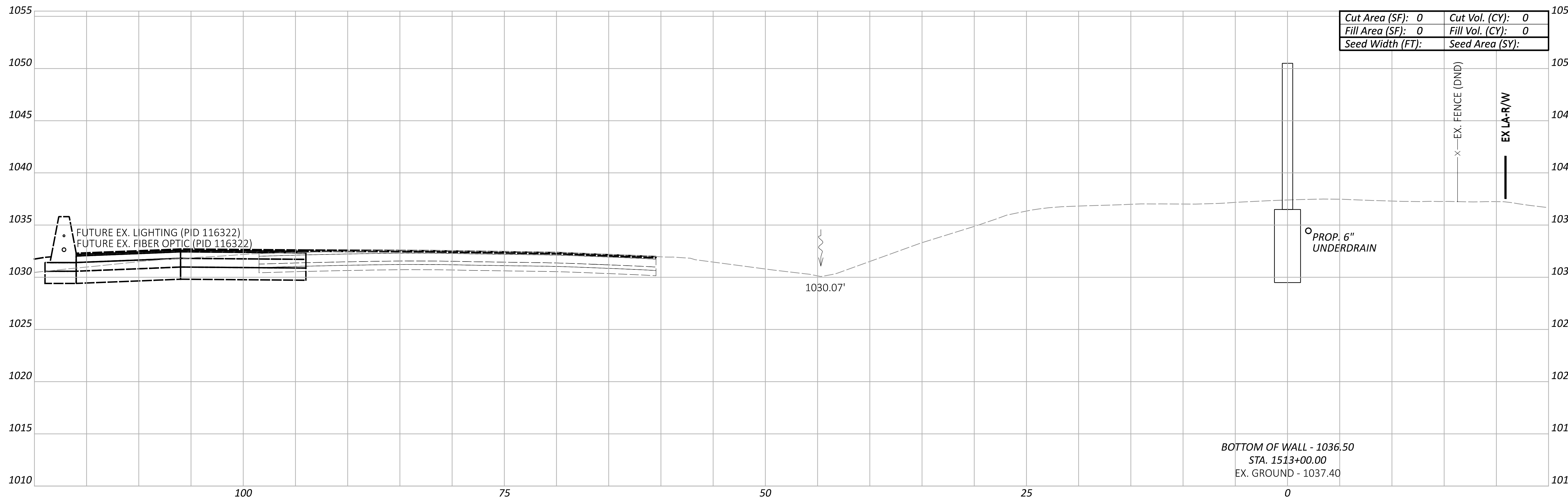
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

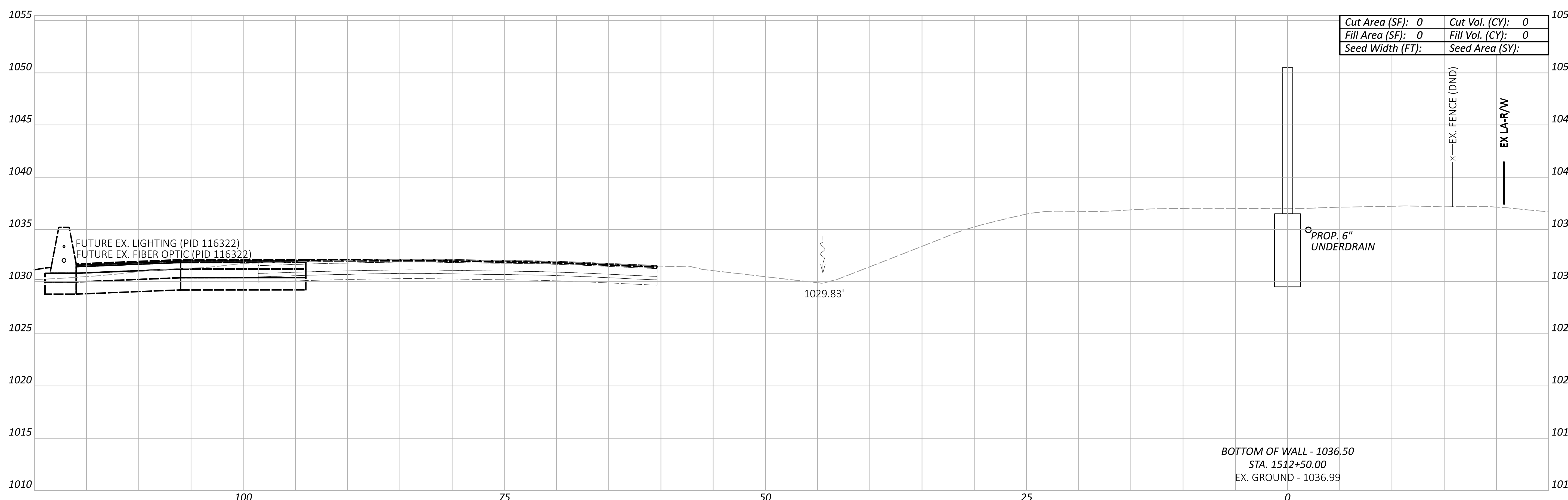
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1512+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:44:36 PM USER: jennifer.kelley  
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Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 1036.50  
 STA. 1513+00.00  
 EX. GROUND - 1037.40



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 1036.50  
 STA. 1512+50.00  
 EX. GROUND - 1036.99

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.202 P.295

**CROSS SECTIONS - WALL 15  
 STA. 1512+50.00 TO STA. 1513+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHEST SUITE 100  
 COLUMBIA, MO 65203  
 (646) 441-4900  
 www.arcadis.com

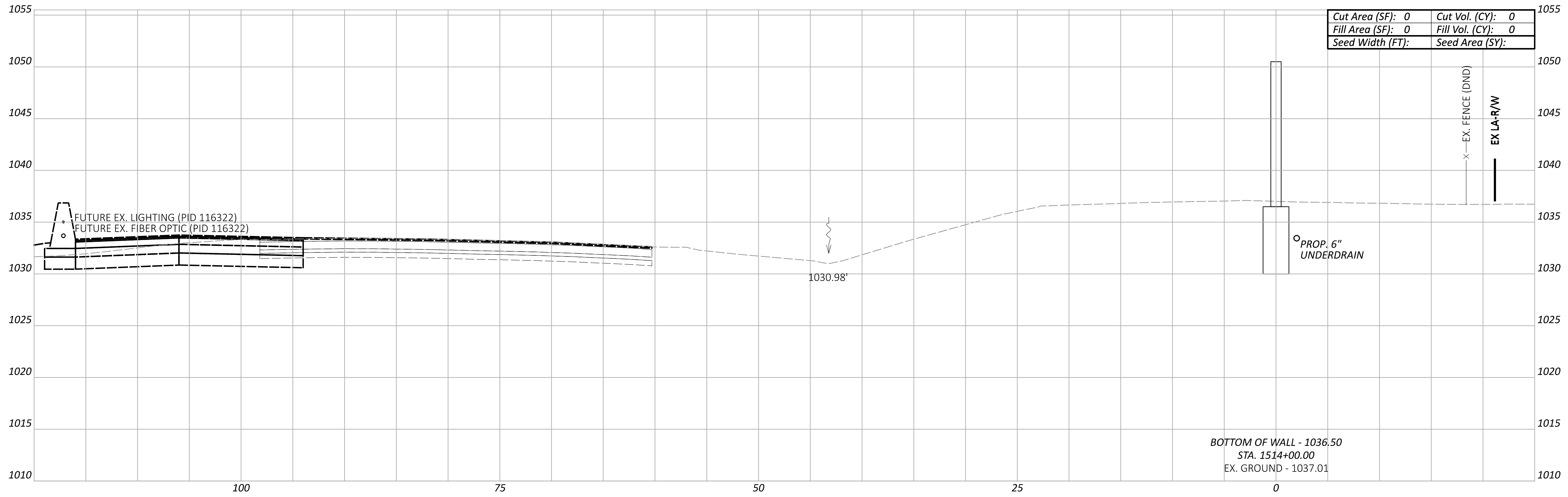
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

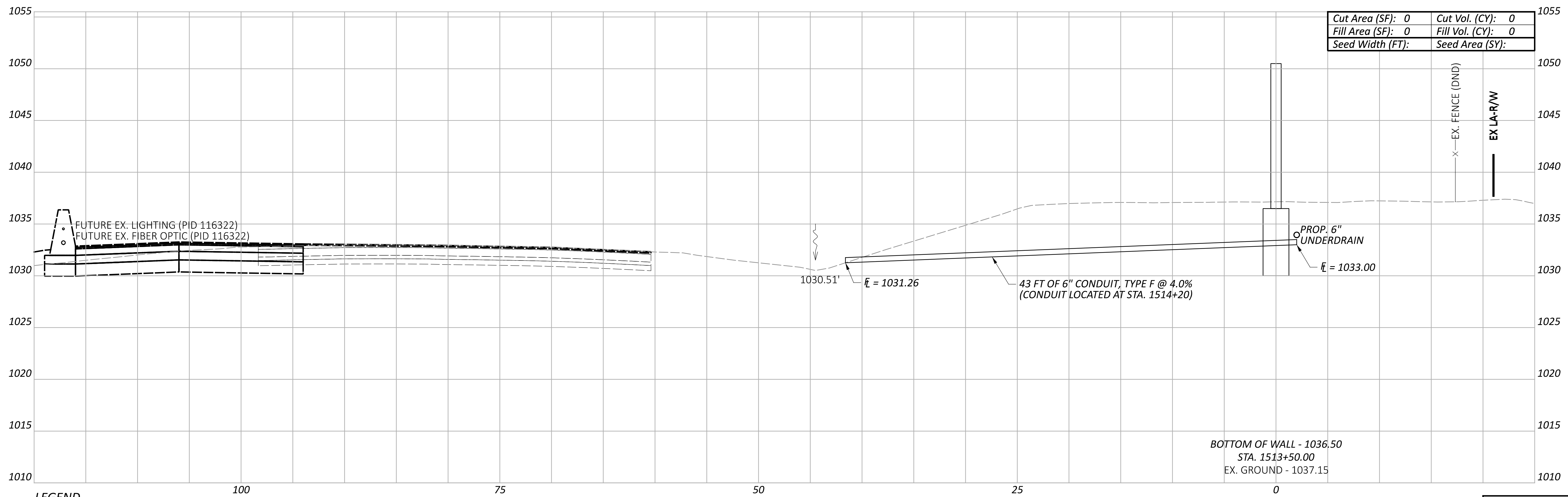
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1513+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:44:57 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS015.dgn



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 1036.50  
 STA. 1514+00.00  
 EX. GROUND - 1037.01



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 1036.50  
 STA. 1513+50.00  
 EX. GROUND - 1037.15

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.203 P.295

**CROSS SECTIONS - WALL 15  
 STA. 1513+50.00 TO STA. 1514+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIA, MO 65203  
 (616) 414-4900  
 www.arcadis.com

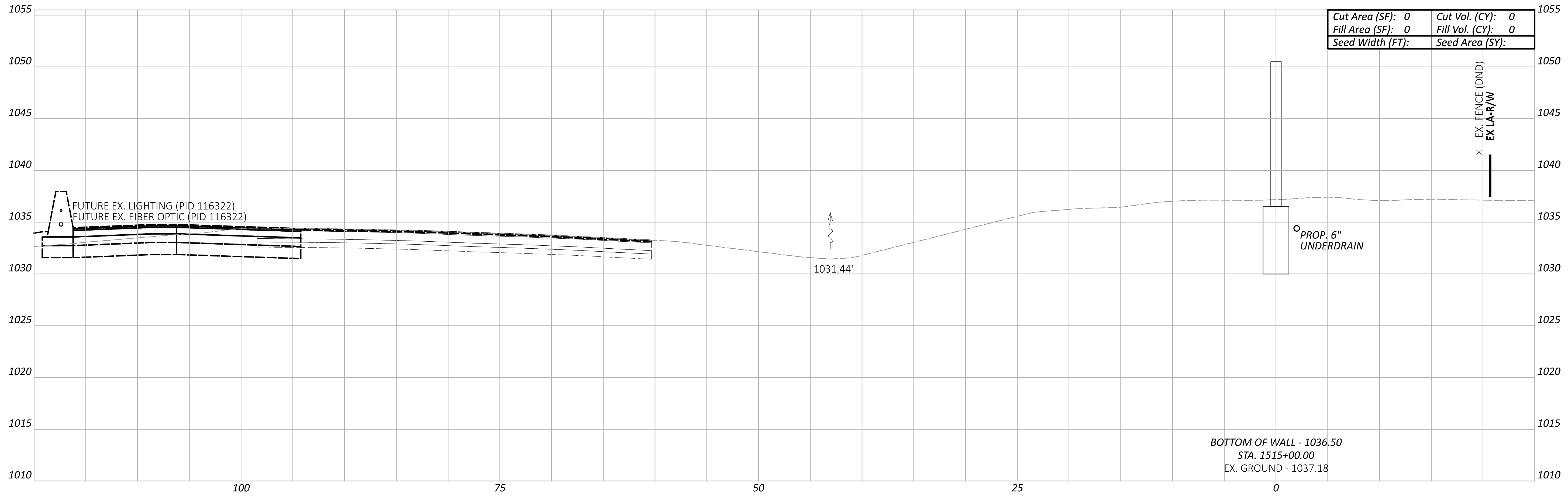
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

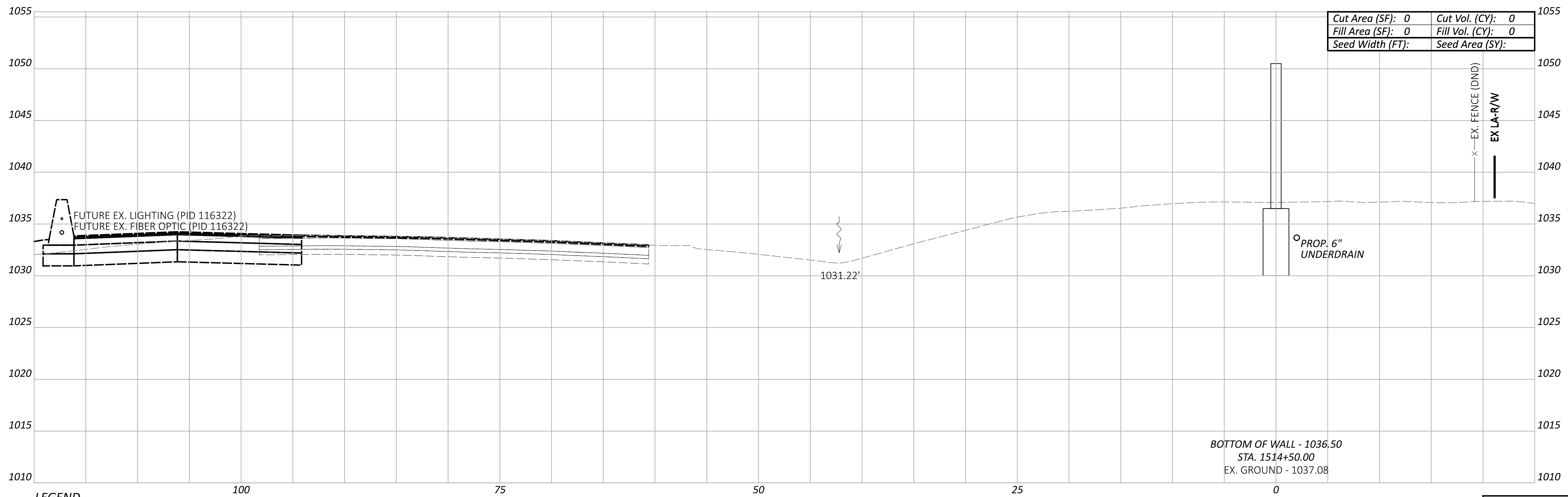
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1514+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:45:18 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw\benitey.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS015.dgn



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 1036.50  
 STA. 1515+00.00  
 EX. GROUND - 1037.18



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 1036.50  
 STA. 1514+50.00  
 EX. GROUND - 1037.08

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.204	P.295

**CROSS SECTIONS - WALL 15  
 STA. 1514+50.00 TO STA. 1515+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIA, MO 65203  
 (646) 441-4900  
 www.arcadis.com

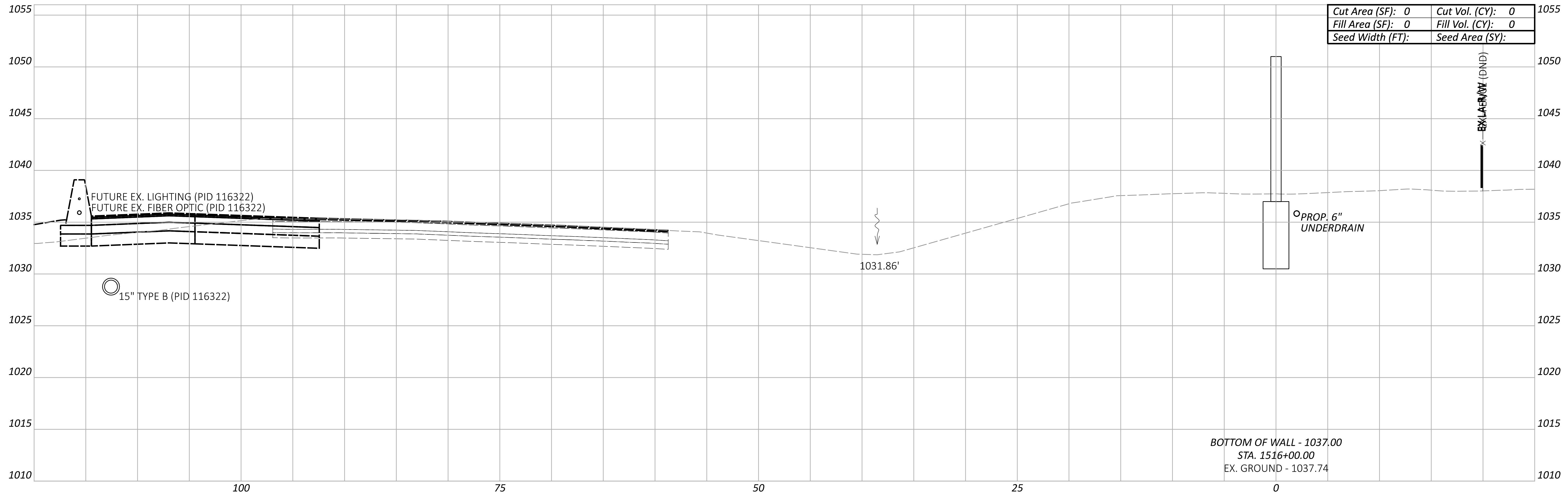
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

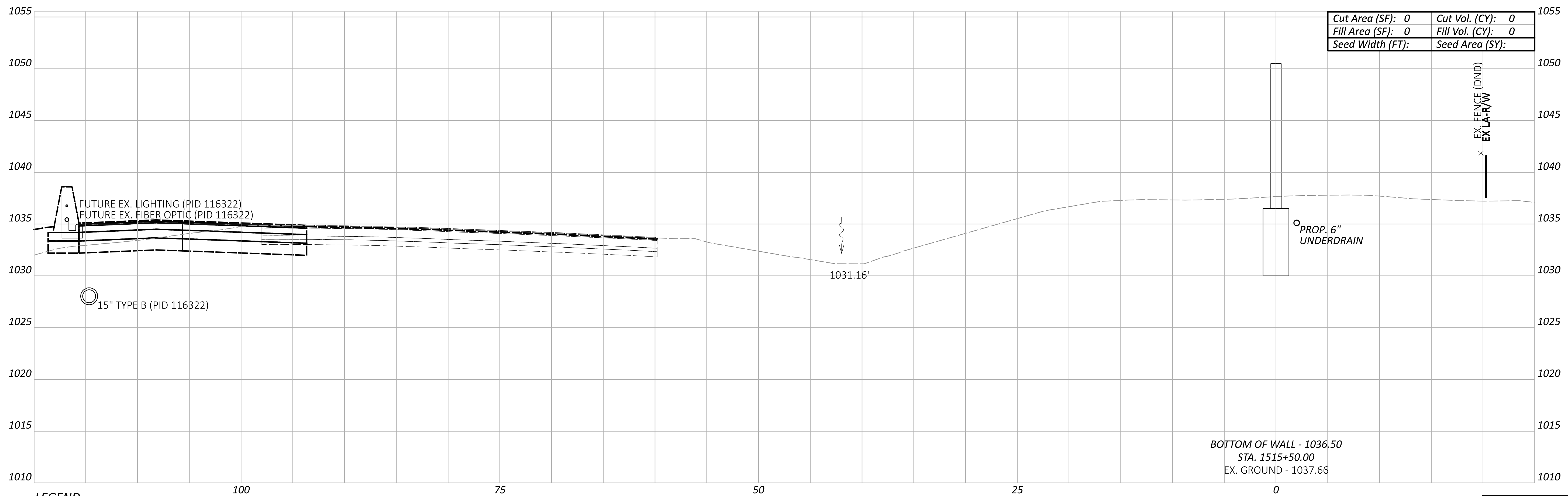
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1515+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:45:40 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw\benitey.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS015.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 1037.00  
 STA. 1516+00.00  
 EX. GROUND - 1037.74



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 1036.50  
 STA. 1515+50.00  
 EX. GROUND - 1037.66

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.205 P.295

**CROSS SECTIONS - WALL 15  
 STA. 1515+50.00 TO STA. 1516+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIA, MO 65203  
 (616) 419-4900  
 www.arcadis.com

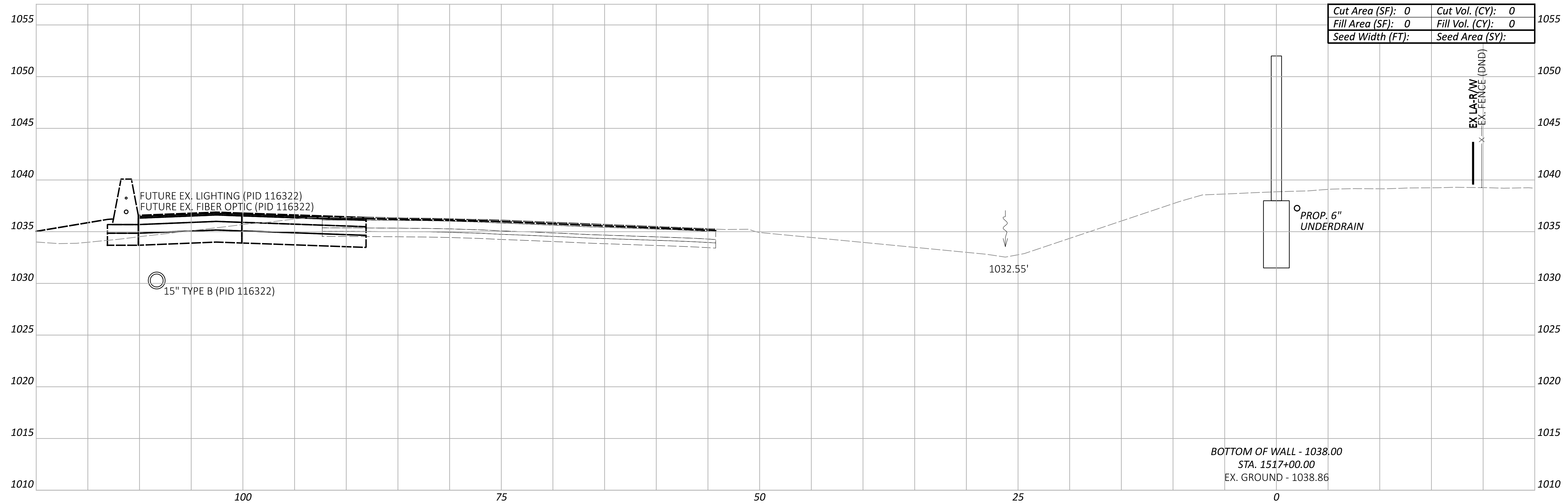
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

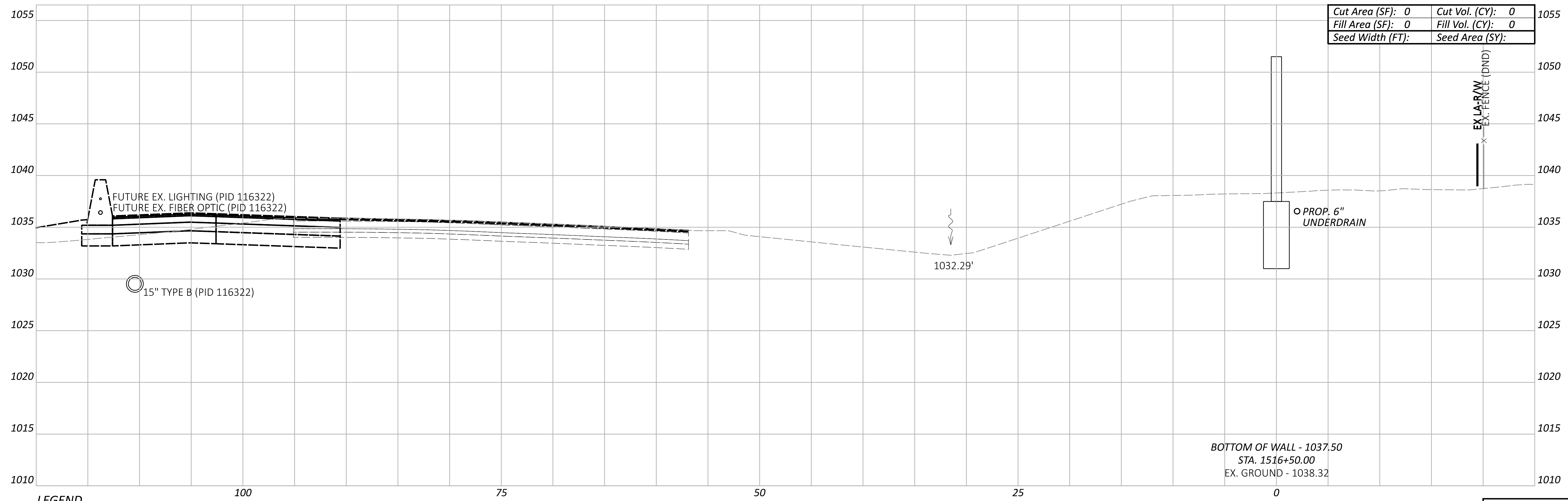
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1516+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:46:02 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS015.dgn



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 1038.00  
 STA. 1517+00.00  
 EX. GROUND - 1038.86



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT):	Seed Area (SY):

BOTTOM OF WALL - 1037.50  
 STA. 1516+50.00  
 EX. GROUND - 1038.32

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.206	P.295

**CROSS SECTIONS - WALL 15  
 STA. 1516+50.00 TO STA. 1517+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIA, MO 65203  
 (646) 441-4900  
 www.arcadis.com

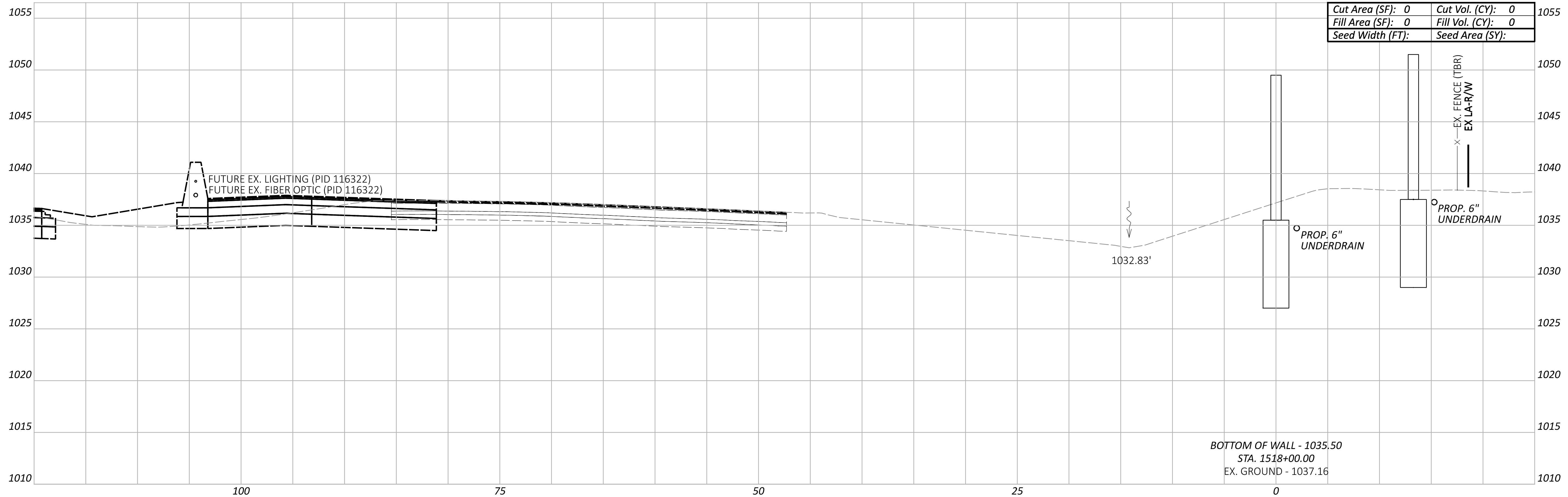
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

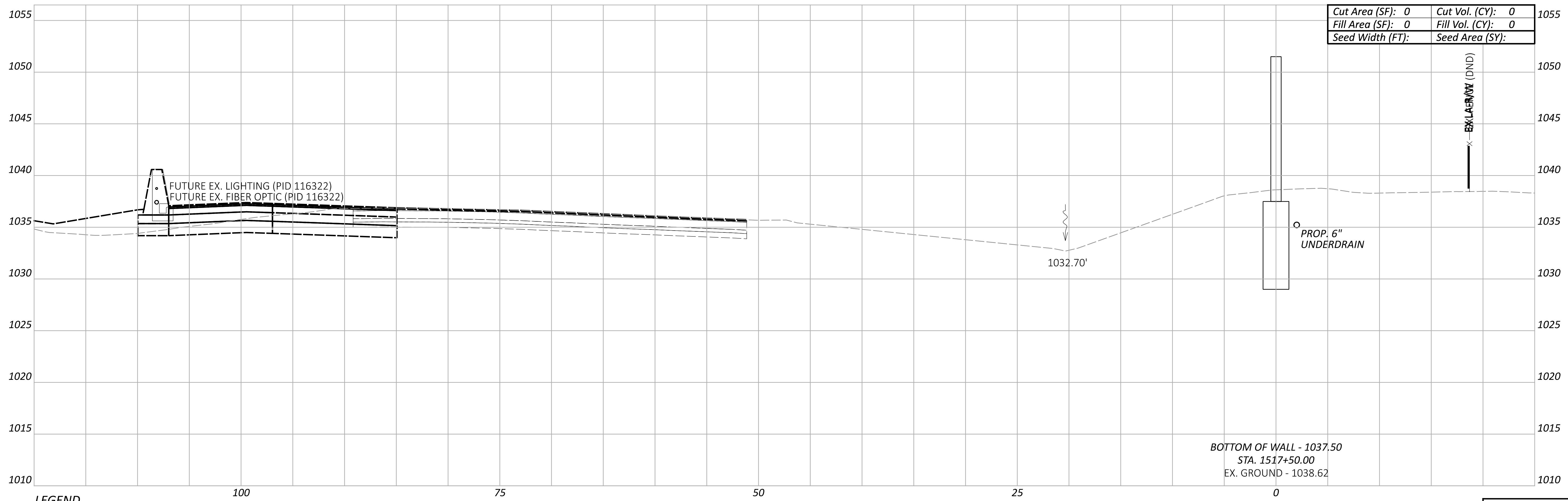
PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1517+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:46:22 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw\benitey.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS015.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**  
 - - - EXISTING SR-161 PRIOR TO PID 116322  
 - - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.207	P.295

**CROSS SECTIONS - WALL 15  
 STA. 1517+50.00 TO STA. 1518+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIANA, OHIO 43085  
 (614) 810-4900  
 www.arcadis.com

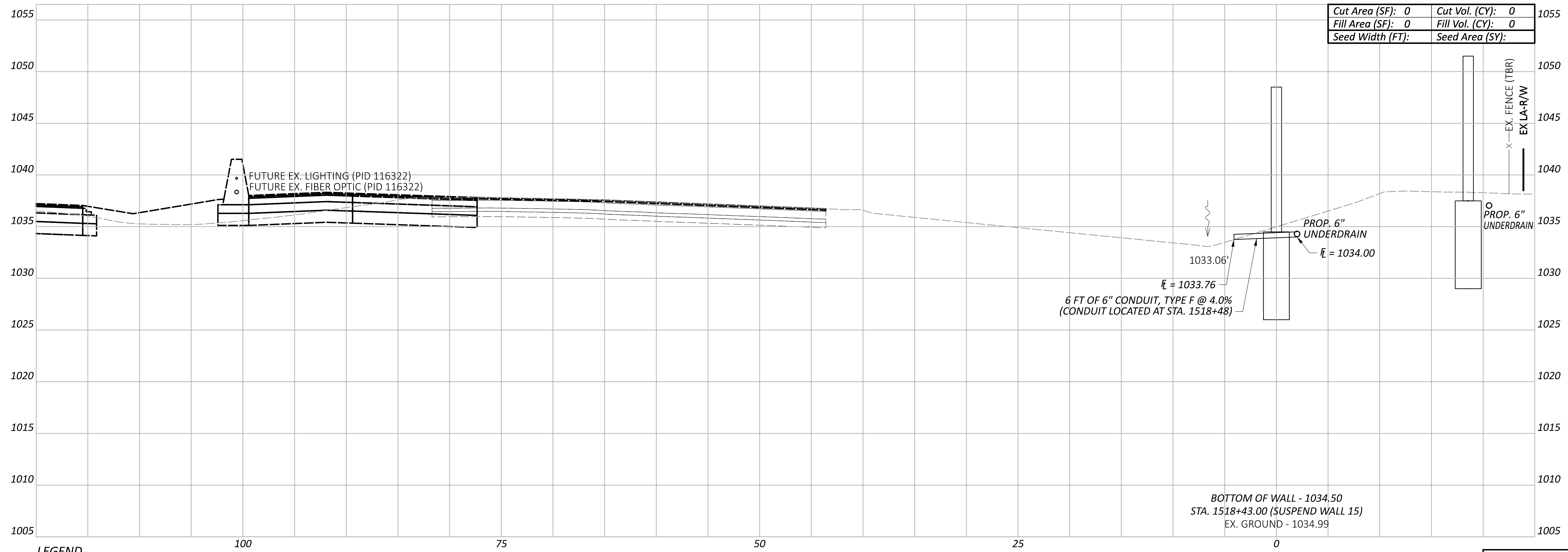
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1518+43.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:46:42 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw\benitey.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS015.dgn



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

o — EX. FENCE (TBR)  
 — EX LA-R/W

BOTTOM OF WALL - 1034.50  
 STA. 1518+43.00 (SUSPEND WALL 15)  
 EX. GROUND - 1034.99

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.208	P.295

**CROSS SECTIONS - WALL 15  
 STA. 1518+43.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 240 SUITE 100  
 COLUMBIANA, OHIO 43085  
 614.849.4900  
 www.arcadis.com

DESIGNER  
**JMK**

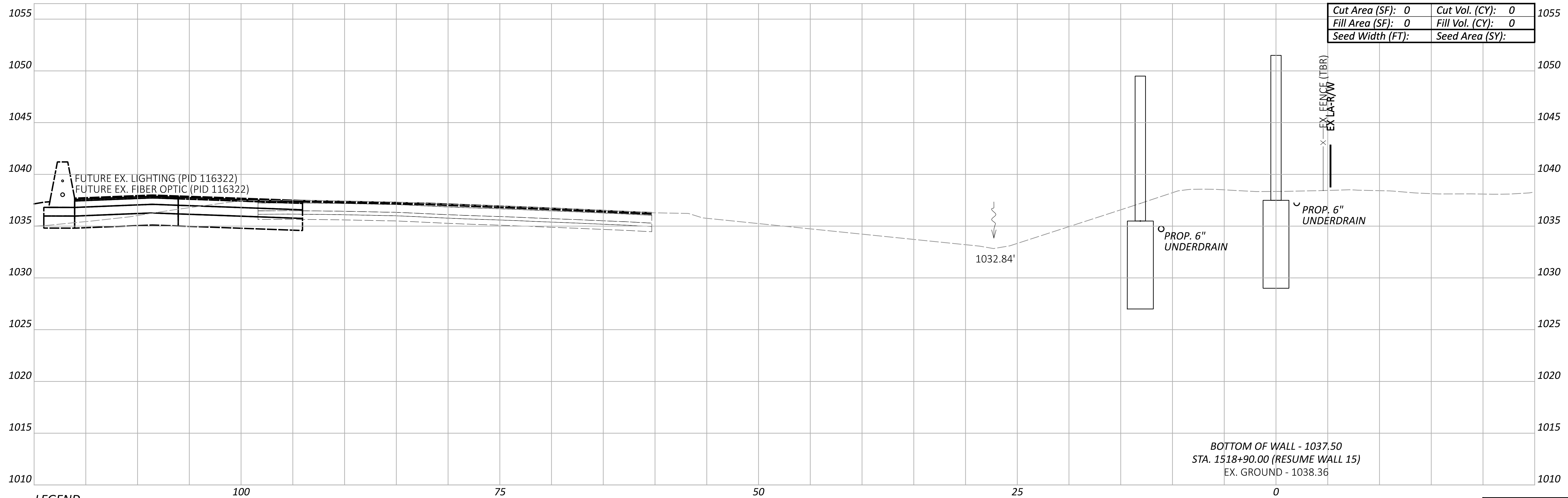
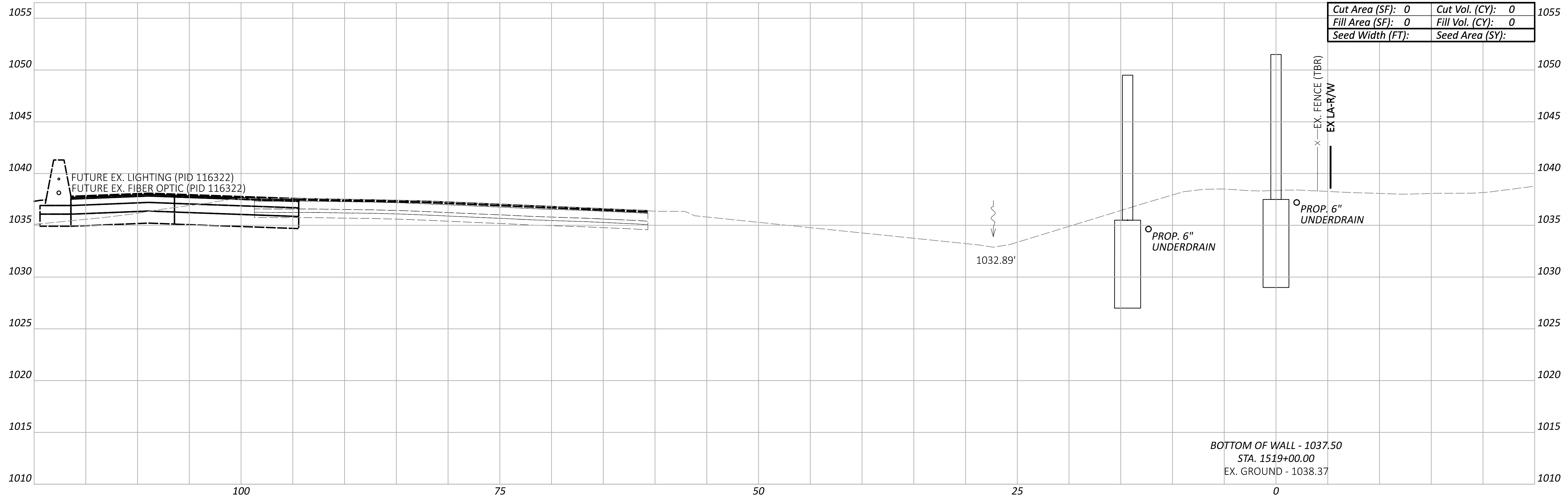
REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**



**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1518+90.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:46:54 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw\benitey.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS015.dgn



**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.209 P.295

**CROSS SECTIONS - WALL 15  
 STA. 1518+90.00 TO STA. 1519+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 200 SUITE 100  
 COLUMBIA, MD 21046  
 (410) 814-4900  
 www.arcadis.com

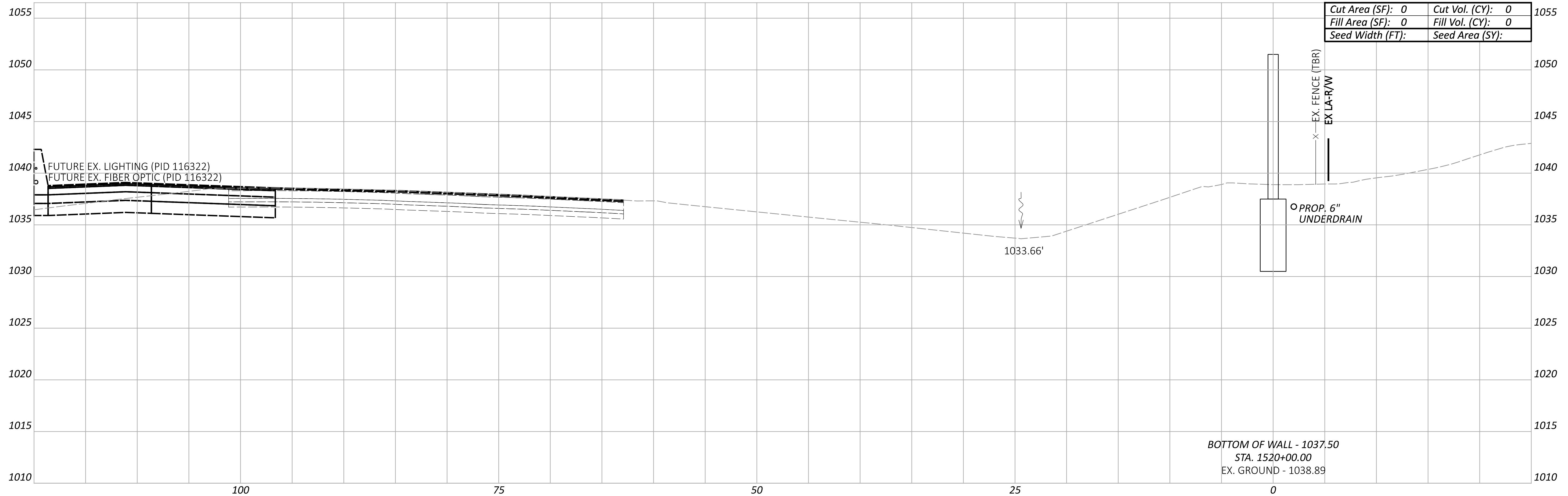
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

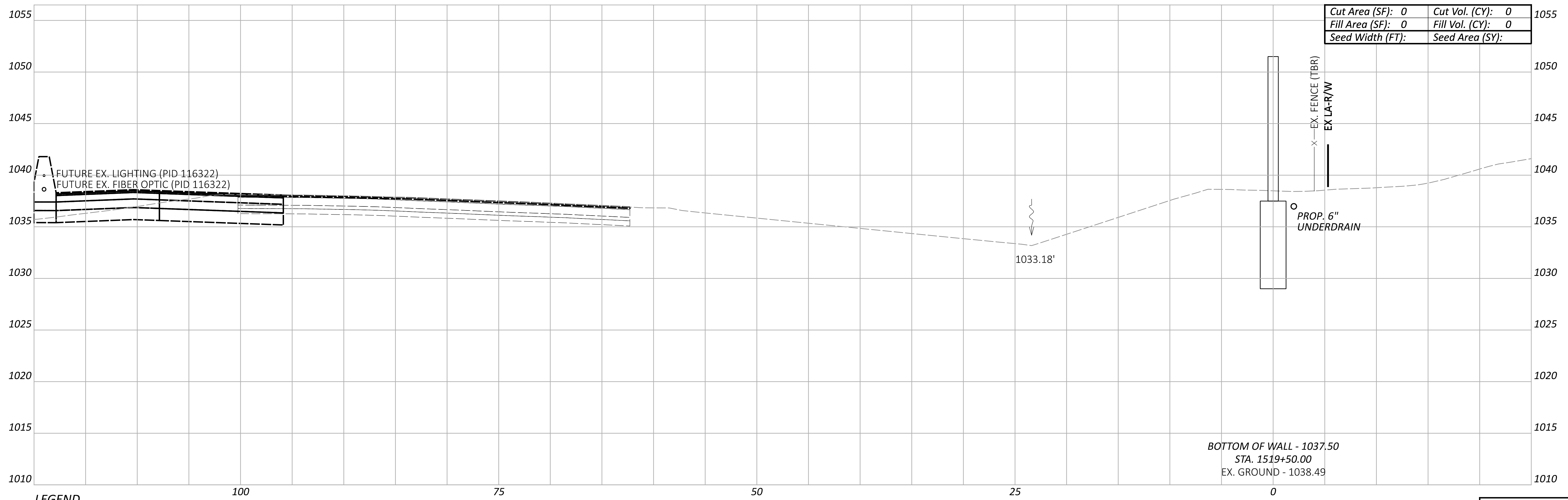
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1519+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:47:39 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw\benitey.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS015.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 1037.50  
 STA. 1520+00.00  
 EX. GROUND - 1038.89



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 1037.50  
 STA. 1519+50.00  
 EX. GROUND - 1038.49

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.210 P.295

**CROSS SECTIONS - WALL 15  
 STA. 1519+50.00 TO STA. 1520+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 200 SUITE 100  
 COLUMBIA, MO 65203  
 (616) 414-4900  
 www.arcadis.com

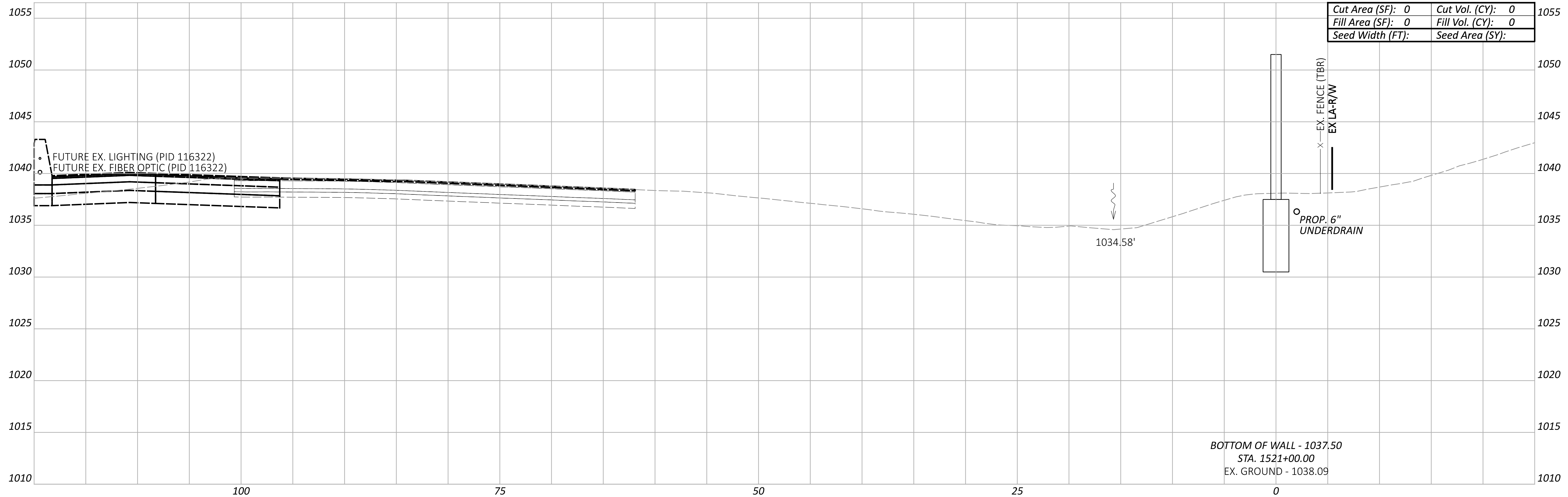
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

**FRA-161-15.80 NOISE WALLS**

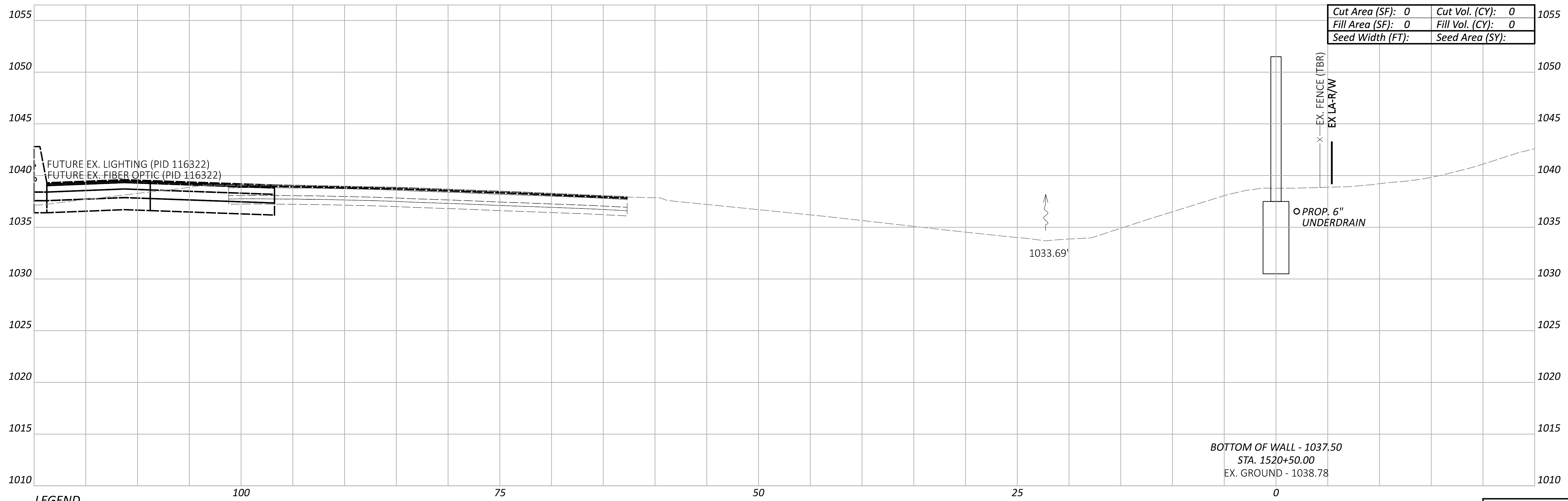
MODEL: BLP\_WALL15 - 1520+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:48:25 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS015.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 1037.50  
 STA. 1521+00.00  
 EX. GROUND - 1038.09

1034.58'



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 1037.50  
 STA. 1520+50.00  
 EX. GROUND - 1038.78

1033.69'

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.211 P.295

**CROSS SECTIONS - WALL 15  
 STA. 1520+50.00 TO STA. 1521+00.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIANA, OH 43085  
 (614) 819-4900  
 www.arcadis.com

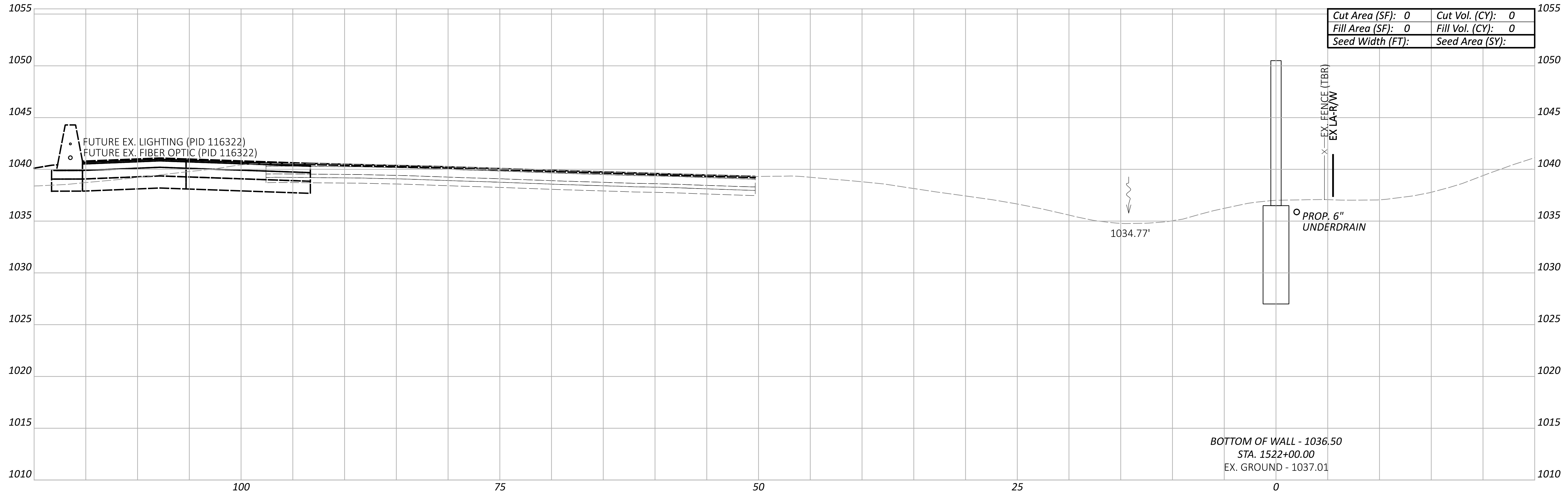
DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

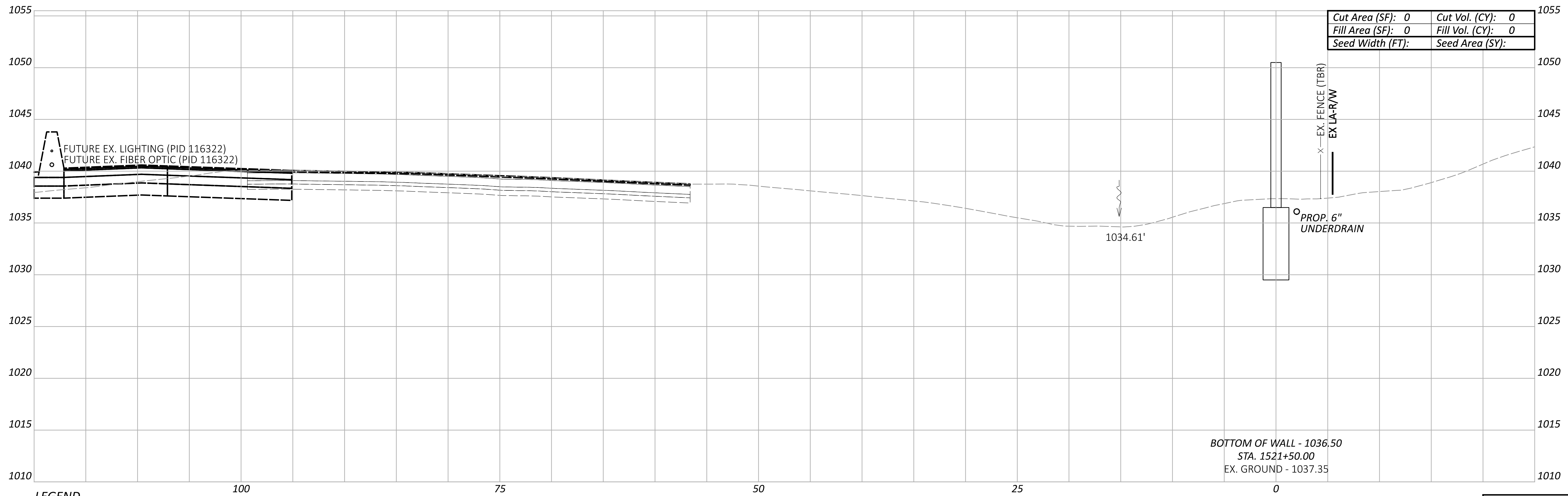
**FRA-161-15.80 NOISE WALLS**

MODEL: BLP\_WALL15 - 1521+50.00 [Sheet] PAPER SIZE: 34x22 (in.) DATE: 2024-03-22 TIME: 8:49:12 PM USER: jennifer.kelley  
 pw:\arcadis-us-pw.bentley.com\arcadis-us-01\Documents\01 Active Projects\143720\400\_CAD\400-Engineering\Roadway\Sheets\117607\_XS015.dgn



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 1036.50  
 STA. 1522+00.00  
 EX. GROUND - 1037.01



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

BOTTOM OF WALL - 1036.50  
 STA. 1521+50.00  
 EX. GROUND - 1037.35

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

**CROSS SECTIONS - WALL 15  
 STA. 1521+50.00 TO STA. 1522+00.00**

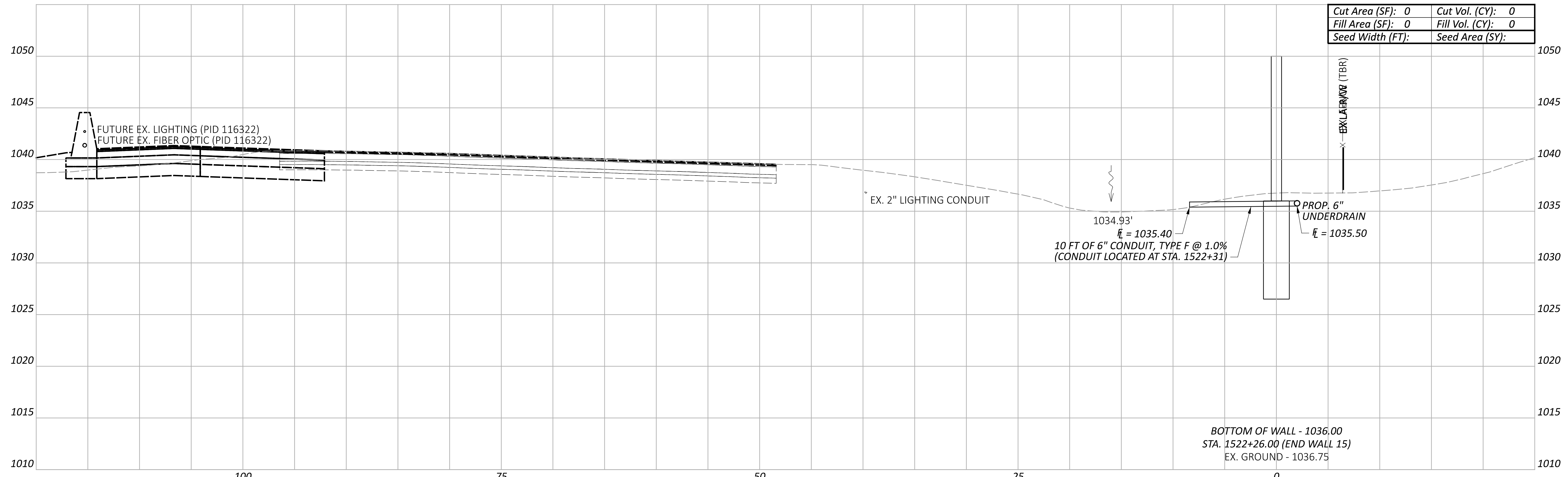
DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS SUITE 100  
 COLUMBIANA, OH 43082  
 (614) 819-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

Sheet Totals			117607	
Seeding	Cut	Fill	SHEET	TOTAL
0	0	0	P.212	P.295



Cut Area (SF):	0	Cut Vol. (CY):	0
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):		Seed Area (SY):	

**LEGEND**

- - - EXISTING SR-161 PRIOR TO PID 116322
- - - FUTURE EXISTING SR-161 AFTER CONSTRUCTION OF PID 116322

Sheet Totals			117607
Seeding	Cut	Fill	TOTAL
0	0	0	P.213 P.295

**CROSS SECTIONS - WALL 15**  
**STA. 1522+26.00**

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGGINS AVE SUITE 100  
 COLUMBIANA, OHIO 43085  
 (614) 810-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
**JDH 03-27-24**

PROJECT ID  
**117607**

NOISE WALL 3						
DRILLED SHAFT NO.	WORKPOINT STATION	DEFLECTION ANGLE	TOP OF DRILLED SHAFT ELEVATION	SHAFT LENGTH (FEET)	BOTTOM OF BARRIER ELEVATION	TOP OF BARRIER ELEVATION
1	300+00.00	0000'00" LT	965.18	7.00	965.50	979.50
2	300+24.00	0000'00" LT	965.18	7.00	965.50	979.50
3	300+48.00	0000'00" LT	965.18	7.00	965.50	980.50
4	300+72.00	0000'00" LT	966.18	7.00	966.50	980.50
5	300+96.00	0000'00" LT	966.18	7.00	966.50	980.50
6	301+20.00	0000'00" LT	966.18	8.00	966.50	981.00
7	301+44.00	0000'00" LT	966.68	8.00	967.00	981.00
8	301+68.00	0000'00" LT	966.68	8.00	967.00	981.00
9	301+92.00	02'51'26" LT	966.68	8.00	967.00	981.50
10	302+16.00	0000'00" LT	967.18	8.00	967.50	981.50
11	302+40.00	0000'00" LT	967.18	8.00	967.50	981.50
12	302+64.00	0000'00" LT	967.18	8.00	967.50	982.00
13	302+88.00	0000'00" LT	967.68	8.00	968.00	982.00
14	303+12.00	0000'00" LT	967.68	6.50	968.00	982.50
15	303+36.00	0000'00" LT	968.18	6.50	968.50	982.50
16	303+60.00	0000'00" LT	968.18	6.50	968.50	982.50
17	303+84.00	0000'00" LT	968.18	6.50	968.50	982.50
18	304+08.00	0000'00" LT	968.18	6.50	968.50	982.50
19	304+32.00	0000'00" LT	968.18	6.50	968.50	982.50
20	304+56.00	0000'00" LT	968.18	6.50	968.50	982.50
21	304+80.00	0000'00" LT	968.18	6.50	968.50	982.50
22	305+04.00	0000'00" LT	968.18	6.50	968.50	982.50
23	305+28.00	0000'00" LT	968.18	6.50	968.50	982.50
24	305+52.00	0000'00" LT	968.18	6.50	968.50	982.50
25	305+76.00	0000'00" LT	968.18	6.50	968.50	982.50

NOISE WALL 6						
DRILLED SHAFT NO.	WORKPOINT STATION	DEFLECTION ANGLE	TOP OF DRILLED SHAFT ELEVATION	SHAFT LENGTH (FEET)	BOTTOM OF BARRIER ELEVATION	TOP OF BARRIER ELEVATION
1	600+00.00	0000'00" LT	960.18	7.00	960.50	974.50
2	600+24.00	0000'00" LT	960.18	7.00	960.50	974.50
3	600+48.00	0000'00" LT	960.18	7.00	960.50	974.50
4	600+72.00	0000'00" LT	960.18	7.00	960.50	975.50
5	600+96.00	0000'00" LT	961.18	7.00	961.50	976.50
6	601+08.00	0000'00" LT	962.18	7.00	962.50	977.50
7	601+20.00	0000'00" LT	963.18	7.00	963.50	978.50
8	601+32.00	0000'00" LT	964.18	7.00	964.50	979.50
9	601+44.00	0000'00" LT	965.18	7.00	965.50	980.00
10	601+56.00	0000'00" LT	965.68	7.00	966.00	980.50
11	601+68.00	0000'00" LT	966.18	7.00	966.50	981.00
12	601+92.00	0000'00" LT	966.68	7.00	967.00	982.00
13	602+16.00	0000'00" LT	967.68	7.00	968.00	982.00
14	602+40.00	0000'00" LT	967.68	7.00	968.00	982.00
15	602+64.00	0000'00" LT	967.68	7.00	968.00	982.50
16	602+88.00	0000'00" LT	968.18	7.00	968.50	982.50
17	603+12.00	0000'00" LT	968.18	7.00	968.50	982.50
18	603+36.00	0000'00" LT	968.18	7.00	968.50	982.50
19	603+60.00	0000'00" LT	968.18	7.00	968.50	982.50
20	603+84.00	0000'00" LT	968.18	7.00	968.50	982.50
21	604+08.00	0000'00" LT	968.18	7.00	968.50	983.00
22	604+32.00	0000'00" LT	968.68	7.00	969.00	983.00
23	604+56.00	0000'00" LT	968.68	7.00	969.00	983.00
24	604+80.00	0000'00" LT	968.68	7.00	969.00	983.00
25	605+04.00	0000'00" LT	968.68	7.00	969.00	983.00
26	605+28.00	0000'00" LT	968.68	7.00	969.00	983.00

NOISE WALL 8													
DRILLED SHAFT NO.	WORKPOINT STATION	DEFLECTION ANGLE	TOP OF DRILLED SHAFT ELEVATION	SHAFT LENGTH (FEET)	BOTTOM OF BARRIER ELEVATION	TOP OF BARRIER ELEVATION	DRILLED SHAFT NO.	WORKPOINT STATION	DEFLECTION ANGLE	TOP OF DRILLED SHAFT ELEVATION	SHAFT LENGTH (FEET)	BOTTOM OF BARRIER ELEVATION	TOP OF BARRIER ELEVATION
1	800+00.00	00'00'00" LT	965.68	6.50	966.00	980.00	41	809+60.00	00'00'00" RT	967.68	6.50	968.00	982.50
2	800+24.00	00'00'00" LT	965.68	6.50	966.00	980.00	42	809+84.00	00'00'00" RT	968.18	6.50	968.50	982.50
3	800+48.00	00'00'00" LT	965.68	6.50	966.00	980.00	43	810+08.00	00'00'00" RT	968.18	6.50	968.50	983.00
4	800+72.00	00'00'00" LT	965.68	6.50	966.00	980.50	44	810+32.00	00'00'00" RT	968.68	6.50	969.00	983.50
5	800+96.00	00'00'00" LT	966.18	6.50	966.50	980.50	45	810+56.00	00'00'00" RT	969.18	6.50	969.50	984.00
6	801+20.00	00'00'00" LT	966.18	6.50	966.50	980.50	46	810+80.00	07'30'00" RT	969.68	6.50	970.00	984.00
7	801+44.00	00'00'00" LT	966.18	6.50	966.50	980.50	47	810+96.00	00'00'00" RT	969.68	6.50	970.00	984.50
8	801+68.00	00'00'00" LT	966.18	6.50	966.50	980.50	48	811+12.00	00'00'00" RT	970.18	6.50	970.50	985.00
9	801+92.00	00'00'00" LT	966.18	6.50	966.50	980.50	49	811+28.00	00'00'00" RT	970.68	6.50	971.00	985.00
10	802+16.00	00'00'00" LT	966.18	6.50	966.50	980.50	50	811+44.00	01'52'45" LT	970.68	6.50	971.00	985.50
11	802+40.00	00'00'00" LT	966.18	6.50	966.50	980.50	51	811+58.00	00'00'00" LT	971.18	6.50	971.50	986.00
12	802+64.00	05'46'53" LT	966.18	6.50	966.50	980.50	52	811+72.00	07'26'48" LT	971.68	7.00	972.00	986.50
13	802+88.00	00'00'00" LT	966.18	6.50	966.50	980.50	53	811+96.00	00'00'00" LT	972.18	7.00	972.50	987.00
14	803+12.00	00'00'00" LT	966.18	6.50	966.50	980.50	54	812+20.00	00'00'00" LT	972.68	7.00	973.00	988.00
15	803+36.00	00'00'00" LT	966.18	6.50	966.50	980.50	55	812+44.00	00'00'00" LT	973.68	7.00	974.00	989.00
16	803+60.00	00'00'00" LT	966.18	6.50	966.50	980.50	56	812+68.00	00'00'00" LT	974.68	7.00	975.00	989.00
17	803+84.00	00'00'00" LT	965.68	6.50	966.00	980.50	57	812+92.00	00'00'00" LT	974.68	7.00	975.00	989.00
18	804+08.00	00'00'00" LT	965.68	6.50	966.00	980.00	58	813+16.00	00'00'00" LT	974.68	7.00	975.00	989.00
19	804+32.00	00'00'00" LT	965.18	6.50	965.50	980.00	59	813+40.00	00'00'00" LT	974.68	7.00	975.00	989.00
20	804+56.00	00'00'00" LT	965.18	6.50	965.50	979.50	60	813+64.00	00'00'00" LT	974.68	7.00	975.00	989.00
21	804+80.00	00'00'00" LT	965.18	6.50	965.50	979.50	61	813+88.00	00'00'00" LT	974.18	6.50	974.50	989.00
22	805+04.00	00'00'00" LT	965.18	6.50	965.50	979.50	62	814+12.00	00'00'00" LT	974.18	6.50	974.50	988.50
23	805+28.00	00'00'00" LT	965.18	6.50	965.50	979.50	63	814+36.00	00'00'00" LT	973.68	6.50	974.00	988.50
24	805+52.00	00'00'00" LT	965.18	6.50	965.50	979.50	64	814+60.00	00'11'01" LT	973.68	6.50	974.00	988.00
25	805+76.00	00'00'00" LT	965.18	6.50	965.50	979.50	65	814+84.00	00'00'00" LT	973.68	6.50	974.00	988.00
26	806+00.00	00'00'00" LT	965.18	6.50	965.50	979.50	66	815+08.00	00'00'00" LT	973.68	6.50	974.00	988.00
27	806+24.00	00'00'00" LT	965.18	6.50	965.50	979.50	67	815+32.00	00'00'00" LT	973.68	6.50	974.00	988.00
28	806+48.00	00'00'00" LT	965.18	6.50	965.50	979.50	68	815+56.00	00'00'00" LT	973.68	6.50	974.00	988.00
29	806+72.00	05'54'06" RT	965.18	6.50	965.50	979.50	69	815+80.00	00'00'00" LT	973.68	6.50	974.00	988.00
30	806+96.00	00'00'00" RT	965.18	6.50	965.50	980.00	70	816+04.00	00'00'00" LT	973.18	6.50	973.50	988.00
31	807+20.00	00'00'00" RT	965.68	6.50	966.00	980.50	71	816+28.00	00'00'00" LT	973.18	6.50	973.50	987.50
32	807+44.00	00'00'00" RT	966.18	6.50	966.50	980.50	72	816+52.00	00'00'00" LT	973.18	6.50	973.50	987.50
33	807+68.00	00'00'00" RT	966.18	6.50	966.50	981.00	73	816+76.00	00'00'00" LT	973.18	6.50	973.50	987.50
34	807+92.00	00'00'00" RT	966.68	6.50	967.00	981.00	74	817+00.00	00'00'00" LT	973.18	6.50	973.50	987.50
35	808+16.00	00'00'00" RT	966.68	6.50	967.00	981.00	75	817+24.00	00'00'00" LT	973.18	6.50	973.50	987.50
36	808+40.00	00'00'00" RT	966.68	6.50	967.00	981.50	76	817+48.00	00'00'00" LT	973.18	6.50	973.50	987.50
37	808+64.00	00'00'00" RT	967.18	6.50	967.50	981.50	77	817+72.00	00'00'00" LT	973.18	6.50	973.50	987.50
38	808+88.00	00'00'00" RT	967.18	6.50	967.50	981.50	78	817+96.00	00'00'00" LT	973.18	6.50	973.50	987.50
39	809+12.00	00'00'00" RT	967.18	6.50	967.50	981.50	79	818+08.00	00'00'00" LT	973.18	6.50	973.50	987.50
40	809+36.00	00'00'00" RT	967.18	6.50	967.50	982.00							

NOTES:  
 1.) FOR POST TYPE SPECIFICATIONS, SEE SHEETS P.218 - P.221  
 2.) VALUES LISTED FOR BOTTOM OF BARRIER ELEVATION AND TOP OF BARRIER ELEVATION CORRESPOND WITH THE BOTTOMMOST AND TOPMOST PANEL AT EACH DRILLED SHAFT LOCATION.

DESIGN AGENCY  
**ARCADIS**  
 8101 NORTH HIGHWAY 130 SUITE 100  
 COLLEGE PARK, MD 20740  
 (301) 491-4900  
 www.arcadis.com

DESIGNER  
**JMK**

REVIEWER  
 JDH 03-27-24

PROJECT ID  
**117607**

SHEET TOTAL  
 P.214 P.295

NOISE WALL 9						
DRILLED SHAFT NO.	WORKPOINT STATION	DEFLECTION ANGLE	TOP OF DRILLED SHAFT ELEVATION	SHAFT LENGTH (FEET)	BOTTOM OF BARRIER ELEVATION	TOP OF BARRIER ELEVATION
1	900+00.00	0000'00" RT	973.18	7.00	973.50	987.50
2	900+16.00	0000'00" RT	973.18	7.00	973.50	987.50
3	900+40.00	0000'00" RT	973.18	7.00	973.50	987.50
4	900+64.00	0000'00" RT	973.18	7.00	973.50	988.00
5	900+88.00	0000'00" RT	973.68	7.00	974.00	988.00
6	901+12.00	0000'00" RT	973.68	7.00	974.00	988.00
7	901+36.00	0000'00" RT	973.68	7.00	974.00	988.00
8	901+52.00	0000'00" RT	973.68	7.00	974.00	988.00
9	901+68.00	0000'00" RT	973.68	7.00	974.00	988.50
10	901+84.00	0000'00" RT	974.18	7.00	974.50	988.50
11	902+08.00	0000'00" RT	974.18	7.00	974.50	988.50
12	902+32.00	0000'00" RT	974.18	7.00	974.50	988.50
13	902+56.00	02'23'44" RT	974.18	7.00	974.50	989.00
14	902+80.00	0000'00" RT	974.68	7.00	975.00	989.50
15	903+04.00	0000'00" RT	975.18	7.00	975.50	990.00
16	903+28.00	0000'00" RT	975.68	7.00	976.00	990.00
17	903+52.00	0000'00" RT	975.68	7.00	976.00	990.00
18	903+76.00	0000'00" RT	975.68	7.00	976.00	990.00
19	904+00.00	0000'00" RT	975.68	7.00	976.00	990.50
20	904+24.00	0000'00" RT	976.18	7.00	976.50	990.50
21	904+48.00	0000'00" RT	976.18	7.00	976.50	991.00
22	904+72.00	0000'00" RT	976.68	7.00	977.00	991.00
23	904+96.00	0000'00" RT	976.68	7.00	977.00	991.50
24	905+20.00	0000'00" RT	977.18	7.00	977.50	991.50
25	905+44.00	0000'00" RT	977.18	7.00	977.50	992.00
26	905+68.00	0000'00" RT	977.68	7.00	978.00	992.50
27	905+92.00	04'48'10" RT	978.18	7.00	978.50	992.50
28	906+16.00	0000'00" RT	978.18	7.00	978.50	992.50
29	906+40.00	0000'00" RT	978.18	7.00	978.50	992.50
30	906+64.00	0000'00" RT	978.18	7.00	978.50	993.00
31	906+88.00	0000'00" RT	978.68	7.00	979.00	993.50
32	907+12.00	0000'00" RT	979.18	7.00	979.50	993.50
33	907+36.00	0000'00" RT	979.18	7.00	979.50	994.00
34	907+60.00	0000'00" RT	979.68	7.00	980.00	994.50
35	907+84.00	0000'00" RT	980.18	7.00	980.50	994.50
36	908+08.00	0000'00" RT	980.18	7.00	980.50	994.50
37	908+32.00	0000'00" RT	980.18	7.00	980.50	995.00
38	908+56.00	0000'00" RT	980.68	7.00	981.00	995.00
39	908+80.00	0000'00" RT	980.68	7.00	981.00	995.50
40	909+04.00	0000'00" RT	981.18	7.00	981.50	995.50
41	909+28.00	05'00'48" RT	981.18	7.00	981.50	995.50
42	909+52.00	0000'00" RT	981.18	7.00	981.50	996.00
43	909+76.00	0000'00" RT	981.68	7.00	982.00	996.00
44	910+00.00	0000'00" RT	981.68	7.00	982.00	996.00
45	910+24.00	0000'00" RT	981.68	7.00	982.00	996.50
46	910+48.00	0000'00" RT	982.18	7.00	982.50	997.00
47	910+72.00	0000'00" RT	982.68	7.00	983.00	997.00
48	910+96.00	0000'00" RT	982.68	7.00	983.00	997.50
49	911+20.00	0000'00" RT	983.18	7.00	983.50	997.50
50	911+44.00	0000'00" RT	983.18	7.00	983.50	997.50
51	911+68.00	0000'00" RT	983.18	7.00	983.50	998.00
52	911+85.00	0000'00" RT	983.68	7.00	984.00	998.00
53	912+02.00	0000'00" RT	983.68	7.00	984.00	998.00
54	912+19.00	0000'00" RT	982.68	7.00	983.00	998.00
55	912+36.00	0000'00" RT	981.68	7.00	982.00	997.00
56	912+53.00	0000'00" RT	980.68	7.00	981.00	996.00
57	912+70.00	0000'00" RT	980.68	7.00	981.00	995.00

NOISE WALL 11													
DRILLED SHAFT NO.	WORKPOINT STATION	DEFLECTION ANGLE	TOP OF DRILLED SHAFT ELEVATION	SHAFT LENGTH (FEET)	BOTTOM OF BARRIER ELEVATION	TOP OF BARRIER ELEVATION	DRILLED SHAFT NO.	WORKPOINT STATION	DEFLECTION ANGLE	TOP OF DRILLED SHAFT ELEVATION	SHAFT LENGTH (FEET)	BOTTOM OF BARRIER ELEVATION	TOP OF BARRIER ELEVATION
1	1100+00.00	00'00'00" RT	974.68	6.50	975.00	989.00	35	1108+16.00	00'00'00" RT	979.18	7.00	979.50	993.50
2	1100+24.00	00'00'00" RT	974.68	6.50	975.00	989.50	36	1108+40.00	00'00'00" RT	979.18	7.00	979.50	994.00
3	1100+48.00	00'00'00" RT	975.18	6.50	975.50	990.00	37	1108+64.00	00'00'00" RT	979.68	7.00	980.00	994.00
4	1100+72.00	00'00'00" RT	975.68	6.50	976.00	990.00	38	1108+88.00	00'00'00" RT	979.68	7.00	980.00	994.50
5	1100+96.00	00'00'00" RT	975.68	6.50	976.00	990.00	39	1109+12.00	00'00'00" RT	980.18	6.50	980.50	995.00
6	1101+20.00	00'00'00" RT	975.68	7.00	976.00	990.00	40	1109+36.00	00'00'00" RT	980.68	6.50	981.00	995.00
7	1101+44.00	00'00'00" RT	975.68	7.00	976.00	990.50	41	1109+60.00	00'00'00" RT	980.68	6.50	981.00	995.00
8	1101+68.00	00'00'00" RT	976.18	7.00	976.50	990.50	42	1109+84.00	00'00'00" RT	980.68	6.50	981.00	995.00
9	1101+92.00	00'00'00" RT	976.18	7.00	976.50	990.50	43	1110+08.00	00'00'00" RT	980.68	6.50	981.00	995.00
10	1102+16.00	00'00'00" RT	976.18	7.00	976.50	990.50	44	1110+32.00	03'30'30" RT	980.68	6.50	981.00	995.00
11	1102+40.00	00'00'00" RT	976.18	7.00	976.50	990.50	45	1110+56.00	00'00'00" RT	980.68	6.50	981.00	995.50
12	1102+64.00	00'00'00" RT	976.18	7.00	976.50	990.50	46	1110+80.00	00'00'00" RT	981.18	6.50	981.50	995.50
13	1102+88.00	00'00'00" RT	976.18	7.00	976.50	991.00	47	1111+04.00	00'00'00" RT	981.18	6.50	981.50	995.50
14	1103+12.00	00'00'00" RT	976.68	6.50	977.00	991.50	48	1111+28.00	00'00'00" RT	981.18	6.50	981.50	995.50
15	1103+36.00	00'00'00" RT	977.18	6.50	977.50	992.00	49	1111+52.00	00'00'00" RT	981.18	6.50	981.50	995.50
16	1103+60.00	00'00'00" RT	977.68	6.50	978.00	992.50	50	1111+76.00	00'00'00" RT	981.18	6.50	981.50	996.00
17	1103+84.00	00'00'00" RT	978.18	6.50	978.50	993.00	51	1112+00.00	00'00'00" RT	981.68	6.50	982.00	996.00
18	1104+08.00	00'00'00" RT	978.68	6.50	979.00	993.50	52	1112+24.00	00'00'00" RT	981.68	6.50	982.00	996.00
19	1104+32.00	00'00'00" RT	979.18	6.50	979.50	993.50	53	1112+48.00	00'00'00" RT	981.68	6.50	982.00	996.00
20	1104+56.00	00'00'00" RT	979.18	6.50	979.50	993.50	54	1112+72.00	00'00'00" RT	981.68	6.50	982.00	996.00
21	1104+80.00	00'00'00" RT	979.18	6.50	979.50	993.50	55	1112+96.00	00'00'00" RT	981.68	6.50	982.00	996.00
22	1105+04.00	00'00'00" RT	979.18	6.50	979.50	993.50	56	1113+20.00	00'00'00" RT	981.68	6.50	982.00	996.00
23	1105+28.00	00'00'00" RT	979.18	6.50	979.50	994.00	57	1113+44.00	00'00'00" RT	981.68	6.50	982.00	996.00
24	1105+52.00	00'00'00" RT	979.68	6.50	980.00	994.00	58	1113+68.00	00'00'00" RT	981.68	6.50	982.00	996.50
25	1105+76.00	00'00'00" RT	979.68	6.50	980.00	994.00	59	1113+92.00	06'13'00" RT	982.18	6.50	982.50	996.50
26	1106+00.00	00'00'00" RT	979.68	6.50	980.00	994.00	60	1114+16.00	00'00'00" RT	982.18	6.50	982.50	996.50
27	1106+24.00	00'00'00" RT	979.68	6.50	980.00	994.00	61	1114+40.00	00'00'00" RT	982.18	6.50	982.50	996.50
28	1106+48.00	00'00'00" RT	979.68	6.50	980.00	994.00	62	1114+64.00	00'00'00" RT	982.18	6.50	982.50	996.50
29	1106+72.00	00'00'00" RT	979.68	6.50	980.00	994.00	63	1114+88.00	00'00'00" RT	982.18	6.50	982.50	996.50
30	1106+96.00	00'00'00" RT	979.68	6.50	980.00	994.00	64	1115+12.00	00'00'00" RT	982.18	6.50	982.50	996.50
31	1107+20.00	00'00'00" RT	979.68	7.00	980.00	994.00	65	1115+36.00	00'00'00" RT	982.18	6.50	982.50	996.50
32	1107+44.00	00'00'00" RT	979.18	7.00	979.50	994.00	66	1115+60.00	00'00'00" RT	982.18	6.50	982.50	996.50
33	1107+68.00	00'00'00" RT	979.18	7.00	979.50	993.50							
34	1107+92.00	06'02'50" RT	979.18	7.00	979.50	993.50							

NOISE WALL 12													
DRILLED SHAFT NO.	WORKPOINT STATION	DEFLECTION ANGLE	TOP OF DRILLED SHAFT ELEVATION	SHAFT LENGTH (FEET)	BOTTOM OF BARRIER ELEVATION	TOP OF BARRIER ELEVATION	DRILLED SHAFT NO.	WORKPOINT STATION	DEFLECTION ANGLE	TOP OF DRILLED SHAFT ELEVATION	SHAFT LENGTH (FEET)	BOTTOM OF BARRIER ELEVATION	TOP OF BARRIER ELEVATION
1	120+00.00	00'00'00" RT	981.18	7.00	981.50	995.50	17	123+36.00	00'00'00" RT	985.68	7.00	986.00	1000.50
2	120+12.00	00'00'00" RT	981.18	7.00	981.50	996.00	18	123+60.00	00'00'00" RT	986.18	7.00	986.50	1000.50
3	120+24.00	02'23'37" RT	981.68	7.00	982.00	996.50	19	123+84.00	06'56'28" RT	986.18	7.00	986.50	1000.50
4	120+36.00	00'00'00" RT	982.18	7.00	982.50	997.00	20	123+92.00	00'00'00" RT	986.18	7.00	986.50	1000.50
5	120+60.00	00'00'00" RT	982.68	7.00	983.00	997.50	21	124+16.00	00'00'00" RT	986.18	7.00	986.50	1000.50
6	120+72.00	00'00'00" RT	983.18	7.00	983.50	998.00	22	124+35.00	00'00'00" RT	986.18	8.50	986.50	1000.50
7	120+96.00	00'00'00" RT	983.68	7.00	984.00	998.50	23	124+54.00	00'00'00" RT	986.18	8.50	986.50	1000.50
8	121+20.00	00'00'00" RT	984.18	7.00	984.50	999.00	24	124+73.00	00'00'00" RT	986.18	8.50	986.50	1000.50
9	121+44.00	04'47'34" RT	985.18	7.00	985.50	999.50	25	124+97.00	06'54'32" RT	986.18			

NOISE WALL 15													
DRILLED SHAFT NO.	WORKPOINT STATION	DEFLECTION ANGLE	TOP OF DRILLED SHAFT ELEVATION	SHAFT LENGTH (FEET)	BOTTOM OF BARRIER ELEVATION	TOP OF BARRIER ELEVATION	DRILLED SHAFT NO.	WORKPOINT STATION	DEFLECTION ANGLE	TOP OF DRILLED SHAFT ELEVATION	SHAFT LENGTH (FEET)	BOTTOM OF BARRIER ELEVATION	TOP OF BARRIER ELEVATION
1	1500+00.00	00'00'00" RT	1028.68	7.00	1029.00	1043.00	45	1511+71.00	00'00'00" RT	1036.18	7.00	1036.50	1051.00
2	1500+24.00	00'00'00" RT	1028.68	7.00	1029.00	1043.50	46	1511+95.00	00'00'00" RT	1036.18	7.00	1036.50	1050.50
3	1500+48.00	00'00'00" RT	1029.18	7.00	1029.50	1044.00	47	1512+19.00	00'00'00" RT	1036.18	7.00	1036.50	1050.50
4	1500+72.00	00'00'00" RT	1029.68	7.00	1030.00	1044.50	48	1512+43.00	00'00'00" RT	1036.18	7.00	1036.50	1050.50
5	1500+96.00	00'00'00" RT	1030.18	7.00	1030.50	1045.00	49	1512+67.00	00'00'00" RT	1036.18	7.00	1036.50	1050.50
6	1501+11.00	00'00'00" RT	1030.68	7.00	1031.00	1046.00	50	1512+91.00	00'00'00" RT	1036.18	7.00	1036.50	1050.50
7	1501+26.00	00'00'00" RT	1031.68	7.00	1032.00	1046.00	51	1513+15.00	00'00'00" RT	1036.18	6.50	1036.50	1050.50
8	1501+50.00	00'00'00" RT	1031.68	7.00	1032.00	1046.50	52	1513+39.00	00'00'00" RT	1036.18	6.50	1036.50	1050.50
9	1501+65.00	00'00'00" RT	1032.18	7.00	1032.50	1046.50	53	1513+63.00	00'00'00" RT	1036.18	6.50	1036.50	1050.50
10	1501+80.00	00'00'00" RT	1032.18	7.00	1032.50	1047.00	54	1513+87.00	00'00'00" RT	1036.18	6.50	1036.50	1050.50
11	1502+00.00	00'00'00" RT	1032.68	7.00	1033.00	1048.00	55	1514+11.00	00'00'00" RT	1036.18	6.50	1036.50	1050.50
12	1502+16.00	00'00'00" RT	1033.68	7.00	1034.00	1048.50	56	1514+35.00	00'38'16" RT	1036.18	6.50	1036.50	1050.50
13	1502+40.00	00'00'00" RT	1034.18	7.00	1034.50	1048.50	57	1514+59.00	00'00'00" RT	1036.18	6.50	1036.50	1050.50
SUSPEND NOISE WALL 15													
14	1504+27.00	00'00'00" RT	1037.68	7.00	1038.00	1052.00	58	1514+83.00	00'00'00" RT	1036.18	6.50	1036.50	1050.50
15	1504+51.00	00'00'00" RT	1037.68	7.00	1038.00	1052.00	59	1515+07.00	00'00'00" RT	1036.18	6.50	1036.50	1050.50
16	1504+75.00	00'00'00" RT	1037.68	7.00	1038.00	1052.00	60	1515+31.00	00'00'00" RT	1036.18	6.50	1036.50	1050.50
17	1504+99.00	00'00'00" RT	1037.68	7.00	1038.00	1052.00	61	1515+55.00	00'00'00" RT	1036.18	6.50	1036.50	1051.00
18	1505+23.00	00'00'00" RT	1037.68	7.00	1038.00	1052.00	62	1515+79.00	00'00'00" RT	1036.68	6.50	1037.00	1051.00
19	1505+47.00	00'00'00" RT	1037.68	7.00	1038.00	1052.00	63	1516+03.00	00'00'00" RT	1036.68	6.50	1037.00	1051.00
20	1505+71.00	00'00'00" RT	1037.68	7.00	1038.00	1052.00	64	1516+27.00	00'00'00" RT	1036.68	6.50	1037.00	1051.50
21	1505+95.00	00'00'00" RT	1037.68	7.00	1038.00	1052.00	65	1516+51.00	00'00'00" RT	1037.18	6.50	1037.50	1051.50
22	1506+19.00	00'00'00" RT	1037.68	7.00	1038.00	1052.00	66	1516+75.00	00'00'00" RT	1037.18	6.50	1037.50	1052.00
23	1506+43.00	00'00'00" RT	1037.68	7.00	1038.00	1052.50	67	1516+99.00	00'00'00" RT	1037.68	6.50	1038.00	1052.00
24	1506+67.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	68	1517+23.00	00'00'00" RT	1037.68	8.50	1038.00	1052.00
25	1506+91.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	69	1517+47.00	00'00'00" RT	1037.18	8.50	1037.50	1052.00
26	1507+15.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	70	1517+71.00	00'00'00" RT	1036.18	8.50	1036.50	1051.50
27	1507+39.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	71	1517+95.00	00'00'00" RT	1035.18	8.50	1035.50	1050.50
28	1507+63.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	72	1518+19.00	00'00'00" RT	1034.18	8.50	1034.50	1049.50
29	1507+87.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	73	1518+43.00	00'00'00" RT	1034.18	8.50	1034.50	1048.50
SUSPEND NOISE WALL 15													
30	1508+11.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	74	1518+90.00	00'00'00" RT	1037.18	8.50	1037.50	1051.50
31	1508+35.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	75	1519+14.00	00'00'00" RT	1037.18	8.50	1037.50	1051.50
32	1508+59.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	76	1519+38.00	00'00'00" RT	1037.18	8.50	1037.50	1051.50
33	1508+83.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	77	1519+62.00	00'00'00" RT	1037.18	8.50	1037.50	1051.50
34	1509+07.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	78	1519+86.00	00'00'00" RT	1037.18	7.00	1037.50	1051.50
35	1509+31.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	79	1520+10.00	00'00'00" RT	1037.18	7.00	1037.50	1051.50
36	1509+55.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	80	1520+34.00	00'00'00" RT	1037.18	7.00	1037.50	1051.50
37	1509+79.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	81	1520+58.00	00'00'00" RT	1037.18	7.00	1037.50	1051.50
38	1510+03.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	82	1520+82.00	00'00'00" RT	1037.18	7.00	1037.50	1051.50
39	1510+27.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	83	1521+06.00	00'00'00" RT	1036.68	7.00	1037.00	1051.50
40	1510+51.00	00'00'00" RT	1038.18	7.00	1038.50	1052.50	84	1521+30.00	00'00'00" RT	1036.18	7.00	1036.50	1051.00
41	1510+75.00	00'00'00" RT	1037.18	7.00	1037.50	1052.50	85	1521+54.00	00'00'00" RT	1036.18	9.50	1036.50	1050.50
42	1510+99.00	00'00'00" RT	1037.18	7.00	1037.50	1051.50	86	1521+78.00	00'00'00" RT	1036.18	9.50	1036.50	1050.50
43	1511+23.00	00'00'00" RT	1036.68	7.00	1037.00	1051.50	87	1522+02.00	00'00'00" RT	1035.68	9.50	1036.00	1050.50
44	1511+47.00	00'00'00" RT	1036.68	7.00	1037.00	1051.00	88	1522+26.00	00'00'00" RT	1035.68	9.50	1036.00	1050.00

NOTES:  
 1.) FOR POST TYPE SPECIFICATIONS, SEE SHEETS P.218 - P.221

2.) VALUES LISTED FOR BOTTOM OF BARRIER ELEVATION AND TOP OF BARRIER ELEVATION CORRESPOND WITH THE BOTTOMMOST AND TOPMOST PANEL AT EACH DRILLED SHAFT LOCATION.

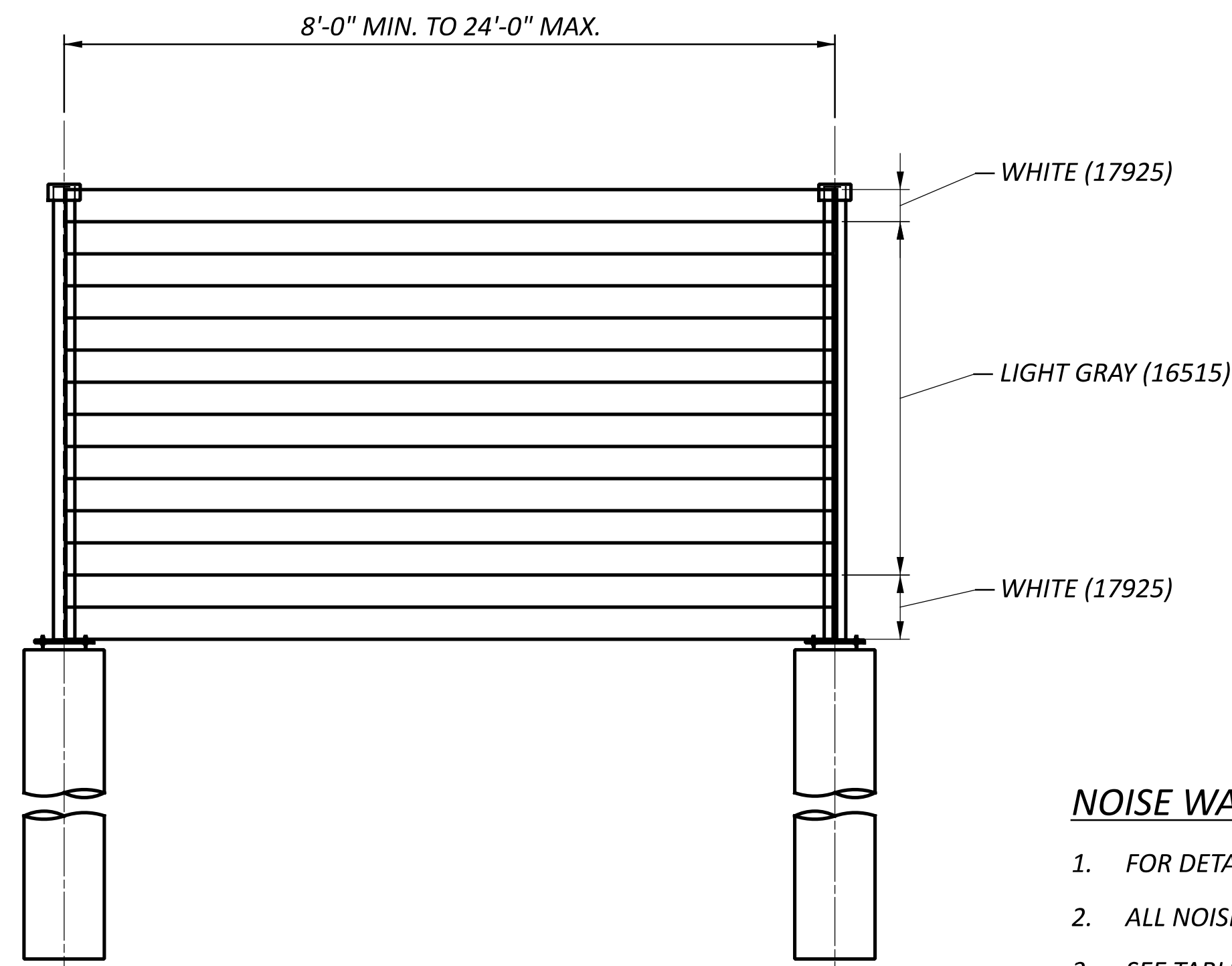


**PANEL MATERIAL AND ARCHITECTURAL SURFACE TREATMENT**

NOISE BARRIER	PANEL MATERIAL	RESIDENTIAL SIDE TREATMENT		ROADWAY SIDE TREATMENT	
		COLOR	TEXTURE	COLOR	TEXTURE
		FEDERAL COLOR NUMBER	FORMLINER ID	FEDERAL COLOR NUMBER	FORMLINER ID
WALL 3	FIBERGLASS	POST COVERS: LIGHT GRAY (16515) PANELS: LIGHT GRAY (16515)	N/A	POST COVERS: WHITE (17925) TOP PANEL OF EACH BAY: WHITE (17925) BOTTOM TWO PANELS OF EACH BAY: WHITE (17925) ALL OTHER PANELS*: LIGHT GRAY (16515)	N/A
WALL 6	FIBERGLASS	POST COVERS: LIGHT GRAY (16515) PANELS: LIGHT GRAY (16515)	N/A	POST COVERS: WHITE (17925) TOP PANEL OF EACH BAY: WHITE (17925) BOTTOM TWO PANELS OF EACH BAY: WHITE (17925) ALL OTHER PANELS*: LIGHT GRAY (16515)	N/A
WALL 8	FIBERGLASS	POST COVERS: LIGHT GRAY (16515) PANELS: LIGHT GRAY (16515)	N/A	POST COVERS: WHITE (17925) TOP PANEL OF EACH BAY: WHITE (17925) BOTTOM TWO PANELS OF EACH BAY: WHITE (17925) ALL OTHER PANELS*: LIGHT GRAY (16515)	N/A
WALL 9	FIBERGLASS	POST COVERS: LIGHT GRAY (16515) PANELS: LIGHT GRAY (16515)	N/A	POST COVERS: WHITE (17925) TOP PANEL OF EACH BAY: WHITE (17925) BOTTOM TWO PANELS OF EACH BAY: WHITE (17925) ALL OTHER PANELS*: LIGHT GRAY (16515)	N/A
WALL 11	FIBERGLASS	POST COVERS: LIGHT GRAY (16515) PANELS: LIGHT GRAY (16515)	N/A	POST COVERS: WHITE (17925) TOP PANEL OF EACH BAY: WHITE (17925) BOTTOM TWO PANELS OF EACH BAY: WHITE (17925) ALL OTHER PANELS*: LIGHT GRAY (16515)	N/A
WALL 15	FIBERGLASS	POST COVERS: LIGHT GRAY (16515) PANELS: LIGHT GRAY (16515)	N/A	POST COVERS: WHITE (17925) TOP PANEL OF EACH BAY: WHITE (17925) BOTTOM TWO PANELS OF EACH BAY: WHITE (17925) ALL OTHER PANELS*: LIGHT GRAY (16515)	N/A

\* INCLUDES ALL PANELS BETWEEN THE TOP PANEL AND THE BOTTOM TWO PANELS

**AESTHETIC SURFACE TREATMENT:**  
 THE SURFACE OF ALL NOISE PANELS SHALL HAVE A PATTERN SPECIFIED BY THE CHART ABOVE. PATTERN RELIEF SHALL BE A MINIMUM OF 1". THE COLOR SHALL BE AS SPECIFIED BY THE CHART ABOVE, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.



**NOISE WALL DETAIL**  
(ROADWAY SIDE)

**NOISE WALL PANEL NOTES:**

1. FOR DETAILS NOT SHOWN SEE STD. DWG. NBS-1-09
2. ALL NOISE WALL PANELS SHALL BE REFLECTIVE.
3. SEE TABLE ABOVE FOR ARCHITECTURAL SURFACE TREATMENTS.

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

JDH 03-27-24

PROJECT ID

117607

SHEET TOTAL

P.217 | P.295

**ITEM SPECIAL - NOISE BARRIERS**

**GENERAL NOTES:**

**DESCRIPTION:**

THIS WORK CONSISTS OF PREPARING ANY NECESSARY SHOP DRAWINGS, AND MANUFACTURING, TESTING, TRANSPORTING, STORING, AND INSTALLING NOISE BARRIERS; FURNISHING AND INSTALLING DRILLED SHAFTS; EXCAVATING AND BACKFILLING; AND RESTORING THE WORK AREA IN ACCORDANCE WITH THESE PROVISIONS AND IN CONFORMITY WITH THE DIMENSIONS, LINES AND GRADES SHOWN ON THE PROJECT PLANS. ALL APPLICABLE REQUIREMENTS OF THE STANDARD BRIDGE DRAWING NBS-1-09 SHALL BE MET UNLESS DIRECTED OTHERWISE BY THIS PLAN SET.

**STANDARD DRAWINGS:**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:  
 NBS-1-09 REVISED 01-15-21

**DESIGN SPECIFICATIONS:**

THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020, AND THE ODOT BRIDGE DESIGN MANUAL, 2020

**DESIGN LOADING:**

WIND LOAD: APPLIED WIND LOAD ON POSTS AND PANELS IS 35 PSF.  
 ICE LOAD: APPLIED ICE LOAD IS 3 INCHES AT 57.3 PCF = 14.32 PSF

**MATERIAL SPECIFICATIONS:**

**REINFORCING STEEL:**  
 REINFORCING STEEL SHALL BE EPOXY-COATED AS PER CMS 709.00 OR GALVANIZED AS PER CMS 709.16.  
 THE REQUIREMENTS OF 509.09 SHALL APPLY TO BOTH EPOXY-COATED AND GALVANIZED REINFORCING STEEL.  
 REINFORCING STEEL SHALL CONFORM TO CMS 709.01, GRADE 60.

**CONCRETE:**  
 CONCRETE CLASS QC5 = 4,000 PSI (DRILLED SHAFTS)  
 CONCRETE FOR DRILLED SHAFTS SHALL CONFORM TO CMS 524.

**STRUCTURAL STEEL:**  
 ASTM A709, GRADE 50 AS PER CMS 711.01.

**PANELS AND POST COVERS:**  
 NOISE BARRIER PANELS, RETAINER PANELS, AND POST COVER MATERIALS SHALL BE GLASS FIBER REINFORCED PULTRUSION BY CARSONITE COMPOSITES OR AN APPROVED EQUAL. REFER TO SHEET P.221 FOR EXAMPLE SCHEMATIC PANEL AND POST COVER.

**FASTENERS:**

BASE PLATE TO DRILLED SHAFT CONNECTIONS:  
 ANCHOR BOLTS SHALL BE ASTM F1554, GRADE 10S  
 NUTS SHALL BE ASTM A563, GRADE DH  
 WASHERS SHALL BE ASTM F436

BACKUP BRACKET AND PANEL TO POST CONNECTIONS:  
 BOLTS, NUTS AND WASHERS SHALL BE ASTM A325

**GALVANIZING:**

GALVANIZE ALL STRUCTURAL STEEL, STEEL POSTS, ANGLES, BENT PLATES, BASE PLATES AS PER CMS 711.02. GALVANIZE AFTER CUTTING, BENDING, AND WELDING AS SHOWN ON THE PLANS.

GALVANIZE ALL ANCHOR BOLTS, BOLTS, NUTS, AND WASHERS AS PER CMS 711.02. ENSURE THAT THE ENTIRE LENGTH OF ANCHOR BOLTS ARE GALVANIZED.

**BEARING PADS:**

ALL BOTTOM NOISE BARRIER PANELS REQUIRE A NEOPRENE PREFORMED BEARING PAD BETWEEN THE BOTTOM OF THE NOISE PANEL AND THE BEARING SURFACE AT THE BASE PLATE AND SUPPORT ANGLES. THE BEARING PADS SHALL BE 1/8" THICK AND 4 INCHES BY 5 INCHES FOR NOISE BARRIER PANELS AND 5 INCHES BY 5 INCHES FOR RETAINER PANELS. THE BEARING PADS SHALL CONFORM TO ODOT CMS SECTION 711.21, PREFORMED BEARING PADS.

**DRILLED SHAFTS:**

THE NOISE BARRIER POSTS SHALL BE SUPPORTED BY 30" DIAMETER DRILLED SHAFT FOUNDATION. CONSTRUCT DRILLED SHAFTS ACCORDING TO C&MS 524.

**AVOIDANCE OF UNEXPECTED OBSTRUCTIONS:**

IF THE AVOIDANCE OF UNEXPECTED UTILITIES OR OTHER OBSTRUCTIONS REQUIRES THE USE OF CLOSER POST SPACINGS THAN WHAT WAS SHOWN ON THE PROJECT PLANS FURNISH AND INSTALL ADDITIONAL FOUNDATIONS, POSTS, AND PANELS AS DIRECTED BY THE ENGINEER. THE ADDITIONAL FOUNDATIONS, POSTS, AND PANELS SHALL CONFORM TO THESE STANDARD DRAWINGS AND PROVISIONS. THE TOP AND BOTTOM ELEVATIONS OF THE ADDITIONAL POSTS AND PANELS, AND PANEL JOINT LOCATION.

**SHOP DRAWINGS:**

PROVIDE SHOP DRAWINGS FOR ALL NOISE WALL COMPONENTS THAT REQUIRE SHOP FABRICATION. INCLUDE THE FABRICATION SCHEDULE FOR ALL NOISE BARRIER WALL COMPONENTS IN THE PROJECT PROGRESS SCHEDULE AS REQUIRED BY C&MS 108.02.

**NOISE BARRIER AND RETAINER PANELS, AND POST COVERS:**

THE NOISE BARRIER AND RETAINER PANELS, AND POST COVERS SHALL BE GLASS FIBER REINFORCED, AND FABRICATED AND INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. THE SURFACE TEXTURE AND FINISH COLOR SHALL BE AS SHOWN IN THE PLANS.

**PANELS BELOW GRADE:**

PANELS INSTALLED BELOW GRADES WITHIN SIDE SLOPES SHALL BE RETAINER PANELS AND BE DESIGNED TO RETAIN BACK SLOPES. SUBMIT DESIGN CALCULATIONS SEALED AND SIGNED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER.

**DIMENSION ADJUSTMENTS:**

PANEL DIMENSIONS SHOWN ON THE PLANS WERE OBTAINED FROM THE GLASS FIBER NOISE WALL MANUFACTURER AT THE TIME THE PLANS WERE PREPARED. IF THE CONTRACTOR'S SELECTED MANUFACTURER HAS A DESIGN WITH PANEL DIMENSIONS THAT DO NOT CONFORM TO THE DIMENSIONS SHOWN ON THE PLANS, A MARKED COPY OF THE PROJECT PLANS, INCLUDING ALL PLAN NOTES AND DETAILS SHOWING ALL ITEMS AFFECTED BY THE DIFFERENT PANEL DIMENSIONS, SHALL BE SUBMITTED FOR APPROVAL WITH THE SHOP DRAWINGS. ALL WORK REQUIRED TO ACCOMMODATE ANY REVISED DIMENSIONS SHALL BE AT NO EXTRA COST TO THE PROJECT.

**HIGH DENSITY POLYURETHANE:**

FILL GAP BETWEEN THE BASE PLATE AND THE DRILLED SHAFT WITH HIGH DENSITY POLYURETHANE PER SS 842.

**NEOPRENE FOAM RUBBER:**

THE NEOPRENE FOAM RUBBER SHALL BE MEDIUM DENSITY FOAM RUBBER WITH UV, WATER AND WEATHERING RESISTANCE AND WIDE OPERATING TEMPERATURE RANGE. THE COLOR SHALL BE LIGHT GREY. FURNISH AND INSTALL NEOPRENE FOAM RUBBER STRIPS PER THE MANUFACTURER'S RECOMMENDED SPECIFICATIONS.

**CONSTRUCTION METHODS:**

CONSTRUCTION METHODS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD BRIDGE DRAWING NBS-1-09.

**METHOD OF MEASUREMENT:**

THE DEPARTMENT WILL MEASURE THE NOISE BARRIER BY THE NUMBER OF SQUARE FEET.

THE DEPARTMENT WILL DETERMINE THE AREA OF INDIVIDUAL NOISE BARRIER SEGMENTS FROM PROJECT PLAN DIMENSIONS USING A HEIGHT FROM THE BOTTOM OF THE BOTTOM PANEL TO THE TOP OF THE CAP ON THE TOP PANEL, AND SPAN LENGTHS MEASURED FROM CENTER TO CENTER POSTS.

**BASIS OF PAYMENT:**

PAYMENT FOR NOISE BARRIERS IS FULL COMPENSATION FOR FURNISHING AND INSTALLING FOUNDATIONS, POSTS INCLUDING APPARATUS SUCH AS BACKUP BRACKETS AND BENT PLATES, PANELS, POST COVERS, STEEL BASE PLATES AND CONNECTIONS, ARCHITECTURAL SURFACE TREATMENTS, SAMPLE POST(S) AND PANEL(S), BEARING PADS, EXCAVATION, DRAINAGE AND BACKFILL, AND OTHER ITEMS THAT DO NOT HAVE SEPARATE PAY ITEMS BUT ARE NECESSARY TO COMPLETE THE NOISE BARRIER.

THE DEPARTMENT WILL PAY FOR THE ADDITIONAL LENGTH OF DRILLED SHAFTS CONSTRUCTED AT THE DIRECTION OF THE ENGINEER IN UNEXPECTED AREAS OF POOR SOIL AS EXTRA WORK IN ACCORDANCE WITH C&MS 109.05.

THE DEPARTMENT WILL PAY FOR THE ADDITIONAL FOUNDATIONS, POSTS, AND PANELS FURNISHED AND INSTALLED AT THE DIRECTION OF THE ENGINEER TO AVOID UNEXPECTED UTILITIES OR OTHER OBSTRUCTIONS AS EXTRA WORK IN ACCORDANCE WITH C&MS 109.05.

WHERE THE DRILLED SHAFT LENGTH WAS DECREASED FROM THE PROJECT PLAN DIMENSION DUE TO INTERFERENCE WITH UNEXPECTED BEDROCK, THE DEPARTMENT WILL NON-PERFORM THE SHAFT LENGTH BELOW THE BEDROCK ELEVATION AND PAY FOR THE ROCK SOCKET AND INCIDENTALS AS EXTRA WORK ACCORDING TO C&MS 109.05.

THE DEPARTMENT WILL NOT PAY FOR REPAIRED OR REPLACED COMPONENTS DAMAGED BY IMPROPER HANDLING, TRANSPORTING, STORING, OR ERECTING.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICES AS FOLLOWS:

ITEM 606 - SPECIAL - NOISE BARRIER (REFLECTIVE)

DESIGN AGENCY

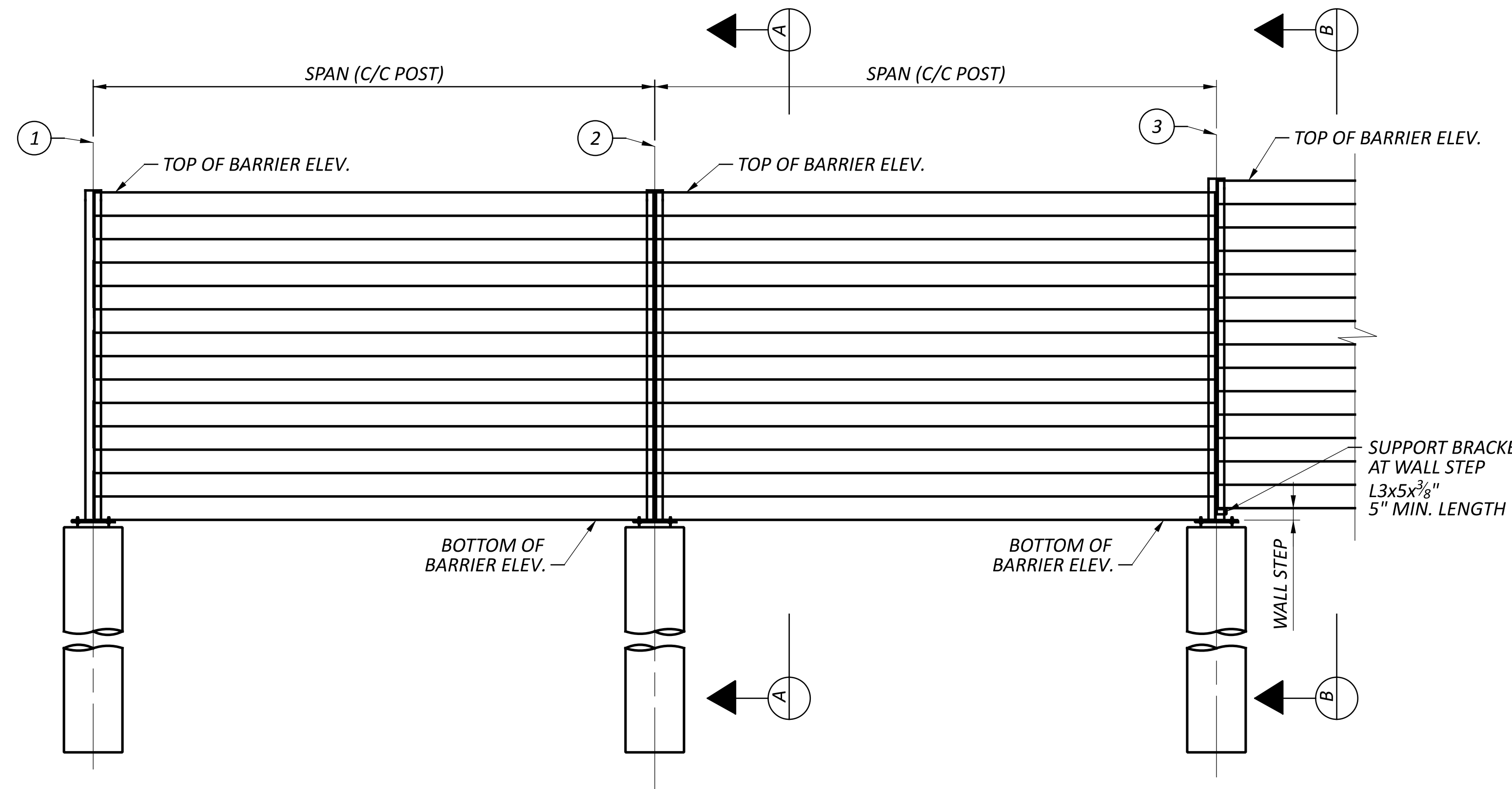


DESIGNER  
 AIS

REVIEWER  
 SS 03-27-24

PROJECT ID  
 117607

SHEET TOTAL  
 P.218 P.295



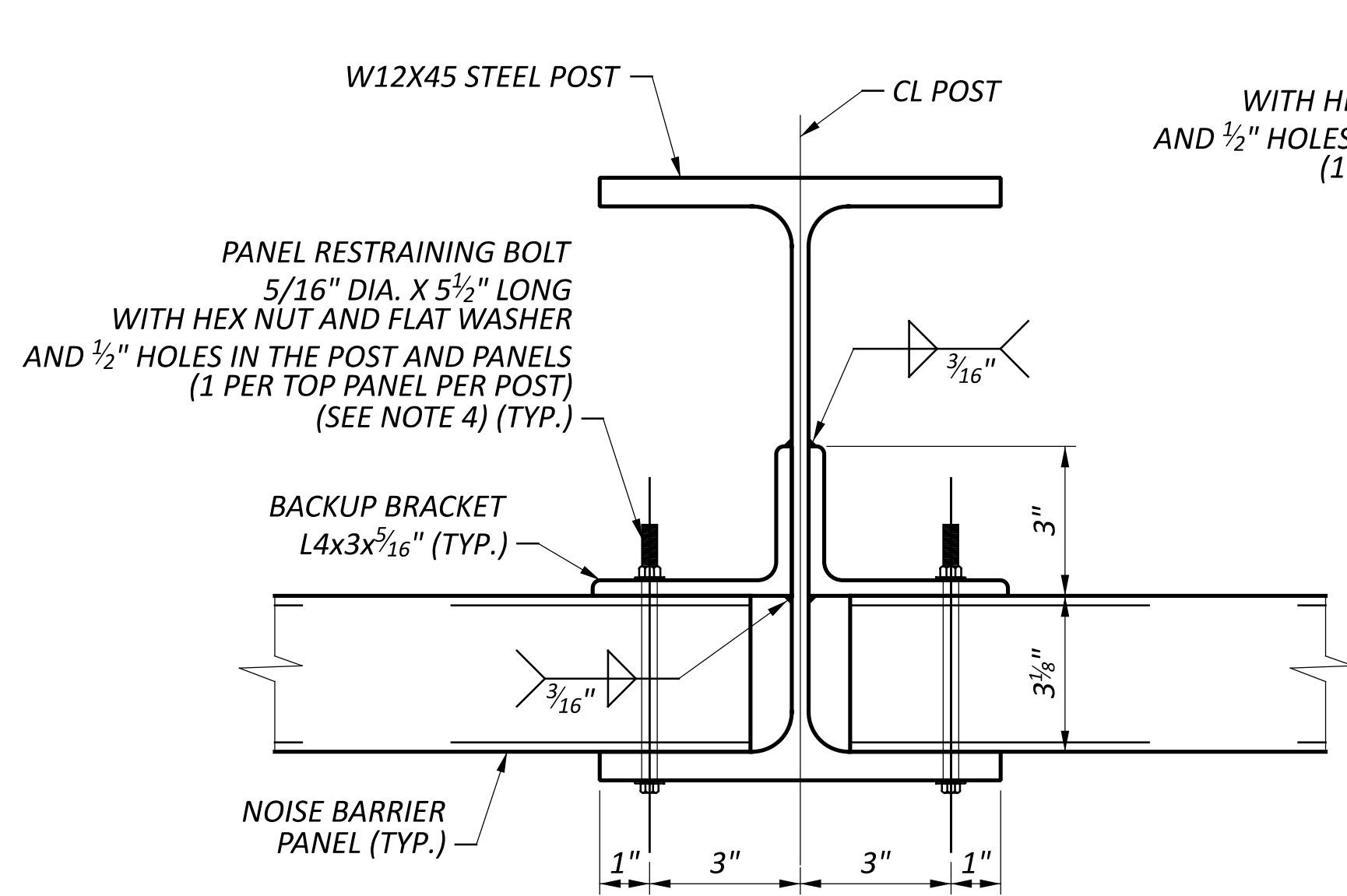
**PARTIAL ELEVATION**  
(POST COVERS NOT SHOWN)

**NOTES:**

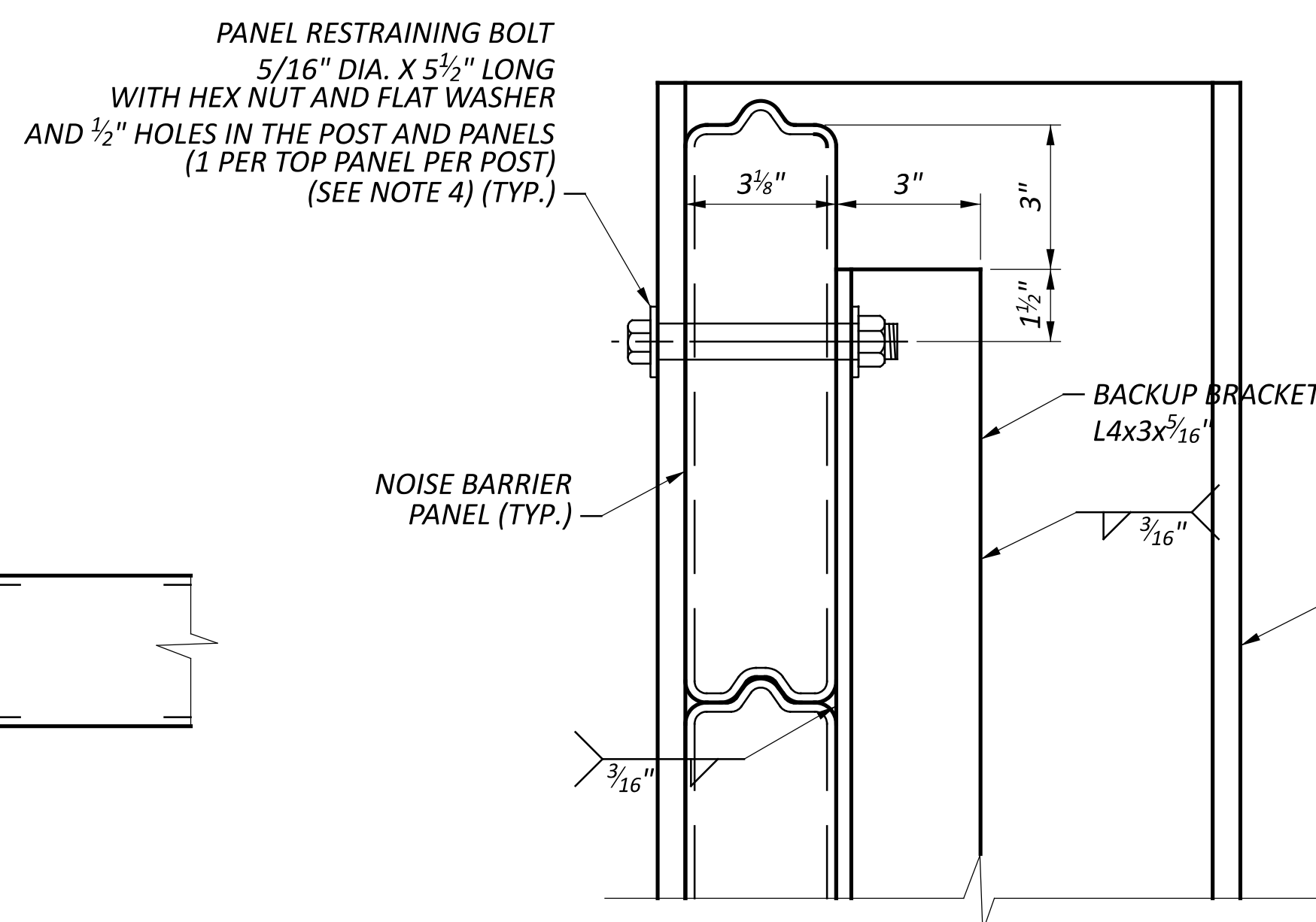
1. FOR NOISE WALL PLANS AND PROFILE, SEE SHEETS P.33 - P.62 .
2. FOR NOISE WALL ELEVATION TABLES, SEE SHEETS P.214 - P.216
3. FOR NOISE WALL STEPS HEIGHT AND LOCATION, SEE NOISE WALL PLANS AND PROFILE SHEETS.
4. SHOP DRILL HOLES IN THE STRUCTURAL STEEL BEFORE GALVANIZING AND FIELD DRILL HOLES IN THE PANELS AS SHOWN.

**LEGEND:**

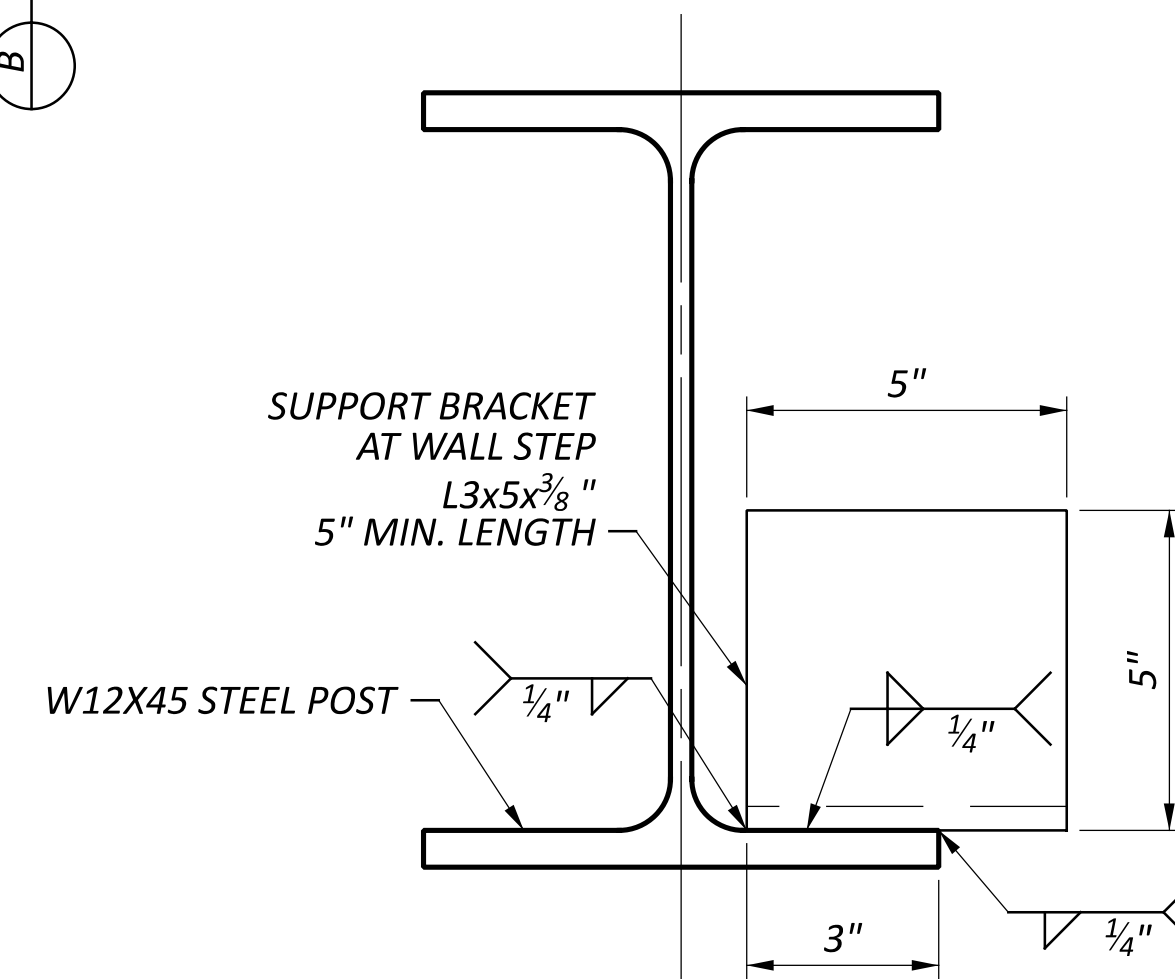
(X) - DRILLED SHAFT NUMBER



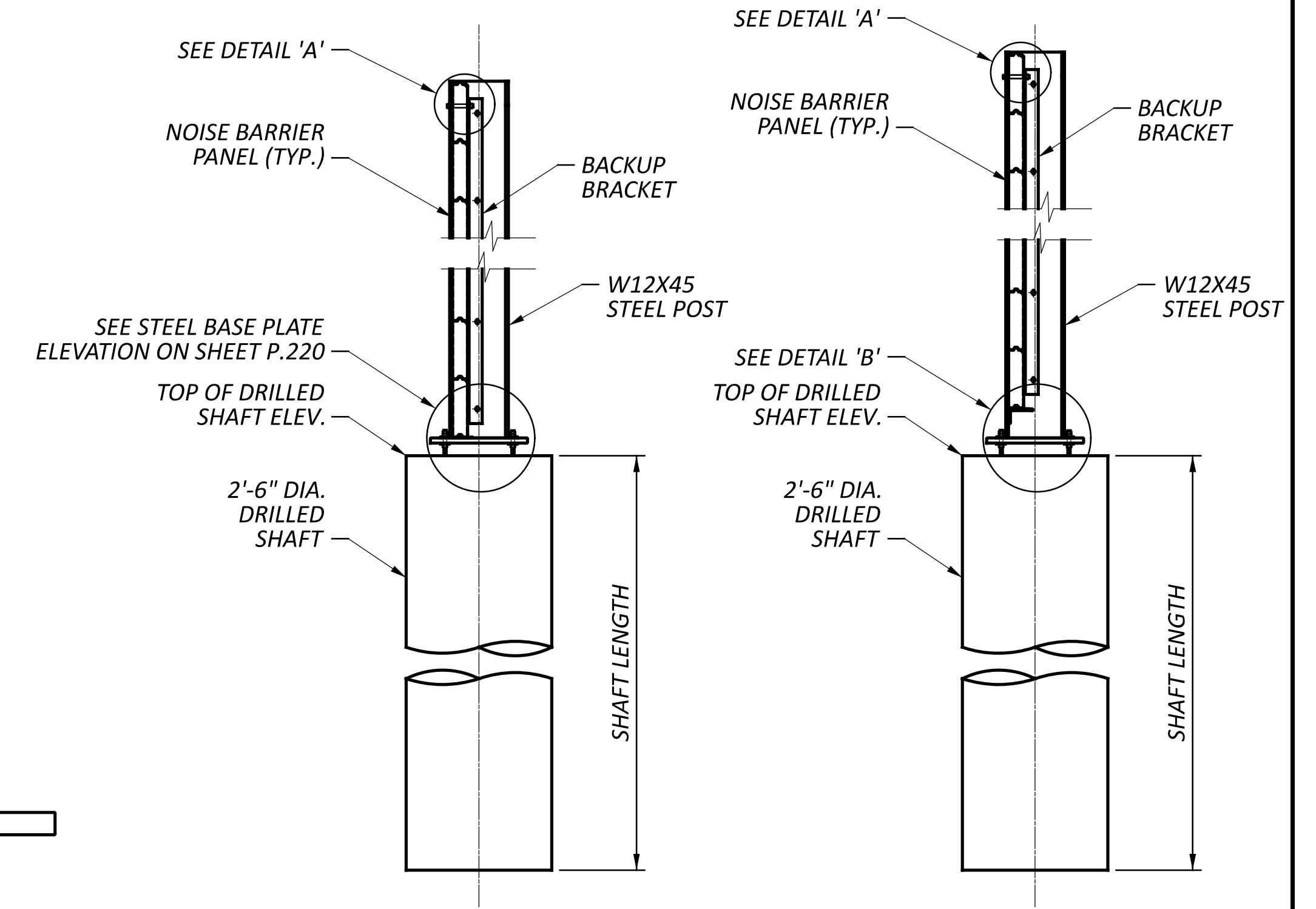
**PARTIAL PLAN**  
(POST COVERS NOT SHOWN)



**DETAIL 'A'**  
(POST COVERS NOT SHOWN)

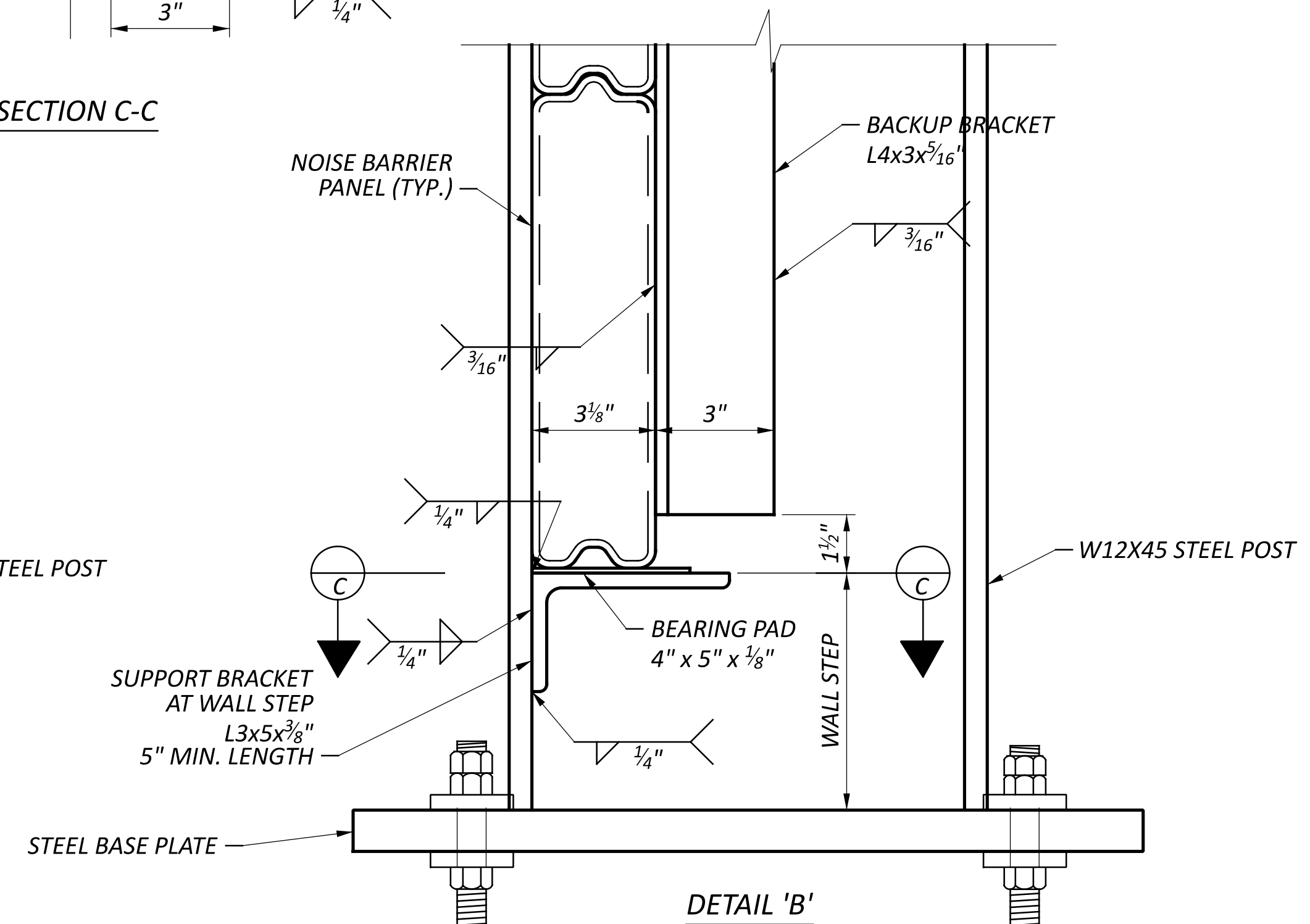


**SECTION C-C**  
(POST COVERS NOT SHOWN)

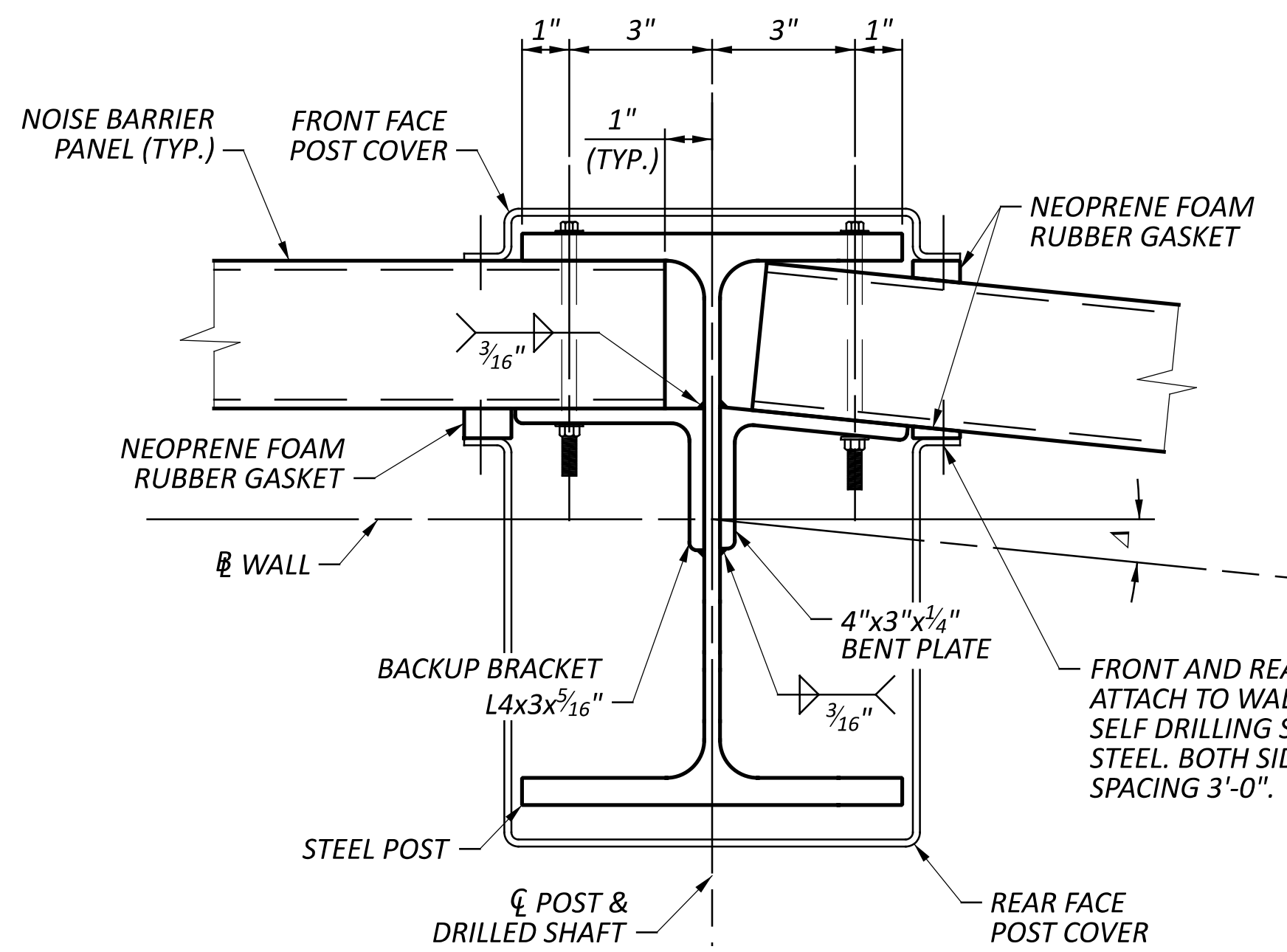


**SECTION A-A**  
(POST COVERS NOT SHOWN)

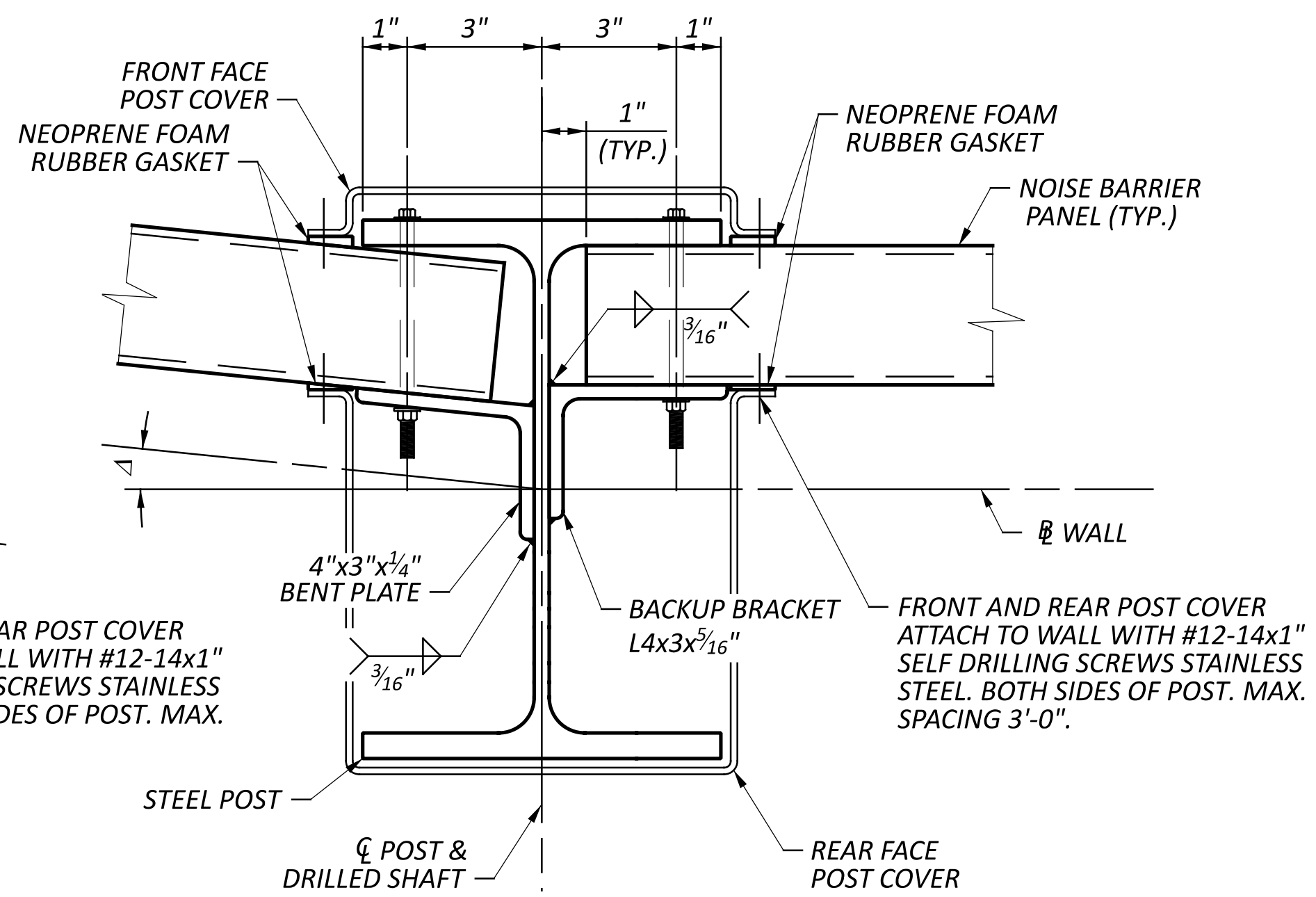
**SECTION B-B**  
(POST COVERS NOT SHOWN)



**DETAIL 'B'**  
(POST COVERS NOT SHOWN)



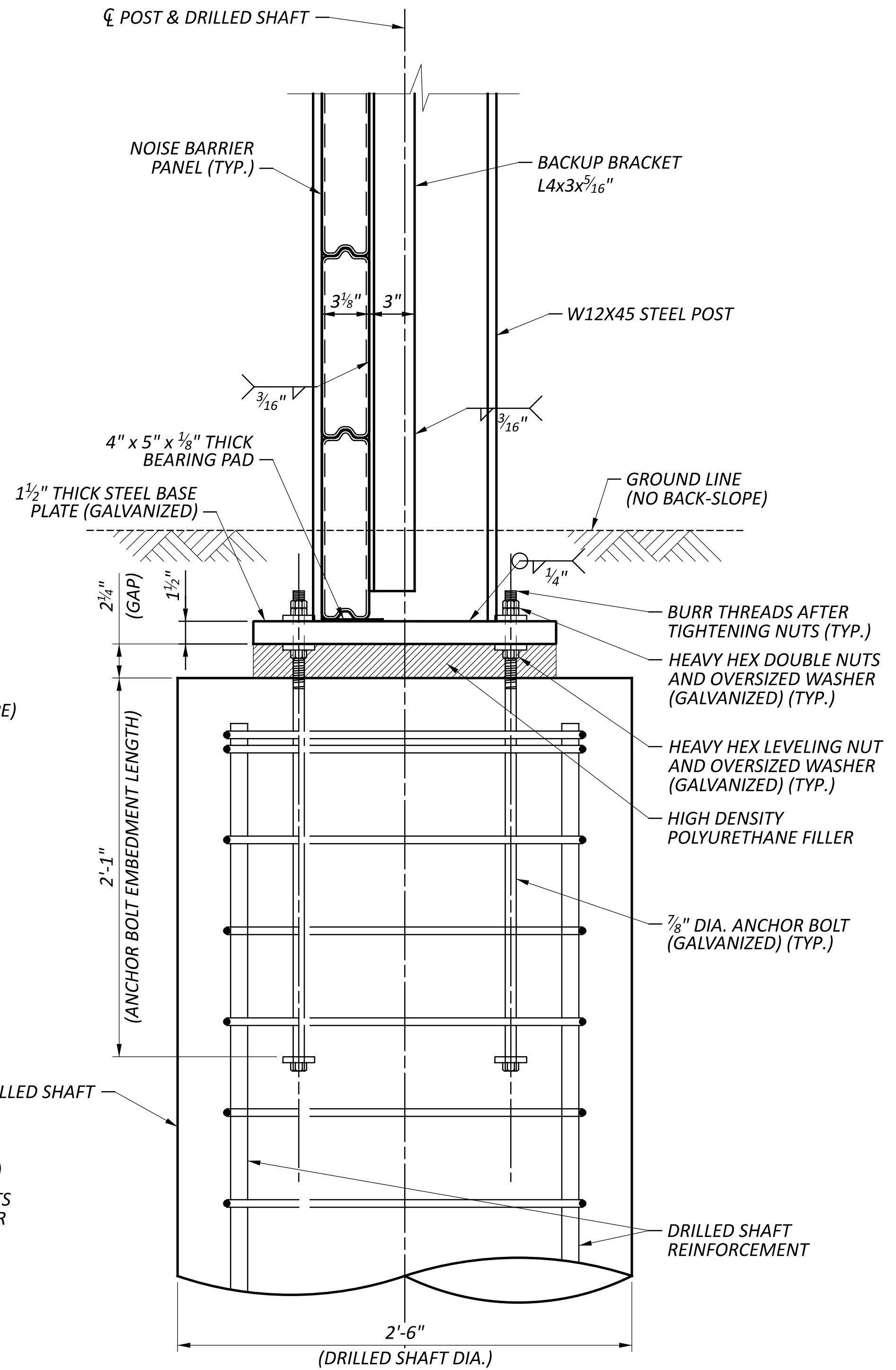
SKEWED POST DETAILS - 1



SKEWED POST DETAILS - 2

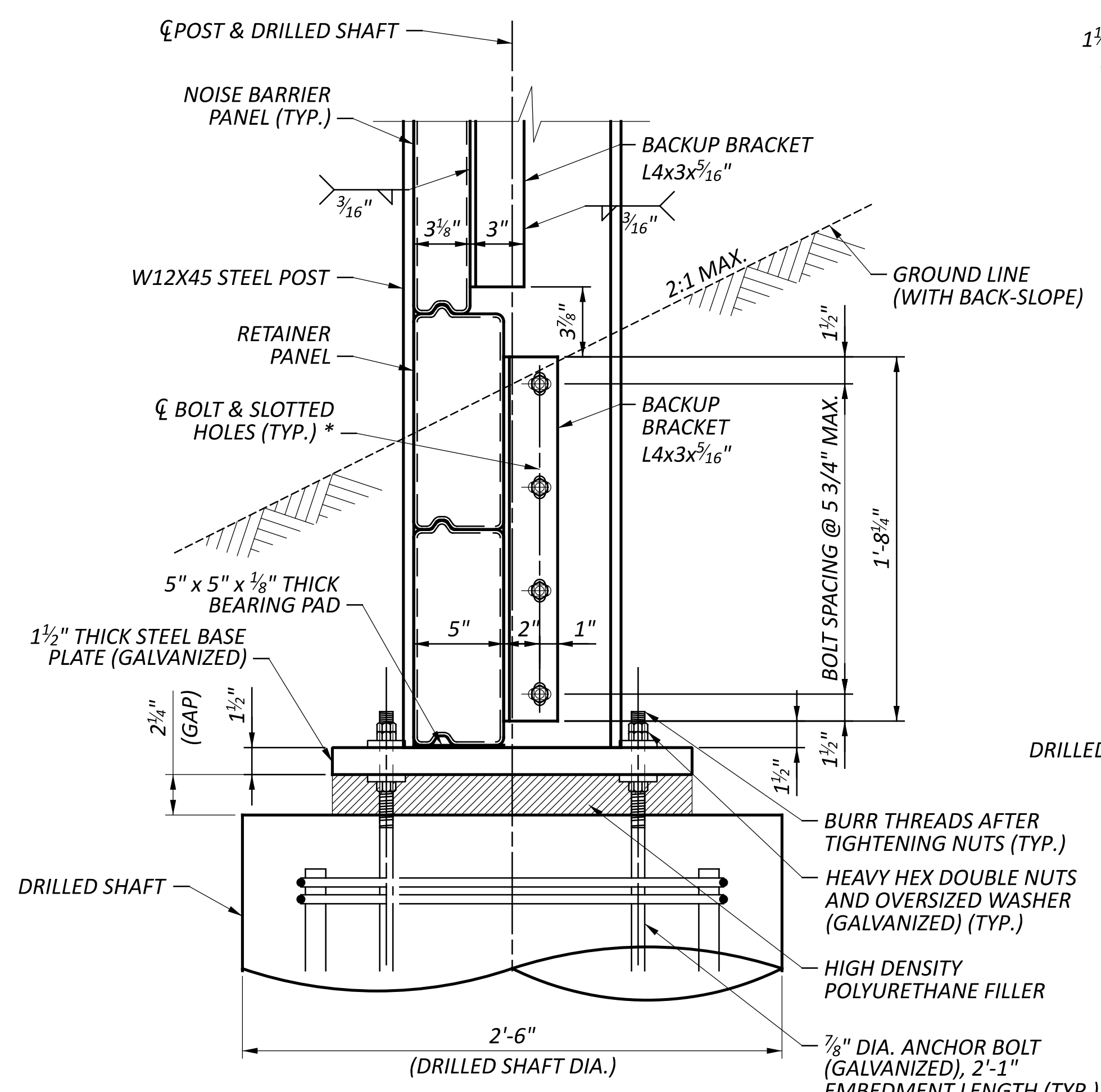
NOTES:

1. FOR WALL DEFLECTION ANGLES, SEE TABLES ON SHEETS P.214 - P.216.
2. FOR GROUND LINE BACK-SLOPES, SEE CROSS SECTIONS ON SHEETS P.63 - P.213.
3. FOR ADDITIONAL BASE PLATE AND DRILLED SHAFT NOTES AND DETAILS, REFER TO STD. DWG. NBS-1-09.
4. BACKUP BRACKET BOLTS SHALL BE F3125, GRADE A325, TYPE 1, WITH HEX NUTS AND WASHERS. GALVANIZE BOLTS, NUTS AND WASHERS IN ACCORDANCE TO CMS 711.02.
5. INSTALL 1" WIDE x 1/4" MINIMUM TO 1" MAXIMUM THICK NEOPRENE FOAM RUBBER STRIPS WITH ADHESIVE BACKING AT SKEWED POSTS AND AS NEEDED TO INSTALL POST COVERS PARALLEL TO THE FLANGE. THE COLOR SHALL BE LIGHT GREY. FURNISH AND INSTALL THE NEOPRENE FOAM RUBBER STRIPS ACCORDING TO THE MANUFACTURER'S RECOMMENDED SPECIFICATIONS.



STEEL POST AND BASE PLATE ELEVATION (NO BACK-SLOPE)

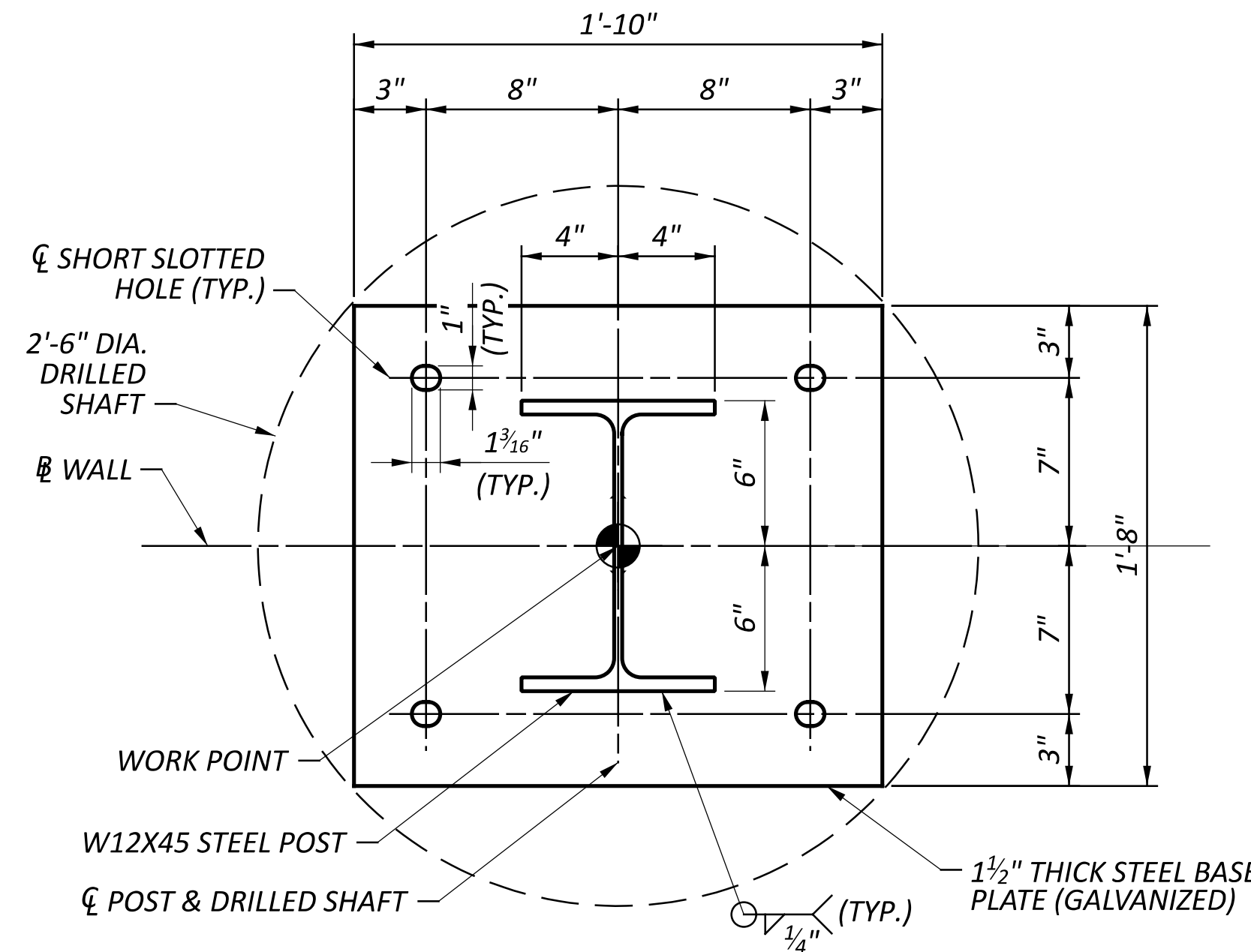
(POST COVERS NOT SHOWN)



STEEL POST AND BASE PLATE ELEVATION (WITH BACK-SLOPE)

(POST COVERS NOT SHOWN)

- Δ - WALL DEFLECTION ANGLE
- \* - 1/2" x 1 3/4" A325 BOLT WITH HEX NUT AND WASHERS THE SIZE OF SLOTTED HOLE SHALL BE 5/8" x 1 1/4". THE SLOT SHALL BE HORIZONTAL IN THE STEEL POST AND VERTICAL IN THE ANGLE AND BENT PLATE.

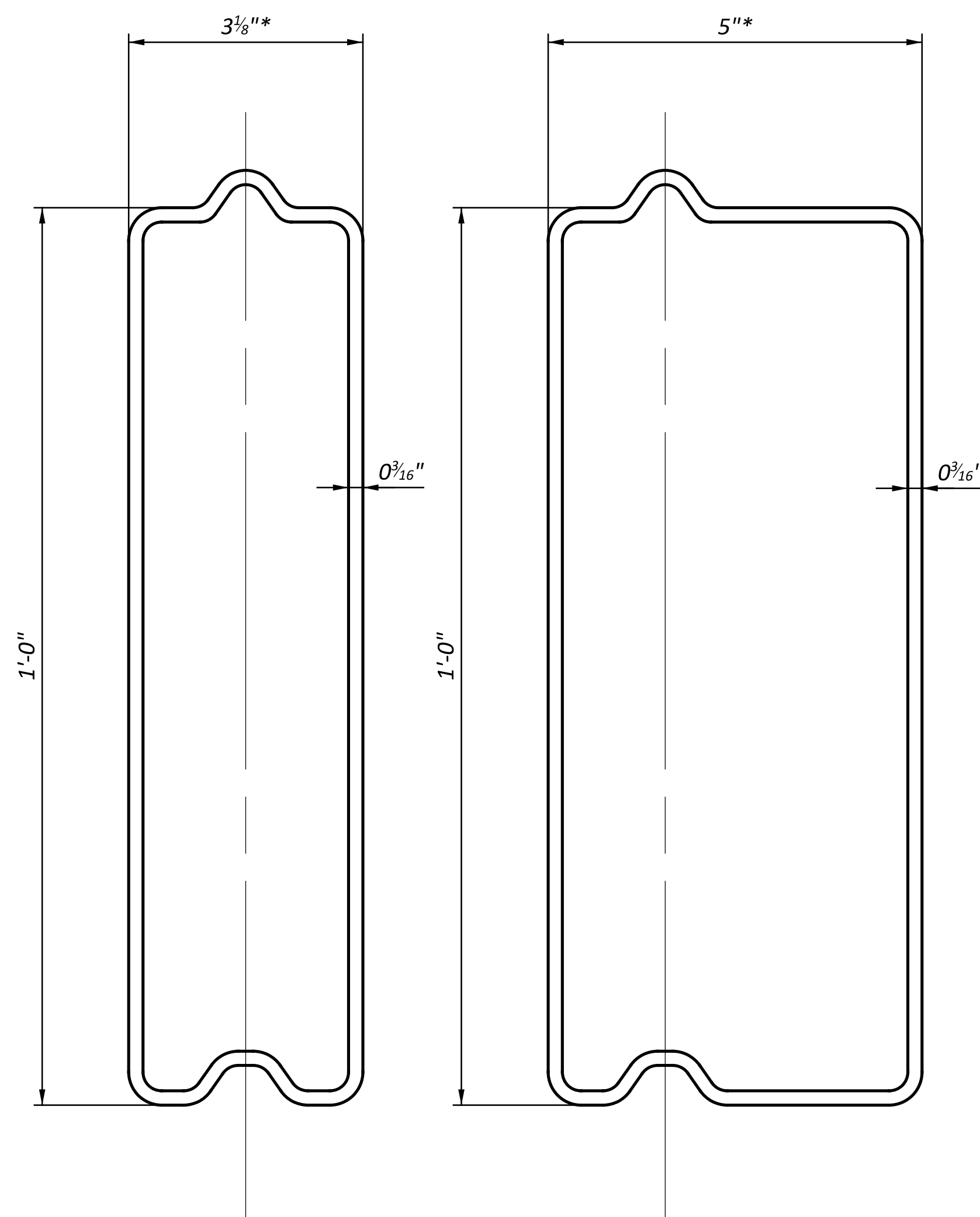


STEEL BASE PLATE PLANS

DESIGN AGENCY	ARCADIS
DESIGNER	ARCADIS
REVIEWER	SS 03-27-24
PROJECT ID	117607
SHEET	P.220
TOTAL	P.295

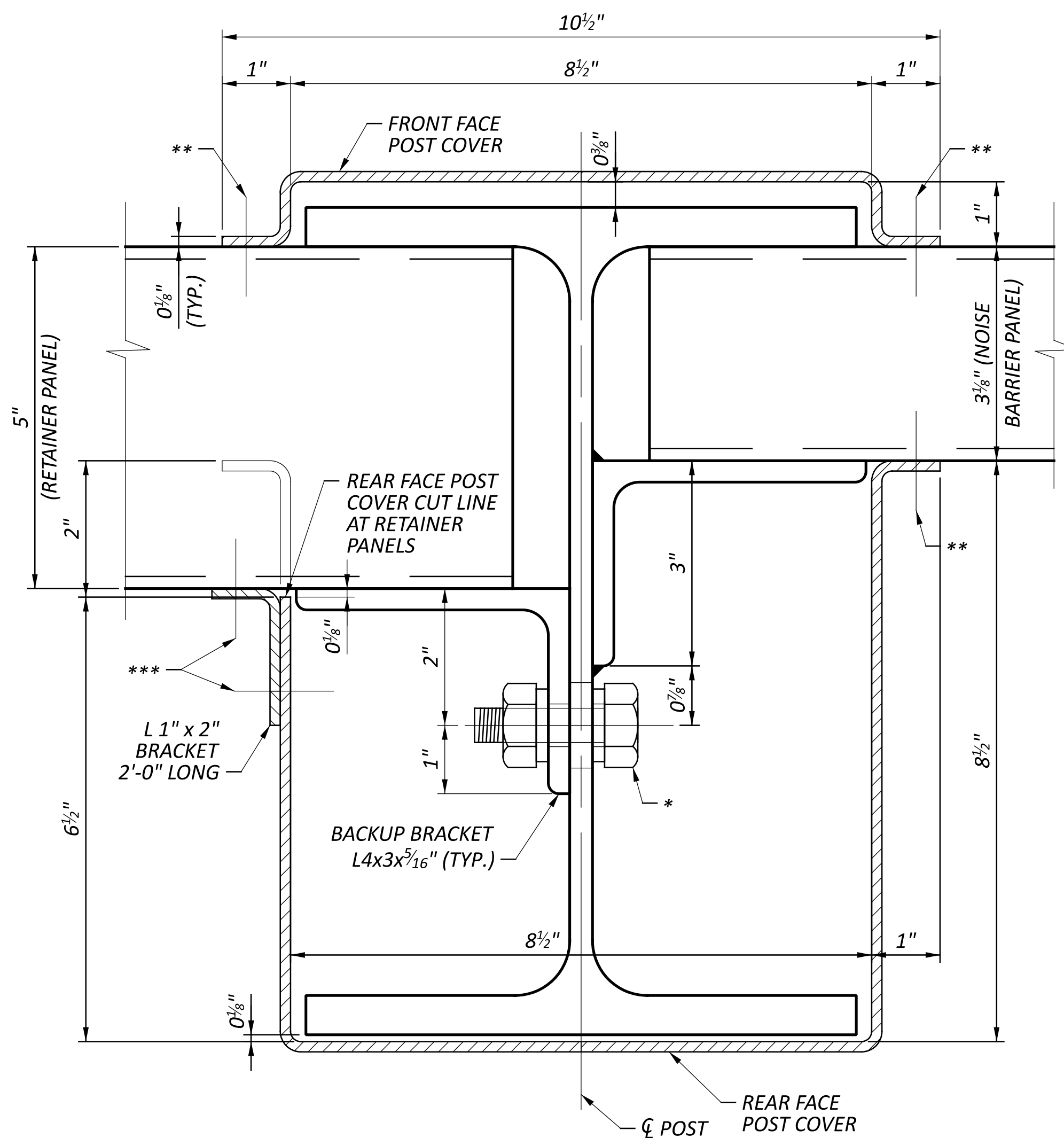
- NOTES:**
1. INSTALL PANELS AND POST COVER PER MANUFACTURER'S WRITTEN RECOMMENDATIONS.
  2. PANELS AND POST COVER SHALL BE GLASS FIBER REINFORCED FROM CARSONITE COMPOSITES OR AN APPROVED EQUAL.
  3. TRIM REAR FACE POST COVER AT RETAINER PANELS AS SHOWN ON THE PLANS. ATTACH REAR POST COVER TO RETAINER PANELS WITH THE USE OF L 1" x 2" BRACKET AND SELF DRILLING SCREWS. THE L 1" x 2" BRACKET MATERIAL TYPE AND COLOR SHALL BE THE SAME AS THE POST COVER.
  4. INSTALL SIDE COVER FROM TOP OF WALL TO TOP OF POST AT THE LOW SIDE OF WALL STEPS AS SHOWN. ATTACH FRONT AND REAR POST COVERS TO THE SIDE COVER WITH A MINIMUM OF TWO SELF DRILLING SCREWS EACH SIDE. THE SIDE COVER MATERIAL TYPE AND COLOR SHALL BE THE SAME AS THE POST COVER.

- \* - 1/2" x 1 3/4" A325 BOLT WITH HEX NUT AND WASHERS THE SIZE OF SLOTTED HOLE SHALL BE 5/8" x 1 1/4". THE SLOT SHALL BE HORIZONTAL IN THE STEEL POST AND VERTICAL IN THE ANGLE AND BENT PLATE.
- \*\* - FRONT AND REAR POST COVER ATTACH TO WALL WITH #12-14x1" SELF DRILLING SCREWS STAINLESS STEEL. MAX. SPACING 3'-0".
- \*\*\* - REAR POST COVER ATTACH TO WALL WITH #12-14x1" SELF DRILLING SCREWS STAINLESS STEEL. MAX. SPACING 1'-0".

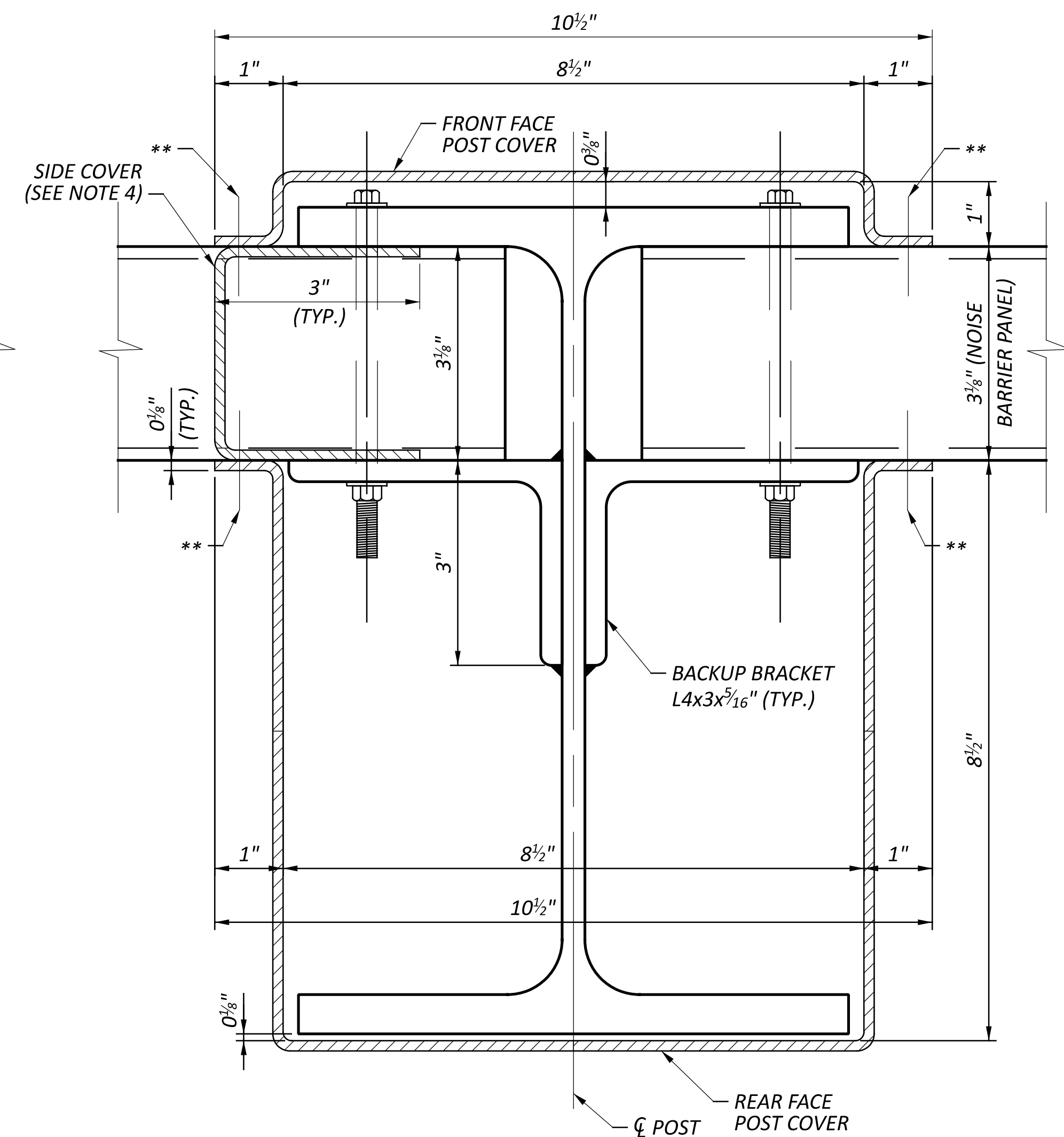


NOISE BARRIER PANEL DETAIL

RETAINER PANEL DETAIL

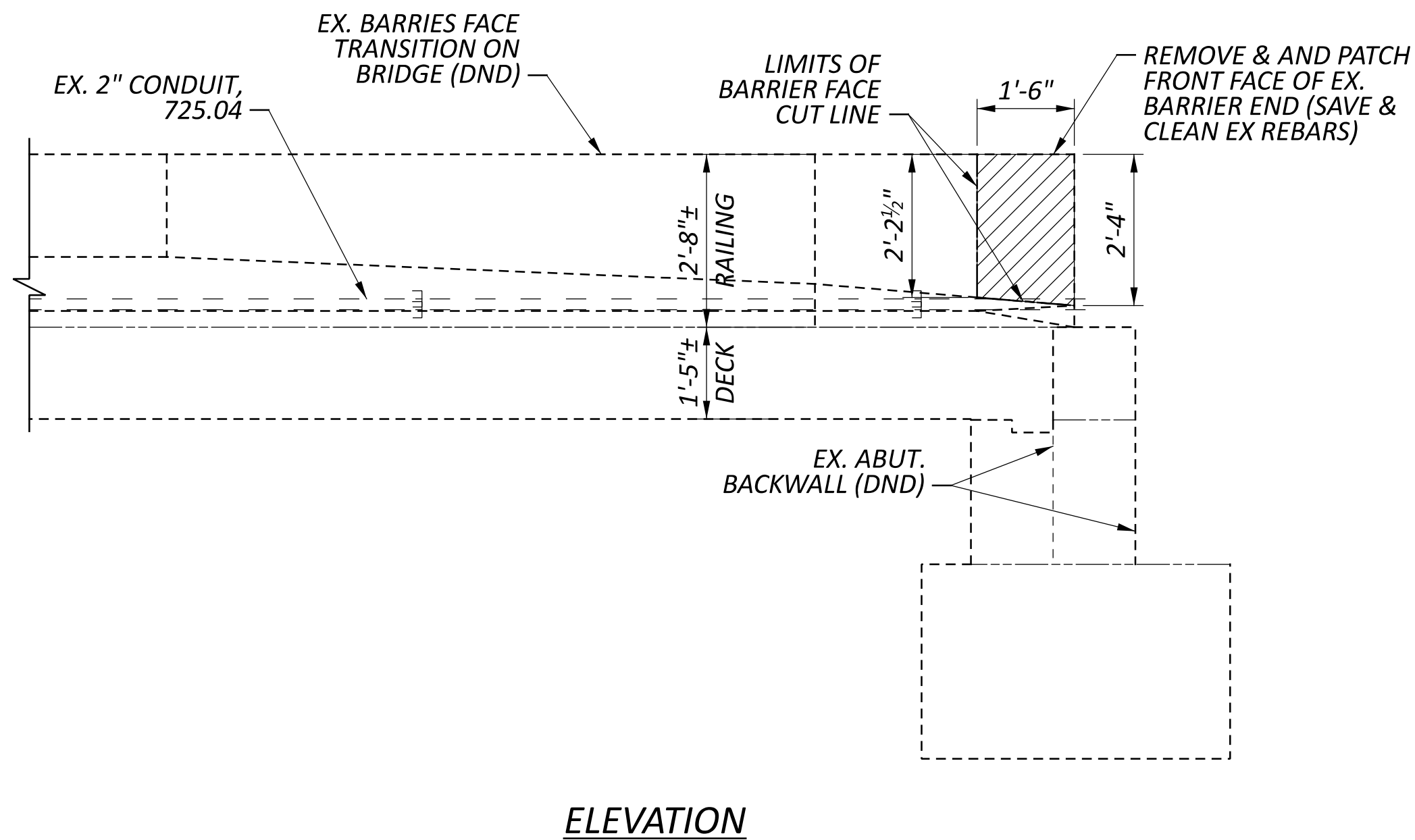
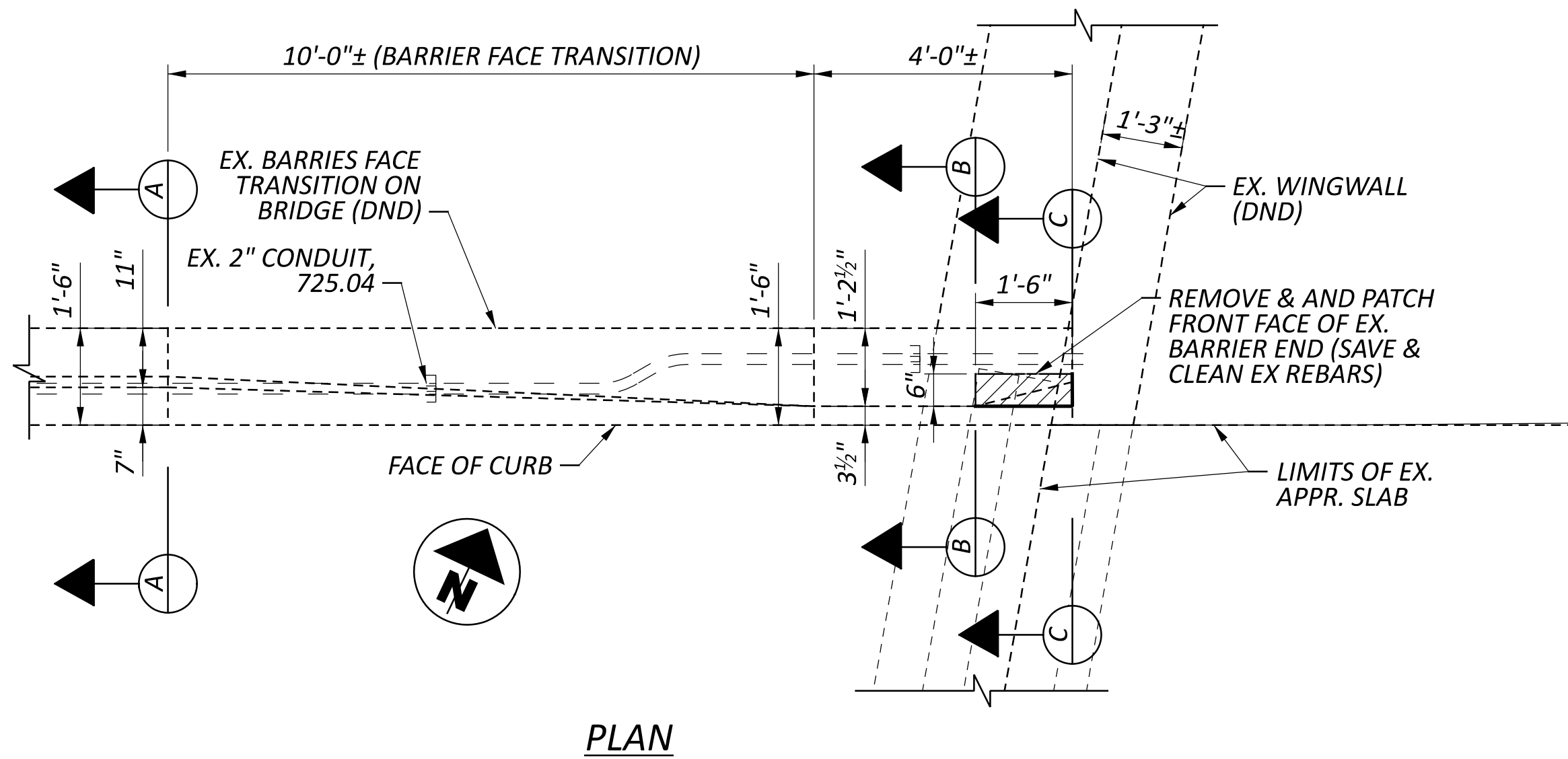


(AT RETAINER PANELS)

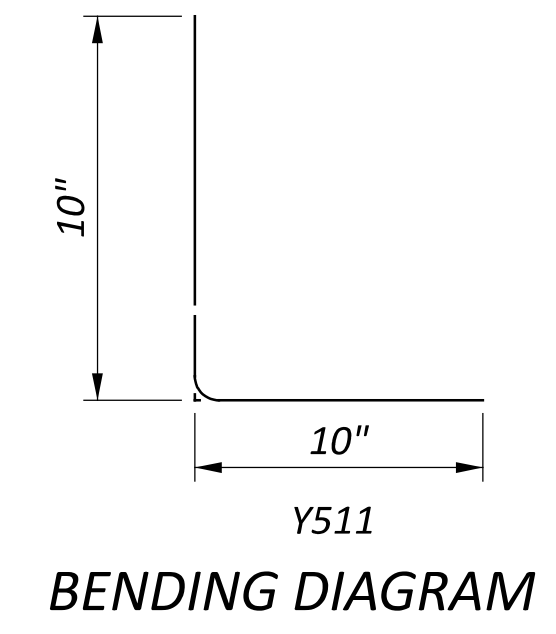


(AT NOISE BARRIER PANELS)

POST COVER DETAIL

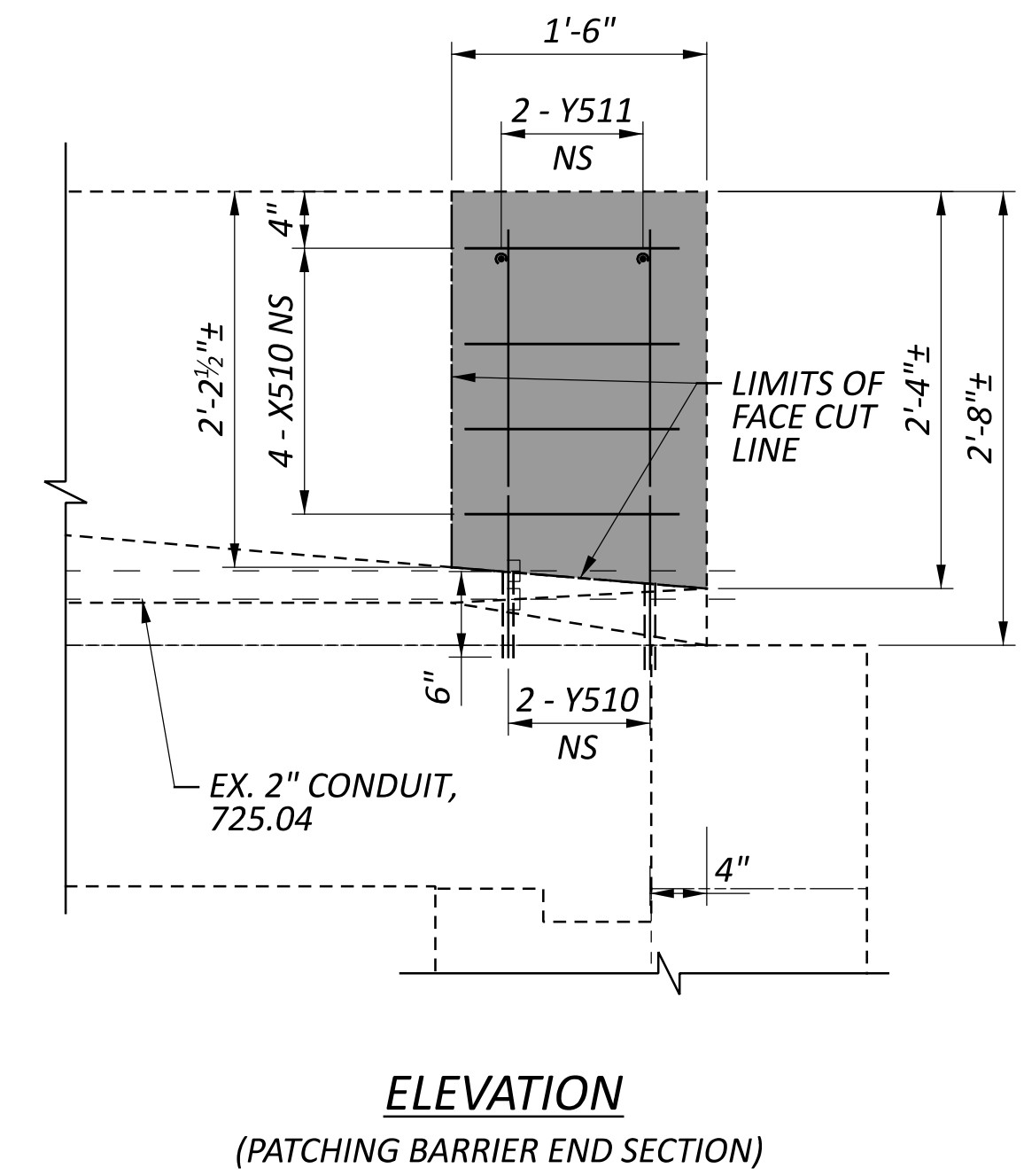


STEEL LIST					
(For Estimating Purposes Only)					
Mark	Bar	Shape	No.	Length	Weight (lb)
X510	#5	Straight	4	1'-2"	5
Y510	#5	Straight	2	2'-8"	6
Y511	#5	Bent	2	1'-7"	3
				Total =	14



**NOTES:**

1. REMOVE EX. CONCRETE BARRIER FRONT FACE ON ABUTMENT WINGWALL AS SHOWN. THE COST SHALL BE INCLUDED WITH THE UNIT PRICE FOR ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN FOR PAYMENT.
2. ALL EX. DIMENSIONS ARE ±.
3. INSTALL DOWEL BARS IN ACCORDANCE WITH CMS 510 USING NON-SHRINK NONMETALLIC GROUT.
4. FOR ADDITIONAL CONCRETE RAILING NOTES AND DETAILS, SEE STD. DWG. BR-1 REV. 04-03-90.
5. PAYMENT FOR PATCHING CONCRETE BARRIER END SECTION SHALL BE MADE AT THE UNIT PRICE FOR ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN AND SHALL INCLUDE ALL MATERIALS, LABOR, DOWEL HOLES AND REINFORCING STEEL REQUIRED TO PATCH THE BARRIER END SECTION AS SHOWN.

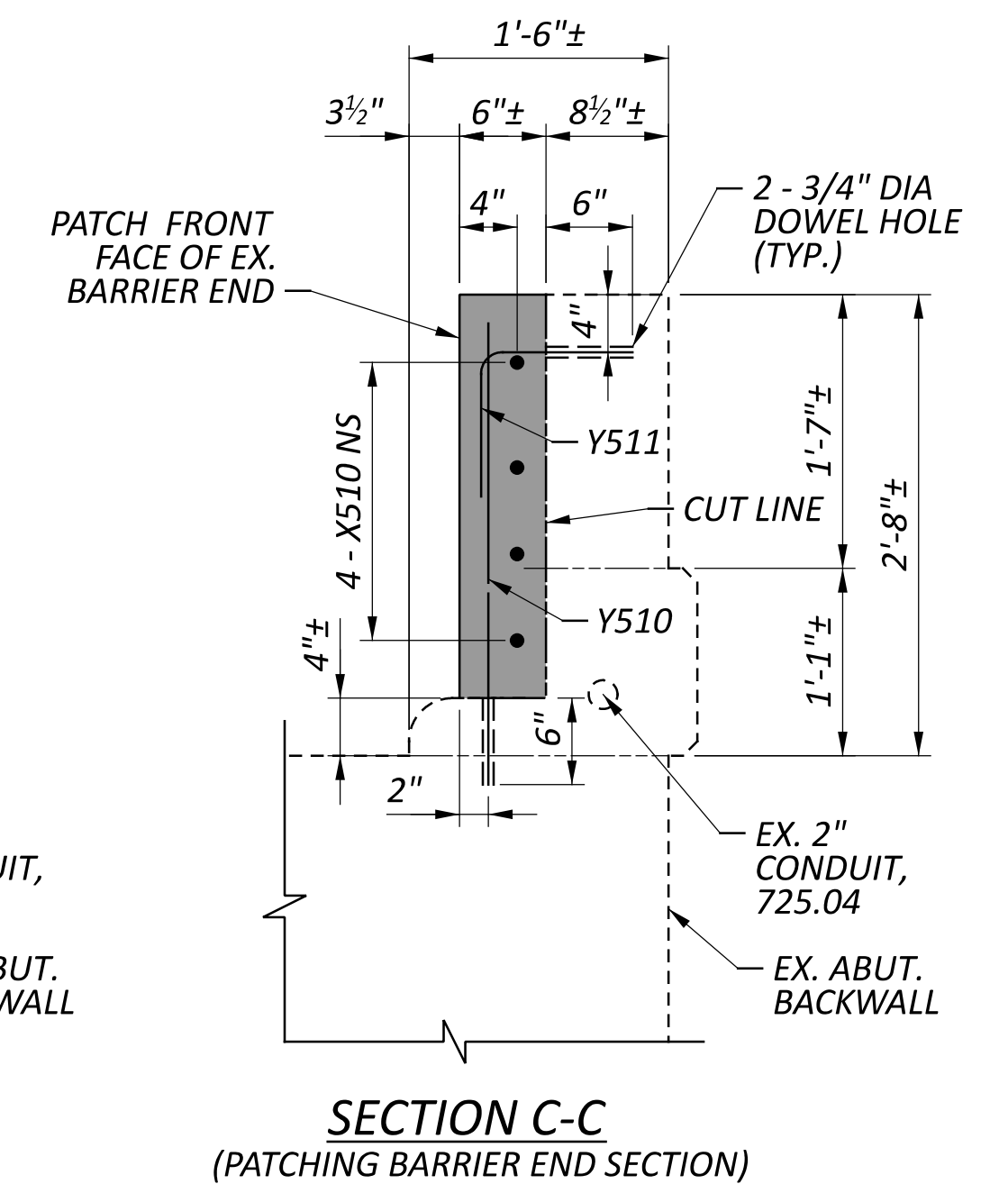
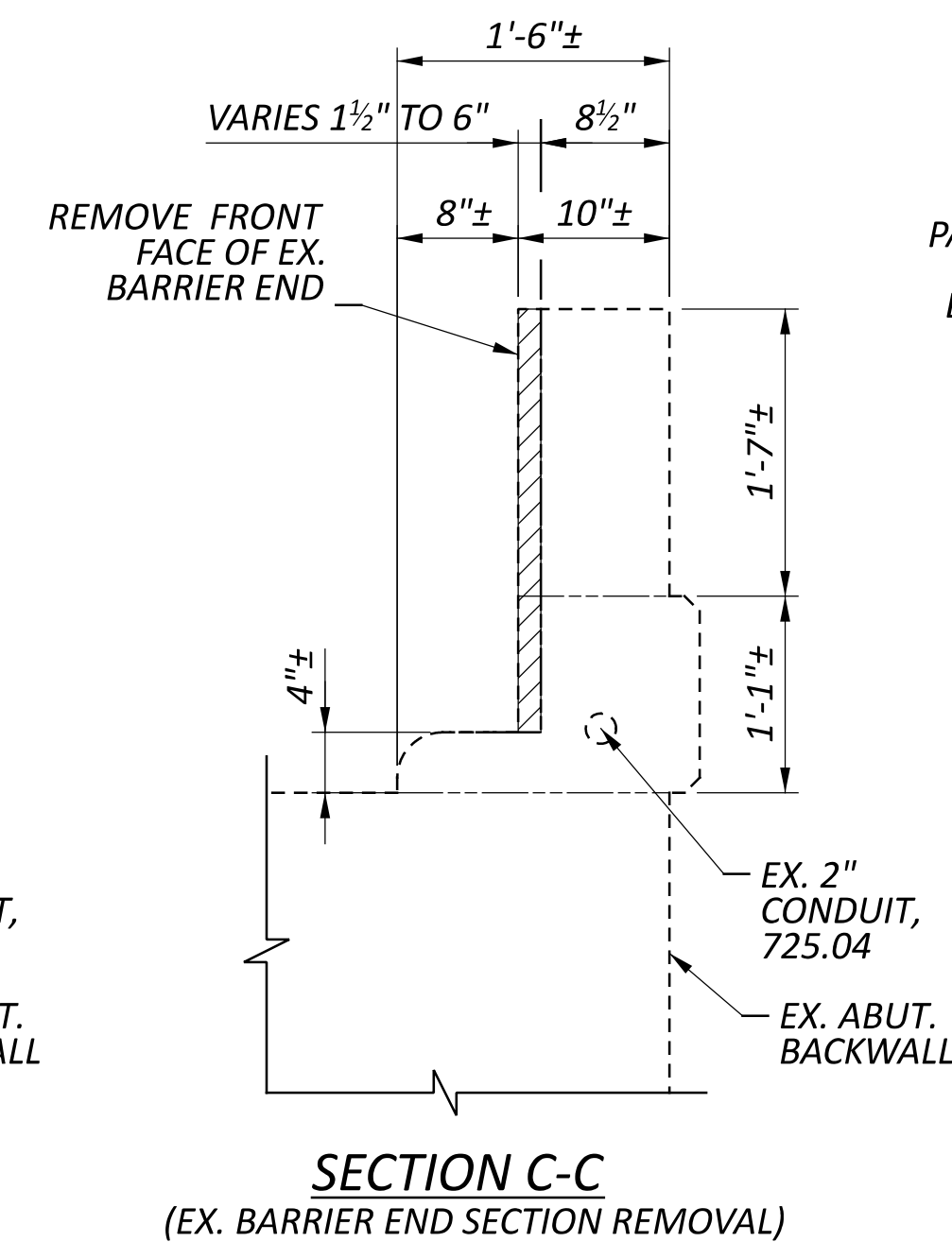
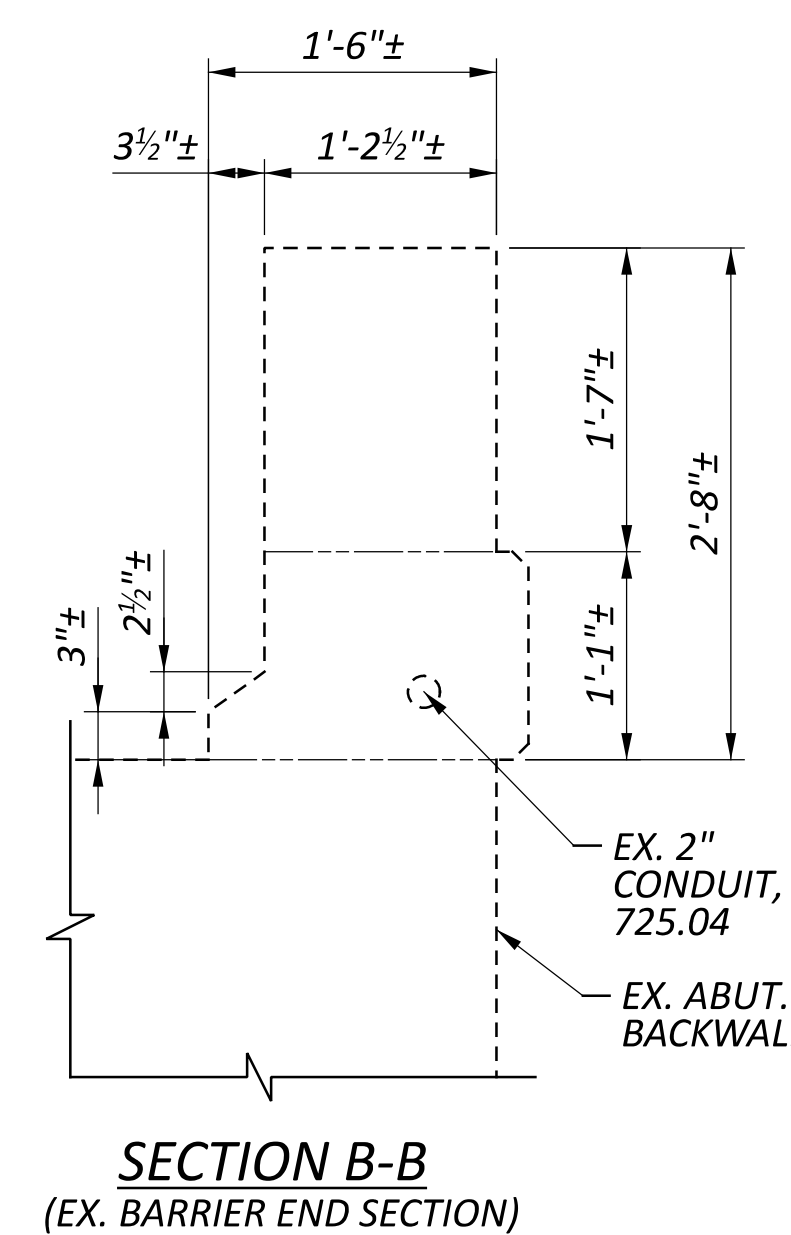
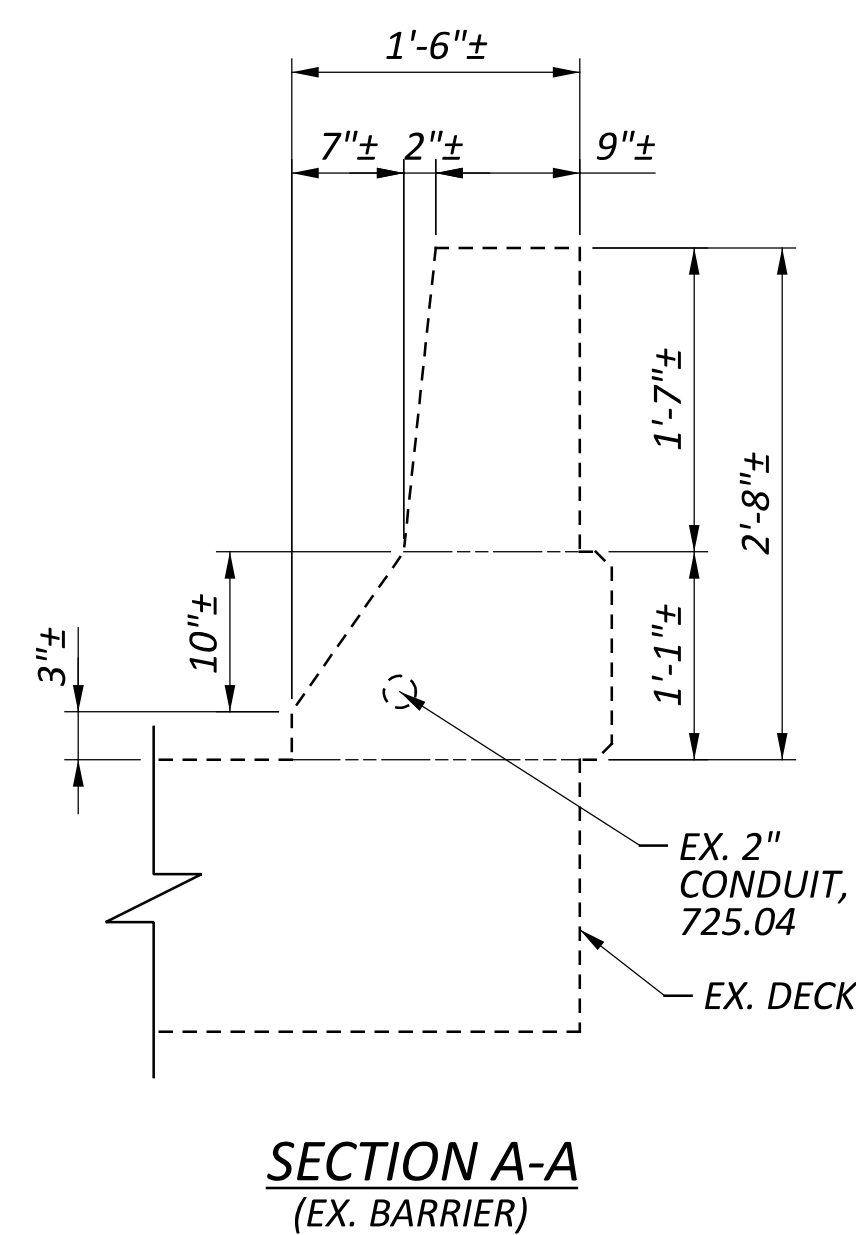


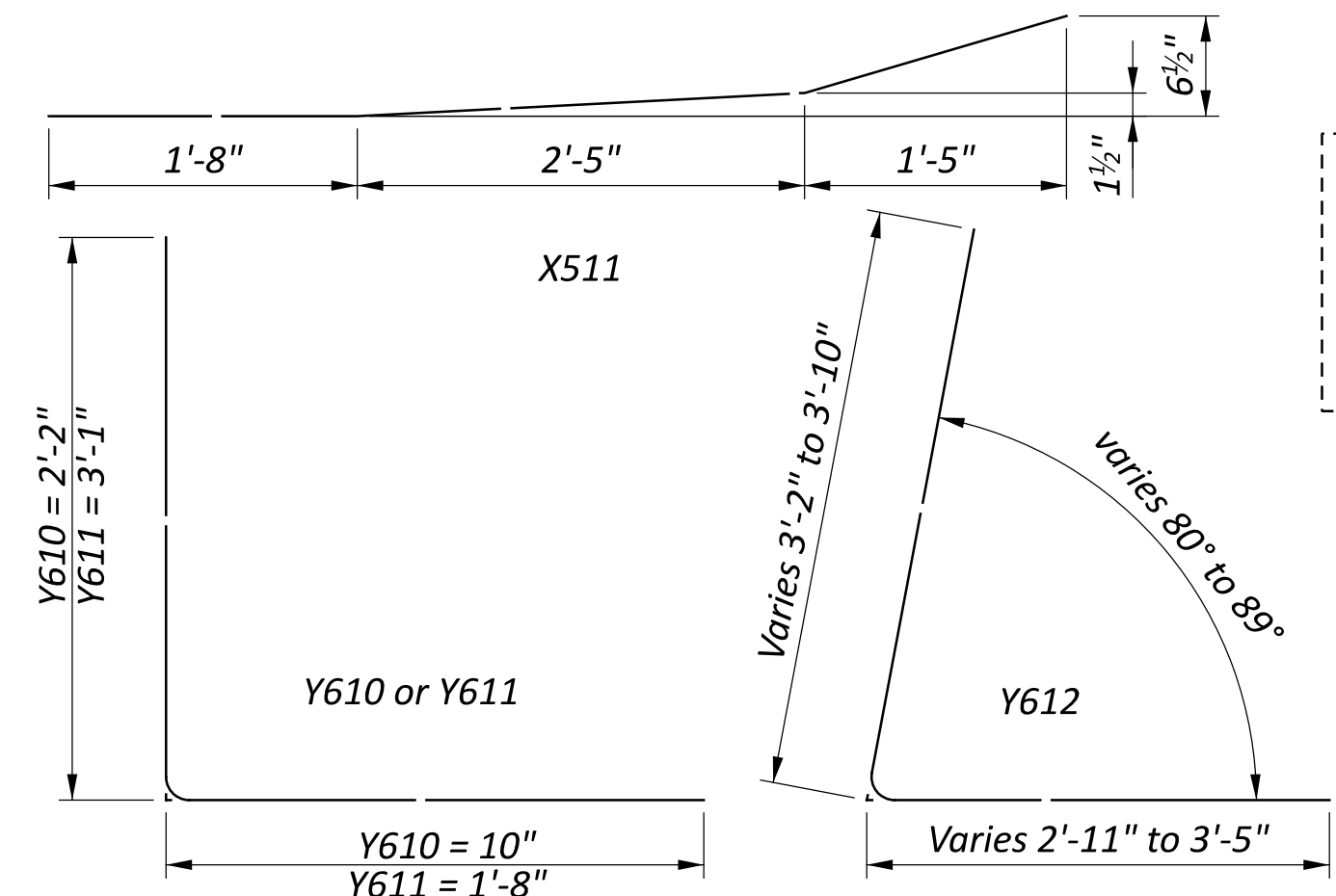
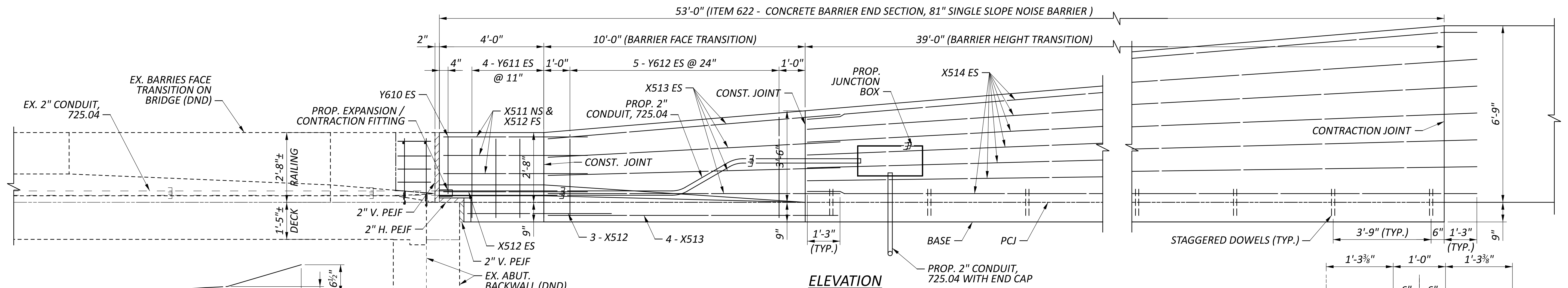
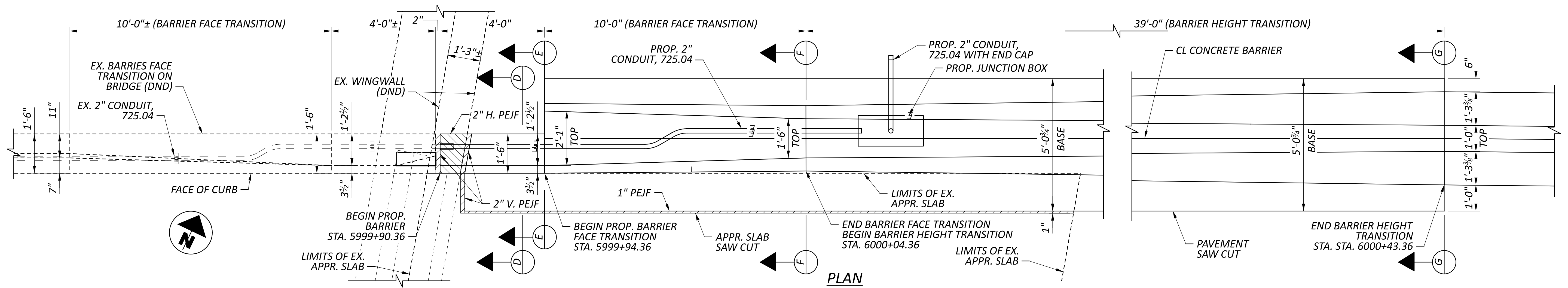
**LEGEND:**

- EX. CONCRETE BARRIER REMOVAL
- PATCHING OF CONCRETE

**ABBREVIATIONS:**

- CONST. = CONSTRUCTION
- DND = DO NOT DISTURB
- ES = EACH SIDE
- EX. = EXISTING
- FS = FAR SIDE
- NS = NEAR SIDE
- PEJF = PREFORMED EXPANSION JOINT FILLER
- PROP. = PROPOSED
- TYP. = TYPICAL

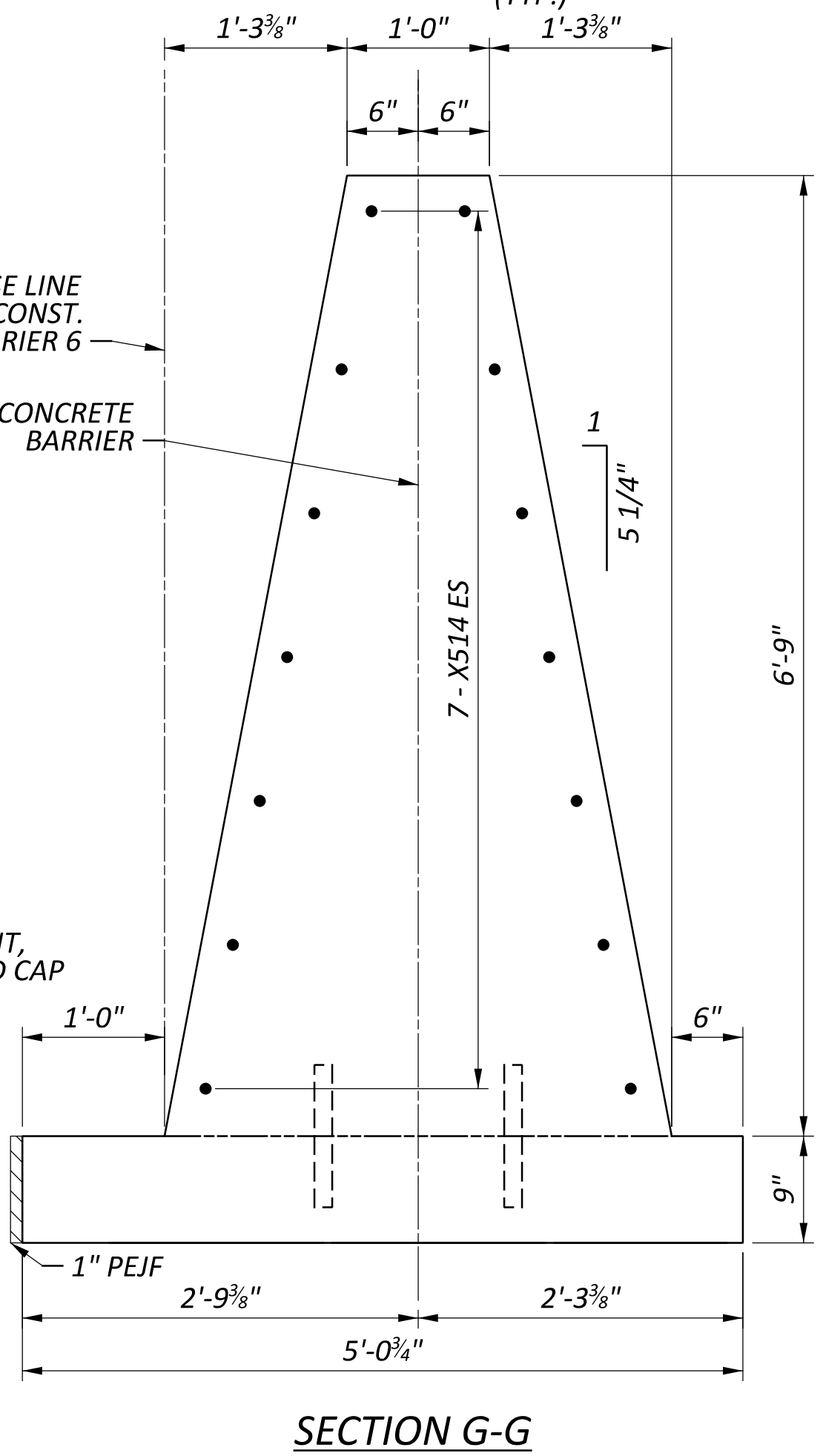
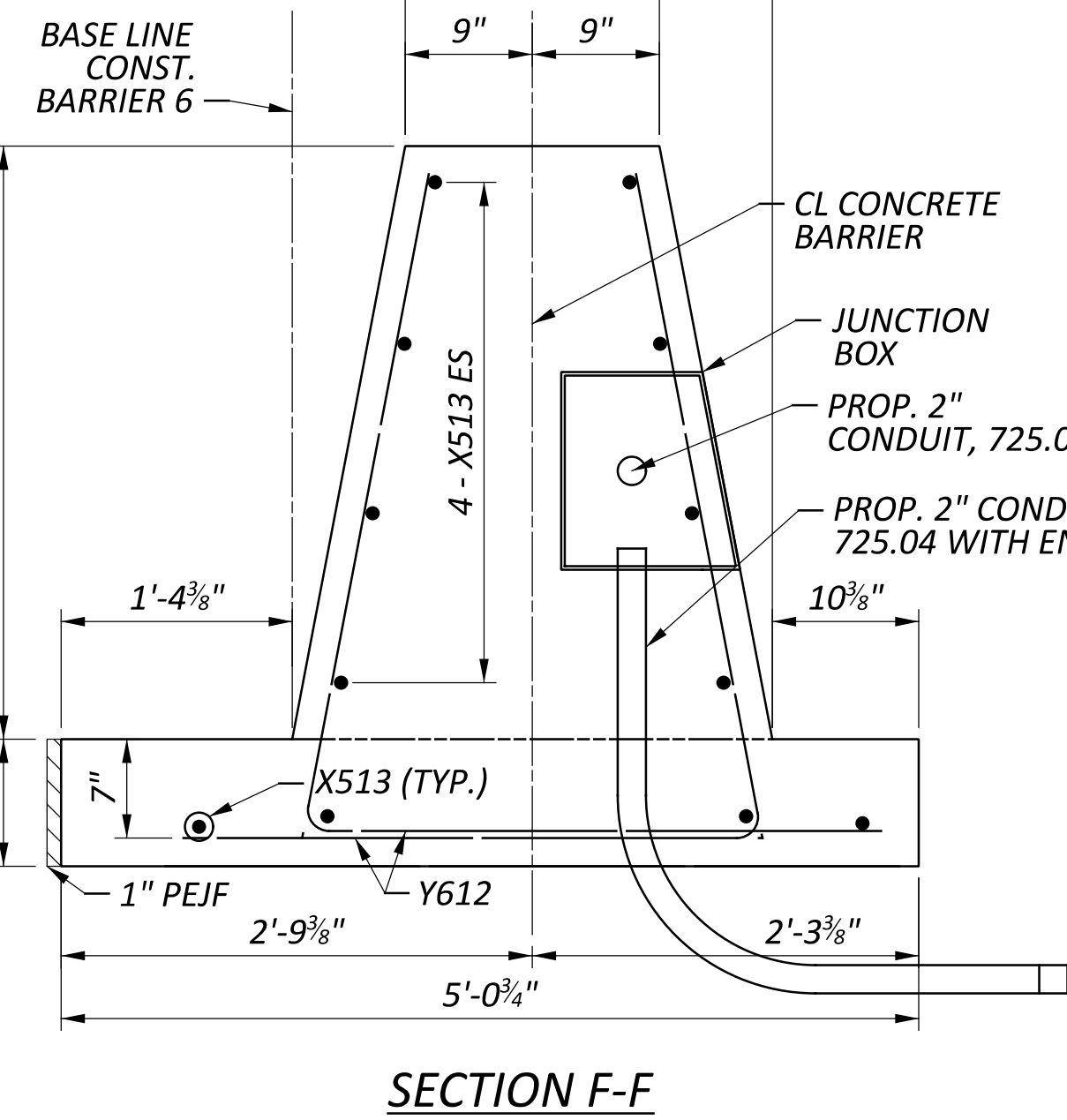
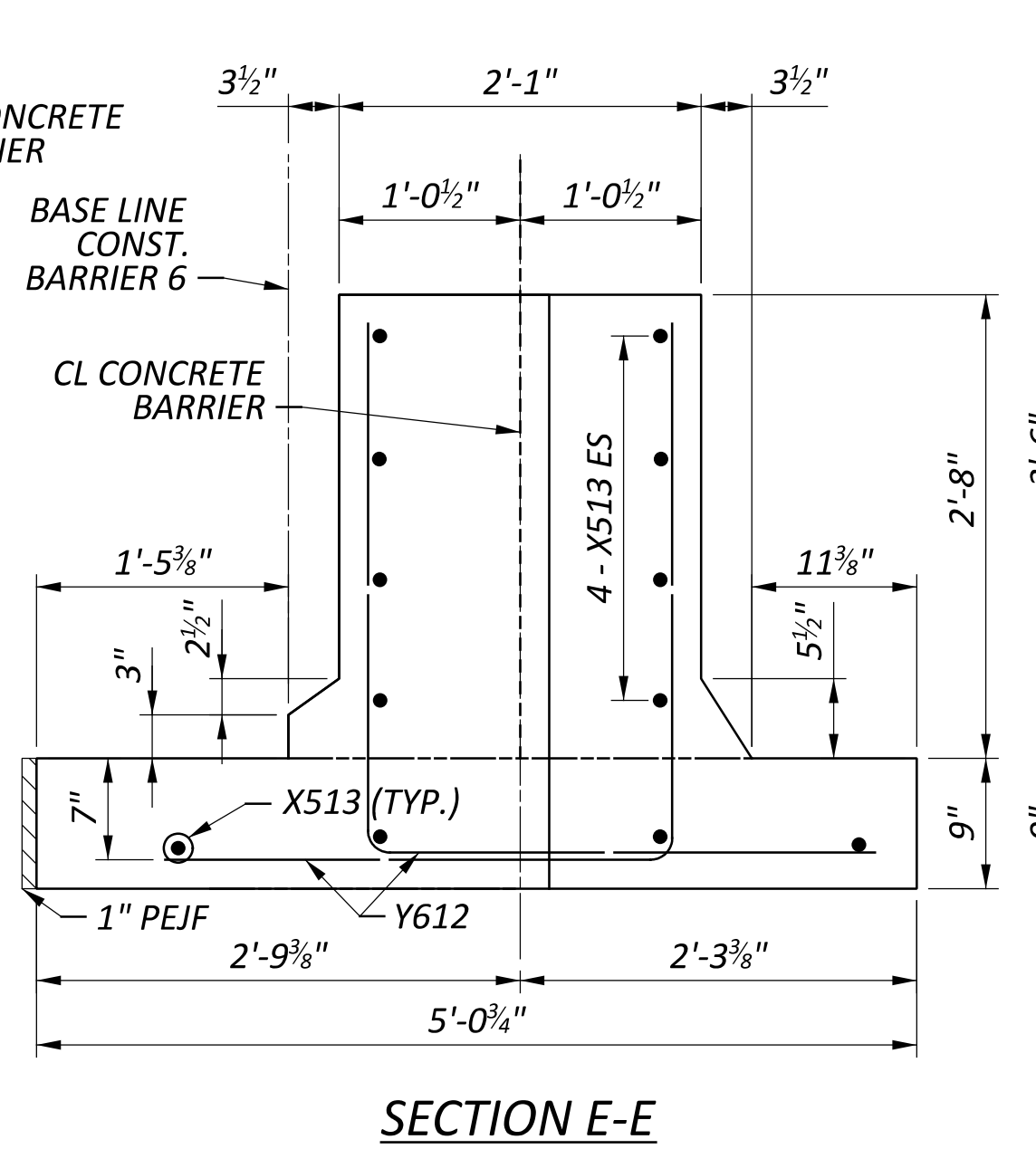
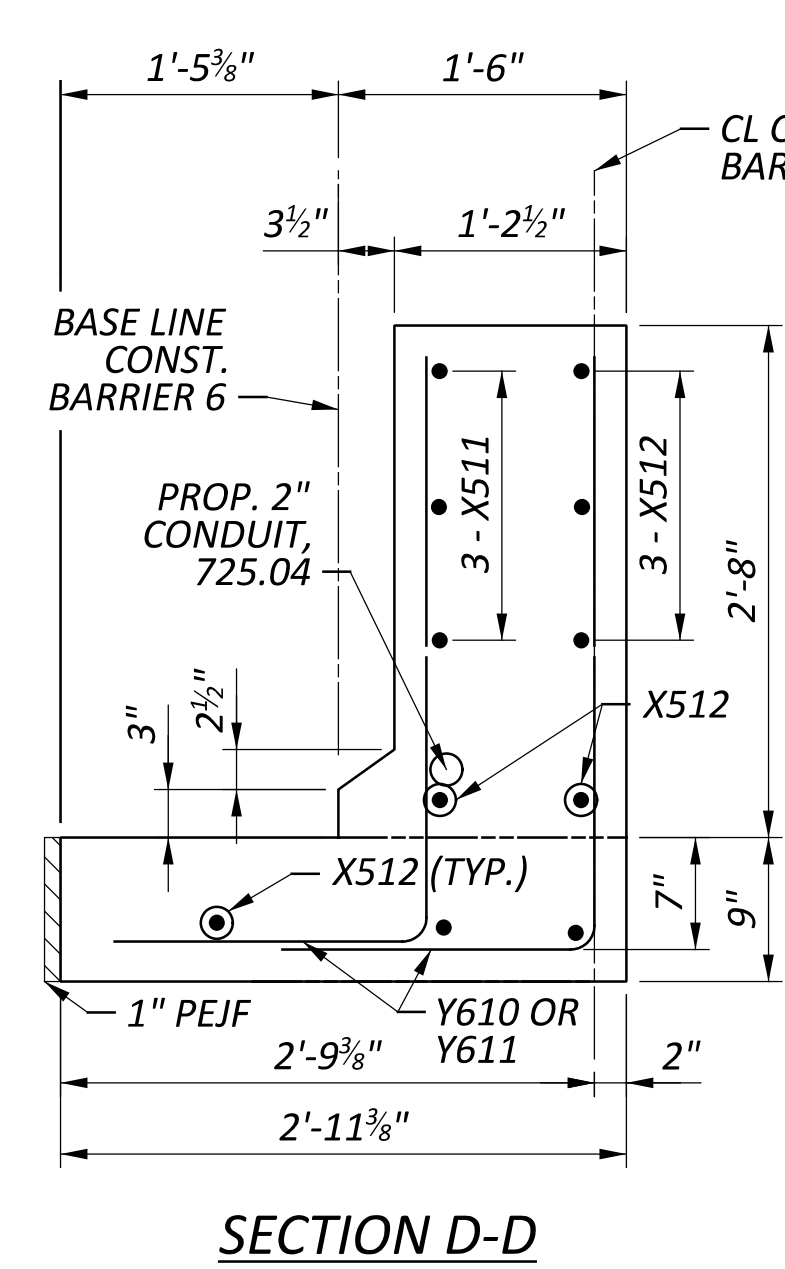


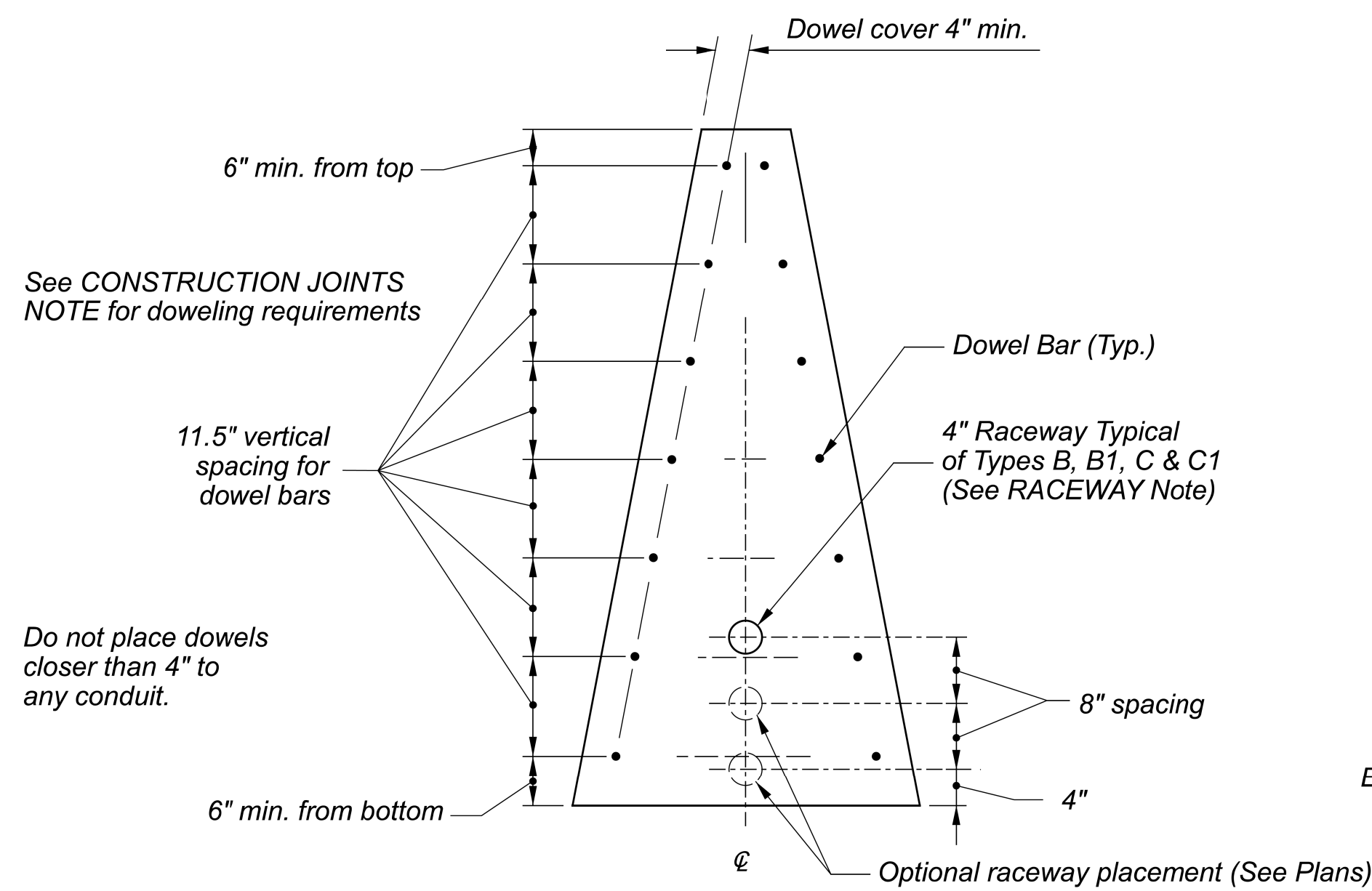


- NOTES:**
1. FOR ADDITIONAL NOTES AND DETAILS, SEE ST DWG RM-4.3.
  2. FOR ADDITIONAL JUNCTION BOX AND CONDUIT NOTES AND DETAILS, SEE ST DWG HL-30.31.
  3. ALL EX. DIMENSIONS ARE ±.
  4. 2. PAYMENT FOR THE CONCRETE BARRIER END SECTION SHALL BE MADE AT THE UNIT PRICE FOR ITEM 622 - CONCRETE BARRIER, 81" SSB, END SECTION, 32" TO 81" AND SHALL INCLUDE ALL MATERIALS, LABOR, AND REINFORCING STEEL REQUIRED TO CONSTRUCT THE BARRIER END SECTION AS SHOWN.

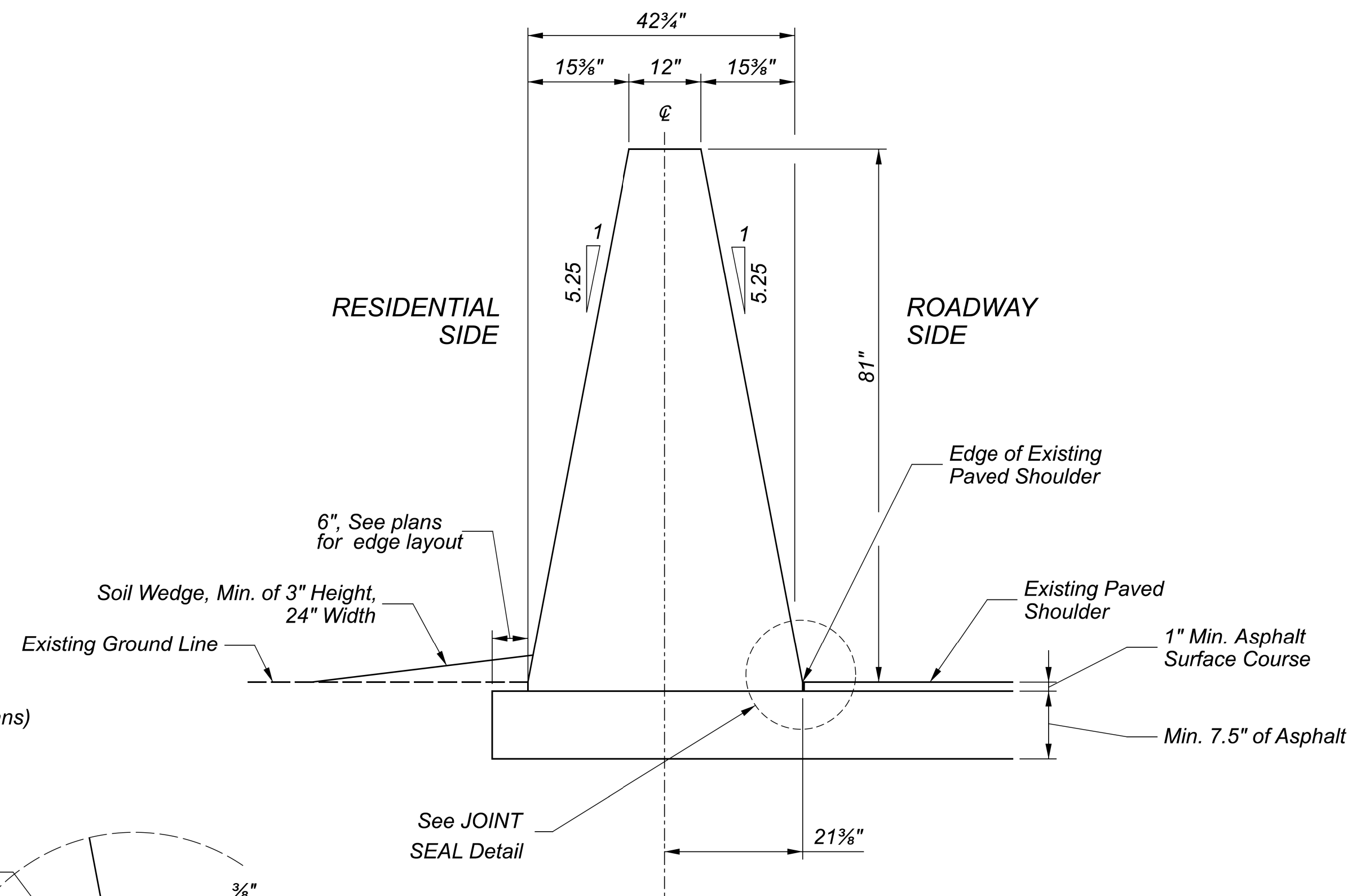
**STEEL LIST**  
(For Estimating Purposes Only)

Mark	Bar	Shape	No.	Length	Weight (lb)
X511	#5	Bent	3	5'-6"	17
X512	#5	Straight	8	5'-6"	46
X513	#5	Straight	12	11'-1"	139
X514	#5	Straight	14	40'-3"	588
Y610	#6	Bent	2	2'-10"	9
Y611	#6	Bent	8	4'-7"	55
Y612	#6	Bent	2 SERIES OF 5	Varies 5'-11" to 7'-1"	98
Total =					955

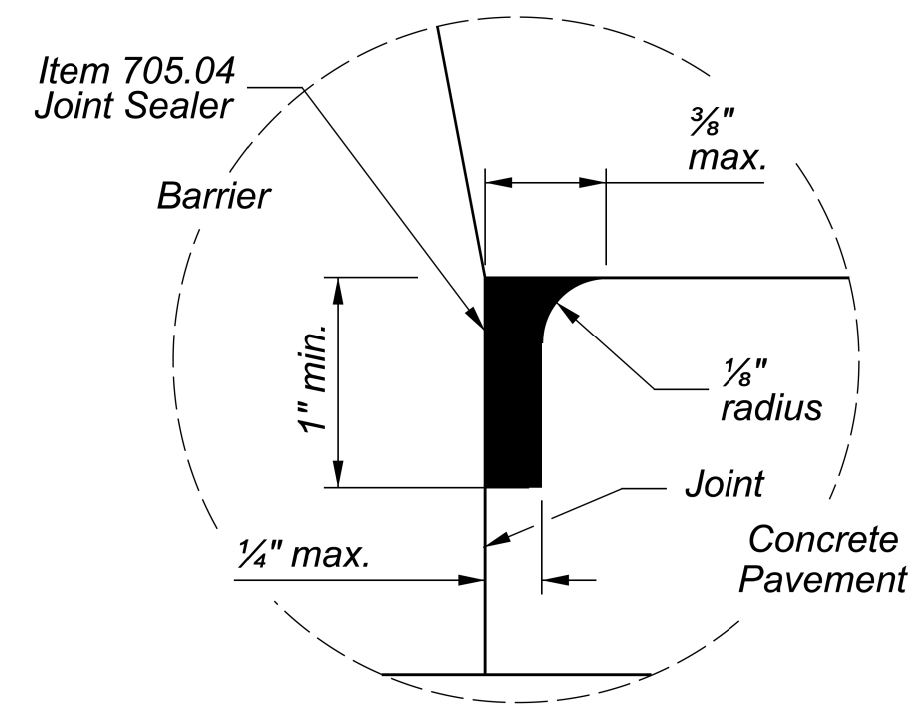




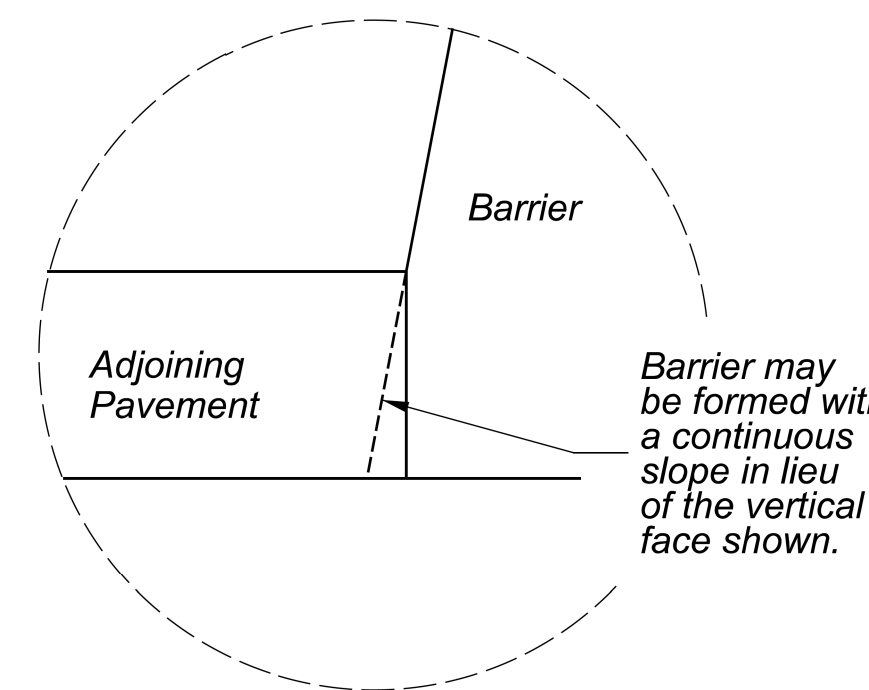
RACEWAY AND DOWEL BAR PLACEMENT



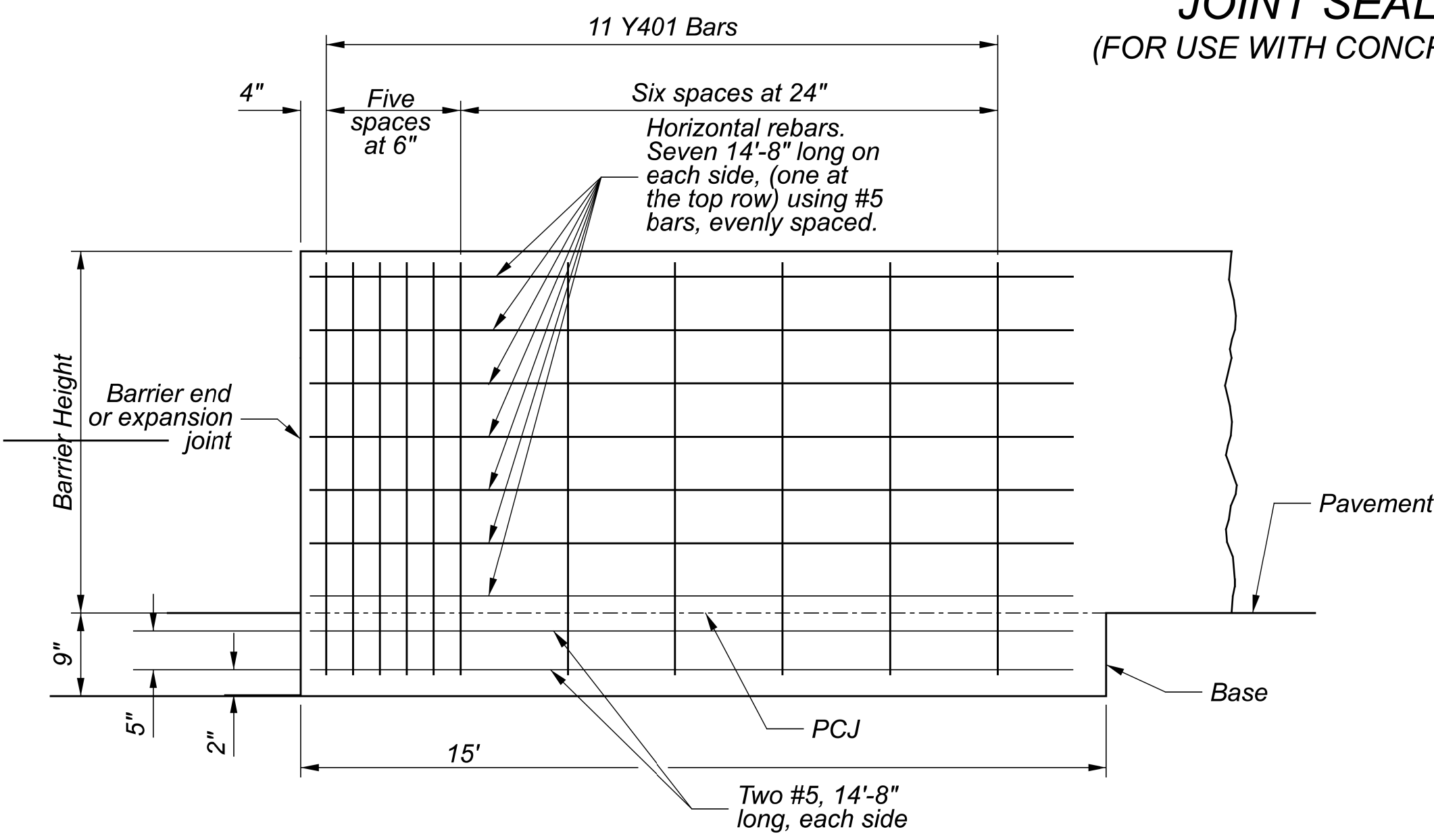
DETAIL FOR ASPHALT PAVEMENT



JOINT SEAL DETAIL  
(FOR USE WITH CONCRETE PAVEMENT)

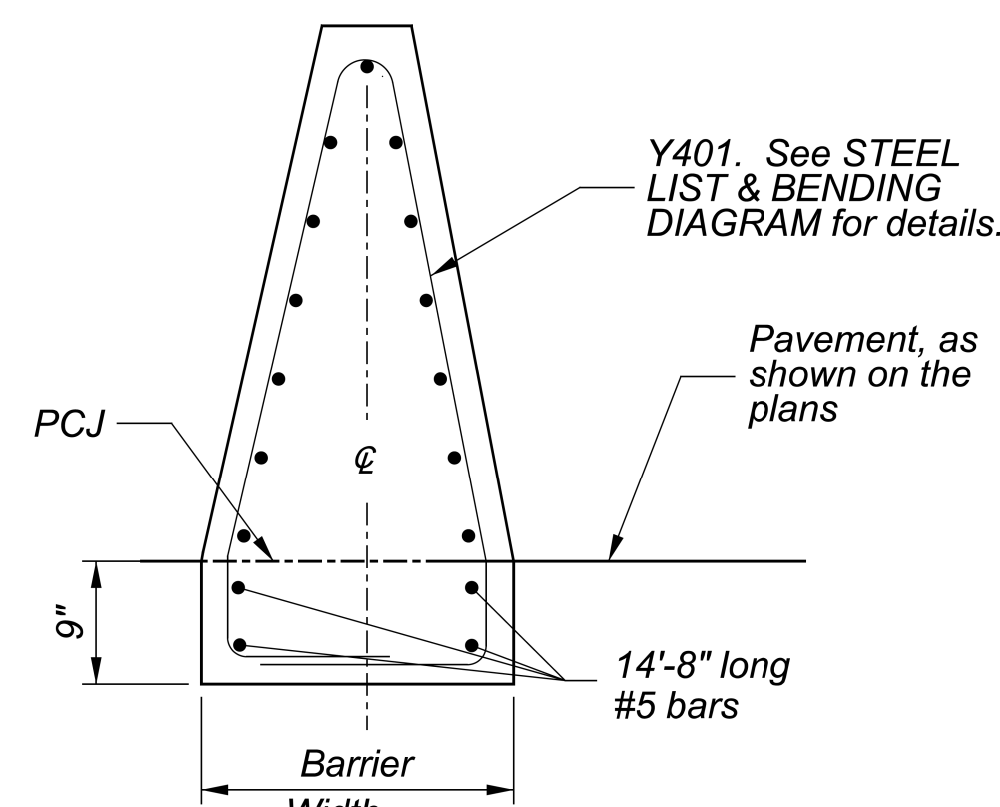


ALTERNATE TOE DETAIL



ELEVATION

END ANCHORAGE



SECTION

Dimensions for Y401 (English)			
x	y	z	Length
74"	37"	9"	18'-8"

Y401 STEEL LIST & BENDING DIAGRAM

REINFORCED END ANCHORAGES are required at the ends of concrete barrier runs and at interruptions in barrier caused by expansion joints. When barrier does not abut another barrier run, construct the last 15' using the END ANCHORAGE Detail as shown here. At expansion joints, construct an End Anchorage on both sides of joint, with a maximum gap of 2" for the open joint. The maximum expansion joint spacing shall be 800'. This anchorage is not needed at construction joints, provide dowel bar connections instead. See CONSTRUCTION JOINT NOTE for doweling details.

NOTES

81" SINGLE SLOPE BARRIER may be cast-in-place or slip formed.

MATERIALS: Construct using concrete with a minimum design strength of 4000 psi conforming to the requirements of CMS 499. Construct top and end edges with either a 1" radius or 3/4" chamfer, except at light pole foundations.

CONTRACTION JOINTS: Maximum allowable spacing of unsealed joints is 20' throughout the run of the barrier. Construct joints by using metal inserts inside the forms, preformed full width joint filler, a grooving tool, or by sawing. Inserts, tooled, or sawed joints will have a 3" depth. Construct all joints for the full height of the barrier. Saw as soon as curing will allow to prevent spalling. When used in conjunction with concrete pavement, match joints to those in the concrete pavement but not exceeding the maximum allowable spacing.

ADJOINING PAVEMENT: When the barrier is constructed in conjunction with new asphalt pavement, place it directly on the intermediate course. Construct the surface course directly against the barrier. Set barrier placed on existing pavement with a continuous wedge of surface material tapering from a 1" minimum thickness at the toe of the barrier to zero. For bidirectional installations construct the wedge on both sides of the barrier. For unidirectional installations, construct the wedge on the traveled way side and the width may be reduced to 12" minimum.

When the barrier is constructed in conjunction with new concrete pavement, place it directly on the base material. Construct the concrete slab against the barrier.

Barrier may be placed on top of existing concrete pavement and doweled as shown in DOWELING DETAILS (see Sheet 2). When pavement is to be constructed on one side of the barrier only, then compacted soil on the opposite side must be placed against the barrier at a minimum height of 3".

TRANSITIONS: Make linear transitions between different types of barrier within a 20' length.

CONSTRUCTION JOINTS: Barrier runs with abutting vertical surfaces at either required or permissible construction joints are to be doweled to each other by use of 3/4" dia. by 18" long epoxy coated deformed dowel bars as per CMS 622.02. Bars are to be placed as shown on the RACEWAY and DOWEL BAR PLACEMENT detail on this sheet. Provide a 4" clearance to barrier surfaces and to any raceways.

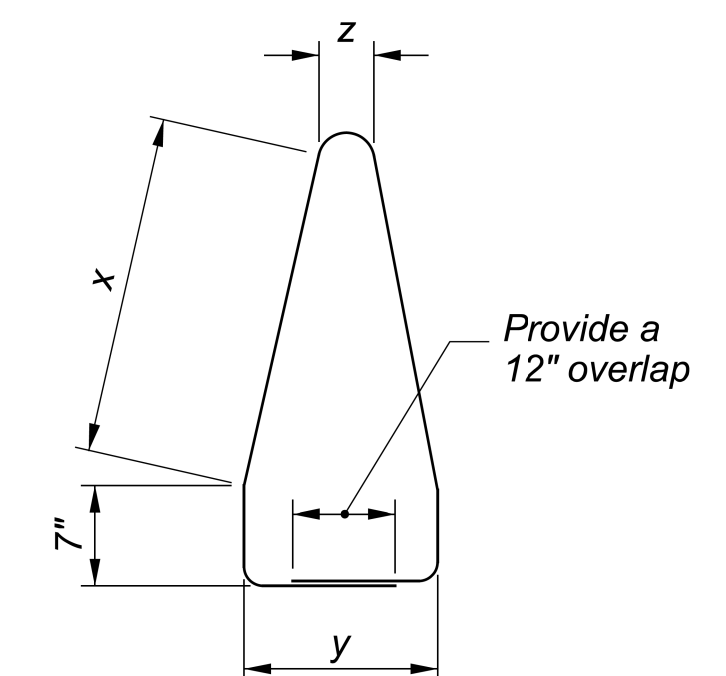
STATION MARKINGS: Impress markings in the "green" concrete on both sides at the top of the barrier. The cost is incidental to the unit cost bid for this barrier.

RACEWAY: Locate as shown on in RACEWAY PLACEMENT Detail, unless otherwise directed by the Engineer. Ensure that the electrical raceway is clear of obstructions.

Cost of the 4" polyvinyl chloride raceway is included where shown on the plans. The cost for additional raceways and No. 10 AWG copperclad or aluminum-clad wire is also included where shown on the plans for future installation of circuits.

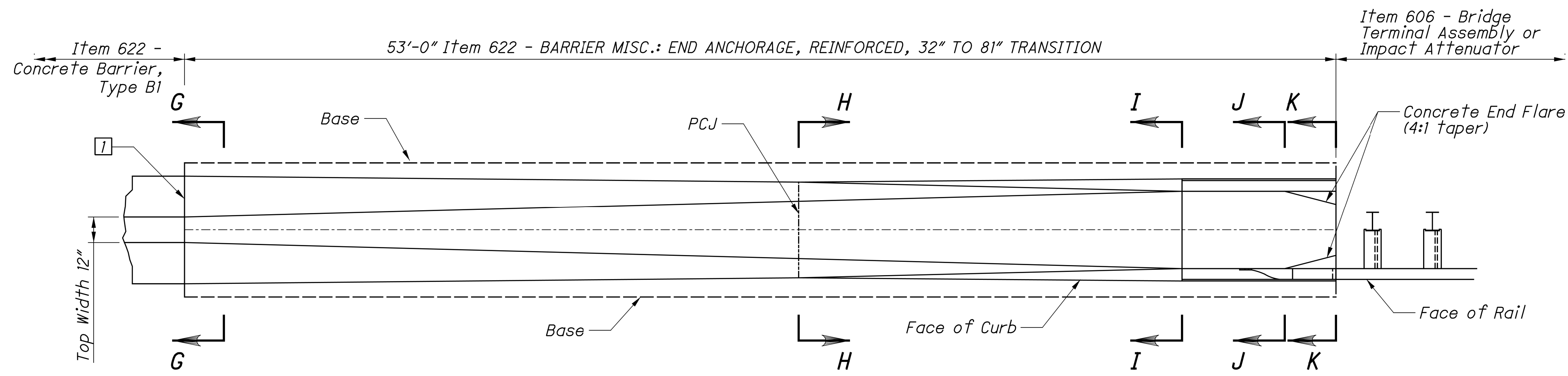
PAYMENT: will be made at the unit price bid per Foot for ITEM 622 - BARRIER, MISC.: 81" SSB. Include all materials, labor, raceways, dowel holes, markings and other incidentals necessary to construct the barrier.

Payment for any reinforced end anchors, as shown on the END ANCHORAGE details will be made at the unit price bid per Each for ITEM 622 - BARRIER, MISC.: 81" SSB, END ANCHORAGE, REINFORCED. This includes all materials, labor, and other incidentals necessary to construct this anchor.

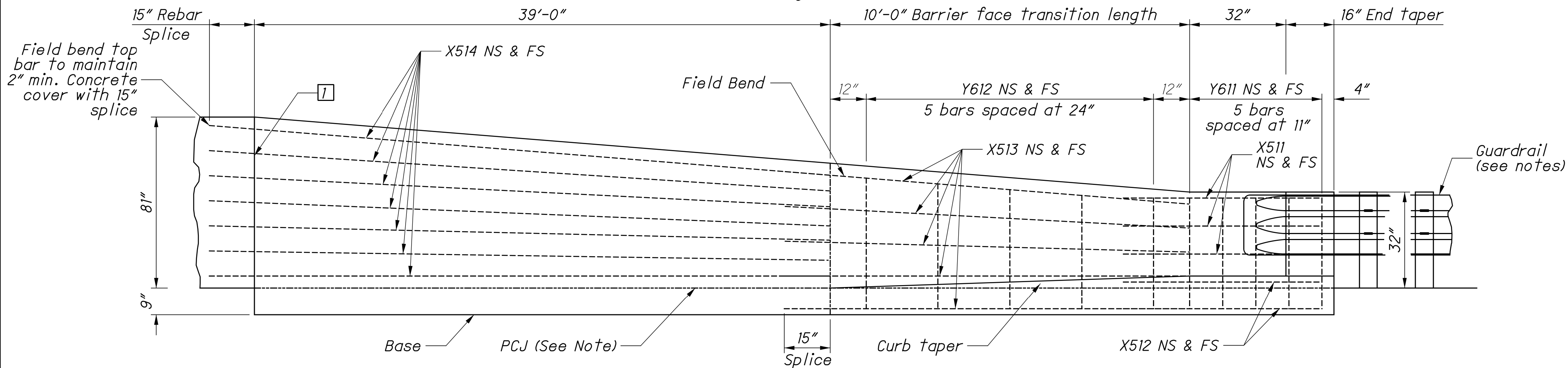


Y401 #4





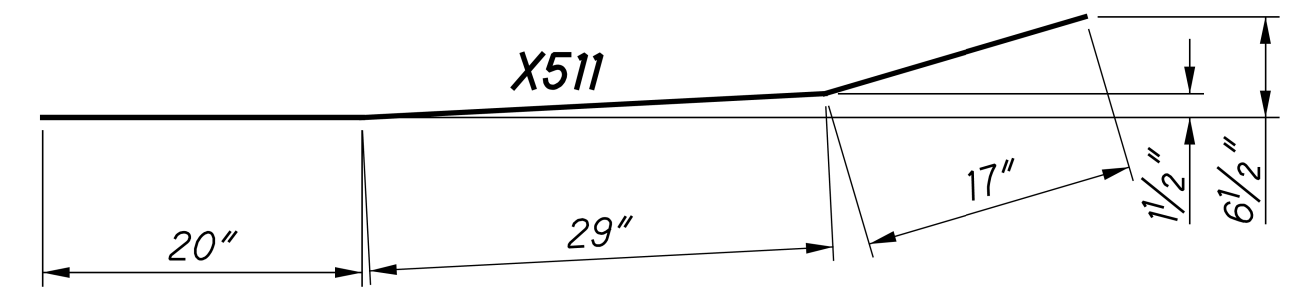
**PLAN**  
Reinforcing not shown



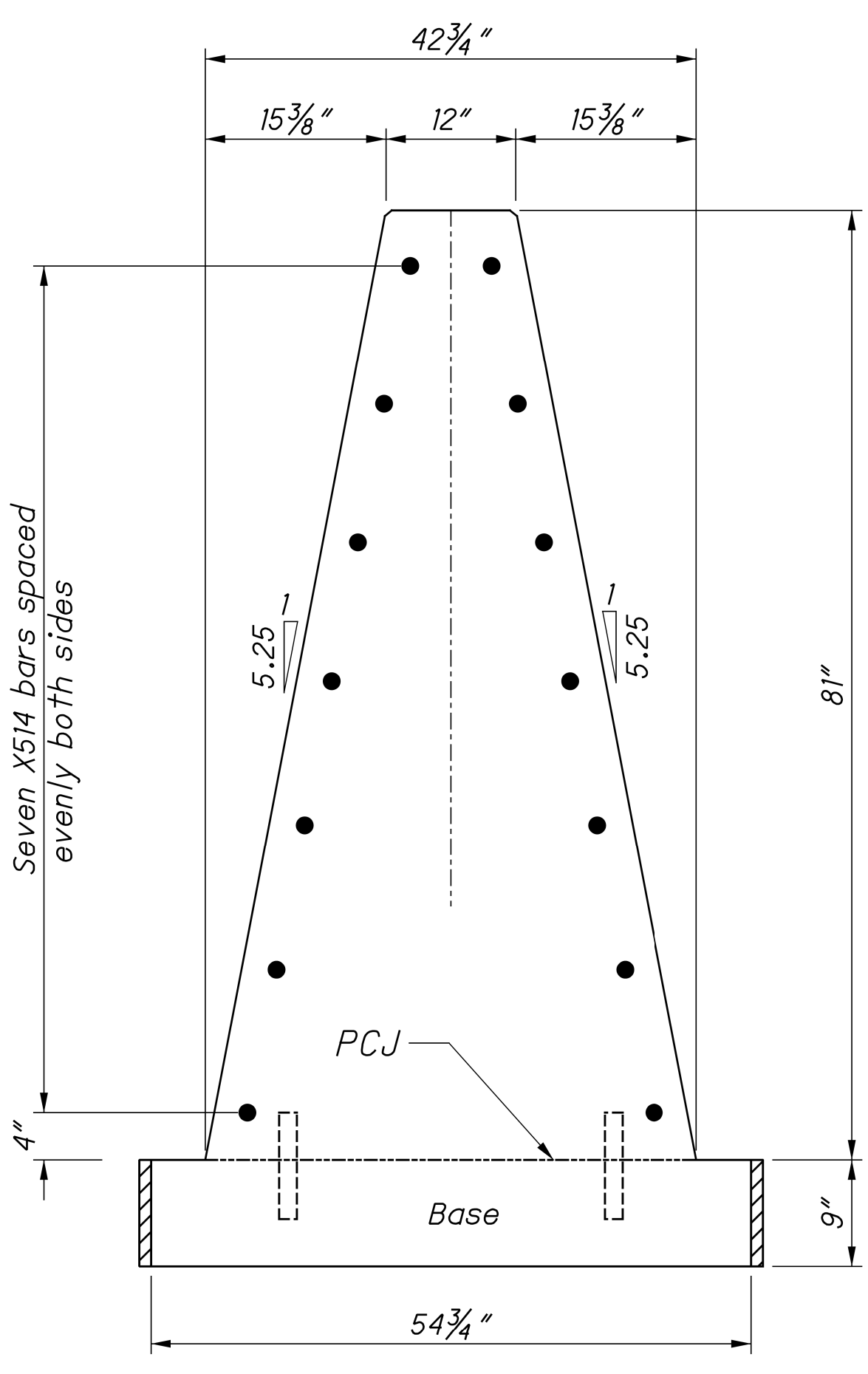
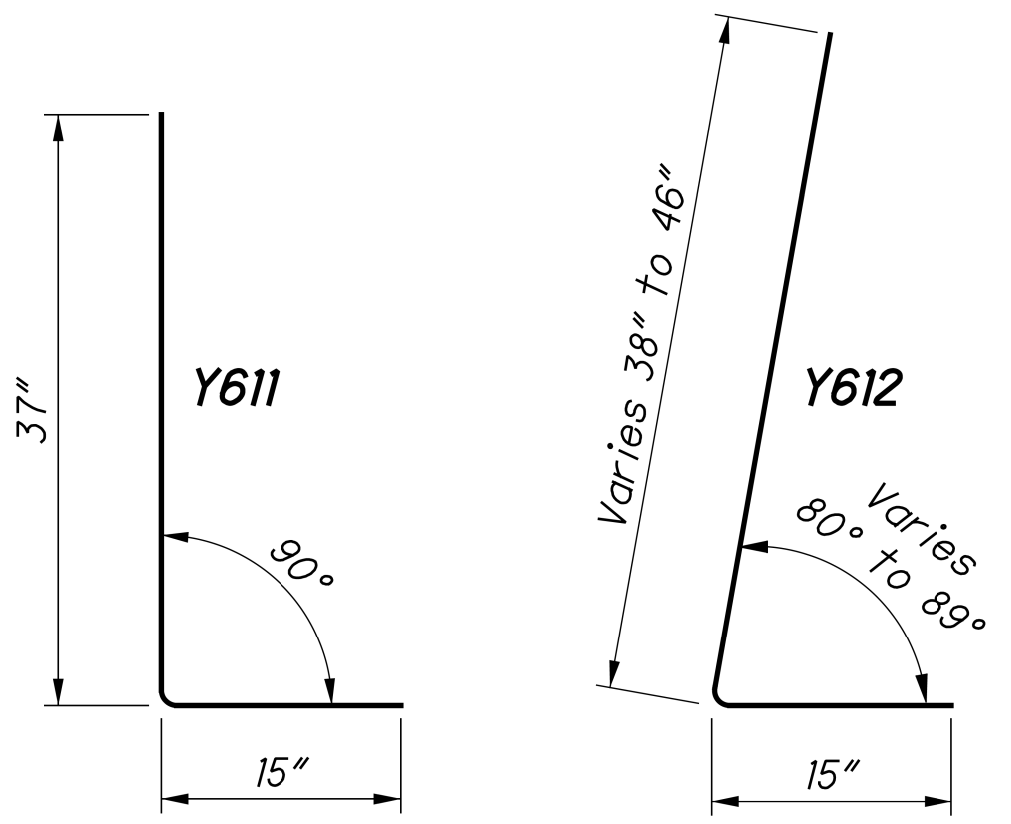
**ELEVATION**

NS = Near Side  
 FS = Far Side

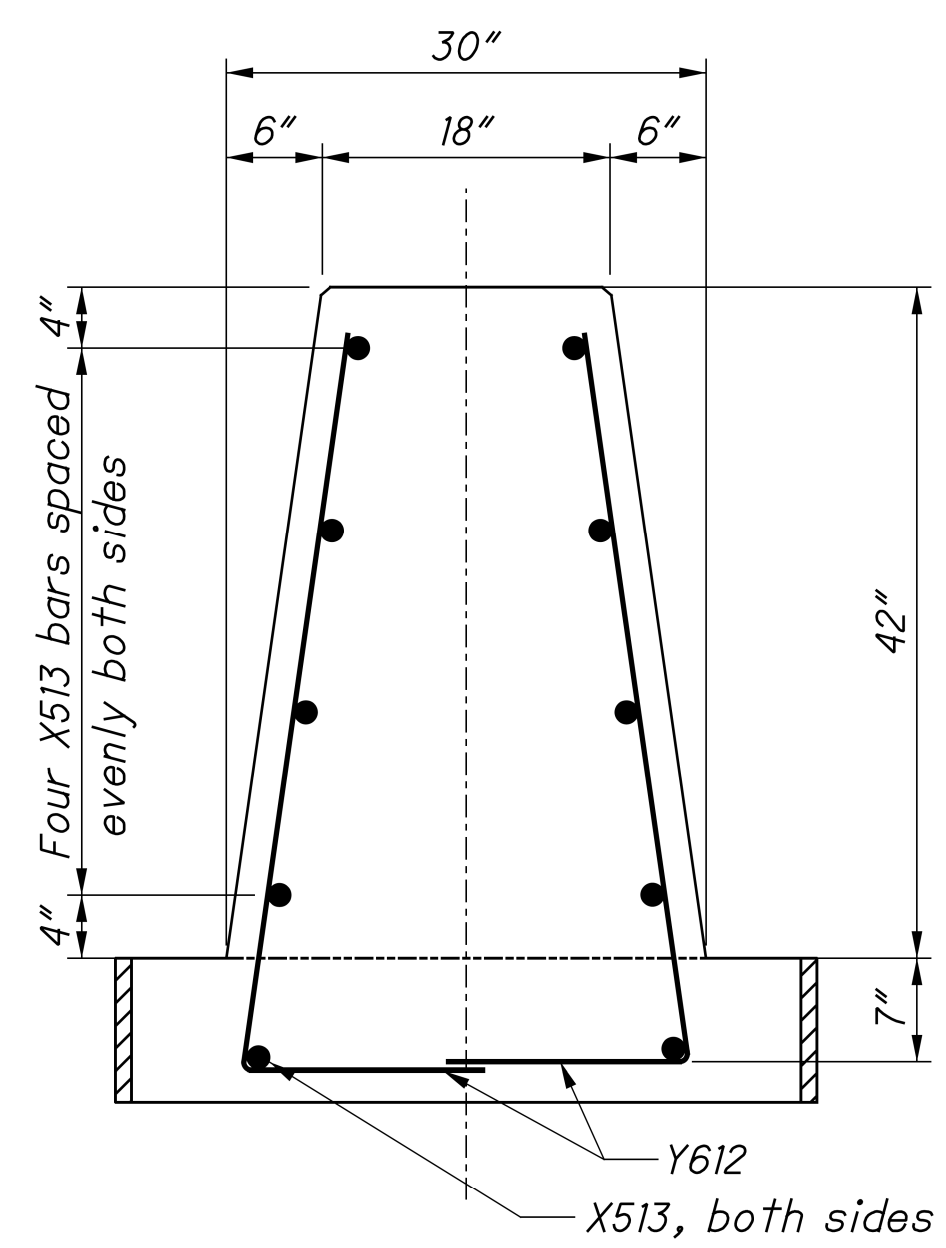
□ Contraction Joint. See NOTES on 1/8. Provide rebar cover of 3/2".



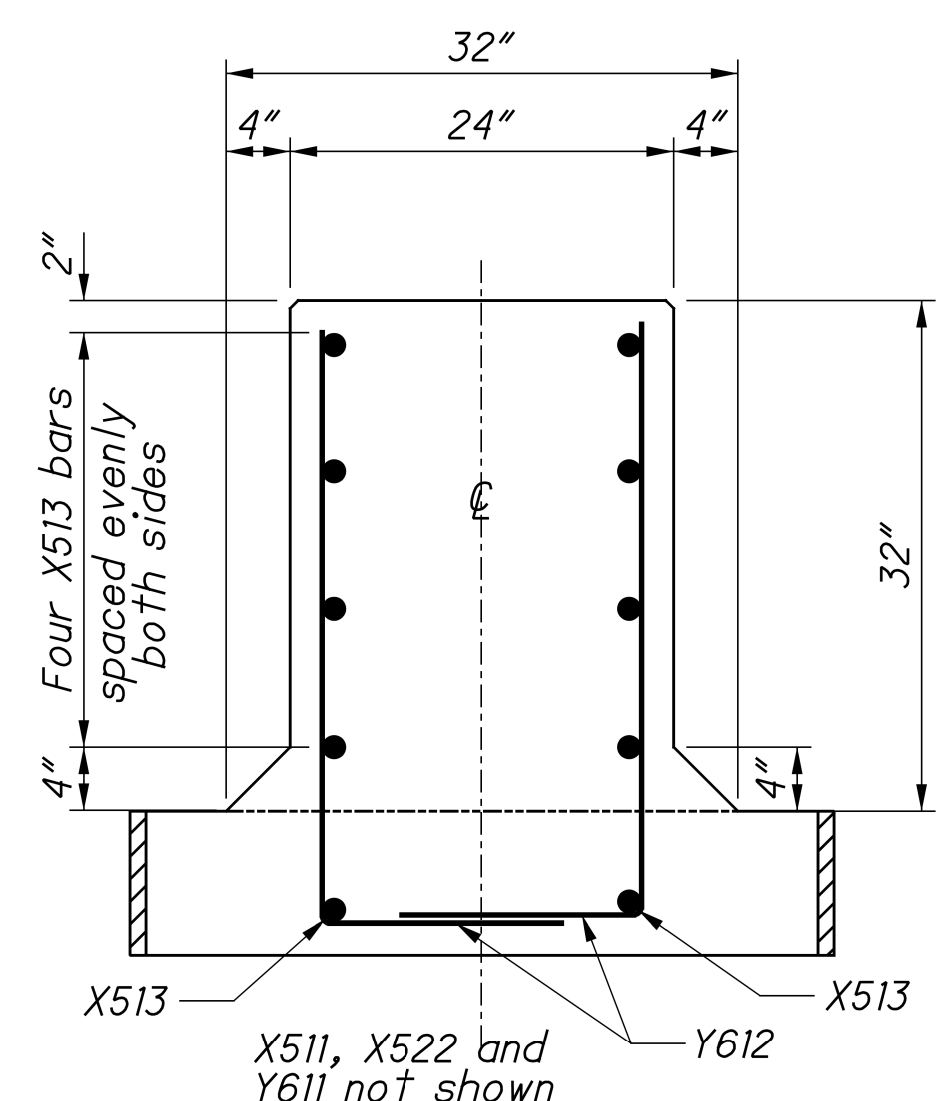
**BENDING DIAGRAMS**



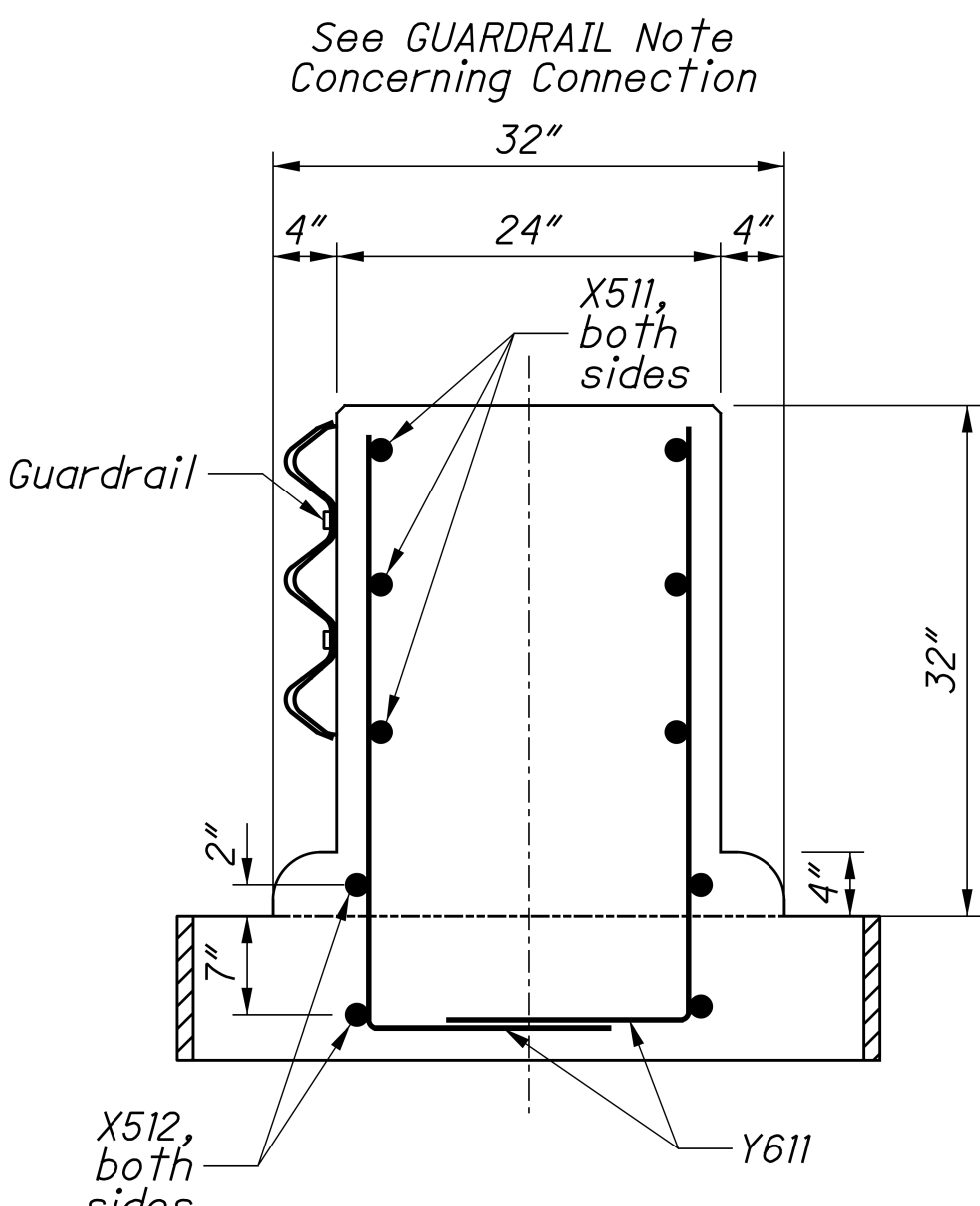
**SECTION G-G**



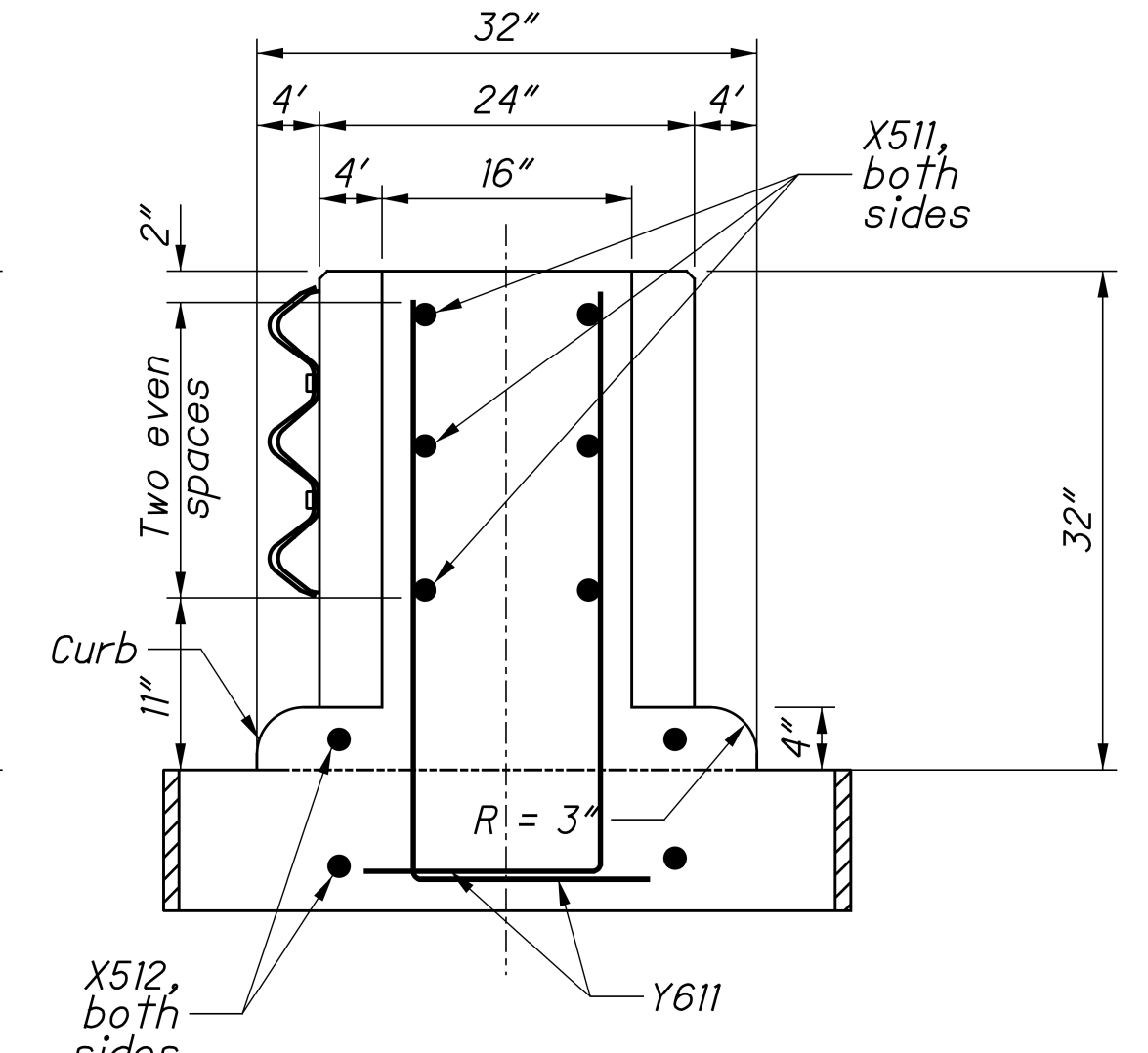
**SECTION H-H**



**SECTION I-I**



**SECTION J-J**



**SECTION K-K**

**NOTES**

**GENERAL:** See P.224 for 81" Single Slope Barrier details and materials. Provide 2" concrete cover over rebars, except as noted.

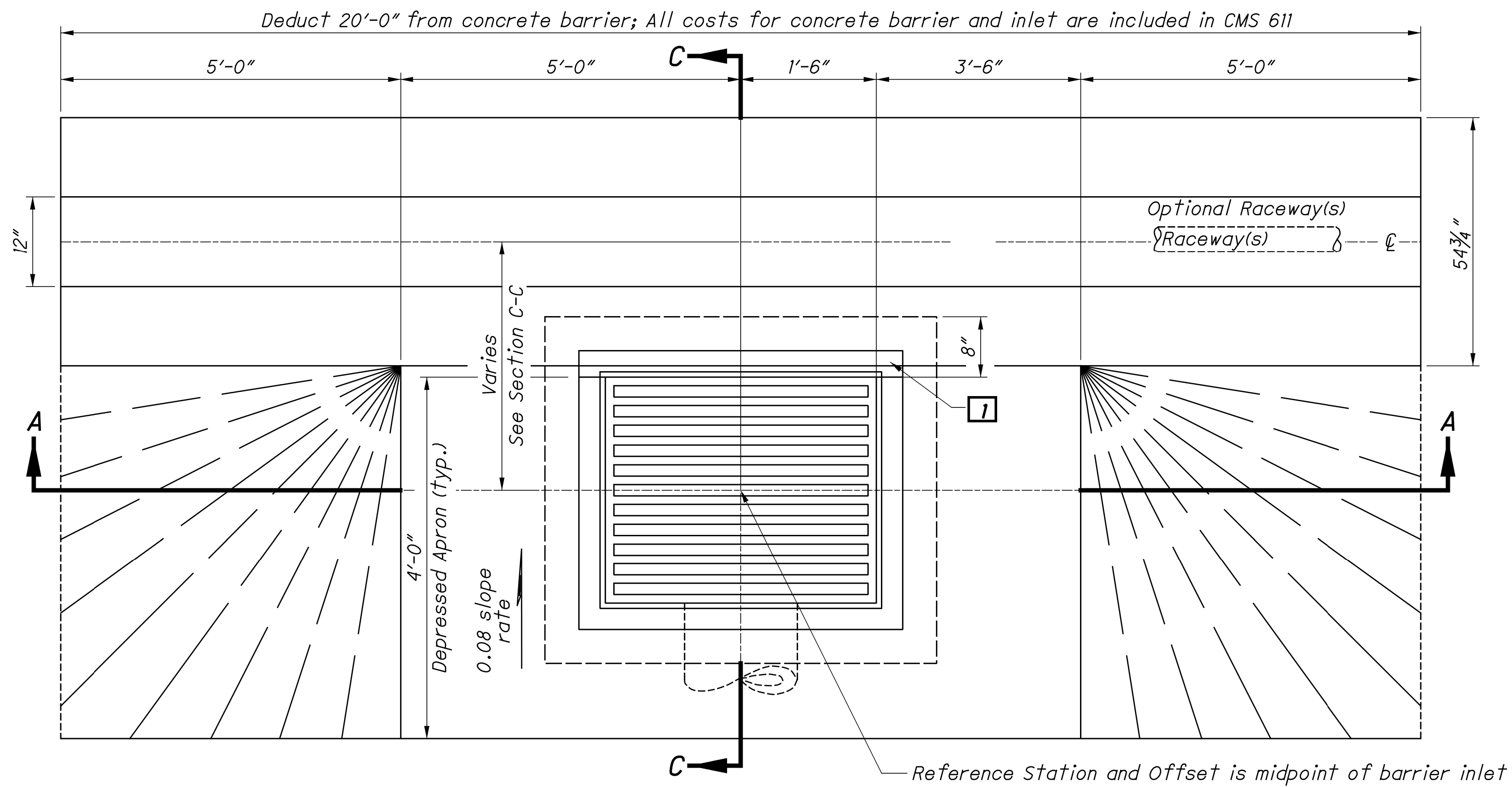
**GUARDRAIL:** For Bridge Terminal Assembly and attachment details see SCD MGS-1.1 (SCD GR-3.5 if connecting to Type 5 Guardrail). Information on Impact Attenuators is found in the Location and Design Manual, Volume 1, Section 603.

**BARRIER FACE TRANSITIONS:** To prevent vehicle snagging, smooth transitions from vertical faces to the single slope faces are made over a 10' distance.

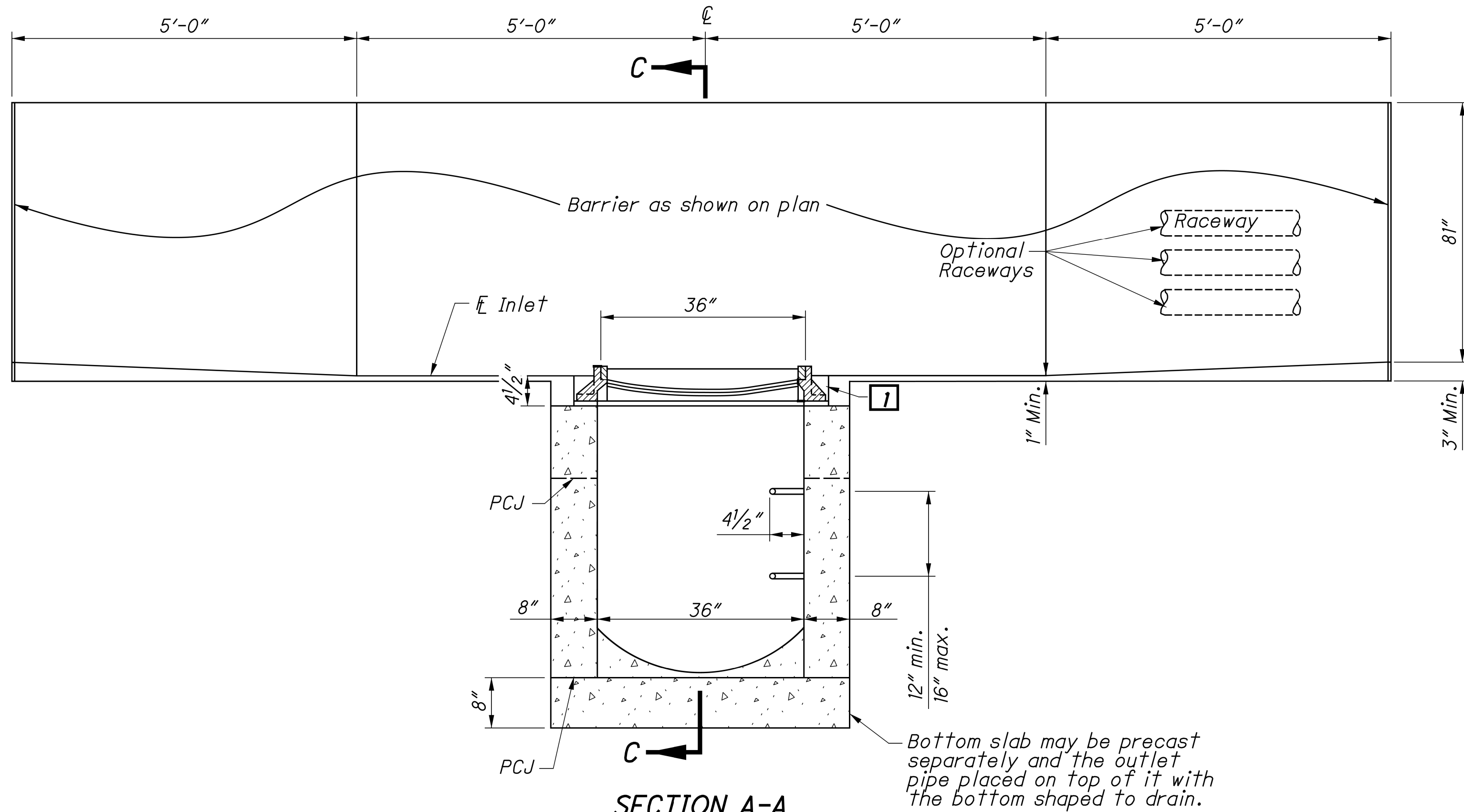
**PCJ:** Permissible Construction Joint. In the unreinforced base section, barrier may be placed on top of concrete base if doweled as shown on SCD RM-4.3.

**PAYMENT:** Payment for the Concrete End Section shall be made at the unit price for Item 622 - BARRIER, MISC.: 81" SSB, END SECTION, 32" TO 81" and shall include all materials, labor, and reinforcing steel required to construct the barrier end section as shown.

TYPE B1 STEEL LIST				
Mark	Bar	Shape	No.	Length
X511	#5	Bent	6	5'-6"
X512	#5	Straight	4	5'-6"
X513	#5	Straight	10	11'-1"
X514	#5	Straight	10	40'-3"
Y611	#6	Bent	10	4'-2"
Y612	#6	Bent	2 series of 5	Varies 4'-3" to 5'-3"



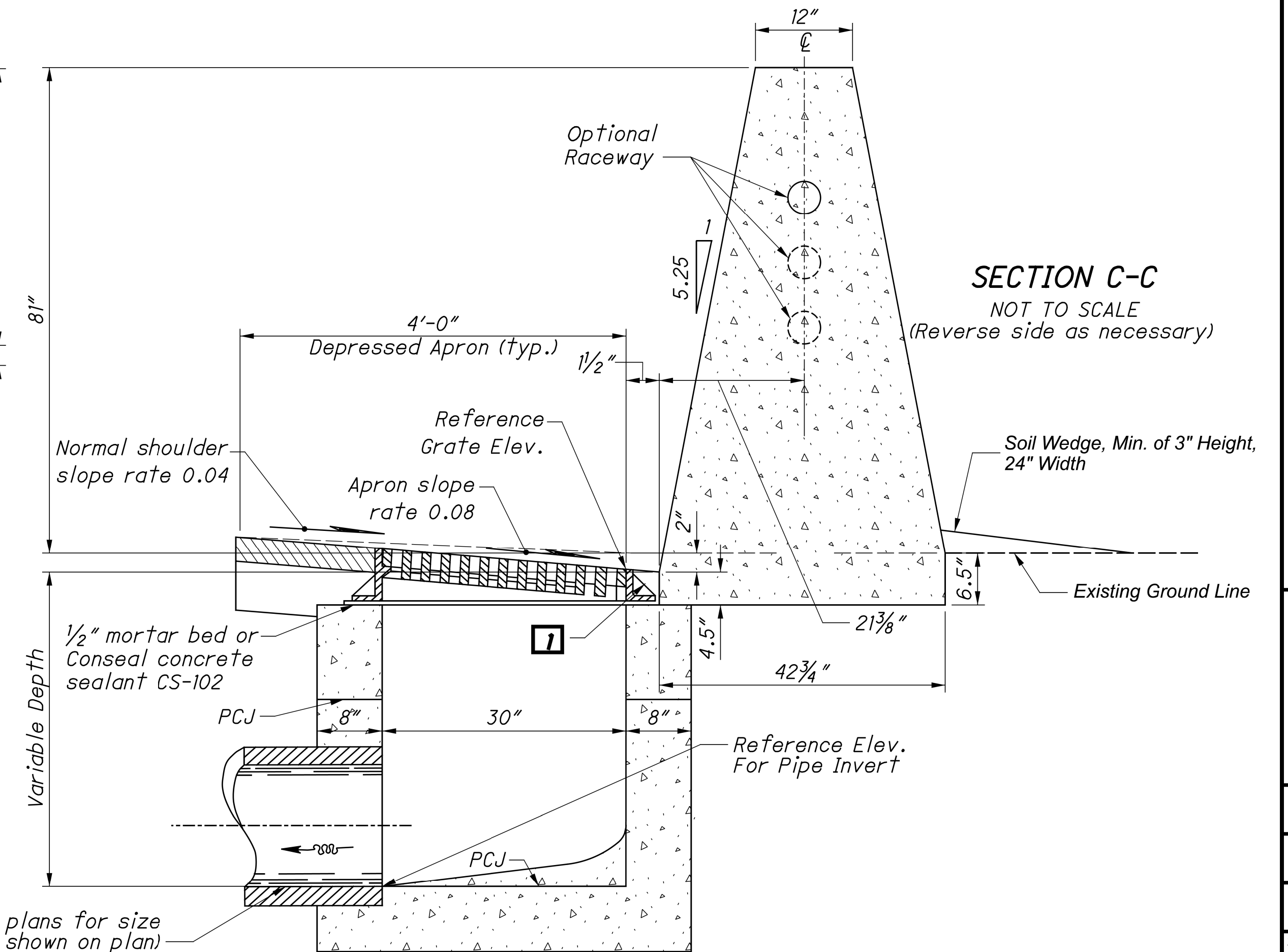
PLAN VIEW  
NOT TO SCALE



SECTION A-A  
NOT TO SCALE

1 After casting is placed, fill void with 4000 psi compressive strength concrete.

LEGEND



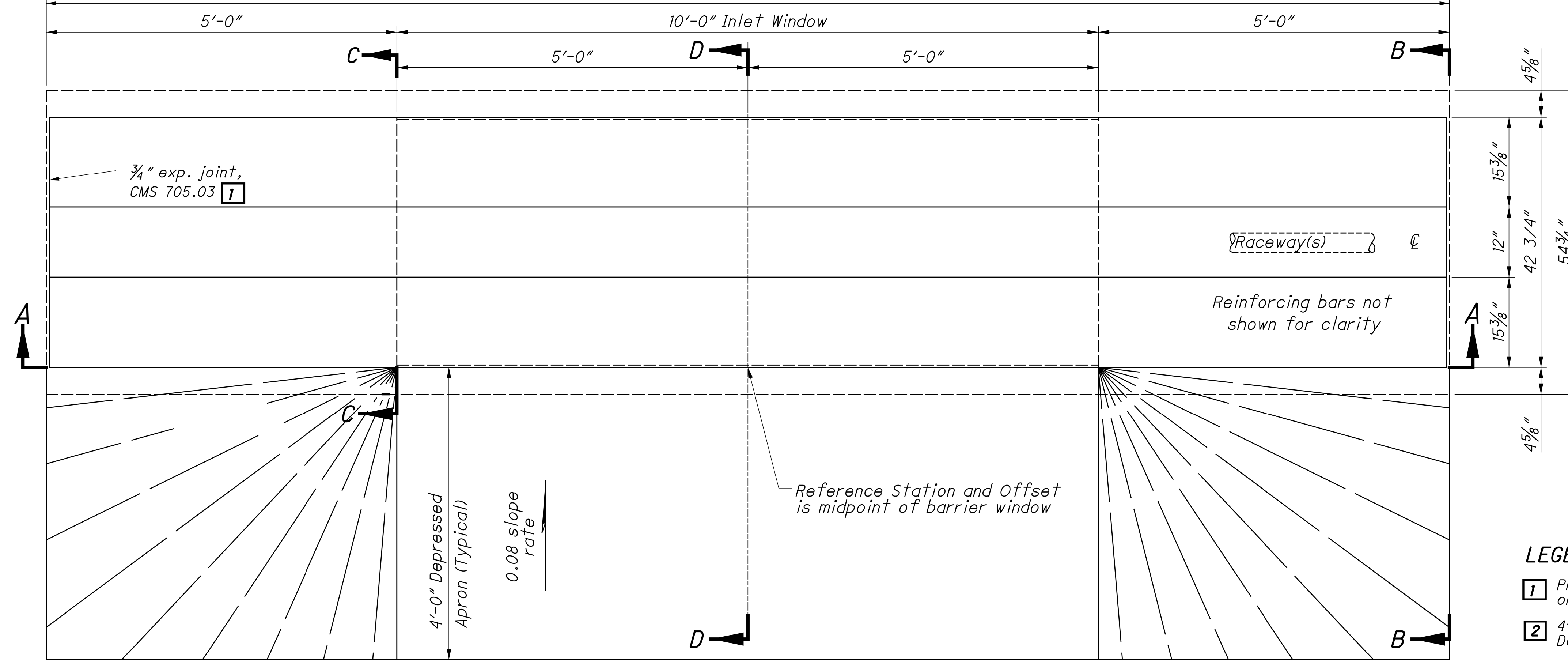
SECTION C-C  
NOT TO SCALE  
(Reverse side as necessary)

NOTES

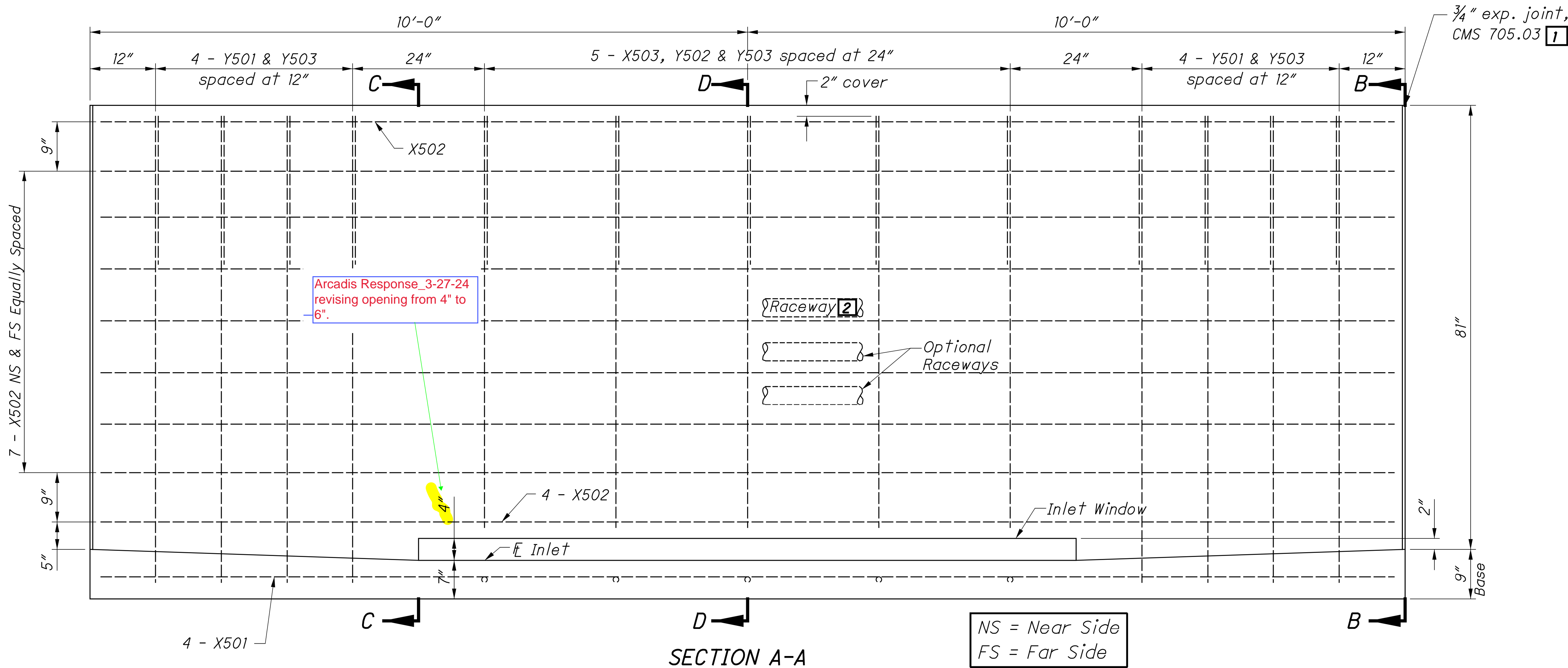
- GENERAL:** For details of 81" Single Slope Barrier, see Sheet P.224
- WALLS:** The walls between the bottom slab and the upper permissible construction joint may be built of brick, concrete block or cast-in-place concrete, 8" nominal thickness for depths of 12' or less. Precast walls have a minimum thickness of 6" and are reinforced sufficiently to permit shipping and handling without damage. The unit above the upper permissible construction joint may be precast or cast-in-place.
- CONCRETE:** Provide 4000 psi compressive strength concrete for cast-in-place structures. When precast, provide concrete that meets the requirements of CMS 706.13. Mark the inlet number on the structure. Seal the exposed concrete surfaces of the barrier per CMS Item 512 when specified in the plans.
- REINFORCING STEEL:** Provide epoxy coated reinforcing steel in accordance with CMS 509.09.
- CASTINGS:** Provide casting according to SCD I-3B.
- INLETS OVER 12 FEET IN DEPTH:** Provide precast or cast-in-place concrete for inlets over 12 feet in depth. Reinforce with #5 bars on 12" centers both vertically and horizontally with 2" clearance from the inside wall face.
- OPENINGS:** Pipe openings are the outside diameter of the pipe being supplied plus 2" when fabricated or field cut. Fill any voids per CMS 611.
- PCJ:** Permissible construction joint.
- STEPS:** Provide steps according to SCD MH-1.
- PAYMENTS:** Payment will be made at the unit price bid per Each for ITEM 611 - INLET, MISC.: BARRIER INLET, 81" SSB and includes all materials, reinforcing steel, castings, raceways, wiring and labor required to construct the inlet as shown. Sealing of exposed concrete and sealing of the barrier will be paid for under Item 512 when specified in the plans.

DESIGN AGENCY	
ARCADIS	
8101 NORTH HIGGINS SUITE 100 COLUMBIANA, OH 43085 614.841.4900 www.arcadis.com	
DESIGNER	JMK
REVIEWER	JDH
PROJECT ID	117607
SHEET	TOTAL
P.226	P.295

Deduct 20'-0" from concrete barrier; All costs for concrete barrier and window section are included in CMS 622



PLAN VIEW



SECTION A-A

NS = Near Side  
 FS = Far Side

NOTES

1. For additional notes and details, see SCD I-3B.
2. For sections B-B, C-C, & D-D, see sheet P.228

**PAYMENT:** Payment for the Concrete Barrier Window Section shall be made at the unit price bid for ITEM 622 - BARRIER, MISC.: 81" SSB, WINDOW SECTION, Each and shall includes all materials, reinforcing steel, castings, labor and incidentals required to construct the Concrete Barrier Window Section as shown.

Tied Concrete Block Mat with Type 1 Underlayment is paid at the contract unit price bid for Item 601 - Tied Concrete Block Mat with Type 2 Underlayment

LEGEND

- 1 Provide a 1/2" minimum exp. joint in concrete pavement or concrete shoulders.
- 2 4" electrical raceway. See Sheet 6/8 for RACEWAY PLACEMENT Details.

DESIGN AGENCY



DESIGNER

JMK

REVIEWER

JDH 03-27-24

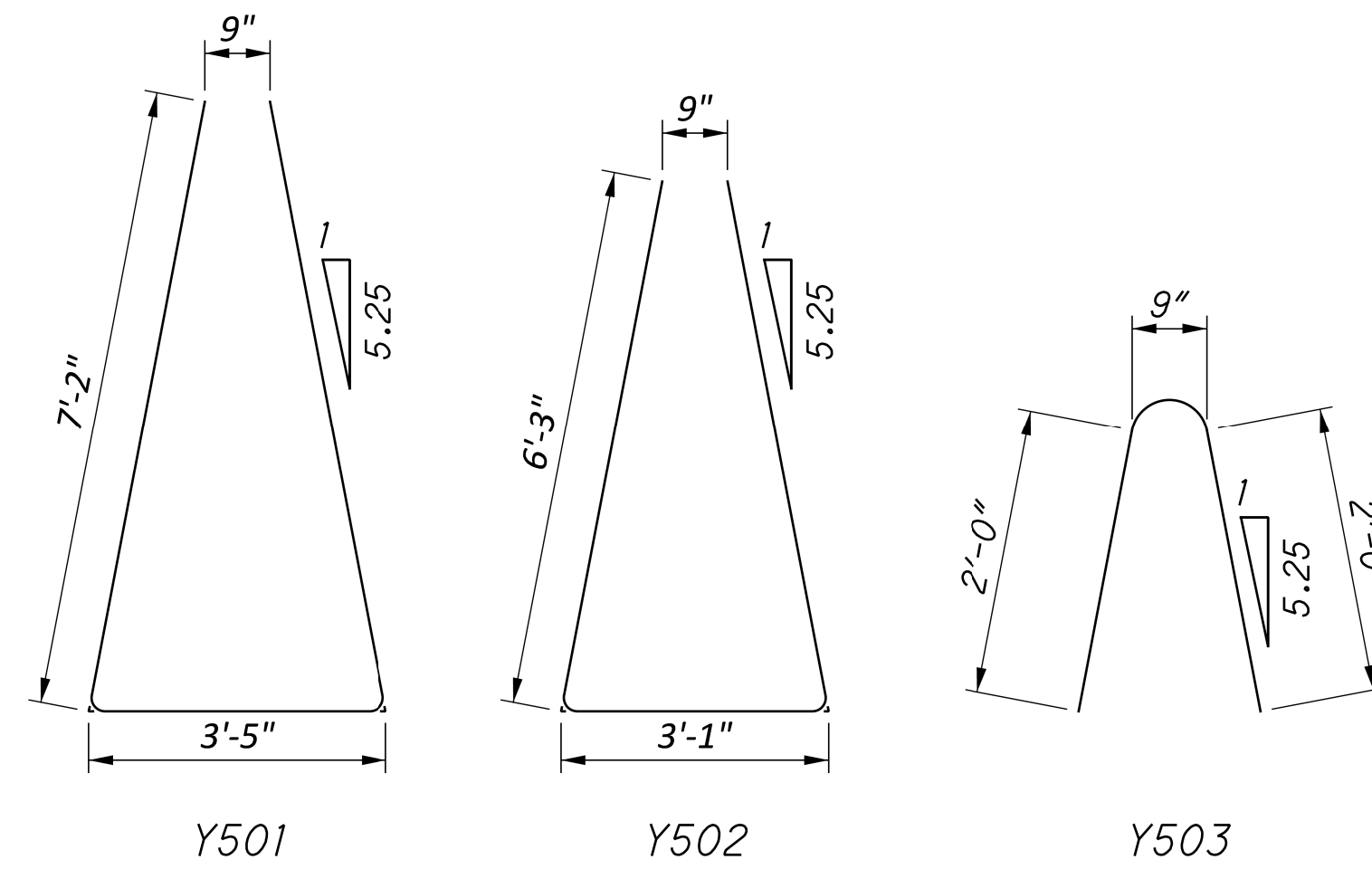
PROJECT ID

117607

SHEET TOTAL

P.227 P.295

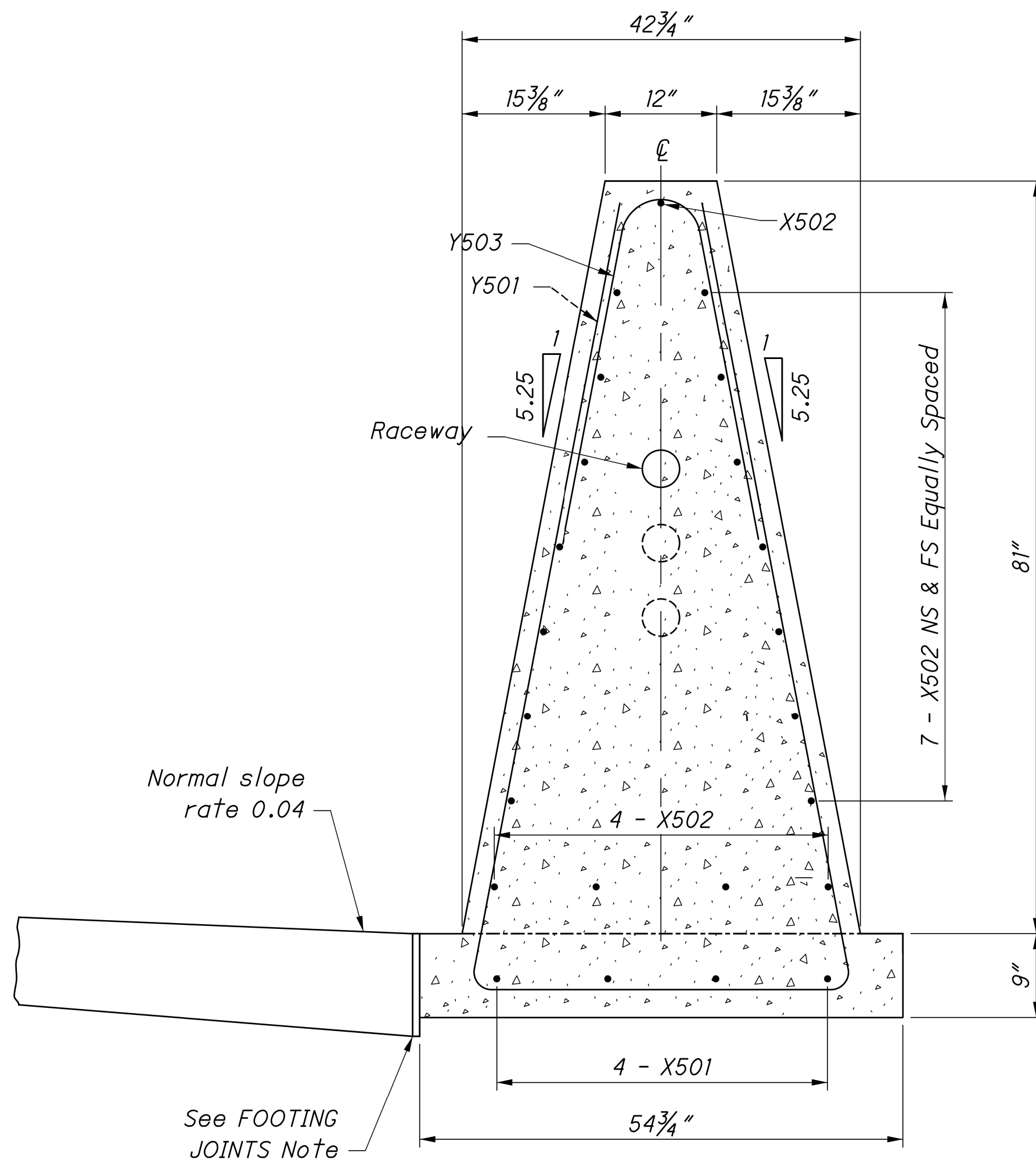
STEEL LIST (For Estimating Purposes Only)											
X501		X502		X503		Y501		Y502		Y503	
#5 Bar		#5 Bar		#5 Bar		#5 Bar		#5 Bar		#5 Bar	
Straight		Straight		Straight		Bent		Bent		Bent	
No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length
4	19'-8"	19	19'-6"	5	4'-0"	8	17'-6"	5	15'-4"	13	5'-2"



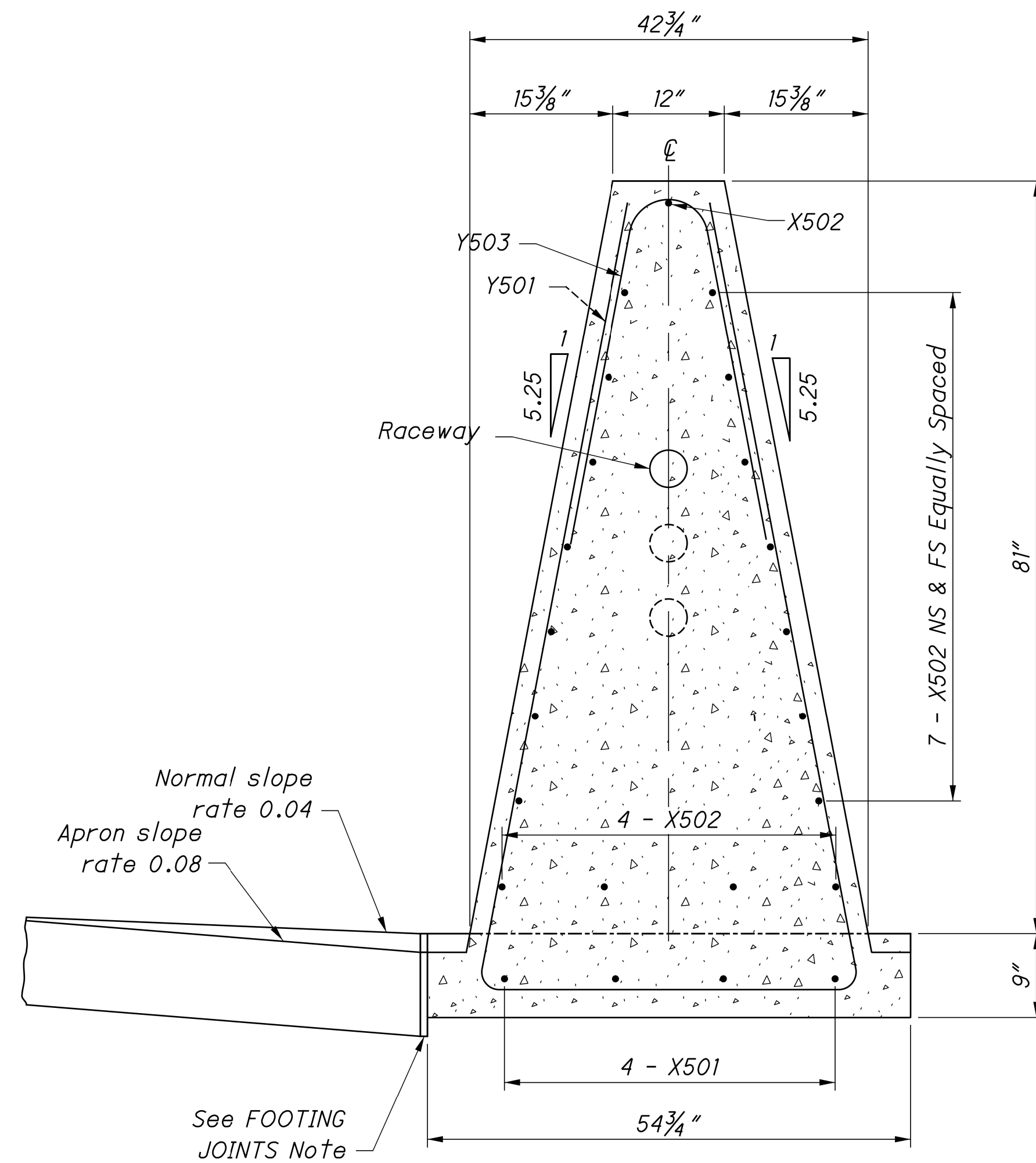
BENDING DIAGRAMS

NOTES

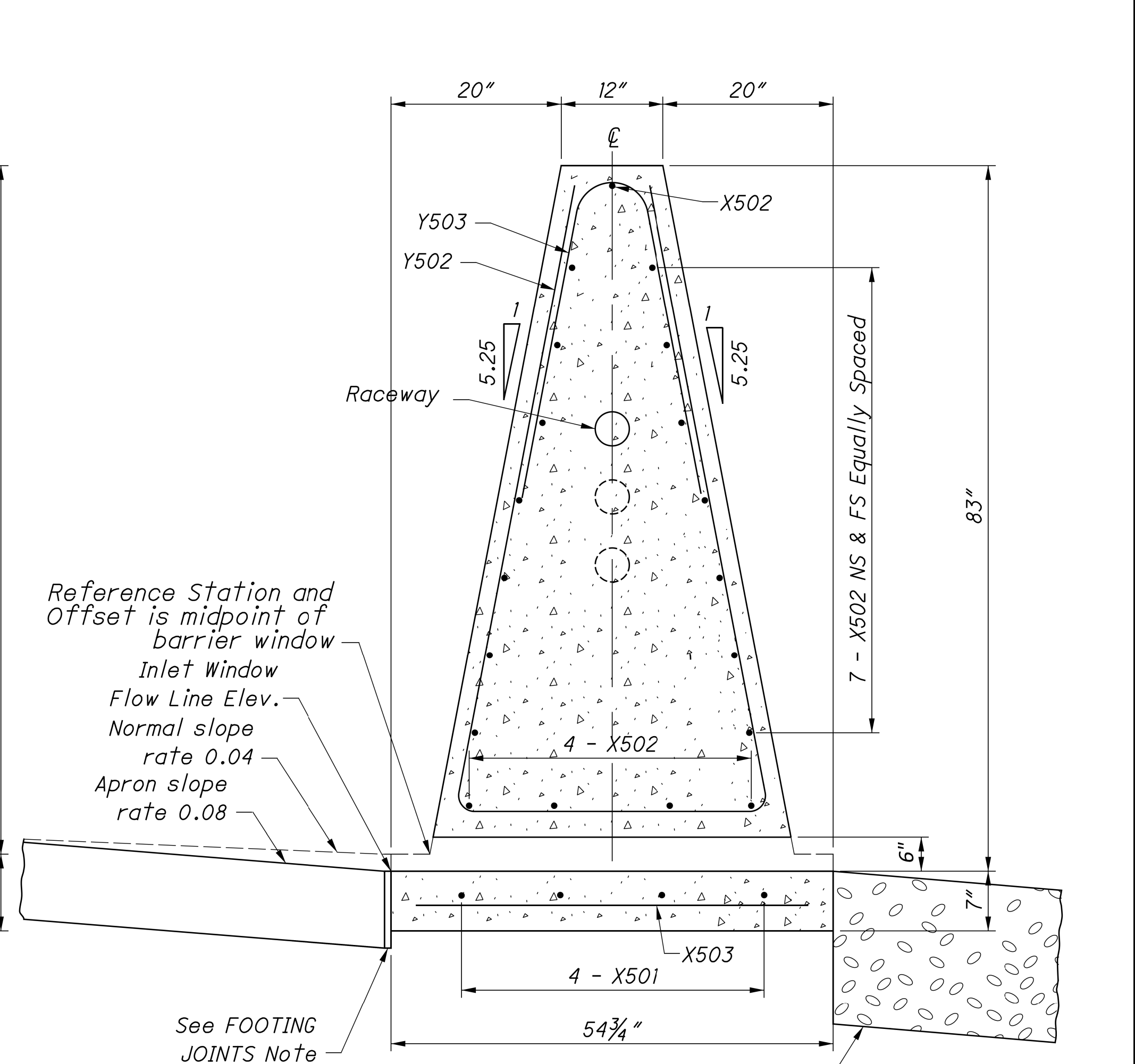
- For additional notes and details, see SCD I-3B.
  - For location of sections A-A, B-B & C-C, see sheet P.226.
  - Reinforcing Steel: Provide epoxy coated reinforcing steel in accordance with CMS 509.09.
- FOOTING JOINTS:** Provide a sealed joint with the vertical walls between the barrier footing and a concrete pavement or concrete base as detailed on SCD RM-4.3.



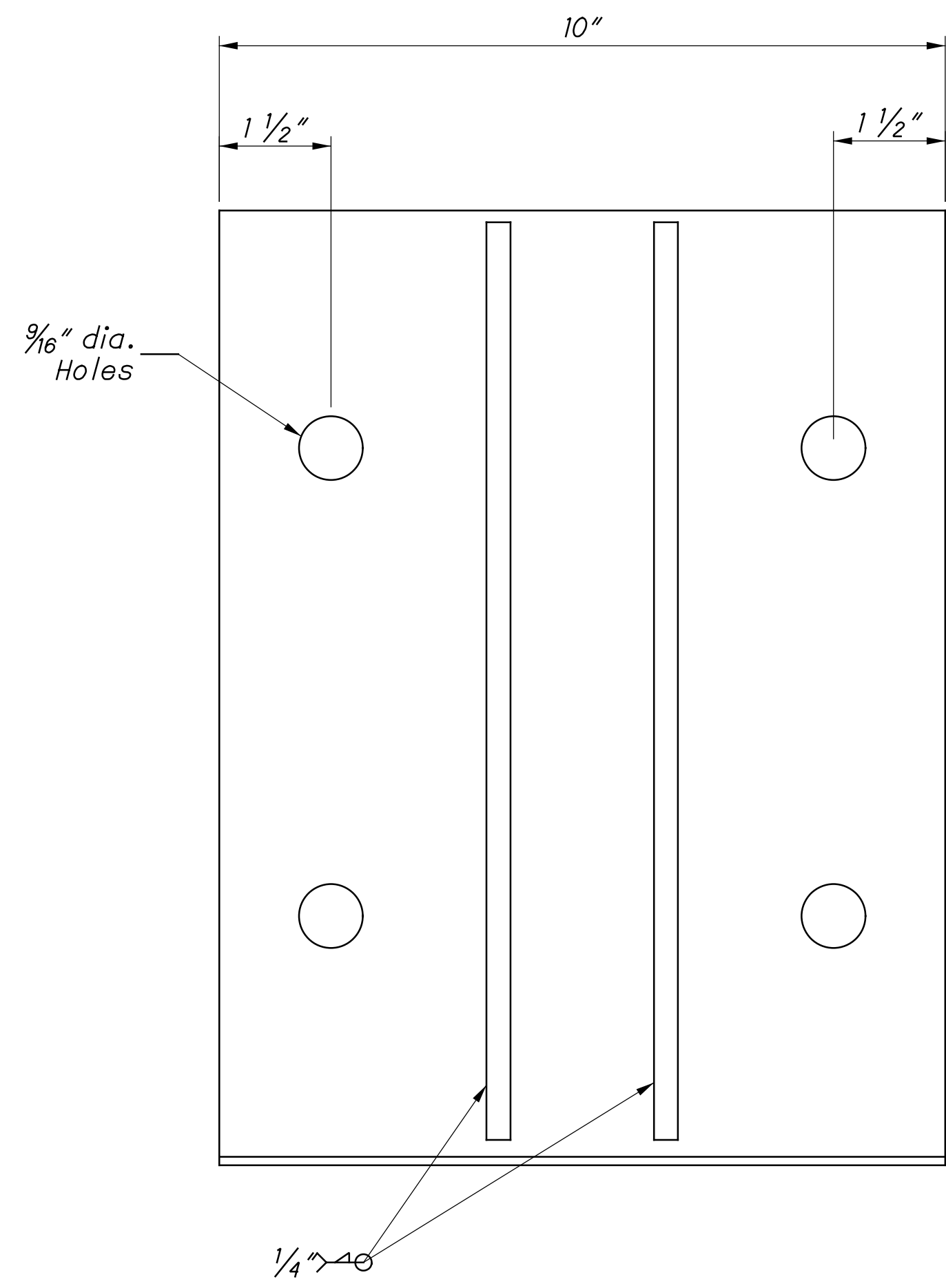
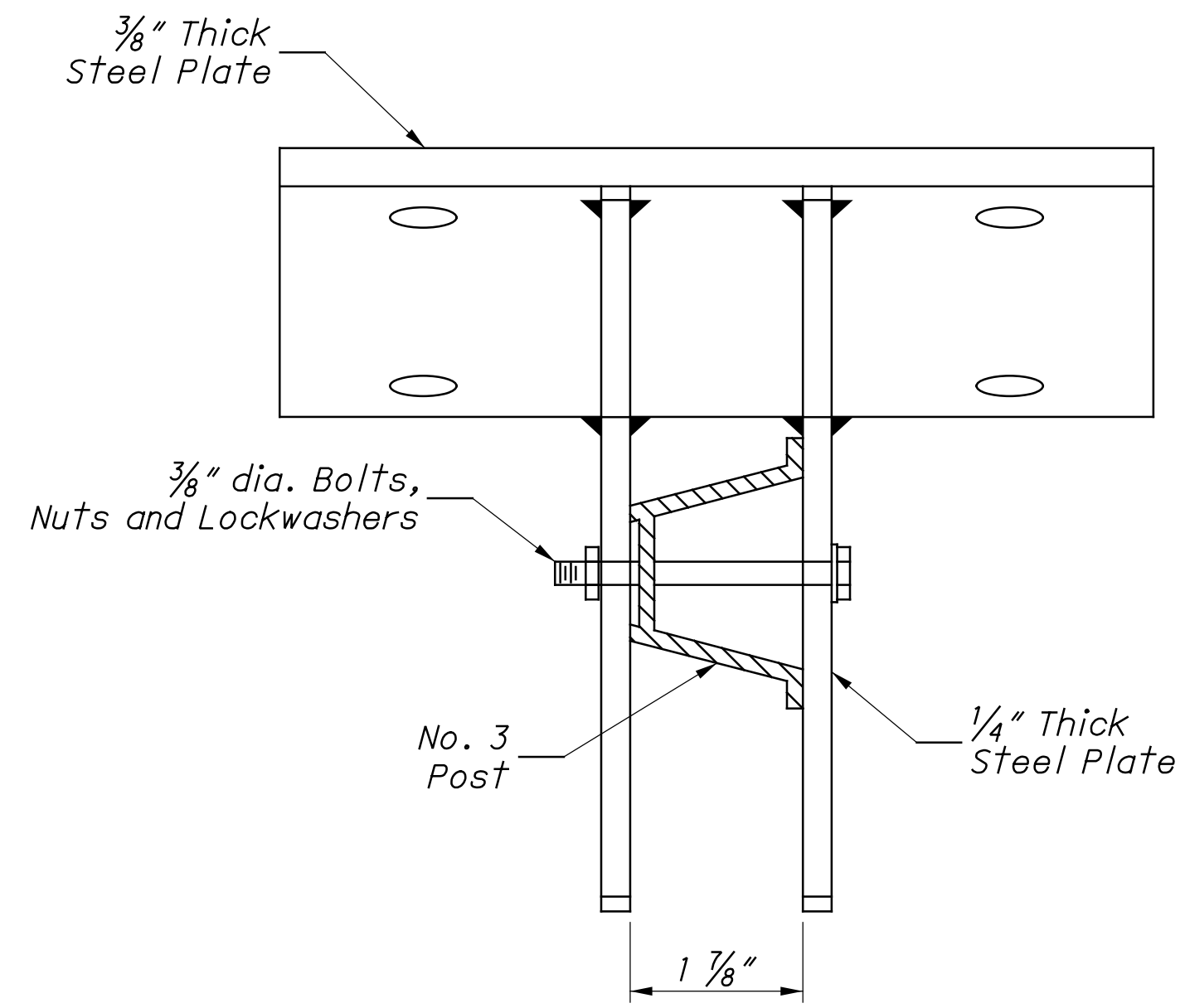
SECTION B-B



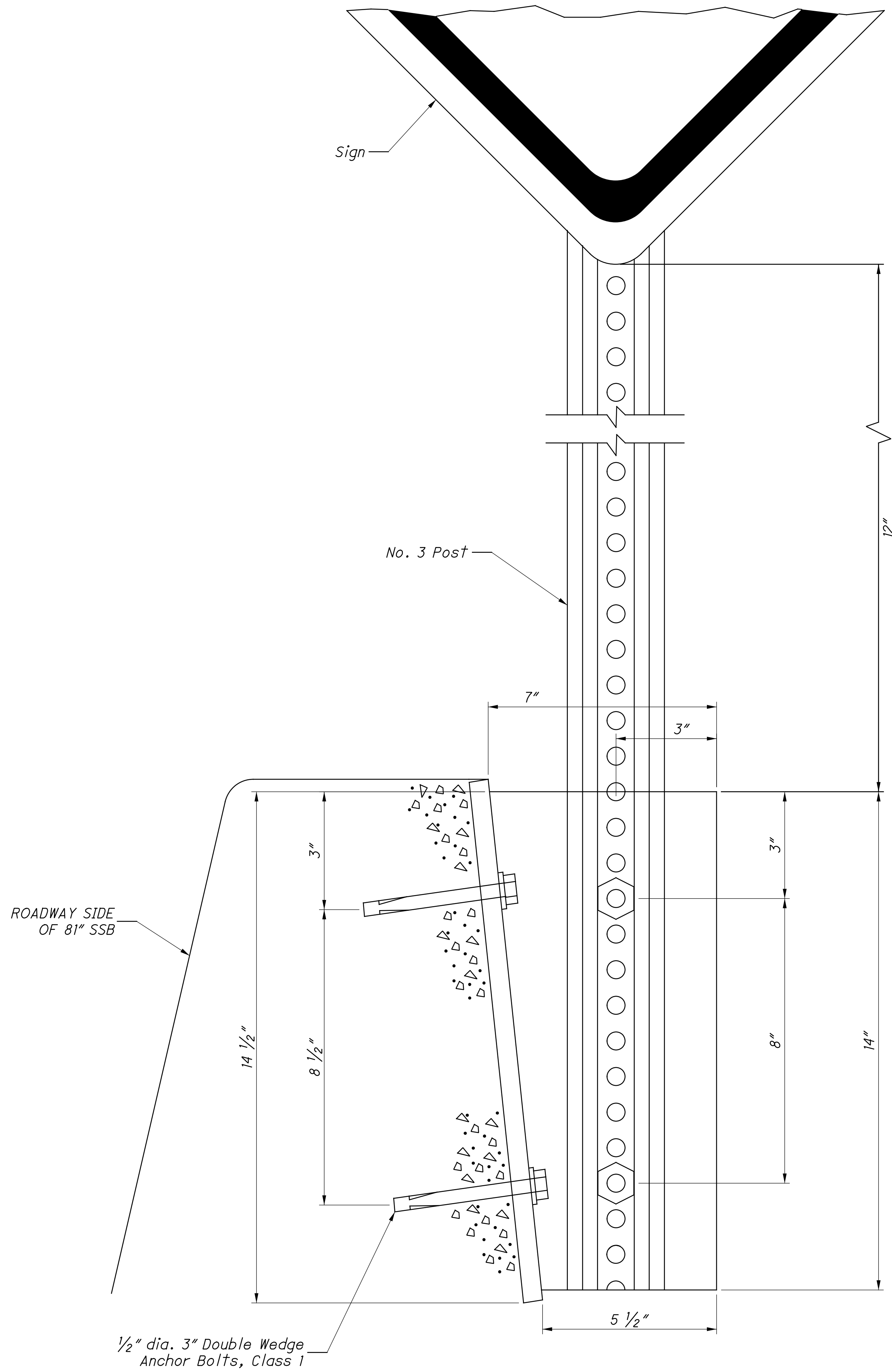
SECTION C-C



SECTION D-D



1/4" A



NOTES:

1. Unit shall be galvanized after fabrication.

THIS DRAWING REPLACES PIS 202022 DATED 11-27-2006.

DESIGN AGENCY	
8101 NORTH HIGGINS SITE 100 COLUMBIA, MO 65203 616.448.4900 www.arcadis.com	
DESIGNER	
JMK	
REVIEWER	
JDH 03-27-24	
PROJECT ID	
117607	
SHEET	TOTAL
P.229	P.295

**PROJECT DESCRIPTION**

THE PROJECT CONSISTS OF THE CONSTRUCTION OF EIGHT (8) NEW NOISE WALLS ALONG SR 161 BETWEEN ULRU ROAD NAD US 62 IN FRANKLIN COUNTY, OHIO. BASED ON THE AVAILABLE PROJECT INFORMATION, IT IS UNDERSTOOD THAT THE WALLS WILL RANGE FROM 497 TO 2,226 FEET IN LENGTH AND WILL BE 14 FEET HIGH. NOISE WALLS 3, 6, 8, 9, 11, 12 AND 15, AS DESIGNATED AND SHOWN ON THE PROJECT DOCUMENTS, ARE INCLUDED AS PART OF THIS INVESTIGATION.

**HISTORIC RECORDS**

HISTORIC GEOTECHNICAL RECORDS WERE OBTAINED FROM ODOT'S TRANSPORTATION INFORMATION MAPPING SYTEM (TIMS). RESULTS OF THESE EXPLORATIONS INDICATED THAT PREDOMINANTLY EXISTING COHESIVE AND GRANULAR SOILS ARE PRESENT BELOW THE EXISTING GROUND SURFACE, AND ARE UNDERLAIN BY AND SHALE BEDROCK. THESE RESULTS WERE NOT UTILIZED DURING THE CURRENT DESIGN

**GEOLOGY**

PHYSIOGRAPHICALLY, THE PROJECT SITE FALLS WITHIN GALION GLACIATED LOW PLATEAU. THIS REGION IS CHARACTERIZED BY ROLLING UPLANDS WHICH ARE TRANSITIONAL BETWEEN THE GENTLY ROLLING TILL PLAINS AND HILL GLACIATED ALLEGHENY PLATEAU. THE SOILS CONSIST OF THIN TO THICK DRIFT WITH MODERATE RELIEF.

BASED ON BEDROCK GEOLOGY AND TOPOGRAPHY MAPS OF THE AREA FROM THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR), THE UNDERLYING BEDROCK BENEATH THE SITE IS MISSISSIPPIAN-AGE SHALES AND SANDSTONES THE BEDROCK SURFACE IN THE VICINITY OF THE SITE RANGES BETWEEN APPROXIMATELY 5 TO 25 FEET BELOW THE EXISTING SURFACE GRADE.

**RECONNAISSANCE**

FIELD RECONNAISSANCE WAS COMPLETED BY PERSONNELL FROM RESOURCE INTERNATIONAL, INC (RII) BETWEEN OCTBER 18 AND NOVEMBER 15, 2023. THE PROJECT SITE IS LOCATED ALONG SR 161 IN FRANKLIN COUNTY, OHIO. THE PROJECT SITE EXTENDS FROM ULRU ROAD TO APPROXIMATELY 0.3 MILES WEST OF US 62. SR 161 WITHIN THE PROJECT LIMITS IS A BIDIRECTIONAL, DIVIDED, ASPHALT PAVED ROADWAY WITH TWO LANES IN EACH DIRECTION. ALONG THE PROJECT ALIGNMENT, THE LAND USE SURROUNDING SR 161 IS PRIMARILY RESIDENTIAL WITH SOME COMMERCIAL AND/OR INDUSTRIAL PURPOSE. SURFACE DRAINAGE APPEARS TO BE COLLECTED IN THE DRAINAGE DITCHES ALONG THE MAJORITY OF THE ROADWAY ALIGNMENT.

**SUBSURFACE EXPLORATION**

BETWEEN OCTOBER 23 AND DECEMBER 5, 2023, A TOTAL OF FIFTY-THREE (53) BORINGS, DESIGNATED AS B-001-0-23 THROUGH B-053-0-23, WERE PERFORMED AS PART OF THE SUBSURFACE EXPLORATION. THE BORINGS WERE DRILLED AND SAMPLED WITH DIEDRICH D50 TRACK MOUNTED DRILL RIG UTILIZING 3.25-INCH HOLLOW STEM AUGERS TO ADVANCE THE HOLES. STANDARD PENETRATION TESTING (SPT) AND SPLIT SPOON SAMPLING WERE PERFORMED AT 2.5-FOOT INTERVALS IN ALL BORINGS EITHER TO THE BORING TERMINATION DEPTHS OR TO AUGER REFUSAL ON BEDROCK. THE HAMMER UTILIZED IN DIEDRICH D50 TRACK RIG WAS CALIBRATED ON MARCH 21, 2022 AND HAD AN ENERGY RATIO OF 86.4 PERCENT.

THE DEPTH TO BEDROCK WAS DETERMINED BY SPLIT SPOON SAMPLER REFUSAL AND/OR AUGER REFUSAL ON BEDROCK. WHERE THE BORINGS WERE EXTENDED INTO THE BEDROCK, AN NQ2 SIZED, DOUBLE TUBE, DIAMOND BIT CORE BARREL (UTILIZING WIRE LINE EQUIPMENT) WAS USED TO CORE THE BEDROCK. THE ROCK CORES OBTAINED FROM THE BORINGS WERE LOGGED IN THE FIELD AND VISUALLY CLASSIFIED IN THE LABORATORY. THE RETRIEVED CORES WERE ANALYZED TO IDENTIFY THE TYPE OF ROCK, COLOR, MINERAL CONTENT, BEDDING PLANES AND OTHER GEOLOGICAL AND MECHANICAL FEATURES OF INTEREST IN THIS PROJECT.

**EXPLORATION FINDINGS**

THE BORINGS WERE GENERALLY PERFORMED IN THE VICINITY OF THE PROPOSED NOISE WALL ALIGNMENTS. ALL BORINGS, EXCEPT B-038-0-23, ENCOUNTERED TOPSOIL THICKNESSES BETWEEN 1 INCH AND 10 INCHES. BORING B-038-0-23 ENCOUNTERED 3.0 INCHES OF ASPHALT OVERLYING 6.5 INCHES OF CONCRETE OVERLYING 3.5 INCHES OF AGGREGATE BASE.

UNDERLYING THE SURFICIAL SOILS, THE NATURAL SOILS WERE ENCOUNTERED, CONSISTING OF BOTH COHESIVE AND GRANULAR DEPOSITS. THE NATURAL COHESIVE SOILS WERE DESCRIBED AS SANDY SILT, SILT AND CLAY, SILTY CLAY, AND CLAY (ODOT A-4A, A-6A, A-6B, A-7-6). THE SHEAR STRENGTH AND CONSISTENCY OF THE COHESIVE SOILS ARE PRIMARILY DERIVED FROM THE HAND PENETROMETER VALUES (HP). THE COHESIVE SOILS ENCOUNTERED RANGED FROM MEDIUM STIFF (0.5 < HP 1.0 TSF) TO HARD (HP 4.0 TSF). THE UNCONFINED COMPRESSIVE STRENGTH OF THE COHESIVE SOIL SAMPLES TESTED, OBTAINED FROM THE HAND PENETROMETER, RANGED FROM 0.75 TO OVER 4.5 TSF (LIMIT OF THE INSTRUMENT).

THE GRANULAR SOILS WERE DESCRIBED AS GRAVEL, GRAVEL WITH SAND, GRAVEL WITH SAND AND SILT, GRAVEL WITH SAND AND SILT AND CLAY, AND COARSE AND FINE SAND (ODOT A-1-A, A-1B, A-2-4, A-2-6, A-3A). THE RELATIVE DENSITY OF GRANULAR SOILS IS PRIMARILY DERIVED FROM SPT BLOW COUNTS (N<sub>s</sub>). BASED ON THE SPT BLOW COUNTS OBTAINED, THE GRANULAR SOILS ENCOUNTERED RANGED FROM LOOSE (5 < N<sub>s</sub> < 10 BLOWS PER FOOT (BPF)) TO VERY DENSE (N<sub>s</sub> > 50 BPF). BLOW COUNTS RECORDED FROM THE SPT SAMPLING WITHIN THE GRANULAR SOIL DEPOSITS RANGED FROM 9 TO 96 BPF.

COBBLES WERE ENCOUNTERED WITHIN THE OVERBURDEN SOILS AT VARIOUS BORING LOCATIONS AT VARYING DEPTHS.

GROUNDWATER SEEPAGE WAS ENCOUNTERED IN THREE (3) OF THE BORINGS AT DEPTHS RANGING FROM 14.0 TO 22.4 FEET BELOW THE GROUND SURFACE. SIGNIFICANT GROUND WATER FLOW WAS ENCOUNTERED DURING DRILLING IN TWENTY-SIX (26) OF THE BORINGS AT DEPTHS RANGING FROM 12.0 TO 21.0 FEET BELOW THE EXISTING GROUND SURFACE. MEASURABLE GROUNDWATER WAS OBSERVED AT THE COMPLETION OF DRILLING IN SEVENTEEN (17) OF THE BORINGS AT DEPTHS RANGING FROM 7.8 TO 20.5 FEET BELOW EXISTING GRADE ""

LEGEND		ODOT CLASS	CLASSIFIED MECH./VISUAL	
DESCRIPTION				
	GRAVEL AND/OR STONE FRAGMENTS	A-1-a	2	4
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	11	23
	GRAVEL AND/OR STONE FRAGS. WITH SAND & SILT	A-2-4	12	57
	GR. AND/OR ST. FRAGS. WITH SAND, SILT & CLAY	A-2-6	-	2
	COARSE AND FINE SAND	A-3a	1	9
	SANDY SILT	A-4a	18	58
	SILT AND CLAY	A-6a	26	102
	SILTY CLAY	A-6b	12	38
	CLAY	A-7-6	7	9
		TOTAL	89	302
	SANDSTONE	VISUAL		
	SHALE	VISUAL		
	SILTSTONE	VISUAL		
	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
	SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		
	BORING LOCATION - PLAN VIEW.			
	DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.			
WC	INDICATES WATER CONTENT IN PERCENT.			
N <sub>60</sub>	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.			
X/Y/Z	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X= NUMBER OF BLOWS FOR FIRST 6 INCHES. Y= NUMBER OF BLOWS FOR SECOND 6 INCHES. Z= NUMBER OF BLOWS FOR THIRD 6 INCHES.			
	INDICATES FREE WATER ELEVATION.			
	INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.			
	INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25 % OR GREATER THAN 19 % WITH A WET APPEARANCE.			
SS	INDICATES A SPLIT SPOON SAMPLE.			
NP	INDICATES A NON-PLASTIC SAMPLE.			

**EXPLORATION FINDINGS (CON'T)**

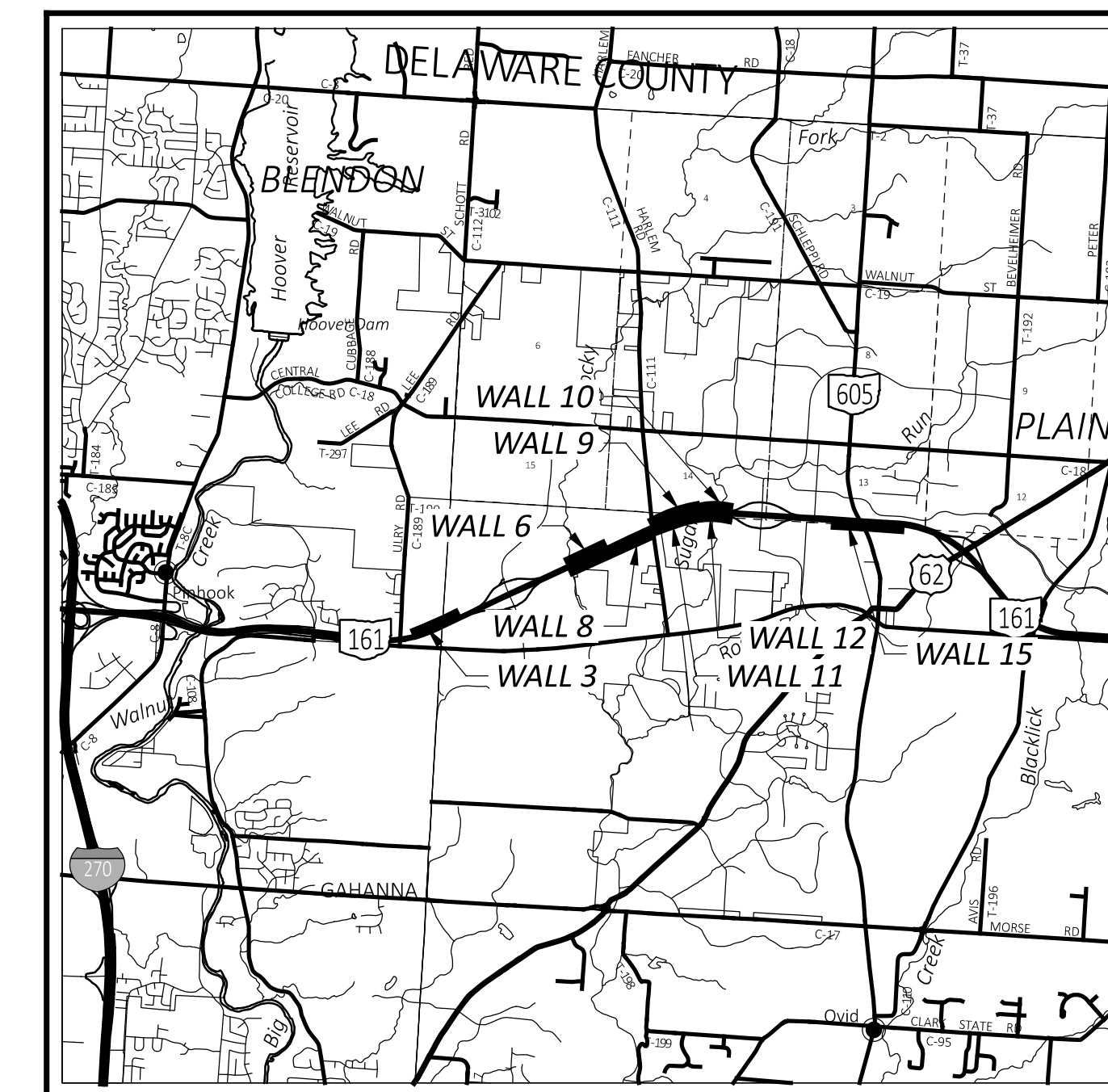
BEDROCK WAS ENCOUNTERED IN BORINGS B-001-0-23 TO B-004-0-23, B-018-0-23, B-024-0-23 B-027-0-23, B-028-0-23, B-038-0-23 TO B-053-0-23 AT DEPTHS RANGING FROM 4.3 TO 23.0 FEET BENEATH THE EXISTING GROUND SURFACE. THE BEDROCK WAS DESCRIBED AS HIGHLY WEATHERED GRAY AND BROWN SANDSTONE, HIGHLY WEATHERED TO SEVERELY WEATHERED GRAY AND BLACK SILTSTONE, AND HIGHLY WEATHERED GRAY SHALESTONE.

**SPECIFICATIONS**

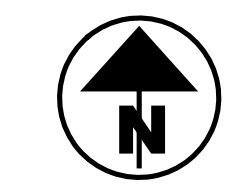
THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JULY 2022.

**AVAILABLE INFORMATION**

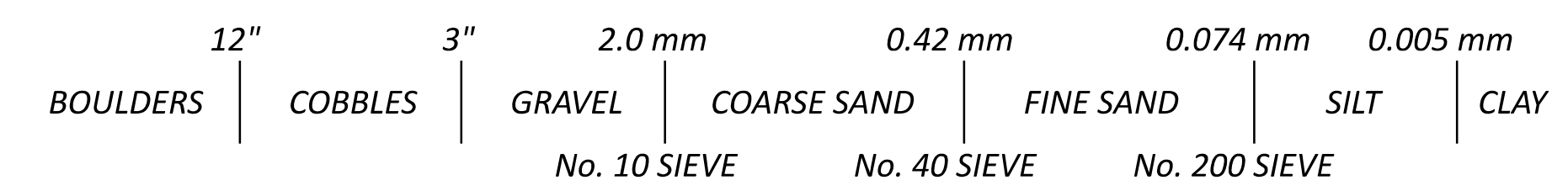
THE SOIL, BEDROCK, AND GROUNDWATER INFORMATION COLLECTED FOR THIS SUBSURFACE EXPLORATION THAT CAN BE CONVENIENTLY DISPLAYED ON THE GEOTECHNICAL PROFILE SHEETS HAS BEEN PRESENTED. GEOTECHNICAL REPORTS, IF PREPARED, ARE AVAILABLE FOR REVIEW ON THE OFFICE OF CONTRACT SALES WEBSITE.



LOCATION MAP  
SCALE IN MILES



**PARTICLE SIZE DEFINITIONS**



INDEX OF SHEETS			
SUMMARY OF SOIL TEST DATA, SHEETS 2 - 5.			
LOCATION FROM STA.	TO STA.	PLAN	PROFILE
CONST. SR 161 NOISE WALL 3			
2130+00	2135+00	6	6
2135+00	2140+00	7	7
NOISE WALL 6			
2192+00	2197+00	8	8
2197+00	2202+00	9	9
NOISE WALL 8			
2192+00	2197+00	10	10
2197+00	2202+00	11	11
2202+00	2207+00	12	12
2207+00	2212+00	13	13
2212+00	2217+00	14	14
NOISE WALL 9			
2217+00	2222+00	15	15
2222+00	2227+00	16	16
2227+00	2232+00	17	17

INDEX OF SHEETS (CON'T)			
LOCATION FROM STA.	TO STA.	PLAN	PROFILE
CONST. SR 161 NOISE WALL 11			
2216+00	2221+00	18	18
2221+00	2226+00	19	19
2226+00	2231+00	20	20
2231+00	2236+00	21	21
NOISE WALL 12			
2239+00	2244+00	22	22
2244+00	2249+00	23	23
NOISE WALL 15			
2286+00	2291+00	24	24
2291+00	2296+00	25	25
2296+00	2301+00	26	26
2301+00	2306+00	27	27
2306+00	2311+00	28	28

BORING LOGS, SHEETS 29 - 66.

BEDROCK TEST SUMMARY					
BORING ID	SAMPLE ELEVATION	SAMPLE DEPTH	UCS	POINT LOAD	LITHOLOGY
			Qu (PSI)	Qu (PSI)	
B-001-0-23	952.3'	14.0'	4400	-	SANDSTONE
B-003-0-23	955.3'	13.8'	6891	-	SANDSTONE
B-023-0-23	955.3' - 953.5'	21.5' - 23.5'	-	856	SHALE
B-039-0-23	971.4' - 966.4'	15.0' - 20.0'	-	57	SHALE
B-043-0-23	1014.0'	21.0'	6208	-	SANDSTONE
B-046-0-23	1017.1'	22.0'	7887	-	SANDSTONE
B-050-0-23	1017.0'	21.0'	8484	-	SANDSTONE
B-051-0-23	1016.9'	21.2'	8429	-	SANDSTONE

**DRILLING -** TG 10/23 - 12/05/2023  
**DRAWN -** JAS, KSJ 01/18/2023  
**REVIEWED -** DEK 01/18/2023

DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
**JAS**  
 REVIEWER  
**DEK 1/19/24**  
 PROJECT ID  
**117607**  
 SUBSET TOTAL  
**1 66**  
 SHEET TOTAL  
**P.230 295**



**RESOURCE INTERNATIONAL, INC.**  
Engineering Consultants

6350 Presidential Gateway, 9885 Rockside Road, 4480 Lake Forest Drive  
Columbus, OH 43231, Cleveland, OH 44125, Cincinnati, Ohio 45242  
Phone (614) 823-4949, Phone (216) 573-0955, Phone (513) 769-6998

**Unconfined Compressive Strength  
of Intact Rock Core Specimens**  
(ASTM D 7012-14)

Project: FRA-161-15.80  
Project No.: W-23-107  
Date of Testing: 1/8/2024  
Test Performed by: KL/EM

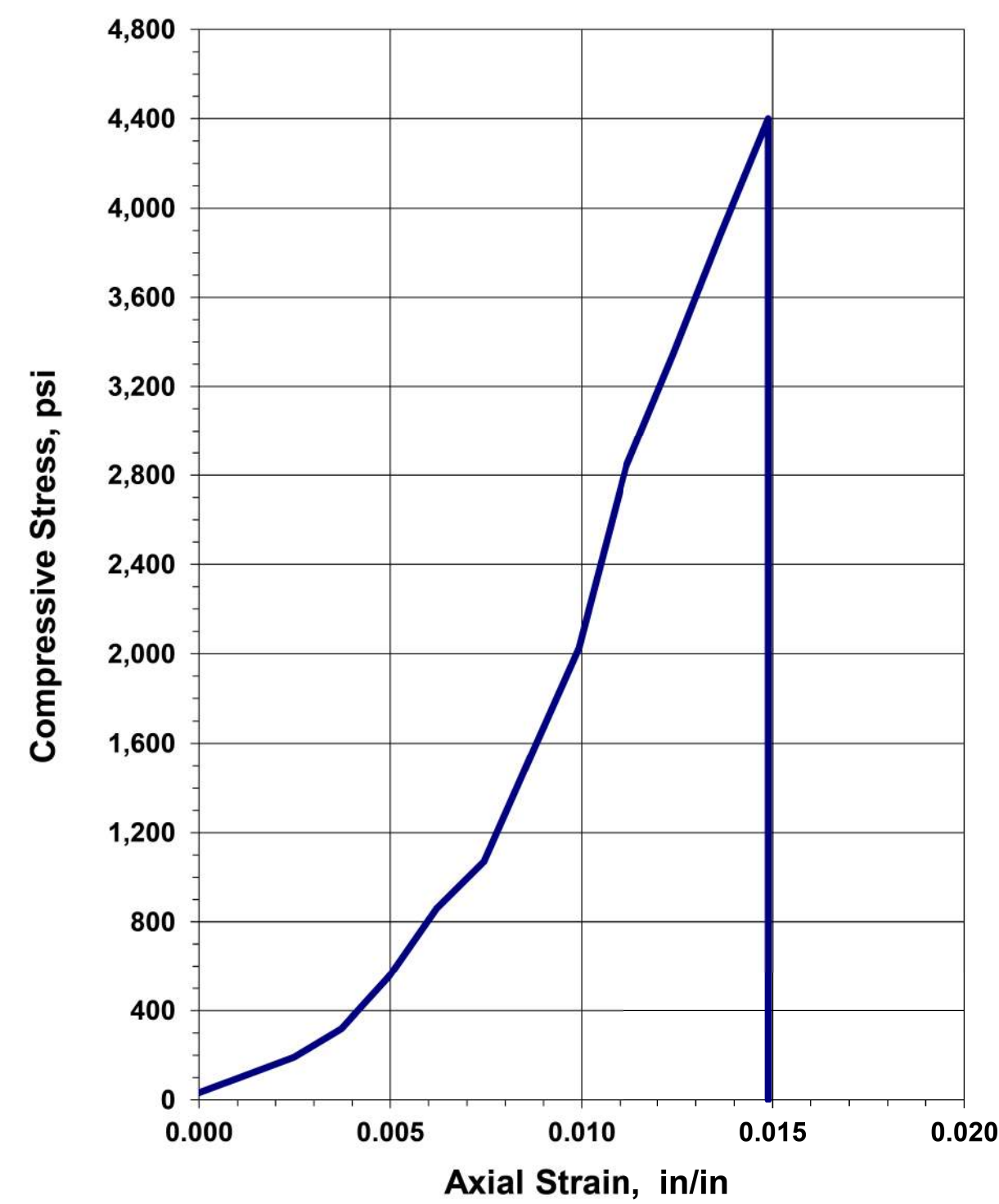
Rock Description: Gray Sandstone  
Rock Formation: \_\_\_\_\_

Boring No.:	<u>B-001-0-23</u>	Average Length:	<u>4.030</u>	in
Sample No.:	<u>RC-2</u>	Average Diameter:	<u>1.993</u>	in
Depth (ft):	<u>14.0'</u>	Length to diameter ratio:	<u>2.022</u>	
Moisture condition:	<u>As received</u>	Cross Sectional Area:	<u>3.120</u>	in <sup>2</sup>
Sample Mass:	<u>470.86</u>	Volume:	<u>0.0073</u>	ft <sup>3</sup>
Testing Temperature:	<u>23</u>	Unit Weight (sample specimen)*:	<u>142.68</u>	lbs/ft <sup>3</sup>
Rate of Loading:	<u>62.1</u>	Failure Load:	<u>13,727</u>	lbs
Testing Time:	<u>221</u>	Axial Strain at Failure:	<u>0.0149</u>	in/in
(Rate 2-15 min)		Compressive Strength:	<u>4,400</u>	psi

Sample Preparation: Per ASTM D4543

\*Actual test sample used for unit weight prior to testing.

**Unconfined Compression Test**



**Before Testing**



**After Failure**



REMARKS: \_\_\_\_\_



**RESOURCE INTERNATIONAL, INC.**  
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**Unconfined Compressive Strength  
of Intact Rock Core Specimens**  
(ASTM D 7012-14)

Project: FRA-161-15.80  
Project No.: W-23-107  
Date of Testing: 1/8/2024  
Test Performed by: KL/EM

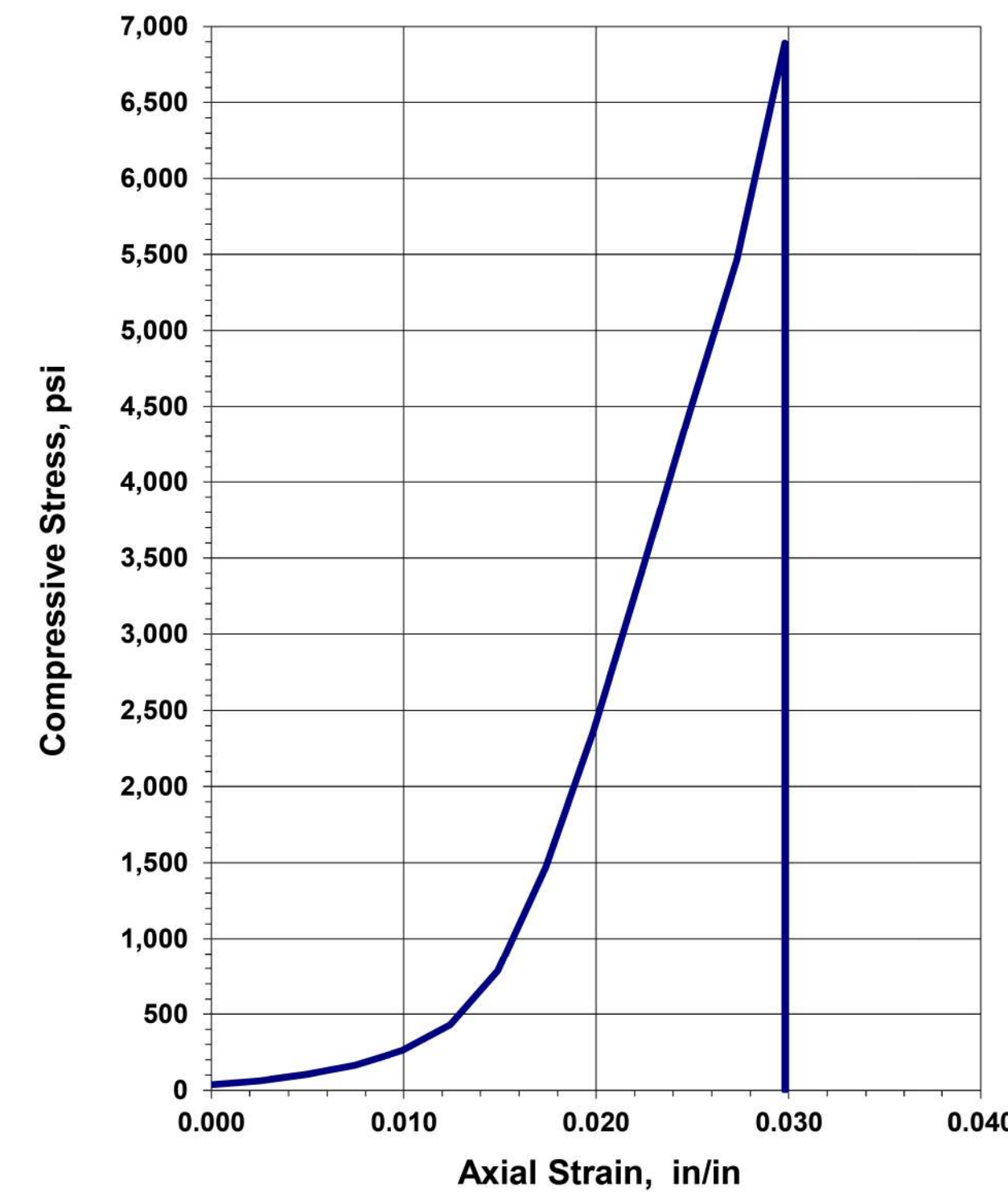
Rock Description: Gray Sandstone  
Rock Formation: \_\_\_\_\_

Boring No.:	<u>B-003-0-23</u>	Average Length:	<u>4.028</u>	in
Sample No.:	<u>RC-2</u>	Average Diameter:	<u>1.995</u>	in
Depth (ft):	<u>13.8'</u>	Length to diameter ratio:	<u>2.019</u>	
Moisture condition:	<u>As received</u>	Cross Sectional Area:	<u>3.126</u>	in <sup>2</sup>
Sample Mass:	<u>480.55</u>	Volume:	<u>0.0073</u>	ft <sup>3</sup>
Testing Temperature:	<u>23</u>	Unit Weight (sample specimen)*:	<u>145.39</u>	lbs/ft <sup>3</sup>
Rate of Loading:	<u>75.1</u>	Failure Load:	<u>21,542</u>	lbs
Testing Time:	<u>287</u>	Axial Strain at Failure:	<u>0.0298</u>	in/in
(Rate 2-15 min)		Compressive Strength:	<u>6,891</u>	psi

Sample Preparation: Per ASTM D4543

\*Actual test sample used for unit weight prior to testing.

**Unconfined Compression Test**



**Before Testing**



**After Failure**



REMARKS: \_\_\_\_\_

DESIGN AGENCY	
6350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4949	
DESIGNER	
JAS	
REVIEWER	
DEK 1/19/24	
PROJECT ID	
117607	
SUBSET	TOTAL
2	66
SHEET	TOTAL
P.231	295



**RESOURCE INTERNATIONAL, INC.**  
Engineering Consultants

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**Unconfined Compressive Strength  
of Intact Rock Core Specimens**  
(ASTM D 7012-14)

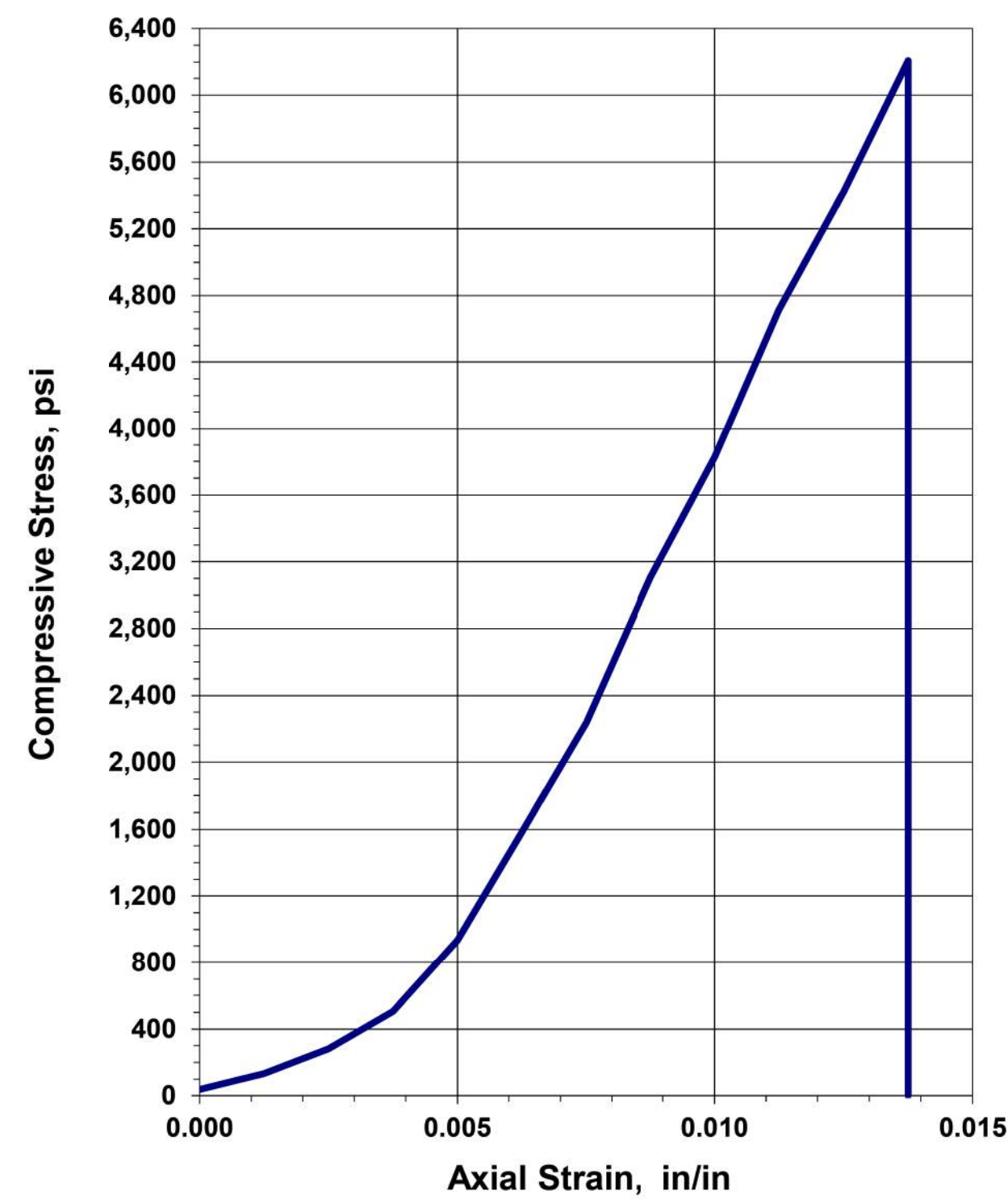
Project: FRA-161-15.80  
Project No.: W-23-107  
Date of Testing: 1/8/2024  
Test Performed by: KL/EM

Rock Description: Gray Sandstone  
Rock Formation: \_\_\_\_\_

Boring No.:	<u>B-043-0-23</u>	Average Length:	<u>4.000</u>	in
Sample No.:	<u>RC-2</u>	Average Diameter:	<u>1.988</u>	in
Depth (ft):	<u>21.00</u>	Length to diameter ratio:	<u>2.012</u>	
Moisture condition:	<u>As received</u>	Cross Sectional Area:	<u>3.104</u>	in <sup>2</sup>
Sample Mass:	<u>460.53</u>	Volume:	<u>0.0072</u>	ft <sup>3</sup>
Testing Temperature:	<u>23</u>	Unit Weight (sample specimen)*:	<u>141.30</u>	lbs/ft <sup>3</sup>
Rate of Loading:	<u>87.2</u>	Failure Load:	<u>19,269</u>	lbs
Testing Time:	<u>221</u>	Axial Strain at Failure:	<u>0.0138</u>	in/in
(Rate 2-15 min)		Compressive Strength:	<u>6,208</u>	psi

Sample Preparation: Per ASTM D4543 \*Actual test sample used for unit weight prior to testing.

**Unconfined Compression Test**



**Before Testing**



**After Failure**



REMARKS: \_\_\_\_\_



**RESOURCE INTERNATIONAL, INC.**  
Engineering Consultants

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Columbus, OH 43231, Cleveland, OH 44125, Cincinnati, Ohio 45242  
Phone (614) 823-4949, Phone (216) 573-0955, Phone (513) 769-6998

**Unconfined Compressive Strength  
of Intact Rock Core Specimens**  
(ASTM D 7012-14)

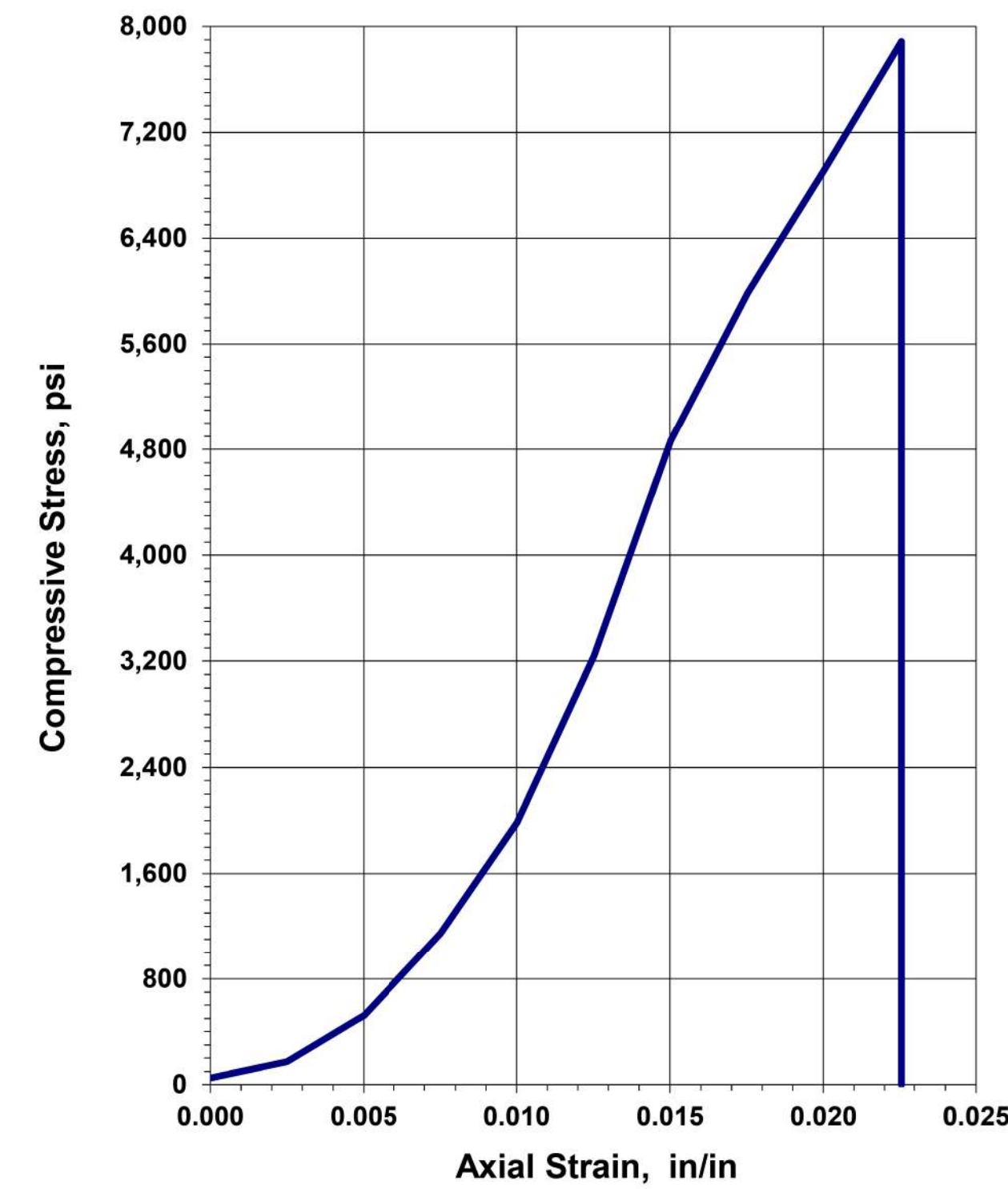
Project: FRA-161-15.80  
Project No.: W-23-107  
Date of Testing: 1/8/2024  
Test Performed by: KL/EM

Rock Description: Gray Sandstone  
Rock Formation: \_\_\_\_\_

Boring No.:	<u>B-046-0-23</u>	Average Length:	<u>3.992</u>	in
Sample No.:	<u>RC-2</u>	Average Diameter:	<u>1.995</u>	in
Depth (ft):	<u>22.0'</u>	Length to diameter ratio:	<u>2.001</u>	
Moisture condition:	<u>As received</u>	Cross Sectional Area:	<u>3.126</u>	in <sup>2</sup>
Sample Mass:	<u>519.17</u>	Volume:	<u>0.0072</u>	ft <sup>3</sup>
Testing Temperature:	<u>23</u>	Unit Weight (sample specimen)*:	<u>158.49</u>	lbs/ft <sup>3</sup>
Rate of Loading:	<u>101.9</u>	Failure Load:	<u>24,655</u>	lbs
Testing Time:	<u>242</u>	Axial Strain at Failure:	<u>0.0225</u>	in/in
(Rate 2-15 min)		Compressive Strength:	<u>7,887</u>	psi

Sample Preparation: Per ASTM D4543 \*Actual test sample used for unit weight prior to testing.

**Unconfined Compression Test**



**Before Testing**



**After Failure**



REMARKS: \_\_\_\_\_





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Engineering Consultants

6350 Presidential Gateway, 9885 Rockside Road, 4480 Lake Forest Drive  
Columbus, OH 43231, Cleveland, OH 44125, Cincinnati, Ohio 45242  
Phone (614) 823-4949, Phone (216) 573-0955, Phone (513) 769-6998

**Unconfined Compressive Strength  
of Intact Rock Core Specimens**  
(ASTM D 7012-14)

Project: FRA-161-15.80  
Project No.: W-23-107  
Date of Testing: 1/8/2024  
Test Performed by: KL/EM

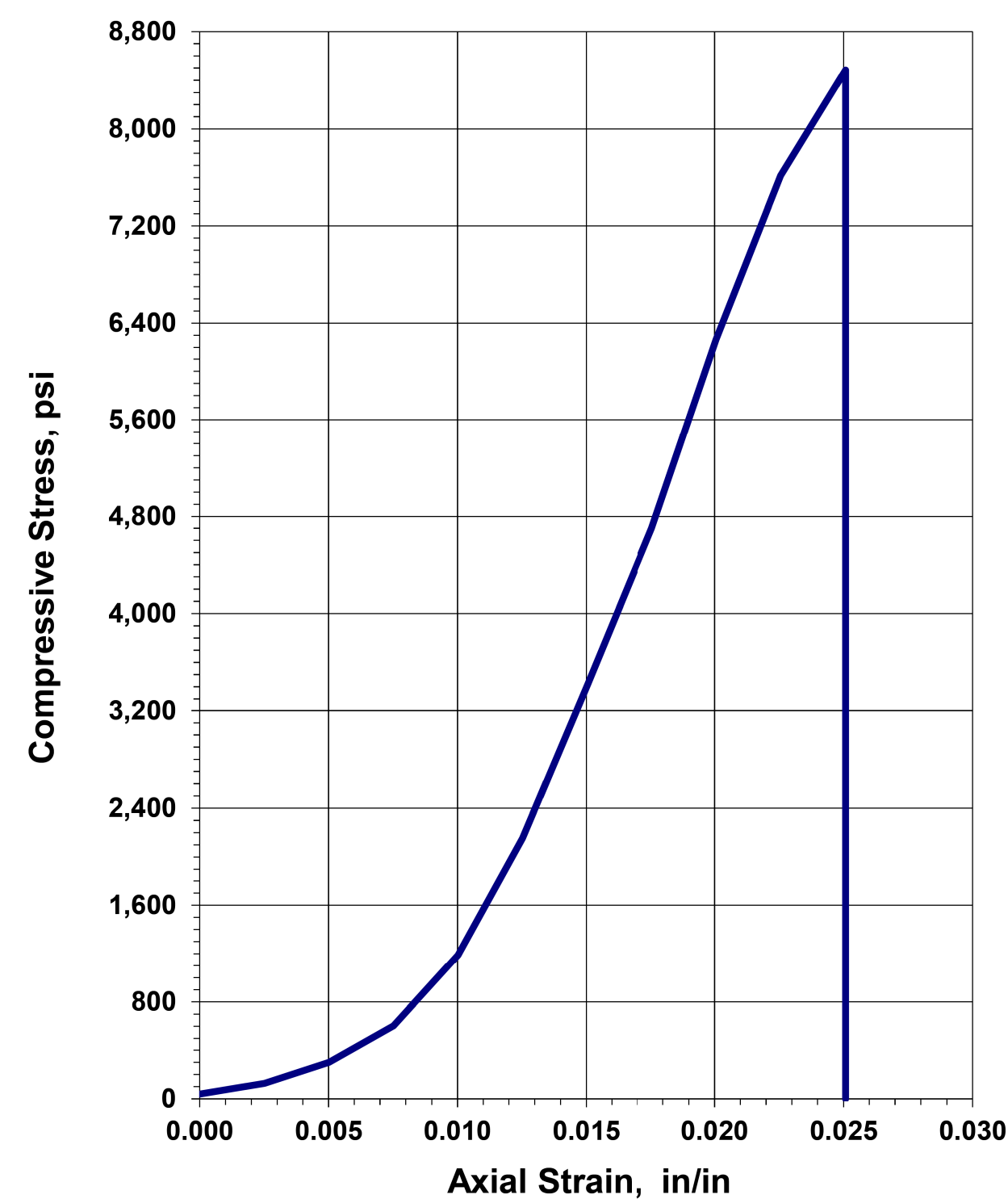
Rock Description: Gray Sandstone  
Rock Formation: \_\_\_\_\_

Boring No.:	<u>B-050-0-23</u>	Average Length:	<u>3.988</u>	in
Sample No.:	<u>RC-2</u>	Average Diameter:	<u>1.985</u>	in
Depth (ft):	<u>21.0'</u> feet	Length to diameter ratio:	<u>2.009</u>	
Moisture condition:	<u>As received</u>	Cross Sectional Area:	<u>3.095</u>	in <sup>2</sup>
Sample Mass:	<u>455.36</u> grams	Volume:	<u>0.0071</u>	ft <sup>3</sup>
Testing Temperature:	<u>23</u> °C	Unit Weight (sample specimen)*:	<u>140.56</u>	lbs/ft <sup>3</sup>
Rate of Loading:	<u>108.5</u> lbs/sec	Failure Load:	<u>26,255</u>	lbs
Testing Time:	<u>242</u> sec	Axial Strain at Failure:	<u>0.0251</u>	in/in
(Rate 2-15 min)		Compressive Strength:	<u>8,484</u>	psi

Sample Preparation: Per ASTM D4543

\*Actual test sample used for unit weight prior to testing.

Unconfined Compression Test



Before Testing



After Failure



REMARKS: \_\_\_\_\_



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Engineering Consultants

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Phone (614) 823-4949, Phone (216) 573-0955, Phone (513) 769-6998

**Unconfined Compressive Strength  
of Intact Rock Core Specimens**  
(ASTM D 7012-14)

Project: FRA-161-15.80  
Project No.: W-23-107  
Date of Testing: 1/8/2024  
Test Performed by: KL/EM

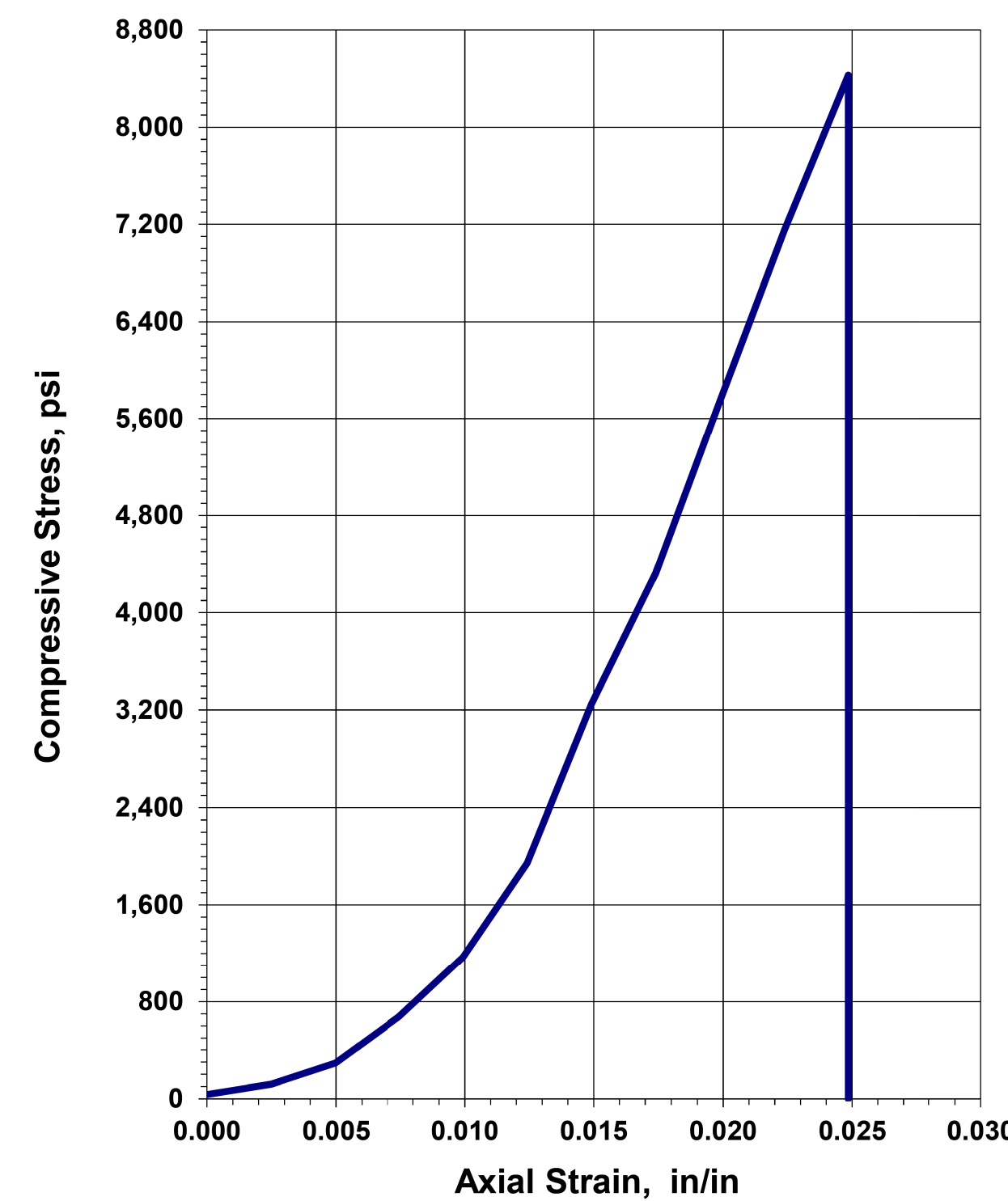
Rock Description: Gray Sandstone  
Rock Formation: \_\_\_\_\_

Boring No.:	<u>B-052-0-23</u>	Average Length:	<u>4.024</u>	in
Sample No.:	<u>RC-2</u>	Average Diameter:	<u>1.993</u>	in
Depth (ft):	<u>21.20</u> feet	Length to diameter ratio:	<u>2.019</u>	
Moisture condition:	<u>As received</u>	Cross Sectional Area:	<u>3.120</u>	in <sup>2</sup>
Sample Mass:	<u>505.98</u> grams	Volume:	<u>0.0073</u>	ft <sup>3</sup>
Testing Temperature:	<u>23</u> °C	Unit Weight (sample specimen)*:	<u>153.55</u>	lbs/ft <sup>3</sup>
Rate of Loading:	<u>112.4</u> lbs/sec	Failure Load:	<u>26,295</u>	lbs
Testing Time:	<u>234</u> sec	Axial Strain at Failure:	<u>0.0249</u>	in/in
(Rate 2-15 min)		Compressive Strength:	<u>8,429</u>	psi

Sample Preparation: Per ASTM D4543

\*Actual test sample used for unit weight prior to testing.

Unconfined Compression Test



Before Testing



After Failure



REMARKS: \_\_\_\_\_



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4480 Lake Forest Drive  
Cincinnati, Ohio 45242  
Phone (513) 769-6998

**Point Load Strength Index  
of Rock Specimens**  
(ASTM D 5731-08)

Project: FRA-161-15.80  
Project No.: W-23-107  
Date of Testing: 1/8/2024  
Test Performed by: EMIKL

Rock Description: Gray Shale

Boring No.: B-23-0-23

Station / Offset: RC-3

Sample No. / Depth: 21.5'-23.5'

Test Apparatus: Forney-LA 0080

Serial Number: A125/AZ/0014

Date of Calibration: 4/25/2023

Sample No.	Test Type	Depth (ft)	Width (mm)	Diameter (mm)	Load (N)	D <sub>e</sub> <sup>2</sup> (mm <sup>2</sup> )	D <sub>e</sub> (mm)	F	Is (MPa)	Is <sub>(50)</sub> (MPa)	σ <sub>c</sub> (MPa)
1	a ⊥	21.5-23.5	49.7	21.1	503	1,336	36.5	0.87	0.38	0.33	4.52
2	a ⊥	21.5-23.5	49.6	25.8	783	1,631	40.4	0.91	0.48	0.44	5.76
3	a ⊥	21.5-23.5	49.7	23.1	525	1,463	38.3	0.89	0.36	0.32	4.31
4	a ⊥	21.5-23.5	49.7	28.5	814	1,802	42.5	0.93	0.45	0.42	5.42
5	a ⊥	21.5-23.5	49.7	30.0	854	1,895	43.5	0.94	0.45	0.42	5.41
6	a ⊥	21.5-23.5	49.7	25.1	916	1,589	39.9	0.90	0.58	0.52	6.92
7	a ⊥	21.5-23.5	49.7	24.6	816	1,555	39.4	0.90	0.52	0.47	6.30
8	a ⊥	21.5-23.5	49.7	22.6	798	1,429	37.8	0.88	0.56	0.49	6.70
9	a ⊥	21.5-23.5	49.7	21.5	789	1,361	36.9	0.87	0.58	0.51	6.96
10	a ⊥	21.5-23.5	49.7	22.5	801	1,427	37.8	0.88	0.56	0.49	6.73

**STATISTICS**

Mean Is <sub>(50)</sub> ⊥	0.44 MPa (64 psi)
Mean Is <sub>(50)</sub>	
Ia <sub>(50)</sub>	

**Specific Specimen Shape:**

- d = diametrical
- a = axial
- b = block
- i = irregular lump
- ⊥ = perpendicular to bedding plane
- || = parallel to bedding plane

**Estimated Uniaxial Compression, σ<sub>c</sub> = K\*Is**

K = 12  
Mean σ<sub>c</sub> = 5.90 MPa (0.856 psi)

\*Per Section 206.1.3 of 2011 ODOT Rock Slope Design Guide

Remarks:

1



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Cincinnati, Ohio 45242  
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**Point Load Strength Index  
of Rock Specimens**  
(ASTM D 5731-08)

Project: FRA-161-15.80  
Project No.: W-23-107  
Date of Testing: 1/8/2024  
Test Performed by: EMIKL

Rock Description: Gray Shale

Boring No.: B-39-0-23

Station / Offset: RC-2

Sample No. / Depth: 15.0-20.0

Test Apparatus: Forney-LA 0080

Serial Number: A125/AZ/0014

Date of Calibration: 4/25/2023

Sample No.	Test Type	Depth (ft)	Width (mm)	Diameter (mm)	Load (N)	D <sub>e</sub> <sup>2</sup> (mm <sup>2</sup> )	D <sub>e</sub> (mm)	F	Is (MPa)	Is <sub>(50)</sub> (MPa)	σ <sub>c</sub> (MPa)
1	a ⊥	17.5-18.5	49.9	21.7	50	1,381	37.2	0.88	0.04	0.03	0.43
2	a ⊥	17.5-18.5	49.5	24.4	45	1,539	39.2	0.90	0.03	0.03	0.35
3	a ⊥	17.5-18.5	50.5	20.4	40	1,309	36.2	0.86	0.03	0.03	0.37
4	a ⊥	17.5-18.5	50.6	23.9	48	1,538	39.2	0.90	0.03	0.03	0.37
5	a ⊥	17.5-18.5	50.6	22.3	49	1,440	38.0	0.88	0.03	0.03	0.41
6	a ⊥	17.5-18.5	50.6	21.1	49	1,362	36.9	0.87	0.04	0.03	0.43
7	a ⊥	17.5-18.5	50.6	22.6	53	1,455	38.1	0.89	0.04	0.03	0.44
8	a ⊥	17.5-18.5	50.6	22.6	48	1,456	38.2	0.89	0.03	0.03	0.40
9	a ⊥	17.5-18.5	50.6	35.0	51	2,255	47.5	0.98	0.02	0.02	0.27
10	a ⊥	17.5-18.5	50.6	22.2	52	1,429	37.8	0.88	0.04	0.03	0.44

**STATISTICS**

Mean Is <sub>(50)</sub> ⊥	0.03 MPa (4 psi)
Mean Is <sub>(50)</sub>	
Ia <sub>(50)</sub>	

**Specific Specimen Shape:**

- d = diametrical
- a = axial
- b = block
- i = irregular lump
- ⊥ = perpendicular to bedding plane
- || = parallel to bedding plane

**Estimated Uniaxial Compression, σ<sub>c</sub> = K\*Is**

K = 12  
Mean σ<sub>c</sub> = 0.39 MPa (0.057 psi)

\*Per Section 206.1.3 of 2011 ODOT Rock Slope Design Guide

Remarks:

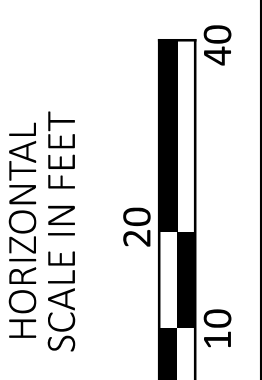
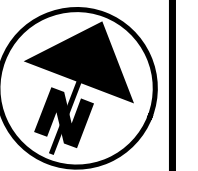
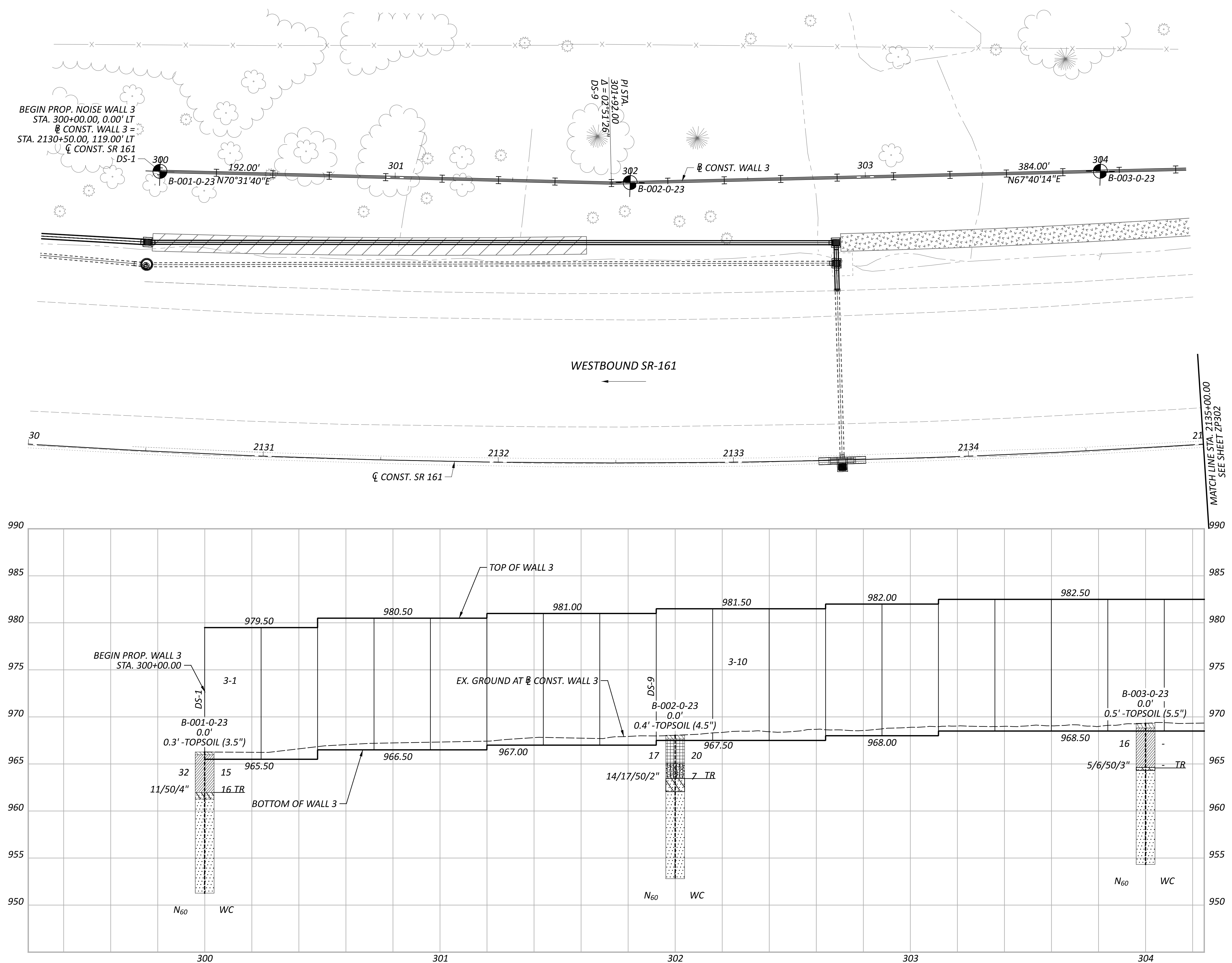


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COLUMBUS, OHIO 43231  
(614) 823-4949

DESIGN AGENCY	RESOURCE INTERNATIONAL
DESIGNER	JAS
REVIEWER	DEK
PROJECT ID	117607
SUBSET	5
TOTAL	66
SHEET	P.234
TOTAL	295

**FRA-161-15.80 NOISE WALLS**

MODEL: Wall 3 - Plan 2 PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 3:51:47 PM USER: juans  
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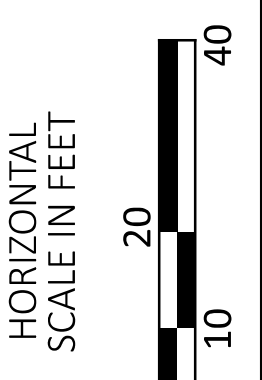
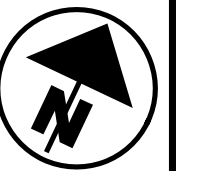
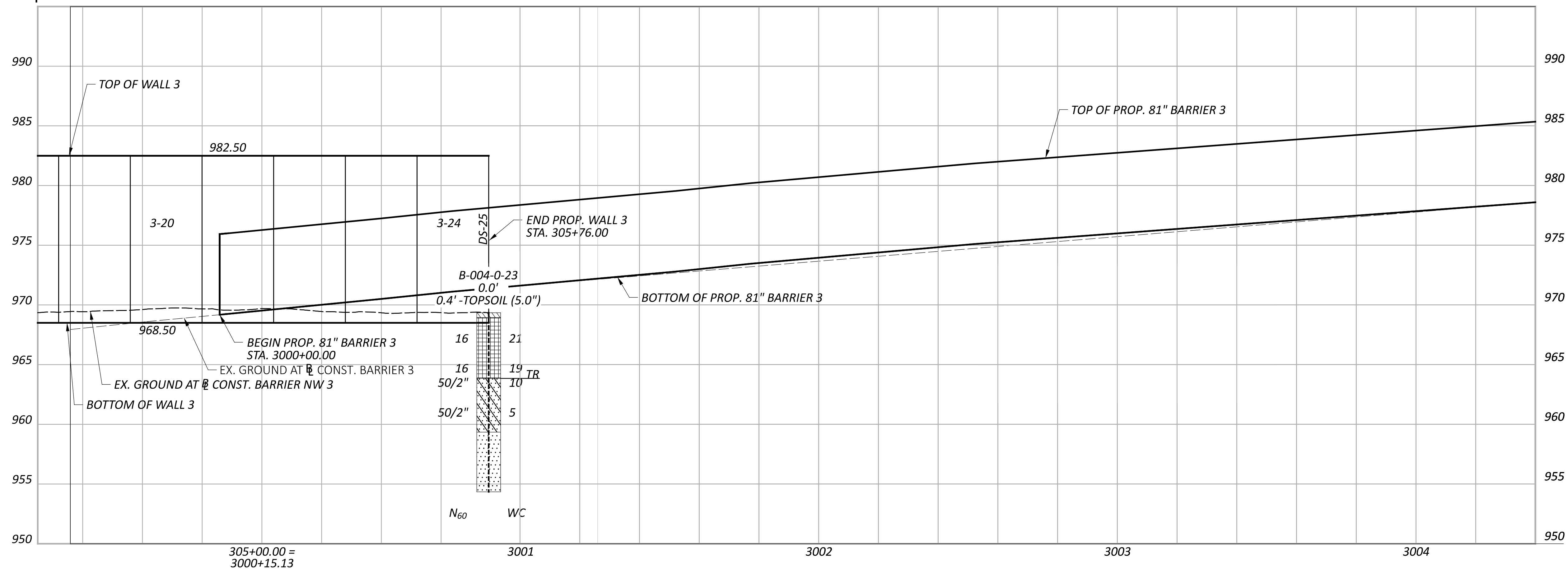
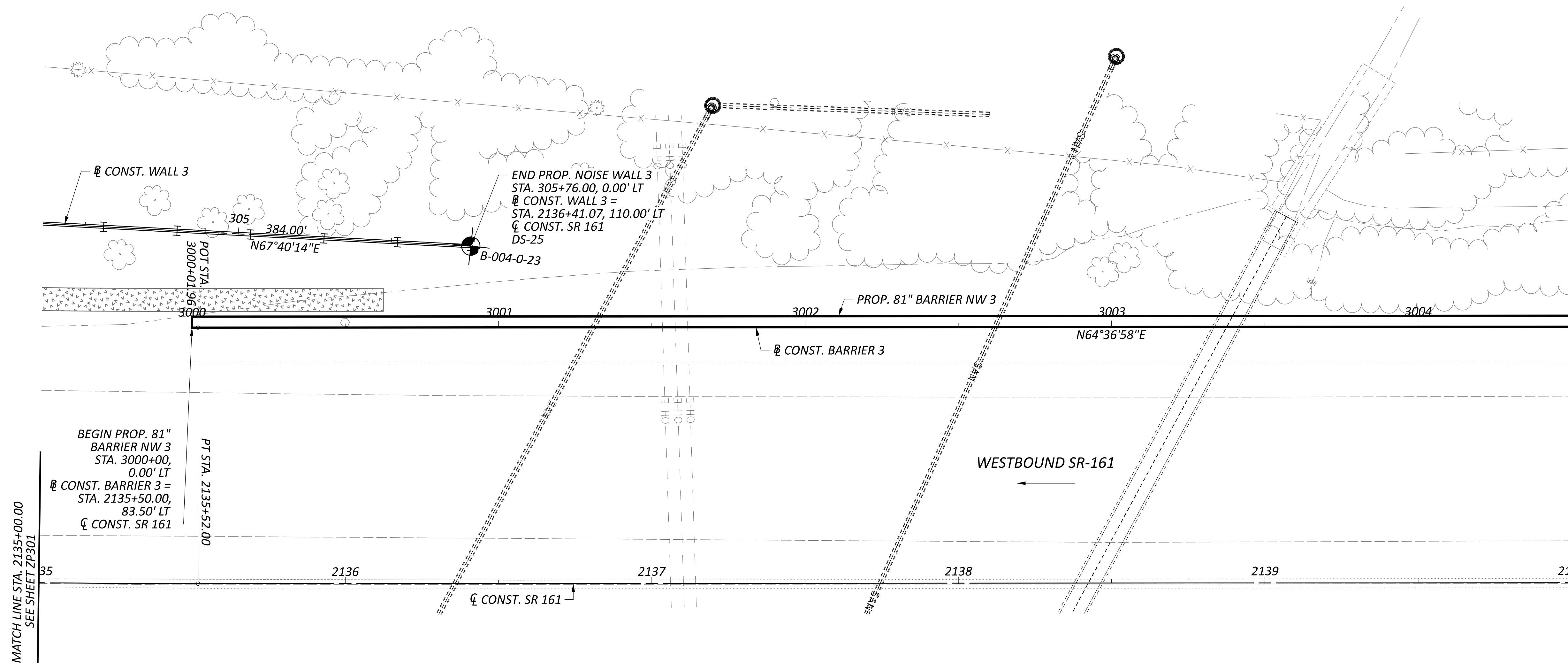


**GEOTECHNICAL PROFILE - NOISE WALL 3  
 STA. 2130+00.00 TO STA. 2135+00.00**


DESIGN AGENCY	
<small>8350 PRESIDENTIAL GATEWAY                  COLUMBUS, OHIO 43231                  (614) 823-4949</small>	
DESIGNER	
KSJ	
REVIEWER	
DEK 1/19/24	
PROJECT ID	
117607	
SUBSET	TOTAL
6	66
SHEET	TOTAL
P.235	295

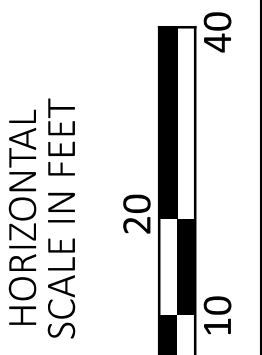
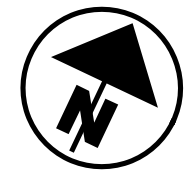
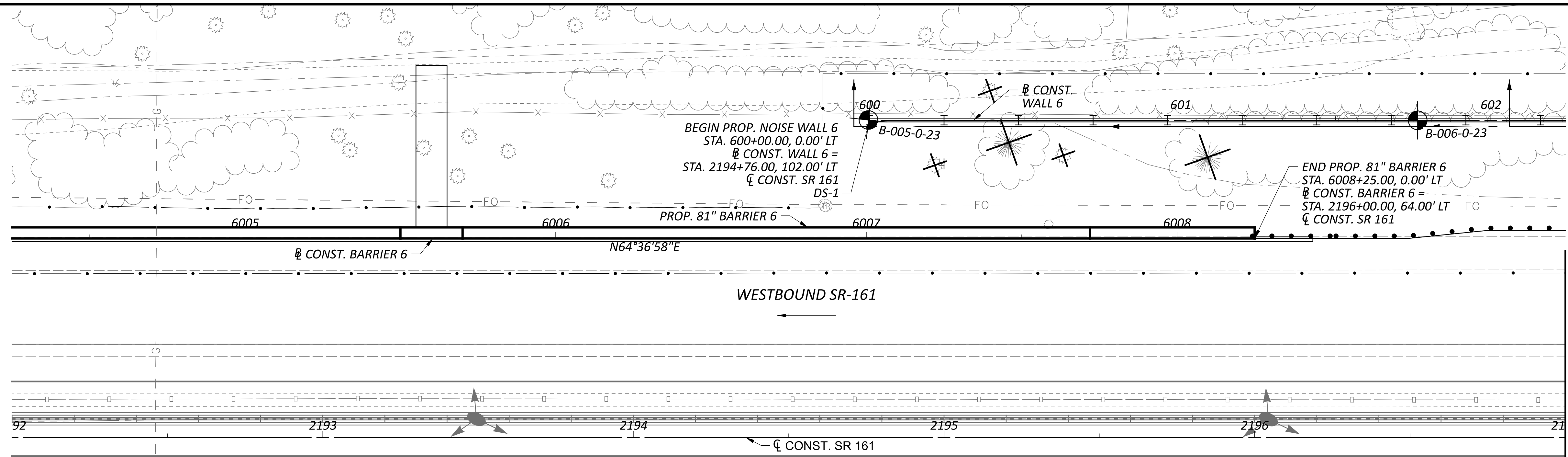
**FRA-161-15.80 NOISE WALLS**

MODEL: Wall 3 - Plan 3 PAPER SIZE: 34x22 (in.) DATE: 3/15/2024 TIME: 4:00:53 PM USER: juans  
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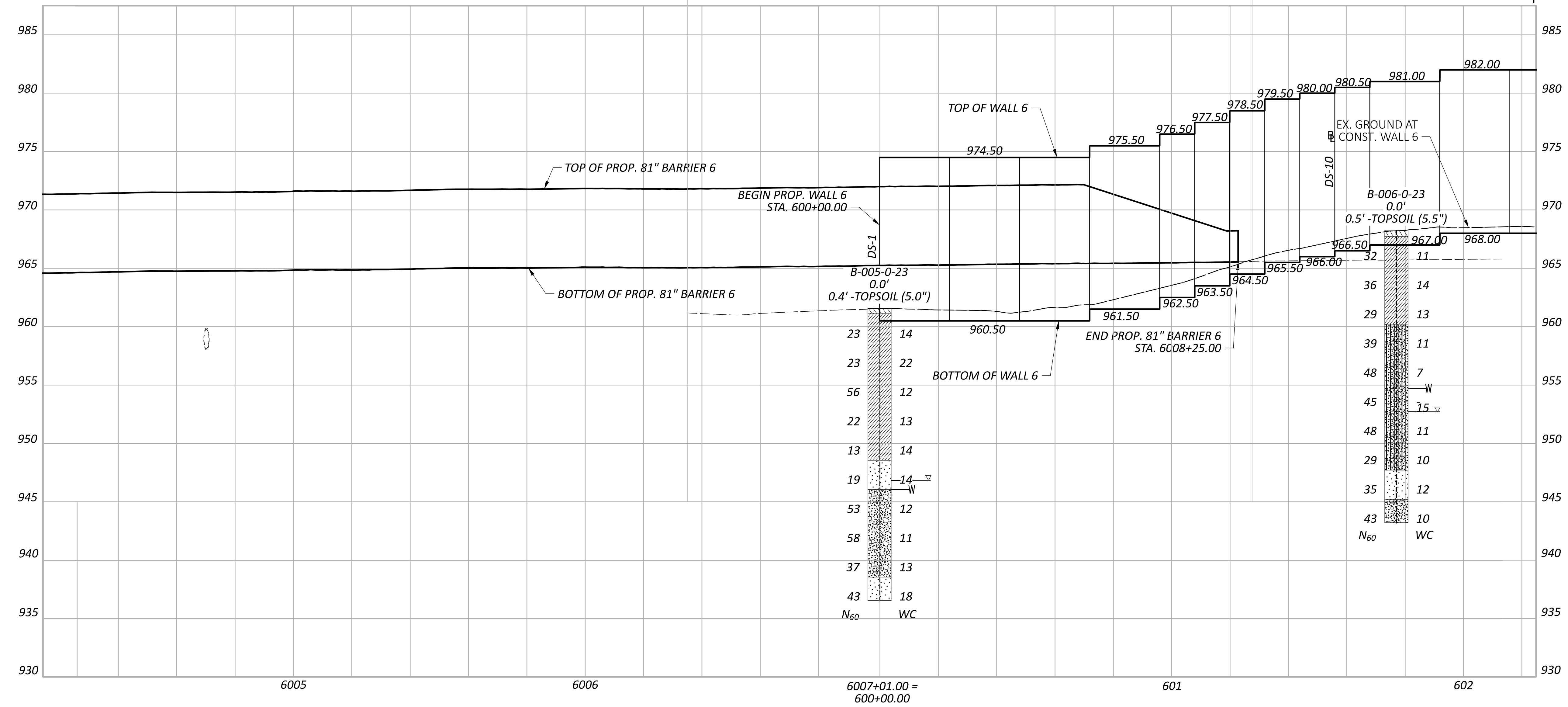


**GEOTECHNICAL PROFILE - NOISE WALL 3  
 STA. 2135+00.00 TO STA. 2140+00.00**

DESIGN AGENCY	
 RESOURCE INTERNATIONAL 8350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4949	
DESIGNER	
KSJ	
REVIEWER	
DEK 1/19/24	
PROJECT ID	
117607	
SUBSET	TOTAL
7	66
SHEET	TOTAL
P.236	295



**GEOTECHNICAL PROFILE - NOISE WALL 6**  
 STA. 2192+00.00 TO STA. 2197+00.00



MATCH LINE STA. 2197+00.00  
 SEE SHEET ZP603

DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

DESIGNER  
 KSJ

REVIEWER  
 DEK 1/19/24

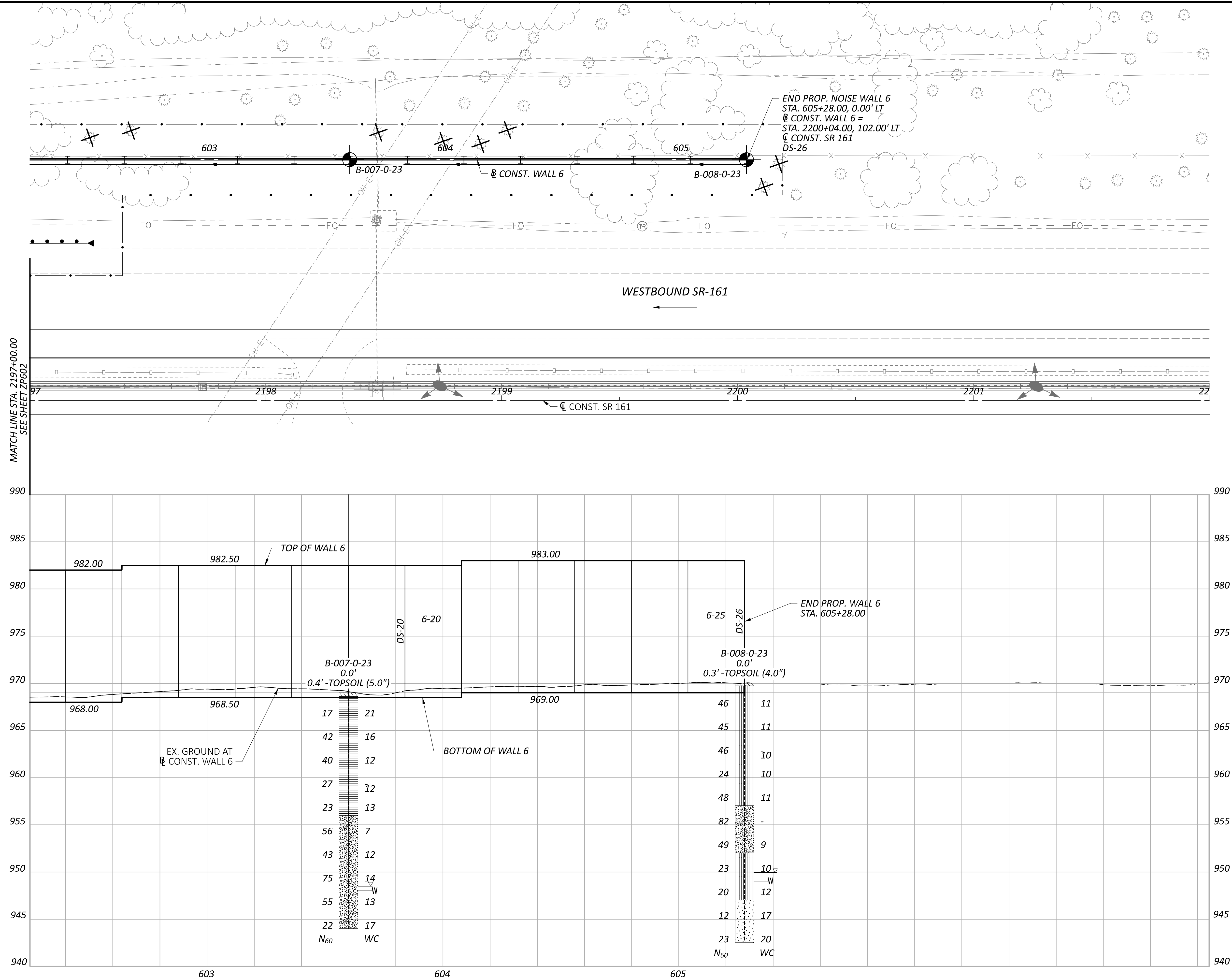
PROJECT ID  
 117607

SUBSET TOTAL  
 8 66

SHEET TOTAL  
 P.237 295

**FRA-161-15.80 NOISE WALLS**

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**GEOTECHNICAL PROFILE - NOISE WALL 6**  
 STA. 2197+00.00 TO STA. 2202+00.00

DESIGN AGENCY  
**RESOURCE INTERNATIONAL**  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

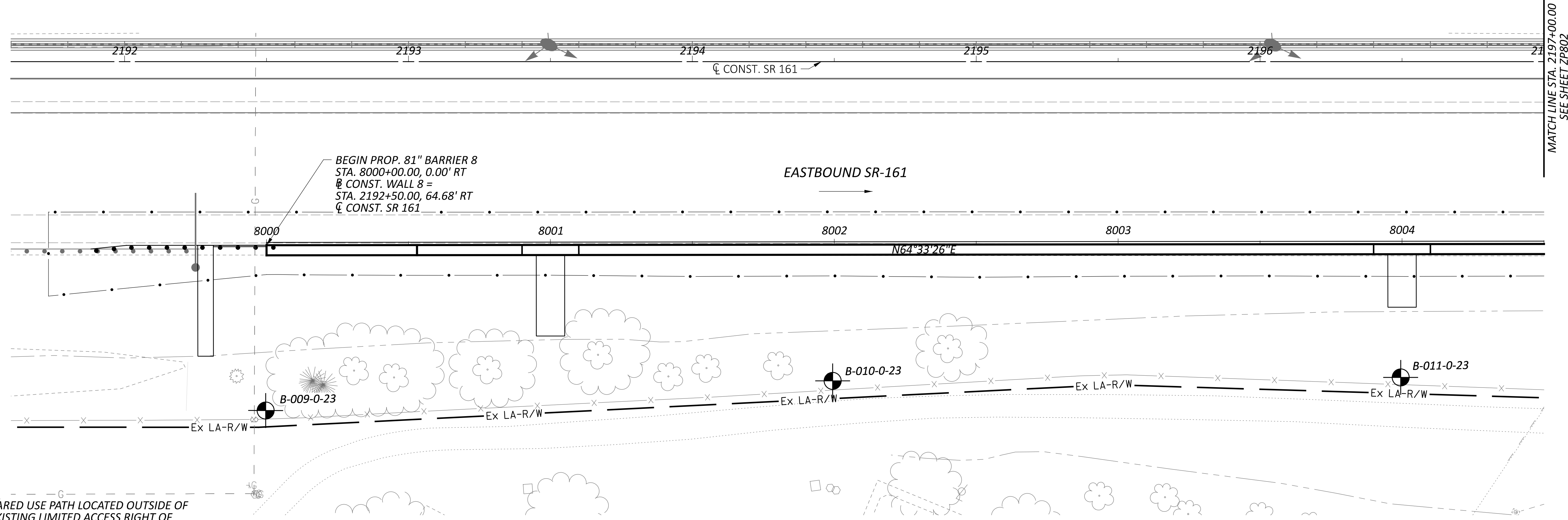
DESIGNER  
**KSJ**

REVIEWER  
**DEK 1/19/24**

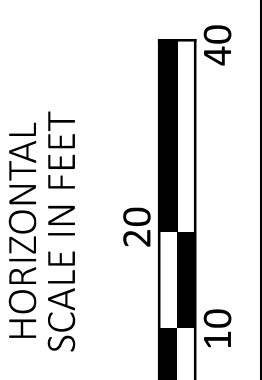
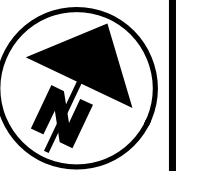
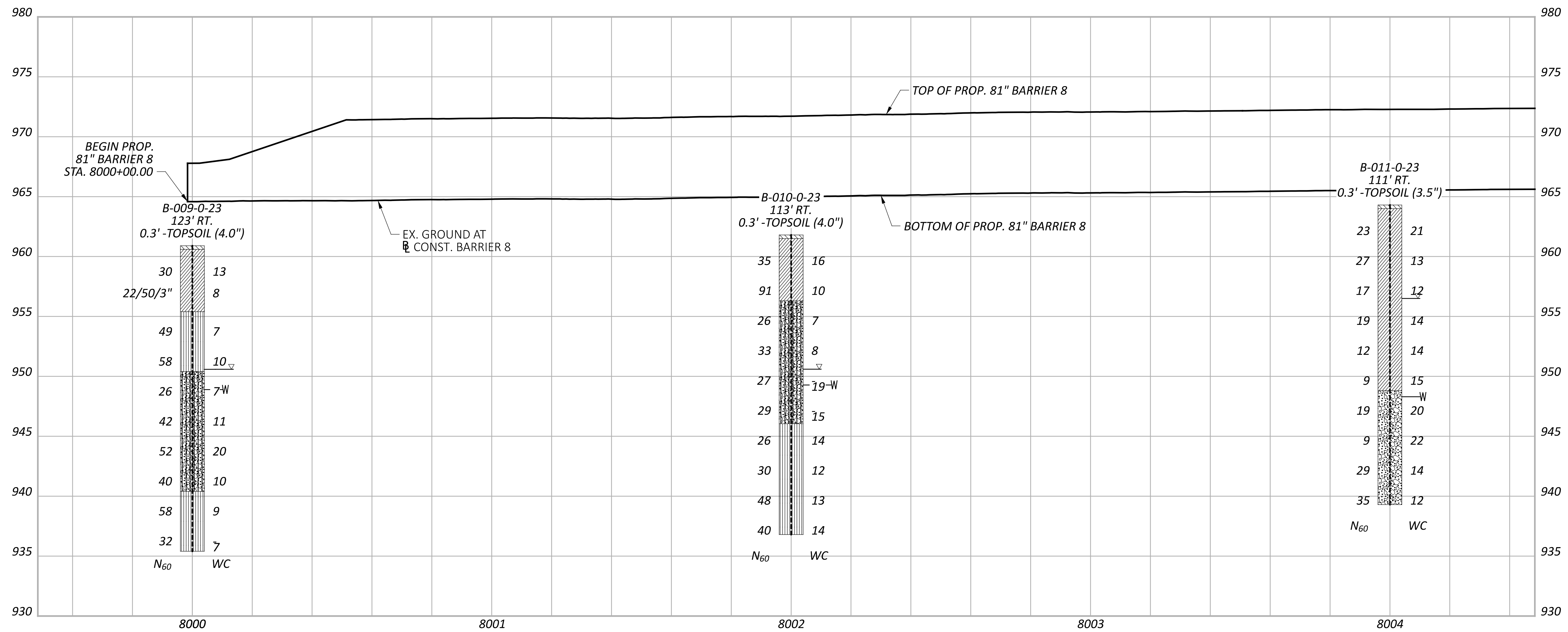
PROJECT ID  
**117607**

SUBSET	TOTAL
9	66

SHEET	TOTAL
P.238	295



**NOTES**  
 1.) SHARED USE PATH LOCATED OUTSIDE OF THE EXISTING LIMITED ACCESS RIGHT OF WAY OF SR-161 SHALL NOT BE USED FOR CONTRACTOR ACCESS.



**GEOTECHNICAL PROFILE - NOISE WALL 8**  
 STA. 2192+00.00 TO STA. 2197+00.00

DESIGN AGENCY  
**RESOURCE INTERNATIONAL**  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

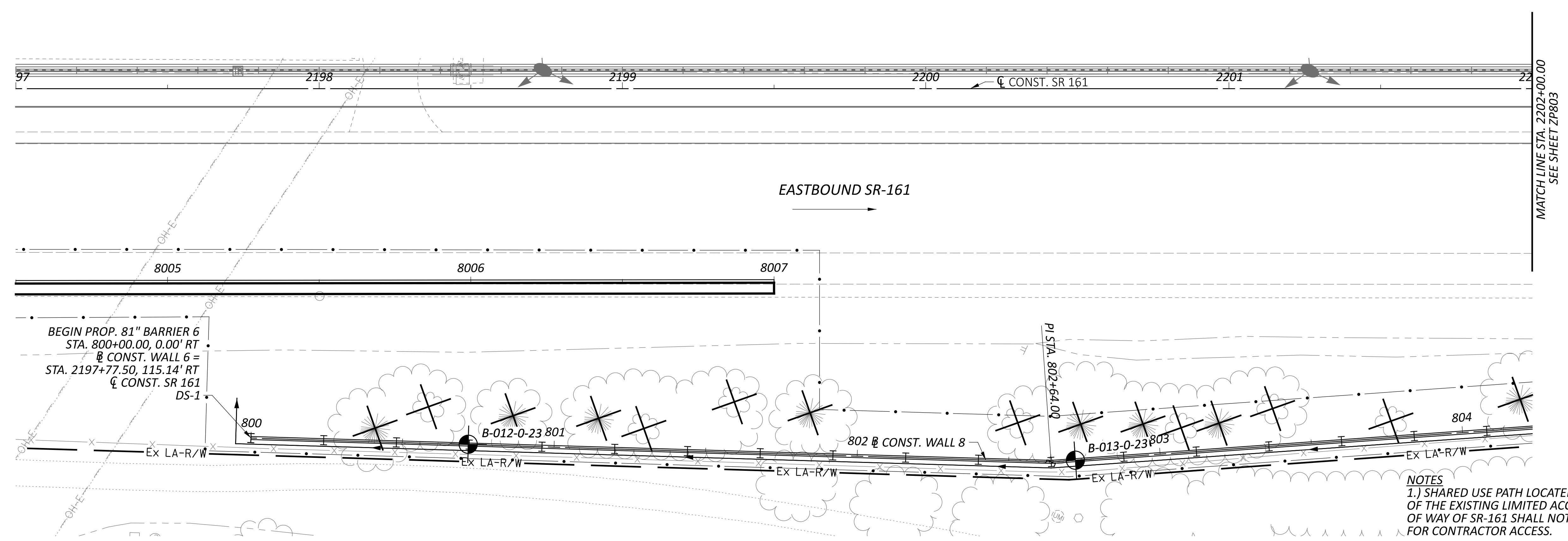
DESIGNER  
 KSJ

REVIEWER  
 DEK 1/19/24

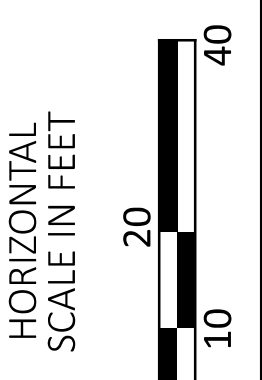
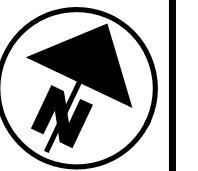
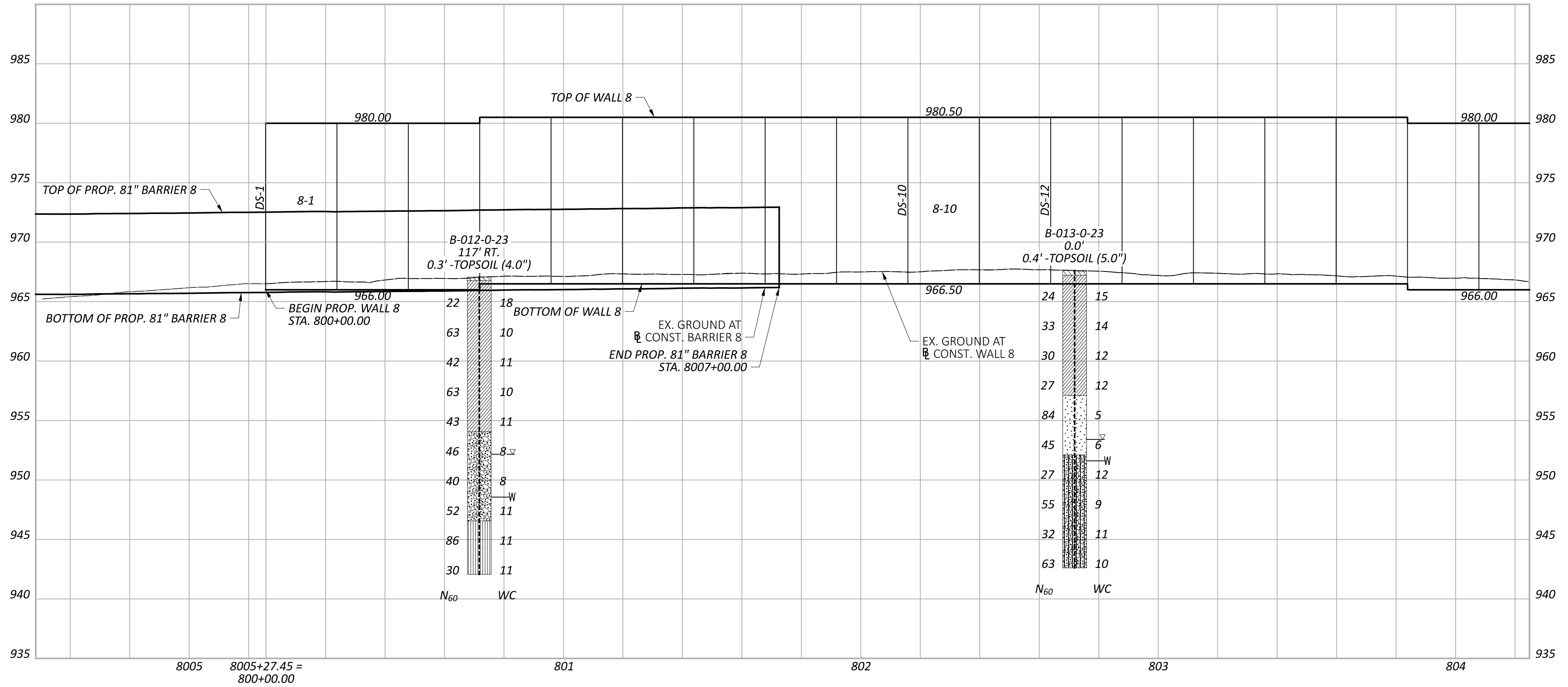
PROJECT ID  
 117607

SUBSET	TOTAL
10	66


SHEET	TOTAL
P.239	295



NOTES  
 1.) SHARED USE PATH LOCATED OUTSIDE OF THE EXISTING LIMITED ACCESS RIGHT OF WAY OF SR-161 SHALL NOT BE USED FOR CONTRACTOR ACCESS.



**GEOTECHNICAL PROFILE - NOISE WALL 8**  
 STA. 2197+00.00 TO STA. 2202+00.00

DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

DESIGNER  
 KSJ

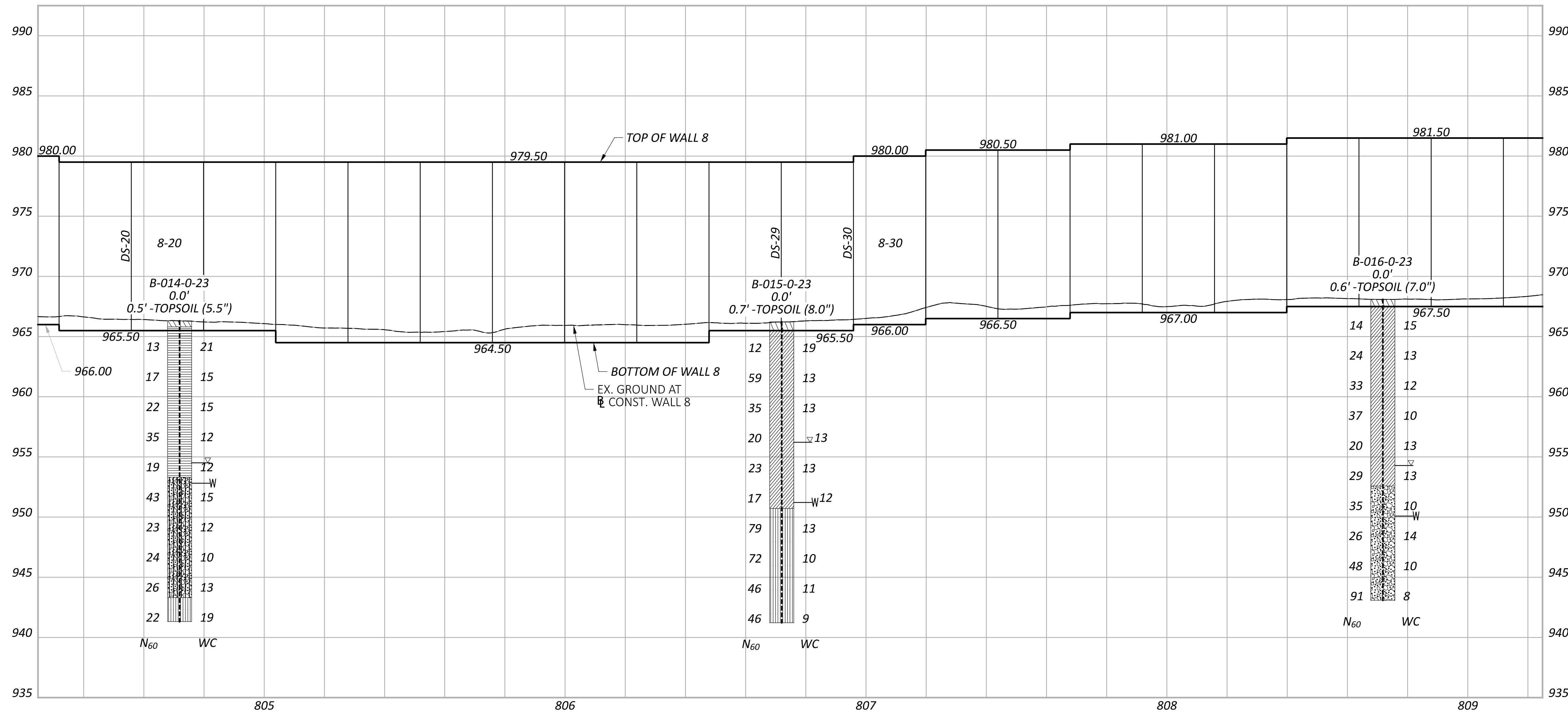
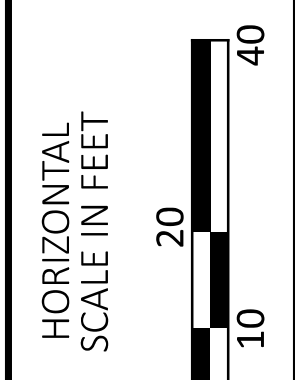
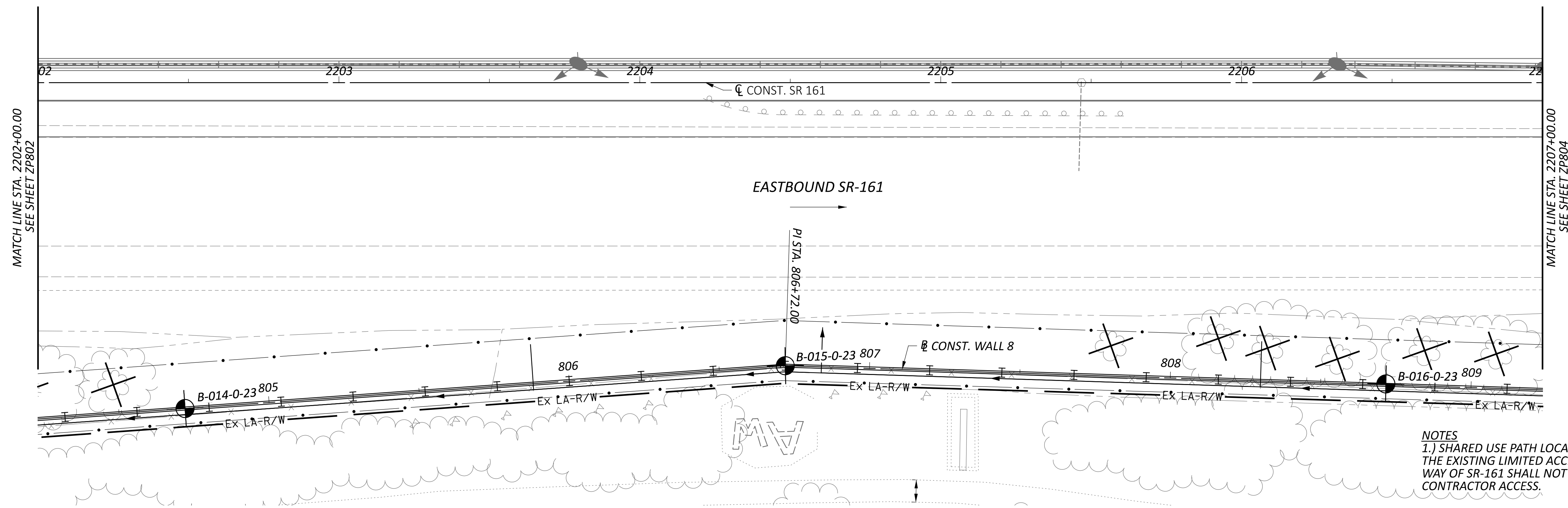
REVIEWER  
 DEK 1/19/24

PROJECT ID  
 117607

SUBSET	TOTAL
11	66

SHEET	TOTAL
P.240	295





**NOTES**  
 1.) SHARED USE PATH LOCATED OUTSIDE OF THE EXISTING LIMITED ACCESS RIGHT OF WAY OF SR-161 SHALL NOT BE USED FOR CONTRACTOR ACCESS.

**GEOTECHNICAL PROFILE - NOISE WALL 8  
 STA. 2202+00.00 TO STA. 2207+00.00**

DESIGN AGENCY  
  
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 COLUMBUS, OHIO 43231  
 (614) 823-4949

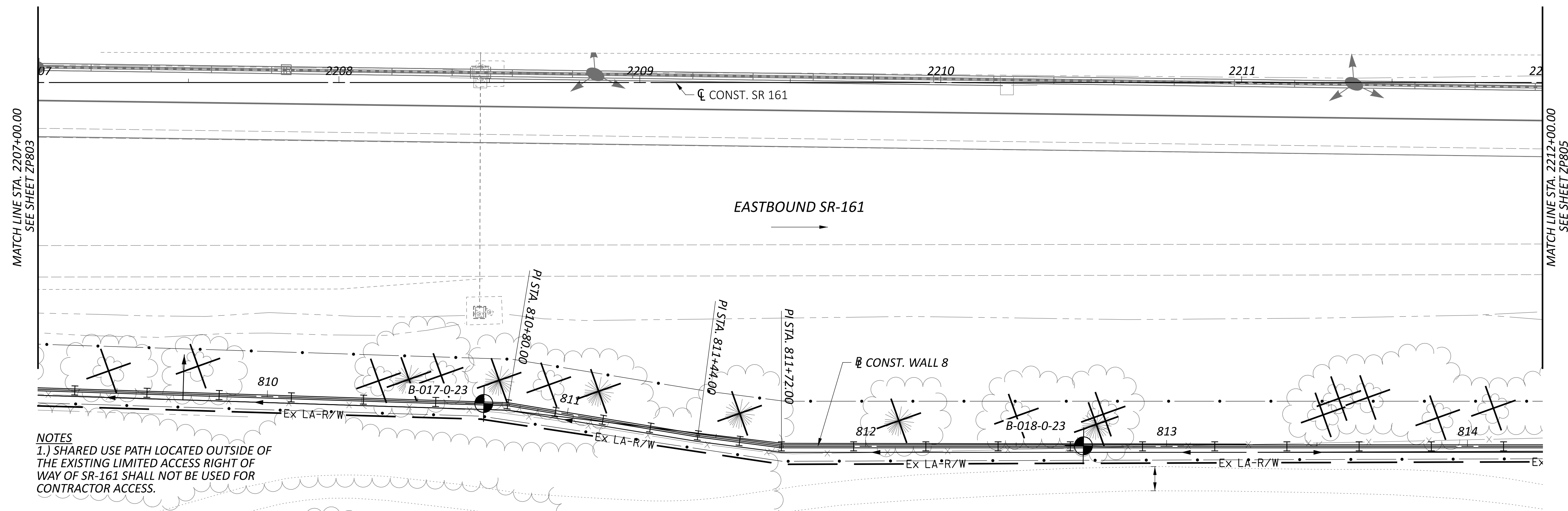
DESIGNER  
 KSJ

REVIEWER  
 DEK 1/19/24

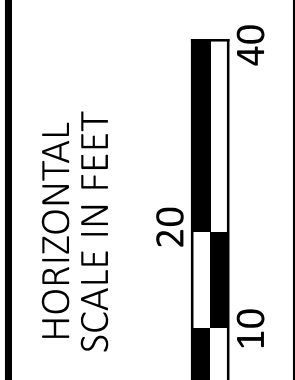
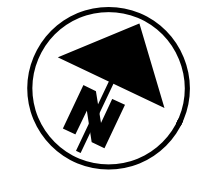
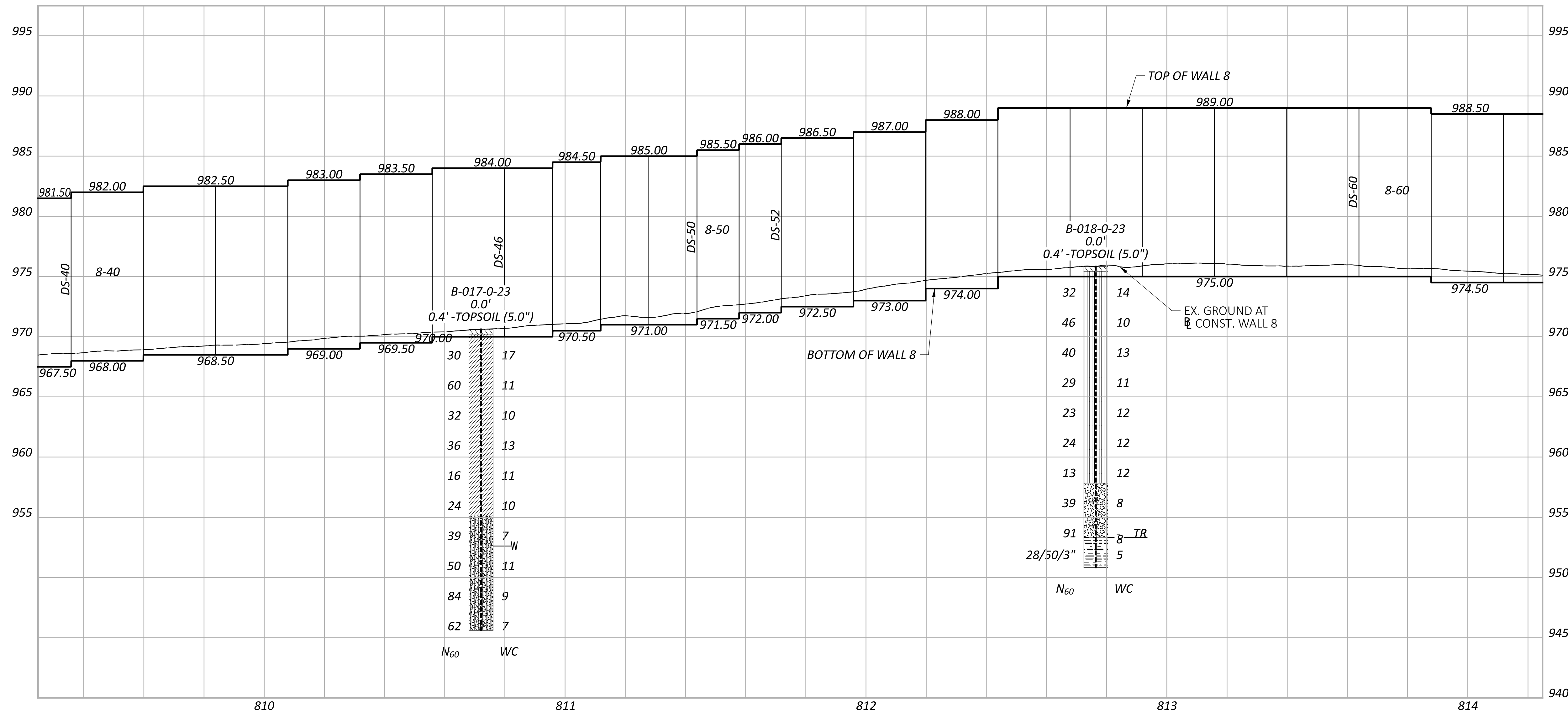
PROJECT ID  
 117607

SUBSET	TOTAL
12	66

SHEET	TOTAL
P.241	295



**NOTES**  
 1.) SHARED USE PATH LOCATED OUTSIDE OF THE EXISTING LIMITED ACCESS RIGHT OF WAY OF SR-161 SHALL NOT BE USED FOR CONTRACTOR ACCESS.

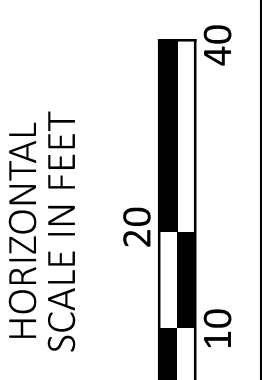
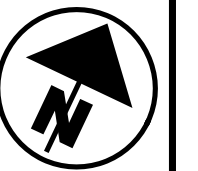
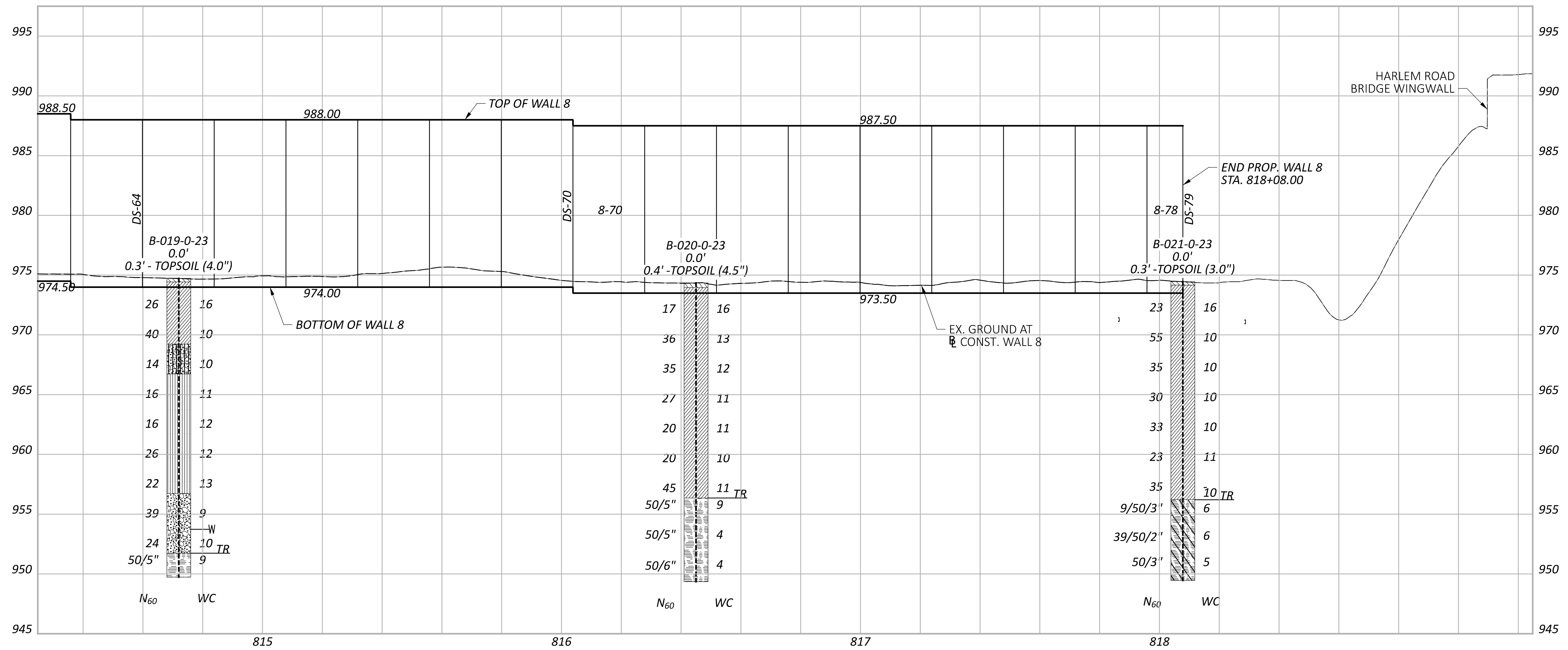
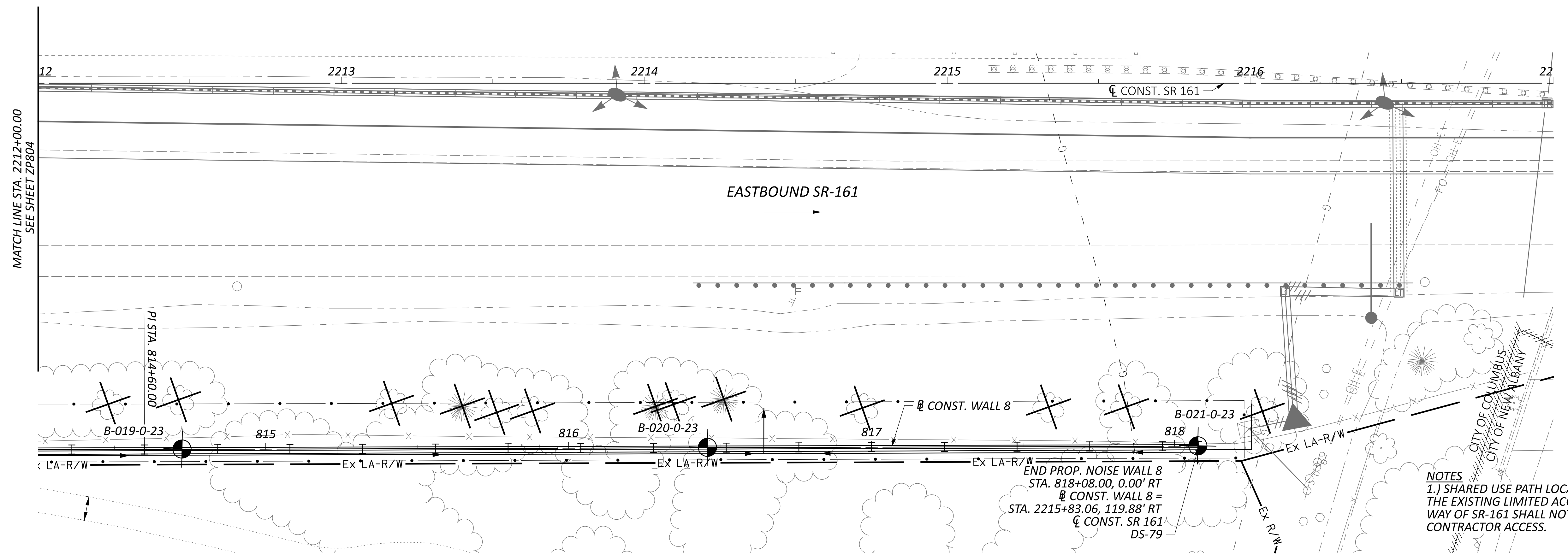


**GEOTECHNICAL PROFILE - NOISE WALL 8**  
 STA. 2207+00.00 TO STA. 2212+00.00

DESIGN AGENCY	
8350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4949	
DESIGNER	
KSJ	
REVIEWER	
DEK 1/19/24	
PROJECT ID	
117607	
SUBSET	TOTAL
13	66
SHEET	TOTAL
P.242	295

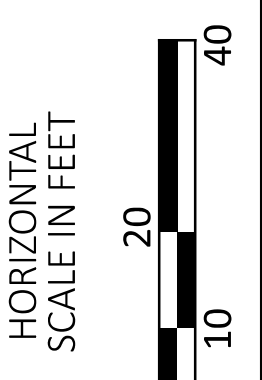
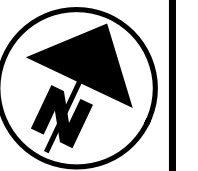
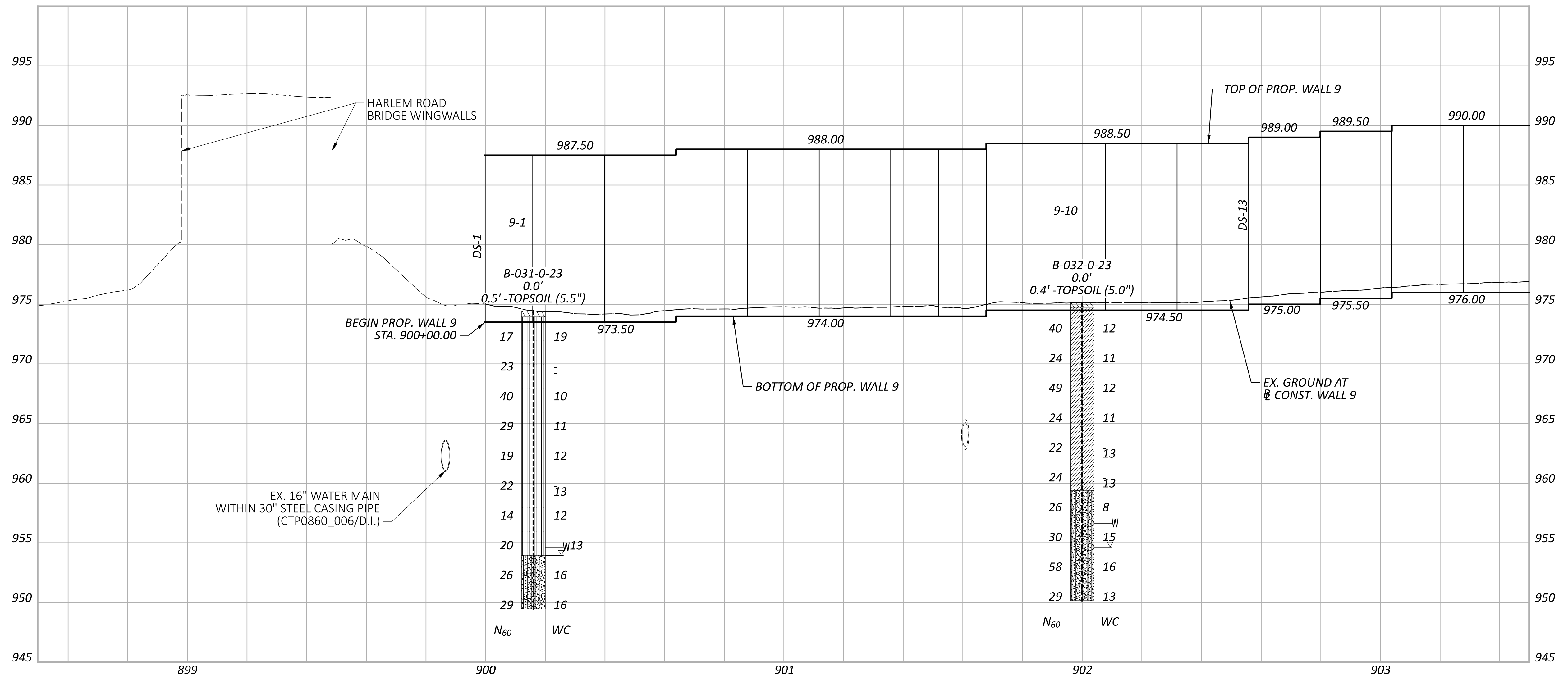
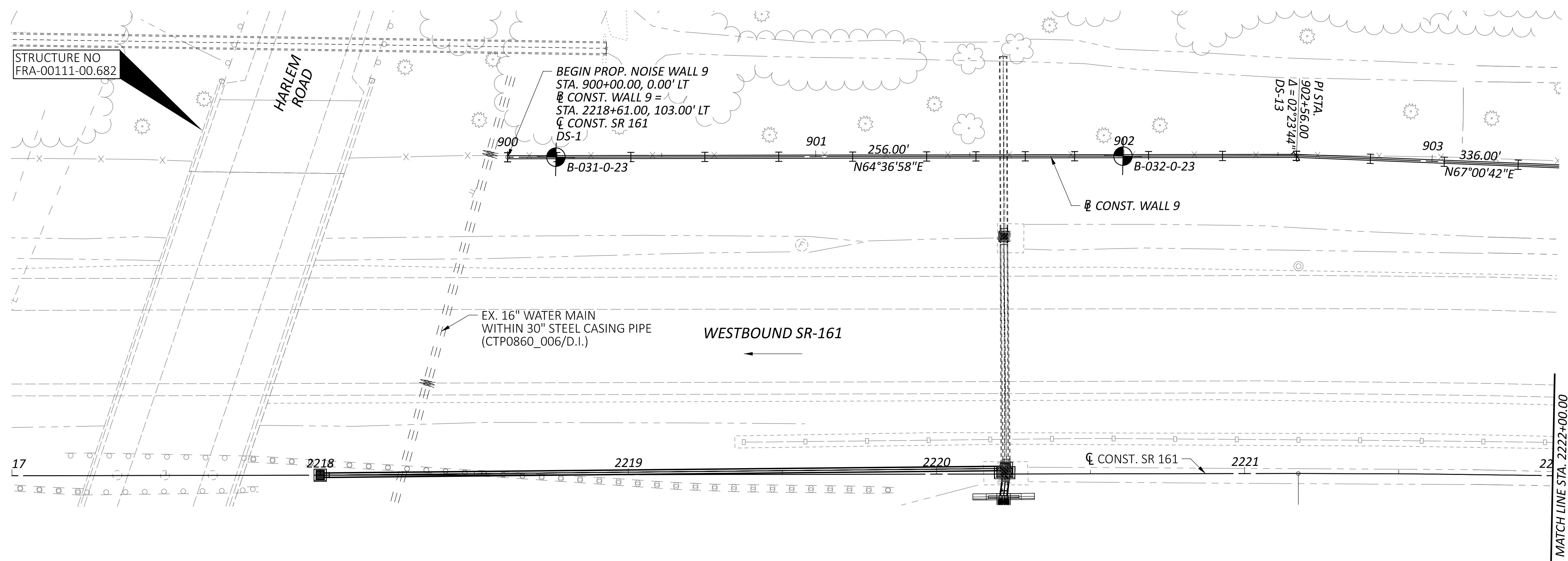
**FRA-161-15.80 NOISE WALLS**

MODEL: CLP\_SR161 - Plan 11 PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 5:00:46 PM USER: juans  
 J:\GEO TECH\Connect Projects\2023\107-FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZP805.dgn



**GEOTECHNICAL PROFILE - NOISE WALL 8  
 STA. 2212+00.00 TO STA. 2217+00.00**

DESIGN AGENCY	
 RESOURCE INTERNATIONAL 8350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4949	
DESIGNER	
KSJ	
REVIEWER	
DEK 1/19/24	
PROJECT ID	
117607	
SUBSET	TOTAL
14	66
SHEET	TOTAL
P.243	295

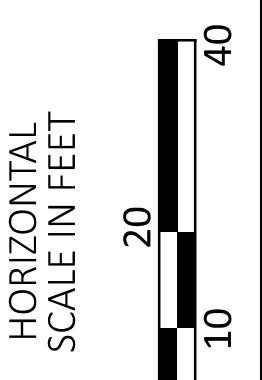
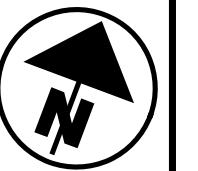
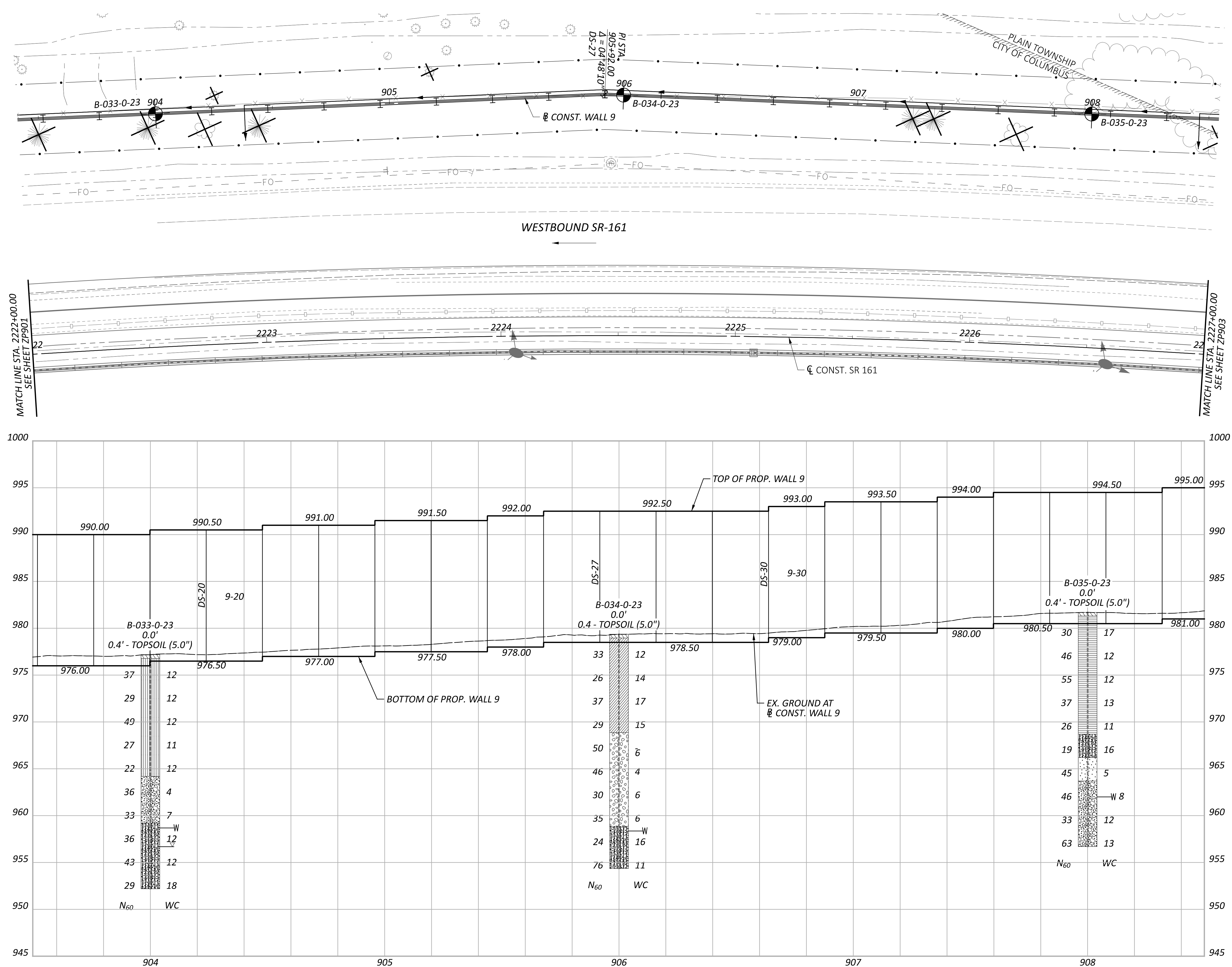


GEOTECHNICAL PROFILE - NOISE WALL 9  
 STA. 2217+00.00 TO STA. 2222+00.00

DESIGN AGENCY	
8350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4949	
DESIGNER	
KSJ	
REVIEWER	
DEK 1/19/24	
PROJECT ID	
117607	
SUBSET	TOTAL
15	66
SHEET	TOTAL
P.244	295

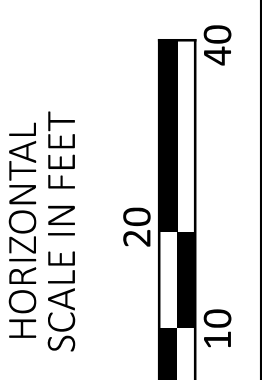
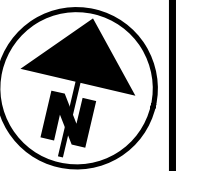
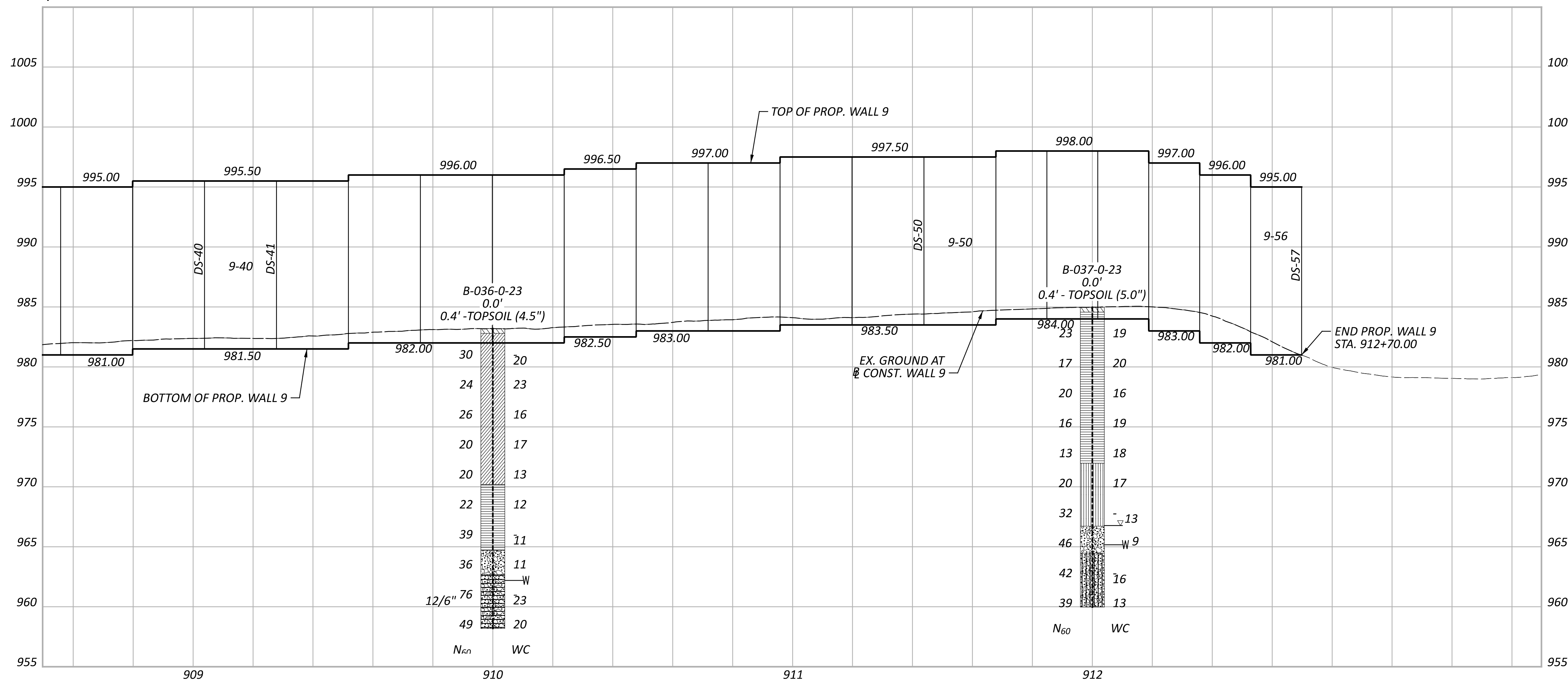
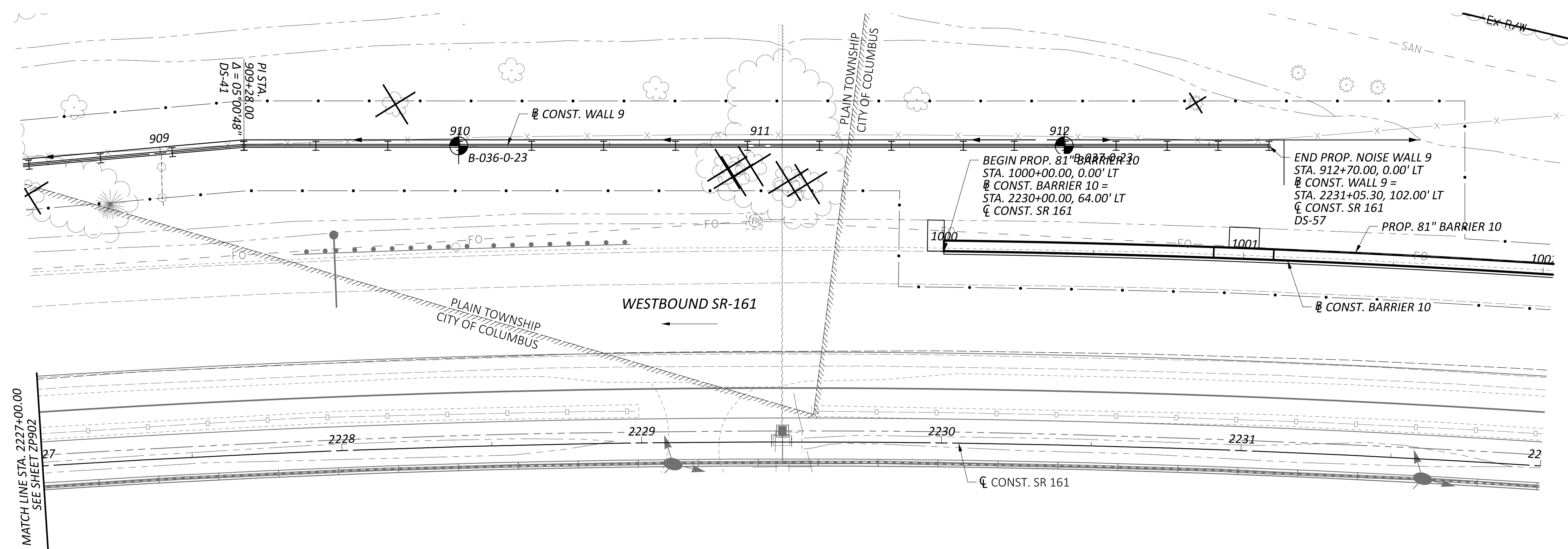
**FRA-161-15.80 NOISE WALLS**

MODEL: Wall 9 - Plan 13 PAPER/SIZE: 34x42 (in.) DATE: 3/14/2024 TIME: 5:16:33 PM USER: juans  
 J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Sheets\117607\_Zp902.dgn



**GEOTECHNICAL PROFILE - NOISE WALL 9  
 STA. 2222+00.00 TO STA. 2227+00.00**

DESIGN AGENCY	
6350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4949	
DESIGNER	
KSJ	
REVIEWER	
DEK 1/19/24	
PROJECT ID	
117607	
SUBSET	TOTAL
16	66
SHEET	TOTAL
P.245	295



**GEOTECHNICAL PROFILE - NOISE WALL 9**  
 STA. 2227+00.00 TO STA. 2232+00.00

DESIGN AGENCY  
**RESOURCE** INTERNATIONAL  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

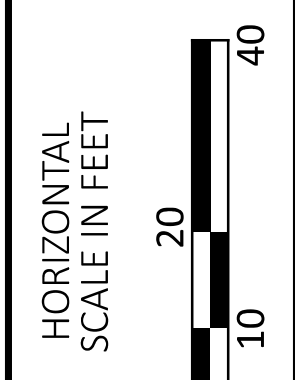
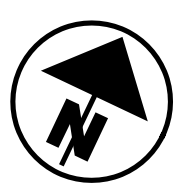
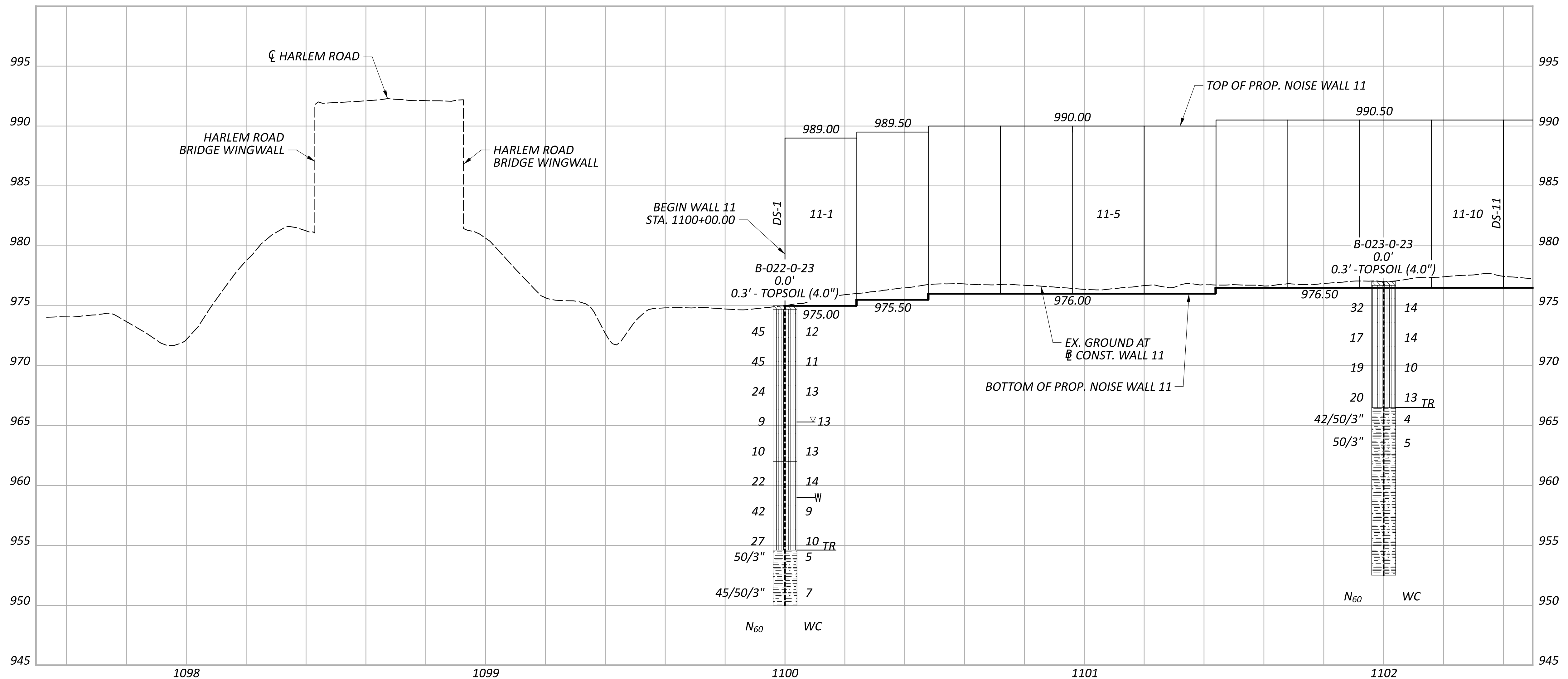
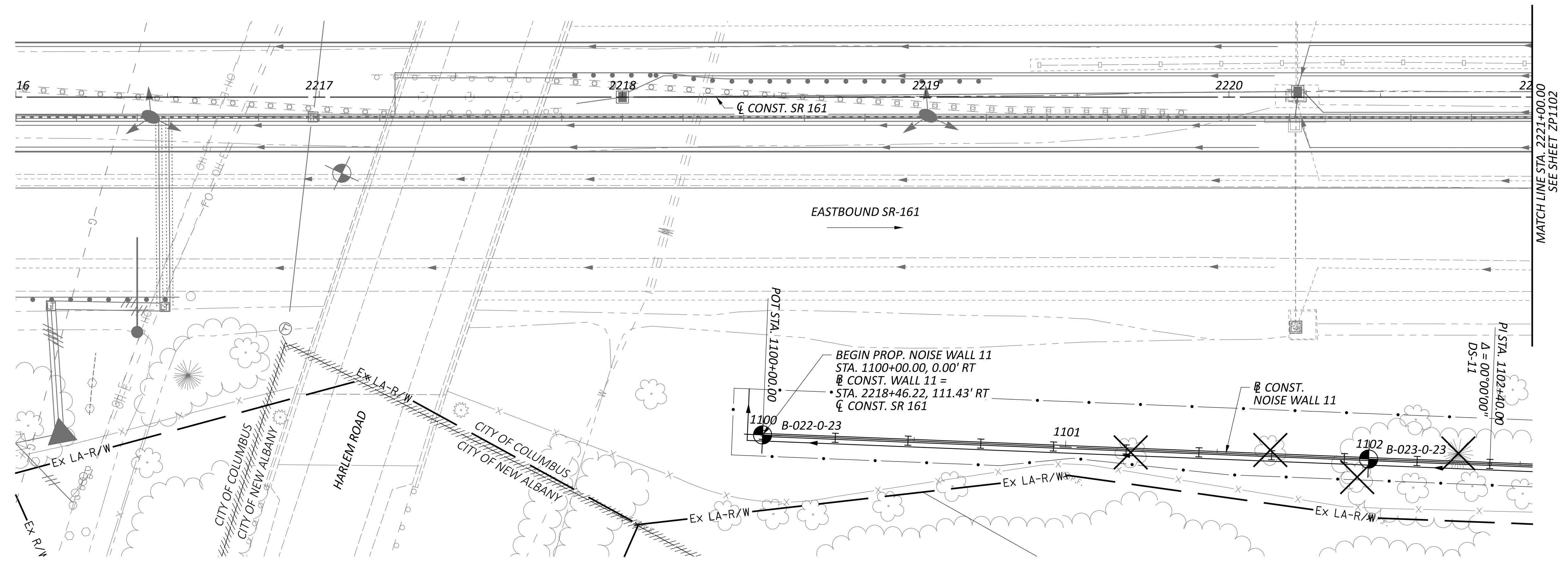
DESIGNER  
 KSJ

REVIEWER  
 DEK 1/19/24

PROJECT ID  
 117607

SUBSET TOTAL  
 17 66

SHEET TOTAL  
 P.246 295

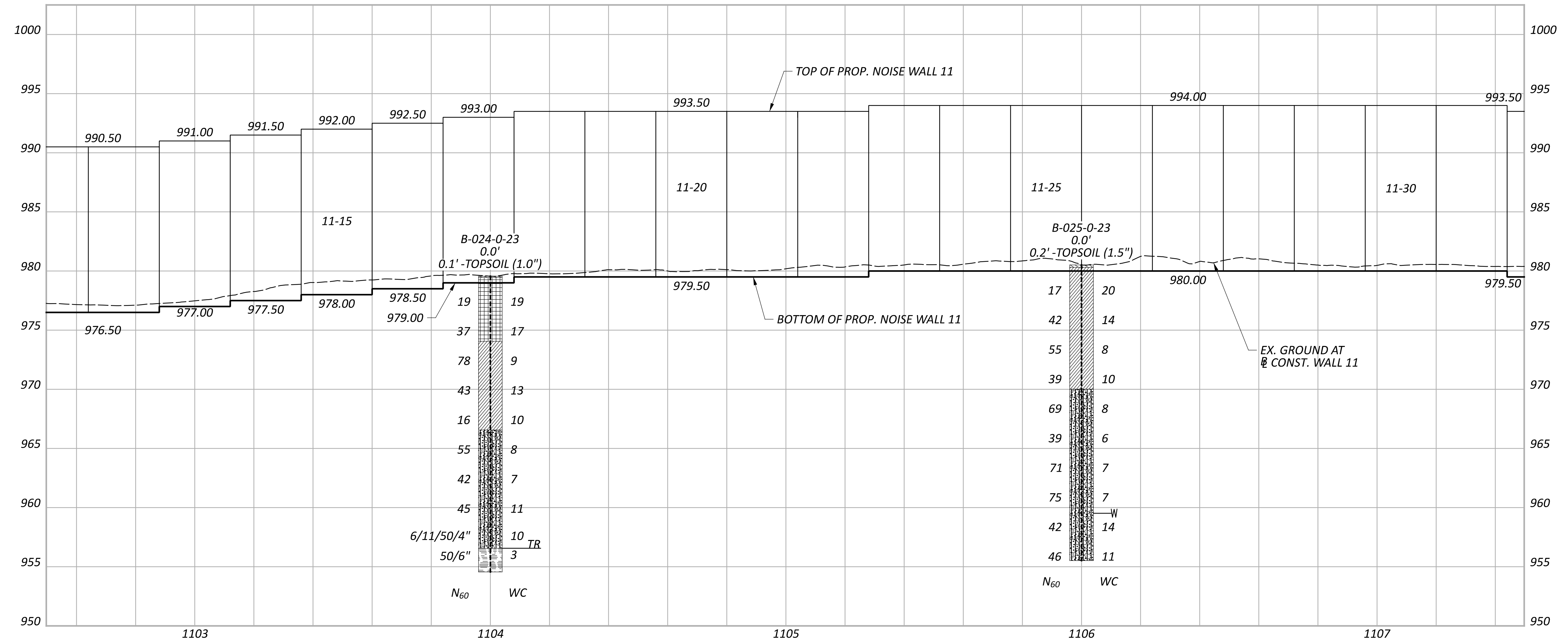
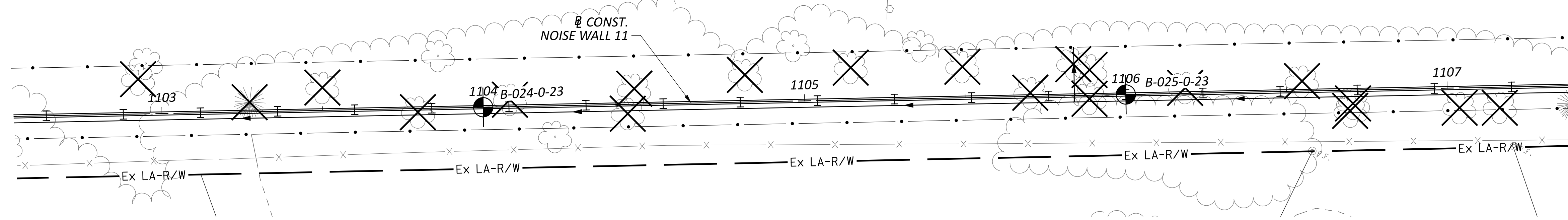
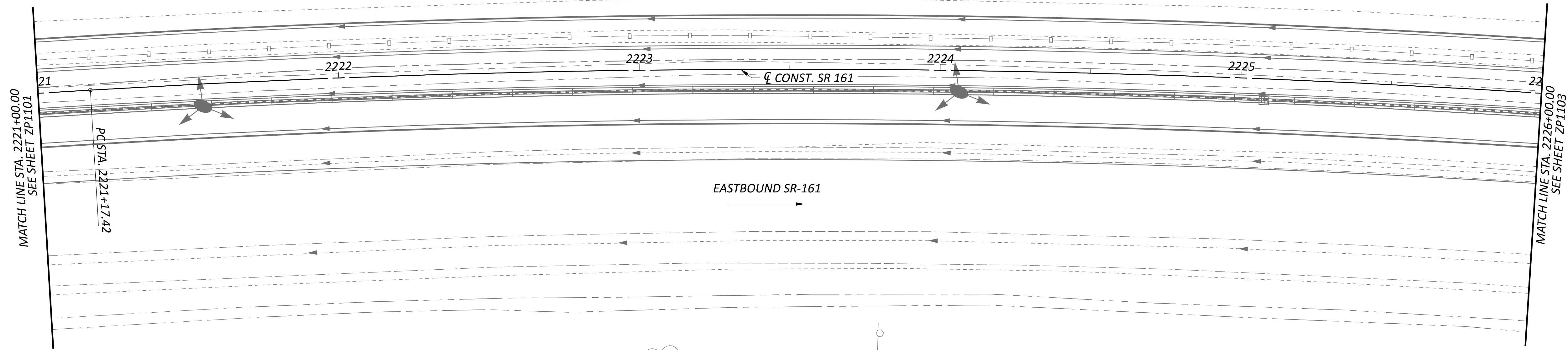


GEOTECHNICAL PROFILE - NOISE WALL 11  
STA. 2216+00.00 TO STA. 2221+00.00

DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
 KSJ  
 REVIEWER  
 DEK 1/19/24  
 PROJECT ID  
 117607  
 SUBSET TOTAL  
 18 66  
 SHEET TOTAL  
 P.247 295

**FRA-161-15.80 NOISE WALLS**

MODEL: Plan-1 PAPER: 34x42 (in.) DATE: 3/14/2024 TIME: 5:26:38 PM USER: juans  
 J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZP1102.dgn



**GEOTECHNICAL PROFILE - NOISE WALL 11  
 STA. 2221+00.00 TO STA. 2226+00.00**

DESIGN AGENCY

8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

DESIGNER  
 KSJ

REVIEWER  
 DEK 1/19/24

PROJECT ID  
 117607

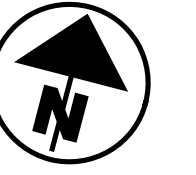
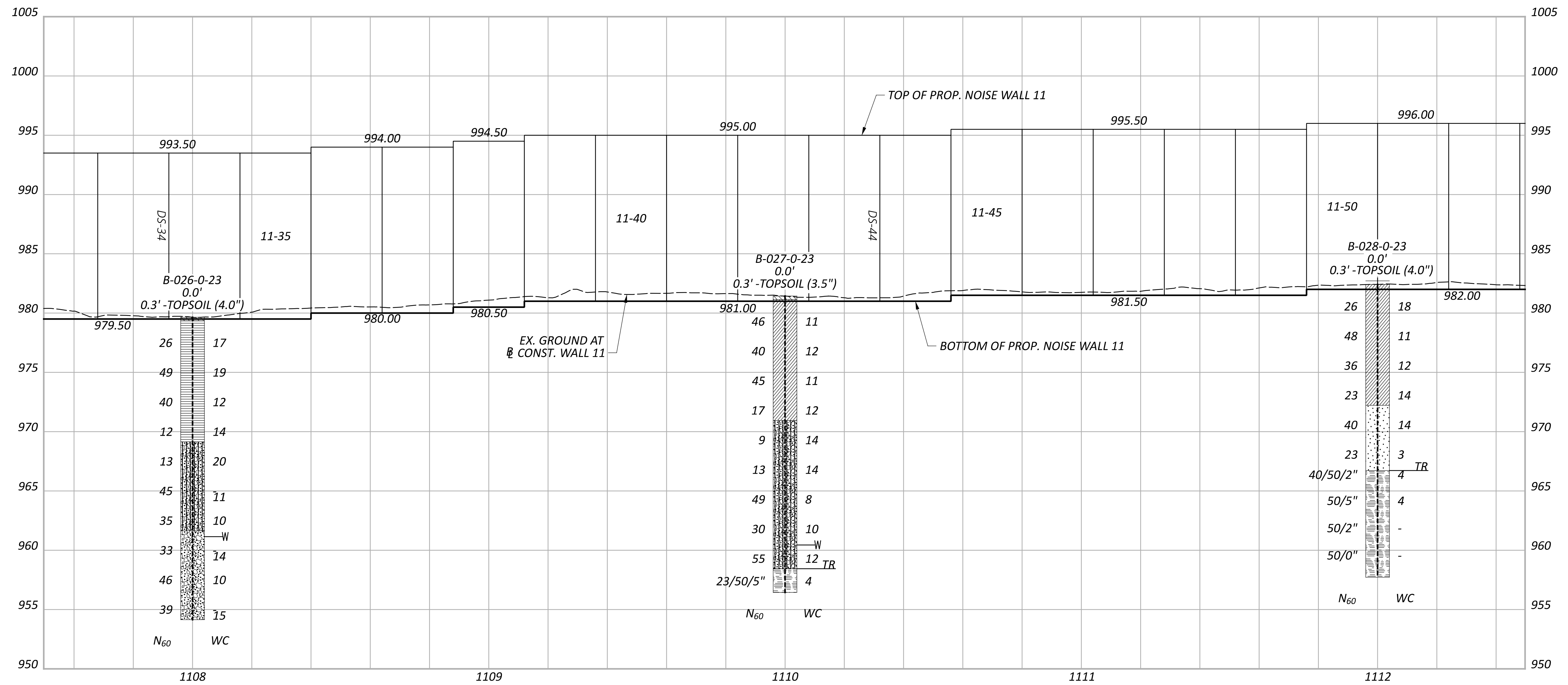
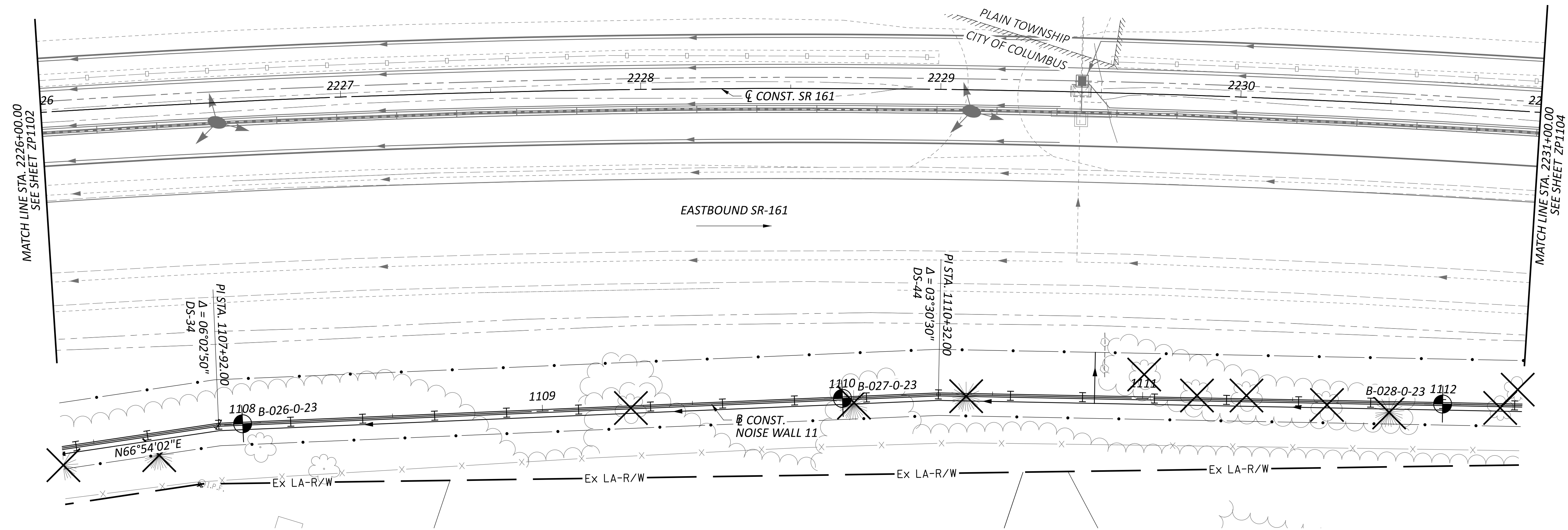
SUBSET	TOTAL
19	66

SHEET	TOTAL
P.248	295



**FRA-161-15.80 NOISE WALLS**

MODEL: Plan-2 PAPER SIZE: 34x42 (in.) DATE: 3/14/2024 TIME: 5:29:13 PM USER: juans  
 J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Sheets\117607\_ZP1103.dgn

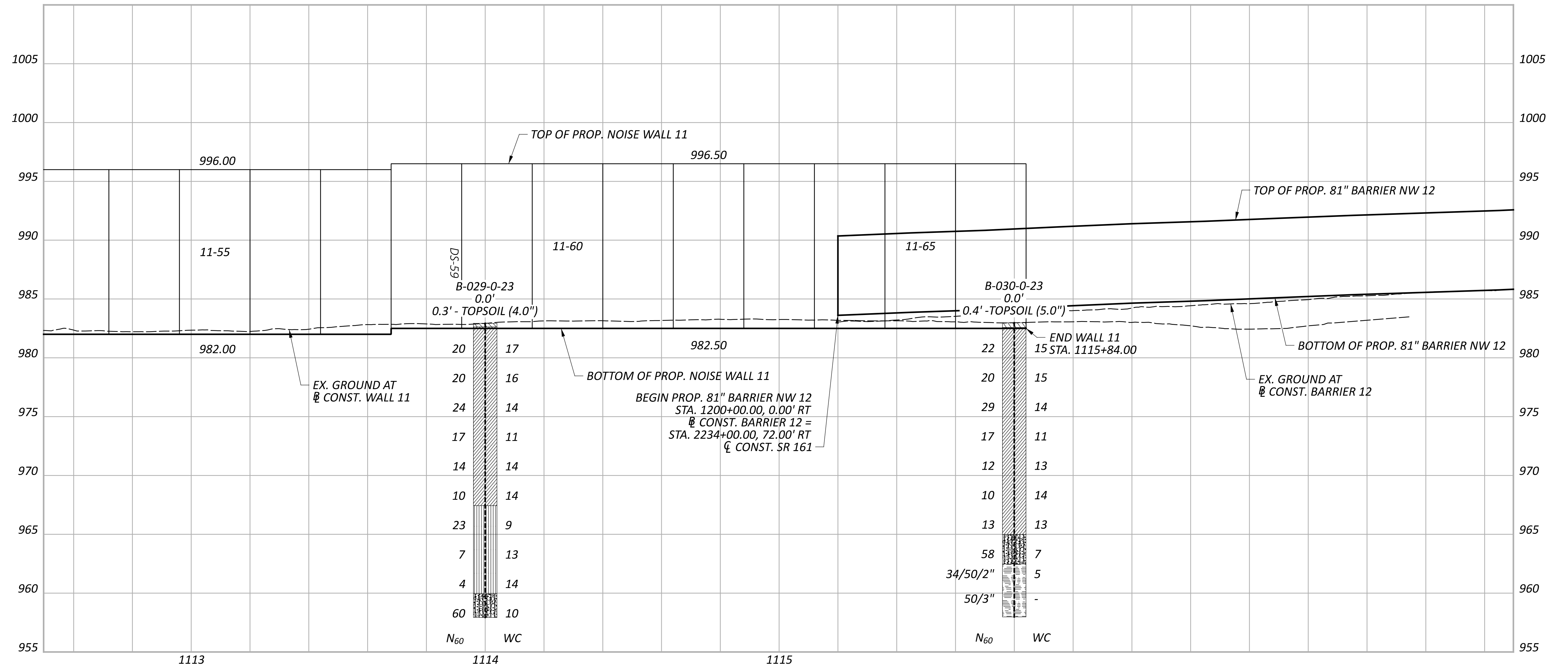
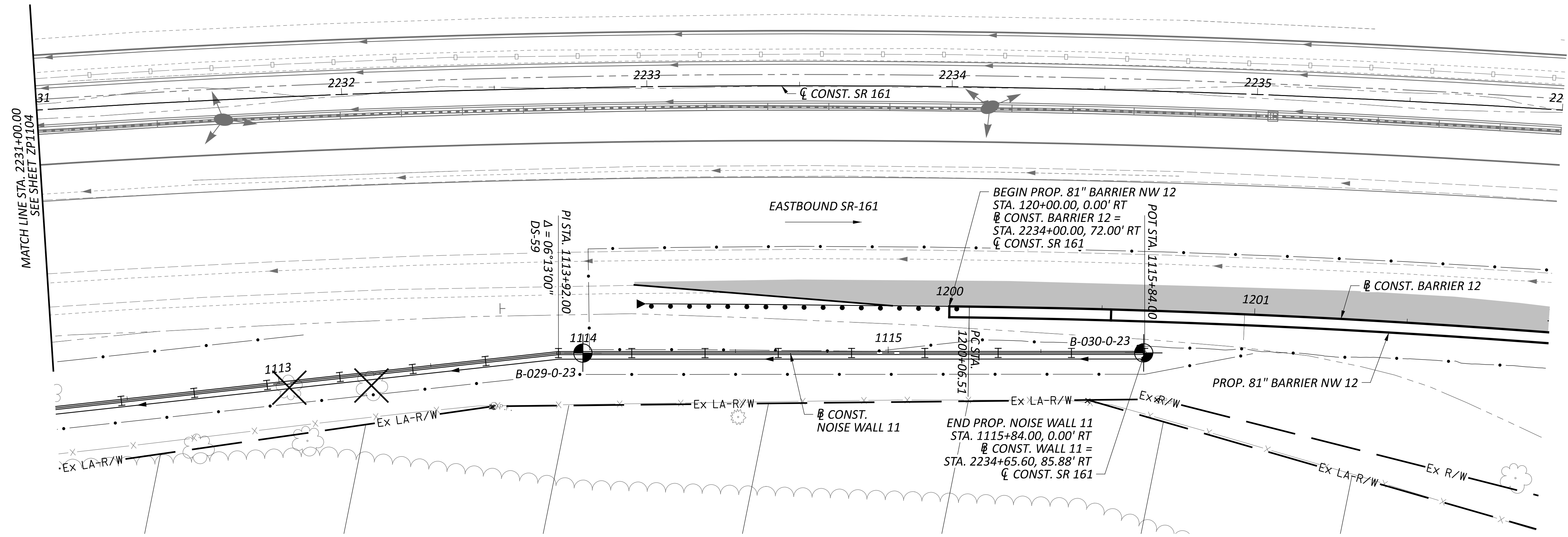


**GEOTECHNICAL PROFILE - NOISE WALL 11  
 STA. 2226+00.00 TO STA. 2231+00.00**

DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
 KSJ  
 REVIEWER  
 DEK 1/19/24  
 PROJECT ID  
 117607  
 SUBSET TOTAL  
 20 66  
 SHEET TOTAL  
 P.249 295

**FRA-161-15.80 NOISE WALLS**

MODEL: Plan-3 PAPER SIZE: 34x42 (in.) DATE: 3/14/2024 TIME: 5:31:47 PM USER: juans  
 J:\GEO TECH\Geotech Connect Projects\2023\107-FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZP1104.dgn



**GEOTECHNICAL PROFILE - NOISE WALL 11  
 STA. 2231+00.00 TO STA. 2236+00.00**

DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

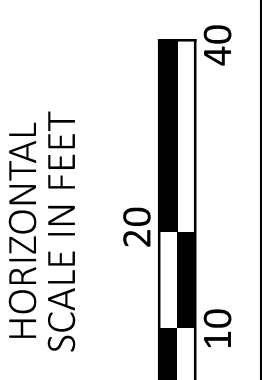
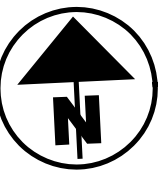
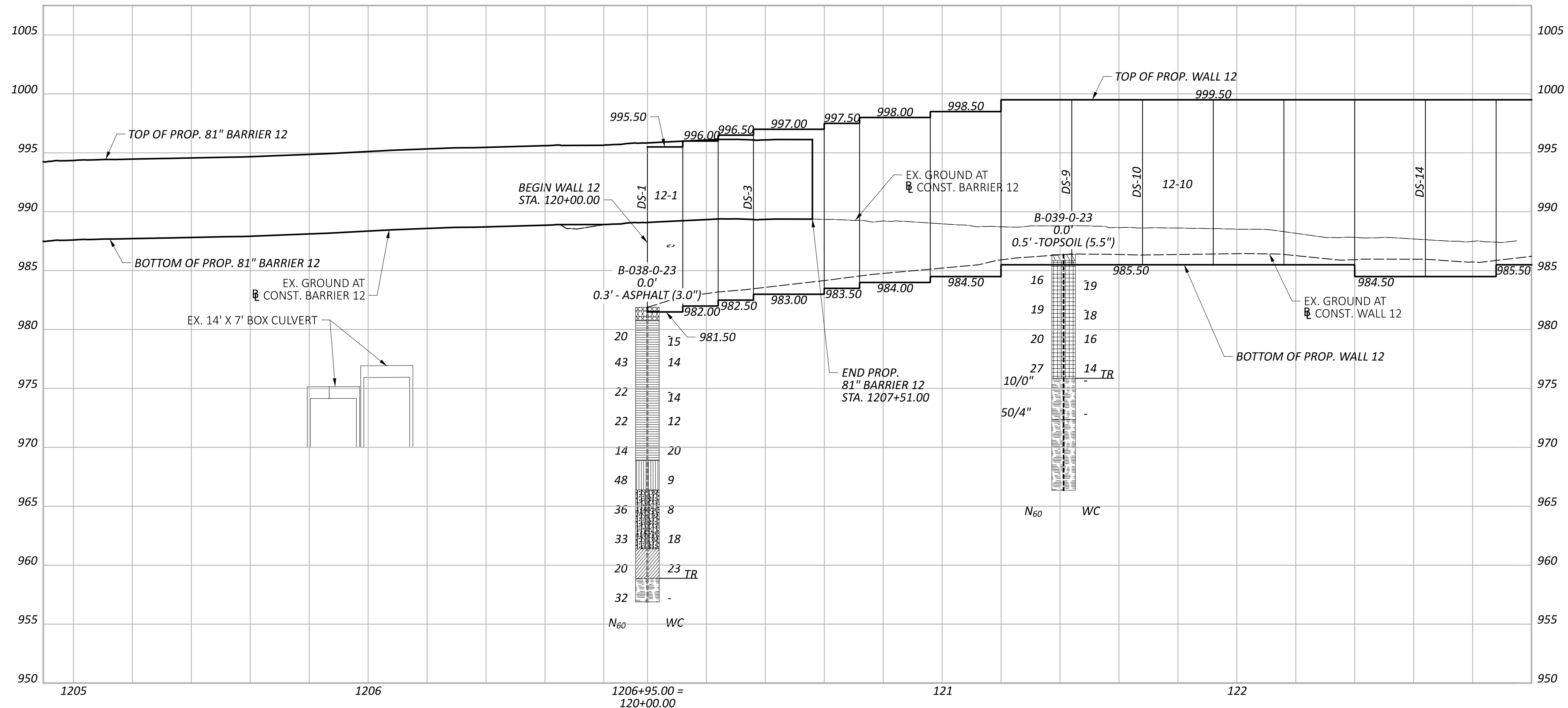
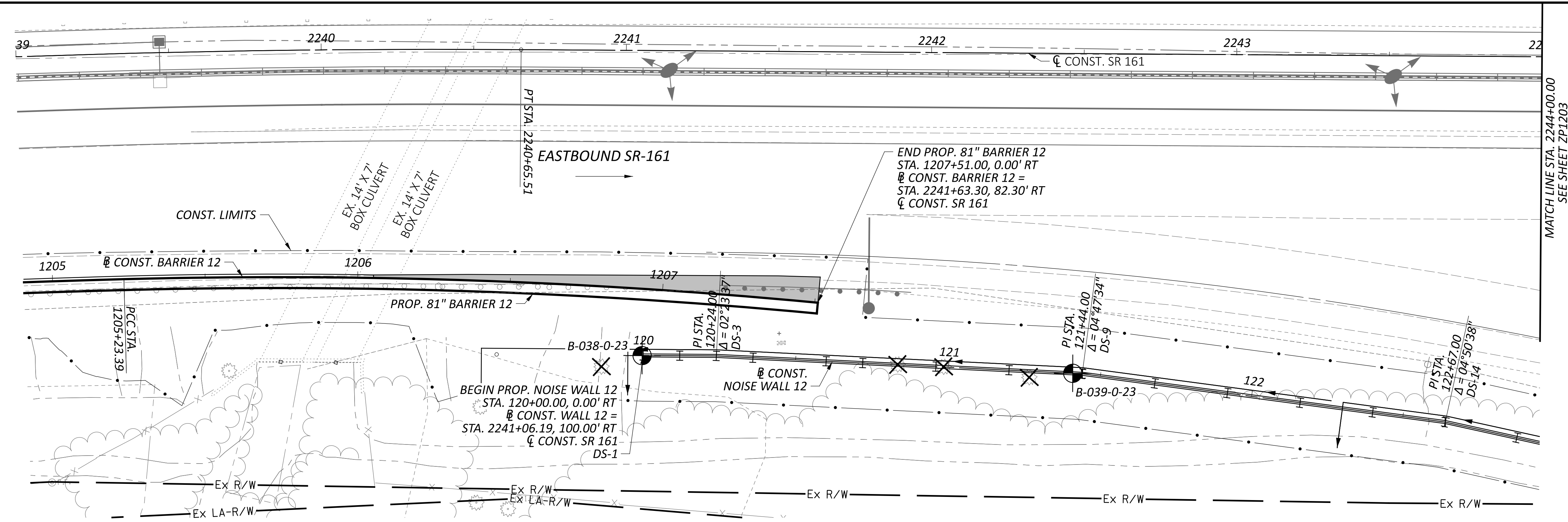
DESIGNER  
 KSJ

REVIEWER  
 DEK 1/19/24

PROJECT ID  
 117607

SUBSET TOTAL  
 21 66

SHEET TOTAL  
 P.250 295

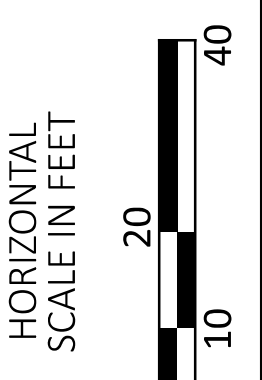
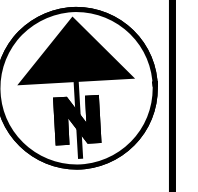
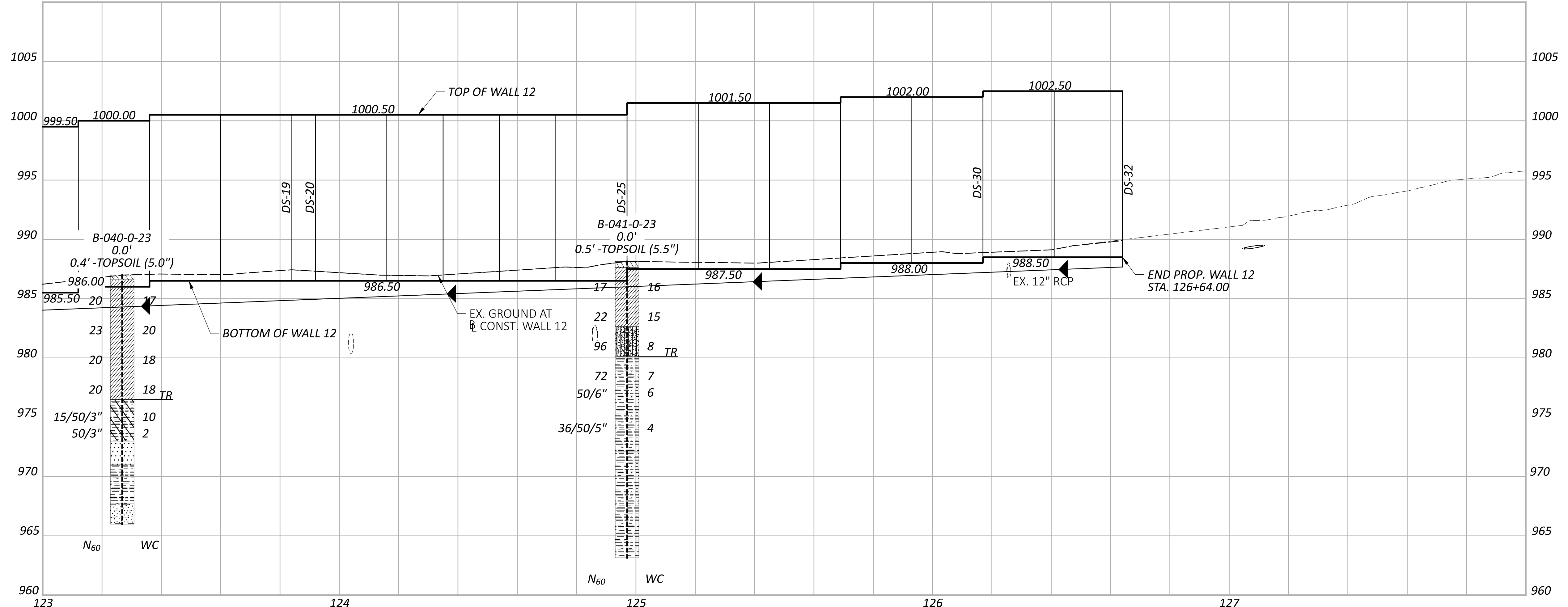
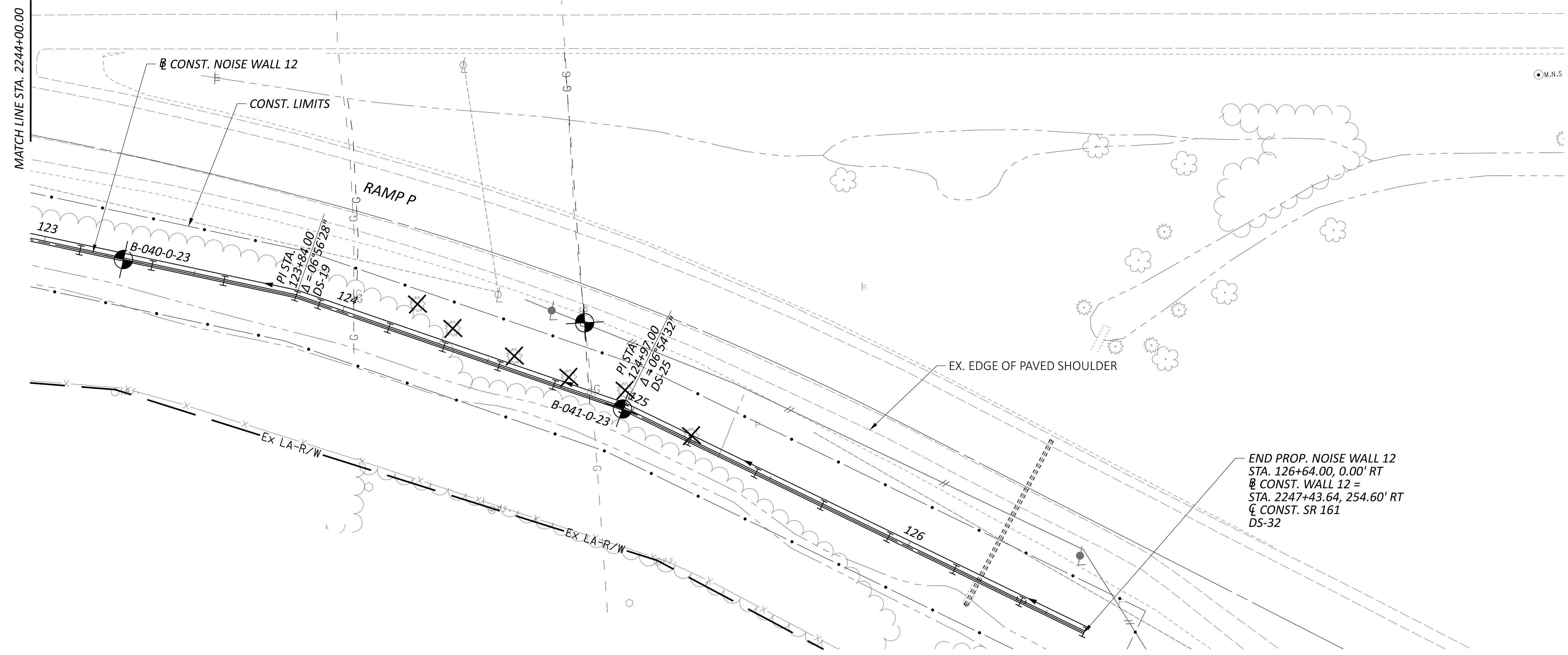


GEOTECHNICAL PROFILE - NOISE WALL 12  
 STA. 2239+00.00 TO STA. 2244+00.00

DESIGN AGENCY	
6350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4949	
DESIGNER	
KSJ	
REVIEWER	
DEK 1/19/24	
PROJECT ID	
117607	
SUBSET	TOTAL
22	66
SHEET	TOTAL
P.251	295

**FRA-161-15.80 NOISE WALLS**

MODEL: Wall 12 - Plan 21 PAPER SIZE: 34x22 (in.) DATE: 3/26/2024 TIME: 10:24:02 AM USER: juans  
 J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZP1203.dgn



**GEOTECHNICAL PROFILE - NOISE WALL 12**  
**STA. 2244+00.00 TO STA. 2249+00.00**

DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

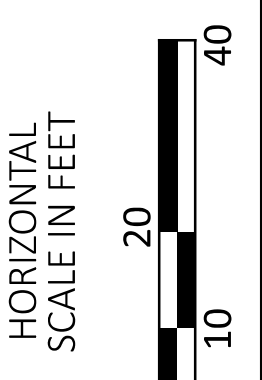
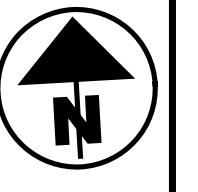
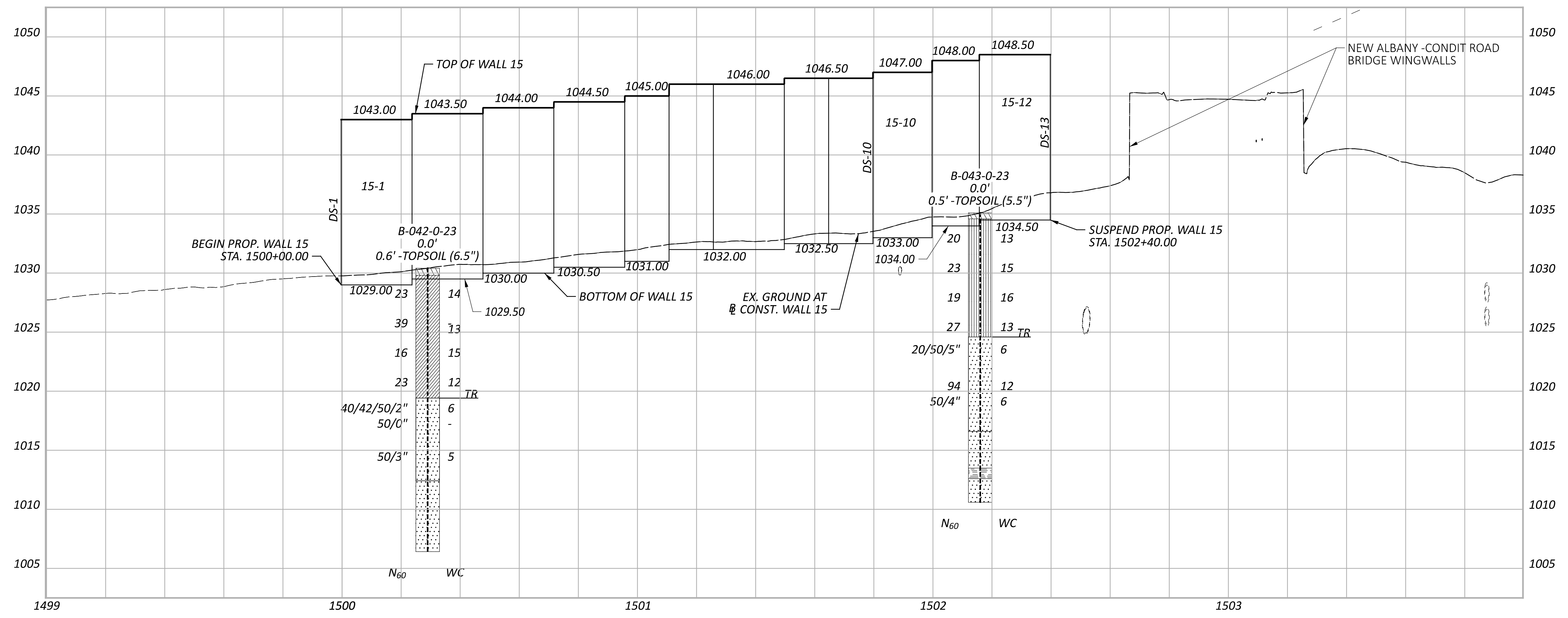
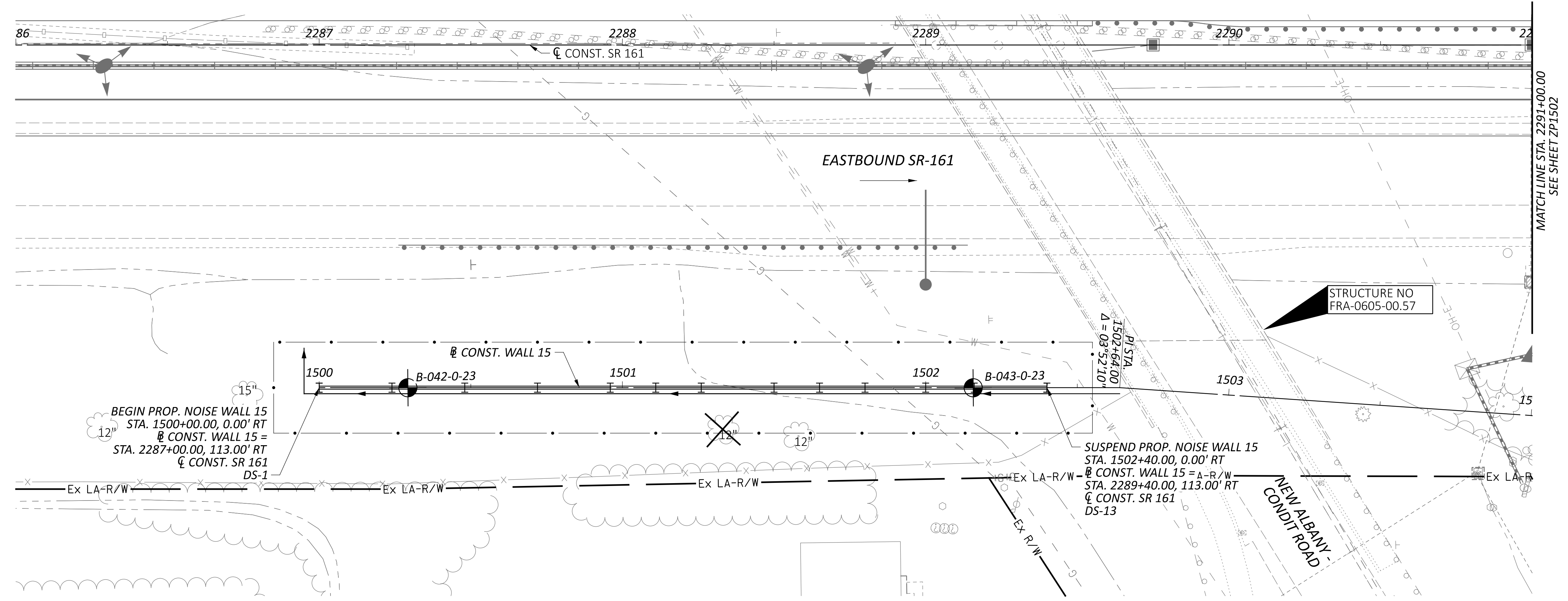
DESIGNER  
 KSJ

REVIEWER  
 DEK 1/19/24

PROJECT ID  
 117607

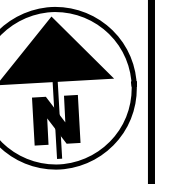
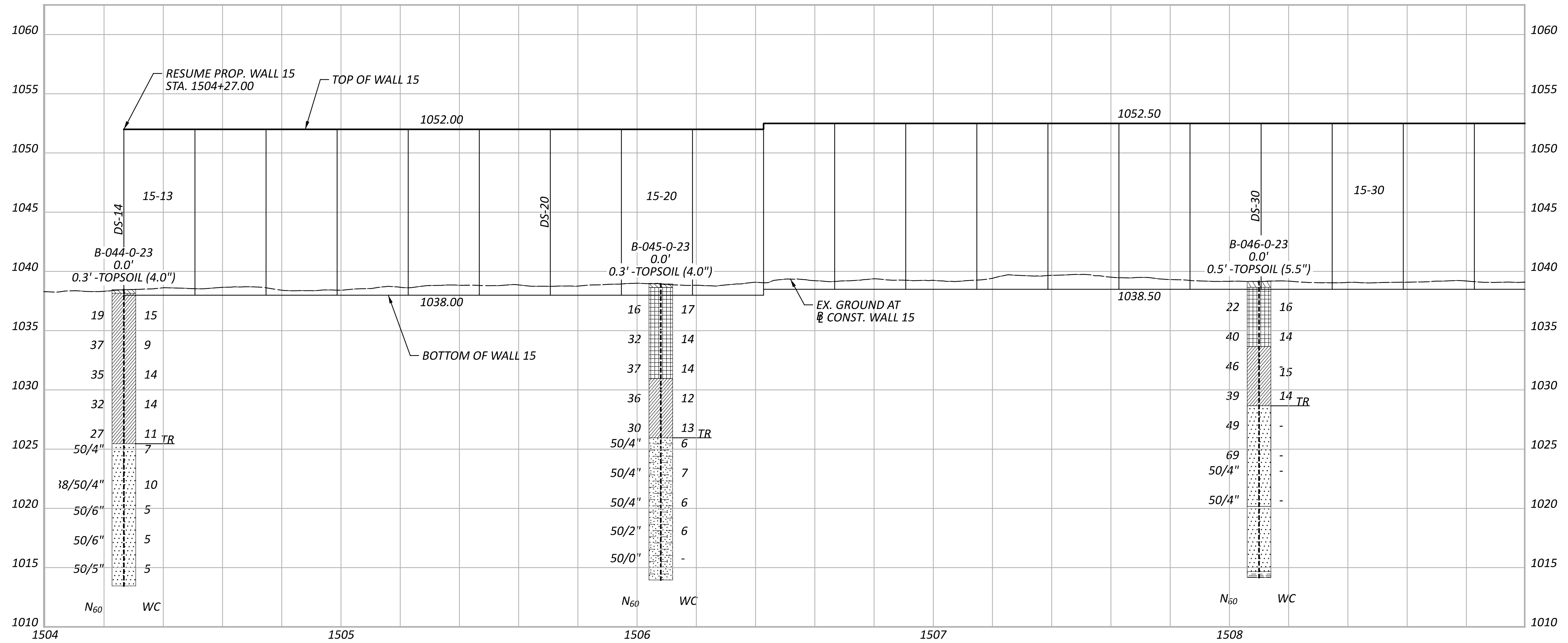
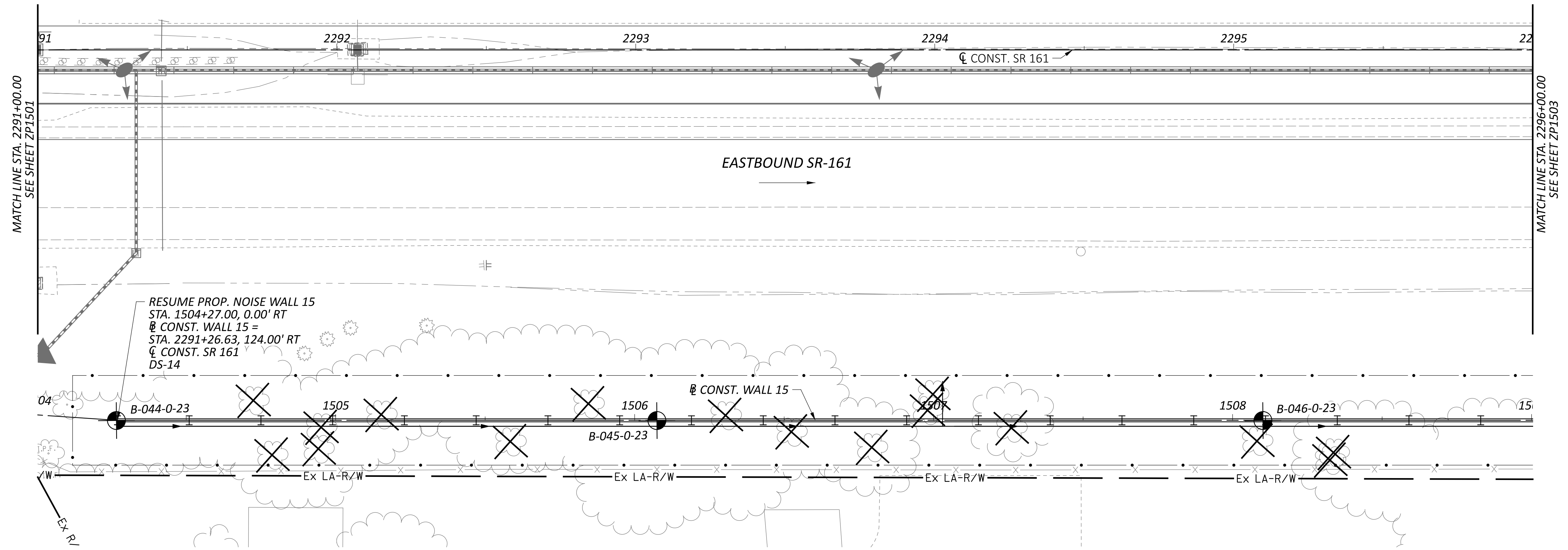
SUBSET	TOTAL
23	66

SHEET	TOTAL
P.252	295



GEOTECHNICAL PROFILE - NOISE WALL 15  
 STA. 2286+00.00 TO STA. 2291+00.00

DESIGN AGENCY	
 RESOURCE INTERNATIONAL 8350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4949	
DESIGNER	
KSJ	
REVIEWER	
DEK 1/19/24	
PROJECT ID	
117607	
SUBSET	TOTAL
24	66
SHEET	TOTAL
P.253	295

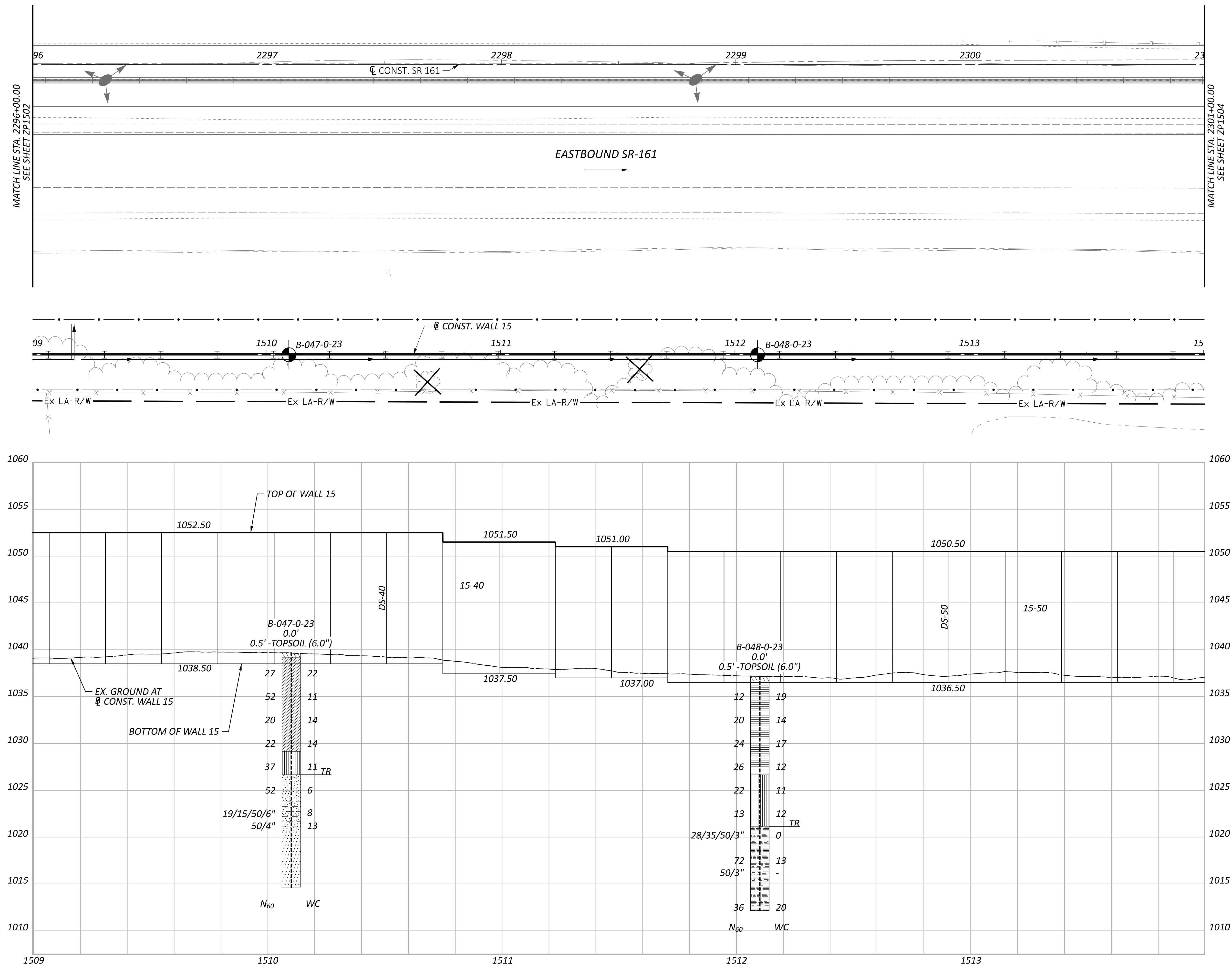


GEOTECHNICAL PROFILE - NOISE WALL 15  
 STA. 2291+00.00 TO STA. 2296+00.00

DESIGN AGENCY	
6350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4949	
DESIGNER	
KSJ	
REVIEWER	
DEK 1/19/24	
PROJECT ID	
117607	
SUBSET	TOTAL
25	66
SHEET	
P.254	
TOTAL	
295	

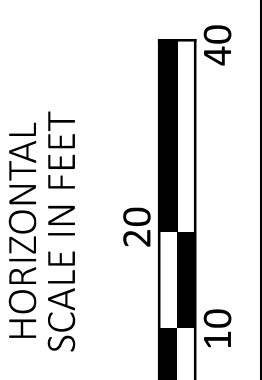
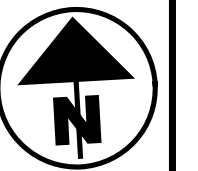
**FRA-161-15.80 NOISE WALLS**

MODEL: Wall 15 - Plan 24 PAPER SIZE: 34x22 (in.) DATE: 3/15/2024 TIME: 4:33:23 PM USER: juans  
 J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZP1503.dgn



MATCH LINE STA. 2296+00.00  
SEE SHEET ZP1502

MATCH LINE STA. 2301+00.00  
SEE SHEET ZP1504

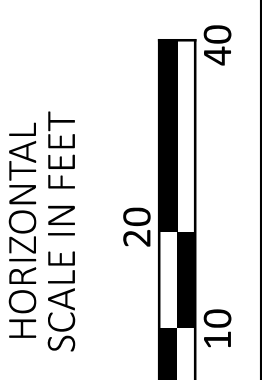
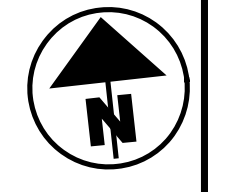
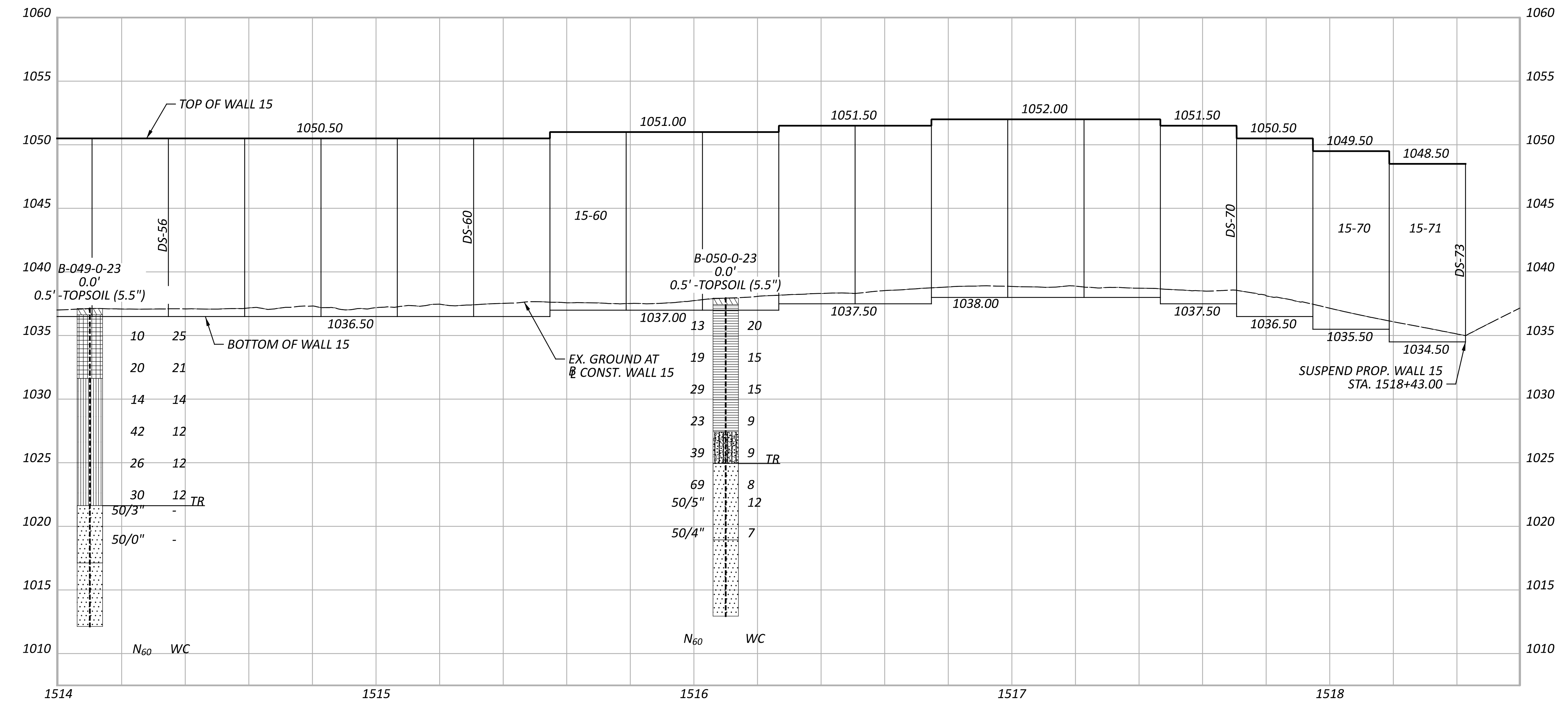
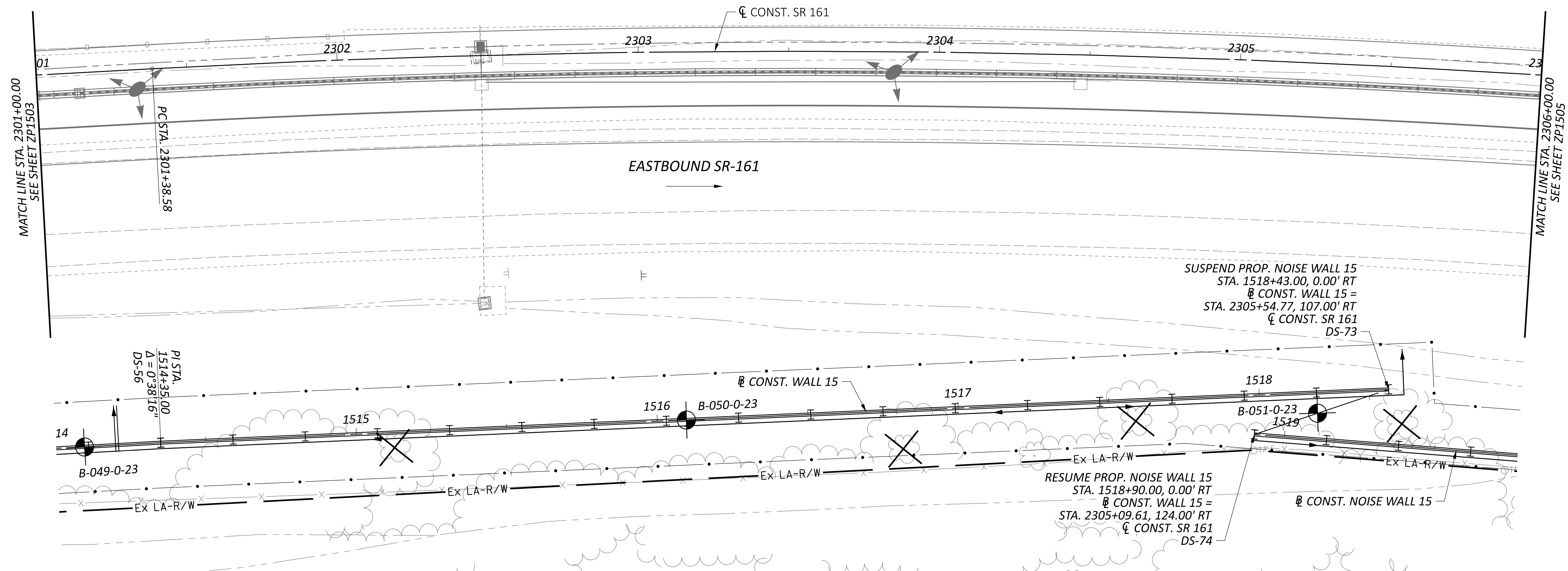


**GEOTECHNICAL PROFILE - NOISE WALL 15**  
 STA. 2296+00.00 TO STA. 2301+00.00

DESIGN AGENCY	
 RESOURCE INTERNATIONAL 8350 PRESIDENTIAL GATEWAY COLUMBUS, OHIO 43231 (614) 823-4949	
DESIGNER	
KSJ	
REVIEWER	
DEK 1/19/24	
PROJECT ID	
117607	
SUBSET	TOTAL
26	66
SHEET	TOTAL
P.255	295

**FRA-161-15.80 NOISE WALLS**

MODEL: Wall 15 - Plan 25 PAPER SIZE: 34x22 (in.) DATE: 3/15/2024 TIME: 4:36:56 PM USER: juans  
 J:\GEO TECH\Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZP1504.dgn



**GEOTECHNICAL PROFILE - NOISE WALL 15**  
 STA. 2301+00.00 TO STA. 2306+00.00

DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

DESIGNER  
 KSJ

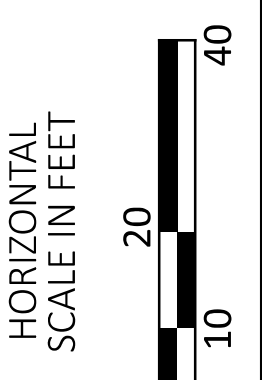
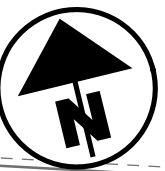
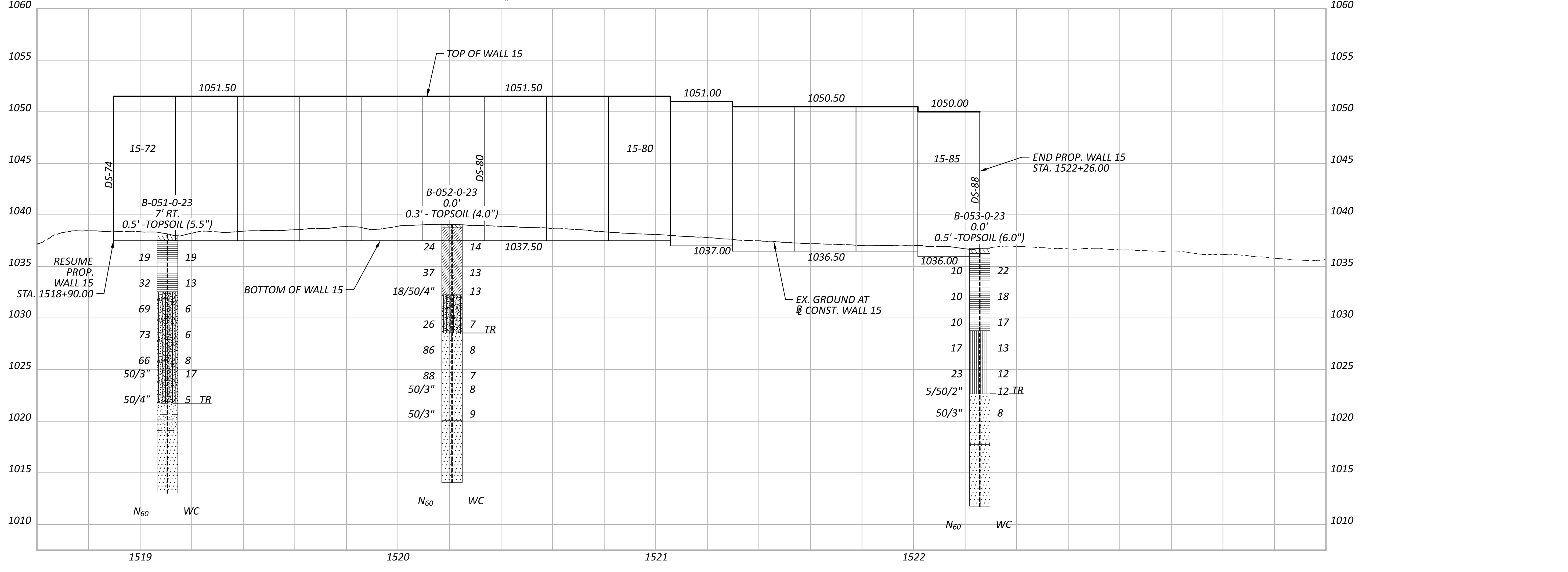
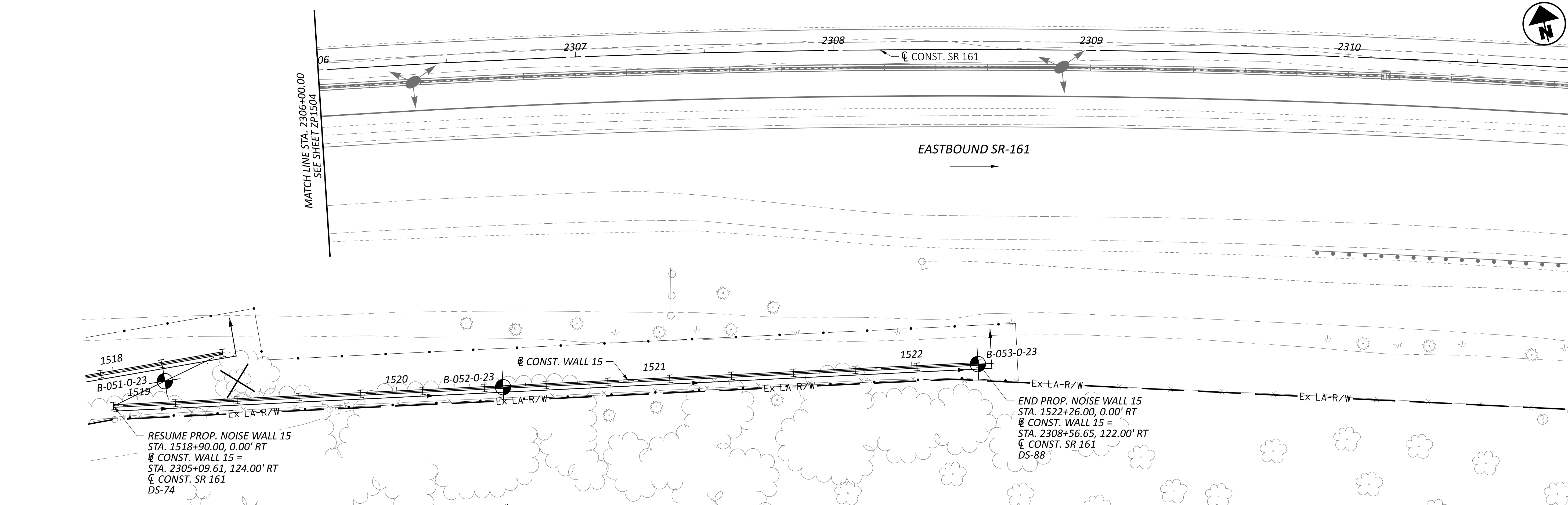
REVIEWER  
 DEK 1/19/24

PROJECT ID  
 117607

SUBSET	TOTAL
27	66

SHEET	TOTAL
P.256	295





**GEOTECHNICAL PROFILE - NOISE WALL 15**  
 STA. 2306+00.00 TO STA. 2311+00.00

DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

DESIGNER  
 KSJ

REVIEWER  
 DEK 1/19/24

PROJECT ID  
 117607

SUBSET TOTAL  
 28 66

SHEET TOTAL  
 P.257 295

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/15/2024 TIME: 8:53:57 AM USER: juans J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL001.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/22/23 END: 11/22/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 300+00 / 0'  
 ALIGNMENT: CL WALL 3  
 ELEVATION: 966.3 (MSL) EOB: 15.0 ft.  
 LAT / LONG: 40.080429, -82.864610

EXPLORATION ID  
**B-001-0-23**  
 PAGE 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.3' - TOPSOIL (3.5")  
 HARD, BROWN SILT AND CLAY, LITTLE GRAVEL,  
 TRACE SAND, DAMP.

**SANDSTONE** : GRAY, HIGHLY WEATHERED.

**SANDSTONE** : BROWN AND GRAY, MODERATELY TO SLIGHTLY WEATHERED, STRONG, FINE GRAINED, THIN BEDDED, IRON STAINED, PYRITIC, FRACTURED, NARROW APERTURE, SLIGHTLY ROUGH SURFACES, BLOCKY, GOOD SURFACE CONDITION.  
 -HIGHLY FRACTURED AND HEAVILY IRON STAINED FROM 5.0' - 7.0'  
 -@ 6.6' - 7.0' 60 DEGREE FRACTURE

-@ 10.3' - 10.8' 45 DEGREE FRACTURE AND HEAVILY IRON STAINED

-@ 10.8' - 13.6' SPECKLES OF PYRITE THROUGHOUT

DEPTH (ft)	SPT / RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)							WC	HOLE SEALED
				GR	FS	SI	CL	LL	PL	PI		
1	6											
2	10	32	56	SS-1	4.5+	-	-	-	-	-	15	A-6a (V)
3	12											
4	11		100	SS-2	4.5+	-	-	-	-	-	16	A-6a (V)
5	50/4"											
6												
7												
8	0		80	NQ2-1								CORE
9												
10												
11												
12												
13	45		100	NQ2-2								CORE
14												
15												

EOB

000-23 RII STA ODOT BORING LOG (8.5X11) - OH DOT GDT - 1/11/24 07:55 - U:\G18\PROJECTS\2023\W-23-107.GPJ

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 23.5 LBS CEMENT / 12 LBS BENTONITE POWDER / 20 GAL WATER

**Project Name:** FRA-161-15.80

**Location:**  
 Franklin County, Ohio

**Photo No.**  
**1**

**Boring:**  
 B-001-0-23

RC-1: 5.0'-10.0'  
 REC (%):80  
 RQD (%):10

RC-2: 10.0'-15.0'  
 REC (%):100  
 RQD (%):45



**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:46:43 PM USER: juans  
 J:\GEO\GEO\GEOtech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL002.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/22/23 END: 11/22/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 302+00 / 0'  
 ALIGNMENT: CL WALL 3  
 ELEVATION: 968.1 (MSL) EOB: 15.3 ft.  
 LAT / LONG: 40.080609, -82.863925

EXPLORATION ID  
**B-002-0-23**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.4' - TOPSOIL (4.5')  
 HARD, BROWN-GRAY CLAY, SOME SILT, LITTLE COARSE TO FINE SAND, TRACE SAND AND GRAVEL, MOIST.  
 -@2.8' - 3.4' COBBLES  
 VERY DENSE, GRAY GRAVEL WITH SAND AND SILT, DAMP.  
**SANDSTONE** : GRAY, HIGHLY WEATHERED.  
**SANDSTONE** : GRAY, SLIGHTLY WEATHERED, STRONG, FINE GRAINED, THIN BEDDED, PYRITIC, FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACES, BLOCKY, GOOD SURFACE.  
 -@6.0' - 9.7' APPROXIMATELY 4MM PYRITE NODULES THROUGHOUT  
 -@9.7' CLAY SEAM  
 -@10.25' - 12.0' MANY PYRITE FLECKS THROUGHOUT  
 -@11.0' - 15.75' FEW PYRITE FLECKS

DEPTH (ft)	SPT / RQD	REC SAMPLE ID	HP (tsf)	GR	GRADATION (%)							WC	HOLE SEALED
					FS	SI	CL	LL	PL	PI	PI		
1	3												
2	5												
3	7												
4	14												
5	17												
6	50/2"												
7													
8	0												
9													
10													
11													
12													
13													
14													
15													

EOB

000-23 RII STA ODOT BORING LOG (8.5X11) - OH DOT GDT - 1/11/24 07:55 - U:\G18\PROJECTS\2023\W-23-107.GPJ

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 23.5 LBS CEMENT / 12 LBS BENTONITE POWDER / 20 GAL WATER

**Project Name:** FRA-161-15.80

**Location:**  
 Franklin County, Ohio

<b>Photo No.</b> 2	
<b>Boring:</b> B-002-0-23	
RC-1: 6.0-10.25' REC (%):68 RQD (%):10	
RC-2: 10.25-15.25' REC (%):96 RQD (%):53	



DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
 JAS  
 REVIEWER  
 DEK 1/19/24  
 PROJECT ID  
 117607  
 SUBSET TOTAL  
 30 66  
 SHEET TOTAL  
 P.259 295

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALL 3**  
**BORING LOG & ROCK CORE PHOTO FOR B-002-0-23**

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:47:03 PM USER: juans J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL003.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/20/23 END: 11/22/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 304+00 / 0'  
 ALIGNMENT: CL WALL 3  
 ELEVATION: 969.1 (MSL) EOB: 15.0 ft.  
 LAT / LONG: 40.080806, -82.863307

EXPLORATION ID  
**B-003-0-23**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.5' - TOPSOIL (5.5')  
 HARD, BROWN SILT AND CLAY, TRACE GRAVEL

**SANDSTONE** : BROWN, HIGHLY WEATHERED.  
**SANDSTONE** : BROWN TO GRAY, MODERATELY TO SLIGHTLY WEATHERED; STRONG; FINE GRAINED, THIN BEDDED, PYRITIC, FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACE, BLOCKY, GOOD SURFACE.  
 -@7.0' - 9.0' HIGHLY FRACTURED, RED IRON OXIDE STAINING IN FRACTURES

-@10.0' - 11.0' 4MM PYRITE NODULES THROUGHOUT  
 -@11.0' - 11.2' CLAY SEAM  
 -@11.2' - 13.5' MANY TINY PYRTIE SPECKS THROUGHOUT

-@13.5' - 15.0' LITTLE PYRITE

DEPTH (ft)	ELEV.	SPT / RQD	N <sub>60</sub>	REC SAMPLE ID	HP (tsf)	GRADATION (%)						WC	HOLE SEALED	
						GR	CS	FS	SI	CL	LL			PL
1	969.1	3												
2	968.6	5	16	SS-1	4.5+									
3		6												
4	964.4	5												
5	964.1	6		SS-2	4.5+									
6		50/3"												
7		0		NQ2-1										CORE
8														
9														
10														
11														
12														
13		55		NQ2-2										CORE
14	954.1													
15	EOB													

000-23 RII STA ODOT BORING LOG (8.5X11) - OH DOT GDT - 1/11/24 07:55 - U:\G18\PROJECTS\2023\W-23-107.GPJ

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 23.5 LBS CEMENT / 12 LBS BENTONITE POWDER / 20 GAL WATER

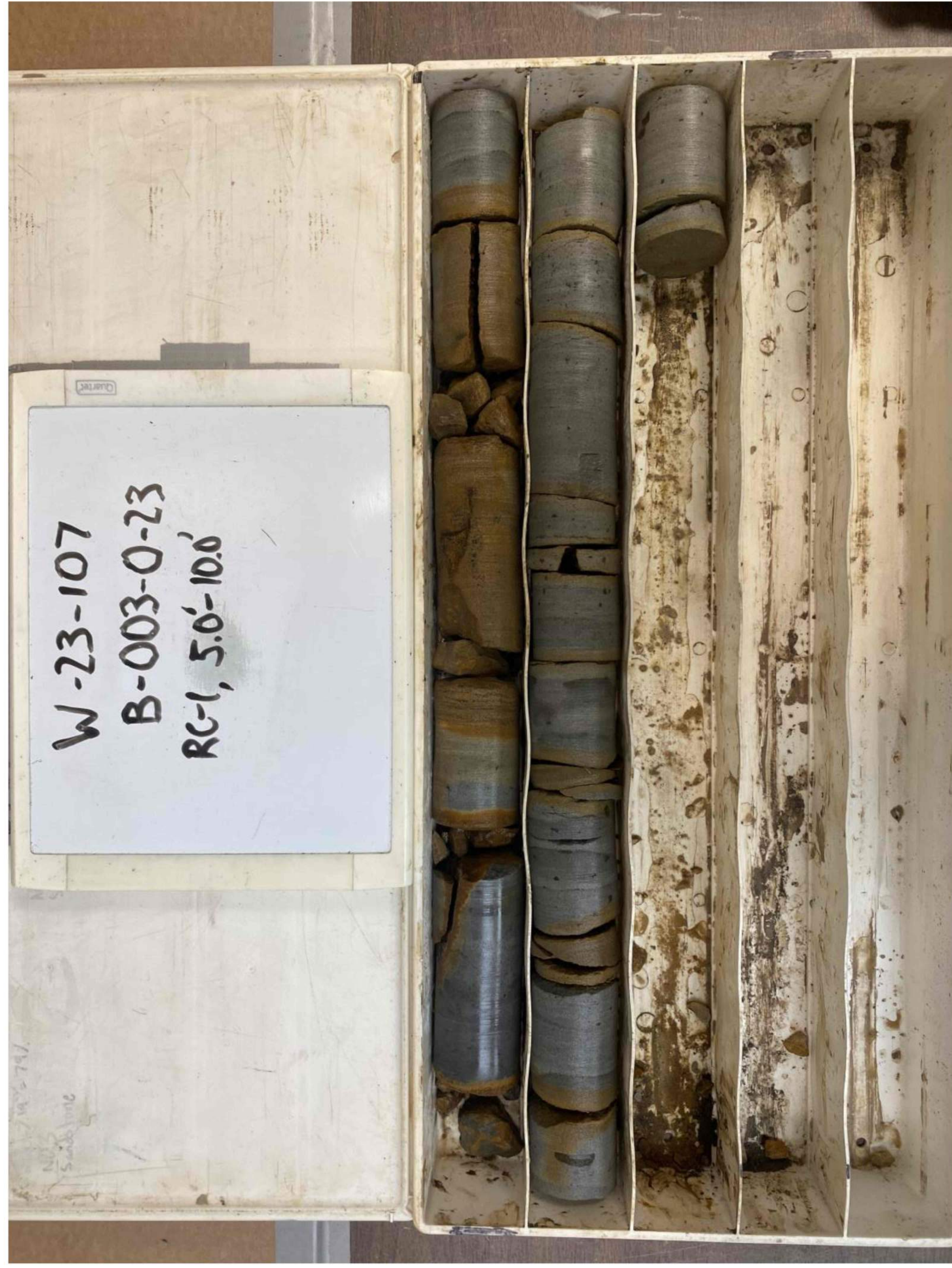
**Project Name:** FRA-161-15.80

**Location:**  
 Franklin County, Ohio

**Photo No.**  
**3**


**Boring:**  
 B-003-0-23


RC-1: 5.0'-10.0'  
 REC (%):80  
 RQD (%):0



**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:47:22 PM USER: juans  
 J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_Z1004.dgn

<b>Project Name:</b> FRA-161-15.80		<b>Location:</b> Franklin County, Ohio
<b>Photo No.</b> 4		
<b>Boring:</b> B-003-0-23		
RC-2: 10.0-15.0' REC (%):100 RQD (%):55		

DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
 JAS  
 REVIEWER  
 DEK 1/19/24  
 PROJECT ID  
 117607  

SUBSET	TOTAL
32	66
SHEET	TOTAL
P.261	295

GEOTECHNICAL PROFILE - NOISE WALLS  
 NOISE WALL 3  
 BORING LOG & ROCK CORE PHOTO FOR B-003-0-23

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:47:35 PM USER: juans  
 J:\GEO\GEO\GEOtech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL005.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/20/23 END: 11/20/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 305+76 / 0'  
 ALIGNMENT: CL WALL 3  
 ELEVATION: 969.2 (MSL) EOB: 15.0 ft.  
 LAT / LONG: 40.081003, -82.862692

EXPLORATION ID  
**B-004-0-23**  
 PAGE  
 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	SPT / RQD	N <sub>60</sub>	REC SAMPLE ID	HP (tsf)	GRADATION (%)						WC	HOLE SEALED		
						GR	CS	FS	SI	CL	LL			PL	PI
0.4' TOPSOIL (5.0')	969.2	3													
HARD, MOTTLED BROWN CLAY, SOME SILT, TRACE COARSE TO FINE SAND, MOIST.	968.8	4	16	SS-1	4.5+	0	1	6	35	58	52	20	32	21	A-7-6 (18)
		4	16	SS-2	4.5+	-	-	-	-	-	-	-	-	19	A-7-6 (V)
SANDSTONE : GRAY, HIGHLY WEATHERED.	963.7	50/2"		SS-3										10	Rock (V)
		50/2"		SS-4										5	Rock (V)
SANDSTONE : GRAY, SLIGHTLY WEATHERED, STRONG, FINE GRAINED, THIN BEDDED, PYRITIC, FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACE, BLOCKY, GOOD SURFACE. -@11.8' - 12.4' FRACTURE -@13.3' - 15.0' MANY TINY PYRITE NODULES THROUGHOUT	959.2	0		NQ2-1	75										CORE
	954.2														

000-23 RII STA ODOT BORING LOG (8.5X11) - OH DOT GDT - 1/11/24 07:55 - U:\G18\PROJECTS\2023\W-23-107.GPJ

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 23.5 LBS CEMENT / 12 LBS BENTONITE POWDER / 20 GAL WATER

**Project Name:** FRA-161-15.80

**Location:**  
 Franklin County, Ohio

**Photo No.**  
**5**

**Boring:**  
 B-004-0-23

RC-1: 10.0'-15.0'  
 REC (%):75  
 RQD (%):0



**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:47:55 PM USER: juans J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL006.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
TYPE: NOISE WALLS  
PID: 117607 SFN: NA  
START: 11/20/23 END: 11/20/23

DRILLING FIRM / OPERATOR: RII / TG  
SAMPLING FIRM / LOGGER: RII / MJ  
DRILLING METHOD: 3.25" HSA  
SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
HAMMER: AUTOMATIC  
CALIBRATION DATE: 3/21/22  
ENERGY RATIO (%): 86.4

STATION / OFFSET: 600+00 / 0'  
ALIGNMENT: CL WALL 6  
ELEVATION: 961.5 (MSL) EOB: 25.0 ft.  
LAT / LONG: 40.087831, -82.843714

EXPLORATION ID  
**B-005-0-23**

PAGE  
1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.4' - TOPSOIL (5.0")  
VERY STIFF TO HARD, DARK BROWN TO BROWNISH GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE GRAVEL, DAMP TO MOIST.

MEDIUM DENSE, DARK GRAY COARSE AND FINE SAND, LITTLE SILT, TRACE GRAVEL, WET.

DENSE TO VERY DENSE, DARK GRAY GRAVEL WITH SAND, LITTLE SILT, TRACE CLAY, WET.

DENSE, DARK GRAY COARSE AND FINE SAND, TRACE FINE GRAVEL, TRACE SILT, WET.

ELEV. 961.5

961.1

DEPTH	SPT / RQD	N <sub>60</sub>	REC SAMPLE ID	HP (tsf)	GR	GRADATION (%)	ATTERBERG	WC	ODOT CLASS (GI)
1	6	8	SS-1	4.5+	-	-	-	-	A-6a (V)
2	8	8							
3									
4	5	23	SS-2	4.5+	-	-	-	-	A-6a (V)
5	6	10							
6	8	16	SS-3	4.5+	-	-	-	-	A-6a (V)
7	16	23							
8									
9	7	22	SS-4	4.5+	9	11 16 31 33	28 16 12	13	A-6a (7)
10									
11	4	4	SS-5	2.50	-	-	-	-	A-6a (V)
12	4	5							
13									
14	5	19	SS-6	-	-	-	-	-	A-3a (V)
15	5	8							
16	21	53	SS-7	-	-	-	-	-	A-1-b (V)
17	21	16							
18									
19	31	15	SS-8	-	-	-	-	-	A-1-b (V)
20	25								
21	9	10	SS-9	-	51 17 10 13 9	NP NP NP		13	A-1-b (0)
22	10	37							
23	16								
24	8	12	SS-10	-	-	-	-	-	A-3a (V)
25	18	43							

EOB -25

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 15.5' AND UPON COMPLETION @ 14.7'. CAVE-IN DEPTH @ 11.8'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
TYPE: NOISE WALLS  
PID: 117607 SFN: NA  
START: 11/20/23 END: 11/20/23

DRILLING FIRM / OPERATOR: RII / TG  
SAMPLING FIRM / LOGGER: RII / MJ  
DRILLING METHOD: 3.25" HSA  
SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
HAMMER: AUTOMATIC  
CALIBRATION DATE: 3/21/22  
ENERGY RATIO (%): 86.4

STATION / OFFSET: 601+77 / 0'  
ALIGNMENT: CL WALL 6  
ELEVATION: 968.1 (MSL) EOB: 25.0 ft.  
LAT / LONG: 40.088035, -82.843136

EXPLORATION ID  
**B-006-0-23**

PAGE  
1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.5' - TOPSOIL (5.5")  
HARD, BROWN SILT AND CLAY, SOME CLAY, TRACE FINE GRAVEL, DAMP.

DENSE TO MEDIUM DENSE, BROWN GRAY GRAVEL WITH SAND, SILT, AND CLAY, MOIST.

ELEV. 968.1

967.6

DEPTH	SPT / RQD	N <sub>60</sub>	REC SAMPLE ID	HP (tsf)	GR	GRADATION (%)	ATTERBERG	WC	ODOT CLASS (GI)
1	6	10	SS-1	4.5+	-	-	-	-	A-6a (V)
2	10	12							
3									
4	7	36	SS-2	4.5+	7	11 16 32 34	29 17 12	14	A-6a (7)
5	12	13							
6	7	29	SS-3	4.5+	-	-	-	-	A-6a (V)
7	9	11							
8									
9	6	11	SS-4	-	-	-	-	-	A-2-4 (V)
10	11	39							
11	16								
12	7	48	SS-5	-	-	-	-	-	A-2-4 (V)
13	17	16							
14	9	15	SS-6	-	-	-	-	-	
15	15	45							
16	13	-	2S-6A	-	-	-	-	-	A-2-4 (V)
17	21	18	SS-7	-	36 19 14 19 12	24 17 7		11	A-2-4 (0)
18	15								
19	16	29	SS-8	-	-	-	-	-	A-2-4 (V)
20	12	8							
21	10	35	SS-9	-	-	-	-	-	A-3a (V)
22	12	12							
23	16								
24	15	43	SS-10	-	-	-	-	-	A-1-b (V)
25	15								

EOB -25

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 13.5' AND UPON COMPLETION @ 15.5'. CAVE-IN DEPTH @ 12.2'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

DESIGN AGENCY  
**RESOURCE INTERNATIONAL**  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4949

DESIGNER  
**JAS**

REVIEWER  
**DEK 1/19/24**

PROJECT ID  
**117607**

SUBSET TOTAL  
**34 66**

SHEET TOTAL  
**P.263 295**

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALL 6**  
**BORING LOGS B-005-0-23 AND B-006-0-23**

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:48:20 PM USER: juans  
 J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL007.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/17/23 END: 11/17/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 603+60 / 0'  
 ALIGNMENT: CL WALL 6  
 ELEVATION: 969.0 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.088248, -82.842572

EXPLORATION ID  
**B-007-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.4' TOPSOIL (5.0")  
 HARD, BROWN TO BROWNISH GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE GRAVEL, DAMP TO MOIST.

DEPTH	ELEV.	SPT / RQD	N <sub>60</sub>	REC SAMPLE (%)	HP ID	GR	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
1	969.0	5	17	83	SS-1	4.5+	4	10	13	31	42	18	16	21	A-6b (10)
2	968.6	5	7												
3															
4		12	42	36	SS-2	4.5+	-	-	-	-	-	-	-	16	A-6b (V)
5		14	15												
6		8	12	40	SS-3	4.5+	-	-	-	-	-	-	-	12	A-6b (V)
7		16													
8															
9		9	27	0	SS-4	-	-	-	-	-	-	-	-	-	
10		10													
11		22	-	100	2S-4A	4.5+	-	-	-	-	-	-	-	12	A-6b (V)
12		8	23	78	SS-5	4.5+	-	-	-	-	-	-	-	13	A-6b (V)
13															
14	956.0	12	56	83	SS-6	-	-	-	-	-	-	-	-	7	A-1-b (V)
15		19	20												
16		13	43	83	SS-7	-	24	39	15	12	10	NP	NP	12	A-1-b (0)
17		17													
18															
19		15	75	100	SS-8	-	-	-	-	-	-	-	-	14	A-1-b (V)
20		16	36												
21	948.5														
22	948.0														
23		16	20	55	SS-9	-	-	-	-	-	-	-	-	13	A-1-b (V)
24		18													
25		5	7	22	SS-10	-	-	-	-	-	-	-	-	17	A-1-b (V)
26		8													
27	944.0														

969.0

968.6

956.0

948.5

948.0

944.0

EOB

25

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 21.0' AND UPON COMPLETION @ 20.5'; CAVE-IN DEPTH @ 13.1'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/17/23 END: 11/17/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 605+28 / 0'  
 ALIGNMENT: CL WALL 6  
 ELEVATION: 970.0 (MSL) EOB: 27.5 ft.  
 LAT / LONG: 40.088448, -82.842015

EXPLORATION ID  
**B-008-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.3' TOPSOIL (4.0")  
 HARD BROWN TO BROWN/GRAY SANDY SILT, SOME CLAY, LITTLE FINE GRAVEL, DAMP.

DEPTH	ELEV.	SPT / RQD	N <sub>60</sub>	REC SAMPLE (%)	HP ID	GR	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
1	969.7	10	46	75	SS-1	4.5+	-	-	-	-	-	-	-		
2		14	18												
3															
4		10	45	61	SS-2	4.5+	-	-	-	-	-	-	-		
5		21													
6		13	46	0	SS-3	-	-	-	-	-	-	-	-		
7		16	16												
8		28	-	67	2S-3A	4.5+	-	-	-	-	-	-	-	10	A-4a (V)
9		5	24	69	SS-4	4.5+	13	11	16	30	30	16	14	2	A-4a (5)
10		10													
11		5	48	78	SS-5	4.5+	-	-	-	-	-	-	-	11	A-4a (V)
12		24													
13															
14	957.0	29	82	0	SS-6	-	-	-	-	-	-	-	-		
15		29	28												
16		10	49	44	SS-7	-	-	-	-	-	-	-	-	9	A-1-b (V)
17		17	17												
18															
19	952.0	6	23	36	SS-8	4.5+	27	10	13	27	23	24	14	10	A-4a (3)
20		8													
21	949.9														
22	949.0	10	7	20	SS-9	3.50	-	-	-	-	-	-	-	12	A-4a (V)
23		7													
24	947.0	3	4	12	SS-10	-	-	-	-	-	-	-	-	17	A-3a (V)
25		4													
26		3	23	100	SS-11	-	-	-	-	-	-	-	-	20	A-3a (V)
27	942.5	6	10												

969.7

957.0

952.0

949.9

949.0

947.0

EOB

27

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 21.0' AND UPON COMPLETION @ 20.1'; CAVE-IN DEPTH @ 13.1'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

DESIGN AGENCY  
  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
 JAS  
 REVIEWER  
 DEK 1/19/24  
 PROJECT ID  
 117607  
 SUBSET TOTAL  
 35 66  
 SHEET TOTAL  
 P.264 295

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALL 6**  
**BORING LOGS B-007-0-23 AND B-008-0-23**





**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:49:10 PM USER: juans  
 J:\GEO\GEO\GEOtech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\_400-Engineering\Geotechnical\Sheets\117607\_ZL009.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/3/23 END: 11/3/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 2196+50 / 111' RT  
 ALIGNMENT: CL SR 161  
 ELEVATION: 964.3 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.087493, -82.842814

EXPLORATION ID  
**B-011-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.3' TOPSOIL (3.5")  
 STIFF TO HARD, BROWN TO GRAY SILT AND CLAY, "AND" COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP TO MOIST.

LOOSE TO DENSE, BROWN GRAVEL WITH SAND, TRACE SILT, TRACE CLAY, WET.

-HEAVE @ 21.0' AND 23.0'

SPT / RQD	N <sub>60</sub>	REC SAMPLE ID	HP (tsf)	GRADATION (%)				ATTERBERG				WC	ODOT CLASS (GI)	BACK FILL		
				GR	CS	FS	SI	CL	LL	PL	PI					
5	7	23	53													
9	7	9	4.5+													21 A-6a (V)
7	9	27	61													13 A-6a (V)
10	9	10	4.5+													
4	6	17	81													12 A-6a (5)
6	6	6	4.5+													
5	5	19	89													14 A-6a (V)
8	5	8	3.75													
2	3	12	56													14 A-6a (V)
5	3	5	2.50													
1	2	9	53													15 A-6a (V)
4	2	4	1.25													
3	6	19	39													20 A-1-b (V)
7	6	7	-													
2	2	9	67													22 A-1-b (0)
4	2	4	-													
9	2	9	68													14 A-1-b (V)
11	9	29	100													
11	9	11	-													
7	10	35	100													12 A-1-b (V)
14	10	14	-													

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 16.0' AND UPON COMPLETION @ 7.8'. CAVE-IN DEPTH @ 13.9'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

000-23 RII STA ODOT BORING LOG (8.5X11) - OH DOT GDT - 1/11/24 07:56 - U:\G\8\PROJECTS\2023\W-23-107 GPJ

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/3/23 END: 11/3/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 800+72 / 117' RT  
 ALIGNMENT: CL SR 161  
 ELEVATION: 967.1 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.087734, -82.842176

EXPLORATION ID  
**B-012-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.3' TOPSOIL (4.0")  
 HARD, LIGHT BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.

-COBBLES FROM 4.8' - 5.2'  
 -AUGER REFUSAL @ 5.2'. OFFSET 7.0' SW, CONTINUED SAMPLING AT 6.0'

DENSE TO VERY DENSE, DARK GRAY GRAVEL WITH SAND, LITTLE SILT, TRACE CLAY, MOIST.

HARD, BROWN SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, MOIST.

SPT / RQD	N <sub>60</sub>	REC SAMPLE ID	HP (tsf)	GRADATION (%)				ATTERBERG				WC	ODOT CLASS (GI)	BACK FILL		
				GR	CS	FS	SI	CL	LL	PL	PI					
5	6	22	53													
9	6	9	4.5+													18 A-6a (V)
14	6	63	72													10 A-6a (V)
16	6	28	4.5+													
11	13	42	78													11 A-6a (8)
16	13	16	4.5+													
20	28	63	47													10 A-6a (V)
16	20	16	-													
5	18	43	33													11 A-6a (V)
12	18	12	4.5+													
7	14	46	53													8 A-1-b (0)
18	14	18	-													
15	15	40	72													8 A-1-b (V)
10	15	10	-													
17	18	52	61													11 A-1-b (V)
18	17	18	-													
18	18	61	SS-8													
18	18	-	-													
18	18	86	50													11 A-4a (V)
26	18	26	4.5+													
6	9	30	47													11 A-4a (V)
12	9	12	4.5+													

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 18.5' AND UPON COMPLETION @ 14.9'. CAVE-IN DEPTH @ 18.5'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

000-23 RII STA ODOT BORING LOG (8.5X11) - OH DOT GDT - 1/11/24 07:56 - U:\G\8\PROJECTS\2023\W-23-107 GPJ

DESIGN AGENCY  
  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
**JAS**  
 REVIEWER  
**DEK 1/19/24**  
 PROJECT ID  
**117607**  
 SUBSET TOTAL  
 37 66  
 SHEET TOTAL  
 P.266 295

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALL 8**  
**BORING LOGS B-011-0-23 AND B-012-0-23**

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:49:34 PM USER: juans  
 J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL010.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/3/23 END: 11/3/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 802+72 / 0'  
 ALIGNMENT: CL WALL 8  
 ELEVATION: 967.4 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.087953, -82.841539

EXPLORATION ID  
**B-013-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.4' TOPSOIL (5.0")  
 HARD, LIGHT BROWN TO BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.

DENSE TO VERY DENSE, GRAY COARSE AND FINE SAND, TRACE FINE GRAVEL, TRACE SILT, DAMP.

MEDIUM DENSE TO VERY DENSE, GRAY GRAVEL WITH SAND AND SILT, MOIST.

-AUGER LOST IN BORING @ 18.5' - 23.5'

DEPTH (ft)	SPT / RQD	REC SAMPLE (%)	HP ID	GRADATION (%)						ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
				GR	CS	FS	SI	CL	LL	PL	PI					
1	5															
2	7	24	SS-1	4.5+											15	A-6a (V)
3	10															
4	9	33	SS-2	4.5+											14	A-6a (V)
5	13															
6	11	30	SS-3	4.5+											12	A-6a (V)
7	10															
8	11															
9	7	27	SS-4	4.5+	8	16	35	32	28	15	13	12			12	A-6a (8)
10	11															
11	10	84	SS-5	-											5	A-3a (V)
12	17	41														
13																
14	18	45	SS-6	-											6	A-3a (V)
15	15															
16	5	27	SS-7	-											12	A-2-4 (V)
17	8															
18																
19	14	55	SS-8	-											9	A-2-4 (V)
20	24	14														
21	9	32	SS-9	-	65	10	6	12	7	23	16	7	11		11	A-2-4 (0)
22	12															
23	10															
24	23	63	SS-10	-											10	A-2-4 (V)
25	21															

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 16.0' AND UPON COMPLETION @ 14.2'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/6/23 END: 11/2/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 804+72 / 0'  
 ALIGNMENT: CL WALL 8  
 ELEVATION: 966.4 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.088209, -82.840922

EXPLORATION ID  
**B-014-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.5' TOPSOIL (5.5")  
 HARD, LIGHT BROWN TO GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.

MEDIUM DENSE TO DENSE, GRAY GRAVEL WITH SAND AND SILT, WET.

MEDIUM DENSE, GRAY SANDY SILT, TRACE CLAY, TRACE FINE GRAVEL, MOIST.

DEPTH (ft)	SPT / RQD	REC SAMPLE (%)	HP ID	GRADATION (%)						ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
				GR	CS	FS	SI	CL	LL	PL	PI					
1	3															
2	3	13	SS-1	4.5+											21	A-6b (V)
3	6															
4	5	17	SS-2	4.5+											15	A-6b (12)
5	7															
6	4	22	SS-3	4.5+											15	A-6b (V)
7	9															
8																
9	16	35	SS-4	4.5+											12	A-6b (V)
10	14															
11	5	19	SS-5	4.25											12	A-6b (V)
12	8															
13																
14	8	43	SS-6	-											15	A-2-4 (V)
15	16															
16	5	23	SS-7	-	43	25	11	13	8	28	20	8	12		12	A-2-4 (0)
17	8															
18	6	24	SS-8	-											10	A-2-4 (V)
19	8															
20	9															
21	8	26	SS-9	-											13	A-2-4 (V)
22	10															
23																
24	5	22	SS-10	-											19	A-4a (V)
25	8															

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 13.5' AND UPON COMPLETION @ 11.8'; CAVE-IN DEPTH @ 12.3'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

DESIGN AGENCY  
  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
**JAS**  
 REVIEWER  
**DEK 1/19/24**  
 PROJECT ID  
**117607**  
 SUBSET TOTAL  
**38 66**  
 SHEET TOTAL  
**P.267 295**

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALL 8**  
**BORING LOGS B-013-0-23 AND B-014-0-23**



**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:50:22 PM USER: juans  
 J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL012.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 10/23/23 END: 10/23/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 810+72 / 0'  
 ALIGNMENT: CL WALL 8  
 ELEVATION: 970.7 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.088908, -82.839020

EXPLORATION ID  
**B-017-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.4' TOPSOIL (5.0')

HARD TO VERY STIFF, BROWN TO GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.

DENSE TO VERY DENSE, GRAY GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP TO MOIST.

DEPTHS	ELEV.	SPT/ RQD	N <sub>60</sub>	REC SAMPLE (%)	ID	HP (tsf)	GRADATION (%)							ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
							GR	CS	FS	SI	CL	LL	PL	PI	LL	PL			
1	970.7	6																	
2	970.3	9	30	81	SS-1	4.5+												17	A-6a (V)
3		12																	
4		20	60	36	SS-2	4.5+												11	A-6a (V)
5		22	20																
6		12	32	89	SS-3	4.5+												10	A-6a (6)
7		11	11																
8																			
9		7	10	36	SS-4	4.5+												13	A-6a (V)
10		15																	
11		5	5	16	SS-5	4.00												11	A-6a (V)
12		6																	
13																			
14	955.2	5	24	44	SS-6	3.50												10	A-6a (V)
15		12																	
16		10	12	39	SS-7	-												7	A-2-4 (V)
17		15																	
18																			
19		10	15	50	SS-8	-	45	15	12	22	6	NP	NP	NP	11			A-2-4 (0)	
20		20																	
21		15	30	84	SS-9	-												9	A-2-4 (V)
22		28																	
23																			
24	945.7	13	17	62	SS-10	-												7	A-2-4 (V)
25		26																	

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 18.0'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 10/23/23 END: 10/23/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 812+76 / 0'  
 ALIGNMENT: CL WALL 8  
 ELEVATION: 975.5 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.089106, -82.838365

EXPLORATION ID  
**B-018-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.4' TOPSOIL (5.0')

VERY STIFF TO HARD, BROWN TO GRAY SANDY SILT, SOME CLAY, LITTLE FINE GRAVEL, DAMP TO MOIST.

DENSE TO VERY DENSE, BROWN-GRAY TO GRAY GRAVEL WITH SAND, LITTLE SILT, TRACE CLAY, MOIST.

SHALE : GRAY, HIGHLY WEATHERED.

DEPTHS	ELEV.	SPT/ RQD	N <sub>60</sub>	REC SAMPLE (%)	ID	HP (tsf)	GRADATION (%)							ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
							GR	CS	FS	SI	CL	LL	PL	PI	LL	PL			
1	975.5	6																	
2		10	32	58	SS-1	4.5+												14	A-4a (V)
3		12																	
4		12	46	92	SS-2	4.5+												10	A-4a (V)
5		19																	
6		17	40	92	SS-3	4.5+												13	A-4a (V)
7		15																	
8																			
9		8	29	94	SS-4	4.5+												11	A-4a (V)
10		11																	
11		7	23	72	SS-5	3.25	13	11	15	35	26	24	15	9			12	A-4a (5)	
12		8	8																
13																			
14		6	24	89	SS-6	3.25	-											12	A-4a (V)
15		9																	
16		3	13	81	SS-7	2.50	-											12	A-4a (V)
17		4	5																
18	957.5																		
19		8	39	58	SS-8	-	61	15	8	11	5	26	20	6			8	A-1-b (0)	
20		14																	
21		11	29	91	SS-9	-													
22	953.0	34																	
23		38	-	100	2S-9A	-												8	Rock (V)
24		28	-	89	SS-10	-												5	Rock (V)
25	950.5	50/3'																	

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING; CAVE-IN DEPTH @ 16.4'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
**JAS**  
 REVIEWER  
**DEK 1/19/24**  
 PROJECT ID  
**117607**  
 SUBSET TOTAL  
 40 66  
 SHEET TOTAL  
 P.269 295

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALL 8**  
**BORING LOGS B-017-0-23 AND B-018-0-23**

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:50:47 PM USER: juans  
 J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL013.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 10/23/23 END: 10/23/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 814+72 / 0'  
 ALIGNMENT: CL WALL 8  
 ELEVATION: 974.9 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.089329, -82.837734

EXPLORATION ID  
**B-019-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

DEPTHS	ELEV.	SPT / RQD	REC SAMPLE ID	HP (tsf)	GR	GRADATION (%)						WC	ODOT CLASS (GI)	BACK FILL
						FS	SI	CL	LL	PL	PI			
1	974.9	7												
2	974.6	9		4.5+										16 A-6a (V)
3														
4		8												
5	969.4	16		4.5+										10 A-6a (V)
6		4												
7		7												
8	966.9	3												
9		5												
10		6												
11		4												
12		5												
13		6												
14		8												
15		10												
16	956.9	5												
17		6												
18		9												
19		10												
20		12												
21		15												
22		8												
23	951.9	9												
24		50/5"												9 Rock (V)
25	949.9	EOB												

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 21.0' AND DRY UPON COMPLETION; CAVE-IN DEPTH @ 17.1'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

000-23 RII STA ODOT BORING LOG (8.5X11) - OH DOT GDT - 1/11/24 07:56 - U:\G18\PROJECTS\2023\W-23-107 GP1

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 10/27/23 END: 10/27/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 816+46 / 0'  
 ALIGNMENT: CL WALL 8  
 ELEVATION: 974.3 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.089531, -82.837178

EXPLORATION ID  
**B-020-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

DEPTHS	ELEV.	SPT / RQD	REC SAMPLE ID	HP (tsf)	GR	GRADATION (%)						WC	ODOT CLASS (GI)	BACK FILL
						FS	SI	CL	LL	PL	PI			
1	974.3	5												
2	973.9	7		4.5+										16 A-6a (V)
3														
4		6												
5		10												
6		15												
7		10												
8		14												
9		9												
10		10												
11		4												
12		6												
13		8												
14		4												
15		6												
16		4												
17		16												
18	956.3	15												
19		50/5"												9 Rock (V)
20														
21		50/5"												4 Rock (V)
22														
23		50/6"												4 Rock (V)
24		73												
25	949.3	EOB												

SHALE : GRAY, HIGHLY WEATHERED.

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING; CAVE-IN DEPTH @ 17.2'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

000-23 RII STA ODOT BORING LOG (8.5X11) - OH DOT GDT - 1/11/24 07:56 - U:\G18\PROJECTS\2023\W-23-107 GP1

DESIGN AGENCY  
  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
 JAS  
 REVIEWER  
 DEK 1/19/24  
 PROJECT ID  
 117607  
 SUBSET TOTAL  
 41 66  
 SHEET TOTAL  
 P.270 295

**GEOTECHNICAL PROFILE - NOISE WALLS  
 NOISE WALL 8  
 BORING LOGS B-019-0-23 AND B-020-0-23**

**FRA-161-15.80 NOISE WALLS**

MODEL: Sheet PAPER: 34x22 (in.) DATE: 3/14/2024 TIME: 6:51:10 PM USER: juans J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\_ZL014.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
TYPE: NOISE WALLS  
PID: 117607 SFN: NA  
START: 10/27/23 END: 10/27/23

DRILLING FIRM / OPERATOR: RII / TG  
SAMPLING FIRM / LOGGER: RII / MJ  
DRILLING METHOD: 3.25" HSA  
SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
HAMMER: AUTOMATIC  
CALIBRATION DATE: 3/21/22  
ENERGY RATIO (%): 86.4

STATION / OFFSET: 818+03 / 0'  
ALIGNMENT: CL WALL 8  
ELEVATION: 974.1 (MSL) EOB: 25.0 ft.  
LAT / LONG: 40.089729, -82.836617

EXPLORATION ID  
**B-021-0-23**

PAGE  
1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.3' - TOPSOIL (3.0")  
HARD, BROWN TO GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE TO LITTLE FINE GRAVEL, DAMP TO MOIST.

DEPTH	SPT / RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)				ATTERBERG				WC	ODOT CLASS (GI)	
				GR	CS	FS	SI	LL	PL	PI	WC			
1	6													
2	8	23	4.5+										16	A-6a (V)
3	8													
4	17	55	4.5+											
5	19													
6	10	35	4.5+										10	A-6a (V)
7	12													
8	9	30	4.5+										10	A-6a (V)
9	12													
10	9	72	4.5+											
11	8	33	4.5+										10	A-6a (V)
12	10													
13	13													
14	6	23	4.5+										11	A-6a (5)
15	7	9												
16	12													
17	12	35	0											
18	12													
19	9	50/3"	100										6	Rock (V)
20														
21	39												6	Rock (V)
22	50/2"													
23														
24	50/3"		100										5	Rock (V)
25														

TR

EOB

SHALE : GRAY, HIGHLY WEATHERED.

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING; CAVE-IN DEPTH @ 19.7'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
TYPE: NOISE WALLS  
PID: 117607 SFN: NA  
START: 10/30/23 END: 10/30/23

DRILLING FIRM / OPERATOR: RII / TG  
SAMPLING FIRM / LOGGER: RII / MJ  
DRILLING METHOD: 3.25" HSA  
SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
HAMMER: AUTOMATIC  
CALIBRATION DATE: 3/21/22  
ENERGY RATIO (%): 86.4

STATION / OFFSET: 1100+00 / 0'  
ALIGNMENT: CL WALL 11  
ELEVATION: 975.0 (MSL) EOB: 25.0 ft.  
LAT / LONG: 40.090031, -82.835639

EXPLORATION ID  
**B-022-0-23**

PAGE  
1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.3' - TOPSOIL (4.0")  
VERY STIFF TO HARD, BROWN SANDY SILT, SOME CLAY, LITTLE FINE GRAVEL, DAMP TO MOIST.

DEPTH	SPT / RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)				ATTERBERG				WC	ODOT CLASS (GI)	
				GR	CS	FS	SI	LL	PL	PI	WC			
1	9													
2	14	45	67	4.5+									12	A-4a (V)
3	17													
4	11	45	44	4.5+									11	A-4a (V)
5	17													
6	8	24	39	4.5+									13	A-4a (V)
7	8	9												
8														
9	3	9	56	3.00									13	A-4a (6)
10	3	3												
11	3	10	39	2.50									13	A-4a (V)
12	4													
13														
14	5	7	78	SS-6									14	A-4a (V)
15	8													
16	7													
17	14	42	50	SS-7									9	A-4a (1)
18	15													
19	5	9	72	SS-8									10	A-4a (V)
20	10													
21	50/3"		33	SS-9									5	Rock (V)
22														
23														
24	45		83	SS-10									7	Rock (V)
25	50/3"													

TR

EOB

SHALE : GRAY, HIGHLY WEATHERED.

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 16.0' AND UPON COMPLETION @ 9.7'; CAVE-IN DEPTH @ 17.6'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

DESIGN AGENCY  
**RESOURCE INTERNATIONAL**  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4949

DESIGNER  
**JAS**

REVIEWER  
**DEK 1/19/24**

PROJECT ID  
**117607**

SUBSET TOTAL  
42 / 66

SHEET TOTAL  
P.271 / 295

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALLS 8 AND 11**  
**BORING LOGS B-021-0-23 AND B-022-0-23**

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:51:34 PM USER: juans  
 J:\GEO\GEO\Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL015.dgn

**RESOURCE INTERNATIONAL, INC.**

PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 10/30/23 END: 10/30/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 1102+00 / 0'  
 ALIGNMENT: CL WALL 11  
 ELEVATION: 977.0 (MSL) EOB: 24.5 ft.  
 LAT / LONG: 40.090244, -82.835195

EXPLORATION ID  
**B-023-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.3' - TOPSOIL (4.0')  
 VERY STIFF TO HARD, BROWN TO GRAY SANDY SILT,  
 SOME CLAY, TRACE FINE GRAVEL, DAMP TO MOIST.

SHALE : GRAY, HIGHLY WEATHERED.

SHALE : BLACK, HIGHLY WEATHERED, WEAK, VERY FINE GRAINED, LAMINATED, HIGHLY FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACE, BLOCKY, DISTURBED, SEAMY, VERY POOR SURFACE.

DEPTH (ft)	SPT / RQD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)						WC	HOLE SEALED
						GR	FS	SI	CL	LL	PL		
1	7												
2	10	32	67	SS-1	4.5+	-	-	-	-	-	-	14	A-4a (V)
3	12												
4	6	17	75	SS-2	4.5+	8	11	16	39	26	16	9	A-4a (6)
5	6												
6	4	5	19	SS-3	4.00	-	-	-	-	-	-	10	A-4a (V)
7	8												
8													
9	4	5	20	SS-4	3.50	-	-	-	-	-	-	13	A-4a (V)
10	9												
11	42		100	SS-5	-	-	-	-	-	-	-	4	Rock (V)
12	50/3"												
13													
14	50/3"		100	SS-6	-	-	-	-	-	-	-	5	Rock (V)
15	0		0	NQ2-1									CORE
16													
17	0		35	NQ2-2									CORE
18													
19													
20													
21													
22	0		100	NQ2-3									CORE
23													
24													

EOB

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER. CAVE-IN DEPTH @ 16.1'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 47 LBS CEMENT, 25 LBS BENTONITE POWDER AND 40 GAL WATER

**Project Name:** FRA-161-15.80

**Location:**  
 Franklin County, Ohio

<b>Photo No.</b> 6	
<b>Boring:</b> B-023-0-23	
RC-1: 14.4-15.0' REC (%):0 RQD (%):0	
RC-2: 15.0-19.5' REC (%):35 RQD (%):0	



**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:54:39 PM USER: juans  
 J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_Z1016.dgn

**Project Name:** FRA-161-15.80

**Location:**  
Franklin County, Ohio

<p><b>Photo No.</b> 7</p>	<p><b>Boring:</b> B-023-0-23</p>	<p>RC-3: 19.5-24.5' REC (%):100 RQD (%):0</p>
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**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:54:54 PM USER: juans J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL017.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
TYPE: NOISE WALLS

DRILLING FIRM / OPERATOR: RII / TG

SAMPLING FIRM / LOGGER: RII / MJ  
DRILLING METHOD: 3.25" HSA  
SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
HAMMER: AUTOMATIC  
CALIBRATION DATE: 3/21/22  
ENERGY RATIO (%): 86.4

STATION / OFFSET: 1104+00 / 0'  
ALIGNMENT: CL WALL 11  
ELEVATION: 979.6 (MSL) EOB: 25.0 ft.  
LAT / LONG: 40.090471, -82.834551

EXPLORATION ID  
**B-024-0-23**  
PAGE  
1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.1' - TOPSOIL (1.0')

HARD, BROWN CLAY, SOME SILT, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.

VERY STIFF TO HARD, BROWN SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.

DENSE TO VERY DENSE, GRAY TO BLACK GRAVEL WITH SAND AND SILT, LITTLE CLAY, MOIST.

SHALE : GRAY, HIGHLY WEATHERED.

DEPTH (ft)	SPT / RQD	N <sub>60</sub>	REC SAMPLE ID	HP (tsf)	GRADATION (%)				ATTERBERG				WC	ODOT CLASS (GI)	BACK FILL	
					GR	FS	SI	CL	LL	PL	PI	WC				
1	5															
2	5	19	SS-1	4.5+											19	A-7-6 (V)
3	8															
4	10	37	SS-2	4.5+	3	4	10	35	48	42	20	22	17		A-7-6 (13)	
5	16															
6	17	28	SS-3	4.5+											9	A-6a (V)
7	26															
8																
9	28	18	SS-4	4.5+											13	A-6a (V)
10	12	43														
11	5	6	SS-5	2.50											10	A-6a (V)
12	5	16														
13																
14	10	17	SS-6	-											8	A-2-4 (V)
15	21	55														
16	10	14	SS-7	-											7	A-2-4 (V)
17	15	42														
18																
19	6	14	SS-8	-	40	14	12	21	13	25	18	7	11		A-2-4 (0)	
20	17	45														
21	6	11	SS-9	-											10	A-2-4 (V)
22	50/4"															
23																
24	50/6"		SS-10	-											3	Rock (V)
25																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING; CAVE-IN DEPTH @ 18.5'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
TYPE: NOISE WALLS

DRILLING FIRM / OPERATOR: RII / TG  
SAMPLING FIRM / LOGGER: RII / MJ  
DRILLING METHOD: 3.25" HSA  
SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
HAMMER: AUTOMATIC  
CALIBRATION DATE: 3/21/22  
ENERGY RATIO (%): 86.4

STATION / OFFSET: 1106+00 / 0'  
ALIGNMENT: CL WALL 11  
ELEVATION: 980.2 (MSL) EOB: 25.0 ft.  
LAT / LONG: 40.090688, -82.833893

EXPLORATION ID  
**B-025-0-23**  
PAGE  
1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.2' - TOPSOIL (1.5')

HARD BROWN SILT AND CLAY, LITTLE GRAVEL AND SAND, DAMP.

DENSE TO VERY DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP TO MOIST.

-SHALE FRAGMENTS PRESENT THROUGHOUT

DEPTH (ft)	SPT / RQD	N <sub>60</sub>	REC SAMPLE ID	HP (tsf)	GRADATION (%)				ATTERBERG				WC	ODOT CLASS (GI)	BACK FILL	
					GR	FS	SI	CL	LL	PL	PI	WC				
1	4															
2	5	17	SS-1	4.5+											20	A-6a (V)
3	7															
4	8	42	SS-2	4.5+											14	A-6a (V)
5	17															
6	12	55	SS-3	4.5+	10	16	34	30	27	16	11	8			A-6a (6)	
7	21															
8																
9	10	39	SS-4	4.5+											10	A-6a (V)
10	14															
11	18	69	SS-5	-											8	A-2-4 (V)
12	27															
13																
14	9	39	SS-6	-	38	23	12	17	10	27	20	7	6		A-2-4 (0)	
15	15															
16	14	21	SS-7	-											7	A-2-4 (V)
17	28	71														
18																
19	12	75	SS-8	-											7	A-2-4 (V)
20	30															
21	12	42	SS-9	-											14	A-2-4 (V)
22	13															
23																
24	8	15	SS-10	-											11	A-2-4 (V)
25	17															

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 21.0' AND DRY UPON COMPLETION; CAVE-IN DEPTH @ 15.3'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

DESIGN AGENCY  
**RESOURCE INTERNATIONAL**  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4949

DESIGNER  
**JAS**

REVIEWER  
**DEK 1/19/24**

PROJECT ID  
**117607**

SUBSET TOTAL  
45 66

SHEET TOTAL  
P.274 295

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALL 11**  
**BORING LOGS B-024-0-23 AND B-025-0-23**

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:55:17 PM USER: juans J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL018.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 10/31/23 END: 10/31/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 1108+00 / 0'  
 ALIGNMENT: CL WALL 11  
 ELEVATION: 979.8 (MSL) EOB: 25.5 ft.  
 LAT / LONG: 40.090906, -82.833225

EXPLORATION ID  
**B-026-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.3' TOPSOIL (4.0")  
 VERY STIFF TO HARD, LIGHT BROWN SILTY CLAY, "AND" FINE TO COARSE SAND, LITTLE FINE GRAVEL, DAMP TO MOIST.

DEPTH	SPT / RQD	N <sub>60</sub>	REC SAMPLE (%)	HP (tsf)	GR	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL	
1	4														
2	5	26	67	4.5+	-	-	-	-	-	-	-	-	17	A-6b (V)	
3	13														
4	18	49	39	4.5+	-	-	-	-	-	-	-	-	19	A-6b (V)	
5	16														
6	9	13	40	4.5+	-	-	-	-	-	-	-	-	12	A-6b (V)	
7	15														
8															
9	4	12	50	4.00	19	24	12	23	22	36	19	17	14	A-6b (4)	
10	4														
11	3	4	56	SS-5	-	-	-	-	-	-	-	-	20	A-2-4 (V)	
12	4	13	56	SS-5	-	-	-	-	-	-	-	-			
13	5														
14	14	45	0	SS-6	-	-	-	-	-	-	-	-			
15	16														
16	7	-	100	2S-6A	-	-	-	-	-	-	-	-	11	A-2-4 (V)	
17	14	35	72	SS-7	-	-	-	-	-	-	-	-	10	A-2-4 (V)	
18	10														
19	9	33	0	SS-8	-	-	-	-	-	-	-	-			
20	14														
21	12	46	75	SS-9	-	50	20	11	11	8	24	18	6	10	A-1-b (0)
22	17														
23															
24	11	39	0	SS-10	-	-	-	-	-	-	-	-			
25	13														
EOB	8	-	100	2S-10A	-	-	-	-	-	-	-	-	15	A-1-b (V)	

ELEV.	DEPTHS
979.8	
979.5	
969.3	
961.8	W 961.3
954.3	EOB

MEDIUM DENSE TO DENSE, BROWN TO DARK GRAY GRAVEL WITH SAND AND SILT, TRACE CLAY, MOIST.

ELEV.	DEPTHS
979.8	
979.5	
969.3	
961.8	W 961.3
954.3	EOB

DENSE, GRAY TO BLACK GRAVEL WITH SAND, LITTLE SILT, TRACE CLAY, MOIST.

ELEV.	DEPTHS
979.8	
979.5	
969.3	
961.8	W 961.3
954.3	EOB

-SHALE FRAGMENTS PRESENT THROUGHOUT

ELEV.	DEPTHS
979.8	
979.5	
969.3	
961.8	W 961.3
954.3	EOB

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 18.5' AND DRY UPON COMPLETION; CAVE-IN DEPTH @ 13.5'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/1/23 END: 11/1/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 1110+00 / 0'  
 ALIGNMENT: CL WALL 11  
 ELEVATION: 981.5 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.091062, -82.832539

EXPLORATION ID  
**B-027-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.3' TOPSOIL (3.5")  
 HARD, LIGHT BROWN SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE GRAVEL, DAMP.

DEPTH	SPT / RQD	N <sub>60</sub>	REC SAMPLE (%)	HP (tsf)	GR	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL	
1	7														
2	13	46	61	4.5+	-	-	-	-	-	-	-	-	11	A-6a (V)	
3	19														
4	11	40	67	4.5+	-	-	-	-	-	-	-	-	12	A-6a (V)	
5	15														
6	13	45	64	4.5+	-	-	-	-	-	-	-	-	11	A-6a (V)	
7	16														
8	15														
9	8	17	61	4.5+	-	-	-	-	-	-	-	-	12	A-6a (V)	
10	5	7													
11	3	9	67	SS-5	-	-	-	-	-	-	-	-	14	A-2-4 (V)	
12	3														
13															
14	4	13	58	SS-6	-	35	20	14	19	12	29	19	10	14	A-2-4 (0)
15	4														
16	7	49	67	SS-7	-	-	-	-	-	-	-	-	8	A-2-4 (V)	
17	16														
18	18														
19	6	30	67	SS-8	-	54	20	8	13	5	28	18	10	10	A-2-4 (0)
20	12														
21	12	55	78	SS-9	-	-	-	-	-	-	-	-	12	A-2-4 (V)	
22	14	24													
23	23														
24	50/5'												4	Rock (V)	
EOB	25														

ELEV.	DEPTHS
981.5	
981.2	
971.0	
958.5	TR
956.5	EOB

LOOSE TO VERY DENSE, GRAY GRAVEL WITH SAND AND SILT, TRACE TO LITTLE CLAY, DAMP.

ELEV.	DEPTHS
981.5	
981.2	
971.0	
958.5	TR
956.5	EOB

SHALE : GRAY, HIGHLY WEATHERED.

ELEV.	DEPTHS
981.5	
981.2	
971.0	
958.5	TR
956.5	EOB

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 21.0' AND DRY UPON COMPLETION; CAVE-IN DEPTH @ 16.1'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

DESIGN AGENCY  
  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
 JAS  
 REVIEWER  
 DEK 1/19/24  
 PROJECT ID  
 117607  
 SUBSET TOTAL  
 46 66  
 SHEET TOTAL  
 P.275 295

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALL 11**  
**BORING LOGS B-026-0-23 AND B-027-0-23**

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:55:42 PM USER: juans J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL019.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
TYPE: NOISE WALLS  
PID: 117607 SFN: NA  
START: 11/1/23 END: 11/1/23

DRILLING FIRM / OPERATOR: RII / TG  
SAMPLING FIRM / LOGGER: RII / MJ  
DRILLING METHOD: 3.25" HSA  
SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
HAMMER: AUTOMATIC  
CALIBRATION DATE: 3/21/22  
ENERGY RATIO (%): 86.4

STATION / OFFSET: 1112+00 / 0'  
ALIGNMENT: CL WALL 11  
ELEVATION: 982.2 (MSL) EOB: 25.0 ft.  
LAT / LONG: 40.091197, -82.831841

EXPLORATION ID  
**B-028-0-23**

PAGE  
1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.3' - TOPSOIL (4.0")  
VERY STIFF TO HARD, BROWNISH GRAY TO GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP TO MOIST.

MEDIUM DENSE TO DENSE, GRAY TO BROWN COARSE AND FINE SAND, SOME SILT, TRACE CLAY, TRACE FINE GRAVEL, DAMP TO MOIST.

SHALE : GRAY, HIGHLY WEATHERED.

DEPTH	ELEV.	SPT / RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)							WC	ODOT CLASS (GI)	BACK FILL
					GR	CS	FS	SI	CL	LL	PL			
1	982.2	6												
2	981.9	8	26	4.5+									18	A-6a (V)
3		10												
4		11	48	4.5+									11	A-6a (V)
5		15	18											
6		10	36	4.5+									12	A-6a (7)
7		11	14											
8		4	6	3.00									14	A-6a (V)
9	971.7	10	23	58										
10		6	23	3.00									14	A-6a (V)
11		23	40	64									14	A-3a (V)
12		13	15											
13		5	8	100									3	A-3a (0)
14		8	23											
15		40		63									4	Rock (V)
16	966.2	50/2"												
17														
18		50/5"		33									4	Rock (V)
19														
20														
21		50/2"		0										
22														
23		50/0"												
24	957.2													
25														

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING; CAVE-IN DEPTH @ 15.2'  
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
TYPE: NOISE WALLS  
PID: 117607 SFN: NA  
START: 11/1/23 END: 11/1/23

DRILLING FIRM / OPERATOR: RII / TG  
SAMPLING FIRM / LOGGER: RII / MJ  
DRILLING METHOD: 3.25" HSA  
SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
HAMMER: AUTOMATIC  
CALIBRATION DATE: 3/21/22  
ENERGY RATIO (%): 86.4

STATION / OFFSET: 1114+00 / 0'  
ALIGNMENT: CL WALL 11  
ELEVATION: 983.0 (MSL) EOB: 25.0 ft.  
LAT / LONG: 40.091321, -82.831138

EXPLORATION ID  
**B-029-0-23**

PAGE  
1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.3' - TOPSOIL (4.0")  
HARD TO VERY STIFF BROWN TO GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP TO MOIST.

MEDIUM STIFF TO VERY STIFF, BLACK TO GRAY SANDY SILT, SOME CLAY, LITTLE FINE GRAVEL, DAMP TO MOIST.

VERY DENSE DARK GRAY GRAVEL WITH SAND AND SILT, TRACE CLAY, MOIST.  
-SHALE FRAGMENTS IN SS-10

DEPTH	ELEV.	SPT / RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)							WC	ODOT CLASS (GI)	BACK FILL
					GR	CS	FS	SI	CL	LL	PL			
1	982.7	3												
2		5	20	53	4.5+								17	A-6a (V)
3		9												
4		4	20	81	4.5+								16	A-6a (V)
5		6	8											
6		4	24	89	4.5+								14	A-6a (V)
7		7	10											
8		4	17	61	4.5+								11	A-6a (5)
9		5	7											
10		4	17	61	4.5+								11	A-6a (5)
11		3	14	81	2.50								14	A-6a (V)
12		3	7											
13														
14		2	10	42	2.00								14	A-6a (V)
15	967.5	3	4											
16		4	7	23	3.00								9	A-4a (V)
17		7	9											
18														
19		2	7	56	2.25								13	A-4a (4)
20		2	3											
21		1	4	33	0.75								14	A-4a (V)
22		1	2											
23	960.0													
24		8	19	60	83								10	A-2-4 (V)
25	958.0	23												

NOTES: SEEPAGE @ 22.4' - 25.0' AND DRY UPON COMPLETION; CAVE-IN DEPTH @ 13.0'  
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

DESIGN AGENCY  
**RESOURCE INTERNATIONAL**  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4949

DESIGNER  
**JAS**

REVIEWER  
**DEK 1/19/24**

PROJECT ID  
**117607**

SUBSET TOTAL  
47 / 66

SHEET TOTAL  
P.276 / 295

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALL 11**  
**BORING LOGS B-028-0-23 AND B-029-0-23**

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:56:05 PM USER: juans  
 J:\GEO TECH\Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL020.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/1/23 END: 11/1/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 1115+84 / 0'  
 ALIGNMENT: CL WALL 11  
 ELEVATION: 983.0 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.091378, -82.830480

EXPLORATION ID  
**B-030-0-23**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.4' TOPSOIL (5.0')  
 VERY STIFF TO HARD, BROWN TO DARK BROWN TO GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE TO LITTLE FINE GRAVEL, DAMP TO MOIST.

ELEV. 983.0

DEPTHS

SPT / RQD

REC SAMPLE ID

GRADATION (%)

ATTERBERG

WC

ODOT CLASS (GI)

BACK FILL

DEPTH	SPT / RQD	REC SAMPLE ID	GRADATION (%)	ATTERBERG	WC	ODOT CLASS (GI)	BACK FILL
1	3						
2	6	SS-1	4.5+		15	A-6a (V)	
3	9						
4	6	SS-2	4.5+	30	15	A-6a (7)	
5	8						
6	4	SS-3	4.5+		14	A-6a (V)	
7	12						
8	4						
9	5	SS-4	4.5+		11	A-6a (V)	
10	7						
11	2						
12	3	SS-5	3.25		13	A-6a (V)	
13	5						
14	2	SS-6	2.00	27	14	A-6a (5)	
15	5						
16	2	SS-7	3.00		13	A-6a (V)	
17	4						
18	8	SS-8	-		7	A-2-4 (V)	
19	20						
20	20						
21	34	SS-9	-		5	Rock (V)	
22	50/2'						
23	50/3'	SS-10	-			Rock (V)	
24							
25							

EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING; CAVE-IN DEPTH @ 22.3'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/16/23 END: 11/16/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 900+16 / 0'  
 ALIGNMENT: CL WALL 9  
 ELEVATION: 974.5 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.090580, -82.836109

EXPLORATION ID  
**B-031-0-23**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.5' TOPSOIL (5.5')  
 HARD, BROWN TO GRAY SANDY SILT, SOME CLAY, LITTLE FINE GRAVEL, DAMP TO MOIST.

ELEV. 974.5

DEPTHS

SPT / RQD

REC SAMPLE ID

GRADATION (%)

ATTERBERG

WC

ODOT CLASS (GI)

BACK FILL

DEPTH	SPT / RQD	REC SAMPLE ID	GRADATION (%)	ATTERBERG	WC	ODOT CLASS (GI)	BACK FILL
1	4						
2	5	SS-1	4.5+		19	A-4a (V)	
3	7						
4	18	SS-2	-				
5	9						
6	30	SS-3	4.5+		10	A-4a (V)	
7	16						
8	12						
9	13	SS-4	4.5+		11	A-4a (V)	
10	10						
11	6	SS-5	4.5+	25	12	A-4a (6)	
12	7						
13							
14	6	SS-6	-				
15	7						
16	12	SS-6A	4.5+		13	A-4a (V)	
17	4	SS-7	4.5+		12	A-4a (V)	
18	5						
19	3	SS-8	4.5+		13	A-4a (V)	
20	4						
21	8	SS-9	-	6	NP	A-1-b (0)	
22	10						
23							
24	8	SS-10	-				
25	12						

EOB

MEDIUM DENSE, DARK GRAY GRAVEL WITH SAND, TRACE SILT, TRACE CLAY, MOIST.  
 -SHALE FRAGMENTS PRESENT THROUGHOUT  
 -1.5' OF HEAVING SANDS @23.5'

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 19.8' AND UPON COMPLETION @ 20.5'; CAVE-IN DEPTH @ 13.8'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

DESIGN AGENCY  
  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
 JAS  
 REVIEWER  
 DEK 1/19/24  
 PROJECT ID  
 117607  
 SUBSET TOTAL  
 48 66  
 SHEET TOTAL  
 P.277 295

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALLS 11 AND 9**  
**BORING LOGS B-030-0-23 AND B-031-0-23**

000-23 RII STA ODOT BORING LOG (8.5X11) - OH DOT GDT - 1/11/24 07:56 - U:\G18\PROJECTS\2023\W-23-107 GPJ

000-23 RII STA ODOT BORING LOG (8.5X11) - OH DOT GDT - 1/11/24 07:56 - U:\G18\PROJECTS\2023\W-23-107 GPJ

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:56:26 PM USER: juans  
 J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_Z1021.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/16/23 END: 11/16/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 902+00 / 0'  
 ALIGNMENT: CL WALL 9  
 ELEVATION: 975.2 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.090809, -82.835481

EXPLORATION ID  
**B-032-0-23**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.4' TOPSOIL (5.0")  
 HARD, BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.

ELEV. 975.2  
 974.8

DEPTHS

SPT / RQD

REC SAMPLE ID

GRADATION (%)

ATTERBERG

ODOT CLASS (GI)

BACK FILL

DEPTH	SPT / RQD	REC SAMPLE ID	GRADATION (%)	ATTERBERG	ODOT CLASS (GI)	BACK FILL
1	9					
2	14	SS-1	4.5+			12 A-6a (V)
3	14					
4	8	SS-2	4.5+	10 19 34 28	11	A-6a (6)
5	9					
6	7	SS-3	4.5+			12 A-6a (V)
7	20					
8	14					
9	5	SS-4	4.5+			11 A-6a (V)
10	8					
11	9					
12	7	SS-5				
13	8	2S-5A	4.5+			13 A-6a (V)
14	12					
15	6	SS-6				
16	8	2S-6A	4.5+			13 A-6a (V)
17	12					
18	4	SS-7		41 14 12 21 12	8	A-2-4 (0)
19	9					
20	8	SS-8				15 A-2-4 (V)
21	10					
22	11					
23	15	SS-9				16 A-2-4 (V)
24	22					
25	18					
26	5	SS-10				13 A-2-4 (V)
27	8					
28	12					
29	8					
30	12					
31	5					
32	8					
33	12					
34	5					
35	8					
36	12					
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272	8					
273	12					
274	5					
275	8					
276	12					
277	5					
278	8					



**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:57:14 PM USER: juans  
 J:\GEOtech\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL023.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/15/23 END: 11/15/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 910+00 / 0'  
 ALIGNMENT: CL WALL 9  
 ELEVATION: 983.2 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.091597, -82.832807

EXPLORATION ID  
**B-036-0-23**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

DEPTHS	ELEV.	SPT / RQD	REC SAMPLE ID	HP (tsf)	GR	GRADATION (%)						WC	BACK FILL	
						FS	SI	CL	LL	PL	PI			
1	983.2	9												
2	982.8	10	SS-1	-										
3		11												
4		12	2S-1A	4.5+								20	A-6a (V)	
5		6												
6		11	SS-2	4.25										
7	970.2	9												
8		9	SS-3	4.5+										
9		7												
10		7	SS-4	4.5+										
11		7												
12		7	SS-5	4.5+										
13		7												
14		5	SS-6	-	33	15	13	29	10	38	21	17	12	A-6b (2)
15		8												
16		10												
17		10	SS-7	-										
18	964.7	17												
19		20	2S-7A	-										
20		11												
21	962.2	11	SS-8	-	31	31	16	20	2	23	17	6	11	A-1-b (0)
22		10												
23		18	SS-9	-										
24		35												
25	958.2	12	2S-9A	-										
		10												
		17	SS-10	-										
		17												

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 21.0' AND DRY UPON COMPLETION; CAVE-IN DEPTH @ 14.3'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/15/23 END: 11/15/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 912+00 / 0'  
 ALIGNMENT: CL WALL 9  
 ELEVATION: 984.9 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.091724, -82.832101

EXPLORATION ID  
**B-037-0-23**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

DEPTHS	ELEV.	SPT / RQD	REC SAMPLE ID	HP (tsf)	GR	GRADATION (%)						WC	BACK FILL	
						FS	SI	CL	LL	PL	PI			
1	984.9	5												
2	984.5	7	SS-1	4.5+										
3		9												
4		4												
5		5	SS-2	4.5+										
6		4												
7		5	SS-3	4.5+										
8		9												
9		4												
10		6	SS-4	4.5+										
11		5												
12		4	SS-5	3.50										
13		4												
14	971.9	4	SS-6	-										
15		7												
16		7												
17		3												
18	966.7	13	SS-7	-										
19		16												
20	965.1	16	SS-7A	-	28	16	12	33	11	28	19	9	13	A-4a (2)
21		13												
22		16	SS-8	-										
23	964.4	46												
24		14	SS-9	-										
25		15												
		14	SS-9A	-										
		12												
		39	SS-10	-										
		15												

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 19.8' AND UPON COMPLETION @ 18.2'; CAVE-IN DEPTH @ 19.0'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

DESIGN AGENCY  
  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
**JAS**  
 REVIEWER  
**DEK 1/19/24**  
 PROJECT ID  
**117607**  
 SUBSET TOTAL  
 51 66  
 SHEET TOTAL  
 P.280 295

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALL 9**  
**BORING LOGS B-036-0-23 AND B-037-0-23**





**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:57:54 PM USER: juans  
 J:\GEO TECH\Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_Z1025.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 12/4/23 END: 12/4/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 121+41.21 / 0'  
 ALIGNMENT: CL WALL 12  
 ELEVATION: 986.4 (MSL) EOB: 20.0 ft.  
 LAT / LONG: 40.091317, -82.827731

EXPLORATION ID  
**B-039-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.5' - TOPSOIL (5.5')  
 HARD, BROWN CLAY, LITTLE COARSE TO FINE SAND,  
 TRACE FINE GRAVEL, MOIST.

SHALE : GRAY, HIGHLY WEATHERED.

SHALE : GRAY, MODERATELY WEATHERED, WEAK,  
 VERY FINE GRAINED, LAMINATED, FRACTURED,  
 NARROW APERTURES, SLIGHTLY ROUGH SURFACE,  
 BLOCKY, DISTURBED, SEAMY, POOR SURFACE.

DEPTH (ft)	SPT / RQD	N <sub>60</sub>	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)							WC	HOLE SEALED	
						GR	FS	SI	CL	LL	PL	PI			
1	7														
2	5	16	0	SS-1	-	-	-	-	-	-	-	-	-		
3	9		100	2S-1A	4.5+	-	-	-	-	-	-	19	A-7.6 (V)		
4	6	19	0	SS-2	-	-	-	-	-	-	-	-	-		
5	10		50	2S-2A	4.5+	-	-	-	-	-	-	18	A-7.6 (V)		
6	8	20	81	SS-3	4.5+	28	9	7	25	31	50	20	30	16	A-7.6 (13)
7															
8															
9	9	27	75	SS-4	4.5+	-	-	-	-	-	-	14	A-7.6 (V)		
10	10														
11	10/0"														
12															
13															
14	50/14"		0	SS-6	-	-	-	-	-	-	-	-	-	Rock (V)	
15	0		0	NQ2-1	-	-	-	-	-	-	-	-	-	CORE	
16															
17	43		100	NQ2-2	-	-	-	-	-	-	-	-	-	CORE	
18															
19															
20															

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER. CAVE-IN DEPTH @ 11.2'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 47 LBS CEMENT, 25 LBS BENTONITE POWDER AND 40 GAL WATER

Project Name: FRA-161-15.80

Location:  
 Franklin County, Ohio

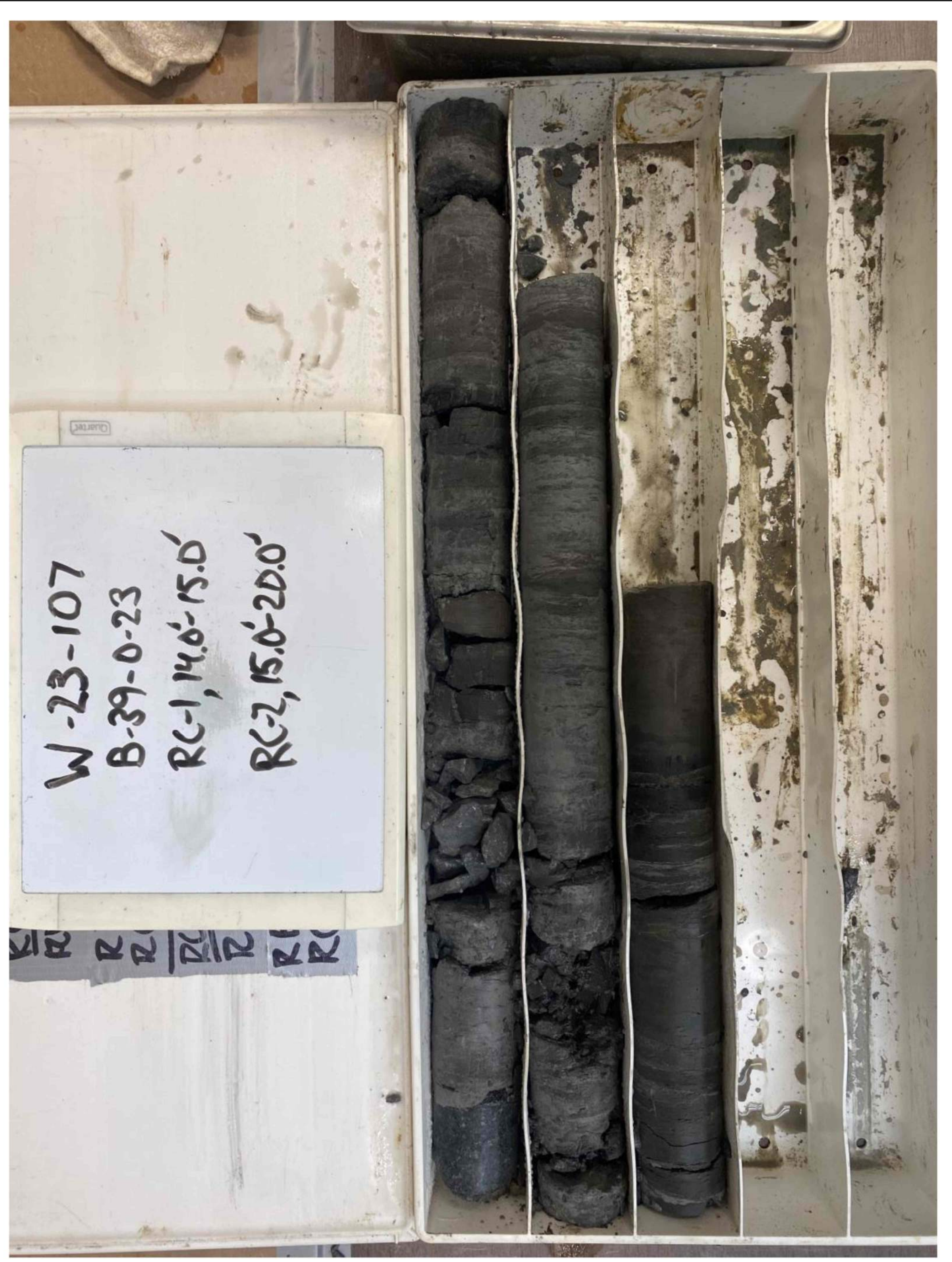


Photo No.  
**8**

Boring:  
 B-039-0-23

RC-1: 14.0-15.0'  
 REC (%):0  
 RQD (%):0

RC-2: 15.0-20.0'  
 REC (%):100  
 RQD (%):43

DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
**JAS**  
 REVIEWER  
 DEK 1/19/24  
 PROJECT ID  
 117607  
 SUBSET TOTAL  
 53 66  
 SHEET TOTAL  
 P.282 295

**GEOTECHNICAL PROFILE - NOISE WALLS**  
 NOISE WALL 12  
 BORING LOG & ROCK CORE PHOTO FOR B-039-0-23

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:58:14 PM USER: juans  
 J:\GEO\GEO\GEOtech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_Z1026.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 12/4/23 END: 12/4/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 123+26.79 / 0'  
 ALIGNMENT: CL WALL 12  
 ELEVATION: 987.0 (MSL) EOB: 21.0 ft.  
 LAT / LONG: 40.091207, -82.827079

EXPLORATION ID  
**B-040-0-23**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.4' TOPSOIL (5.0")  
 HARD, BROWN TO GRAY SILT AND CLAY, LITTLE TO TRACE SAND AND GRAVEL, DAMP TO MOIST.

**SHALE** : GRAY, HIGHLY WEATHERED.

**SANDSTONE** : GRAY, SLIGHTLY WEATHERED, STRONG, FINE GRAINED, THIN BEDDED, MODERATELY FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACE, BLOCKY, GOOD SURFACE.  
 -@14.3' IRON STAINING IN FRACTURE  
 -@15.0' - 15.2' ZONE OF FRACTURES  
 -@15.7' CLAY SEAM

**SHALE** : GRAY, MODERATELY WEATHERED, WEAK, FINE GRAINED, LAMINATED, FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACE, BLOCKY, DISTURBED, SEAMY, POOR SURFACE.

**SILTSTONE** : GRAY, SLIGHTLY WEATHERED, MODERATELY STRONG, VERY FINE GRAINED, VERY THIN, HIGHLY FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACE, BLOCKY, DISTURBED, SEAMY, FAIR SURFACE.

DEPTHS	SPT/ RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)							WC	HOLE SEALED
				GR	FS	SI	CL	LL	PL	PI		
1	3											
2	6	20	4.5+								17	A-6a (V)
3	8											
4	6	23	4.5+								20	A-6a (V)
5	9											
6	4	20	4.5+	7	9	15	37	32	18	15	18	A-6a (9)
7	6	8										
8												
9	4	20	4.5+								18	A-6a (V)
10	6	8										
11	8											
12	15										10	Rock (V)
13	50/3"											
14	50/3"										2	Rock (V)
15	0	37	NQ2-1									CORE
16												
17												
18	0	100	NQ2-2									CORE
19												
20												
21												

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 94 LBS CEMENT / 25 LBS BENTONITE POWDER / 40 GAL WATER.

**Project Name:** FRA-161-15.80

**Location:**  
 Franklin County, Ohio

**Photo No.**  
 9

**Boring:**  
 B-040-0-23

RC-1: 14.0-16.0'  
 REC (%):37  
 RQD (%):0

RC-2: 16.0-21.0'  
 REC (%):100  
 RQD (%):0



DESIGNER	JAS
REVIEWER	1/19/24
PROJECT ID	117607
SUBSET	54
TOTAL	66
SHEET	P.283
TOTAL	295

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALL 12**  
**BORING LOG & ROCK CORE PHOTO FOR B-040-0-23**

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:58:35 PM USER: juans  
 J:\GEO\GEO\GEOtech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_Z1027.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 12/4/23 END: 12/4/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 124+97.00 / 0'  
 ALIGNMENT: CL WALL 12  
 ELEVATION: 988.2 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.091033, -82.826474

EXPLORATION ID  
**B-041-0-23**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

DEPTHS	ELEV.	SPT / RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)						WC	HOLE SEALED		
					GR	FS	SI	CL	LL	PL			PI	
1	988.2	4												
2	987.7	5	SS-1	3.50	-	-	-	-	-	-	16	A-6a (V)		
3		7												
4		5	SS-2	3.00	6	12	19	34	29	30	17	13	15	A-6a (7)
5	982.7	10												
6		13												
7		32	SS-3	-	-	-	-	-	-	-	-	-	8	A-2-4 (V)
8	980.2	35												
9		10	SS-4	-	-	-	-	-	-	-	-	-	7	Rock (V)
10		21												
11		29												
12		50/6"	SS-5	-	-	-	-	-	-	-	-	-	6	Rock (V)
13		36												
14	972.2	50/5"	SS-6	-	-	-	-	-	-	-	-	-	4	Rock (V)
15														
16														
17														
18		20	NQ2-1	68										CORE
19														
20														
21														
22		40	NQ2-2	100										CORE
23														
24														
25	963.2													

0.5' - TOPSOIL (5.5')  
 VERY STIFF, BROWN SILTY CLAY, SOME TO LITTLE SAND, LITTLE GRAVEL, MOIST.

VERY DENSE, GRAY GRAVEL WITH SAND AND SILT, TRACE CLAY, MOIST.

SHALE : GRAY, HIGHLY WEATHERED.

SHALE : GRAY, MODERATELY TO SLIGHTLY WEATHERED, WEAK, FINE GRAINED, LAMINATED TO THIN BEDDED, FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACES, BLOCKY, DISTURBED, SEAMY, POOR TO GOOD SURFACE.  
 -0.3' CLAYSTONE SEAM @ 16.0'  
 -@17.4' CLAY SEAM  
 -@18.0' CLAY SEAM

-SILTSTONE SEAM @ 21.4'-23.0'

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER. CAVE-IN DEPTH @ 12.1'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 94 LBS CEMENT / 25 LBS BENTONITE POWDER / 40 GAL WATER.

**Project Name:** FRA-161-15.80

**Location:**  
 Franklin County, Ohio

**Photo No.**  
**10**

**Boring:**  
 B-041-0-23

RC-1: 16.0-20.0'  
 REC (%):68  
 RQD (%):20

RC-2: 20.0-25.0'  
 REC (%):100  
 RQD (%):40



**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:58:56 PM USER: juans  
 J:\GEO\GEO\Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_Z1028.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/9/23 END: 11/9/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 1500+29 / 0'  
 ALIGNMENT: CL WALL 15  
 ELEVATION: 1030.3 (MSL) EOB: 24.0 ft.  
 LAT / LONG: 40.090577, -82.811738

EXPLORATION ID  
**B-042-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.6' TOPSOIL (6.5")  
 HARD, BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.

SANDSTONE : GRAY, HIGHLY WEATHERED.

SANDSTONE : GRAY, SLIGHTLY WEATHERED, STRONG, FINE GRAINED, THIN BEDDED, MODERATLY FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACES, BLOCKY, GOOD SURFACE.

DEPTH (ft)	SPT / RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)							WC	ODOT CLASS (GI)	HOLE SEALED
				GR	FS	SI	CL	LL	PL	PI			
1	3												
2	8	23	4.5+										
3	8												
4	14	39											
5	13												
6	17												
7	4	5	4.5+	11	16	37	27	16	11	15			
8	6												
9	4	8	4.5+										
10	8	23											
11	40												
12	42												
13	50/2"												
14	50/0"												
15													
16	50/3"												
17	67												
18	58												
19													
20													
21													
22													
23													
24													

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER. CAVE-IN DEPTH @ 16.9'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 47 LBS CEMENT, 25 LBS BENTONITE POWDER AND 40 GAL WATER

**Project Name:** FRA-161-15.80

**Location:**  
 Franklin County, Ohio

**Photo No.**  
 11

**Boring:**  
 B-042-0-23

RC-1: 18.0'-19.0'  
 REC (%):75  
 RQD (%):58

RC-2: 19.0'-24.0'  
 REC (%):92  
 RQD (%):68



**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:59:17 PM USER: juans J:\GEO\GEO\GEOtech Connect Projects\2023\117607-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_Z1029.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/9/23 END: 11/9/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 1502+16 / 0'  
 ALIGNMENT: CL WALL 15  
 ELEVATION: 1035.0 (MSL) EOB: 24.5 ft.  
 LAT / LONG: 40.090545, -82.811039

EXPLORATION ID  
**B-043-0-23**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.5' - TOPSOIL (5.5')  
 HARD, BROWN SANDY SILT, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, MOIST TO DAMP.

SANDSTONE : GRAY, HIGHLY WEATHERED.

SANDSTONE : GRAY, SLIGHTLY WEATHERED, STRONG, FINE GRAINED, THIN BEDDED, MODERATELY FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACE, BLOCKY, GOOD SURFACE.

SHALE : GRAY, MODERATELY WEATHERED, WEAK, FINE GRAINED, LAMINATED, FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACE, BLOCKY, DISTURBED, SEAMY, POOR SURFACE.

SANDSTONE : GRAY, SLIGHTLY WEATHERED, STRONG, FINE GRAINED, THIN BEDDED, MODERATELY FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACE, BLOCKY, GOOD SURFACE.

DEPTH (ft)	SPT / RQD	N <sub>60</sub>	REC SAMPLE (%)	HP ID	GRADATION (%)							WC	HOLE SEALED
					GR	FS	SI	CL	LL	PL	PI		
1	3												
2	5	20	72	SS-1	4.5+	-	-	-	-	-	-	13	A-4a (V)
3	9												
4	7	23	72	SS-2	4.5+	-	-	-	-	-	-	15	A-4a (V)
5	8												
6	3	19	100	SS-3	4.5+	14	11	14	34	27	17	10	A-4a (5)
7	5	8											
8													
9	4	27	61	SS-4	4.5+	-	-	-	-	-	-	13	A-4a (V)
10	14												
11	20	50/5"										6	Rock (V)
12													
13													
14	20	94	67	SS-6	-	-	-	-	-	-	-	12	Rock (V)
15	30	35											
16	50/4"		38	SS-7	-	-	-	-	-	-	-	6	Rock (V)
17													
18													
19	0		75	NQ2-1									CORE
20													
21													
22	33		68	NQ2-2									CORE
23													
24													

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER. CAVE-IN DEPTH @ 15.2'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 47 LBS CEMENT, 25 LBS BENTONITE POWDER AND 40 GAL WATER

**Project Name:** FRA-161-15.80

**Location:**  
 Franklin County, Ohio



**Photo No. 12**

**Boring:**  
 B-043-0-23

RC-1: 18.5-19.5'  
 REC (%):75  
 RQD (%):10

RC-2: 19.5-24.5'  
 REC (%):68  
 RQD (%):33

DESIGN AGENCY  
  
 8350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

DESIGNER  
 JAS

REVIEWER  
 DEK 1/19/24

PROJECT ID  
 117607

SUBSET TOTAL  
 57 66

SHEET TOTAL  
 P.286 295

**GEOTECHNICAL PROFILE - NOISE WALLS**  
 NOISE WALL 15  
 BORING LOG & ROCK CORE PHOTO FOR B-043-0-23

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 6:59:37 PM USER: juans J:\GEO TECH\Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL030.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
TYPE: NOISE WALLS  
PID: 117607 SFN: NA  
START: 11/14/23 END: 11/14/23

DRILLING FIRM / OPERATOR: RII / TG  
SAMPLING FIRM / LOGGER: RII / MJ  
DRILLING METHOD: 3.25" HSA  
SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
HAMMER: AUTOMATIC  
CALIBRATION DATE: 3/21/22  
ENERGY RATIO (%): 86.4

STATION / OFFSET: 1504+27 / 0'  
ALIGNMENT: CL WALL 15  
ELEVATION: 1038.3 (MSL) EOB: 25.0 ft.  
LAT / LONG: 40.090479, -82.810313

EXPLORATION ID  
**B-044-0-23**

PAGE  
1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.3' TOPSOIL (4.0")  
HARD, LIGHT BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP TO MOIST.

ELEV.	DEPTH	SPT / RQD	N <sub>60</sub>	REC SAMPLE (%)	HP ID	GR	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)
1038.3	1	4	19	67	SS-1	4.5+	-	-	-	-	-	-	15	A-6a (V)
1038.0	2	7	6											
	3													
	4	12	37	33	SS-2	-	-	-	-	-	-	-	9	A-6a (V)
	5	13												
	6	10	35	100	SS-3	4.5+	10	14	39	22	30	17	14	A-6a (6)
	7	12												
	8	8	32	67	SS-4	4.5+	-	-	-	-	-	-	14	A-6a (V)
	9	13												
	10	6	27	72	SS-5	4.5+	-	-	-	-	-	-	11	A-6a (V)
	11	10	9											
1025.3	12	50/4"	-	63	SS-6	-	-	-	-	-	-	-	7	Rock (V)
	13													
	14													
	15													
	16	38	50/4"	84	SS-7	-	-	-	-	-	-	-	10	Rock (V)
	17													
	18													
	19	50/6"	-	100	SS-8	-	-	-	-	-	-	-	5	Rock (V)
	20													
	21	50/6"	-	100	SS-9	-	-	-	-	-	-	-	5	Rock (V)
	22													
	23	50/5"	-	100	SS-10	-	-	-	-	-	-	-	5	Rock (V)
	24													
1013.3	25													

SANDSTONE : GRAY, HIGHLY WEATHERED.

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING; CAVE-IN DEPTH @ 12.8'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

000-23 RII STA ODOT BORING LOG (8.5X11) - OH DOT GDT - 1/11/24 07:57 - U:\G18\PROJECTS\2023\W-23-107.GPJ

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
TYPE: NOISE WALLS  
PID: 117607 SFN: NA  
START: 11/14/23 END: 11/14/23

DRILLING FIRM / OPERATOR: RII / TG  
SAMPLING FIRM / LOGGER: RII / MJ  
DRILLING METHOD: 3.25" HSA  
SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
HAMMER: AUTOMATIC  
CALIBRATION DATE: 3/21/22  
ENERGY RATIO (%): 86.4

STATION / OFFSET: 1506+08 / 0'  
ALIGNMENT: CL WALL 15  
ELEVATION: 1038.9 (MSL) EOB: 25.0 ft.  
LAT / LONG: 40.090452, -82.809651

EXPLORATION ID  
**B-045-0-23**

PAGE  
1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.3' TOPSOIL (4.0")  
HARD, LIGHT BROWN TO BROWN CLAY, "AND" SILT, TRACE COARSE TO FINE SAND, DAMP.

ELEV.	DEPTH	SPT / RQD	N <sub>60</sub>	REC SAMPLE (%)	HP ID	GR	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)		
1038.9	1	5	16	56	SS-1	4.5+	0	3	8	51	38	48	20	28	17	A-7-6 (17)
1038.9	2	6														
	3															
	4	9	32	50	SS-2	4.5+	-	-	-	-	-	-	14	A-7-6 (V)		
	5	12														
	6	10	37	100	SS-3	4.5+	-	-	-	-	-	-	14	A-7-6 (V)		
	7	13														
	8															
1030.9	9	8	36	83	SS-4	-	11	13	16	7	53	28	17	11	12	A-6a (5)
	10	13														
	11	4	30	78	SS-5	-	-	-	-	-	-	-	13	A-6a (V)		
	12	6														
	13	15														
1025.9	14	50/4"	-	75	SS-6	-	-	-	-	-	-	-	6	Rock (V)		
	15															
	16	50/4"	-	88	SS-7	-	-	-	-	-	-	-	7	Rock (V)		
	17															
	18															
	19	50/4"	-	86	SS-8	-	-	-	-	-	-	-	6	Rock (V)		
	20															
	21	50/2"	-	75	SS-9	-	-	-	-	-	-	-	6	Rock (V)		
	22															
	23															
1013.9	24	50/0"	-		SS-10	-	-	-	-	-	-	-	-	-	-	Rock (V)
	25															

SILTSTONE : GRAY TO DARK GRAY, HIGHLY WEATHERED.

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER; CAVE-IN DEPTH @ 13.9'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

000-23 RII STA ODOT BORING LOG (8.5X11) - OH DOT GDT - 1/11/24 07:57 - U:\G18\PROJECTS\2023\W-23-107.GPJ

DESIGN AGENCY  
**RESOURCE INTERNATIONAL, INC.**  
8350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 823-4949

DESIGNER  
**JAS**

REVIEWER  
**DEK 1/19/24**

PROJECT ID  
**117607**

SUBSET TOTAL  
**58 66**

SHEET TOTAL  
**P.287 295**

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALL 15**  
**BORING LOGS B-044-0-23 AND B-045-0-23**

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 7:00:05 PM USER: juans J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL031.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/10/23 END: 11/10/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 1508+10 / 0'  
 ALIGNMENT: CL WALL 15  
 ELEVATION: 1039.1 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.090415, -82.808921

EXPLORATION ID  
**B-046-0-23**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

DEPTH (ft)	SPT / RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)							WC	HOLE SEALED
				GR	FS	SI	CL	LL	PL	PI		
1	5											
2	7											
3	8											
4	12											
5	14											
6	15											
7	16											
8	10											
9	8											
10	12											
11	11											
12	18											
13	16											
14	6											
15	16											
16	50/4"											
17												
18	50/4"											
19	0											
20												
21												
22	37											
23												
24												
25												

0.5' - TOPSOIL (5.5')  
 HARD, BROWNISH GRAY CLAY, "AND" SILT, LITTLE FINE GRAVEL, LITTLE COARSE TO FINE SAND, DAMP.

HARD, BROWNISH GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, SOME FINE GRAVEL, MOIST.

SANDSTONE : GRAY, HIGHLY WEATHERED.

SANDSTONE : GRAY, SLIGHTLY WEATHERED, STRONG, FINE GRAINED, THIN BEDDED, MODERATELY FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACES, BLOCKY, GOOD SURFACE.  
 -@21.3' - 21.5' SHALE  
 -@22.5' CLAY SEAM

-@ 24.5'-25.0' SHALE

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER. CAVE-IN DEPTH @ 15.2'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 47 LBS CEMENT, 25 LBS BENTONITE POWDER AND 40 GAL WATER

**Project Name:** FRA-161-15.80

**Location:**  
 Franklin County, Ohio

<p><b>Photo No.</b> 13</p>			
<p><b>Boring:</b> B-046-0-23</p>			
<p>RC-1: 19.0-20.0' REC (%):33 RQD (%):10</p>			
<p>RC-2: 20.0-25.0' REC (%):93 RQD (%):37</p>			



**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 7:00:26 PM USER: juans J:\GEO\GEO\GEOtech Connect Projects\2023\117607-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL032.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/10/23 END: 11/10/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 1510+10 / 0'  
 ALIGNMENT: CL WALL 15  
 ELEVATION: 1039.2 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.090391, -82.808171

EXPLORATION ID  
**B-047-0-23**  
 PAGE  
 1 OF 1

DEPTH (ft)	SPT / RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)								WC	HOLE SEALED
				GR	FS	SI	CL	LL	PL	PI			
1	4												
2	8		4.5+										
3	11												
4	17		4.5+	9	13	36	31	31	17	14			
5	19												
6	5		4.5+										
7	6												
8	8												
9	7		4.5+										
10	8												
11	12		4.5+	14	13	32	18	26	17	9			
12	14												
13	12												
14	15		4.5+										
15	20												
16	16												
17	19		4.5+										
18	15												
19	50/4"												
20	0												
21													
22													
23	55												
24													
25													

**MATERIAL DESCRIPTION AND NOTES**

0.5' - TOPSOIL (6.0")  
 HARD, BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.

HARD, BROWN SANDY SILT, LITTLE CLAY, SOME FINE GRAVEL, DAMP.

SILTSTONE : GRAY, HIGHLY WEATHERED.

SANDSTONE : GRAY, SLIGHTLY WEATHERED, STRONG, FINE GRAINED, THIN BEDDED, FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACES, BLOCKY, GOOD SURFACE.

-@22.4' CLAY SEAM  
 -@ 19.0' - 25.0' RED IRON STAINING THROUGHOUT

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER. CAVE-IN DEPTH @ 14.9'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 47 LBS CEMENT, 25 LBS BENTONITE POWDER AND 40 GAL WATER

**Project Name:** FRA-161-15.80

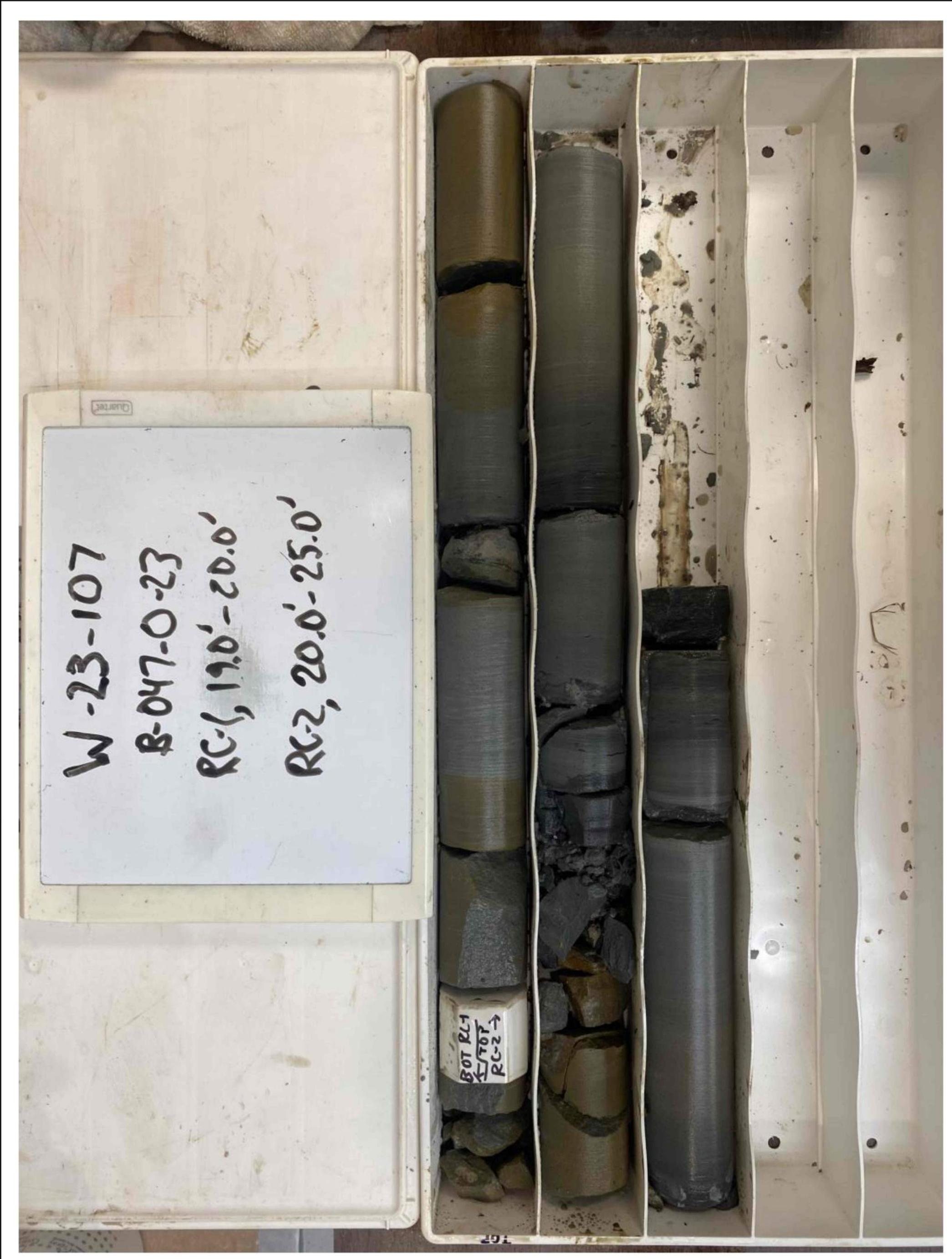
**Location:**  
 Franklin County, Ohio

**Photo No. 14**

**Boring:**  
 B-047-0-23

RC-1: 19.0-20.0'  
 REC (%):42  
 RQD (%):10

RC-2: 20.0-25.0'  
 REC (%):92  
 RQD (%):55



**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 7:00:46 PM USER: juans  
 J:\GEO TECH\Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_Z1033.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/10/23 END: 11/10/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA  
 SAMPLING METHOD: SPT

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 1512+10 / 0'  
 ALIGNMENT: CL WALL 15  
 ELEVATION: 1037.4 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.090360, -82.807478

EXPLORATION ID  
**B-048-0-23**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.5' - TOPSOIL (6.0')  
 HARD, BROWN TO GRAY SILTY CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.

VERY STIFF TO HARD, GRAY SANDY SILT, SOME CLAY, LITTLE FINE GRAVEL, DAMP.

SHALE : BROWN, SEVERELY WEATHERED.

DEPTH (ft)	SPT / RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)							ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
				GR	CS	FS	SI	CL	LL	PL	PI					
1	3															
2	3	12	4.5+												19	A-6b (V)
3	5															
4	6	20	4.5+	10	5	19	32	34	36	17	19	14			14	A-6b (10)
5	7															
6	6	24	4.5+												17	A-6b (V)
7	11															
8																
9	8	26	4.5+												12	A-6b (V)
10	10															
11	5	22	4.5+	18	11	14	33	24	26	16	10	11				A-4a (4)
12	6	9														
13																
14	3	4	13	64	3.00										12	A-4a (V)
15	5															
16	28															
17	35	-	40	SS-7	-	-	-	-	-	-	-	-	-	0		Rock (V)
18	50/3"															
19	15	24	72	83	SS-8	-	-	-	-	-	-	-	-	13		Rock (V)
20	26															
21	60/3"	-	0	SS-9	-	-	-	-	-	-	-	-	-			Rock (V)
22																
23																
24	11	10	36	50	SS-10	-	-	-	-	-	-	-	-	20		Rock (V)
25	15															

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING; CAVE-IN DEPTH @ 16.1'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH 50 LBS. BENTONITE CHIPS AND SOIL CUTTINGS.

DESIGN AGENCY  
  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949  
 DESIGNER  
**JAS**  
 REVIEWER  
**DEK 1/19/24**  
 PROJECT ID  
**117607**  
 SUBSET TOTAL  
**61 66**  
 SHEET TOTAL  
**P.290 295**

**GEOTECHNICAL PROFILE - NOISE WALLS**  
**NOISE WALL 15**  
**BORING LOG B-048-0-23**

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 7:01:03 PM USER: juans  
 J:\GEO\GEO\GEOtech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL034.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/10/23 END: 11/10/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 1514+10 / 0'  
 ALIGNMENT: CL WALL 15  
 ELEVATION: 1038.9 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.090327, -82.806756

EXPLORATION ID  
**B-049-0-23**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.5' - TOPSOIL (5.5')  
 VERY STIFF TO HARD, BROWN CLAY, SOME SILT,  
 SOME FINE GRAVEL, TRACE COARSE TO FINE SAND,  
 MOIST TO DAMP.

HARD, GRAY SANDY SILT, TRACE GRAVEL, MOIST TO DAMP.

SILTSTONE : GRAY, HIGHLY WEATHERED.

SANDSTONE : GRAY, SLIGHTLY WEATHERED,  
 STRONG, FINE GRAINED, THIN BEDDED, MODERATELY  
 FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH  
 SURFACES, BLOCKY, GOOD SURFACE.

DEPTH (ft)	SPT / RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)							WC	ODOT CLASS (GI)	HOLE SEALED
				GR	FS	SI	CL	LL	PL	PI			
1	1												
2	3												
3	4												
4	5												
5	6												
6	8												
7	3												
8	4												
9	6												
10	8												
11	13												
12	16												
13	4												
14	8												
15	10												
16	4												
17	8												
18	10												
19	5												
20	7												
21	14												
22	5												
23	7												
24	14												
25	50/3"												
TR													
EOB													

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER. CAVE-IN DEPTH @ 17.1'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 47 LBS CEMENT, 25 LBS BENTONITE POWDER AND 40 GAL WATER

**Project Name:** FRA-161-15.80

**Location:**  
 Franklin County, Ohio

**Photo No.**  
 15

**Boring:**  
 B-049-0-23

RC-1: 19.0-20.0'  
 REC (%):0  
 RQD (%):0

RC-2: 20.0-25.0'  
 REC (%):42  
 RQD (%):28



**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 7:01:23 PM USER: juans J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL035.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/13/23 END: 11/13/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 1516+10 / 0'  
 ALIGNMENT: CL WALL 15  
 ELEVATION: 1038.0 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.090286, -82.806054

EXPLORATION ID  
**B-050-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

0.5' TOPSOIL (5.5')  
 VERY STIFF TO HARD, BROWN TO GRAY SILTY CLAY, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP TO MOIST.

ELEV. 1038.0  
 1037.5

DEPTH SPT / RQD

GRADATION (%) ATTERBERG

DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.

ELEV. 1027.5

GRADATION (%) ATTERBERG

GRADATION (%) ATTERBERG

SILTSTONE : GRAY, HIGHLY WEATHERED.

ELEV. 1025.0

GRADATION (%) ATTERBERG

GRADATION (%) ATTERBERG

SANDSTONE : GRAY, SLIGHTLY WEATHERED, STRONG, FINE GRAINED, THIN BEDDED, MODERATELY FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACES, BLOCKY, GOOD SURFACE.  
 -@21.0' RED STAINING

ELEV. 1019.0

GRADATION (%) ATTERBERG

GRADATION (%) ATTERBERG

CORE

ELEV. 1013.0

GRADATION (%) ATTERBERG

GRADATION (%) ATTERBERG

DEPTH	SPT / RQD	REC SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
1	2													
2	4													
3	5													
4	7													
5	6													
6	8													
7	10													
8	10													
9	4													
10	5													
11	11													
12	23													
13	18													
14	15													
15	12													
16	39													
17	64													
18	64													
19	82													
20	0													
21	25													
22	100													
23														
24														
25														

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER. CAVE-IN DEPTH @ 13.0'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 47 LBS CEMENT, 25 LBS BENTONITE POWDER AND 40 GAL WATER

**Project Name:** FRA-161-15.80

**Location:**  
 Franklin County, Ohio

**Photo No.**  
 16



**Boring:**  
 B-050-0-23

RC-1: 19.0-20.0'  
 REC (%):0  
 RQD (%):25

RC-2: 20.0-25.0'  
 REC (%):100  
 RQD (%):82

DESIGN AGENCY  
  
 6350 PRESIDENTIAL GATEWAY  
 COLUMBUS, OHIO 43231  
 (614) 823-4949

DESIGNER  
 JAS

REVIEWER  
 DEK 1/19/24

PROJECT ID  
 117607

SUBSET TOTAL  
 63 66

SHEET TOTAL  
 P.292 295

**GEOTECHNICAL PROFILE - NOISE WALLS**  
 NOISE WALL 15  
 BORING LOG & ROCK CORE PHOTO FOR B-050-0-23

**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 7:01:44 PM USER: juans  
 J:\GEO\GEO\GEOtech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL036.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/13/23 END: 11/13/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 1519+10.6 / 8.77' LT  
 ALIGNMENT: CL WALL 15  
 ELEVATION: 1038.1 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.090226, -82.806530

EXPLORATION ID  
**B-051-0-23**  
 PAGE  
 1 OF 1

**MATERIAL DESCRIPTION  
 AND NOTES**

0.5' - TOPSOIL (5.5")  
 HARD, BROWN SILTY CLAY, LITTLE GRAVEL AND SAND, DAMP.

VERY DENSE, BROWN TO GRAY GRAVEL WITH SAND AND SILT, DAMP.

-@ 6.0' - 8.0' COBBLES

SILTSTONE : GRAY, HIGHLY WEATHERED.

SANDSTONE : GRAY, SLIGHTLY WEATHERED, STRONG, FINE GRAINED, THIN BEDDED, MODERATELY FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACE, BLOCKY, GOOD SURFACE.

-VERTICAL FRACTURE @ 20.3', 20.9', 23.2' AND 24.7'

DEPTH (ft)	SPT / RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)							WC	HOLE SEALED
				GR	FS	SI	CL	LL	PL	PI		
1	3											
2	6											
3	7											
4	10											
5	12											
6	36											
7	26											
8	22											
9	17											
10	19											
11	32											
12	17											
13	29											
14	14											
15	50/3"											
16	50/4"											
17												
18												
19	50											
20												
21												
22	50											
23												
24												
25												

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER. CAVE-IN DEPTH @ 14.8'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 94 LBS CEMENT / 25 LBS BENTONITE POWDER / 40 GAL WATER

**Project Name:** FRA-161-15.80

**Location:**  
 Franklin County, Ohio

**Photo No.**  
 17

**Boring:**  
 B-051-0-23

RC-1: 19.0'-20.0'  
 REC (%):75  
 RQD (%):50

RC-2: 20.0'-25.0'  
 REC (%):97  
 RQD (%):50



**FRA-161-15.80 NOISE WALLS**

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 3/14/2024 TIME: 7:02:05 PM USER: jluans  
 J:\GEO TECH\Geotech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL037.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
 TYPE: NOISE WALLS  
 PID: 117607 SFN: NA  
 START: 11/13/23 END: 11/13/23

DRILLING FIRM / OPERATOR: RII / TG  
 SAMPLING FIRM / LOGGER: RII / MJ  
 DRILLING METHOD: 3.25" HSA / NQ2  
 SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
 HAMMER: AUTOMATIC  
 CALIBRATION DATE: 3/21/22  
 ENERGY RATIO (%): 86.4

STATION / OFFSET: 1520+41 / 0'  
 ALIGNMENT: CL WALL 15  
 ELEVATION: 1038.6 (MSL) EOB: 25.0 ft.  
 LAT / LONG: 40.090130, -82.804859

EXPLORATION ID  
**B-052-0-23**

PAGE  
 1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

DEPTH (ft)	SPT / RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)							WC	HOLE SEALED
				GR	FS	SI	CL	LL	PL	PI		
1	6											
2	7											
3	10		4.5+									14 A-6a (V)
4	12											
5	13											
6	18											
7	50/4"		4.5+									13 A-6a (V)
8												
9	12											
10	10											
11	8											
12	10											
13	25											
14	35											
15	28											
16	19											
17	42											
18	50/3"											
19	92											
20	92											
21												
22												
23												
24												
25												

0.3' - TOPSOIL (4.0')  
 HARD, BROWN SILT AND CLAY, LITTLE GRAVEL AND SAND, DAMP.

MEDIUM DENSE, BROWN GRAVEL WITH SAND AND SILT, DAMP.  
 -COBBLES @ 6.5'-8.0'

SILTSTONE : GRAY, HIGHLY WEATHERED.

SANDSTONE : GRAY, SLIGHTLY WEATHERED, STRONG, FINE GRAINED, THIN BEDDED, MODERATELY FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACE, BLOCKY, GOOD SURFACE.

-SHALE SEAMS @ 22.6', 23.0, 24.2'

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER. CAVE-IN DEPTH @ 13.8'  
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 47 LBS CEMENT, 25 LBS BENTONITE POWDER AND 40 GAL WATER

**Project Name:** FRA-161-15.80

**Location:**  
 Franklin County, Ohio



**Photo No. 18**

**Boring:**  
 B-052-0-23

RC-1: 19.0-20.0'  
 REC (%):92  
 RQD (%):92

RC-2: 20.0-25.0'  
 REC (%):93  
 RQD (%):77

**FRA-161-15.80 NOISE WALLS**

MODEL: Sheet PAPER: 34x22 (in.) DATE: 3/14/2024 TIME: 7:02:26 PM USER: juans J:\GEO\GEO\GEOtech Connect Projects\2023\W-23-107 FRA-161-15.80 NOISE WALLS\117607\400-Engineering\Geotechnical\Sheets\117607\_ZL038.dgn

**RESOURCE INTERNATIONAL, INC.**



PROJECT: FRA-161-15.80  
TYPE: NOISE WALLS  
PID: 117607 SFN: NA  
START: 11/14/23 END: 11/14/23

DRILLING FIRM / OPERATOR: RII / TG  
SAMPLING FIRM / LOGGER: RII / MJ  
DRILLING METHOD: 3.25" HSA / NQ2  
SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIETRICH D-50 (# 313)  
HAMMER: AUTOMATIC  
CALIBRATION DATE: 3/21/22  
ENERGY RATIO (%): 86.4

STATION / OFFSET: 1522+26 / 0'  
ALIGNMENT: CL WALL 15  
ELEVATION: 1036.5 (MSL) EOB: 25.0 ft.  
LAT / LONG: 40.090039, -82.804245

EXPLORATION ID  
**B-053-0-23**  
PAGE  
1 OF 1

**MATERIAL DESCRIPTION AND NOTES**

DEPTH (ft)	SPT / RQD	REC SAMPLE ID	HP (tsf)	GRADATION (%)							WC	HOLE SEALED
				GR	FS	SI	CL	LL	PL	PI		
0.5' - TOPSOIL (6.0')												
1	1											
2	2											
3	3											
4	4											
5	5											
6	6											
7	7											
8	8											
9	9											
10	10											
11	11											
12	12											
13	13											
14	14											
15	15											
16	16											
17	17											
18	18											
19	19											
20	20											
21	21											
22	22											
23	23											
24	24											
25	25											
TR												
1028.5												
1022.4												
1017.5												
1011.5												

VERY STIFF TO HARD, BROWN TO GRAY SILTY CLAY, SOME TO TRACE SAND, TRACE GRAVEL, MOIST.

HARD, BROWN TO BROWN GRAY SANDY SILT, TRACE GRAVEL, DAMP TO MOIST.

SANDSTONE : GRAY, HIGHLY WEATHERED.

SANDSTONE : GRAY, SLIGHTLY WEATHERED, STRONG, FINE GRAINED, THIN BEDDED, MODERATELY FRACTURED, NARROW APERTURES, SLIGHTLY ROUGH SURFACE, BLOCKY, GOOD SURFACE.

-@22.2' FRACTURE  
-@22.8' SHALE SEAM  
-@24.0 CLAY SEAM

NOTES: GROUNDWATER NOT MEASURED UPON COMPLETION DUE TO INFLUENCE OF CORE WATER. CAVE-IN DEPTH @ 15.8'  
ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 47 LBS CEMENT, 25 LBS BENTONITE POWDER AND 40 GAL WATER

**Project Name:** FRA-161-15.80

**Location:**  
Franklin County, Ohio



**Photo No. 19**

**Boring:**  
B-053-0-23

RC-1: 19.0-20.0'  
REC (%):50  
RQD (%):50

RC-2: 20.0-25.0'  
REC (%):100  
RQD (%):68