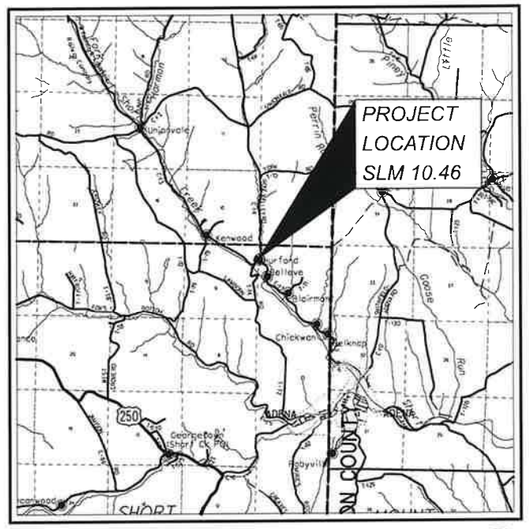
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

HAS-CR 13-10.46

SHORT CREEK TOWNSHIP

HARRISON COUNTY



LOCATION MAP

LATITUDE: 40°14'43" LONGITUDE: -80°53'51"

PORTION TO BE IMPROVED
FEDERAL ROUTES 250
STATE ROUTES
COUNTY & TOWNSHIP ROADS BLAIRMONT RD CO 13
OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2025)	410
DESIGN YEAR ADT (2045)	450
DESIGN HOURLY VOLUME (2045)	54
DIRECTIONAL DISTRIBUTION	50%
TRUCKS (24 HOUR B&C)	3%
DESIGN SPEED	55 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR	
NHS PROJECT	NO

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

NONE

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:
HAMMONTREE & ASSOCIATES, LIMITED
5233 STONEHAM ROAD
NORTH CANTON, OHIO 44720

ENGINEER'S SEAL:

STATE OF OHIO · MELINDA C. CHASE 71772 · REGISTERED PROFESSIONAL ENGINEER

SIGNED:
DATE: 1/24/25

INDEX OF SHEETS:

FEDERAL PROJECT NUMBER

E230817

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

REPLACEMENT OF BRIDGE NO. HAS-C0013-13119 (SFN 3430383), WHICH CARRIES CR 13 (BLAIRMONT RD.) OVER NORTH FORK OF SHORT CREEK WITH MINIMAL APPROACH WORK.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.33 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	0.58 ACRES

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.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 5.

APPROVED
DATE 1/31/25 HARRISON COUNTY ENGINEER

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	1/19/24	MT-101.60	4/21/23	AS-1-15	1/20/23
BP-3.2	1/18/19	MT-101.90	7/17/20	AS-2-15	7/21/23
MGS-1.1	7/16/21	MT-105.1	1/17/20		
MGS-2.1	1/19/18			DS-1-92	7/15/22
MGS-3.1	1/19/18	TC-42.10	10/18/13	PSBD-2-07	7/20/18
MGS-4.1	1/20/17	TC-42.20	10/18/13	TST-1-99	1/15/21
		TC-52.20	1/15/21		

SUPPLEMENTAL SPECIFICATIONS

800-23	1/17/25
832	7/19/24
846	4/17/15

SPECIAL PROVISIONS

WATERWAY PERMIT NWP #3

TITLE SHEET

DESIGN AGENCY

DESIGNER MCC
REVIEWER KJO 10-30-24
PROJECT ID 119477
SHEET 1 TOTAL 24

HAS-CR 13-10.46

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 1/24/2025 TIME: 9:50:17 AM USER: melinda
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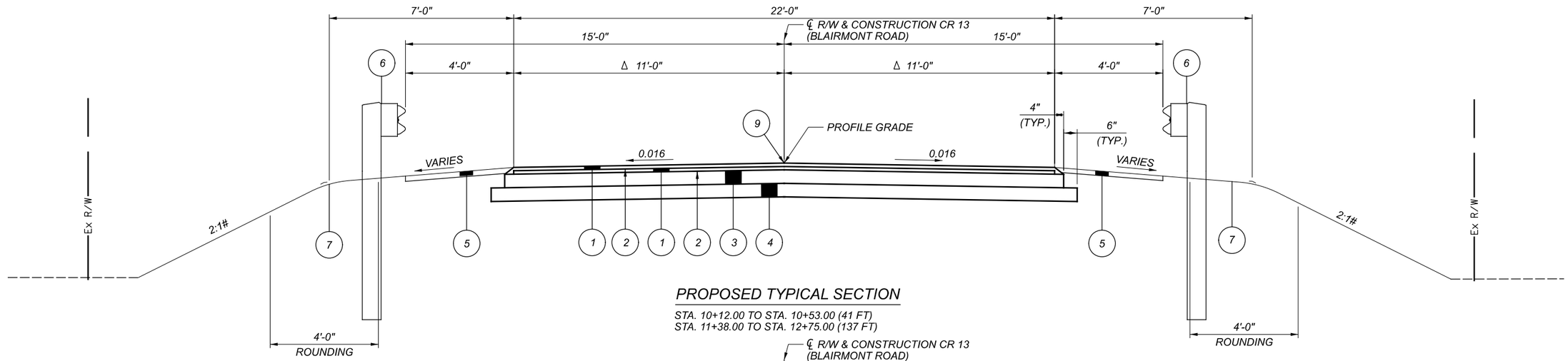
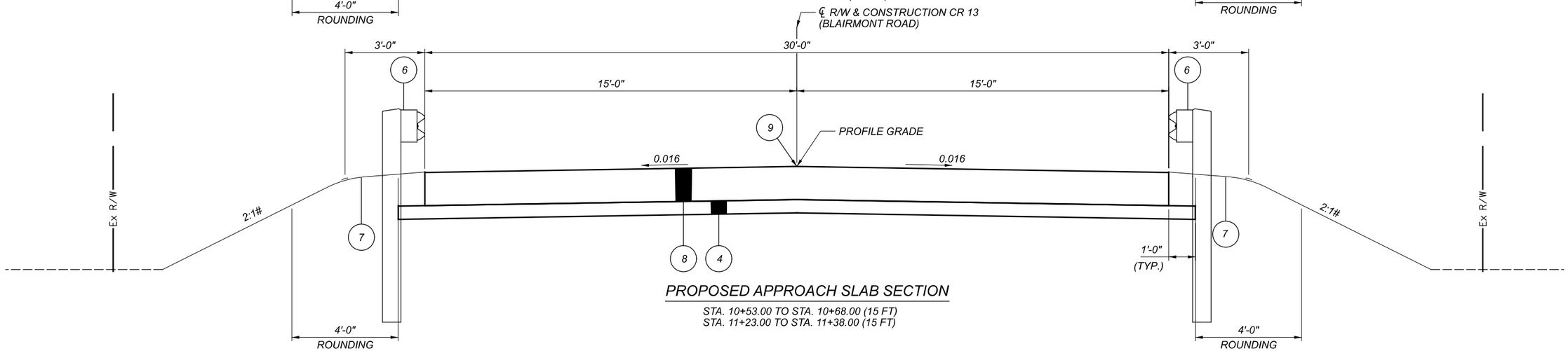


PROPOSED TYPICAL SECTION

STA. 10+12.00 TO STA. 10+53.00 (41 FT)
STA. 11+38.00 TO STA. 12+75.00 (137 FT)



PROPOSED APPROACH SLAB SECTION

STA. 10+53.00 TO STA. 10+68.00 (15 FT)
STA. 11+23.00 TO STA. 11+38.00 (15 FT)

PROPOSED ITEM LEGEND

1. ITEM 441 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22
2. ITEM 407 - TACK COAT
3. ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22, (449)
4. ITEM 304 - 6" AGGREGATE BASE
5. ITEM 411 - 2" STABALIZED CRUSHED AGGREGATE
6. ITEM 606 - GUARDRAIL, TYPE MGS
7. ITEM 659 - SEEDING AND MULCHING
8. ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=12")
9. ITEM 642 - CENTER LINE, TYPE I

Δ VARIES FROM STA. 10+12 TO STA. 10+53
SEE INTERSECTION DETAIL SHEET

\# OR AS SHOWN ON CROSS SECTIONS

HAS-CR 13-10.46

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TYPICAL SECTIONS

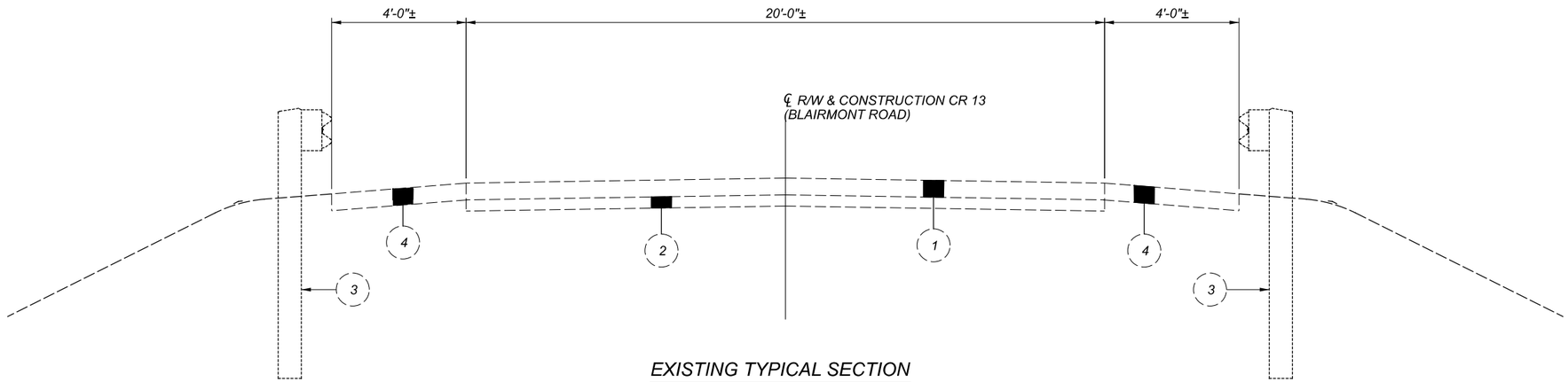
DESIGN AGENCY

DESIGNER MCC

REVIEWER KJO 10-30-24

PROJECT ID 119477

SHEET 2 TOTAL 24



EXISTING TYPICAL SECTION

EXISTING ITEM LEGEND

1. 6-10"± ASPHALT CONCRETE
2. 4"` AGGREGATE BASE
3. GUARDRAIL
4. AGGREGATE SHOULDER

TYPICAL SECTIONS

HAS-CR 13-10.46

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DESIGN AGENCY

DESIGNER MCC

REVIEWER KJO 10-30-24

PROJECT ID 119477

SHEET 3 TOTAL 24

GENERAL

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

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

FRONTIER COMMUNICATIONS
ATTN: TRAVIS ART
travis.m.art@ftr.com
(740) 432-6961
921 STEUBENVILLE AVE
CAMBRIDGE, OH 43725

AEP OHIO
ATTN: CLARKE SAUNDERS
cmsaunders@aep.com
(740) 985-3054
38831 STATE ROUTE 7
REEDSVILLE, OH 45772

VILLAGE OF ADENA
ATTN: BRENDA ROSKI
villageofadena@outlook.com
(740) 546-3664
127 MCLAUGHLIN ST
ADENA, OH 43901

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 7 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: STATIC GNSS
MONUMENT TYPE: A

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID09

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (CORS96)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE - NORTH ZONE
COMBINED SCALE FACTOR: 0.99956246
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 U.S. SURVEY FEET.

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 7AM TO 7PM. 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.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CLEARING AND GRUBBING, AS PER PLAN

THE COUNTY HAS NOT MARKED INDIVIDUAL TREES OR STUMPS FOR REMOVAL. UNLESS SPECIFICALLY DESIGNATED AS "DO NOT DISTURB" IN THE PLANS, CONTRACTOR MAY REMOVE ALL TREES AND STUMPS WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201 CLEARING AND GRUBBING THAT POSE A CONFLICT WITH GRADING AND WORKABILITY.

TRAFFIC CONTROL

ITEM 642 - CENTER LINE, TYPE 1	0.05 MILE
ITEM 642 - EDGE LINE, TYPE 1	0.03 MILE

THE COUNTY IS TO PROVIDE THE S.L.M. PAVEMENT MARKING PLAN PRIOR TO THE CONTRACTOR APPLYING MARKINGS. IF NO S.L.M. PLAN IS PROVIDED, THE CONTRACTOR SHALL MATCH EXISTING LAYOUT.

OBJECT MARKERS

OBJECT MARKERS WILL BE PLACED ON EACH APPROACH OFF THE LEFT AND RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. ONE OM-3L AND ONE EM-3R WILL BE INSTALLED AT EACH APPROACH.

THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POST AND SHALL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TV-42.20 MOST CURRENT REVISION. EACH POST WILL BE 11' IN LENGTH.

ENVIRONMENTAL

ENDANGERED BAT HABITAT REMOVAL

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT, AND NORTHERN LONG EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT (ESA). FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK 3 INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

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	1 MGAL

SEEDING AND MULCHING

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

659, TOPSOIL	16 CU. YD.
659, SEEDING AND MULCHING	144 SQ. YD.
659, REPAIR SEEDING AND MULCHING	8 SQ. YD.
659, INTER-SEEDING	8 SQ. YD.
659, COMMERCIAL FERTILIZER	0.02 TON
659, LIME	0.03 ACRES
659, WATER	1 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.

MAINTENANCE OF TRAFFIC

MAINTAINING TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

PRIOR TO OPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND SHOULDER WIDTH AND EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT DRIVEWAYS, WITHIN THE PROJECT AREA, AT ALL TIMES. WHEN PROPOSED WORK REQUIRES DISTURBANCE OF THE EXISTING DRIVE, THE CONTRACTOR SHALL PROVIDE TEMPORARY ACCESS TO THE DRIVE.

THE CONTRACTOR SHALL PROVIDE, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS, AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

ALL WORK AT THE STRUCTURE AND ALL ASSOCIATED ROADWAY WORK WILL BE COMPLETED DURING THE DETOUR.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 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 SEPERATELY ITEMIZED IN THE PLAN.

ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR)

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 120 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $600 FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)

NOTICE OF CLOSURE SIGNS (W20-H13), AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST 14 DAYS IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD 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.

W20–H13–60

DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT 11 OFFICE (330-339-6633) AND HARRISON COUNTY ENGINEER (740) 942-8867 EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

GENERAL NOTES

DESIGN AGENCY

DESIGNER MCC
REVIEWER KJO 5-20-24
PROJECT ID 119477
SHEET 4 TOTAL 24

HAS-CR 13-10.46

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BRIDGE OUT
2.50 MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3b-60

ON TYPE III BARRICADE

(A)

ROAD
CLOSED

R11-2-48

ON TYPE III BARRICADE

(B)

ROAD CLOSED 1000 FT

W20-3-36

(C)

ROAD CLOSED 500 FT

W20-3-36

(D)

ROAD CLOSED AHEAD

W20-3-36

(E)

LEGEND:

(A) *- SIGN REFERENCE*

DETOUR PLAN

HAS-CR 13-10.46

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DESIGN AGENCY

DESIGNER
MCC

REVIEWER
KJO 10-30-24

PROJECT ID
119477

SHEET 5 | TOTAL 24

SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
										OFFICE CALCS	4	7	01/BRF/10						
																		ROADWAY	
													LS	201	11000	LS		CLEARING AND GRUBBING	
										619			619	202	23000	619	SY	PAVEMENT REMOVED	
										140			140	202	38000	140	FT	GUARDRAIL REMOVED	
										211			211	203	10000	211	CY	EXCAVATION	
										96			96	203	20000	96	CY	EMBANKMENT	
										666			666	204	10000	666	SY	SUBGRADE COMPACTION	
												1	1	606	25550	1	EACH	ANCHOR ASSEMBLY, MGS TYPE A	
												3	3	606	26550	3	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
												4	4	606	35002	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
																		PAVEMENT	
										123			123	252	01500	123	FT	FULL DEPTH PAVEMENT SAWING	
										59			59	301	56000	59	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
										87			87	304	20000	87	CY	AGGREGATE BASE	
										37			37	407	10000	37	GAL	TACK COAT	
										31			31	411	10000	31	CY	STABILIZED CRUSHED AGGREGATE	
										29			29	441	70000	29	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22	
																		EROSION CONTROL	
											16		16	659	00300	16	CY	TOPSOIL	
											144		144	659	10000	144	SY	SEEDING AND MULCHING	
											8		8	659	14000	8	SY	REPAIR SEEDING AND MULCHING	
											8		8	659	15000	8	SY	INTER-SEEDING	
											0.02		0.02	659	20000	0.02	TON	COMMERCIAL FERTILIZER	
											0.03		0.03	659	31000	0.03	ACRE	LIME	
											1		1	659	35000	1	MGAL	WATER	
										4,000			4,000	832	30000	4,000	EACH	EROSION CONTROL	
																		TRAFFIC CONTROL	
												8	8	626	00110	8	EACH	BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)	
										46			46	630	02100	46	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
										12			12	630	80100	12	SF	SIGN, FLAT SHEET	
										2			2	630	85100	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
											0.03		0.03	642	00100	0.03	MILE	EDGE LINE, 4", TYPE 1	
											0.05		0.05	642	00300	0.05	MILE	CENTER LINE, TYPE 1	
																		MAINTENANCE OF TRAFFIC	
													LS	614	11000	LS		MAINTAINING TRAFFIC	
													LS	614	12420	LS		DETOUR SIGNING	
																		INCIDENTALS	
											1		1	616	10000	1	MGAL	WATER	
													LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													LS	624	10000	LS		MOBILIZATION	
										4			4	619	16010	4	MNTH	FIELD OFFICE, TYPE B	
																		STRUCTURE OVER 20 FOOT SPAN (3430384)	16

HAS-CR13-10.46

GENERAL SUMMARY

DESIGN AGENCY

DESIGNER RMT

REVIEWER MCC 10-30-24

PROJECT ID 119477

SHEET 6 TOTAL 24

REF NO.	SHEET NO.	606 ANCHOR ASSEMBLY, MGS TYPE A	606 ANCHOR ASSEMBLY, MGS TYPE T	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	626 BARRIER REFLECTOR, TYPE 2
		EACH	EACH	EACH	EACH
GR-1	8		1	1	2
GR-2	8		1	1	2
GR-3	8	1		1	2
GR-4	8		1	1	2
TOTALS CARRIED TO GENERAL SUMMARY		1	3	4	8

SUBSUMMARY

HAS-CR 13-10.46

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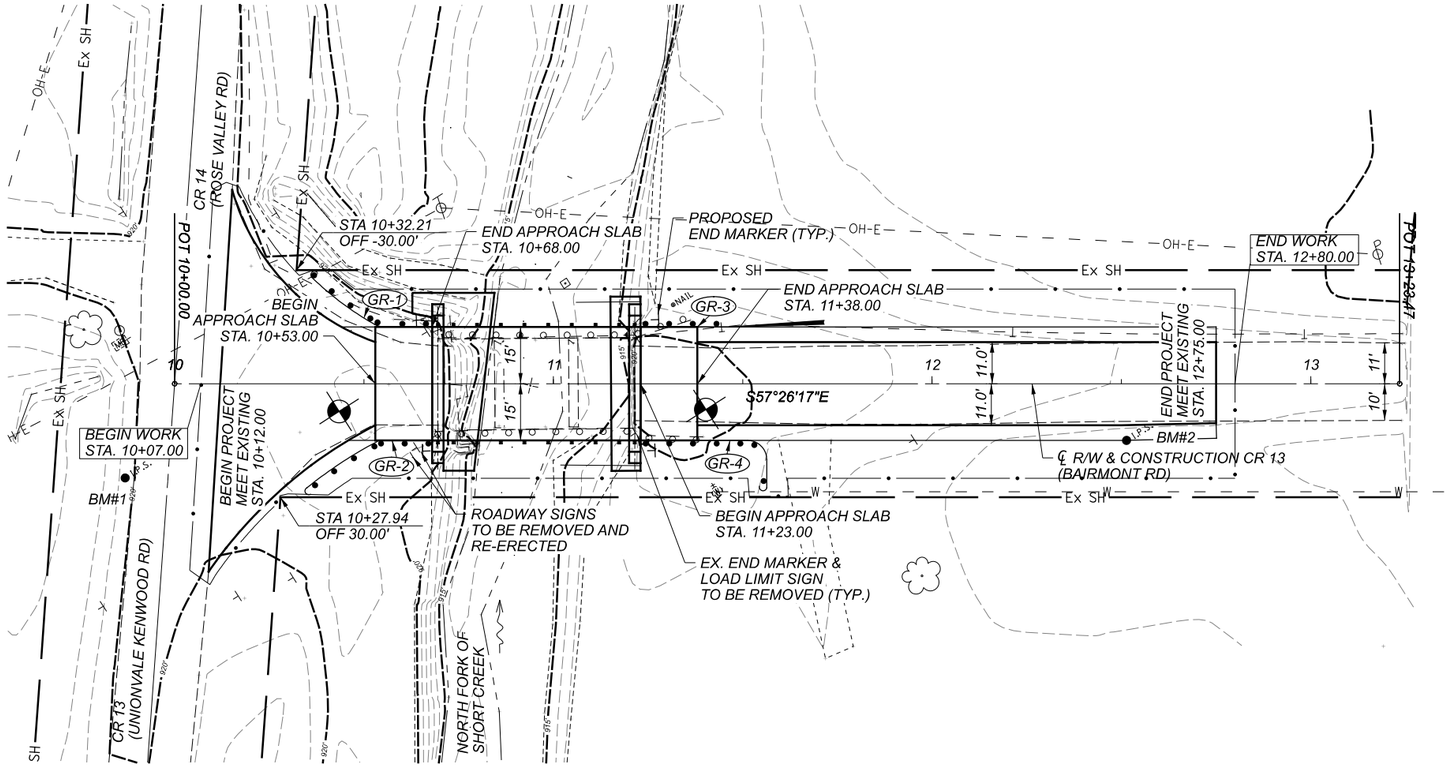
DESIGN AGENCY

DESIGNER
MCC

REVIEWER
KJO 10-30-24

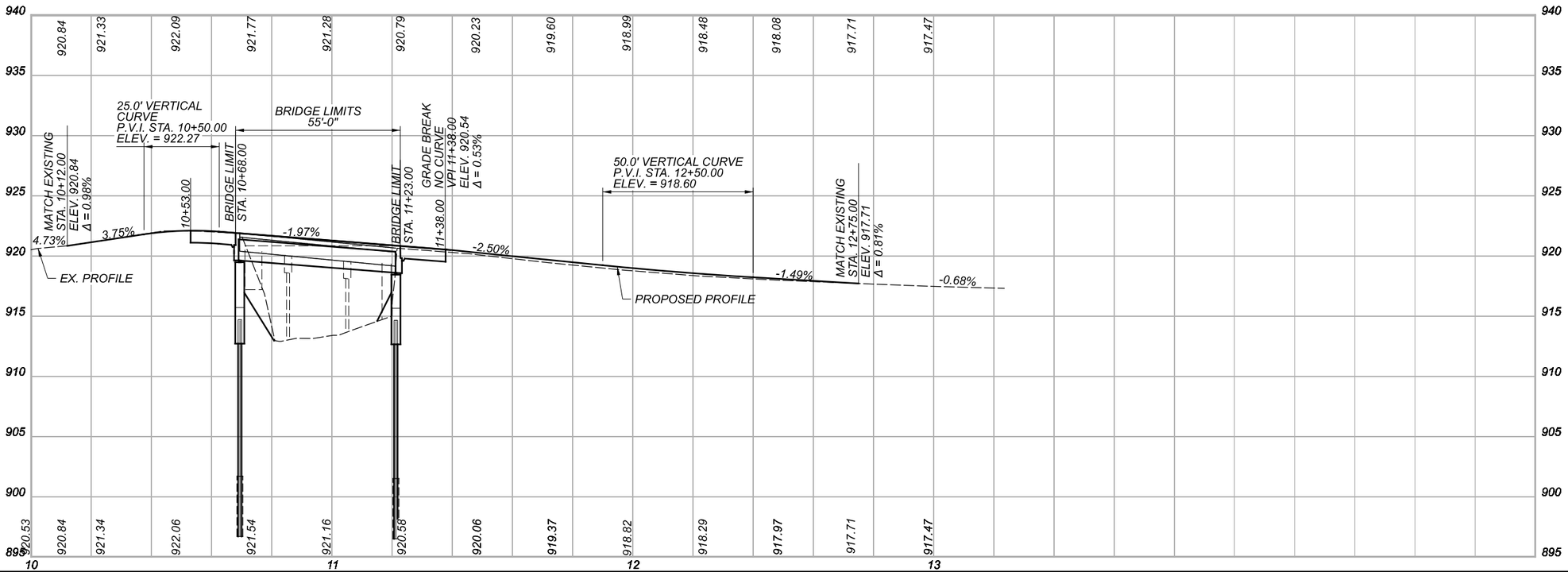
PROJECT ID
119477

SHEET 7 | TOTAL 24



BM#1	BM#2
IRON PIN 214992.3060,2415745.1980 ELEV. 919.87	IRON PIN 214858.3322,2415973.3955 STA. 12+51.37, 14.98' RT ELEV. 916.40

HORIZONTAL
SCALE IN FEET
0 10 20 40



PLAN AND PROFILE
C.R. 13 - BLAIRMONT ROAD

DESIGN AGENCY

DESIGNER RMC
REVIEWER MCC 10-30-24
PROJECT ID 119477
SHEET 8 TOTAL 24

HAS-CR 13-10.46

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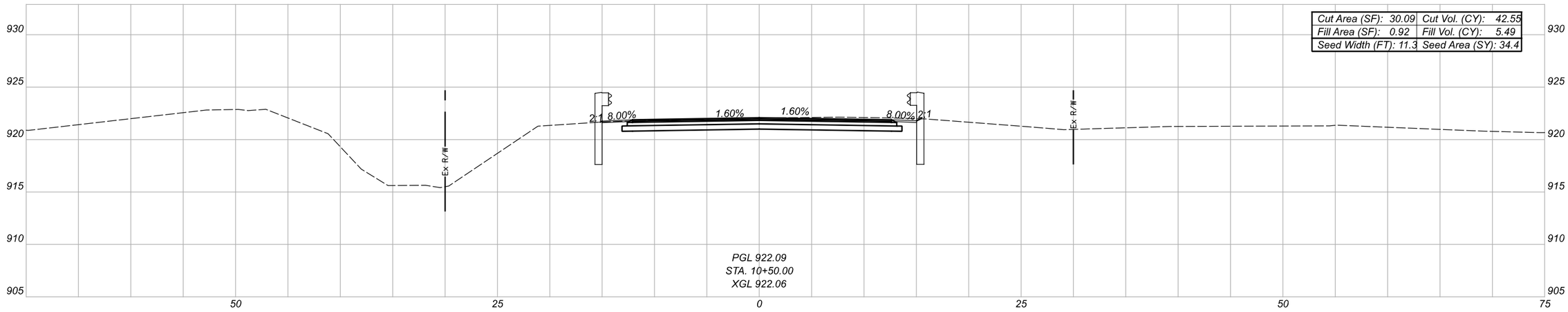

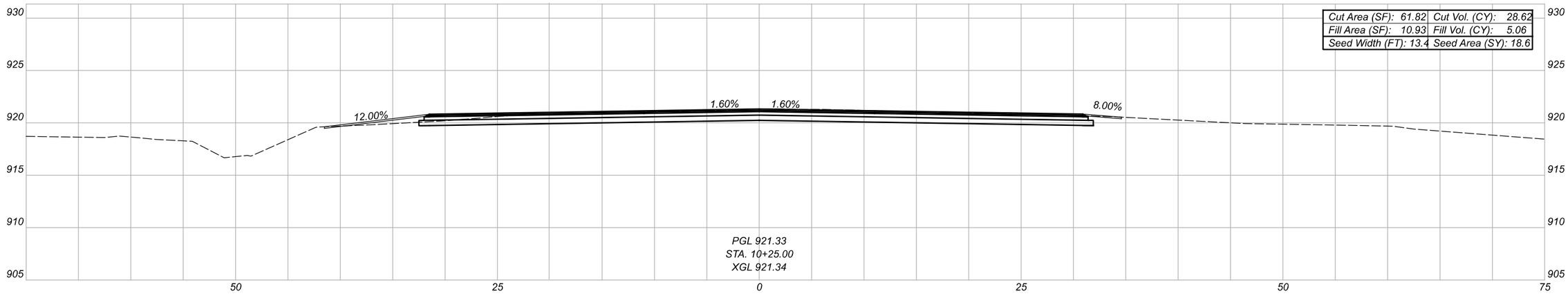

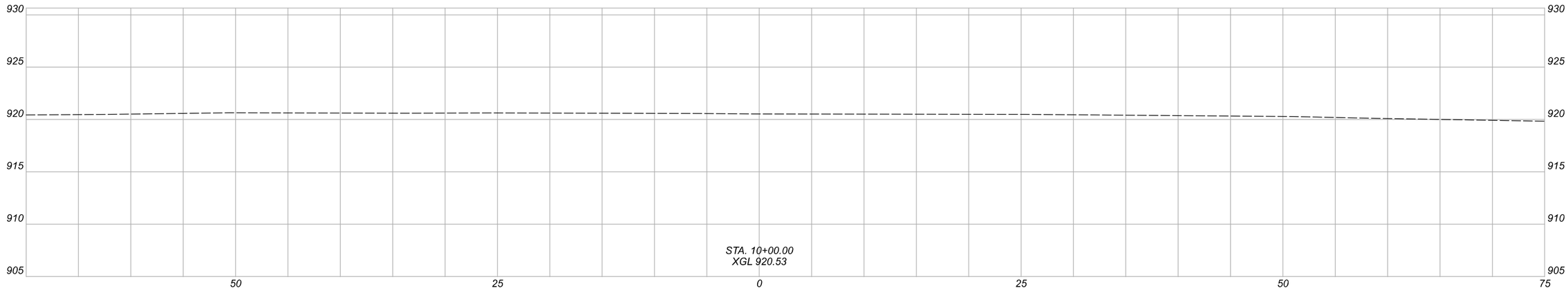

CROSS SECTIONS
STA. 10+00 TO 10+50

Sheet Totals		
Seeding	Cut	Fill
53.0	71.2	10.6

DESIGN AGENCY

DESIGNER
RMC

REVIEWER
MCC 10-30-24

PROJECT ID
119477

SHEET	TOTAL
9	24

HAS-CR 13-10.46

MODEL: CLX.I - 10+00.00 (Sheet) PAPERSIZE: 17x11(in) DATE: 1/24/2025 TIME: 9:51:03 AM USER: melinda
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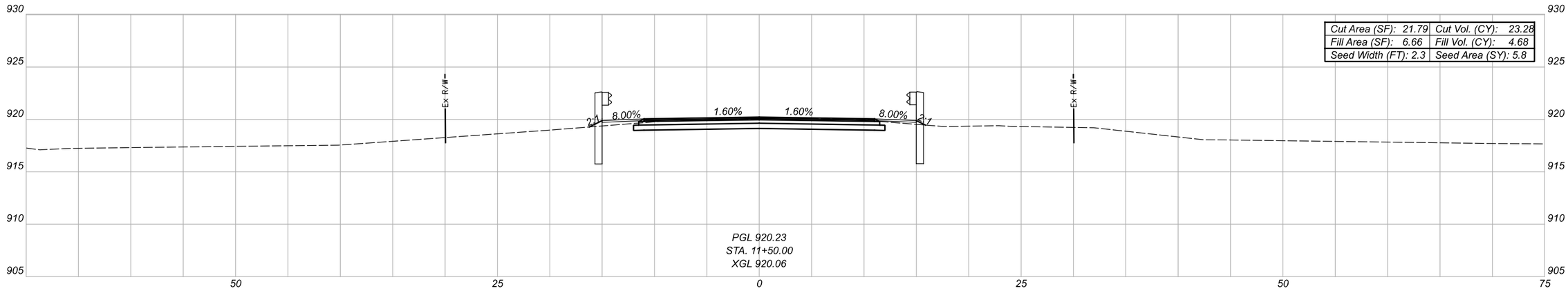
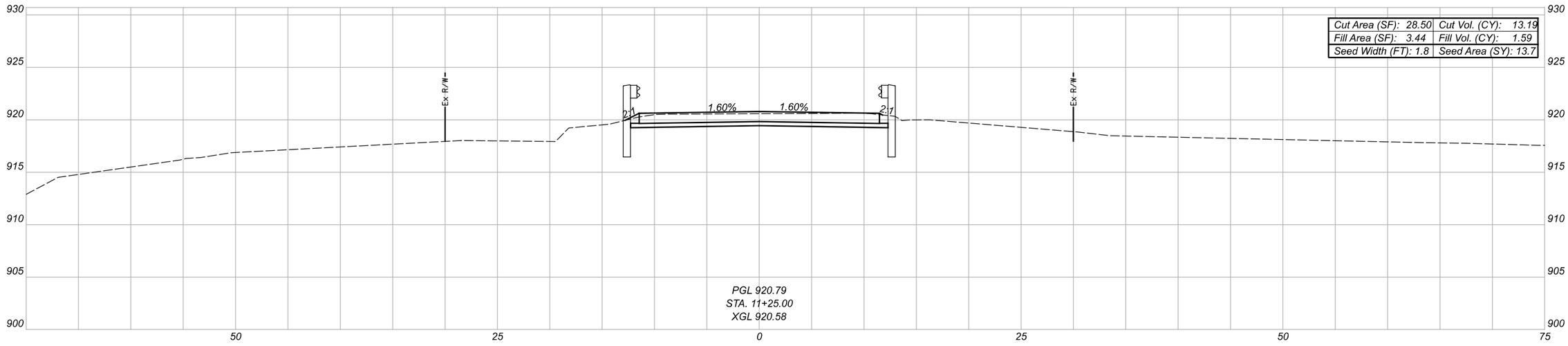


Cut Area (SF): 21.79	Cut Vol. (CY): 23.28
Fill Area (SF): 6.66	Fill Vol. (CY): 4.68
Seed Width (FT): 2.3	Seed Area (SY): 5.8



Cut Area (SF): 28.50	Cut Vol. (CY): 13.19
Fill Area (SF): 3.44	Fill Vol. (CY): 1.59
Seed Width (FT): 1.8	Seed Area (SY): 13.7

CROSS SECTIONS
STA. 11+25 TO 11+50

HAS-CR 13-10.46

MODEL: CLX.I - 10+75.00 [Sheet] PAPERSIZE: 17x11(in.) DATE: 1/24/2025 TIME: 9:51:04 AM USER: melinda
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DESIGN AGENCY

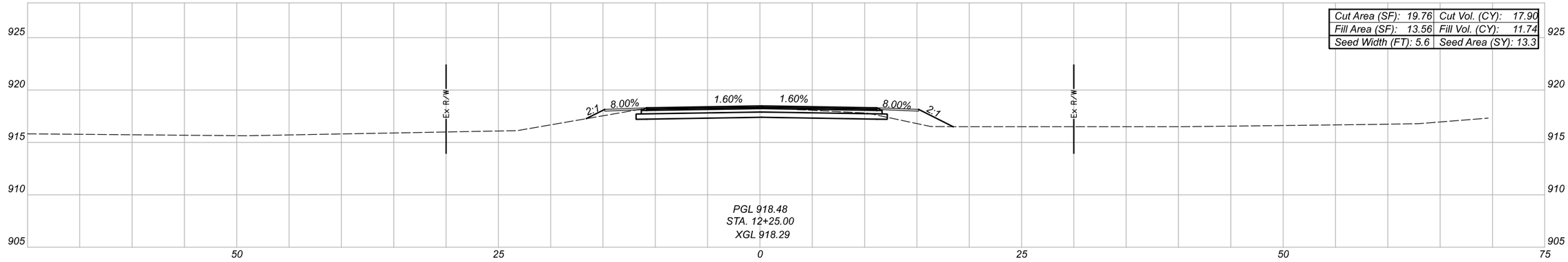
DESIGNER
RMC

REVIEWER
MCC 10-30-24

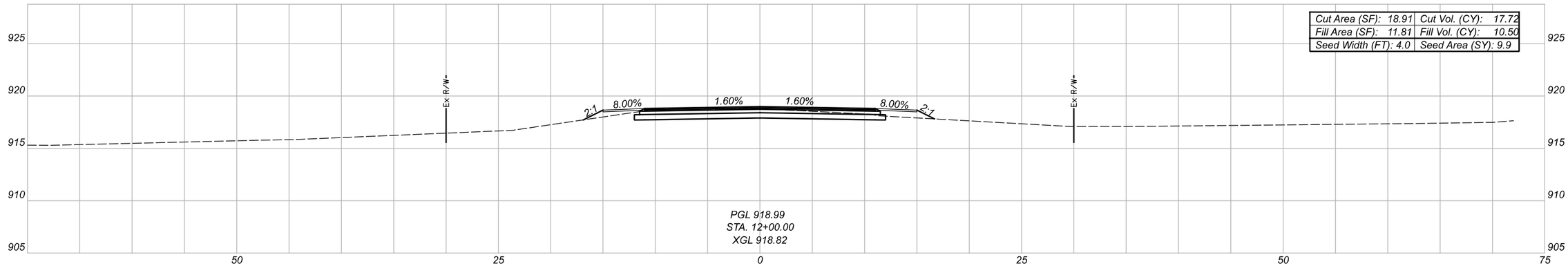
PROJECT ID
119477

Sheet Totals		
Seeding	Cut	Fill
19.5	36.5	6:3

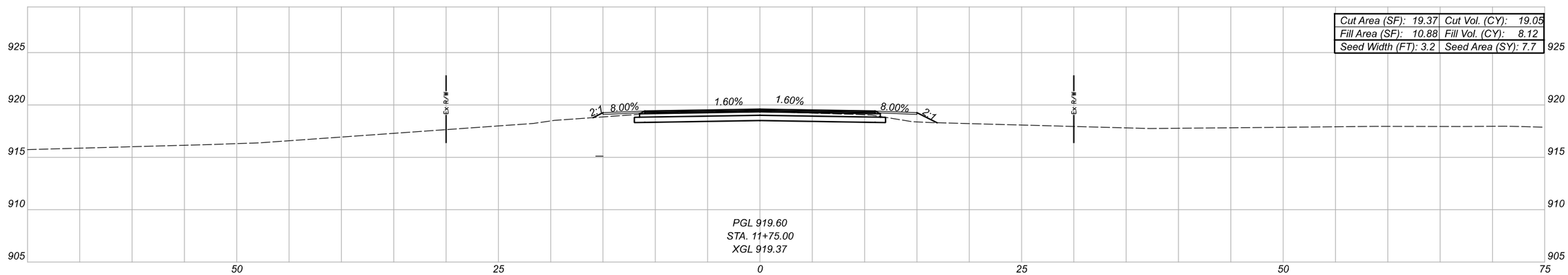
SHEET	TOTAL
10	24



Cut Area (SF): 19.76	Cut Vol. (CY): 17.90
Fill Area (SF): 13.56	Fill Vol. (CY): 11.74
Seed Width (FT): 5.6	Seed Area (SY): 13.3



Cut Area (SF): 18.91	Cut Vol. (CY): 17.72
Fill Area (SF): 11.81	Fill Vol. (CY): 10.50
Seed Width (FT): 4.0	Seed Area (SY): 9.9



Cut Area (SF): 19.37	Cut Vol. (CY): 19.05
Fill Area (SF): 10.88	Fill Vol. (CY): 8.12
Seed Width (FT): 3.2	Seed Area (SY): 7.7

CROSS SECTIONS
STA. 11+75 TO 12+25

Sheet Totals		
Seeding	Cut	Fill
30.9	54.7	30.4

DESIGN AGENCY

DESIGNER RMC

REVIEWER MCC 10-30-24

PROJECT ID 119477

SHEET 11 TOTAL 24

HAS-CR 13-10.46

MODEL: CLX_I - 11+75.00 [Sheet] PAPERSIZE: 17x11 (in.) DATE: 1/24/2025 TIME: 9:51:04 AM USER: melinda
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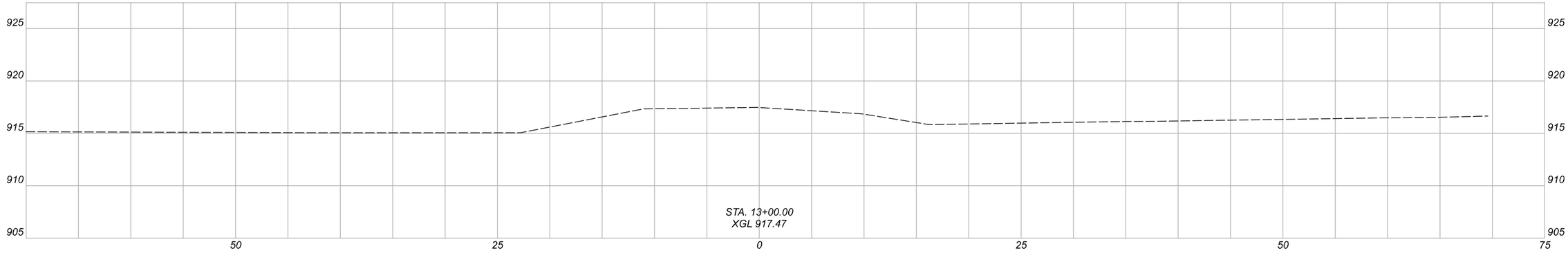
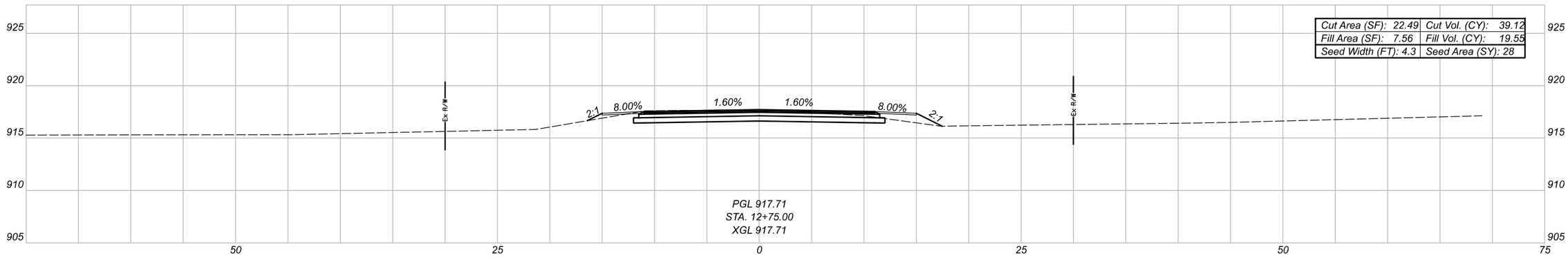
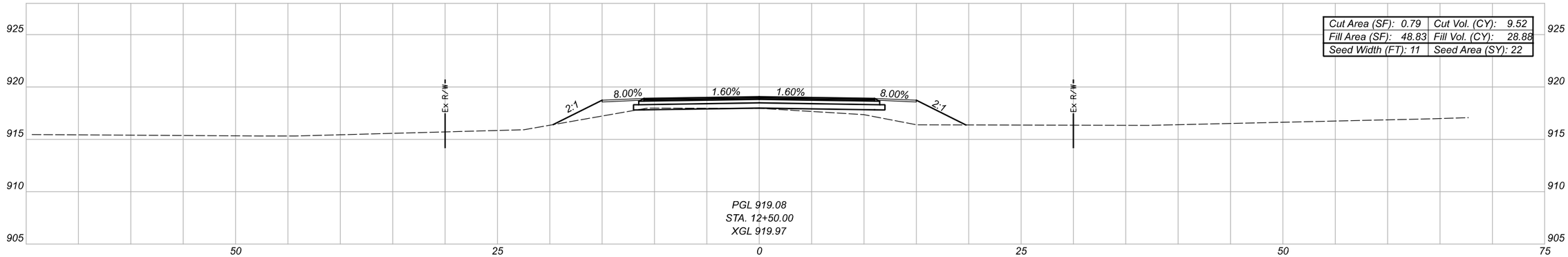




Cut Area (SF): 22.49	Cut Vol. (CY): 39.12
Fill Area (SF): 7.56	Fill Vol. (CY): 19.55
Seed Width (FT): 4.3	Seed Area (SY): 28



Cut Area (SF): 0.79	Cut Vol. (CY): 9.52
Fill Area (SF): 48.83	Fill Vol. (CY): 28.88
Seed Width (FT): 11	Seed Area (SY): 22

Sheet Totals		
Seeding	Cut	Fill
50	48.6	48.4

CROSS SECTIONS
STA. 12+50 TO STA. 13+00

DESIGN AGENCY

DESIGNER
RMC

REVIEWER
MCC 10-30-24

PROJECT ID
119477

SHEET 12 TOTAL 24

HAS-CR 13-10.46

MODEL: CLX_I - 12+50.00 [Sheet] PAPERSIZE: 17x11(in.) DATE: 1/24/2025 TIME: 9:56:05 AM USER: melinda
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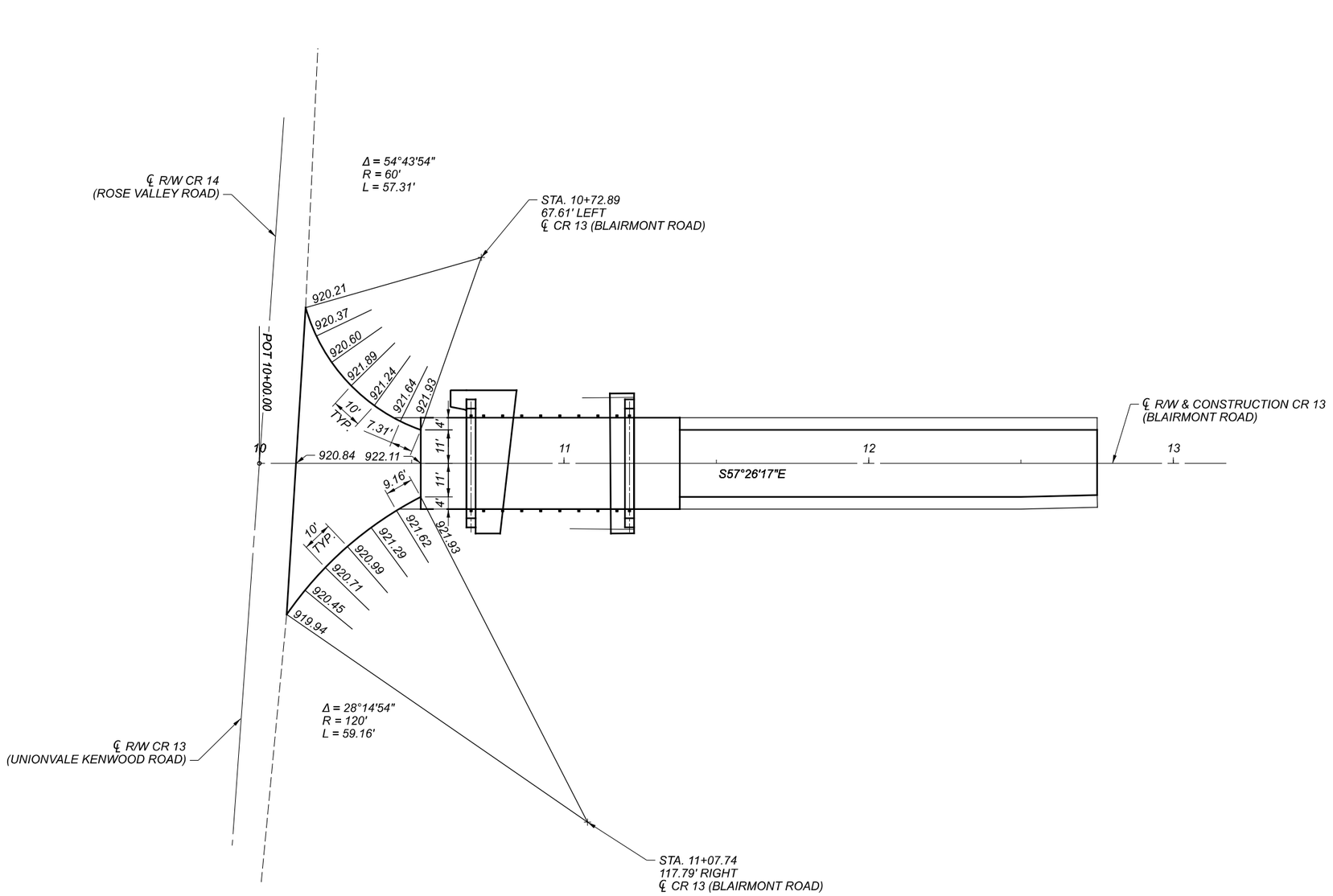

INTERSECTION DETAIL

HAS-CR13-10.46

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 1/24/2025 TIME: 9:51:10 AM USER: melinda
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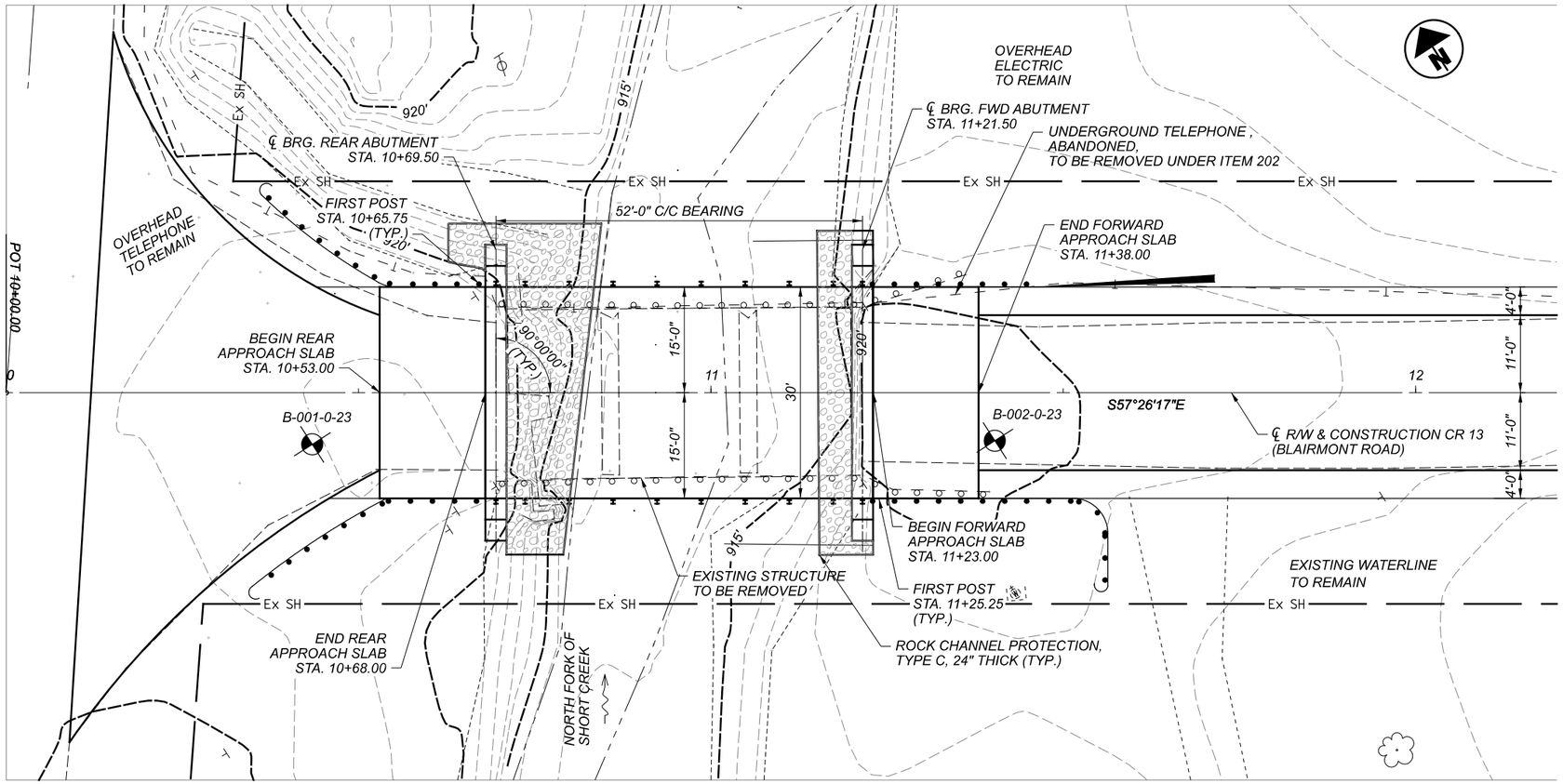
DESIGN AGENCY

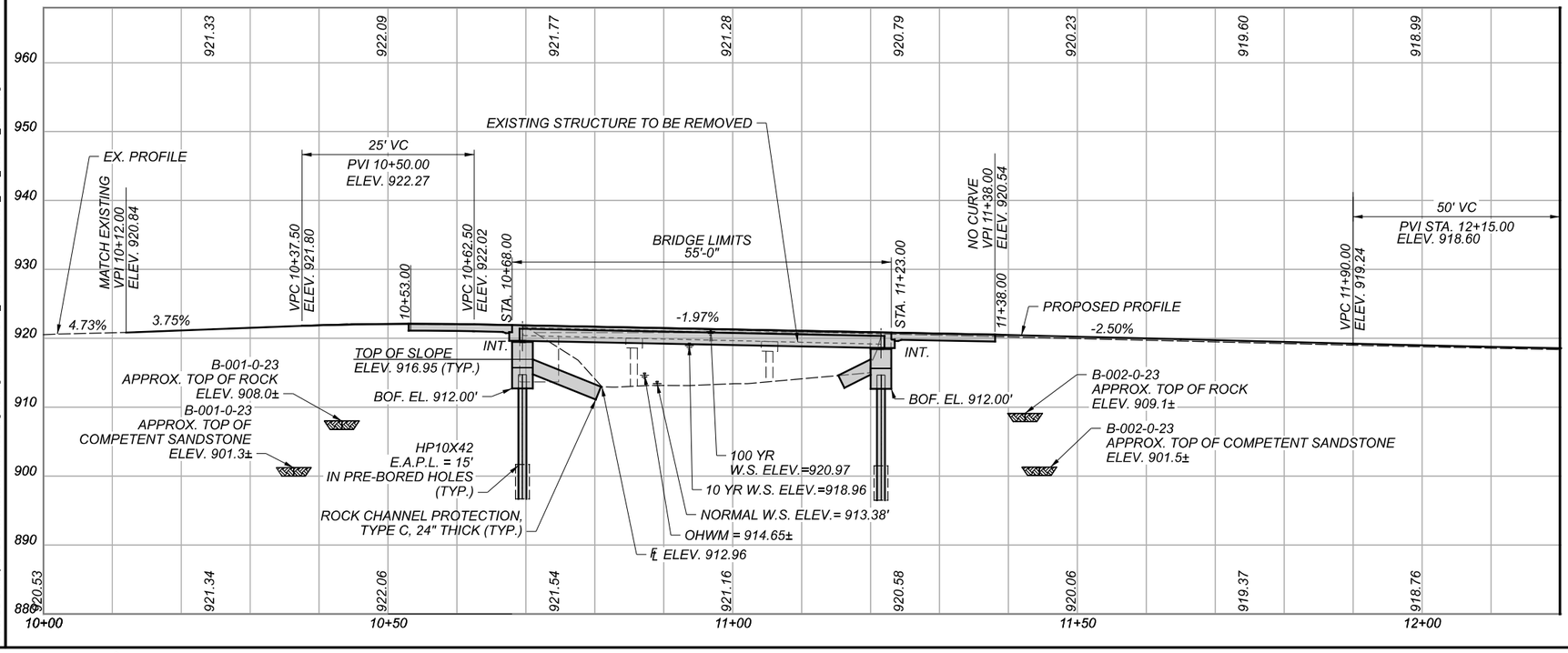
DESIGNER
MCC

REVIEWER
KJO 10-30-24

PROJECT ID
119477

SHEET 13 | TOTAL 24





BENCHMARK DATA

BM #1 NORTHING 214992.3060, EASTING 2415745.1890 ELEV. 919.87
BM #2 STA. 12+51.37 ELEV. 916.40 OFFSET 14.98 RT

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 8.

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
2025 ADT = 410 2025 ADTT = 12
2045 ADT = 450 2045 ADTT = 14
DIRECTIONAL DISTRIBUTION = 50%

LEGEND

BORING LOCATION

HYDRAULIC DATA

DRAINAGE AREA = 14 SQ. MILES
Q (10) = 1070 CFS V (10) = 5.72 FT/S
Q (100) = 1820 CFS V (100) = 5.97 FT/S
STRUCTURE DOES NOT CLEAR THE 10 YR DESIGN HW.

EXISTING STRUCTURE

TYPE: THREE SPAN CONTINUOUS CONCRETE SLAB ON CONCRETE ABUTMENTS AND CAPPED PILE PIERS

SPANS: 14'-0"± - 20'-0"± - 15'-0"± C/C BEARING
ROADWAY: 24'-0"± F/F GUARDRAIL
LOADING: H 15
SKEW: 0°
WEARING SURFACE: ASPHALT
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: 0.016
STRUCTURE FILE NUMBER: 3430383
DATE BUILT: 1960
DISPOSITION: TO BE REPLACED

PROPOSED STRUCTURE

TYPE: PRESTRESSED CONCRETE BOX BEAMS WITH COMPOSITE DECK ON INTEGRAL ABUTMENTS WITH STEEL H- PILES

SPANS: 52'-0" C/C BEARING
ROADWAY: 30'-0" F/F GUARDRAIL
LOADING: HL93 AND 0.060 KSF FWS
SKEW: 0°
WEARING SURFACE: MONOLITHIC CONCRETE
APPROACH SLABS: 15'-0" LONG (AS-1-15, AS-2-15)
ALIGNMENT: TANGENT
CROWN: 0.016 FT/FT
DECK AREA: 1,650 SF

COORDINATES: LATITUDE 40°14' 43.38"
LONGITUDE -80° 53' 50.53"

HORIZONTAL SCALE IN FEET
0 5 10 20

SITE PLAN
C.R. 13 -BLAIRMONT ROAD
OVER NORTH FORK OF SHORT CREEK

SFN 3430384
DESIGN AGENCY
DESIGNER RMT | CHECKER MCC
REVIEWER MBJ 1-27-25
PROJECT ID 119477
SUBSET 1 | TOTAL 11
SHEET 14 | TOTAL 24

HAS-CR 13-10.46

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15	REVISED	1/20/23
AS-2-15	REVISED	7/21/23
DS-1-92	REVISED	7/15/22
PSBD-2-07	REVSIED	7/20/18
TST-1-99	REVISED	1/15/21

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):
846 DATED 4/17/15

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 9TH EDITION, INCLUDING ALL INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING

HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

DESIGN DATA

STRUCTURAL STEEL ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 5.5 KSI
COMPRESSIVE STRENGTH (RELEASE) - 4 KSI

PRESTRESSING STRAND:
AREA = 0.167 SQ IN
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

LOAD MODIFIER FOR OPERATIONAL IMPORTANCE

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL

2.5" CONCRETE COVER

DRIP STRIP

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1-INCH THICK.

ITEM 203 EMBANKMENT, AS PER PLAN

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6-INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT.

ITEM 507 - PREBORED HOLES, AS PER PLANS

PREBORED HOLES SHALL EXTEND ATLEAST (1)-FT INTO BEDROCK AT EACH PILE. THE DIAMETER OF THE PREBORED HOLE SHALL BE A MINIMUM 2-IN LARGER THAN THE DIAGONAL DIMENSION OF THE PILE. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AN OPEN HOLE.

THE PREBORED HOLES SHALL BE CLEAN AND FREE OF ALL DELETERIOUS MATERIALS PRIOR TO BACKFILLING OPERATIONS. BACKFILL THE VOID BETWEEN THE PILE AND THE PREBORED HOLE WITH CLASS QC MISC. CONCRETE UP TO THE TOP OF COMPETENT SANDSTONE ELEVATION. ABOVE THE TOP OF COMPTENT SANDSTONE BACKFULL THE VOID TO THE BOTTOM OF FOOTING ELEVATION WITH GRANULAR MATERIAL CONFORMING TO 703.11, STRUCTURAL BACKFILL TYPE 2, EXCEPT 100 PERCENT OF THE MATERIAL SHALL PASS THROUGH A 3/4-IN SIEVE.
PAYMENT FOR THE PREBORED HOLES INCLUDES THE BACKFILL MATERIAL.
TOP OF SANDSTONE ELEVATIONS:
B-001-0-23 - 901.3
B-002-0-23 - 901.5

THE TOTAL FACTORED LOAD IS 253.48 KIPS PER PILE FOR THE 10 ABUTMENT PILES.

ABUTMENT PILES:
10 PILES, 25 FEET LONG, ORDER LENGTH

ITEM 507 - STEEL PILES (HP10X42), FURNISHED, AS PER PLAN

THE WORK CONSISTS OF FURNISHING AND PLACING STEEL PILES INTO PREBORED HOLES. PLACE EACH PILE VERTICALLY WITHIN THE HOLE SO IT IS NOT INCLINED MORE THAN ONE INCH BETWEEN THE TOP AND BOTTOM. SUPPORT THE PILE SO THAT IT DOES NOT MOVE DURING PLACEMENT OF BACKFILL MATERIAL.

THE TOTAL FACTORED LOAD IS (253.48)-KIPS PER PILE FOR THE (10) ABUTMENT PILES.

(10) ABUTMENT PILES:
(10) PILES (25)-FT LONG, ORDER LENGTH

ITEM 202 STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

THIS ITEM SHALL INCLUDE THE REMOVE OF EXISTING STRUCTURE COMPONENTS AS DETAILED IN THE PLANS AND AS DIRECTED BY THE ENGINEER. THE REMOVALS SHALL INLCUDE BUT NOT NECESSARILY BE LIMITED TO THE FOLLOWING:

1. THE EXISTING SUPERSTRUCTURE IN ITS ENTIRETY, INCLUDING CONCRETE SLAB AND GUARDRAIL.

2. THE EXISTING ABUTMENTS ARE TO BE REMOVED IN THEIR ENTIRETY.

3. THE EXISTING PIERS ARE TO BE REMOVED TO 1 FOOT BELOW THE FLOW LINE.

4. THE USE OF EXPLOSIVES AND/OR HEADACHE BALLS WILL NOT BE PERMITTED.

5. THE EXISTING CONDUIT AND TELECOM LINE CARRIED ON THE BRIDGE SHALL BE REMOVED WITHIN THE LIMITS OF THE EXISTING STRUCTURE. THE PORTIONS REMAINING UNDERGROUND BEYOND THE STRUCTURE MAY REMAIN. THE LINE HAS PREVIOUSLY BEEN ABANDONED IN PLACE BY FRONTIER COMMUNICATIONS AND IS NOT ACTIVE.

ASBESTOS SURVEY

AN ASBESTOS SURVEY FOR 3030384 SCHEDULED FOR DEMOLITION WORK WAS CONDUCTED BY A LICENSED ASBESTOS HAZARD EVALUATION SPECIALIST. A COPY OF THE ASBESTOS INSPECTION REPORT FOR THE STRUCTURE IS INCLUDED IN THE PLAN PACKAGE FOR THIS PROJECT. THE ASBESTOS INSPECTION REPORT DID NOT IDENTIFY THE PRESENCE OF ANY ASBESTOS CONTAINING MATERIALS ABOVE REGULATORY LIMITS.

DISPOSE ASBESTOS CONTAINING MATERIALS IN A LANDFILL LICENSED BY THE OHIO DEPARTMENT OF HEALTH AND PERMITTED BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY - DIVISION OF AIR POLLUTION CONTROL TO ACCEPT ASBESTOS CONTAINING MATERIAL. THE REMOVAL AND DISPOSAL OF ALL ASBESTOS CONTAINING MATERIAL MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE (OAC) REGULATIONS AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARD FOR ASBESTOS.

ELECTRONIC SUBMISSION

SUBMIT A COMPLETED ELECTRONIC NOTIFICATION OF DEMOLITION AND RENOVATION FORM (NDRF), APPLICABLE FEES, AND THE ASBESTOS INSPECTION REPORT TO THE OEPA AT LEAST 10 DAYS PRIOR TO ANY DEMOLITION ACTIVITY , RENOVATION ACTIVITY, OR BOTH. SUBMIT THE NDRF AND PAYMENT ALONG WITH THE ASBESTOS INSPECTION REPORT USING OEPA EBUSINESS CENTER. SUBMIT ONE ELECTRONIC PDF COPY AND ONE HARD COPY OF THE NDRF TO THE ENGINEER. THE ENGINEER WILL PROVIDE ONE COPY TO THE DISTRICT ENVIRONMENTAL STAFF.

HARD COPY SUBMISSION

THE CONTRACTOR MAY SUBMIT A HARD COPY OF THE COMPLETED NDRF AND PAYMENT ALONG WITH THE ASBESTOS INSPECTION REPORT. FOLLOW THE MAILING INSTRUCTIONS ON THE NDRF. CHECK WITH LOCAL HEALTH DEPARTMENT (HARRISON COUNTY HEALTH DEPARTMENT (740)-942-2616) TO DETERMINE IF THEY REQUIRE A HARD COPY SUBMITTAL.

SUBMIT THE COMPLETED NDRF TO OEPA ATLEAST 10 DAYS PRIOR TO DEMOLITION ACTIVITY, RENOVATION ACTIVITY, OR BOTH. RETAIN TWO HARD COPIES OF THE NDRF AND SUBMIT ONE COPY TO THE ENGINEER AND EMAIL ONE COPY TO THE ODOT DISTRICT ENVIRONMENTAL COORDINATOR AT:
THOMAS.STRATTON@DOT.OHIO.GOV

BASIS OF PAYMENT

SUBMIT ALL DOCUMENTATION RELATED TO THE SURVEY, ABATEMENT, TRANSPORT, AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS TO THE ENGINEER WITHIN TWO WEEKS OF COMPLETION. THE ENGINEER WILL PROVIDE A COPY OF THE DOCUMENTATION TO THE DISTRICT ENVIRONMENTAL STAFF.

PAYMENT FOR THIS WEEK SHALL BE MADE AT THE BID PRICE OF LUMP SUM.

STRUCTURE NOTES
HAS-CR 13-10.46
OVER NORTH FORK OF SHORT CREEK

SFN 3430384
DESIGN AGENCY
DESIGNER MCC | CHECKER SDG
REVIEWER MBJ 1-27-25
PROJECT ID 119477
SUBSET 2 | TOTAL 11
SHEET 15 | TOTAL 24

HAS-CR 13-10.46

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 1/24/2025 TIME: 9:51:20 AM USER: melinda
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ESTIMATED QUANTITIES										
ITEM	ITEM EXT.	PLAN SPLITS		TOTAL	UNIT	DESCRIPTION	ABUT.	SUPER	GEN.	SEE SHEET
202	11003	LS		LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			LS	2/11
202	23500	131		131	SY	WEARING COURSE REMOVED			131	
203	20001	98		98	CY	EMBANKMENT, AS PER PLAN			98	2/11
503	11100	LS		LS		COFFERDAMS AND EXCAVATION BRACING			LS	
503	21100	156		156	CY	UNCLASSIFIED EXCAVATION			156	
507	00100	250		250	FT	STEEL PILES HP10X42, FURNISHED	250			
507	92200	160		160	FT	PREBORED HOLES	160			
509	10000	11143		11,143	LB	EPOXY COATED STEEL REINFORCEMENT	5,195	5,948		
511	31610	40		40	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE		40		
511	43510	38		38	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING	38			
512	10100	94		94	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	31	63		
515	12040	2		2	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-36		2		
515	12050	6		6	EACH	PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CB21-48		6		
516	13600	30		30	SF	1" PREFORMED EXPANSION JOINT FILLER		30		
516	14020	72		72	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL		72		
516	43200	32		32	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE)		32		
517	70000	129		129	FT	RAILING (TWIN STEEL TUBE)		129		
518	21200	52		52	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	52			
518	22300	126		126	FT	SPECIAL - STEEL DRIP STRIP		126		
518	40000	84		84	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	84			
518	40010	67		67	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	67			
526	10000	100		100	SY	REINFORCED CONCRETE APPROACH SLABS (T=12")			100	
526	90010	60		60	FT	TYPE A INSTALLATION			60	
601	32204	58		58	CY	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC	58			

HAS-CR 13-10.46

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 1/24/2025 TIME: 9:51:25 AM USER: melinda
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STRUCTURE QUANTITIES
C.R. 13 -BLAIRMONT ROAD
OVER NORTH FORK OF SHORT CREEK

SFN 3430384

DESIGN AGENCY

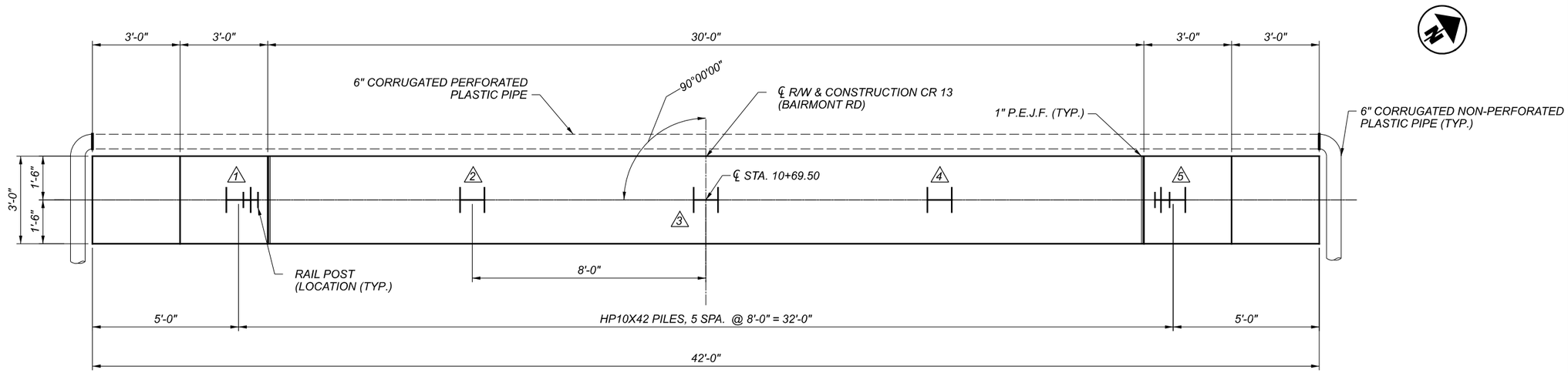
DESIGNER	CHECKER
MCC	SDG

REVIEWER
MBJ 1-27-25

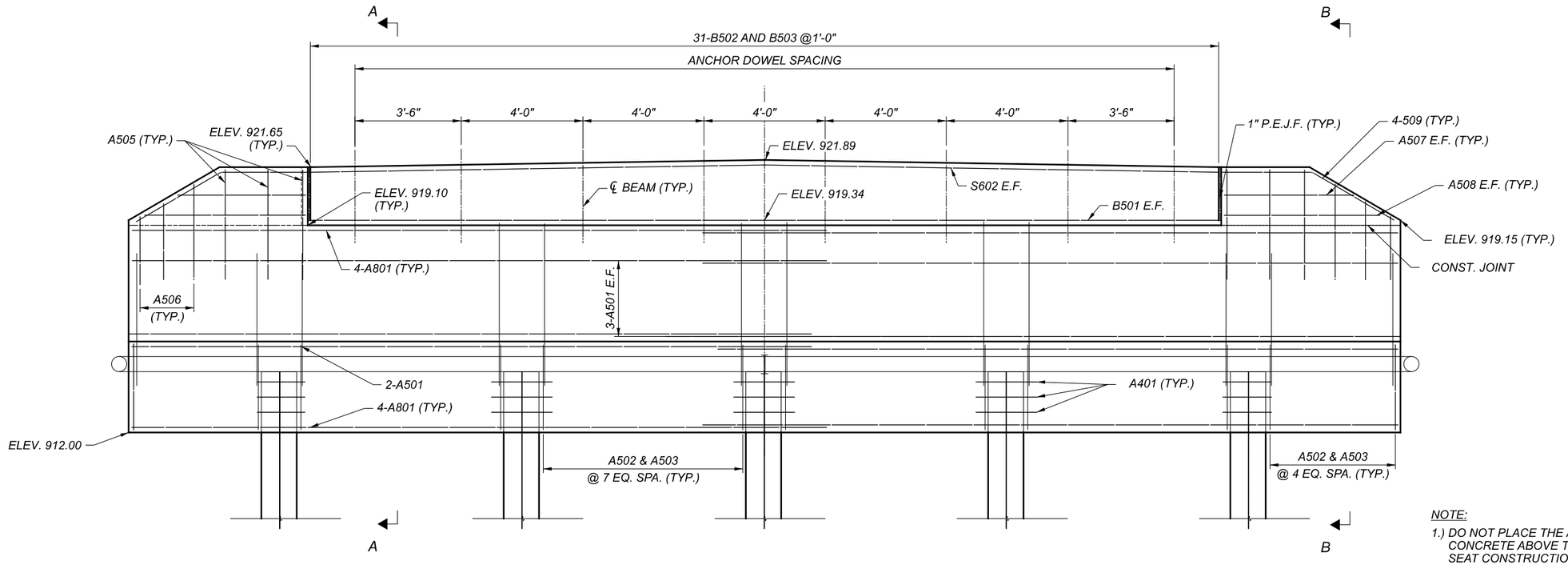
PROJECT ID 119477

SUBSET	TOTAL
3	11

SHEET	TOTAL
16	24



REAR ABUTMENT PLAN



REAR ABUTMENT ELEVATION

NOTE:

1.) DO NOT PLACE THE ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT UNTIL THE PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN ERECTED.

2. PROVIDE 2.5" COVER (MIN)

3. SEE SHEET 6/11 FOR SECTION DETAILS.

LEGEND

△1 - PILE NUMBER

LAP LENGTHS

#5 BARS - 3'-1"
#8 BARS - 4'-11"

REAR ABUTMENT PLAN & ELEVATION
HAS-CR 13-10.46
OVER NORTH FORK OF SHORT CREEK

SFN	3430384
DESIGN AGENCY	
DESIGNER	MCC
CHECKER	SDG
REVIEWER	MBJ 1-27-25
PROJECT ID	119477
SUBSET	4
TOTAL	11
SHEET	17
TOTAL	24

HAS-CR 13-10.46

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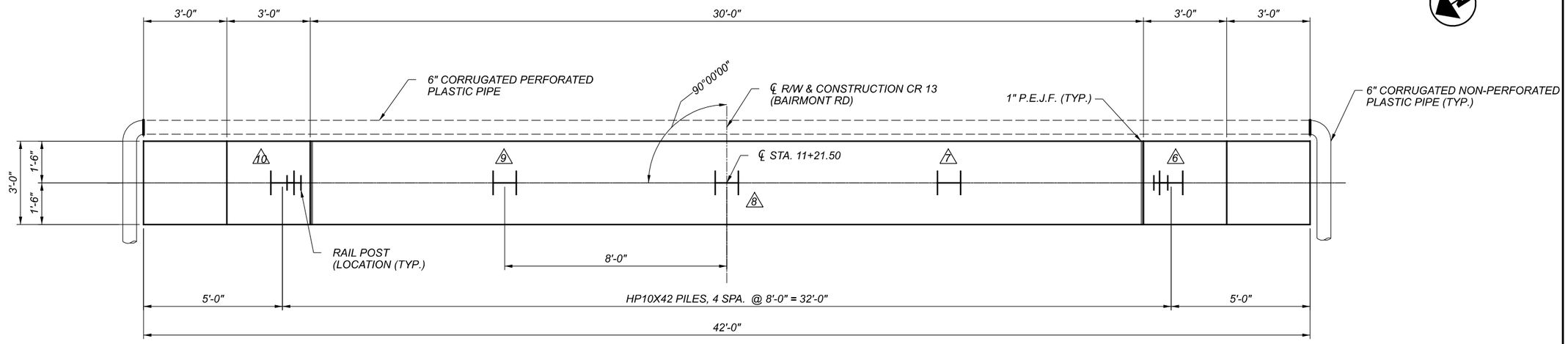
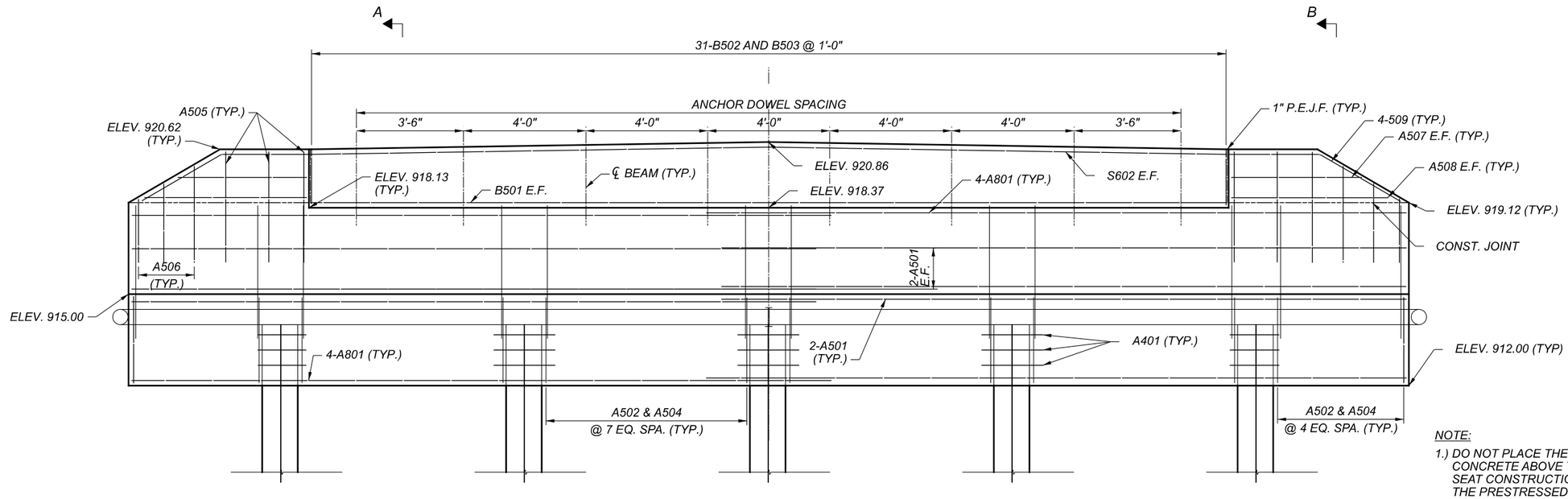


FORWARD ABUTMENT PLAN



FORWARD ABUTMENT ELEVATION

LAP LENGTHS

#5 BARS - 3'-1"
#8 BARS - 4'-11"

NOTE:

1.) DO NOT PLACE THE ABUTMENT CONCRETE ABOVE THE BRIDGE SEAT CONSTRUCTION JOINT UNTIL THE PRESTRESSED CONCRETE BOX BEAMS HAVE BEEN ERECTED.

2. PROVIDE 2.5" COVER

3. SEE SHEET 6/11 FOR SECTION DETAILS.

LEGEND

7 - PILE NUMBER

FORWARD ABUTMENT PLAN & ELEVATION
HAS-CR 13-10.46
OVER NORTH FORK OF SHORT CREEK

SFN	3030384
DESIGN AGENCY	
DESIGNER	MCC
CHECKER	SDG
REVIEWER	MBJ 1-27-25
PROJECT ID	119477
SUBSET	5
TOTAL	11
SHEET	18
TOTAL	24

HAS-CR 13-10.46

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 1/24/2025 TIME: 9:51:35 AM USER: melinda
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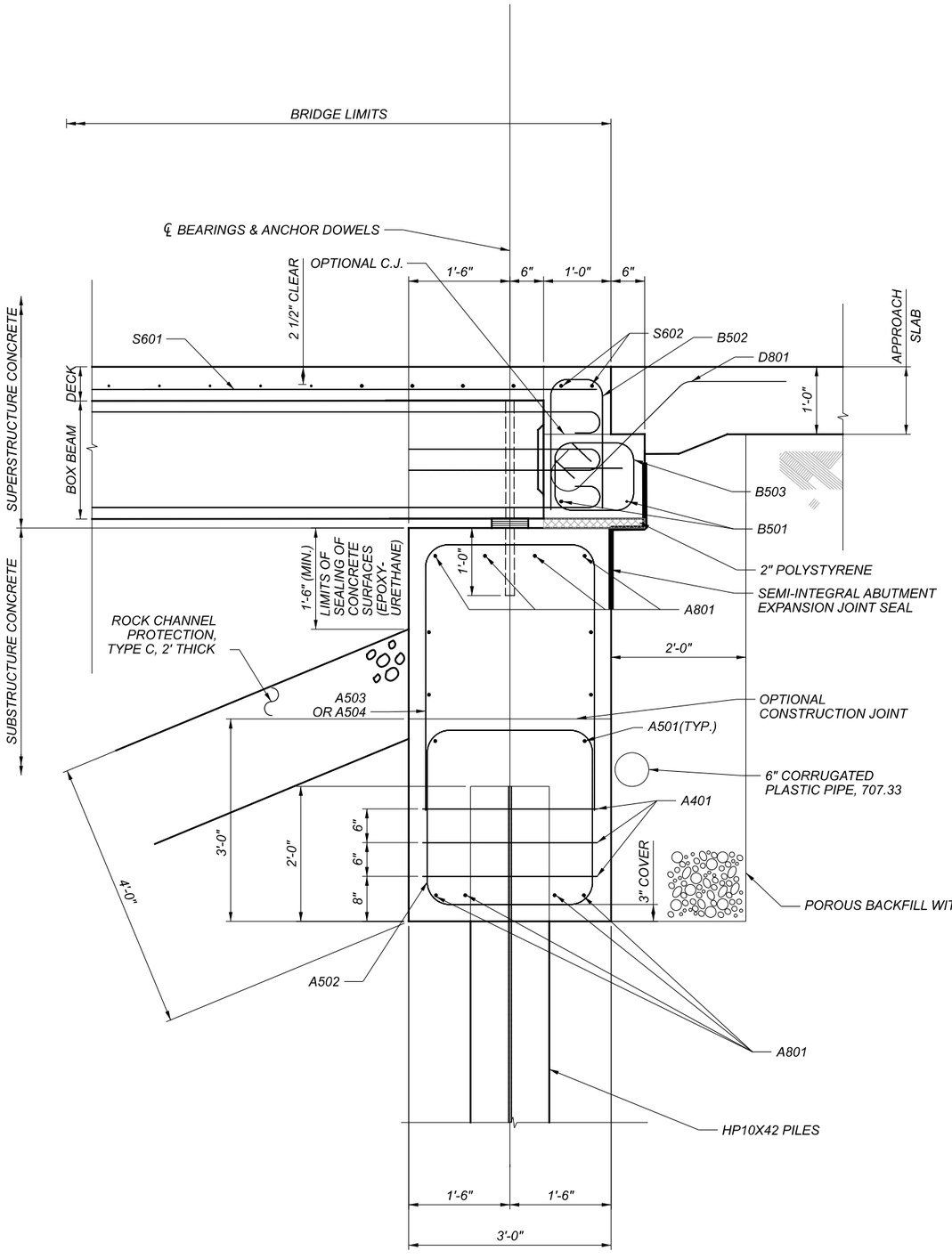
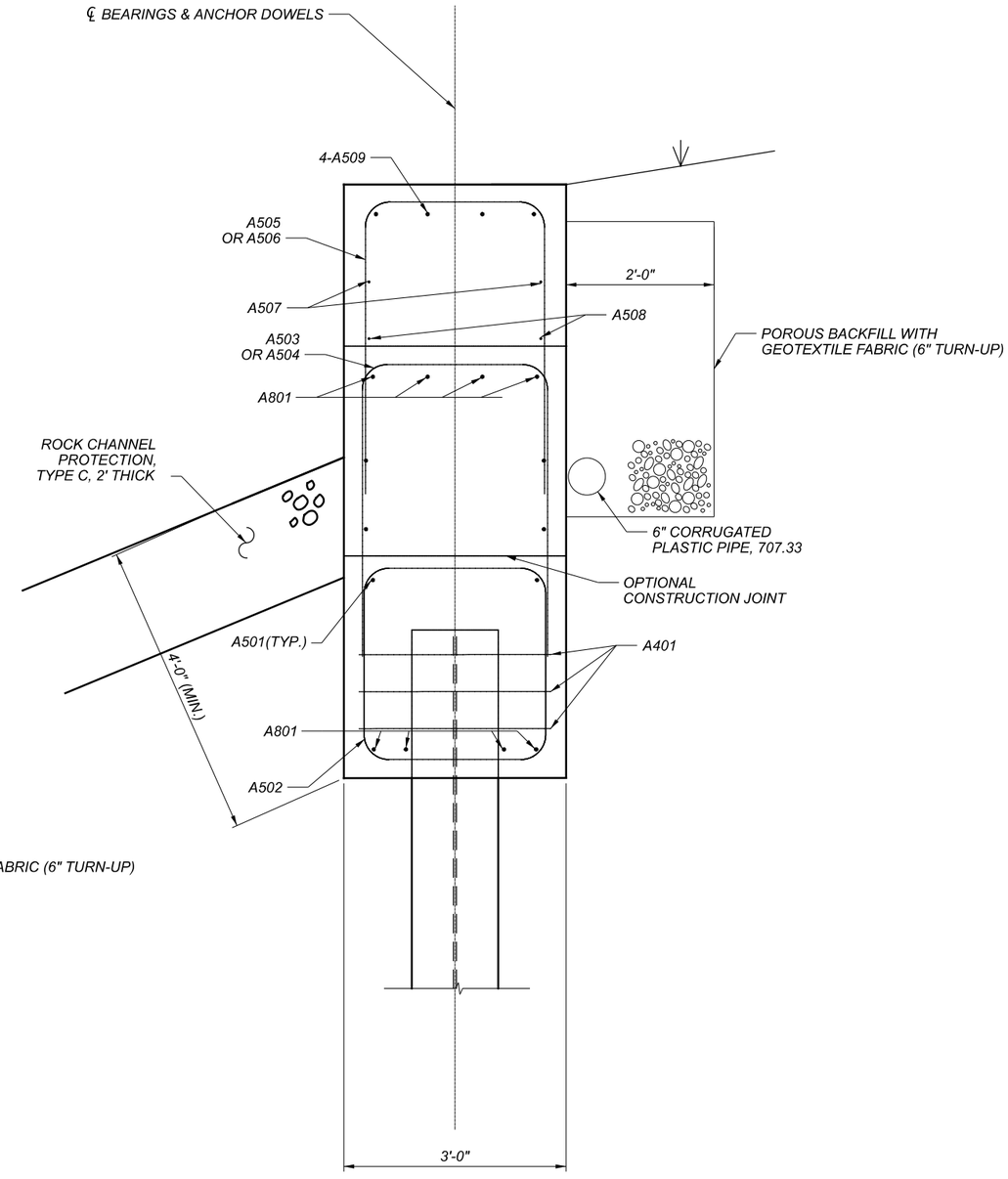


ABUTMENT SECTION A-A



WINGWALL SECTION B-B

NOTE:

1. PROVIDE 2.5" COVER

ABUTMENT SECTION
HAS-CR 13-10.46
OVER NORTH FORK OF SHORT CREEK

SFN	3430384
DESIGN AGENCY	
DESIGNER	MCC
CHECKER	SDG
REVIEWER	MBJ 1-27-25
PROJECT ID	119477
SUBSET	6
TOTAL	11
SHEET	19
TOTAL	24

HAS-CR 13-10.46

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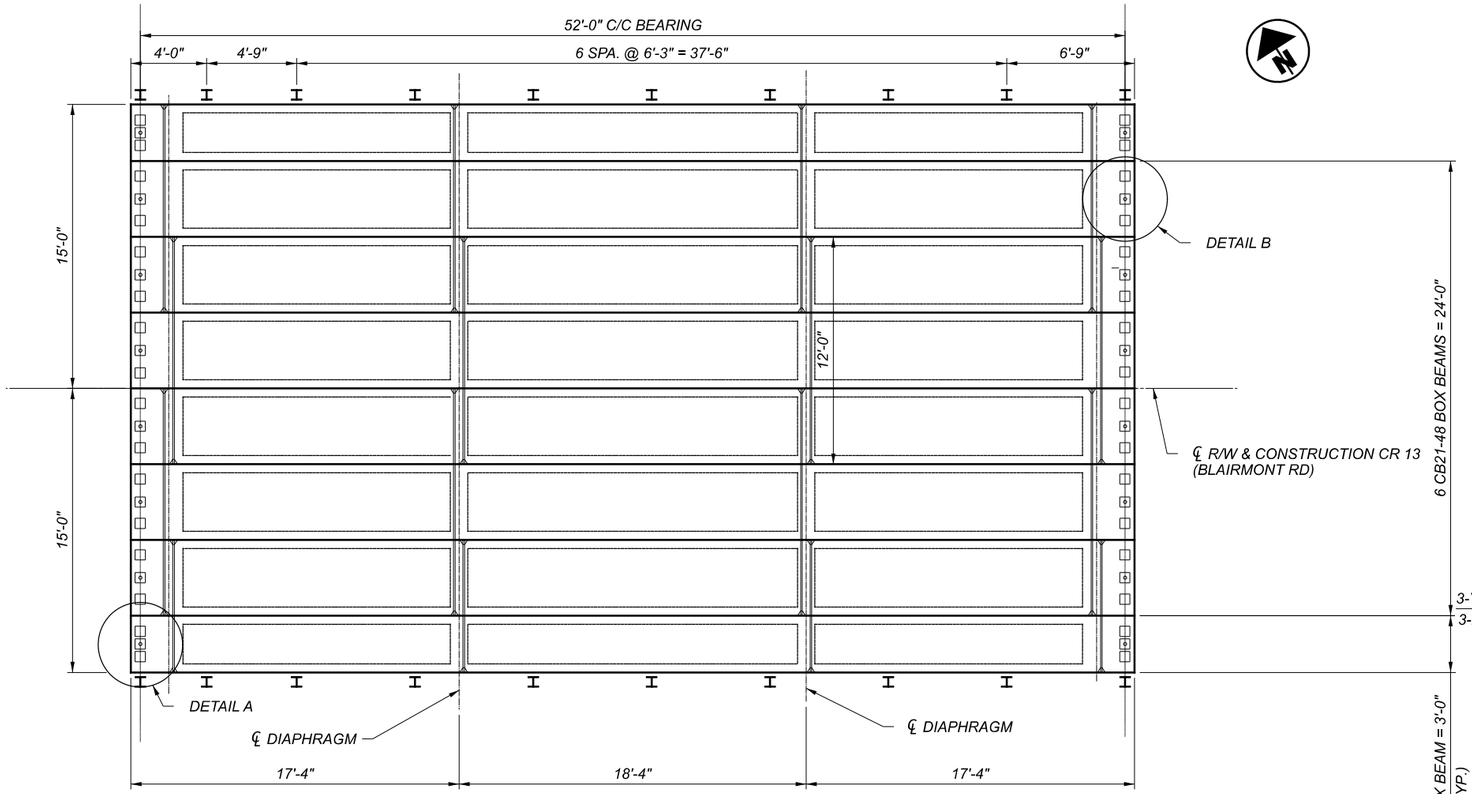
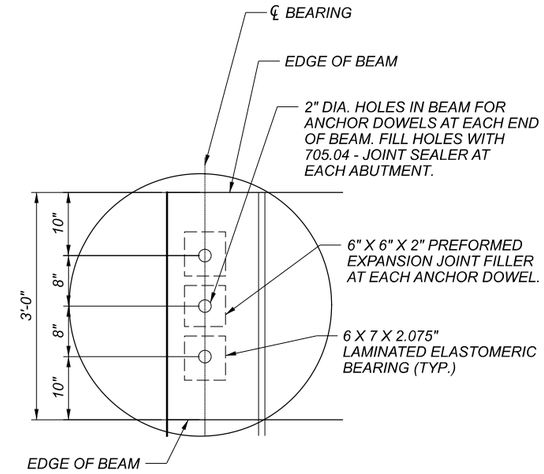
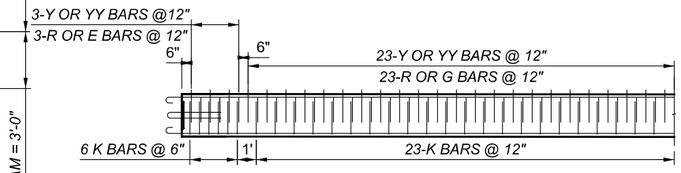


FRAMING PLAN

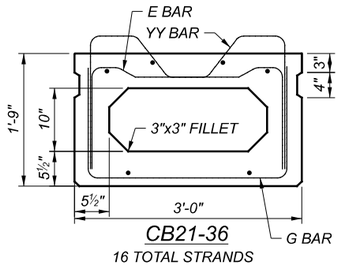


DETAIL A

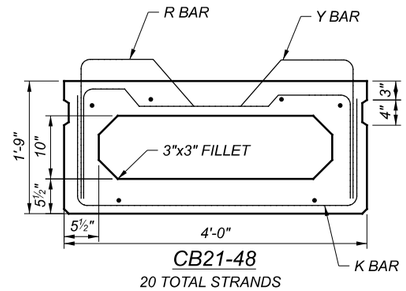


PARTIAL BEAM ELEVATION

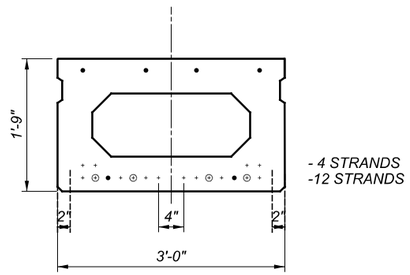
BEAM IS SYMMETRICAL ABOUT ℄ SPAN



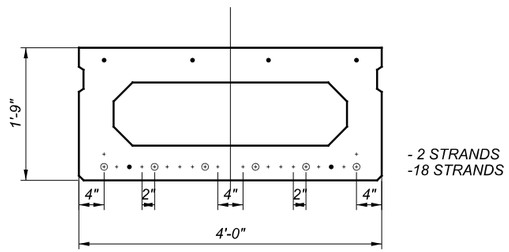
CB21-36
16 TOTAL STRANDS



CB21-48
20 TOTAL STRANDS



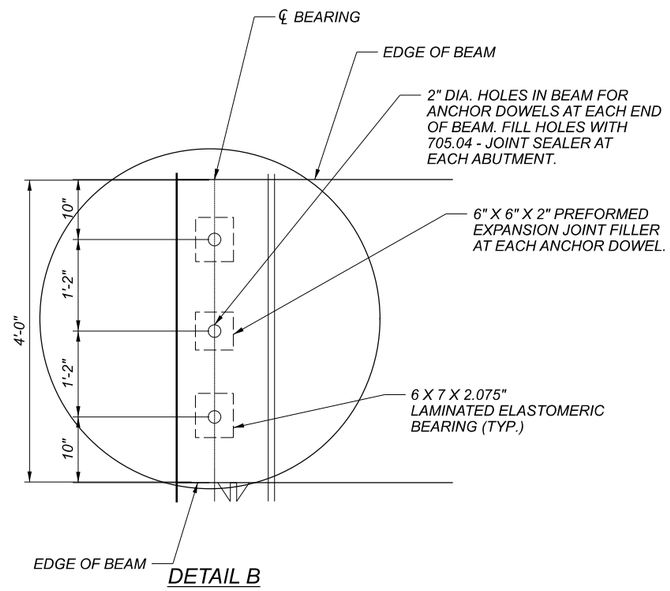
CB21-36



CB21-48

LEGEND

- PRESTRESSING STRAND
- ⊙ PRESTRESSING STRAND DEBONDED 30" EACH END



DETAIL B

NOTE:

1.) ALL BARS PROJECTING FROM BEAM ENDS SHALL BE EPOXY COATED.

FRAMING PLAN & BOXBEAM DETAILS
HAS-CR 13-10.46
OVER NORTH FORK OF SHORT CREEK

SFN 3430384

DESIGN AGENCY

DESIGNER	CHECKER
MCC	SDG

REVIEWER: MBJ 1-27-25

PROJECT ID: 119477

SUBSET	TOTAL
7	11

SHEET	TOTAL
20	24

HAS-CR 13-10.46

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 1/24/2025 TIME: 9:51:44 AM USER: melinda
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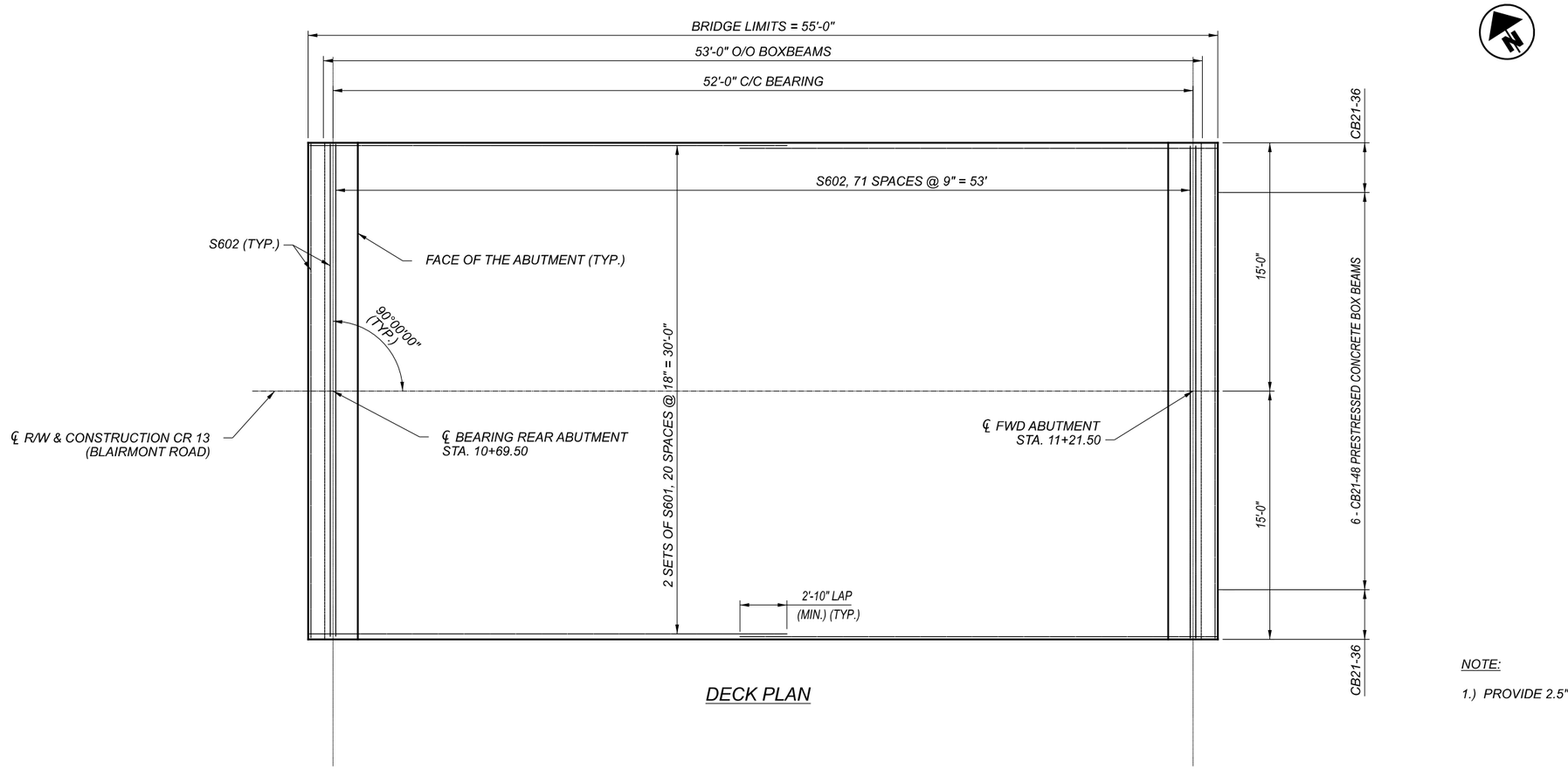
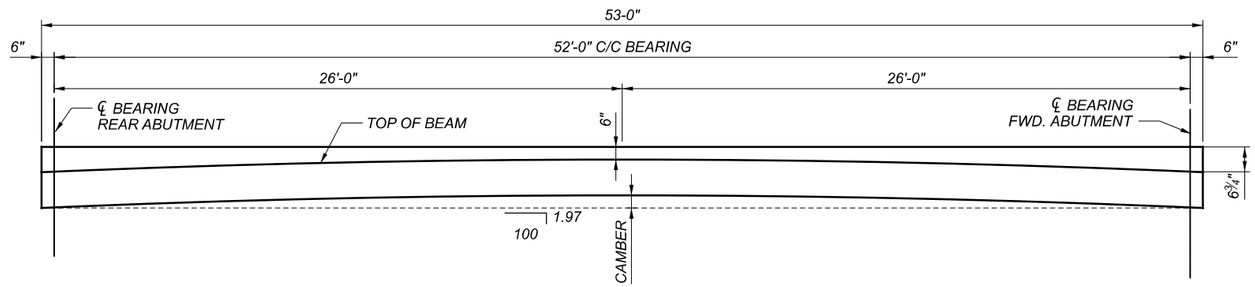


DECK PLAN

NOTE:

1.) PROVIDE 2.5" COVER



CB21-48 CAMBER DIAGRAM

ESTIMATED CAMBER AT DAY 0 (D0) IS 0.88 INCHES.

ESTIMATED CAMBER AT DAY 30 (D30) IS 1.20 INCHES.

DEFLECTION DUE TO REMAINING DEAD LOAD (E.G. CONCRETE WEARING SURFACE, DIAPHRAGMS, RAILINGS, ETC.) IS 0.49 INCHES.

THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D30.

CB21-36 CAMBER DIAGRAM

ESTIMATED CAMBER AT DAY 0 (D0) IS 0.88 INCHES

ESTIMATED CAMBER AT DAY 30 (D30) IS 1.19 INCHES.

DEFLECTION DUE TO REMAINING DEAD LOAD (E.G. CONCRETE WEARING SURFACE, DIAPHRAGMS, RAILINGS, ETC.) IS 0.49 INCHES.

THE BEAM SEAT ELEVATIONS ASSUME ESTIMATED CAMBER D30.

BRIDGE FINAL DECK SURFACE ELEVATIONS

LOCATION	℄ REAR ABUT.	0.25	0.5	0.75	℄ FWD. ABUT.
LEFT EDGE OF DECK SLAB	921.65	921.39	921.13	920.88	920.62
BEAM 1	921.67	921.41	921.16	920.90	920.65
BEAM 2	921.73	921.47	921.21	920.96	920.70
BEAM 3	921.79	921.53	921.28	921.02	920.77
BEAM 4	921.85	921.60	921.34	921.09	920.83
PROFILE GRADE LINE	921.89	921.63	921.37	921.12	920.86
BEAM 5	921.85	921.60	921.34	921.09	920.83
BEAM 6	921.79	921.53	921.28	921.02	920.77
BEAM 7	921.73	921.47	921.21	920.96	920.70
BEAM 8	921.67	921.41	921.16	920.90	920.65
RIGHT EDGE OF DECK SLAB	921.65	921.39	921.13	920.88	920.62

BRIDGE FINAL SCREED ELEVATIONS

LOCATION	℄ REAR ABUT.	0.25	0.5	0.75	℄ FWD. ABUT.
LEFT EDGE OF DECK SLAB	921.65	921.42	921.17	920.91	920.62
PROFILE GRADE LINE	921.89	921.66	921.41	921.15	920.86
RIGHT EDGE OF DECK SLAB	921.65	921.42	921.17	920.91	920.62

HAS-CR 13-10.46

DECK PLAN
HAS-CR 13-10.46
OVER NORTH FORK OF SHORT CREEK

SFN 3430384
DESIGN AGENCY
DESIGNER MCC | CHECKER SDG
REVIEWER MBJ 1-27-25
PROJECT ID 119477
SUBSET 8 | TOTAL 11
SHEET 21 | TOTAL 24

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 1/24/2025 TIME: 9:51:49 AM USER: melinda
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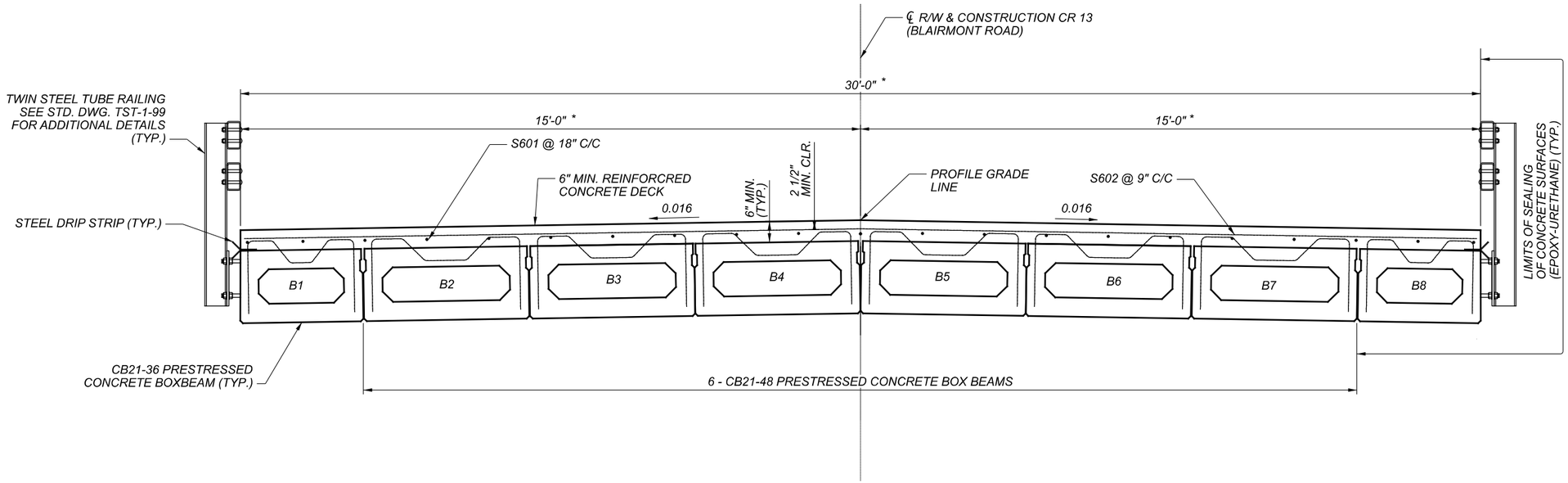
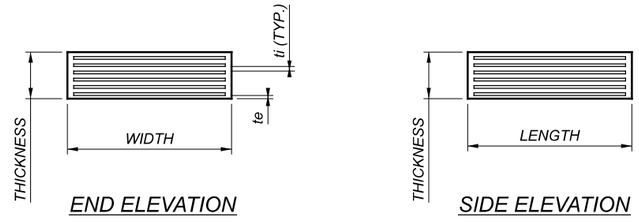


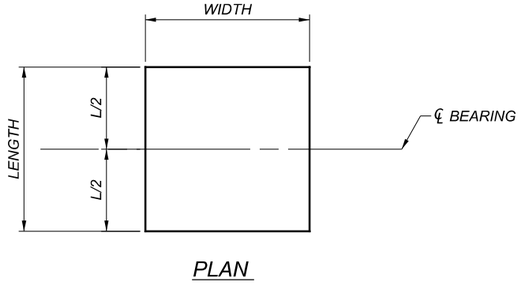
TRANSVERSE SECTION

** PLUS FIT-UP*



END ELEVATION

SIDE ELEVATION



PLAN

NOTES:

1. *THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.*
2. *SEE STD. DWG. BD-1-11 FOR ADDITIONAL BEARING DETAILS.*

LOCATION		UNFACTORED LOAD (KIPS)			DIMENSION (IN)					NO. OF ti	NO. OF STEEL LAMINATES (12 GAUGE)	NUMBER REQUIRED
		DL	LL	MAXIMUM DESIGN LOAD	WIDTH	LENGTH	THICKNESS	ti	te			
ABUTMENT	CB21-36	13.7	19.9	33.5	6.0	7.0	2.075	0.180	0.125	6	7	8
ABUTMENT	CB21-48	16.5	16.7	33.2	6.0	7.0	2.075	0.180	0.125	6	7	24

TRANSVERSE SECTION
HAS-CR 13-10.46
OVER NORTH FORK SHORT CREEK

SFN 3430384
DESIGN AGENCY
DESIGNER MCC | CHECKER SDG
REVIEWER MBJ 1-27-25
PROJECT ID 119477
SUBSET 9 | TOTAL 11
SHEET 22 | TOTAL 24

HAS-CR 13-10.46

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 1/24/2025 TIME: 9:51:54 AM USER: mellinda
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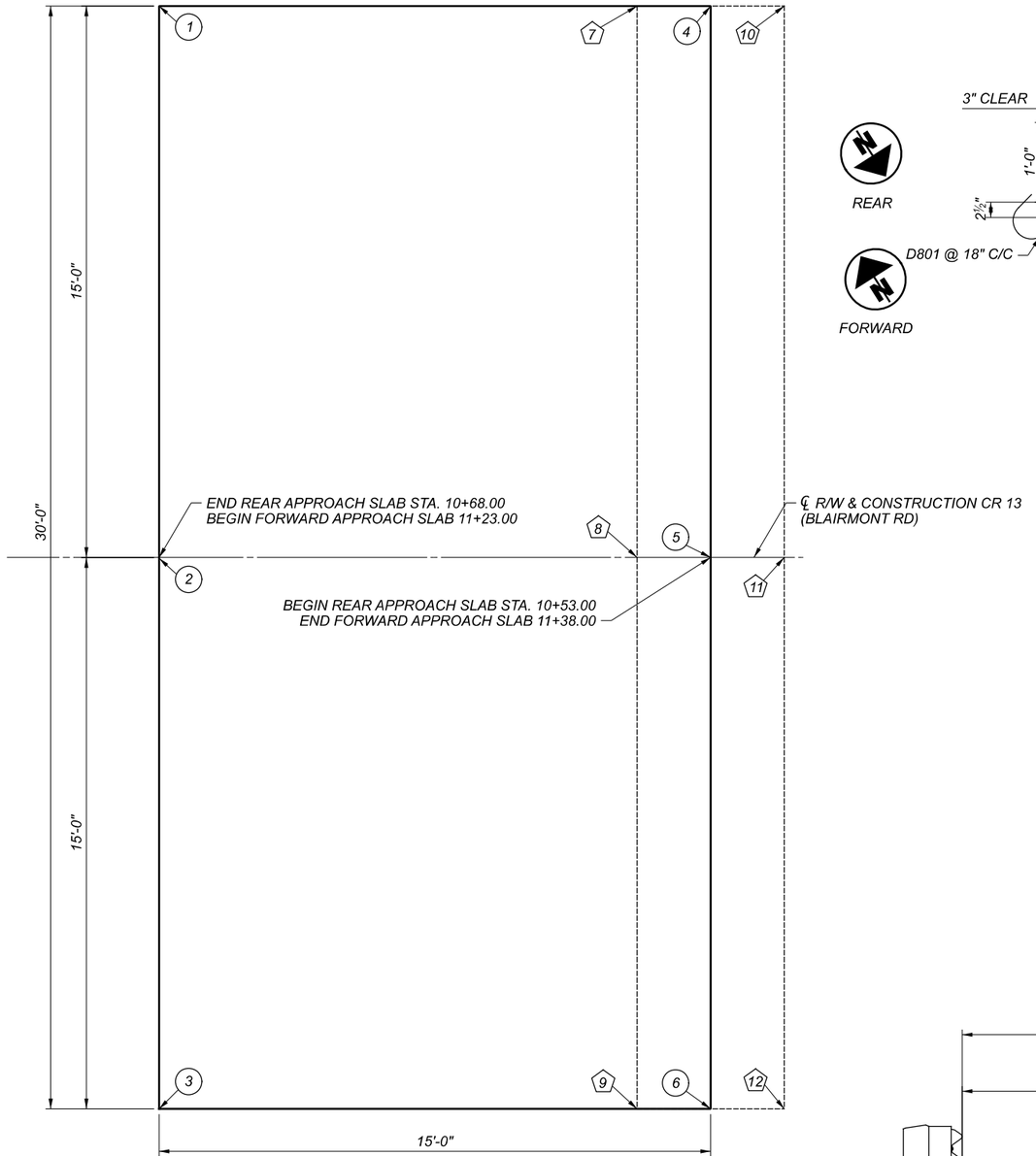
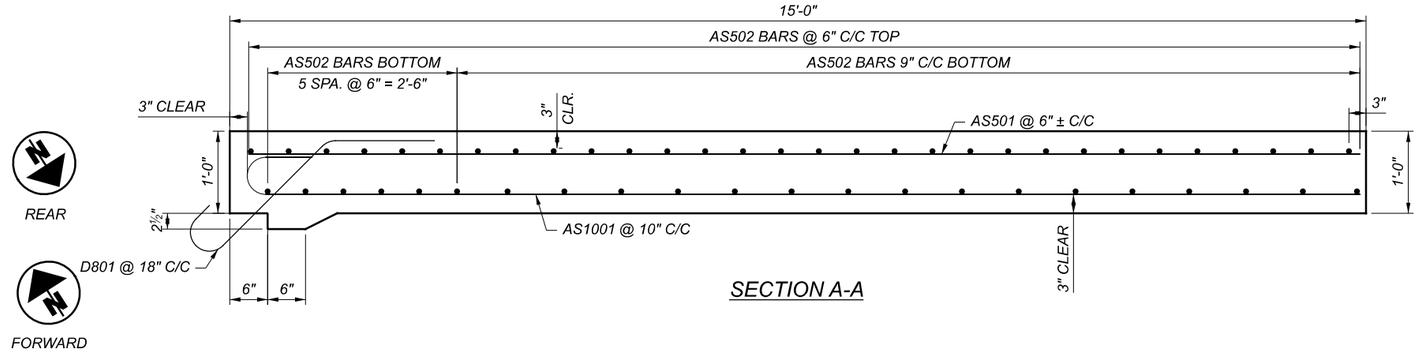


APPROACH SLAB PLAN



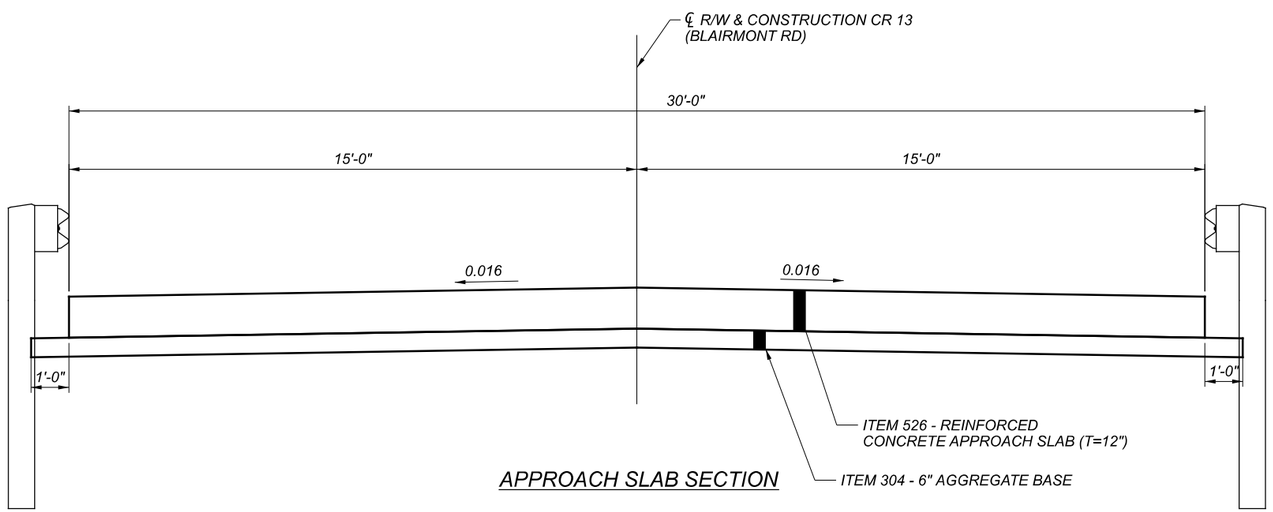
SECTION A-A

REAR	
TOP OF APPROACH SLAB	
LOCATION	ELEVATION
1	921.68
2	921.92
3	921.68
4	921.87
5	922.11
6	921.87

FORWARD	
TOP OF APPROACH SLAB	
LOCATION	ELEVATION
1	920.59
2	920.83
3	920.59
4	920.30
5	920.54
6	920.30

REAR	
TOP OF SLEEPER SLAB	
LOCATION	ELEVATION
7	920.77
8	921.01
9	920.77
10	920.76
11	921.00
12	920.76

FORWARD	
TOP OF SLEEPER SLAB	
LOCATION	ELEVATION
7	919.29
8	919.53
9	919.29
10	919.13
11	919.37
12	919.13



APPROACH SLAB SECTION

LEGEND

(3) - APPROACH SLAB ELEVATION LOCATION

⟨9⟩ - SLEEPER SLAB ELEVATION LOCATION

NOTE

SEE STANDARD DRAWINGS AS-1-15 AND AS-2-15 FOR ADDITIONAL DETAILS.

HAS-CR 13-10.46

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 1/24/2025 TIME: 9:51:59 AM USER: melinda
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APPROACH SLAB DETAILS
HAS-CR 13-10.46
OVER NORTH FORK OF SHORT CREEK

SFN 3430384

DESIGN AGENCY

DESIGNER	CHECKER
MCC	SDG

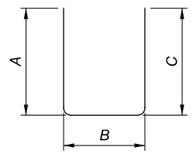
REVIEWER: MBJ 1-27-25

PROJECT ID: 119477

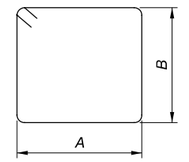
SUBSET	TOTAL
10	11

SHEET	TOTAL
23	24

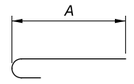
MARK	NUMBER REAR	NUMBER FRWD	NUMBER TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
APPROACH SLAB													
D801	21	21	42	4'-6"	505	18	2'-3"	1'-0"	1'-0"				
AS501	60	60	120	14'-6"	1815	STR							
AS502	52	52	104	29'-6"	3200	STR							
AS1001	37	37	74	15'-11"	5068	16	14'-6"						
					10,588								
ABUTMENTS													
A401	15	15	30	9'-6"	190	3	2'-6"	2'-0"					
A501	16	12	28	22'-3"	650	STR							
A502	42	42	84	10'-10"	949	3	2'-7"	2'-7"					
A503	42		42	12'-7"	551	2	5'-1 1/8"	2'-7"	5'-1 1/8"				
A504		42	42	10'-7"	464	2	4'-1 5/8"	2'-7"	4'-1 5/8"				
A505	6	6	12	10'-11"	137	2	4'-3 3/4"	2'-7"	4'-3 3/4"				
	2	2	4	6'-10"			2'-3"		2'-3"				
A506	SER. OF	SER. OF	SER. OF	TO	96	2	TO	2'-7"	TO				3 1/2"
	3	3	3	8'-7"			3'-1 3/4"		3'-1 3/4"				
A507	4	4	8	3'-11"	33	STR							
A508	4	4	8	5'-3"	44	STR							
A509	8	8	16	5'-8"	95	19	2'-7"	2'-9 1/2"	1'-3 1/2"				
A801	16	16	32	23'-3"	1986	STR							
					5,195								
SUPERSTRUCTURE													
S601			42	30'-0"	1893	STR							
S602			76	29'-7"	3377	STR							
B501			4	29'-7"	123	STR							
B502			62	4'-1"	264	2	1'-10 3/4"	0'-7"	1'-10 3/4"				
B503			62	4'-6"	291	3	0'-10 3/4"	1'-1"	0'-10 3/4"				
					5,948								



TYPE-2



TYPE-3



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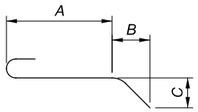
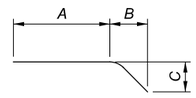


TYPE-18



TYPE-19

NOTES:

1. ALL DIMENSIONS ARE OUT TO OUT.
2. TYPE "STR" INDICATES A STRAIGHT BAR.
3. THE BAR SIZE IS SPECIFIED IN THE "MARK" COLUMN. THE FIRST DIGIT OF EACH MARK INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A #5 BAR SIZE.
4. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
5. APPROACH SLAB REINFORCING WEIGHTS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. APPROACH SLAB REINFORCING INCLUDED WITH ITEM 526, APPROACH SLABS FOR PAYMENT.

REINFORCING STEEL LIST
C.R. 13 -BLAIRMONT ROAD
OVER NORTH FORK OF SHORT CREEK

SFN 3430384

DESIGN AGENCY

DESIGNER	CHECKER
RMT	MCC

REVIEWER: MBJ 1-27-25

PROJECT ID: 119477

SUBSET	TOTAL
11	11

SHEET	TOTAL
24	24

HAS-CR 13-10.46

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 1/24/2025 TIME: 9:52:04 AM USER: mellinda
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PROJECT DESCRIPTION

THE HAS-CR13-10.46 PROJECT CONSISTS OF THE REPLACEMENT OF AN EXISTING THREE SPAN BRIDGE STRUCTURE CARRYING BLAIRMONT ROAD, COUNTY ROAD 13 (CR 13) OVER NORTH FORK OF SHORT CREEK AT MILE MARKER 10.46 IN SHORT CREEK TOWNSHIP, HARRISON COUNTY, OHIO.

HISTORIC RECORDS

HDR IS UNAWARE OF ANY PRIOR GEOTECHNICAL EXPLORATIONS WITHIN THE PROJECT LIMITS.

GEOLOGY

THE PROJECT SITE IS LOCATED WITHIN THE LITTLE SWITZERLAND PLATEAU OF THE ALLEGHENY PLATEAU REGION OF THE APPALACHIAN PLATEAUS PROVINCE. THE LITTLE SWITZERLAND PLATEAU REGION IS CHARACTERIZED BY HIGHLY DISSECTED, HIGH-RELIEF PLATEAUS (GENERALLY 915 FEET AT THE PROJECT AREA). ELEVATIONS IN THIS REGION GENERALLY RANGE FROM 540 TO 1,400 FEET ABOVE SEA LEVEL. SOILS IN THE LITTLE SWITZERLAND PLATEAU COMMONLY CONSIST OF RED AND BROWN SILTY-CLAY LOAM COLLUVIUM OVER PENNSYLVANIAN-AGED UPPER CONEMAUGH GROUP THROUGH PERMIAN-AGE DUNKARD GROUP CYCLIC SEQUENCES OF RED AND GRAY SHALES, SILTSTONES, SANDSTONES, LIMESTONES, AND COAL. THE UNDERLYING BEDROCK MAPPED WITHIN THE PROJECT AREA IS THE UPPER PENNSYLVANIAN AGE CONEMAUGH GROUP, WITH THE UPPER PENNSYLVANIAN AGE MONONGAHELA GROUP LOCATED AT HIGHER ELEVATIONS ON THE VALLEY WALLS AND RIDGES SURROUNDING THE PROJECT SITE. THE CONEMAUGH GROUP GENERALLY CONSISTS OF SHALE, SILTSTONE, MUDSTONE, SANDSTONE, LIMESTONE, AND COAL. THE COAL BEDS WITHIN THE CONEMAUGH GROUP ARE GENERALLY THIN, BUT IS VERY LOCALLY THICK AND CONTAINS PLANT FOSSILS. THE MONONGAHELA GROUP (IPM) GENERALLY CONSISTS OF SHALE, SILTSTONE, SANDSTONE, MUDSTONE, LIMESTONE, AND COAL. SEVERAL ABANDONED DEEP MINES, SURFACE MINES, AND MINE OPENINGS ASSOCIATED WITH THE PITTSBURGH NO. 8 COAL SEAM OF THE MONONGAHELA GROUP ARE LOCATED WITHIN APPROXIMATELY ¼ TO ½ MILE OF THE PROJECT SITE. IN ADDITION, DEEP MINING OF THE LOWER FREEPORT NO. 6A OF THE UNDERLYING ALLEGHENY GROUP WAS PERFORMED BEGINNING APPROXIMATELY 1 MILE NORTHWEST OF THE PROJECT SITE. HOWEVER, NO PREVIOUS SURFACE OR DEEP MINING WAS MAPPED AT THE PROJECT SITE ITSELF.

HARRISON COUNTY IS DRAINED BY FIVE MAJOR STREAMS. CROSS CREEK AND SHORT CREEK, WHICH DRAIN TO THE EAST TOWARD THE OHIO RIVER, AND CONOTTON CREEK, LITTLE STILLWATER CREEK, AND STILLWATER CREEK WHICH DRAIN TO THE WEST TOWARD THE TUSCARAWAS RIVER. THE PROJECT SITE ITSELF IS DIRECTLY DRAINED BY THE NORTH FORK OF SHORT CREEK, WHICH DRAINS INTO THE OHIO RIVER ABOUT 12 MILES SOUTHEAST OF THE PROJECT SITE.

RECONNAISSANCE

A VISUAL RECONNAISSANCE OF THE PROJECT SITE AND SURROUNDING AREA WAS PERFORMED BY AN HDR ENGINEERING GEOLOGIST ON AUGUST 25, 2023 TO MARK THE PRELIMINARY BORING LOCATIONS, AND BY AN HDR GEOTECHNICAL ENGINEER DURING THE DRILLING ACTIVITIES ON SEPTEMBER 21 AND 22, 2023. THE PROJECT SITE IS LOCATED WITHIN A WOODED, NARROW VALLEY, WITH A RESIDENCE LOCATED TO THE WEST OF THE BRIDGE. THE EXISTING BRIDGE IS A TWO-LANE STRUCTURE CARRYING CR 13 OVER THE NORTH FORK OF SHORT CREEK. THE THREE-SPAN BRIDGE IS SUPPORTED BY A CONTINUOUS CONCRETE SLAB WITH AN APPROXIMATELY 5-INCH ASPHALT OVERLAY SPANNING BETWEEN THE REAR AND FORWARD HALF-HEIGHT CONCRETE ABUTMENTS. THE CONTINUOUS CONCRETE DECK SLAB IS APPROXIMATELY 8 INCHES IN THICKNESS WITH 15-INCH WIDE TURNDOWN EDGES, INCREASING THE THICKNESS OF THE SLAB TO 14 INCHES. MULTIPLE CONCRETE POP-OUTS EXPOSING THE REINFORCING STEEL WERE NOTED ALONG THE UNDERSIDE OF THE BRIDGE DECK. THE ABUTMENTS CONSIST OF FULL-HEIGHT CONCRETE ABUTMENTS. SCOUR ALONG THE DOWNSTREAM (NORTH) END OF BOTH THE FORWARD AND REAR ABUTMENTS HAS EXPOSED THE APPROXIMATELY 12-INCH DIAMETER PIPE PILE FOUNDATION SUPPORTS. BOTH OF THE MID-SPAN SUPPORTS CONSIST OF FIVE SIMILAR 12-INCH STEEL PILES WITH CONCRETE PILE CAPS. A PREVIOUS REAR ABUTMENT WALL WITH CONCRETE BUTTRESSES IS STILL PRESENT, BUT DOES NOT APPEAR TO PROVIDE SUPPORT FOR THE CURRENT BRIDGE STRUCTURE. ROCK FRAGMENTS WERE VISIBLE IN THE BED OF THE STREAM, WHICH MEASURES ABOUT 8 FEET WIDE BELOW THE BRIDGE DECK.

SUBSURFACE EXPLORATION

THE GEOTECHNICAL EXPLORATION PROGRAM CONSISTED OF TWO TEST BORINGS, DESIGNATED AS BORINGS B-001-0-23 AND B-002-0-23, DRILLED NEAR THE REAR AND FORWARD ABUTMENTS, RESPECTIVELY, TO CHARACTERIZE THE SUBSURFACE PROFILE ALONG THE PROJECT ALIGNMENT. THE BORINGS WERE DRILLED ON SEPTEMBER 21 AND 22, 2023 BY CENTRAL STAR DRILLING UNDER THE GENERAL SUPERVISION OF AN HDR GEOTECHNICAL ENGINEER, WITH A DIEDRICH D-50 TRACK-MOUNTED DRILL RIG. THIS RIG WAS CALIBRATED ON MARCH 7, 2022 WITH A HAMMER ENERGY RATIO OF 86.8%. ALL BORINGS WERE DRILLED IN GENERAL ACCORDANCE WITH THE SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS (ODOT REVISED JULY 2023) UTILIZING 3.25-INCH INTERNAL DIAMETER HOLLOW STEM AUGERS TO ADVANCE THE BORINGS TO THE TOP OF BEDROCK. SAMPLING OF THE SOILS WAS ACCOMPLISHED IN ACCORDANCE WITH THE "STANDARD TEST METHOD FOR PENETRATION TEST AND SPLIT-BARREL SAMPLING OF SOILS", ASTM D 1586. SAMPLING OF THE UNDERLYING BEDROCK WAS PERFORMED AT EACH BORING IN ACCORDANCE WITH THE "STANDARD PRACTICE FOR ROCK CORE DRILLING AND SAMPLING OF ROCK FOR SITE INVESTIGATION" (ASTM D 2113) USING AN NQ2-SIZE DOUBLE-TUBE SWIVEL BARREL WITH A DIAMOND BIT.

EXPLORATION FINDINGS

THE GENERALIZED SOIL PROFILE AS ENCOUNTERED IN THE TWO TEST BORINGS CONSISTS OF EXISTING FILL OVERLYING COHESIVE SILTS AND GRANULAR SOILS EXTENDING TO BEDROCK. SHALE AND SANDSTONE BEDROCK WAS ENCOUNTERED BENEATH THE SOIL OVERBURDEN AT A RELATIVELY SHALLOW DEPTH OF APPROXIMATELY 11 TO 13 FEET BELOW THE EXISTING GROUND SURFACE AT THE BORING LOCATIONS.

AS THE BORINGS WERE LOCATED WITHIN THE EXISTING LIMITS OF THE ROADWAY, THE SURFICIAL MATERIALS CONSISTED OF 6 INCHES AND 10 INCHES OF ASPHALT PAVEMENT IN BORINGS B-001-0-23 AND B-002-0-23, RESPECTIVELY. EXISTING FILL WAS ENCOUNTERED IN EACH OF THE BORINGS BENEATH THE PAVEMENT SYSTEM. THE FILL IN BORING B-001-0-23 CONSISTED OF 6.5 FEET OF MEDIUM STIFF TO STIFF SANDY SILT (A-4A) IMMEDIATELY UNDERLYING THE ROADWAY PAVEMENT. BORING B-002-0-23 ENCOUNTERED AN APPROXIMATELY 2.5-FOOT THICK LAYER OF MEDIUM DENSE STONE FRAGMENTS WITH SAND AND SILT (A-2-4) AND STONE FRAGMENTS WITH SAND, SILT, AND CLAY (A-2-6) UNDERLYING THE EXISTING ROADWAY PAVEMENT.

THE COHESIVE SILTS UNDERLYING THE EXISTING FILL GENERALLY CONSISTED OF STIFF TO VERY STIFF SANDY SILT (A-4A) AND SILT (A-4B). THE UNDERLYING GRANULAR SOILS CONSISTED OF MEDIUM DENSE GRAVEL WITH SAND AND SILT (A-2-4) AND GRAVEL WITH SAND (A-1-B) EXTENDING TO THE UNDERLYING BEDROCK. ZONES OF VERY SOFT SANDY SILT (A-4A) AND LOOSE GRAVEL WITH SAND AND SILT (A-2-4) WERE ALSO ENCOUNTERED BELOW THE WATER ELEVATION FROM DEPTHS OF ABOUT 8 TO 11 FEET BELOW GRADE IN BORING B-002-0-23.

SEDIMENTARY BEDROCK WAS ENCOUNTERED IN BORINGS B-001-0-23 AND B-002-0-23 AT DEPTHS OF 13 FEET (APPROXIMATELY EL. 908.0) AND 11 FEET (APPROXIMATELY EL. 909.1) BELOW THE EXISTING GROUND SURFACE, RESPECTIVELY. SHALE BEDROCK WAS GENERALLY ENCOUNTERED OVERLYING SANDSTONE BEDROCK AT THE TWO BORING LOCATIONS. THE THICKNESS OF THE SHALE RANGED FROM 2.1 FEET IN BORING B-002-0-23 TO 6.7 FEET IN BORING B-001-0-23. THE SHALE WAS DESCRIBED AS VERY WEAK TO SLIGHTLY STRONG WITH RECORDED STRATUM ROCK QUALITY DESIGNATION (SRQD) VALUES RANGING FROM 0% TO 53%. SANDSTONE BEDROCK WAS ENCOUNTERED IN BORINGS B-001-0-23 AND B-002-0-23 AT DEPTHS OF 19.7 FEET (APPROXIMATELY EL 901.3) AND 13 FEET (APPROXIMATELY EL 907.0), RESPECTIVELY, AND EXTENDED TO THE TERMINATION DEPTH IN EACH BORING. THE SANDSTONE BEDROCK WAS DESCRIBED AS MODERATELY STRONG TO STRONG WITH THE RECORDED SRQDS FROM 32% TO 100%.

LEGEND

	DESCRIPTION	ODOT CLASS	CLASSIFIED MECH.	CLASSIFIED VISUAL
	GRAVEL/STONE FRAGMENTS W/SAND	A-1-b	1	0
	GRAVEL/STONE FRAGMENTS W/ SAND & SILT	A-2-4	5	0
	GRAVEL/STONE FRAGMENTS W/ SAND, SILT & CLAY	A-2-6	0	1
	SANDY SILT	A-4a	4	2
	SILT	A-4b	1	0
		TOTAL	11	3
	SANDSTONE	VISUAL		
	SHALE	VISUAL		

	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS
	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_{60}	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.
X/D"	NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT): X/D" = NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.
W	INDICATES FREE WATER ELEVATION.
●	INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.
Y	INDICATES UNIT WEIGHT OF ROCK.
SS	INDICATES A SPLIT SPOON SAMPLE.
NQ	"N" SERIES ROCK CORE BARREL OF "Q" WIRELINE BIT SIZE.
TR	INDICATES TOP OF ROCK.
Qu	INDICATES UNCONFINED COMPRESSION TEST, ASTM D7012.

EXPLORATION FINDINGS (CONT)

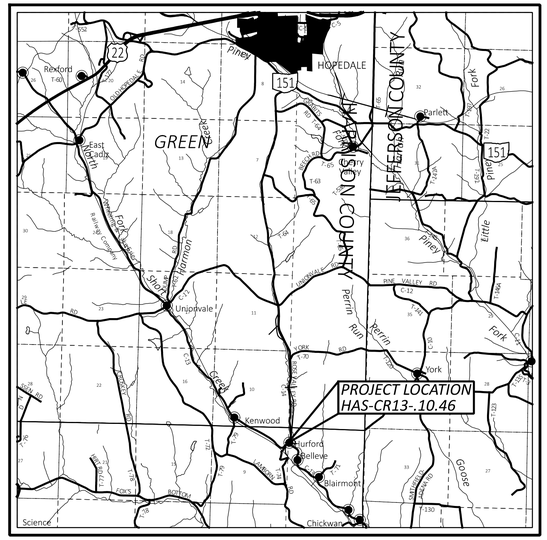
GROUNDWATER WAS ENCOUNTERED IN BOTH BORINGS AT APPROXIMATELY EL 912.5 (ROUGHLY 8.5 FEET BELOW THE EXISTING GROUND SURFACE (BGS) IN BORING B-001-0-23 AND 7.5 FEET BGS IN BORING B-002-0-23. WATER LEVELS UPON COMPLETION WERE NOT OBTAINED AS WATER WAS INTRODUCED INTO THE BOREHOLES DURING THE ROCK CORING PROCESS. DELAYED WATER READINGS WERE NOT OBTAINED AS THE BORINGS WERE SEALED IMMEDIATELY UPON COMPLETION GIVEN THEIR LOCATIONS WITHIN THE CR 13 TRAVEL LANES. GROUNDWATER LEVELS AT THE SITE ARE EXPECTED TO VARY DEPENDING UPON PRECIPITATION, THE WATER ELEVATION WITHIN THE NORTH FORK OF SHORT CREEK, AND OTHER SEASONAL VARIATIONS.

SPECIFICATIONS

THE GEOTECHNICAL EXPLORATION WAS PERFORMED IN GENERAL ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING "SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS", DATED JULY 2023.

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

0 1 2 3 4

PARTICLE SIZE DEFINITIONS

12"	3"	2.0 mm	0.42 mm	0.074 mm	0.005 mm
BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY
		No. 10 SIEVE	No. 40 SIEVE	No. 200 SIEVE		

RECON. - RJK 08/25/23

DRILLING - CENTRAL STAR 09/21/23 - 09/22/23

DRAWN - CLW 10/23/23 - 10/27/23

REVIEWED - DMV 10/27/23

BEDROCK TEST SUMMARY

BORING NO.	SAMPLE	SAMPLE ELEVATION	DEPTH	Qu (PSI)	LITHOLOGY
B-001-0-23	NQ2-1	905.2 - 904.1	15.8 - 16.9	564	SHALE
B-001-0-23	NQ2-2	897.8 - 897.3	23.2 - 23.7	6,742	SANDSTONE
B-002-0-23	NQ2-3	900.2 - 899.5	19.8 - 20.5	9,668	SANDSTONE
B-002-0-23	NQ2-3	898.8 - 898.3	21.2 - 21.7	8,822	SANDSTONE

SCOUR ANALYSIS PARAMETERS

BORING NO.	SAMPLE NO.	ELEVATION (ft)	D50 VALUES (mm)	τ_c (psf)	EROSION CATEGORY (EC)
B-001-0-23	SS-4	912.5 - 911.0	0.032	0.003	2.50
	SS-5	911.0 - 909.5	1.409	0.029	2.38
	SS-6	909.5 - 908.0	0.605	0.013	1.94
	SS-7	908.0 - 907.7	-	11.700	3.76
B-002-0-23	SS-3A	914.0 - 913.0	0.074	0.004	2.75
	SS-3B	913.0 - 912.5	0.037	0.001	0.49
	SS-4	912.5 - 911.0	0.210	0.214	2.97
	SS-5	911.0 - 909.5	0.844	0.018	2.11
	SS-6	909.5 - 909.1	0.531	0.011	1.87

GEOTECHNICAL PROFILE - BRIDGE

SFN:34303830 OVER NORTH FORK OF SHORT CREEK

DESIGN AGENCY

HDR

DESIGNER DCM

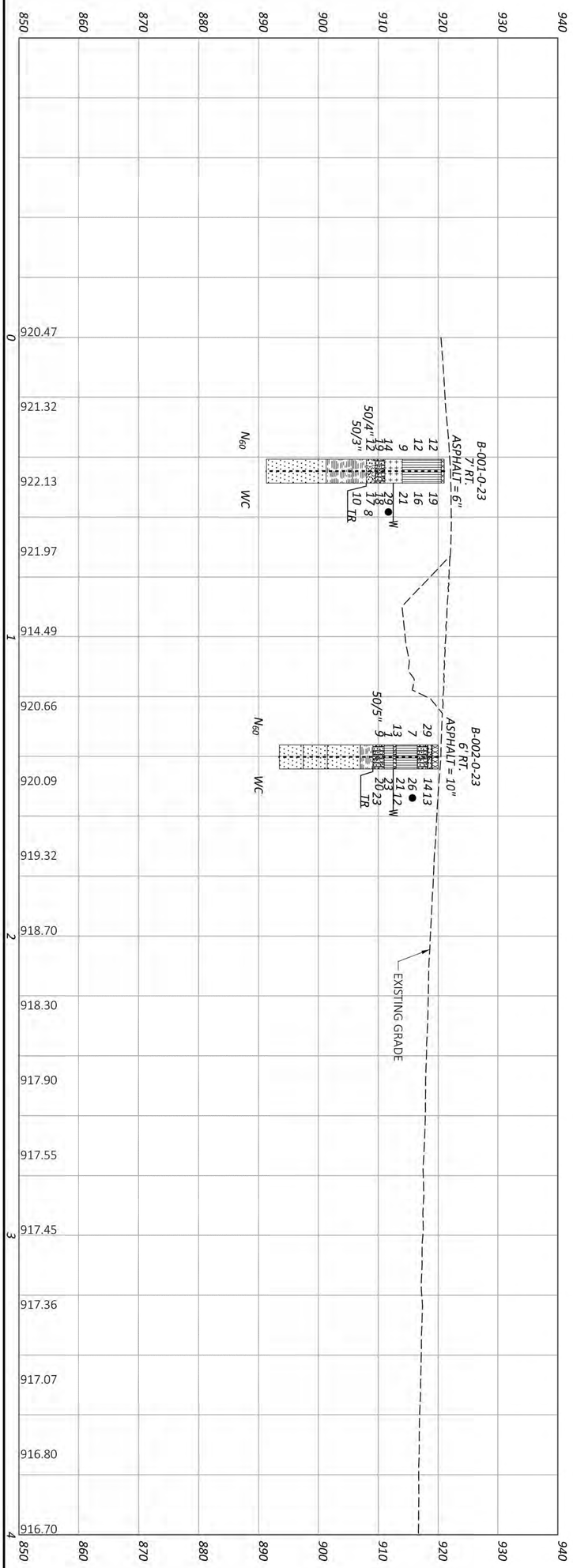
REVIEWER DMV 10/27/23

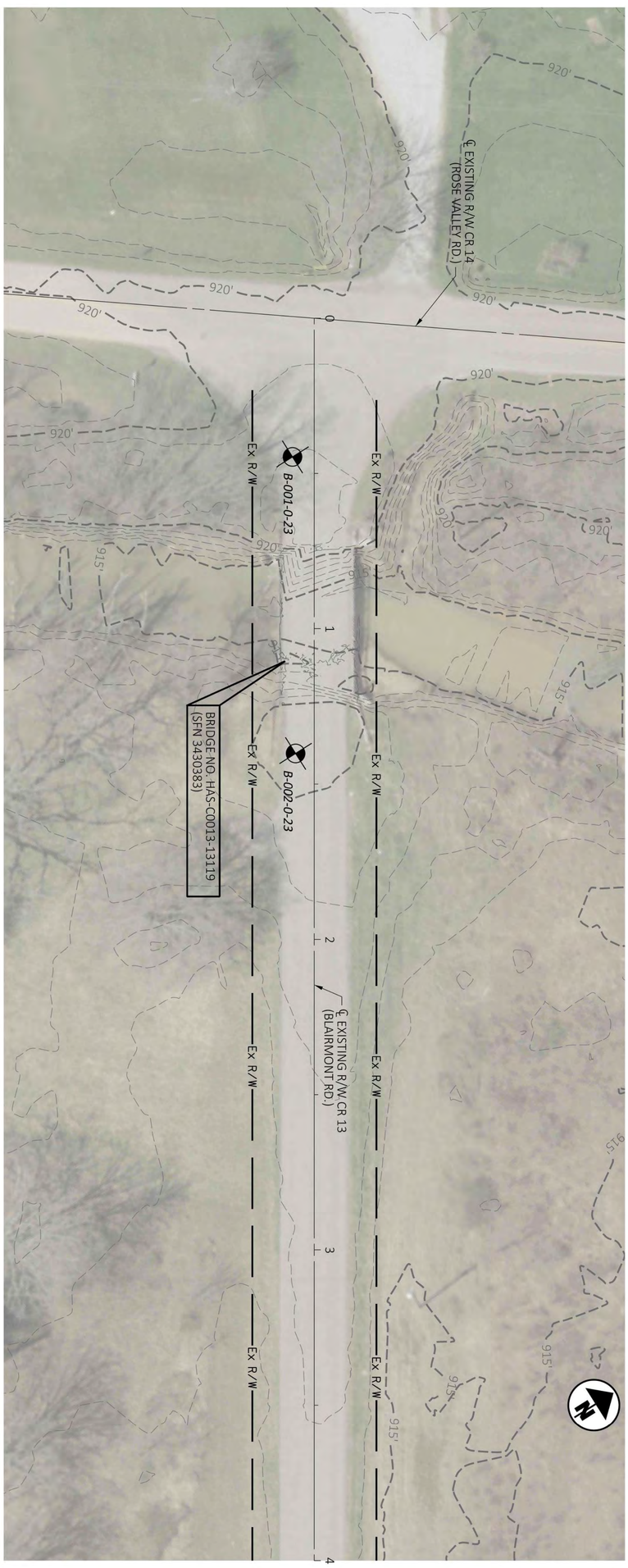
PROJECT ID 119477

SHEET P.1 TOTAL 6

HAS-CR13-10.46

MODEL: CLX_CR13 - Plan 1 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 5:23:51 PM USER: CWAHLBRI
pw:\\pwhdruseas01:HDR_US_East_01\Documents\SME_-_OH\SME-ODOT_37647_CEAO_Geotech\SME_ODT-_HAS-CR13-10.46\6.0_CAD_BIM\6.2_WIP\01_Design\119477\400-Engineering\Geotechnical\Sheets\Geotechnical Bridge Plan Profile





SHEET P.2 | TOTAL 6	PROJECT ID 119477	DESIGNER DCM REVIEWER DMV 10/27/23	HDR	DESIGN AGENCY

GEOTECHNICAL PROFILE - BRIDGE
SFN:3430383 OVER NORTH FORK OF SHORT CREEK
STA. 0+00 TO 4+00.00

HORIZONTAL SCALE IN FEET
0 20
10 40

PROJECT: HAS-CR13-10.46
TYPE: BRIDGE
PID: 119477 SFN: 3430383
START: 9/21/23 END: 9/21/23

DRILLING FIRM / OPERATOR: CENTRAL STAR / TS
SAMPLING FIRM / LOGGER: HDR / DM
DRILLING METHOD: 3.25" HSA / NQ2
SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIEDRICH D-50 (SN 481)
HAMMER: AUTOMATIC HAMMER
CALIBRATION DATE: 3/7/22
ENERGY RATIO (%): 86.8

STATION / OFFSET: 0+45, 7' RT.
ALIGNMENT: CR 13
ELEVATION: 921.0 (MSL) EOB: 29.7 ft.
LAT / LONG: 40.245444, -80.897651

EXPLORATION ID B-001-0-23
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT (6")	920.5																	
MEDIUM STIFF TO STIFF, BROWN, GRAY-BROWN, AND GRAY, **SANDY SILT**, SOME GRAVEL, TRACE CLAY, DAMP (FILL)			9 5 3	12	33	SS-1	-	-	-	-	-	-	-	-	-	19	A-4a (V)	
			2 3 5	12	78	SS-2	0.50	27	16	16	31	10	28	18	10	16	A-4a (1)	
	914.0		7 3 3	9	100	SS-3	1.00	-	-	-	-	-	-	-	-	21	A-4a (V)	
STIFF, GRAY, **SILT**, SOME SAND, LITTLE CLAY, TRACE GRAVEL, WET		W 912.5																
			2 3 7	14	83	SS-4	1.00	7	2	21	52	18	30	24	6	29	A-4b (7)	
	911.1																	
MEDIUM DENSE, BROWN AND GRAY, **GRAVEL WITH SAND AND SILT**, TRACE CLAY, WET	909.5		1 6 7	19	33	SS-5	-	46	21	14	13	6	26	19	7	18	A-2-4 (0)	
MEDIUM DENSE, BROWN AND GRAY, **GRAVEL WITH SAND**, LITTLE SILT, TRACE CLAY, WET	908.0		4 5 3	12	78	SS-6	-	26	30	24	13	7	20	19	1	17	A-1-b (0)	
SHALE, GRAY, MODERATELY WEATHERED, VERY WEAK.		TR	50/4"	-	100	SS-7	-	-	-	-	-	-	-	-	-	8	Rock (V)	
	905.7		50/3"	-	100	SS-8	-	-	-	-	-	-	-	-	-	10	Rock (V)	
SHALE, GRAY, SLIGHTLY WEATHERED, VERY WEAK, LAMINATED TO THIN BEDDED, ARENACEOUS, JOINT AND BEDDING DISCONTINUITIES, FRACTURED, NARROW APERTURE, SLIGHTLY ROUGH TO SLICKENSIDED, LAMINATED, FAIR TO GOOD SURFACE; RQD 53%, REC 100%. @ 15.8' - 16.9' : Qu = 564 psi (Point Load Test) @ 18.6' - 19.1' : Light Gray	901.3		53		100	NQ2-1											CORE	
SANDSTONE, GRAY, SLIGHTLY WEATHERED, MODERATELY STRONG, FINE TO MEDIUM GRAINED, THIN TO MEDIUM BEDDED, JOINT AND BEDDING DISCONTINUITIES, FRACTURE TO MODERATELY FRACTURED, TIGHT TO OPEN APERTURE, SLICKENSIDED TO SLIGHTLY ROUGH, BLOCKY, FAIR TO GOOD SURFACE CONDITIONS; RQD 69%, REC 100%. @ 21.3' - 21.8' : Shale Interbed @ 22.1' - 23.1': Vertical Fracture @ 23.2' - 23.7' : Qu = 6,742 psi @ 24.0' : 0.25 inch to 0.5 inch Shale Seam @ 24.1' : 0.25 inch to 0.5 inch Shale Seam @ 24.2' : 0.25 inch to 0.5 inch Shale Seam @ 24.3' : 0.25 inch to 0.5 inch Shale Seam @ 25.2' : 0.25 inch to 0.5 inch Shale Seam @ 25.4' : 0.25 inch to 0.5 inch Shale Seam	891.3	EOB	69		100	NQ2-2											CORE	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SURFACE PATCHED WITH ASPHALT PATCH; TREMIED 12 LB. BENTONITE POWDER; 47 LB. CEMENT MIXED WITH 25 GAL WATER

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 10/27/23 12:13 - C:\PWWORKING\EAST01\D3498309\D230921 HAS-CR13-10.46 BORINGLOGS.GPJ

B-001-0-23

Run #	Depth (ft)		Recovery		RQD	
NQ2-1	15.3	19.7	53 in. / 53 in.	100%	28 in. / 53 in.	53%
NQ2-2	19.7	29.7	120 in. / 120 in.	100%	83 in. / 120 in.	69%

HAS-CR13-10.46, PID 119477

B-001-0-23

Run #	Depth (ft)		Recovery		RQD	
NQ2-2	19.7	29.7	120 in. / 120 in.	100%	83 in. / 120 in.	69%

HAS-CR13-10.46, PID 119477

MODEL: Sheet_SurvFt PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 5:24:58 PM USER: CWAHLBRI
pw:\\pwhdruseas01:HDR_US_East_01\Documents\SME_-_OH\SME-ODOT_37647_CEAO_Geotech\SME_ODT-_HAS-CR13-10.46\6.0_CAD_BIM\6.2_WIP\01_Design\119477\400-Engineering\Geotechnical\Sheets\Boring Log B-002-0-23

PROJECT: HAS-CR13-10.46
TYPE: BRIDGE
PID: 119477 SFN: 3430383
START: 9/22/23 END: 9/22/23

DRILLING FIRM / OPERATOR: CENTRAL STAR / TS
SAMPLING FIRM / LOGGER: HDR / DM
DRILLING METHOD: 3.25" HSA / NQ2
SAMPLING METHOD: SPT / NQ2

DRILL RIG: DIEDRICH D-50 (SN 481)
HAMMER: AUTOMATIC HAMMER
CALIBRATION DATE: 3/7/22
ENERGY RATIO (%): 86.8

STATION / OFFSET: 1+40, 6' RT.
ALIGNMENT: CR 13
ELEVATION: 920.0 (MSL) EOB: 26.5 ft.
LAT / LONG: 40.245303, -80.897362

EXPLORATION ID B-002-0-23
PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT (10")	920.0																	
	919.0																	
MEDIUM DENSE, BROWN TRACE RED, **STONE FRAGMENTS WITH SAND, SILT, AND CLAY**, DAMP (FILL)	918.2		19 14 6	29	89	SS-1A	-	-	-	-	-	-	-	-	-	14	A-2-6 (V)	
						SS-1B	-	21	36	21	14	8	29	20	9	13	A-2-4 (0)	
MEDIUM DENSE, BLACK, **STONE FRAGMENTS WITH SAND AND SILT**, TRACE CLAY, NOTED COAL FRAGMENTS, DAMP (FILL)	916.5																	
STIFF TO VERY STIFF, BROWN TRACE GRAY, **SANDY SILT**, LITTLE CLAY, TRACE GRAVEL, MOIST			2 2 3	7	67	SS-2	1.50	4	6	21	49	20	29	19	10	26	A-4a (7)	
	913.0		6 4 5	13	67	SS-3A	2.50	22	11	17	36	14	27	19	8	21	A-4a (3)	
MEDIUM DENSE, BROWN, **GRAVEL WITH SAND AND SILT**, TRACE CLAY, DAMP	912.5	W 912.5				SS-3B	-	16	32	28	16	8	27	20	7	12	A-2-4 (0)	
VERY SOFT, BROWN, **SANDY SILT**, "AND" GRAVEL, TRACE CLAY, MOIST	911.0		3 1 0	1	28	SS-4	-	24	17	23	19	17	30	20	10	23	A-4a (0)	
LOOSE, GRAY, **GRAVEL WITH SAND AND SILT**, TRACE CLAY, WET	909.1		0 3 3	9	56	SS-5	-	41	16	17	17	9	28	20	8	20	A-2-4 (0)	
		TR	50/5"	-	100	SS-6	-	38	14	20	18	10	27	20	7	23	A-2-4 (0)	
SHALE, GRAY, HIGHLY WEATHERED, WEAK TO SLIGHTLY STRONG, LAMINATED, ARENACEOUS, JOINT AND BEDDING DISCONTINUITIES, HIGHLY FRACTURED, TIGHT TO NARROW APERTURE, SLIGHTLY ROUGH, POOR SURFACE CONDITIONS; RQD 0%, REC 100%. @ 10.9' - 11.5' : Sandstone, Gray, Fine to Medium, Strong	907.0		0		100	NQ2-1											CORE	
SANDSTONE, GRAY, SLIGHTLY WEATHERED, STRONG, FINE TO MEDIUM GRAINED, THIN BEDDED, INTERBEDDED SHALE LAMINATIONS THROUGHOUT, JOINT AND BEDDING DISCONTINUITIES, MODERATELY FRACTURED, NARROW TO OPEN APERTURE, SLIGHTLY ROUGH, BLOCKY, FAIR TO GOOD SURFACE CONDITONS; RQD 32%, REC 100%.	901.5		32		100	NQ2-2											CORE	
SANDSTONE, LIGHT GRAY, SLIGHTLY WEATHERED, STRONG, FINE TO MEDIUM GRAINED, THIN TO MEDIUM BEDDED, JOINT DISCONTINUITIES, MODERATELY FRACTURED, NARROW TO OPEN APERTURE, SLIGHTLY ROUGH, BLOCKY, FAIR TO GOOD SURFACE CONDITONS; RQD 100%, REC 100%. @ 19.75' - 20.5' : Qu = 9,668 psi @ 21.2' - 21.7' : Qu = 8,822 psi	897.5		70		100	NQ2-3											CORE	
SANDSTONE, GRAY, SLIGHTLY WEATHERED, STRONG, FINE TO MEDIUM GRAINED, THIN BEDDED, LIGHT GRAY SHALE INTERBEDS THROUGHOUT, JOINT AND BEDDING DISCONTINUITIES, MODERATELY FRACTURED, NARROW TO OPEN APERTURE, SLIGHTLY ROUGH, BLOCKY, FAIR TO GOOD SURFACE CONDITONS; RQD 40%, REC 100%. @ 25.0' - 26.5' : Dark Gray	893.5	EOB																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SURFACE PATCHED WITH ASPHALT PATCH; TREMIED 12 LB. BENTONITE POWDER; 47 LB. CEMENT MIXED WITH 25 GAL WATER

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT GDT - 10/27/23 12:13 - C:\PWWORKING\EAST01\D3498309\D230921 HAS-CR13-10.46 BORINGLOGS.GPJ

SHEET	PROJECT ID	DESIGNER	REVIEWER	DESIGN AGENCY
P.5 / TOTAL 6	119477	DCM	DMV 10/27/23	HDR

GEOTECHNICAL PROFILE - BRIDGE
BORING LOG B-002-0-23

B-002-0-23

Run #	Depth (ft)		Recovery		RQD	
NQ2-1	11	13	24 in. / 24 in.	100%	0 in. / 24 in.	0%
NQ2-2	13	18.5	66 in. / 66 in.	100%	21 in. / 66 in.	32%
NQ2-3	18.5	26.5	96 in. / 96 in.	100%	67 in. / 96 in.	70%

HAS-CR13-10.46, PID 119477

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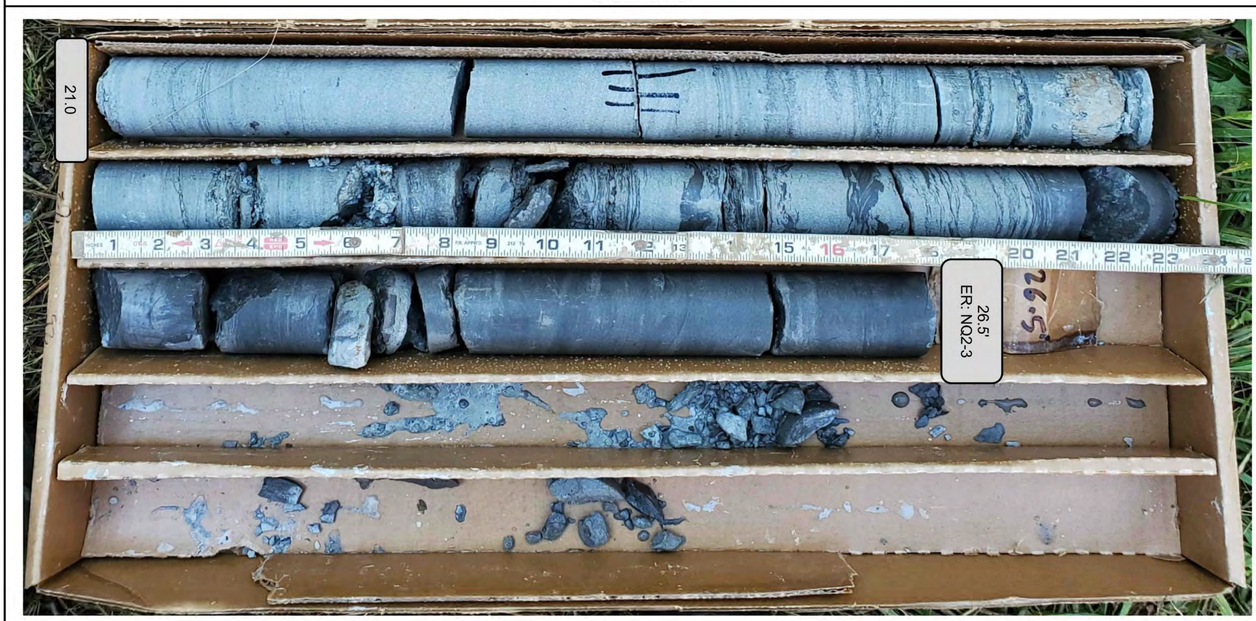

Run #	Depth (ft)		Recovery		RQD	
NQ2-3	18.5	26.5	96 in. / 96 in.	100%	67 in. / 96 in.	70%

HAS-CR13-10.46, PID 119477

GEOTECHNICAL PROFILE - BRIDGE
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