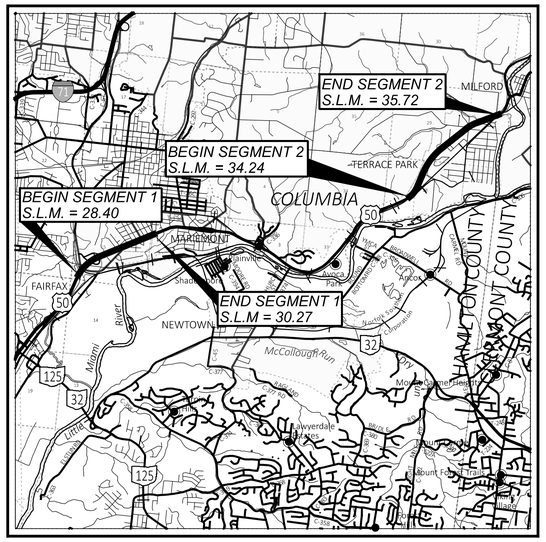
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

HAM-US 50-29.00

VILLAGE OF FAIRFAX
VILLAGE OF MARIEMONT
VILLAGE OF TERRACE PARK
HAMILTON COUNTY



LOCATION MAP

LATITUDE: 39°08'18" N LONGITUDE: 84°24'06" W

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

DESIGN DESIGNATION

SLM	28.47-29.28	29.28-29.38	29.38-29.86	29.86-34.11	34.11-36.04
CURRENT ADT (2024)	32,500	33,000	15,500	16,500	10,500
DESIGN YEAR ADT (2044)	40,833	44,667	23,833	18,167	14,667
DESIGN HOURLY VOLUME (2044)	4,962	5,479	3,038	1,873	1,506
DIRECTIONAL DISTRIBUTION	60%	52%	52%	60%	56%
TRUCKS (24 HOUR B&C)	3.0%	3.0%	4.0%	5.0%	3.0%
DESIGN SPEED	50	50	35	35	35
LEGAL SPEED	50	50	35	35	35
DESIGN FUNCTIONAL CLASSIFICATION	03	03	04	04	04

[03] PRINCIPAL ARTERIAL OTHER (URBAN) / [04] MINOR ARTERIAL (URBAN)

NHS PROJECT NO

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	SHEET NUMBERS
SHOULDER WIDTH	03/20/2023	P.006, P.152 - P.153

ADA DESIGN WAIVERS

NONE REQUIRED

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:
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

INDEX OF SHEETS:

FEDERAL PROJECT NUMBER

E191 (891)

RAILROAD INVOLVEMENT

NORFOLK SOUTHERN RY - NS MIDWEST DIVISION, MILE POST CV-112.40
& INDIANA & OHIO RY

PROJECT DESCRIPTION

REHABILITATE TWO BRIDGES (HAM-50-29.100 & 29.280) BY REMOVING AND REPLACING THE EXISTING DECK WITH A NEW COMPOSITE, REINFORCED CONCRETE DECK; UPGRADE BRIDGES TO MEET CURRENT DESIGN REQUIREMENTS; ADD WOOD LAGGING TO THE EXISTING RETAINING WALL ALONG US-50 EASTBOUND; MINOR PAVEMENT APPROACH WORK. LOWER THE RAMPS TO RED BANK ROAD UNDER THE 29.280 BRIDGE TO INCREASE THE VERTICAL CLEARANCE; REPAIR AND RESURFACE THE US-50 PAVEMENT IN THE VILLAGES OF FAIRFAX AND TERRACE PARK.
REPAIR SLOPE FAILURE ALONG US-50 EASTBOUND NEAR RED BANK RD.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	1.75 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.35 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	2.10 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, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEET P.014, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

Tammy K. Campbell
Tammy K. Campbell, P.E.
District 08 Deputy Director

Jack Marchbanks, PhD
Director, Department of Transportation

STANDARD CONSTRUCTION DRAWINGS

BP-2.1	1/21/22	I-3C, 3C1	7/15/22	RM-4.6	7/19/13	HL-30.11	7/21/23	MT-95.70	7/21/23	MT-101.80	1/17/20	TC-65.10	1/17/14
BP-3.1	1/21/22					HL-30.21	4/17/20	MT-97.10	4/19/19	MT-101.90	7/17/20	TC-65.11	7/15/22
BP-5.1	7/15/22	MGS-1.1	7/16/21	AS-1-15	1/20/23	HL-30.22	1/15/21	MT-97.12	1/20/17	MT-102.10	7/21/23	TC-71.10	4/26/23
		MGS-2.1	1/19/18	AS-2-15	7/21/23	HL-30.31	7/21/23	MT-98.10	1/17/20	MT-102.20	4/19/19	TC-72.20	7/21/23
CB-6	1/21/22	MGS-3.1	1/19/18	EXI-4-87	1/20/23	HL-40.20	7/21/23	MT-98.11	1/17/20	MT-103.10	1/21/22	TC-82.10	7/19/19
CB-3A	7/16/21	MGS-3.2	1/18/13	PCB-91	7/17/20	HL-50.21	7/15/22	MT-98.20	4/19/19	MT-104.10	4/26/23		
DM-1.1	7/17/20	MGS-4.2	7/19/13	SBR-1-20	7/21/23	HL-60.11	7/21/17	MT-98.21	7/21/23	MT-105.10	1/17/20		
DM-1.2	7/16/21	MGS-4.3	1/18/13	SBR-2-20	7/21/23	HL-60.31	7/21/23	MT-98.29	1/17/20				
DM-4.1	7/17/20	MGS-5.3	7/15/16	SICD-2-14	1/15/21			MT-98.30	7/16/21	TC-41.10	7/19/13		
DM-4.2	7/20/12	MGS-6.1	1/19/18	VPF-1-90	7/21/23	MT-95.30	7/19/19	MT-99.20	4/19/19	TC-41.20	10/18/13		
DM-4.3	1/15/16					MT-95.31	7/19/19	MT-99.30	1/17/20	TC-42.10	10/18/13		
DM-4.4	1/15/16	MH-3	7/21/23	HL-10.11	7/21/23	MT-95.40	7/21/23	MT-99.60	7/15/16	TC-41.40	10/18/13		
HW-2.1	7/15/22			HL-10.12	7/21/23	MT-95.45	7/21/23	MT-100.00	7/16/21	TC-42.20	10/18/13		
F-1.1	7/19/13	RM-4.2	4/17/20	HL-10.13	1/20/23	MT-95.50	7/21/17	MT-101.60	4/26/23	TC-52.10	10/18/13		
F-3.1	7/19/13	RM-4.3	1/21/22	HL-20.11	7/21/23	MT-95.60	4/19/19	MT-101.70	4/26/23	TC-52.20	1/15/21		
F-3.4	7/19/13	RM-4.5	7/21/17	HL-20.14	4/17/20	MT-95.61	4/19/19	MT-101.75	7/21/23	TC-61.30	7/19/19		

SUPPLEMENTAL SPECIFICATIONS

800-2023	7/21/23
807	1/21/22
821	4/20/12
829	1/20/17
832	7/21/23
836	1/19/18
850	7/21/23
872	1/21/22
929	7/21/23

SPECIAL PROVISIONS

878	4/17/20
905	4/20/12
921	1/20/17
WATERWAY PERMIT	

ENGINEER'S SEAL
SLOPE FAILURE REPAIR
STATE OF OHIO · GARRET T. FREEMAN · E-83489 · REGISTERED · PROFESSIONAL ENGINEER
Digitally signed by gfreeman
Date: 2024.02.12 06:21:19-05'00'

ENGINEER'S SEAL
ROAD, BRIDGE, WALLS, MOT, LIGHTING FOR TRANSYSTEMS
STATE OF OHIO · NABIL F. FARAH · E-54420 · REGISTERED · PROFESSIONAL ENGINEER
Nabil Farah
Digitally signed by Nabil Farah
DN: C=US, E=nfarah@transystems.com, O=TranSystems, CN=Nabil Farah
Date: 2024.02.12 13:04:59-05'00'

ENGINEER'S SEAL
SEGMENT 2 ROADWAY & MOT FOR 2LMN
STATE OF OHIO · JOSHUA J. ROGNON · E-77868 · REGISTERED · PROFESSIONAL ENGINEER
Joshua Rognon
Digitally signed by Joshua Rognon
Date: 2024.02.12 08:52:02-05'00'

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

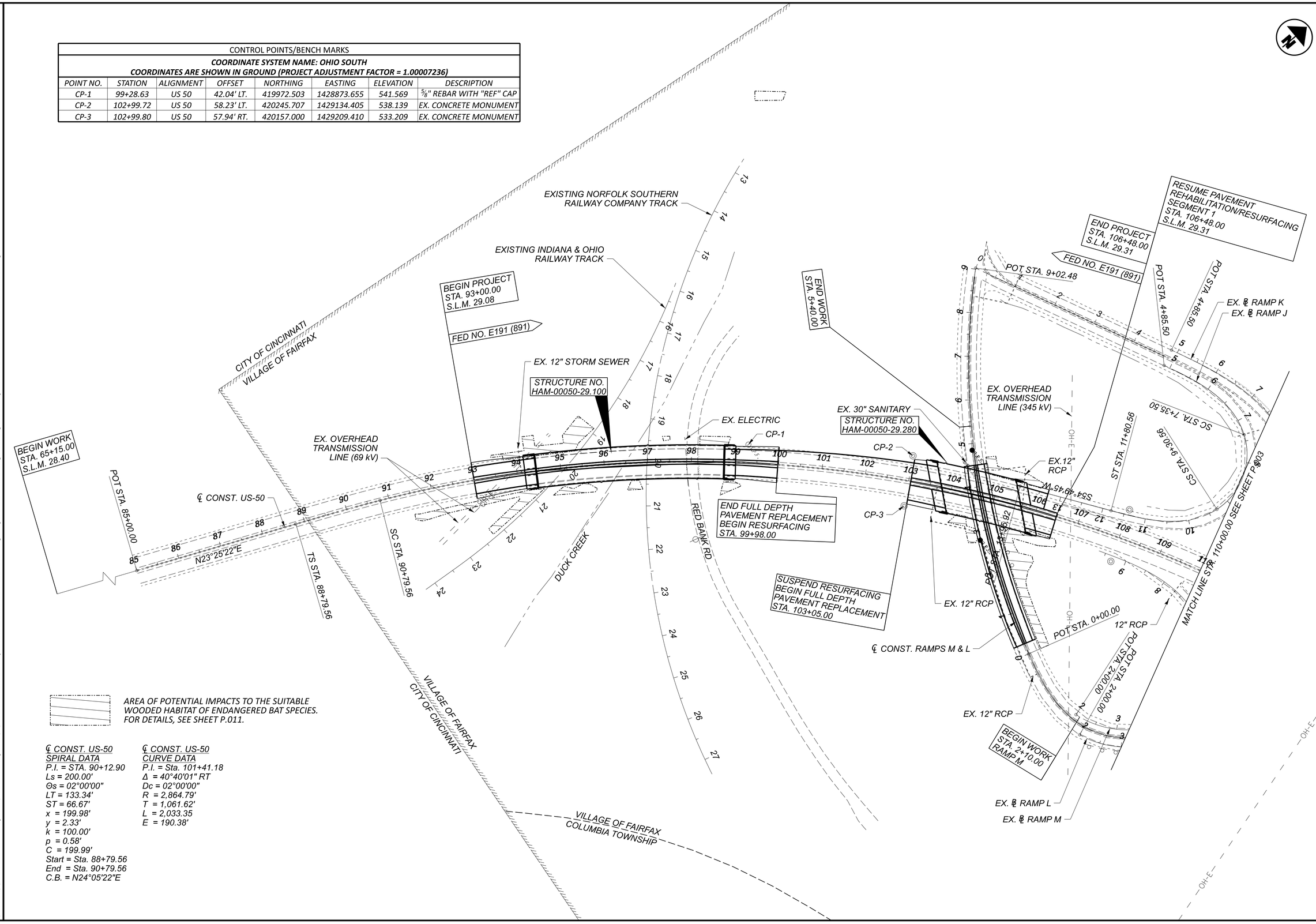
DESIGNER MSW
REVIEWER GHM 08/22/23
PROJECT ID 110570
SHEET P.001 TOTAL 208

TITLE SHEET

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/12/2024 TIME: 6:15:10 AM USER: gfreeman
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 08\Hamilton\110570\400-Engineering\Roadway\Sheets\110570_GT001.dgn

CONTROL POINTS/BENCH MARKS							
COORDINATE SYSTEM NAME: OHIO SOUTH							
COORDINATES ARE SHOWN IN GROUND (PROJECT ADJUSTMENT FACTOR = 1.00007236)							
POINT NO.	*STATION*	*ALIGNMENT*	*OFFSET*	*NORTHING*	*EASTING*	*ELEVATION*	*DESCRIPTION*
CP-1	*99+28.63*	*US 50*	*42.04' LT.*	*419972.503*	*1428873.655*	*541.569*	*⅝" REBAR WITH "REF" CAP*
CP-2	*102+99.72*	*US 50*	*58.23' LT.*	*420245.707*	*1429134.405*	*538.139*	*EX. CONCRETE MONUMENT*
CP-3	*102+99.80*	*US 50*	*57.94' RT.*	*420157.000*	*1429209.410*	*533.209*	*EX. CONCRETE MONUMENT*



℄ CONST. US-50
SPIRAL DATA
P.I. = STA. 90+12.90
Ls = 200.00'
Θs = 02°00'00"
LT = 133.34'
ST = 66.67'
x = 199.98'
y = 2.33'
k = 100.00'
p = 0.58'
C = 199.99'
Start = Sta. 88+79.56
End = Sta. 90+79.56
C.B. = N24°05'22"E

℄ CONST. US-50
CURVE DATA
P.I. = Sta. 101+41.18
Δ = 40°40'01" RT
Dc = 02°00'00"
R = 2,864.79'
T = 1,061.62'
L = 2,033.35
E = 190.38'

DESIGN AGENCY
2LMN
DESIGNER MAK
REVIEWER ALL 08/22/23
PROJECT ID 110570
SHEET P.002 TOTAL 208

HAM-US 50-29.00

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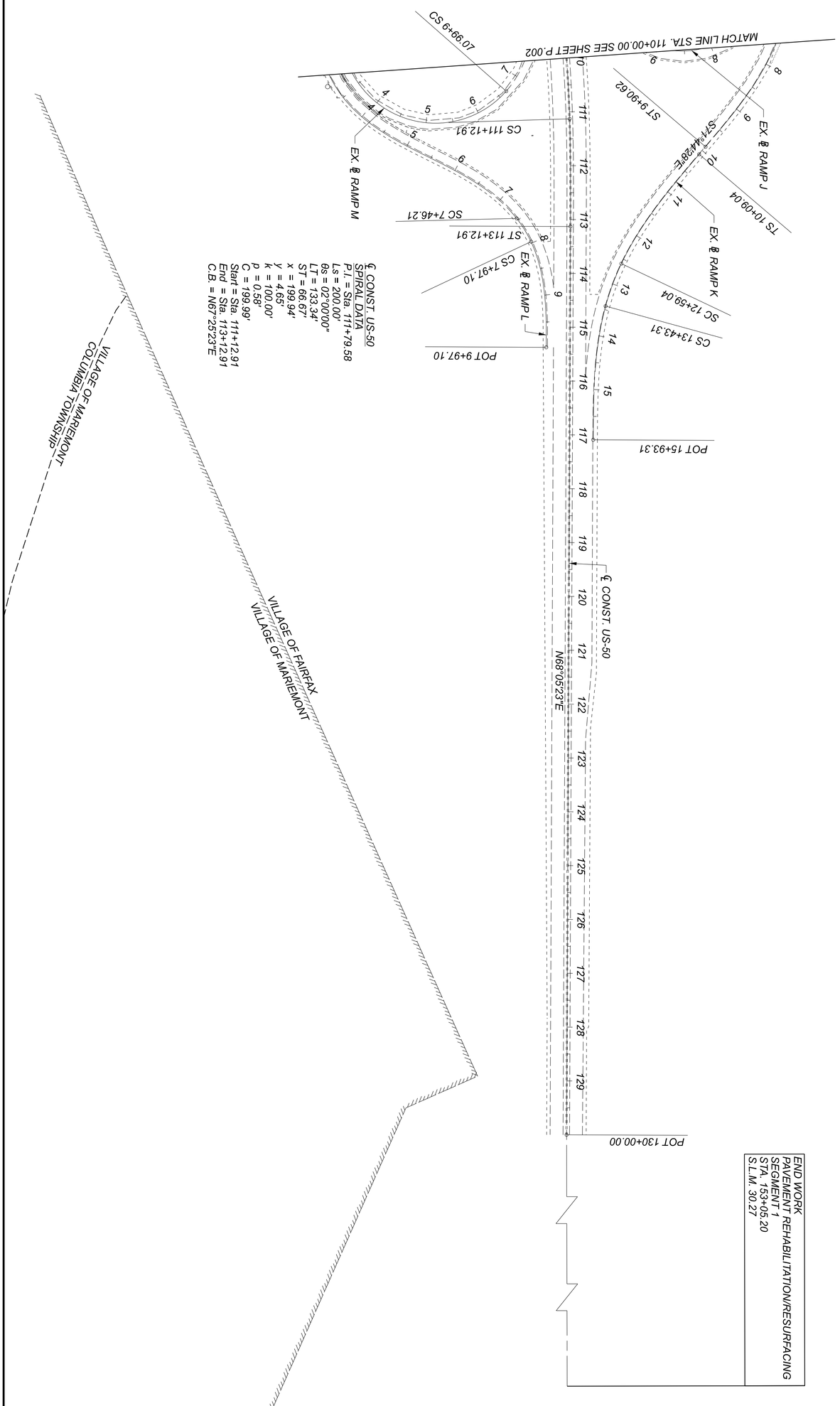
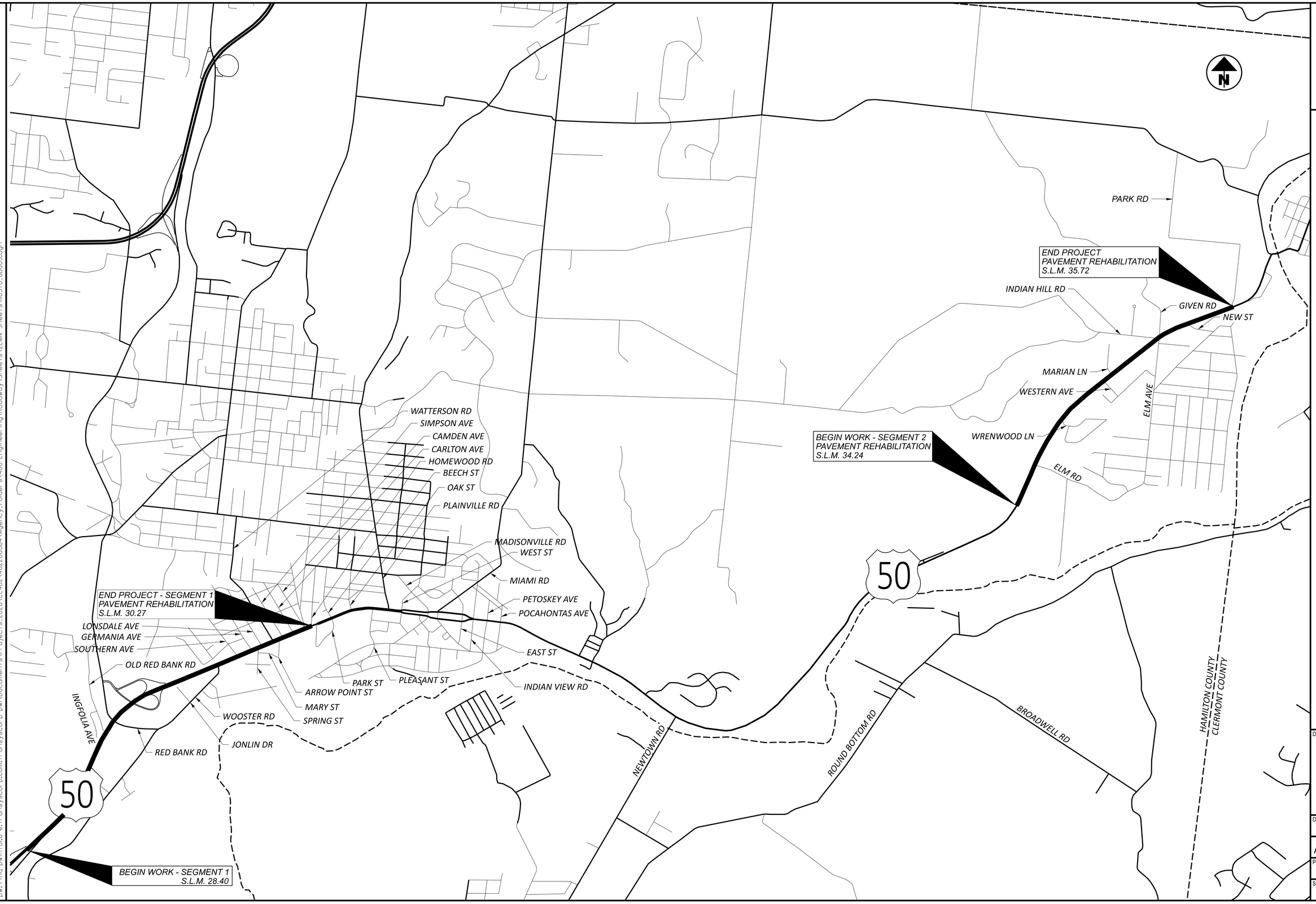


DESIGNER	DESIGN AGENCY		SHEET	TOTAL
MAK	2LMN	SCHEMATIC PLAN - SEGMENT 1 US-50	P.003	208
REVIEWER			PROJECT ID	
ALL 08/22/23			110570	

HORIZONTAL SCALE IN FEET
0 100
50 200



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SCHEMATIC PLAN - SEGMENT 2
US-50

DESIGN AGENCY
2LMN

DESIGNER
MAK

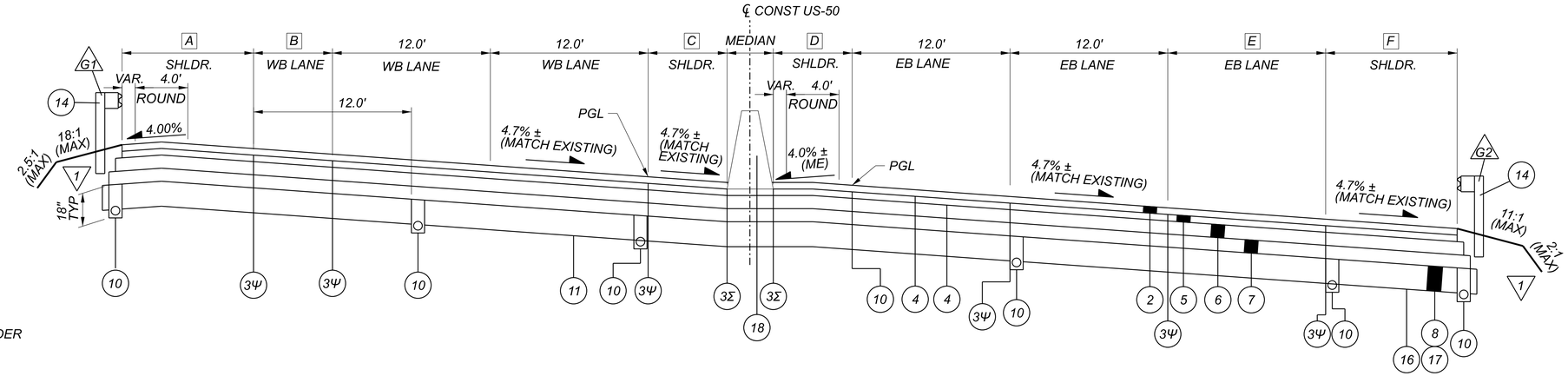
REVIEWER
ALL 08/22/23

PROJECT ID
110570

SHEET P.004 TOTAL 208

EXISTING LEGEND

- (A) 3"± EXISTING ASPHALT PAVEMENT
- (B) 7-9"± EXISTING CONCRETE PAVEMENT
- (C) 1-1/4"± EXISTING ASPHALT SURFACE COURSE
- (D) 1-3/4"± EXISTING ASPHALT INTERMEDIATE COURSE
- (E) 9"± EXISTING CONCRETE BASE
- (F) EXISTING SUBBASE
- (G) 3"± EXISTING AGGREGATE BASE COURSE
- (H) 5"± EXISTING STABILIZED CRUSHED AGGREGATE SHOULDER
- (I) EXISTING UNDERDRAIN
- (J) EXISTING CONCRETE BARRIER



SUPERELEVATED SECTION - US-50 - FULL DEPTH REPLACEMENT

SECTION APPLIES US-50 WB:
STA. 93+00.00 TO STA. 94+17.80
STA. 99+01.12 TO STA. 99+98.00
STA. 103+05.00 TO STA. 103+31.22 (SKEWED)
STA. 105+63.00 (SKEWED) TO STA. 106+15.00

SECTION APPLIES US-50 EB:
STA. 93+00.00 TO STA. 94+17.80
STA. 99+01.12 TO STA. 99+98.00
STA. 103+05.00 TO STA. 103+73.59 (SKEWED)
STA. 105+88.72 (SKEWED) TO STA. 106+48.00

LEGEND

1. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1.5" THICK)
2. ITEM 442 - 1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
3. ITEM 872 - VOID REDUCING ASPHALT MEMBRANE (VRAM)
4. ITEM 407 - NON TRACKING TACK COAT (0.06 or 0.09 GAL/SY, PER CMS TABLE 407.06-1)
5. ITEM 442 - 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)
6. ITEM 301 - 9" ASPHALT CONCRETE BASE, PG64-22 (449) (PLACE IN 2 LIFTS)
7. ITEM 304 - 6" AGGREGATE BASE
8. ITEM 204 - EXCAVATION OF SUBGRADE, 12 INCHES DEEP
9. ITEM 422 - SINGLE SLOPE CONCRETE BRIDGE RAILING
10. ITEM 605 - 6" BASE PIPE UNDERDRAIN
11. ITEM 204 - PROOF ROLLING
12. ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D
13. ITEM 622 - BARRIER, MISC.: MC-9.3, TYPE A
14. ITEM 606 - GUARDRAIL, TYPE MGS
15. APPROACH SLAB (T = 15")
16. ITEM 204 - GEOTEXTILE FABRIC
17. ITEM 204 - GRANULAR MATERIAL, TYPE C
18. ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C1
19. ITEM 204 - SUBGRADE COMPACTION
20. ITEM 609 - CURB, TYPE 4C

Ψ APPLY FULL WIDTH AND FULL RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1
Σ APPLY HALF WIDTH AND HALF RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1
▽ FOR EDGE COURSE DETAILS, SEE SHEET P.007

A *VARIES 10.5' TO 7.0'*
STA. 93+00.00 TO STA. 94+17.80
VARIES 7.0' TO 7.9'
STA. 99+01.12 TO STA. 99+98.00
VARIES 8.1' TO 9.8'
STA. 103+05.00 TO STA. 103+51.81 (SKEWED)
VARIES 9.0' TO 10.1'
STA. 105+63.00 (SKEWED) TO STA. 106+15.00

B *0'*
STA. 93+00.00 TO STA. 99+32.95
VARIES 0.0' TO 2.3'
STA. 99+32.95 TO STA. 99+98.00
VARIES 10.6' TO 11.7'
STA. 103+05.00 TO STA. 103+31.22 (SKEWED)
VARIES 11.9' TO 12.6'
STA. 105+62.98 (SKEWED) TO STA. 106+15.00

C *VARIES 5.6' TO 4.0'*
STA. 93+00.00 TO STA. 94+17.80
VARIES 4.0' TO 6.2'
STA. 99+01.12 TO STA. 99+98.00
VARIES 7.5' TO 7.4'
STA. 103+05.00 TO STA. 103+31.22 (SKEWED)
VARIES 7.0' TO 7.7'
STA. 105+88.72 (SKEWED) TO STA. 106+48.00

D *VARIES 5.5' TO 4.0'*
STA. 93+00.00 TO STA. 94+17.80
VARIES 4.0' TO 6.1'
STA. 99+01.12 TO STA. 99+98.00
VARIES 7.5' TO 7.2'
STA. 103+05.00 TO STA. 103+73.59 (SKEWED)
7.2'
STA. 105+88.72 (SKEWED) TO STA. 106+48.00

E *0.0'*
STA. 93+00.00 TO STA. 94+17.81
0.0'
STA. 99+01.12 TO STA. 99+98.00
12.0'
STA. 103+05.00 TO STA. 103+73.59 (SKEWED)
12.0'
STA. 106+15.99 (SKEWED) TO STA. 106+45.00

F *VARIES 11.0' TO 7.0'*
STA. 93+00.00 TO STA. 94+17.80
VARIES 7.0' TO 10.3'
STA. 99+01.12 TO STA. 99+98.00
VARIES 9.8' TO 9.5'
STA. 103+05.00 TO STA. 103+51.81 (SKEWED)
VARIES 9.6' TO 9.5'
STA. 105+88.72 (SKEWED) TO STA. 106+48.00

G *VARIES 7.9' TO 8.1'*
STA. 99+98.00 TO STA. 100+45.62
VARIES 8.1' TO 7.9'
STA. 100+45.62 TO STA. 100+71.33
VARIES 7.9' TO 8.0'
STA. 100+71.33 TO STA. 100+90.19
VARIES 8.0' TO 7.7'
STA. 100+90.19 TO STA. 101+22.59
VARIES 7.7' TO 8.0'
STA. 101+22.59 TO STA. 101+48.22
VARIES 8.0' TO 8.3'
STA. 101+48.22 TO STA. 101+72.86
VARIES 8.3' TO 7.3'
STA. 101+72.86 TO STA. 102+71.90
VARIES 7.3' TO 8.1'
STA. 102+71.90 TO STA. 103+05.00

H *VARIES 2.3' TO 10.6'*
STA. 99+98.00 STA. 103+05.00

I *VARIES 6.2' to 7.5'*
STA. 99+98.00 TO STA. 103+05.00

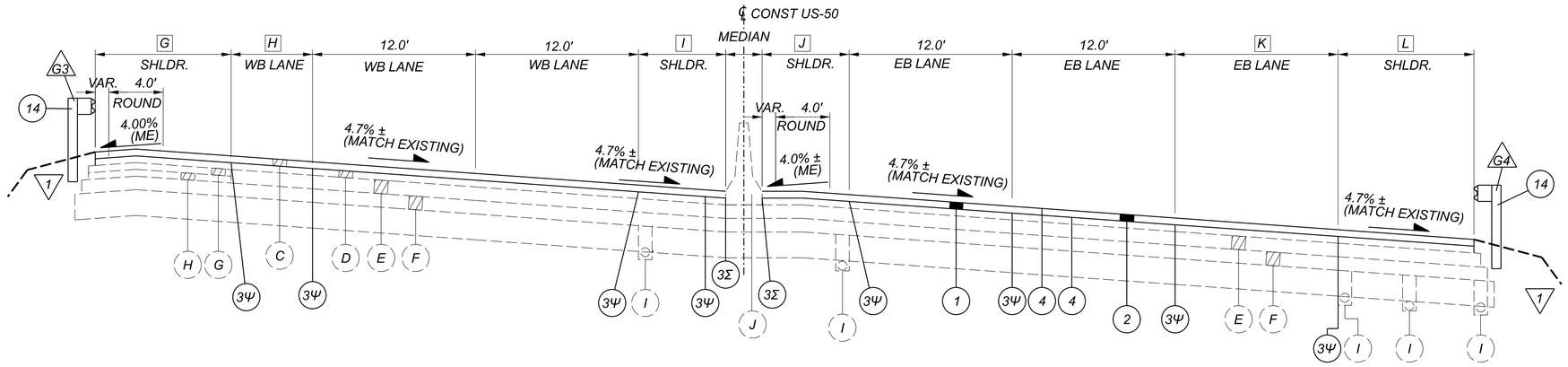
J *VARIES 6.1' TO 7.5'*
STA. 99+98.00 TO STA. 103+05.00

K *VARIES 0.0' to 12.0'*
STA. 102+24.17 STA. 102+98.52
12.0'
102+98.52 TO 103+05.00

L *VARIES 10.3' to 10.8'*
STA. 99+98.00 TO STA. 100+49.65
VARIES 10.8' TO 11.7'
STA. 100+49.65 TO STA. 101+74.94
VARIES 11.7' TO 11.5'
STA. 101+74.94 TO STA. 102+06.65
VARIES 11.5' TO 12.6'
STA. 102+06.65 TO STA. 102+24.17
VARIES 12.6' TO 9.4'
STA. 102+24.17 TO STA. 102+98.52
VARIES 9.4' to 9.6'
STA. 102+98.52 TO STA. 103+00.95
VARIES 9.6' TO 9.7'
STA. 103+00.95 TO STA. 103+05.00

G1 *STA. 93+70.76 TO STA. 94+20.06*
STA. 99+00.12 TO STA. 99+98.00
STA. 103+05.00 TO STA. 103+33.18
STA. 105+62.39 TO STA. 106+84.90

G2 *STA. 92+99.95 TO STA. 94+16.97*
STA. 98+99.51 TO STA. 99+98.00
STA. 103+05.00 TO STA. 103+74.21



US-50 - RESURFACING
(SUPERELEVATED OR TANGENT SECTION)

SECTION APPLIES:
STA. 82+08.00 TO STA. 93+00.00 (WB)
STA. 65+19.00 TO STA. 93+00.00 (EB)
STA. 99+98.00 TO STA. 103+05.00

G3 *STA. 99+98.00 TO STA. 103+05.00*

G4 *STA. 99+98.00 TO STA. 101+14.00*
STA. 101+91.53 TO STA. 103+05.00

TYPICAL SECTIONS - US-50

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER MSW
REVIEWER GHM 08/22/23
PROJECT ID 110570
SHEET P.005 TOTAL 208

HAM-US 50-29.00

MODEL: Sheet 2 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:37:57 AM USER: rjgreve
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TYPICAL SECTIONS - US-50

EXISTING LEGEND

- (A) *3"± EXISTING ASPHALT PAVEMENT*
- (B) *7-9"± EXISTING CONCRETE PAVEMENT*
- (C) *1-1/4"± EXISTING ASPHALT SURFACE COURSE*
- (D) *1-3/4"± EXISTING ASPHALT INTERMEDIATE COURSE*
- (E) *9"± EXISTING CONCRETE BASE*
- (F) *EXISTING SUBBASE*
- (G) *3"± EXISTING AGGREGATE BASE COURSE*
- (H) *5"± EXISTING STABILIZED CRUSHED AGGREGATE SHOULDER*
- (I) *EXISTING UNDERDRAIN*
- (J) *EXISTING CONCRETE BARRIER*

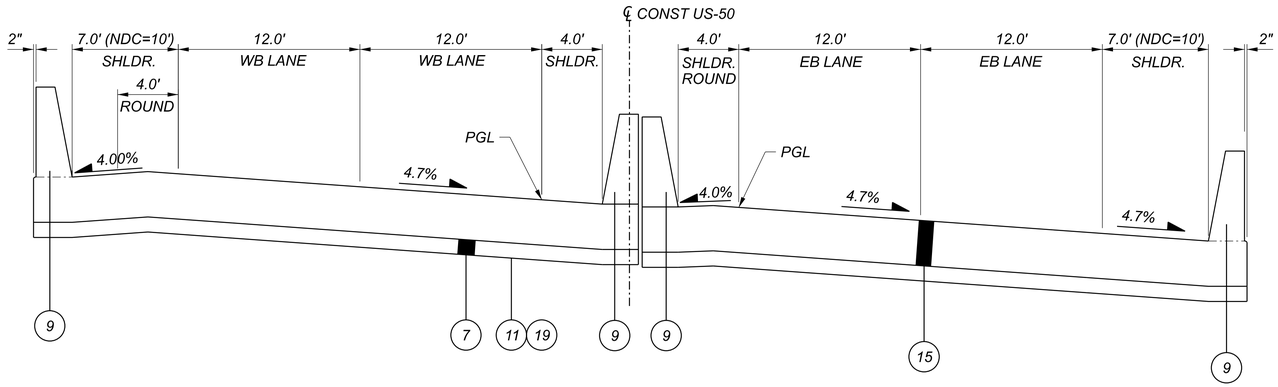
LEGEND

- (1) *ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1.5" THICK)*
- (2) *ITEM 442 - 1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)*
- (3) *ITEM 872 - VOID REDUCING ASPHALT MEMBRANE (VRAM)*
- (4) *ITEM 407 - NON TRACKING TACK COAT (0.06 or 0.09 GAL/SY, PER CMS TABLE 407.06-1)*
- (5) *ITEM 442 - 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)*
- (6) *ITEM 301 - 9" ASPHALT CONCRETE BASE, PG64-22 (449) (PLACE IN 2 LIFTS)*
- (7) *ITEM 304 - 6" AGGREGATE BASE*
- (8) *ITEM 204 - EXCAVATION OF SUBGRADE, 12 INCHES DEEP*
- (9) *ITEM 422 - SINGLE SLOPE CONCRETE BRIDGE RAILING*
- (10) *ITEM 605 - 6" BASE PIPE UNDERDRAIN*
- (11) *ITEM 204 - PROOF ROLLING*
- (12) *ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D*
- (13) *ITEM 622 - BARRIER, MISC.: MC-9.3, TYPE A*
- (14) *ITEM 606 - GUARDRAIL, TYPE MGS*
- (15) *APPROACH SLAB (T = 15")*
- (16) *ITEM 204 - GEOTEXTILE FABRIC*
- (17) *ITEM 204 - GRANULAR MATERIAL, TYPE C*
- (18) *ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C1*
- (19) *ITEM 204 - SUBGRADE COMPACTION*
- (20) *ITEM 609 - CURB, TYPE 4C*

Ψ APPLY FULL WIDTH AND FULL RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1

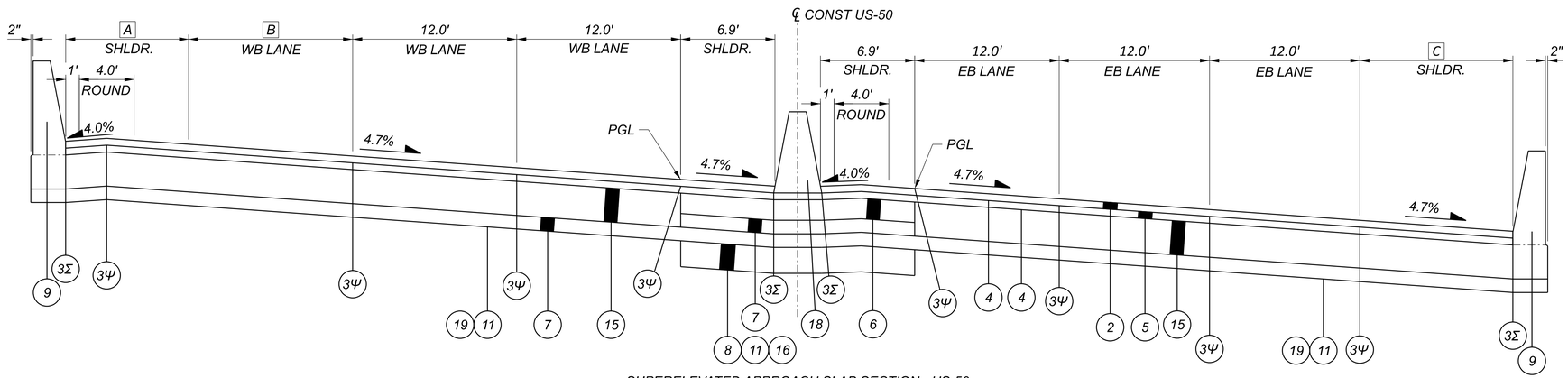
Σ APPLY HALF WIDTH AND HALF RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1

FOR EDGE COURSE DETAILS, SEE SHEET P.007



SUPERELEVATED APPROACH SLAB SECTION - US-50

SECTION APPLIES US-50 WB:
STA. 94+17.80 TO STA. 94+44.96
STA. 98+73.95 TO STA. 99+01.12



SUPERELEVATED APPROACH SLAB SECTION - US-50

SECTION APPLIES US-50 WB:
STA. 103+31.22 TO STA. 103+55.68 (SKEWED)
STA. 105+38.56 TO STA. 105+62.98 (SKEWED)

SECTION APPLIES US-50 EB:
STA. 103+73.59 TO STA. 103+99.14 (SKEWED)
STA. 105+90.41 TO STA. 106+15.99 (SKEWED)

A VARIES 11.1' TO 10.7'
STA. 103+31.22 TO STA. 103+55.68 (SKEWED)
9.5'
STA. 105+38.56 TO STA. 105+62.98 (SKEWED)

B VARIES 10.3' TO 10.7'
STA. 103+31.22 TO STA. 103+55.68 (SKEWED)
VARIES 11.8' TO 11.9'
STA. 105+38.56 TO STA. 105+62.98 (SKEWED)

C 11.1'
STA. 103+31.22 TO STA. 103+55.68 (SKEWED)
VARIES 9.0' TO 11.1'
STA. 105+38.56 TO STA. 105+62.98 (SKEWED)

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER: MSW
REVIEWER: GHM 08/22/23
PROJECT ID: 110570
SHEET: P.006 TOTAL: 208

HAM-US 50-29.00

MODEL: Sheet 3.0 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:37:57 AM USER: rjgreve
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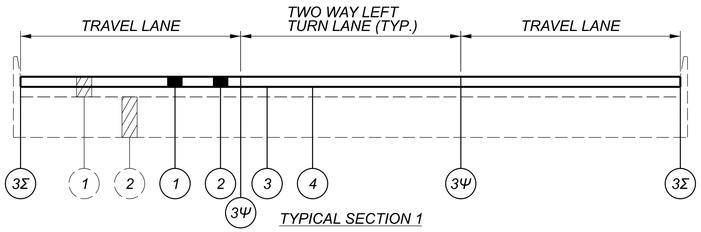
EXISTING LEGEND

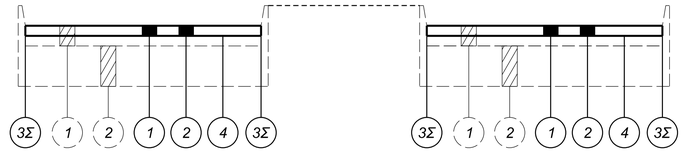
1. *3"± EXISTING ASPHALT PAVEMENT*
2. *7-9"± EXISTING CONCRETE PAVEMENT*

LEGEND

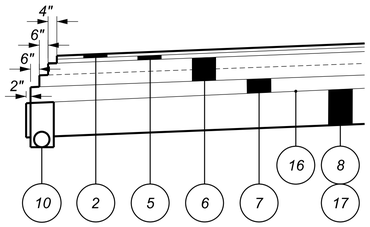
1. *ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1.5" THICK)*
2. *ITEM 442 - 1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)*
3. *ITEM 872 - VOID REDUCING ASPHALT MEMBRANE (VRAM)*
4. *ITEM 407 - NON TRACKING TACK COAT (0.06 or 0.09 GAL/SY, PER CMS TABLE 407.06-1)*
5. *ITEM 442 - 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)*
6. *ITEM 301 - 9" ASPHALT CONCRETE BASE, PG64-22 (449) (PLACE IN 2 LIFTS)*
7. *ITEM 304 - 6" AGGREGATE BASE*
8. *ITEM 204 - EXCAVATION OF SUBGRADE, 12 INCHES DEEP*
9. *ITEM 422 - SINGLE SLOPE CONCRETE BRIDGE RAILING*
10. *ITEM 605 - 6" BASE PIPE UNDERDRAIN*
11. *ITEM 204 - PROOF ROLLING*
12. *ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D*
13. *ITEM 622 - BARRIER, MISC.: MC-9.3, TYPE A*
14. *ITEM 606 - GUARDRAIL, TYPE MGS*
15. *APPROACH SLAB (T = 15")*
16. *ITEM 204 - GEOTEXTILE FABRIC*
17. *ITEM 204 - GRANULAR MATERIAL, TYPE C*
18. *ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C1*
19. *ITEM 204 - SUBGRADE COMPACTION*
20. *ITEM 609 - CURB, TYPE 4C*



TYPICAL SECTION 1

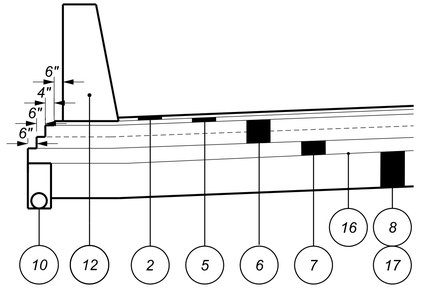


TYPICAL SECTION 2



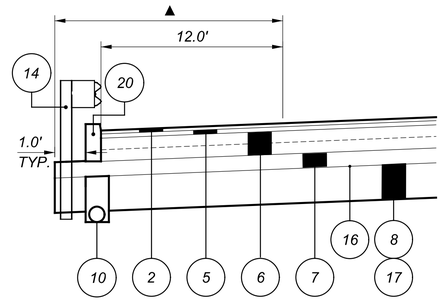
ASPHALT EDGE COURSE DETAIL

1



CONCRETE BARRIER
ASPHALT EDGE COURSE DETAIL

2



GUARDRAIL TYPE MGS
ASPHALT EDGE COURSE DETAIL

3

SEGMENT	LOG POINT TO LOG POINT	LENGTH		AVG WIDTH	TYPICAL	PAVEMENT AREA	251 PARTIAL DEPTH PAVEMENT REPAIR (442)	252 FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT, AS PER PLAN	252 FULL DEPTH PAVEMENT SAWING	254 PAVEMENT PLANING, ASPHALT CONCRETE (1.5" DEEP)	254 PATCHING PLANED SURFACE	407 NON-TRACKING TACK COAT	442 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	872 VOID REDUCING ASPHALT MEMBRANE (VRAM)	632 DETECTOR LOOP	632 LOOP DETECTOR LEAD-IN CABLE	644 EDGE LINE, 6"	644 CENTER LINE	644 CHANNELIZING LINE, 8"	644 STOP LINE	644 CROSSWALK LINE, 12"	644 TRANSVERSE/DIAGONAL LINE	644 LANE ARROW	644 DOTTED LINE, 6"	644 BIKE LANE SYMBOL MARKING	644 YIELD LINE
	MILES	MILES	FT	FT		SY	CY	SY	FT	SY	SY	GAL	CY	FT	EACH	FT	MILE	MILE	FT	FT	FT	FT	EACH	FT	EACH	FT
	US-50 SLM																									
1	29.31 TO 29.35	0.04	211	110.0	1	2581	11	129	774	2581	258	232.3	107.6	2112												
1	29.35 TO 29.45	0.10	528	84.0	1	4928	21	246	1478	4928	493	443.5	205.3	4224												
1	29.45 TO 29.46	0.01	53	100.0	1	587	2	29	176	587	59	52.8	24.4	475												
1	29.46 TO 29.53	0.07	370	110.0	1	4517	19	226	1355	4517	452	406.6	188.2	3696												
1	29.53 TO 29.59	0.06	317	100.0	1	3520	15	176	1056	3520	352	316.8	146.7	2851												
1	29.59 TO 29.75	0.16	845	84.0	1	7885	33	394	2365	7885	788	709.6	328.5	6758												
1	29.75 TO 29.79	0.04	211	56.0	1	1314	5	66	394	1314	131	118.3	54.8	1056												
1	29.79 TO 29.85	0.06	317	30.0	2	1056	4	53	317	1056	106	95.0	44.0	634	1	150	0.12	0.06	122	25	111	64	3	297	0	0
1	29.85 TO 29.86	0.01	53	44.0	1	258	1	13	77	258	26	23.2	10.8	211	0	0	0.00	0.00	0	0	0	0	0	0	0	0
1	29.86 TO 29.92	0.06	317	31.0	2	1091	5	55	327	1091	109	98.2	45.5	634	0	0	0.00	0.04	50	0	0	0	1	0	1	0
1	29.92 TO 29.94	0.02	106	38.0	1	446	2	22	134	446	45	40.1	18.6	422	0	0	0.00	0.09	0	0	84	55	0	0	1	0
1	29.94 TO 29.95	0.01	53	32.0	2	188	1	9	56	188	19	16.9	7.8	106	0	0	0.00	0.00	0	0	0	0	0	0	0	0
1	29.95 TO 29.99	0.04	211	40.0	1	939	4	47	282	939	94	84.5	39.1	845	0	0	0.00	0.05	40	0	84	66	1	0	3	0
1	29.99 TO 30.02	0.03	158	31.0	2	546	2	27	164	546	55	49.1	22.7	317	0	0	0.00	0.00	0	0	75	50	0	0	1	0
1	30.02 TO 30.05	0.03	158	37.0	1	651	3	33	195	651	65	58.6	27.1	634	0	0	0.00	0.11	0	0	0		0	0	1	0
1	30.05 TO 30.07	0.02	106	24.0	2	282	1	14	84	282	28	25.3	11.7	211	0	0	0.00	0.00	0	0	0	0	0	0	2	0
1	30.07 TO 30.08	0.01	53	40.0	1	235	1	12	70	235	23	21.1	9.8	211	0	0	0.00	0.00	65	0	0	0	0	0	0	0
1	30.08 TO 30.10	0.02	106	28.0	2	329	1	16	99	329	33	29.6	13.7	211	1	150	0.00	0.06	0	26	77	56	1	0	1	0
1	30.10 TO 30.11	0.01	53	38.0	1	223	1	11	67	223	22	20.1	9.3	211	0	0	0.00	0.00	0	12	0	0	0	0	0	0
1	30.11 TO 30.14	0.03	158	28.0	2	493	2	25	148	493	49	44.4	20.5	317	0	0	0.00	0.03	0	0	74	0	0	0	2	0
1	30.14 TO 30.17	0.03	158	38.0	1	669	3	33	201	669	67	60.2	27.9	634	0	0	0.00	0.00	0	0	0	0	0	0	2	0
1	30.17 TO 30.19	0.02	106	28.0	2	329	1	16	99	329	33	29.6	13.7	211	0	0	0.00	0.00	0	0	0	0	0	0	0	0
1	30.19 TO 30.21	0.02	106	40.0	1	469	2	23	141	469	47	42.2	19.6	422	0	0	0.00	0.09	37	0	82	60	1	0	5	0
1	30.21 TO 30.22	0.01	53	28.0	2	164	1	8	49	164	16	14.8	6.8	106	0	0	0.00	0.00	0	0	0	0	0	0	0	0
1	30.22 TO 30.27	0.05	264	44.0	1	1,291	5	65	387	1,291	129	116.2	54	1056	0	0	0.02	0.04	30	0	60	60	3	0	2	24
SUBTOTAL							145.8	1,749.4	10,496.6	34,988.8	3,498.9	3,149.0	1,457.9	28,564.8	2	300	0.14	0.57	344	63	647	411	10	297	21	24
TOTAL CARRIED TO GENERAL SUMMARY							146	1,749	10,497	34,989	3,499	3,149	1,458	28,565	2	300	0.14	0.57	344	63	647	411	10	297	21	24

SEE TRAFFIC CONTROL SUBSUMMARY OF SEGMENT 1 FOR THE QUANTITIES WITHIN THESE SLM POINTS.

Ψ - APPLY FULL WIDTH AND FULL RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1. (LOCATIONS ARE APPROXIMATELY AS SHOWN IN THE TYPICAL SECTION DETAILS. ACTUAL LOCATIONS IN THE FIELD WILL BE SLIGHTLY OFF THE LANE LINES.)

Σ - APPLY HALF WIDTH AND HALF RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872. TABLE 872.04-1

▲ - THIS DETAIL IS TO BE USED FOR PAVEMENT REPAIR ASSOCIATED WITH SLOPE REPAIR STA. 99+98.00 TO STA. 100+70.00

TYPICAL SECTIONS - US-50

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/29/2024 TIME: 12:09:22 PM USER: mswhitt
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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER MSW

REVIEWER GHM 08/22/23

PROJECT ID 110570

SHEET P.007 TOTAL 208

(1) 3"± EXISTING ASPHALT PAVEMENT

(2) 7-9"± EXISTING CONCRETE PAVEMENT

(1) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1.5" THICK)

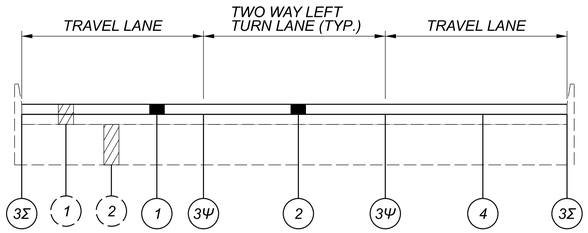
(2) ITEM 442 - 1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448)

(3) ITEM 872 - VOID REDUCING ASPHALT MEMBRANE (VRAM)

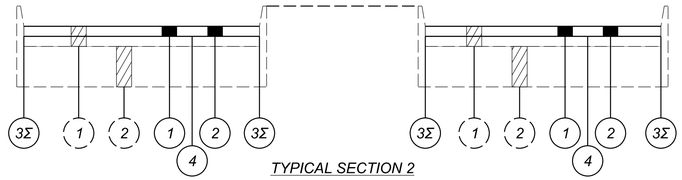
(4) ITEM 407 - NON-TRACKING TACK COAT

Ψ - APPY FULL WIDTH AND FULL RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1

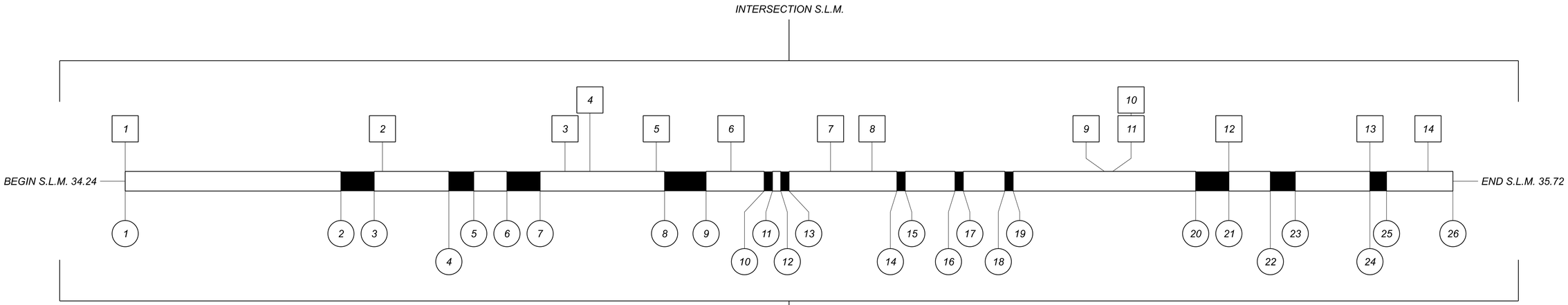
Σ - APPLY HALF WIDTH AND HALF RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1



TYPICAL SECTION 1



TYPICAL SECTION 2



TYPICAL SECTION S.L.M.

LEGEND

TYPICAL SECTION 1

TYPICAL SECTION 2

TYPICAL SECTION S.L.M.

(1)	S.L.M. 34.24
(2)	S.L.M. 34.40
(3)	S.L.M. 34.44
(4)	S.L.M. 34.53
(5)	S.L.M. 34.56
(6)	S.L.M. 34.60
(7)	S.L.M. 34.64
(8)	S.L.M. 34.79
(9)	S.L.M. 34.84
(10)	S.L.M. 34.91
(11)	S.L.M. 34.92
(12)	S.L.M. 34.93
(13)	S.L.M. 34.94
(14)	S.L.M. 35.07
(15)	S.L.M. 35.08
(16)	S.L.M. 35.14
(17)	S.L.M. 35.15
(18)	S.L.M. 35.20
(19)	S.L.M. 35.21
(20)	S.L.M. 35.43
(21)	S.L.M. 35.47
(22)	S.L.M. 35.52
(23)	S.L.M. 35.55
(24)	S.L.M. 35.64
(25)	S.L.M. 35.66
(26)	S.L.M. 35.72

INTERSECTION S.L.M.

1	S.L.M. 34.45 - ELM RD
2	S.L.M. 34.68 - ORCHARD HILL LN
3	S.L.M. 34.70 - WRENWOOD LN
4	S.L.M. 34.78 - KRIS CIR
5	S.L.M. 34.87 - WAGON RD LN
6	S.L.M. 34.89 - MELISSA CT
7	S.L.M. 34.99 - WESTERN AVE
8	S.L.M. 35.04 - MARIAN LN
9	S.L.M. 35.32 - INDIAN HILL RD
10	S.L.M. 35.32 - ELM AVE
11	S.L.M. 35.34 - GIVEN RD
12	S.L.M. 35.47 - NEW ST
13	S.L.M. 35.65 - PARK RD ACCESS
14	S.L.M. 35.72 - PARK RD

RESURFACING PLAN - SEGMENT 2
US-50

HAM-US 50-29.00

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pw:\\hq-pwint01.o-e.transystems.com:transystemscorp-pw\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\Roadway\Sheets\2LMN_Sheets\110570_GP001.dgn

DESIGN AGENCY: 2LMN

DESIGNER: MAK

REVIEWER: ALL 08/22/23

PROJECT ID: 110570

SHEET: P.008 TOTAL: 208

(1) 3"± EXISTING ASPHALT PAVEMENT

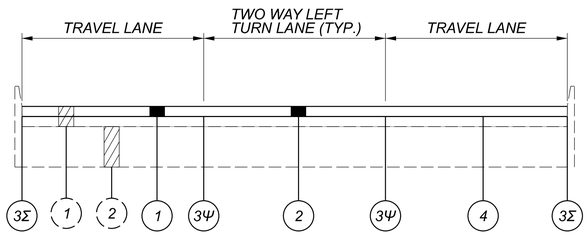
(2) 7-9"± EXISTING CONCRETE PAVEMENT

(1) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1.5" THICK)

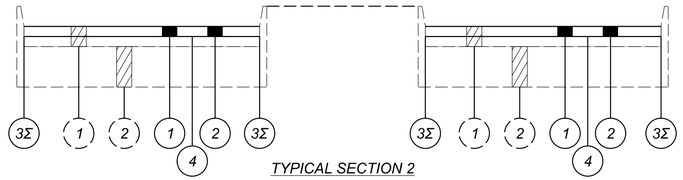
(2) ITEM 442 - 1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)

(3) ITEM 872 - VOID REDUCING ASPHALT MEMBRANE (VRAM)

(4) ITEM 407 - NON-TRACKING TACK COAT (0.06 OR 0.09 GAL/SY, PER CMS TABLE 407.06-1)



TYPICAL SECTION 1



TYPICAL SECTION 2

Ψ - APPLY FULL WIDTH AND FULL RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1
(LOCATIONS ARE APPROXIMATELY AS SHOWN IN THE TYPICAL SECTION DETAILS.
ACTUAL LOCATIONS IN THE FIELD WILL BE SLIGHTLY OFF THE LANE LINES.)

Σ - APPLY HALF WIDTH AND HALF RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1

SEGMENT	ROUTE	LOG POINT TO LOG POINT	LENGTH		AVG WIDTH	TYPICAL	EXISTING PAVEMENT TYPE	PAVEMENT AREA	251 PARTIAL DEPTH PAVEMENT REPAIR (442)	252 FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT, AS PER PLAN	252 FULL DEPTH PAVEMENT SAWING	254 PAVEMENT PLANING, ASPHALT CONCRETE (1.5")	254 PATCHING PLANED SURFACE	407 NON-TRACKING TACK COAT	442 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	872 VOID REDUCING ASPHALT MEMBRANE (VRAM)	621 RPM	621 RAISED PAVEMENT MARKER REMOVED	644 EDGE LINE, 6"	644 LANE LINE, 6"	644 CENTER LINE	644 CHANNELIZING LINE, 12"	644 STOP LINE	644 LANE ARROW
		MILE	MILE	FT	FT			SY	CY	SY	FT	SY	SY	GAL	CY	FT	EACH	EACH	MILE	MILE	MILE	FT	EACH	EACH
2	US-50	34.24 TO 34.40	0.16	845	39.50	1	ASPHALT	3709	21	186	1116	3709	371	334	155	3380	16	16	0.32	0	0.32	0	0	0
		34.40 TO 34.44	0.04	212	30.25	2	ASPHALT	713	4	36	216	713	72	65	30	848	2	2	0.08	0	0.08	0	0	0
		34.44 TO 34.53	0.09	476	39.00	1	ASPHALT	2063	12	104	624	2063	207	186	86	1904	16	16	0.16	0	0.16	110	0	2
		34.53 TO 34.56	0.03	159	30.00	2	ASPHALT	530	3	27	162	530	53	48	23	636	2	2	0.06	0	0.06	0	0	0
		34.56 TO 34.60	0.04	212	40.25	1	ASPHALT	949	6	48	288	949	95	86	40	848	8	8	0.08	0	0.06	0	0	2
		34.60 TO 34.64	0.04	212	28.00	2	ASPHALT	660	4	33	198	660	66	60	28	848	2	2	0.08	0	0.08	0	0	0
		34.64 TO 34.79	0.15	792	42.25	1	ASPHALT	3718	21	186	1116	3718	372	335	155	3168	26	26	0.28	0	0.28	0	0	2
		34.79 TO 34.84	0.05	265	30.50	2	ASPHALT	899	5	45	270	899	90	81	38	1060	2	2	0.10	0	0.10	0	0	0
		34.84 TO 34.91	0.07	370	40.75	1	ASPHALT	1676	10	84	504	1676	168	151	70	1480	10	10	0.14	0	0.12	0	0	2
		34.91 TO 34.92	0.01	53	30.75	2	ASPHALT	182	2	10	60	182	19	17	8	212	2	2	0.02	0	0.02	0	0	0
		34.92 TO 34.93	0.01	53	39.75	1	ASPHALT	235	2	12	72	235	24	22	10	212	2	2	0.02	0	0.02	0	0	0
		34.93 TO 34.94	0.01	53	30.25	2	ASPHALT	179	1	9	54	179	18	17	8	212	2	2	0.02	0	0.02	0	0	0
		34.94 TO 35.07	0.13	687	42.00	1	ASPHALT	3206	18	161	966	3206	321	289	134	2748	14	14	0.23	0	0.22	0	0	4
		35.07 TO 35.08	0.01	53	29.00	2	ASPHALT	171	1	9	54	171	18	16	8	212	2	2	0.02	0	0.02	0	0	0
		35.08 TO 35.14	0.06	317	40.25	1	ASPHALT	1418	8	81	486	1418	142	128	60	1268	10	10	0.12	0	0.12	0	0	0
		35.14 TO 35.15	0.01	53	29.75	2	ASPHALT	176	1	9	54	176	18	16	8	212	2	2	0.02	0	0.02	0	0	0
		35.15 TO 35.20	0.05	265	39.50	1	ASPHALT	1164	7	59	354	1164	117	105	49	1060	6	6	0.10	0	0.10	0	0	0
		35.20 TO 35.21	0.01	53	31.50	2	ASPHALT	186	2	10	60	186	19	17	8	212	2	2	0.02	0	0.02	0	0	0
		35.21 TO 35.43	0.22	1162	40.75	1	ASPHALT	5262	30	264	1584	5262	527	474	220	4648	40	40	0.38	0.05	0.30	480	50	9
		35.43 TO 35.47	0.04	212	28.25	2	ASPHALT	666	4	34	204	666	67	60	28	848	4	4	0.08	0	0.08	0	0	0
		35.47 TO 35.52	0.05	265	40.00	1	ASPHALT	1178	7	59	354	1178	118	107	50	1060	10	10	0.09	0	0.08	0	0	2
		35.52 TO 35.55	0.03	159	30.00	2	ASPHALT	530	3	27	162	530	53	48	23	636	2	2	0.06	0	0.04	0	0	2
		35.55 TO 35.64	0.09	476	39.75	1	ASPHALT	2103	12	106	636	2103	211	190	88	1904	8	8	0.18	0	0.18	0	0	0
		35.64 TO 35.66	0.02	106	31.50	2	ASPHALT	371	3	19	114	371	38	34	16	424	2	2	0.04	0	0.04	0	0	0
		35.66 TO 35.72	0.06	317	39.75	1	ASPHALT	1401	8	71	426	1401	141	127	59	1268	2	2	0.10	0	0.12	185	0	2
SUBTOTAL																								
TOTALS CARRIED TO GENERAL SUMMARY									195	1,689	10,134	33,345	3,345	3,013	1,402	31,308	194	194	2.80	0.05	2.66	775	50	27

TYPICAL SECTIONS (SEGMENT 2)

DESIGN AGENCY
2LMN
DESIGNER
MAK
REVIEWER
ALL 08/22/23
PROJECT ID
110570
SHEET P.009 TOTAL 208

HAM-US 50-29.00

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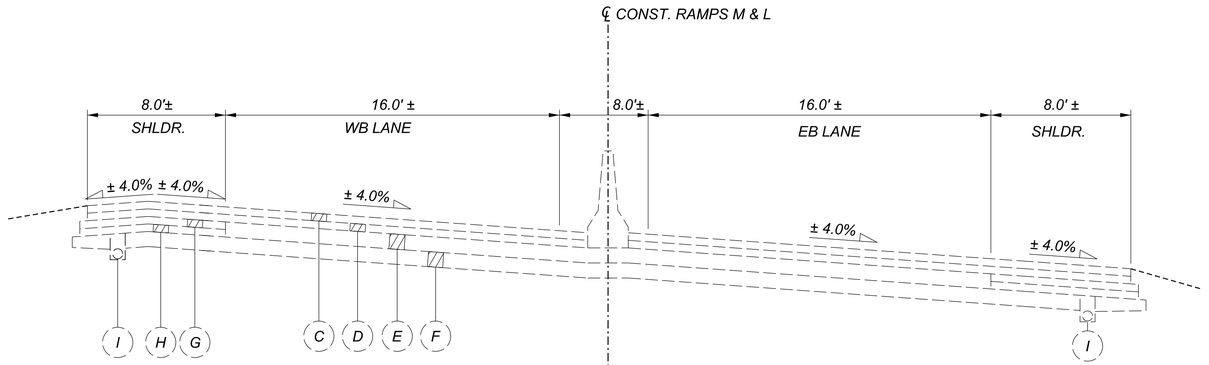
TYPICAL SECTIONS - RAMPS M & L

EXISTING LEGEND

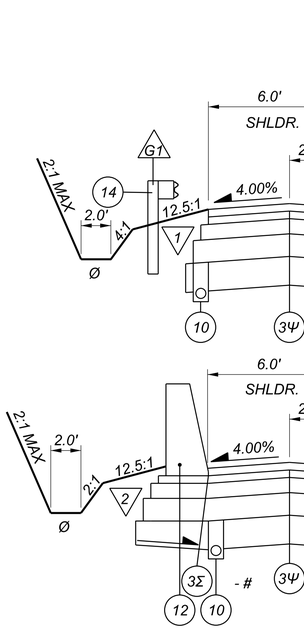
- (A) 3"± EXISTING ASPHALT PAVEMENT
- (B) 7-9"± EXISTING CONCRETE PAVEMENT
- (C) 1-1/4"± EXISTING ASPHALT SURFACE COURSE
- (D) 1-3/4"± EXISTING ASPHALT INTERMEDIATE COURSE
- (E) 9"± EXISTING CONCRETE BASE
- (F) EXISTING SUBBASE
- (G) 3"± EXISTING AGGREGATE BASE COURSE
- (H) 5"± EXISTING STABILIZED CRUSHED AGGREGATE SHOULDER
- (I) EXISTING UNDERDRAIN
- (J) EXISTING CONCRETE BARRIER



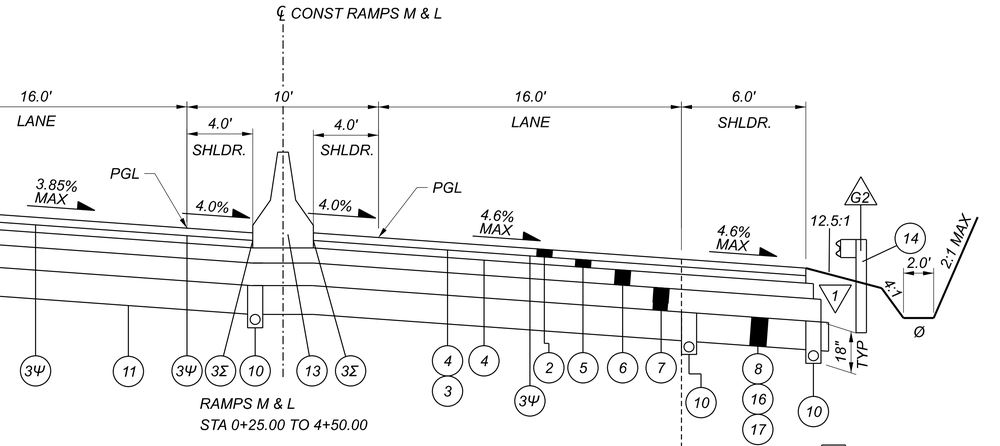
EXISTING RAMPS M & L
STA 0+25.00
STA 4+50.00

LEGEND

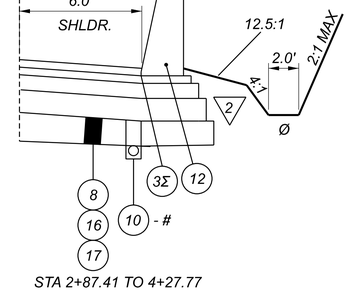
- (1) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1.5" THICK)
- (2) ITEM 442 - 1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
- (3) ITEM 872 - VOID REDUCING ASPHALT MEMBRANE (VRAM)
- (4) ITEM 407 - NON TRACKING TACK COAT (0.06 or 0.09 GAL/SY, PER CMS TABLE 407.06-1)
- (5) ITEM 442 - 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)
- (6) ITEM 301 - 9" ASPHALT CONCRETE BASE, PG64-22 (449) (PLACE IN 2 LIFTS)
- (7) ITEM 304 - 6" AGGREGATE BASE
- (8) ITEM 204 - EXCAVATION OF SUBGRADE, 12 INCHES DEEP
- (9) ITEM 422 - SINGLE SLOPE CONCRETE BRIDGE RAILING
- (10) ITEM 605 - 6" BASE PIPE UNDERDRAIN
- (11) ITEM 204 - PROOF ROLLING
- (12) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D
- (13) ITEM 622 - BARRIER, MISC.: MC-9.3, TYPE A
- (14) ITEM 606 - GUARDRAIL, TYPE MGS
- (15) APPROACH SLAB (T = 15")
- (16) ITEM 204 - GEOTEXTILE FABRIC
- (17) ITEM 204 - GRANULAR MATERIAL, TYPE C
- (18) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C1
- (19) ITEM 204 - SUBGRADE COMPACTION
- (20) ITEM 609 - CURB, TYPE 4C



STA 3+20.22 TO 4+50.00

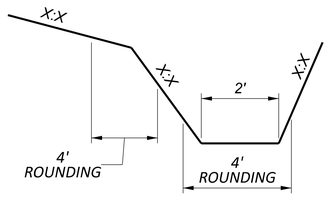


RAMPS M & L
STA 0+25.00 TO 4+50.00



STA 2+87.41 TO 4+27.77

Ø - GRADING ROUNDING



Ψ APPLY FULL WIDTH AND FULL RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1

Σ APPLY HALF WIDTH AND HALF RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1

▽ FOR EDGE COURSE DETAILS, SEE SHEET P.007

G1 STA. 4+49.41 TO STA. 5+35.67

G2 STA. 1+87.75 TO STA. 2+89.45

\# UNDERDRAIN BEGINS INSIDE EDGE OF CONCRETE BARRIER WHERE BRIDGE FOOTERS EXIST.
STA. 2+99.90 TO STA. 4+24.16 RIGHT
STA. 3+31.43 TO STA. 4+49.47 LEFT

HAM-US 50-29.00

MODEL: Sheet 4 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:39:22 AM USER: rjgreve
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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER MSW

REVIEWER GHM 08/22/23

PROJECT ID 110570

SHEET P.010 TOTAL 208

UTILITIES

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

CHARTER COMMUNICATIONS (SPECTRUM)
10920 KENWOOD ROAD
BLUE ASH, OH 45242
CONTACT: JOSEPH ANGEL
PHONE: 513-878-6507
EMAIL: joseph.angel@charter.com
DL-Southern-Ohio-Outside-Plant@charter.com

ALTA FIBER (UNDERGROUND)
221 E. 4TH ST, BLDG 121-900
CINCINNATI, OH 45201
CONTACT: BRECK COWAN
PHONE: 513-565-7187
EMAIL: breck.cowan@altafiber.com
EMAIL: RoadProjects@altafiber.com

ALTA FIBER (AERIAL & PLACING)
209 W. 7TH ST, BLDG. 121-900
CINCINNATI, OH 45202
CONTACT: ROBERT WALTERS
PHONE: 513-692-2085
EMAIL: robert.walters@altafiber.com
EMAIL: RoadProjects@altafiber.com

CINCINNATI STORMWATER MANAGEMENT UTILITY
4747 SPRING GROVE AVE
CINCINNATI, OH 45232
CONTACT: NICK CHRISTOPFEL
PHONE: 513-591-7783
EMAIL: smuplanreview@cincinnati-oh.gov

CITY OF CINCINNATI TRANSPORTATION AND ENGINEERING
801 PLUM ST, ROOM 450
CINCINNATI, OH 45202
CONTACT: CHRIS KELLY
PHONE: 513-352-3721
EMAIL: chris.kelly@cincinnati-oh.gov

DUKE ENERGY - ELECTRIC (DISTRIBUTION)
2010 DANA AVE, RM EF324
CINCINNATI, OH 45207
CONTACT: SHANE ERHART
PHONE: 513-508-9609
EMAIL: shane.erhart@duke-energy.com

DUKE ENERGY - ELECTRIC (TRANSMISSION)
139 EAST 4TH ST, ROOM 460A
CINCINNATI, OH 45202
CONTACT: TIM MEYER
PHONE: 513-287-1266
EMAIL: Tim.Meyer@duke-energy.com
Joseph.Tipton2@duke-energy.com

DUKE ENERGY (GAS)
139 EAST 4TH ST, ROOM 460A
CINCINNATI, OH, 45202
CONTACT: MARK BRASCUM
PHONE: 513-287-2517
EMAIL: mark.brascum@duke-energy.com
oh/kyhousebill@duke-energy.com
brianhollmann@duke-energy.com

GREATER CINCINNATI WATER WORKS
4747 SPRING GROVE AVE
CINCINNATI, OH 45232
CONTACT: Earl Bratfish
PHONE: 513-591-5056
EMAIL: GCWW.Utility.Review@gcww.cincinnati-oh.gov

HAMILTON COUNTY ENGINEER'S OFFICE
700 COUNTY ADMINISTRATION BUILDING
138 EAST COURT ST
CINCINNATI, OH 45202-1232
CONTACT: ERIC BECK
PHONE: 513-946-4250
EMAIL: eric.beck@hamilton-co.org
jacob.verst@hamilton-co.org
todd.long@hamilton-co.org

METROPOLITAN SEWER DISTRICT OF
GREATER CINCINNATI (MSD)
1600 GEST ST
CINCINNATI, OH 45204
CONTACT: ALICE OLIVER
PHONE: 513-244-1369
EMAIL: MSDutilityreview@cincinnati-oh.gov

UTILITIES

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

CONTRACTOR TO FIELD VERIFY LOCATION AND MAINTAIN OSHA CLEARANCE ENVELOPE REQUIRED.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET P.002 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:	GNSS, ODOT VRS/CORS
MONUMENT TYPE:	TYPE B (3.4" & 5/8" IRON PINS)

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM:	NAVD88
GEOID:	GEIOD 18

HORIZONTAL POSITIONING

REFERENCE FRAME:	NAD83 (2011)
ELLIPSOID:	GRS80
MAP PROJECTION:	LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM:	OHIO STATE PLANE, SOUTH ZONE
COMBINED SCALE FACTOR:	0.999927645 (POINT GS14) (P.A.F. 1.00007236)
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.

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 LIMTS.

CLEARING AND GRUBBING, AS PER PLAN

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING, AS PER PLAN. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER ITEM 201, CLEARING AND GRUBBING ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING, AS PER PLAN. IN ADDITION, THE CONTRACTOR SHALL REMOVE ALL TREES AND VEGITATION UNDER AND WITHIN 20 FEET OF BRIDGE HAM-00050-29.100 AND BRIDGE HAM-00050-29.280.

ENVIRONMENTAL COMMITMENTS

WATER SOURCE PROTECTIONS AREAS

THIS PROJECT IS LOCATED WITHIN THE GREAT MIAMI SOLE SOURCE AQUIFER FROM SLM 29.35 TO SLM 30.27, SLM 34.24 TO SLM 34.28, AND SLM 34.94 TO SLM 35.65. USE PROPER CONTAINMENT AND DIKING IN REFUELING AREAS. DO NOT STORE FUELS, TOXIC/HAZARDOUS MATERIALS, AND CHEMICALS NEAR DRAINAGE WAYS, DITCHES, OR STREAMS. MAINTAIN A SPILL KIT ON-SITE THROUGHOUT CONSTRUCTION ACTIVITIES. IMMEDIATELY MITIGATE ANY EVENT, SUCH AS A SPILL OF FUELS, OILS, OR CHEMICALS, THAT COULD THREATEN TO CONTAMINATE THE DRINKING WATER SUPPLY. REPORT ALL SPILLS OR EVENTS TO THE GREATER CINCINNATI WATER WORKS AT (513) 591-7700. IF THE SPILL IS A REPORTABLE AMOUNT (PER OHIO EPA'S RELEASE REPORTING REQUIREMENTS), CONTACT THE LITTLE MIAMI JOINT FIRE AND RESCUE DISTRICT STATION 66 AT (513) 271-3636 AND TERRACE PARK FIRE DEPARTMENT AT (513) 831-2196 OR THE OHIO EPA'S SPILLS HOTLINE 1-800-282-9378 FOR CLEAN-UP OF THE SPILL.

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.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING. SEE PLAN SHEET NO. P.063 FOR ADDITIONAL INFORMATION.

ITEM 204 - PROOF ROLLING	3 HOUR.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

EXISTING PLANS

EXISTING PLANS FOR THE PROJECT CORRIDOR MAY BE INSPECTED IN THE ODOT DISTRICT 8 OFFICE IN LEBANON, OHIO.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

SEEDING AND MULCHING

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

659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	190 CU. YD.
659, SEEDING AND MULCHING	1,708 SQ. YD.
659, REPAIR SEEDING AND MULCHING	86 SQ. YD.
659, INTER-SEEDING	86 SQ. YD.
659, COMMERCIAL FERTILIZER	0.24 TON
659, LIME	0.35 ACRES
659, WATER	10 M. GAL.
659, MOWING	4 M. SQ.FT.

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.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

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 REBOUNDABLE RETROREFLECTIVE SHEETING, PER CMS 730.191.

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, 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.

ROUNDING

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

GENERAL NOTES

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.011 TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:39:51 AM USER: rjgreve
pw:\\hq-pwint01.a-e.transystems.com:transyscorp-pw1\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\Roadway\Sheets\110570_GN001.dgn

ITEM SPECIAL - CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION

ALL CONCRETE SHALL BE TESTED. ALL TESTING, INSPECTION AND QUALITY CONTROL FOR CONCRETE, NOT INCLUDED UNDER QC/QA PAY ITEMS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A CONCRETE TESTING CONSULTANT WITH PREVIOUS EXPERIENCE AND FAMILIARITY IN ODOT PROCEDURES, CONCRETE TESTING REQUIREMENTS AND CONCRETE TESTING DOCUMENTATION. AT LEAST 30 DAYS PRIOR TO CONCRETE PLACEMENT, SUBMIT TO THE ENGINEER FOR APPROVAL, THE PROPOSED CONCRETE TESTING CONSULTANT ALONG WITH THE RESUMES OF THE PROPOSED TESTING PERSONNEL.

TESTING CONCRETE FOR STRUCTURES AND PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE PERFORMED AS OUTLINED IN CMS SPECIFICATIONS 455 RESPECTIVELY.

THROUGH THE CONTRACTOR, THE CONSULTANT SHALL BE RESPONSIBLE FOR ENSURING THAT ALL CONCRETE PLACED IS IN ACCORDANCE WITH THE SPECIFICATIONS. SUCH WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE ODOT CONSTRUCTION INSPECTION MANUAL OF PROCEDURES FOR CONCRETE. THE CONCRETE CONSULTANT SHALL PROVIDE THE NECESSARY TRAINED TECHNICIAN(S), ALL EQUIPMENT, AND SHALL FURNISH THE PROJECT ENGINEER WITH TWO (2) COPIES OF ALL TEST RESULTS WITHIN 24 HOURS AFTER COMPLETION OF CONCRETE PLACEMENT.

THE TECHNICIAN SHALL BE ACI LEVEL 1 CERTIFIED AND WILL BE REQUIRED TO DEMONSTRATE HIS/HER COMPETENCE AND EXPERIENCE LEVELS TO THE ENGINEER PRIOR TO BEGINNING WORK. THE ENGINEER WILL ORDER THE CONTRACTOR TO REPLACE ANY TECHNICIAN THAT IS NOT VERSED IN THE REQUIRED TESTING PROCEDURE.

THE TECHNICIAN SHALL VERBALLY NOTIFY THE ODOT PROJECT ENGINEER OF ANY FAILING TEST AND SHALL SUBMIT FOLLOW-UP WRITTEN NOTIFICATION TO THE PROJECT ENGINEER OF REMEDIAL ACTION(S) TAKEN. TESTS SHALL BE TAKEN AS SPECIFIED WITHIN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, CONCRETE MANUAL OR APPROPRIATE SUPPLEMENTAL SPECIFICATION AS LISTED IN THE PROPOSAL GOVERNING THE PROJECT. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAKE IMMEDIATE CORRECTIONS OR ADJUSTMENTS TO THE CONCRETE MIX VIA DIRECT COMMUNICATION WITH THE CONCRETE SUPPLIER'S PLANT PERSONNEL TO MAINTAIN UNINTERRUPTED COMPLIANCE WITH THE SPECIFICATIONS UPON NOTIFICATION OF CONCRETE MIX NON-COMPLIANCE BY THE CONSULTANT TECHNICIAN. THE PROJECT ENGINEER MAY REQUIRE MORE FREQUENT TESTING AS CONDITIONS WARRANT.

UPON COMPLETION OF DAILY CONCRETE PLACEMENT(S), THE CONCRETE CONSULTANT SHALL PROVIDE THE PROJECT ENGINEER WITH DAILY TEST REPORTS, TE-45'S, INSPECTORS DAILY REPORT AND SUPPORTING DOCUMENTATION FOR EACH ITEM OF CONCRETE WORK PERFORMED SEPARATED BY MIX DESIGN. SUBSEQUENTLY, UPON COMPLETION OF AN ENTIRE CONCRETE SPECIFICATION ITEM, THE CONCRETE CONSULTANT SHALL ALSO PROVIDE THE PROJECT ENGINEER WITH TWO (2) COPIES OF AN ADDITIONAL INSPECTION REPORT BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHICH CONTAINS THE TESTING-RESULTS SUMMARY FOR EACH ITEM BY CONTRACT REFERENCE NUMBER AND THE CONSULTANT'S CONCLUSIONS RELATIVE TO SPECIFICATION COMPLIANCE FOR ALL CONCRETE-TESTING WORK.

THE ODOT PROJECT ENGINEER RESERVES THE RIGHT TO MAKE UNANNOUNCED QUALITY-CONTROL TESTS TO VERIFY PROCEDURES USED AND RESULTS BEING OBTAINED BY THE CONTRACTOR.

ITEM SPECIAL - CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION (CONT.)

THE CONCRETE TECHNICIAN SHALL WORK UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHO WILL MONITOR THE CONCRETE TEST RESULTS. THE FINAL INSPECTION REPORTS FOR EACH COMPLETED ITEM SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, CERTIFYING THAT ALL CONCRETE TESTS PROVIDED BY THE CONTRACTOR MET APPLICABLE CONTRACT REQUIREMENTS. A FINAL REPORT ISSUED BY THE CONSULTING FIRM SHALL CONTAIN A CERTIFIED STATEMENT OF COMPLIANCE WITH ODOT SPECIFICATIONS AND ANY OTHER CONCLUSIONS REGARDING THE CONCRETE MATERIALS INCORPORATED INTO THE PROJECT. SUCH STATEMENT SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO. AND, THE CONCRETE CONSULTANT SHALL BE REQUIRED TO ATTEND MONTHLY PROGRESS MEETINGS AS REQUIRED BY THE PROJECT ENGINEER.

ADDITIONALLY, THE CONTRACTOR SHALL BE REQUIRED TO KEEP A POSTED LIST OF BEAM AND CYLINDER IDENTIFICATION NUMBERS FOR THE PURPOSE OF IDENTIFYING THE CORRESPONDING PLACEMENT LOCATION AND CONCRETE SPECIFICATION ITEM.

PAYMENT SHALL BE BID AS LUMP SUM FOR ITEM SPECIAL MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION. THE ITEM WILL BE PAID FOR AS FOLLOWS:

UPON APPROVAL OF CONSULTANT 20%
PROGRESSIVE EQUIVALENT PAYMENTS 50%
UPON SUBMISSION OF FINAL REPORT . . . . . 30%.

THE TECHNICIAN SHALL HAVE THE FULL EFFECT AND AUTHORITY OF AN ODOT PROJECT INSPECTOR IN DETERMINING ACCEPTABILITY OF MATERIAL AND CONCRETE PLACEMENT PRACTICES.

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.

VEGETATED FILTER STRIP

THIS PLAN UTILIZES VEGETATED FILTER STRIP(S) 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.

STORM WATER PERMITS

AN NOI WILL BE SUBMITTED BY ODOT TO THE OHIO EPA PRIOR TO PLAN FILE. IN ACCORDANCE WITH ODOT SUPPLEMENTAL SPECIFICATION 832, A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WILL BE DEVELOPED BY THE CONTRACTOR AND THE NPDES PERMIT WILL BE FINALIZED/ACQUIRED BY THE CONTRACTOR PRIOR TO STARTING ANY EARTH DISTURBING CONSTRUCTION ACTIVITIES.

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

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.

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	4 SQ. YD.
ITEM 611, 6" CONDUIT, TYPE F	50 FT.
ITEM 611, PRECAST REINFORCED CONCRETE OUTLET	2 EACH
ITEM 605, 6" UNCLASSIFIED PIPE UNDERDRAINS	20 FT.

FIELD OFFICE, TYPE C AS PER PLAN

IN ADDITION, TO THE REQUIREMENTS OF ITEM 619:
OFFICE TO INCLUDE AT LEAST 3 SEPARATE OFFICES WITH SHELVING UNITS. FURTHER ITEMS ARE AS FOLLOWS:

1.) INTERNET
   a. THE CONTRACTOR WILL PROVIDE INTERNET SERVICES WITH A MINIMUM OF 400MBS. THE CONTRACTOR WILL PROVIDE ODOT WITH AN IP ADDRESS SO THAT ODOT CAN ATTACH AN ODOT OWNED HUB. ODOT'S OWNED HUB WILL PROVIDE THE STAFF WITH A WIRELESS ROUTER AND FIREWALL.
2.) PARKING
   a. THE CONTRACTOR SHALL PROVIDE A SECURE PARKING AREA NOT LESS THAT 2000SF CAPABLE OF SUPPLYING 10 EA ALL WEATHER PARKING SPOTS. "ALL WEATHER"IS DEFINED AS A HARD SMOOTH SURFACE THAT WILL ALLOW FOR SNOW REMOVAL. GRAVEL SURFACE IS NOT ACCEPTABLE. THE PARKING AREA SHALL BE SURROUNDED BY A 6' TALL SECURITY FENCE WITH A LOCKABLE GATE INCLUDED.

FIELD OFFICE, TYPE C AS PER PLAN

3.) OTHER
   a. KEYS AND ILLUMINATED SECURITY LIGHTING.
   b. THE CONTRACTOR WILL PROVIDE THE DEPARTMENT (1) WATER COOLER AND SERVICE.
   c. SNOW REMOVAL SHALL BE REQUIRED FOR THE PARKING AREA.
   d. BI-WEEKLY CLEANING SERVICE
   e. DUMPSTER WITH NECESSARY SERVICE

THE CONTRACTOR SHALL OBTAIN APPROVAL OF THE PROPOSED FACILITY FROM THE ENGINEER PRIOR TO USE. THE FACILITY SHALL BE AVAILABLE FOR ODOT USE NOT MORE THAN 30 DAYS FROM THE DATE OF A SIGNED CONTRACT.

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF ___ FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND THE ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO FILE A NEW FAA FORM 7460-1, ADVISING THE FAA THAT AERONAUTICAL STUDY NUMBER _____ IS BEING RESUBMITTED AND THAT AN ALTERATION TO THE ORIGINAL SUBMISSION IS REQUESTED.
NOTIFY THE ODOT OFFICE OF AVIATION WHEN RESUBMITTING FAA FORM 7460-1. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND THE ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.
FAA APPROVAL MAY TAKE UP TO 45 DAYS. ALL SUBMISSIONS SHALL BE DIRECTED TO THESE OFFICES:
FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGIONAL OFFICE
OBSTRUCTION EVALUATION GROUP
10101 HILLWOOD PARKWAY
FORT WORTH, TX 76177
FAX: (817) 222-5920
HTTP://CEAAA.FAA.GOV

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235

CITY OF CINCINNATI NOTES

IF PROJECT ACTIVITIES ARE PERFORMED IN CITY OF CINCINNATI RIGHT OF WAY, OR WILL IMPACT LOCAL ROADS, THEN THE CONTRACTORS MUST APPLY FOR A CITY PERMIT.
PERMITS: A CITY OF CINCINNATI DOTE PERMIT IS REQUIRED PRIOR TO THE ODOT CONTRACTOR COMMENCING WORK INSIDE THE CITY'S RIGHT OF WAY. PERMITS WILL BE AT "NO COST" AND REQUIRE DOTE'S GENERAL PERMIT TO BE APPLIED FOR.

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK CONSISTS OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. DISPOSE OF ALL MATERIAL PER 105.16 AND 105.17. CLEAN OUT TO THE APPROVAL OF THE ENGINEER.
CLEANOUT OF THE PIPE IS PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL, PIPE CLEANOUT. THIS PRICE INCLUDES THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

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

ITEM SPECIAL, PIPE CLEANOUT, 24" AND UNDER 800 FT.

GENERAL NOTES

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER MSW
REVIEWER GHM 08/22/23
PROJECT ID 110570
SHEET P.012 TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:40:21 AM USER: rjgreve
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CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DIRECTION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THE PROJECT.

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE

THE SEGMENT 1 PAVEMENT PLANING SHALL BE SCHEDULED TO BE COVERED BY THE SURFACE COURSE PRIOR TO REOPENING THE LANE TO TRAFFIC, EXCEPT THE CONTRACTOR IS PERMITTED TO MILL AHEAD 1000 FEET BEYOND THE PLACED SURFACE COURSE. THE MILLED AHEAD SURFACE SHALL BE COVERED BY THE SURFACE COURSE ASPHALT WITHIN 72 HOURS OF BEING OPEN TO TRAFFIC. ADDITIONALLY, THE MILLED AHEAD SURFACE SHALL NOT BE LOCATED WITHIN AN INTERSECTION OR RAMP. THE MILLED AHEAD SURFACE SHALL BE SMOOTH, FREE OF DEBRIS, AND FREE OF POTHOLES.

THE SEGMENT 2 PAVEMENT PLANING SHALL BE SCHEDULED SUCH THAT THE MILLED SURFACE SHALL BE COVERED BY THE SURFACE COURSE ASPHALT WITHIN 72 HOURS OF BEING OPEN TO TRAFFIC. THE MILLED SURFACE SHALL BE SMOOTH, FREE OF DEBRIS, AND FREE OF POTHOLES.

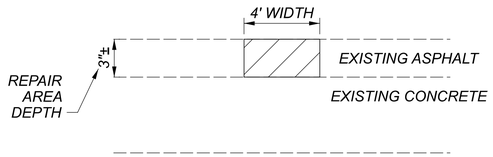
A DISINCENTIVE IN THE AMOUNT OF $9,300 SHALL BE ASSESSED FOR EACH DAY THE CONTRACTOR FAILS TO MEET ANY OF THESE REQUIREMENTS.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (442)

THIS OPERATION SHALL BE PERFORMED BEFORE RESURFACING OF ROADWAY.

THE FOLLOWING QUANTITY IS GENERATED ON SHEETS P.007 & P.009 AND CARRIED TO THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PARTIAL DEPTH PAVEMENT REPAIR:

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (442) 341 CY

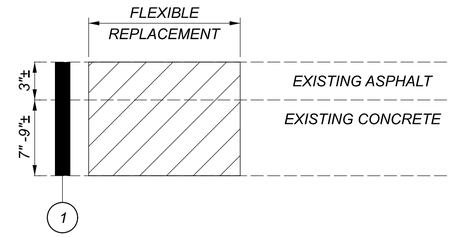


EXISTING DETERIORATED ASPHALT SHALL BE REMOVED TO A DEPTH OF 3"± AND MINIMUM WIDTH OF 4' OR AS DIRECTED BY THE ENGINEER. THIS WORK CONSISTS OF PARTIAL DEPTH REMOVAL OF EXISTING PAVEMENT IN AREAS EXHIBITING DETERIORATION AT THE SURFACE, APPLYING TACK COAT, AND PLACING AND COMPACTING ASPHALT CONCRETE. THE LOCATION AND SIZE OF THE REPAIR SHALL BE DETERMINED BY THE ENGINEER. THE EXISTING CONCRETE SURFACE SHALL NOT BE DISTURBED.

PLACE ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5MM, TYPE A (449) INTO THE REPAIR.

ITEM 252 - FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT, AS PER PLAN

THIS ITEM SHALL CONSIST OF CUTTING AND REMOVING DETERIORATED PAVEMENT FULL DEPTH AND PLACING 10"-12"± ITEM 252 - FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE BEGINNING OF MAINLINE PAVEMENT PLANING. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED AND REPLACED TO THE LIMITS DESIGNATED BY THE ENGINEER.



(1) ITEM 252 - PAVEMENT REPAIR (10"-12"±)

PLACE ITEM 301 - ASPHALT CONCRETE BASE (449) INTO THE REPAIR.

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.

ITEM 203 - GRANULAR MATERIAL, TYPE E, AS PER PLAN

PROVIDE AND INSTALL CRUSHED CARBONATE STONE WITH A NO. 57 GRADATION FOR THE BLANKET DRAIN AGGREGATE. PLACE THE NO. 57 STONE IN MAXIMUM 12 INCH LIFTS AND COMPACT WITH A VIBRATORY PLATE COMPACTOR. COMPACT THE NO. 57 STONE WITH A MINIMUM OF SIX PASSES OF A MECHANICAL TAMPER OR PLATE COMPACTOR THAT APPLIES AN IMPACT OR CENTRIFUGAL FORCE BETWEEN ½ AND 2 TONS. DO NOT PERFORM COMPACTION TESTING ON THE NO. 57 STONE. COMPLETELY WRAP THE NO. 57 STONE WITH A TYPE D GEOTECTILE FABRIC METTING THE SPECIFICATIONS OF ITEM 204 GEOTEXTILE FABRIC, AS PER PLAN.

ITEM 204 - GEOTEXTILE FABRIC, AS PER PLAN

PROVID AND PLACE TYPE D GEOTEXTILE FABRIC TO WRAP NO. 57 STONE AS ILLUSTRATED IN THE PLANS. OVERLAP ADJACENT SECTIONS OF GEOTEXTILE FABRIC A MINIMUM OF 18 INCHES.

GENERAL NOTES

HAM-US 50-29.00
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/26/2024 TIME: 3:05:36 PM USER: Josh_Rognon
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DESIGN AGENCY
2LMN
DESIGNER
MAK
REVIEWER
ALL 08/22/23
PROJECT ID
110570
SHEET P.013 TOTAL 208

SEQUENCE OF CONSTRUCTION - SEGMENT 1

THE MOT PLAN SHALL BE IMPLEMENTED IN FIVE PHASES WHEN REPLACING THE BRIDGE DECKS CARRYING EB & WB US 50 OVER THE RAILROAD, DUCK CREEK AND RED BANK RD (HAM-50-2910) AND OVER THE RAMPS TO RED BANK RD (HAM-50-2928).

THE MOT PLAN INCORPORATES THE USE OF TWO SEPARATE CROSSOVERS THAT WILL ALLOW FOR ONE LANE OF TRAFFIC IN EACH DIRECTION WHEN RE-DECKING THE BRIDGES. THE CROSSOVERS WERE DESIGNED FOR 50MPH UTILIZING 4-DEGREE REVERSE CURVES PLACED ON TANGENT SECTIONS OF US 50.

THE CROSSOVERS WERE ALSO PLACED AT LOCATIONS THAT WOULD MINIMIZE DRAINAGE AND MEDIAN LIGHTING CONFLICTS.

CROSSOVER LOCATIONS CAN BE SHIFTED SLIGHTLY WITH SLIGHT MODIFICATIONS TO THE GEOMETRY AS PROPOSED BASED ON FIELD CONDITIONS.

OUTSIDE OF THE CROSSOVER LIMITS, MOT FOR THE PAVEMENT REPAIRS, MILLING OPERATIONS, AND RESURFACING WILL BE COMPLETED PER SCDs BY SHIFTING LANES AND/OR CLOSING LANES DURING ALLOWED TIMES PER THE PLCM.

INSIDE THE CROSSOVER AREAS THE CONTRACTOR CAN PERFORM REPAIRS WITH EASIER ACCESS DUE TO TRAFFIC NOT BEING ON THAT SIDE OF THE MEDIAN.

PHASE 1:

US 50:

CLOSE THE LEFT LANE EB AND LEFT LANE WB. EB US 50 WILL BE IN PLACE FOR PHASE 2.

REMOVE EXISTING MEDIAN BARRIER AS INDICATED ON PLANS AND FILL WITH TEMPORARY PAVEMENT FOR INSTALLATION OF CROSSOVERS AND CONSTRUCTION ACCESS POINTS.

SECTIONS OF PORTABLE BARRIER AND WORK ZONE IMPACT ATTENUATORS ARE NEEDED TO PROTECT WB TRAFFIC FROM THE CROSS OVER LOCATIONS / OPENINGS AS FOLLOWS:

PORTABLE BARRIER
- STA 85+00.00 TO STA 88+50.00
  STA 111+51.45 TO STA 114+89.96

WORK ZONE IMPACT ATTENUATORS

PHASE 2	PHASE 3
- STA 84+75.00	STA 83+91.00
STA 85+00.00	STA 94+29.95
STA 100+21.00	STA 100+99.85
STA 101+72.00	STA 101+81.75
STA 107+05.00	
STA 111+51.00	

THE CONTRACTOR WILL CONSTRUCT THE MEDIAN CROSS OVERS.

SEQUENCE OF CONSTRUCTION - SEGMENT 1 (CONTINUED)

PHASE 2:

EB US 50 REMAINS AND WB US 50 IS PLACED IN CROSSOVER. THE CONTRACTOR PERFORMED BRIDGE WORK. RAMP J IS CLOSED DUE TO MOT CONSTRAINTS. RAMP L IS CLOSED DURING OVERNIGHT HOURS FOR DECK DEMO AND CLOSED FOR 21 DAYS FOR PAVEMENT LOWERING. RAMP M IS CLOSED OVERNIGHT FOR DECK REMOVAL. RED BANK IS THE DETOUR ROUTE AND SHALL BE MAINTAINED AT ALL TIMES, EXCEPT 15 MINUTE CLOSURES FOR DECK REMOVAL.

US 50:

CLOSE THE LEFT LANE EB AND LEFT LANE WB.
SECTIONS OF PB ARE NEEDED TO PROTECT WB TRAFFIC FROM THE CROSS OVER LOCATIONS. THE CONTRACTOR WILL CONSTRUCT THE MEDIAN CROSSOVERS.

THE WESTBOUND CROSSOVER WHICH SHIFTS THE WESTBOUND TRAFFIC TO THE EASTBOUND LANES WILL BEGIN JUST WEST OF THE SIGNALIZED INTERSECTION WITH WOOSTER PIKE.

SHIFT THE THROUGH LANE APPROACHING THIS INTERSECTION FROM THE EAST, STA. 126+00 TO STA. 128+00. APPROPRIATE SIGNAGE WILL BE PLACED ALERTING MOTORISTS THAT THE INSIDE/LEFT LANE WILL BE CLOSED WEST OF THE INTERSECTION.

CROSSOVER SHIFTS THE WESTBOUND TRAFFIC OVER TO THE EASTBOUND LANES BETWEEN STA 112+06 AND STA 116+42 PRIOR TO THE HAM-50-2928 STRUCTURE.

THE SECOND CROSSOVER WHICH SHIFTS THE TRAFFIC BACK TO THE WESTBOUND LANES WILL EXTEND 357 FT BETWEEN STA 85+09 AND STA 88+62 WHERE THE WESTBOUND TRAFFIC WILL BE DISPERSED ONTO THE EXISTING TWO-LANE TEMPLATE.

CONTRACTOR SHALL DISCONNECT SERVICE PRIOR TO REMOVING ANY IMPACTED LIGHT POLES. EXISTING BRIDGE MOUNTED LIGHT POLES SHALL BE REMOVED FOR STORAGE AND REINSTALLED UPON NEW DECK COMPLETION. PROVIDE TEMPORARY FLOODLIGHTING AND WORK ZONE CROSSOVER LIGHTING PER ODOT SCD, TEM AND SPECIFICATIONS PRIOR TO REMOVING THE EXISTING BRIDGE MOUNTED LIGHT POLES.

RAMPS:

THE MOT PLAN SHALL IMPLEMENT A 21 DAY CLOSURE FOR CONSTRUCTION OF RAMP L UNDER THE EXISTING BRIDGE BY UTILIZING A DETOUR ROUTE ALONG RED BANK RD SOUTHBOUND TO WOOSTER PIKE. SEE SHEET P.027 FOR DETOUR PLAN.

RAMP M (US 50 EB EXIT RAMP) TRAFFIC SHALL REMAIN AS EXISTING IN PHASE 1.

RAMP K SHALL REMAIN OPEN AS EXISTING OR USING A TEMPORARY CONNECTION AS SHOWN ON THE PLANS.

RAMP J IS CLOSED DUE TO MOT CONSTRAINTS.
RAMP L IS CLOSED DURING OVERNIGHT HOURS FOR DECK DEMO AND CLOSED FOR 21 DAYS FOR PAVEMENT LOWERING.
RAMP M IS CLOSED OVERNIGHT FOR DECK REMOVAL.

RED BANK IS THE DETOUR ROUTE AND SHALL BE MAINTAINED AT ALL TIMES, EXCEPT 15 MINUTE CLOSURES FOR DECK REMOVAL.

EXISTING LIGHT POLES SHALL BE REMOVED FOR STORAGE AND REINSTALLED ONTO NEW FOUNDATION AND ANCHOR BOLTS UPON NEW ROADWAY PAVEMENT COMPLETION. PROVIDE TEMPORARY FLOODLIGHTING AND WORK ZONE CROSSOVER LIGHTING PER ODOT SCD, TEM AND SPECIFICATIONS PRIOR TO REMOVING THE EXISTING LIGHT POLES.

SEQUENCE OF CONSTRUCTION - SEGMENT 1 (CONTINUED)

PHASE 3:

CONTRACTOR RECONSTRUCTS EB BRIDGES. EB 50 IS IN CROSS OVER. RAMP M IS CLOSED DUE TO MOT CONSTRAINTS; THE CONTRACTOR PERFORMS PAVEMENT LOWERING AND DECK DEMO. RAMP L WILL BE CLOSED OVERNIGHT FOR DECK REMOVAL. RED BANK IS THE DETOUR ROUTE AND SHALL BE MAINTAINED AT ALL TIMES, EXCEPT 15 MINUTE CLOSURES FOR DECK REMOVAL.

REMOVE TEMPORARY PORTABLE BARRIERS INSTALLED IN PHASE 2; INSTALL REMAINING NEW PERMANENT BARRIER.

US 50:

THE CROSSOVER WHICH SHIFTS THE EASTBOUND TRAFFIC TO THE WESTBOUND LANES WAS DESIGNED IN ACCORDANCE WITH SCD MT—95.70 (MEDIAN CROSSOVERS – SINGLE LANE).

THE FIRST CROSSOVER BEGINS AT STA 85+03 AND EXTENDS 362 FEET TO STA 88+65 ENSURING THAT TRAFFIC IS SHIFTED TO THE WESTBOUND LANES PRIOR TO THE HAM-50-2910 STRUCTURE.

APPROACHING THIS CROSSOVER FROM THE WEST, THE EASTBOUND INSIDE / LEFT TRAVEL LANE WILL BE CLOSED USING A 600' TAPER FOLLOWED BY A 790' TANGENT DISTANCE PRIOR TO VEHICLES ENTERING THE PROPOSED CROSSOVER.

THE TAPER AND TANGENT LENGTHS WERE DESIGNED IN ACCORDANCE WITH SCD MT-95.30 AND SCD MT-95.70 BASED ON A 50 MPH SPEED LIMIT.

THE SECOND CROSSOVER WHICH WILL SHIFT THE TRAFFIC BACK TO THE EASTBOUND LANES WILL BEGIN AT STA 111+52 AND WILL EXTEND APPROXIMATELY 557 FEET TO STA 116+34 WHERE THE EASTBOUND TRAFFIC WILL BE DISPERSED ONTO THE EXISTING ROADWAY TEMPLATE.

CONTRACTOR SHALL DISCONNECT SERVICE PRIOR TO REMOVING ANY IMPACTED LIGHT POLES. EXISTING BRIDGE MOUNTED LIGHT POLES SHALL BE REMOVED FOR STORAGE AND REINSTALLED UPON NEW DECK COMPLETION. PROVIDE TEMPORARY FLOODLIGHTING AND WORK ZONE CROSSOVER LIGHTING PER ODOT SCD, TEM AND SPECIFICATIONS PRIOR TO REMOVING THE EXISTING BRIDGE MOUNTED LIGHT POLES.

RAMPS:

THE MOT PLAN SHALL IMPLEMENT A 21 DAY CLOSURE FOR CONSTRUCTION OF RAMP M (US 50 EB EXIT RAMP) UNDER THE EXISTING BRIDGE BY UTILIZING A DETOUR ROUTE ALONG US 50 EASTBOUND TO THE EXISTING SIGNALIZED INTERSECTION OF WOOSTER PIKE AND TO RED BANK RD NORTHBOUND. SEE SHEET P.028 FOR DETOUR PLAN.

RAMP K SHALL REMAIN OPEN AS EXISTING OR USING A TEMPORARY CONNECTION AS SHOWN ON THE PLANS.

RAMP M IS CLOSED DUE TO MOT CONSTRAINTS;
THE CONTRACTOR PERFORMS PAVEMENT LOWERING AND DECK DEMO.
RAMP L WILL BE CLOSED OVERNIGHT FOR DECK REMOVAL.

RED BANK IS THE DETOUR ROUTE AND SHALL BE MAINTAINED AT ALL TIMES, EXCEPT 15 MINUTE CLOSURES FOR DECK REMOVAL.

EXISTING LIGHT POLES SHALL BE REMOVED FOR STORAGE AND REINSTALLED ONTO NEW FOUNDATION AND ANCHOR BOLTS UPON NEW ROADWAY PAVEMENT COMPLETION. PROVIDE TEMPORARY FLOODLIGHTING AND WORK ZONE CROSSOVER LIGHTING PER ODOT SCD, TEM AND SPECIFICATIONS PRIOR TO REMOVING THE EXISTING LIGHT POLES.

SEQUENCE OF CONSTRUCTION - SEGMENT 1 (CONTINUED)

PHASE 4:

US 50:

EB US 50 IS TAKEN OUT OF CROSS OVER AND MAINTAINED IN THE RIGHT LANE. WB US 50 REMAINS IN PHASE 3 SCHEME.

REMOVE SECTIONS OF PORTABLE BARRIER AND WORK ZONE IMPACT ATTENUATORS FROM THE CROSS OVER LOCATIONS AND CONSTRUCTION ACCES POINTS INSTALLED IN PHASE 1.

THE CONTRACTOR COMPLETES THE MEDIAN BARRIER AND ANY DRAINAGE ITEMS.

RAMP M REOPENS.

PHASE 5:

US 50:

TRAFFIC IS PLACED IN FINAL CONFIGURATION. CONTRACTOR PERFORMS SURFACE COURSE RESURFACING TO REMOVE MOT SCARS, INSTALL SURFACE COURSE BETWEEN BRIDGES AND ON RAMP M AND L.

CITY OF CINCINNATI NOTES

THE CITY OF CINCINNATI'S CITIZENS AND BUSINESSES HOST MANY MAJOR EVENTS THAT MAY AFFECT TRANSPORTATION ASSETS WITHIN THE PROJECT LIMITS. CITY ISSUED PERMITS MAY REQUIRE MAJOR EVENT WORK RESTRICTIONS ON THE CONTRACTOR'S ACTIVITIES. THE CITY MAINTAINS A LIST OF KNOWN MAJOR EVENTS AT THE FOLLOWING WEBSITE: HTTP://CINCINNATI-OH.GOV/POLICE/SPECIAL-EVENTS-REGULATIONS-AUCTIONS/EVENT-PERMITS/ [CINCINNATI-OH.GOV]

LANE VALUE CONTRACT

DESCRIPTION OF CRITICAL LANE/RAMP TO BE MAINTAINED	RESTRICTED TIME PERIOD	TIME UNIT	DISINCENTIVE $ PER TIME UNIT
RED BANK RD (15 Minute Closures For deck removal)	6 AM TO 9 PM	MINUTE	$105
RED BANK RD (ONE LANE OF TWO WAY TRAFFIC - FLAGGING)	7 AM TO 9 AM AND 3 PM TO 7 PM	MINUTE	$105
RAMP M/RAMP L (OVERNIGHT COMPLETE CLOSURES)	6 AM TO 9 PM	MINUTE	$55
US 50 (SEGMENT 2) (ONE LANE OF TWO WAY TRAFFIC - FLAGGING)	4 PM TO 6 PM	MINUTE	

FLEXIBLE START WINDOW CONTRACT

DESCRIPTION OF CRITICAL WORK	CALENDAR DAYS TO COMPLETE	DISINCENTIVE $ PER DAY	WORK WINDOW (START - END)
RAMP L CLOSURE	21	$340 PER DAY	PHASE 2

MAINTENANCE OF TRAFFIC - GENERAL NOTES

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER HB
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.014 TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:41:19 AM USER: rjgreve
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WORK ZONE INCREASED PENALTIES SIGN (R11-H5A)

R11-H5A-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE CONSECUTIVE CALENDAR DAYS, SUCH AS DURING WINTER SHUT-DOWNS.

THE SIGNS ON THE MAINLINE SHALL BE DUAL MOUNTED UNLESS NOT PHYSICALLY POSSIBLE. THE FIRST SIGN SHALL BE PLACED BETWEEN THE ROAD WORK AHEAD (W20-1) SIGN AND THE NEXT SIGN IN THE SEQUENCE. SIGNS SHALL BE ERECTED ON EACH ENTRANCE RAMP AND EVERY 2 MILES THROUGH THE CONSTRUCTION WORK LIMITS. SIGNS ON THE MAINLINE SHALL BE R11-H5A-48. SIGNS USED ON THE RAMPS SHALL BE R11-H5A-24. R11-H5A-24 SIGNS MAY BE USED IN THE MEDIAN IN LIEU OF R11-H5A-48 SIGNS IF IT IS NOT PHYSICALLY POSSIBLE TO PROVIDE R11-H5A-48 SIGNS IN THE MEDIAN.

THE R11-H5A-48 SIGNS SHALL BE MOUNTED ON 2 NO. 3 POSTS WHEN LOCATED WITHIN CLEAR ZONES.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS.

WORK ZONE INCREASED PENALTIES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614, WORK ZONE INCREASED PENALTIES SIGN 8 EACH

ITEM 614, WORK ZONE CROSSOVER LIGHTING SYSTEM

THIS WORK SHALL CONSIST OF FURNISHING, ERECTING, OPERATING, MAINTAINING AND REMOVING A WORK ZONE LIGHTING SYSTEM FOR A SINGLE CROSSOVER, OR OVERLAPPING A PAIR OF CROSSOVERS. THE SYSTEM SHALL BE AS SHOWN ON TRAFFIC SCD MT 100.00. THE CONTRACTOR SHALL ARRANGE FOR AND PAY FOR POWER. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH APPLICABLE PORTIONS OF 625 AND 725 EXCEPT: THE PERFORMANCE TEST OF 625.19F, AND CERTIFIED DRAWING REQUIREMENT OF 625.06, ARE WAIVED AND USED MATERIALS IN GOOD CONDITION ARE ACCEPTABLE.

POLES WHICH ARE NOT PROTECTED BY GUARDRAIL OR PORTABLE BARRIER SHALL BE LOCATED OUTSIDE THE CLEAR ZONE, AND SHOULD BE LOCATED AT LEAST 30 FEET (PREFERABLY 40 FEET) FROM THE EDGE OF PAVEMENT WHEN POSSIBLE. ADDITIONAL POLE LINES, CABLES AND APPURTENANCES NECESSARY TO FURNISH POWER TO THE LIGHTING SYSTEM SHALL BE INCLUDED IN THIS ITEM. SERVICE POLES SHALL BE POSITIONED WITH THE SAME CONSTRAINTS AS THE LIGHTING POLES AS A MINIMUM.

PAYMENT WILL BE MADE AT THE UNIT PRICE PER EACH FOR ITEM 614, WORK ZONE CROSSOVER LIGHTING SYSTEM THROUGHOUT ALL PHASES OF WORK WHEN THE CROSSOVER ROADWAYS ARE USED.

ITEM 614, WORK ZONE CROSSOVER LIGHTING SYSTEM 4 EACH

WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A PREQUALIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS SHALL BE TRAINED IN ACCORDANCE WITH CMS 614.03, SHALL HAVE SUCCESSFULLY COMPLETED ODOT ADMINISTERED WTS TESTING (AND RE-TESTING WHEN APPLICABLE) AND BE LISTED ON THE ODOT PREQUALIFIED WTS ROSTER. PREQUALIFICATION EXPIRES EVERY 5 YEARS. RE-TESTING SHALL BE SUCCESSFULLY REPEATED EVERY 5 YEARS TO REMAIN PREQUALIFIED.

THE NAME OF THE PREQUALIFIED WTS AND RELATED 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7), THE CONTRACTOR MAY DESIGNATE AN ALTERNATE (SECONDARY) WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY; HOWEVER, THE PRIMARY WTS SHALL REMAIN THE POINT OF CONTACT AT ALL TIMES. ANY ALTERNATE (SECONDARY) WTS IS SUBJECT TO THE SAME TRAINING, PREQUALIFICATION AND OTHER REQUIREMENTS OUTLINED WITHIN THIS PLAN NOTE. AT ALL TIMES THE ENGINEER, OR ENGINEER'S REPRESENTATIVES, MUST BE INFORMED OF WHO THE PRIMARY WTS (AND SECONDARY WTS, IF APPLICABLE) IS AT THE CURRENT TIME.

THE WTS POSITION HAS THE PRIMARY RESPONSIBILITY OF IMPLEMENTING THE TRAFFIC MANAGEMENT PLAN (TMP), MONITORING THE SAFETY AND MOBILITY OF THE ENTIRE WORK ZONE, AND CORRECTING TEMPORARY TRAFFIC CONTROL (TTC) DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE WTS, AND ALTERNATE WTS WHEN ON DUTY, SHALL HAVE SUFFICIENT AUTHORITY TO EFFECTIVELY CARRY OUT THE IDENTIFIED WTS RESPONSIBILITIES AND DUTIES. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS.
2. BE ON SITE FOR ALL EMERGENCY TTC NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF, AND EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TTC DEVICES.

WORKSITE TRAFFIC SUPERVISOR (CONTINUED)

3. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TTC MANAGEMENT IS DISCUSSED.
4. BE AVAILABLE ON SITE FOR OTHER MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST.
5. BE AWARE OF ALL EXISTING AND PROPOSED TTC OPERATIONS OF THE CONTRACTOR, SUBCONTRACTORS AND SUPPLIERS, AND ENSURE COORDINATION OCCURS BETWEEN THEM TO ELIMINATE CONFLICTING TEMPORARY AND/OR PERMANENT TRAFFIC CONTROL.
6. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). THE WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE LEOS ARE ON THE PROJECT.
7. COORDINATE AND FACILITATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS THE WORK ZONE TTC FOR IMPLEMENTING THE PHASE SWITCH. SUBMIT A WRITTEN DETAIL OF MOT OPERATIONS AND SCHEDULE OF EVENTS TO IMPLEMENT THE SWITCH BETWEEN PHASE PLANS TO THE ENGINEER 5 CALENDAR DAYS PRIOR TO THIS MEETING.
8. BE PRESENT, ON SITE FOR, AND INVOLVED WITH, EACH TTC SET UP/TAKE DOWN AND EACH PHASE CHANGE IN ACCORDANCE WITH CMS 614.03.
9. ON A CONTINUAL BASIS ENSURE THAT THE TTC ZONE AND ALL RELATED DEVICES ARE INSTALLED, MAINTAINED AND REMOVED IN COMPLIANCE WITH THE CONTRACT DOCUMENTS.
10. ON A CONTINUAL BASIS FACILITATE CORRECTIVE ACTION(S) NECESSARY TO BRING DEFICIENT TTC ZONES AND ALL RELATED DEVICES INTO COMPLIANCE WITH CONTRACT DOCUMENTS IN THE TIMEFRAME DETERMINED BY THE ENGINEER.
11. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TTC DEVICES AND TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, PERFORM ONE WEEKLY NIGHT INSPECTION OF THE WORK ZONE SETUP FOR DAYTIME WORK OPERATIONS; AND ONE DAYTIME INSPECTION PER WEEK FOR NIGHTTIME PROJECTS. THIS SHALL INCLUDE (BUT NOT BE LIMITED TO) DOCUMENTATION ON THE FOLLOWING PROJECT EVENTS:
A. INITIAL TTC SETUP (DAY AND NIGHT REVIEW).
B. DAILY TTC SETUP AND REMOVAL.
C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TTC SETUP.
D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA AND WITHIN THE INFLUENCE AREA(S) APPROACHING THE WORK ZONE.
E. REMOVAL OF TTC DEVICES AT THE END OF A PHASE OR PROJECT.
F. ALL OTHER EMERGENCY TTC NEEDS.
12. COMPLETE THE DEPARTMENT APPROVED (CA-D-8) WITHIN GOFORMZ AFTER EACH INSPECTION AS REQUIRED IN # 11 AND SUBMIT IT TO THE ENGINEER BY THE END OF THE WORKDAY IN WHICH THE INSPECTION OCCURRED. THE CA-D-8 INCLUDES A CHECKLIST OF ALL TTC MAINTENANCE ITEMS TO BE REVIEWED. CONTACT GOFORMZ.HELP@DOT.OHIO.GOV TO OBTAIN A USER ACCOUNT. ANY DEFICIENCIES OBSERVED SHALL BE NOTED ON THE CA-D-8, ALONG WITH RECOMMENDED OR COMPLETED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THE CURRENT CA-D-8 DOCUMENT CAN BE FOUND ON THE OFFICE OF CONSTRUCTION ADMINISTRATION'S INSPECTION FORMS WEBSITE.
13. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

WORKSITE TRAFFIC SUPERVISOR (CONTINUED)

THE DEPARTMENT WILL DEDUCT:

A. THE PRORATED DAILY AMOUNT OF ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY IN WHICH THE WTS FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. THE PRORATED DAILY AMOUNT WILL BE EQUAL TO THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC DIVIDED BY THE DIFFERENCE BETWEEN THE ORIGINAL COMPLETION DATE AND THE FIRST DAY OF WORK, IN CALENDAR DAYS.
B. 1% OF THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY THAT A FAILURE TO PERFORM WTS DUTIES REOCCURS OR A TTC ISSUE IS IDENTIFIED IN THE FIELD AND IS NOT CORRECTED IN THE GIVEN TIMEFRAME PER THE ENGINEER. DEDUCTION B SHALL NOT APPLY TO SITUATIONS COVERED BY DEDUCTION C.
C. 1% OF THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY THAT A LANE OR RAMP IS BLOCKED (FULLY OR PARTIALLY) WITHOUT TTC, AS DETERMINED BY THE ENGINEER. THIS DEDUCTION SHALL BE IN ADDITION TO ANY OTHER DISINCENTIVES ESTABLISHED FOR UNAUTHORIZED LANE USE.

FOR DAYS IN WHICH MORE THAN ONE DEDUCTION LISTED ABOVE OCCUR, THE HIGHEST DEDUCTION AMOUNT WILL APPLY.

IF THREE OR MORE TOTAL DAYS RESULT IN ISSUES DESCRIBED IN DEDUCTION B OR C ABOVE, THE PRIMARY WTS (AND ANY ALTERNATE WTS, IF APPLICABLE) SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05. UPON REMOVAL THE ENGINEER SHALL NOTIFY ODOT CENTRAL OFFICE (WTSPREQUALIFICATION@DOT.OHIO.GOV) TO REGISTER A REMOVAL AT THE PROJECT LEVEL AGAINST THE STATEWIDE PREQUALIFICATION FOR THE PRIMARY WTS (AND ALTERNATE WTS, IF APPLICABLE). ACCUMULATION OF THREE PROJECT LEVEL REMOVALS (FROM ANY PROJECTS STATEWIDE) SHALL CAUSE STATEWIDE DISQUALIFICATION FOR ANY FORMERLY PREQUALIFIED WTS. A WTS (AND ALTERNATE WTS, IF APPLICABLE) MAY BE IMMEDIATELY AND CONCURRENTLY REMOVED FROM THE WORK AT THE PROJECT LEVEL IN ACCORDANCE WITH C&MS.

108.05 AND DISQUALIFIED STATEWIDE FROM THE ODOT PREQUALIFIED WTS ROSTER (REGARDLESS OF THE NUMBER OF PROJECT LEVEL REMOVALS), AS WELL AS BEING SUBJECT TO OTHER POTENTIAL CONSEQUENCES, IN CASES OF FALSIFIED, DISHONEST OR OTHERWISE UNETHICAL ACTIVITY OR DOCUMENTATION.

PAYMENT FOR THE ABOVE REQUIREMENTS, RESPONSIBILITIES AND DUTIES SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER HB
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.015 TOTAL 208

HAM-US 50-29.00
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:41:47 AM USER: rjgreve
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ITEM 614, WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN

WORK ZONE RAISED PAVEMENT MARKERS, AS PER PLAN, AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614 OR C&MS 621 AS SPECIFIED HEREIN.

- *RAISED PAVEMENT MARKERS IN USE DURING THE SNOW-PLOWING SEASON SHALL CONFORM TO 621.*
- *RAISED PAVEMENT MARKERS IN USE DURING THE NON-SNOW-PLOW SEASON SHALL CONFORM TO EITHER 614 OR TO 621.*

THE SNOW-PLOWING SEASON SHALL RUN FROM OCTOBER 15 THROUGH APRIL 1.

IF PROJECT DELAYS, NOT THE FAULT OF ODOT, CAUSE THE WORK TO EXTEND INTO THE SNOW-PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO C&MS 614, WITH RAISED PAVEMENT MARKERS CONFORMING TO 621, AS DETERMINED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN, INCLUDING FILLING OF ANY DEPRESSIONS CREATED IN THE PAVEMENT AS PER C&MS 621.08.

RESURFACING OF THE TRANSITION AREAS SHALL BE PERFORMED AT THE TIME THAT THE SURFACE COURSE IS BEING APPLIED TO THE ENTIRE PROJECT. PRIOR TO APPLICATION OF THE SURFACE COURSE ON THE PROJECT, THE EXISTING PAVEMENT WITHIN THE TRANSITION AREA SHALL BE REMOVED TO A DEPTH NECESSARY TO REACH THE LEVEL OF THE INTERMEDIATE COURSE OF THE PAVEMENT, AS DETERMINED BY THE ENGINEER.

THE FOLLOWING BID ITEMS SHOULD BE INCLUDED IN THE PLANS:

ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE
6.0 SQUARE YARDS

ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN 192 EACH

PAYMENT FOR RESURFACING WITHIN THE TRANSITION AREA SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS FOR THE WORK REQUIRED, AS PROVIDED FOR IN THE PLANS.

WORK ZONE EGRESS WARNING SYSTEM

THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN AN APPROVED WORK ZONE EGRESS WARNING SYSTEM (WZEWS) AS PER SUPPLEMENTAL SPECIFICATION 829.

THE PROBABLE INITIAL LOCATIONS OF THE WZEWS DEVICES ARE SHOWN ON SHEET(S) P.035 & P.045 OF THE PLAN. IT IS EXPECTED THAT THESE LOCATIONS WILL VARY BASED ON PLANNED OR UNPLANNED PHASE AND TRAFFIC PATTERN CHANGES. PLACEMENT, OPERATION, AND MAINTENANCE AND ALL ACTIVATION OF THE DEVICES BY THE CONTRACTOR SHALL BE DIRECTED BY THE ENGINEER.

WZEWS SHALL BE USED IN ACCORDANCE WITH MT-103.10.THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 829, WORK ZONE EGRESS WARNING SYSTEM
ASSUMING 2 WORK ZONE EGRESS WARNING SYSTEMS FOR
_12____ MONTHS. 24 SIGN MONTH

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.

INCREASED BARRIER DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PB AND PERMANENT CONCRETE BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE UNDER EITHER OF THE FOLLOWING CONDITIONS: ALONG TAPERS AND TRANSITION AREAS; OR ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES.

THE INCREASED BARRIER DELINEATION SHALL CONSIST OF EITHER DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE AND SHALL BE "CRIMPED." PANELS SHALL BE INSTALLED AND SPACED PER TRAFFIC SCD MT-101.70.

TRIPLE-STACKED BARRIER REFLECTORS SHALL CONSIST OF ALIGNING THREE BARRIER REFLECTORS VERTICALLY, AT LOCATIONS WHERE A SINGLE BARRIER REFLECTOR WOULD BE OTHERWISE ATTACHED. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TRIPLE-STACKED BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THEY SHALL BE SPACED AND ALIGNED PER TRAFFIC SCD MT-101.70.

THE FOLLOWING ITEMS ARE QUANTIFIED IN THE MOT SUBSUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 1 (ONE-WAY)
ITEM 614, OBJECT MARKER, ONE-WAY
ITEM 614, OBJECT MARKER, TWO-WAY

ITEM 614, INCREASED BARRIER DELINEATION 1620 FEET

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

ALONG RUNS OF INCREASED BARRIER DELINEATION WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN OF INCREASED BARRIER DELINEATION, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL DELINEATION PANELS OR STACKS OF BARRIER REFLECTORS.

DELINEATION OF TEMPORARY AND PERMANENT GUARDRAIL

BARRIER REFLECTORS SHALL BE INSTALLED ON ALL TEMPORARY GUARDRAIL USED FOR TRAFFIC CONTROL; AND, ON ALL PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET.

[OBJECT MARKERS SHALL BE INSTALLED ON ALL TEMPORARY AND PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKERS SHALL CONFORM TO C&MS 614.03 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET WITH A 25 FOOT OFFSET FROM THE BARRIER REFLECTORS.]

THE FOLLOWING ITEMS ARE QUANTIFIED IN THE MOT SUBSUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 2 (ONE-WAY)
ITEM 614, OBJECT MARKER, ONE-WAY

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEM(S).

RAILROAD FLAGGING SERVICE

FLAGGING FOR WORK ON RAILROAD RIGHT OF WAY SHALL BE COORDINATED, OBTAINED AND PAID FOR BY THE CONTRACTOR. FLAGGING SHALL BE PROVIDED BY THE CONTRACTOR WHENEVER REQUIRED BY THE NORFOLK SOUTHERN SPECIAL PROVISIONS FOR THE PROTECTION OF RAILWAY INTEREST. NORFOLK SOUTHERN SHALL APPROVE THE FLAGGING SERVICE PROVIDER AND THEIR STAFF

NORFOLK SOUTHERN HAS THE SOLE AUTHORITY TO DETERMINE THE NEED FOR PROTECTION SERVICES TO PROTECT ITS OPERATIONS IN GENERAL. THE REQUIREMENTS OF SUCH SERVICES WILL BE WHENEVER THE CONTRACTOR'S PERSONNEL OR EQUIPMENT ARE OR ARE LIKELY TO BE, WORKING ON THE RAILROAD'S RIGHT OF WAY, OR ACROSS, OVER, ADJACENT TO, OR UNDER A TRACK, OR WHEN SUCH WORK HAS DISTURBED OR IS LIKELY TO DISTURB A RAILROAD STRUCTURE OR THE RAILROAD ROADBED OR SURFACE AND ALIGNMENT OF ANY TRACK TO SUCH EXTENT THAT THE MOVEMENT OF TRAINS MUST BE CONTROLLED BY FLAGGING.

THE TOTAL DOLLARS IN THE ESTIMATED QUANTITIES IS BASED UPON AN ESTIMATE OF TOTAL FLAGGING DOLLARS NEEDED TO COMPLETE THE PLANNED WORK.

ONLY THE FOLLOWING CERTIFIED FLAGGING PROVIDERS ARE ACCEPTABLE BY NORFOLK SOUTHERN:

RAILROAD CONSULTANTS
STEVE LLOYD (VP BUSINESS DEVELOPMENT)
(615) 542-8901

RAILPROS
1320 GREENWAY DR., SUITE 490
IRVING, TX 75038
(877) 315-0513
HTTP://WWW.RAILPROS.COM/SERVICES-CATEGORY/FIELD-SERVICES/

PAYMENT FOR CERTIFIED FLAGGING PROVIDERS WILL BE MADE PER ITEM 900E00100 EACH – RAILROAD FLAGGING SERVICES BASED UPON THE INVOICES RECEIVED FROM THE FLAGGING SERVICE FOR THE DOLLARS USED, INCLUDING A FIVE PERCENT MARKUP FOR CONTRACTOR OVERHEAD FOR ADMINISTERING THE CONTRACT WITH THE FLAGGING SERVICE.

IN THE EVENT THE PROJECT IS DELAYED DUE TO RAILROAD FLAGGER AVAILABILITY, THE CONTRACTOR WILL PROVIDE DOCUMENTATION SUPPORTING THEIR EFFORTS TO SCHEDULE A FLAGGER FROM THE FLAGGING SERVICE.

CITY OF CINCINNATI DOTE PERMITS

CITY OF CINCINNATI DOTE PERMITS
•IF PROJECT ACTIVITIES ARE PERFORMED IN CITY OF CINCINNATI RIGHT OF WAY, OR WILL IMPACT LOCAL ROADS, THEN THE CONTRACTORS MUST APPLY FOR A CITY PERMIT.

•PERMITS: A CITY OF CINCINNATI DOTE PERMIT IS REQUIRED PRIOR TO THE ODOT CONTRACTOR COMMENCING WORK INSIDE THE CITY'S RIGHT OF WAY. PERMITS WILL BE AT "NO COST" AND REQUIRE DOTE'S GENERAL PERMIT TO BE APPLIED FOR.

•THE CITY OF CINCINNATI'S CITIZENS AND BUSINESSES HOST MANY MAJOR EVENTS THAT MAY AFFECT TRANSPORTATION ASSETS WITHIN THE PROJECT LIMITS. CITY ISSUED PERMITS MAY REQUIRE MAJOR EVENT WORK RESTRICTIONS ON THE CONTRACTOR'S ACTIVITIES. THE CITY MAINTAINS A LIST OF KNOWN MAJOR EVENTS AT THE FOLLOWING WEBSITE: HTTP://CINCINNATI-OH.GOV/POLICE/SPECIAL-EVENTS-REGULATIONS-AUCTIONS/EVENT-PERMITS/

MAINTENANCE OF TRAFFIC - GENERAL NOTES

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER HB
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.016 TOTAL 208

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SEQUENCE OF OPERATIONS - SEGMENT 2

PHASE 1 - US-50 CENTER LANE
INSTALL ALL NECESSARY TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS AND CLOSE THE CENTER LANE ON US-50 AND MAINTAIN TRAFFIC IN THE EASTBOUND AND WESTBOUND LANES.

PERFORM ITEM 251 PARTIAL DEPTH PAVEMENT REPAIR AND OR ITEM 252 FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT, AS INDICATED AT THE LOCATIONS SHOWN IN THE PLANS IN THE CENTER LANE.

PAVEMENT REPAIRS SHALL BE PERFORMED AS DIRECTED BY THE PROJECT ENGINEER ON US-50 IN THE CENTER LANE.
MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION ON US-50 AND ACCESS TO ALL RESIDENCE DRIVES AT ALL TIMES.
THE CONTRACTOR SHALL UTILIZE FLAGGERS DURING THIS PHASE OF CONSTRUCTION.

THE CONTRACTOR SHALL ON A DAILY BASIS SHALL EXCAVATE FOR THE JOINT REPAIRS, PERFORM THE WORK AND FILL THE VOID COMPLETELY TO MEET THE EXISTING PAVEMENT PRIOR TO OPENING THE LANE TO TRAFFIC BY THE END OF EACH WORK DAY.

PHASE 2 - US-50 EASTBOUND LANE
INSTALL ALL NECESSARY TRAFFIC CONTROL DEVICES AS DETAILED IN STANDARD DRAWING MT-95.31 AND MOVE EASTBOUND TRAFFIC TO THE CENTER LANE AND CLOSE THE EASTBOUND LANE ON US-50 AND MAINTAIN TRAFFIC IN THE CENTER LANE AND THE WESTBOUND LANE.

PERFORM ITEM 251 PARTIAL DEPTH PAVEMENT REPAIR AND OR ITEM 252 FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT, AS INDICATED AT THE LOCATIONS SHOWN IN THE PLANS IN THE EASTBOUND LANE.

PAVEMENT REPAIRS SHALL BE PERFORMED AS DIRECTED BY THE PROJECT ENGINEER ON US-50 IN THE EASTBOUND LANE.
MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION ON US-50 AND ACCESS TO ALL RESIDENCE DRIVES AT ALL TIMES.
THE CONTRACTOR SHALL UTILIZE FLAGGERS DURING THIS PHASE OF CONSTRUCTION.

THE CONTRACTOR SHALL ON A DAILY BASIS SHALL EXCAVATE FOR THE JOINT REPAIRS, PREFORM THE WORK AND FILL THE VOID COMPLETELY TO MEET THE EXISTING PAVEMENT PRIOR TO OPENING THE LANE TO TRAFFIC BY THE END OF EACH WORK DAY.

PHASE 3 - US-50 WESTBOUND LANE
INSTALL ALL NECESSARY TRAFFIC CONTROL DEVICES AS DETAILED IN STANDARD DRAWING MT-95.31 AND MOVE WESTBOUND TRAFFIC TO THE CENTER LANE AND CLOSE THE WESTBOUND LANE ON US-50 AND MAINTAIN TRAFFIC IN THE CENTER LANE AND THE EASTBOUND LANE.

PERFORM ITEM 251 PARTIAL DEPTH PAVEMENT REPAIR AND OR ITEM 252 FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT, AS INDICATED AT THE LOCATIONS SHOWN IN THE PLANS IN THE WESTBOUND LANE.

PAVEMENT REPAIRS SHALL BE PERFORMED AS DIRECTED BY THE PROJECT ENGINEER ON US-50 IN THE WESTBOUND LANE.
MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION ON US-50 AND ACCESS TO ALL RESIDENCE DRIVES AT ALL TIMES.
THE CONTRACTOR SHALL UTILIZE FLAGGERS DURING THIS PHASE OF CONSTRUCTION.

THE CONTRACTOR SHALL ON A DAILY BASIS SHALL EXCAVATE FOR THE JOINT REPAIRS, PERFORM THE WORK AND FILL THE VOID COMPLETELY TO MEET THE EXISTING PAVEMENT PRIOR TO OPENING THE LANE TO TRAFFIC BY THE END OF EACH WORK DAY.

SEQUENCE OF OPERATIONS - SEGMENT 2 (CONT...)

PHASE 4 - US-50 EASTBOUND, WESTBOUND AND CENTER LANES

PERFORM ITEM 254 PAVEMENT PLANING ASPHALT CONCRETE (1 1/2") AND PLACE ITEM 442 1 1/2" ASPHALT SURFACE COURSE, 12.5 MM TYPE A (448), UTILIZING FLAGGERS AS NEEDED FOR THESE OPERATIONS IN THE EASTBOUND, WESTBOUND AND CENTER LANES OF US-50.

NOTE:
THE SURFACE COURSE WILL BE PLACED AFTER THE PLANING OPERATION, SO AS NOT TO OPEN THE LANE TO TRAFFIC UNTIL THE SURFACE COURSE AND THE WORK ZONE STRIPING HAS BEEN PLACED.

MAINTENANCE OF TRAFFIC - GENERAL NOTES

DESIGN AGENCY
2LMN

DESIGNER
JJR

REVIEWER
ALL 08/22/23

PROJECT ID
110570

SHEET P.017 TOTAL 208

HAM-US 50-29.00

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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.

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 THE 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 SHOUD 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 RESTRICTION TIME TABLE

ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
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	>= 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 TABLE.

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT 8 OFFICE (513-932-3030), CITY OF CINCINNATI TRANSPORTATION AND ENGINEERING (513-352-3721), AND THE HAMILTON COUNTY ENGINEER'S OFFICE (513-946-4250) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN ANY 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.

THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICALSETUP 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 SHOULD LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, DETOUR ROUTES IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION TIME FRAME TABLE

	DURATION OF CLOSURE	NOTIFICATION DUE TO DISTRICT 8 COMMUNICATIONS OFFICE
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
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	2 BUSINESS DAYS PRIOR TO CLOSURE

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.

ITEM 614 MAINTAINING TRAFFIC

SEGMENT 1:
MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT AND ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, AND TEMPORARY SURFACES USING ITEM 614. LANE AND RAMP CLOSURES ARE PERMITTED IN ACCORDANCE WITH THE LANE VALUE CONTRACT TABLE AND THE WINDOW CONTRACT TABLE.

THE FLYING PIG MARATION OCCURS EVERY YEAR IN MAY. THE COURSE USES THIS PORTION OF THE ROADWAY. GENERALLY, THE LEFT LANE IS FOR VEHICULAR TRAFFIC AND THE RIGHT LANE AND RIGHT SHOULDER ARE FOR EVENT PARTICIPANTS. THE CONTRACTOR SHALL SCHEDULE THEIR OPERATIONS AROUND THIS EVENT SUCH THAT ONE LANE OF TRAFFIC IS MAINTAINED AND ONE LANE IS PROVIDED THROUGH THE PROJECT FOR EVENT PARTICIPANTS. THE LANE USED FOR EVENT PARTICIPANTS MAY BE THE EXISTING ROADWAY/BRIDGES, THE PROPOSED ROADWAY/BRIDGES, OR MAY USE TEMPORARY SURFACES THROUGH THE WORK AREA OVER THE COMPLETED BRIDGE. IF A TEMPORARY WALKWAY IS PROVIDED THROUGH THE WORK AREA, IT SHALL HAVE AN OPEN WIDTH OF 12', NOT INCLUDING ANY FENCING NECESSARY TO KEEP PARTICIPANTS SEPARATED FROM THE REST OF THE WORK AREA.

SEGMENT 2:
MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES, EXCEPT ONE LANE OF TWO-WAY TRAFFIC MAY BE MAINTAINED IN ACCORDANCE WITH THE LANE VALUE CONTRACT TABLE, BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, AND ITEM 615 ROADS FOR MAINTAINING TRAFFIC.

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

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

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	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRIDAY
THURSDAY (THANKSGIVING ONLY)	12:00N WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

ITEM 614 MAINTAINING TRAFFIC - CONT.

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $100 FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

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. [AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGEABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.]

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.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 30 CU. YD.

MAINTENANCE OF TRAFFIC - GENERAL NOTES

DESIGN AGENCY
2LMN

DESIGNER
JJR

REVIEWER
ALL 08/22/23

PROJECT ID
110570

SHEET P.018 | TOTAL 208

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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 20 M. GAL.

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, 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 650 FEET AND 475 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.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEET(S) OF THE PLAN. 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 TWO HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.)

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (CONT...)

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.

(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 48 SIGN MONTH

(NOTE: 4 SIGNS WILL BE REQUIRED FOR THIS PROJECT ON US-50 AND RED BANK ROAD, 4 SIGNS x 12 MONTHS = 48 SIGN MONTH)

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

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 BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

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.

ITEM 642, PLACEMENT OF ASPHALT CONCRETE

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

ITEM 614, DETOUR SIGNING

SIZE AND PLACEMENT OF DETOUR SIGNS (M4-9) SHOULD FOLLOW THE REQUIREMENTS OF THE OMUTCD SECTIOW GF.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)

MAINTENANCE OF TRAFFIC - GENERAL NOTES

DESIGN AGENCY
2LMN

DESIGNER JJR

REVIEWER ALL 08/22/23

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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.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

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).

FOR OPERATIONS WITHOUT POSITIVE PROTECTION OCCURRING WITHIN 10 FEET OF AN OPEN TRAVELED LANE THAT MEET ALL OF THE FOLLOWING CRITERIA:
ON A MULTI-LANE DIVIDED INTERSTATE, OTHER FREEWAY OR EXPRESSWAY; AND
AN AUTHORIZED SPEED LIMIT OF 45 MPH OR GREATER THAT IS IN EFFECT AT THE TIME OF THE OPERATION; AND,
AADT OF 50,000 (OR AADT OF 30,000 WITH 25% OR HIGHER PERCENT TRUCKS)

"WITHOUT POSITIVE PROTECTION" MEANS USE OF DRUMS, CONES, SHADOW VEHICLE, ETC, WITHOUT PROTECTION FROM PORTABLE BARRIER OR OTHER RIGID BARRIER ALONG THE WORK AREA. THIS PHRASE DOES NOT APPLY TO CASES WHERE POSITIVE PROTECTION IS REQUIRED. MOBILE OPERATIONS ARE REGARDED AS "WITHOUT POSITIVE PROTECTION". FOR WORK ZONES USING A COMBINATION OF BARRIER AND TEMPORARY TRAFFIC CONTROL DEVICES (CONES, DRUMS, ETC), THE DESIGNATION SHALL BE BASED UPON THE TYPE OF DEVICES USED IN THE AREA THAT WORKERS ARE LOCATED.

IF MULTIPLE ACTIVE LOCALIZED QUALIFYING WORK AREAS OCCUR WITHOUT POSITIVE PROTECTION, PER MAINLINE TRAFFIC DIRECTION, PROVIDE A UNIFORMED LEO AND OFFICIAL PATROL CAR IN ADVANCE OF:
THE FIRST ACTIVE WORK AREA THAT DRIVERS WILL ENCOUNTER; OR
THE ACTIVE WORK AREA LATERALLY CLOSEST TO THE OPEN TRAVELED LANE; OR
OTHER LOCATION AS APPROVED BY THE ENGINEER.
THE UNIFORMED LEO AND OFFICIAL PATROL CAR MAY RELOCATE AMONG THE LISTED LOCATIONS AS APPROPRIATE AS THE OPERATIONS PROCEED IN THE LOCALIZED QUALIFYING WORK AREAS.

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

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 500 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.

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.

ITEM 614 - WORK ZONE MARKINGS

THE CONTRACTOR SHALL PLACE WORK ZONE PAVEMENT MARKINGS UPON COMPLETION OF THE ASPHALT SURFACE COURSE PRIOR TO OPENING THE ROADWAY TO TRAFFIC.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS PER THE REQUIREMENTS OF C&MS 614.11.

ITEM 614 WORK ZONE EDGE LINE 6", CLASS I, 807 PAINT	*3.60 MILE*
ITEM 614 WORK ZONE LANE LINE 6", CLASS I, 807 PAINT	*1.67 MILE*
ITEM 614 WORK ZONE CHANNELIZING LINE, 12", CLASS I, 807 PAINT	*4,635 FT*
ITEM 614 WORK ZONE DOTTED LINE, 6", CLASS I, 807 PAINT	*2,011 FT*
ITEM 614 WORK ZONE EDGE LINE 6", CLASS III, 642 PAINT	*2.80 MILE*
ITEM 614 WORK ZONE LANE LINE 6", CLASS III, 642 PAINT	*0.05 MILE*
ITEM 614 WORK ZONE CENTER LINE, CLASS III, 642 PAINT	*2.66 MILE*
ITEM 614 WORK ZONE CHANNELIZING LINE, 12", CLASS III, 642 PAINT	*775 FT*
ITEM 614 WORK ZONE STOP LINE, CLASS III, 642 PAINT	*50 FT*
ITEM 614 WORK ZONE ARROW, CLASS III, 642 PAINT	*27 EACH*

MAINTENANCE OF TRAFFIC - GENERAL NOTES

DESIGN AGENCY
2LMN

DESIGNER
JJR

REVIEWER
ALL 08/22/23

PROJECT ID
110570

SHEET P.020 TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/2/2024 TIME: 10:12:25 AM USER: Josh_Rognon
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MAINTENANCE OF TRAFFIC - SUBSUMMARY

REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION FROM	STATION TO STATION TO	SIDE			202 CONCRETE BARRIER REMOVED FT	614 WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL) EACH	614 BARRIER REFLECTOR, TYPE 1 (ONE WAY) EACH	614 BARRIER REFLECTOR, TYPE 2 (ONE WAY) EACH	614 OBJECT MARKER, ONE WAY EACH	614 OBJECT MARKER, TWO WAY EACH	614 WORK ZONE LANE LINE, CLASS I, 6" MILE	614 WORK ZONE EDGE LINE, CLASS I, 6" (WHITE) MILE	614 WORK ZONE EDGE LINE, CLASS I, 6" (YELLOW) MILE	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12" FT	614 WORK ZONE DOTTED LINE, CLASS I FT		615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SY	622 PORTABLE BARRIER, UNANCHORED FT	622 PORTABLE BARRIER, ANCHORED FT	622 BARRIER, MISC.:MC-9.3, TYPE A FT	630 COVERING OF SIGN SF	
		SEGMENT 1																								
		PHASE 1																								
ELY-51	P.024	US 50	73+80.00	89+00.00	RT											0.29										
DL-51	P.024	US 50	73+80.00	80+27.00	RT													647								
IA-51	P.024	US 50	84+75.00		RT				1																	
PB-51	P.024	US 50	84+75.00	91+49.00	LT																670					
OM-51	P.024	US 50	84+75.00	91+49.00	LT							13														
BR-51	P.024	US 50	84+75.00	91+49.00	LT					13																
PB-52	P.024	US 50	84+75.00	89+00.00	RT																430					
OM-52	P.024	US 50	84+75.00	89+00.00	RT							9														
BR-52	P.024	US 50	84+75.00	89+00.00	RT					9																
R-51	P.024	US 50	85+00.00	88+50.00	CL			350																		
PMT-51	P.024	US 50	85+00.00	88+50.00	CL															155.56						
ELW-51	P.024	US 50	85+00.00	89+87.00	RT										0.09											
ELY-52	P.024	US 50	85+07.00	89+00.00	LT&RT											0.07										
ELW-52	P.024	US 51	85+07.00	100+08.00	LT&RT										0.28											
IA-52	P.024	US 50	91+49.00		CL				1																	
R-52	P.024	US 50	99+69.00	101+00.00	CL			130																		
PMT-52	P.024	US 50	99+69.00	101+00.00	CL															58.22						
IA-53	P.024	US 50	99+69.00		CL				1																	
IA-54	P.024	US 50	100+90.00		CL				1																	
R-53	P.024	US 50	101+72.00	103+05.00	CL			130																		
PMT-53	P.024	US 50	101+72.00	103+05.00	CL															59.11						
IA-55	P.024	US 50	101+72.00		RT				1																	
IA-56	P.024	US 50	103+05.00		CL				1																	
ELW-53	P.024	US 50	108+89.00	116+42.00	RT										0.14											
IA-57	P.024	US 50	111+00.00		RT				1																	
PB-53	P.024	US 50	111+00.00	116+42.00	LT																540					
OM-53	P.024	US 50	111+00.00	116+42.00	LT							11														
BR-53	P.024	US 50	111+00.00	116+42.00	LT					11																
PB-54	P.024	US 50	111+00.00	115+00.00	RT																					
OM-54	P.024	US 50	111+00.00	115+00.00	LT							8														
BR-54	P.024	US 50	111+00.00	115+00.00	LT					8																
ELY-53	P.024	US 50	111+00.00	128+00.00	RT & LT											0.32										
R-54	P.024	US 50	111+51.00	114+90.00	CL																					
PMT-54	P.024	US 50	111+51.00	114+90.00	CL															150.67						
IA-58	P.024	US 50	111+51.00		CL				1																	
CH-51	P.024	US 50	115+56.00	121+25.00	LT												569									
IA-59	P.024	US 50	116+42.00		LT				1																	
ELW-54	P.024	US 50	126+01.00	128+10.00	LT										0.04											
		PHASE 2																								
ELW-1	P.034 - P.037	US 50	82+09.00	85+09.00	RT&LT										0.45											
PB-1	P.034 - P.037	US 50	84+75.00	116+00.00	RT																	3130				
OM-1	P.034 - P.037	US 50	84+75.00	116+00.00	RT								63													
BR-1	P.034 - P.037	US 50	84+75.00	116+00.00	RT					126																
ELY-2	P.035 - P.036	US 50	89+00.00	111+00.00	RT											0.42										
ELY-3	P.035 - P.036	US 50	89+00.00	111+00.00	RT											0.42										
ELW-2	P.035 - P.036	US 50 - RAMP M	89+87.00	8+43.00	RT&LT										0.28											
PB-2	P.035	US 50	92+50.00	94+45.00	RT																200					
OM-2	P.035 - P.036	US 50	92+50.00	100+71.00	RT&LT							16														
SUBTOTALS THIS SHEET								610	9	167	0	57	63	0.00	1.28	1.52	569	647		423.56	1840	3130	0	0.00		

HAM-US 50-29.00

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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER HB

REVIEWER SS 08/22/23

PROJECT ID 110570

SHEET P.021 TOTAL 208

MAINTENANCE OF TRAFFIC - SUBSUMMARY

REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION		SIDE			202	614	614	614	614	614	614	614	614	614	614		615	622	622	622	630	
								CONCRETE BARRIER REMOVED	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	BARRIER REFLECTOR, TYPE 1 (ONE WAY)	BARRIER REFLECTOR, TYPE 2 (ONE WAY)	OBJECT MARKER, ONE WAY	OBJECT MARKER, TWO WAY	WORK ZONE LANE LINE, CLASS I, 6"	WORK ZONE EDGE LINE, CLASS I, 6" (WHITE)	WORK ZONE EDGE LINE, CLASS I, 6" (YELLOW)	WORK ZONE CHANNELIZING LINE, CLASS I, 12"	WORK ZONE DOTTED LINE, CLASS I		PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	PORTABLE BARRIER, UNANCHORED	PORTABLE BARRIER, ANCHORED	BARRIER, MISC.:MC-9.3, TYPE A	COVERING OF SIGN	
			FROM	TO				FT	EACH	EACH	EACH	EACH	EACH	MILE	MILE	MILE	FT	FT		SY	FT	FT	FT	SF	
		PHASE 2																							
BR-2	P.035 - P.036	US 50	92+50.00	100+71.00	RT&LT					16															
PBA-1	P.035	US 50	94+45.00	98+75.00	RT																	430			
PB-3	P.035 - P.036	US 50	98+75.00	100+71.00	RT&LT																200				
ELW-3	P.035 - P.036	US 50	100+08.00	111+00.00	RT											0.21									
IA-1	P.036	US 50	101+71.00		LT				1																
IA-2	P.036	US 50	101+72.00		CL				1																
PB-3A	P.036	US 50	102+00.00	103+00.00	LT																100				
OM-2A	P.036	US 50	102+00.00	103+00.00	LT								2												
BR-2A	P.036	US 50	102+00.00	103+00.00	LT					4															
OM-3	P.036	US 50	103+00.00	107+05.00	RT							8													
BR-3	P.036	US 50	103+00.00	107+05.00	RT					8															
PB-4	P.036	US 50	103+00.00	107+05.00	RT																400				
DL-2	P.036	US 50	104+70.00	108+91.00	RT															421					
IA-3	P.036	US 50	107+05.00		RT				1																
S-1	P.037	US 50	120+39.00		RT																			6.70	
DL-2	P.037	US 50	122+43.00	125+35.00	RT															292					
ELY-4	P.039	RAMP L-RAMPS M&L	2+05.00	5+02.00	RT													0.13							
IA-4	P.039	RAMPS M & L	0+15.00		RT				1																
OM-4	P.039	RAMPS M & L	0+15.00	4+57.00	RT								9												
BR-4	P.039	RAMPS M & L	0+15.00	4+57.00	RT					9															
PB-6	P.039	RAMPS M & L	0+15.00	4+57.00	RT																440				
S-2	P.040	RED BANK RD			LT																			3.0	
		PHASE 3																							
DL-21	P.043	US 50	66+28.00	72+18.00	RT															590					
ELY-21	P.043-P.047	US 50	66+28.00	122+00.00	RT													1.06							
IA-21	P.044	US 50	83+91.00		RT				1																
PB-21	P.043-P.047	US 50	83+91.00	88+50.00	RT&CL																460				
OM-21	P.043-P.047	US 50	83+91.00	88+50.00	RT&CL							9													
BR-21	P.044-P.045	US 50	83+91.00	88+50.00	RT&CL					9															
ELW-21	P.044-P.047	US 50	83+91.00	118+44.00	LT											0.66									
PB-22	P.044-P.045	US 50	84+10.00	115+09.00	LT																3170				
OM-22	P.044-P.047	US 50	84+10.00	115+09.00	LT								62												
BR-22	P.044-P.047	US 50	84+10.00	115+09.00	LT					128															
ELY-22	P.044-P.048	US 50	85+83.00	128+00.00	LT													0.80							
OM-23	P.045	US 50	94+20.00	99+00.00	CL								10												
BR-23	P.045	US 50	94+20.00	99+00.00	CL					20															
IA-22	P.045	US 50	94+30.00		RT				1																
PB-23	P.045	US 50	94+30.00	99+01.00	RT																470				
OM-23A	P.045	US 50	94+30.00	99+00.00	RT							9													
BR-23A	P.045	US 50	94+30.00	99+00.00	RT					9															
BR-24	P.045	US 50	93+71.00	94+20.00	LT						1														
OM-24	P.045	US 50	94+20.00	99+00.00	LT							10													
BR-25	P.045	US 50	94+20.00	99+00.00	RT					10															
BR-26	P.045-P.046	US 50	99+00.00	103+33.00	RT						9														
DL-22	P.045-P.046	US 50	99+00.00	106+58.00	RT															758					
PB-24	P.045-P.046	US 50	99+98.00	100+90.00	LT																90				
OM-24A	P.045-P.046	US 50	99+98.00	100+90.00	LT								2												
BR-24A	P.045-P.046	US 50	99+98.00	100+90.00	LT					4															
SUBTOTALS THIS SHEET								0	6	217	10	36	85	0.00	0.87	1.99	0	2061		0	5330	430	0	9.70	

DESIGN AGENCY
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1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
HB

REVIEWER
SS 08/22/23

PROJECT ID
110570

SHEET P.022 | TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:45:06 AM USER: rjgreve
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MAINTENANCE OF TRAFFIC - SUBSUMMARY

REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION FROM	STATION TO STATION TO	SIDE	202 CONCRETE BARRIER REMOVED (FT)	614 WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL) (EACH)	614 BARRIER REFLECTOR, TYPE 1 (ONE WAY) (EACH)	614 BARRIER REFLECTOR, TYPE 2 (ONE WAY) (EACH)	614 OBJECT MARKER, ONE WAY (EACH)	614 OBJECT MARKER, TWO WAY (EACH)	614 WORK ZONE LANE LINE, CLASS I, 6" (MILE)	614 WORK ZONE EDGE LINE, CLASS I, 6" (WHITE) (MILE)	614 WORK ZONE EDGE LINE, CLASS I, 6" (YELLOW) (MILE)	614 WORK ZONE CHANNELIZING LINE, CLASS I, 12" (FT)	614 WORK ZONE DOTTED LINE, CLASS I (FT)	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (SY)	622 PORTABLE BARRIER, UNANCHORED (FT)	622 PORTABLE BARRIER, ANCHORED (FT)	622 BARRIER, MISC.:MC-9.3, TYPE A (FT)	630 COVERING OF SIGN (SF)
		PHASE 3																			
IA-23	P.046	US 50	101+82.00		LT		1														
PB-25	P.046	US 50	101+82.00	105+65.00	RT&LT													390			
OM-25	P.046	US 50	101+82.00	105+65.00	RT&LT					8											
BR-27	P.046	US 50	101+82.00	105+65.00	RT&LT			8													
OM-26	P.046	US 50	103+33.00	105+62.00	LT					5											
BR-28	P.046	US 50	103+33.00	105+62.00	LT			5													
BP-22	P.046	US 50	103+56.00	103+76.00	RT														20		
OM-27	P.046	US 50	103+76.00	105+65.00	CL						4										
BR-29	P.046	US 50	103+76.00	105+65.00	CL			8													
BR-30	P.046	US 50	105+62.00	12+58.00	LT&RT				3												
BP-23	P.046	US 50	105+65.00	105+78.00	RT														12		
CH-21	P.046	US 50	106+86.00	108+49.00	LT										163						
ELW-23	P.046-P.047	US 50	108+49.00	114+44.00	LT								0.11								
CH-22	P.046	RAMP J	11+81.00	12+58.00	LT										77						
CH-23	P.047	US 50	114+44.00	117+78.00	LT										334						
CH-24	P.047	US 50	114+58.00	116+45.00	LT										187						
LL-21	P.047	US 50	117+78.00	121+25.00	LT							0.07									
LL-22	P.047	US 50	118+44.00	125+35.00	RT							0.13									
CH-25	P.047	RAMP K	13+24.00	14+47.00	RT										123						
ELW-24	P.047	RAMP K	13+43.00	15+22.00	CL								0.03								
ELY-24	P.049	RAMPS M & L	0+25.00	0+50.00	LT									0.01							
ELW-26	P.049	RAMPS M & L	0+25.00	0+50.00	LT								0.01								
OM-28	P.049	RAMPS M & L	0+25.00	4+50.00	CL						9										
BR-31	P.049	RAMPS M & L	0+25.00	4+50.00	CL			18													
OM-29	P.049	RAMPS M & L	3+20.00	4+49.00	LT					3											
BR-32	P.049	RAMPS M & L	3+20.00	4+49.00	LT			3													
BR-33	P.049	RAMPS M & L	4+49.00	5+36.00	LT				2												
		PHASE 4																			
BM-41	P.044-P.045	US 50	85+00.00	88+50.00	CL															350	
BM-42	P.045-P.046	US 50	99+69.00	101+00.00	CL															130	
BM-43	P.046	US 50	101+72.00	103+05.00	CL															130	
BM-44	P.046-P.047	US 50	111+51.00	114+90.00	CL															340	
SUBTOTALS THIS SHEET						0	1	42	5	16	13	0.20	0.15	0.01	884	0	0.00	390	32	950	0.00
SUBTOTALS SEE SHEET P.022						0	6	217	10	36	85	0.00	0.87	1.99	0	2061	0.00	5330	430	0	9.70
SUBTOTALS SEE SHEET P.021						610	9	167	0	57	63	0.00	1.29	1.52	569	647	423.56	1840	3130	0	0.00
TOTALS CARRIED TO GENERAL SUMMARY						610	16	426	15	109	161	0.2	5.8		1453	2708	424	7560	3592	950	10

HAM-US 50-29.00

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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
HB

REVIEWER
SS 08/22/23

PROJECT ID
110570

SHEET P.023 | TOTAL 208

MAINTENANCE OF TRAFFIC LEGEND

- TYPE III BARRICADE
- DIRECTION OF TRAVEL
- IMPACT ATTENUATOR
- DRUMS (SPACING)
- PORTABLE BARRIER
- FULL DEPTH PAVEMENT WORK ZONE
- PAVEMENT RESURFACING WORK ZONE (PHASE 5)
- BRIDGE RECONSTRUCTED WORK ZONE

HORIZONTAL SCALE IN FEET: 0, 50, 100, 200

MAINTENANCE OF TRAFFIC - SCHEMATIC PHASE 1

REMOVE EX. MEDIAN BARRIER
℄ CONST US 50
INSTALL PROPOSED WB CROSSOVER PER SCD MT-95.70
MATCHLINE STA. 88+00
POT 85+00.00
BEGIN WORK STA. 65+13.00 S.L.M. 28.40
US 50 (COLUMBIA PKWY)
EX. RAILROAD BRIDGE
ARROW BOARD
REDUCE TO A SINGLE EB LANE PER SCD MT-95.40
EXISTING TRAFFIC SIGNAL
COLBANK RD
RESUME PAVEMENT REHABILITATION/RESURFACING SEGMENT 1 STA. 106+48.00 S.L.M. 29.31
END PROJECT STA. 106+48.00 S.L.M. 29.31
FED NO. E191 (891)
RED BANK RD
END WORK STA. 5+40.00
STRUCTURE NO. HAM-00050-29.280
EX LIGHT POLE
NORFOLK & WESTERN RAILWAY (ABANDONED)
REMOVE EX. MEDIAN BARRIER
EXISTING INDIANA & OHIO RAILWAY TRACK
RAMP J
RAMP K
RAMP L
RAMP M
CS 7+40.62
SC 7+35.50
INSTALL PROPOSED WB CROSSOVER PER SCD MT-95.70
MATCHLINE STA. 118+50
REMOVE EX. MEDIAN BARRIER
BEGIN PROJECT STA. 93+00.00 S.L.M. 29.08
FED NO. E191 (891)
CITY OF CINCINNATI
VILLAGE OF FAIRFAX
EX LIGHT POLE (BRIDGE MTD)
STRUCTURE NO. HAM-00050-29.230
END FULL DEPTH PAVEMENT REPLACEMENT BEGIN RESURFACING STA. 99+98.00
SUSPEND RESURFACING BEGIN FULL DEPTH PAVEMENT REPLACEMENT STA. 103+05.00
℄ CONSTR RAMPS M & L
BEGIN WORK STA. 2+10.00
DUCK CREEK
EX LIGHT POLE (BRIDGE MTD)
STRUCTURE NO. HAM-00050-29.100
RED BANK RD / WOOSTER PIKE
EXISTING NORFOLK SOUTHERN RAILWAY COMPANY TRACK MAIN
US 50 (COLUMBIA PKWY)
MATCHLINE STA. 88+00
REMOVE EX. MEDIAN BARRIER
VILLAGE OF FAIRFAX
CITY OF CINCINNATI
END WORK STA. 128+23.45 S.L.M. 29.81
MEADOWLARK LN
POT 130+00.00
MATCHLINE STA. 118+50
℄ CONST US 50
US 50 (COLUMBIA PKWY)
ARROW BOARD
EXISTING TRAFFIC SIGNAL
WOOSTER PIKE

HAM-US 50-29.00

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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	HB
REVIEWER	SS 08/22/23
PROJECT ID	110570
SHEET	P.024
TOTAL	208

MAINTENANCE OF TRAFFIC - SCHEMATIC PHASE 2

MAINTENANCE OF TRAFFIC LEGEND

- TYPE III BARRICADE
- DIRECTION OF TRAVEL
- IMPACT ATTENUATOR
- DRUMS (SPACING)
- PORTABLE BARRIER
- FULL DEPTH PAVEMENT WORK ZONE
- PAVEMENT RESURFACING WORK ZONE (PHASE 5)
- BRIDGE RECONSTRUCTED WORK ZONE

HORIZONTAL SCALE IN FEET: 0, 50, 100, 200

EX. MEDIAN BARRIER REMOVED IN PHASE 1
℄ CONST US 50
MATCHLINE STA. 88+00
PROPOSED WB CROSSOVER PER SCD MT-95.70
POT 85+00.00
BEGIN WORK STA. 65+13.00 S.L.M. 28.40
US 50 (COLUMBIA PKWY)
EX. RAILROAD BRIDGE
REDUCE TO A SINGLE EB LANE PER SCD MT-95.40
ARROW BOARD
EXISTING INDIANA & OHIO RAILWAY TRACK
EXISTING TRAFFIC SIGNAL
RESUME PAVEMENT REHABILITATION/RESURFACING SEGMENT 1 STA. 106+48.00 S.L.M. 29.31
END PROJECT STA. 106+48.00 S.L.M. 29.31
FED NO. E191 (891)
COLBANK RD
POT 0+00.00
POT 9+02.48
POT 4+85.50
RED BANK RD
SHORT-TERM CLOSURE OF SB LANE ON RAMP L; UTILIZE DETOUR USING RED BANK RD/ WOOSTER PIKE
END WORK STA. 5+40.00
ST 11+80.56
SC 7+35.50
CS 7+40.62
CS 9+30.56
RAMP J (CLOSED)
RAMP K
ST 10+09.04
SC 12+59.04
CS 13+43.31
POT 15+93.31
ST 9+90.62
STRUCTURE NO. HAM-00050-29.280
EX LIGHT POLE
EX. MEDIAN BARRIER REMOVED IN PHASE 1
NORFOLK & WESTERN RAILWAY (ABANDONED)
EX. MEDIAN BARRIER REMOVED IN PHASE 1
EX LIGHT POLE (BRIDGE MTD)
RESURFACING TO BE COMPLETED IN PHASE 5
STRUCTURE NO. HAM-00050-29.230
END FULL DEPTH PAVEMENT REPLACEMENT BEGIN RESURFACING STA. 99+98.00
SUSPEND RESURFACING BEGIN FULL DEPTH PAVEMENT REPLACEMENT STA. 103+05.00
EX LIGHT POLE
EX LIGHT POLE
EX LIGHT POLE
EX LIGHT POLE (BRIDGE MTD)
EX LIGHT POLE (BRIDGE MTD)
EX LIGHT POLE (BRIDGE MTD)
℄ CONSTR RAMPS M & L
BEGIN WORK STA. 2+10.00
POT 9+66.07
POT 0+00.00
CS 6+66.07
RAMP M
CS 111+12.91
ST 113+12.91
RAMP L
SC 7+46.21
CS 7+97.10
POT 9+97.10
EX. MEDIAN BARRIER REMOVED IN PHASE 1
PROPOSED WB CROSSOVER PER SCD MT-95.70
MATCHLINE STA. 118+50
BEGIN PROJECT STA. 93+00.00 S.L.M. 29.08
FED NO. E191 (891)
CITY OF CINCINNATI
VILLAGE OF FAIRFAX
US 50 (COLUMBIA PKWY)
DUCK CREEK
STRUCTURE NO. HAM-00050-29.100
RED BANK RD / WOOSTER PIKE
EXISTING NORFOLK SOUTHERN RAILWAY COMPANY TRACK MAIN
SC 90+79.56
TS 88+79.56
MATCHLINE STA. 88+00
EX. MEDIAN BARRIER REMOVED IN PHASE 1
VILLAGE OF FAIRFAX
CITY OF CINCINNATI

MATCHLINE STA. 118+50
℄ CONST US 50
US 50 (COLUMBIA PKWY)
END WORK STA. 128+23.45 S.L.M. 29.81
MEADOWLARK LN
POT 130+00.00
ARROW BOARD
EXISTING TRAFFIC SIGNAL
WOOSTER PIKE

HAM-US 50-29.00

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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	HB
REVIEWER	SS 08/22/23
PROJECT ID	110570
SHEET	P.025
TOTAL	208

MAINTENANCE OF TRAFFIC - SCHEMATIC PHASE 3

MAINTENANCE OF TRAFFIC LEGEND

- TYPE III BARRICADE
- DIRECTION OF TRAVEL
- IMPACT ATTENUATOR
- DRUMS (SPACING)
- PORTABLE BARRIER
- FULL DEPTH PAVEMENT WORK ZONE
- PAVEMENT RESURFACING WORK ZONE (PHASE 5)
- BRIDGE RECONSTRUCTED WORK ZONE
- PAVEMENT CONSTRUCTED IN PREVIOUS PHASE

HORIZONTAL SCALE IN FEET: 0, 50, 100, 200

N

EX. MEDIAN BARRIER REMOVED IN PHASE 1
MATCHLINE STA. 88+00
℄ CONST US 50
POT 85+00.00
BEGIN WORK STA. 65+15.00 S.L.M. 28.40
US 50 (COLUMBIA PKWY)
PROPOSED EB CROSSOVER PER SCD MT-95.70
REDUCE TO A SINGLE EB LANE PER SCD MT-95.40
EX. RAILROAD BRIDGE
EXISTING TRAFFIC SIGNAL
RESUME PAVEMENT REHABILITATION/RESURFACING SEGMENT 1 STA. 106+48.00 S.L.M. 29.31
END PROJECT STA. 106+48.00 S.L.M. 29.31
FED NO. E191 (891)
COLBANK RD
POT 0+00.00
POT 9+02.48
RED BANK RD
SHORT-TERM CLOSURE OF NB LANE ON RAMP M; UTILIZE DETOUR USING US 50 EB TO WOOSTER PIKE/ RED BANK RD
END WORK STA. 5+40.00
POT 4+85.50
ST 11+80.56
SC 7+35.50
CS 7+40.62
SC 9+30.56
ST 9+90.62
RAMP K
TS 10+09.04
SC 12+59.04
CS 13+43.31
POT 15+93.31
EX. MEDIAN BARRIER REMOVED IN PHASE 1
EX LIGHT POLE
PHASE 2 WORK ZONE (US 50)
STRUCTURE NO. HAM-00050-29.280
RAMP J
NORFOLK & WESTERN RAILWAY (ABANDONED)
EXISTING INDIANA & OHIO RAILWAY TRACK
EX. MEDIAN BARRIER REMOVED IN PHASE 1
EX LIGHT POLE (BRIDGE MTD)
RESURFACING TO BE COMPLETED IN PHASE 5
STRUCTURE NO. HAM-00050-29.230
EX LIGHT POLE
EX LIGHT POLE
PHASE 3 WORK ZONE (RAMPS M & L)
EX LIGHT POLE
℄ CONSTR RAMPS M & L
BEGIN WORK STA. 2+10.00
PROPOSED EB CROSSOVER PER SCD MT-95.70
CS 111+12.91
6 RAMP M (CLOSED)
POT 9+66.07
POT 0+00.00
CS 6+66.07
RAMP L
ST 113+12.91
SC 7+46.21
CS 7+97.10
POT 9+97.10
MATCHLINE STA. 118+50
PHASE 2 WORK ZONE (US 50)
BEGIN PROJECT STA. 93+00.00 S.L.M. 29.08
FED NO. E191 (891)
CITY OF CINCINNATI
VILLAGE OF FAIRFAX
EX LIGHT POLE (BRIDGE MTD)
℄ CONST US 50
US 50 (COLUMBIA PKWY)
DUCK CREEK
EX LIGHT POLE (BRIDGE MTD)
EX LIGHT POLE (BRIDGE MTD)
END FULL DEPTH PAVEMENT REPLACEMENT BEGIN RESURFACING STA. 99+98.00
SUSPEND RESURFACING BEGIN FULL DEPTH PAVEMENT REPLACEMENT STA. 103+05.00
STRUCTURE NO. HAM-00050-29.100
EXISTING NORFOLK SOUTHERN RAILWAY COMPANY TRACK MAIN
RED BANK RD / WOOSTER PIKE
SC 90+79.56
MATCHLINE STA. 88+00
TS 88+79.56
SHORT-TERM CLOSURE OF RAMP M; UTILIZE DETOUR USING US 50 EB TO WOOSTER PIKE/RED BANK RD
EX. MEDIAN BARRIER REMOVED IN PHASE 1
VILLAGE OF FAIRFAX
CITY OF CINCINNATI

MATCHLINE STA. 118+50
℄ CONST US 50
US 50 (COLUMBIA PKWY)
END WORK STA. 128+23.45 S.L.M. 29.81
MEADOWLARK LN
POT 130+00.00
ARROW BOARD
EXISTING TRAFFIC SIGNAL
WOOSTER PIKE

HAM-US 50-29.00

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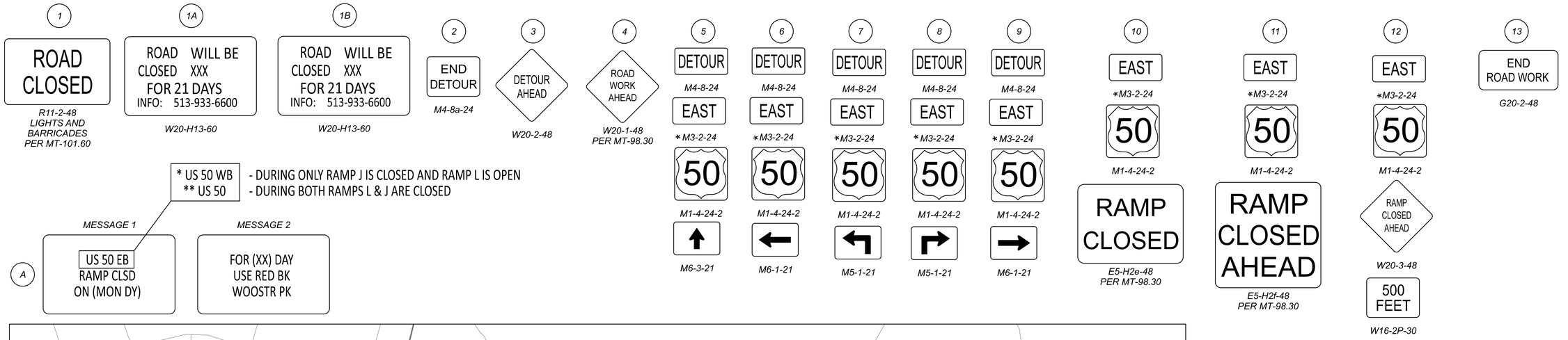
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	HB
REVIEWER	SS 08/22/23
PROJECT ID	110570
SHEET	P.026
TOTAL	208



WEST

*M3-4-24

"EAST" - WILL BE USED DURING PHASE 3 OVERNIGHT CLOSURES ONLY.

** "WEST" - WILL BE USED DURING PHASE 2 WHEN RAMP J IS CLOSED AND RAMP L IS OPEN.*

*** "NO DIRECTION" - WILL USED DURING PHASE 2 WHEN BOTH RAMP J AND RAMP L ARE CLOSED. COVER / REMOVE DIRECTION SIGN.*

NOTES:

1. *DETOUR FOR USE DURING CLOSURE OF RAMP L AND RAMP J DURING 21 DAY RAMP L CLOSURE AND DURING THE REST OF PHASE 2 WHEN ONLY RAMP J IS CLOSED.*

   DURING BOTH RAMPS CLOSED, THE DETOUR SIGNS SHOULD INDICATE US 50 (NO DIRECTION). DURING ONLY RAMP L CLOSURE, THE DETOUR SHOULD INCLUDE WEST.

   THIS DETOUR WILL BE USED FOR OVERNIGHT RAMP L CLOSURES TO REMOVE THE EXISTING DECKS IN BOTH PHASE 2 AND PHASE 3.

2. *ENGINEER MAY ADJUST DETOUR SIGNING DEPENDING UPON FIELD CONDITIONS.*

3. *INSTALLATION, MAINTENANCE, AND REMOVAL OF THE DETOUR SIGNING IS INCLUDED IN THE LUMP SUM COST OF ITEM 614 - DETOUR SIGNING.*

4. *THE DETOUR SIGNS SHALL BE INSTALLED FOR ALL RAMP CLOSURES. WHEN ALL RAMPS ARE OPEN, ADVANCE WARNING SIGNS AND TRAFFIC CONTROL DEVICE ON RED BANK SHALL BE REMOVED. DETOUR SIGNS SHALL BE COVERED/REMOVED IF THE NEXT SCHEDULED CLOSURE OCCURS IN MORE THAN 3 DAYS.*

MOT PLAN LEGEND

- WORK ZONE
- DETOUR ROUTE
- PROPOSED DETOUR SIGN
- RAMP CLOSURE
- DETOUR TRAVEL DIRECTION
- TYPE 3 BARRICADE
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN

HORIZONTAL SCALE IN FEET
0 50 100 200

MAINTENANCE OF TRAFFIC - DETOUR PLAN PHASE 2

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:47:54 AM USER: rjgreve
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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER HB
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.027 TOTAL 208

21

ROAD CLOSED

R11-2-48 LIGHTS AND BARRICADES PER MT-101.60

22

ROAD WILL BE CLOSED XXX FOR 21 DAYS INFO: 513-933-6600

W20-H13-60

23

END DETOUR

M4-8a-24

24

RED BANK RD

W16-H8P-48

DETOUR AHEAD

W20-2-48

25

RED BANK RD

W16-H8P-48

DETOUR

M4-8-24

M6-3-21

26

RED BANK RD

W16-H8P-48

DETOUR

M4-9R-30

27

RED BANK RD

W16-H8P-48

DETOUR

M4-8-24

M5-1-21

28

EXIT CLOSED AHEAD

E5-H2c-48 PER MT-98.29

29

EXIT CLOSED

E5-2a-48 PER MT-98.29

30

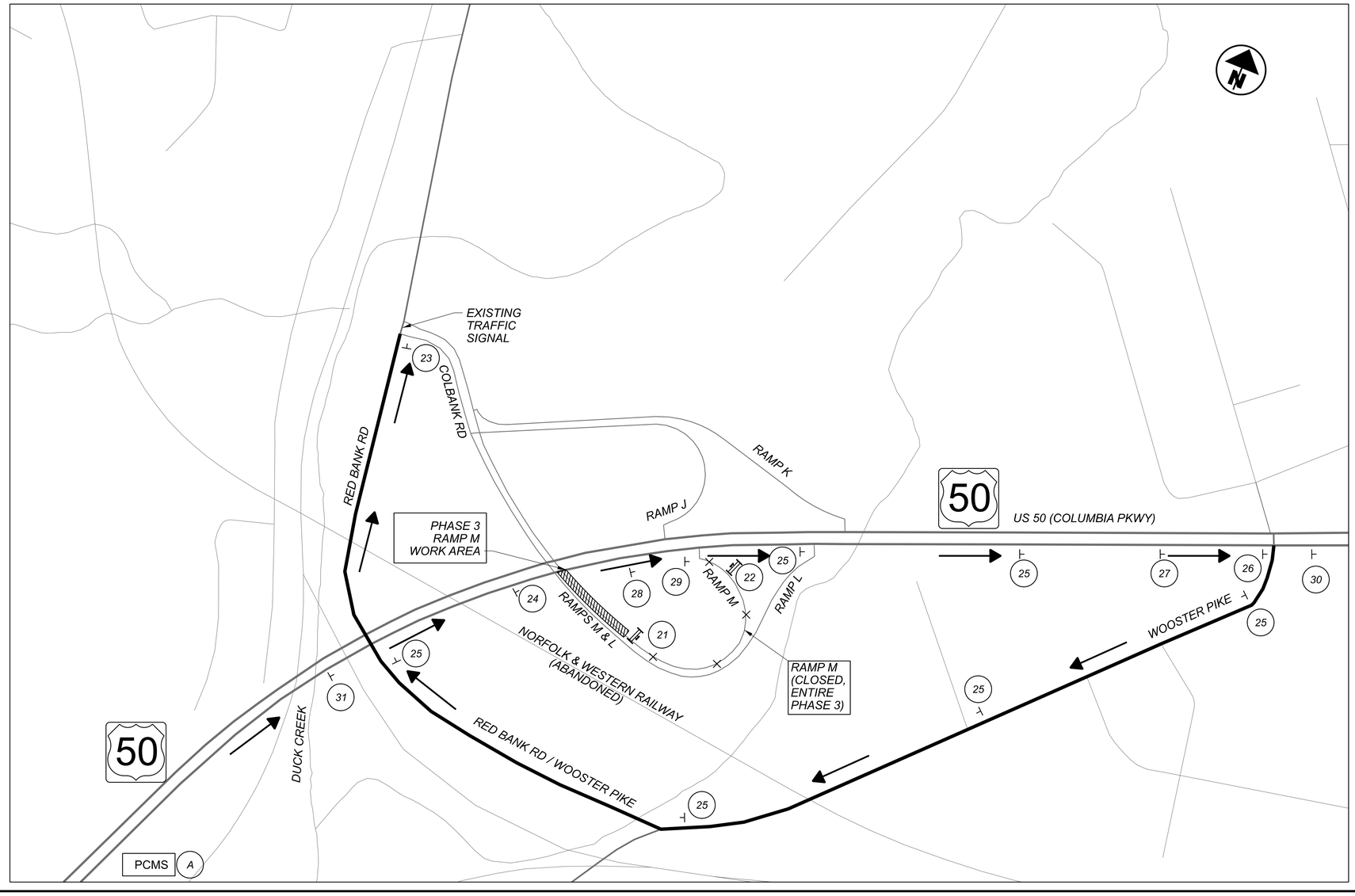
END ROAD WORK

G20-2-48

31

ROAD WORK AHEAD

W20-1-48 PER 98.29



MESSAGE 1

MESSAGE 2

A — US 50 EXIT RAMP CLSD ON (MON DY) | FOR (XX) DAY USE RED BK WOOSTR PK

NOTES:

1. *DETOUR FOR USE DURING CLOSURE OF RAMP M CONSTRUCTION.*
2. *ENGINEER MAY ADJUST DETOUR SIGNING DEPENDING UPON FIELD CONDITIONS.*
3. *INSTALLATION, MAINTENANCE, AND REMOVAL OF THE DETOUR SIGNING IS INCLUDED IN THE LUMP SUM COST OF ITEM 614 - DETOUR SIGNING.*

MOT PLAN LEGEND

- *WORK ZONE*
- *DETOUR ROUTE*
- *PROPOSED DETOUR SIGN*
- *DETOUR TRAVEL DIRECTION*
- *TYPE 3 BARRICADE*
- PCMS — *PORTABLE CHANGEABLE MESSAGE SIGN*

HORIZONTAL SCALE IN FEET
0 50 100 200

MAINTENANCE OF TRAFFIC - DETOUR PLAN PHASE 3

HAM-US 50-29.00

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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

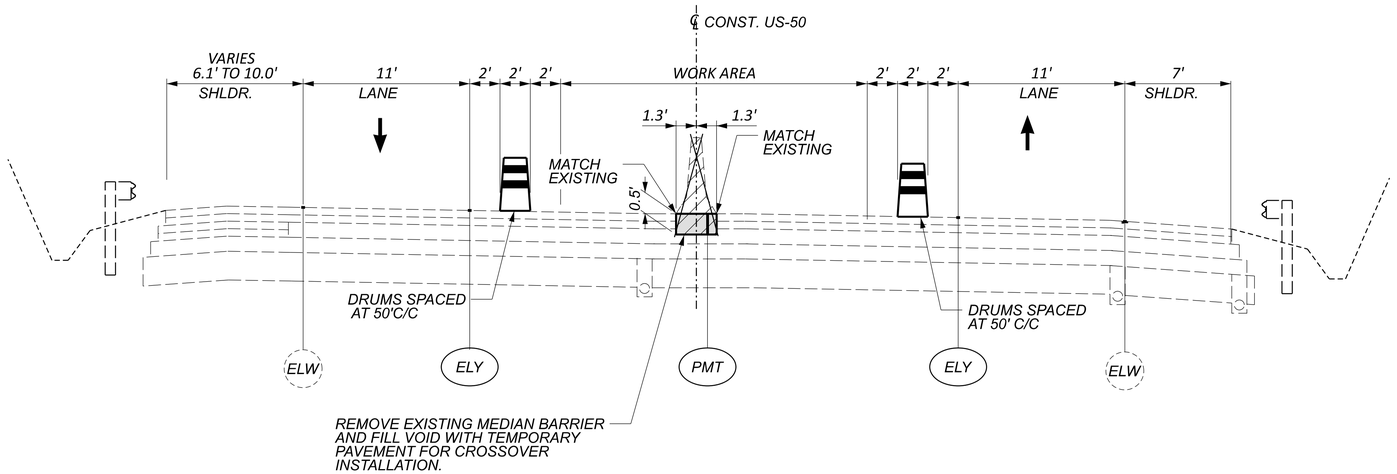
DESIGNER HB

REVIEWER SS 08/22/23

PROJECT ID 110570

SHEET P.028 TOTAL 208

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS (SEGEMENT 1)

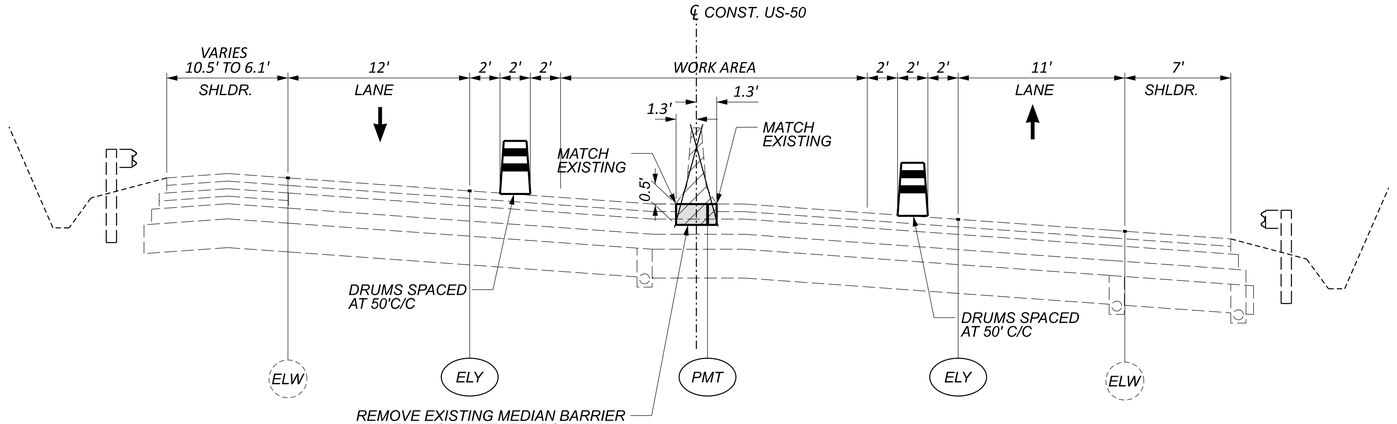


PHASE 1 - NORMAL SECTION - US 50

SECTION APPLIES:
STA. 85+00.00 TO STA. 88+50.00
STA. 113+70.00 TO STA. 114+90.00
STA. 115+10.00 TO STA. 121+90.00

LEGEND

- XX — EXISTING PAVEMENT MARKING
- ELW — WORK ZONE EDGE LINE, CLASS I (WHITE)
- ELY — WORK ZONE EDGE LINE, CLASS I (YELLOW)
- CH — WORK ZONE CHANNELIZING LINE, CLASS I
- PMT — PAVEMENT FOR MAINTAINING TRAFFIC CLASS A
- EXISTING MEDIAN BARRIER AND PAVEMENT TO BE REMOVED
- CONSTRUCTED IN PHASE 1



PHASE 1 - SUPERELEVATED SECTION - US 50

SECTION APPLIES:
STA. 106+48.00 TO STA. 109+02.00

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:48:53 AM USER: rjgreve
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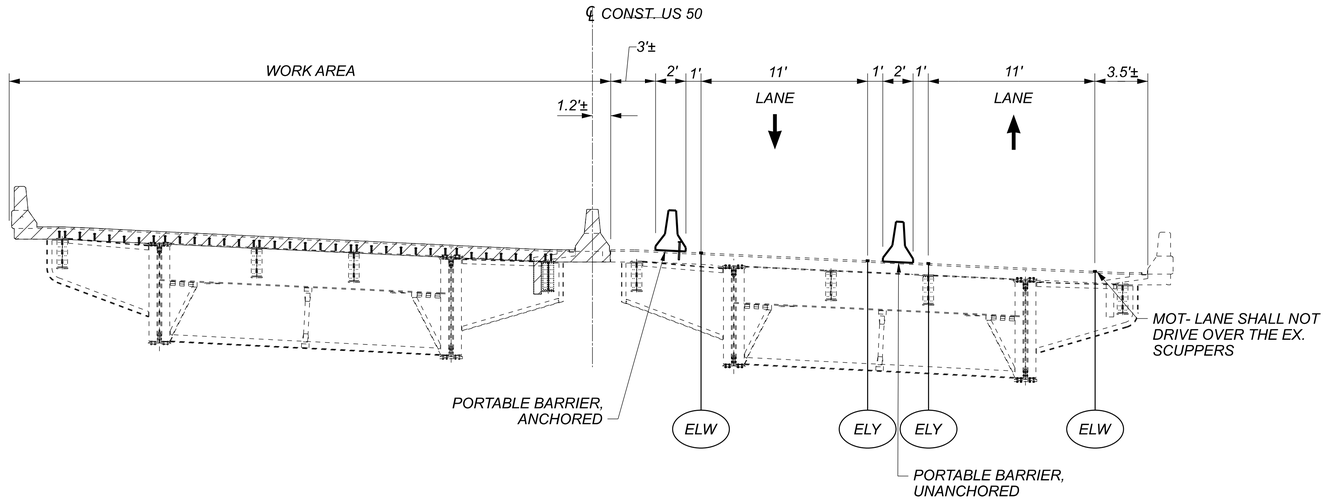
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE.E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
HB

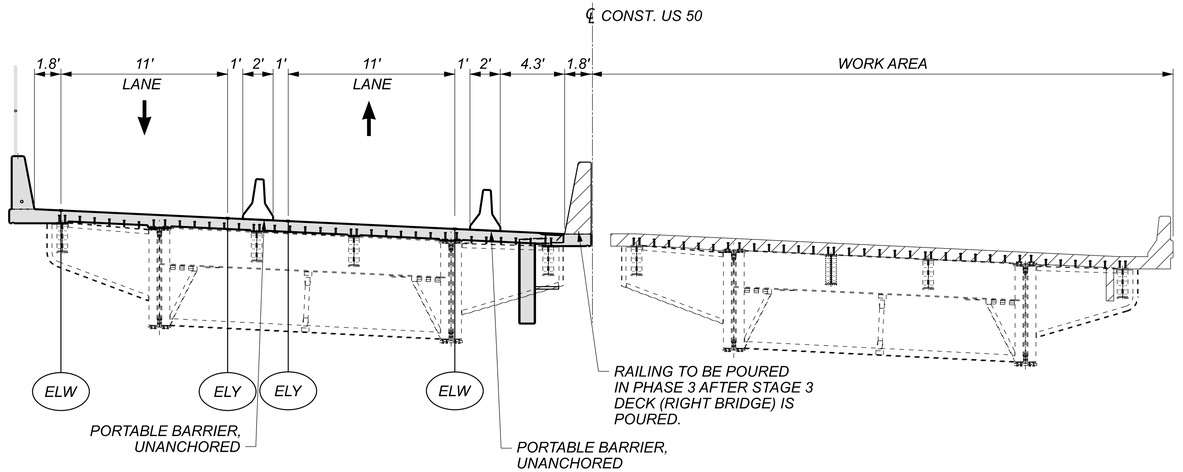
REVIEWER
SS 08/22/23

PROJECT ID
110570

SHEET P.029 TOTAL 208



PHASE 2 - BRIDGE NO. HAM-00050-29.100 - SECTION "A-A"
STA. 97+50, ℄ CONST. US 50



PHASE 3 - BRIDGE NO. HAM-00050-29.100 - SECTION "D-D"
STA. 97+50, ℄ CONST. US 50

NOTE:
FOR LEGEND, SEE SHEET P.029 .

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS (SEGEMENT 1)

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	
HB	
REVIEWER	
SS	08/22/23
PROJECT ID	
110570	
SHEET	TOTAL
P.030	208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:49:21 AM USER: rjgreve
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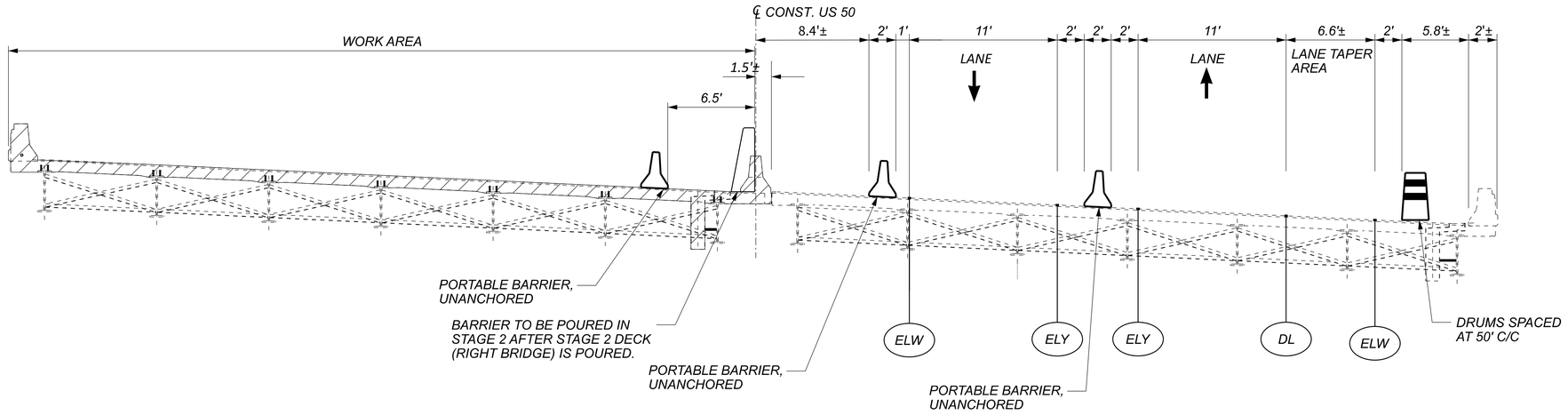
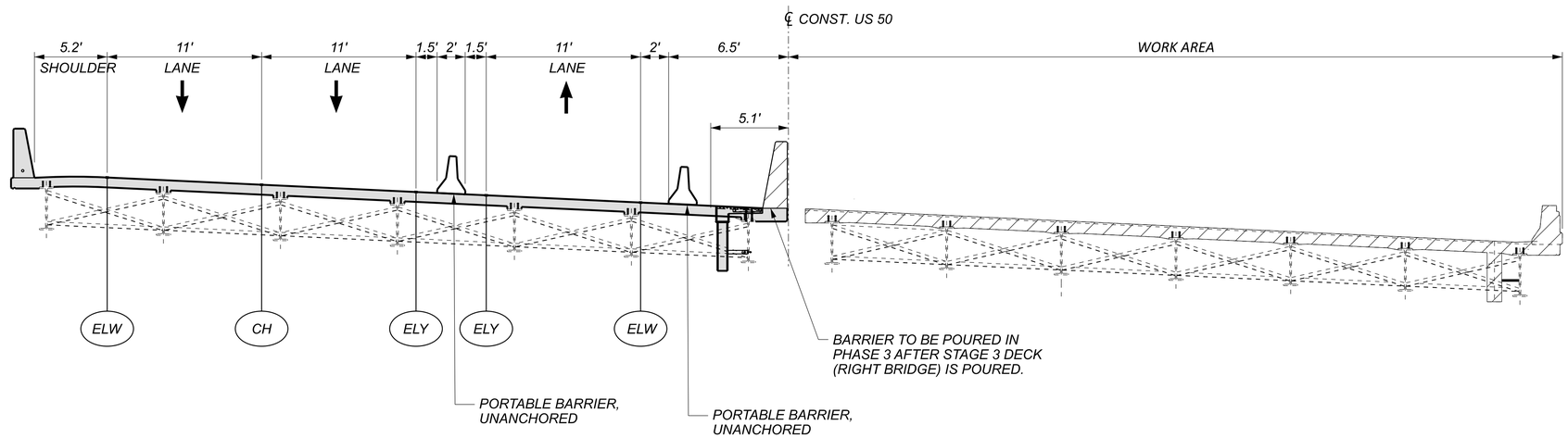


PHASE 2 - BRIDGE NO. HAM-00050-29.280 - SECTION "B-B"
STA. 105+00, ℄ CONST. US 50



PHASE 3 - BRIDGE NO. HAM-00050-29.280 - SECTION "E-E"
STA. 105+00, ℄ CONST. US 50

NOTE:
FOR LEGEND, SEE SHEET P.029 .

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS (SEGEMENT 1)

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:49:54 AM USER: rjgreve
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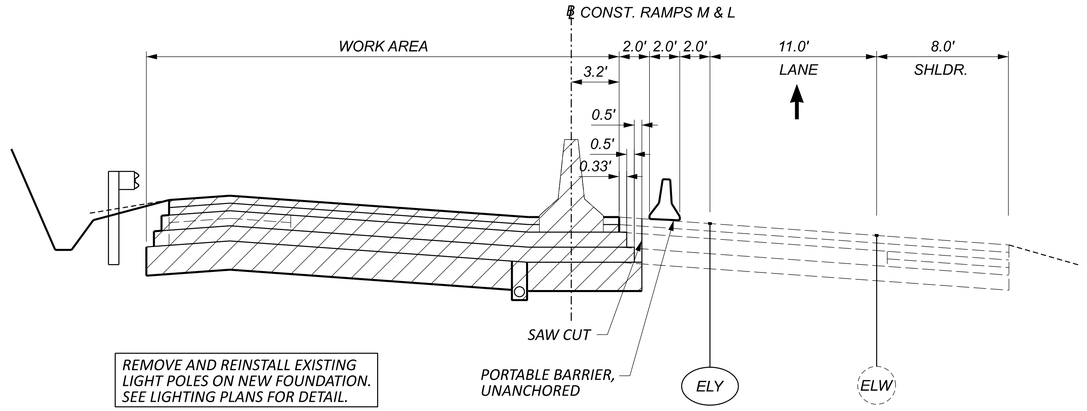
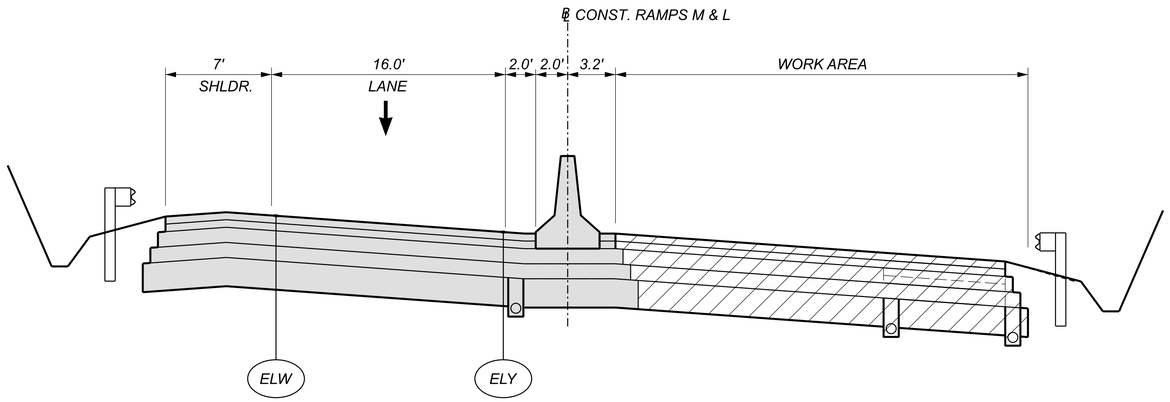
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER HB
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.031 TOTAL 208



PHASE 2 - SECTION "C-C"
STA. 1+50, ℄ CONST. RAMPS M & L



PHASE 3 - SECTION "F-F"
STA. 1+50, ℄ CONST. RAMPS M & L

NOTE:
FOR LEGEND, SEE SHEET P.029 .

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS (SEGEMENT 1)

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER: HB
REVIEWER: SS 08/22/23
PROJECT ID: 110570
SHEET: P.032 | TOTAL: 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:50:22 AM USER: rjgreve
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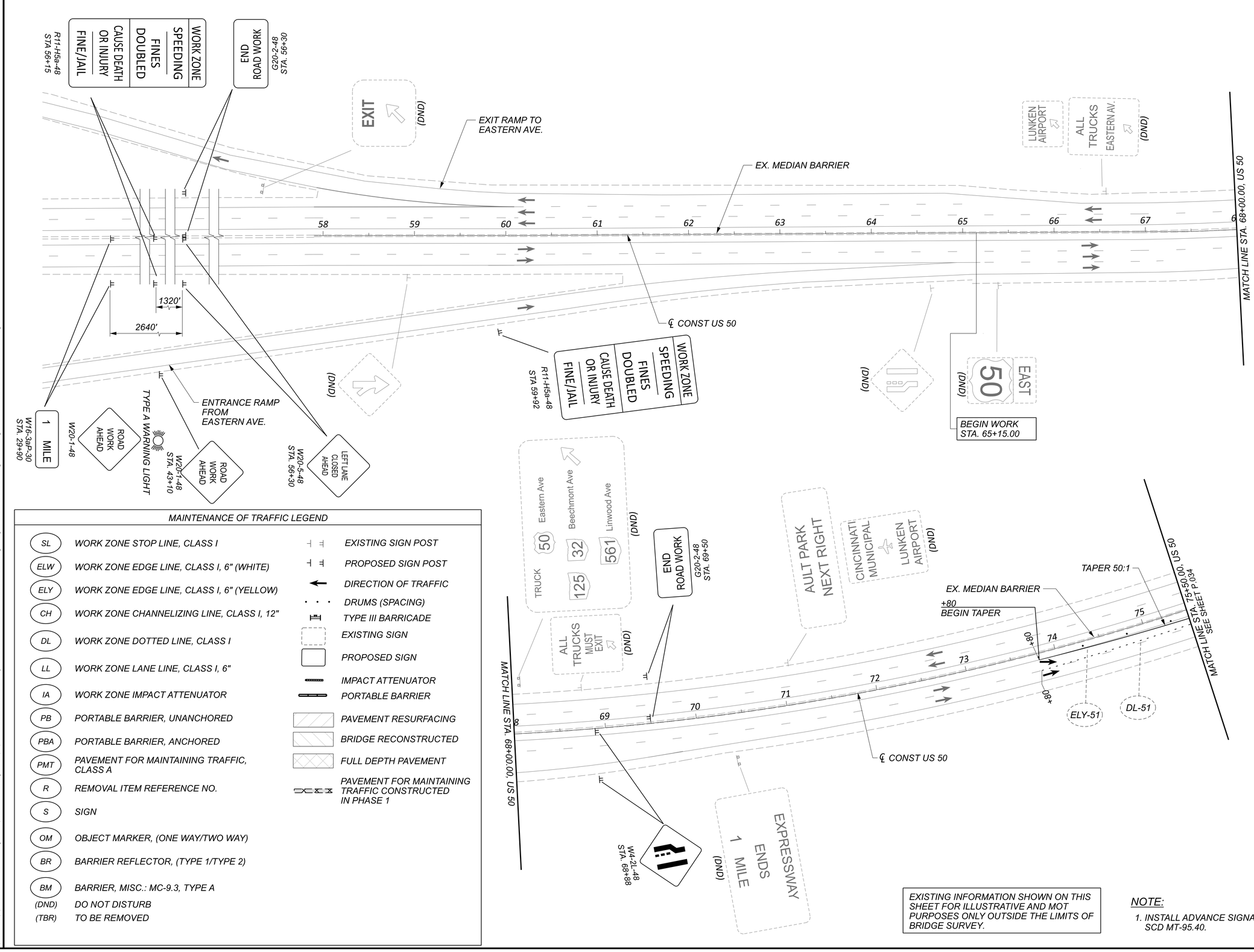

MAINTENANCE OF TRAFFIC LEGEND

SL	WORK ZONE STOP LINE, CLASS I		EXISTING SIGN POST
ELW	WORK ZONE EDGE LINE, CLASS I, 6" (WHITE)		PROPOSED SIGN POST
ELY	WORK ZONE EDGE LINE, CLASS I, 6" (YELLOW)		DIRECTION OF TRAFFIC
CH	WORK ZONE CHANNELIZING LINE, CLASS I, 12"		DRUMS (SPACING)
DL	WORK ZONE DOTTED LINE, CLASS I		TYPE III BARRICADE
LL	WORK ZONE LANE LINE, CLASS I, 6"		EXISTING SIGN
IA	WORK ZONE IMPACT ATTENUATOR		PROPOSED SIGN
PB	PORTABLE BARRIER, UNANCHORED		IMPACT ATTENUATOR
PBA	PORTABLE BARRIER, ANCHORED		PORTABLE BARRIER
PMT	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A		PAVEMENT RESURFACING
R	REMOVAL ITEM REFERENCE NO.		BRIDGE RECONSTRUCTED
S	SIGN		FULL DEPTH PAVEMENT
OM	OBJECT MARKER, (ONE WAY/TWO WAY)		PAVEMENT FOR MAINTAINING TRAFFIC CONSTRUCTED IN PHASE 1
BR	BARRIER REFLECTOR, (TYPE 1/TYPE 2)		
BM	BARRIER, MISC.: MC-9.3, TYPE A		
(DND)	DO NOT DISTURB		
(TBR)	TO BE REMOVED		

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

NOTE:

1. INSTALL ADVANCE SIGNAGE AND LANE CLOSURE PER SCD MT-95.40.

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 2
US-50 - STA. 58+00 TO STA. 75+50

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER HB
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.033 TOTAL 208

HAM-US 50-29.00

MODEL: MPI01 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:50:58 AM USER: rjgreve
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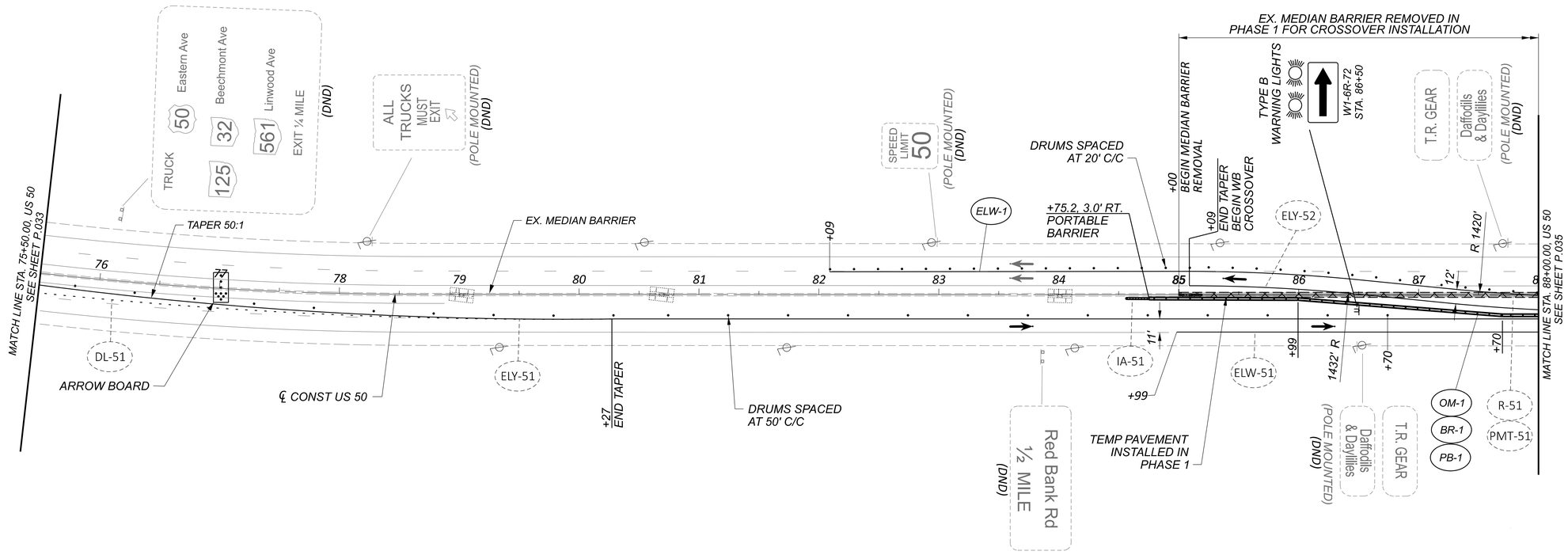

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 2
US-50 - STA. 75+50 TO STA. 88+00

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

NOTES:

1. *FOR LEGEND, SEE SHEET P.033 .*
2. *FOR CROSSOVER PLAN, SEE SHEET P.041 FOR ADDITIONAL DETAILS SEE SCD MT-95.70.*
3. *EXISTING MEDIAN BARRIER REMOVED IN PHASE 1. SEE MOT GENERAL NOTES AND TYPICAL SECTIONS FOR DETAILS.*

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER	HB
REVIEWER	SS 08/22/23
PROJECT ID	110570
SHEET	P.034
TOTAL	208

HAM-US 50-29.00

MODEL: MPI02 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:51:32 AM USER: rjgreve
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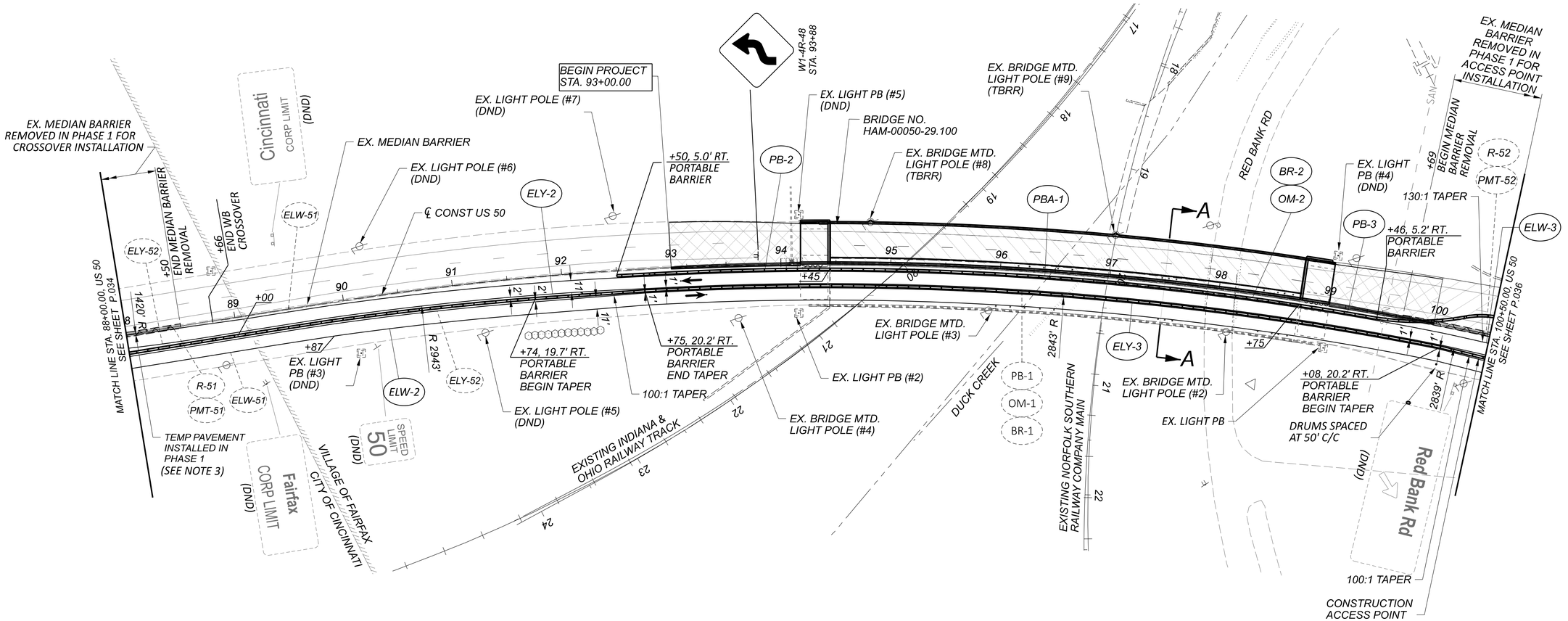

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

NOTES:

1. FOR LEGEND, SEE SHEET P.033 .
2. FOR CROSSOVER PLAN, SEE SHEET P.041 FOR ADDITIONAL DETAILS SEE SCD MT-95.70.
3. EXISTING MEDIAN BARRIER REMOVED IN PHASE 1. SEE MOT GENERAL NOTES AND TYPICAL SECTIONS FOR DETAILS.

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 2
US-50 - STA. 88+00 TO STA. 100+50

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	HB
REVIEWER	SS 08/22/23
PROJECT ID	110570
SHEET	P.035
TOTAL	208

HAM-US 50-29.00

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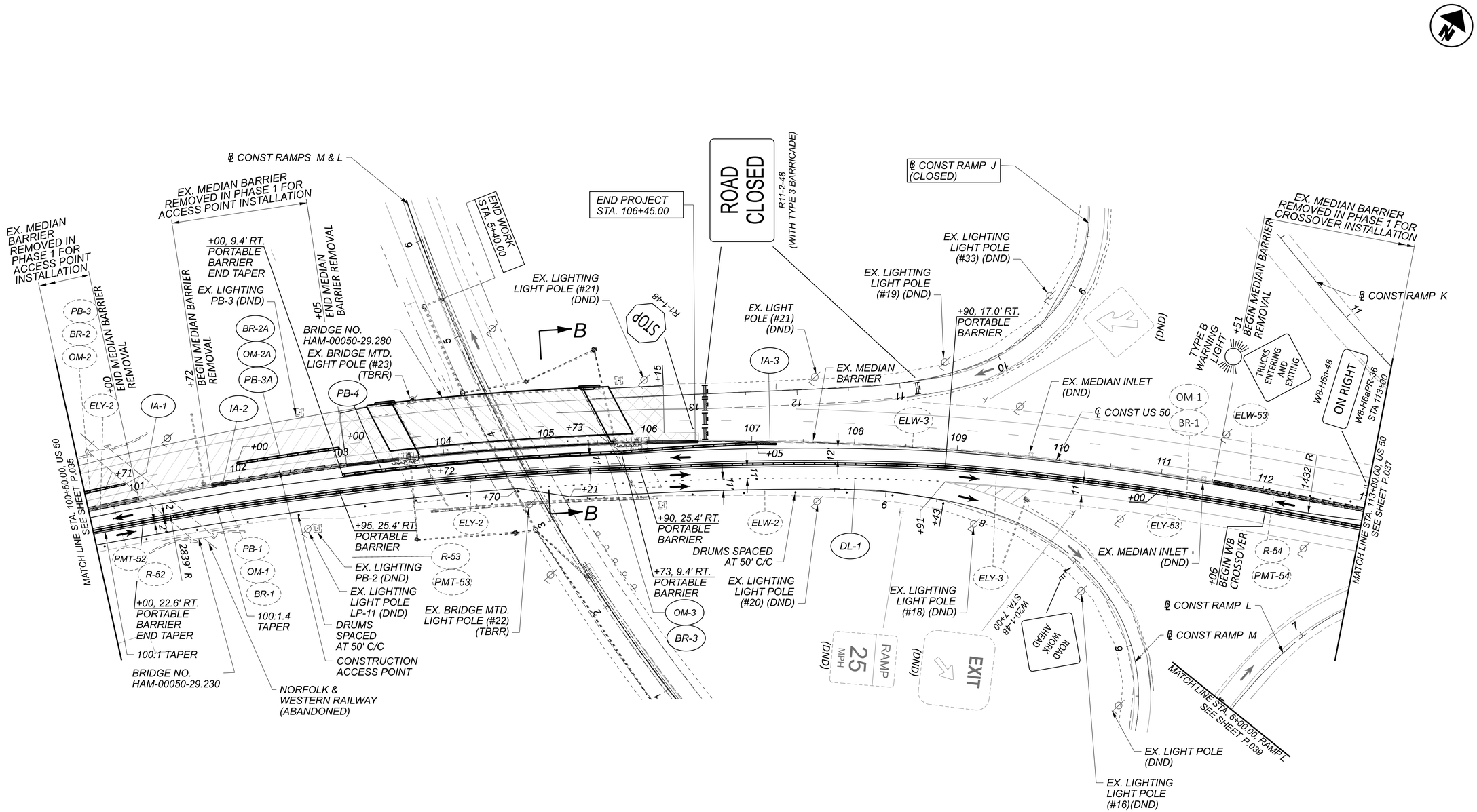

NOTES:

1. FOR LEGEND, SEE SHEET P.033 .
2. EXISTING MEDIAN BARRIER REMOVED IN PHASE 1. SEE MOT GENERAL NOTES AND TYPICAL SECTIONS FOR DETAILS.
3. SEE DETOUR PLAN SHEET P.027 FOR PART WIDTH CONSTRUCTION OF RAMP M.

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 2
US-50 - STA. 100+50 TO STA. 113+00

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	
HB	
REVIEWER	
SS	08/22/23
PROJECT ID	
110570	
SHEET	TOTAL
P.036	208

HAM-US 50-29.00

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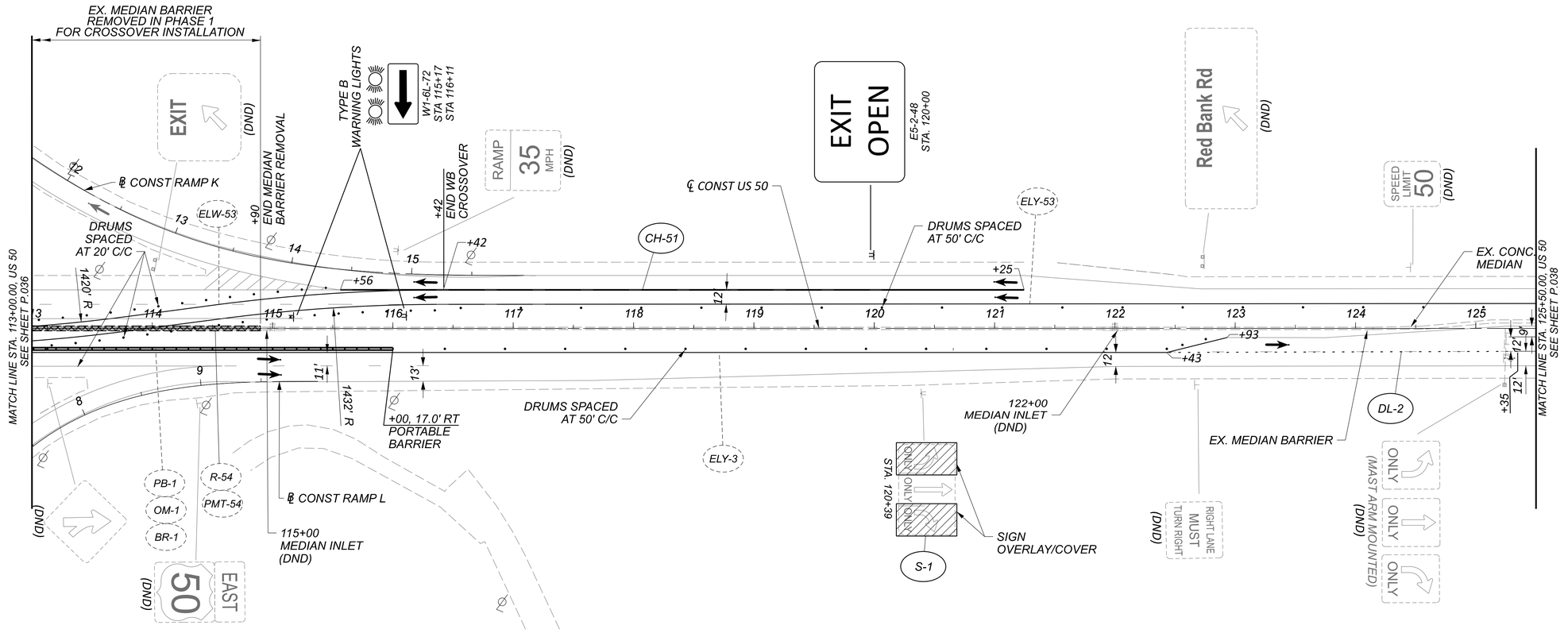

NOTES:

1. FOR LEGEND, SEE SHEET P.033.
2. FOR CROSSOVER PLAN, SEE SHEET P.042. FOR ADDITIONAL DETAILS SEE SCD MT-95.70.
3. EXISTING MEDIAN BARRIER REMOVED IN PHASE 1. SEE MOT GENERAL NOTES AND TYPICAL SECTIONS FOR DETAILS.

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 2
US-50 - STA. 113+00 TO STA. 125+50

HAM-US 50-29.00

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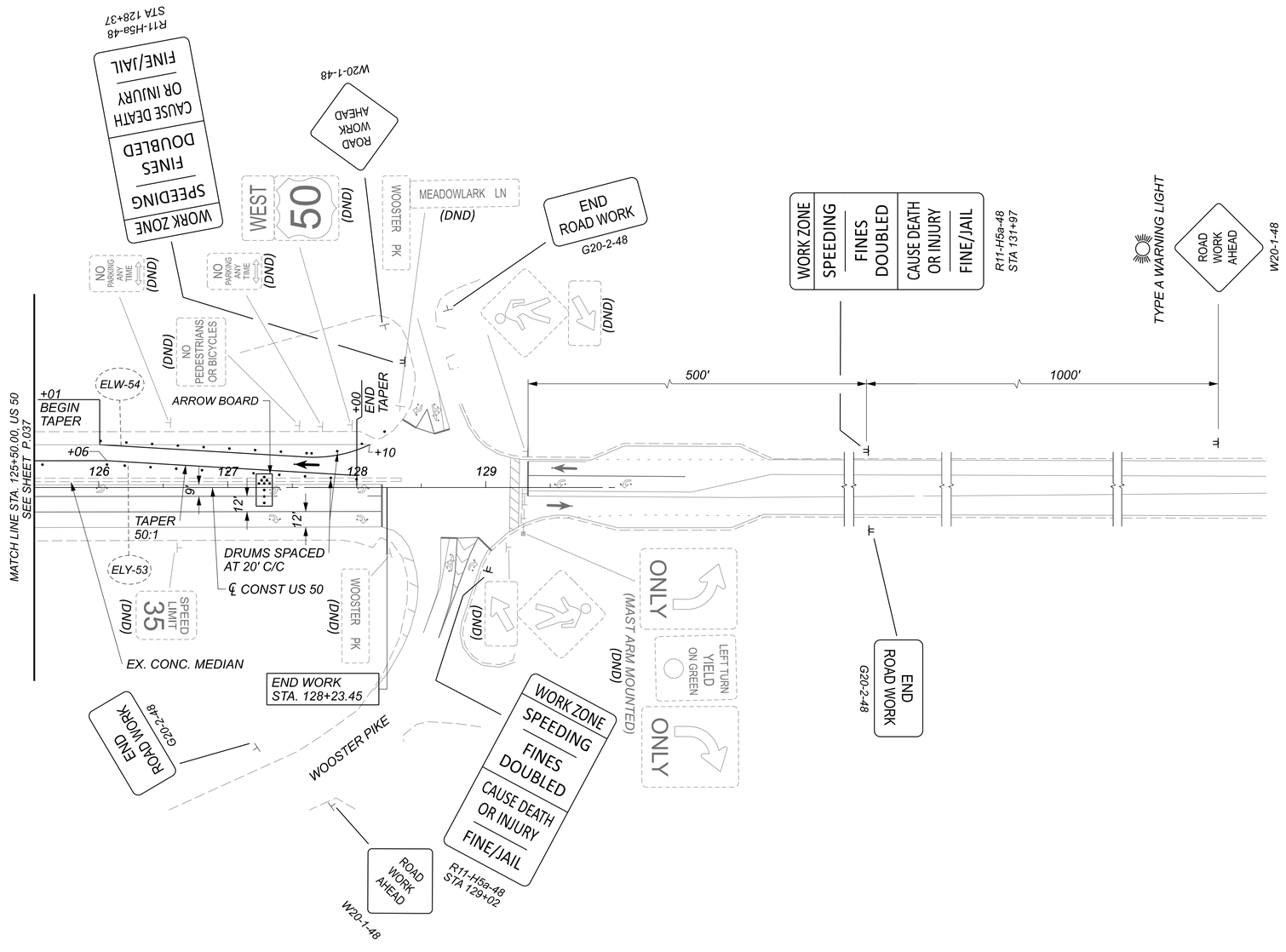
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., STE 1000
CLEVELAND, OHIO 44114

DESIGNER HB
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.037 TOTAL 208



HORIZONTAL
SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 2
US-50 - STA. 125+50 TO STA. 129+00

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

NOTES:

1. *FOR LEGEND, SEE SHEET P.033 .*
2. *INSTALL ADVANCE SIGNAGE AND LANE CLOSURE PER SCD MT-95.40.*

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE.E.,STE 1000
CLEVELAND, OHIO 44114

DESIGNER
HB

REVIEWER
SS 08/22/23

PROJECT ID
110570

SHEET P.038 TOTAL 208

HAM-US 50-29.00

MODEL: MPI06 PAPERSIZE: 34x22 (in) DATE: 10/27/2023 TIME: 11:53:42 AM USER: rlgreve
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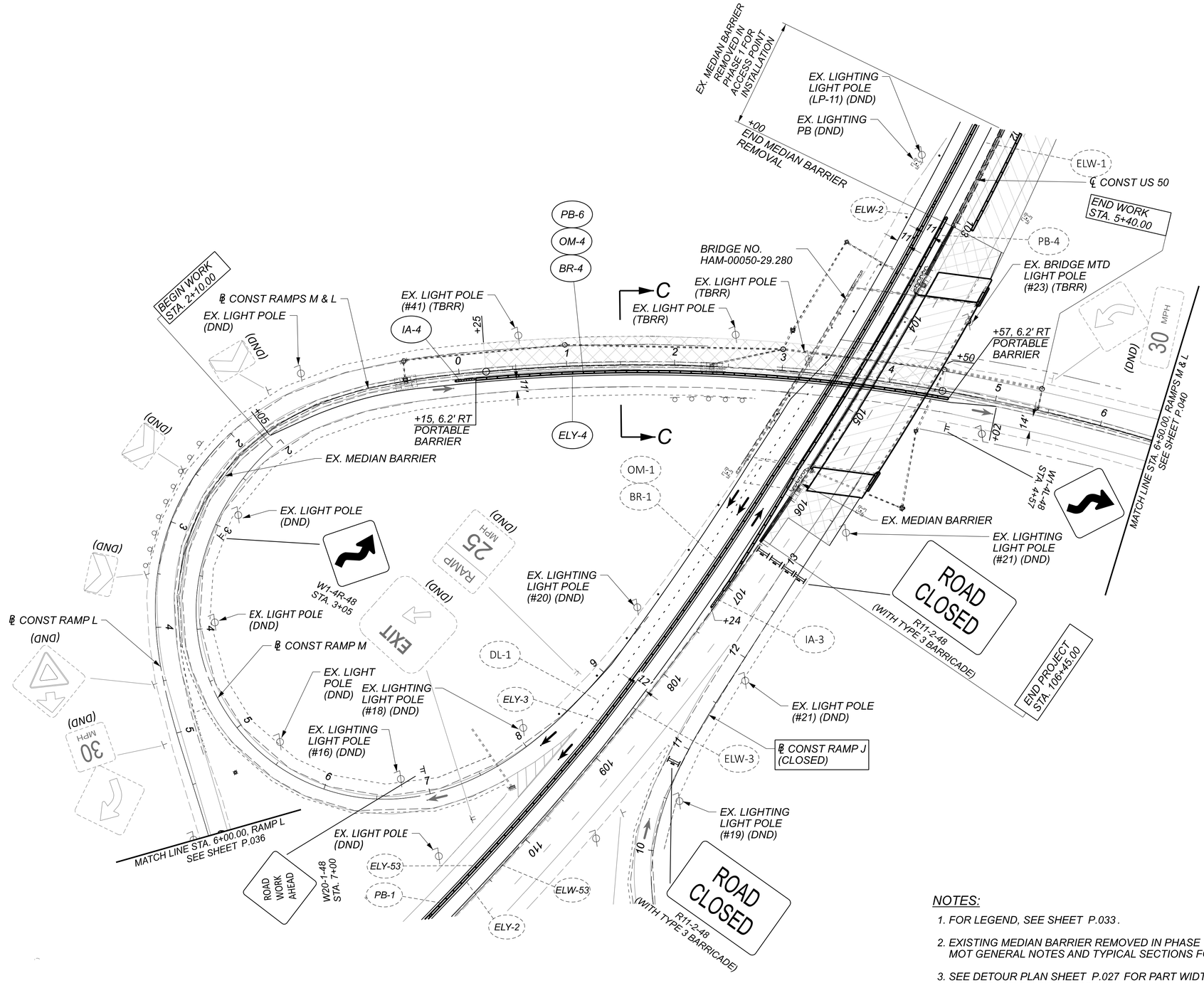

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 2
RAMP L - STA. 6+00 TO RAMP M & L - STA. 6+50

NOTES:

1. FOR LEGEND, SEE SHEET P.033.
2. EXISTING MEDIAN BARRIER REMOVED IN PHASE 1. SEE MOT GENERAL NOTES AND TYPICAL SECTIONS FOR DETAILS.
3. SEE DETOUR PLAN SHEET P.027 FOR PART WIDTH CONSTRUCTION OF RAMPS M & L.

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	HB
REVIEWER	SS 08/22/23
PROJECT ID	110570
SHEET	P.039
TOTAL	208

HAM-US 50-29.00

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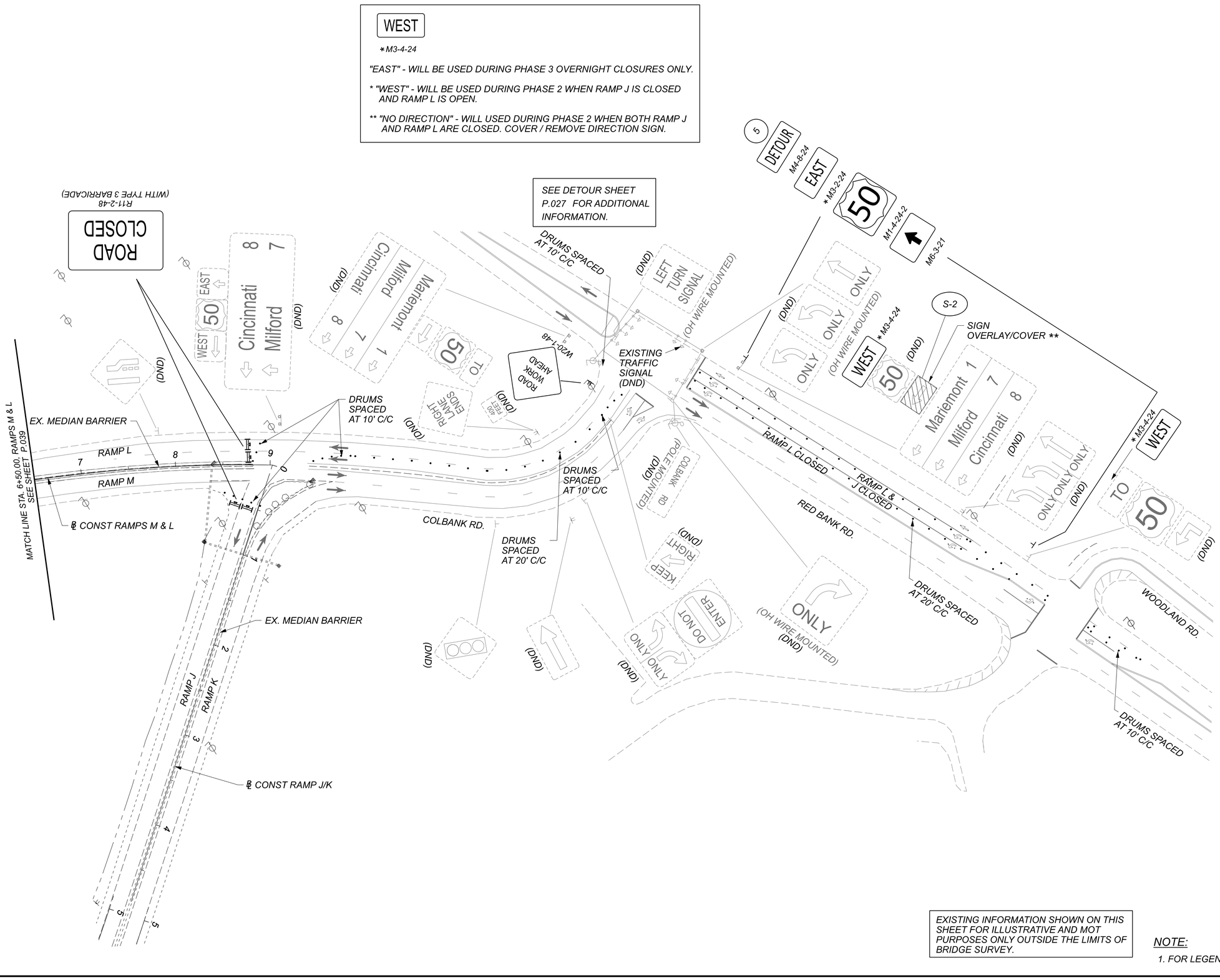

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 2
RAMP M & L - STA. 6+50 TO STA. 9+00

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

NOTE:

1. FOR LEGEND, SEE SHEET P.032 .

DESIGN AGENCY	TRANSYSTEMS 1100 SUPERIOR AVE. E. STE 1000 CLEVELAND, OHIO 44114
DESIGNER	HB
REVIEWER	SS 08/22/23
PROJECT ID	110570
SHEET	P.040
TOTAL	208

HAM-US 50-29.00

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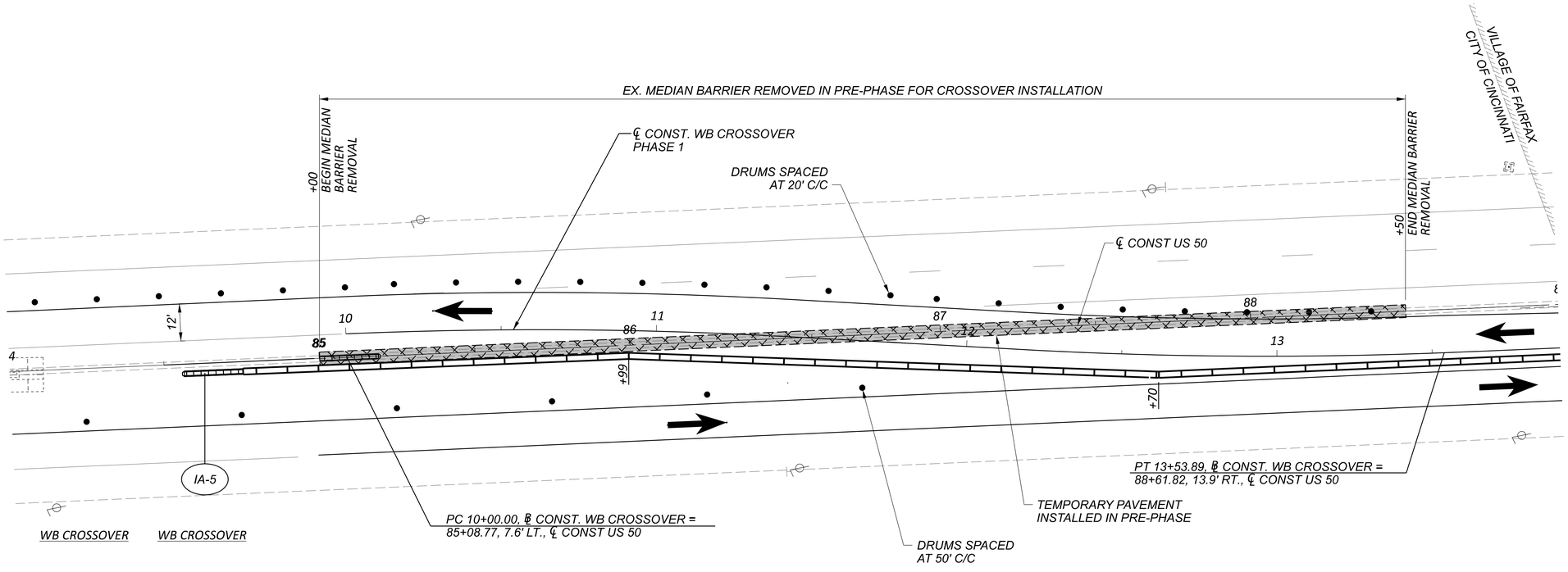

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

NOTES:

1. *FOR LEGEND, SEE SHEET P.032.*
2. *FOR ADDITIONAL DETAILS, SEE SCD MT-95.70.*

HORIZONTAL SCALE IN FEET
0 10 20 40

WESTBOUND CROSSOVER MOT - PHASE 2
WEST END

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE.E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER: NE
REVIEWER: SS 08/22/23
PROJECT ID: 110570
SHEET: P.041 TOTAL: 208

HAM-US 50-29.00

MODEL:110570_MPI09 PAPERSIZE:34x22 (in.) DATE:10/27/2023 TIME:11:55:19 AM USER:rjgreve
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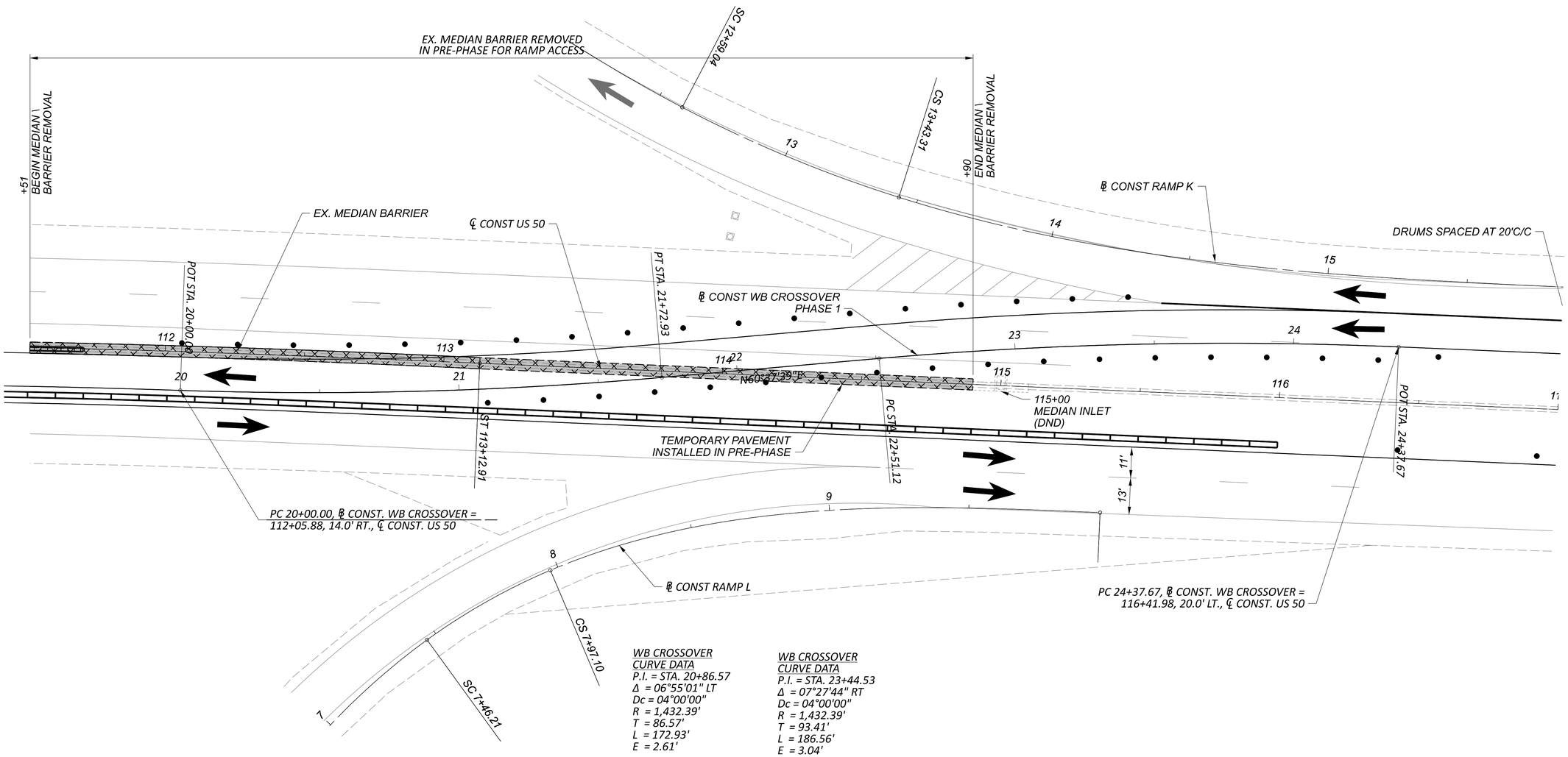
HAM-US 50-29.00



WB CROSSOVER CURVE DATA
P.I. = STA. 20+86.57
Δ = 06°55'01" LT
Dc = 04°00'00"
R = 1,432.39'
T = 86.57'
L = 172.93'
E = 2.61'

WB CROSSOVER CURVE DATA
P.I. = STA. 23+44.53
Δ = 07°27'44" RT
Dc = 04°00'00"
R = 1,432.39'
T = 93.41'
L = 186.56'
E = 3.04'

NOTES:

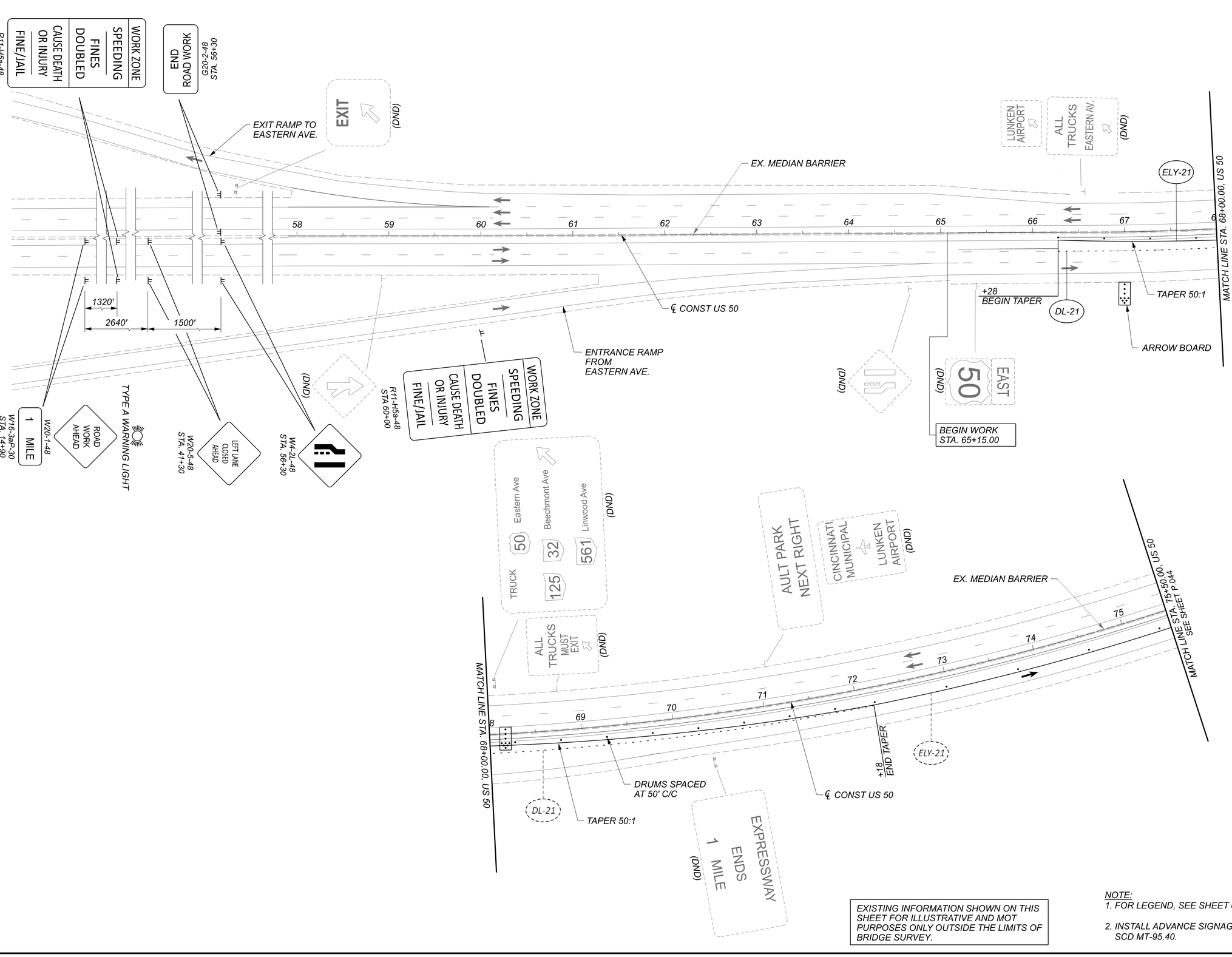
1. FOR LEGEND, SEE SHEET P.032 .
2. FOR ADDITIONAL DETAILS, SEE SCD MT-95.70.

HORIZONTAL SCALE IN FEET
0 10 20 40

WESTBOUND CROSSOVER MOT - PHASE 2 EAST END

DESIGN AGENCY
1100 SUPERIOR AVE.E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER NE
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.042 TOTAL 208



EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

NOTE:

1. *FOR LEGEND, SEE SHEET P.032.*
2. *INSTALL ADVANCE SIGNAGE AND LANE CLOSURE PER SCD MT-95.40.*

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 3
US-50 - STA. 58+00 TO STA. 75+50

HAM-US 50-29.00

MODEL: 110570_MP20| PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:56:23 AM USER: rjgreve
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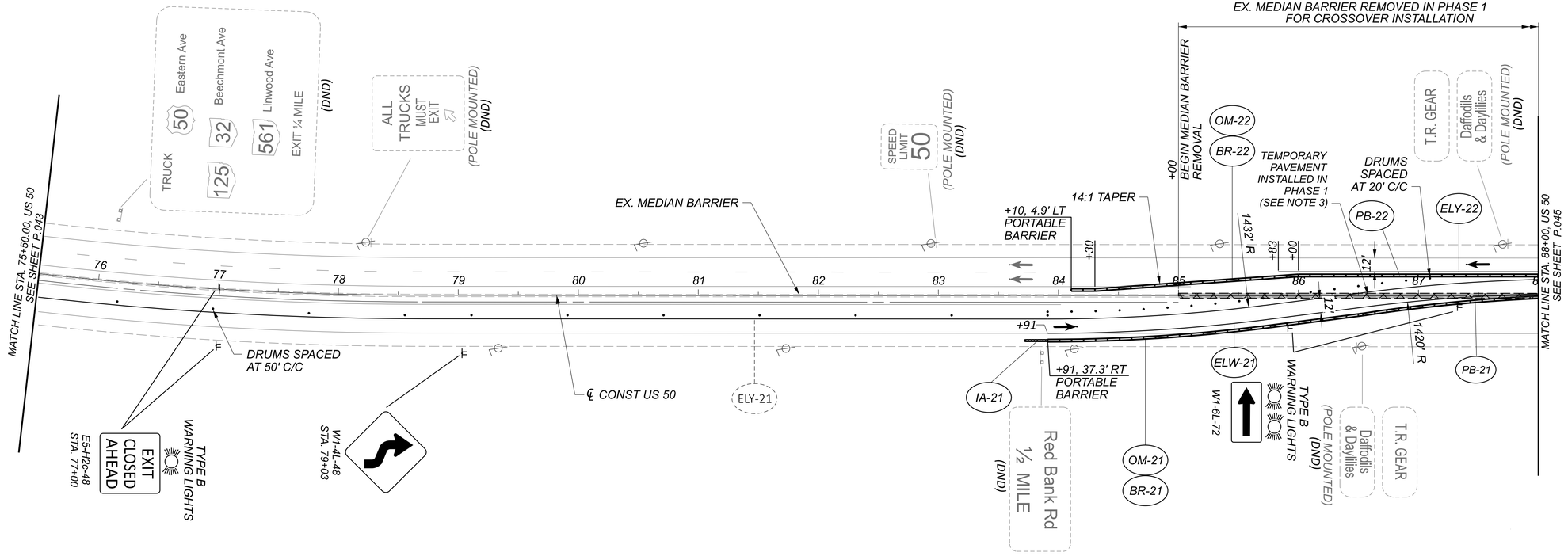
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER: NE
REVIEWER: SS 08/22/23
PROJECT ID: 110570
SHEET: P.043 TOTAL: 208



EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

NOTES:

1. *FOR LEGEND, SEE SHEET P.033.*
2. *FOR CROSSOVER PLAN, SEE SHEET P.051 FOR ADDITIONAL DETAILS SEE SCD MT-95.70.*
3. *EXISTING MEDIAN BARRIER REMOVED IN PHASE 1. SEE MOT GENERAL NOTES AND TYPICAL SECTIONS FOR DETAILS.*
4. *INSTALL ADVANCE SIGNAGE AND LANE CLOSURE PER SCD MT-95.40.*

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 3
US-50 - STA. 75+50 TO STA. 88+00

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER NE
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.044 TOTAL 208

HAM-US 50-29.00

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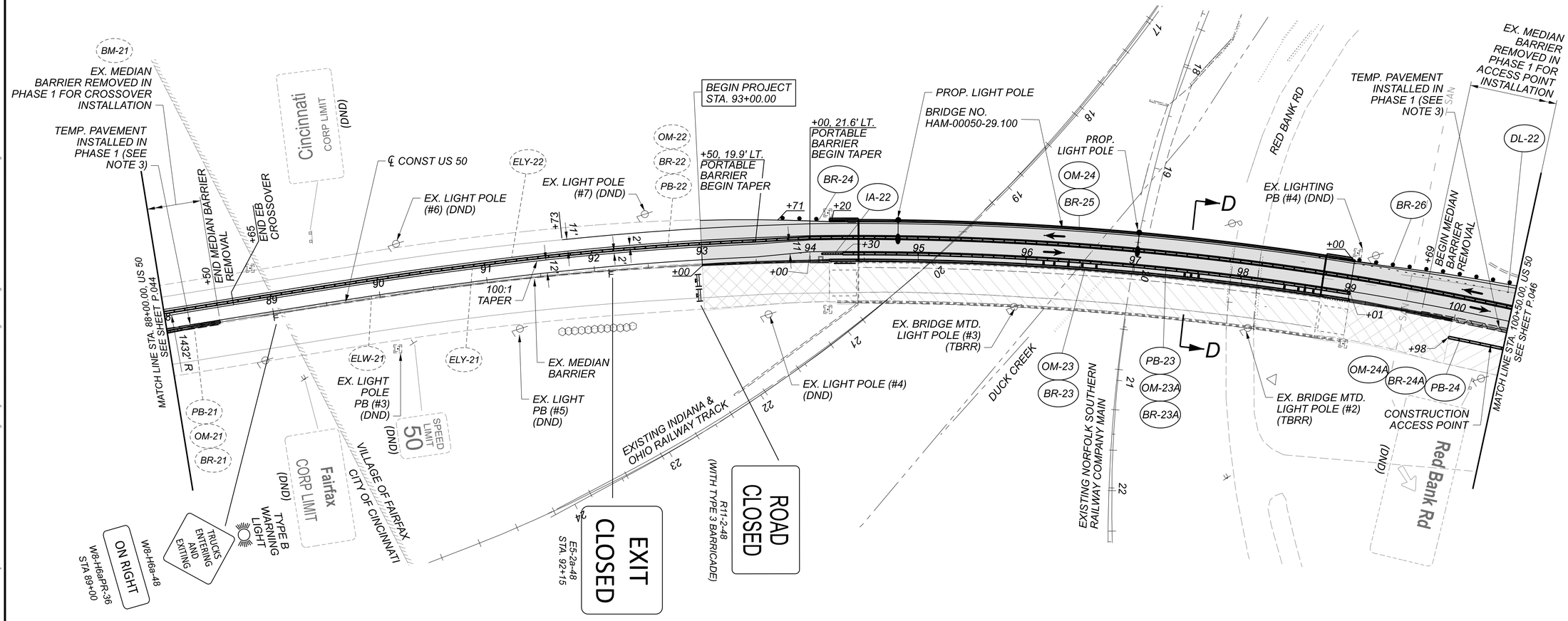

NOTES:

1. FOR LEGEND, SEE SHEET P.033 .
2. FOR CROSSOVER PLAN, SEE SHEET P.051 FOR ADDITIONAL DETAILS SEE SCD MT-95.70.
3. EXISTING MEDIAN BARRIER REMOVED IN PHASE 1. SEE MOT GENERAL NOTES AND TYPICAL SECTIONS FOR DETAILS.

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 3
US-50 - STA. 88+00 TO STA. 100+50

HAM-US 50-29.00

MODEL: 110570_MP203 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:57:28 AM USER: rigreve
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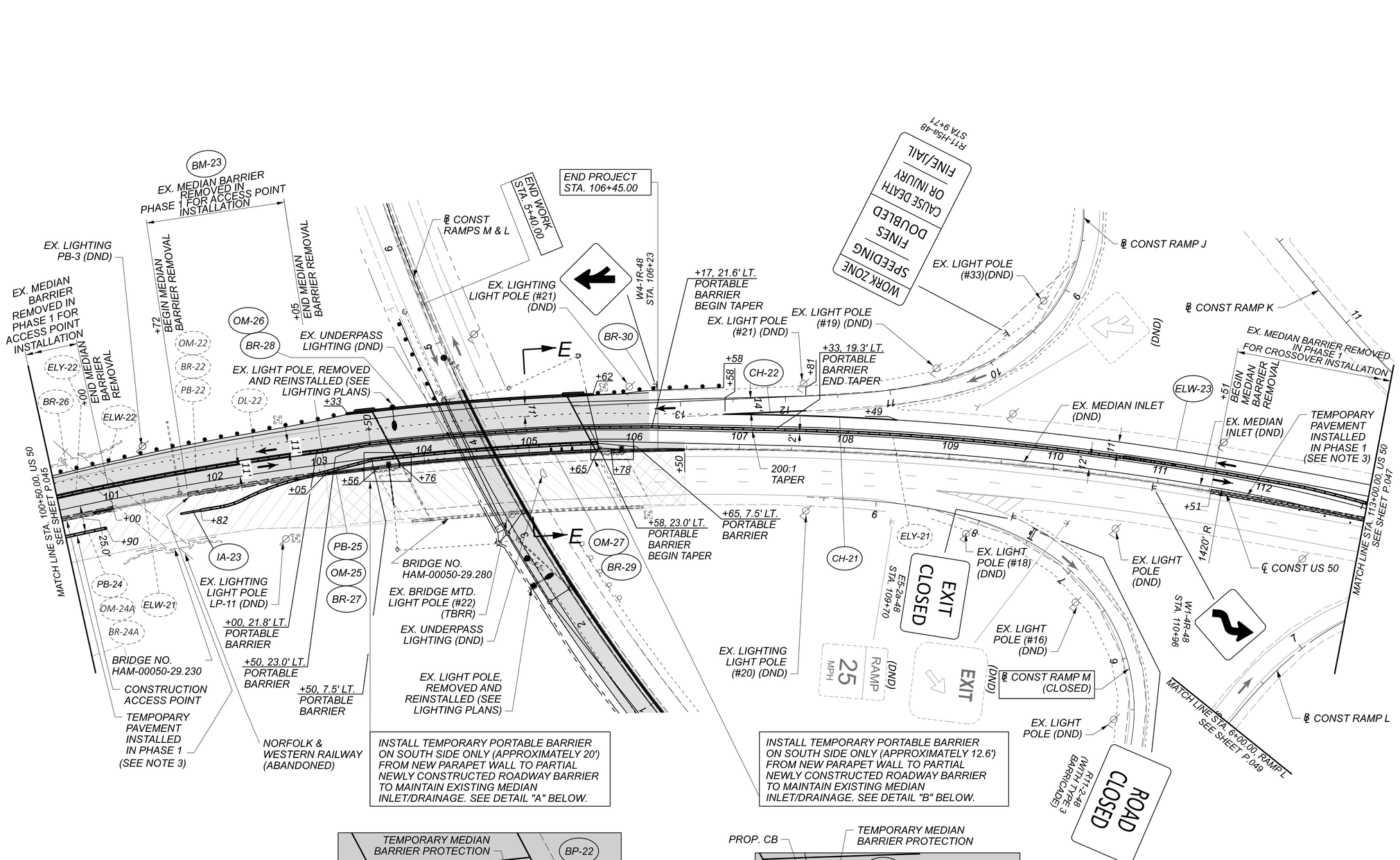
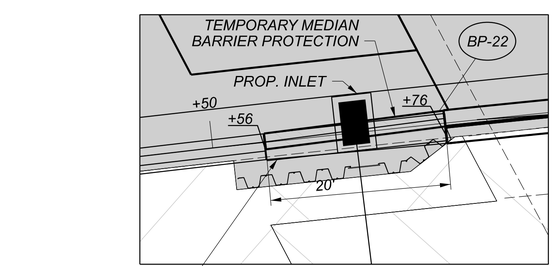
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER NE
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.045 TOTAL 208

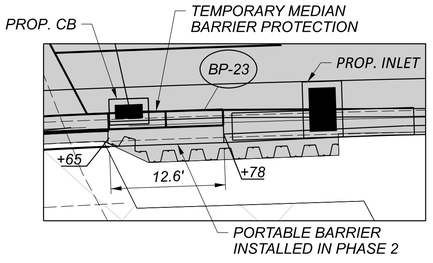
MAINTENANCE OF TRAFFIC MOT - PHASE 3
US-50 - STA. 100+50 TO STA. 113+00

HORIZONTAL SCALE IN FEET
0 25 50 100





DETAIL "A" - TEMPORARY MEDIAN BARRIER PROTECTION
NOT TO SCALE



DETAIL "B" - TEMPORARY MEDIAN BARRIER PROTECTION
NOT TO SCALE

NOTES:

1. FOR LEGEND, SEE SHEET P.033 .
2. EXISTING MEDIAN BARRIER REMOVED IN PHASE 1. SEE MOT GENERAL NOTES AND TYPICAL SECTIONS FOR DETAILS.
3. EXISTING MEDIAN BARRIER REMOVED IN PHASE 1. SEE MOT GENERAL NOTES AND TYPICAL SECTIONS FOR DETAILS.

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER NE
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.046 TOTAL 208

HAM-US 50-29.00

MODEL: 110570_MP204 PAPERSIZE: 34x22 (in) DATE: 10/27/2023 TIME: 11:58:01 AM USER: rjgreve
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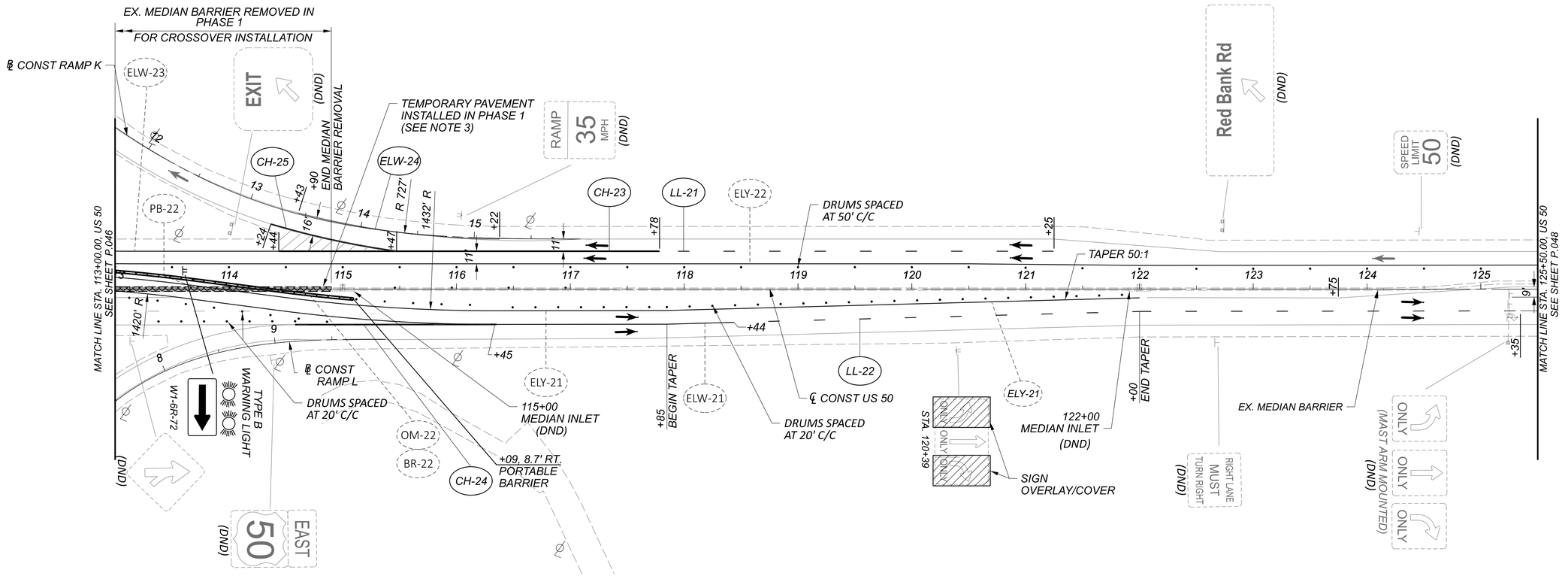

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 3
US-50 - STA. 113+00 TO STA. 125+50

NOTES:

1. *FOR LEGEND, SEE SHEET P.033 .*
2. *FOR CROSSOVER PLAN, SEE SHEET P.052 FOR ADDITIONAL DETAILS SEE SCD MT-95.70.*
3. *EXISTING MEDIAN BARRIER REMOVED IN PHASE 1. SEE MOT GENERAL NOTES AND TYPICAL SECTIONS FOR DETAILS*

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	NE
REVIEWER	SS 08/22/23
PROJECT ID	110570
SHEET	P.047
TOTAL	208

HAM-US 50-29.00

MODEL: II0570_MP205 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:58:34 AM USER: rigreve
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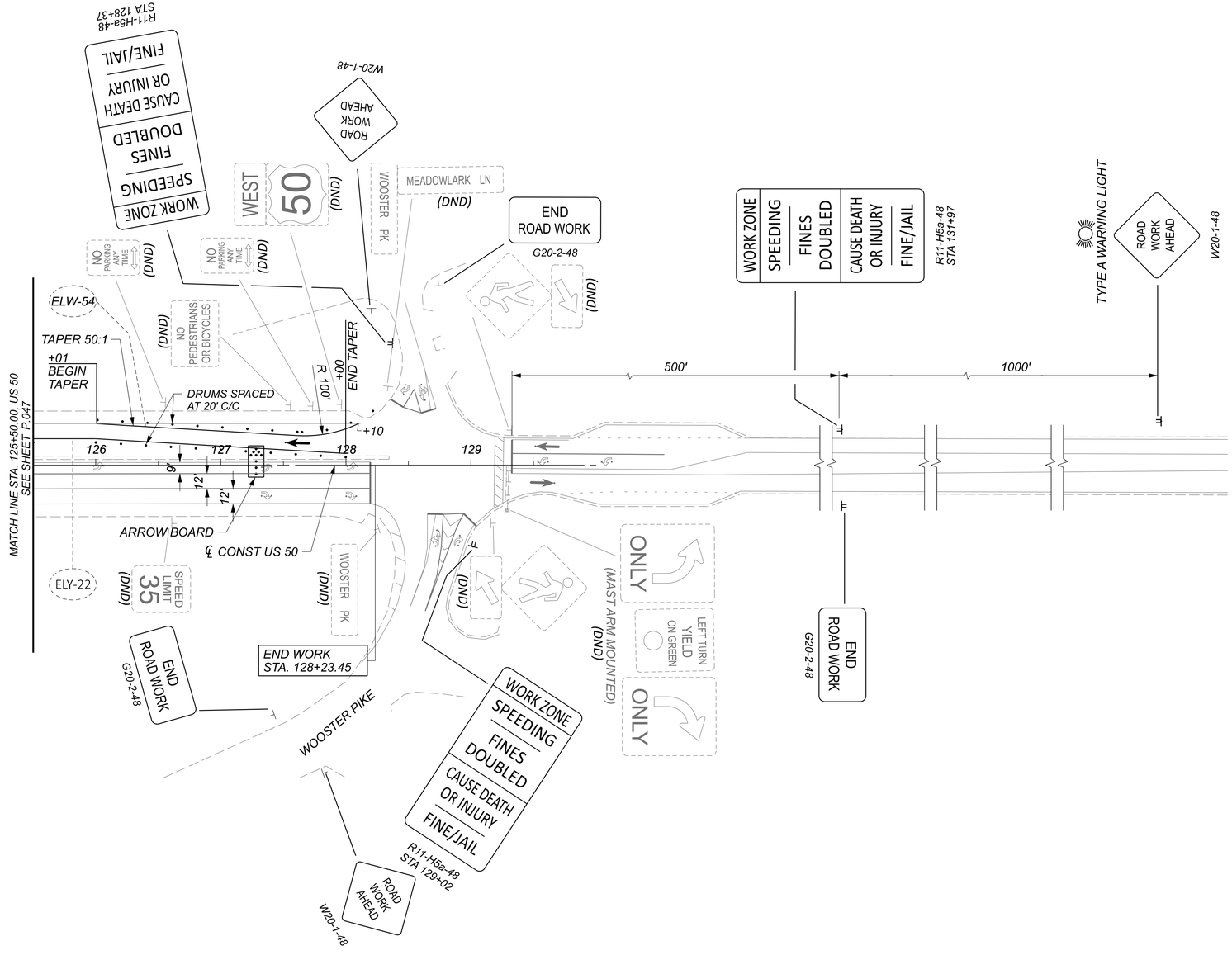

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

NOTES:

1. FOR LEGEND, SEE SHEET P.033 .
2. INSTALL ADVANCE SIGNAGE AND LANE CLOSURE PER SCD MT-95.40.

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 3
US-50 - STA. 125+50 TO STA. 129+00

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER NE
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.048 TOTAL 208

HAM-US 50-29.00

MODEL: 110570_MP206 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:59:05 AM USER: rjgreve
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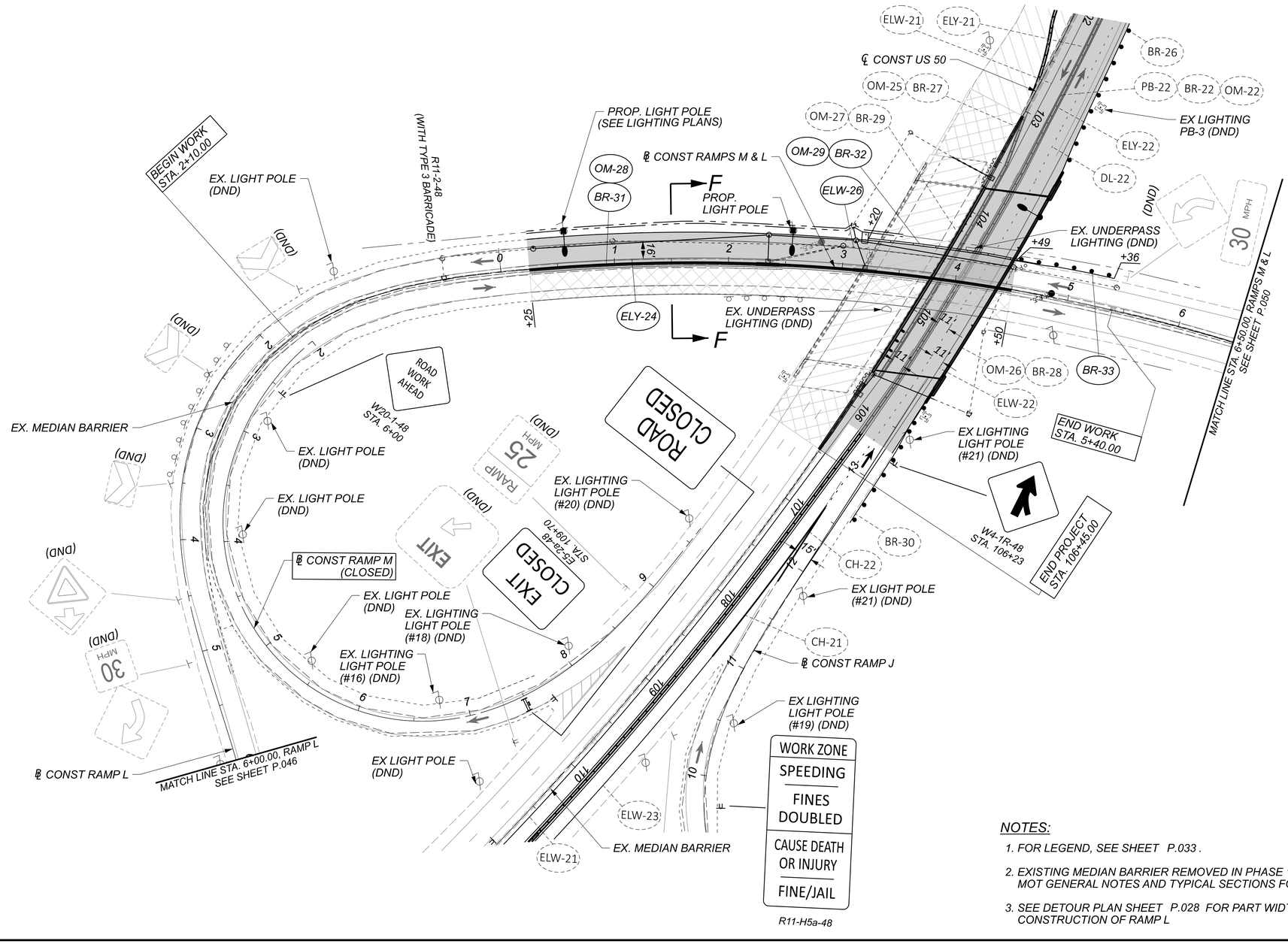

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 3
RAMP L - STA. 6+00 TO RAMPS M & L STA. 6+50

NOTES:

1. *FOR LEGEND, SEE SHEET P.033 .*
2. *EXISTING MEDIAN BARRIER REMOVED IN PHASE 1. SEE MOT GENERAL NOTES AND TYPICAL SECTIONS FOR DETAILS.*
3. *SEE DETOUR PLAN SHEET P.028 FOR PART WIDTH CONSTRUCTION OF RAMP L*

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	NE
REVIEWER	SS 08/22/23
PROJECT ID	110570
SHEET	P.049
TOTAL	208

HAM-US 50-29.00

MODEL: I0570_MP207 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 11:59:37 AM USER: rigreve
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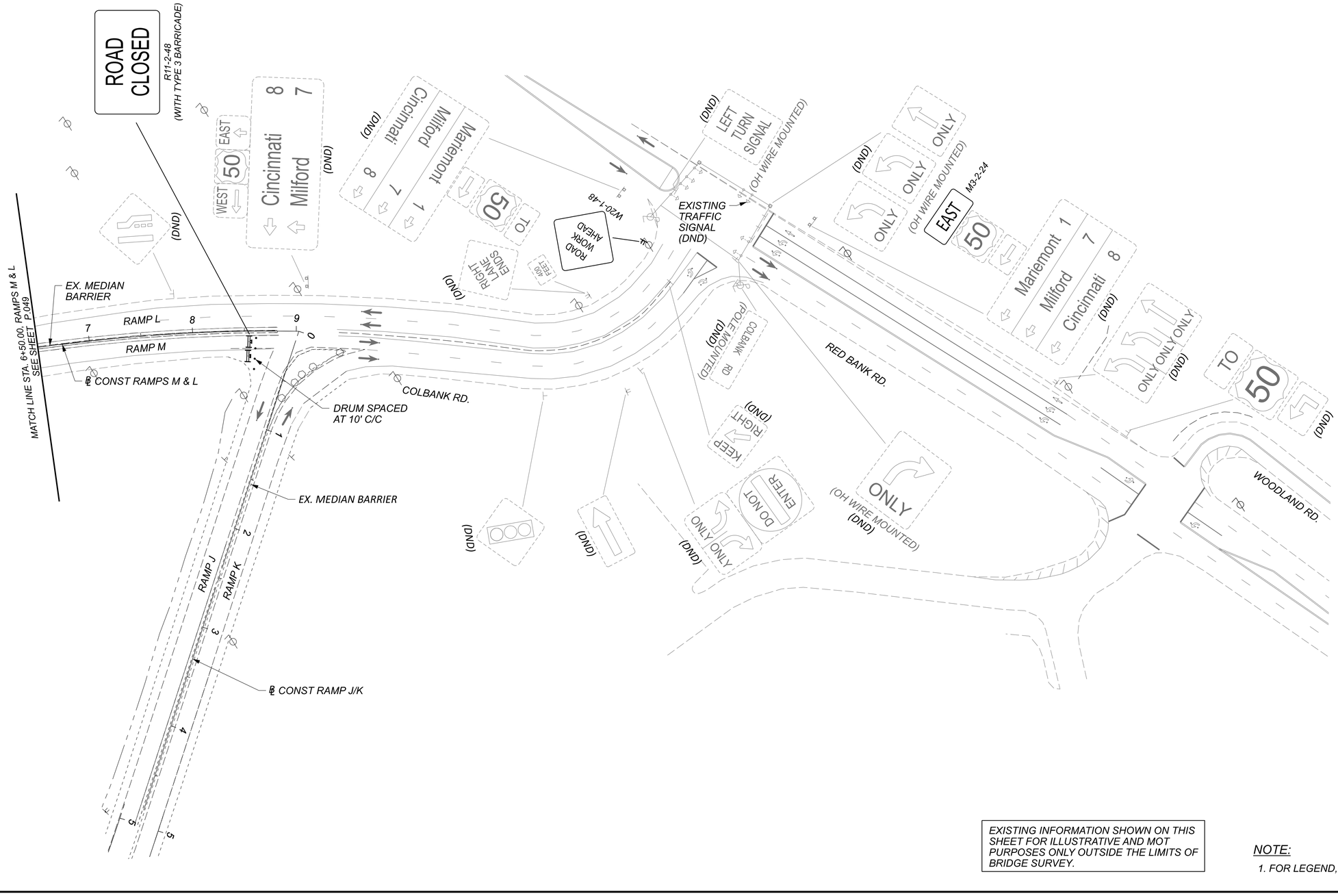
WEST

* M3-4-24

"EAST" - WILL BE USED DURING PHASE 3 OVERNIGHT CLOSURES ONLY.

* "WEST" - WILL BE USED DURING PHASE 2 WHEN RAMP J IS CLOSED AND RAMP L IS OPEN.

** "NO DIRECTION" - WILL USED DURING PHASE 2 WHEN BOTH RAMP J AND RAMP L ARE CLOSED. COVER / REMOVE DIRECTION SIGN.



EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

NOTE:

1. FOR LEGEND, SEE SHEET P.043 .

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC MOT - PHASE 3
RAMPS M & L - STA. 6+50 TO 9+00

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER NE

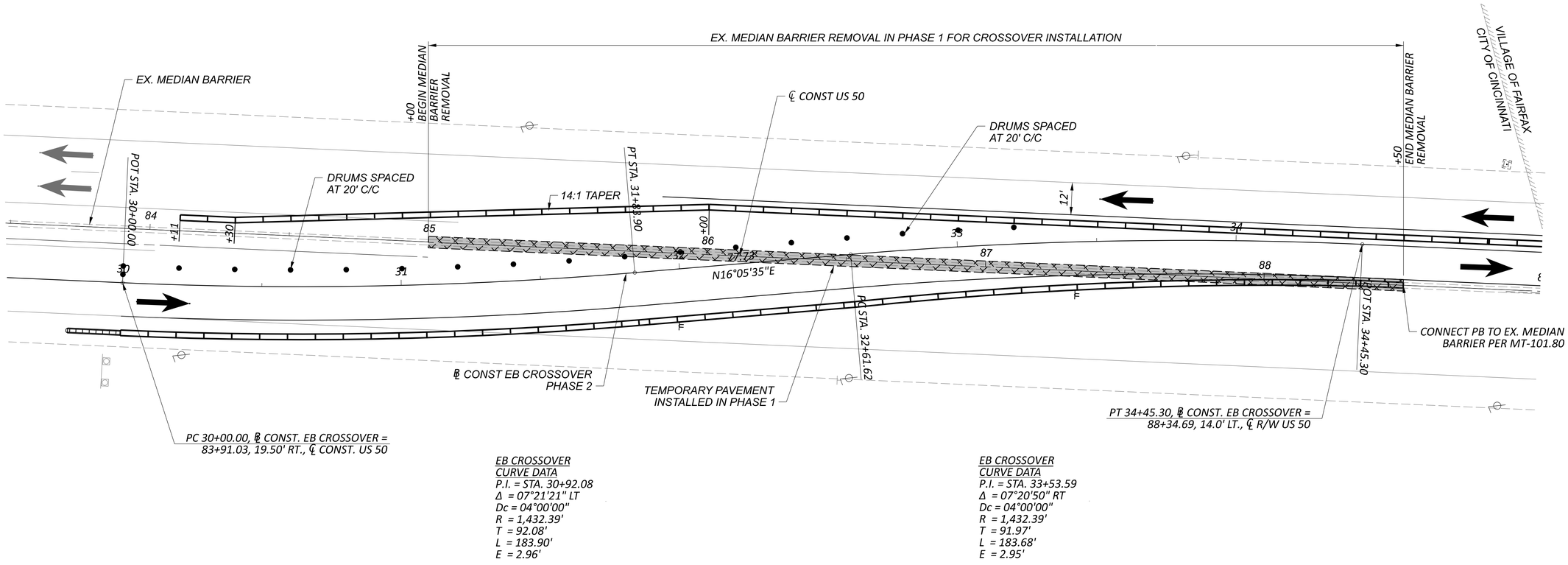
REVIEWER SS 08/22/23

PROJECT ID 110570

SHEET P.050 TOTAL 208

HAM-US 50-29.00

MODEL:110570_MP208 PAPERSIZE:34x22 (in.) DATE:10/27/2023 TIME:12:00:09 PM USER:rjgreve
pw:\\hq-pwint01.d-e.transystems.com:transystems-pw\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\MOT\Sheets\110570_MP208.dgn



EB CROSSOVER
CURVE DATA
P.I. = STA. 30+92.08
Δ = 07°21'21" LT
Dc = 04°00'00"
R = 1,432.39'
T = 92.08'
L = 183.90'
E = 2.96'

EB CROSSOVER
CURVE DATA
P.I. = STA. 33+53.59
Δ = 07°20'50" RT
Dc = 04°00'00"
R = 1,432.39'
T = 91.97'
L = 183.68'
E = 2.95'

NOTES:

1. *FOR LEGEND, SEE SHEET P.043.*
2. *FOR ADDITIONAL DETAILS, SEE SCD MT-95.70.*

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

HORIZONTAL SCALE IN FEET
0 10 20 40

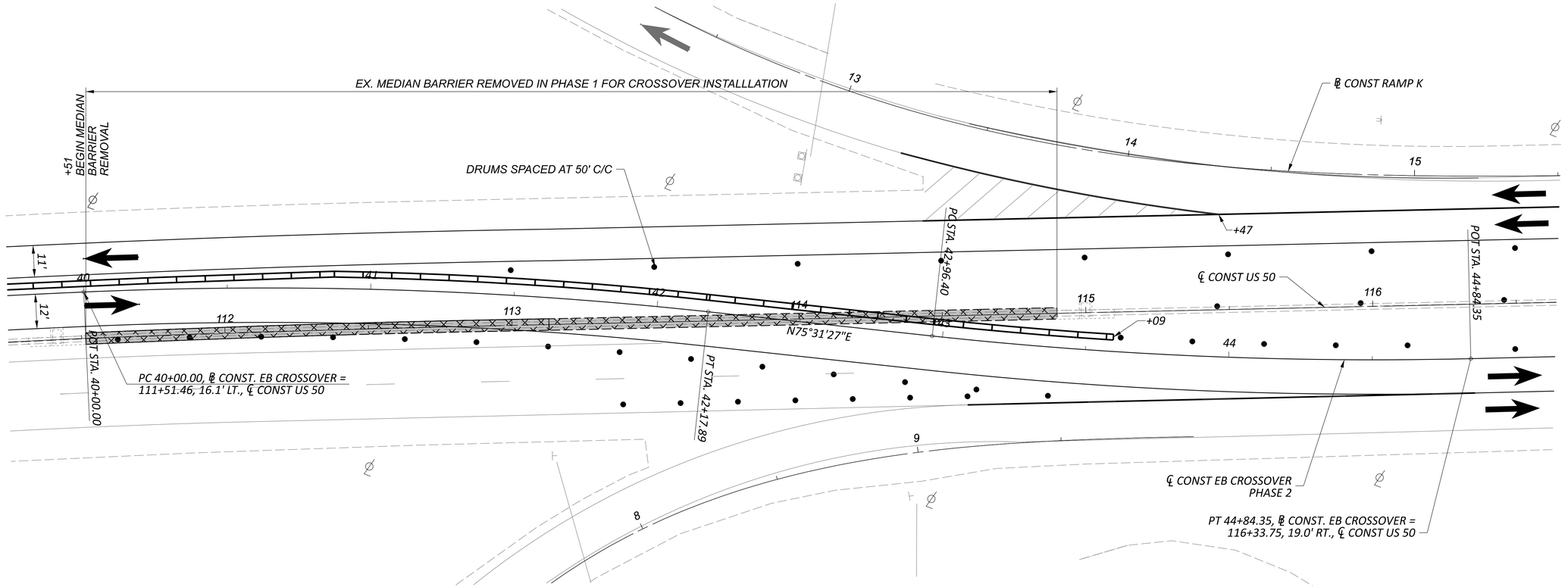
EASTBOUND CROSSOVER MOT - PHASE 3
WEST END

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER NE
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.051 TOTAL 208

HAM-US 50-29.00

MODEL: 110570_MP209 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:00:40 PM USER: rjgreve
pw:\\hq-pwint01.e.transysocrp.com:TransysCorp-pw\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\MOT\Sheets\110570_MP209.dgn



EB CROSSOVER
CURVE DATA
P.I. = STA. 41+09.15
Δ = 08°42'56" RT
Dc = 04°00'00"
R = 1,432.39'
T = 109.15'
L = 217.89'
E = 4.15'

EB CROSSOVER
CURVE DATA
P.I. = STA. 43+90.51
Δ = 07°31'05" LT
Dc = 04°00'00"
R = 1,432.39'
T = 94.11'
L = 187.95'
E = 3.09'

NOTES:

1. FOR LEGEND, SEE SHEET P.033.
2. FOR ADDITIONAL DETAILS, SEE SCD MT-95.70.

HORIZONTAL SCALE IN FEET
0 10 20 40

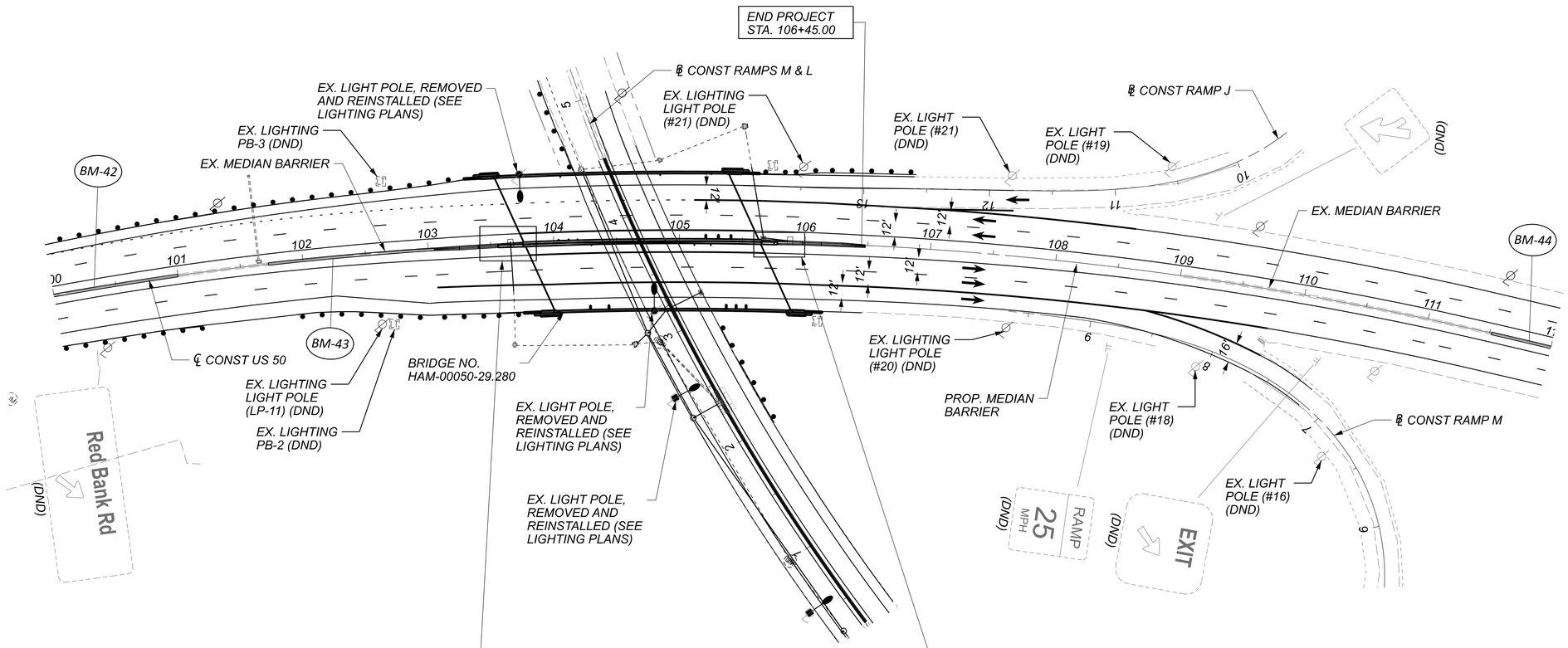
EASTBOUND CROSSOVER MOT - PHASE 3 EAST END

HAM-US 50-29.00

MODEL: II0570_MP2I0 PAPERSIZE: 34x22 (in.) DATE: I0/27/2023 TIME: I2:I0:III PM USER: rigreve
pw:\\hq-pwint0I.a-e.transystems.com:transystemscorp-pw\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\MOT\Sheets\II0570_MP2I0.dgn

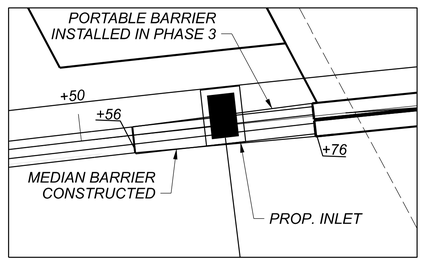
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., STE 1000
CLEVELAND, OHIO 44114

DESIGNER NE
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.052 TOTAL 208



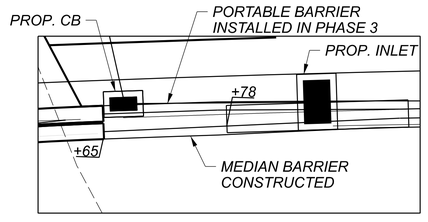
PROPOSED BARRIER MISC.: MC-9.3, TYPE A

- BM-41 — STA. 85+00.00 TO STA. 88+50.00 = 350′
- BM-42 — STA. 99+69.00 TO STA. 100+00.00 = 30′
- BM-43 — STA. 101+72.00 TO STA. 103+05.00 = 130′
- BM-44 — STA. 111+51.00 TO STA. 114+90.00 = 340′



DETAIL "A" - REMOVE TEMPORARY MEDIAN BARRIER PROTECTION AND INSTALL NEW PERMANENT BARRIER

NOT TO SCALE



DETAIL "B" - REMOVE TEMPORARY MEDIAN BARRIER PROTECTION AND INSTALL NEW PERMANENT BARRIER

NOT TO SCALE

HORIZONTAL SCALE IN FEET
0 25 50 100

MAINTENANCE OF TRAFFIC - MOT PHASE 4
US-50 - STA. 100+00 TO STA. 112+00

HAM-US 50-29.00

MODEL: Sheet Sta 103+00 to Sta 107+00 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:01:44 PM USER: rjgreve
pw:\\hq-pwint01.a-e.transyscorp.com:transyscorp-pw1\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\MOT\Sheets\110570_MP301.dgn

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER	
HB	
REVIEWER	
SS	08/22/23
PROJECT ID	
110570	
SHEET	TOTAL
P.053	208

SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P.011	P. 023	P.058	P.059	P.063	P.076B	P.080	P.086				01/NHS/13	02/S>2/13	03/S>2/05						
																		ROADWAY	
LS											LS	LS		201	11001	LS		CLEARING AND GRUBBING, AS PER PLAN	P.011
		5,646									3,704	1,942		202	23000	5,646	SY	PAVEMENT REMOVED	
	610	777									658	729		202	30700	1,387	FT	CONCRETE BARRIER REMOVED	
		642									642			202	35100	642	FT	PIPE REMOVED, 24" AND UNDER	
		1,435									861	574		202	38000	1,435	FT	GUARDRAIL REMOVED	
		1									1			202	42000	1	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A	
		1									1			202	42010	1	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E	
		9									6	3		202	47000	9	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
		2									2			202	58000	2	EACH	MANHOLE REMOVED	
		2									2			202	58100	2	EACH	CATCH BASIN REMOVED	
		2									2			202	58200	2	EACH	INLET REMOVED	
		36										36		202	75000	36	FT	FENCE REMOVED	
						1,788	1,212				2,601	399		203	10000	3,000	CY	EXCAVATION	
						1,702	86				1,730	58		203	20000	1,788	CY	EMBANKMENT	
					111						111			203	35141	111	CY	GRANULAR MATERIAL, TYPE E, AS PER PLAN	P.013
				974							518	456		204	10000	974	SY	SUBGRADE COMPACTION	
				1,978							1,306	672		204	13000	1,978	CY	EXCAVATION OF SUBGRADE (12" DEEP)	
				1,978							1,306	672		204	30020	1,978	CY	GRANULAR MATERIAL, TYPE C	
				4							2	2		204	45000	4	HOUR	PROOF ROLLING	
				5,856							3,919	1,937		204	50000	5,856	SY	GEOTEXTILE FABRIC	
					583						583			204	50001	583	SY	GEOTEXTILE FABRIC, AS PER PLAN	P.013
			1,062.5								525	537.5		606	15050	1,062.5	FT	GUARDRAIL, TYPE MGS	
			3								3			606	26150	3	EACH	ANCHOR ASSEMBLY, MGS TYPE E [MASH 2016]	
			1									1		606	26550	1	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
			7								5	2		606	35002	7	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
			4								2	2		606	35102	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
			36									36		607	23000	36	FT	FENCE, TYPE CLT	
			36									36		607	70000	36	FT	FENCELINE SEEDING AND MULCHING	
			78								1.5	76.5		622	10140	78	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1	
			20									20		622	10141	20	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1, AS PER PLAN	P.093
			212								212			622	10160	212	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
			4								2	2		622	10200	4	EACH	BARRIER TRANSITION	P.099
			2								2			622	25000	2	EACH	CONCRETE BARRIER END SECTION, TYPE D	
			7								4	3		622	25014	7	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1	
			1									1		622	25015	1	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN A	P.093
			1								1			622	25015	1	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN B	P.093
			2								2			622	25050	2	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	
	950		385								899	436		622	90000	1,335	FT	BARRIER, MISC.: MC-9.3, TYPE A	P.098
											LS	LS		SPECIAL	69098400	LS		CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION	P.012
											LS	LS		878	25000	LS		INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS	

GENERAL SUMMARY

HAM-US 50-29.00

MODEL: General Summary Sheet 01 PAPERSIZE: 34x22 (in.) DATE: 2/5/2024 TIME: 10:19:09 AM USER: gfreeman
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 08\Hamilton\110570\400-Engineering\Roadway\Sheets\110570_GG001.dgn

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.054 TOTAL 208

SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P.007	P.009	P.011	P.012	P.016	P.059	P.060	P.061	P.063	P.064		01/NHS/13	02/S>2/13	03/S>2/05						
																		EROSION CONTROL	
			4								2	2		601	21050	4	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	
						50.5					50.5			601	21060	50.5	SY	TIED CONCRETE BLOCK MAT WITH TYPE 2 UNDERLAYMENT	
						1					1			601	32200	1	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
						0.27					0.27			602	20000	0.27	CY	CONCRETE MASONRY	
		2									1	1		659	00100	2	EACH	SOIL ANALYSIS TEST	
		190									178	12		659	00300	190	CY	TOPSOIL	
		2,356									2,252	104		659	10000	2,356	SY	SEEDING AND MULCHING	
		86									81	5		659	14000	86	SY	REPAIR SEEDING AND MULCHING	
		86									81	5		659	15000	86	SY	INTER-SEEDING	
		0.24									0.22	0.02		659	20000	0.24	TON	COMMERCIAL FERTILIZER	
		0.35									0.33	0.02		659	31000	0.35	ACRE	LIME	
		10									9.5	0.5		659	35000	10	MGAL	WATER	
		4									3.8	0.2		659	40000	4	MSF	MOWING	
						188					188			670	00720	188	SY	DITCH EROSION PROTECTION MAT, TYPE B	
									LS		LS	LS		832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
									LS		LS	LS		832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
									LS		LS	LS		832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
									107,210		36,451	70,759		832	30000	107,210	EACH	EROSION CONTROL	
																		DRAINAGE	
			20								10	10		605	13300	20	FT	6" UNCLASSIFIED PIPE UNDERDRAINS	
							3,363				2,153	1,210		605	14000	3,363	FT	6" BASE PIPE UNDERDRAINS	
							135				135			605	11000	135	FT	6" CONSTRUCTION UNDERDRAINS703.31 (PERFORATED)	
							476				345	131		611	00510	476	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
			50								25	25		611	01500	50	FT	6" CONDUIT, TYPE F	
						371					371			611	04400	371	FT	12" CONDUIT, TYPE B	
						98					98			611	04400	98	FT	12" CONDUIT, TYPE B, 706.02	
						22					22			611	04400	22	FT	12" CONDUIT, TYPE B, 707.42	
						14					14			611	05900	14	FT	15" CONDUIT, TYPE B	
						141					141			611	10400	141	FT	24" CONDUIT, TYPE B	
						52					52			611	06700	52	FT	15" CONDUIT, TYPE F,707.05 TYPE C OR 707.21	
						1					1			611	98180	1	EACH	CATCH BASIN, NO. 3A	
						2					2			611	98370	2	EACH	CATCH BASIN, NO. 6	
						1					1			611	99710	1	EACH	PRECAST REINFORCED CONCRETE OUTLET	
						1					1			611	99111	1	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN A	P.090
						1					1			611	99111	1	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN B	P.090
						1						1		611	99151	1	EACH	INLET ADJUSTED TO GRADE, AS PER PLAN	P.090
						2					2			611	99500	2	EACH	INLET, MISC.: I-3A	P.090
						3					3			611	99574	3	EACH	MANHOLE, NO. 3	
						1					1			611	99654	1	EACH	MANHOLE ADJUSTED TO GRADE	
			2								1	1		611	99710	2	EACH	PRECAST REINFORCED CONCRETE OUTLET	
			800								550	250		SPECIAL	69098100	800	FT	MISC: DRAINAGE SYSTEM CLEANING, 36" AND UNDER	P.012
																		PAVEMENT	
146	195												341	251	01030	341	CY	PARTIAL DEPTH PAVEMENT REPAIR (442)	
1,749	1,689												3,438	252	01001	3,438	SY	FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT, AS PER PLAN	P.013
10,497	10,134												20,631	252	01500	20,631	FT	FULL DEPTH PAVEMENT SAWING	
34,989	33,345			6				15,208			2,907	12,307	68,334	254	01000	83,548	SY	PAVEMENT PLANING, ASPHALT CONCRETE (1.5" DEEP)	
3,499	3,345							1,521			290	1,231	6,844	254	01600	8,365	SY	PATCHING PLANED SURFACE	
								1,422			930	492		301	56000	1,422	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
								1,157			749	408		304	20000	1,157	CY	AGGREGATE BASE	
3,149	3,013							2,096			764	1,332	6,162	407	20000	8,258	GAL	NON-TRACKING TACK COAT	
1,458	1,402							880			291	589	2,860	442	10000	3,740	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	
								302			208	94		442	10080	302	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)	
					73						36.5	36.5		609	24510	73	FT	CURB, TYPE 4-C	
					155						155			609	26000	155	FT	CURB, TYPE 6	
28,565	31,308							19,178			6,117	13,061	59,873	872	10000	79,051	FT	VOID REDUCING ASPHALT MEMBRANE (VRAM)	

GENERAL SUMMARY

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.055 TOTAL 208

HAM-US 50-29.00

MODEL: General Summary Sheet 02 PAPERSIZE: 34x22 (in.) DATE: 2/2/2024 TIME: 2:18:15 PM USER: gfreeman
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 08\Hamilton\110570\400-Engineering\Roadway\Sheets\110570_GG001.dgn

SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P.007	P.009	P. 101	P.110	P.111							01/NHS/13	02/S>2/13	03/S>2/05						
																		LIGHTING	
				21							15	6		625	00450	21	EACH	CONNECTION, FUSED PULL APART	
				27							15	12		625	00480	27	EACH	CONNECTION, UNFUSED PERMANENT	
				6							4	2		625	10614	6	EACH	LIGHT POLE ANCHOR BOLTS ON STRUCTURE	
				3							3			625	14500	3	EACH	LIGHT POLE FOUNDATION	
				6,545							4,880	1,665		625	23200	6,545	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	
				270							210	60		625	23400	270	FT	NO. 10 AWG POLE AND BRACKET CABLE	
				1,560							1,225	335		625	25400	1,560	FT	CONDUIT, 2", 725.04	
				275							275			625	25504	275	FT	CONDUIT, 3", 725.051	
				200								200		625	25910	200	FT	CONDUIT CLEANED AND CABLES REMOVED	
				10							8	2		625	27521	10	EACH	REMOVAL OF LUMINAIRE AND REERECTION, AS PER PLAN	P.110
				516							336	180		625	29000	516	FT	TRENCH	
				6							4	2		625	29920	6	EACH	STRUCTURE JUNCTION BOX	
				3							1	2		625	30700	3	EACH	PULL BOX, 725.08, 18"	
				1							1			625	31510	1	EACH	PULL BOX REMOVED	
				9							7	2		625	32000	9	EACH	GROUND ROD	
				2							1	1		625	33000	2	EACH	STRUCTURE GROUNDING SYSTEM	
				1							1			625	34001	1	EACH	POWER SERVICE, AS PER PLAN	P.110
				9							7	2		625	35011	9	EACH	REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN	P.110
				516							336	180		625	36010	516	FT	UNDERGROUND WARNING/MARKING TAPE	
				6							2	4		625	39520	6	EACH	PULL BOX CLEANED	
			LS								LS			SPECIAL	62540000	LS		MAINTAIN EXISTING LIGHTING	P.110
			3								3			SPECIAL	62540010	3	EACH	REPLACEMENT OF EXISTING LIGHTING UNIT	P.110
				3							3			625	75500	3	EACH	LIGHT POLE FOUNDATION REMOVED	
																		TRAFFIC CONTROL	
	194	198									106	92	194	621	00100	392	EACH	RPM (TWO WAY)	
	194	116									62	54	194	621	54000	310	EACH	RAISED PAVEMENT MARKER REMOVED	
		133									78	55		626	00102	133	EACH	BARRIER REFLECTOR, TYPE 1 (TWO WAY)	
		24									11	13		626	00110	24	EACH	BARRIER REFLECTOR, TYPE 2 (TWO WAY)	
											44			630	07600	44	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	
											2			630	84500	2	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	
											1			630	85100	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
											2			630	86102	2	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	
2		3									3		2	632	26500	5	EACH	DETECTOR LOOP	
300		500									500		300	632	65200	800	FT	LOOP DETECTOR LEAD-IN CABLE	
0.14	2.8												2.94	644	00104	2.94	MILE	EDGE LINE, 6"	
	0.05												0.05	644	00204	0.05	MILE	LANE LINE, 6"	
0.57	2.66												3.23	644	00300	3.23	MILE	CENTER LINE	
344	775												1,119	644	00404	1,119	FT	CHANNELIZING LINE, 12"	
63	50	33									33		113	644	00500	146	FT	STOP LINE	
647													647	644	00620	647	FT	CROSSWALK LINE, 12"	
411		247									247		411	644	00700	658	FT	TRANSVERSE/DIAGONAL LINE	
10	27	8									8		37	644	01300	45	EACH	LANE ARROW	
297													297	644	01510	297	FT	DOTTED LINE, 6"	
21													21	644	01630	21	EACH	BIKE LANE SYMBOL MARKING	
24													24	644	20800	24	FT	YIELD LINE	
		0.47									0.24	0.23		807	12010	0.47	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6"	
		0.24									0.13	0.11		807	12110	0.24	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, LANE LINE, 6"	
		227									227			807	12310	227	FT	WET REFLECTIVE EPOXY PAVEMENT MARKING, CHANNELIZING LINE, 12"	
		148									148			807	12430	148	FT	WET REFLECTIVE EPOXY PAVEMENT MARKING, DOTTED LINE, 12"	
		4.03									2.13	1.9		807	14010	4.03	MILE	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, EDGE LINE, 6"	
		1.67									0.77	0.9		807	14110	1.67	MILE	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, LANE LINE, 6"	
		2,382									2,382			807	14310	2,382	FT	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, CHANNELIZING LINE, 12"	
		1,343									747	596		807	14410	1,343	FT	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, DOTTED LINE, 6"	
		668									668			807	14430	668	FT	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, DOTTED LINE, 12"	
		5.57									2.78	2.79		850	10010	5.57	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)	
		0.54									0.54			850	10030	0.54	MILE	GROOVING FOR 12" RECESSED PAVEMENT MARKING, (ASPHALT)	
		1.09									0.51	0.58		850	20010	1.09	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (CONCRETE)	
		0.14									0.07	0.07		850	20030	0.14	MILE	GROOVING FOR 12" RECESSED PAVEMENT MARKING, (CONCRETE)	

GENERAL SUMMARY

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.056 TOTAL 208

HAM-US 50-29.00

MODEL: General Summary Sheet 03 PAPERSIZE: 34x22 (in.) DATE: 2/5/2024 TIME: 10:19:31 AM USER: gfreeman
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SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P.015	P.016	P.018	P.019	P.020	P. 023	P.091					01/NHS/13	02/S>2/13	03/S>2/05						
																		RETAINING WALLS (001)	
						LS						LS		202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	P.091
						476						476		SPECIAL	53051020	476	SF	RETAINING WALL, TIMBER LAGGING	P.091
												LS						**STRUCTURE OVER 20 FOOT SPAN (HAM-00050-29.100)**	P.115
											LS							**STRUCTURE OVER 20 FOOT SPAN (HAM-00050-29.280)**	P.165
																		MAINTENANCE OF TRAFFIC	
				500							200	200	100	614	11110	500	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
	1,620										551	1,069		614	11630	1,620	FT	INCREASED BARRIER DELINEATION	
					16						10	6		614	12380	16	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	
			LS								LS			614	12420	LS		DETOUR SIGNING	
8											4	4		614	12484	8	EACH	WORK ZONE INCREASED PENALTIES SIGN	
4											2	2		614	12756	4	EACH	WORK ZONE CROSSOVER LIGHTING SYSTEM	
	192										65	127		614	12801	192	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	P.016
		30									30			614	13000	30	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
					426						183	243		614	13310	426	EACH	BARRIER REFLECTOR, TYPE 1 (ONE WAY)	
					15						7	8		614	13312	15	EACH	BARRIER REFLECTOR, TYPE 2 (ONE WAY)	
					109						42	67		614	13350	109	EACH	OBJECT MARKER, ONE WAY	
					161						68	93		614	13360	161	EACH	OBJECT MARKER, TWO WAY	
			48								24	12	12	614	18601	48	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	P.019
					0.2						0.2			614	20010	0.2	MILE	WORK ZONE LANE LINE, CLASS I, 6"	
				1.67							0.77	0.9		614	20056	1.67	MILE	WORK ZONE LANE LINE, CLASS I, 6", 807 PAINT	
				0.05									0.05	614	20560	0.05	MILE	WORK ZONE LANE LINE, CLASS III, 6", 642 PAINT	
				2.66									2.66	614	21550	2.66	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
					5.8						2.4	3.4		614	22010	5.8	MILE	WORK ZONE EDGE LINE, CLASS I, 6"	
				3.6							1.91	1.69		614	22056	3.6	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 807 PAINT	
				2.8									2.8	614	22360	2.8	MILE	WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT	
					1,453						1,453			614	23010	1,453	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12"	
				4,635							4,635			614	23110	4,635	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 807 PAINT	
				775									775	614	23690	775	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 12", 642 PAINT	
					2,708						971	1,737		614	24000	2,708	FT	WORK ZONE DOTTED LINE, CLASS I	
				2,011							1,415	596		614	24102	2,011	FT	WORK ZONE DOTTED LINE, CLASS I, 6", 807 PAINT	
				50									50	614	26610	50	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
				27									27	614	30650	27	EACH	WORK ZONE ARROW, CLASS III, 642 PAINT	
		LS									LS	LS		615	10000	LS		ROADS FOR MAINTAINING TRAFFIC	
					424						210	214		615	20000	424	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
			20								6	6	8	616	10000	20	MGAL	WATER	
					7,560						3,046	4,514		622	41100	7,560	FT	PORTABLE BARRIER, UNANCHORED	
					3,592						1,096	2,496		622	41110	3,592	FT	PORTABLE BARRIER, ANCHORED	
					10						5	5		630	83000	10	SF	COVERING OF SIGN	
	24										12	12		829	00100	24	SNMT	WORK ZONE EGRESS WARNING SYSTEM	
	60,000											60,000		900	00100	60,000	EACH	RAILROAD FLAGGING SERVICES	
																		INCIDENTALS	
											LS	LS	LS	108	10000	LS		CPM PROGRESS SCHEDULE	
		LS									LS	LS	LS	614	11000	LS		MAINTAINING TRAFFIC	
											2	4	2	619	16020	8	MNTH	FIELD OFFICE, TYPE C	
											LS	LS	LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
											LS	LS	LS	624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

HAM-US 50-29.00

MODEL: General Summary Sheet 04 PAPERSIZE: 34x22 (in.) DATE: 2/2/2024 TIME: 2:18:16 PM USER: gfreeman
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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114
DESIGNER
MSW
REVIEWER
GHM 08/22/23
PROJECT ID
110570
SHEET P.057 TOTAL 208

REMOVAL ESTIMATED QUANTITIES

REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION FROM	STATION TO STATION TO	SIDE	PLANIMETERED AREAS		202 PAVEMENT REMOVED	202 CONCRETE BARRIER REMOVED	202 PIPE REMOVED, 24" AND UNDER	202 GUARDRAIL REMOVED	202 BRIDGE TERMINAL ASSEMBLY REMOVED	202 ANCHOR ASSEMBLY REMOVED, TYPE E	202 ANCHOR ASSEMBLY REMOVED, TYPE A	202 MANHOLE REMOVED	202 CATCH BASIN REMOVED	202 INLET REMOVED	202 FENCE REMOVED						
								SY	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	FT						
R-1	P.065	US-50	93+00.00	94+17.80	LT	3,940.70		438																
R-2	P.065	US-50	93+00.00	94+17.80	RT	3,831.36		426																
R-3	P.065	US-50	93+00.00	94+17.80	LT/RT	1,496.52		166																
R-4	P.065	US-50	90+38.13	94+25.04	RT						381	1												
R-5	P.065	US-50	93+00.00	94+44.35	CL				124.4															
R-13	P.067	US-50	98+74.00	99+98.00	CL				124.0															
R-14	P.067	US-50	98+67.73	98+77.21	RT													36						
R-15	P.067	US-50	99+01.12	99+98.00	LT	3,126.85		347																
R-16	P.067	US-50	99+01.12	99+98.00	RT	3,132.95		348																
R-17	P.067	US-50	99+01.12	99+98.00	LT/RT	1,250.50		139																
R-18	P.067	US-50	99+98.00	100+70.00	RT	711.00		79																
R-21	P.067	US-50	98+98.32	100+69.44	LT						174	1												
R-22	P.067	US-50	98+99.80	101+12.54	RT						211	2												
R-23	P.067	US-50	100+90.64	103+38.73	LT						253	1												
R-24	P.067	US-50	101+93.30	103+82.32	RT						186	2												
R-33	P.069	US-50	103+05.00	103+77.68	CL				52.7															
R-37	P.069	US-50	103+05.00	103+48.80	LT	1,551.86		172																
R-38	P.069	US-50	103+05.00	103+73.07	RT	2,557.07		284																
R-39	P.069	US-50	103+05.00	103+55.47	LT/RT	1,189.98		132																
R-40	P.069	US-50	105+63.24	106+15.00	LT	1,887.41		210																
R-41	P.069	US-50	105+93.07	106+48.00	RT	1,935.27		215																
R-42	P.069	US-50	105+84.77	106+48.00	LT/RT	1,387.62		154																
R-43	P.069	US-50	105+54.92	106+82.74	LT						125	1	1											
R-44	P.069	US-50	103+66.00	103+66.00	CL					40							1							
R-45	P.069	US-50	105+67.00	105+57.00	LT					63						1								
R-46	P.069	US-50	105+88.00	105+67.00	CL					22							1							
R-47	P.069	US-50	105+98.00	106+48.00	CL				50.0															
R-53	P.071	RAMPS M & L	1+96.31	3+02.76	RT						105	1		1										
R-54	P.071	RAMPS M & L	3+00.00	4+49.00	LT					171					1									
R-55	P.071	RAMPS M & L	0+25.00	3+00.00	LT					278					1									
R-56	P.071	RAMPS M & L	2+35.00	3+00.00	LT					68						1								
R-57	P.071	RAMPS M & L	0+25.00	4+50.00	CL				425.0															
R-58	P.071	RAMPS M & L	0+25.00	4+50.00	LT/RT	22,822.77		2536																
TOTALS CARRIED TO GENERAL SUMMARY								5646	777	642	1435	9	1	1	2	2	2	36						

HAM-US 50-29.00

MODEL: Roadway SubSummary Sheet 02 PAPERSIZE: 34x22 (in.) DATE: 1/17/2024 TIME: 12:30:57 PM USER: mswhitt
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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.058 TOTAL 208

ROADWAY ESTIMATED QUANTITIES

REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION		SIDE	606	606	606	606	606	607	607	609	609	622	622	622	622	622	622	622	622	622	622
						GUARDRAIL, TYPE MGS	ANCHOR ASSEMBLY, MGS TYPE E [MASH 2016]	ANCHOR ASSEMBLY, MGS TYPE T	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	FENCE, TYPE CLT	FENCELINE SEEDING AND MULCHING	CURB, TYPE 4-C	CURB, TYPE 6	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1, AS PER PLAN	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	BARRIER TRANSITION	CONCRETE BARRIER END SECTION, TYPE D	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN A	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN B	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	BARRIER, MISC.: MC-9.3, TYPE A
			FROM	TO		FT	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	FT
BR-1	P.063	US-50	93+00.00	93+99.83	CL										49.8			1		2				
GR-1	P.063	US-50	92+99.95	94+16.97	RT	112.5			1															
GR-2	P.063	US-50	93+70.76	94+20.06	LT	37.5		1		1														
C-1	P.063	US-50	93+99.06	94+17.44	RT								18.15											
F-1	P.065	US-50	98+67.73	98+77.21	RT						36	36												
BR-2	P.065	US-50	99+01.12	99+98.00	CL										26.9	20.0		1		1	1			
C-5	P.067	US-50	99+01.12	100+54.84	RT									155										
GR-3	P.065	US-50	98+99.51	99+27.00	RT	187.5			1	1														
GR-4	P.065	US-50	99+00.12	103+33.18	LT	412.5			1	1														
GR-5	P.065	US-50	101+90.53	103+74.21	RT	125.0			1	1														
C-2	P.065	US-50	99+00.70	99+18.61	LT								18.15											
BR-3	P.067	US-50	103+05.00	103+55.67	CL										0.7			1		2				
BR-4	P.067	US-50	105+65.40	106+48.00	CL													1		2		1		
GR-6	P.067	US-50	105+62.98	106+84.90	LT	87.5	1		1															
C-3	P.067	US-50	103+50.68	103+69.18	RT								18.15											
C-4	P.067	US-50	105+62.99	105+80.80	LT								18.15											
GR-7	P.069	RAMPS M & L	1+99.03	2+88.02	RT	50.0	1		1															
GR-8	P.069	RAMPS M & L	4+49.41	5+35.67	LT	50.0	1		1															
BR-5	P.069	RAMPS M & L	0+25.00	4+50.00	LT/RT																			385.0
BR-6	P.069	RAMPS M & L	2+87.17	4+27.68	RT												109.0		1				1	
BR-7	P.069	RAMPS M & L	3+20.23	4+50.00	LT												102.9		1				1	
TOTALS CARRIED TO GENERAL SUMMARY						1062.5	3	1	7	4	36	36	73	155	78	20	212	4	2	7	1	1	2	385

HAM-US 50-29.00

MODEL: Roadway SubSummary Sheet 01 PAPERSIZE: 34x22 (in.) DATE: 2/1/2024 TIME: 10:59:35 AM USER: gfreeman
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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.059 TOTAL 208

REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION		SIDE	601	601	602	611	611	611	611	611	611	611	611	611	611	611	611	611	670
			FROM	TO		TIED CONCRETE BLOCK MAT WITH TYPE 2 UNDERLAYMENT	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	CONCRETE MASONARY	12" CONDUIT, TYPE B	12" CONDUIT, TYPE B, 706.02	12" CONDUIT, TYPE B, 707.42	15" CONDUIT, TYPE B	24" CONDUIT, TYPE B	15" CONDUIT, TYPE F, 707.05 TYPE C OR 707.21	CATCH BASIN, NO. 3A	CATCH BASIN, NO. 6	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN A	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN B	INLET ADJUSTED TO GRADE, AS PER PLAN	INLET, MISC.:I-3A	MANHOLE, NO. 3	MANHOLE ADJUSTED TO GRADE	PRECAST REINFORCED CONCRETE OUTLET	DITCH EROSION PROTECTION MAT, TYPE B
						SY	CY	CY	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	SY
D-1	P.063	US 50	94+10		CL														1				
D-2	P.067	US 50	100+40		RT	0.5																1	
D-6	P.067	US 50	100+50		RT		1	0.27						52	1								
D-7	P.067	US 50	100+54		RT	45																	
D-3	P.067	US 50	103+66		CL					40							1						
D-4	P.067	US 50	105+67		LT					58						1							
D-5	P.067	US 50	105+88		CL						22							1					
D-11	P.069	RAMPS M & L	0+25	2+00	RT																		146
D-12	P.069	RAMPS M & L	0+25	2+35	LT				213												1		
D-13	P.069	RAMPS M & L	2+35	3+10	LT				77												1		
D-14	P.069	RAMPS M & L	2+35	2+35	LT				25											1			
D-15	P.069	RAMPS M & L	3+07	3+10	LT							14											
D-16	P.069	RAMPS M & L	3+10	4+49	LT								141								1		
D-17	P.069	RAMPS M & L	3+18		LT	5																	
D-18	P.069	RAMPS M & L	3+20	3+10	CL				26											1			
D-19	P.069	RAMPS M & L	3+20	3+20	RT				30							1							
D-20	P.069	RAMPS M & L	3+50	4+00	RT																		42
D-21	P.069	RAMPS M & L	4+49		LT																	1	
TOTALS CARRIED TO GENERAL SUMMARY						50.5	1	0.27	371	98	22	14	141	52	1	2	1	1	1	2	3	1	1	188

DRAINAGE ESTIMATED QUANTITIES

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER
NLD

REVIEWER
MHT 08/22/23

PROJECT ID
110570

SHEET P.060 TOTAL 208

HAM-US 50-29.00

MODEL: Drainage Estimated Quantities PAPERSIZE: 34x22 (in.) DATE: 2/1/2024 TIME: 10:58:21 AM USER: gfreeman
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 08\Hamilton\110570\d00-Engineering\Drainage\Sheets\110570_DQ001.dgn

REF NO.	SHEET NO.	CHAIN	STATION TO STATION		SIDE	OUTLET ELEVATION		605	605	611	611	FOR INFORMATION ONLY											
												BEND AND BRANCHES											
												* DENOTES TO CONNECT TO EXISTING UD											
								6" CONSTRUCTION UNDERDRAINS 707.31 (PERFORATED)	6" BASE PIPE UNDERDRAINS	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	6" CONDUIT, TYPE F,707.05 TYPE C OR 707.21		6" X 11.25* BEND	6" X 22.50* BEND	6" X 90* BEND	6" X 6" TEE							
			FROM	TO				FT	FT	FT	FT		EACH	EACH	EACH	EACH							
UD-1	P.063	US 50	93+00	94+03	LT				105	35					1	1							
UD-2	P.063	US 50	93+00	94+03	LT				104														
UD-3	P.063	US 50	93+00	94+10	LT	544.23			99	10				2		1							
UD-4	P.063	US 50	93+00	94+10	RT				110														
UD-5	P.063	US 50	93+00	94+10	RT				110					2									
UD-6	P.063	US 50	93+00	94+10	RT	544.23			135	10					1	2							
UD-7	P.065	US 50	99+01	99+93	LT				94	39					1	1							
UD-8	P.065	US 50	99+01	99+93	LT				93														
UD-9	P.065	US 50	99+01	99+98	LT	EX UD			87	10						1							
UD-10	P.065	US 50	99+01	99+93	RT				91	17					1	1							
UD-11	P.065	US 50	99+01	99+93	RT				91														
UD-12	P.065	US 50	99+02	100+70	RT	EX UD			163	10					1	1							
UD-37	P.067	US 50	99+65	100+40	RT	529.50			75														
UD-38	P.067	US 50	99+70	100+40	RT	521.75		70															
UD-39	P.067	US 50	99+75	100+40	RT	516.00		65															
UD-40	P.067	US 50	100+40	100+40	RT	515.61					75												
UD-13	P.067	US 50	103+05	103+46	LT/RT				25	110					1	6							
UD-14	P.067	US 50	103+05	103+47	LT				33														
UD-15	P.067	US 50	103+05	103+38	LT				42														
UD-16	P.067	US 50	103+05	103+47	RT				42	3					2								
UD-17	P.067	US 50	103+05	103+47	RT				41														
UD-18	P.067	US 50	103+05	103+47	RT				41					2									
UD-19	P.067	US 50	103+05	103+54	RT	EX UD			40	13					1								
UD-20	P.067	US 50	106+15	105+88	LT	532.93			27	51					1	2							
UD-21	P.067	US 50	106+15	105+88	LT				27														
UD-22	P.067	US 50	106+15	105+88	LT				27														
UD-23	P.067	US 50	106+48	105+88	LT	532.93			50	13					2								
UD-24	P.067	US 50	106+48	106+17	RT	EX UD			31	39					1	2							
UD-25	P.067	US 50	106+48	106+17	RT				31														
UD-26	P.067	US 50	106+48	106+17	RT				30														
UD-27	P.069	RAMPS M & L	0+25	2+35	LT	511.55			205	10				3									
UD-28	P.069	RAMPS M & L	0+25	2+35	CL	510.68			200	10													
UD-29	P.069	RAMPS M & L	0+25	3+08	RT				280				4		1	2							
UD-30	P.069	RAMPS M & L	0+25	3+08	RT				280	28													
UD-31	P.069	RAMPS M & L	2+42	3+10	LT	511.17			59	10				1									
UD-32	P.069	RAMPS M & L	2+47	3+20	CL	509.04			62	10													
UD-33	P.069	RAMPS M & L	4+45	3+20	LT	511.17			126	10			1										
UD-34	P.069	RAMPS M & L	4+40	3+20	CL	509.04			110	10													
UD-35	P.069	RAMPS M & L	4+33	3+34	RT				100														
UD-36	P.069	RAMPS M & L	4+32	3+34	RT				97	28					1	2							
													5	10	15	22							
TOTALS CARRIED TO GENERAL SUMMARY								135	3363	476	75												

UNDERDRAIN ESTIMATED QUANTITIES

HAM-US 50-29.00

MODEL: Underdrain Estimated Quantities PAPERSIZE: 34x22 (in.) DATE: 2/1/2024 TIME: 12:53:03 PM USER: gfreeman
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 08\Hamilton\110570\400-Engineering\Drainage\Sheets\110570_DQ002.dgn

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
NLD

REVIEWER
MHT 08/22/23

PROJECT ID
110570

SHEET P.061 TOTAL 208

PAV'T AREA	STATION RANGE		SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	CADD GENERATED AREA	204 SUBGRADE COMPACTION	204 EXCAVATION OF SUBGRADE (12" DEEP)	204 GRANULAR MATERIAL, TYPE C	204 PROOF ROLLING	204 GEOTEXTILE FABRIC	254 PAVEMENT PLANING, ASPHALT CONCRETE (1.5" DEEP)	254 PATCHING PLANED SURFACE	301 ASPHALT CONCRETE BASE, PG64-22, (449)	304 AGGREGATE BASE	407 NON-TRACKING TACK COAT	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	442 ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)		872 VOID REDUCING ASPHALT MEMBRANE (VRAM)			
	FROM	TO		FT	FT	SF	SY	CY	CY	HOUR	SY	SY	SY	CY	CY	GAL	CY	CY		FT			
	US-50																						
RESURFACING FOR MOT	82+08.00	93+00.00	LT	1,092.00	28.0	30,578						3397.5	339.8			305.8	141.6			3,276.0			
RESURFACING FOR MOT	65+19.00	93+00.00	RT	2,781.00	28.8	80,183						8909.3	890.9			801.8	371.2			8,343.0			
FULL DEPTH ASPHALT	93+00.00	94+17.80	LT	118.09	38.4	4,530		167.8	167.8	0.25	503.3			125.8	83.9	60.4	21.0	24.5		236.2			
+ASPH. EDGE COURSE	93+00.00	94+17.80	LT	119.78				6.7	6.7	0.01	20.0			1.7	2.2								
FULL DEPTH ASPHALT	93+00.00	94+17.80	RT	117.47	37.5	4,408		163.3	163.3	0.24	489.8			122.4	81.6	58.8	20.4	23.8		234.9			
+ASPH. EDGE COURSE	93+00.00	94+17.80	RT	97.78				5.4	5.4	0.01	16.3			1.4	1.8								
+CURB, TYPE 4C	93+00.00	94+17.80	RT	18.15				1.0	1.0	0.002	3.0				0.5								
MEDIAN BARRIER AREA	93+00.00	94+17.80	LT/RT	117.69	2.8	335		12.4	12.4	0.02	37.2			9.3	6.2	4.5		1.8		235.4			
APPROACH SLAB	94+17.80	94+44.96	LT	27.53	37.2	1,023	113.7			0.06					19.0								
APPROACH SLAB	94+17.80	94+44.96	RT	26.97	38.2	1,031	114.5			0.06					19.1								
APPROACH SLAB	98+73.95	99+01.12	LT	27.18	37.7	1,024	113.7			0.06					19.0								
APPROACH SLAB	98+73.95	99+01.12	RT	27.16	37.7	1,023	113.7			0.06					18.9								
FULL DEPTH ASPHALT	99+01.12	99+98.00	LT	97.17	37.6	3,649		135.1	135.1	0.20	405.4			101.4	67.6	48.7	16.9	19.7		291.5			
+CURB, TYPE 4C	99+01.12	99+98.00	LT	18.15				1.0	1.0	0.002	3.0				0.5					18.1			
+ASPH. EDGE COURSE	99+01.12	99+98.00	LT	80.52				4.5	4.5	0.01	13.4			1.1	1.5								
FULL DEPTH ASPHALT	99+01.12	99+98.00	RT	96.60	37.1	3,582		132.7	132.7	0.20	398.0			99.5	66.3	47.8	16.6	19.3		193.2			
+ASPH. EDGE COURSE	99+01.12	99+98.00	RT	95.26				5.3	5.3	0.01	15.9			1.3	1.8								
FULL DEPTH ASPHALT FOR SLIDE REPAIR	99+98.00	100+70.00	RT	72.00	12.0	722		26.8	26.8	0.04	80.3			20.1	13.4	9.6	3.3	3.9		39.0			
MEDIAN BARRIER AREA	99+01.12	99+98.00	LT/RT	97.10	3.0	289		10.7	10.7	0.02	32.1			8.0	5.3	3.8		1.6		194.2			
SUBTOTALS THIS SHEET							455.7	672.6	672.6	1.24	2017.7	12306.8	1230.7	492	408.6	1341.1	590.9	94.6		13061.6			

PAVEMENT ESTIMATED QUANTITIES

HAM-US 50-29.00

MODEL: Pavement SubSummary Sheet 01 PAPERSIZE: 34x22 (in.) DATE: 2/2/2024 TIME: 10:43:46 AM USER: gfreeman
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 08\Hamilton\110570\400-Engineering\Roadway\Sheets\110570_GS002.dgn

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.062 TOTAL 208

PAV'T AREA	STATION RANGE		SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	CADD GENERATED AREA	204 SUBGRADE COMPACTION	204 EXCAVATION OF SUBGRADE (12" DEEP)	204 GRANULAR MATERIAL, TYPE C	204 PROOF ROLLING	204 GEOTEXTILE FABRIC	254 PAVEMENT PLANING, ASPHALT CONCRETE (1.5" DEEP)	254 PATCHING PLANED SURFACE	301 ASPHALT CONCRETE BASE, PG64-22, (449)	304 AGGREGATE BASE	407 NON-TRACKING TACK COAT	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	442 ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)		872 VOID REDUCING ASPHALT MEMBRANE (VRAM)			
	FROM	TO		FT	FT	SF	SY	CY	CY	HOUR	SY	SY	SY	CY	CY	GAL	CY	CY		FT			
	US-50																						
RESURFACING	99+98.00	103+05.00	LT	307.00	44.1	13,549						1505.4	150.5			135.5	62.7			921.0			
RESURFACING	99+98.00	103+05.00	RT	307.00	40.9	11,833						1314.8	130.92			118.3	54.8			921.0			
FULL DEPTH ASPHALT	103+05.00	103+51.45	LT	43.62	43.2	1,886		69.9	69.9	0.10	209.6			52.4	34.9	25.1	8.7	10.2		130.8			
+ASPH. EDGE COURSE	103+05.00	103+31.22	LT	26.82				1.5	1.5	0.002	4.5			0.4	0.5								
MEDIAN BARRIER AREA	103+05.00	103+52.57	LT/RT	46.81	2.7	126		4.7	4.7	0.01	14.0			3.5	2.3	1.7		0.7		93.6			
FULL DEPTH ASPHALT	103+05.00	103+73.59	RT	50.27	52.2	2,622		97.1	97.1	0.15	291.3			72.8	48.6	35.0	12.1	14.2		150.8			
+ASPH. EDGE COURSE	103+05.00	103+55.71	RT	49.89				2.8	2.8	0.004	8.3			0.7	0.9								
+CURB, TYPE 4C	103+55.71	103+73.59	RT	18.15				1.0	1.0	0.002	3.0				0.5					18.1			
APPROACH SLAB	103+31.22	103+73.46	LT	25.00	46.5	1,163	129.3			0.06					21.5	15.5	5.4	6.3		125.0			
FULL DEPTH APPROACH	103+48.54	103+76.43	LT	25.00	7.2	179		6.6	6.6	0.01	19.9				6.6	2.4	0.8	1.0					
APPROACH MEDIAN BARRIER	103+51.45	103+75.69	LT/RT	25.00	3.0	76		2.8	2.8	0.004	8.4				2.8	1.0		0.4		50.0			
FULL DEPTH APPROACH	103+52.57	103+80.50	RT	25.00	7.0	176		6.5	6.5	0.01	19.6				6.5	2.3	0.8	1.0					
APPROACH SLAB	103+55.42	103+99.84	RT	25.00	46.8	1,169	129.9			0.06					21.6	15.6	5.4	6.3		125.0			
APPROACH SLAB	105+37.79	105+84.65	LT	25.00	46.5	1,164	129.3			0.06					21.5	15.5	5.4	6.3		125.0			
FULL DEPTH ASPH. APPROACH	105+59.76	105+88.15	LT	25.00	6.9	173		6.4	6.4	0.01	19.2				6.4	2.3	0.8	0.9					
APPROACH MEDIAN BARRIER	105+65.39	105+89.73	LT/RT	25.00	3.3	84		3.1	3.1	0.005	9.3				3.1	1.1		0.5		50.0			
FULL DEPTH ASPH. APPROACH	105+64.83	105+93.24	RT	25.00	6.9	173		6.4	6.4	0.01	19.3				6.4	2.3	0.8	0.9					
APPROACH SLAB	105+68.16	106+16.01	RT	25.00	46.8	1,170	130.0			0.07					21.7	15.6	5.4	6.3		125.0			
FULL DEPTH ASPHALT	105+62.98	106+15.00	LT	48.35	39.3	1,900		70.4	70.4	0.11	211.1			52.8	35.2	25.3	8.8	10.3		145.0			
+CURB, TYPE 4C	105+62.98	105+80.81	LT	18.15				1.0	1.0	0.002	3.0				0.5					18.1			
+ASPH. EDGE COURSE	105+80.81	106+15.00	LT	34.84				1.9	1.9	0.003	5.8			0.5	0.6								
FULL DEPTH ASPHALT	105+84.65	106+48.00	LT	63.50	7.1	449		16.6	16.6	0.02	49.9			12.5	8.3	6.0	2.1	2.4					
MEDIAN BARRIER AREA	105+88.15	106+48.00	LT/RT	58.70	2.7	161		6.0	6.0	0.01	17.9			4.5	3.0	2.2		0.9		117.4			
FULL DEPTH ASPHALT	105+89.73	106+48.00	RT	54.59	42.8	2,338		86.6	86.6	0.13	259.8			65.0	43.3	31.2	10.8	12.6		163.8			
+ASPH. EDGE COURSE	106+16.61	106+48.00	RT	31.41				1.7	1.7	0.003	5.2			0.4	0.6								
	RAMPS M & L																						
FULL DEPTH ASPHALT	0+25.00	4+50.00	LT/RT	425.00	54.0	22,934		849.4	849.4	1.27	2,548.2			637.0	424.7	305.8	106.2	123.9		2,550.0			
+ASPH. EDGE COURSE	0+25.00	3+20.22	LT	300.00				16.7	16.7	0.03	50.0			4.2	5.6								
+CONC. BAR. TYPE D	3+20.22	4+50.00	LT	131.88				15.5	15.5	0.02	46.4			9.77	7.7	1.9		1.5		131.9			
+ASPH. EDGE COURSE	0+25.00	2+68.96	RT	239.87				13.3	13.3	0.02	40.0			3.3	4.4								
+CURB, TYPE 4C	2+68.96	2+87.42	RT	18.15				1.0	1.0	0.002	3.0				0.5					18.1			
+CONC. BAR. TYPE D	2+87.42	4+27.77	RT	137.99				16.2	16.2	0.02	48.6			10.22	8.1	2.0		1.6		138.0			
+ASPH. EDGE COURSE	4+27.77	4+50.00	RT	21.86				1.2	1.2	0.002	3.6			0.3	0.4								
SUBTOTALS THIS SHEET							518.5	1306.3	1306.3	2.2	3918.8	2820	281	930.2	749.0	764	291	208.1		6117.8			
SUBTOTALS FROM PREVIOUS SHEET							455.7	645.8	645.8	1.2	1937.4	12306.8	1230.7	471.9	408.6	1331.5	587.6	94.2		13061			
TOTALS CARRIED TO GENERAL SUMMARY							974	1952	1952	3	5856	15126	1512	1422	1144	2096	880	302.3		19178			

PAVEMENT ESTIMATED QUANTITIES

HAM-US 50-29.00

MODEL: Pavement SubSummary Sheet 02 PAPERSIZE: 34x22 (in.) DATE: 2/2/2024 TIME: 10:44:06 AM USER: gfreeman
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 08\Hamilton\110570\400-Engineering\Roadway\Sheets\110570_GS002.dgn

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114
DESIGNER
MSW
REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.063 TOTAL 208

USGS MAP: CINCINNATI EAST

LONGITUDE: -84° 24' 06"
LATITUDE: 39° 08' 18"

*LONGITUDE AND LATITUDE TO APPROX. CENTER OF PROJECT

PROJECT DESCRIPTION:

REHABILITATE TWO BRIDGES (HAM-50-29.100 & 29.280) BY REMOVING AND REPLACING THE EXISTING DECK WITH A NEW COMPOSITE, REINFORCED CONCRETE DECK; UPGRADE BRIDGES TO MEET CURRENT DESIGN REQUIREMENTS; ADD WOOD LAGGING TO THE EXISTING RETAINING WALL ALONG US-50 EASTBOUND; MINOR PAVEMENT APPROACH WORK. LOWER THE RAMPS TO RED BANK ROAD UNDER THE 29.280 BRIDGE TO INCREASE THE VERTICAL CLEARANCE; REPAIR AND RESURFACE THE US-50 PAVEMENT IN THE VILLAGES OF FAIRFAX AND TERRACE PARK.

NOTE TO CONTRACTOR: VEGETATION IS ALREADY ESTABLISHED AT BMP LOCATIONS. DO NOT DISTURB.

LEGEND

- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- EXISTING INLET
- PROPOSED INLET
- EXISTING MANHOLE
- PROPOSED MANHOLE
- VEGETATED FILTER STRIP

HORIZONTAL SCALE IN FEET: 0, 50, 100, 200

EXISTING NORFOLK SOUTHERN RAILWAY COMPANY TRACK

EXISTING INDIANA & OHIO RAILWAY TRACK

EX. 12" STORM SEWER

BEGIN PROJECT STA. 93+00.00 S.L.M. 29.08

FED NO. E191 (891)

HAM-00050-29.100

EX. ELECTRIC

END FULL DEPTH PAVEMENT REPLACEMENT BEGIN RESURFACING STA. 99+98.00

END WORK STA. 5+40.00

EX. 30" STORM SEWER

EX.12" STORM SEWER

HAM-00050-29.280

EX.15" RCP

EX.12" RCP

EX.12" RCP

END PROJECT STA. 106+45.00 S.L.M. 29.31

FED NO. E191 (891)

RESUME PAVEMENT REHABILITATION/RESURFACING SEGMENT 1 STA 106+45.00 S.L.M. 29.31

POT STA. 4+65.50

POT 4+86.50

EX. ℄ RAMP K

EX. ℄ RAMP J

POT 9+02.48

ST 11+80.56

SC 7+35.50

CS 9+30.56

CS STA 7+10.62

SC STA 7+35.50

ST 7+44.28"E

TS STA 10+09.04

POT STA 9+97.10

VEGETATED FILTER STRIP 2 0.26 AC

EX. ℄ R/W US-50

POT STA. 85+00.00

N23°25'22"E

TS STA. 88+79.56

SC STA. 90+79.56

DUCK CREEK

RED BANK RD.

SUSPEND RESURFACING BEGIN FULL DEPTH PAVEMENT REPLACEMENT STA. 103+05.00

BEGIN WORK STA. 59+15.50 S.L.M. 28.40

EX. 12" RCP

BEGIN WORK STA. 0+25.00

POT 0+00.00

EX. 12" RCP

℄ CONST. RAMPS M & L

EX. 12" RCP

POT STA 2+00.00

SC STA 3+46.21

CS STA 11+12.91

ST 11+44.28"E

CS STA 7+48.10

SC STA 7+12.91

EX. ℄ RAMP L

EX. ℄ RAMP M

VEGETATED FILTER STRIP 1 0.20 AC

END WORK PAVEMENT REHABILITATION/RESURFACING SEGMENT 1 STA 153+05.20 S.L.M. 30.27

NOTE:
THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR PAYMENT:

ITEM 832 - STORM WATER POLLUTION PREVENTION PLAN, LUMP
ITEM 832 - STORM WATER POLLUTION PREVENTION INSPECTIONS, LUMP
ITEM 832 - STORM WATER POLLUTION PREVENTION INSPECTIONS SOFTWARE, LUMP
ITEM 832 - EROSION CONTROL, 107,210 EACH

PROJECT DATA	
TOTAL AREA (RIGHT-OF-WAY)..... 4.49 ACRES	RUNOFF COEFFICENT FOR PRE-CONSTRUCTION SITE 0.77
PROJECT EARTH DISTURBED AREA... 1.75 ACRES	RUNOFF COEFFICENT FOR POST-CONSTRUCTION SITE 0.78
ESTIMATED CONTRACTOR EARTH DISTURBED AREA..... 0.35 ACRES	POST CONSTRUCTION BMP: VEGETATED FILTER STRIPS
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE.... 3.08 ACRES	IMMEDIATE RECEIVING WATERS: DUCK CREEK
IMPERVIOUS (PAVED) AREA FOR POST-CONSTRUCTION SITE.... 3.09 ACRES	SUBSEQUENT RECEIVING WATER: LITTLE MIAMI RIVER

BMP TYPE	LATITUDE / LONGITUDE				END TREATMENT CREDIT (ACRES)
	BEGIN		END		
VEGETATED FILTER STRIP 1	39.139131	-84.399614	39.139271	-84.399217	0.20
VEGETATED FILTER STRIP 2	39.140020	-84.400500	39.139916	-84.399860	0.26
			TREATMENT PROVIDED		0.46
			TREATMENT REQUIRED		0.35

PROJECT SITE PLAN US-50

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER NLD
REVIEWER MHT 08/22/23
PROJECT ID 110570
SHEET P.064 TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:04:42 PM USER: rjgreve
pw:\\hq-pwint01.e.transysocrp.com:transysocrp-pw\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\Drainage\Sheets\110570_DE001.dgn

MODEL: CLP_US50 - Plan [\Sheet+] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:05:22 PM USER: rlgreve
pw:\\hq-pwint0.c-e.transystems.com:Transystems-pw\Documents\Projects_2020\CL402\40220008A\Agency_Folders\400-Engineering\Roadway\Sheets\110570_GP002.dgn

* NOTE: CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF OVERHEAD ELECTRIC LINES AND MAINTAIN REQUIRED OSHA CLEARANCE ENVELOPE AT ALL TIMES.

BEGIN WORK
STA 65+15.00

BEGIN PROJECT
STA 93+00.00

STRUCTURE NO.
HAM-00050-29.100

SEE * NOTE

CONST LIMITS

MGS BTA, TYPE 2

AA, MGS TYPE T

EX. 12" RCP (DND)

+18.09

+70.76

+16.97

UD-1 GR-2 D-1 R-1 BR-1 UD-2 R-5 R-3 UD-3 UD-5 UD-4 R-2 R-4 UD-6 GR-1 C-1

Σ 20.0' Ψ 15.0' Θ 49.8' Ψ 15.0'

10.5' 23.6' 5.6' 2.7' 5.5' 24.3' 11.0' 4.0' 3.7' 4.0' 24.0' 7.0' 4.0' 24.0' 7.0' 4.0' 7.0'

EX. ELEC

℄ CONST. US-50

EX. INLET
(ATG, APP)

BEGIN APP. SLAB
STA. 94+17.79

EX GR, TYPE 5

EX. ELEC

PROP. RETAINING
WALL WORK
SEE WALL PLANS

CURVE DATA
P.I. = STA. 101+41.18
Δ = 40°40'01" RT
Dc = 02°00'00"
R = 2,864.79'
T = 1,061.62'
L = 2,033.35'
E = 190.38'

TRANSITION GR
PER MGS-4.3

TIE TO EX. GR, TYPE 5,
STA 92+99.95

MGS BTA, TYPE 1

CURB, TYPE 4C

GR, TYPE MGS

OLD RED BANK RD

Ex A

Ex R/W

Ex LA

EX. 36" CULVERT
(FROM RECORD
PLAN, DND)

DUCK CREEK

EX. 20" H.P. GAS MAIN
(FROM RECORD PLANS)

INDIANA AND OHIO RR

EX 36" WATER

NORFOLK SOUTHERN RR

MATCH LINE STA. 97+00.00

AREA OF SUITABLE WOODED HABITAT
FOR ENDANGERED BAT SPECIES.
FOR DETAILS, SEE SHEET P.011.

BARRIER LEGEND

Φ - END SECTION, TYPE D
Ω - END ANCHORAGE, TYPE D
Ψ - END ANCHORAGE, TYPE C1
Σ - BARRIER TRANSITION PIECE
Δ - END ANCHORAGE, TYPE C1, APP
Θ - SS BARRIER, TYPE C1

HORIZONTAL
SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - US-50
STA. 92+00 TO STA. 97+00

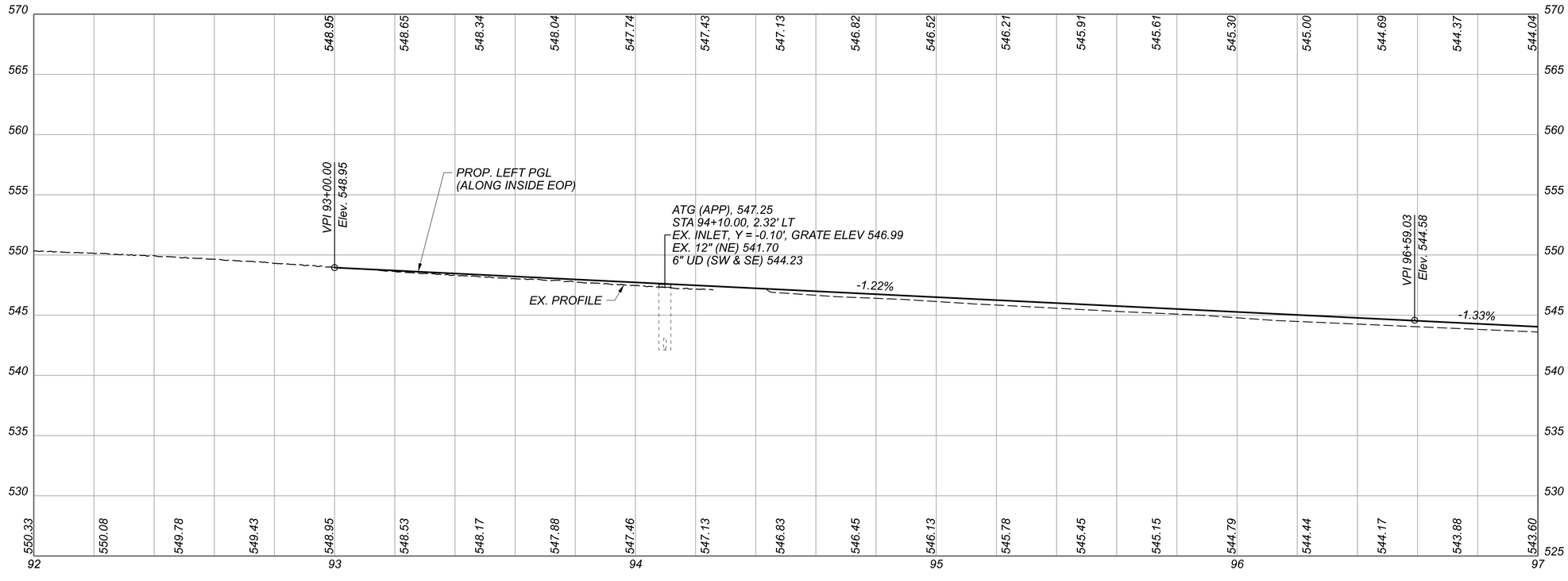
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE E., STE 1000
CLEVELAND, OHIO 44114

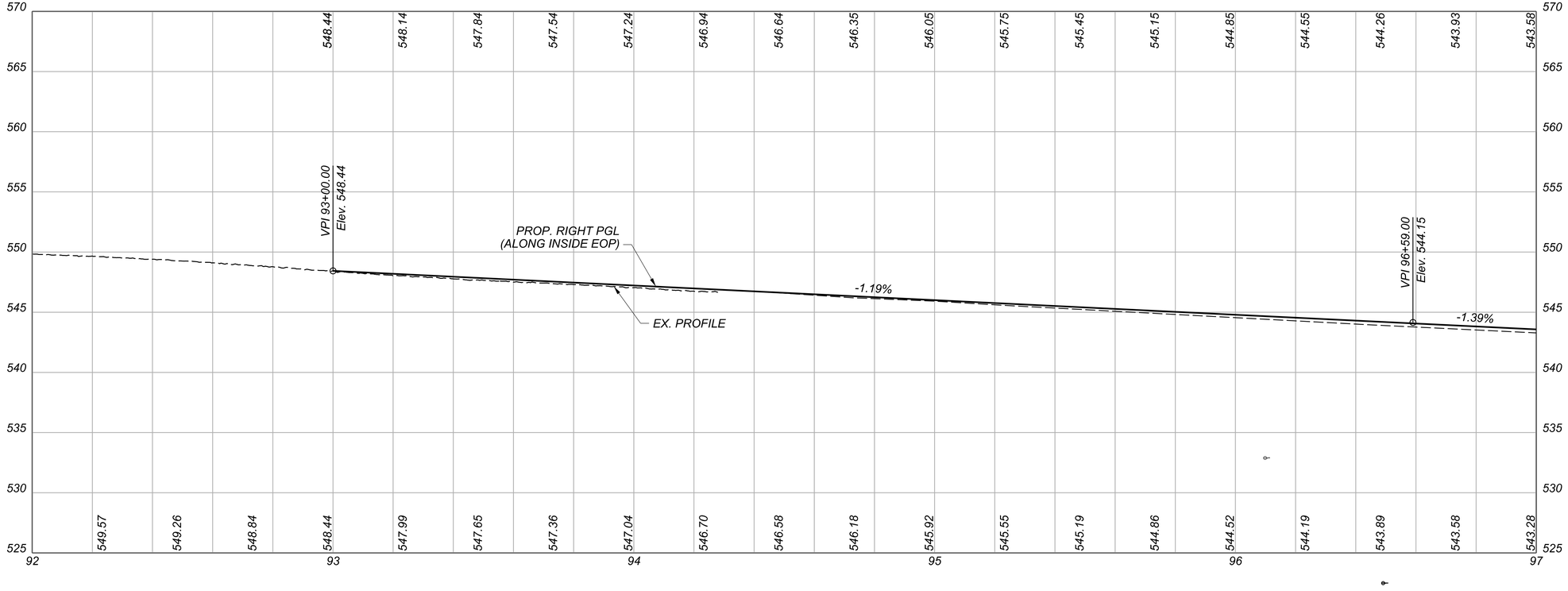
DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.065 TOTAL 208





PROFILES - US-50 LEFT & RIGHT PGL
STA. 92+00 TO STA. 97+00

HAM-US 50-29.00

MODEL:PGL_US50 - Profile(1Sheet) PAPERSIZE:34x22 (in.) DATE:10/27/2023 TIME:12:05:33 PM USER:rjgreve
pw:\\hq-pwint0.e.transystems.com:transystemscorp-pw\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\Roadway\Sheets\110570_GP002.dgn

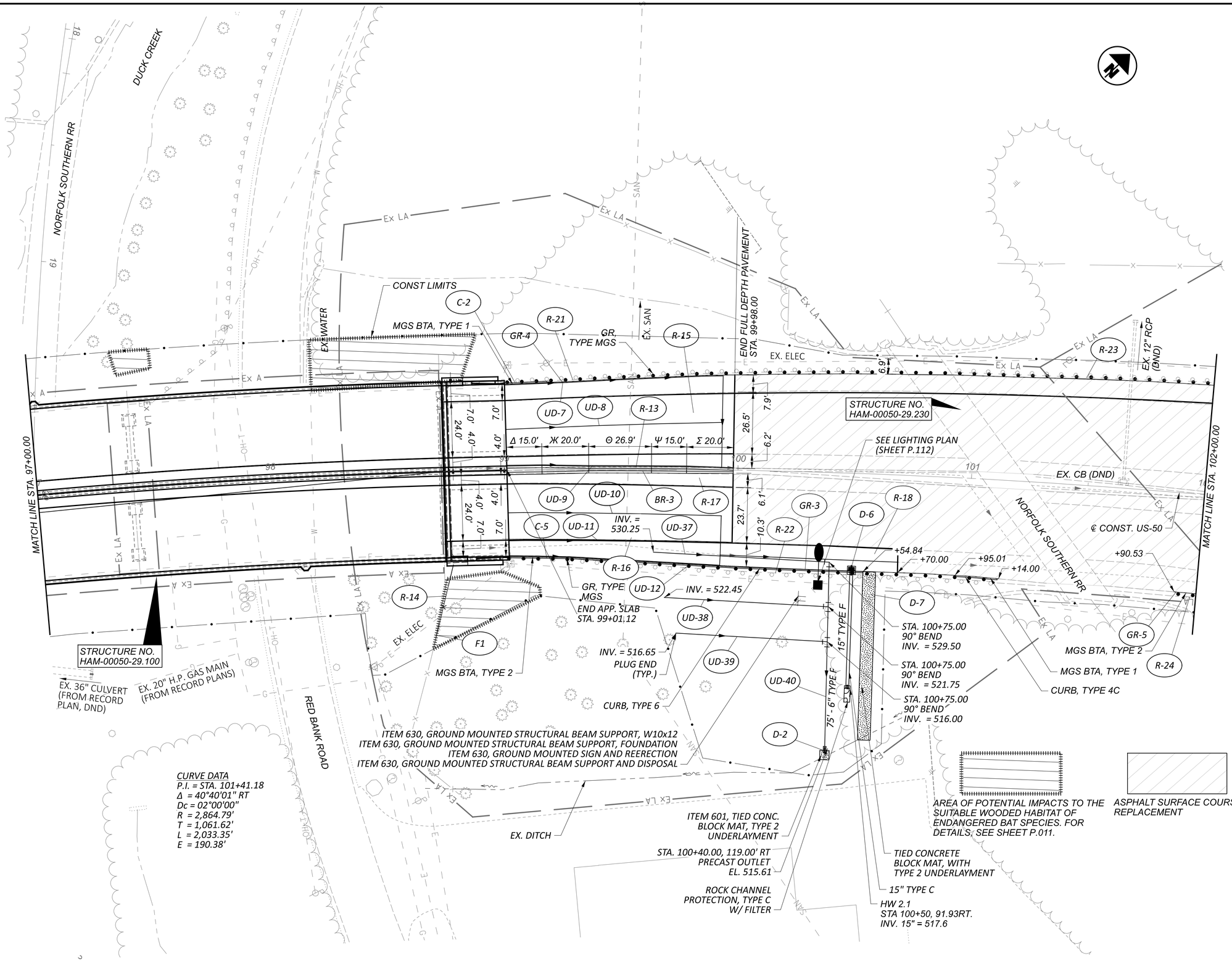
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE.E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.066 TOTAL 208



HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - US-50
STA. 97+00 TO STA. 102+00

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER MSW
REVIEWER GHM 08/22/23
PROJECT ID 110570
SHEET P.067 TOTAL 208

HAM-US 50-29.00

MODEL: CLP_US50 - Plan 2 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/5/2024 TIME: 8:04:17 AM USER: gfreeman
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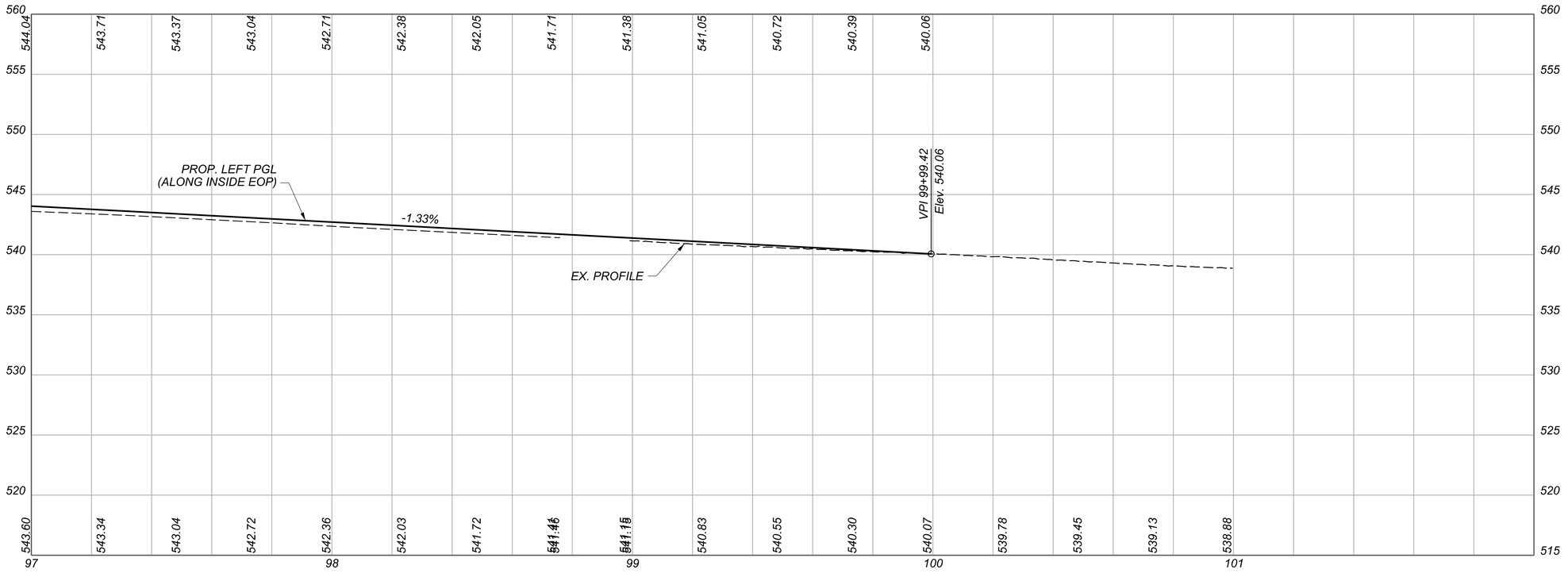

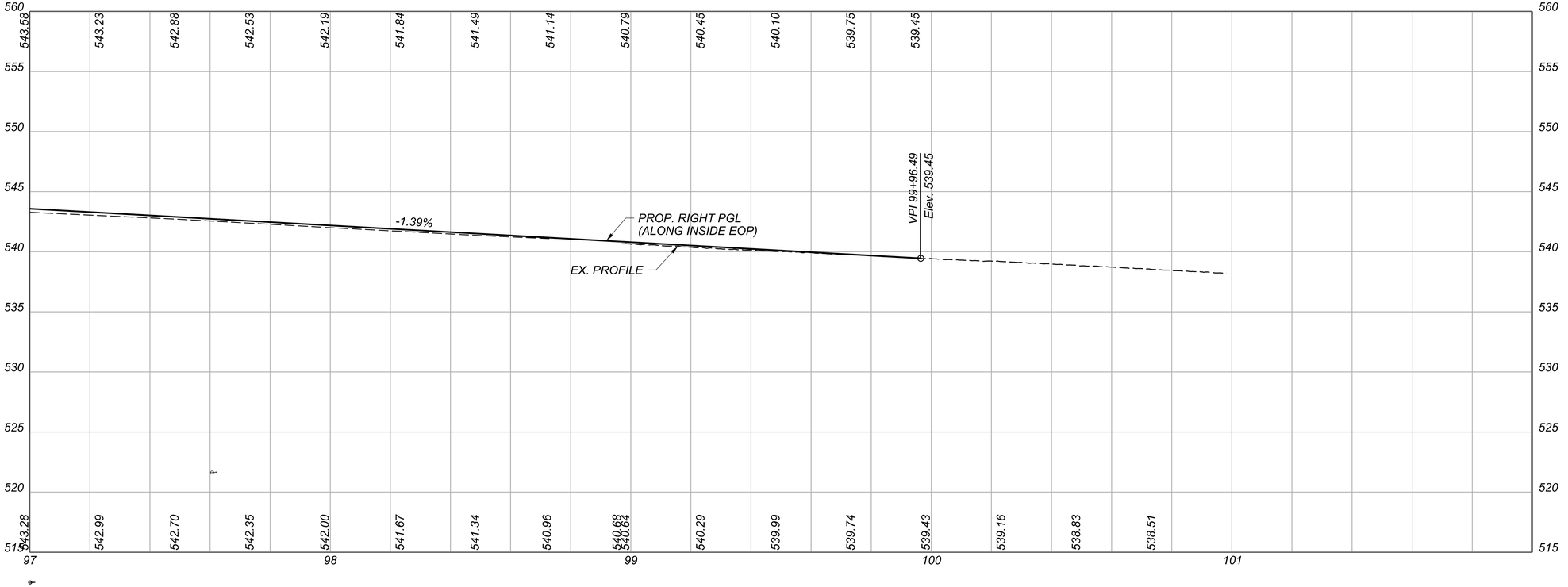

PROFILES - US-50 LEFT & RIGHT PGL
STA. 97+00 TO STA. 102+00

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	MSW
REVIEWER	GHM 08/22/23
PROJECT ID	110570
SHEET	P.068
TOTAL	208

HAM-US 50-29.00

MODEL: PGL_US50 - Profile2-1(Sheet) PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:05:43 PM USER: rjgreve
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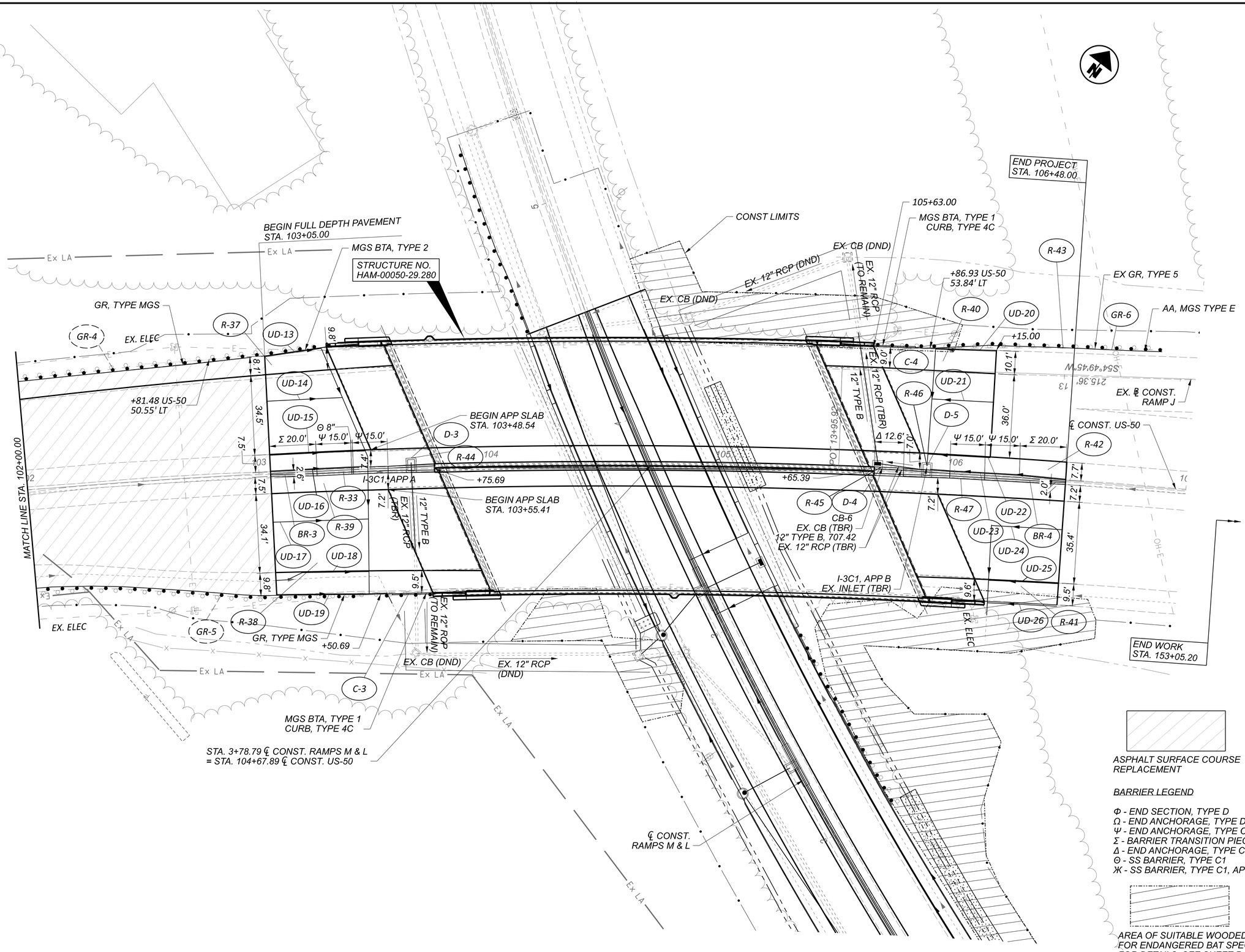

ASPHALT SURFACE COURSE REPLACEMENT

BARRIER LEGEND

Φ - END SECTION, TYPE D
Ω - END ANCHORAGE, TYPE D
Ψ - END ANCHORAGE, TYPE C1
Σ - BARRIER TRANSITION PIECE
Δ - END ANCHORAGE, TYPE C1, APP
Θ - SS BARRIER, TYPE C1
Ж - SS BARRIER, TYPE C1, APP

AREA OF SUITABLE WOODED HABITAT FOR ENDANGERED BAT SPECIES. FOR DETAILS, SEE SHEET P.011.

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE - US-50
STA. 102+00 TO STA. 107+00

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER: MSW
REVIEWER: GHM 08/22/23
PROJECT ID: 110570
SHEET: P.069 TOTAL: 208

HAM-US 50-29.00

MODEL: CLP_US50 - Plan 3 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:05:44 PM USER: rjgreve
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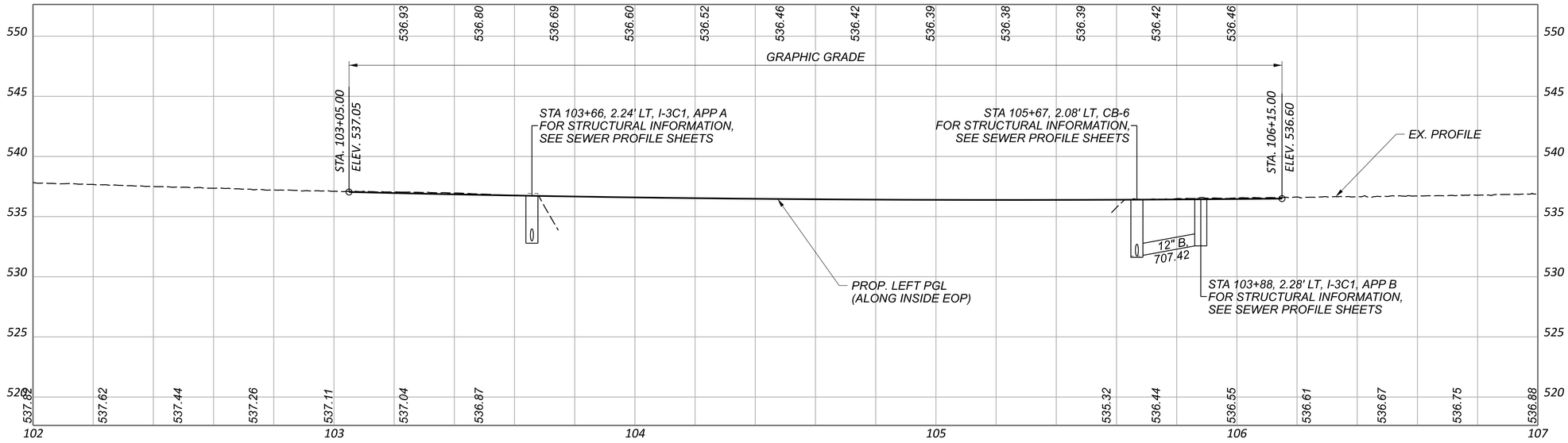

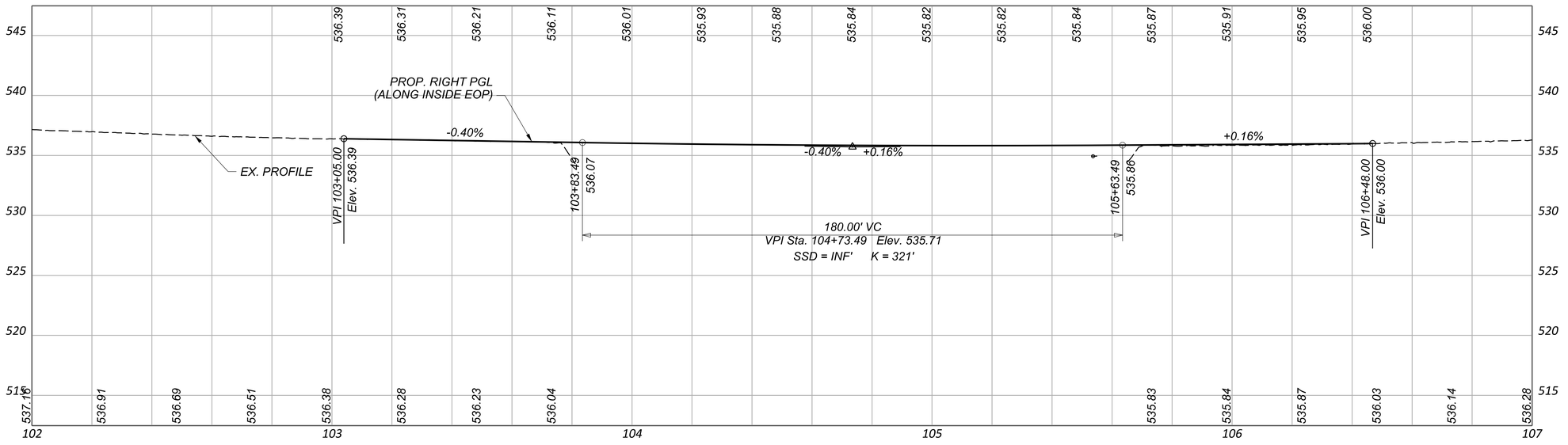

PROFILES - US-50 LEFT & RIGHT PGL
STA. 102+00 TO STA. 107+00

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.070 TOTAL 208

HAM-US 50-29.00

MODEL: PGL_2R_Raised - Profile 1 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:05:53 PM USER: rjgreve
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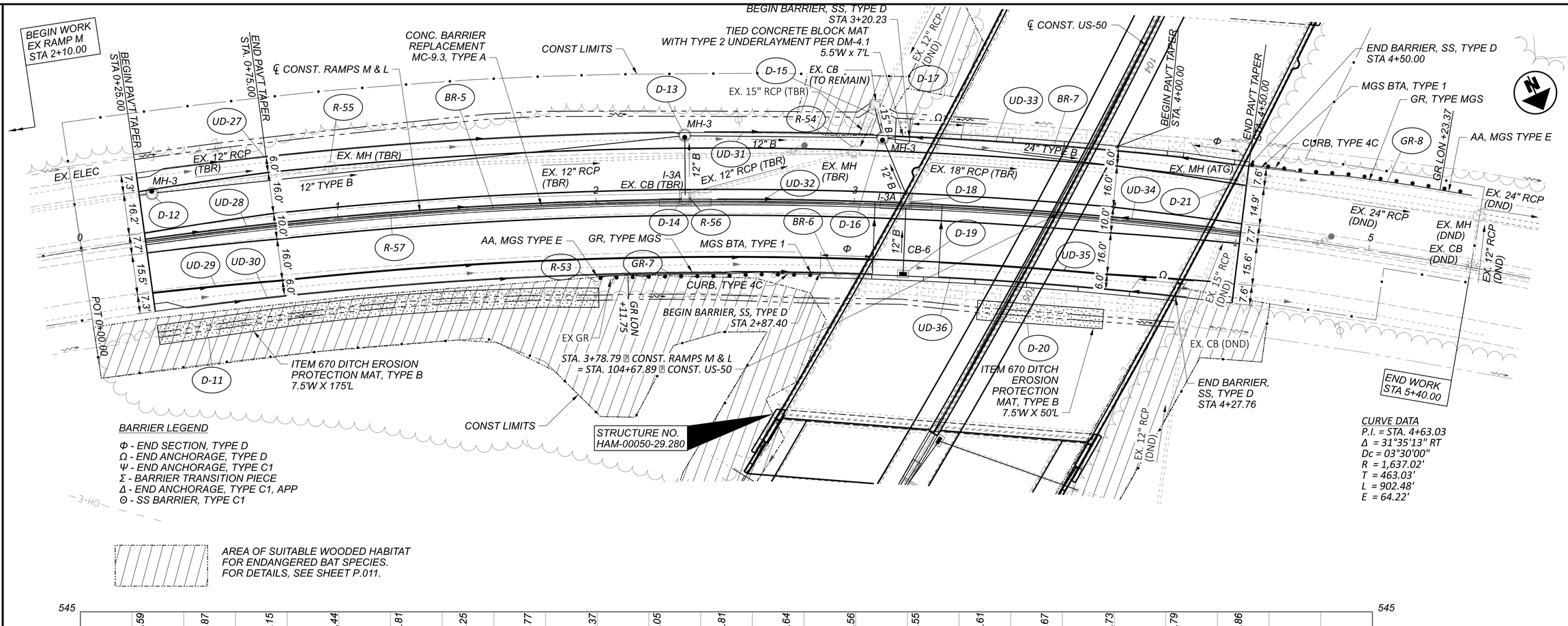
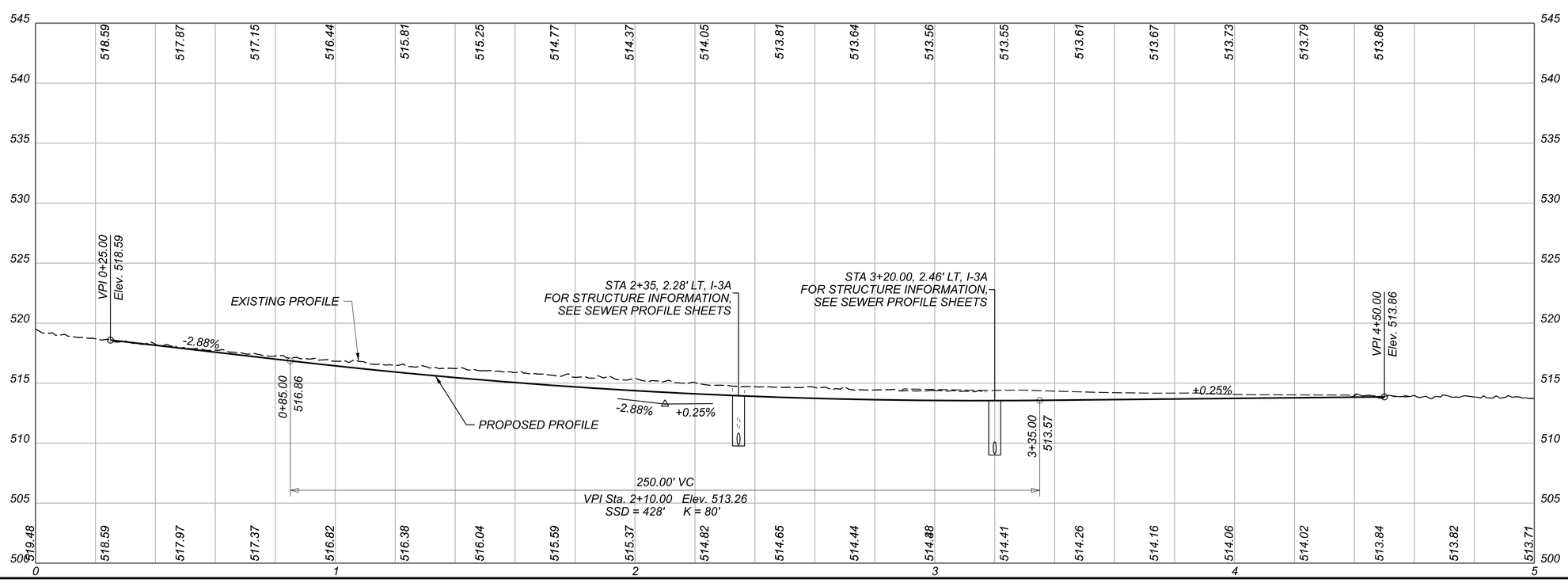


CURVE DATA
P.I. = STA. 4+63.03
Δ = 31°35'13" RT
Dc = 03°30'00"
R = 1,637.02'
T = 463.03'
L = 902.48'
E = 64.22'

BARRIER LEGEND

Φ - END SECTION, TYPE D
Ω - END ANCHORAGE, TYPE D
Ψ - END ANCHORAGE, TYPE C1
Σ - BARRIER TRANSITION PIECE
Δ - END ANCHORAGE, TYPE C1, APP
Θ - SS BARRIER, TYPE C1

AREA OF SUITABLE WOODED HABITAT FOR ENDANGERED BAT SPECIES. FOR DETAILS, SEE SHEET P.011.



HAM-US 50-29.00

MODEL: RED BANKS_I - Plan I-1(Sheet) PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:06:28 PM USER: rjgreve
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HORIZONTAL
SCALE IN FEET
0 10 20 40

PLAN AND PROFILE
RAMPS M & L

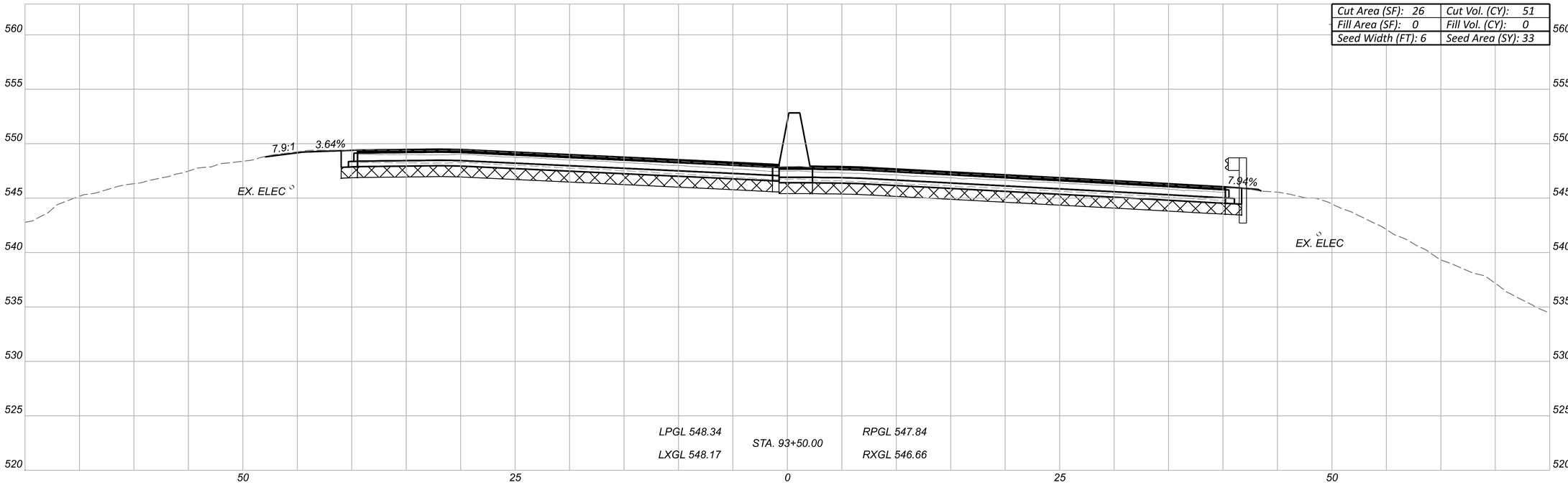
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

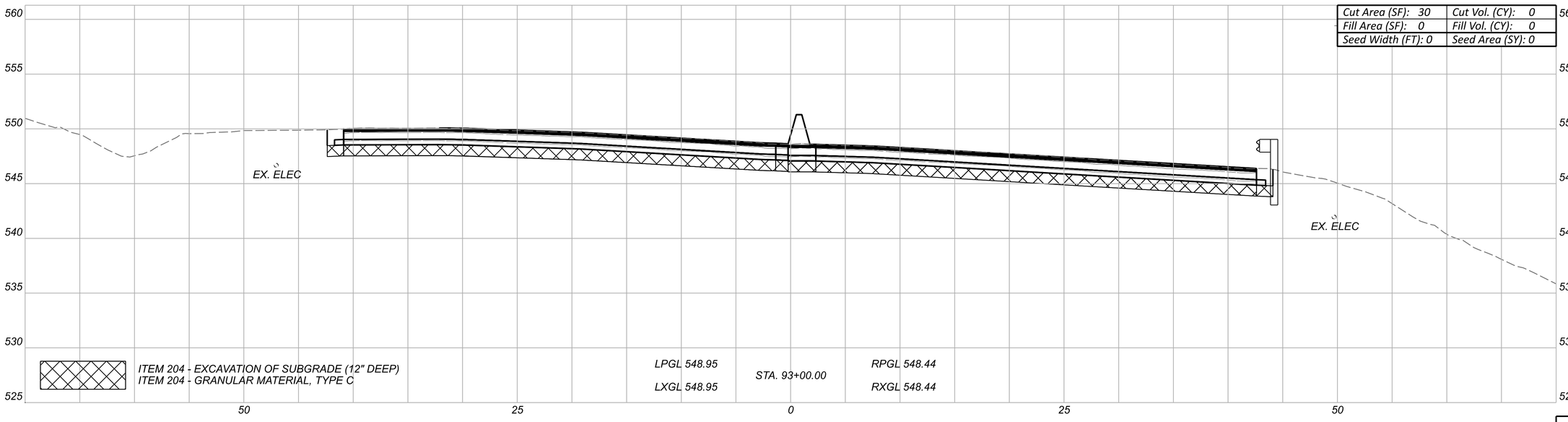
DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.071 TOTAL 208





CROSS SECTIONS - US-50
STA 93+00.00 TO STA 93+50.00

HAM-US 50-29.00

MODEL: CLRWK_U50 - 93+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:07:08 PM USER: rjgreve
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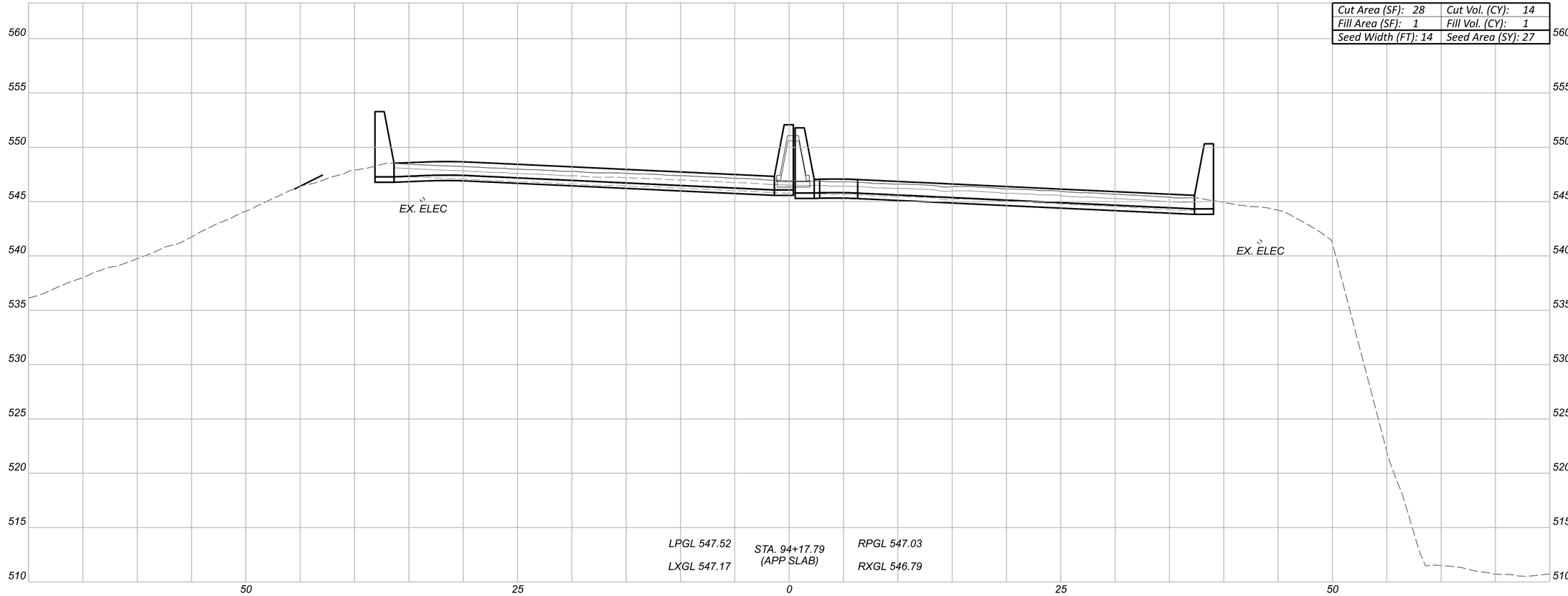
Sheet Totals		
Seeding	Cut	Fill
33	51	0

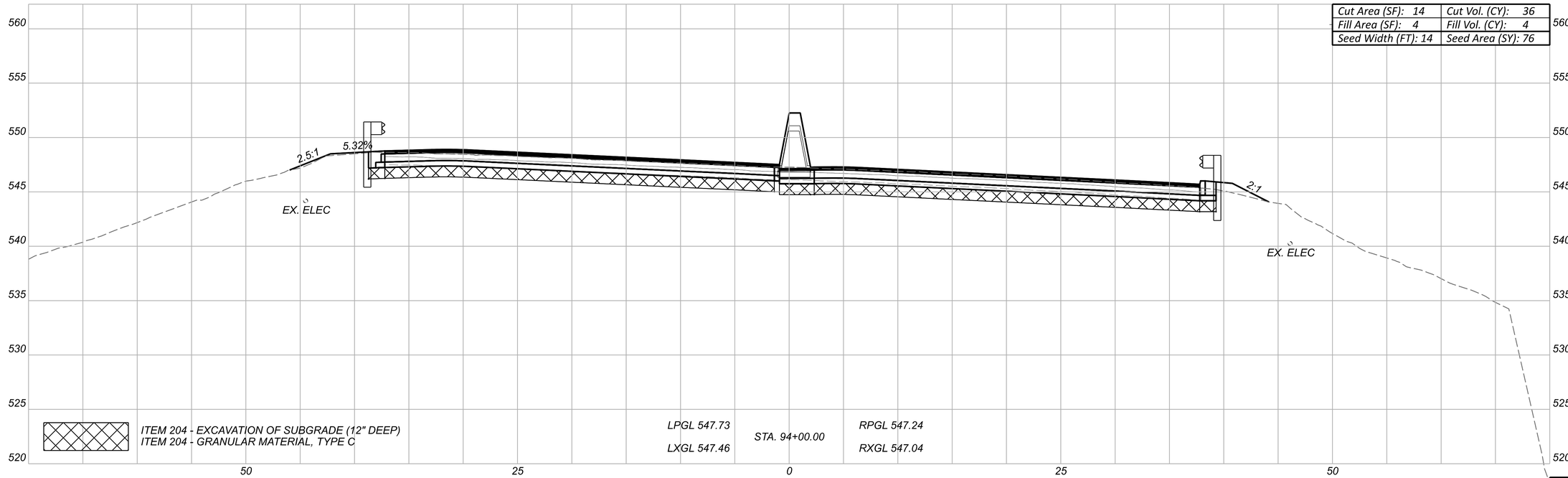
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER MSW
REVIEWER GHM 08/22/23
PROJECT ID 110570
SHEET P.072 TOTAL 208

Cut Area (SF): 28	Cut Vol. (CY): 14
Fill Area (SF): 1	Fill Vol. (CY): 1
Seed Width (FT): 14	Seed Area (SY): 27



Cut Area (SF): 14	Cut Vol. (CY): 36
Fill Area (SF): 4	Fill Vol. (CY): 4
Seed Width (FT): 14	Seed Area (SY): 76



CROSS SECTIONS - US-50
STA 94+00.00 TO STA 94+17.79

Sheet Totals		
Seeding	Cut	Fill
103	50	5

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.073 TOTAL 208

HAM-US 50-29.00

MODEL: CLRWX_U50 - 94+00.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:07:13 PM USER: rjgreve
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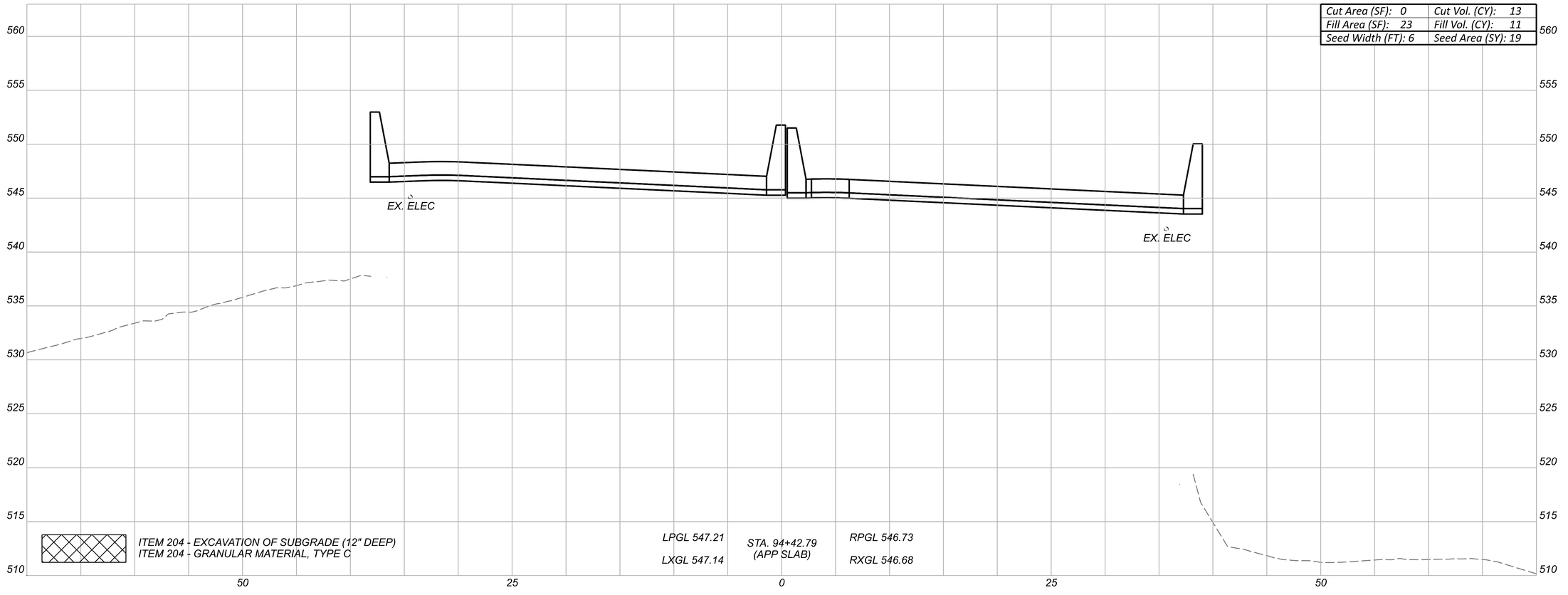
CROSS SECTIONS - US-50
STA 94+42.79

Cut Area (SF): 0	Cut Vol. (CY): 13
Fill Area (SF): 23	Fill Vol. (CY): 11
Seed Width (FT): 6	Seed Area (SY): 19



ITEM 204 - EXCAVATION OF SUBGRADE (12" DEEP)
ITEM 204 - GRANULAR MATERIAL, TYPE C

LPGL 547.21
LXGL 547.14

STA. 94+42.79
(APP SLAB)

RPGL 546.73
RXGL 546.68

HAM-US 50-29.00

MODEL: CLRWX_U50 - 94+42.79 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:07:15 PM USER: rigreve
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Sheet Totals		
Seeding	Cut	Fill
19	13	11

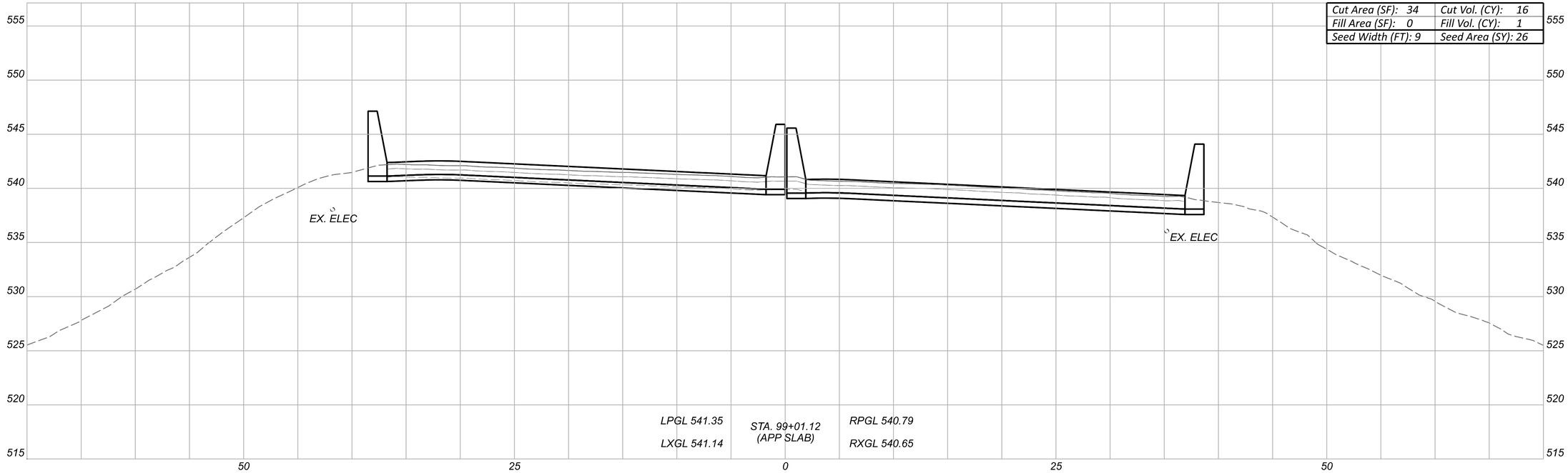
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

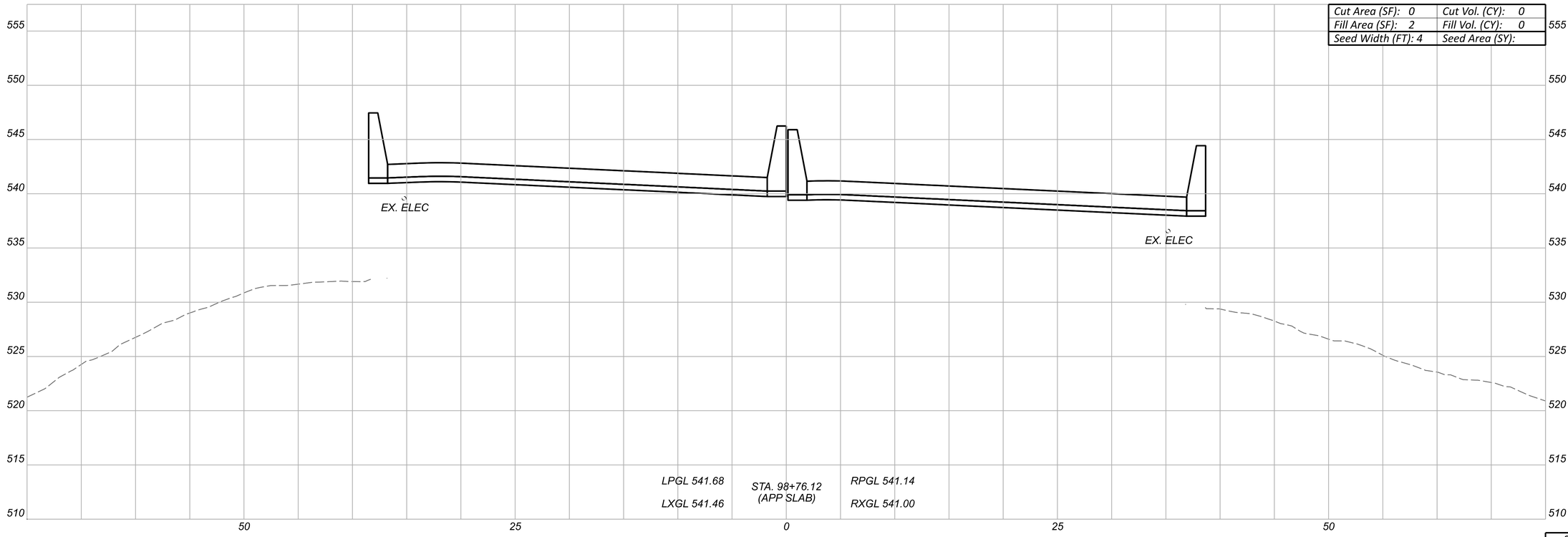
REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET	TOTAL
P.074	208



Cut Area (SF): 34	Cut Vol. (CY): 16
Fill Area (SF): 0	Fill Vol. (CY): 1
Seed Width (FT): 9	Seed Area (SY): 26



Cut Area (SF): 0	Cut Vol. (CY): 0
Fill Area (SF): 2	Fill Vol. (CY): 0
Seed Width (FT): 4	Seed Area (SY):

CROSS SECTIONS - US-50
STA 98+76.12 TO STA 99+01.12

Sheet Totals		
Seeding	Cut	Fill
26	16	1

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.075 TOTAL 208

HAM-US 50-29.00

MODEL: CLRWX_U50 - 98+76.12 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:07:17 PM USER: rjgreve
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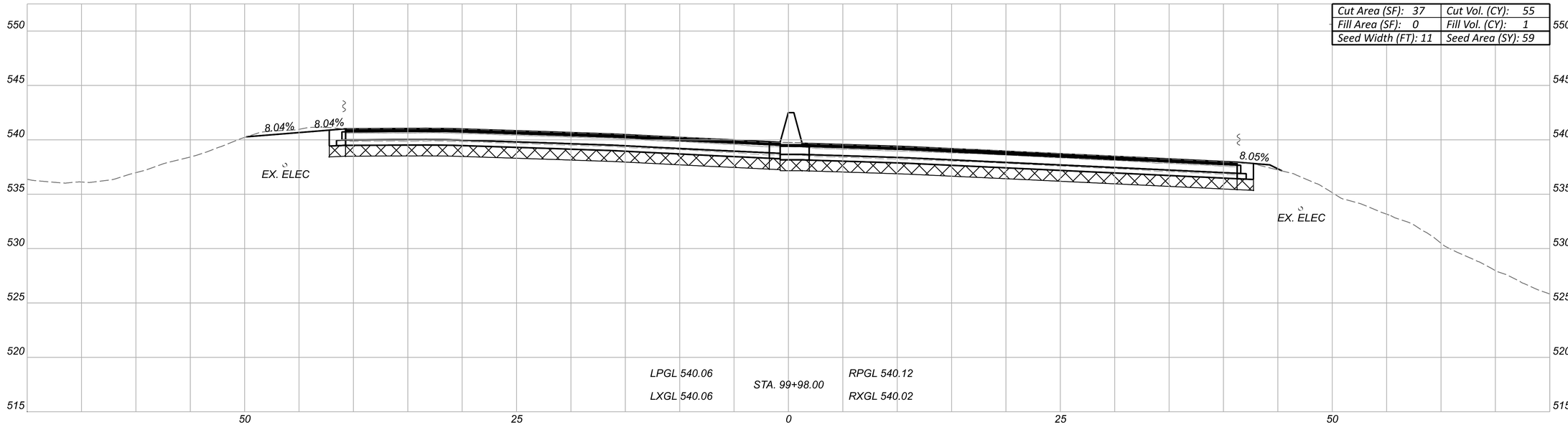

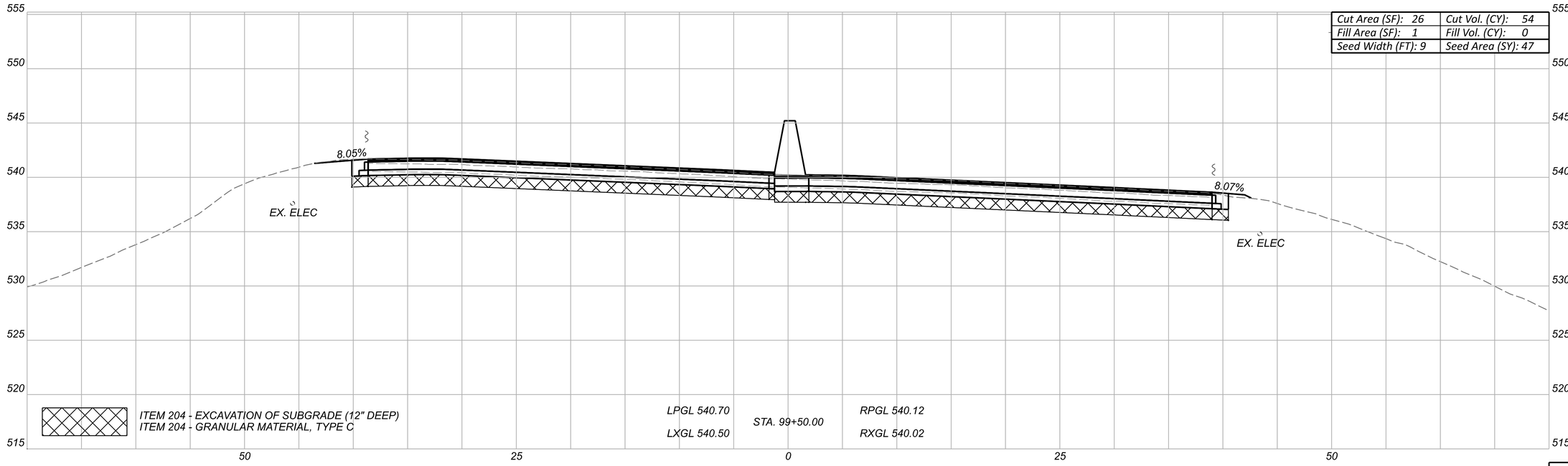

CROSS SECTIONS - US-50
STA 99+50.00 TO STA 99+98.00

HAM-US 50-29.00

MODEL: CLRWX_U50 - 99+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:07:19 PM USER: rjgreve
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Sheet Totals		
Seeding	Cut	Fill
106	109	1

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

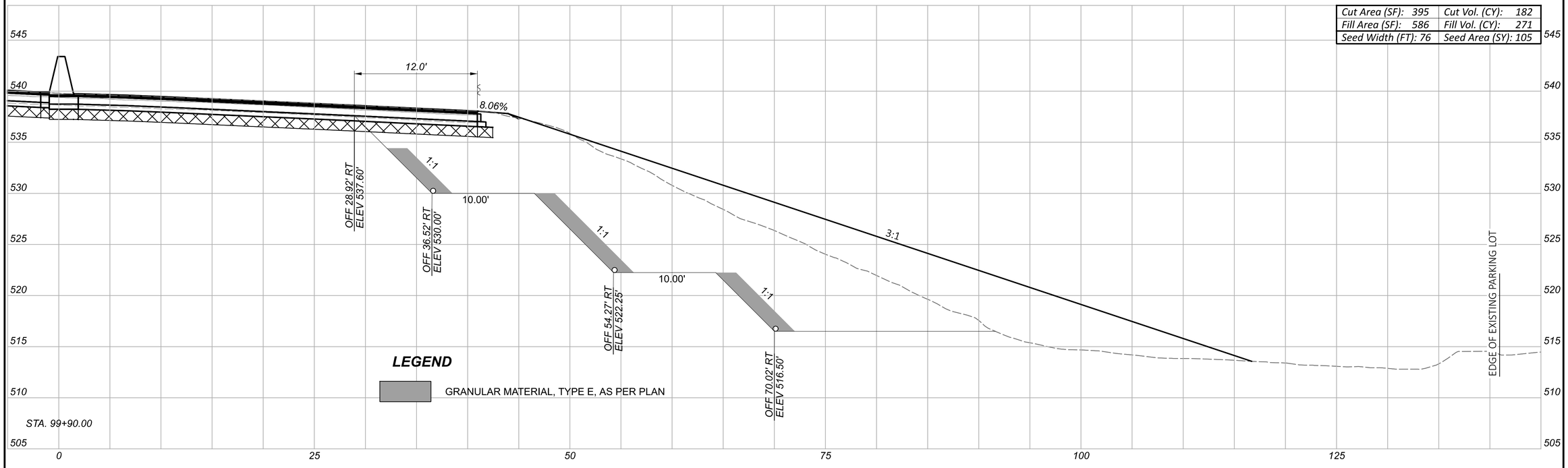
DESIGNER
MSW

REVIEWER
GHM 08/22/23

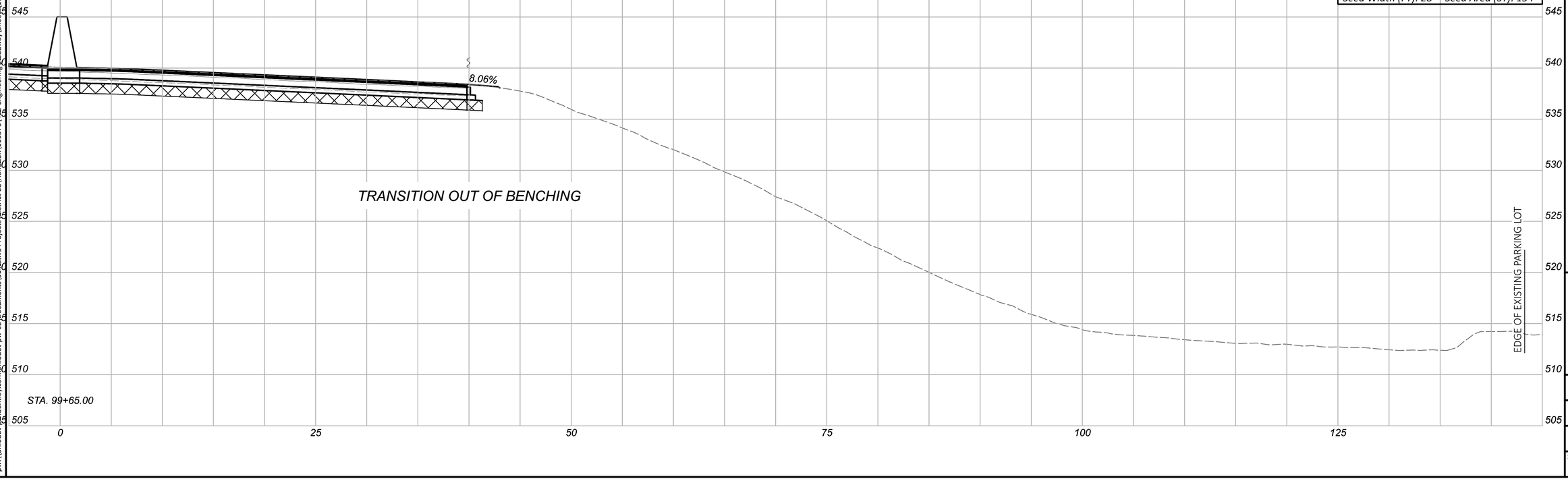
PROJECT ID
110570

SHEET P.076 TOTAL 208

Cut Area (SF): 395	Cut Vol. (CY): 182
Fill Area (SF): 586	Fill Vol. (CY): 271
Seed Width (FT): 76	Seed Area (SY): 105



Cut Area (SF):	Cut Vol. (CY):
Fill Area (SF):	Fill Vol. (CY):
Seed Width (FT): 28	Seed Area (SY): 154



CROSS SECTIONS - U.S. 50
STA. 99+65.00 TO STA. 99+99.00

HAM-US 50-29.00

MODEL: CLRWY_US1 - 99+65.00 [Sheet] PAPERSIZE: 34x22 (in) DATE: 2/2/2024 TIME: 1:31:12 PM USER: gfreeman
pw:\\ohiodot.pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 08\Hamilton\110570\Design\Roadway\Sheets\110570_XS50.dgn

DESIGN AGENCY

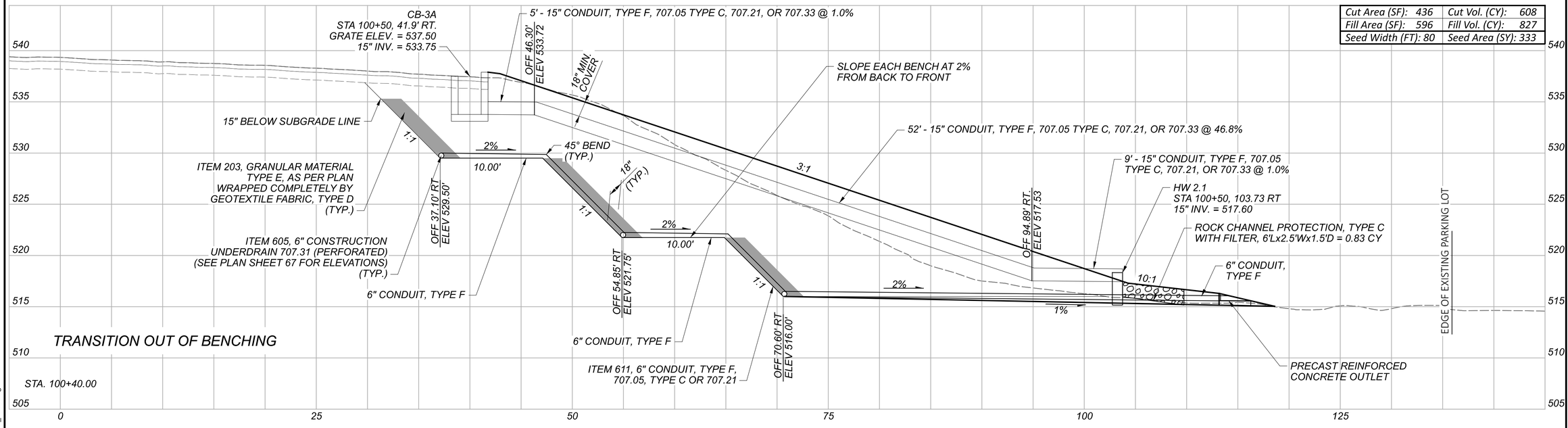
DESIGNER: GAT

REVIEWER: GTF 2-01-24

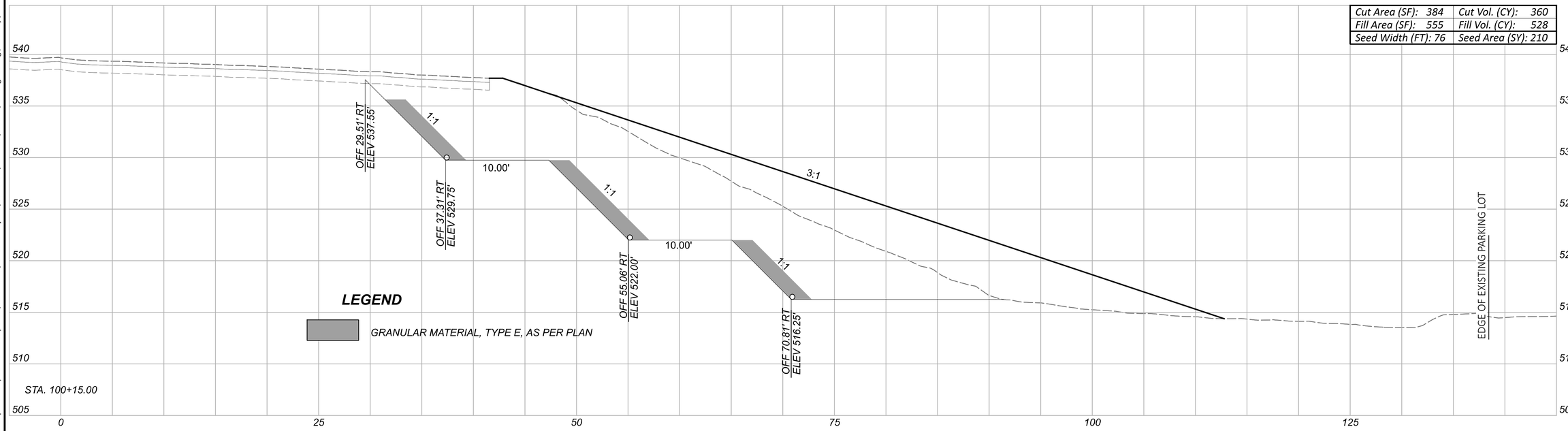
PROJECT ID: 110570

SHEET: P.76A TOTAL: 208

ITEM 203 - GRANULAR MATERIAL TYPE E, AS PER PLAN: 111 CY
ITEM 204 - GEOTEXTILE FABRIC, AS PER PLAN: 583 SY
TOTALS CARRIED TO GENERAL SUMMARY



CROSS SECTIONS - U.S. 50
STA. 100+15.00 TO STA. 100+40.00

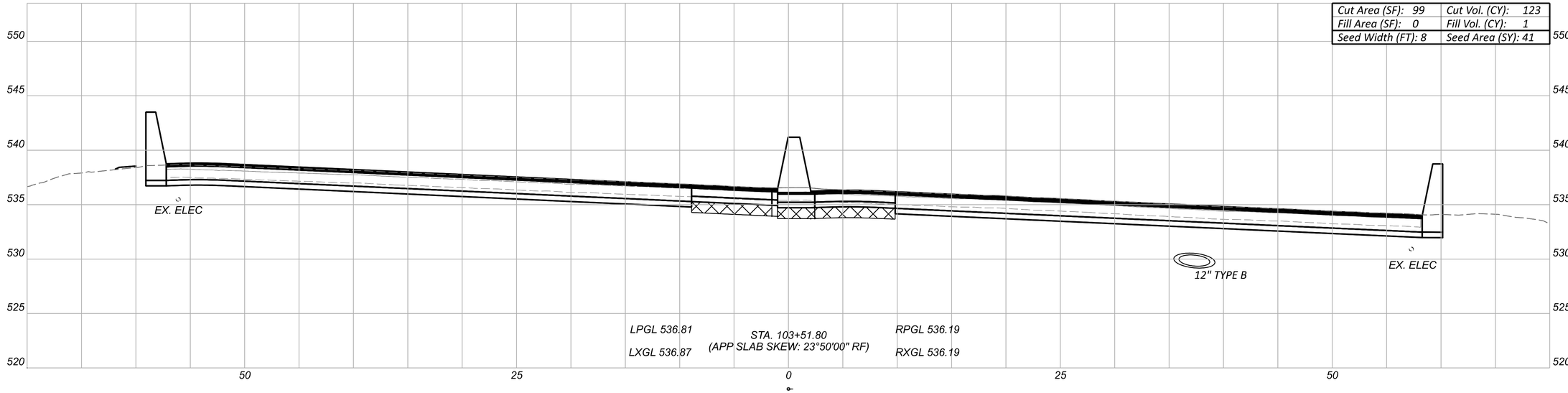


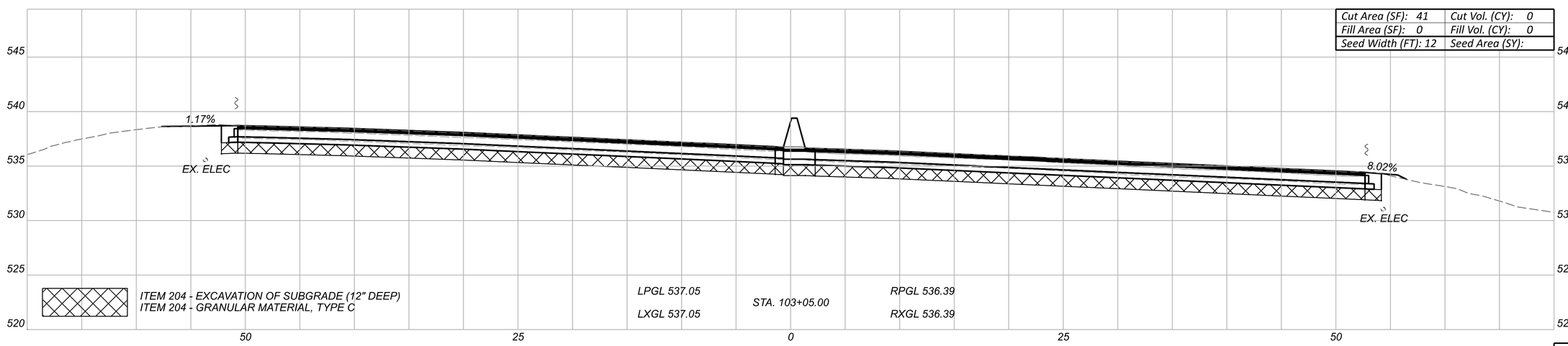
DESIGN AGENCY

DESIGNER: GAT
REVIEWER: GTF 2-01-24
PROJECT ID: 110570
SHEET: P.076B
TOTAL: 208

HAM-US 50-29.00

MODEL: CLRWX_U51 - 100+15.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 2/5/2024 TIME: 10:37:26 AM USER: gfreeman
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 08\Hamilton\110570\400-Engineering\Roadway\Sheets\110570_XS003.dgn





CROSS SECTIONS - US-50
STA 103+05.00 TO STA 103+51.80

Sheet Totals		
Seeding	Cut	Fill
41	123	1

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., STE 1000
CLEVELAND, OHIO 44114

DESIGNER: MSW
REVIEWER: GHM 08/22/23
PROJECT ID: 110570
SHEET: P.077 TOTAL: 208

HAM-US 50-29.00

MODEL: CLRWX_U50 - 103+05.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:07:21 PM USER: rjgreve
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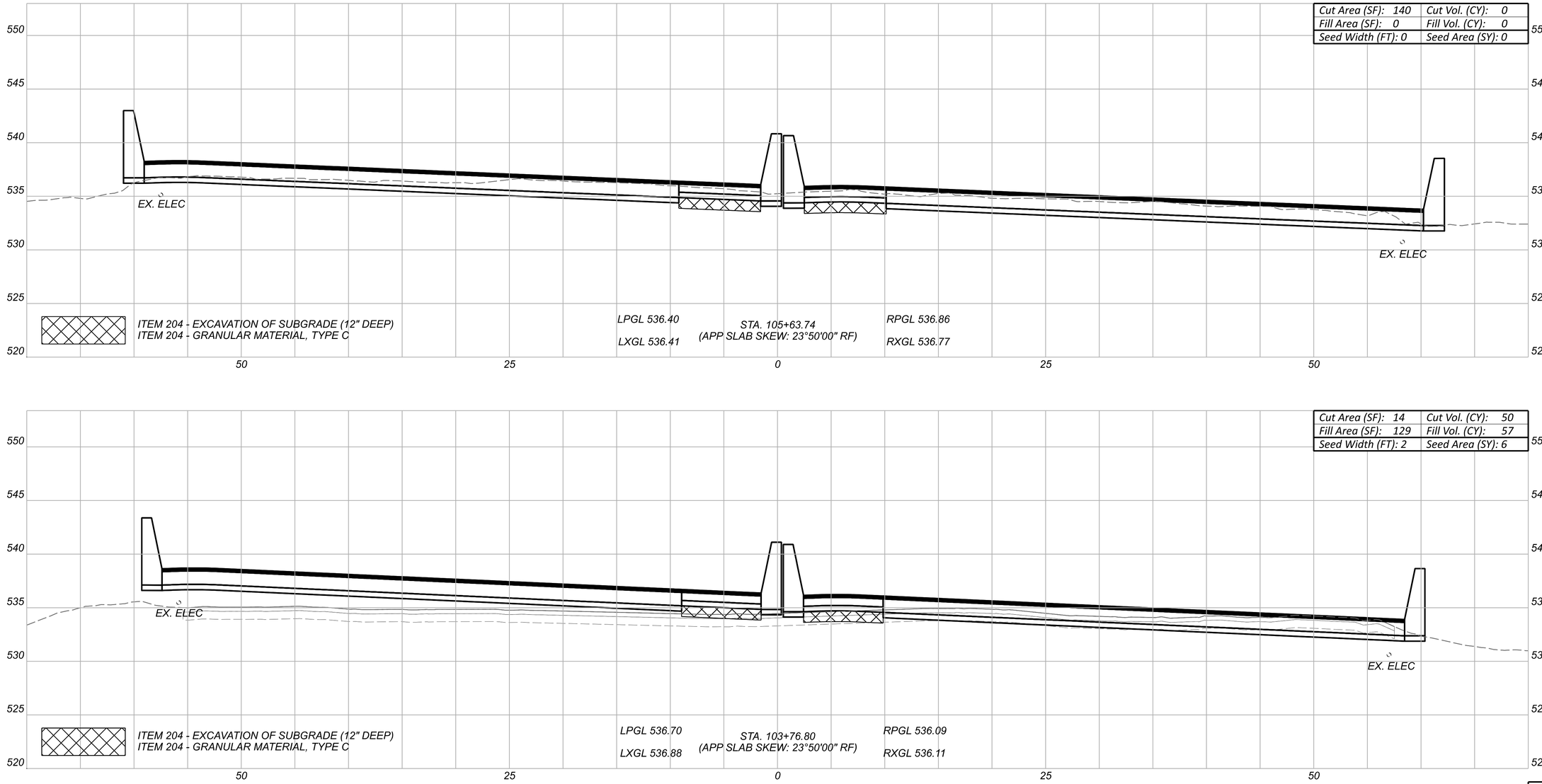

CROSS SECTIONS - US-50
STA 103+76.80 TO STA 105+63.74

HAM-US 50-29.00

MODEL: CLRWX_U50 - 103+76.80 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:07:24 PM USER: rjgreve
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Sheet Totals		
Seeding	Cut	Fill
6	50	57

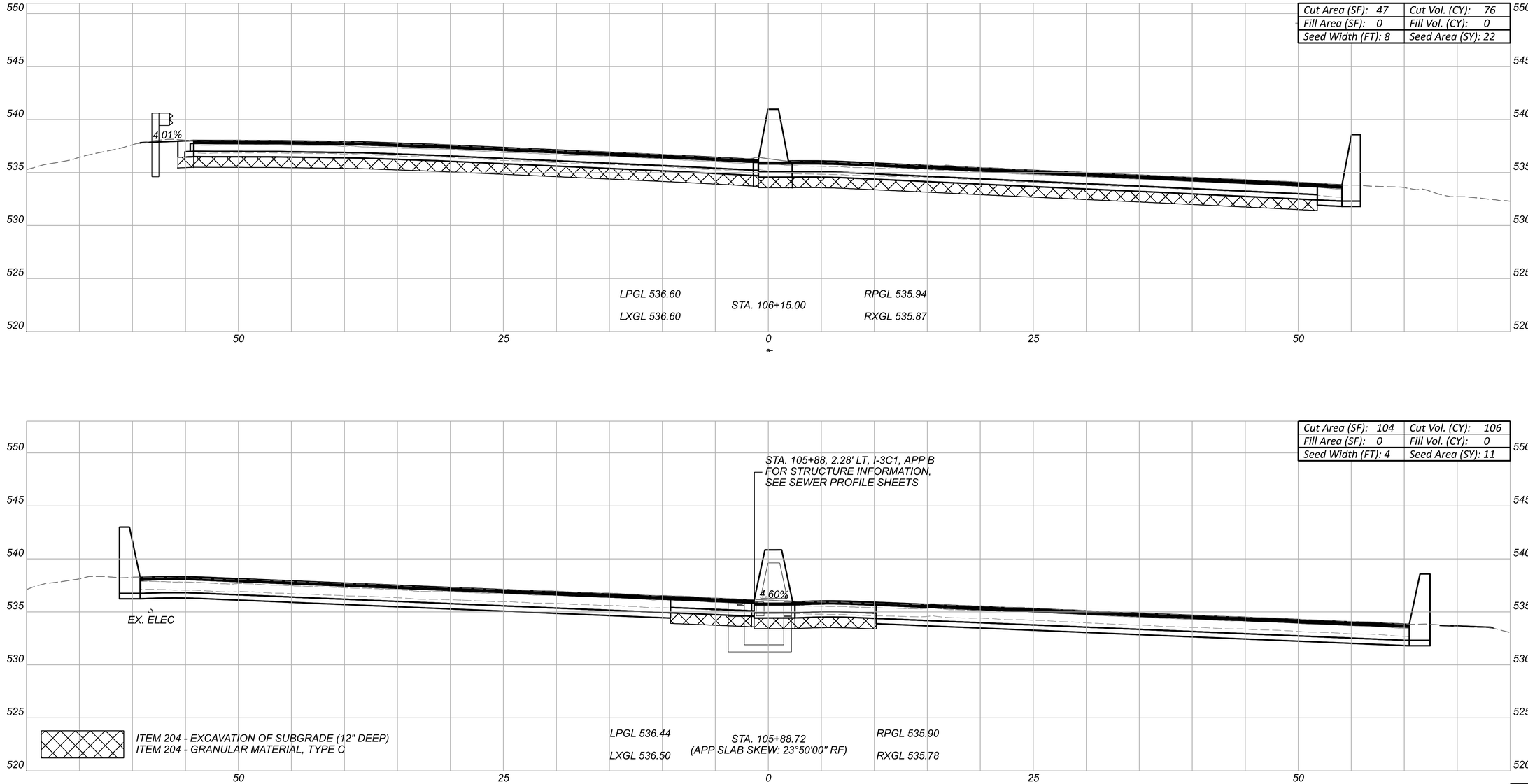
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.078 TOTAL 208



CROSS SECTIONS - US-50
STA 105+88.72 TO STA 106+15.00

HAM-US 50-29.00

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Sheet Totals		
Seeding	Cut	Fill
33	182	0

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.079 TOTAL 208

MODEL: CLRWX_U50 - 106+48.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:07:27 PM USER: rjgreve
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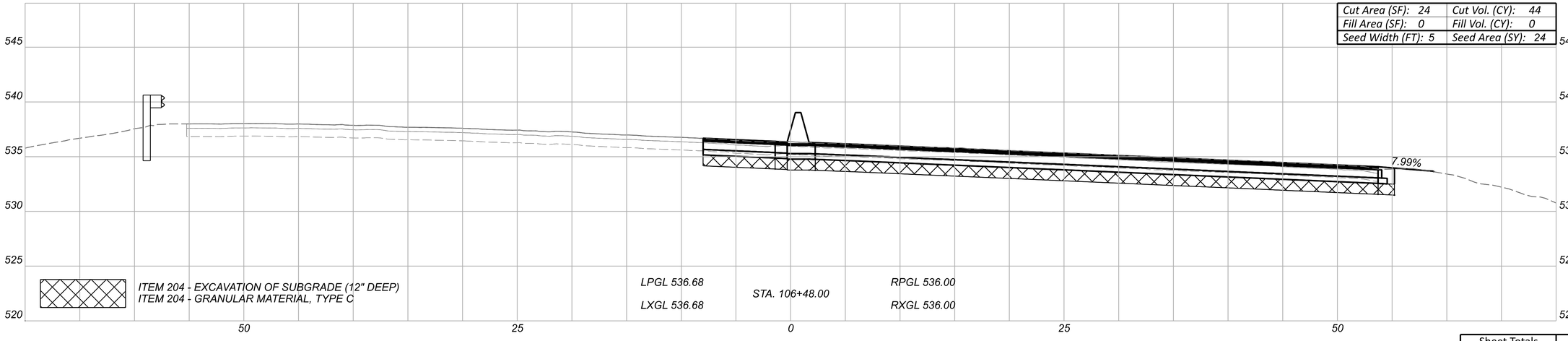
HAM-US 50-29.00

CROSS SECTIONS - US-50
STA 106+48.00



Sheet Totals			US-50 Totals		
Seeding	Cut	Fill	Seeding	Cut	Fill
24	44	0	1006	1788	1702

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE E, STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.080 TOTAL 208

MODEL:RED BANKS_8 - 0+00.00 [Sheet] PAPERSIZE:34x22 (in.) DATE:10/27/2023 TIME:12:08:03 PM USER:rigreve
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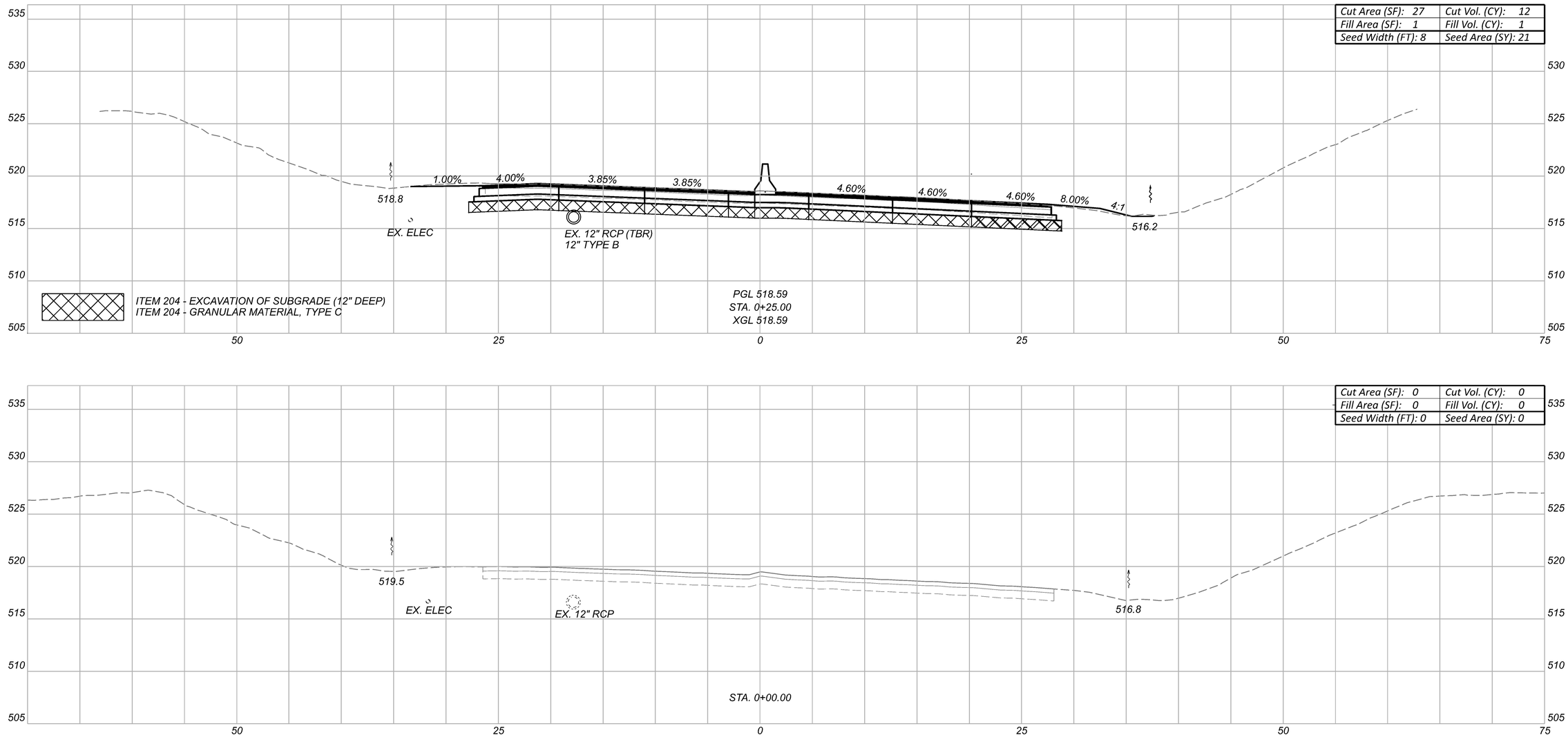
HAM-US 50-29.00



Cut Area (SF): 27	Cut Vol. (CY): 12
Fill Area (SF): 1	Fill Vol. (CY): 1
Seed Width (FT): 8	Seed Area (SY): 21

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

CROSS SECTIONS - RAMPS M & L
STA 0+00.00 TO STA 0+25.00

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

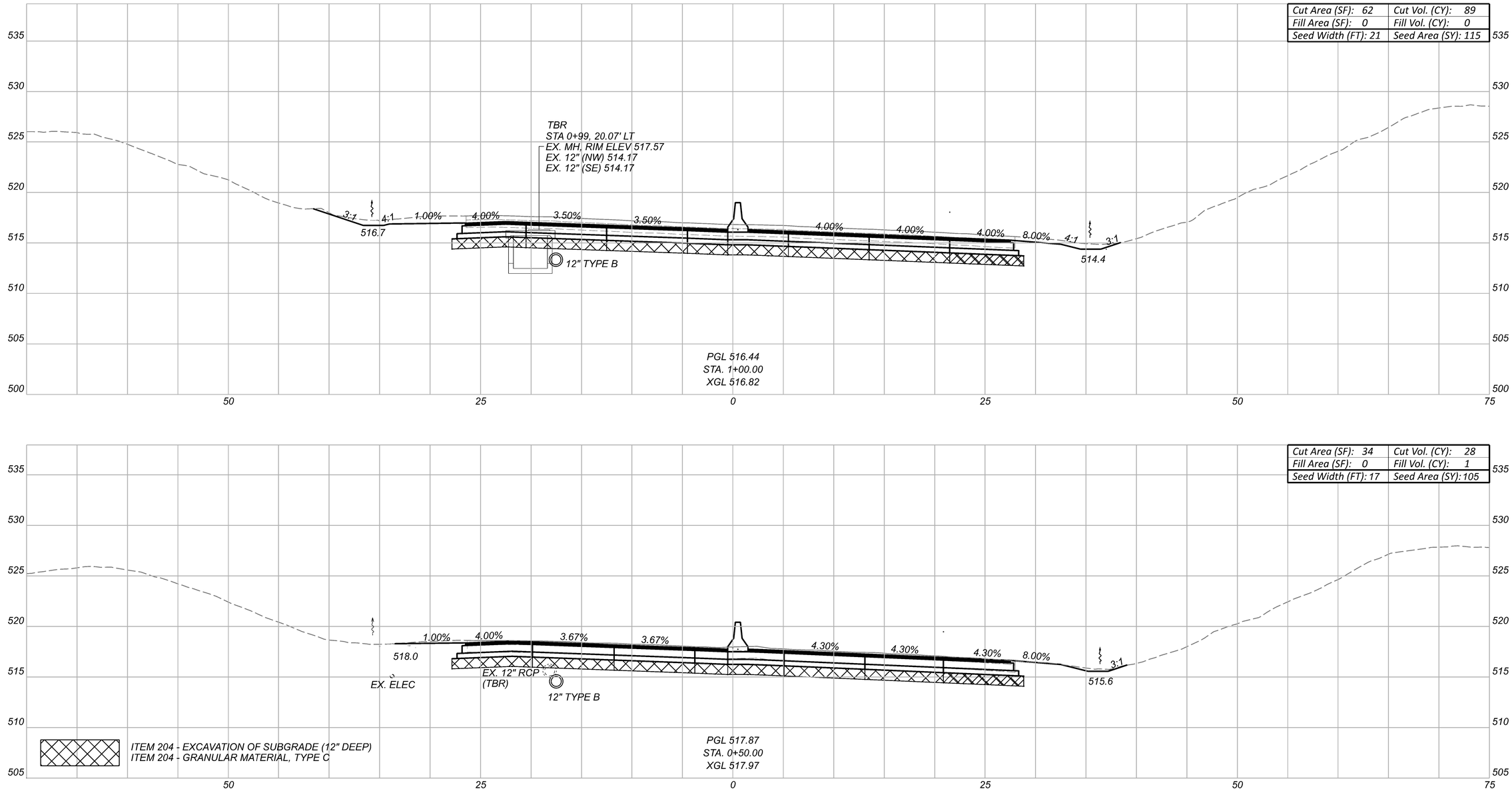
DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

Sheet Totals		
Seeding	Cut	Fill
21	12	1

SHEET P.081 TOTAL 208



CROSS SECTIONS - RAMPS M & L
STA 0+50.00 TO STA 1+00.00

HAM-US 50-29.00

MODEL: RED BANKS_8 - 0+50.00 [Sheet] PAPERSIZE: 34x22 (in) DATE: 10/27/2023 TIME: 12:08:08 PM USER: rjgreve
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Sheet Totals		
Seeding	Cut	Fill
220	117	1

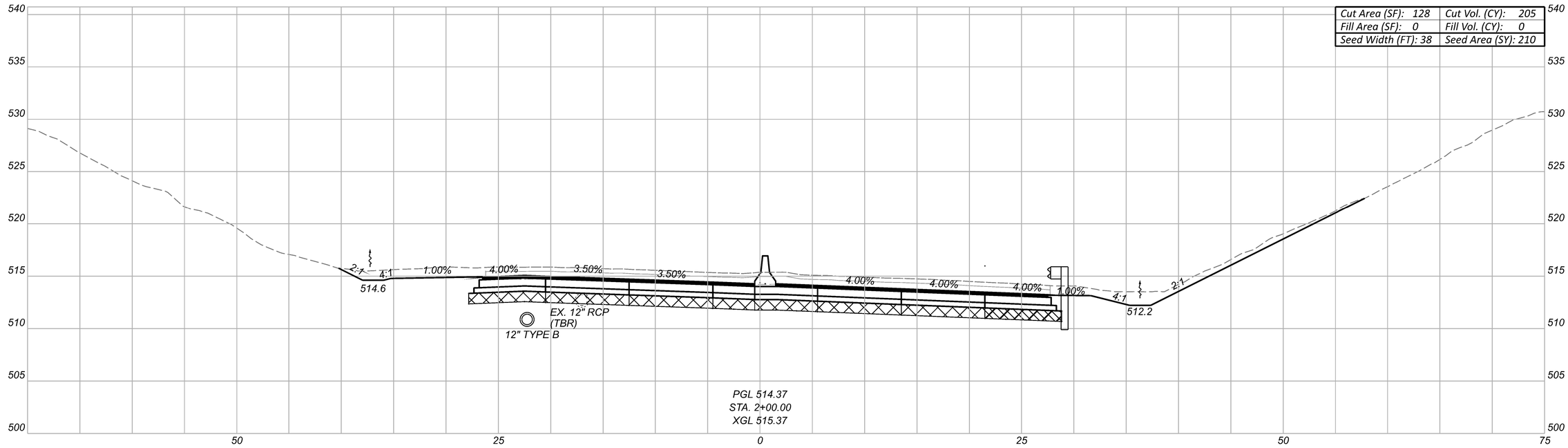
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

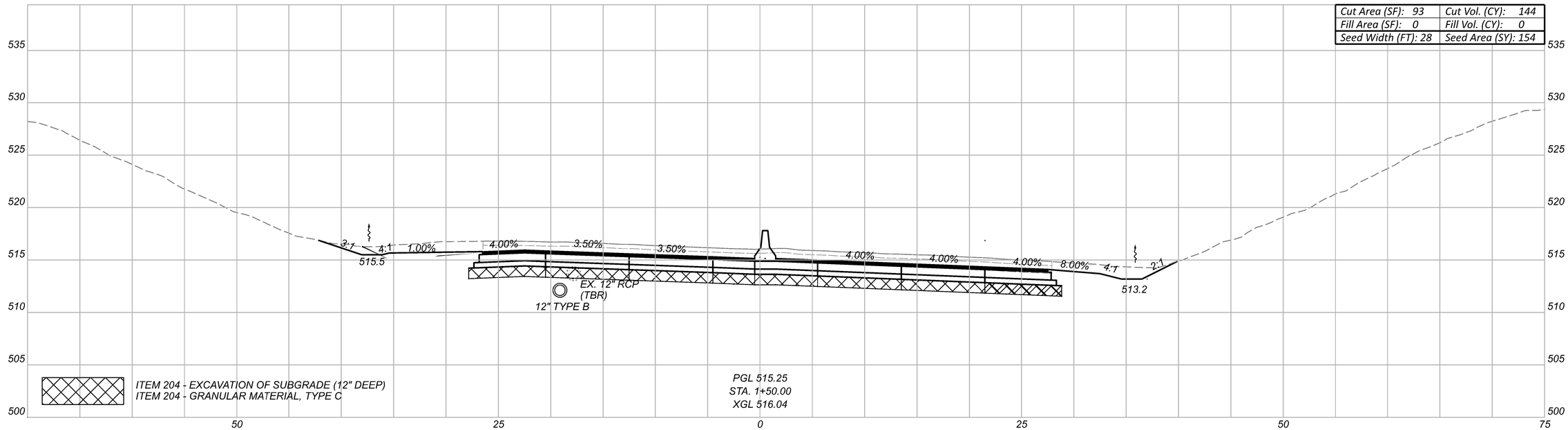
DESIGNER MSW

REVIEWER GHM 08/22/23

PROJECT ID 110570

SHEET P.082 TOTAL 208





CROSS SECTIONS - RAMPS M & L
STA 1+50.00 TO STA 2+00.00

HAM-US 50-29.00

MODEL: RED BANKS_8 - 1+50.00 (Sheet) PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:08:14 PM USER: rjgreve
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Sheet Totals		
Seeding	Cut	Fill
364	349	0

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.083 TOTAL 208

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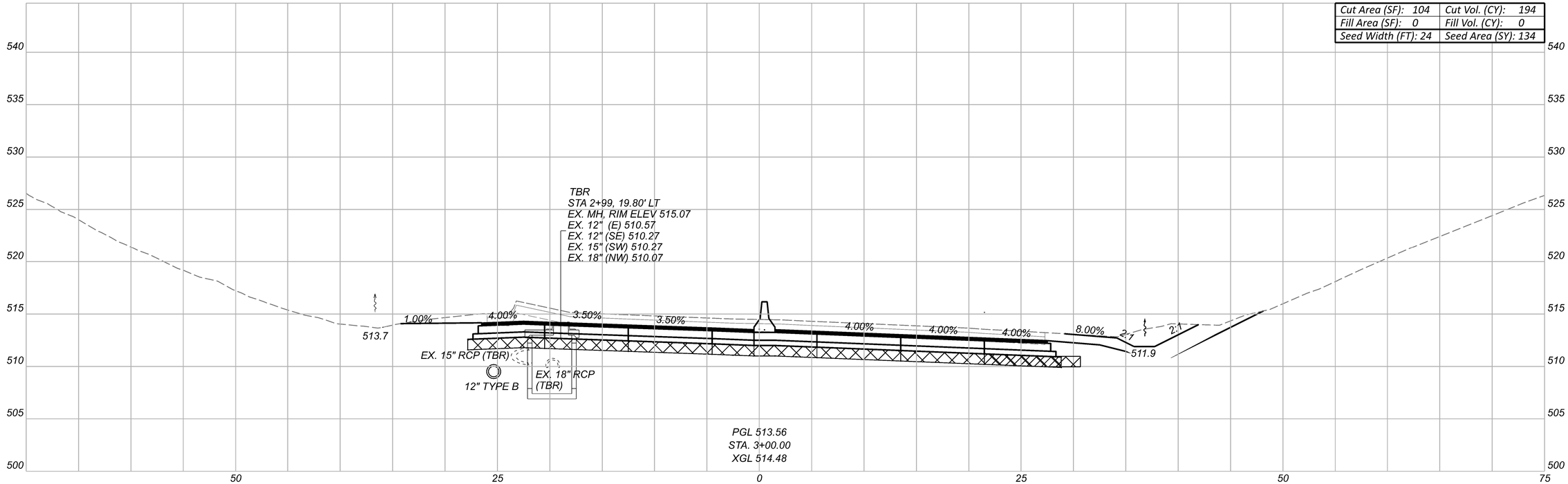
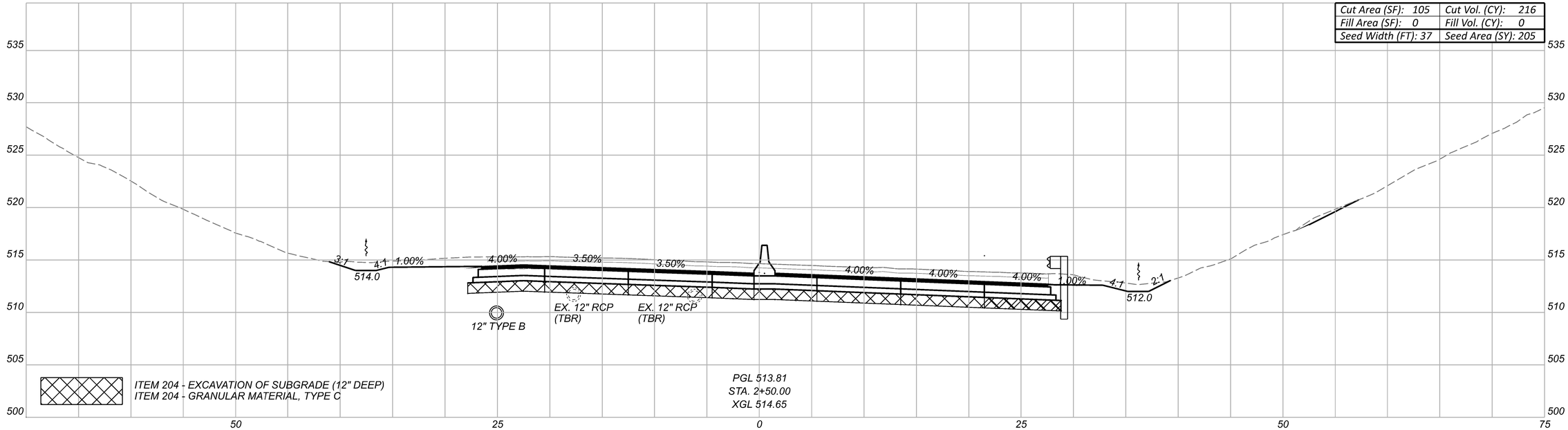
HAM-US 50-29.00

Cut Area (SF): 104	Cut Vol. (CY): 194
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT): 24	Seed Area (SY): 134



Cut Area (SF): 105	Cut Vol. (CY): 216
Fill Area (SF): 0	Fill Vol. (CY): 0
Seed Width (FT): 37	Seed Area (SY): 205



CROSS SECTIONS - RAMPS M & L
STA 2+50.00 TO STA 3+00.00

Sheet Totals		
Seeding	Cut	Fill
339	410	0

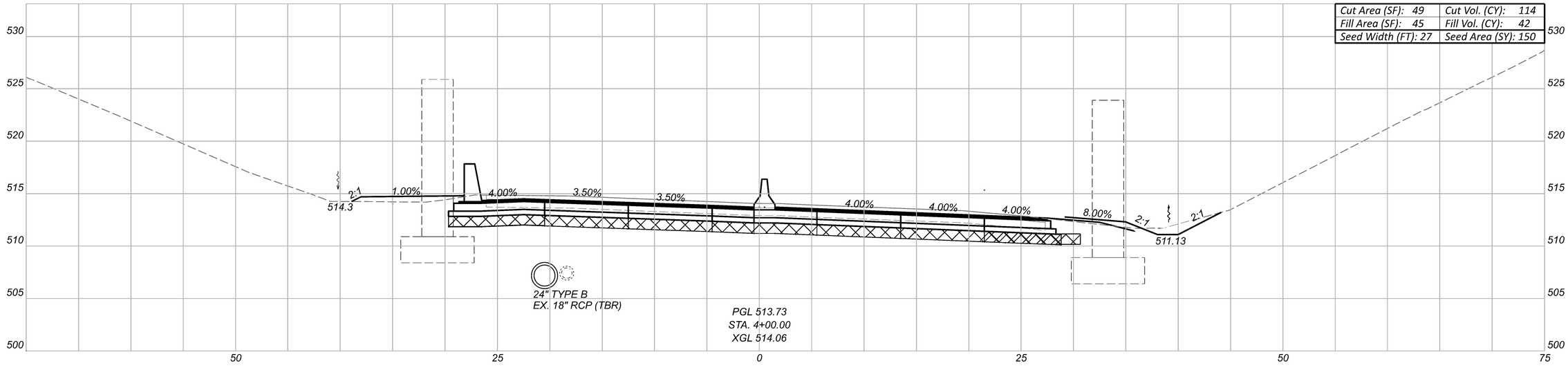
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

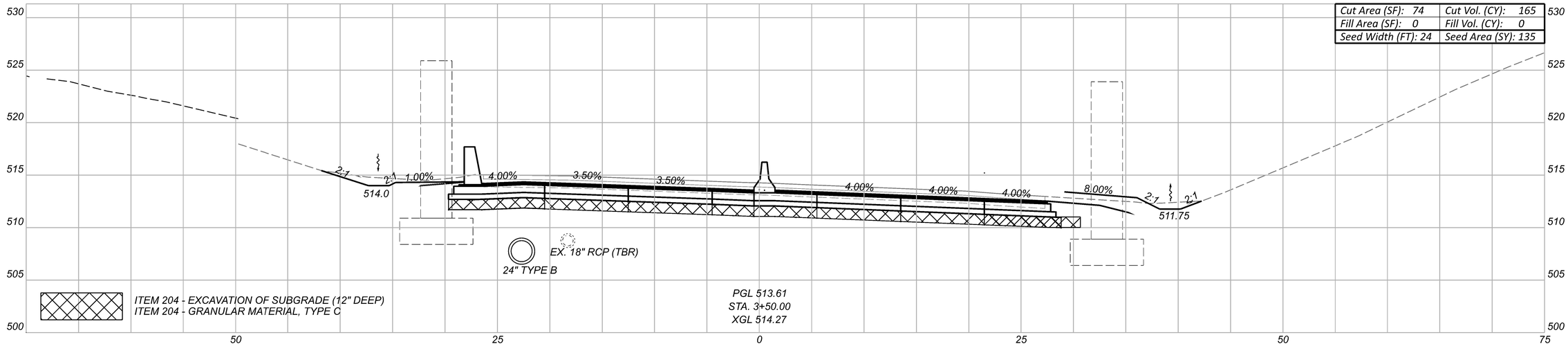
DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.084 | TOTAL 208





CROSS SECTIONS - RAMPS M & L
STA 3+50.00 TO STA 4+00.00

HAM-US 50-29.00

MODEL: RED BANKS_8 - 3+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:08:31 PM USER: rjgreve
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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

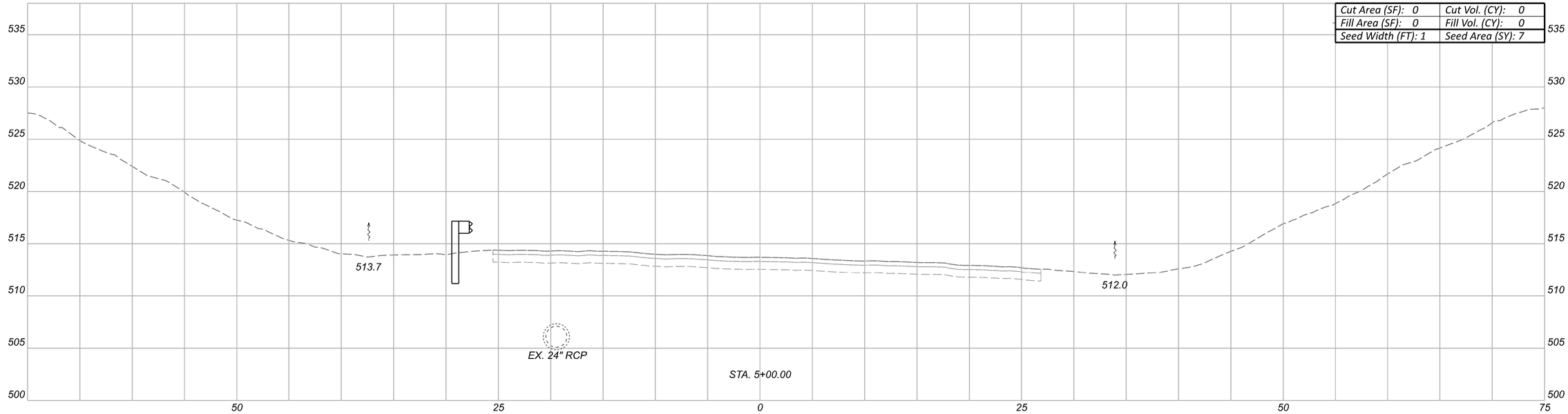
DESIGNER
MSW

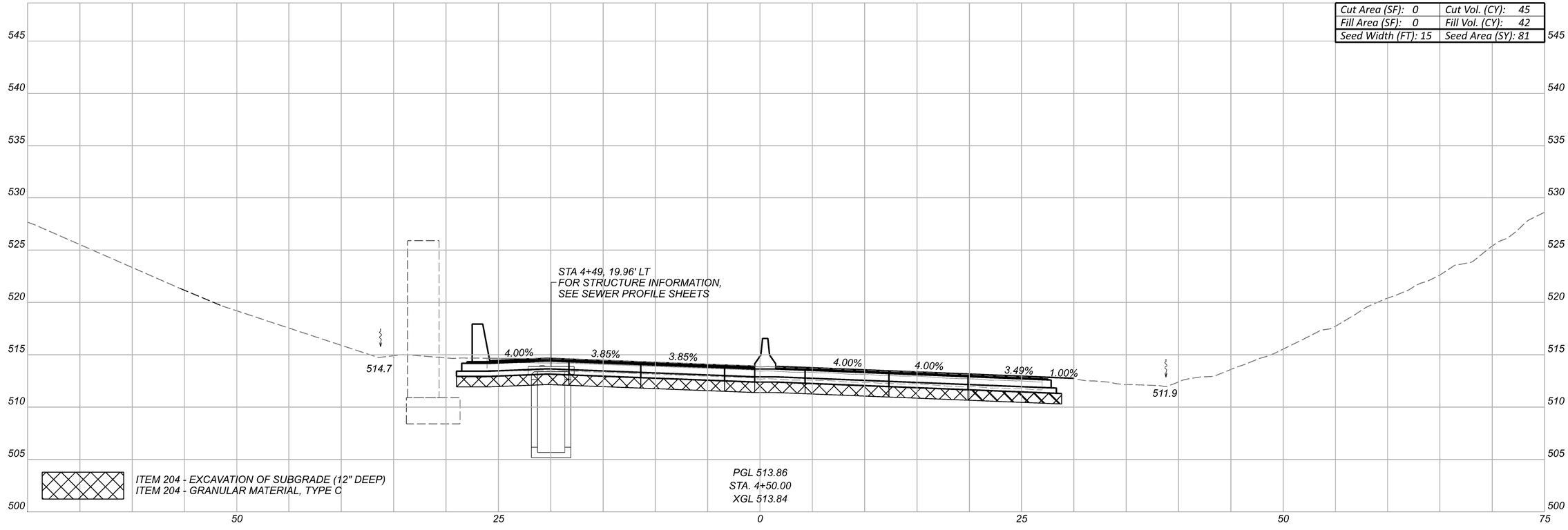
REVIEWER
GHM 08/22/23

PROJECT ID
110570

Sheet Totals		
Seeding	Cut	Fill
285	279	42

SHEET P.085 TOTAL 208





CROSS SECTIONS - RAMPS M & L
STA 4+50.00 TO STA 5+00.00

Sheet Totals			Ramp Totals		
Seeding	Cut	Fill	Seeding	Cut	Fill
88	45	42	1317	1212	86

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER: MSW

REVIEWER: GHM 08/22/23

PROJECT ID: 110570

SHEET: P.086 TOTAL: 208

HAM-US 50-29.00

MODEL: RED BANKS_8 - 4+50.00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:08:37 PM USER: rjgreve
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SUPERELEVATION TABLE

P.I. = STA. 4+63.03 | Dc = 03°30'00" CURVE: EX. RAMPS L & M

LEFT SIDE											CENTERLINE CONTROL	RIGHT SIDE										REMARKS
LEFT EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	LEFT ELEVATION	* TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	PROFILE GRADE	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	* TRANSITION RATE	RIGHT ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	RIGHT EDGE ELEVATION	
					519.21	893:1	-0.62	-0.0385	16.20	518.59	+25.00	518.59	15.50	-0.0460	-0.71	521:1	517.88						MATCH EXISTING
					518.46		-0.59	-0.0368	16.10	517.87	+50.00	517.87	15.75	-0.0430	-0.68		517.19						
					517.71		-0.56	-0.0350	16.00	517.15	+75.00	517.15	16.00	-0.0400	-0.64		516.51						FS
					517.00		-0.56	-0.0350	16.00	516.44	1+00.00	516.44	16.00	-0.0400	-0.64		515.80						
					516.37		-0.56	-0.0350	16.00	515.81	1+25.00	515.81	16.00	-0.0400	-0.64		515.17						
					515.81		-0.56	-0.0350	16.00	515.25	1+50.00	515.25	16.00	-0.0400	-0.64		514.61						
					515.33		-0.56	-0.0350	16.00	514.77	1+75.00	514.77	16.00	-0.0400	-0.64		514.13						
					514.93		-0.56	-0.0350	16.00	514.37	2+00.00	514.37	16.00	-0.0400	-0.64		513.73						
					514.61		-0.56	-0.0350	16.00	514.05	2+25.00	514.05	16.00	-0.0400	-0.64		513.41						
					514.37		-0.56	-0.0350	16.00	513.81	2+50.00	513.81	16.00	-0.0400	-0.64		513.17						
					514.20		-0.56	-0.0350	16.00	513.64	2+75.00	513.64	16.00	-0.0400	-0.64		513.00						
					514.12		-0.56	-0.0350	16.00	513.56	3+00.00	513.56	16.00	-0.0400	-0.64		512.92						
					514.11		-0.56	-0.0350	16.00	513.55	3+25.00	513.55	16.00	-0.0400	-0.64		512.91						
					514.17		-0.56	-0.0350	16.00	513.61	3+50.00	513.61	16.00	-0.0400	-0.64		512.97						
					514.23		-0.56	-0.0350	16.00	513.67	3+75.00	513.67	16.00	-0.0400	-0.64		513.03						
					514.29		-0.56	-0.0350	16.00	513.73	4+00.00	513.73	16.00	-0.0400	-0.64		513.09						FS
					514.36	893:1	-0.57	-0.0368	15.45	513.79	4+25.00	513.79	15.80	-0.0400	-0.63		513.16						
					514.43		-0.57	-0.0385	14.90	513.86	4+50.00	513.86	15.60	-0.0400	-0.62		513.24						MATCH EXISTING

SUPERELEVATION TABLE - RAMPS M & L P.I. STA 4+63.03

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.087 | TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:09:12 PM USER: rjgreve
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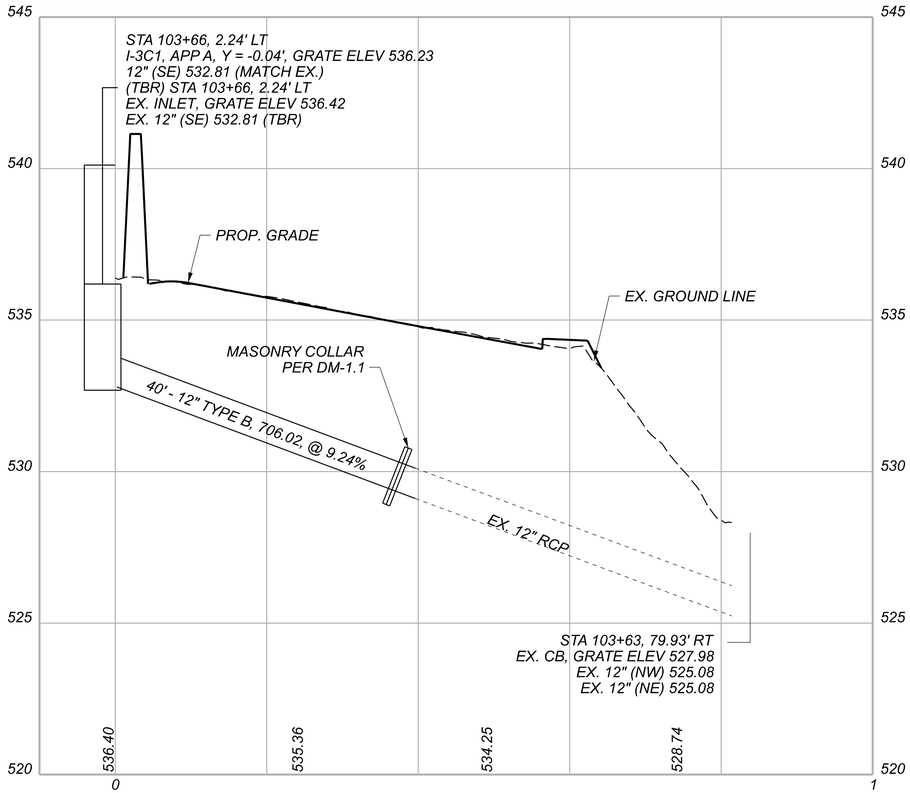

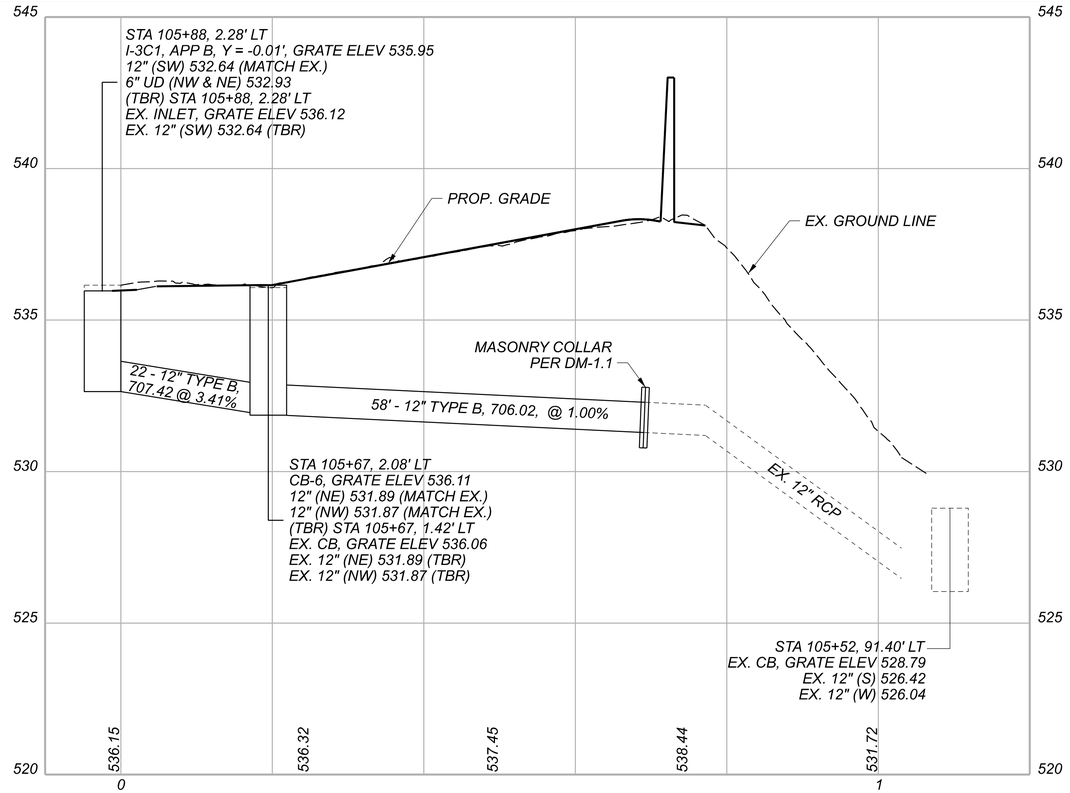

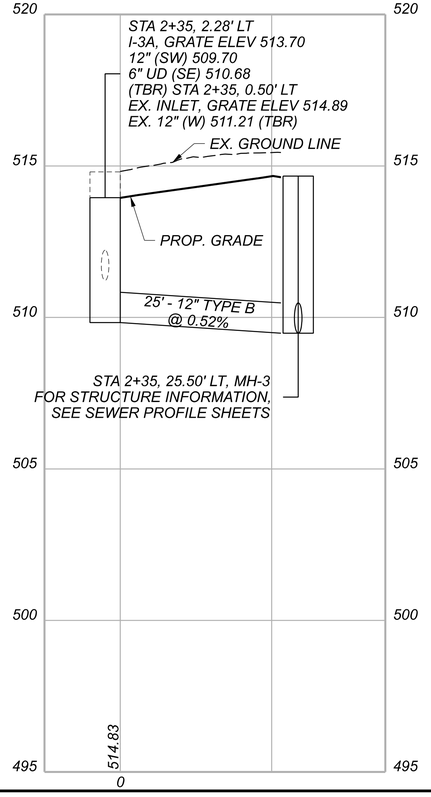

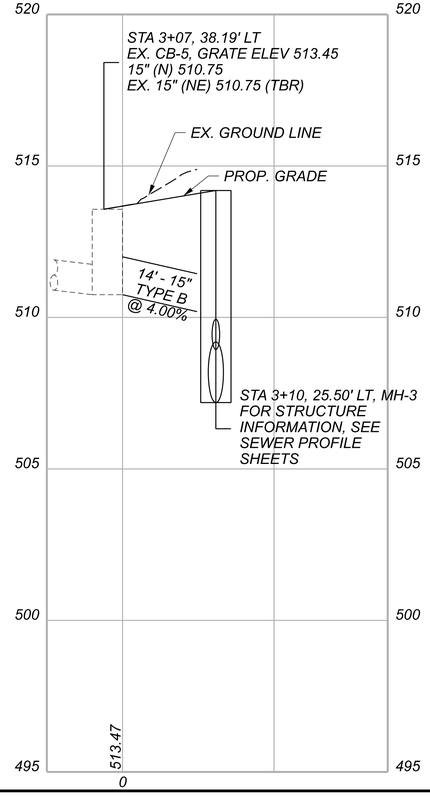

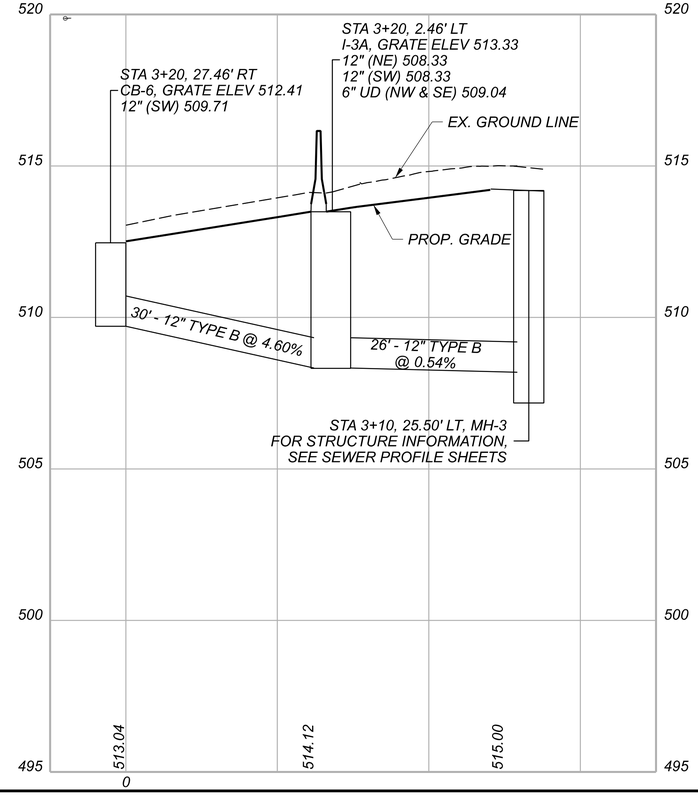

STORM SEWER PROFILES
US-50 & RAMPS M & L

HAM-US 50-29.00

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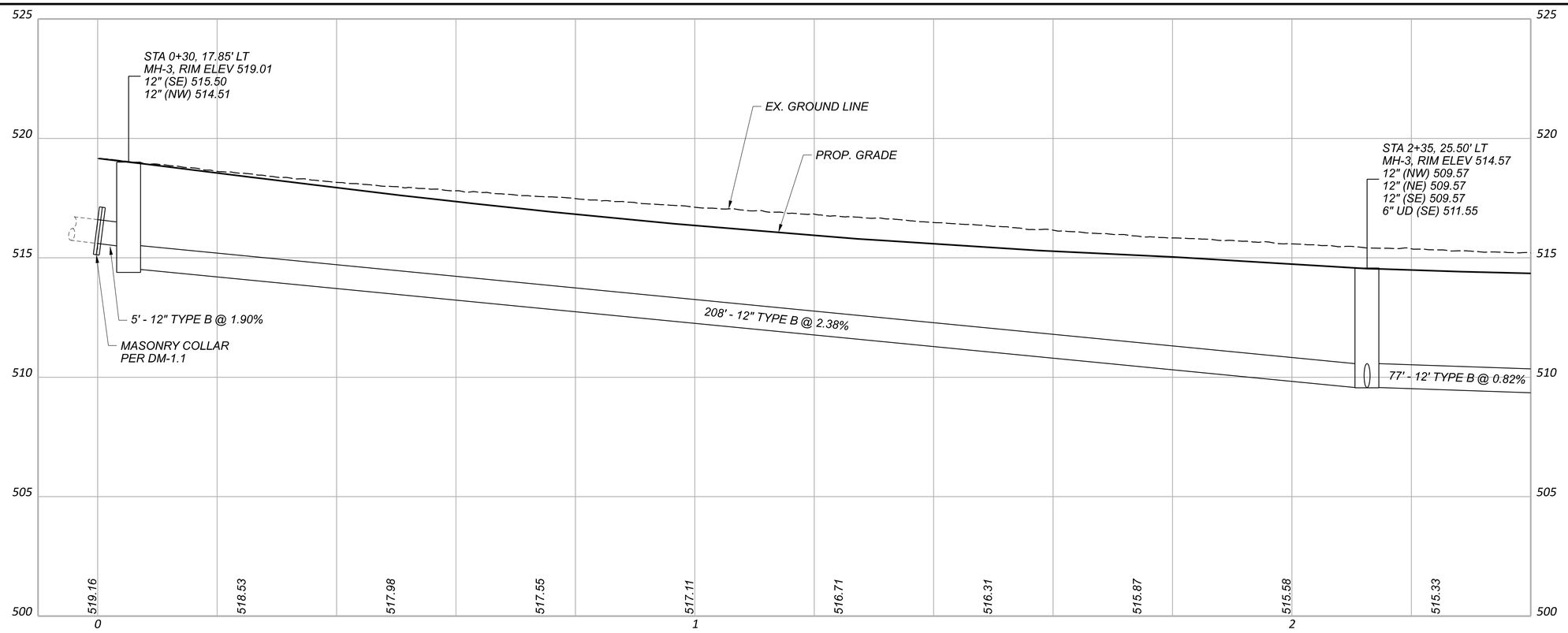
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE.E. STE 1000
CLEVELAND, OHIO 44114

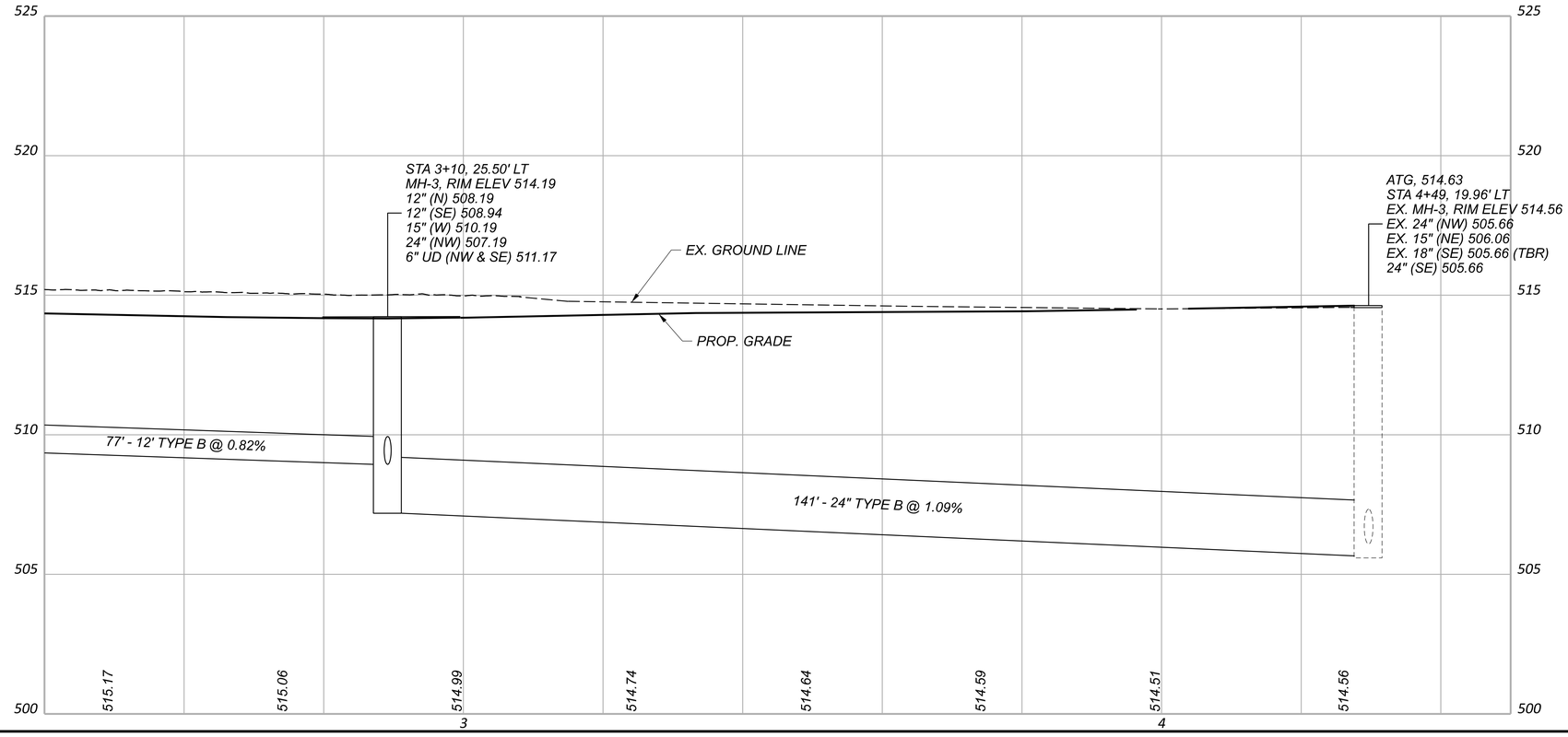
DESIGNER
NLD

REVIEWER
MHT 08/22/23

PROJECT ID
110570

SHEET P.088 TOTAL 208





STORM SEWER PROFILES
RAMPS M & L

HAM-US 50-29.00

MODEL: Profile Run-00 - Profile 00 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:09:46 PM USER: rjgreve
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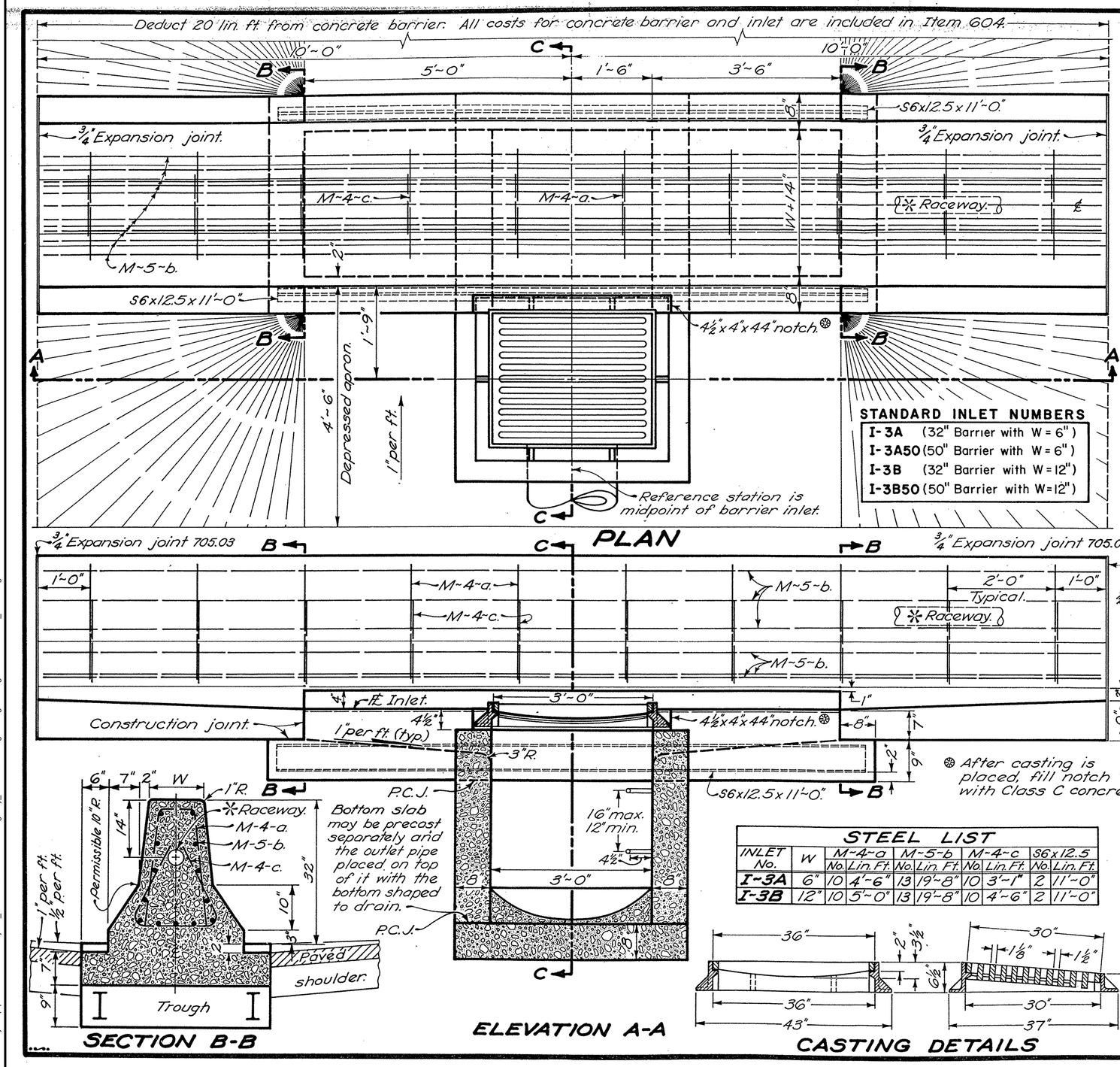
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER
NLD

REVIEWER
MHT 08/22/23

PROJECT ID
110570

SHEET P.089 TOTAL 208



STANDARD INLET NUMBERS

I-3A	(32" Barrier with W = 6")
I-3A50	(50" Barrier with W = 6")
I-3B	(32" Barrier with W = 12")
I-3B50	(50" Barrier with W = 12")

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 shall have a minimum thickness of 6" and be reinforced sufficiently to permit shipping and handling without damage. The unit above the upper permissible construction joint may be precast or cast-in-place.

HEIGHT: When placed in 50" high barrier the 32" height shall be made 50" per details on MC-9.

CONCRETE, cast-in-place, to be Class C. All precast concrete shall meet the requirements of 706.13 with 6 ± 2% air void content in the hardened concrete. Required markings shall include the inlet number.

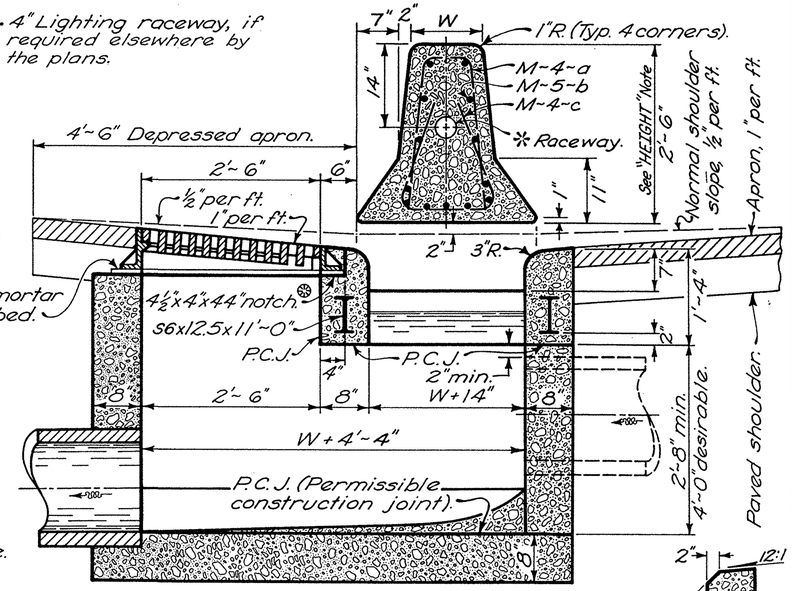
STEPS shall be in accordance with Standard Drawing MH-1. Minimum weight of frame and cover shall be 540 pounds.

GRATE LOCATION: In superelevated curves or at other locations where there is unequal discharge from the directional roadways, the inlet grating shall be located in the roadway which discharges the major flow.

INLETS OVER 12 FEET IN DEPTH shall be precast or cast-in-place concrete; reinforced with No.4 bars on 12" centers both vertically and horizontally with 2" clearance from inside wall face.

OPENINGS for pipes shall be O.D.+2" when prefabricated or field cut.

* 4" Lighting raceway, if required elsewhere by the plans.

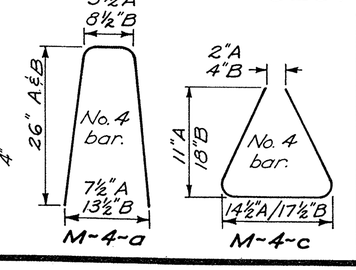


* After casting is placed, fill notch with Class C concrete.

SECTION C-C

STEEL LIST

INLET No.	W	M-4-a No.	M-4-a Lin. Ft.	M-5-b No.	M-5-b Lin. Ft.	M-4-c No.	M-4-c Lin. Ft.	S6x12.5 No.	S6x12.5 Lin. Ft.
I-3A	6"	10	4'-6"	13	19'-8"	10	3'-1"	2	11'-0"
I-3B	12"	10	5'-0"	13	19'-8"	10	4'-6"	2	11'-0"



BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

BARRIER MEDIAN INLETS

STANDARD CONSTRUCTION DRAWING I-3A & B

APPROVED _____ ENGR, L. & D.

DATE
1-20-70
11-1-77
5-1-79
4-1-80

DRAINAGE DETAILS

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER NLD
REVIEWER MHT 08/22/23
PROJECT ID 110570
SHEET P.090 TOTAL 208

INLET MISC: I-3A

HAM-US 50-29.00
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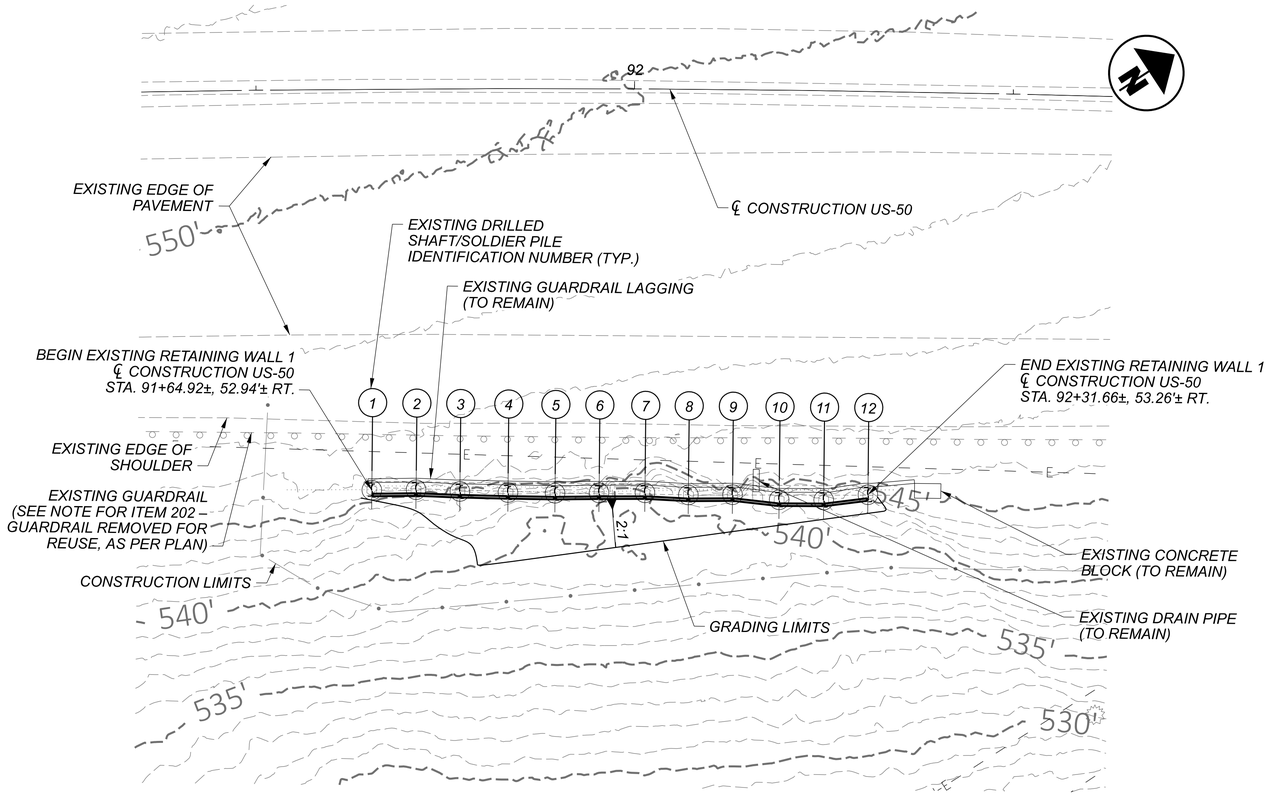
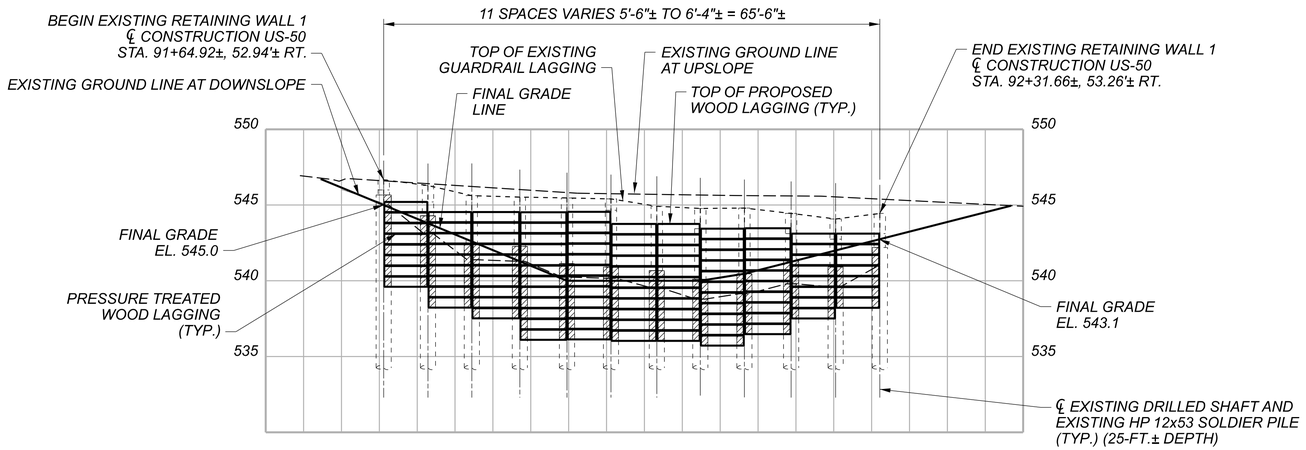


PLAN



ELEVATION

ESTIMATED QUANTITIES

MADE BY: EA DATE: 09/16/2022
CHECKED BY: ZTW DATE: 04/04/2023

ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	RETAINING WALL 1	REFERENCE SHEET NO.
202	11201	LS	-	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	LS	P.091
SPECIAL	53051020	476	SF	RETAINING WALL, TIMBER LAGGING	476	P.091

RETAINING WALL GENERAL NOTES:

EXISTING WALL VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING WALL HAVE BEEN OBTAINED FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING WALL AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING WALL. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:

THE CONTRACTOR SHALL REMOVE THE DESIGNATED PORTIONS OF THE EXISTING WALL TO THE LIMITS SHOWN IN THE PLANS OR TO THE LIMITS AS DIRECTED BY THE ENGINEER. CONCRETE SHALL BE REMOVED BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. THE DEPARTMENT WILL NOT PERMIT HYDRAULIC HOE-RAM TYPE HAMMERS. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS. CARE SHALL BE TAKEN TO ENSURE AGAINST DAMAGE TO THE EXISTING SOLDIER PILES.

ITEM SPECIAL - RETAINING WALL, TIMBER LAGGING:

SUPPLY AND INSTALL PERMANENT PRESSURE TREATED WOOD LAGGING BETWEEN THE EXISTING SOLDIER PILES TO FUNCTION AS THE PERMANENT WALL LAGGING. PROVIDE WOOD LAGGING WITH A ROUGH CUT DIMENSION OF 4-IN. x 8-IN. THE PERMANENT PRESSURE TREATED WOOD LAGGING SHALL BE PRESSURE TREATED PER AMERICAN WOOD PRESERVERS ASSOCIATION (AWPA) C14 REQUIREMENTS. PAYMENT FOR THE LAGGING INCLUDES MATERIAL SUPPLY AND INSTALLATION.

BELOW EXISTING GRADE, LAGGING SHALL BE PLACED IN A TOP-DOWN MANNER SUCH THAT NO MORE THAN 3-FT. OF UNSUPPORTED EXCAVATION IS EXPOSED. BELOW EXISTING GRADE, EXCAVATION FOR PLACEMENT OF THE WOOD LAGGING SHALL BE PERFORMED IN SUCH A MANNER THAT THE WOOD LAGGING IS TIGHT AGAINST THE EXCAVATED FACE. BELOW EXISTING GRADE, ANY VOIDS BETWEEN THE BACK OF THE LAGGING AND THE EXCAVATED FACE SHALL BE BACKFILLED WITH CRUSHED CARBONATE NO. 57 STONE AS DIRECTED BY THE ENGINEER. ABOVE EXISTING GRADE, THE VOID BETWEEN THE BACK OF THE WOOD LAGGING AND THE EXISTING GUARDRAIL LAGGING FACE SHALL BE BACKFILLED WITH CRUSHED CARBONATE NO. 57 STONE. THE STONE SHALL BE PLACED IN 12-IN. MAXIMUM LIFTS AS THE LAGGING IS INSTALLED AND COMPACTED PER CMS 518.05. PROVIDE A ¼-IN. TO ⅞-IN. HORIZONTAL JOINT SPACING BETWEEN THE WOOD LAGGING BOARDS USING TIMBER BLOCKS TO PERMIT DRAINAGE. ENVELOP THE NO. 57 STONE WITH ITEM 204 GEOTEXTILE FABRIC. PERFORM EXCAVATION AND LAGGING INSTALLATION SEQUENCE SO NO MORE THAN TWO BAYS ARE UNSUPPORTED AT A GIVEN TIME.

THE DEPARTMENT WILL MEASURE THE PRESSURE TREATED WOOD LAGGING BY THE NUMBER OF SQUARE FEET INSTALLED. PAYMENT IS FULL COMPENSATION FOR FURNISHING AND PLACING ALL MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS DESCRIBED ABOVE THAT IS NOT SEPARATELY PAID FOR. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR ITEM SPECIAL - RETAINING WALL, TIMBER LAGGING.

ACCESS BEHIND GUARDRAIL:

REMOVE AND RE-ERECT GUARDRAIL AS NECESSARY FOR ACCESS TO A WORK LOCATION. REMOVE GUARDRAIL ONLY WHEN IT CAN BE REPLACED ON THE SAME DAY. OBTAIN APPROVAL FROM THE ENGINEER FOR EACH LOCATION PRIOR TO PERFORMING THE WORK. THIS WORK INCLUDES REMOVAL OF EXISTING GUARDRAIL AND POSTS AND RE-ERECTION OF THE SAME MATERIALS. EXISTING RAIL ELEMENTS AND BARRIER REFLECTORS MAY BE REUSED. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED IN THE LUMP SUMP CONTRACT PRICE FOR ITEMS 614 - MAINTAINING TRAFFIC.

FINAL GRADING:

CONTRACTOR SHALL GRADE, AS NECESSARY, IN FRONT OF THE RETAINING WALL TO ENSURE POSITIVE DRAINAGE AWAY FROM THE FACE OF THE WALL. NO DEPRESSIONS WHICH MAY HOLD WATER SHALL BE PERMITTED TO REMAIN.

ALL FINAL GRADING, EXCAVATION, EMBANKMENT, AND SEEDING AND MULCHING, UNLESS OTHERWISE NOTED IN THE PLANS, SHALL BE INCLUDED IN VARIOUS BID ITEMS FOR THE RETAINING WALL AS NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.

ELEVATION OF TOP OF EXISTING SOLDIER PILE FAR FACE

SOLDIER PILE 1	546.67±
SOLDIER PILE 2	546.29±
SOLDIER PILE 3	545.62±
SOLDIER PILE 4	545.53±
SOLDIER PILE 5	545.47±
SOLDIER PILE 6	545.40±
SOLDIER PILE 7	544.92±
SOLDIER PILE 8	544.77±
SOLDIER PILE 9	544.80±
SOLDIER PILE 10	544.45±
SOLDIER PILE 11	544.08±
SOLDIER PILE 12	544.45±

SITE PLAN AND GENERAL NOTES RETAINING WALL 1 ALONG US-50

SFN N/A

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
EA	ZTW

REVIEWER NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
1	2

SHEET	TOTAL
P.091	208

HAM-US 50-29.00

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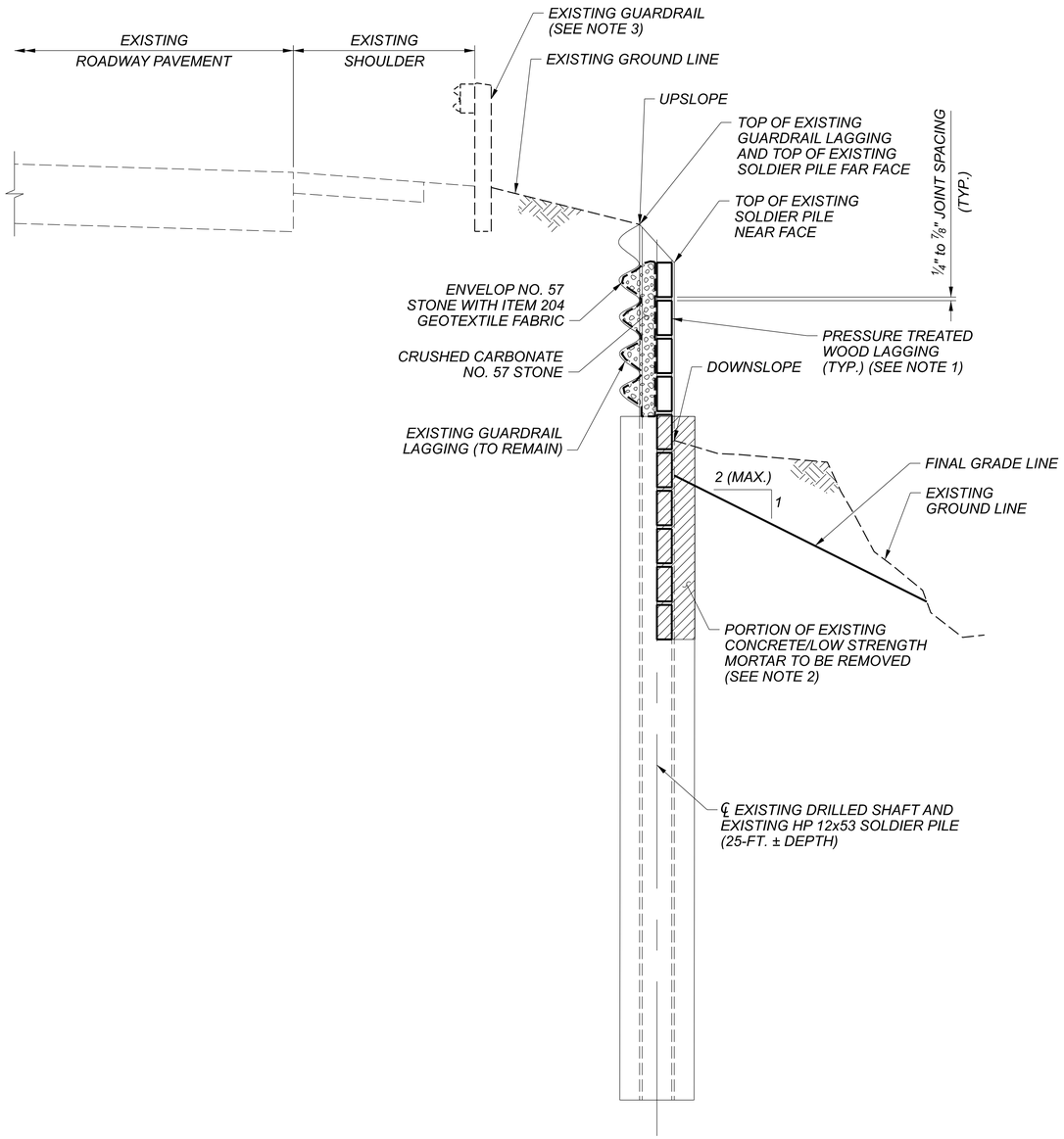
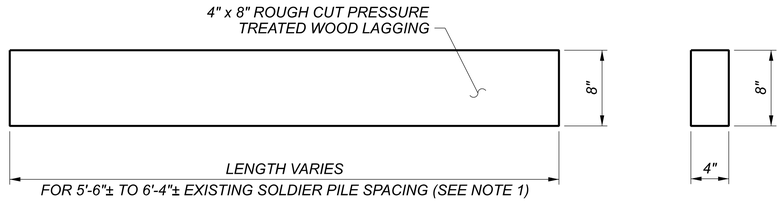
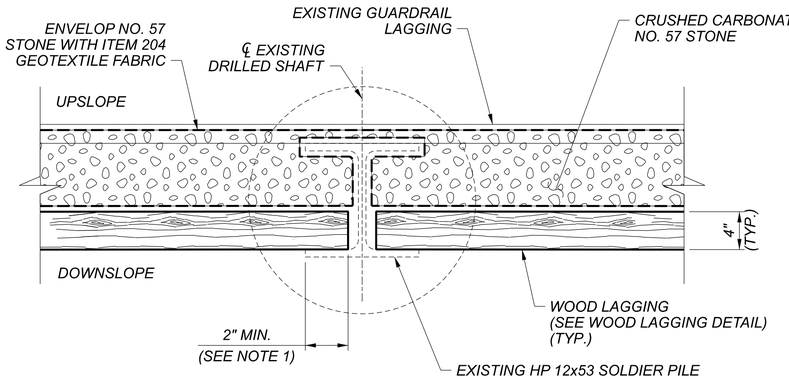


RETAINING WALL 1 TYPICAL SECTION



WOOD LAGGING DETAIL



DRILLED SHAFT DETAIL WITH LAGGING

NOTES:

1. CONTRACTOR TO FIELD MEASURE THE DISTANCE BETWEEN THE EXISTING DRILLED SHAFTS AND PROVIDE WOOD LAGGING AS REQUIRED. THE WOOD LAGGING SHALL OVERLAP THE FLANGES OF THE EXISTING SOLDIER PILES ON EACH END BY A MINIMUM OF 2 INCHES.
2. REMOVE CONCRETE AND/OR LOW STRENGTH MORTAR, AS NECESSARY, FROM AROUND THE EXISTING SOLDIER PILE IN ORDER TO PLACE THE WOOD LAGGING TO THE REQUIRED DEPTH. PROVIDE A FLAT SURFACE FOR THE WOOD LAGGING TO SIT AND TO BE LEVEL BETWEEN THE EXISTING SOLDIER PILES.
3. FOR PLAN AND ELEVATION OF RETAINING WALL, AND ADDITIONAL NOTES, SEE SHEET 1 OF 2.

WALL DETAILS
RETAINING WALL 1
ALONG US-50

HAM-US 50-29.00

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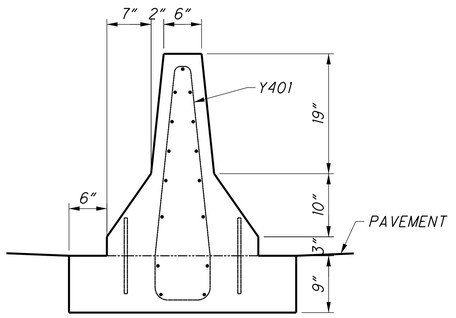
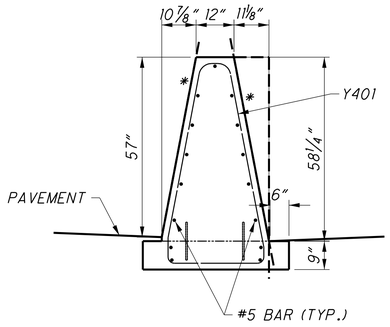
SFN	N/A
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE., E. STE 1000, CLEVELAND, OHIO 44114
DESIGNER	EA
CHECKER	ZTW
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	2
TOTAL	2
SHEET	P.092
TOTAL	208



SECTION A-A



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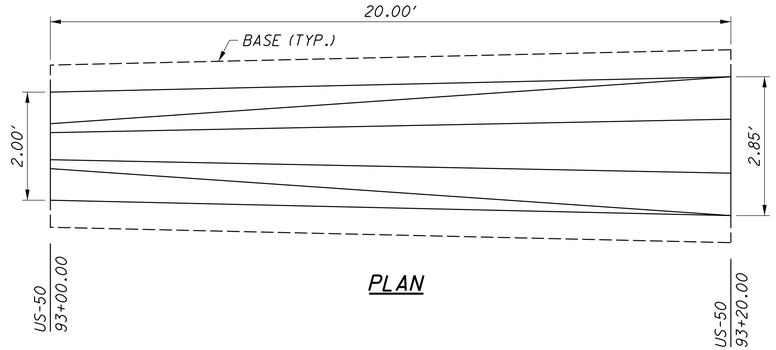
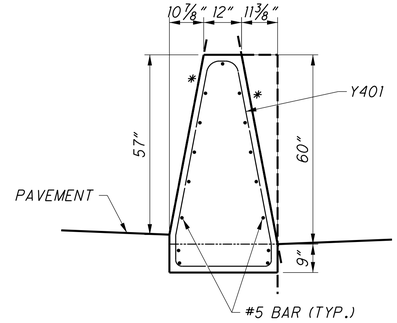


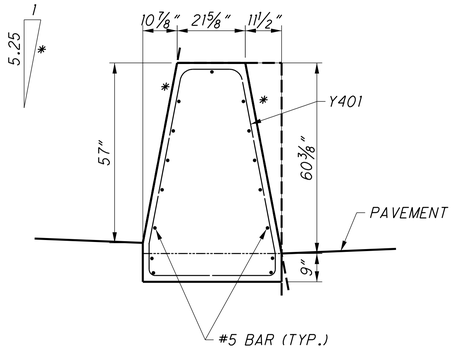
PLAN

BARRIER TRANSITION PIECE

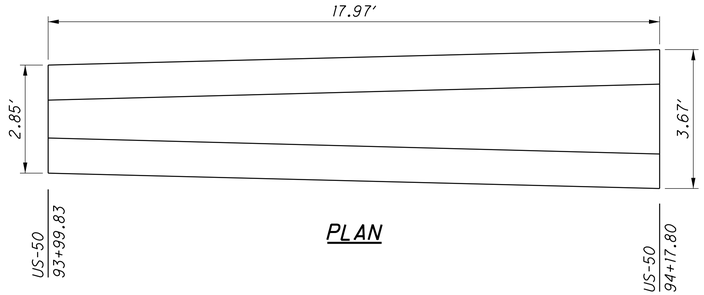
FOR ADDITIONAL DETAILS, SEE P.099



SECTION C-C



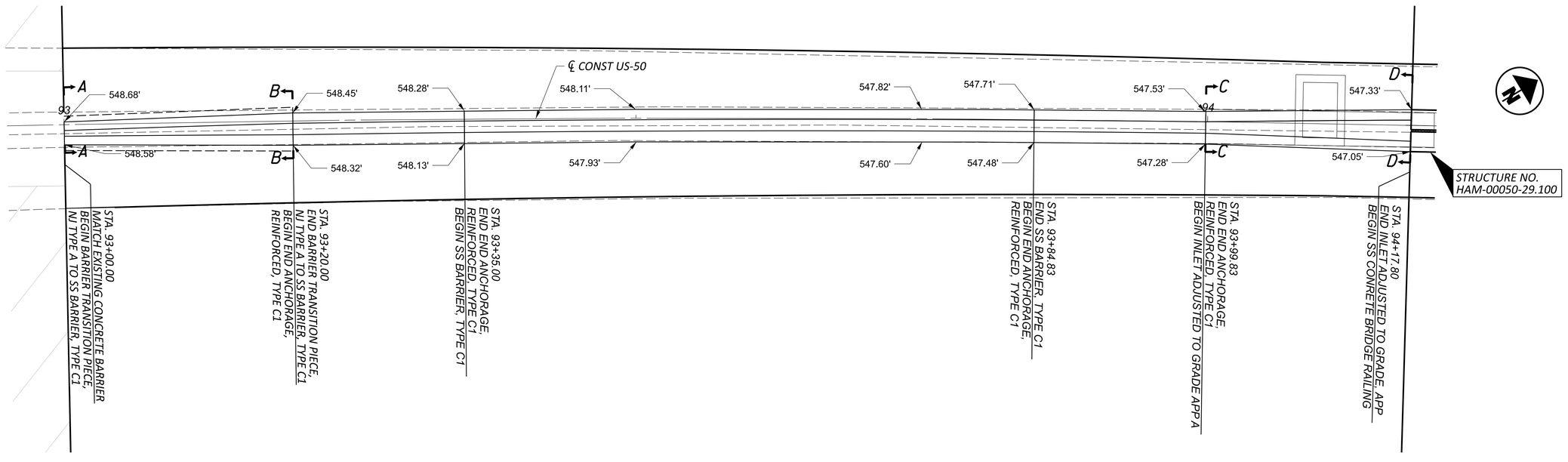
SECTION D-D



PLAN

INLET ADJUSTED TO GRADE, AS PER PLAN A

US-50, STA 94+10, ADJUST GRATE TO THE PROPOSED PAVEMENT ELEVATION AND REPLACE THE CONCRETE BARRIER AS PER SCD 1-3C1, EXCEPT THAT BARRIER DIMENSIONS SHALL BE AS SHOWN HERE.



HORIZONTAL SCALE IN FEET
0 2.5 5 10

MISCELLANEOUS DETAILS
CONCRETE BARRIER DETAILS

DESIGN AGENCY
1100 SUPERIOR AVE E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER MSW
REVIEWER GHM 08/22/23
PROJECT ID 110570
SHEET P.093 TOTAL 208

HAM-US 50-29.00

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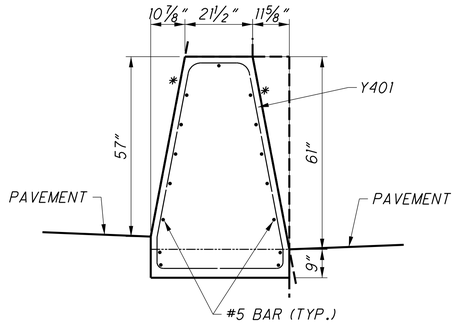
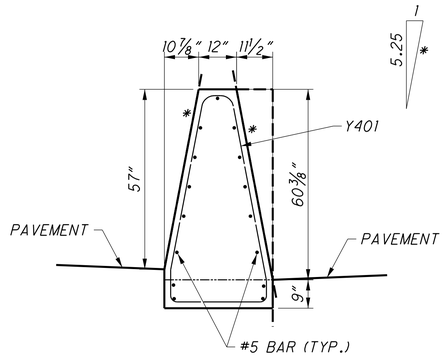


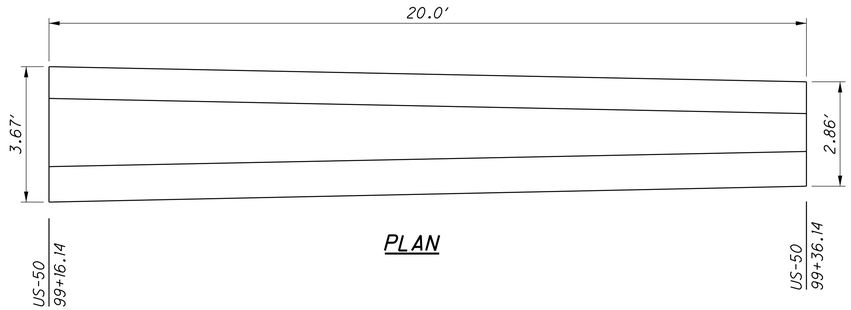
SECTION E-E



SECTION F-F

END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN A

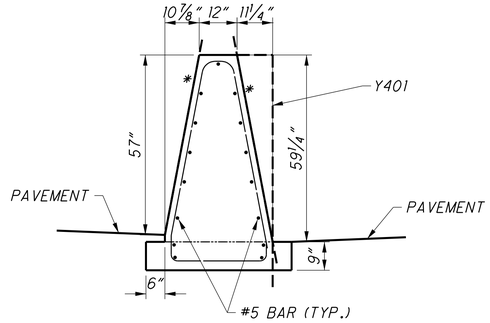
FOR ADDITIONAL DETAILS, SEE RM-4.3



PLAN

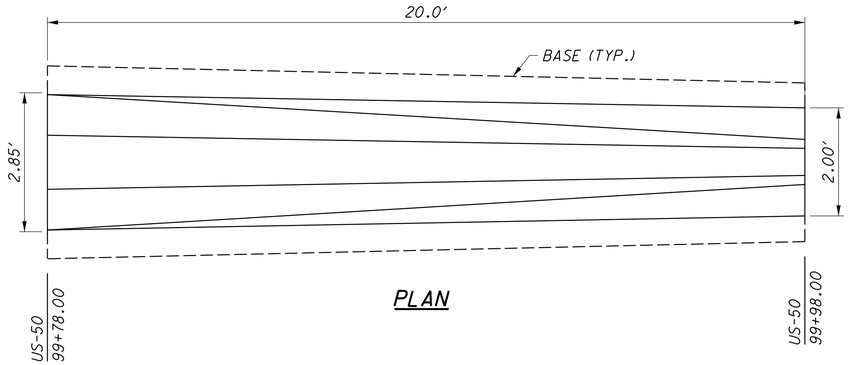
CONCRETE BARRIER, SINGLE SLOPE, TYPE C1, AS PER PLAN

FOR ADDITIONAL DETAILS, SEE RM-4.3



SECTION G-G

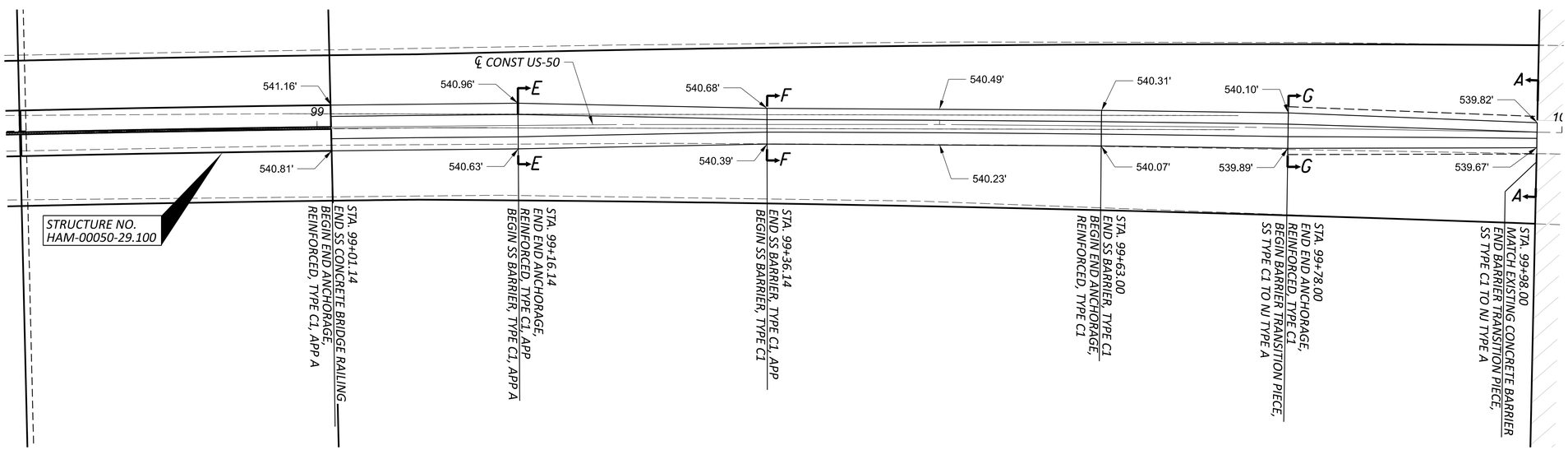
FOR SECTION A-A, SEE SHEET P.093



PLAN

BARRIER TRANSITION PIECE

FOR ADDITIONAL DETAILS, SEE P.099



HORIZONTAL SCALE IN FEET
0 2.5 5 10

MISCELLANEOUS DETAILS
CONCRETE BARRIER DETAILS

DESIGN AGENCY
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER MSW
REVIEWER GHM 08/22/23
PROJECT ID 110570
SHEET P.094 TOTAL 208

HAM-US 50-29.00

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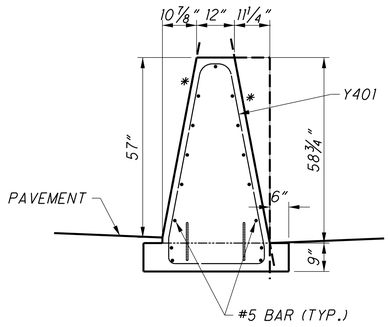
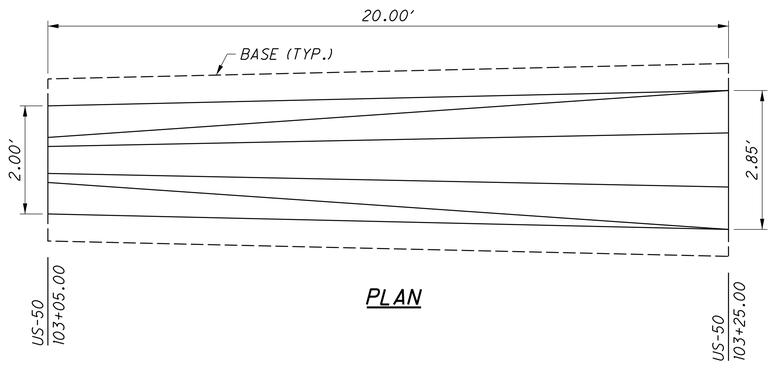


FOR SECTION A-A, SEE SHEET P.093

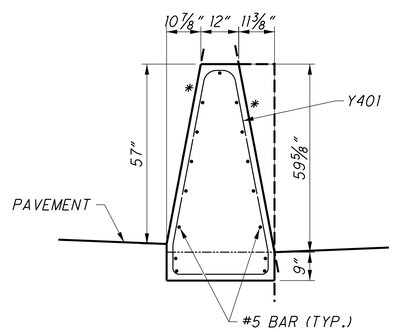
SECTION H-H



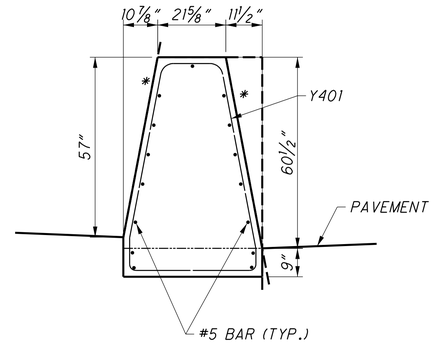
PLAN

BARRIER TRANSITION PIECE

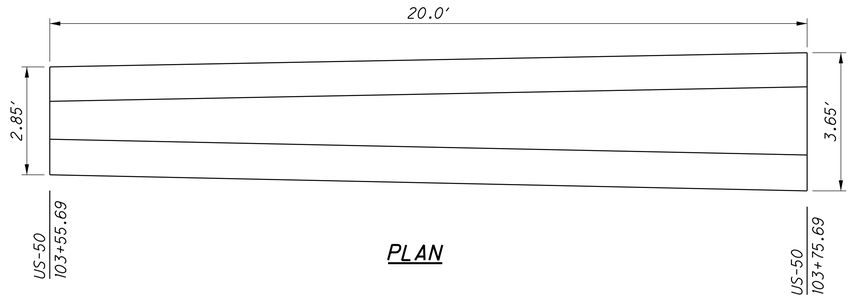
FOR ADDITIONAL DETAILS, SEE P.099



SECTION I-I



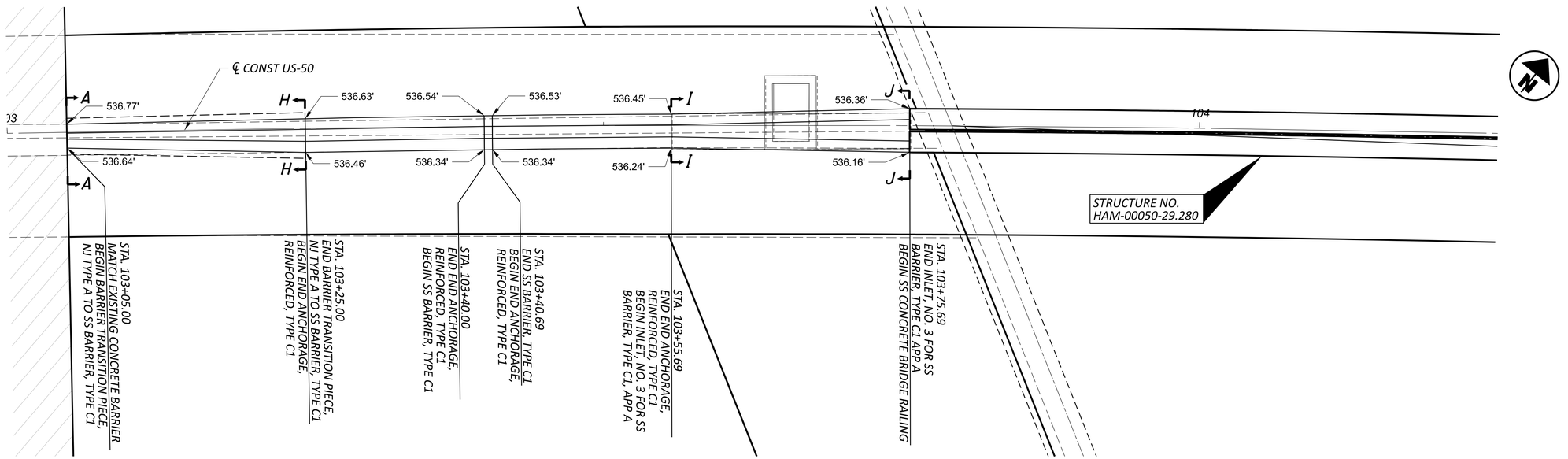
SECTION J-J



PLAN

INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN A

US-50, STA 103+66. INLET SHALL BE AS PER SCD I-3C1 EXCEPT THAT BARRIER DIMENSIONS SHALL BE AS SHOWN HERE.



HORIZONTAL SCALE IN FEET
0 2.5 5 10

MISCELLANEOUS DETAILS
CONCRETE BARRIER DETAILS

DESIGN AGENCY
1100 SUPERIOR AVE., STE 1000
CLEVELAND, OHIO 44114

DESIGNER MSW
REVIEWER GHM 08/22/23
PROJECT ID 110570
SHEET P.095 TOTAL 208

HAM-US 50-29.00

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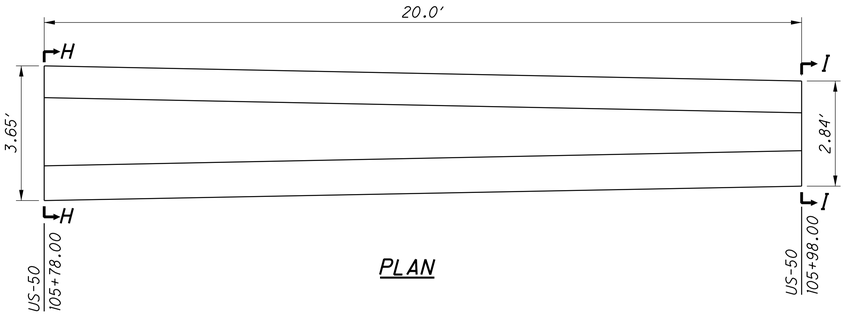
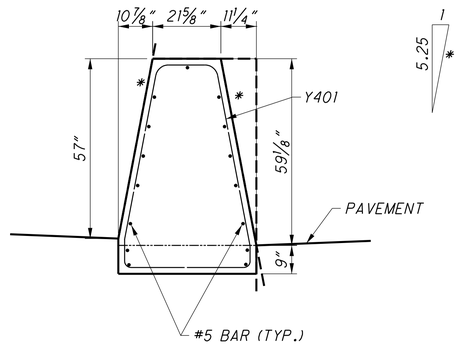


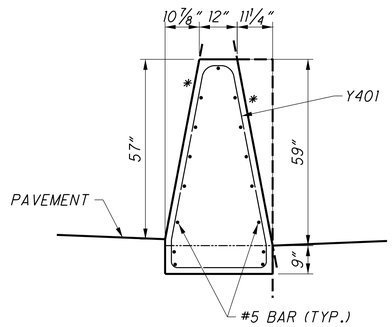
PLAN

INLET, NO.3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN B

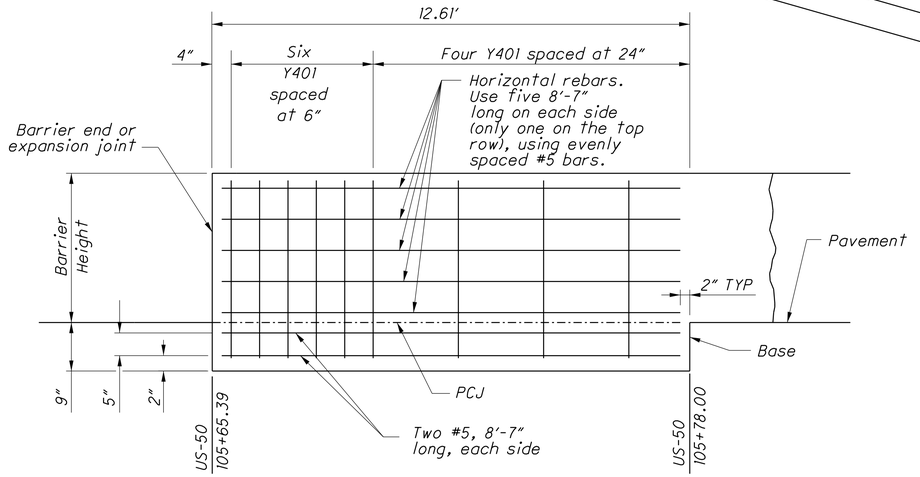
US-50, STA 105+88. INLET SHALL BE AS PER SCD I-3C1 EXCEPT THAT BARRIER DIMENSIONS SHALL BE AS SHOWN HERE.



SECTION K-K

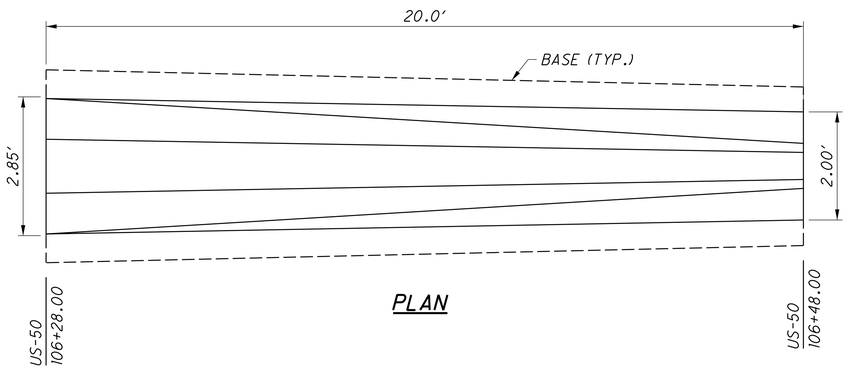


SECTION L-L

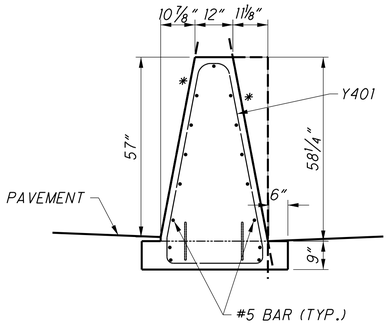


CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN B

FOR ADDITIONAL DETAILS, SEE RM-4.3



PLAN

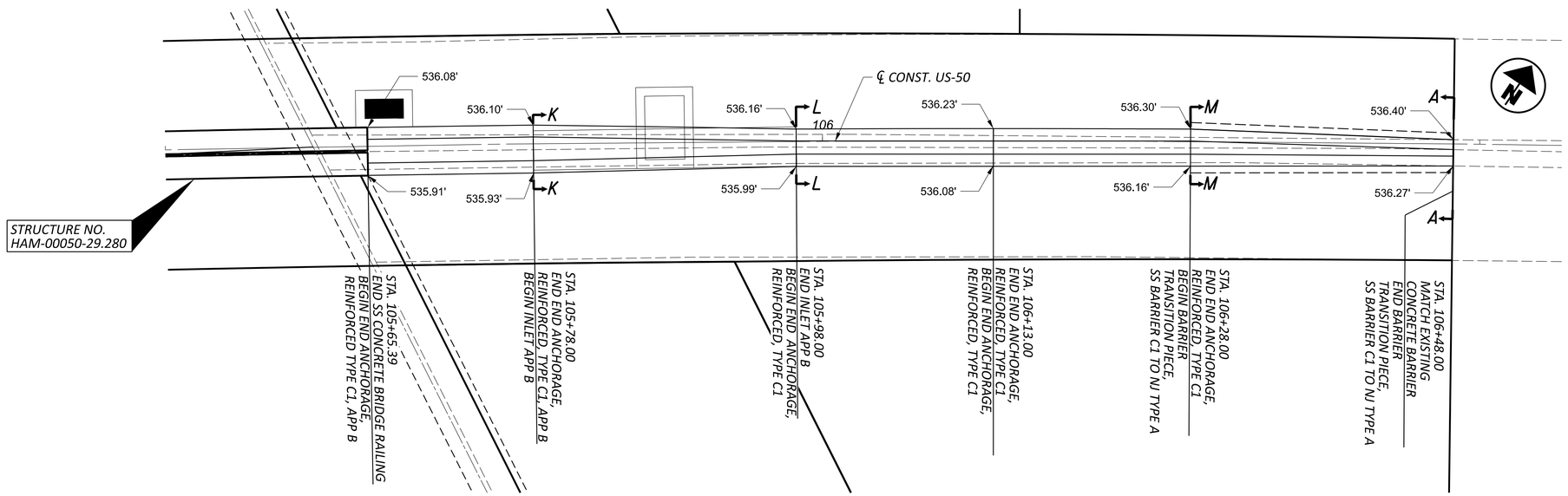


SECTION M-M

BARRIER TRANSITION PIECE

FOR ADDITIONAL DETAILS, SEE P.099

FOR SECTION A-A, SEE SHEET P.093



HORIZONTAL SCALE IN FEET
0 2.5 5 10

MISCELLANEOUS DETAILS
CONCRETE BARRIER DETAILS

DESIGN AGENCY
1100 SUPERIOR AVE.E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER MSW
REVIEWER GHM 08/22/23
PROJECT ID 110570
SHEET P.096 TOTAL 208

HAM-US 50-29.00

MODEL: CLRWX_U050 - Plan 4 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:12:01 PM USER: rjgreve
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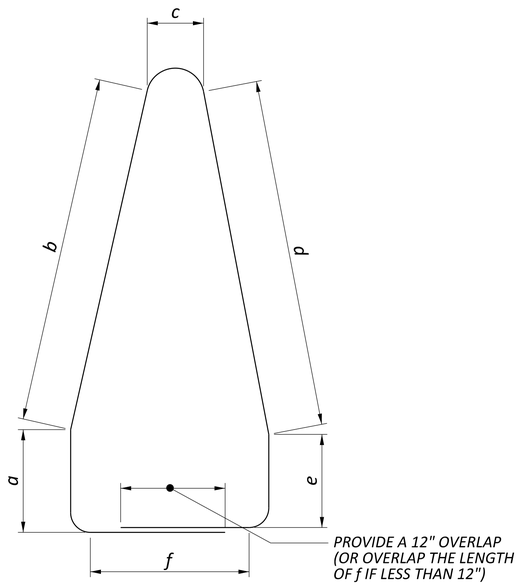

BENDING DIAGRAM

Y401 #4

DIMENSIONS FOR Y401									
SECTION	SHEET NUMBER	a	b	c	d	e	f	OVERLAP	TOTAL LENGTH
		IN							
A-A	P.093	8.1	29.3	3.5	29.3	8.1	4.7	4.7	7'-4"
B-B	P.093	9.2	54.5	10.9	55.8	8.0	26.0	12.0	14'-9"
C-C	P.093	11.0	54.5	10.9	57.6	8.0	26.3	12.0	15'-1"
D-D	P.093	11.3	54.5	20.5	57.9	8.0	36.0	12.0	16'-9"
E-E	P.094	12.0	54.5	20.4	58.6	8.0	35.9	12.0	16'-10"
F-F	P.094	11.3	54.5	10.9	57.9	8.0	26.3	12.0	15'-1"
G-G	P.094	10.2	54.5	10.9	56.7	8.0	26.1	12.0	14'-11"
H-H	P.095	9.7	54.5	10.9	56.3	8.0	26.1	12.0	14'-10"
I-I	P.095	10.5	54.5	10.9	57.1	8.0	26.2	12.0	14'-12"
J-J	P.095	11.5	54.5	20.5	58.1	8.0	36.0	12.0	16'-9"
K-K	P.096	10.1	54.5	20.5	56.7	8.0	35.7	12.0	16'-6"
L-L	P.096	10.0	54.5	10.9	56.6	8.0	26.1	12.0	14'-11"
M-M	P.096	9.2	54.5	10.9	55.8	8.0	26.0	12.0	14'-9"

NOTE:
TO CALCULATE THE LENGTHS SHOWN, A CONSISTENT 2" OFFSET WAS ASSUMED BETWEEN THE Y401 BAR AND THE NEAREST FACE OF THE CONCRETE BARRIER. A BENDING RADIUS OF 2" WAS USED AT THE TOP AND BOTTOM CORNERS. LENGTHS SHOWN ARE ACCURATE ONLY AT THE LOCATIONS WHERE THE SECTIONS ARE TAKEN. IN AREAS OF MEDIAN BARRIER WITH DIMENSIONAL OR SHAPE TRANSITIONS, TRUE DIMENSIONS MUST BE INTERPOLATED FOR EACH Y401 BAR BASED ON ITS HORIZONTAL LOCATION ALONG THE TRANSITION.

HAM-US 50-29.00

MODEL: Bending Diagram PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:12:01 PM USER: rjgreve
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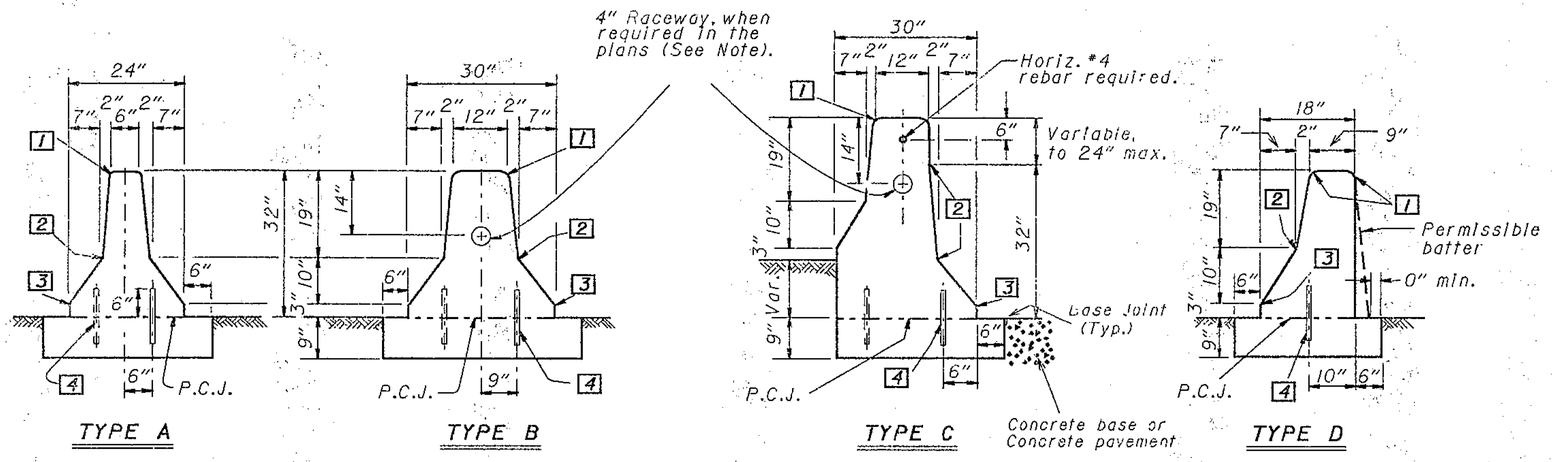
HORIZONTAL SCALE IN FEET
0 2.5 5 10

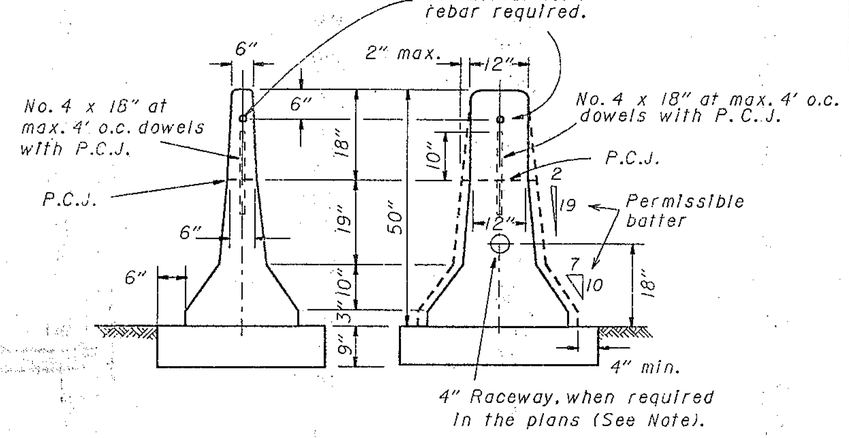
MISCELLANEOUS DETAILS
CONCRETE BARRIER BENDING DIAGRAM

DESIGN AGENCY
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER MSW
REVIEWER GHM 08/22/23
PROJECT ID 110570
SHEET P.097 TOTAL 208



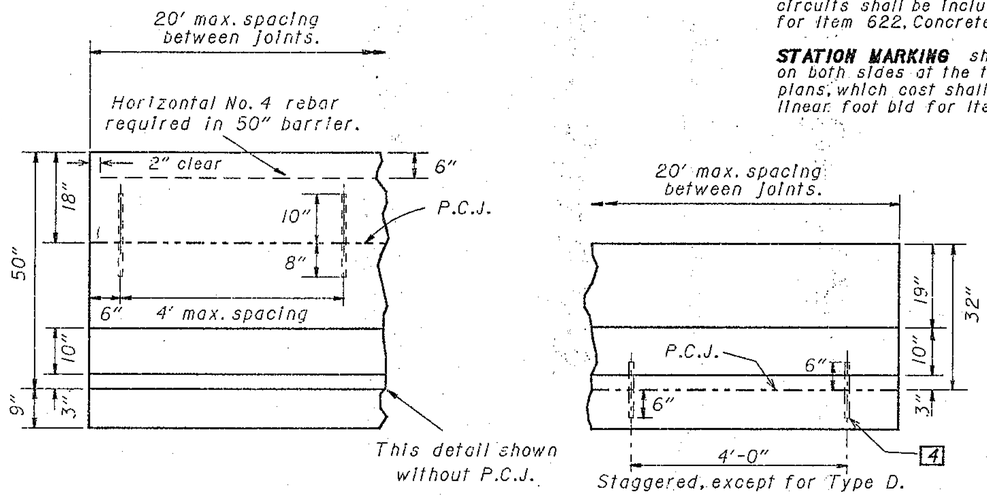
NORMAL SECTIONS



50" BARRIERS - TYPICAL SECTIONS

LEGEND

1. 1" Radius or 3/4" chamfer.
2. Permissible 10" radius.
3. Permissible 1" radius.
4. No. 8 epoxy coated deformed steel bars, 12" long, spaced 4' between successive bars on a staggered (except Type D) pattern. Omit dowels when top is constructed integral with the base.



BARRIER ELEVATIONS

NOTES

JOINTS: Unsealed contraction joints spaced at 20' max. shall be constructed throughout the run of Concrete Barrier except that expansion joints shall be used at the center line of and around each bridge pier column and on either side of overhead sign supports, inlets and light pole foundations. If inlet top is slip formed, the expansion joints adjacent to it may be omitted.

Contraction joints may be constructed with metal inserts inside the forms, preformed full width joint filler, a grooving tool, or by sawing. Inserts, tooled or sawed joints shall have a 3" minimum depth. All joints shall be constructed for the full height of the barrier including the base. Sawing shall be done as soon as curing will allow, to prevent spalling.

BASE JOINTS: The vertical walls between the barrier base and a concrete pavement or concrete base shall be provided with a sealed, grooved joint as shown on Std. Const. Dwg. BP-2.1. Sealing material shall conform with CMS 705.04.

P.C.J. = Permissible Construction Joint

MEASUREMENT: 622 Concrete Barrier, including transitions and pier sections as per Standard Const. Drawing, MC-9.4, is paid for in linear feet as one of the four types (A,B,C or D) or as Type A50 and B50, (for 50" high barrier), with appropriate deductions for other items such as:

604 1-3 Median Inlet	20 Lin. Ft.
625 Light pole foundation or pullbox	2.5 Lin. Ft.
630 Overhead sign support foundation	10 Lin. Ft.
630 Barrier wall assembly	10 Lin. Ft.

50 INCH HIGH BARRIER shall be built in locations specified in the plans. Construct the lower 32" of the barrier and the barrier base using the same dimensions as shown in the corresponding Normal Section. The upper 18" may be constructed integral with the bottom, or separately with No. 4 rebar dowels at 4 foot maximum spacing. Start and end dowels 6" from barrier contraction joints.

RACEWAY: The contractor shall insure that the electrical raceway is clear of internal obstructions. Cost of the 4 inch polyvinyl chloride raceway and No. 10 AWG copper-clad or aluminum-clad wire if needed for future installation of circuits shall be included in the unit cost per lineal foot for item 622, Concrete Barrier.

STATION MARKING shall be impressed in the "green" concrete on both sides at the top of the barrier if specified in the plans, which cost shall be incidental to the unit cost per linear foot bid for item 622, Concrete Barrier.

BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

CONCRETE BARRIER

DATE 10-30-92

STANDARD CONSTRUCTION DRAWING **MC-9.3**

APPROVED E.K. Hartman ENGR., L & D

PLAN INSERT SHEET
BARRIER MISC.: MC-9.3, TYPE A

DESIGN AGENCY
TRANSYSTEMS
1300 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNED TSW
REVIEWER GHM 08/22/23
PROJECT ID 110570
SUBSET 1 TOTAL 1
SHEET P.098 TOTAL 208

HAM-US 50-29.00

MODEL: CLRWX_US1 - Plan 1 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:12:31 PM USER: rjgreve
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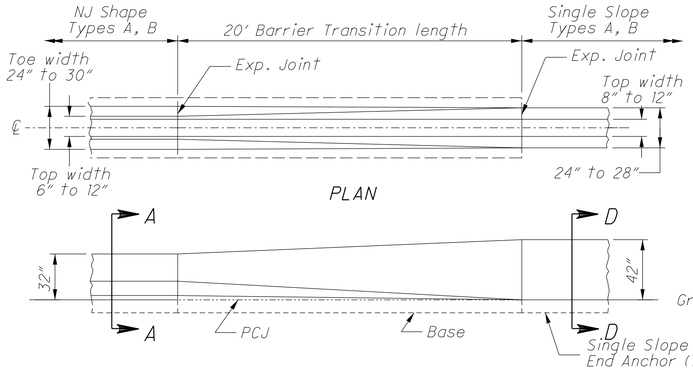
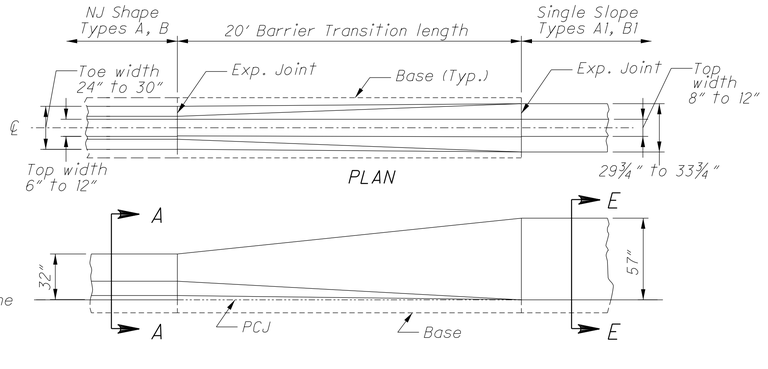
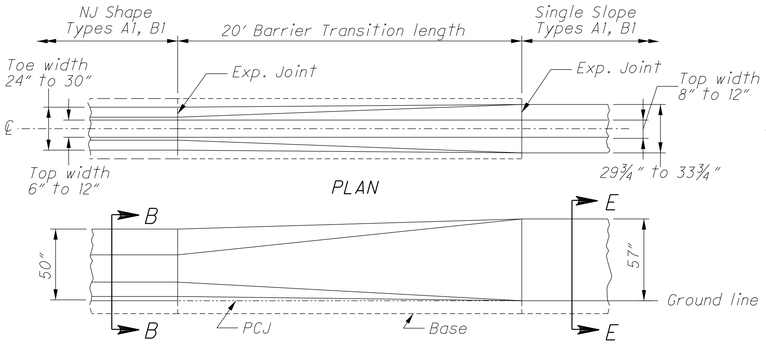
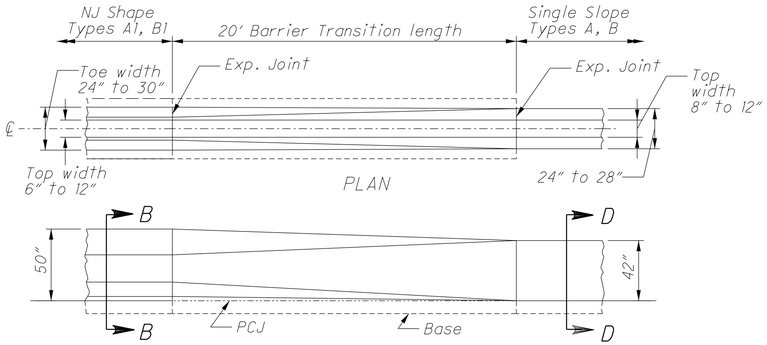
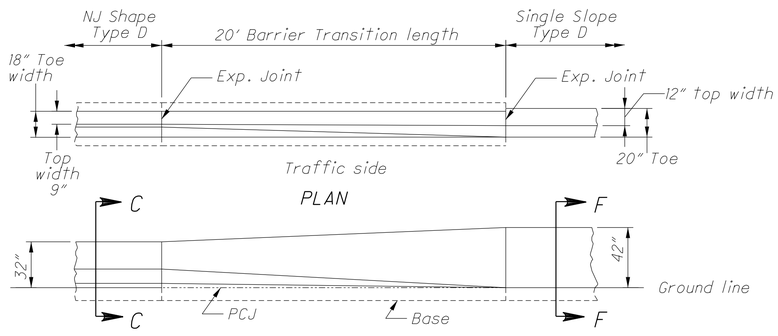
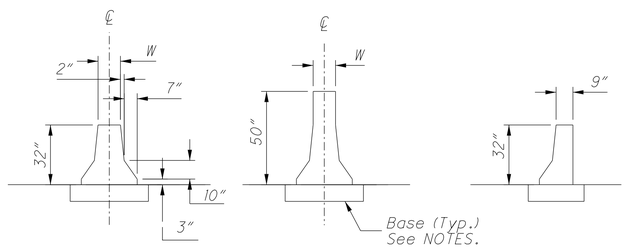






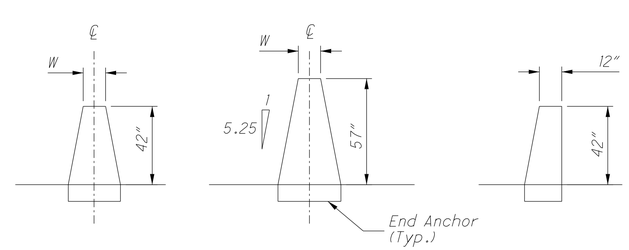






NJ SHAPE SECTIONS

See Plan Insert sheets for specific NJ Shape Concrete barrier details.



SINGLE SLOPE SECTIONS

See SCD RM-4.3 and RM-4.5 for specific Single Slope concrete barrier details.

NOTES

GENERAL: This insert details the Barrier Transition, to connect existing NJ Concrete Barrier (safety shape) to a new run of Single Slope Concrete Barrier at locations shown on the plans. For NJ barrier shape and other details see the respective plan insert sheets. For Single Slope barrier details, see SCD RM-4.3 (RM-4.5 for Type D).

ADJACENT CONCRETE BARRIER RUNS: Remove any tapered end sections, Impact attenuators, or other guardrail hardware from existing barrier end. The barrier to barrier transition is not intended to be used at transition sections (those shown on SCD RM-4.4), Inlets, or on Type C or C1 Barrier. If proposed adjacent single slope barrier is Type A or A1, the Barrier Transiton should contain horizontal reinforcing steel similiar to that required in the respective single slope barrier. Reinforcement is not shown and should be detailed separately. The adjacent single slope end should be terminated with a reinforced End Anchor as detailed on the SCDs.

BARRIER FACE TRANSITION: To prevent vehicle snagging, a smooth transition from the safety shape face to the single slope face is made over a 20' length. The actual shape of the Transition is dependent on both the adjacent NJ barrier and the single slope barrier Types, as detailed on the plans. The contractor and Engineer will agree on a construction method to ensure a smooth barrier face.

MATERIALS: Materials are same for those shown on RM-4.3 and RM-4.5, except that cast-in-place is the only acceptable method. Edges may be chamfered or radiused as shown on those drawings.

CONCRETE BASE: Construct base as shown on the NJ shape insert sheets, including the methods detailing the footing joint, Permissible Construction Joint (PCJ), and Dowelling requirements. The width of the base matches the existing NJ barrier.

JOINTS: Construct joints as shown on respective barrier drawings.

RACEWAYS: When specified, place raceway(s) to match raceway elevation in adjoining segments. Place to obtain maximum concrete cover.

METRIC UNITS: Refer to respective barrier drawings or inserts for metric dimensions.

PAYMENT: This Barrier Transiton shall include all material and labor needed to construct this 20' section, including any raceways, reinforcing steel, dowels and other necessary incidentals. Payment shall be made at the unit price for Item 622 - Barrier Transition, Each.

PLAN INSERT SHEET
NJ SHAPE TO SINGLE SLOPE BARRIER TRANSITION

DESIGN AGENCY
TRANSYSTEMS
1300 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNED: MSW
REVIEWER: GHM 08/22/23
PROJECT ID: 110570
SUBSET: 1 TOTAL: 1
SHEET: P.099 TOTAL: 208

HAM-US 50-29.00

MODEL: CLRWX_U51 - Plan 2 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:12:38 PM USER: rjgreve
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REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION		SIDE	621	621	626	626	632	632	644	644	644	807	807	807	807	807	807	807	807	807	807	850	850	850	850
			FROM	TO		RPM, (TWO-WAY)	RAISED PAVEMENT MARKER REMOVED	BARRIER REFLECTOR, TYPE 1 (TWO-WAY)	BARRIER REFLECTOR, TYPE 2 (ONE-WAY)	DETECTOR LOOP	LOOP DETECTOR LEAD-IN CABLE	STOP LINE	CHEVRON MARKING	LANE ARROW	WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6" (WHITE)	WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6" (YELLOW)	WET REFLECTIVE EPOXY PAVEMENT MARKING, LANE LINE, 6"	WET REFLECTIVE EPOXY PAVEMENT MARKING, CHANNELIZING LINE, 12"	WET REFLECTIVE EPOXY PAVEMENT MARKING, DOTTED LINE, 12"	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, EDGE LINE, 6" (WHITE)	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, EDGE LINE, 6" (YELLOW)	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, LANE LINE, 6"	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, CHANNELIZING LINE, 12"	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, DOTTED LINE, 6"	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, DOTTED LINE, 12"	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)	GROOVING FOR 12" RECESSED PAVEMENT MARKING, (ASPHALT)	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (CONCRETE)	GROOVING FOR 12" RECESSED PAVEMENT MARKING, (CONCRETE)
						EACH	EACH	EACH	EACH	EACH	FT	FT	FT	EACH	MILE	MILE	MILE	FT	FT	MILE	MILE	MILE	FT	FT	FT	MILE	MILE	MILE	MILE
LL-1	P.102 - P.104	US 50	65+20.00	94+45.00	RT																	0.55				0.55			
R-1	P.102 - P.108	US 50	65+20.00	128+23.00	RT		46																						
RPM-1	P.102 - P.104	US 50	65+20.00	121+70.00	RT	71																							
DL-1	P.102	US 50	65+20.00	68+32.00	RT																			312		0.06			
RPM-2	P.102	US 50	65+20.00	68+32.00	RT	4																							
ELW-1	P.102 - P.104	US 50	66+94.00	94+45.00	RT															0.52						0.52			
ELY-1	P.102 - P.104	US 50	66+94.00	94+45.00	RT																0.52					0.52			
R-2	P.102 - P.108	US 50	84+09.00	128+23.00	LT		46																						
ELY-2	P.103 - P.104	US 50	84+09.00	94+45.00	LT																0.20					0.20			
ELW-2	P.103 - P.104	US 50	84+09.00	94+45.00	LT															0.20						0.20			
LL-2	P.103 - P.104	US 50	84+09.00	94+45.00	LT																	0.20				0.20			
RPM-3	P.103 - P.104	US 50	84+09.00	128+20.00	LT	55																							
BR-1	P.103 - P.104	US 50	85+00.00	88+50.00	CL			14																					
BR-2	P.104	US 50	93+00.00	94+17.00	RT				2																				
BR-3	P.104	US 50	93+00.00	101+00.00	CL			32																					
BR-4	P.104	US 50	93+71.00	94+20.00	LT				2																				
BR-5	P.104	US 50	94+17.00	99+00.00	RT			10																					
BR-6	P.104	US 50	94+20.00	99+00.00	LT			10																					
ELW-3	P.103 - P.104	US 50	94+45.00	98+74.00	LT										0.08												0.08		
LL-3	P.104	US 50	94+45.00	98+74.00	LT												0.08										0.08		
ELW-4	P.104	US 50	94+45.00	98+74.00	RT										0.08												0.08		
ELY-3	P.104	US 50	94+45.00	98+74.00	LT											0.08											0.08		
LL-4	P.104	US 50	94+45.00	98+74.00	RT												0.08										0.08		
ELY-4	P.104	US 50	94+45.00	98+74.00	RT											0.08											0.08		
ELW-5	P.104 - P.105	US 50	98+74.00	103+60.00	LT															0.09						0.09			
ELY-5	P.104 - P.105	US 50	98+74.00	103+74.00	LT																0.09					0.09			
ELY-6	P.104 - P.105	US 50	98+74.00	103+80.00	RT																0.10					0.10			
ELW-6	P.104 - P.105	US 50	98+74.00	103+95.00	RT															0.10						0.10			
LL-5	P.104 - P.105	US 50	98+74.00	103+69.00	LT																	0.09				0.09			
LL-6	P.104 - P.105	US 50	98+74.00	103+84.00	RT																	0.10				0.10			
DL-2	P.104 - P.105	US 50	99+33.00	103+64.00	LT																			431			0.08		
RPM-4	P.104 - P.105	US 50	99+33.00	105+12.00	LT	7																							
BR-7	P.104 - P.105	US 50	99+00.00	101+14.00	RT				4																				
BR-8	P.104 - P.105	US 50	99+00.00	103+33.00	LT				9																				
BR-9	P.105	US 50	101+72.00	106+48.00	CL			20																					
BR-10	P.105	US 50	102+91.00	103+74.00	RT				2																				
CH-1	P.105	US 50	103+04.00	103+89.00	RT																			85			0.02		
RMP-5	P.105	US 59	103+04.00	109+75.00	RT	10																							
BR-11	P.105	US 50	103+33.00	105+62.00	LT			5																					
ELW-7	P.105	US 50	103+60.00	105+43.00	LT										0.03												0.03		
DL-3	P.105	US 50	103+64.00	105+12.00	LT													148										0.03	
LL-7	P.105	US 50	103+69.00	105+54.00	LT												0.04										0.04		
BR-12	P.105	US 50	103+74.00	106+16.00	RT			5																					
ELY-7	P.105	US 50	103+74.00	105+60.00	LT											0.04											0.04		
ELY-8	P.105	US 50	103+80.00	105+67.00	RT											0.04											0.04		
LL-8	P.105	US 50	103+84.00	105+73.00	RT												0.04										0.04		
CH-2	P.105	US 50	103+89.00	105+79.00	RT													190										0.04	
ELW-8	P.105	US 50	103+95.00	105+85.00	RT										0.04												0.04		
CH-3	P.105	US 50	105+12.00	105+49.00	LT													37										0.01	
RPM-6	P.105	US 50	105+12.00	108+60.00	LT	5																							
ELW-9	P.105	US 50 - RAMP J	105+43.00	11+81.00	LT&RT															0.04						0.04			
CH-4	P.105	US 50	105+49.00	108+60.00	LT																				311			0.06	
LL-9	P.105 - P.107	US 50	105+54.00	128+20.00	LT																	0.43				0.43			
ELY-9	P.105 - P.107	US 50	105+60.00	128+20.00	LT																0.43					0.43			
BR-13	P.105	US 50	105+62.00	106+58.00	LT				2																				
ELY-10	P.105 - P.107	US 50	105+67.00	128+20.00	RT																0.43					0.43			
LL-10	P.105 - P.106	US 50	105+73.00	121+70.00	RT																	0.30					0.30		
CH-5	P.103	US 50	105+79.00	109+75.00	RT																			396			0.08		
SUBTOTALS THIS SHEET						152	92	96	21	0	0	0	0	0	0.23	0.24	0.24	227	148	0.95	1.77	1.67	481	743	311	4.15	0.10	1.09	0.14

TRAFFIC CONTROL SUBSUMMARY

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
HB

REVIEWER
SS 08/22/23

PROJECT ID
110570

SHEET P.100 | TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:13:06 PM USER: rjgreve
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TRAFFIC CONTROL SUBSUMMARY

REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION		SIDE	621	621	626	626	632	632	644	644	644	807	807	807	807	807	807	807	807	807	807	850	850	850	850
						RPM (TWO-WAY)	RAISED PAVEMENT MARKER REMOVED	BARRIER REFLECTOR, TYPE 1 (TWO-WAY)	BARRIER REFLECTOR, TYPE 2 (ONE-WAY)	DETECTOR LOOP	LOOP DETECTOR LEAD-IN CABLE	STOP LINE	CHEVRON MARKING	LANE ARROW	WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6" (WHITE)	WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6" (YELLOW)	WET REFLECTIVE EPOXY PAVEMENT MARKING, LANE LINE, 6"	WET REFLECTIVE EPOXY PAVEMENT MARKING, CHANNELIZING LINE, 12"	WET REFLECTIVE EPOXY PAVEMENT MARKING, DOTTED LINE, 12"	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, EDGE LINE, 6" (WHITE)	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, EDGE LINE, 6" (YELLOW)	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, LANE LINE, 6"	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, CHANNELIZING LINE, 12"	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, DOTTED LINE, 6"	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, DOTTED LINE, 12"	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)	GROOVING FOR 12" RECESSED PAVEMENT MARKING, (ASPHALT)	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (CONCRETE)	GROOVING FOR 12" RECESSED PAVEMENT MARKING, (CONCRETE)
			FROM	TO		EACH	EACH	EACH	EACH	EACH	FT	FT	FT	EACH	MILE	MILE	MILE	FT	FT	MILE	MILE	MILE	FT	FT	FT	MILE	MILE	MILE	MILE
ELW-10	P.105	US 50 - RAMP M	105+85.00	7+18.00	RT&LT															0.08						0.08			
RPM-7	P.105	US 50 - RAMP J	107+02.00	11+80.00	RT	3																							
R-3	P.105	US 50	107+02.00	108+60.00	LT		3																						
CH-6	P.105	US 50 - RAMP J	107+02.00	11+81.00	LT																		62				0.01		
ELW-11	P.105 - P.106	US 50	108+60.00	114+44.00	LT															0.08						0.08			
R-4	P.105	US 50	108+73.00	109+75.00	RT		3																						
R-5	P.105	RAMP J - US 50	11+81.00	107+02.00	LT		3																						
R-6	P.105	RAMP M - US 50	7+65.00	108+73.00	RT		3																						
CM-1	P.105	US 50	108+73.00	109+75.00	RT								115																
CH-7	P.105	US 50 - RAMP M	108+73.00	7+65.00	RT																		101				0.02		
RPM-8	P.105	US 50 - RAMP M	108+73.00	7+65.00	RT	3																							
ELW-12	P.105 - P.106	US 50	109+75.00	113+45.00	RT															0.08						0.08			
ELY-11	P.105	RAMP M	7+18.00	7+65.00	RT																0.01					0.01			
ELW-12	P.105 - P.106	US 50	109+75.00	113+45.00	RT															0.08						0.08			
BR-14	P.105 - P.106	US 50	111+51.00	114+90.00	CL			14																					
R-7	P.106	US 50 - RAMP L	113+45.00	9+08.00	RT & LT		3																						
R-8	P.106	US 50	114+44.00	115+56.00	LT		3																						
R-9	P.106	RAMP L	8+02.00	9+08.00	LT		3																						
R-10	P.106	RAMP K - US 50	13+33.00	115+56.00	RT & LT		3																						
CH-8	P.106	US 50	113+45.00	116+01.00	RT																		256				0.05		
RPM-9	P.106	US 50	113+45.00	116+01.00	RT	5																							
CH-9	P.106	US 50	114+44.00	121+05.00	LT																		661				0.13		
RPM-10	P.106	US 50	114+44.00	121+05.00	LT	9																							
CM-2	P.106	US 50	114+44.00	115+56.00	LT								132																
DL-4	P.106	US 50	116+01.00	122+01.00	RT																			600		0.11			
RPM-11	P.106	US 50	116+01.00	122+01.00	RT	8																							
DL-5	P.106	US 50	121+70.00	125+27.00	RT																				357		0.07		
RPM-12	P.106	US 50	121+70.00	125+27.00	RT	4																							
CH-10	P.106 - P.107	US 50	125+27.00	128+20.00	RT																		293				0.06		
RPM-13	P.106 - P.107	US 50	125+27.00	128+20.00	RT	4																							
CH-11	P.106 - P.107	US 50	125+27.00	128+20.00	RT																		293				0.06		
RPM-14	P.106 - P.107	US 50	125+27.00	128+20.00	RT	4																							
CH-12	P.106	RAMP L - US 50	8+02.00	114+08.00	LT&RT																		122				0.02		
RPM-15	P.106	RAMP L - US 50	8+02.00	114+08.00	LT&RT	3																							
ELW-13	P.106 - P.107	RAMP L - US 50	8+02.00	128+20.00	RT															0.28						0.28			
ELY-12	P.106	RAMP K	13+24.00	13+33.00	RT																0.01					0.01			
ELW-14	P.106 - P.107	RAMP K - US 50	13+24.00	128+12.00	LT															0.26						0.26			
CH-13	P.106	RAMP K - US 50	13+33.00	115+56.00	RT&LT																		113				0.02		
RPM-16	P.106	RAMP K - US 50	13+33.00	115+56.00	RT&LT	3																							
LA-1	P.107	US 50	125+93.00		RT									2															
TS-1	P.107	US 50	126+63.00	128+21.00	RT					3	500																		
LA-2	P.107	US 50	126+65.00		RT									2															
LA-3	P.107	US 50	127+37.00		RT									2															
LA-4	P.107	US 50	128+09.00		RT									2															
SL-1	P.107	US 50	128+20.00		RT							33																	
ELY-13	P.108	RAMP M-RAMPS M&L	2+05.00	5+00.00	LT&RT															0.17						0.17			
ELW-15	P.108	RAMPS M & L	-0+34.00	5+00.00	RT															0.10						0.10			
BR-15	P.108	RAMPS M & L	0+25.00	4+50.00	CL			17																					
ELY-14	P.108	RAMPS M & L	0+25.00	4+50.00	LT																0.08					0.08			
ELW-16	P.108	RAMPS M & L	0+25.00	4+50.00	LT															0.08						0.08			
BR-16	P.108	RAMPS M & L	1+99.00	2+28.00	RT				1																				
BR-17	P.108	RAMPS M & L	2+88.00	4+28.00	RT			3																					
BR-18	P.108	RAMPS M & L	3+20.00	4+50.00	LT			3																					
BR-19	P.108	RAMPS M & L	4+50.00	5+36.00	LT				2																				
SUBTOTALS THIS SHEET						46	24	37	3	3	500	33	247	8	0.00	0.00	0.00	0	0	1.21	0.10	0.00	1901	600	357	1.42	0.44	0.00	0.00
SUBTOTALS FROM PREVIOUS SHEET P.100						152	92	96	21	0	0	0	0	0	0.23	0.24	0.24	227	148	0.95	1.77	1.67	481	743	311	4.15	0.10	1.09	0.14
TOTALS CARRIED TO GENERAL SUMMARY						198	116	133	24	3	500	33	247	8	0.47		0.24	227	148	4.03		1.67	2382	1343	668	5.57	0.54	1.09	0.14

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER
HB

REVIEWER
SS 08/22/23

PROJECT ID
110570

SHEET P.101 TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:13:34 PM USER: rgreve
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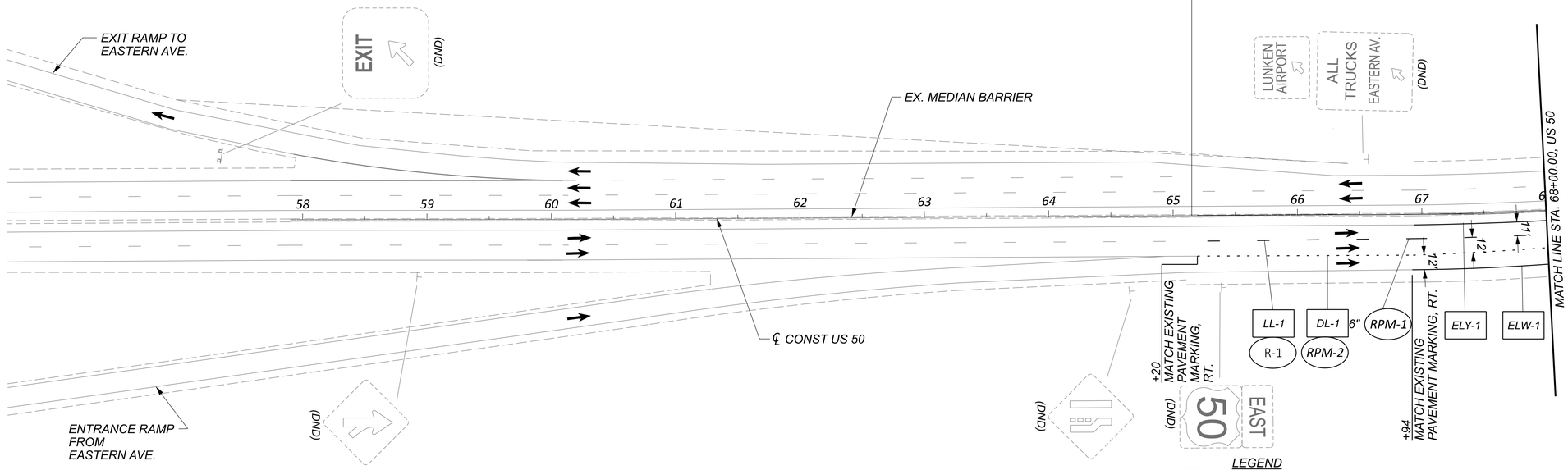
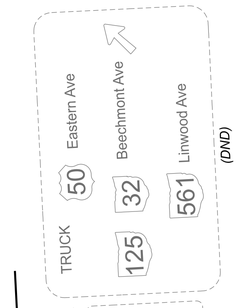
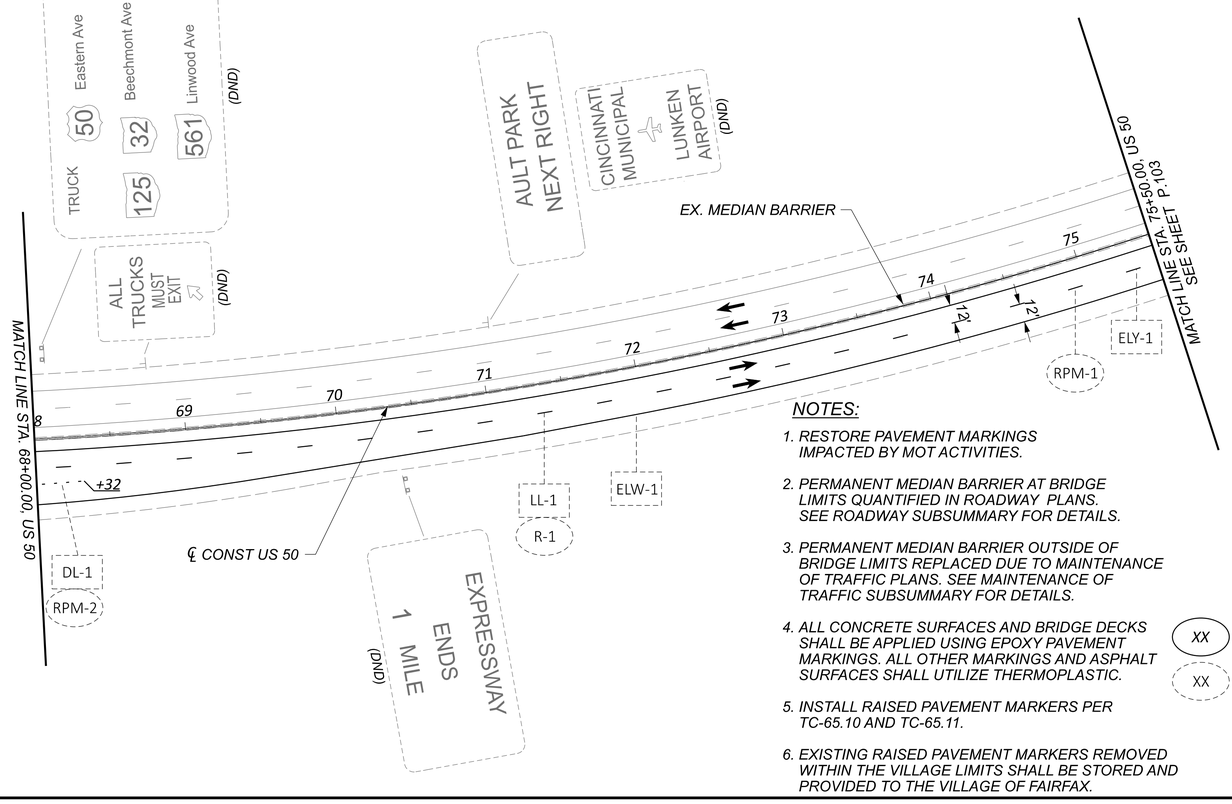
EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.







NOTES:

1. *RESTORE PAVEMENT MARKINGS IMPACTED BY MOT ACTIVITIES.*
2. *PERMANENT MEDIAN BARRIER AT BRIDGE LIMITS QUANTIFIED IN ROADWAY PLANS. SEE ROADWAY SUBSUMMARY FOR DETAILS.*
3. *PERMANENT MEDIAN BARRIER OUTSIDE OF BRIDGE LIMITS REPLACED DUE TO MAINTENANCE OF TRAFFIC PLANS. SEE MAINTENANCE OF TRAFFIC SUBSUMMARY FOR DETAILS.*
4. *ALL CONCRETE SURFACES AND BRIDGE DECKS SHALL BE APPLIED USING EPOXY PAVEMENT MARKINGS. ALL OTHER MARKINGS AND ASPHALT SURFACES SHALL UTILIZE THERMOPLASTIC.*
5. *INSTALL RAISED PAVEMENT MARKERS PER TC-65.10 AND TC-65.11.*
6. *EXISTING RAISED PAVEMENT MARKERS REMOVED WITHIN THE VILLAGE LIMITS SHALL BE STORED AND PROVIDED TO THE VILLAGE OF FAIRFAX.*

LEGEND

R	TO BE REMOVED
RPM	ITEM 621 - RPM, (ONE-WAY/TWO-WAY)
BR	ITEM 626 - BARRIER REFLECTOR, (TYPE 1/TYPE 2)
SL	ITEM 644 - STOP LINE, 24"
CM	ITEM 644 - CHEVRON MARKING, 24"
LA	ITEM 644 - LANE ARROW
ELW	ITEM 807 - WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6" (WHITE) ITEM 850 - GROOVING FOR 6" RECESSED PAVEMENT MARKING, (CONCRETE)
ELY	ITEM 807 - WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6" (YELLOW) ITEM 850 - GROOVING FOR 6" RECESSED PAVEMENT MARKING, (CONCRETE)
LL	ITEM 807 - WET REFLECTIVE EPOXY PAVEMENT MARKING, LANE LINE, 6" ITEM 850 - GROOVING FOR 6" RECESSED PAVEMENT MARKING, (CONCRETE)
CH	ITEM 807 - WET REFLECTIVE EPOXY PAVEMENT MARKING, CHANNELIZING LINE, 12" ITEM 850 - GROOVING FOR 12" RECESSED PAVEMENT MARKING, (CONCRETE)
DL 6"/12"	ITEM 807 - WET REFLECTIVE EPOXY PAVEMENT MARKING, DOTTED LINE, 12" ITEM 850 - GROOVING FOR 12" RECESSED PAVEMENT MARKING, (CONCRETE)
ELW	ITEM 807 - WET REFLECTIVE THERMOPLASTIC MARKING, EDGE LINE, 6" (WHITE) ITEM 850 - GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)
ELY	ITEM 807 - WET REFLECTIVE THERMOPLASTIC MARKING, EDGE LINE, 6" (YELLOW) ITEM 850 - GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)
LL	ITEM 807 - WET REFLECTIVE THERMOPLASTIC MARKING, LANE LINE, 6" ITEM 850 - GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)
CH	ITEM 807 - WET REFLECTIVE THERMOPLASTIC MARKING, CHANNELIZING LINE, 12" ITEM 850 - GROOVING FOR 12" RECESSED PAVEMENT MARKING, (ASPHALT)
DL 6"/12"	ITEM 807 - WET REFLECTIVE THERMOPLASTIC MARKING, DOTTED LINE, 6"/12" ITEM 850 - GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT) ITEM 850 - GROOVING FOR 12" RECESSED PAVEMENT MARKING, (ASPHALT)
XX XX XX	PAVEMENT MARKING, QUANTIFIED
XX XX XX	PAVEMENT MARKING, PREVIOUSLY QUANTIFIED
	EXISTING SIGN
(DND)	DO NOT DISTURB
	EXISTING SIGN POST
→	DIRECTION OF TRAFFIC

HORIZONTAL SCALE IN FEET
0 25 50 100

TRAFFIC CONTROL PLAN
US-50 - STA. 58+00 TO STA. 75+50

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE E, STE 1000
CLEVELAND, OHIO 44114

DESIGNER: HB
REVIEWER: SS 08/22/23
PROJECT ID: 110570
SHEET P.102 TOTAL 208

HAM-US 50-29.00

MODEL: MPIO| PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:41:12 PM USER: rjgreve
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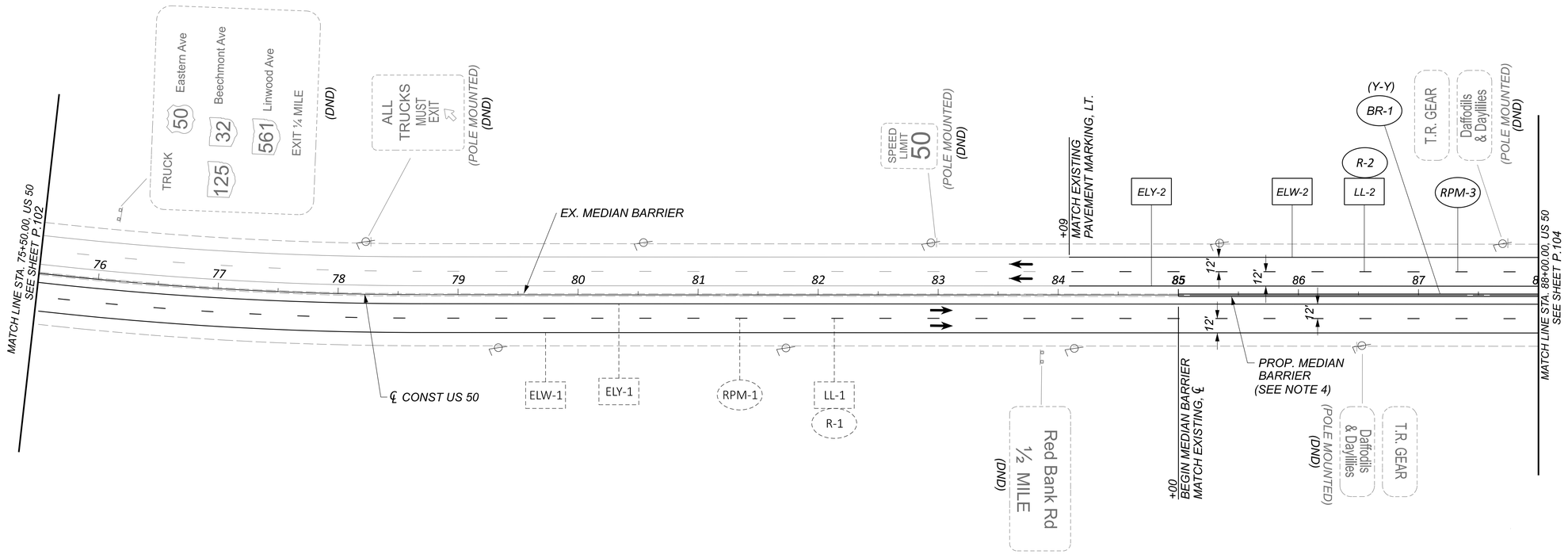

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

NOTES:

1. *FOR LEGEND, SEE SHEET P.102 .*
2. *RESTORE PAVEMENT MARKINGS IMPACTED BY MOT ACTIVITIES.*
3. *PERMANENT MEDIAN BARRIER AT BRIDGE LIMITS QUANTIFIED IN ROADWAY PLANS. SEE ROADWAY SUBSUMMARY FOR DETAILS.*
4. *PERMANENT MEDIAN BARRIER OUTSIDE OF BRIDGE LIMITS REPLACED DUE TO MAINTENANCE OF TRAFFIC PLANS. SEE MAINTENANCE OF TRAFFIC SUBSUMMARY FOR DETAILS.*
5. *ALL CONCRETE SURFACES AND BRIDGE DECKS SHALL BE APPLIED USING EPOXY PAVEMENT MARKINGS. ALL OTHER MARKINGS AND ASPHALT SURFACES SHALL UTILIZE THERMOPLASTIC.*
6. *INSTALL RAISED PAVEMENT MARKERS PER TC-65.10 AND TC-65.11.*
7. *EXISTING RAISED PAVEMENT MARKERS REMOVED WITHIN THE VILLAGE LIMITS SHALL BE STORED AND PROVIDED TO THE VILLAGE OF FAIRFAX.*

HORIZONTAL SCALE IN FEET
0 25 50 100

TRAFFIC CONTROL PLAN
US-50 - STA. 75+50 TO STA. 88+00

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER: HB
REVIEWER: SS 08/22/23
PROJECT ID: 110570
SHEET: P.103 TOTAL: 208

HAM-US 50-29.00

MODEL: MPI02 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:41:46 PM USER: rjgreve
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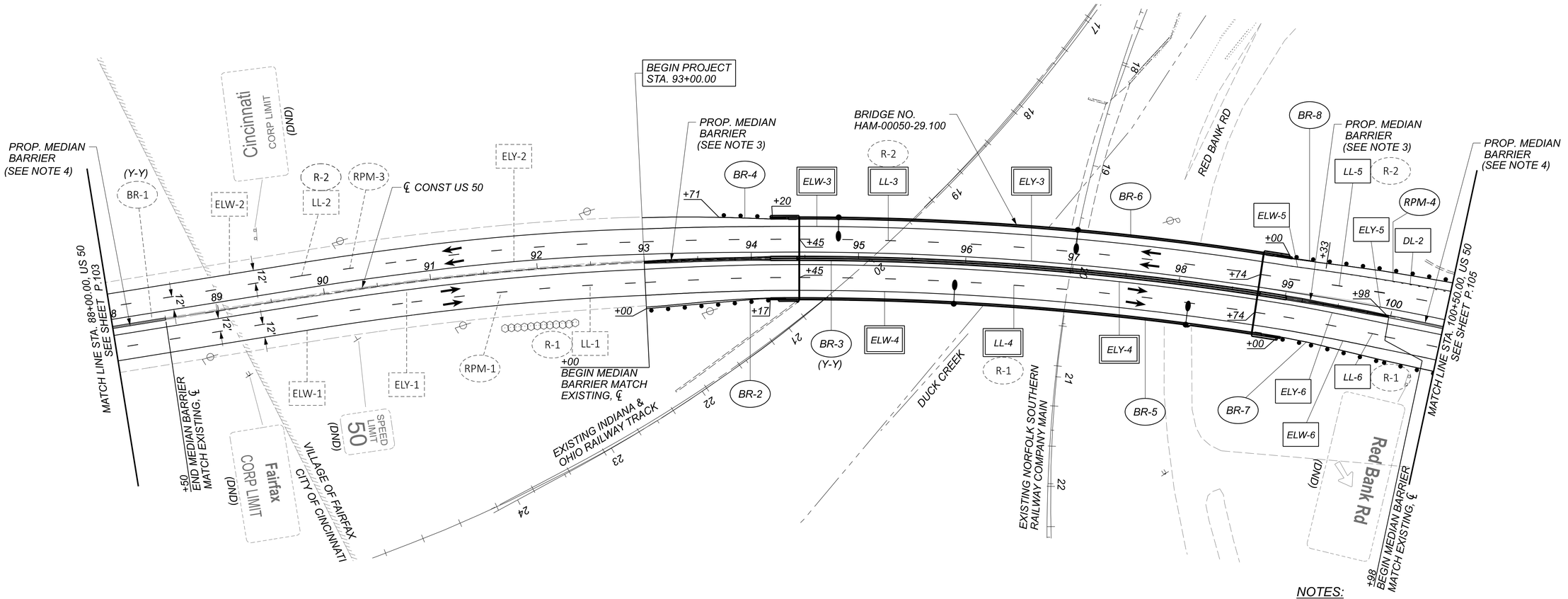

HORIZONTAL SCALE IN FEET
0 25 50 100

TRAFFIC CONTROL PLAN
US-50 - STA. 88+00 TO STA. 100+50

NOTES:

1. FOR LEGEND, SEE SHEET P.102 .
2. RESTORE PAVEMENT MARKINGS IMPACTED BY MOT ACTIVITIES.
3. PERMANENT MEDIAN BARRIER AT BRIDGE LIMITS QUANTIFIED IN ROADWAY PLANS. SEE ROADWAY SUBSUMMARY FOR DETAILS.
4. PERMANENT MEDIAN BARRIER OUTSIDE OF BRIDGE LIMITS REPLACED DUE TO MAINTENANCE OF TRAFFIC PLANS. SEE MAINTENANCE OF TRAFFIC SUBSUMMARY FOR DETAILS.
5. ALL CONCRETE SURFACES AND BRIDGE DECKS SHALL BE APPLIED USING EPOXY PAVEMENT MARKINGS. ALL OTHER MARKINGS AND ASPHALT SURFACES SHALL UTILIZE THERMOPLASTIC.
6. INSTALL RAISED PAVEMENT MARKINGS PER TC-65.10 AND TC-65.11.
7. EXISTING RAISED PAVEMENT MARKERS REMOVED WITHIN THE VILLAGE LIMITS SHALL BE STORED AND PROVIDED TO THE VILLAGE OF FAIRFAX.

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER HB

REVIEWER SS 08/22/23

PROJECT ID 110570

SHEET P.104 TOTAL 208

HAM-US 50-29.00

MODEL: 110570_BT103 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:59:19 PM USER: rjgreve
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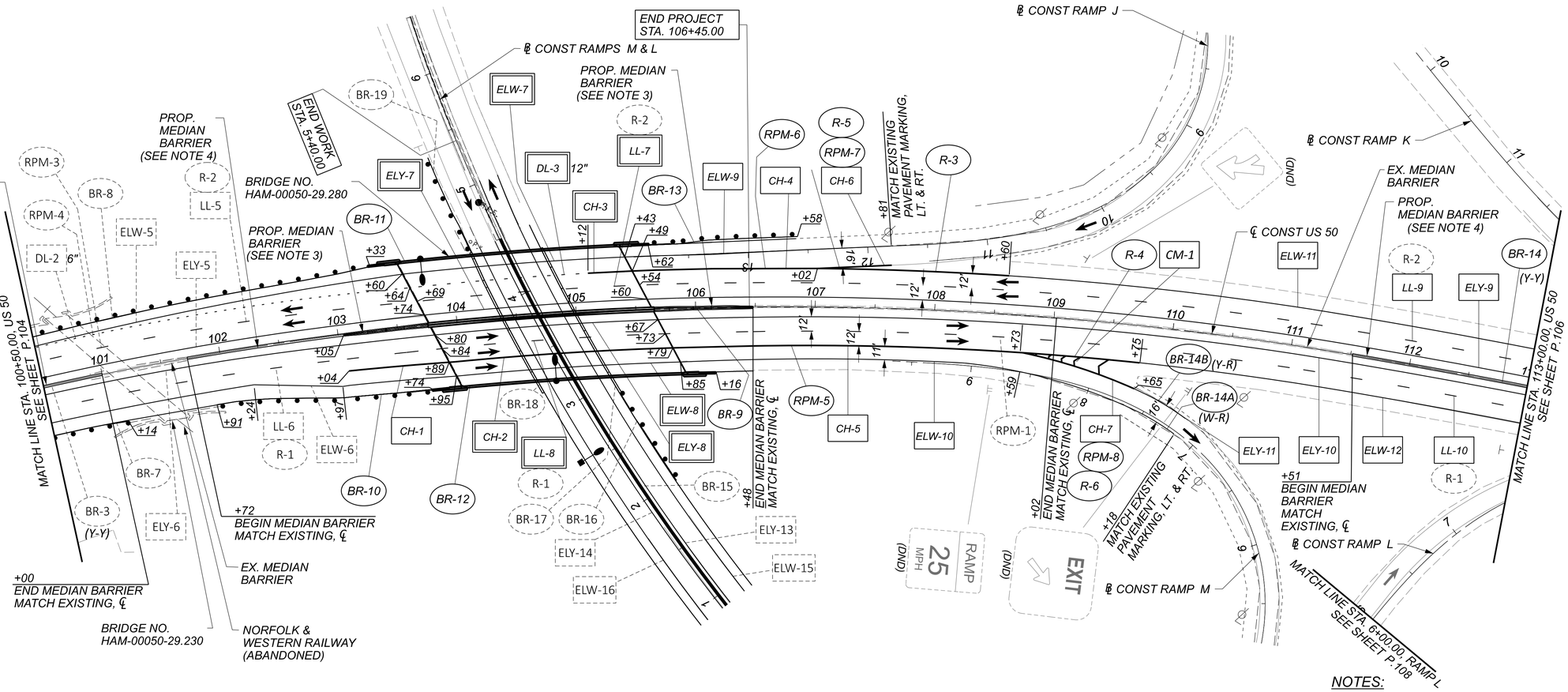

NOTES:

1. FOR LEGEND, SEE SHEET P.102 .
2. RESTORE PAVEMENT MARKINGS IMPACTED BY MOT ACTIVITIES.
3. PERMANENT MEDIAN BARRIER AT BRIDGE LIMITS QUANTIFIED IN ROADWAY PLANS. SEE ROADWAY SUBSUMMARY FOR DETAILS.
4. PERMANENT MEDIAN BARRIER OUTSIDE OF BRIDGE LIMITS REPLACED DUE TO MAINTENANCE OF TRAFFIC PLANS. SEE MAINTENANCE OF TRAFFIC SUBSUMMARY FOR DETAILS.
5. ALL CONCRETE SURFACES AND BRIDGE DECKS SHALL BE APPLIED USING EPOXY PAVEMENT MARKINGS. ALL OTHER MARKINGS AND ASPHALT SURFACES SHALL UTILIZE THERMOPLASTIC.
6. INSTALL RAISED PAVEMENT MARKERS PER TC-65.10 AND TC-65.11.
7. EXISTING RAISED PAVEMENT MARKERS REMOVED WITHIN THE VILLAGE LIMITS SHALL BE STORED AND PROVIDED TO THE VILLAGE OF FAIRFAX.

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

HORIZONTAL SCALE IN FEET
0 25 50 100

TRAFFIC CONTROL PLAN
US-50 - STA. 100+50 TO STA. 113+00

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE.E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER HB
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.105 TOTAL 208

HAM-US 50-29.00

MODEL: II0570_BTI04 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:15:52 PM USER: rjgreve
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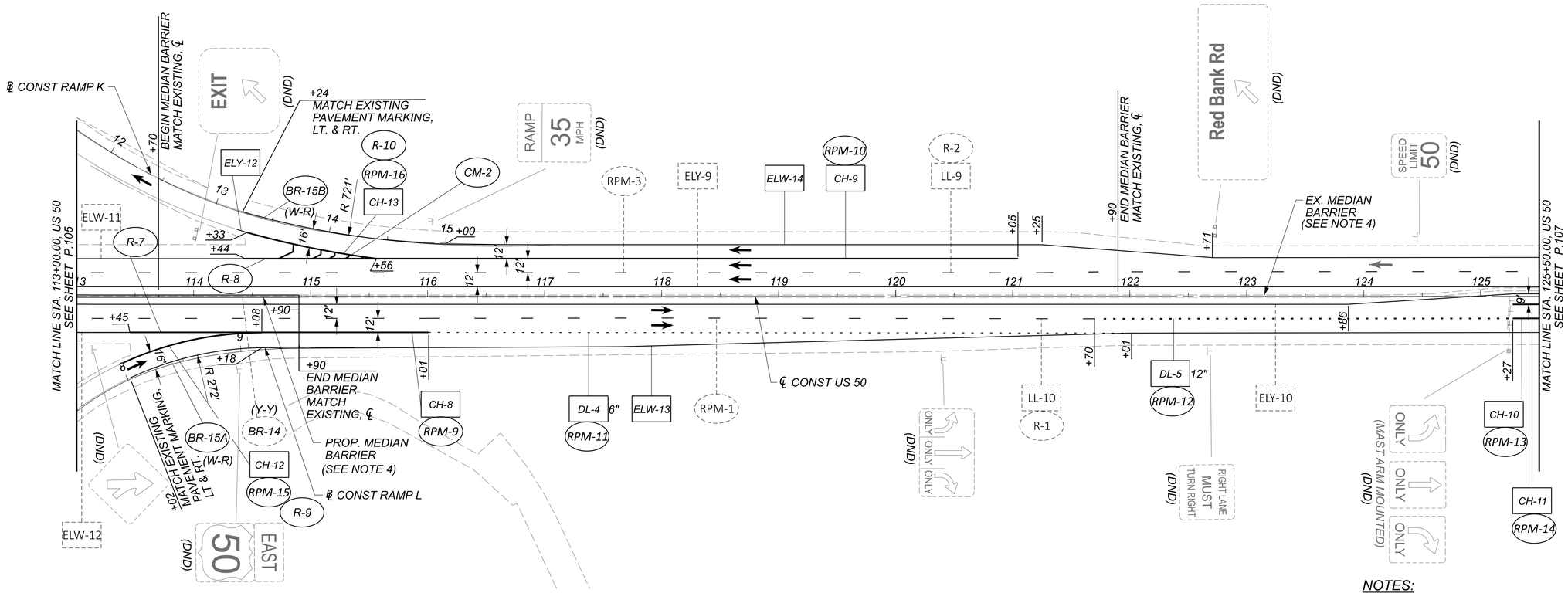

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

NOTES:

1. *FOR LEGEND, SEE SHEET P.102 .*
2. *RESTORE PAVEMENT MARKINGS IMPACTED BY MOT ACTIVITIES.*
3. *PERMANENT MEDIAN BARRIER AT BRIDGE LIMITS QUANTIFIED IN ROADWAY PLANS. SEE ROADWAY SUBSUMMARY FOR DETAILS.*
4. *PERMANENT MEDIAN BARRIER OUTSIDE OF BRIDGE LIMITS REPLACED DUE TO MAINTENANCE OF TRAFFIC PLANS. SEE MAINTENANCE OF TRAFFIC SUBSUMMARY FOR DETAILS.*
5. *ALL CONCRETE SURFACES AND BRIDGE DECKS SHALL BE APPLIED USING EPOXY PAVEMENT MARKINGS. ALL OTHER MARKINGS AND ASPHALT SURFACES SHALL UTILIZE THERMOPLASTIC.*
6. *INSTALL RAISED PAVEMENT MARKINGS PER TC-65.10 AND TC-65.11.*
7. *EXISTING RAISED PAVEMENT MARKERS REMOVED WITHIN THE VILLAGE LIMITS SHALL BE STORED AND PROVIDED TO THE VILLAGE OF FAIRFAX.*

HORIZONTAL SCALE IN FEET
0 25 50 100

TRAFFIC CONTROL PLAN
US-50 - STA. 113+00 TO STA. 125+50

DESIGN AGENCY
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER HB
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.106 TOTAL 208

HAM-US 50-29.00

MODEL: 110570_BT105 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:16:24 PM USER: rigreve
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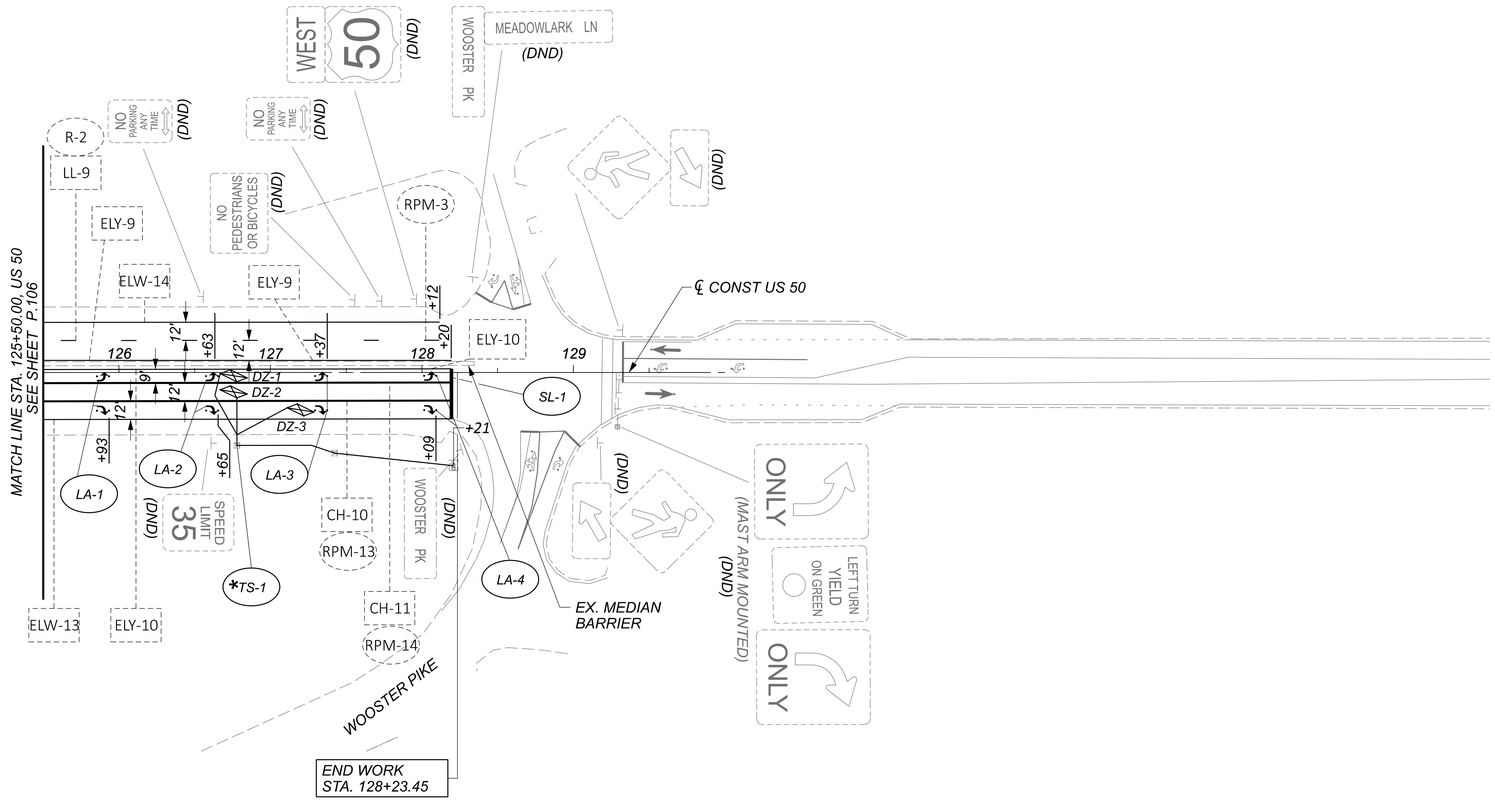

* *REPLACE LOOP DETECTORS AND LEAD-IN CABLES IN EXISTING LOCATIONS IMPACTED BY MOT/RESURFACING ACTIVITIES. EXISTING PULL BOXES AND CONTROLLER SHOWN FOR ILLUSTRATIVE AND QUANTITY PURPOSES ONLY.*

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

NOTES:

1. *FOR LEGEND, SEE SHEET P.102.*
2. *RESTORE PAVEMENT MARKINGS IMPACTED BY MOT ACTIVITIES.*
3. *PERMANENT MEDIAN BARRIER AT BRIDGE LIMITS QUANTIFIED IN ROADWAY PLANS. SEE ROADWAY SUBSUMMARY FOR DETAILS.*
4. *PERMANENT MEDIAN BARRIER OUTSIDE OF BRIDGE LIMITS REPLACED DUE TO MAINTENANCE OF TRAFFIC PLANS. SEE MAINTENANCE OF TRAFFIC SUBSUMMARY FOR DETAILS.*
5. *ALL CONCRETE SURFACES AND BRIDGE DECKS SHALL BE APPLIED USING EPOXY PAVEMENT MARKINGS. ALL OTHER MARKINGS AND ASPHALT SURFACES SHALL UTILIZE THERMOPLASTIC.*
6. *INSTALL RAISED PAVEMENT MARKERS PER TC-65.10 AND TC-65.11.*
7. *EXISTING RAISED PAVEMENT MARKERS REMOVED WITHIN THE VILLAGE LIMITS SHALL BE STORED AND PROVIDED TO THE VILLAGE OF FAIRFAX.*

HORIZONTAL SCALE IN FEET
0 25 50 100

TRAFFIC CONTROL PLAN
US-50 - STA. 125+50 TO STA. 129+00

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER: HB
REVIEWER: SS 08/22/23
PROJECT ID: 110570
SHEET: P.107 TOTAL: 208

HAM-US 50-29.00

MODEL: II0570_BTI06 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:16:57 PM USER: rjgreve
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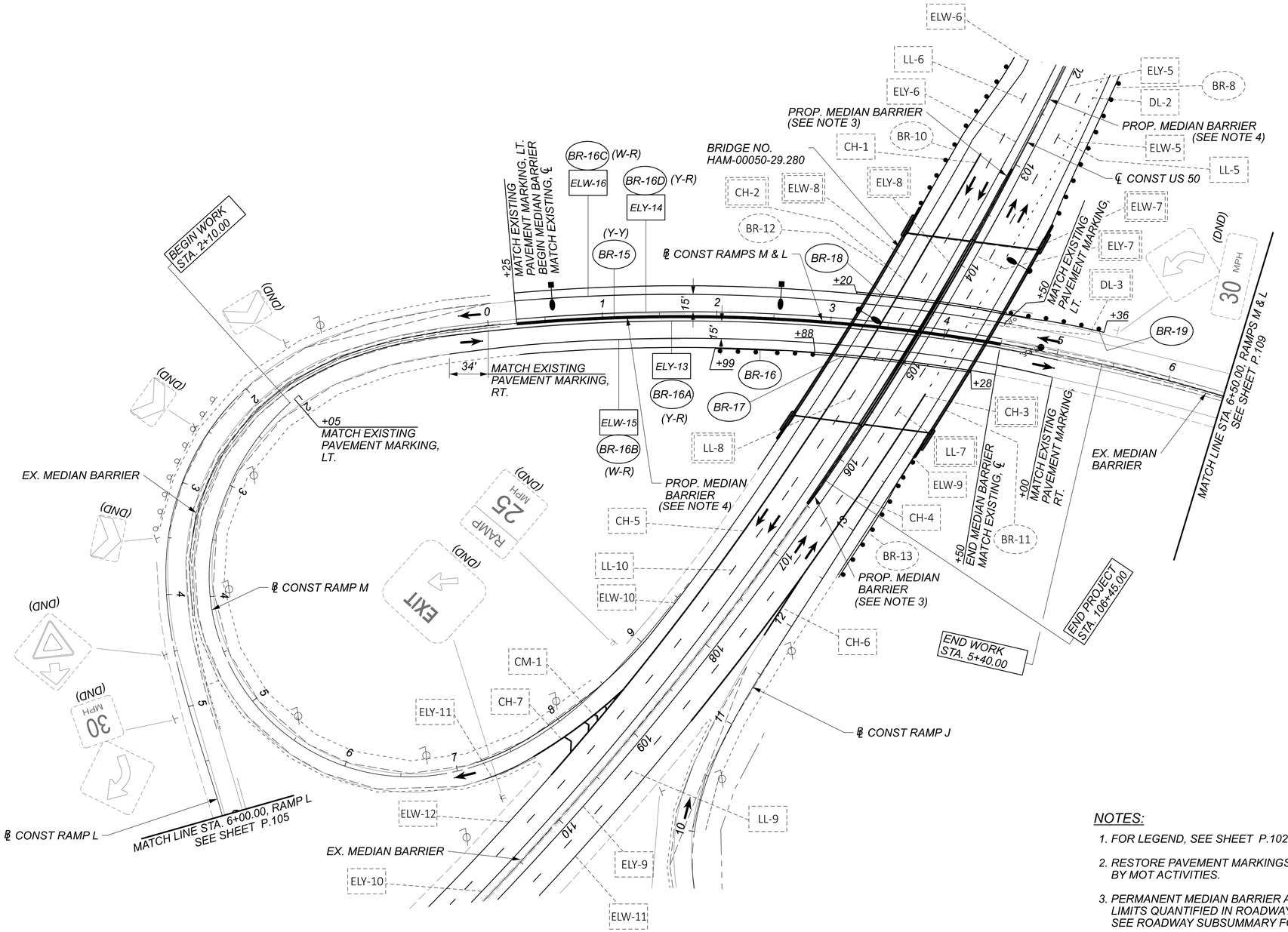

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

NOTES:

1. FOR LEGEND, SEE SHEET P.102.
2. RESTORE PAVEMENT MARKINGS IMPACTED BY MOT ACTIVITIES.
3. PERMANENT MEDIAN BARRIER AT BRIDGE LIMITS QUANTIFIED IN ROADWAY PLANS. SEE ROADWAY SUBSUMMARY FOR DETAILS.
4. PERMANENT MEDIAN BARRIER OUTSIDE OF BRIDGE LIMITS REPLACED DUE TO MAINTENANCE OF TRAFFIC PLANS. SEE MAINTENANCE OF TRAFFIC SUBSUMMARY FOR DETAILS.
5. ALL CONCRETE SURFACES AND BRIDGE DECKS SHALL BE APPLIED USING EPOXY PAVEMENT MARKINGS. ALL OTHER MARKINGS AND ASPHALT SURFACES SHALL UTILIZE THERMOPLASTIC.
6. INSTALL RAISED PAVEMENT MARKERS PER TC-65.10 AND TC-65.11.

HORIZONTAL SCALE IN FEET
0 25 50 100

TRAFFIC CONTROL PLAN
EX RAMP L - STA. 6+00 TO RAMPS M & L STA. 6+50

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	HB
REVIEWER	SS 08/22/23
PROJECT ID	110570
SHEET	P.108
TOTAL	208

HAM-US 50-29.00

MODEL: I0570_BTI07 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:17:30 PM USER: rjgreve
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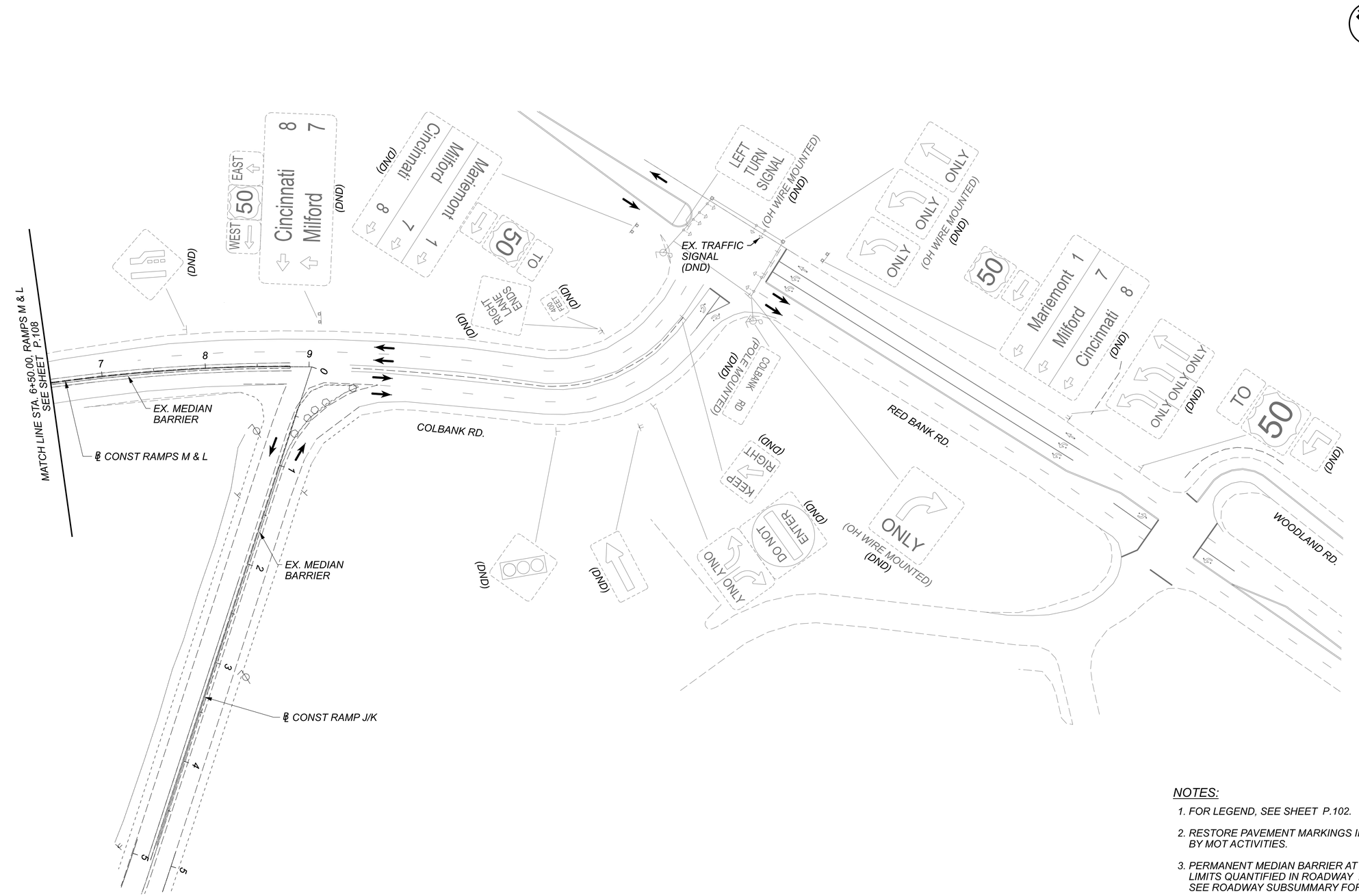

HORIZONTAL SCALE IN FEET
0 25 50 100

TRAFFIC CONTROL PLAN
RAMPS M & L - STA. 6+50 TO 9+00

NOTES:

1. *FOR LEGEND, SEE SHEET P.102.*
2. *RESTORE PAVEMENT MARKINGS IMPACTED BY MOT ACTIVITIES.*
3. *PERMANENT MEDIAN BARRIER AT BRIDGE LIMITS QUANTIFIED IN ROADWAY PLANS. SEE ROADWAY SUBSUMMARY FOR DETAILS.*
4. *PERMANENT MEDIAN BARRIER OUTSIDE OF BRIDGE LIMITS REPLACED DUE TO MAINTENANCE OF TRAFFIC PLANS. SEE MAINTENANCE OF TRAFFIC SUBSUMMARY FOR DETAILS.*
5. *ALL CONCRETE SURFACES AND BRIDGE DECKS SHALL BE APPLIED USING EPOXY PAVEMENT MARKINGS. ALL OTHER MARKINGS AND ASPHALT SURFACES SHALL UTILIZE THERMOPLASTIC.*
6. *INSTALL RAISED PAVEMENT MARKINGS PER TC-65.10 AND TC-65.11.*

EXISTING INFORMATION SHOWN ON THIS SHEET FOR ILLUSTRATIVE AND MOT PURPOSES ONLY OUTSIDE THE LIMITS OF BRIDGE SURVEY.

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER HB
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.109 TOTAL 208

HAM-US 50-29.00

MODEL: II0570_BT108 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:18:02 PM USER: rjgreve
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SPECIAL, MAINTAIN EXISTING LIGHTING

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND WHICH ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF THE EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF EXISTING LIGHTING SHALL BE MADE BY ODOT'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE NOT STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE THE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT SHALL BE MADE AND SIGNED AS OUTLINED HEREIN.

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS.

REPLACEMENT OF KNOCKED DOWNED UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A UNIT BASIS.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENT.

WHEN THE SEQUENCE OF CONSTRUCTION ACTIVITIES REQUIRES, OR SHOULD THE CONTRACTOR DESIRE, THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY LIGHTING OF THIS PORTION OF THE ROADWAY.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR SETS OF THE TEMPORARY LIGHTING PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATIONS OF POLES, LENGTHS OF BRACKET ARMS, STYLES OF LUMINAIRES, MOUNTING HEIGHTS, WIRING METHODS AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 3:1. MOUNTING HEIGHT OF TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 30 FEET, AND THE MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "B" FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THESE CRITERIA, THEN UNDERGROUND WIRING SHALL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING.

SPECIAL, MAINTAIN EXISTING LIGHTING (CONTINUED)

ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE OF THE LIGHTING WORK. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "MAINTAIN EXISTING LIGHTING" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

THE UNIT PRICE BID FOR ITEM SPECIAL "REPLACEMENT OF EXISTING LIGHTING UNIT" SHALL BE FULL PAYMENT FOR THE REPLACEMENT OF AN EXISTING LIGHTING UNIT WHICH HAS BEEN KNOCKED DOWN AFTER THE AFOREMENTIONED INSPECTION AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REPLACEMENT FOR SUCH UNIT.

ITEM 625 - SPECIAL - REPLACEMENT OF EXISTING LIGHTING UNIT
3 EACH

625, PULL BOX CLEANED

THIS ITEM OF WORK SHALL CONSIST OF CLEANING AN EXISTING PULL BOX BY REMOVING ANY EXISTING CABLES NOT BEING RECONNECTED, AND DEBRIS SO THAT NEW CABLES CAN BE INSTALLED. ANY UNUSED OPENINGS SHALL BE CLOSED. DISTURBED AREAS NEAR THE PULL BOX SHALL BE CLEARED OF WEEDS OR DEBRIS AND SHALL BE FULLY RESTORED. MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF OF THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER C&MS ITEM 625, "PULL BOX CLEANED" FOR EACH PULL BOX CLEANED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

625, CONDUIT CLEANED AND CABLES REMOVED

THIS ITEM SHALL CONSIST OF CLEANING AN EXISTING CONDUIT BY REMOVING EXISTING CABLES, MUD AND DEBRIS SO THAT NEW CABLE CAN BE INSTALLED. INCIDENTAL TO THE CLEANING IS THE INSTALLATION OF BUSHINGS AND/OR COUPLINGS ON THE ENDS OF EXISTING CONDUIT AS REQUIRED. MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR FOR PROPER DISPOSAL OFF OF THE PROJECT SITE. DISTURBED AREAS SHALL BE PROPERLY RESTORED.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER C&MS ITEM 625, "CONDUIT CLEANED AND CABLES REMOVED" PER FOOT OF CONDUIT CLEANED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

LIGHT POLE ANCHOR BOLTS ON STRUCTURES

WHEN A LIGHT POLE IS MOUNTED ON A PILASTER ON A BRIDGE PARAPET OR ON A RETAINING WALL, THE REQUIRED ANCHOR BOLTS MAY DIFFER IN LENGTH AND/OR SHAPE FROM THOSE REQUIRED WHEN THE POLE IS MOUNTED ON A CAST-IN-PLACE DRILLED SHAFT FOUNDATION. THE COST DIFFERENTIAL FOR FURNISHING SUCH BOLTS IS INCLUDED HEREIN.

IN ADDITION, THERE IS NO FOUNDATION CONSTRUCTION ITEM IN WHICH TO INCLUDE THE SETTING OF THE ANCHOR BOLTS. THUS, THE SETTING OF THE ANCHOR BOLTS INTO THE PILASTER IS ALSO PART OF THIS WORK.

PAYMENT WILL BE MADE AT EACH SUCH POLE LOCATION AT THE UNIT PRICE BID FOR EACH C&MS ITEM 625, "LIGHT POLE ANCHOR BOLTS ON STRUCTURE" AND SHALL BE FULL COMPENSATION FOR FURNISHING AND PLACING THE SET OF ANCHOR BOLTS REQUIRED.

HIGH VOLTAGE TEST WAIVED

THE HIGH VOLTAGE TEST SHALL NOT BE PERFORMED ON THE CIRCUITS CONSTRUCTED BY THIS PROJECT, SINCE THE TEST COULD DAMAGE THE PORTION OF THE COMPLETED CIRCUIT WHICH HAS BEEN IN SERVICE PRIOR TO THIS PROJECT.

PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH C&MS 631.06. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

625, POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE SPECIFICATIONS, THE FOLLOWING IS ADDED.

THE EXISTING POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

POWER COMPANY: DUKE ENERGY – ELECTRIC DISTRIBUTION

ADDRESS: 2010 DANA AVE, ROOM EF324,
CINCINNATI, OH 45207

PHONE #: (513)-508-9609

CONTACT NAME: SHANE ERHART

THE ENGINEER SHALL ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT THE BILLING ADDRESS IS TO THE MAINTAINING AGENCY NOTED IN THE PLANS. THIS SHALL BE DONE NOT ONLY FOR EACH NEW POWER SERVICE ESTABLISHED BY THIS PROJECT BUT ALSO FOR EACH EXISTING POWER SERVICE, SINCE THERE MAY BE A REASSIGNMENT OF THE RESPONSIBILITY FOR AN EXISTING SERVICE AS A RESULT OF THE WORK PERFORMED BY THIS PROJECT.

AN ELECTRIC METER BASE SHALL BE FURNISHED BY THE APPLICABLE UTILITY AND INSTALLED BY THE CONTRACTOR AS PART OF THE POWER SERVICE WORK FOR THE EXISTING POWER SERVICES TO REMAIN.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH C&MS ITEM 625, "POWER SERVICE, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

CONDUIT EXPANSION AND DEFLECTION

EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XJG, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE EITHER 4 OR 8 INCHES TOTAL MOVEMENT AS SPECIFIED BY THE PLAN DETAILS AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

DEFLECTION COUPLINGS SHALL BE OZ TYPE DX, CROUSE HINDS TYPE XD, OR EQUAL APPROVED BY THE ENGINEER. EACH DEFLECTION COUPLING SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS. MINIMUM DEFLECTION CAPABILITY: 25 DEGREES.

EXPANSION AND DEFLECTION FITTINGS FULLY OR PARTIALLY EMBEDDED IN CONCRETE, SOIL, OR SIMILAR MATERIAL SHALL BE COMPLETELY WRAPPED IN A NEOPRENE SLEEVE OR SHEET OF 1/2-INCH MINIMUM THICKNESS. SECURE NEOPRENE WRAP WITH TIE-WRAPS PRIOR TO EMBEDMENT OF THE FITTING.

625, REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF INSTALLING AN EXISTING LIGHT POLE REMOVED FROM THE PREVIOUS LOCATION ON THE PROJECT OR SUPPLIED TO THE PROJECT SITE BY OTHERS.

THE LIGHT POLE SHALL BE CLEANED AND REPAIRS NEEDED FOR THE POLE TO BE IN GOOD SERVICEABLE CONDITION MADE. THE EXISTING POLE NUMBER DECAL SHALL BE REMOVED IF IT IS IN POOR CONDITION OR THE POLE NUMBER HAS CHANGED. A POLE NUMBER DECAL SHALL BE SUPPLIED AND APPLIED IF THE EXISTING DECAL IS REMOVED OR MISSING.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER ITEM 625, "REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN" FOR EACH POLE INSTALLED AND SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM IN A WORKMANLIKE MANNER.

625, REMOVAL OF LUMINAIRE AND REERECTION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF REPLACING EXISTING LUMINAIRES REMOVED FROM THE CURRENT LOCATION ON THE PROJECT OR SUPPLIED TO THE PROJECT SITE BY OTHERS.

THE DEFECTIVE/EXISTING LUMINAIRES SHALL BE REMOVED AND REPLACED IN GOOD SERVICEABLE CONDITION MADE. THE EXISTING LUMINAIRE NUMBER DECAL SHALL BE REMOVED IF IT IS IN POOR CONDITION OR THE NUMBER HAS CHANGED. A NUMBER DECAL SHALL BE SUPPLIED AND APPLIED IF THE EXISTING DECAL IS REMOVED OR MISSING.

WHEN REQUIRED, NEW CONNECTIONS SHALL BE FURNISHED AS PART OF THIS ITEM. PROVIDE A LUMINAIRE COMPATIBLE WITH THE LIGHTING BRANCH CIRCUIT SHOWN IN THE PLANS.

THE LUMINAIRE SHALL COMPLY WITH ODOT OFFICE OF ROADWAY ENGINEERING APPROVED LIST, SUPPLEMENTAL SPECIFICATION 813, ODOT SUPPLEMENT 1114, ODOT SUPPLEMENTAL SPEC 913, AND SCD FOR UNDERPASS LIGHTING THAT MEETS OR EXCEED THE EXISTING LUMINAIRE SPECS INCLUDING BUT NOT LIMITED TO LUMEN OUTPUT.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER ITEM 625, "REMOVAL OF LUMINAIRE AND REERECTION, AS PER PLAN" FOR EACH LUMINAIRE INSTALLED AND SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM IN A WORKMANLIKE MANNER.

LIGHTING GENERAL NOTES

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER HB

REVIEWER SS 08/22/23

PROJECT ID 110570

SHEET P.110 TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:18:32 PM USER: rjgreve
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REF NO.	SHEET NO.	ALIGNMENT	STATION TO STATION		SIDE		625 CONNECTION, FUSED PULL APART	625 CONNECTION, UNFUSED PERMANENT	625 LIGHT POLE ANCHOR BOLTS ON STRUCTURE	625 LIGHT POLE FOUNDATION	625 NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	625 NO. 10 AWG POLE AND BRACKET CABLE	625 CONDUIT, 2", 725.04	625 CONDUIT, 3", 725.051	625 REMOVAL OF LUMINAIRE AND REERECTION, AS PER PLAN	625 CONDUIT CLEANED AND CABLES REMOVED	625 TRENCH	625 STRUCTURE JUNCTION BOX	625 PULL BOX, 725.08, 18"	625 PULL BOX REMOVED	625 GROUND ROD	625 STRUCTURE GROUNDING SYSTEM	625 POWER SERVICE, AS PER PLAN	625 REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN	625 UNDERGROUND WARNING/MARKING TAPE	625 PULL BOX CLEANED		625 LIGHT POLE FOUNDATION REMOVED
			FROM	TO			EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	EACH		EACH
			BRIDGE NO. HAM-00050-29.100																									
L1	P.112	US-50	PB-5	LP-8				3			270		80													1		
L2	P.112	US-50	LP-8	LP-9			3		1		705	30	225		1			1			1			1				
L3-L4	P.112	US-50	LP-9	PB-4			3		1		645	30	205		1			1			1			1				
L5	P.112	US-50	PB-2	LP-3				3			555		175													1		
L6	P.112	US-50	LP-3	LP-2			3		1		690	30	220		1			1			1			1				
L7	P.112	US-50	LP-2	PB-1			3		1		990	30	320		1			1		1	1			1				
L8	P.112	US-50	PB-1	CC-1				3			100								1				1					
L9	P.112	US-50	96+50																			1						
L9A	P.112	US-50	PB-1	CC-1							240			70														
L23	P.112	US-50	LP-1	PB-1			3			1	440	30		131	1		131				1			1	131			1
			BRIDGE NO. HAM-00050-29.280																									
L10	P.113	US-50	PB-3	LP-23				3			240					70	70									70	1	
L11-12	P.113	US-50	LP-23	PB-5			3	3	1		630	30	200		1	10		1	1		1			1			1	
L13	P.113	US-50	PB-2	LP-22				3			360					110	110									110	1	
L14-15	P.113	US-50	LP-22	PB-6			3	3	1		435	30	135		1	10		1	1		1			1			1	
L16	P.113	US-50	104+68																			1						
L20	P.113	RAMPS M &L	LP-40					3		1	645	30		205	1		205				1			1	205			1
L21	P.113	RAMPS M &L	LP-41					3		1		30			1						1			1				1
L22	P.113	RAMPS M &L	UP-A-2-14												1													
TOTALS CARRIED TO GENERAL SUMMARY							21	27	6	2	6945	270	1560	406	10	200	516	6	3	1	9	2	1	9	516	6		3

LIGHTING SUBSUMMARY

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 2/2/2024 TIME: 7:02:22 AM USER: gfreeman
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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

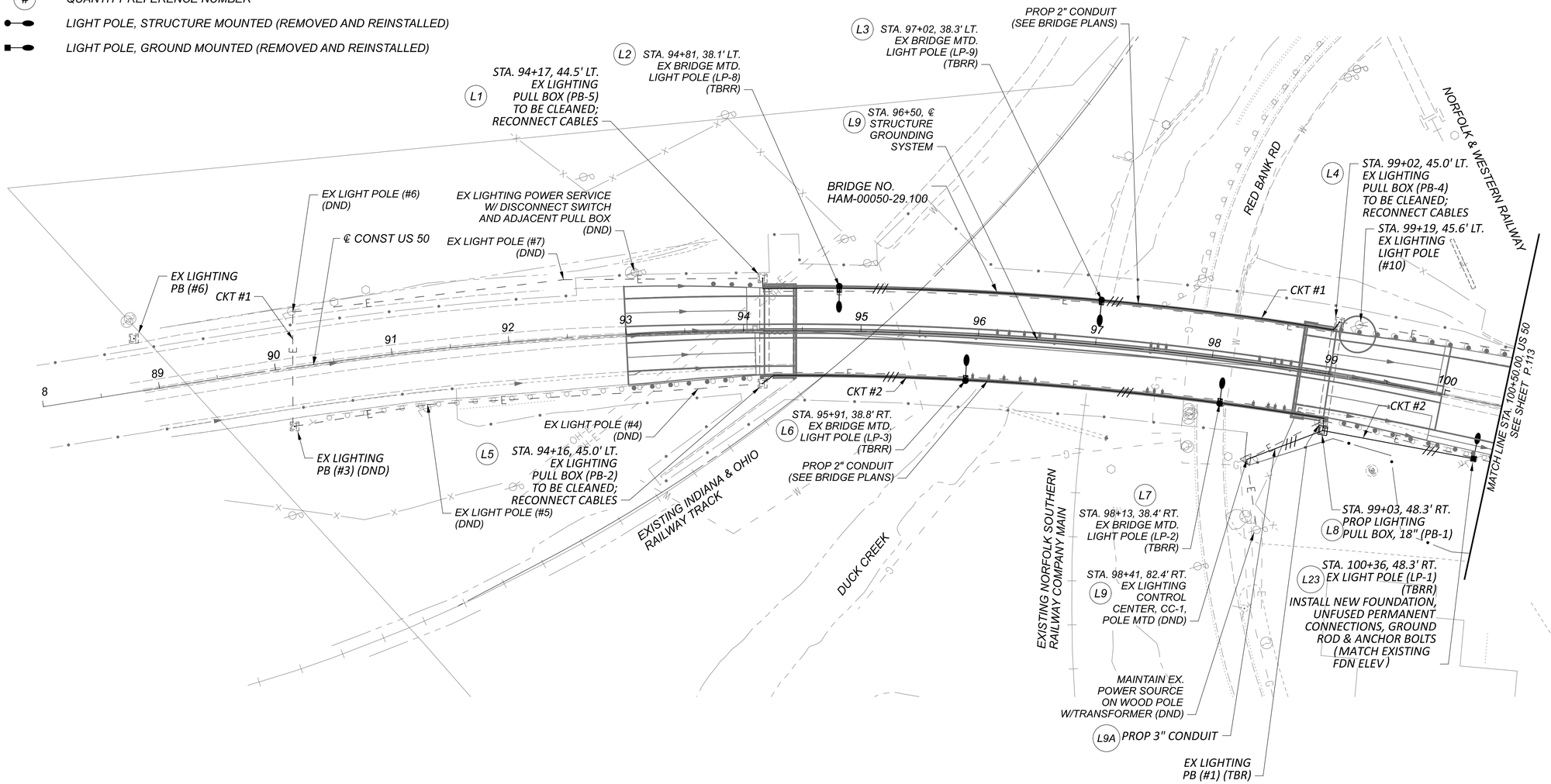
DESIGNER HB

REVIEWER SS 08/22/23

PROJECT ID 110570

LIGHTING PLAN SHEET LEGEND

EXISTING	PROPOSED	
ϕ		UTILITY POLE
		PULL BOX / JUNCTION BOX (SIZE AS INDICATED)
△		CONTROL CENTER
—E—	///	DISTRIBUTION CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES
		CONDUIT (TYPE, SIZE & INSTALLATION AS CODED)
	(#)	QUANTITY REFERENCE NUMBER
		LIGHT POLE, STRUCTURE MOUNTED (REMOVED AND REINSTALLED)
		LIGHT POLE, GROUND MOUNTED (REMOVED AND REINSTALLED)



NOTES:

1. MAINTAIN EXISTING POWER SERVICE AS NOTED ON THE PLANS.
2. EXISTING LIGHTING CIRCUIT INFORMATION OBTAINED FROM PROJECT HAM-(28.13)(29.83) AS BUILT DRAWINGS. CONTRACTOR TO FIELD VERIFY CIRCUIT/ROUTING.
3. BRIDGE MOUNTED LIGHT POLES AND JUNCTION BOXES SHALL BE INSTALLED PER SCD HL-20.14. SEE BRIDGE PLANS FOR ADDITIONAL DETAILS OR QUANTITIES.

HORIZONTAL SCALE IN FEET
0 25 50 100

LIGHTING PLAN
US-50 - STA. 88+00 TO STA. 100+50

HAM-US 50-29.00

MODEL: 110570_MP203 PAPERSIZE: 34x22 (in.) DATE: 2/2/2024 TIME: 6:56:46 AM USER: gfreeman
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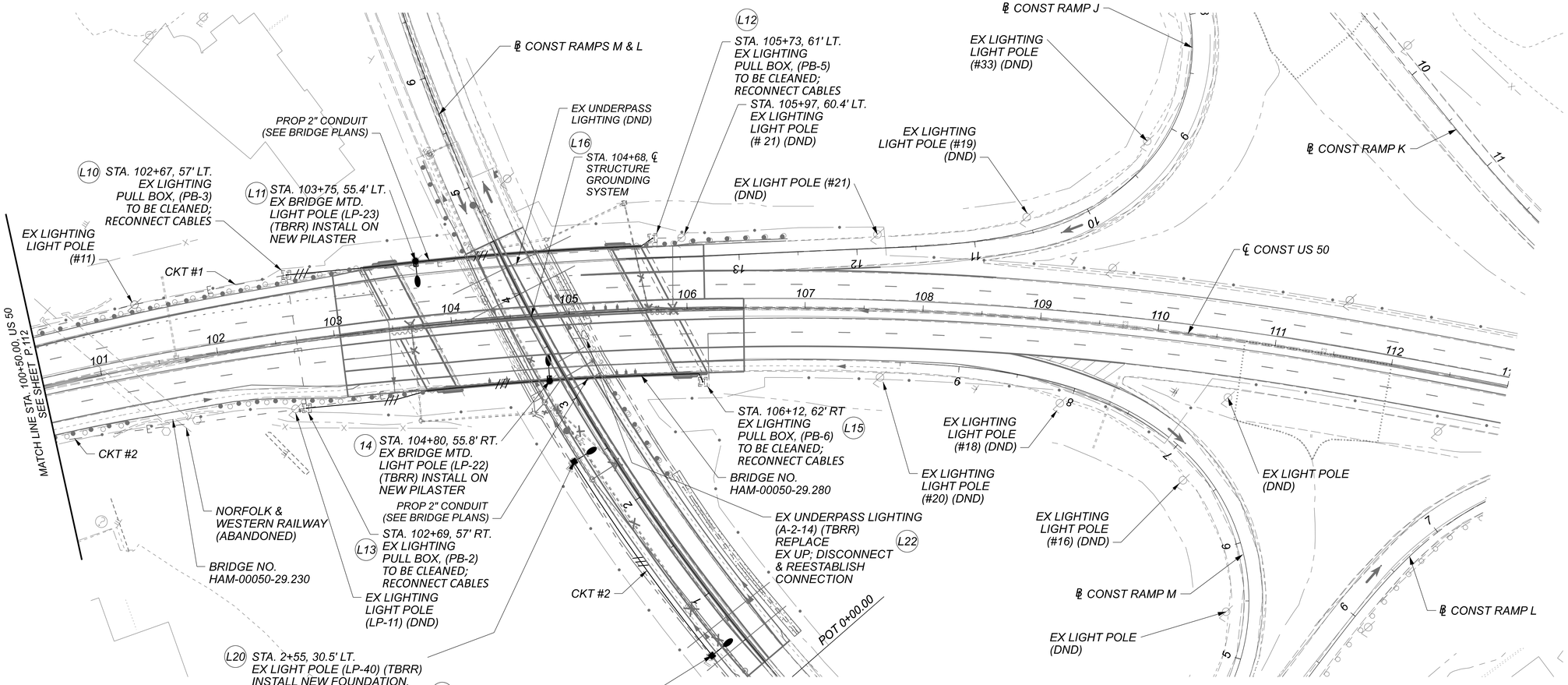
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	
NE	
REVIEWER	
SS	08/22/23
PROJECT ID	
110570	
SHEET	TOTAL
P.112	208



NOTES:

1. *FOR LEGEND, SEE SHEET P.112.*
2. *MAINTAIN EXISTING POWER SERVICE AS NOTED ON THE PLANS.*
3. *EXISTING LIGHTING CIRCUIT INFORMATION OBTAINED FROM PROJECT HAM-(28.13)(29.83) AS BUILT DRAWINGS. CONTRACTOR TO FIELD VERIFY CIRCUIT/ROUTING.*
4. *BRIDGE MOUNTED LIGHT POLES AND JUNCTION BOXES SHALL BE INSTALLED PER SCD HL-20.14. SEE BRIDGE PLANS FOR ADDITIONAL DETAILS OR QUANTITIES.*

HORIZONTAL SCALE IN FEET
0 25 50 100

LIGHTING PLAN
RAMPS M & L - STA. 1+00 TO 6+00

HAM-US 50-29.00

MODEL: 110570_MP204 PAPERSIZE: 34x22 (in) DATE: 10/27/2023 TIME: 12:20:11PM USER: rjgreve
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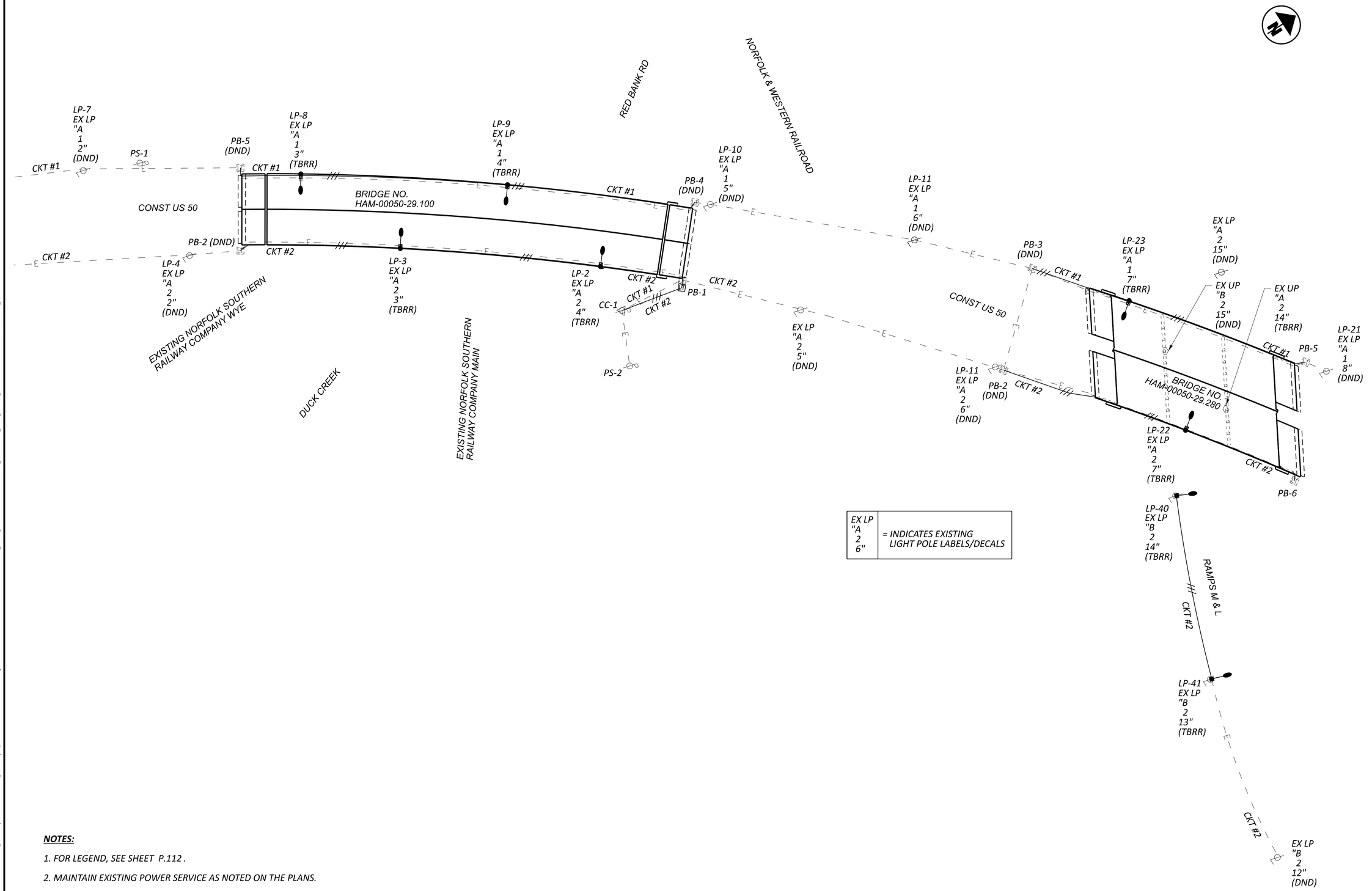
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER NE
REVIEWER SS 08/22/23
PROJECT ID 110570
SHEET P.113 TOTAL 208



EX LP "A 2 6"	= INDICATES EXISTING LIGHT POLE LABELS/DECALS

NOTES:

1. *FOR LEGEND, SEE SHEET P.112 .*
2. *MAINTAIN EXISTING POWER SERVICE AS NOTED ON THE PLANS.*
3. *EXISTING LIGHTING CIRCUIT INFORMATION OBTAINED FROM PROJECT HAM-(28.13)(29.83) AS BUILT DRAWINGS. CONTRACTOR TO FIELD VERIFY CIRCUIT/ROUTING.*
4. *BRIDGE MOUNTED LIGHT POLES AND JUNCTION BOXES SHALL BE INSTALLED PER SCD HL-20.14. SEE BRIDGE PLANS FOR ADDITIONAL DETAILS OR QUANTITIES.*

HORIZONTAL SCALE IN FEET
0 25 50 100

CIRCUIT DIAGRAM
US-50 & RAMPS M & L

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER NE

REVIEWER SS 08/22/23

PROJECT ID 110570

SHEET P.114 TOTAL 208

HAM-US 50-29.00

MODEL: I10570_MP203 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:20:44 PM USER: rjgreve
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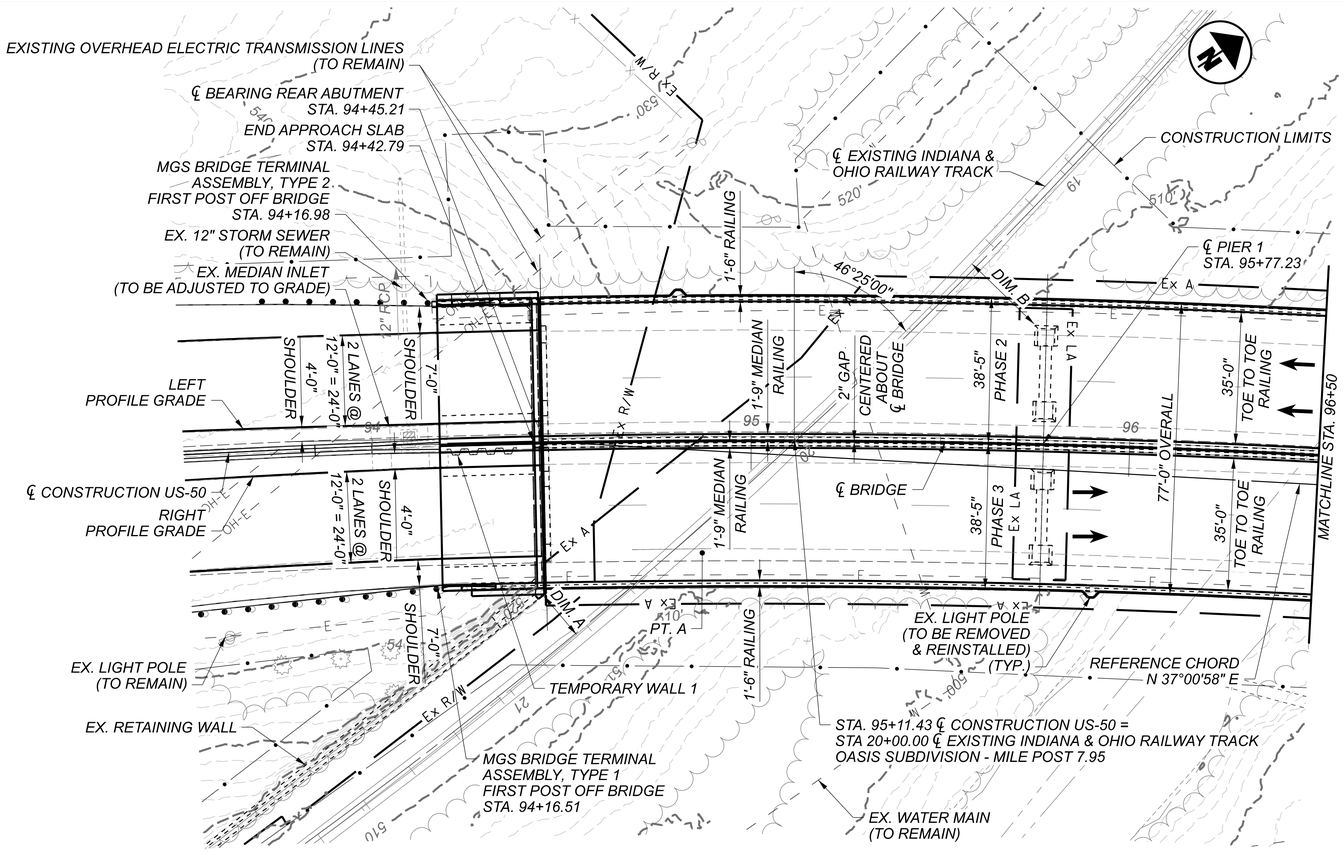


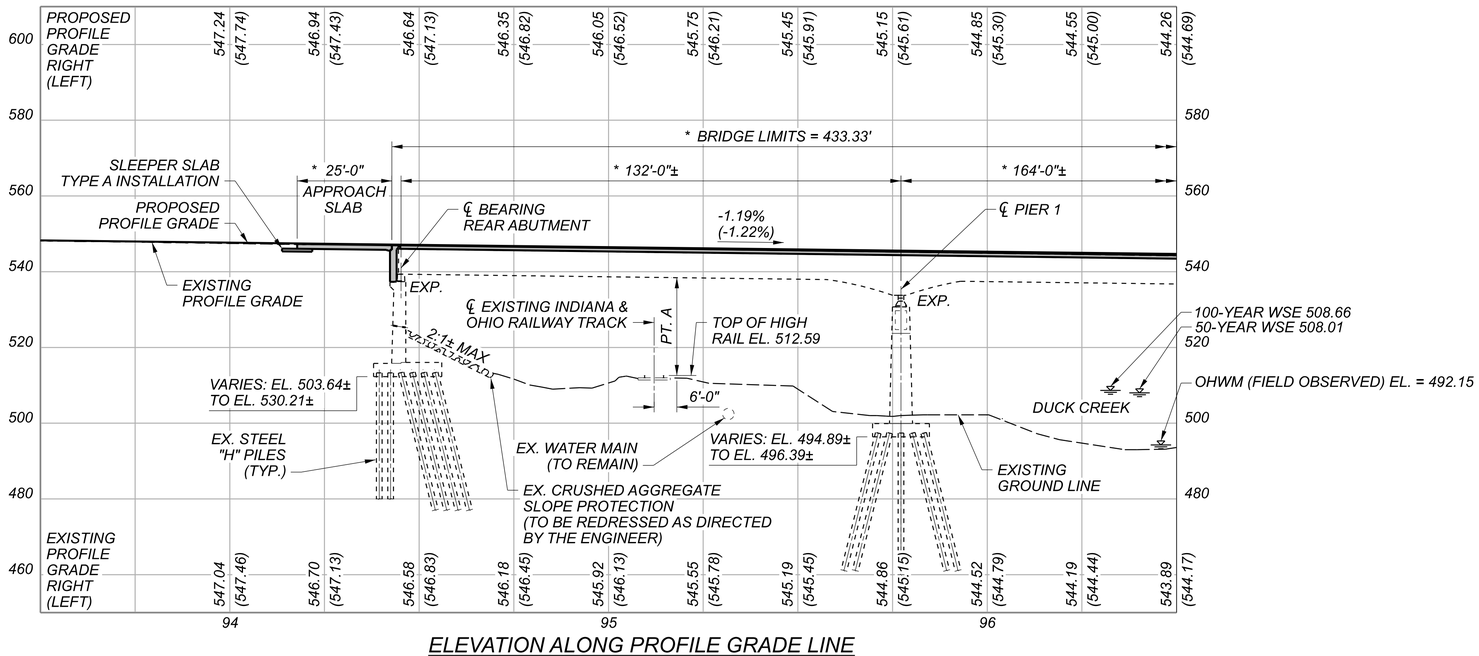
PLAN

AREA OF SUITABLE WOODED HABITAT FOR ENDANGERED BAT SPECIES. FOR DETAILS, SEE SHEET P.011.

℄ CONST. US-50 CURVE DATA
P.I. Sta. 101+41.18
Δ = 40°40'01" RT
Dc = 02°00'00"
R = 2,864.79'
T = 1,061.62
L = 2,033.35'
E = 190.38'

PROPOSED WORK

1. REMOVE AND REPLACE DECK AND APPROACH SLABS IN PHASES.
2. REPLACE ABUTMENT BACKWALLS AND WINGWALLS.
3. PATCH SUBSTRUCTURE.
4. INSTALL FIBER REINFORCED POLYMER WRAP AT PIER 2.
5. SEAL CONCRETE SURFACES.
6. INSTALL VPF ON OUTSIDE RAILINGS.



ELEVATION ALONG PROFILE GRADE LINE

BENCHMARK DATA

BM #1 STA.	99+28.63,	ELEV.	541.66,	OFFSET	42.04,	LT.
BM #2 STA.	102+99.72,	ELEV.	538.14,	OFFSET	58.23,	LT.
BM #3 STA.	102+99.80,	ELEV.	533.21,	OFFSET	57.94,	RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET P.002

NOTES

ALL EXISTING BRIDGE ELEVATIONS HAVE BEEN ADJUSTED TO THE CURRENT PROJECT SURVEY ELEVATIONS AND ARE APPROXIMATELY 0.61 FEET LOWER THAN THE ELEVATIONS IN THE ORIGINAL PLANS.

DESIGN TRAFFIC:

2024 ADT =	32,500	2024 ADTT =	975
2044 ADT =	40,833	2044 ADTT =	1,225

DIRECTIONAL DISTRIBUTION = 60%

LEGEND

PROPOSED STRUCTURE

* INDICATES MEASURED ALONG ℄ CONSTRUCTION US-50

● 23'-0" REQUIRED MINIMUM VERTICAL CLEARANCE

PT. A: 24'-10½" ACTUAL MINIMUM VERTICAL CLEARANCE

HORIZONTAL CLEARANCES
DIM. A: 13'-7" ACTUAL HORIZONTAL CLEARANCE
DIM. B: 23'-2 ACTUAL HORIZONTAL CLEARANCE

HYDRAULIC DATA

DRAINAGE AREA = 12.5 SQ. MILES

Q (50) =	7030 CFS	V (50) =	4.53 FT/S
Q (100) =	7630 CFS	V (100) =	4.64 FT/S

STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 25.83 FEET.

EXISTING STRUCTURE

TYPE: 3 SPAN CONTINUOUS STEEL RIVETED HAUNCHED BUILT-UP GIRDERS WITH ROLLED STEEL FLOOR BEAMS AND STRINGERS WITH NON-COMPOSITE REINFORCED CONCRETE DECK SUPPORTED ON REINFORCED CONCRETE ABUTMENTS AND RECTANGULAR COLUMN PIERS.

SPANS: 132'-0"±, 164'-0"±, 132'-0"± ℄ TO ℄ BEARINGS MEASURED ALONG ℄ CONSTRUCTION US-50

ROADWAY: 73'-4"± TOE/TOE EXTERIOR RAILING

LOADING: CF-2000 ('57)

SKEW: ALL SUBSTRUCTURE UNITS ARE RADIAL

WEARING SURFACE: 1.75" SUPERPLASTICIZED CONCRETE OVERLAY

APPROACH SLABS: AS-1-54 (25'-0" LONG)

ALIGNMENT: 2° CURVE RIGHT

SUPERELEVATION: 0.047± FT/FT

STRUCTURE FILE NUMBER: 3103811

DATE BUILT: 1962

DISPOSITION: TO BE REHABILITATED

PROPOSED STRUCTURE

TYPE: 3 SPAN CONTINUOUS STEEL RIVETED HAUNCHED BUILT-UP GIRDERS WITH ROLLED STEEL FLOOR BEAMS AND STRINGERS WITH COMPOSITE REINFORCED CONCRETE DECK SUPPORTED ON REINFORCED CONCRETE ABUTMENTS AND RECTANGULAR COLUMN PIERS.

SPANS: 132'-0"±, 164'-0"±, 132'-0"± ℄ TO ℄ BEARINGS MEASURED ALONG ℄ CONSTRUCTION US-50

ROADWAY: 73'-8" TOE/TOE EXTERIOR RAILING

LOADING: SEE GENERAL NOTES

SKEW: ALL SUBSTRUCTURE UNITS ARE RADIAL

WEARING SURFACE: 1" MONOLITHIC CONCRETE

APPROACH SLABS: 25'-0" LONG (AS-1-15, AS-2-15)

ALIGNMENT: 2° CURVE RIGHT

SUPERELEVATION: 0.047 FT/FT

DECK AREA: 33,295 SF

COORDINATES: LATITUDE N39°08'10.5"
LONGITUDE W84°24'14.09"

HORIZONTAL SCALE IN FEET
0 10 20 40

SITE PLAN - 1

BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER RSB | CHECKER ZTW
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 1 | TOTAL 50
SHEET P.115 | TOTAL 208

HAM-US 50-29.00

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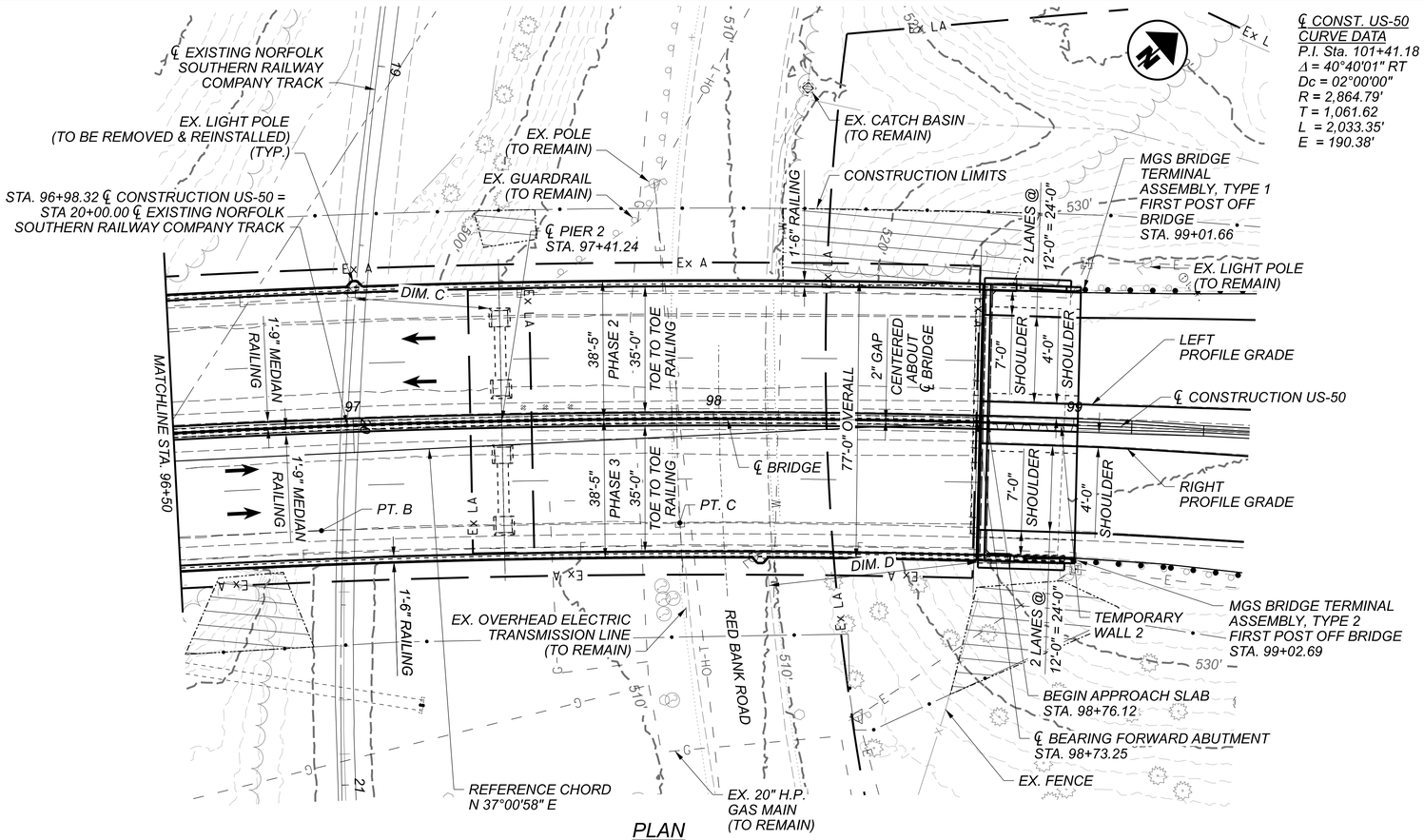
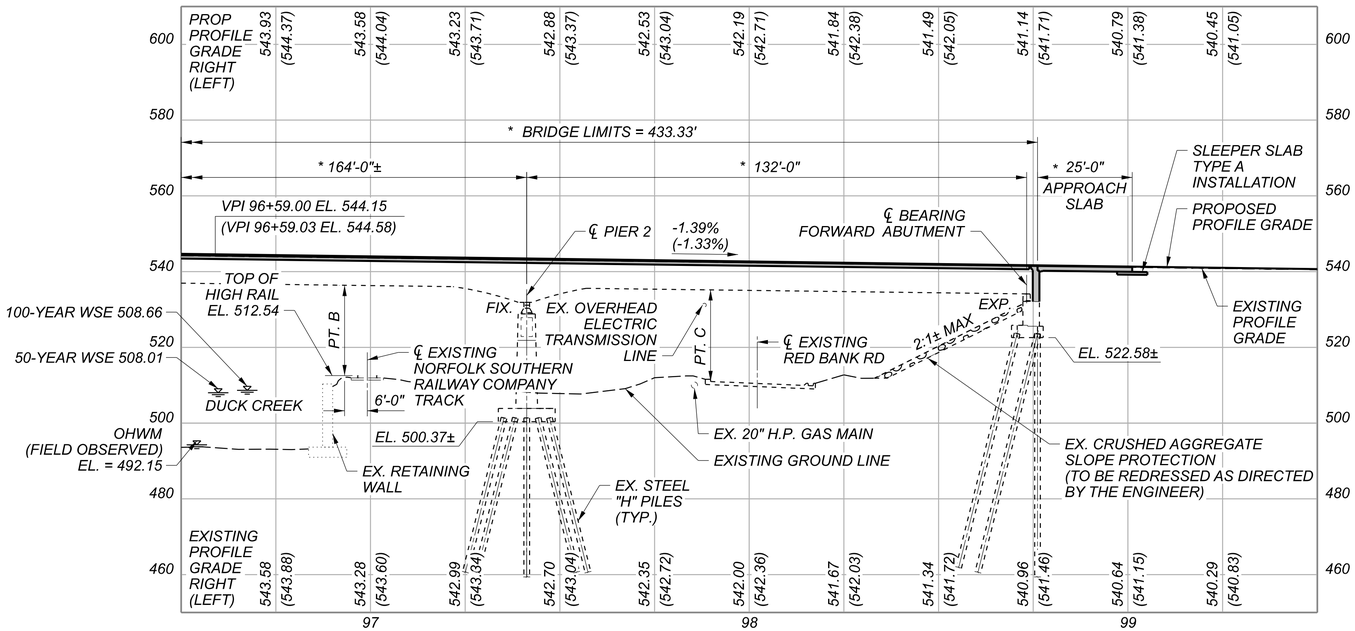


PLAN



ELEVATION ALONG PROFILE GRADE LINE

℄ CONST. US-50 CURVE DATA
P.I. Sta. 101+41.18
Δ = 40°40'01" RT
Dc = 02°00'00"
R = 2,864.79'
T = 1,061.62
L = 2,033.35'
E = 190.38'

BENCHMARK DATA

BM #1 STA.	99+28.63,	ELEV.	541.66,	OFFSET	42.04,	LT.
BM #2 STA.	102+99.72,	ELEV.	538.14,	OFFSET	58.23,	LT.
BM #3 STA.	102+99.80,	ELEV.	533.21,	OFFSET	57.94,	RT.

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET P.002

LEGEND

PROPOSED STRUCTURE

* INDICATES MEASURED ALONG ℄ CONSTRUCTION US-50

● REQUIRED MINIMUM VERTICAL CLEARANCE

PT. B: 22-4½" ACTUAL MINIMUM VERTICAL CLEARANCE, 23'-6" REQUIRED
PT. C: 22'-6½" ACTUAL MINIMUM VERTICAL CLEARANCE, 16'-6" REQUIRED

HORIZONTAL CLEARANCES
DIM. C: 37'-2" ACTUAL HORIZONTAL CLEARANCE
DIM. D: 57'-4" ACTUAL HORIZONTAL CLEARANCE, 30'-0" REQUIRED

AREA OF SUITABLE WOODED HABITAT FOR ENDANGERED BAT SPECIES. FOR DETAILS, SEE SHEET P.011.

HORIZONTAL SCALE IN FEET
0 10 20 40

SITE PLAN - 2

BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE., E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER RSB | CHECKER ZTW
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 2 | TOTAL 50
SHEET P.116 | TOTAL 208

HAM-US 50-29.00

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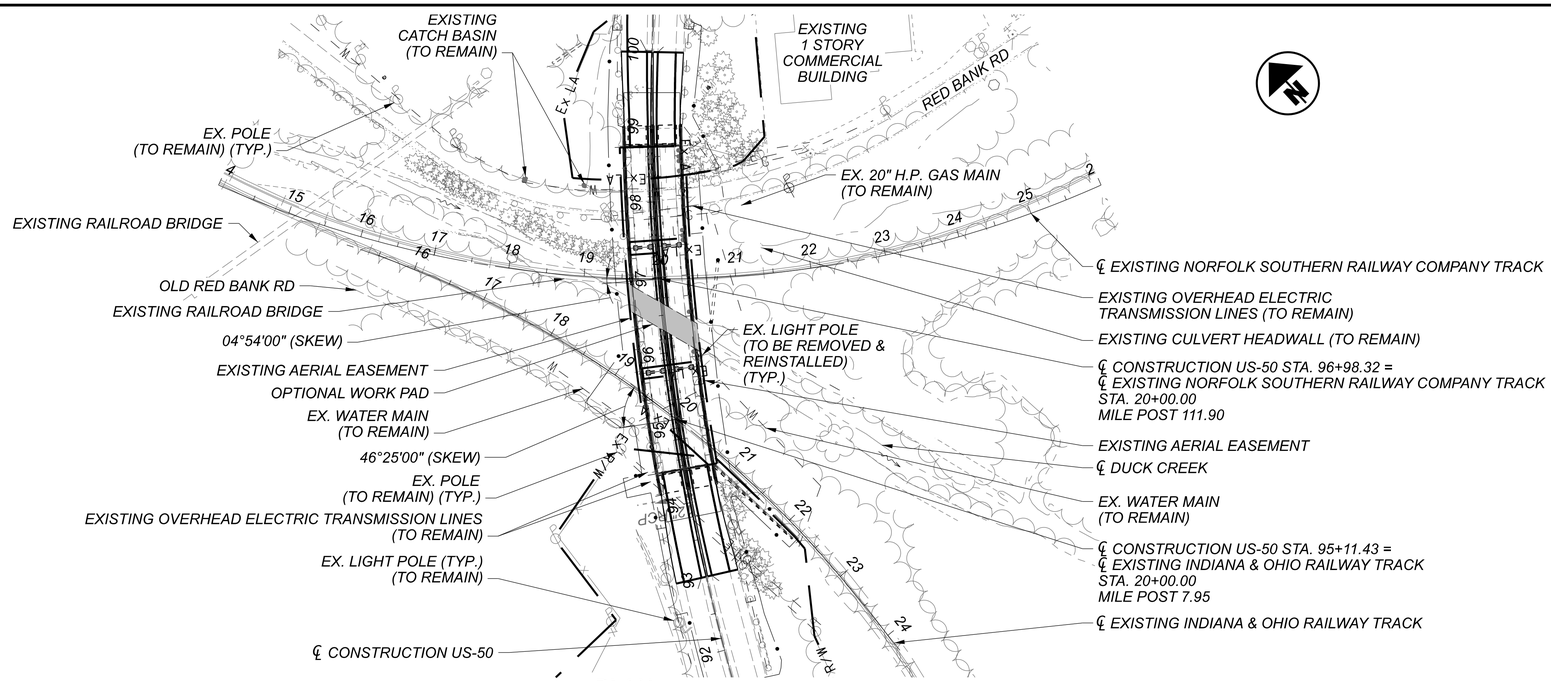
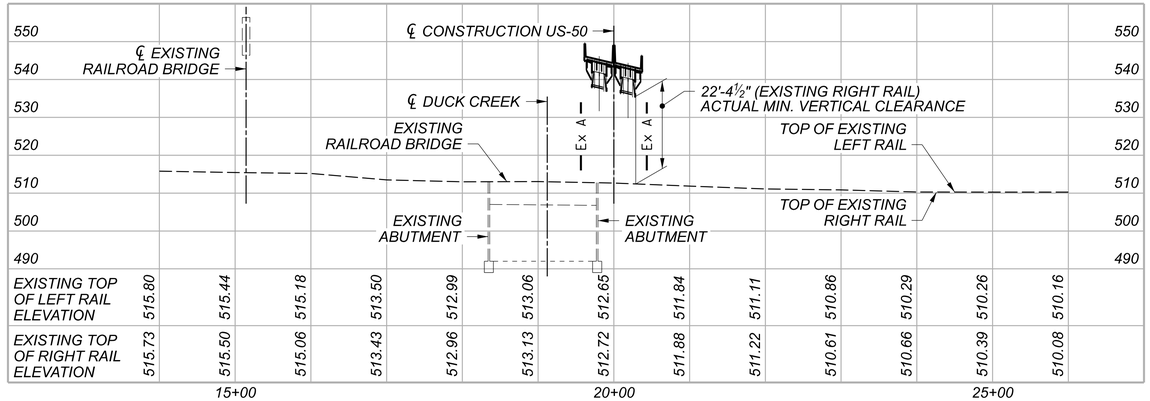
℄ CONST. US-50 CURVE DATA
P.I. Sta. 101+41.18
Δ = 40°40'01" RT
Dc = 02°00'00"
R = 2864.79'
T = 1061.62
L = 2033.35'
E = 190.38'

EXISTING CURVE DATA
NORFOLK SOUTHERN
RAILWAY COMPANY TRACK
P.I. Sta. 20+72.79
Δ = 58°58'00" LT
Dc = 03°59'58"
R = 1432.62'
T = 809.99'
L = 1474.40'
E = 213.13'

EXISTING CURVE DATA
INDIANA & OHIO RAILWAY TRACK
P.I. Sta. 19+36.08
Δ = 33°29'54" RT
Dc = 04°00'00"
R = 1432.40'
T = 431.08'
L = 837.46'
E = 63.46'

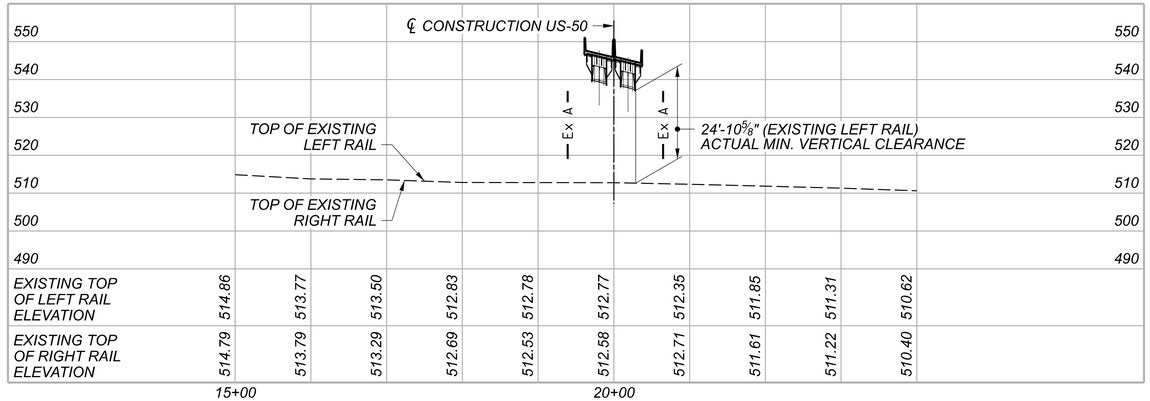


PLAN



EXISTING TOP OF LEFT RAIL ELEVATION	515.80	515.44	515.18	513.50	512.99	513.06	512.65	511.84	511.11	510.86	510.29	510.26	510.16
EXISTING TOP OF RIGHT RAIL ELEVATION	515.73	515.50	515.06	513.43	512.96	513.13	512.72	511.88	511.22	510.61	510.66	510.39	510.08

PROFILE ALONG NORFOLK SOUTHERN RAILWAY COMPANY TRACK



EXISTING TOP OF LEFT RAIL ELEVATION	514.86	513.77	513.50	512.83	512.78	512.77	512.35	511.85	511.31	510.62
EXISTING TOP OF RIGHT RAIL ELEVATION	514.79	513.79	513.29	512.69	512.53	512.58	512.71	511.61	511.22	510.40

PROFILE ALONG INDIANA & OHIO RAILWAY TRACK

NOTES:

1. THE ELEVATIONS OF THE EXISTING TOP-OF-RAIL PROFILE SHALL BE VERIFIED TO MATCH THE APPROVED FINAL PLANS BEFORE BEGINNING CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE NORFOLK SOUTHERN AND INDIANA & OHIO RAILWAY PUBLIC PROJECTS ENGINEER.
2. PROPOSED CONSTRUCTION WILL NOT INCREASE DRAINAGE TO THE NORFOLK SOUTHERN RAILWAY COMPANY AND INDIANA & OHIO RAILWAY TRACK RIGHT-OF-WAY. EXISTING DRAINAGE PATTERNS WILL BE MAINTAINED.

HORIZONTAL SCALE IN FEET
0 50 100 200

SUPPLEMENTAL SITE PLAN
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY: TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER GJZ | CHECKER RSB
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 3 | TOTAL 50
SHEET P.117 | TOTAL 208

HAM-US 50-29.00

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HAM-US 50-29.00

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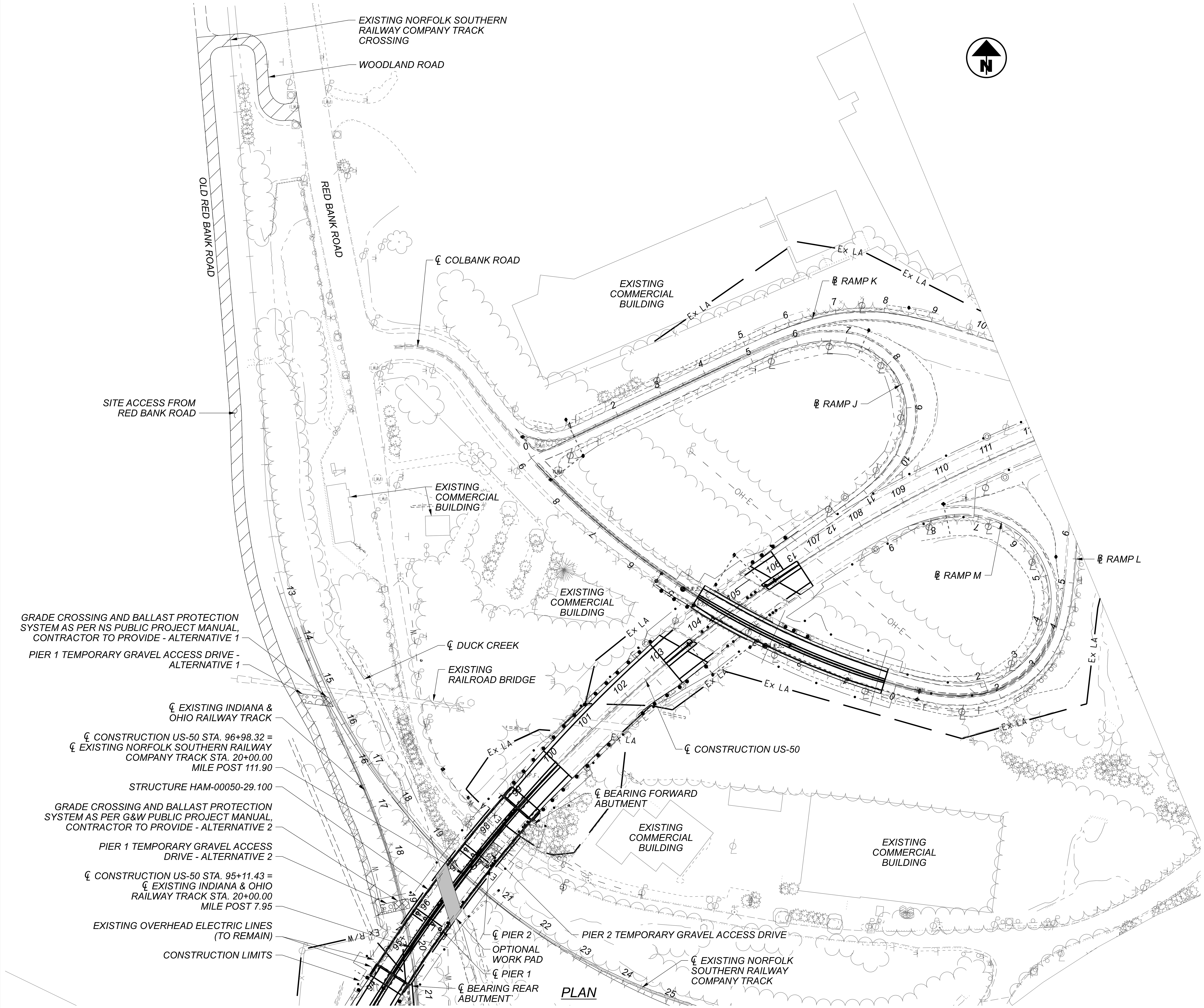


PLAN

NOTES:

1. ALL WORK/ITEMS NEEDED TO ACCESS THE SITE SHALL BE INCLUDED FOR PAYMENT WITH ITEM 530 - SPECIAL - STRUCTURES: SITE ACCESS, INCLUDING REPLACEMENT OF ANY EXISTING ROAD FEATURES, TO THE SATISFACTION OF THE ENGINEER, THAT ARE DAMAGED DUE TO THE CONTRACTOR'S CHOSEN SITE ACCESS.
2. TEMPORARY CROSSINGS OVER THE RAILROAD TRACKS REQUIRE AUTHORIZATION OF A TEMPORARY CROSSING AGREEMENT FROM THE RAILROAD.

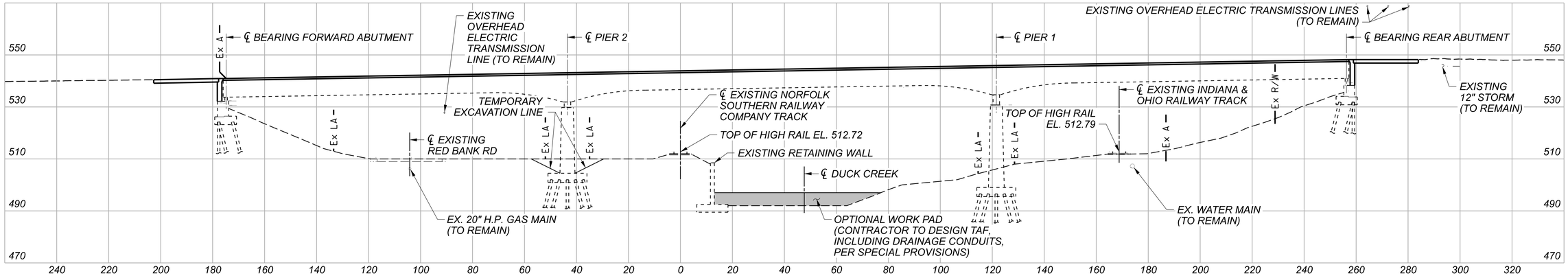
LEGEND:

- SITE ACCESS FROM RED BANK ROAD
- TEMPORARY GRAVEL ACCESS DRIVE
- GRADE CROSSING AND BALLAST PROTECTION SYSTEM
- OPTIONAL WORK PAD

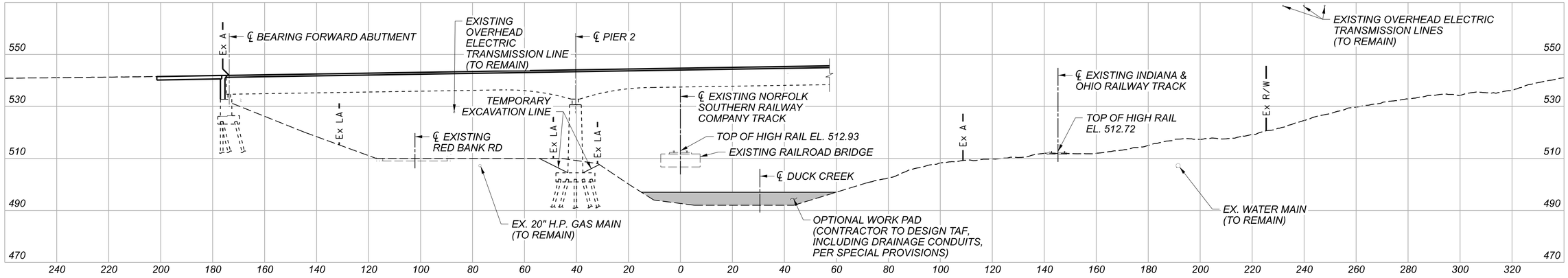
HORIZONTAL SCALE IN FEET
0 50 100 200

SUGGESTED SITE ACCESS PLAN
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

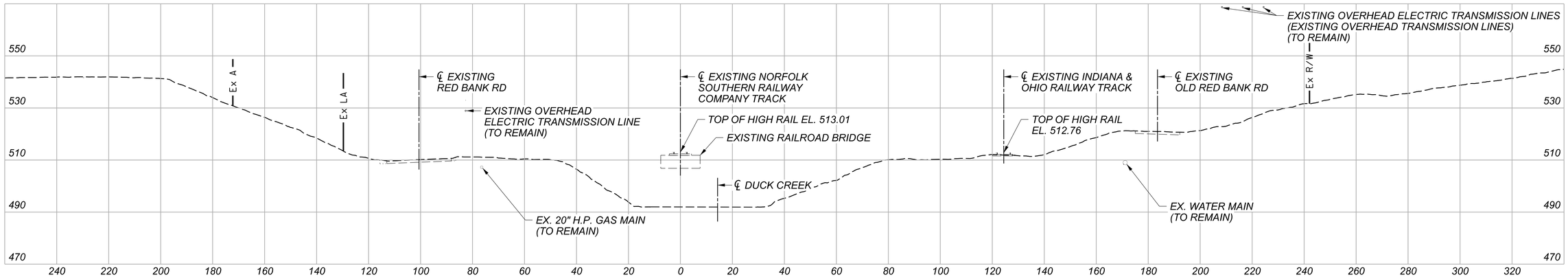
SFN	3103811
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	PEG
CHECKER	RSB
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	4
TOTAL	50
SHEET	P.118
TOTAL	208



STA. 20+00.00 ALONG NORFOLK SOUTHERN TRACK



STA. 19+70.00 ALONG NORFOLK SOUTHERN TRACK



STA. 19+40.00 ALONG NORFOLK SOUTHERN TRACK

RAILROAD CROSS SECTIONS - 1
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

HAM-US 50-29.00

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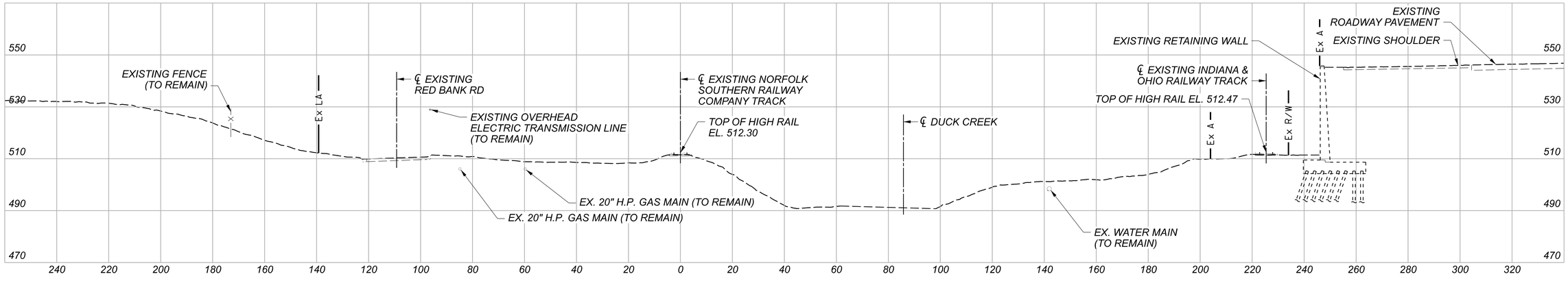
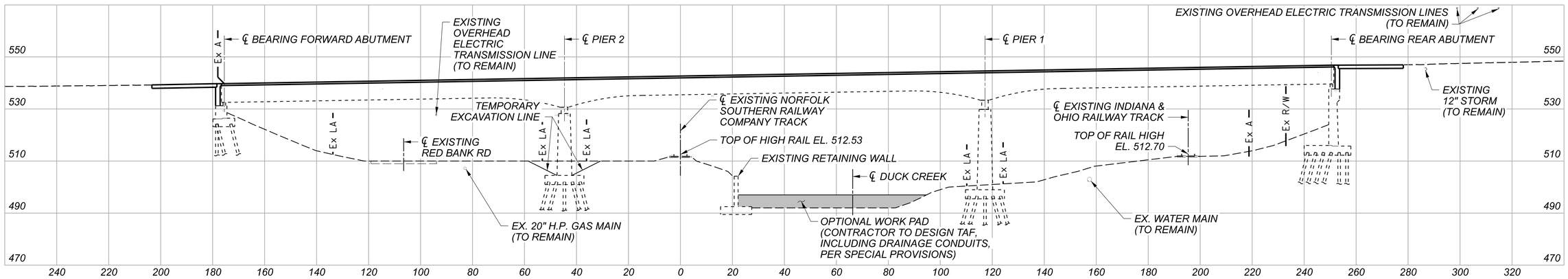
SFN	3103811
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	GJZ
CHECKER	RSB
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	5
TOTAL	50
SHEET	P.119
TOTAL	208



STA. 20+60.00 ALONG NORFOLK SOUTHERN TRACK



STA. 20+30.00 ALONG NORFOLK SOUTHERN TRACK

RAILROAD CROSS SECTIONS - 2

BRIDGE NO. HAM-00050-29.100

US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E, STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
GJZ	RSB

REVIEWER
NFF 08/22/23

PROJECT ID
110570

SUBSET	TOTAL
6	50

SHEET	TOTAL
P.120	208

HAM-US 50-29.00

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EXISTING OVERHEAD ELECTRIC LINES (EXISTING OVERHEAD TRANSMISSION LINES)

STA. 95+11.43 ℄ CONSTRUCTION US-50 = STA 20+00.00 ℄ EXISTING INDIANA & OHIO RAILWAY TRACK

℄ BEARING REAR ABUTMENT STA. 94+45.21

EX. LIGHT POLE (REMOVED AND REINSTALLED) (TYP.)

END APPROACH SLAB STA. 94+42.79

℄ EXISTING INDIANA & OHIO RAILWAY TRACK

℄ PIER 1 STA. 95+77.23

℄ EXISTING NORFOLK SOUTHERN RAILWAY COMPANY TRACK

EXISTING STRUCTURE

EX. OVERHEAD ELECTRIC TRANSMISSION LINE (TO REMAIN)

BEGIN APPROACH SLAB STA. 98+76.12

SKEW 04°12'02"

TEMPORARY WALL 2

℄ CONSTRUCTION US-50

SKEW 04°21'34"

SKEW 01°43'10"

SKEW 01°33'38"

STA. 96+98.32 ℄ CONSTRUCTION US-50 = STA 20+00.00 ℄ EXISTING NORFOLK SOUTHERN RAILWAY COMPANY TRACK

℄ PIER 2 STA. 97+41.24

℄ SCUPPER - TYPE B (TYP.)

EX. MEDIAN INLET (TO BE ADJUSTED TO GRADE)

LEFT PROFILE GRADE

1'-6" RAILING | 4'-0" SHOULDER | 12'-0" = 24'-0" 2 LANES @ | 7'-0" SHOULDER | 2" GAP CENTERED ABOUT ℄ BRIDGE | 35'-0" TOE TO TOE RAILING | 1'-9" MEDIAN RAILING | 77'-0" OVERALL | 38'-5" PHASE 2 | 38'-5" PHASE 3

94 95 96 97 98 99

25'-0" APP. SLAB (TYP.)

TEMPORARY WALL 1

RIGHT PROFILE GRADE

6'-9⅜"

REFERENCE CHORD N 37°00'58" E

℄ SCUPPER - TYPE A (TYP.)

EX. FENCE

EX. GAS LINE (TO REMAIN)

CONSTRUCTION LIMITS

EX. WATER MAIN (TO REMAIN)

EX. RETAINING WALL

℄ BEARING FORWARD ABUTMENT STA. 98+73.25

EX. GAS LINE (TO REMAIN)

MEASURED ALONG REFERENCE CHORD

132'-0⁷⁄₁₆" | 163'-7⅛" | 132'-0⅛₁₆"

PLAN

SKEW 04°21'34"

SKEW 01°43'10"

SKEW 01°33'38"

SKEW 04°12'02"

℄ CONSTRUCTION US-50

℄ BEARING REAR ABUTMENT STA. 94+45.21

℄ BRIDGE

℄ PIER 1 STA. 95+77.23

STA. 96+98.32 ℄ CONSTRUCTION US-50 = STA 20+00.00 ℄ EXISTING NORFOLK SOUTHERN RAILWAY COMPANY TRACK

℄ PIER 2 STA. 97+41.24

℄ BEARING FORWARD ABUTMENT STA. 98+73.25

94 95 96 97 98 99

5⅛" | 3⅛" | 6'-6¹⁵⁄₁₆" | 1½" | 6'-8⁵⁄₁₆" | 0¹⁵⁄₁₆"

REFERENCE CHORD N 37°00'58" E

STA. 95+11.43 ℄ CONSTRUCTION US-50 = STA 20+00.00 ℄ EXISTING INDIANA & OHIO RAILWAY TRACK

GEOMETRIC LAYOUT

GENERAL PLAN
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

HAM-US 50-29.00

MODEL: CLRWX_U050 - Plan 1 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:24:19 PM USER: rjgreve
pw:\\hq-pwint01.a-e.transyscorp.com:transyscorp-pw1\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\Structures\SFN_3103811\Sheets\110570_SFN_3103811_SG002.dgn

SFN	3103811
DESIGN AGENCY	TRANSYSTEMS 1100 SUPERIOR AVE. E. STE 1000 CLEVELAND, OHIO 44114
DESIGNER	EA
CHECKER	RSB
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	7
TOTAL	50
SHEET	P.121
TOTAL	208

STRUCTURE GENERAL NOTES

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	01-20-2023
AS-2-15	REVISED	07-21-2023
EXJ-4-87	REVISED	07-21-2023
PCB-91	REVISED	07-17-2020
SBR-1-20	REVISED	07-21-2023
SBR-2-20	REVISED	07-21-2023
VPF-1-90	REVISED	07-21-2023

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

800	DATED	10-20-2023

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF 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.

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.00 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.

DESIGN LOADING:

DECK: VEHICULAR LIVE LOAD: HL-93
FUTURE WEARING SURFACE (FWS) OF 0.00KSF
STAY-IN-PLACE (SIP) FORMS OF 0.015KSF

SUPERSTRUCTURE: EXISTING BEAMS - AS LOAD RATED,
VEHICULAR LIVE LOAD: HL-93
FUTURE WEARING SURFACE (FWS) OF 0.00KSF
STAY-IN-PLACE (SIP) FORMS OF 0.015KSF - SPANS 1 AND 2 ONLY

SUBSTRUCTURE: EXISTING SUBSTRUCTURE
VEHICULAR LIVE LOAD: CF 2000 (57)
FUTURE WEARING SURFACE (FWS) OF 0.00KSF

FOUNDATIONS: EXISTING FOUNDATIONS
VEHICULAR LIVE LOAD: CF 2000 (57)
FUTURE WEARING SURFACE (FWS) OF 0.00KSF

DESIGN DATA:

CONCRETE CLASS QC3 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE REINFORCEMENT: GALVANIZED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (DECK, BRIDGE RAILING, BACKWALLS, WINGWALLS, APPROACH SLABS)

GFRP REINFORCEMENT (BRIDGE RAILING)

MONOLITHIC WEARING SURFACE:

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

PROTECTION OF TRAFFIC:

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE AND SUBSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF VEHICULAR TRAFFIC ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE ENGINEER AT LEAST 30 DAYS BEFORE DEMOLITION BEGINS. THE CONTRACTOR SHALL ALSO SUBMIT DEMOLITION PLANS IN ACCORDANCE WITH THE NORFOLK SOUTHERN "SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTERESTS", AND THE INDIANA & OHIO RAILWAY "CONSTRUCTION SUBMISSION CRITERIA" TO EACH RESPECTIVE RAILROAD COMPANY PRIOR TO STARTING ANY DEMOLITION OPERATIONS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT WILL BE NECESSARY TO ENSURE SUCH PROTECTION. THE CONTRACTOR NEEDS TO ANTICIPATE AT TIME OF BID THAT THE RAILROADS WILL EXPECT FALSEWORK PROTECTION UNDER THE ENTIRE BRIDGE WITHIN THE LIMITS OF THE RAILROAD RIGHT-OF-WAY. ODOT EXPECTS FALSEWORK PROTECTION UNDER THE BRIDGE TO PROTECT RED BANK ROAD USERS. ALL COSTS ASSOCIATED WITH THIS TRAFFIC PROTECTION WILL BE INCLUDED WITH ITEM 202 FOR PAYMENT.

NON-USE OF ASBESTOS-CONTAINING MATERIALS:

THE CONTRACTOR SHALL AT NO TIME INCORPORATE ANY MATERIALS WHICH ARE COMPOSED OF OR CONTAIN ANY AMOUNTS OF ASBESTOS. THE SUBSTITUTION OF MATERIALS WHICH CONTAIN ANY AMOUNTS OF ASBESTOS WILL IN NO CIRCUMSTANCES BE ACCEPTABLE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF CERTIFICATION ASSERTING THAT NO ASBESTOS CONTAINING MATERIALS WERE USED IN ANY PORTION OF THE CONSTRUCTION.

MAINTENANCE OF TRAFFIC:

FOR MAINTENANCE OF TRAFFIC NOTES, PERMITTED LANE CLOSURES AND DETAILS, REFER TO MAINTENANCE OF TRAFFIC PLANS.

CLOSE COORDINATION WITH NORFOLK SOUTHERN RAILWAY COMPANY AND INDIANA & OHIO RAILWAY COMPANY WILL BE REQUIRED FOR CONSTRUCTION ACTIVITIES OVER THE TRACKS. IT IS ESSENTIAL THAT THE CONSTRUCTION BE PERFORMED WITH A MINIMUM INTERFERENCE WITH RAIL TRAFFIC. CONTINUINITY OF SAFE RAIL OPERATIONS WILL BE REQUIRED FOR THE DURATION OF THE PROJECT.

EXISTING STRUCTURE PLANS:

CONSTRUCTION PLANS FOR THE EXISTING BRIDGE ARE ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 8 OFFICE, 505 S. STATE ROUTE 741, LEBANON, OH 45036 AND ARE AVAILABLE FOR REFERENCE. EXISTING PLANS HAVE BEEN INCLUDED IN THE REFERENCE FOLDER ON THE OFFICE OF CONTRACTS WEB PAGE FOR DOWNLOAD.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

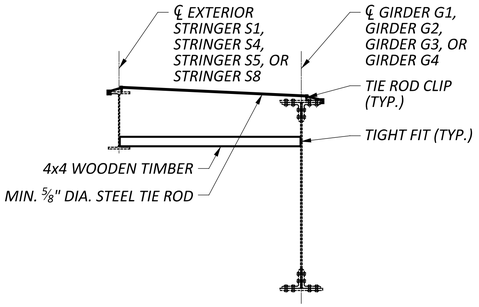
AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.23 KIPS FOR THE LEFT AND RIGHT BRIDGES.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 INCHES.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA BEAM TO THE FACE OF THE SAFETY HANDRAIL OF 65 INCHES.

THE LEFT AND RIGHT BRIDGES REQUIRE TEMPORARY TIMBER BLOCKING AND TENSION TIE ROD SUPPORTS OF THE EXISTING EXTERIOR STRINGER TO PREVENT ROTATION DURING DECK PLACEMENT. THE LOCATIONS OF THE TEMPORARY SUPPORTS ARE SHOWN ON THE LEFT AND RIGHT BRIDGE FRAMING PLAN, SHEETS 25 AND 26 OF 50 , RESPECTIVELY. SEE TEMPORARY SUPPORT DETAIL BELOW FOR ADDITIONAL DETAILS. THE STEEL TIE ROD SHALL BE GALVANIZED AND HAVE A MINIMUM TENSILE STRENGTH OF 105 KSI. THE TIE ROD CLIP SHALL BE A GAMCO BH-85 TYPE 1 TIE BAR HANGER WITH INTERLOCK END, OR AN APPROVED EQUAL.



TEMPORARY SUPPORT DETAIL

(LEFT BRIDGE OUTSIDE SHOWN, OTHER LOCATIONS SIMILAR)

ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO PROVIDE TEMPORARY SUPPORT OF THE EXISTING STRINGERS AS SHOWN IN THE PLANS SHALL BE INCLUDED WITH ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE FOR PAYMENT.

CONSTRUCTION CLEARANCE:

MAINTAIN A CONSTRUCTION CLEARANCE OF 14 FEET HORIZONTALLY FROM THE CENTER OF TRACKS AND 22 FEET VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL, AND 6 FEET FROM THE CENTER OF TRACKS, AT ALL TIMES.

NORFOLK SOUTHERN RAILROAD COORDINATION:

ALL WORK TO BE PERFORMED ON, OVER, UNDER, OR ADJACENT TO THE RAILROAD RIGHT-OF-WAY SHALL COMPLY WITH THE NORFOLK SOUTHERN RAILWAY COMPANY ("RAILROAD", "NSR", OR "NS") PUBLIC PROJECTS MANUAL (APPENDIX E, SPECIAL PROVISIONS FOR THE PROTECTION OF RAILWAY INTERESTS, AND APPENDIX H1, OVERHEAD GRADE SEPARATION DESIGN CRITERIA). WHEN IN CONFLICT WITH OTHER PROJECT SPECIFICATIONS, THE MOST STRINGENT ONE SHALL APPLY.

SEE NS PUBLIC PROJECTS MANUAL, APPENDIX E, SECTIONS 2 AND 3, AND APPENDIX H1, SECTIONS 8.F AND 8.G:

THE CONTRACTOR SHALL NOT COMMENCE ANY WORK ON RAILROAD RIGHTS-OF-WAY UNTIL HE HAS MET THE CONDITIONS PRESENTED IN NS PUBLIC PROJECTS MANUAL (SEE APPENDIX E, NORFOLK SOUTHERN - SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTERESTS).

THE CONTRACTOR SHALL SO ARRANGE AND CONDUCT HIS WORK THAT THERE WILL BE NO INTERFERENCE WITH RAILROAD'S OPERATIONS. WHENEVER WORK IS LIABLE TO AFFECT THE OPERATIONS OR SAFETY OF TRAINS, THE METHODS OF DOING SUCH WORK SHALL FIRST BE SUBMITTED TO THE RAILROAD ENGINEER FOR APPROVAL, BUT SUCH APPROVAL SHALL NOT RELIEVE THE CONTRACTOR FROM ANY LIABILITY. RIGHT-OF-WAY AND/OR SECURITY FENCE SHALL BE PROVIDED AS DIRECTED BY THE NS PUBLIC PROJECT ENGINEER.

"ONE CALL" SERVICES DO NOT LOCATE BURIED NORFOLK SOUTHERN SIGNALS AND COMMUNICATIONS LINES. THE CONTRACTOR SHALL CONTACT THE RAILROAD'S REPRESENTATIVE SEVEN (7) DAYS IN ADVANCE OF WORK AT THOSE PLACES WHERE EXCAVATION, PILE DRIVING, OR HEAVY LOADS MAY DAMAGE THE RAILROAD'S UNDERGROUND FACILITIES. UPON REQUEST FROM THE CONTRACTOR OR SPONSOR, RAILROAD SIGNAL FORCES WILL LOCATE AND PAINT MARK OR FLAG THE RAILROAD'S UNDERGROUND FACILITIES IN THE AREA TO BE DISTURBED FOR THE CONTRACTOR. THE CONTRACTOR SHALL AVOID EXCAVATION OR OTHER DISTURBANCE OF THESE LINES WHICH ARE CRITICAL TO THE SAFETY OF THE RAILROAD AND THE PUBLIC. IF DISTURBANCE OR EXCAVATION IS REQUIRED NEAR A BURIED RAILROAD FACILITY, THE LINE SHALL BE POTHOLED MANUALLY WITH CAREFUL HAND EXCAVATION BY THE CONTRACTOR AND PROTECTED BY THE CONTRACTOR DURING THE COURSE OF THE DISTURBANCE UNDER THE SUPERVISION AND DIRECTION OF THE RAILROAD'S REPRESENTATIVE.

RAILROAD PROTECTIVE SERVICES WILL LIKELY BE REQUIRED FOR MUCH OF THE WORK AT THE TRACK LEVEL. THE CONTRACTOR WILL BE RESPONSIBLE FOR SECURING RAILROAD PROTECTIVE SERVICE PERSONNEL FROM A THIRD-PARTY PROVIDER APPROVED BY THE NS RAILROAD AND THE SPONSOR.

ALL UTILITY INSTALLATIONS OR RELOCATIONS THAT ARE REQUIRED IN CONJUNCTION WITH THIS PROJECT CAN BE INSTALLED OR RELOCATED AS PART OF THE PROJECT PROVIDED THE CONSTRUCTION IS PERFORMED BY THE PROJECT CONTRACTOR OR PROJECT CONTRACTOR'S SUB-CONTRACTOR. HOWEVER, THE UTILITY MUST SUBMIT AN APPLICATION FOR THE INSTALLATION OR RELOCATION TO AECOM FOR APPROPRIATE HANDLING FOR LICENSE AGREEMENT AND APPLICABLE FEES. FOR UTILITY APPLICATIONS GO TO:
www.nscorp.com > real estate > ns services > wire, pipeline, and fiber optics projects
NOTE: LICENSE AGREEMENT MUST BE EXECUTED PRIOR TO UTILITY BEING INSTALLED OR RELOCATED.

FOR PROJECTS EXCEEDING 30 DAYS OF CONSTRUCTION, CONTRACTOR SHALL PROVIDE THE RAILROAD PROTECTIVE SERVICES PERSONNEL A SMALL WORK AREA WITH A DESK/COUNTER AND CHAIR WITHIN THE FIELD/SITE TRAILER, INCLUDING THE USE OF BATHROOM FACILITIES, WHERE THE RAILROAD PROTECTIVE SERVICES PERSONNEL CAN CHECK IN/OUT WITH THE PROJECT, AS WELL AS TO THE RAILROAD PROTECTIVE SERVICES PERSONNEL'S HOME TERMINAL. THE WORK AREA SHOULD PROVIDE ACCESS TO TWO (2) ELECTRICAL OUTLETS FOR RECHARGING RADIO(S), AND A LAPTOP COMPUTER; AND HAVE THE ABILITY TO PRINT OFF NEEDED DOCUMENTATION AND ORDERS AS NEEDED AT THE FIELD/SITE TRAILER. THIS SHOULD AID IN MAXIMIZING THE RAILROAD PROTECTIVE SERVICES PERSONNEL'S TIME AND EFFICIENCY ON THE PROJECT.

THE FOLLOWING CONTACT INFORMATION SHALL BE USED FOR COORDINATION WITH NS RAILROAD:
ELDRIDGE CHAMBERS
PUBLIC IMPROVEMENTS ENGINEER
NORFOLK SOUTHERN CORPORATION
650 WEST PEACHTREE STREET, NW, BOX 45
ATLANTA, GA 30308
(470) 463-6307 (OFFICE)
eldridge.chambers@nscorp.com

INDIANA & OHIO RAILROAD COORDINATION:

CONTRACTOR TO NOTIFY G&W PUBLIC PROJECTS DEPARTMENT 30 DAYS PRIOR TO STARTING CONSTRUCTION.

G&W FLAGGING SERVICES WILL BE REQUIRED FOR ALL WORK WITHIN G&W RIGHT-OF-WAY OR ANY WORK THAT HAS A "POTENTIAL TO FOUL".

THE CONTRACTOR MUST NOT USE THE RAILROAD RIGHT-OF-WAY FOR STORAGE OF MATERIALS OR EQUIPMENT DURING CONSTRUCTION. THE RAILROAD'S RIGHT-OF-WAY MUST REMAIN CLEAR AT ALL TIMES. THE CONTRACTOR MUST PLAN AND PERFORM THE WORK IN A MANNER SUCH THAT THE RAILROAD TRACKS AT THE PROJECT LOCATION REMAIN FULLY CAPABLE OF OPERATING RAIL TRAFFIC THROUGHOUT THE WORK PERIOD AND RAIL TRAFFIC IS NOT DELAYED OR OTHERWISE IMPACTED DUE TO THE WORK BEING PERFORMED.

ALL WORK PERFORMED ON, ABOVE, OR ADJACENT TO RAILROAD PROPERTY SHALL BE IN ACCORDANCE WITH THE PUBLIC PROJECT MANUAL, CURRENT EDITION. WORK PLANS SHALL BE SUBMITTED FOR REVIEW TO THE RAILROAD FOR TASKS RELATED TO SITE ACCESS, SOIL AND WATER MANAGEMENT, BALLAST PROTECTION, DEMOLITION, CONTAINMENT, CONCRETE FORMWORK, AND ALL OTHER WORK THAT POTENTIALLY AFFECTS RAILROAD PROPERTY OR OPERATIONS. ALL WORK PLANS SHALL BE PREPARED AND SUBMITTED TO THE RAILROAD IN ADHERENCE WITH THE PUBLIC PROJECT MANUAL, SECTION 1.11 CONSTRUCTION SUBMISSION CRITERIA.

THE CONTRACTOR WILL BE REQUIRED TO REACH OUT TO G&W REAL ESTATE FOR AN ROE APPLICATION AND AGREEMENT FOR WORK TO TAKE PLACE ON THE G&W ROW. HERE IS THE WEBSITE FOR ROE INFORMATION:
https://www.gwrr.com/real_estate/accessing_property

RAILROAD PROJECT COORDINATION:

THE CONTRACTOR SHALL PERFORM ONGOING COORDINATION OF THEIR DESIGN AND CONSTRUCTION ACTIVITIES WITH THE RAILROAD(S) THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL PROVIDE A CURRENT SCHEDULE ON A MONTHLY BASIS INCLUDING ANTICIPATED DATES OF THE FOLLOWING ITEMS:

1. CONSTRUCTION SUBMITTALS REQUIRING RAILROAD REVIEW AND APPROVAL PRIOR TO BEGINNING CONSTRUCTION (PER THE RAIL AGREEMENT(S)).
2. CONSTRUCTION START AND END DATES FOR WORK THAT MAY CREATE AN IMPACT TO THE RAIL FACILITY/OPERATIONS.
3. ANTICIPATED DATES AND DURATIONS FOR FLAGGERS.
4. ANY OTHER MILESTONES THAT MAY IMPACT RAIL FACILITIES OR OPERATIONS.

MEANS AND METHODS: THE CONTRACTOR SHALL DEVELOP A DETAILED SUBMISSION INDICATING THE PROGRESSION OF WORK WITH SPECIFIC TIMES WHEN TASKS WILL BE PERFORMED FOR WORK ACTIVITIES THAT ARE ON OR IN THE VICINITY OF THE RAILROAD PROPERTY. THIS SUBMISSION MAY REQUIRE A WALKTHROUGH AT WHICH TIME THE RAILROAD AND/OR THEIR REPRESENTATIVE WILL BE PRESENT. WORK WILL NOT BE PERMITTED TO COMMENCE UNTIL THE CONTRACTOR HAS PROVIDED THE RAILROADS WITH A SATISFACTORY PLAN THAT THE PROJECT WILL BE UNDERTAKEN WITHOUT SCHEDULING, PERFORMANCE, OR SAFETY RELATED ISSUES. PROVIDE A LIST OF THE ANTICIPATED EQUIPMENT TO BE USED, THE LOCATION OF ALL EQUIPMENT TO BE USED, AND ENSURE A CONTINGENCY PLAN OF ACTION IS IN PLACE SHOULD A PRIMARY PIECE OF EQUIPMENT MALFUNCTION. ALL WORK IN THE VICINITY OF THE RAILROAD PROPERTY THAT HAS THE POTENTIAL OF AFFECTING TRAIN OPERATIONS MUST BE SUBMITTED AND APPROVED BY THE RAILROAD PRIOR TO WORK BEING PERFORMED. THIS SUBMISSION WILL ALSO INCLUDE A DETAILED NARRATIVE DISCUSSING THE COORDINATION OF PROJECT SAFETY ISSUES BETWEEN THE CONTRACTOR AND THE RAILROAD AND/OR THEIR REPRESENTATIVE. THE NARRATIVE SHALL ADDRESS PROJECT LEVEL COORDINATION AND DAY TO DAY, SPECIFIC WORK OPERATIONS INCLUDING CRANE AND EQUIPMENT OPERATIONS, ERECTION PLANS, AND TEMPORARY WORKS.

UP TO SIXTY (60) CALENDAR DAYS WILL BE REQUIRED TO REVIEW ALL CONSTRUCTION SUBMISSIONS. UP TO AN ADDITIONAL SIXTY (60) CALENDAR DAYS WILL BE REQUIRED TO REVIEW ANY SUBSEQUENT SUBMISSIONS RETURNED NOT APPROVED.

CONSTRUCTION SCHEDULE: SUBMIT A DETAILED CONSTRUCTION SCHEDULE FOR THE DURATION OF THE PROJECT CLEARLY INDICATING THE TIME PERIODS WHILE WORKING ON AND AROUND THE RAILROAD'S RIGHT-OF-WAY. AS THE WORK PROGRESSES, THIS SCHEDULE SHALL BE UPDATED MONTHLY AND RESUBMITTED AS NECESSARY TO REFLECT CHANGES IN WORK SEQUENCE, DURATION, AND METHOD, ETC.

GENERAL NOTES - 1
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
ZTW	RSB

REVIEWER: NFF 08/22/23

PROJECT ID: 110570

SUBSET	TOTAL
8	50

SHEET	TOTAL
P.122	208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/24/2024 TIME: 9:30:09 AM USER: hldegeorge
pw:\\hq-pwint01.a-e.transyscorp.com:transyscorp-pw1\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\Structures\SFN_3103811\Sheets\110570_SFN_3103811_SN001.dgn

VANDAL PROTECTION FENCING:

INSTALL FENCING FOR EACH CONSTRUCTION PHASE PRIOR TO OPENING THAT PHASE TO VEHICULAR TRAFFIC.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:

DESCRIPTION:
THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING CONCRETE BRIDGE RAILINGS, DECK JOINTS, EXISTING UTILITY LINES, AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, END CROSS-FRAMES, SCUPPERS, ETC.) THIS ITEM INCLUDES TAKING SURVEY SHOTS OF THE BEAM FLANGES BEFORE AND AFTER DECK REMOVAL AND CALCULATING THE REQUIRED ITEMS TO DETERMINE THE SCREED AND TOP OF HAUNCH ELEVATIONS. IT SHALL ALSO INCLUDE THE REMOVAL OF ABUTMENT BACKWALLS, PORTIONS OF THE WINGWALLS, POROUS BACKFILL, AND OTHER APPURTENANCES AS SHOWN IN THE PLANS. ANY PROTECTIVE MEASURES REQUIRED BY THE RAILROAD OF THEIR FACILITIES DURING DEMOLITION SHALL BE INCLUDED WITH THIS ITEM. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE DEPARTMENT WILL NOT PERMIT THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

MAXIMUM REMOVAL LIMITS:
SOUND THE CONCRETE TO DETERMINE THE LIMITS OF THE CONCRETE TO BE REMOVED AND COMPARE THESE LIMITS TO THE AREAS SHOWN IN THE PLANS. IF NEW AREAS ARE DISCOVERED OR IF THE DIMENSIONS OF THE PLAN AREAS INCREASE BY MORE THAN 25% IN ANY DIRECTION, DOCUMENT THE AREAS AND NOTIFY THE ENGINEER FOR EVALUATION TWO WEEKS PRIOR TO REMOVAL. THE ENGINEER WILL DETERMINE IF PATCHING IN DISCRETE SECTIONS/STAGES IS NEEDED OR IF THE INSTALLATION OF TEMPORARY FALSEWORK IS REQUIRED.

PROTECTION OF STEEL SUPPORT SYSTEMS:
BEFORE DECK SLAB CUTTING BEGINS, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF THE DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF CONCRETE REINFORCEMENT IN THE DECK SLAB. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS:
REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

REMOVAL METHODS:
THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL BEAMS, STEEL GIRDER, ETC.), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS. DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

DUE TO THE CONDITION OF THE EXISTING CONCRETE DECK AND LOCATION OF EXISTING BOTTOM MAT REINFORCEMENT ATOP THE GIRDERS, CAREFULLY EXAMINE THE BID DOCUMENTS AND PERFORM A REASONABLE SITE INVESTIGATION ACCORDING TO CMS 102.05 PRIOR TO SUBMITTING A BID. NON-STANDARD MEANS AND METHODS OF DECK REMOVAL OPERATIONS MAY BE WARRANTED. HOWEVER, DUE TO THE FRACTURE-CRITICAL NATURE OF THE STRUCTURE, RELATIVELY NEWER PAINT SYSTEM, AND THE RAILROAD RIGHT-OF-WAY/RAIL LINES BELOW, MUNCHING OF THE CONCRETE DECK WILL NOT BE ALLOWED.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN (CONTINUED):

CUT LINE CONSTRUCTION JOINT PREPARATION:
SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING CONCRETE REINFORCEMENT, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING STEEL REINFORCEMENT DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL:
REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. THE DEPARTMENT WILL NOT PERMIT HYDRAULIC HOE-RAM TYPE HAMMERS. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT & PAYMENT:
THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVAL AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 202 - REMOVAL MISC.: PORTION OF STRUCTURE REMOVED, BULB ANGLE, AS PER PLAN:

THIS WORK CONSISTS OF REMOVING IN ITS ENTIRETY THE EXISTING BULB ANGLES THAT WERE CAST INTO THE DECK WHEN THE EXISTING DECK WAS CONSTRUCTED. THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE, OR DAMAGE THE STRUCTURAL STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

EXISTING WELDED ATTACHMENTS:
GRIND THE FLANGE SURFACES SMOOTH WHERE THE EXISTING WELDED BULB ANGLE ATTACHES TO THE FLANGES LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS.

MEASUREMENT & PAYMENT:
THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LINEAR FOOT BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVAL AT THE CONTRACT PRICE FOR ITEM 202 - REMOVAL MISC.: PORTION OF STRUCTURE REMOVED, BULB ANGLE, AS PER PLAN.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (TEMPORARY WALL 1):
ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (TEMPORARY WALL 2):

THIS ITEM SHALL INCLUDE THE INSTALLATION AND REMOVAL OF THE TEMPORARY WALLS AS SHOWN IN THE PLANS.

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH CMS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE BID FOR COFFERDAMS AND EXCAVATION BRACING. THE DEPARTMENT WILL NOT MAKE ADDITIONAL PAYMENT FOR PROVIDING AN ALTERNATE DESIGN.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH PERTINENT SECTIONS OF CMS SECTION 503 AND SHALL INCLUDE THE EXCAVATION AND BACKFILLING REQUIRED TO CONSTRUCT THE NEW PORTIONS OF THE ABUTMENT BACKWALLS, WINGWALLS, AND AT PIER 2. EXCAVATION AND BACKFILLING FOR SUBSTRUCTURE REMOVAL AND STRUCTURE DRAINAGE SHALL BE INCLUDED WITH RESPECTIVE ITEMS 202 AND 518.

ITEM 509 - CONCRETE REINFORCEMENT, REPLACEMENT OF EXISTING CONCRETE REINFORCEMENT, AS PER PLAN:

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT CONCRETE REINFORCEMENT BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. REPLACE ALL EXISTING STEEL REINFORCEMENT BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW CONCRETE REINFORCEMENT OF THE SAME SIZE, COATING, AND MATERIAL AT NO COST TO THE DEPARTMENT. AN ESTIMATED QUANTITY OF 100 POUNDS HAS BEEN INCLUDED FOR THIS WORK.

ITEM 509 - GALVANIZED STEEL REINFORCEMENT, AS PER PLAN:

IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE STEEL REINFORCEMENT DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE GALVANIZED COATING, AS A RESULT OF THIS WORK, ACCORDING TO CMS 711.02.

ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN:

DOWEL BARS SHALL BE INSTALLED USING NONSHRINK, NONMETALLIC GROUT PER CMS 510 AND ACI 355.4. ALL EXISTING CONCRETE REINFORCEMENT IN THE AREA OF THE DOWEL HOLE SHALL BE LOCATED WITH THE AID OF A CONCRETE REINFORCEMENT LOCATOR (PACHOMETER) PRIOR TO DRILLING THE HOLES. IF EXISTING CONCRETE REINFORCEMENT IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, THE DOWEL HOLE SHALL BE MOVED TO EITHER SIDE OF THE EXISTING CONCRETE REINFORCEMENT.

ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE:
ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN:

THIS ITEM MODIFIES THE STANDARD 511 CONCRETE FOR STRUCTURES SPECIFICATION TO INCLUDE MACRO-SYNTHETIC FIBERS AND CORROSION INHIBITORS INTO THE SUPERSTRUCTURE CONCRETE. THIS ITEM SHALL CONFORM TO 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

PORTLAND CEMENT CONCRETE	499.03, CLASS QC3 MEETING A DESIGN STRENGTH OF 4,500 PSI WITH MACRO-SYNTHETIC FIBERS AND WITH MODIFICATION PER 511.02
FIBERS FOR CONCRETE	ASTM C1116, TYPE III
CORROSION INHIBITOR	515.15

THE CLASS QC3 CONCRETE FOR THE SUPERSTRUCTURE SHALL MEET THE FOLLOWING CRITERIA:
WATER/CEMENT RATIO = 0.40 MAXIMUM; MINIMUM 4 LBS/CY MACRO-SYNTHETIC FIBERS (1.5 INCHES MIN. TO 2.5 INCHES MAX.) MEETING ASTM C1116 TYPE III SHALL BE ADDED TO THE MIX.

MIX SHALL INCLUDE A MIGRATING CORROSION INHIBITOR AS MANUFACTURED BY AN APPROVED SUPPLIER LISTED ON ODOT'S QUALIFIED APPROVED SUPPLIERS, ITEM 515.15. THE DOSAGE RATE LISTED ON THE ODOT QUALIFIED APPROVED SUPPLIERS LIST WILL APPLY.

THE MACRO-SYNTHETIC FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX AT THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, AND MACRO-SYNTHETIC FIBERS PRIOR TO THE ADDITION OF WATER AND ADMIXTURES. PROVIDE MACRO-SYNTHETIC FIBERS THAT ARE MONOFILAMENT FIBERS MADE FROM VIRGIN POLYPROPYLENE, POLYETHYLENE, OR CO-POLYMERS THAT ARE INERT TO ALKALI ATTACK. ENSURE THE MACRO-SYNTHETIC FIBERS HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI, A MINIMUM MODULUS OF ELASTICITY OF 800 KSI, A MINIMUM FILAMENT DIAMETER OF 0.012 INCHES, AN ASPECT RATIO BETWEEN 60 AND 100, AND ARE BETWEEN 1.5 AND 2.5 INCHES IN LENGTH. STORE THE MACRO-SYNTHETIC FIBERS ACCORDING TO THE MANUFACTURE'S RECOMMENDATION AND KEEP THE MATERIAL FREE FROM DUST, DIRT, AND MOISTURE. PLACING THE BAG THAT THE FIBERS COME IN INTO THE CONCRETE MIX IS NOT PERMITTED.

ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE (CONTINUED):
ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN (CONTINUED):

USE A MINIMUM DOSAGE RATE OF MACRO-SYNTHETIC FIBERS OF 4.0 LBS/CY OF CONCRETE. DETERMINE THE FINAL PROPOSED DOSAGE RATE THROUGH MIX TESTING. ENSURE THE FIBER REINFORCED CONCRETE MEETS OR EXCEEDS A MINIMUM EQUIVALENT FLEXURAL STRENGTH RATIO OF 25% ACCORDING TO ASTM C 1609. ENSURE THE FINAL PROPOSED MIX IS WORKABLE AND ABLE TO BE PRODUCED SUCH THAT BALLING OR CLUMPING OF THE FIBERS IS NOT A PROBLEM AS DETERMINED BY THE ENGINEER. UTILIZE A LABORATORY REGULARLY INSPECTED BY THE CEMENT AND CONCRETE REFERENCE LABORATORY (CCRL) OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, OR OTHER APPROVED REFERENCE LABORATORY, TO PERFORM THE TESTING. BEFORE USE, SUBMIT DOCUMENTATION TO THE PROJECT ENGINEER CERTIFYING BOTH THE MACRO-SYNTHETIC FIBERS AND THE MIX MEET OR EXCEED THE REQUIRED PROPERTIES. SAMPLING WILL BE ALLOWED FOR TESTING PURPOSES. A DEMONSTRATION OF THE MIX PRODUCTION OR TRIAL MIX MAY BE REQUIRED BY THE ENGINEER PRIOR TO PLACING ANY OF THE MIX ON THE PROJECT.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED. THE TRANSIT MIXER CHARGE SHALL BE LIMITED TO 3/4 OF ITS RATED CAPACITY OR 6 CUBIC YARDS, WHICHEVER IS SMALLER. THE FIRST THREE TRANSIT MIXER LOADS ARE REQUIRED TO BE AT THE MINIMUM YARDAGE LISTED ABOVE TO SHOW PROOF OF THE SUCCESSFUL BATCHING OPERATION. AFTER CONSISTENCY IN THE DELIVERED MATERIAL HAS BEEN ESTABLISHED, THE CONCRETE SUPPLIER MAY INCREASE THE BATCH DELIVERED QUANTITIES AS LONG AS THE QUALITY REMAINS ACCEPTABLE TO THE ENGINEER. THE ENGINEER CAN REDUCE THE BATCH LOAD SIZE AT ANY TIME AS NEEDED TO CORRECT/IMPROVE CONCRETE QUALITY.

CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR AND ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CORROSION INHIBITOR IS SUGGESTED TO BE AN MCI PRODUCT BY CORTEC OR AN APPROVED EQUAL FROM THE QUALIFIED PRODUCTS LIST. THE CONCRETE SUPPLIER'S CHOICE OF ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS. PLEASE BE ADVISED THAT SOME PRODUCTS ON THE LIST AFFECT THE DELIVERED MIX PROPERTIES GREATLY WHILE OTHER PRODUCTS DO NOT.

APPROACH SLABS AND NON-SUPERSTRUCTURE BRIDGE RAILINGS CONCRETE ARE TO USE THE SAME MIX DESIGN AS THE BRIDGE DECK. THE CONTRACTOR SHOULD BE ADVISED THAT CONCRETE RETARDING AGENTS MAY NEED TO BE ADDED TO OFFSET THE EFFECTS OF THE MIGRATING CORROSION INHIBITOR SELECTED. USE SELF-COMPACTING CONCRETE ON DECORATIVE RAILING SIMILAR TO TEXAS RAILING AND MACRO-SYNTHETIC CONCRETE PER THIS SPECIFICATION ON TRADITIONAL CONCRETE RAILING WHEN APPLICABLE.

THE PLACING OF THE DECK AND THE APPROACH SLABS IN THE SAME CONCRETE POUR IS NOT PERMITTED.

THE CONTRACTOR SHALL PROVIDE TRADITIONAL BRIDGE DECK FORMS CONFORMING TO CMS 508 AND PERMANENT STAY-IN-PLACE (SIP) FORMS AS FOLLOWS:

LEFT AND RIGHT BRIDGE SPAN 1 AND SPAN 2 - SIP FORMS IN THE TRANSVERSE DIRECTION BETWEEN GIRDERS AND STRINGERS EXCEPT WITHIN 6 FEET OF THE ABUTMENT EXPANSION JOINTS AND IN THE CANTILEVER SLAB OVERHANGS. TRADITIONAL FORMS IN AREAS NOT COVERED ABOVE.

LEFT AND RIGHT BRIDGE SPAN 3 - TRADITIONAL FORMS ALL AREAS.

THE FOLLOWING IS A LISTING OF THE REQUIREMENTS FOR USE OF SIP FORMS:

DESIGN, FURNISH, AND INSTALL PERMANENT GALVANIZED STEEL SIP FABRICATED METAL FORMS FOR CONCRETE DECK SLABS OF ALL INTERIOR BAYS OF STRINGERS/GIRDERS ACCORDING TO CMS SECTIONS 508.01 AND 508.02 EXCEPT AS MODIFIED BY THESE NOTES. SIP FORMS SHALL NOT BE USED AT OVERHANGS.

DESIGN SIP FORMS TO SUPPORT THE DEAD WEIGHT OF SIP FORMS, CONCRETE REINFORCEMENT, WET CONCRETE PLUS 50 PSF FOR CONSTRUCTION LIVE LOADS, AND MEET THE DEFLECTION SPECIFICATIONS OF 508.02. ALL FLUTES SHALL BE FILLED WITH THE SAME CONCRETE MIX BEING POURED WITH THE DECK.

THE MAXIMUM ALLOWABLE WEIGHT FOR SIP FORMS SHALL BE 15 PSF. THE MAXIMUM ALLOWABLE WEIGHT INCLUDES THE ADDITIONAL CONCRETE WEIGHT REQUIRED TO FILL THE FLUTES OF THE SIP FORMS.

GENERAL NOTES - 2

BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
ZTW	RSB

REVIEWER: NFF 08/22/23

PROJECT ID: 110570

SUBSET	TOTAL
9	50

SHEET	TOTAL
P.123	208

HAM-US 50-29.00

MODEL: Sheet - 2 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:24:52 PM USER: rjgreve
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ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE (CONTINUED):
ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN (CONTINUED):

FABRICATE THE SIP FORMING SYSTEM ACCORDING TO ITEM 513 EXCEPT THAT FABRICATOR PRE-QUALIFICATION IS NOT REQUIRED. SUBMIT MILL TEST REPORTS FOR THE SIP FORMS ACCORDING TO 501.06. SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS FOR THE SIP FORMS ACCORDING TO 513.06. FURNISH FORM MATERIALS CONFORMING TO ASTM A653 WITH G235 COATING WEIGHT WITH A MINIMUM THICKNESS OF 20 GAGE. HOT DIP GALVANIZE ALL HARDWARE, HANGERS, AND INCIDENTALS.

DO NOT WELD SIP FORMS OR THEIR SUPPORTS TO THE STEEL BRIDGE MEMBERS.

ACHIEVE A ONE-INCH MINIMUM BEARING LENGTH ON ALL SUPPORTS OF A FLUTE.

PLACE CONCRETE ACCORDING TO THE CONTRACT SPECIFICATIONS:
-FILL THE ENTIRE FORM WITH DECK CONCRETE.
-UTILIZE PROPER CONSTRUCTION TECHNIQUES TO PREVENT VOIDS AND HONEYCOMBS ESPECIALLY AT ENDS OF SIP FORM SHEETS.

INSTALL SIP FORMS ACCORDING TO THESE NOTES:

1. PROVIDE THE ENGINEER WITH A WRITTEN INSTALLATION AND INSPECTION PROCEDURE. INCLUDE METHODS FOR ADJUSTING SUPPORT HEIGHTS, SIP ATTACHMENT SEQUENCE, PLACEMENT METHODS USED TO MINIMIZE COATING DAMAGE, COATING REPAIR METHODS, ACCEPTABLE TOLERANCES, AND INSPECTION CRITERIA.

2. FIELD CUT SIP FORMS USING MECHANICAL CUTTING METHODS. THERMAL CUTTING IS NOT PERMITTED.

3. PLACE FORM SUPPORTS IN DIRECT CONTACT WITH THE TOP OF THE BRIDGE'S STRUCTURAL MEMBERS.

4. SET THE HEIGHT OF THE FORM SUPPORTS SO SIP FORMS DO NOT REST DIRECTLY ON THE BRIDGE'S STRUCTURAL MEMBERS AND TO DEVELOP THE SPECIFIED DECK THICKNESS.

5. PLACE THE SIP FORMS DIRECTLY ON THE SUPPORTS.

6. CONNECT SIP FORMS TO SUPPORTS BEFORE USING THE SIP AS A WORKING SURFACE AND BEFORE THE END OF EACH WORK SHIFT.

7. PROVIDE SAFETY STOPS TO ELIMINATE HAZARDS FROM SUDDEN UPLIFT AND LATERAL MOVEMENT.

IN ADDITION TO THE REQUIREMENTS OF 105.10, FURNISH, ERECT, AND MOVE APPROPRIATE EQUIPMENT OR SCAFFOLDING TO ALLOW THE FOLLOWING INSPECTION ACCESS. PROVIDE COMPLETED INSPECTION CHECK LISTS TO DOCUMENT THE FOLLOWING INSPECTIONS:

1. PRIOR TO PLACING CONCRETE, VISUALLY INSPECT SIP FORMS FOR DAMAGE.

2. TWO DAYS AFTER CONCRETE PLACEMENT, TEST DECK FOR SOUNDNESS OR BONDING OF THE FORMS BY SOUNDING ON THE FORMS WITH A HAMMER. SOUND ALL SURFACES OR AT LEAST 10% OF THE PANELS WITH THE ENGINEER.

3. REMOVE SIP FORMS IN AREAS WITH DOUBTFUL SOUNDNESS OR BONDING FOR THE ENGINEER'S VISUAL INSPECTION. DO NOT REPLACE SIP FORMS REMOVED FOR INSPECTION. REMOVE FORMS SO THAT ADJACENT FORMS OR WORK IS NOT DEBONDED OR OTHERWISE DAMAGED.

4. IF DEFECTS ARE DISCOVERED DURING THE SPECIFIED INSPECTIONS, TEST THE COMPLETE DECK AND PROPOSE REPAIR OR REMOVAL METHODS ACCEPTABLE TO THE DEPARTMENT. THE DEPARTMENT MAY REQUIRE ADVANCED NON-DESTRUCTIVE TESTING METHODS SUCH AS GROUND PENETRATING RADAR TO VERIFY THE DECK CONDITION ACCORDING TO 105.11.

FURNISH GALVANIZED STEEL REINFORCEMENT 709.16 IN LIEU OF EPOXY COATED STEEL REINFORCEMENT FOR REINFORCED CONCRETE APPROACH SLABS.

ALL LABOR, MATERIALS AND INCIDENTALS FOR THE FABRICATION, DESIGN, AND INSTALLATION OF THE SIP FORMS SHALL BE INCLUDED WITH ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE FOR PAYMENT.

ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE BRIDGE RAILING:

THIS ITEM MODIFIES THE STANDARD 511 CONCRETE FOR STRUCTURES SPECIFICATION TO INCLUDE LIGHTWEIGHT AGGREGATE, MACRO-SYNTHETIC FIBERS, AND CORROSION INHIBITORS INTO THE SUPERSTRUCTURE RAILING CONCRETE. THIS ITEM SHALL CONFORM TO 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

PORTLAND CEMENT CONCRETE	499.03, CLASS QC3 MEETING A DESIGN STRENGTH OF 4,500 PSI WITH MACRO-SYNTHETIC FIBERS AND WITH MODIFICATION PER 511.02
FIBERS FOR CONCRETE	ASTM C1116, TYPE III
CORROSION INHIBITOR	515.15
LIGHTWEIGHT AGGREGATE	ASTM C3300

THE CLASS QC3 CONCRETE FOR THE SUPERSTRUCTURE RAILING SHALL MEET THE FOLLOWING CRITERIA:
WATER/CEMENT RATIO = 0.40 MAXIMUM; MINIMUM 4 LBS/CY MACRO-SYNTHETIC FIBERS (1.5 INCHES MIN. TO 2.5 INCHES MAX.) MEETING ASTM C1116 TYPE III SHALL BE ADDED TO THE MIX. THE FINAL CONCRETE MIX SHALL HAVE A MAXIMUM DRY WEIGHT OF 120 LBS/CF WITH THE LIGHTWEIGHT AGGREGATE MEETING THE REQUIREMENTS OF ASTM C330.

MIX SHALL INCLUDE A MIGRATING CORROSION INHIBITOR AS MANUFACTURED BY AN APPROVED SUPPLIER LISTED ON ODOT'S QUALIFIED APPROVED SUPPLIERS, ITEM 515.15. THE DOSAGE RATE LISTED ON THE ODOT QUALIFIED APPROVED SUPPLIERS LIST WILL APPLY.

THE MACRO-SYNTHETIC FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX AT THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, AND MACRO-SYNTHETIC FIBERS PRIOR TO THE ADDITION OF WATER AND ADMIXTURES. PROVIDE MACRO-SYNTHETIC FIBERS THAT ARE MONOFILAMENT FIBERS MADE FROM VIRGIN POLYPROPYLENE, POLYETHYLENE, OR CO-POLYMERS THAT ARE INERT TO ALKALI ATTACK. ENSURE THE MACRO-SYNTHETIC FIBERS HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI, A MINIMUM MODULUS OF ELASTICITY OF 800 KSI, A MINIMUM FILAMENT DIAMETER OF 0.012 INCHES, AN ASPECT RATIO BETWEEN 60 AND 100, AND ARE BETWEEN 1.5 AND 2.5 INCHES IN LENGTH. STORE THE MACRO-SYNTHETIC FIBERS ACCORDING TO THE MANUFACTURE'S RECOMMENDATION AND KEEP THE MATERIAL FREE FROM DUST, DIRT, AND MOISTURE. PLACING THE BAG THAT THE FIBERS COME IN INTO THE CONCRETE MIX IS NOT PERMITTED.

USE A MINIMUM DOSAGE RATE OF MACRO-SYNTHETIC FIBERS OF 4.0 LBS/CY OF CONCRETE. DETERMINE THE FINAL PROPOSED DOSAGE RATE THROUGH MIX TESTING. ENSURE THE FIBER REINFORCED CONCRETE MEETS OR EXCEEDS A MINIMUM EQUIVALENT FLEXURAL STRENGTH RATIO OF 25% ACCORDING TO ASTM C 1609. ENSURE THE FINAL PROPOSED MIX IS WORKABLE AND ABLE TO BE PRODUCED SUCH THAT BALLING OR CLUMPING OF THE FIBERS IS NOT A PROBLEM AS DETERMINED BY THE ENGINEER. UTILIZE A LABORATORY REGULARLY INSPECTED BY THE CEMENT AND CONCRETE REFERENCE LABORATORY (CCRL) OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, OR OTHER APPROVED REFERENCE LABORATORY, TO PERFORM THE TESTING. BEFORE USE, SUBMIT DOCUMENTATION TO THE PROJECT ENGINEER CERTIFYING BOTH THE MACRO-SYNTHETIC FIBERS AND THE MIX MEET OR EXCEED THE REQUIRED PROPERTIES. SAMPLING WILL BE ALLOWED FOR TESTING PURPOSES. A DEMONSTRATION OF THE MIX PRODUCTION OR TRIAL MIX MAY BE REQUIRED BY THE ENGINEER PRIOR TO PLACING ANY OF THE MIX ON THE PROJECT.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED. THE TRANSIT MIXER CHARGE SHALL BE LIMITED TO 3/4 OF ITS RATED CAPACITY OR 6 CUBIC YARDS, WHICHEVER IS SMALLER. THE FIRST THREE TRANSIT MIXER LOADS ARE REQUIRED TO BE AT THE MINIMUM YARDAGE LISTED ABOVE TO SHOW PROOF OF THE SUCCESSFUL BATCHING OPERATION. AFTER CONSISTENCY IN THE DELIVERED MATERIAL HAS BEEN ESTABLISHED, THE CONCRETE SUPPLIER MAY INCREASE THE BATCH DELIVERED QUANTITIES AS LONG AS THE QUALITY REMAINS ACCEPTABLE TO THE ENGINEER. THE ENGINEER CAN REDUCE THE BATCH LOAD SIZE AT ANY TIME AS NEEDED TO CORRECT/IMPROVE CONCRETE QUALITY.

ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE BRIDGE RAILING (CONTINUED):

CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR AND ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CORROSION INHIBITOR IS SUGGESTED TO BE AN MCI PRODUCT BY CORTEC OR AN APPROVED EQUAL FROM THE QUALIFIED PRODUCTS LIST. THE CONCRETE SUPPLIER'S CHOICE OF ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS. PLEASE BE ADVISED THAT SOME PRODUCTS ON THE LIST AFFECT THE DELIVERED MIX PROPERTIES GREATLY WHILE OTHER PRODUCTS DO NOT.

THIS LIGHTWEIGHT CONCRETE WILL ONLY BE USED ON THE SUPERSTRUCTURE RAILING AND NOT ON THE RAILINGS ON ANY APPROACH SLAB OR ABUTMENT BACKWALL. THE CONTRACTOR SHOULD BE ADVISED THAT CONCRETE RETARDING AGENTS MAY NEED TO BE ADDED TO OFFSET THE EFFECTS OF THE MIGRATING CORROSION INHIBITOR SELECTED.

ITEM 514 - SURFACE PREPARATION OF EXISTING STEEL:
ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN:
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN:
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN:

NO SPECIFIC AREAS HAVE BEEN DESIGNATED IN THE PLANS THAT WILL REQUIRE PAINTING. HOWEVER, AN ESTIMATED QUANTITY OF 100 SF HAS BEEN PROVIDED IF THE ENGINEER DETERMINES AN AREA REQUIRES PAINTING. THE CONTRACTOR MUST RECEIVE APPROVAL FROM THE ENGINEER BEFORE PERFORMING THIS WORK.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL NECESSARY EQUIPMENT TO INSPECT THIS WORK.

EXISTING STEEL AREAS SHALL RECEIVE A PRIME, INTERMEDIATE, AND FINISH COAT APPLIED IN THE FIELD. PROPOSED STEEL, IF APPLICABLE, SHALL BE SHOP PRIMED AND RECEIVE AN INTERMEDIATE AND FINISH COAT APPLIED IN THE FIELD.

THE FINISH COAT SHALL MATCH THE EXISTING BEAM'S COLOR. OBTAIN THE ENGINEER'S APPROVAL OF PAINT COLOR BEFORE APPLYING FINISH COAT.

PRIOR TO THE START OF WORK ON THE STRUCTURE, THE CONTRACTOR SHALL DOCUMENT THE EXISTING CONDITION OF THE PAINTED STRUCTURE TO IDENTIFY AREAS PREVIOUSLY DAMAGED THAT ARE OUTSIDE THE LIMITS OF THE CURRENT PAY ITEMS. PAINTED AREAS THAT WERE NOT PREVIOUSLY DAMAGED THAT RECEIVE DAMAGE BY THE CONTRACTOR'S ACTIVITIES ONCE WORK BEGINS WILL BE REPAIRED AT THE CONTRACTOR'S COST.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN:

PRIOR TO THE SURFACE CLEANING SPECIFIED IN CMS 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED STEEL REINFORCEMENT. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ITEM SPECIAL - STRUCTURES: SITE ACCESS:

THIS ITEM SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO ACCESS THE BRIDGE, INCLUDING BUT NOT LIMITED TO, COORDINATION WITH THE RAILROAD(S) ON THEIR REQUIREMENTS OF A TEMPORARY GRADE CROSSING AT THEIR TRACKS, ANY CLEARING AND GRUBBING REQUIRED TO GAIN ACCESS THAT IS NOT ACCOUNTED FOR IN OTHER WORK ITEMS, AND THE INSTALLATION, MAINTENANCE, AND REMOVAL OF RAILROAD TEMPORARY GRADE CROSSINGS. THIS ITEM ALSO INCLUDES REPAIR OF OLD RED BANK ROAD TO BE DONE AS DIRECTED BY THE ENGINEER, AND THE REPLACEMENT OF ANY EXISTING ROAD FEATURES, TO THE SATISFACTION OF THE ENGINEER, THAT ARE DAMAGED DUE TO THE CONTRACTOR'S CHOSEN SITE ACCESS.

ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN:

WITH PRIOR APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY REDRESS THE SLOPES WITH THE EXISTING CRUSHED AGGREGATE. WHERE ADDITIONAL MATERIAL IS REQUIRED, FURNISH AND PLACE CRUSHED AGGREGATE IN ACCORDANCE WITH CMS 601. AN ESTIMATED QUANTITY OF 100 SQUARE YARDS HAS BEEN INCLUDED FOR THIS WORK. ACTUAL QUANTITIES OF SLOPE TO BE REDRESSED AND NEW MATERIAL TO BE PLACED SHALL BE AS DIRECTED BY THE ENGINEER.

ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN:

THE STANDARD DRAWING VPF-1-90 SHALL BE FOLLOWED CONCERNING THE VANDAL PROTECTION FENCE EXCEPT FOR THE FOLLOWING:

THE FABRIC SHALL CONSIST OF A 1 INCH DIAMOND MESH USING 0.148 INCH DIAMETER (9 GAGE) WIRE CONFORMING TO ASTM F668 CLASS 2A OR 2B.

ITEM SPECIAL - AS-BUILT CONSTRUCTION PLANS:

ALL NECESSARY CHANGES TO THE RAILROAD TRACK CLEARANCES (VERTICAL AND HORIZONTAL) AND DEPTH, SIZE, AND LOCATION OF FOUNDATION COMPONENTS MADE IN THE FIELD TO THIS CONSTRUCTION PLAN SHALL BE CAREFULLY DOCUMENTED AND PRESENTED TO EACH RAILROAD COMPANY AT THE CONCLUSION OF THE PROJECT. THEREFORE, STRICT ADHERENCE TO THE PLANS IS IN THE BEST INTEREST OF ALL PARTIES. HOWEVER, IF CHANGES MUST BE MADE IN THE FIELD, THE CONTRACTOR SHALL CAREFULLY AND CLEARLY RECORD THEM. AT THE CONCLUSION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT THESE CHANGES (IF ANY) TO THE PROJECT ENGINEER IN A DOCUMENT SIGNED, DATED, AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER OR SURVEYOR IN THE STATE OF OHIO. THE PROJECT ENGINEER SHALL SUBMIT THE COMPLETED DOCUMENT TO EACH RAILROAD COMPANY.

ALL LABOR, MATERIALS, EQUIPMENT, AND OTHER INCIDENTALS NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED IN ITEM SPECIAL - AS-BUILT CONSTRUCTION PLANS FOR PAYMENT.

ABBREVIATONS:

CONST.	CONSTRUCTION
DIA.	DIAMETER
DIM.	DIMENSION
E.F.	EACH FACE
EL.	ELEVATION
EX.	EXISTING
EXP.	EXPANSION
F.F.	FAR FACE
FIX.	FIXED
FT.	FOOT/FEET
H.P.	HIGH PRESSURE
INV.	INVERT
L.F.	LEFT FORWARD
LT.	LEFT
MAX.	MAXIMUM
MIN.	MINIMUM
N.F.	NEAR FACE
P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
PT.	POINT
R.F.	RIGHT FORWARD
RT.	RIGHT
SPA.	SPACING/SPACES
STA.	STATION
TYP.	TYPICAL

GENERAL NOTES - 3

BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER ZTW | CHECKER RSB
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 10 | TOTAL 50
SHEET P.124 | TOTAL 208

HAM-US 50-29.00

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CALC:	GJZ	DATE:	8/27/2023
CHECKED:	ZTW	DATE:	8/30/2023

ESTIMATED QUANTITIES

STRUCTURE FILE NUMBER: 3103811

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPERSTRUCTURE	GENERAL	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	P.123
202	22900	267	SY	APPROACH SLAB REMOVED				267	
202	23500	267	SY	WEARING COURSE REMOVED				267	
202	98200	854	FT	REMOVAL MISC.: PORTION OF STRUCTURE REMOVED, BULB ANGLE, AS PER PLAN			854		P.123
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (TEMPORARY WALL 1)				LS	P.123
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (TEMPORARY WALL 2)				LS	P.123
503	21301	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN				LS	P.123
509	20001	100	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				100	P.123
509	26001	357,286	LB	GALVANIZED STEEL REINFORCEMENT, AS PER PLAN	20,682		336,604		P.123
509	30020	29,601	FT	NO. 4 DEFORMED GFRP REINFORCEMENT			29,601		
510	10001	534	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	534				P.123
511	43512	154	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	154				
511	53014	997	CY	CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE	3		958	36	P.123
511	53014	326	CY	CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE BRIDGE RAILING			326		P.124
512	10100	2,127	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	233	283	1,458	153	
512	10600	104	FT	CONCRETE REPAIR BY EPOXY INJECTION	104				
512	33000	68	SY	TYPE 2 WATERPROOFING	68				
512	74000	171	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES		171			
513	20000	21,476	EACH	WELDED STUD SHEAR CONNECTORS			21,476		
514	00050	100	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			100		P.124
514	00057	100	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN			100		P.124
514	00061	100	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN			100		P.124
514	00067	100	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			100		P.124
514	00504	5	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			5		
514	10000	2	EACH	FINAL INSPECTION REPAIR			2		
516	11211	150	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			150		P.159
516	13600	172	SF	1" PREFORMED EXPANSION JOINT FILLER	44			128	
518	12301	24	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN (TYPE A)			24		P.142
518	12301	8	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN (TYPE B)			8		P.142
518	20000	161	SY	PREFABRICATED GEOCOMPOSITE DRAIN	161				
518	21200	8	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	8				
518	40000	168	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	168				
518	40011	111	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	111				P.131
SPECIAL	51900100	1,535	SF	COMPOSITE FIBER WRAP SYSTEM (SEE PROPOSAL NOTE)		1,535			P.138
519	11101	264	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	209	55			P.124
526	25011	425	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN				425	P.123
526	90010	153	FT	TYPE A INSTALLATION				153	
SPECIAL	53000200	LS		STRUCTURES: SITE ACCESS				LS	P.124
601	20001	100	SY	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN				100	P.124
607	39901	852	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN			852		P.124
SPECIAL	69091000	LS		AS-BUILT CONSTRUCTION PLANS				LS	P.124

ESTIMATED QUANTITIES
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
ZTW	RSB

REVIEWER NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
11	50

SHEET	TOTAL
P.125	208

HAM-US 50-29.00

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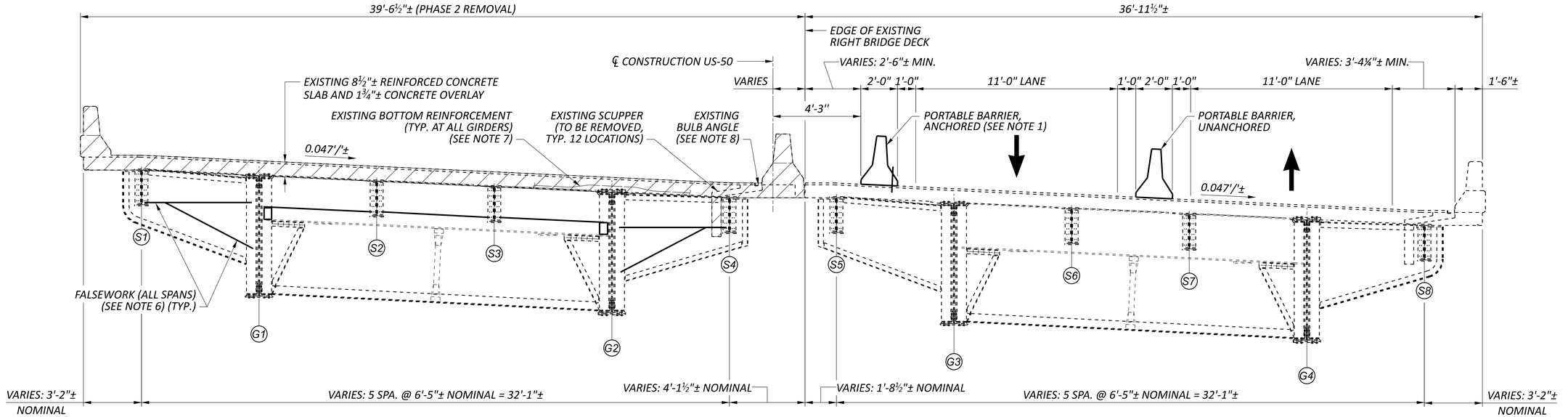
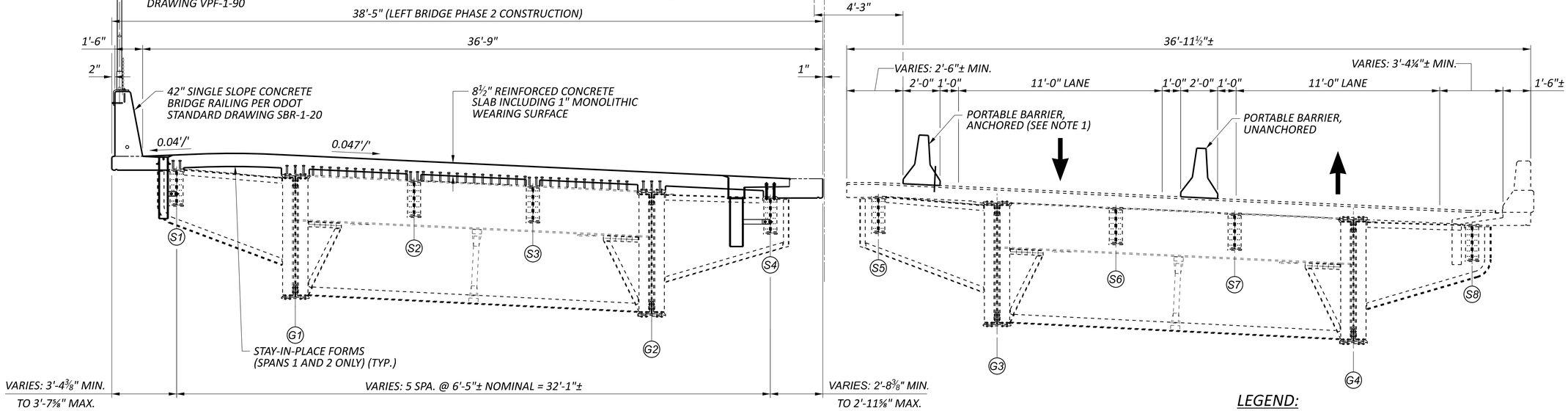


PHASE 2 - REMOVAL



PHASE 2 - CONSTRUCTION

SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION:

PHASE 2

1. PLACE PHASE 2 PORTABLE BARRIERS AND DIRECT TRAFFIC AS SHOWN IN MOT PLANS.
2. REMOVE PHASE 2 OF THE EXISTING DECK, SCUPPERS, RAILINGS, LIGHT POLES, AND APPROACH SLABS.
3. INSTALL TEMPORARY WALLS 1 AND 2 AT BOTH ABUTMENTS.
4. REMOVE PHASE 2 OF THE REAR AND FORWARD ABUTMENT BACKWALLS.
5. PATCH CONCRETE AND SEAL CRACKS AT REAR ABUTMENT, FORWARD ABUTMENT, PIER 1, AND PIER 2.
6. INSTALL FIBER REINFORCED POLYMER WRAP AT PIER 2.
7. CONSTRUCT PHASE 2 OF THE REAR AND FORWARD ABUTMENT BACKWALLS AND BACKFILL.
8. CONSTRUCT PHASE 2 OF THE DECK, SCUPPERS, RAILINGS, AND APPROACH SLABS.

NOTES:

1. INSTALL 2 ANCHORS PER SEGMENT IN ACCORDANCE WITH ODOT STANDARD DRAWING PCB-91 ON THE TRAFFIC SIDE OF THE BARRIER, OR 2 ANCHORING PINS PER SEGMENT IN ACCORDANCE WITH ODOT STANDARD DRAWING RM-4.2 ON THE TRAFFIC SIDE OF THE BARRIER, DEPENDING ON WHICH PORTABLE BARRIER, ANCHORED SYSTEM IS CHOSEN.
2. FOR PHASE 3 REMOVAL AND PHASE 3 CONSTRUCTION, SEE SHEET 13 OF 50.
3. FOR LEFT BRIDGE TRANSVERSE SECTION, SEE SHEET 38 OF 50.
4. SEE EXISTING PLANS FOR ADDITIONAL BRIDGE DETAILS NOT SHOWN.
5. FOR ADDITIONAL MOT DETAILS AND PAY ITEMS, SEE MAINTENANCE OF TRAFFIC PLANS.
6. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF THE FALSEWORK REQUIRED DURING DECK REMOVAL OPERATIONS. NON-STANDARD MEANS AND METHODS OF DECK REMOVAL OPERATIONS MAY BE WARRANTED.
7. DUE TO THE CONDITION OF THE EXISTING CONCRETE DECK AND LOCATION OF EXISTING BOTTOM MAT REINFORCEMENT ATOP THE GIRDERS, CAREFULLY EXAMINE THE BID DOCUMENTS AND PERFORM A REASONABLE SITE INVESTIGATION ACCORDING TO CMS 102.05 PRIOR TO SUBMITTING A BID.
8. SEE ITEM 202 - REMOVAL MISC.: PORTION OF STRUCTURE REMOVED, BULB ANGLE, AS PER PLAN NOTE ON SHEET 9 OF 50 FOR ADDITIONAL BULB ANGLE REMOVAL DETAILS.

LEGEND:

INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

PHASE CONSTRUCTION DETAILS - 1
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
RSB	ZTW

REVIEWER NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
12	50

SHEET	TOTAL
P.126	208

HAM-US 50-29.00

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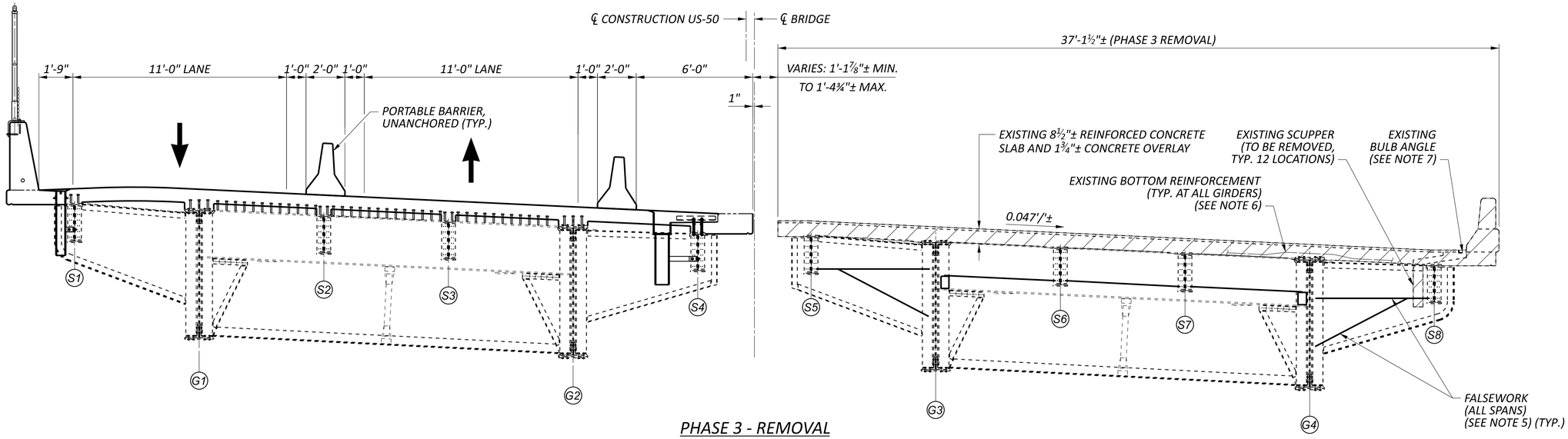
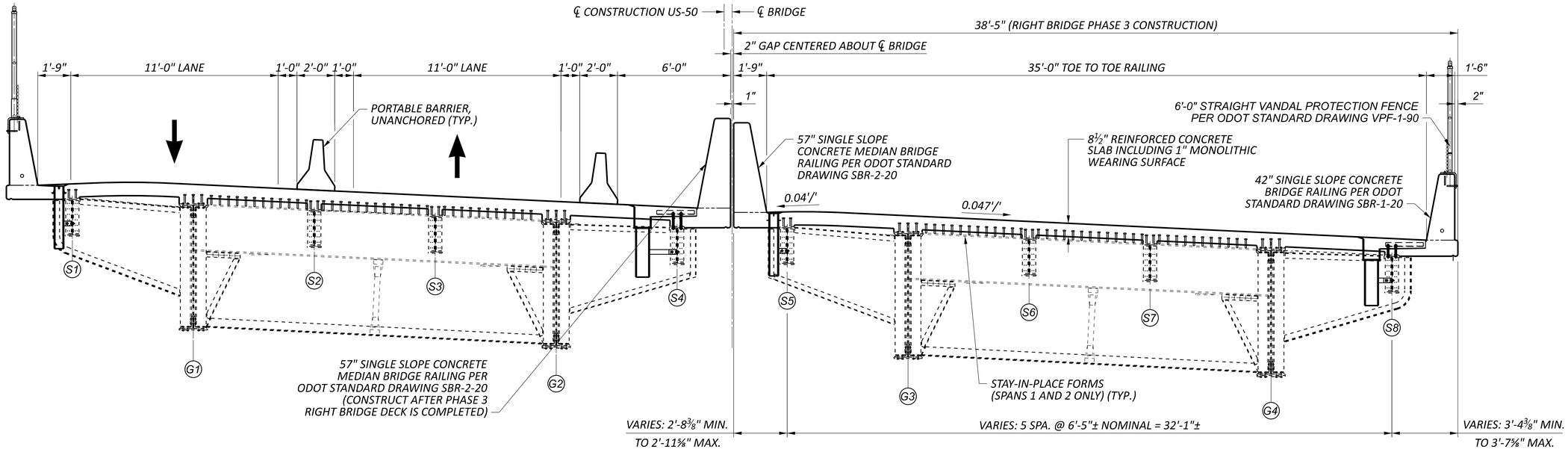


PHASE 3 - REMOVAL



PHASE 3 - CONSTRUCTION

SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION:

PHASE 3

1. PLACE PHASE 3 PORTABLE BARRIER AND DIRECT TRAFFIC AS SHOWN IN MOT PLANS.
2. REMOVE PHASE 3 OF THE EXISTING DECK, SCUPPERS, RAILINGS, LIGHT POLES, AND APPROACH SLABS.
3. REMOVE PHASE 3 OF THE REAR AND FORWARD ABUTMENT BACKWALLS.
4. CONSTRUCT PHASE 3 OF THE REAR AND FORWARD ABUTMENT BACKWALLS AND BACKFILL.
5. REMOVE TEMPORARY WALLS 1 AND 2 AT BOTH ABUTMENTS.
6. CONSTRUCT PHASE 3 OF THE DECK, SCUPPERS, RAILINGS, AND APPROACH SLABS.

NOTES:

1. FOR PHASE 2 REMOVAL AND PHASE 2 CONSTRUCTION, SEE SHEET 12 OF 50.
2. FOR RIGHT BRIDGE TRANSVERSE SECTION, SEE SHEET 39 OF 50.
3. SEE EXISTING PLANS FOR ADDITIONAL BRIDGE DETAILS NOT SHOWN.
4. FOR ADDITIONAL MOT DETAILS AND PAY ITEMS, SEE MAINTENANCE OF TRAFFIC PLANS.
5. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF THE FALSEWORK REQUIRED DURING DECK REMOVAL OPERATIONS. NON-STANDARD MEANS AND METHODS OF DECK REMOVAL OPERATIONS MAY BE WARRANTED.
6. DUE TO THE CONDITION OF THE EXISTING CONCRETE DECK AND LOCATION OF EXISTING BOTTOM MAT REINFORCEMENT ATOP THE GIRDERS, CAREFULLY EXAMINE THE BID DOCUMENTS AND PERFORM A REASONABLE SITE INVESTIGATION ACCORDING TO CMS 102.05 PRIOR TO SUBMITTING A BID.
7. SEE ITEM 202 - REMOVAL MISC.: PORTION OF STRUCTURE REMOVED, BULB ANGLE, AS PER PLAN NOTE ON SHEET 9 OF 50 FOR ADDITIONAL BULB ANGLE REMOVAL DETAILS.

LEGEND:

INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

PHASE CONSTRUCTION DETAILS - 2
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER RSB | CHECKER ZTW
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 13 | TOTAL 50
SHEET P.127 | TOTAL 208

HAM-US 50-29.00

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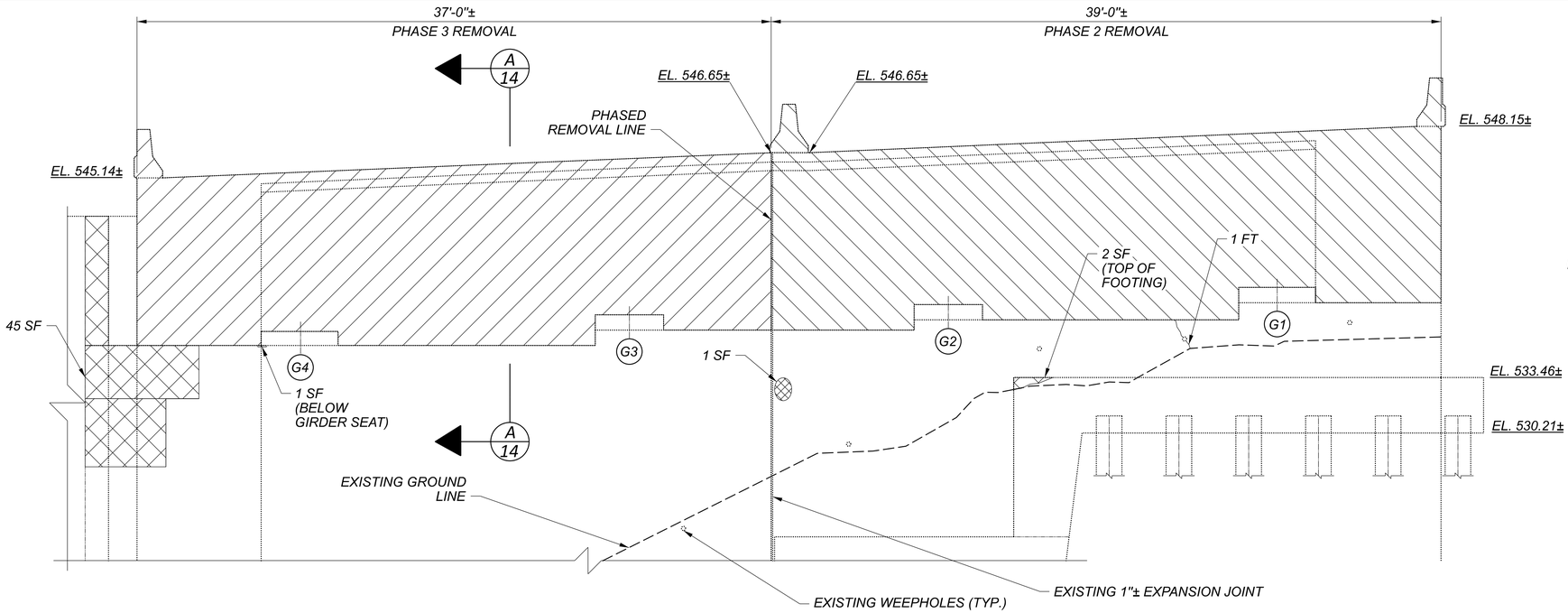
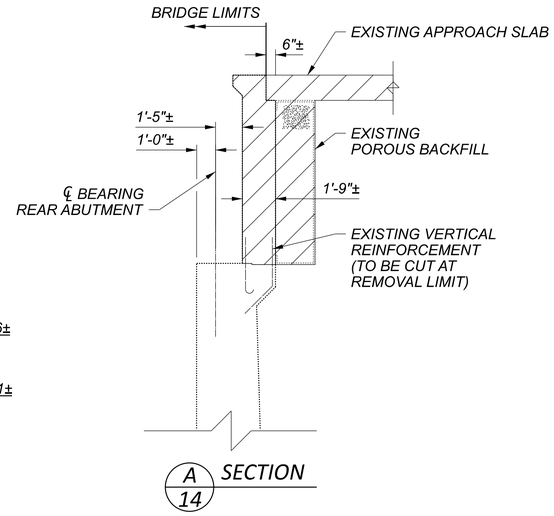
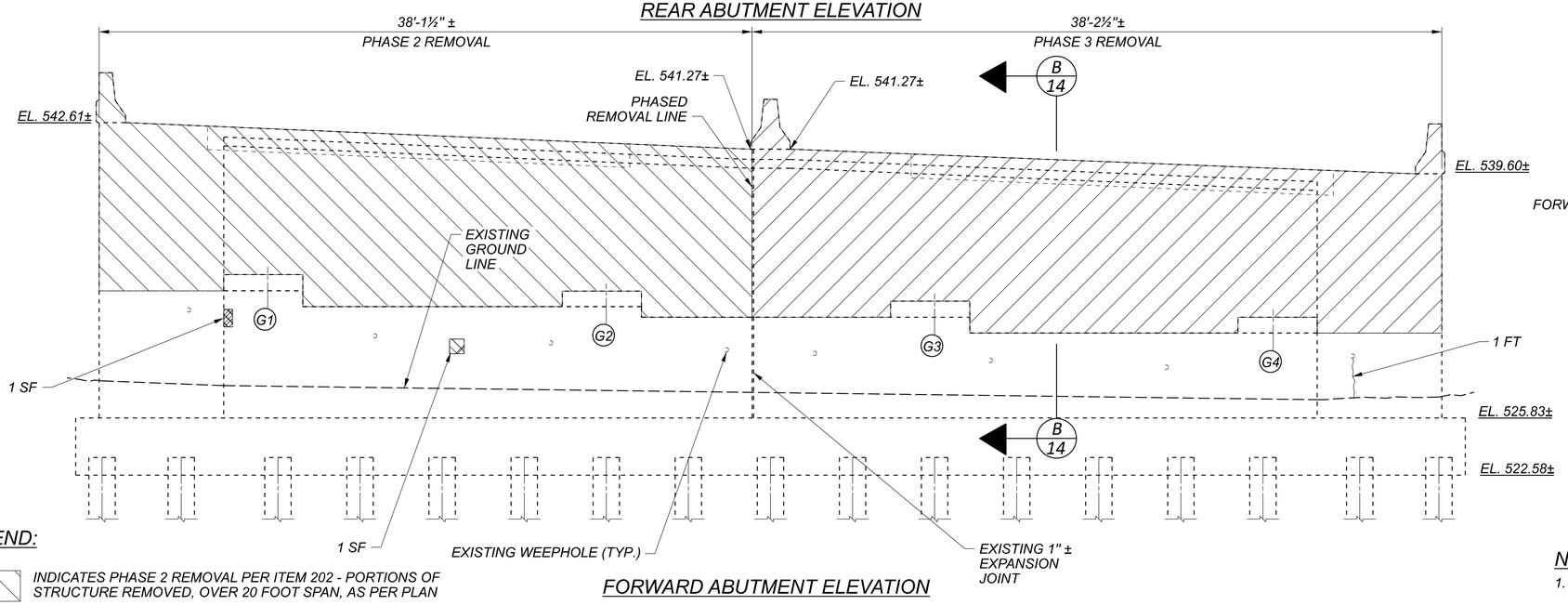
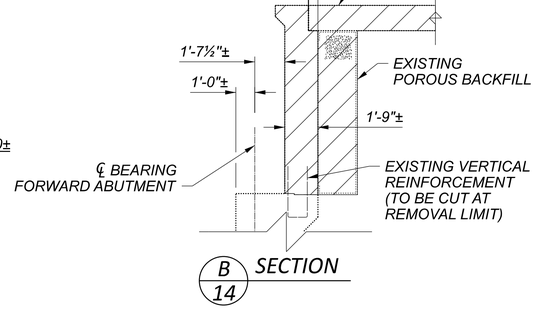


REAR ABUTMENT ELEVATION





FORWARD ABUTMENT ELEVATION



LEGEND:

- INDICATES PHASE 2 REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
- INDICATES PHASE 3 REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
- INDICATES AREAS TO BE PATCHED PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN
- INDICATES CRACKS TO BE REPAIRED PER ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION

ITEM 519 REPAIR AREAS

	MEASURED QUANTITY (SF)	CONTINGENT QUANTITY (SF)	TOTAL QUANTITY (SF)
REAR ABUTMENT	49	25	74
FORWARD ABUTMENT	2	1	3

ITEM 512 REPAIR LENGTHS

	MEASURED QUANTITY (FT)	CONTINGENT QUANTITY (FT)	TOTAL QUANTITY (FT)
REAR ABUTMENT	1	1	2
FORWARD ABUTMENT	1	1	2

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION PERFORMED IN SEPTEMBER 2021. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED SHALL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE TOTAL CONCRETE PATCHING AND CRACK REPAIR AREAS INDICATED ON THEDETAILS HAVE BEEN INCREASED TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELDINSPECTION.
3. ALL EXISTING BRIDGE ELEVATIONS HAVE BEEN ADJUSTED TO THE CURRENT PROJECT SURVEY ELEVATIONS AND ARE APPROXIMATELY 0.61 FEET LOWER THAN THE ELEVATIONS IN THE ORIGINAL PLANS.
4. SEE EXISTING PLANS FOR ADDITIONAL BRIDGE DETAILS NOT SHOWN.

ABUTMENT REMOVAL AND PATCHING DETAILS
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
RSB	TOR

REVIEWER
NFF 08/22/23

PROJECT ID
110570

SUBSET	TOTAL
14	50

SHEET	TOTAL
P.128	208

HAM-US 50-29.00

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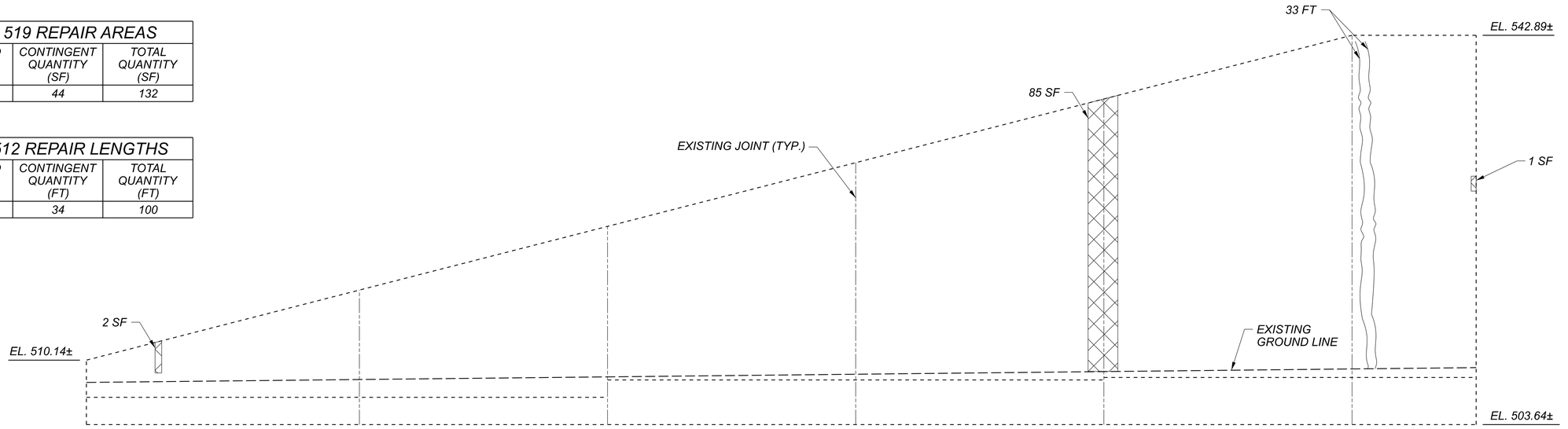
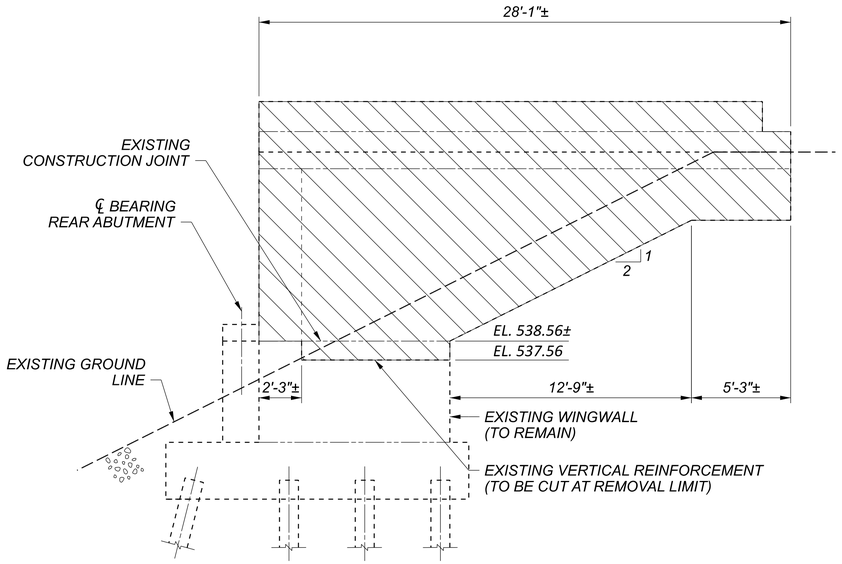
ITEM 519 REPAIR AREAS		
MEASURED QUANTITY (SF)	CONTINGENT QUANTITY (SF)	TOTAL QUANTITY (SF)
88	44	132

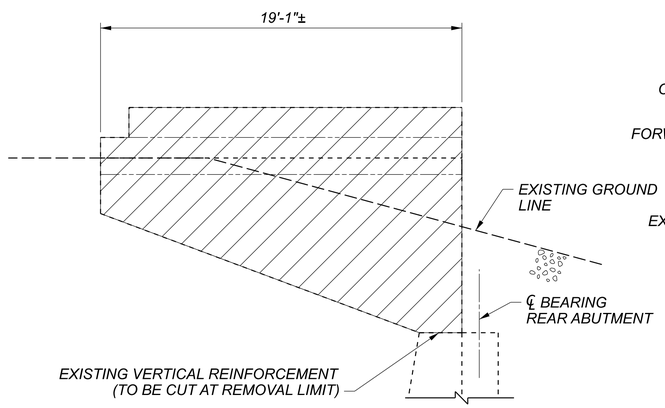
ITEM 512 REPAIR LENGTHS		
MEASURED QUANTITY (FT)	CONTINGENT QUANTITY (FT)	TOTAL QUANTITY (FT)
66	34	100



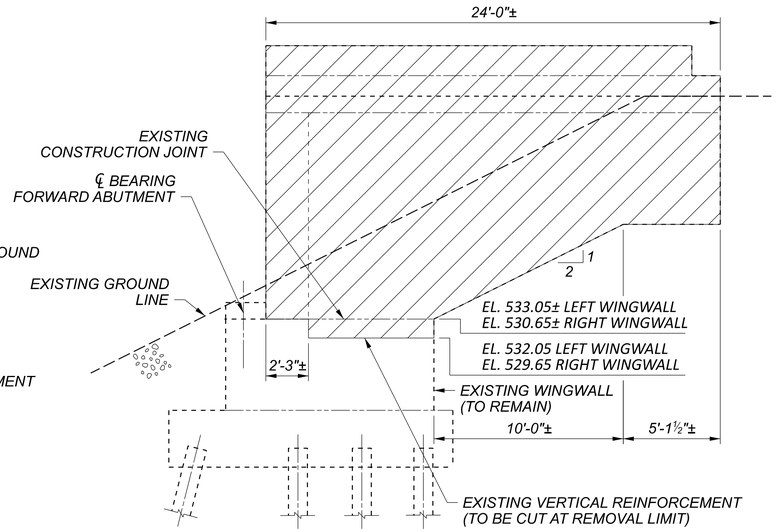
RIGHT REAR RETAINING WALL ELEVATION



LEFT REAR WINGWALL ELEVATION



RIGHT REAR WINGWALL ELEVATION



TYPICAL FORWARD WINGWALL ELEVATION

(LEFT WINGWALL TO BE PARTIALLY REMOVED IN PHASE 2, RIGHT WINGWALL TO BE PARTIALLY REMOVED IN PHASE 3)

LEGEND:

INDICATES PHASE 2 REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

INDICATES PHASE 3 REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

INDICATES AREAS TO BE PATCHED PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

INDICATES CRACKS TO BE REPAIRED PER ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASEDON A FIELD INSPECTION PERFORMED IN SEPTEMBER 2021. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED SHALL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE TOTAL CONCRETE PATCHING AND CRACK REPAIR AREAS INDICATED ON THE DETAILS HAVE BEEN INCREASED TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.
3. ALL EXISTING BRIDGE ELEVATIONS HAVE BEEN ADJUSTED TO THE CURRENT PROJECT SURVEY ELEVATIONS AND ARE APPROXIMATELY 0.61 FEET LOWER THAN THE ELEVATIONS IN THE ORIGINAL PLANS.
4. SEE EXISTING PLANS FOR ADDITIONAL BRIDGE DETAILS NOT SHOWN.

WINGWALL REMOVAL AND PATCHING DETAILS
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
RSB	TOR

REVIEWER NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
15	50

SHEET	TOTAL
P.129	208

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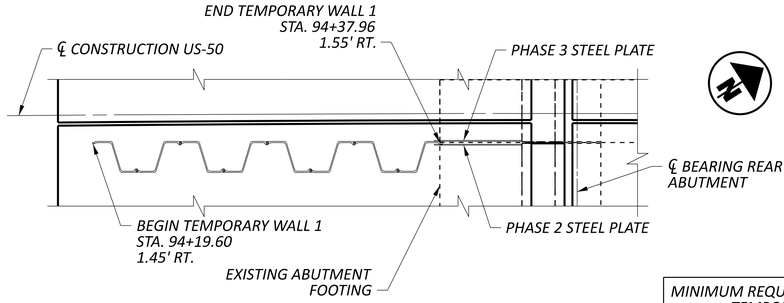
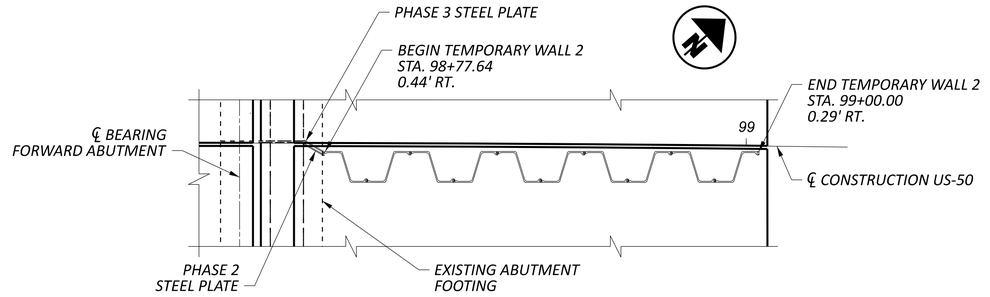
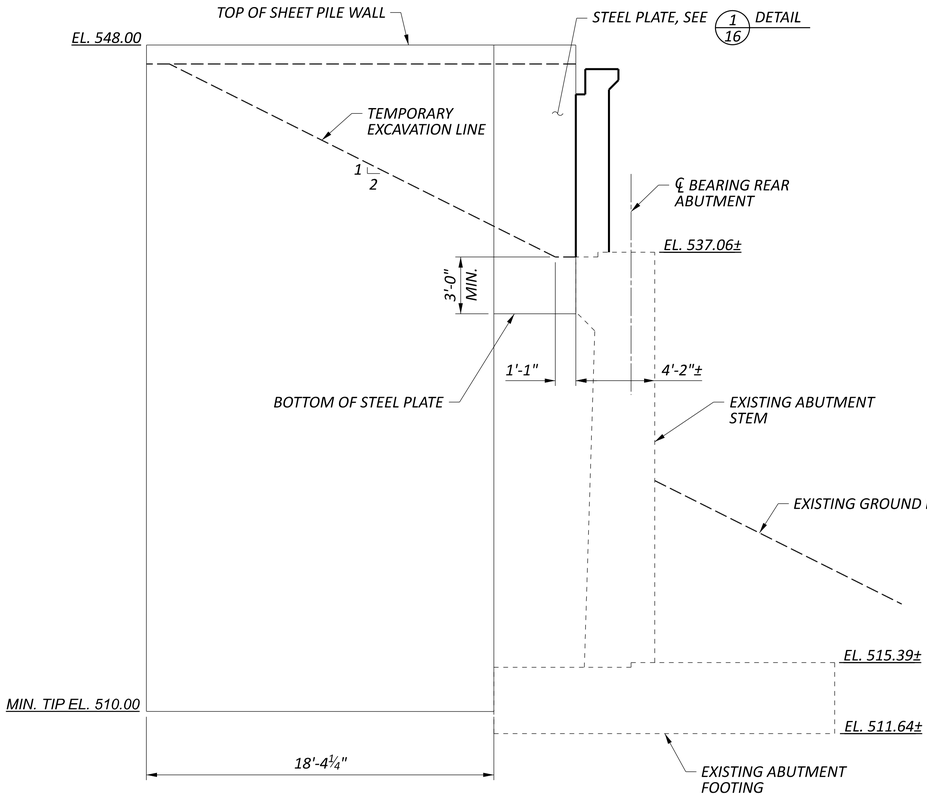


TEMPORARY WALL 1 PLAN

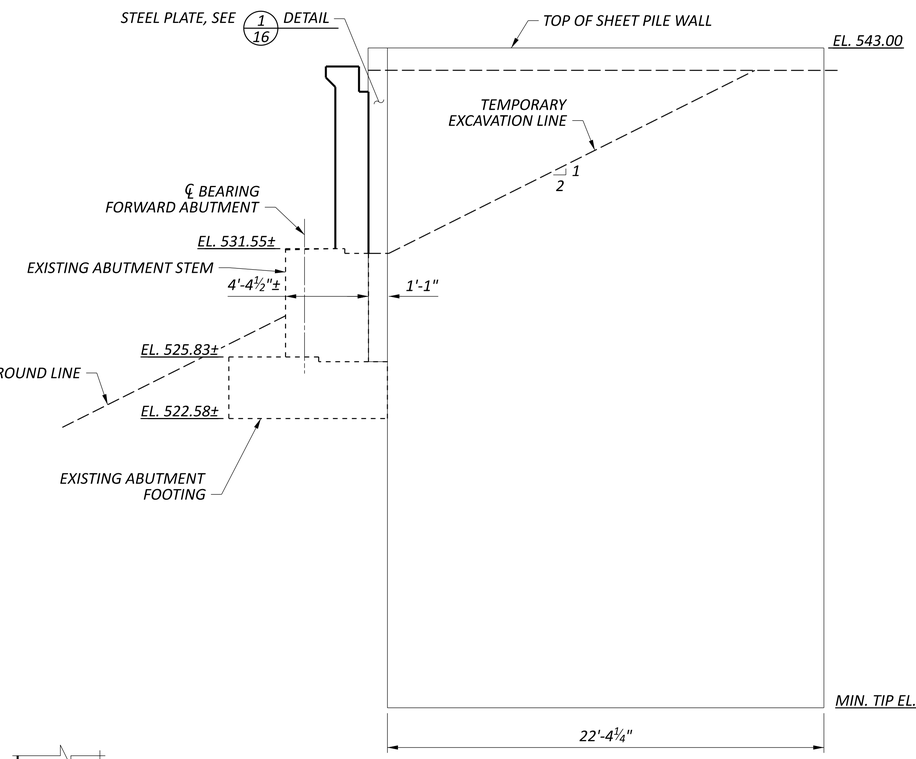
MINIMUM REQUIRED SHEET PILE PROPERTIES, TEMPORARY WALLS 1 AND 2	
MOMENT OF INERTIA ($IN^4/FT.$)	MATERIAL
697.30	ASTM A572 GRADE 60



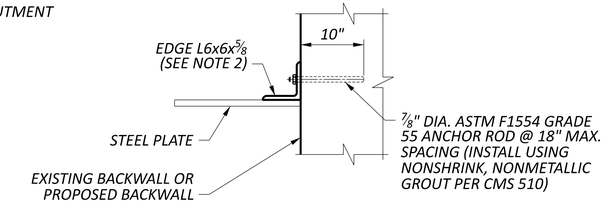
TEMPORARY WALL 2 PLAN



TEMPORARY WALL 1 ELEVATION
(LOOKING NORTH)



TEMPORARY WALL 2 ELEVATION
(LOOKING NORTH)



1/16 DETAIL
(PHASE 2 SHOWN, PHASE 3 SIMILAR)

NOTES:

1. ALL STATIONS AND OFFSETS ARE ALONG THE FAR FACE OF THE SHEET PILING.
2. POSITION EDGE ANGLES SNUGLY AGAINST STEEL PLATE AND WEDGE AS NECESSARY TO ENSURE FULL CONTACT WITH STEEL PLATE. ANCHOR EACH ANGLE WITH 7/8" DIAMETER ANCHOR RODS WITH 10" MINIMUM EMBEDMENT INTO CONCRETE PER CMS 510. NONSHRINK, NONMETALLIC GROUT SHALL CONFORM TO CMS 705.20. PAYMENT SHALL BE INCLUDED WITH ITEM 503.

TEMPORARY WALL 1 AND WALL 2 DETAILS
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114
DESIGNER JPD | CHECKER TOR
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 16 | TOTAL 50
SHEET P.130 | TOTAL 208

HAM-US 50-29.00

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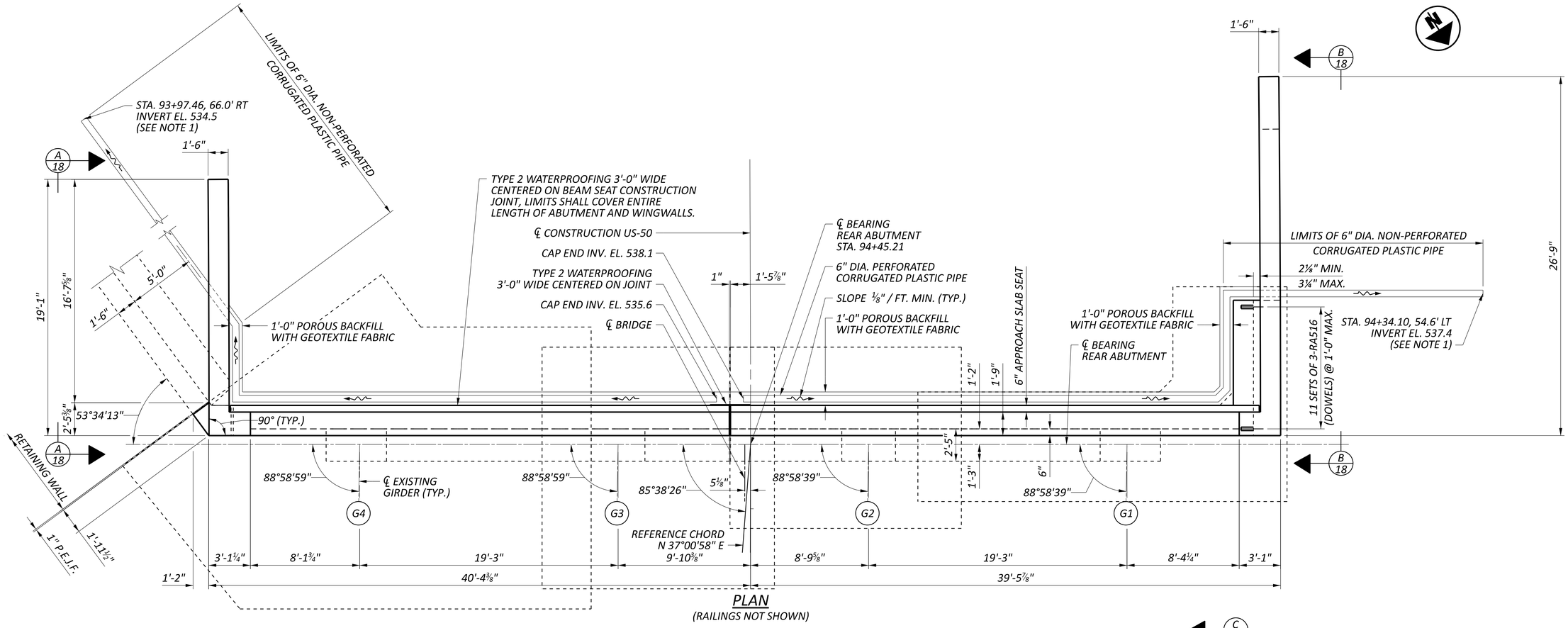

LAP LENGTH TABLE	
BAR	REQUIRED LAP LENGTH
NO. 5 HORIZONTAL	3'-1" MIN.
NO. 5 VERTICAL	2'-5" MIN.

NOTES:

1. PROVIDE PRECAST CONCRETE OUTLET WITH TYPE 1 TIED CONCRETE BLOCK MAT AS SHOWN IN ODOT STANDARD DRAWING DM-1.1. ALL LABOR, MATERIAL, AND INCIDENTALS REQUIRED TO PLACE SHALL BE INCLUDED WITH ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN FOR PAYMENT.
2. ALL DOWELS SHALL BE INSTALLED PER CMS 510 AND SET WITH A NONSHRINK, NONMETALLIC GROUT THAT SATISFIES ACI 355.4 REQUIREMENTS. DOWEL HOLE MAY BE REPOSITIONED 1" AS REQUIRED TO CLEAR EXISTING REINFORCING.
3. FOR THE PORTION OF THE RIGHT BRIDGE MEDIAN RAILING THAT EXTENDS OVER THE TOP OF THE ABUTMENT BACKWALL, PROVIDE A SMOOTH FINISH TO THE TOP OF BACKWALL CONCRETE AND PLACE A BOND BREAKER BETWEEN THE RIGHT BRIDGE MEDIAN RAILING AND ABUTMENT BACKWALL. BOND BREAKER SHALL BE COMPRISED OF TWO SEPARATE COATS OF MEMBRANE CURE, AS PER CMS 511.14.B, APPLIED TO THE TOP OF BACKWALL CONCRETE AND ALL COSTS SHALL BE CONSIDERED INCIDENTAL TO ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING.
4. FOR RAILING DETAILS, SEE SHEETS 42 AND 43 OF 50 .

REAR ABUTMENT PLAN AND ELEVATION
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER ZTW | CHECKER RSB
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 17 | TOTAL 50
SHEET P.131 | TOTAL 208

HAM-US 50-29.00
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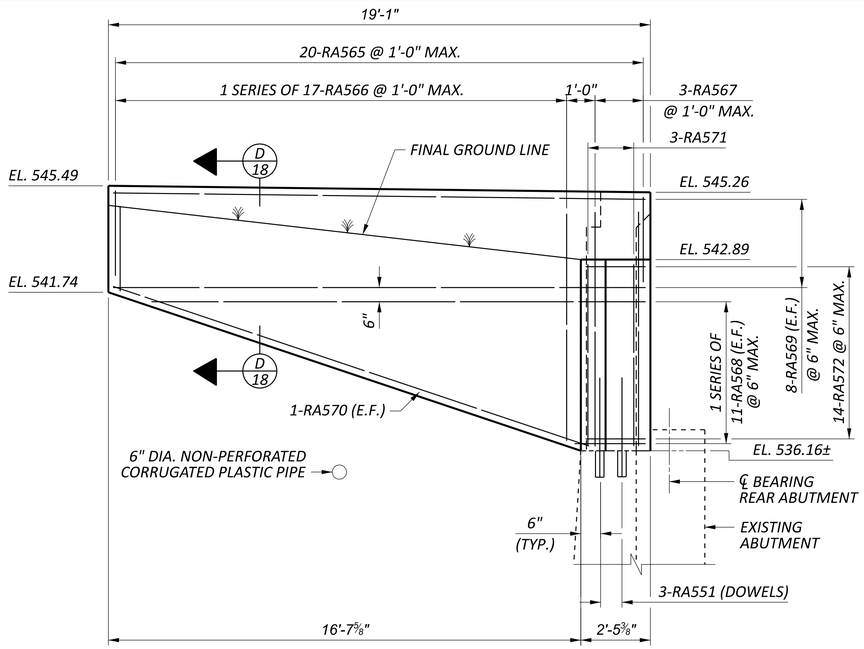
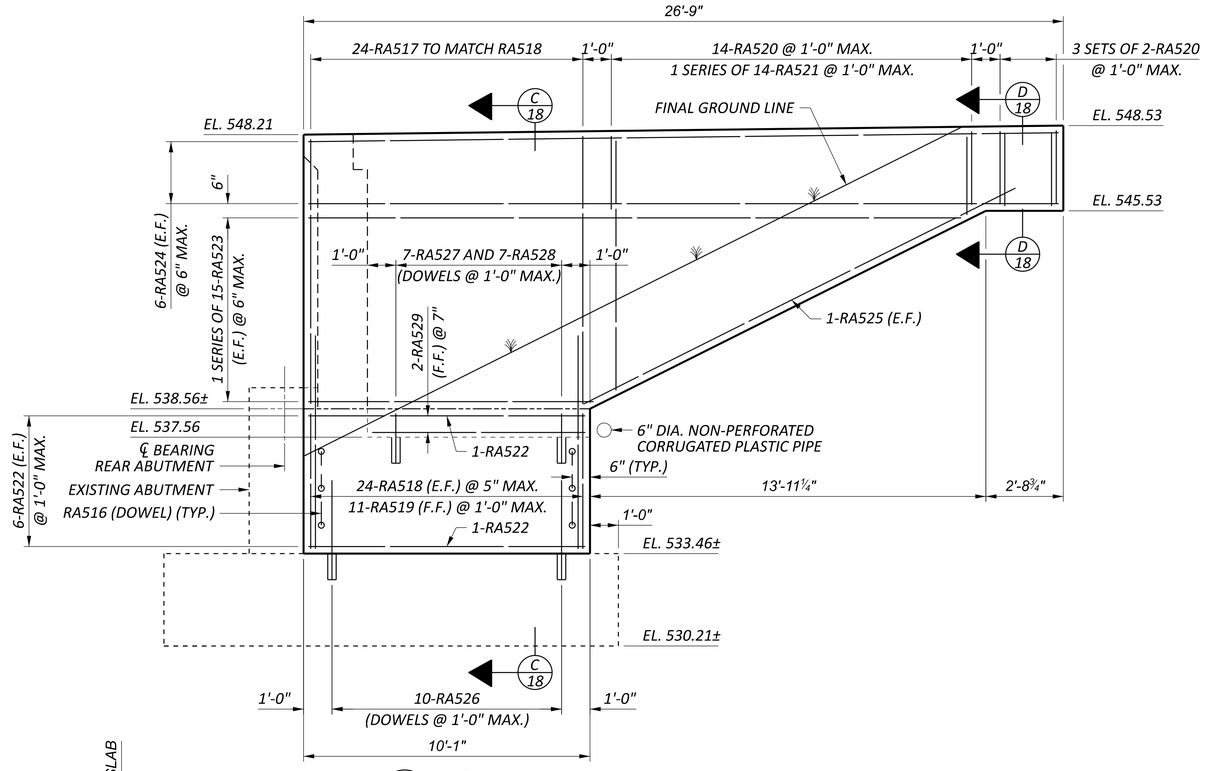


A 17 VIEW (PILES NOT SHOWN)



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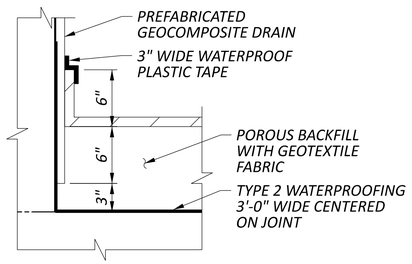
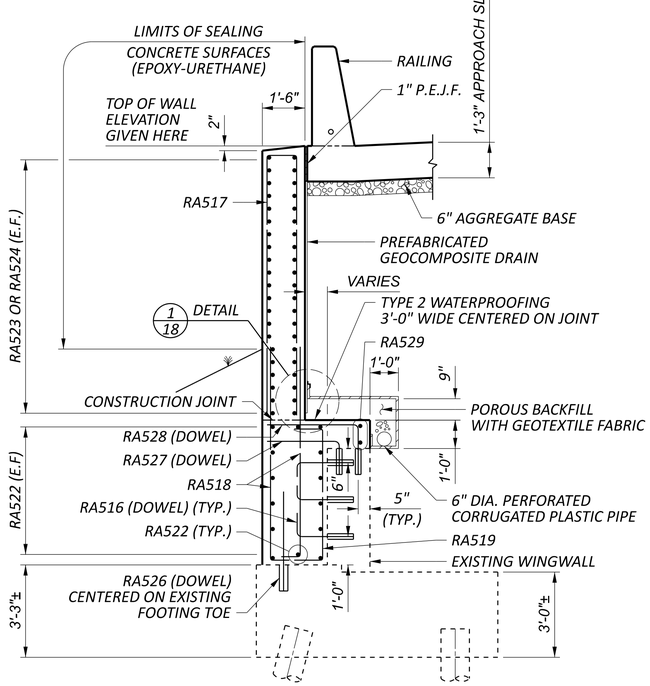
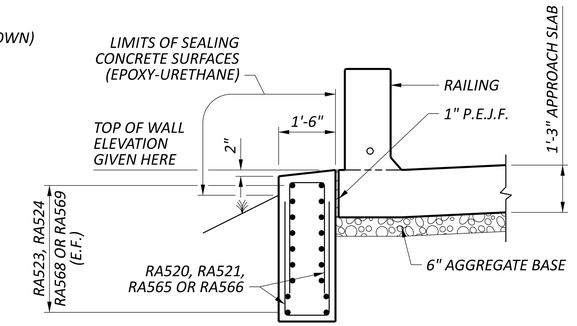


1 18 DETAIL



C 18 SECTION



D 18 SECTION

LAP LENGTH TABLE	
BAR	REQUIRED LAP LENGTH
NO. 5 VERTICAL	2'-5" MIN.

NOTES:

1. ALL DOWELS SHALL BE INSTALLED PER CMS 510 AND SET WITH A NONSHRINK, NONMETALLIC GROUT THAT SATISFIES ACI 355.4 REQUIREMENTS. DOWEL HOLE MAY BE REPOSITIONED 1" AS REQUIRED TO CLEAR EXISTING REINFORCING.

   REINFORCING DOWEL LENGTHS ARE BASED ON THE FOLLOWING MINIMUM EMBEDMENT DEPTHS:

   NO. 5 BAR = 6"

REAR ABUTMENT WINGWALL DETAILS
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER ZTW | CHECKER RSB
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 18 | TOTAL 50
SHEET P.132 | TOTAL 208

HAM-US 50-29.00

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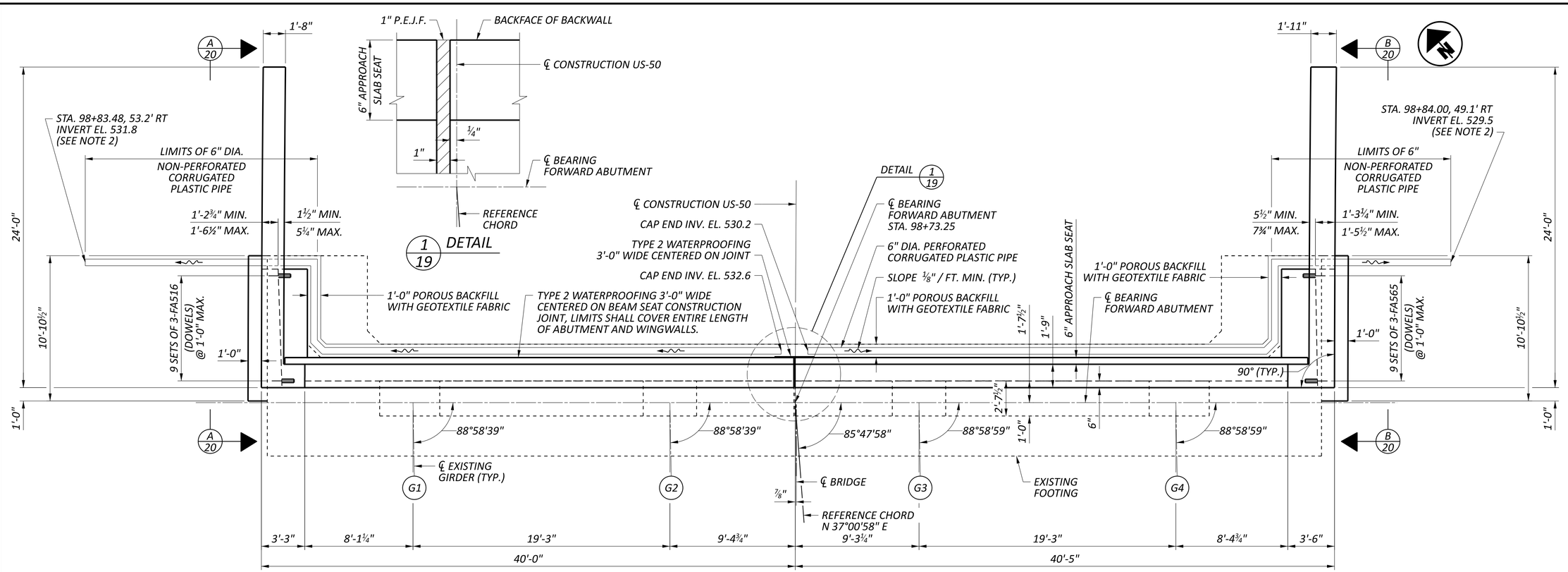

LAP LENGTH TABLE	
BAR	REQUIRED LAP LENGTH
NO. 5 HORIZONTAL	3'-1" MIN.
NO. 5 VERTICAL	2'-5" MIN.

NOTES:

1. ALL DOWELS SHALL BE INSTALLED PER CMS 510 AND SET WITH A NONSHRINK, NONMETALLIC GROUT THAT SATISFIES ACI 355.4 REQUIREMENTS. DOWEL HOLE MAY BE REPOSITIONED 1" AS REQUIRED TO CLEAR EXISTING REINFORCING.
2. PROVIDE PRECAST CONCRETE OUTLET WITH TYPE 1 TIED CONCRETE BLOCK MAT AS SHOWN IN DM-1.1. ALL LABOR, MATERIAL, AND INCIDENTALS REQUIRED TO PLACE SHALL BE INCLUDED WITH ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN FOR PAYMENT.
3. FOR RAILING DETAILS, SEE SHEETS 42 AND 43 OF 50 .

FORWARD ABUTMENT PLAN AND ELEVATION
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
ZTW	RSB

REVIEWER: NFF 08/22/23

PROJECT ID: 110570

SUBSET	TOTAL
19	50

SHEET	TOTAL
P.133	208

HAM-US 50-29.00

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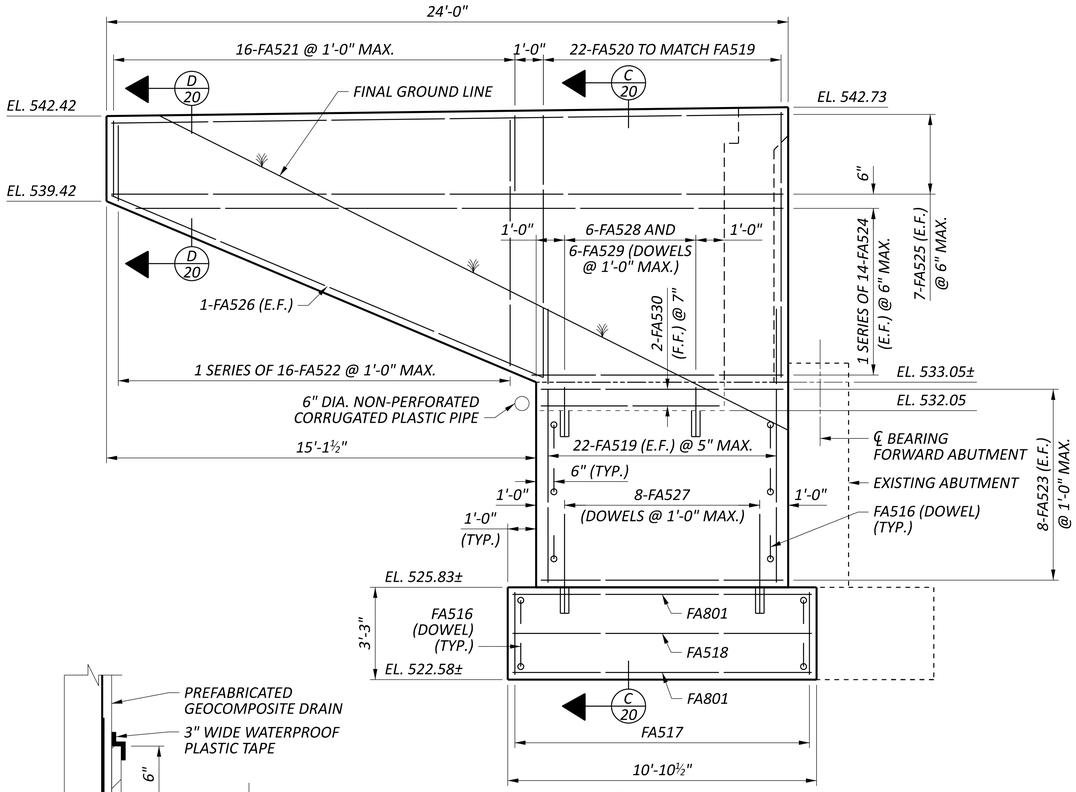
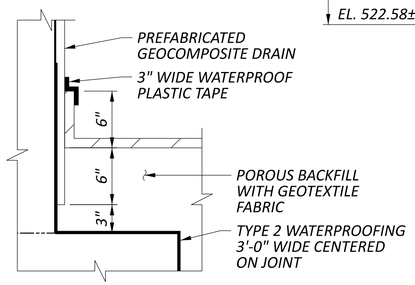
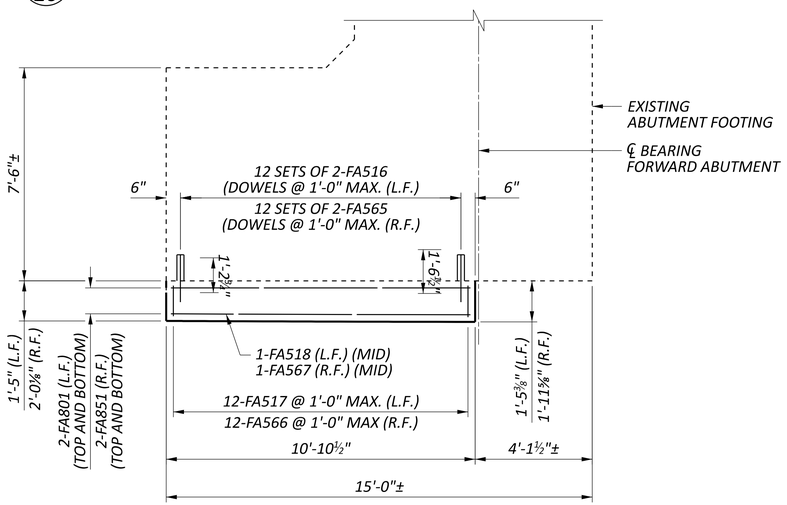


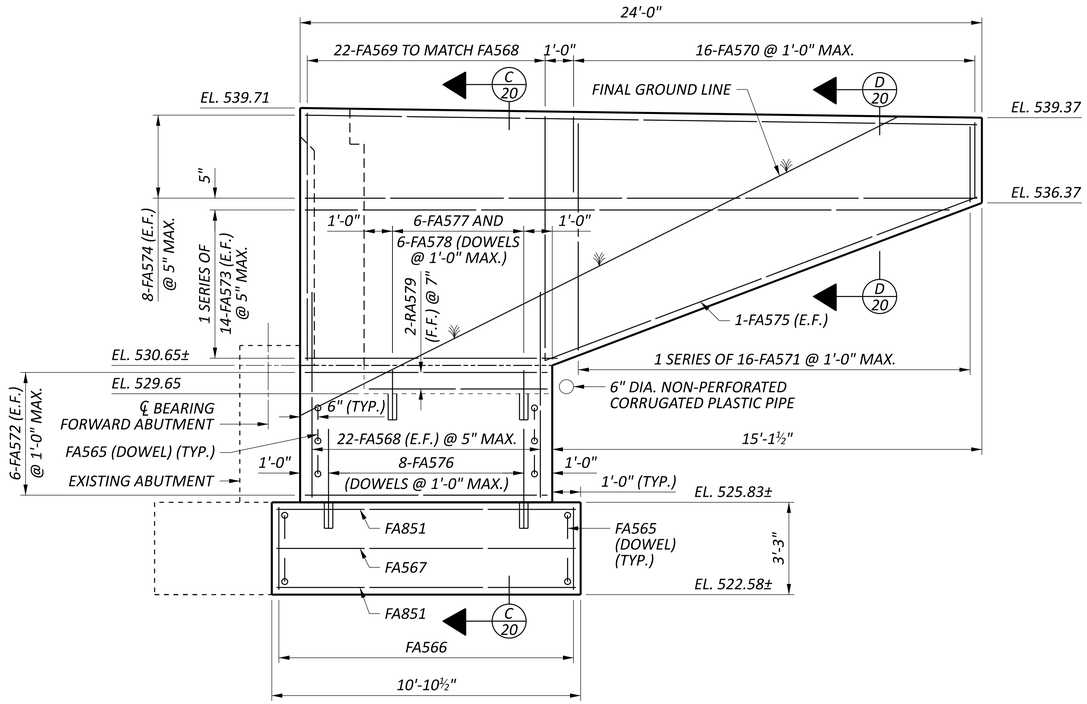
A 19 VIEW (PILES NOT SHOWN)



1 20 DETAIL



PARTIAL FOOTING PLAN
(LEFT FORWARD SHOWN, RIGHT FORWARD SIMILAR)



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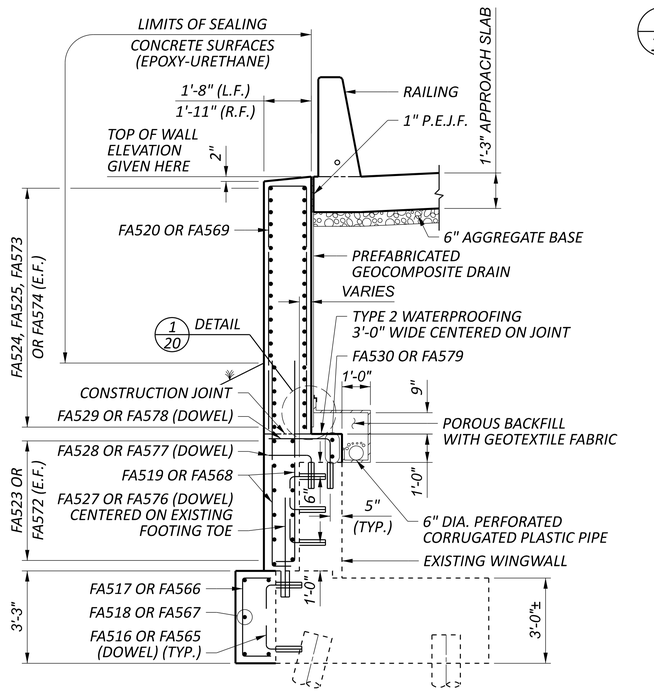
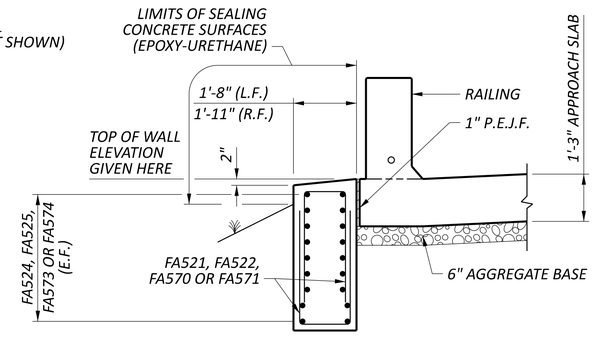


C 20 SECTION



D 20 SECTION

LAP LENGTH TABLE	
BAR	REQUIRED LAP LENGTH
NO. 5 VERTICAL	2'-5" MIN.

NOTES:

1. ALL DOWELS SHALL BE INSTALLED PER CMS 510 AND SET WITH A NONSHRINK, NONMETALLIC GROUT THAT SATISFIES ACI 355.4 REQUIREMENTS. DOWEL HOLE MAY BE REPOSITIONED 1" AS REQUIRED TO CLEAR EXISTING REINFORCING.

   REINFORCING DOWEL LENGTHS ARE BASED ON THE FOLLOWING MINIMUM EMBEDMENT DEPTHS:

   NO. 5 BAR = 6"

FORWARD ABUTMENT WINGWALL DETAILS
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

HAM-US 50-29.00

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
ZTW	RSB

REVIEWER: NFF 08/22/23

PROJECT ID: 110570

SUBSET	TOTAL
20	50

SHEET	TOTAL
P.134	208

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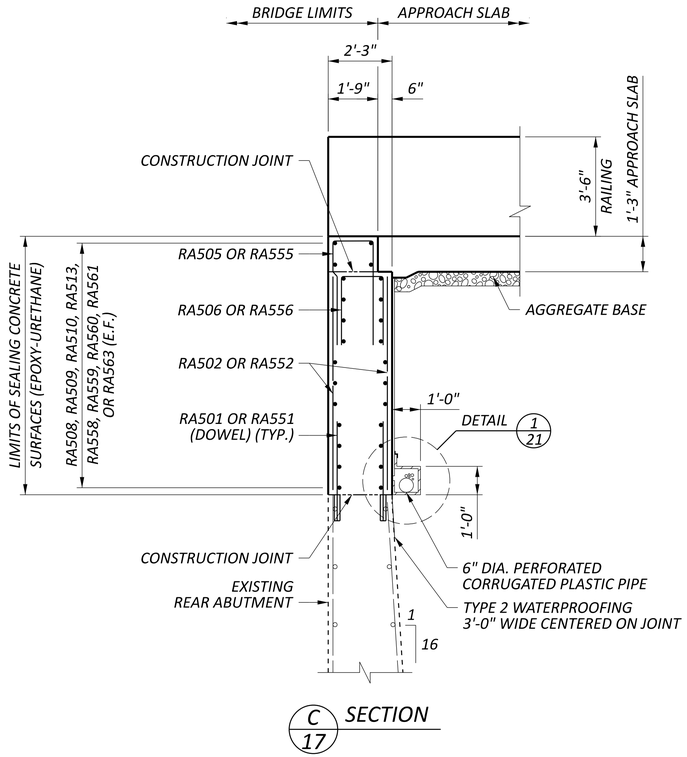
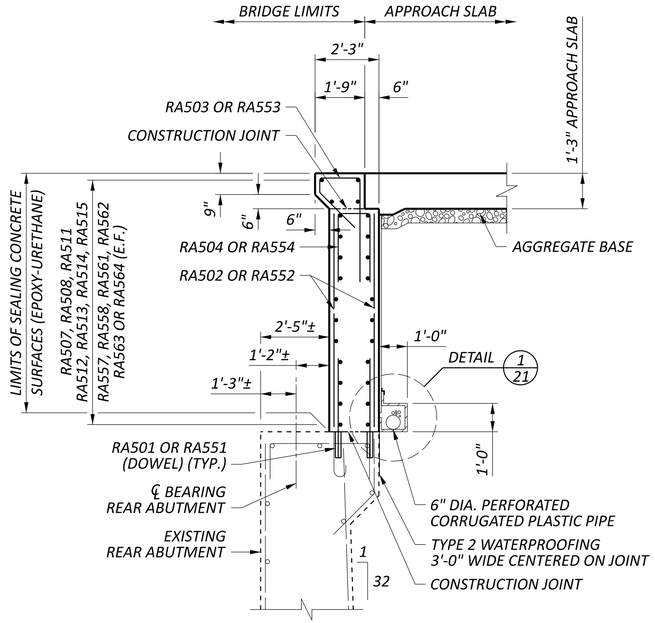
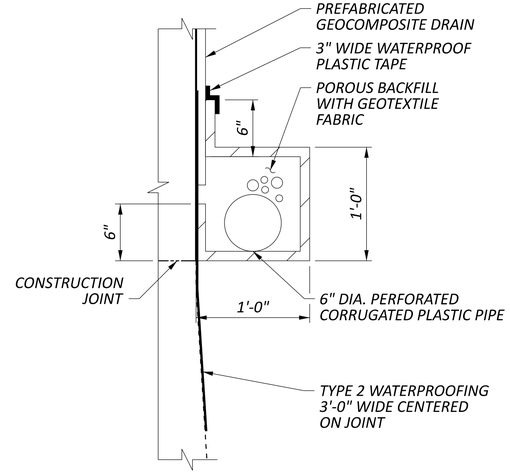


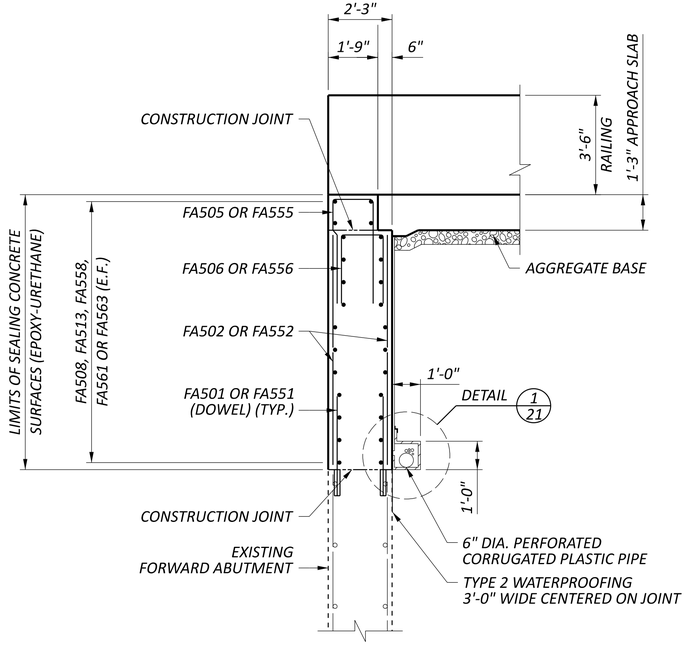
C/17 SECTION



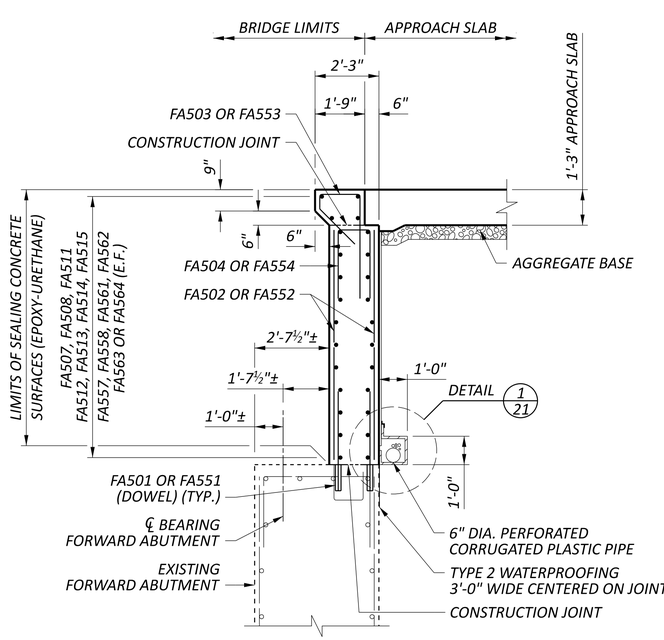
D/17 SECTION



1/21 DETAIL



E/19 SECTION



F/19 SECTION

NOTES:

1. *ALL DOWELS SHALL BE INSTALLED PER CMS 510 AND SET WITH A NONSHRINK, NONMETALLIC GROUT THAT SATISFIES ACI 355.4 REQUIREMENTS. DOWEL HOLE MAY BE REPOSITIONED 1" AS REQUIRED TO CLEAR EXISTING REINFORCING.*

   REINFORCING DOWEL LENGTHS ARE BASED ON THE FOLLOWING MINIMUM EMBEDMENT DEPTHS:

   NO. 5 BAR = 6"

ABUTMENT DETAILS
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN	3103811
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE., E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	ZTW
CHECKER	RSB
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	21
TOTAL	50
SHEET	P.135
TOTAL	208

HAM-US 50-29.00

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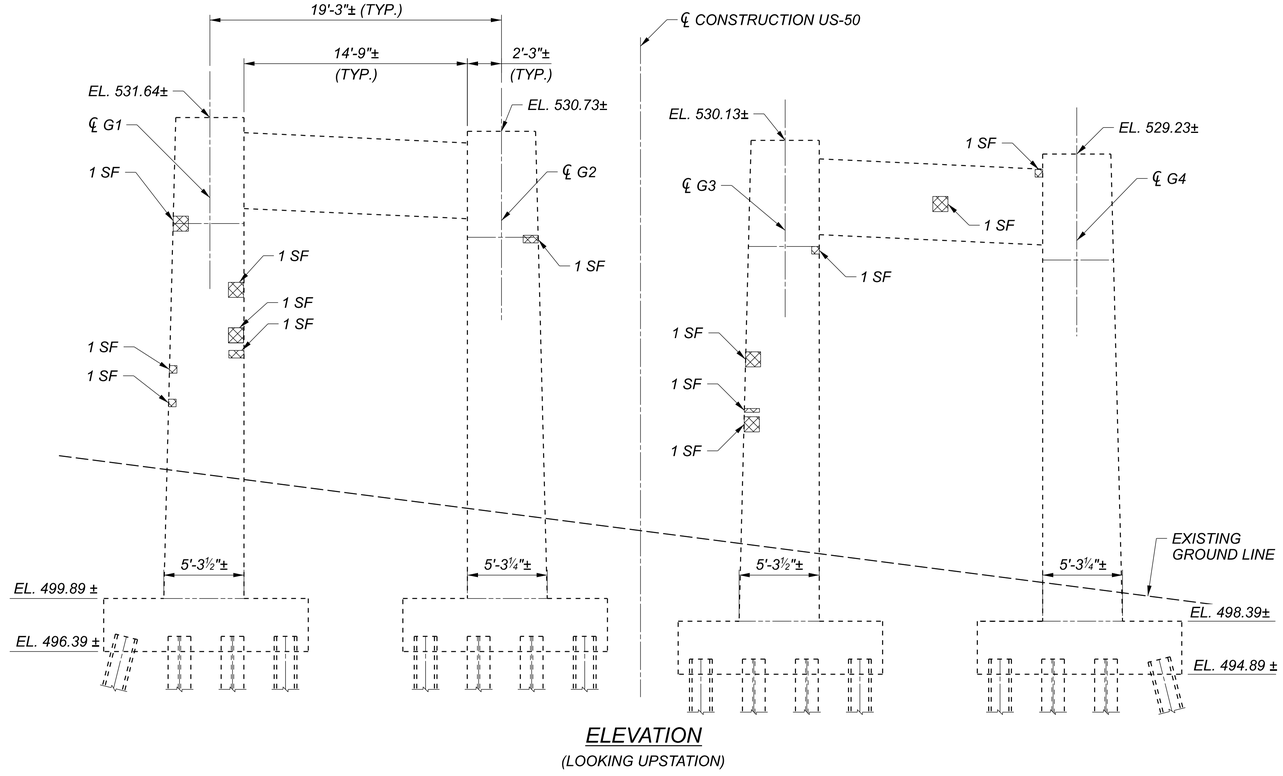
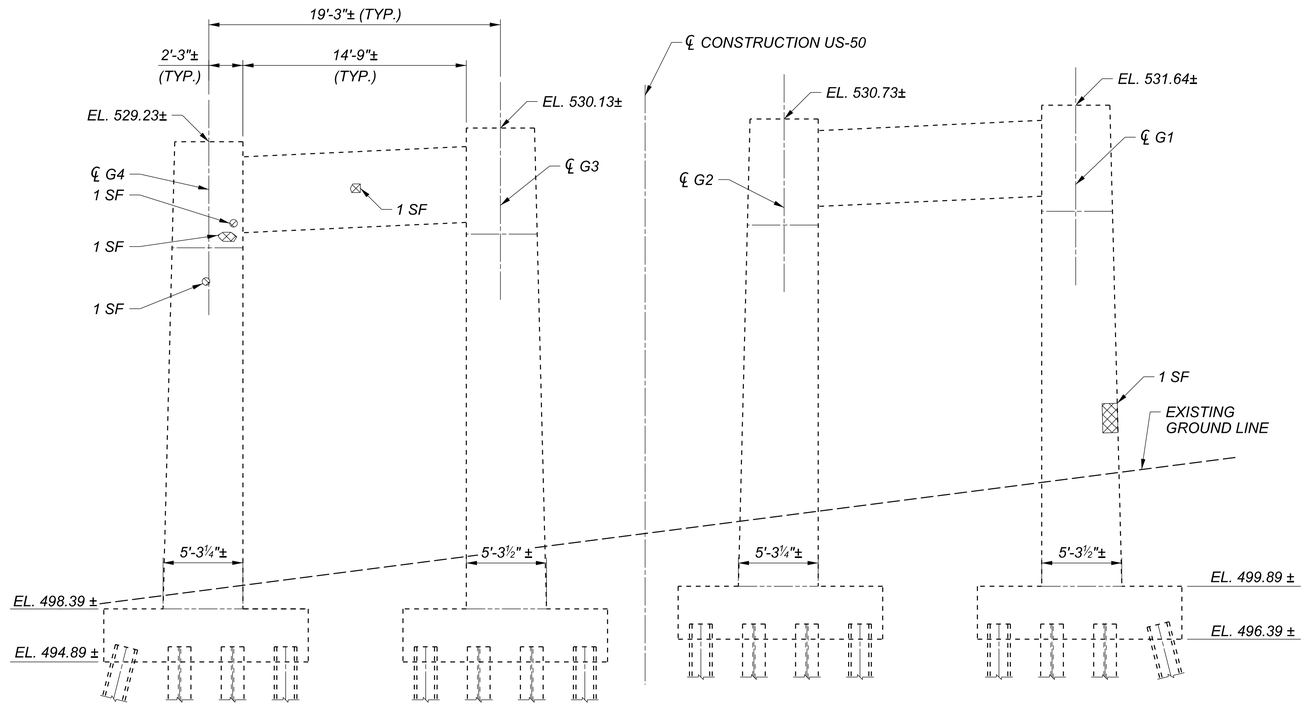


ELEVATION
(LOOKING UPSTATION)



ELEVATION
(LOOKING DOWNSTATION)

ITEM 519 REPAIR AREAS		
MEASURED QUANTITY (SF)	CONTINGENT QUANTITY (SF)	TOTAL QUANTITY (SF)
18	9	27

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION PERFORMED IN SEPTEMBER 2021. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED SHALL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE TOTAL CONCRETE PATCHING REPAIR AREAS INDICATED ON THE DETAILS HAVE BEEN INCREASED TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.
3. ALL EXISTING BRIDGE ELEVATIONS HAVE BEEN ADJUSTED TO THE CURRENT PROJECT SURVEY ELEVATIONS AND ARE APPROXIMATELY 0.61 FEET LOWER THAN THE ELEVATIONS IN THE ORIGINAL PLANS.
4. SEAL CONCRETE AREAS THAT ARE PATCHED WITH AN EPOXY-URETHANE SEALER.

LEGEND:

INDICATES AREAS TO BE PATCHED PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

PIER 1 PATCHING DETAILS
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
RSB	ZTW

REVIEWER
NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
22	50

SHEET	TOTAL
P.136	208

HAM-US 50-29.00

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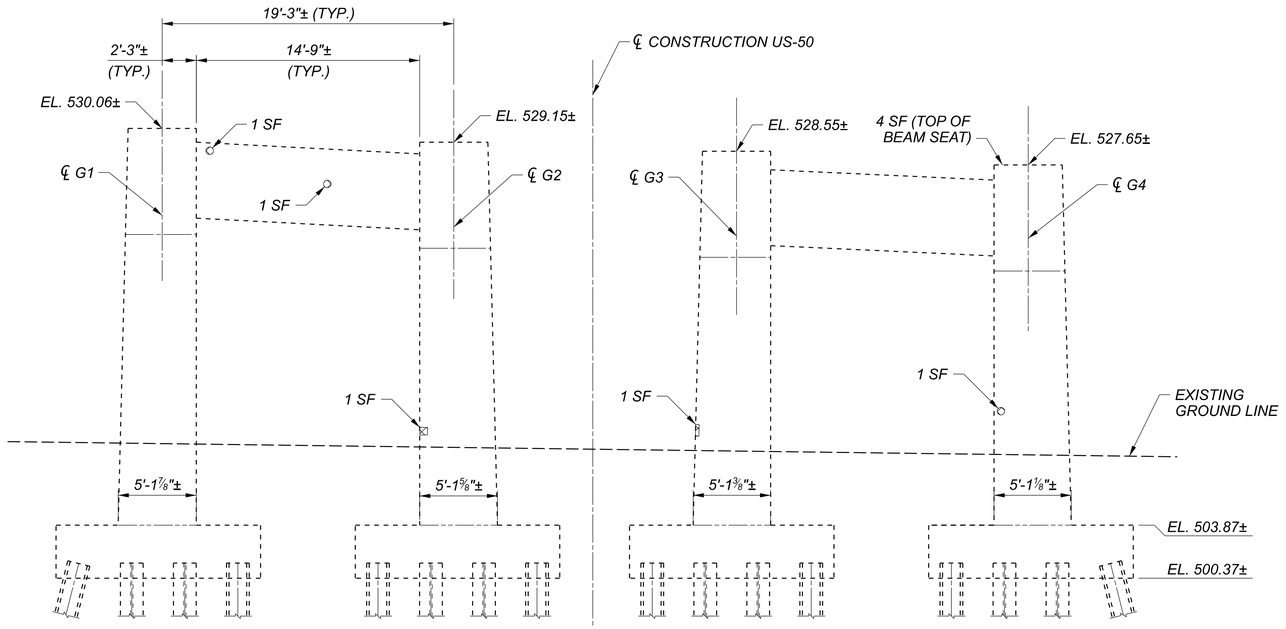
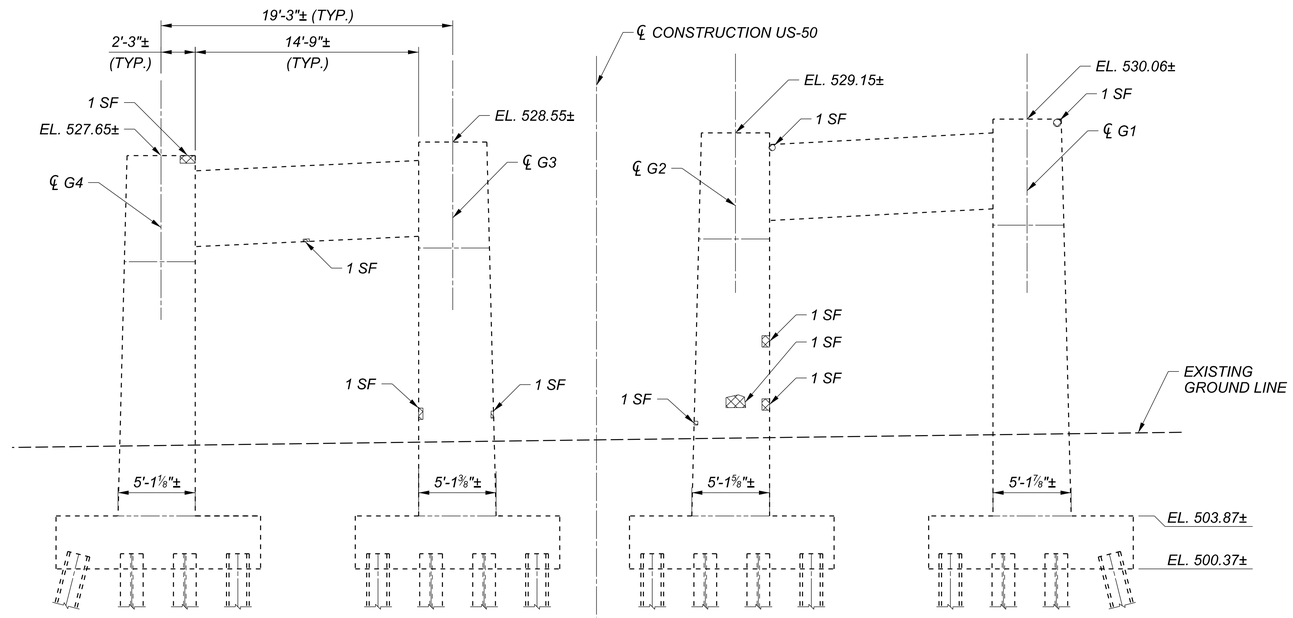


ELEVATION

(LOOKING UPSTATION)



ELEVATION

(LOOKING DOWNSTATION)

ITEM 519 REPAIR AREAS		
MEASURED QUANTITY (SF)	CONTINGENT QUANTITY (SF)	TOTAL QUANTITY (SF)
19	9	28

NOTES:

1. *THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION PERFORMED IN SEPTEMBER 2021. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED SHALL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.*
2. *THE TOTAL CONCRETE PATCHING REPAIR AREAS INDICATED ON THE DETAILS HAVE BEEN INCREASED TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.*
3. *ALL EXISTING BRIDGE ELEVATIONS HAVE BEEN ADJUSTED TO THE CURRENT PROJECT SURVEY ELEVATIONS AND ARE APPROXIMATELY 0.61 FEET LOWER THAN THE ELEVATIONS IN THE ORIGINAL PLANS.*

LEGEND:

INDICATES AREAS TO BE PATCHED PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

PIER 2 PATCHING DETAILS
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
RSB	ZTW

REVIEWER: NFF 08/22/23

PROJECT ID: 110570

SUBSET	TOTAL
23	50

SHEET	TOTAL
P.137	208

HAM-US 50-29.00

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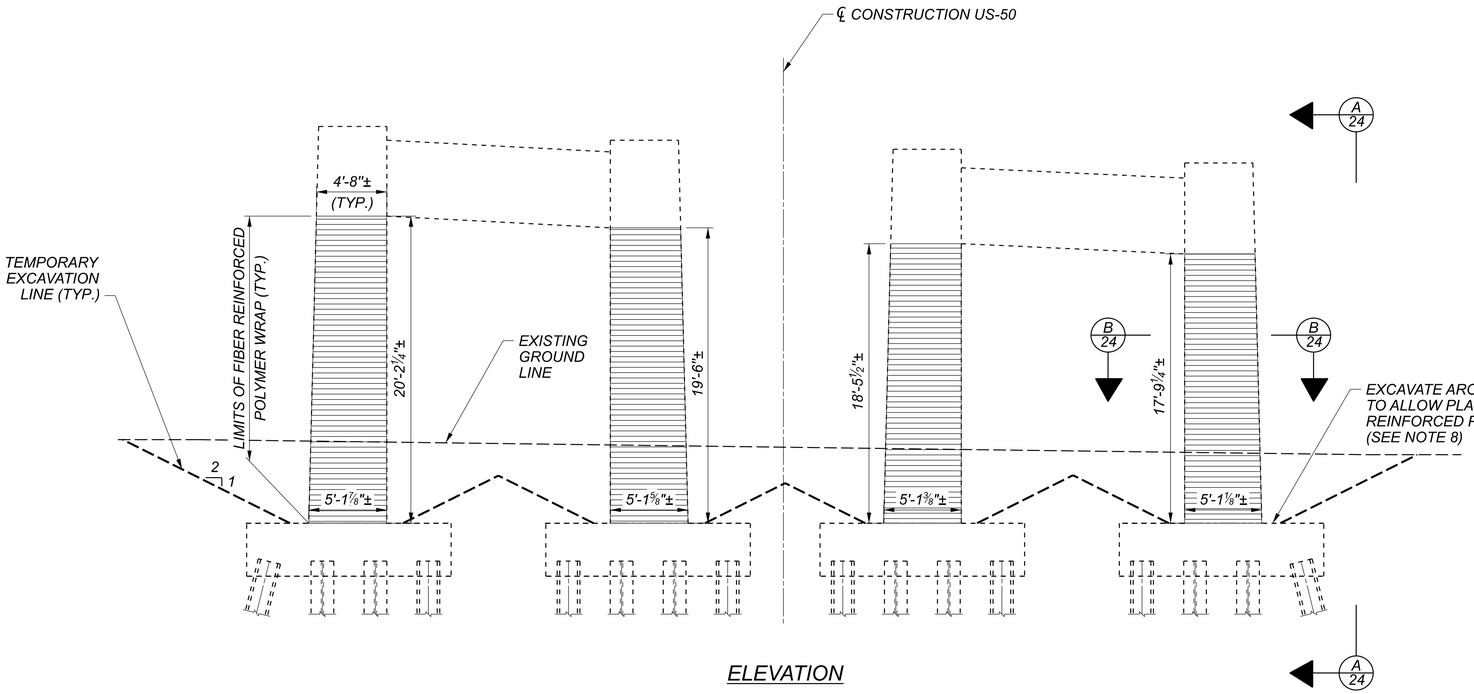
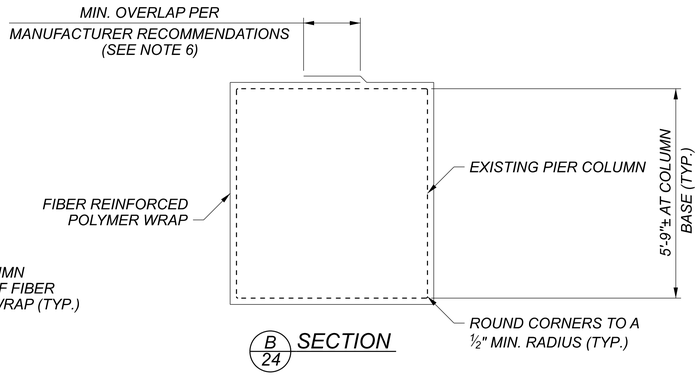
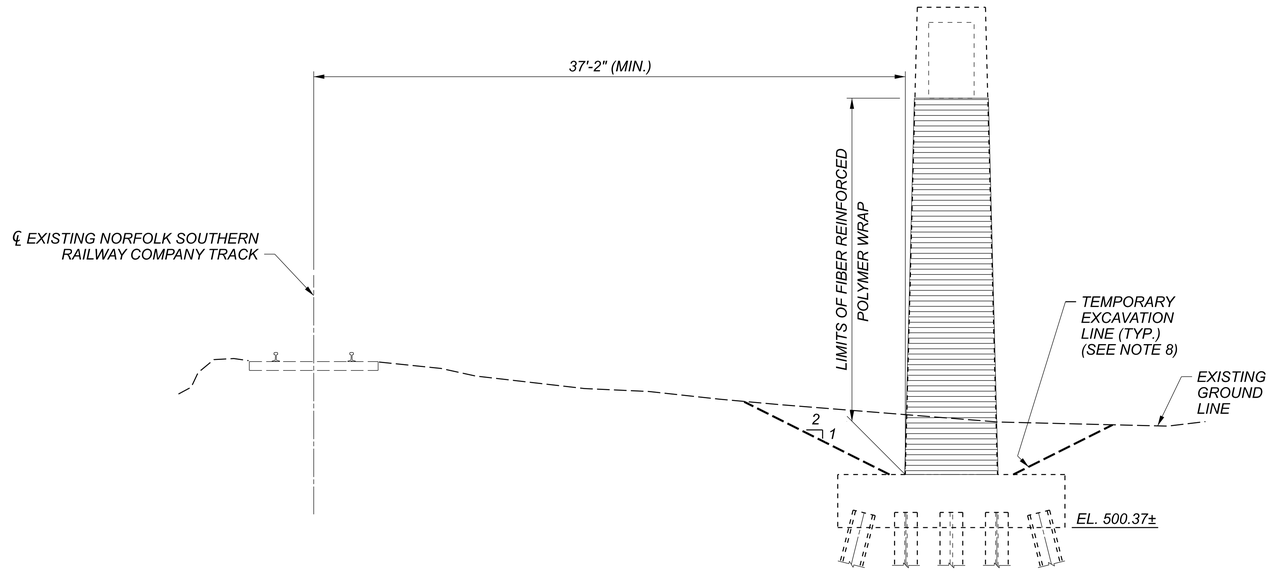


ELEVATION



B 24 SECTION



A 24 VIEW

NOTES:

1. PRIOR TO INSTALLATION OF FIBER REINFORCED POLYMER (FRP) WRAP, PERFORM ALL CONCRETE REPAIRS PER ITEM 512 AND ITEM 519.
2. THE FRP WRAP SHALL BE CAPABLE OF PROVIDING A MINIMUM CONFINING STRESS OF 0.150 KSI FOR THE ENTIRE HEIGHT OF THE COLUMN.
3. FOR DETAILS AND SPECIFICATIONS OF THE FRP WRAP, SEE ODOT PROPOSAL NOTE 519.
4. SEAL ENTIRE PIER CAP, CAP ENDS AND COLUMNS WITH AN EPOXY-URETHANE SEALER 24 TO 72 HOURS AFTER THE FRP WRAP HAS BEEN PLACED.
5. FOR ADDITIONAL PIER DETAILS, SEE SHEET 23 OF 50 AND EXISTING PLANS.
6. AN OVERLAP AMOUNT HAS NOT BEEN INCLUDED WITH THE ESTIMATED QUANTITY FOR ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM.
7. PRIOR TO INSTALLATION OF FRP WRAP, REMOVE THE EXISTING CONCRETE COATING FROM THE ENTIRE EXPOSED SURFACE OF THE PIER COLUMNS. COATING REMOVAL SHALL BE INCLUDED FOR PAYMENT WITH ITEM 512 - REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES.
8. EXCAVATION AND BACKFILLING REQUIRED TO INSTALL FIBER WRAP IS INCLUDED WITH ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN FOR PAYMENT.

LEGEND:

INDICATES AREAS OF FIBER REINFORCED POLYMER WRAP

PIER 2 FIBER WRAP DETAILS
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
RSB	ZTW

REVIEWER NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
24	50

SHEET	TOTAL
P.138	208

HAM-US 50-29.00

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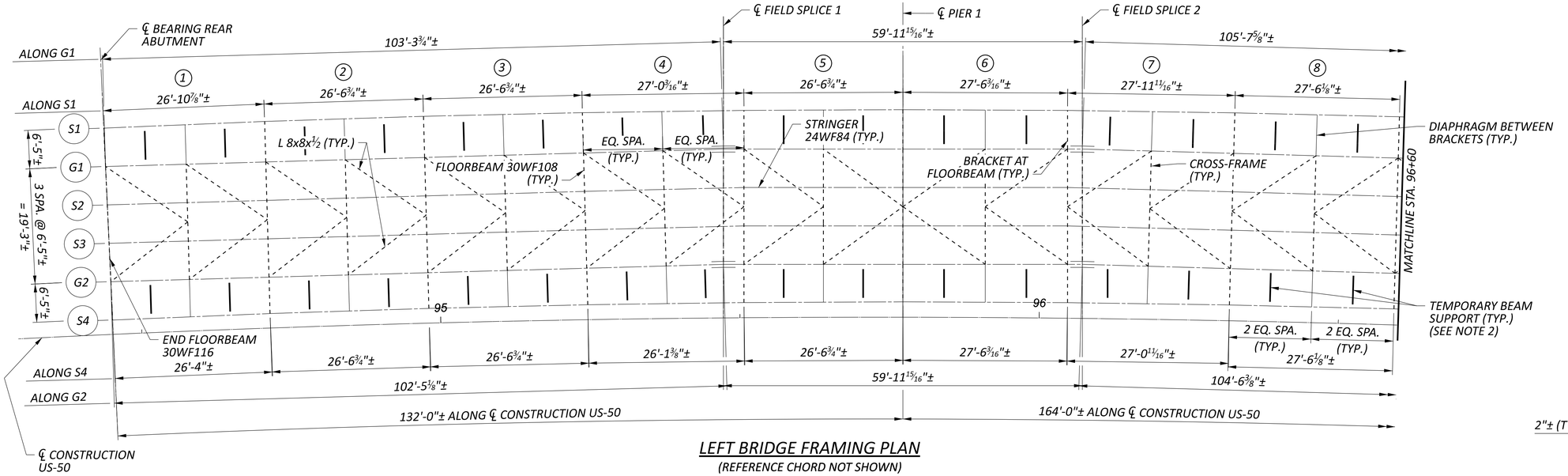
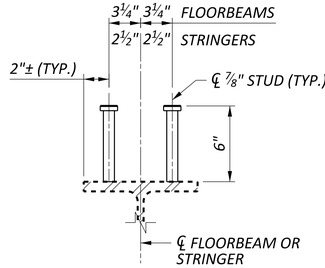
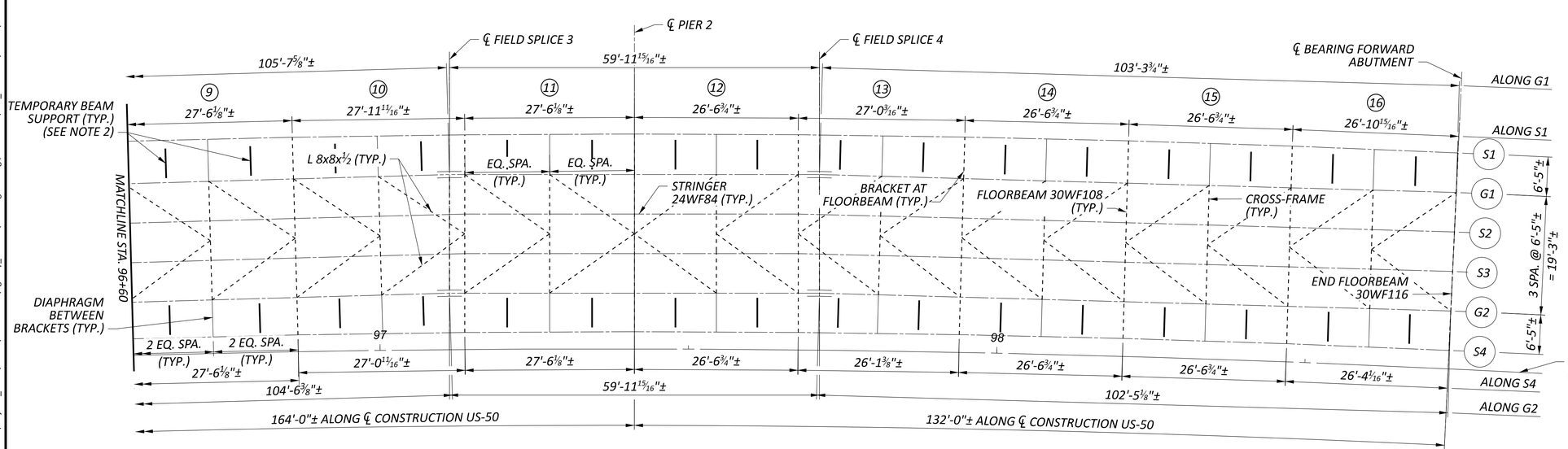


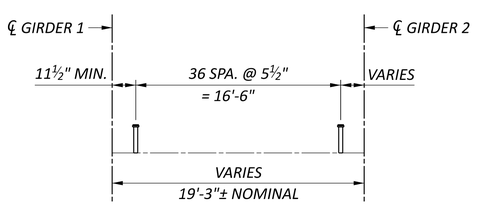
LEFT BRIDGE FRAMING PLAN
(REFERENCE CHORD NOT SHOWN)



TYPICAL SHEAR STUD DETAIL
(FLOORBEAM AND STRINGER)

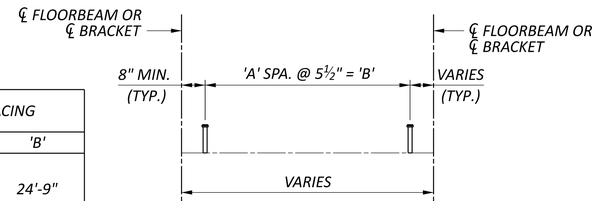


LEFT BRIDGE FRAMING PLAN
(REFERENCE CHORD NOT SHOWN)



FLOORBEAM SHEAR STUD SPACING

STRINGER SHEAR STUD SPACING		
UNIT	'A'	'B'
① THRU ⑤ & ⑫ THRU ⑯	54	24'-9"
⑥ THRU ⑪	56	25'-8"



STRINGER SHEAR STUD SPACING

NOTES:

1. FOR ADDITIONAL EXISTING BEAM AND FRAMING DETAILS NOT SHOWN, SEE EXISTING PLANS.
2. TEMPORARY SUPPORTS ARE REQUIRED IN EXTERIOR BAYS 1 AND 5 IN BETWEEN EVERY BRACKET AND DIAPHRAGM (64 LOCATIONS). SEE SHEET 8 OF 50 FOR ADDITIONAL TEMPORARY SUPPORT DETAILS.

LEFT BRIDGE FRAMING PLAN
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER ZTW | CHECKER TOR
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 25 | TOTAL 50
SHEET P.139 | TOTAL 208

HAM-US 50-29.00

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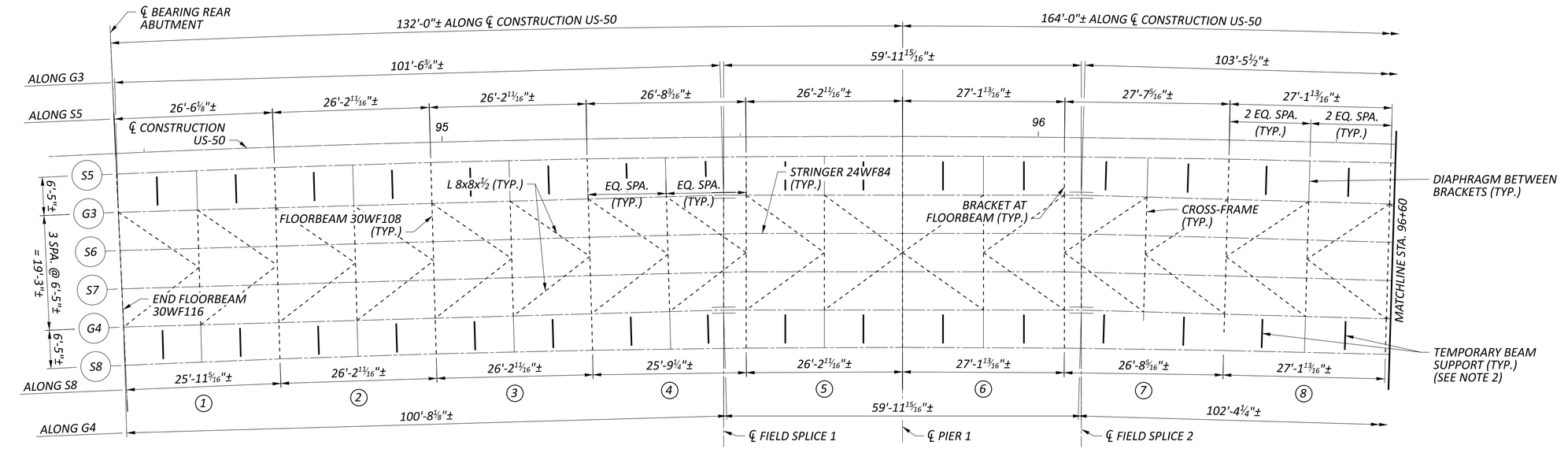
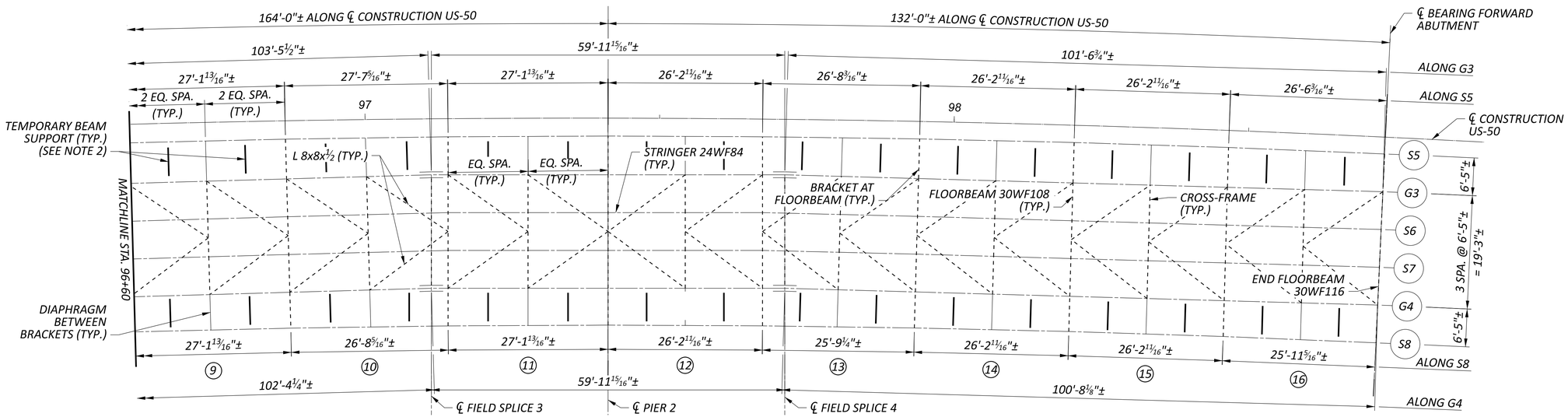


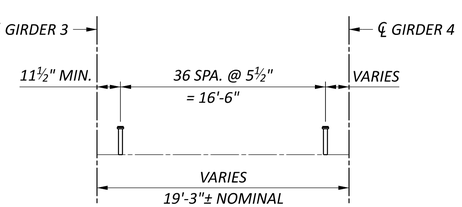
RIGHT BRIDGE FRAMING PLAN

(REFERENCE CHORD NOT SHOWN)



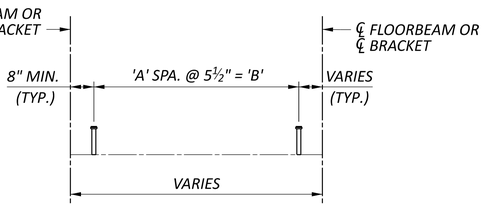
RIGHT BRIDGE FRAMING PLAN

(REFERENCE CHORD NOT SHOWN)



FLOORBEAM SHEAR STUD SPACING

STRINGER SHEAR STUD SPACING		
UNIT	'A'	'B'
① THRU ⑤ & ⑫ THRU ⑯	53	24'-3½"
⑥ THRU ⑪	55	25'-2½"



STRINGER SHEAR STUD SPACING

NOTES:

1. FOR ADDITIONAL EXISTING BEAM AND FRAMING DETAILS NOT SHOWN, SEE EXISTING PLANS.
2. TEMPORARY SUPPORTS ARE REQUIRED IN EXTERIOR BAYS 6 AND 10 IN BETWEEN EVERY BRACKET AND DIAPHRAGM (64 LOCATIONS). SEE SHEET 8 OF 50 FOR ADDITIONAL TEMPORARY SUPPORT DETAILS.
3. FOR TYPICAL SHEAR STUD DETAIL, SEE SHEET 25 OF 50 .

RIGHT BRIDGE FRAMING PLAN
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E. STE 1000 CLEVELAND, OHIO 44114
DESIGNER ZTW | CHECKER TOR
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 26 | TOTAL 50
SHEET P.140 | TOTAL 208

HAM-US 50-29.00

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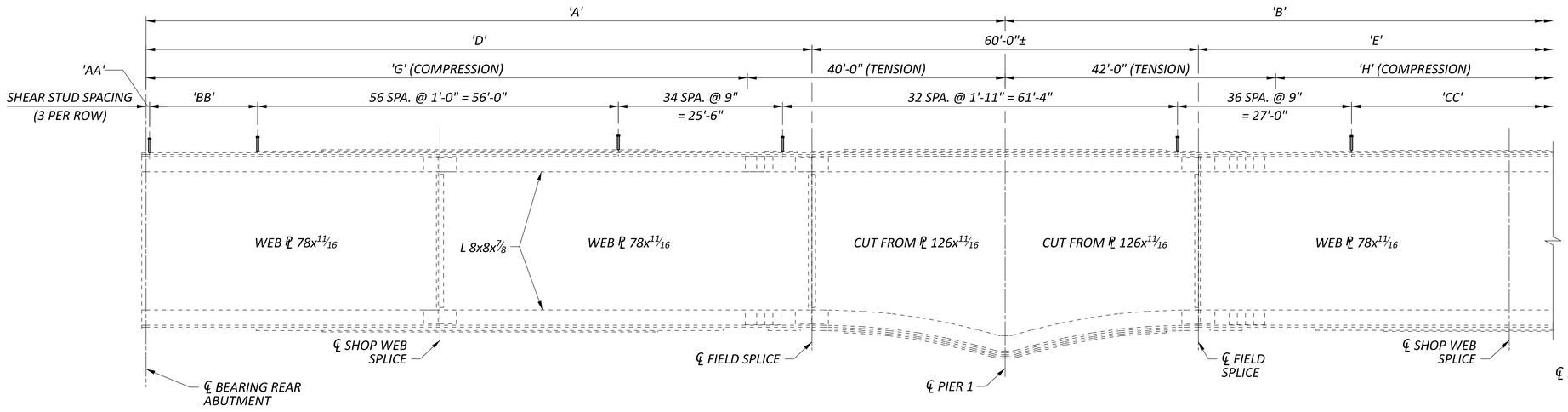
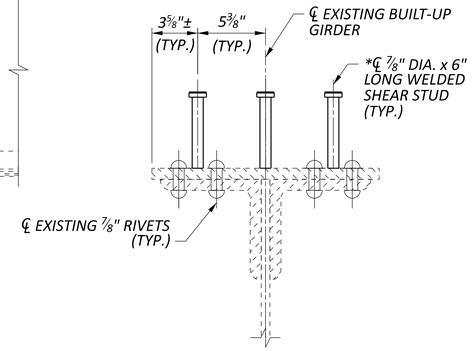
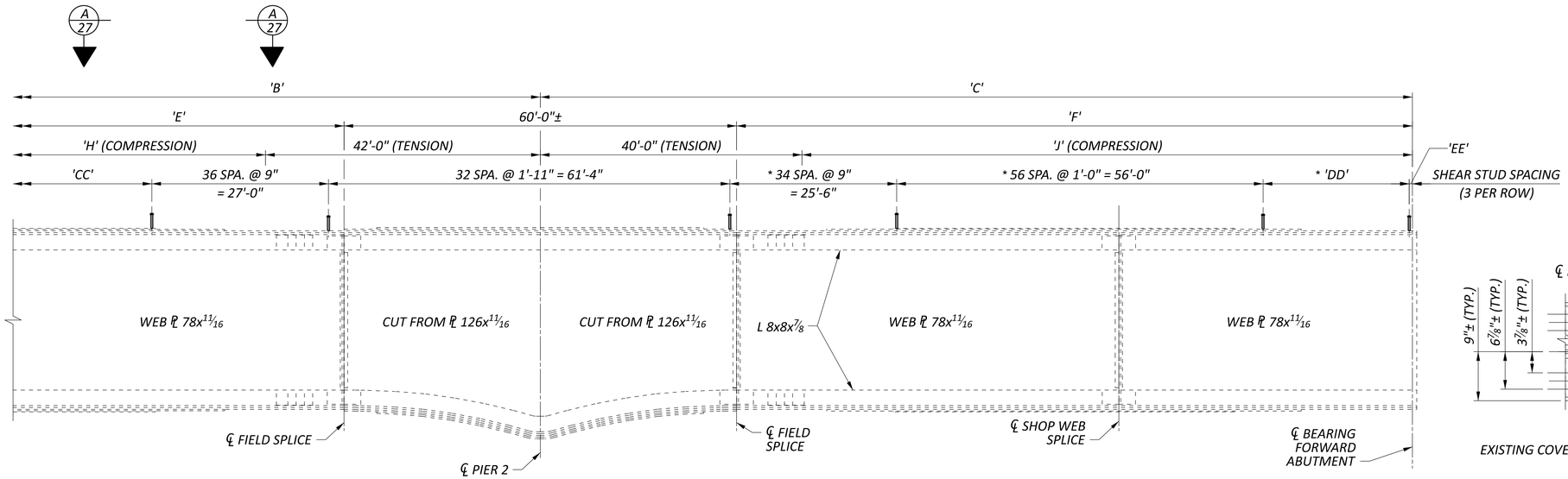


GIRDER ELEVATION

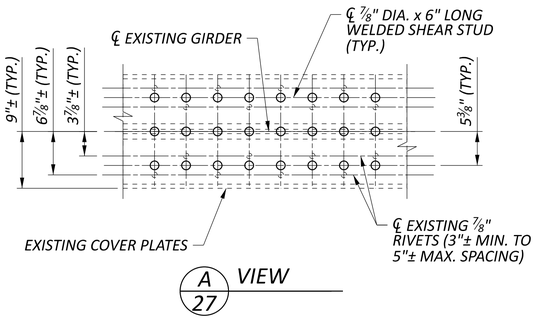


GIRDER SHEAR STUD DETAIL



GIRDER ELEVATION

* ⅞" DIA. x 7" LONG WELDED SHEAR STUD FOR GIRDER 1 AND GIRDER 2 IN THESE REGIONS



A/27 VIEW

GIRDER LENGTHS							COMPRESSION ZONES			SHEAR STUD SPACING				
GIRDER	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'AA'	'BB'	'CC'	'DD'	'EE'
1	133'-4 9/16"	165'-7 3/4"	133'-3 3/16"	103'-4 9/16"	105'-7 3/4"	103'-3 3/16"	93'-4 9/16"	81'-7 3/4"	93'-3 3/16"	0'-2 1/2"	34 SPA. @ 8" = 22'-8"	47 SPA. @ 1'-0" = 47'-0"	34 SPA. @ 8" = 22'-8"	0'-1"
2	132'-5 15/16"	164'-6 1/2"	132'-4 9/16"	102'-5 15/16"	104'-6 1/2"	102'-4 9/16"	92'-5 15/16"	80'-6 1/2"	92'-4 9/16"	0'-7 1/4"	32 SPA. @ 8" = 21'-4"	46 SPA. @ 1'-0" = 46'-0"	32 SPA. @ 8" = 21'-4"	0'-5 3/4"
3	131'-7 9/16"	163'-5 5/8"	131'-6 3/16"	101'-7 9/16"	103'-5 5/8"	101'-6 3/16"	91'-7 9/16"	79'-5 5/8"	91'-6 3/16"	0'-4 3/8"	31 SPA. @ 8" = 20'-8"	45 SPA. @ 1'-0" = 45'-0"	31 SPA. @ 8" = 20'-8"	0'-3"
4	130'-8 15/16"	162'-4 3/8"	130'-7 9/16"	100'-8 15/16"	102'-4 3/8"	100'-7 9/16"	90'-8 15/16"	78'-4 3/8"	90'-7 9/16"	0'-0 7/8"	30 SPA. @ 8" = 20'-0"	44 SPA. @ 1'-0" = 44'-0"	30 SPA. @ 8" = 20'-0"	0'-0"

NOTES:

1. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA GIRDER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESS UP TO ¾" OR ⅝" FOR GREATER THAN ¾" THICK.
2. FOR ADDITIONAL EXISTING GIRDER AND FRAMING DETAILS NOT SHOWN, SEE EXISTING PLANS.

GIRDER ELEVATION
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E. STE 1000 CLEVELAND, OHIO 44114
DESIGNER ZTW | CHECKER TOR
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 27 | TOTAL 50
SHEET P.141 | TOTAL 208

HAM-US 50-29.00

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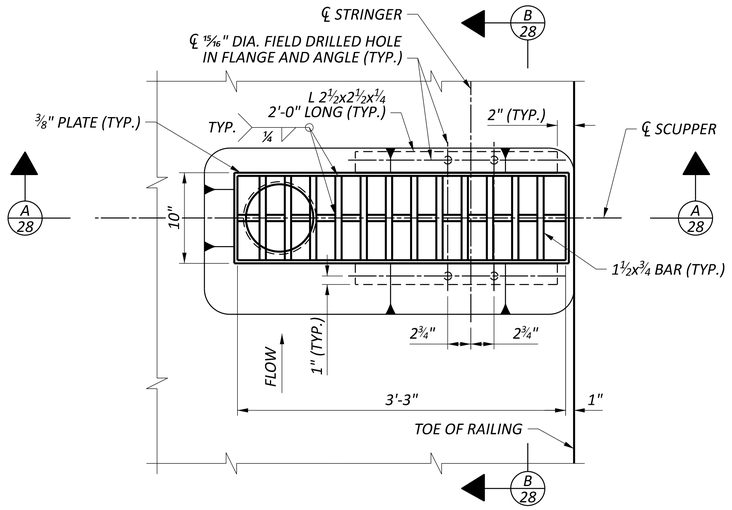
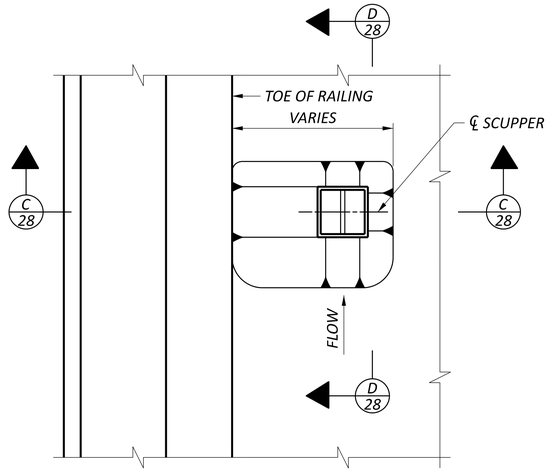
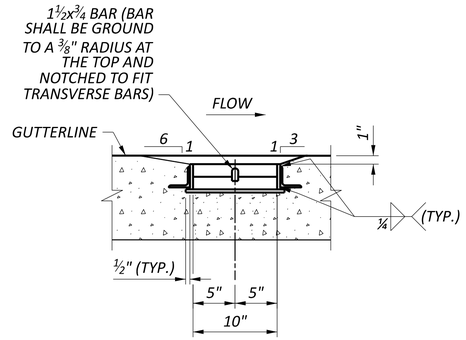


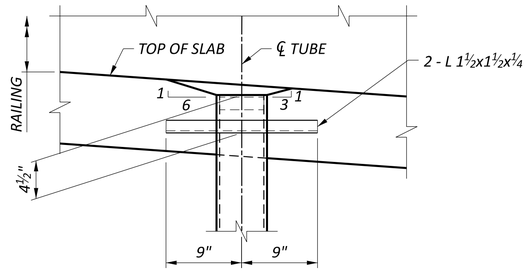
SCUPPER - TYPE A



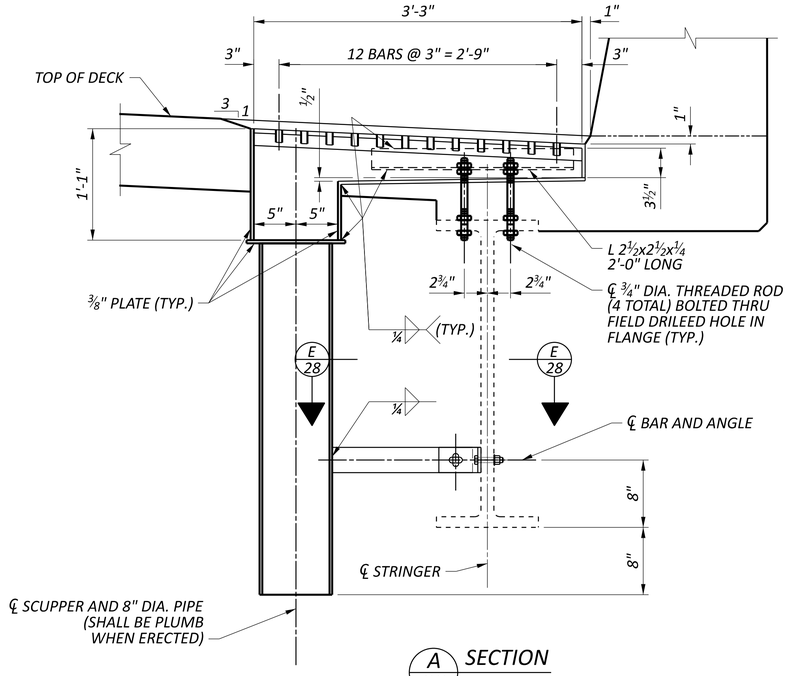
SCUPPER - TYPE B



B 28 SECTION



D 28 SECTION



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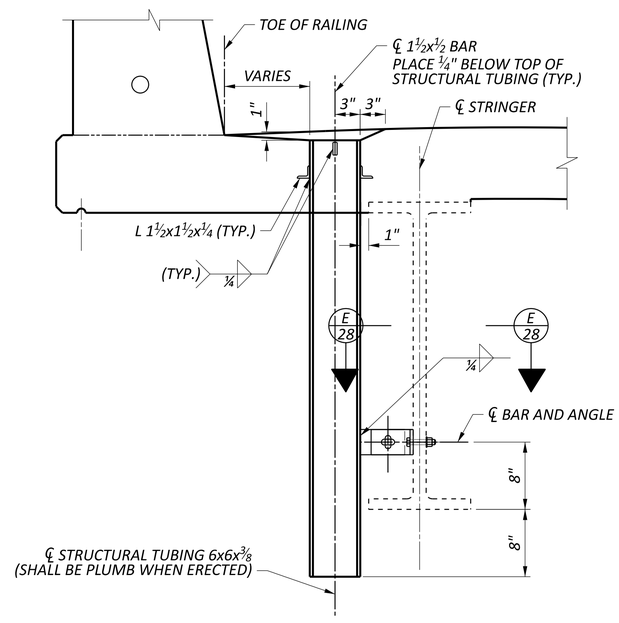

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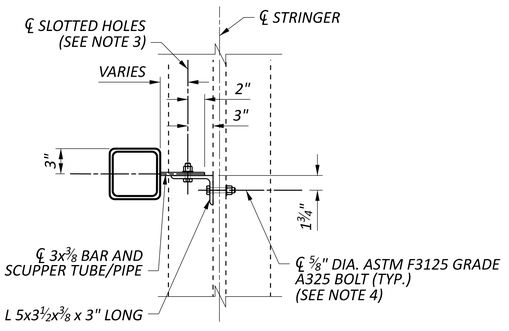

E 28 SECTION
(SCUPPER - TYPE B SHOWN, SCUPPER - TYPE A SIMILAR)

NOTES:

1. FURNISH STRUCTURAL STEEL TUBING AND PIPES ACCORDING TO CMS 707.10. TOUGHNESS TESTING IN ACCORDANCE WITH ATSM E436 IS NOT REQUIRED. ALL OTHER MATERIAL SHALL BE ASTM A709 GRADE 36, 50, OR 50W. GALVANIZE SUPPORT ANGLES, BARS, BOLTS, NUTS AND WASHERS IN ACCORDANCE WITH CMS 711.02.
2. CUT THE TOP OF THE STEEL TUBING SQUARE FOR CROSS SLOPES ½" PER FOOT AND LESS. CUT THE TOP OF THE TUBING PARALLEL TO THE DECK SURFACE FOR CROSS SLOPES GREATER THAN ½" PER FOOT.
3. THE SIZE OF THE SLOTTED HOLES SHALL BE 11⁄16" x 1 9⁄16". THE SLOT SHALL BE HORIZONTAL IN THE 3"x⅜" BAR AND VERTICAL IN THE ANGLE. BOLTS SHALL BE ⅝" DIA. ASTM F3125 GRADE A325 TYPE 1, GALVANIZED, WITH HEX NUT AND TWO WASHERS. TIGHTEN ACCORDING TO CMS 513.
4. THE BOLTS SHALL BE ⅝" DIA. ASTM F3125 GRADE A325 TYPE 1, GALVANIZED. EACH ASSEMBLY SHALL INCLUDE A BOLT, NUT, AND TWO WASHERS. TIGHTEN ACCORDING TO CMS 513.
5. THE SCUPPERS AND SCUPPER SUPPORTS SHALL BE INCLUDED WITH ITEM 518 - SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN FOR PAYMENT.
6. FOR PLACEMENT OF ADDITIONAL REINFORCEMENT AT SCUPPER, SEE SHEETS 40 AND 41 OF 50 . SCUPPERS SHALL NOT BE PLACED CLOSER THAN 25'-0" TO THE CENTERLINE OF THE RAILROAD TRACKS.
7. SUBMIT SHOP DRAWINGS ACCORDING TO CMS 501.04 FOR APPROVAL. PREPARATION OF SHOP DRAWINGS SHALL BE INCIDENTAL TO ITEM 518 - SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN FOR PAYMENT .

SCUPPER DETAILS
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
RSB	TOR

REVIEWER: NFF 08/22/23

PROJECT ID: 110570

SUBSET	TOTAL
28	50

SHEET	TOTAL
P.142	208

HAM-US 50-29.00

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TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS

			SPAN 1													SPAN 2				
LOCATION			℄ BRG. REAR ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	℄ FIELD SPLICE 1	0.8	0.9	℄ PIER 1	0.1	℄ FIELD SPLICE 2	0.2	0.3	0.4	0.5
LEFT TOE OF RAILING		STATION	94+45.16	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.18	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
		FINAL DECK ELEVATION	548.20	548.04	547.88	547.72	547.56	547.40	547.24	547.08	-	546.92	546.75	546.59	546.39	-	546.19	545.99	545.79	545.59
		*REBOUND																		
		*SCREED ELEVATION																		
S1		STATION	94+45.16	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	94+24.42	95+37.62	-	95+50.83	95+64.03	95+77.18	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
	A	FINAL DECK ELEVATION	548.28	548.12	547.96	547.80	547.64	547.48	547.31	547.15	-	546.99	546.83	546.67	546.39	-	546.27	546.07	545.87	545.67
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																		
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																		
	D	*REBOUND																		
	E	WEIGHT OF EXISTING DECK	861	861	861	861	861	861	861	861	-	861	861	861	861	-	861	861	861	861
	F	WEIGHT OF PROPOSED DECK	861	861	861	861	861	861	861	861	-	861	861	861	861	-	861	861	861	861
	G	*DECK DEFLECTION																		
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																		
	K	*TOP OF HAUNCH ELEVATION																		
℄ ROUNDING		STATION	94+45.17	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.19	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
		FINAL DECK ELEVATION	548.36	548.20	548.04	547.88	547.72	547.56	547.39	547.23	-	547.07	546.91	546.75	546.55	-	546.35	546.15	545.95	545.75
		*REBOUND													-		-		-	
		*SCREED ELEVATION													-		-		-	
G1		STATION	94+45.17	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	95+47.55	95+50.83	95+64.03	95+77.19	95+93.63	96+06.97	96+10.03	96+26.43	96+42.83	96+59.24
	A	FINAL DECK ELEVATION	548.25	548.07	547.91	547.74	547.58	547.42	547.27	547.11	547.00	546.96	546.79	546.63	546.43	546.27	546.23	546.02	545.82	545.61
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																		
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																		
	D	*REBOUND																		
	E	WEIGHT OF EXISTING DECK	845	845	845	845	845	845	845	845	845	845	845	845	845	845	845	845	845	845
	F	WEIGHT OF PROPOSED DECK	753	753	753	753	753	753	753	753	753	753	753	753	753	753	753	753	753	753
	G	*DECK DEFLECTION																		
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																		
	K	*TOP OF HAUNCH ELEVATION																		
S2		STATION	94+45.18	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.20	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
	A	FINAL DECK ELEVATION	547.94	547.77	547.61	547.44	547.28	547.12	546.96	546.81	-	546.66	546.49	546.33	546.13	-	545.93	545.72	545.52	545.31
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																		
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																		
	D	*REBOUND																		
	E	WEIGHT OF EXISTING DECK	829	829	829	829	829	829	829	829	-	829	829	829	829	-	829	829	829	829
	F	WEIGHT OF PROPOSED DECK	701	701	701	701	701	701	701	701	-	701	701	701	701	-	701	701	701	701
	G	*DECK DEFLECTION																		
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																		
	K	*TOP OF HAUNCH ELEVATION																		
S3		STATION	94+45.19	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.21	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
	A	FINAL DECK ELEVATION	547.64	547.47	547.30	547.14	546.98	546.82	546.66	546.51	-	546.35	546.19	546.03	545.83	-	545.63	545.42	545.21	545.01
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																		
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																		
	D	*REBOUND																		
	E	WEIGHT OF EXISTING DECK	829	829	829	829	829	829	829	829	-	829	829	829	829	-	829	829	829	829
	F	WEIGHT OF PROPOSED DECK	701	701	701	701	701	701	701	701	-	701	701	701	701	-	701	701	701	701
	G	*DECK DEFLECTION																		
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																		
	K	*TOP OF HAUNCH ELEVATION																		

* ITEM TO BE COMPLETED BY CONTRACTOR

D SURVEYED BEAM ELEVATION BEFORE DECK REMOVAL MINUS SURVEYED BEAM ELEVATION AFTER DECK REMOVAL
D = C - B

G RATIO OF PROPOSED DEAD LOAD (LB./FT.) TO EXISTING DEAD LOAD (LB./FT.) MULTIPLIED BY SURVEYED REBOUND
G = D x (F/E)

J DECK DEFLECTION ADDED TO THE FINAL DECK ELEVATION
J = A + G

K SCREED ELEVATION MINUS DECK THICKNESS
K = A + G - H

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. FOR LOCATIONS NOT AT A BEAM CENTERLINE, USE THE CLOSEST BEAM TO DETERMINE THE REBOUND. FOR LEFT TOE OF RAILING OF LEFT BRIDGE, USE STRINGER S1. FOR ℄ ROUNDING OF LEFT BRIDGE, USE GIRDER G1. FOR LEFT PROFILE GRADE LINE OF LEFT BRIDGE, USE GIRDER G2. FOR RIGHT TOE OF RAILING OF LEFT BRIDGE, USE STRINGER S4.
5. FOR PLAN VIEW AND TRANSVERSE SECTION, SEE SHEET 37 OF 50.

LEFT BRIDGE TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS - 1
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E. STE 1000 CLEVELAND, OHIO 44114
DESIGNER HLD | CHECKER EA
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 29 | TOTAL 50
SHEET P.143 | TOTAL 208

HAM-US 50-29.00

MODEL: Sheet 1 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:34:23 PM USER: rjgreve
pw:\\hq-pwint01.a-e.transysocrp.com:transysocrp-pw1\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\Structures\SFN_3103811_SS004.dgn

TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS

		LOCATION	SPAN 2					SPAN 3											
			0.6	0.7	0.8	℄ FIELD SPLICE 3	0.9	℄ PIER 2	0.1	0.2	℄ FIELD SPLICE 4	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ BRG. FWD. ABUT.
LEFT TOE OF RAILING		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.19	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.20
		FINAL DECK ELEVATION	545.37	545.16	544.94	-	544.72	544.50	544.33	544.15	-	543.97	543.80	543.62	543.45	543.27	543.10	542.92	542.75
		*REBOUND																	
		*SCREED ELEVATION																	
S1		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.19	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.20
	A	FINAL DECK ELEVATION	545.45	545.23	545.01	-	544.79	544.58	544.40	544.22	-	544.05	543.87	543.69	543.52	543.34	543.17	542.99	542.81
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																	
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																	
	D	*REBOUND																	
	E	WEIGHT OF EXISTING DECK	861	861	861	-	861	861	861	861	-	861	861	861	861	861	861	861	861
	F	WEIGHT OF PROPOSED DECK	861	861	861	-	861	861	861	861	-	861	861	861	861	861	861	861	861
	G	*DECK DEFLECTION																	
	H	DECK THICKNESS	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																	
	K	*TOP OF HAUNCH ELEVATION																	
℄ ROUNDING		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.20	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.85	98+60.05	98+73.20
		FINAL DECK ELEVATION	545.53	545.31	545.09	-	544.88	544.66	544.48	544.31	-	544.13	543.95	543.78	543.60	543.43	543.25	543.08	542.90
		*REBOUND																	
		*SCREED ELEVATION																	
G1		STATION	96+75.64	96+92.04	97+08.44	97+11.54	97+24.84	97+41.20	97+54.44	97+67.64	97+70.96	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.21
	A	FINAL DECK ELEVATION	545.40	545.19	545.98	544.94	544.76	544.54	544.37	544.20	544.15	544.02	543.83	543.65	544.48	543.30	543.13	542.96	542.80
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																	
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																	
	D	*REBOUND																	
	E	WEIGHT OF EXISTING DECK	845	845	845	845	845	845	845	845	845	845	845	845	845	845	845	845	845
	F	WEIGHT OF PROPOSED DECK	753	753	753	753	753	753	753	753	753	753	753	753	753	753	753	753	753
	G	*DECK DEFLECTION																	
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																	
	K	*TOP OF HAUNCH ELEVATION																	
S2		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.21	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.22
	A	FINAL DECK ELEVATION	545.10	544.89	544.68	-	544.46	544.24	544.07	543.90	-	543.71	543.53	543.35	543.18	543.00	542.83	542.66	542.50
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																	
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																	
	D	*REBOUND																	
	E	WEIGHT OF EXISTING DECK	829	829	829	-	829	829	829	829	-	829	829	829	829	829	829	829	829
	F	WEIGHT OF PROPOSED DECK	701	701	701	-	701	701	701	701	-	701	701	701	701	701	701	701	701
	G	*DECK DEFLECTION																	
	H	DECK THICKNESS	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																	
	K	*TOP OF HAUNCH ELEVATION																	
S3		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.22	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.22
	A	FINAL DECK ELEVATION	544.80	544.58	544.38	-	544.16	543.94	543.76	543.59	-	543.41	543.23	543.05	542.87	542.70	542.53	542.36	542.20
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																	
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																	
	D	*REBOUND																	
	E	WEIGHT OF EXISTING DECK	829	829	829	-	829	829	829	829	-	829	829	829	829	829	829	829	829
	F	WEIGHT OF PROPOSED DECK	701	701	701	-	701	701	701	701	-	701	701	701	701	701	701	701	701
	G	*DECK DEFLECTION																	
	H	DECK THICKNESS	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																	
	K	*TOP OF HAUNCH ELEVATION																	

* ITEM TO BE COMPLETED BY CONTRACTOR

D SURVEYED BEAM ELEVATION BEFORE DECK REMOVAL MINUS SURVEYED BEAM ELEVATION AFTER DECK REMOVAL
D = C - B

G RATIO OF PROPOSED DEAD LOAD (LB./FT.) TO EXISTING DEAD LOAD (LB./FT.) MULTIPLIED BY SURVEYED REBOUND
G = D x (F/E)

J DECK DEFLECTION ADDED TO THE FINAL DECK ELEVATION
J = A + G

K SCREED ELEVATION MINUS DECK THICKNESS
K = A + G - H

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. FOR LOCATIONS NOT AT A BEAM CENTERLINE, USE THE CLOSEST BEAM TO DETERMINE THE REBOUND. FOR LEFT TOE OF RAILING OF LEFT BRIDGE, USE STRINGER S1. FOR ℄ ROUNDING OF LEFT BRIDGE, USE GIRDER G1. FOR LEFT PROFILE GRADE LINE OF LEFT BRIDGE, USE GIRDER G2. FOR RIGHT TOE OF RAILING OF LEFT BRIDGE, USE STRINGER S4.
5. FOR PLAN VIEW AND TRANSVERSE SECTION, SEE SHEET 37 OF 50.

LEFT BRIDGE TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS - 2
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER HLD | CHECKER EA
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 30 | TOTAL 50
SHEET P.144 | TOTAL 208

HAM-US 50-29.00

MODEL: Sheet 2 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:34:24 PM USER: rjgreve
pw:\\hq-pwint01.a-e.transyscorp.com:transyscorp-pw1\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\Structures\SFN_3103811\Sheets\110570_SFN_3103811_SS004.dgn

TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS

		LOCATION	SPAN 1												SPAN 2				
			℄ BRG. REAR ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	℄ FIELD SPLICE 1	0.8	0.9	℄ PIER 1	0.1	℄ FIELD SPLICE 2	0.2	0.3	0.4	0.5
G2		STATION	94+45.20	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	95+47.48	95+50.83	95+64.03	95+77.22	95+93.63	96+08.19	96+10.03	96+26.43	96+42.83	96+59.24
	A	FINAL DECK ELEVATION	547.34	547.17	547.00	546.84	546.68	546.52	546.36	546.21	546.10	546.05	545.89	545.72	545.53	545.37	545.33	545.12	544.91	544.71
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																		
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																		
	D	*REBOUND																		
	E	WEIGHT OF EXISTING DECK	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816
	F	WEIGHT OF PROPOSED DECK	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729
	G	*DECK DEFLECTION																		
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																		
	K	*TOP OF HAUNCH ELEVATION																		
LEFT PROFILE GRADE LINE		STATION	94+45.20	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.22	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
		FINAL DECK ELEVATION	547.18	547.02	546.86	546.70	546.54	546.38	546.22	546.05	-	545.89	545.73	545.57	545.37	-	545.17	544.97	544.77	544.57
		*REBOUND																		
		*SCREED ELEVATION																		
S4		STATION	94+45.21	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.23	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
	A	FINAL DECK ELEVATION	547.04	546.88	546.72	546.56	546.40	546.23	546.07	545.91	-	545.75	545.59	545.43	545.23	-	545.03	544.83	544.63	543.43
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																		
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																		
	D	*REBOUND																		
	E	WEIGHT OF EXISTING DECK	889	889	889	889	889	889	889	889	-	889	889	889	889	-	889	889	889	889
	F	WEIGHT OF PROPOSED DECK	734	734	734	734	734	734	734	734	-	734	734	734	734	-	734	734	734	734
	G	*DECK DEFLECTION																		
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																		
	K	*TOP OF HAUNCH ELEVATION																		
RIGHT TOE OF RAILING		STATION	94+45.21	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.22	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
		FINAL DECK ELEVATION	546.99	546.83	546.67	546.51	546.35	546.19	546.03	545.87	-	545.71	545.54	545.38	545.18	-	544.98	544.78	544.58	544.38
		*REBOUND																		
		*SCREED ELEVATION																		

* ITEM TO BE COMPLETED BY CONTRACTOR

D SURVEYED BEAM ELEVATION BEFORE DECK REMOVAL MINUS SURVEYED BEAM ELEVATION AFTER DECK REMOVAL
D = C - B

G RATIO OF PROPOSED DEAD LOAD (LB./FT.) TO EXISTING DEAD LOAD (LB./FT.) MULTIPLIED BY SURVEYED REBOUND
G = D x (F/E)

J DECK DEFLECTION ADDED TO THE FINAL DECK ELEVATION
J = A + G

K SCREED ELEVATION MINUS DECK THICKNESS
K = A + G - H

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. FOR LOCATIONS NOT AT A BEAM CENTERLINE, USE THE CLOSEST BEAM TO DETERMINE THE REBOUND. FOR LEFT TOE OF RAILING OF LEFT BRIDGE, USE STRINGER S1. FOR ℄ ROUNDING OF LEFT BRIDGE, USE GIRDER G1. FOR LEFT PROFILE GRADE LINE OF LEFT BRIDGE, USE GIRDER G2. FOR RIGHT TOE OF RAILING OF LEFT BRIDGE, USE STRINGER S4.
5. FOR PLAN VIEW AND TRANSVERSE SECTION, SEE SHEET 37 OF 50.

LEFT BRIDGE TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS - 3
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E. STE 1000 CLEVELAND, OHIO 44114
DESIGNER HLD | CHECKER EA
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 31 | TOTAL 50
SHEET P.145 | TOTAL 208

HAM-US 50-29.00

MODEL: Sheet 3 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:34:24 PM USER: rjgreve
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TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS

		LOCATION	SPAN 2					SPAN 3											
			0.6	0.7	0.8	℄ FIELD SPLICE 3	0.9	℄ PIER 2	0.1	0.2	℄ FIELD SPLICE 4	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ BRG. FWD. ABUT.
G2		STATION	96+75.64	96+92.04	97+08.44	97+11.37	97+24.84	97+41.23	97+54.44	97+67.64	97+71.18	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.23
	A	FINAL DECK ELEVATION	544.49	544.28	544.08	544.04	543.86	543.64	543.46	543.29	543.25	543.11	542.93	542.75	542.57	542.40	542.23	542.06	541.89
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																	
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																	
	D	*REBOUND																	
	E	WEIGHT OF EXISTING DECK	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816
	F	WEIGHT OF PROPOSED DECK	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729
	G	*DECK DEFLECTION																	
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																	
	K	*TOP OF HAUNCH ELEVATION																	
LEFT PROFILE GRADE LINE		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.23	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.24
		FINAL DECK ELEVATION	544.35	544.13	543.92	-	543.70	543.48	543.30	543.13	-	542.95	542.78	542.60	542.43	542.25	542.07	541.90	541.72
		*REBOUND																	
		*SCREED ELEVATION																	
S4		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.24	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.24
	A	FINAL DECK ELEVATION	544.21	543.99	543.78	-	545.56	543.34	543.17	542.99	-	542.82	542.64	542.47	542.29	542.12	541.94	541.77	541.59
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																	
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																	
	D	*REBOUND																	
	E	WEIGHT OF EXISTING DECK	889	889	889	-	889	889	889	889	-	889	889	889	889	889	889	889	889
	F	WEIGHT OF PROPOSED DECK	734	734	734	-	734	734	734	734	-	734	734	734	734	734	734	734	734
	G	*DECK DEFLECTION																	
	H	DECK THICKNESS	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																	
	K	*TOP OF HAUNCH ELEVATION																	
RIGHT TOE OF RAILING		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.24	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.24
		FINAL DECK ELEVATION	544.16	543.95	543.73	-	543.51	543.29	543.12	542.94	-	542.76	542.59	542.41	542.24	542.06	541.89	541.71	541.53
		*REBOUND																	
		*SCREED ELEVATION																	

* ITEM TO BE COMPLETED BY CONTRACTOR

D SURVEYED BEAM ELEVATION BEFORE DECK REMOVAL MINUS SURVEYED BEAM ELEVATION AFTER DECK REMOVAL
D = C - B

G RATIO OF PROPOSED DEAD LOAD (LB./FT.) TO EXISTING DEAD LOAD (LB./FT.) MULTIPLIED BY SURVEYED REBOUND
G = D x (F/E)

J DECK DEFLECTION ADDED TO THE FINAL DECK ELEVATION
J = A + G

K SCREED ELEVATION MINUS DECK THICKNESS
K = A + G - H

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. FOR LOCATIONS NOT AT A BEAM CENTERLINE, USE THE CLOSEST BEAM TO DETERMINE THE REBOUND. FOR LEFT TOE OF RAILING OF LEFT BRIDGE, USE STRINGER S1. FOR ℄ ROUNDING OF LEFT BRIDGE, USE GIRDER G1. FOR LEFT PROFILE GRADE LINE OF LEFT BRIDGE, USE GIRDER G2. FOR RIGHT TOE OF RAILING OF LEFT BRIDGE, USE STRINGER S4.
5. FOR PLAN VIEW AND TRANSVERSE SECTION, SEE SHEET 37 OF 50.

LEFT BRIDGE TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS - 4
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
HLD	EA

REVIEWER
NFF 08/22/23

PROJECT ID
110570

SUBSET	TOTAL
32	50

SHEET	TOTAL
P.146	208

HAM-US 50-29.00

MODEL: Sheet 4 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:34:25 PM USER: rjgreve
pw:\\hq-pwint01.a-e.transyscorp.com:transyscorp-pw1\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\Structures\SFN_3103811_SS004.dgn

TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS

		LOCATION	SPAN 1												SPAN 2				
			℄ BRG. REAR ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	℄ FIELD SPLICE 1	0.8	0.9	℄ PIER 1	0.1	℄ FIELD SPLICE 2	0.2	0.3	0.4	0.5
LEFT TOE OF RAILING		STATION	94+45.21	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.23	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
		FINAL DECK ELEVATION	546.72	546.56	546.40	546.25	546.09	545.93	545.78	545.62	-	545.46	545.30	545.15	544.95	-	544.76	544.56	544.36	544.17
		*REBOUND																		
		*SCREED ELEVATION																		
S5		STATION	94+45.22	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.24	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
	A	FINAL DECK ELEVATION	546.75	546.59	546.44	546.28	546.12	545.96	545.81	545.65	-	545.49	545.34	545.18	544.98	-	544.79	544.59	544.40	544.20
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																		
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																		
	D	*REBOUND																		
	E	WEIGHT OF EXISTING DECK	712	712	712	712	712	712	712	712		712	712	712	712	-	712	712	712	712
	F	WEIGHT OF PROPOSED DECK	734	734	734	734	734	734	734	734	-	734	734	734	734	-	734	734	734	734
	G	*DECK DEFLECTION																		
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																		
	K	*TOP OF HAUNCH ELEVATION																		
℄ ROUNDING		STATION	94+45.22	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.24	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
		FINAL DECK ELEVATION	546.76	546.60	546.44	546.28	546.13	545.97	545.81	545.65	-	545.50	545.34	545.18	544.99	-	544.79	544.60	544.40	544.21
		*REBOUND																		
		*SCREED ELEVATION																		
RIGHT PROFILE GRADE LINE		STATION	94+45.22	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.24	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
		FINAL DECK ELEVATION	546.71	546.55	546.39	546.23	546.08	545.92	545.76	545.60	-	545.45	545.28	545.13	544.94	-	544.74	544.55	544.35	544.15
		*REBOUND																		
		*SCREED ELEVATION																		
G3		STATION	94+45.22	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	95+47.21	95+50.83	95+64.03	95+77.24	95+93.63	96+07.41	96+10.03	96+26.43	96+42.83	96+59.24
	A	FINAL DECK ELEVATION	546.54	546.37	546.20	546.04	545.89	545.73	545.58	545.43	545.32	545.28	545.11	544.96	544.76	544.60	544.57	544.36	544.16	543.97
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																		
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																		
	D	*REBOUND																		
	E	WEIGHT OF EXISTING DECK	845	845	845	845	845	845	845	845	845	845	845	845	845	845	845	845	845	845
	F	WEIGHT OF PROPOSED DECK	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729
	G	*DECK DEFLECTION																		
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																		
	K	*TOP OF HAUNCH ELEVATION																		
S6		STATION	94+45.23	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.25	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
	A	FINAL DECK ELEVATION	546.23	546.07	545.90	545.74	545.58	545.43	545.28	545.13	-	544.97	544.81	544.65	544.46	-	544.27	544.06	543.86	543.66
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																		
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																		
	D	*REBOUND																		
	E	WEIGHT OF EXISTING DECK	829	829	829	829	829	829	829	829	-	829	829	829	829	-	829	829	829	829
	F	WEIGHT OF PROPOSED DECK	701	701	701	701	701	701	701	701	-	701	701	701	701	-	701	701	701	701
	G	*DECK DEFLECTION																		
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																		
	K	*TOP OF HAUNCH ELEVATION																		

* ITEM TO BE COMPLETED BY CONTRACTOR

D SURVEYED BEAM ELEVATION BEFORE DECK REMOVAL MINUS SURVEYED BEAM ELEVATION AFTER DECK REMOVAL
D = C - B

G RATIO OF PROPOSED DEAD LOAD (LB./FT.) TO EXISTING DEAD LOAD (LB./FT.) MULTIPLIED BY SURVEYED REBOUND
G = D x (F/E)

J DECK DEFLECTION ADDED TO THE FINAL DECK ELEVATION
J = A + G

K SCREED ELEVATION MINUS DECK THICKNESS
K = A + G - H

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. FOR LOCATIONS NOT AT A BEAM CENTERLINE, USE THE CLOSEST BEAM TO DETERMINE THE REBOUND. FOR LEFT TOE OF RAILING OF RIGHT BRIDGE, USE STRINGER S5. FOR ℄ ROUNDING OF RIGHT BRIDGE, USE GIRDER G3. FOR RIGHT PROFILE GRADE LINE OF RIGHT BRIDGE, USE GIRDER G3. FOR RIGHT TOE OF RAILING OF RIGHT BRIDGE, USE STRINGER S8.
5. FOR PLAN VIEW AND TRANSVERSE SECTION, SEE SHEET 37 OF 50.

RIGHT BRIDGE TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS - 1
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD
BRIDGE NO. HAM-00050-29.100

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
HLD	EA

REVIEWER: NFF 08/22/23

PROJECT ID: 110570

SUBSET	TOTAL
33	50

SHEET	TOTAL
P.147	208

HAM-US 50-29.00

MODEL: Sheet 5 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:34:26 PM USER: rjgreve
pw:\\hq-pwint01.a-e.transyscorp.com:transyscorp-pw1\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\Structures\SFN_3103811\Sheets\110570_SFN_3103811_SS004.dgn

TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS

		LOCATION	SPAN 2						SPAN 3									
			0.6	0.7	0.8	℄ FIELD SPLICE 3	0.9	℄ PIER 2	0.1	0.2	℄ FIELD SPLICE 4	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ BRG. FWD. ABUT.
LEFT TOE OF RAILING		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.24	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.25
		FINAL DECK ELEVATION	543.94	543.71	543.49	-	543.26	543.03	542.85	542.66	-	542.48	542.30	542.11	541.93	541.75	541.56	541.38	541.20
		*REBOUND																	
		*SCREED ELEVATION																	
S5		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.24	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.25
	A	FINAL DECK ELEVATION	543.97	543.75	543.52	-	543.29	543.06	542.88	542.69	-	542.51	542.33	542.14	541.96	541.78	541.59	541.41	541.23
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																	
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																	
	D	*REBOUND																	
	E	WEIGHT OF EXISTING DECK	712	712	712	-	712	712	712	712	-	712	712	712	712	712	712	712	712
	F	WEIGHT OF PROPOSED DECK	734	734	734	-	734	734	734	734	-	734	734	734	734	734	734	734	734
	G	*DECK DEFLECTION																	
	H	DECK THICKNESS	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																	
	K	*TOP OF HAUNCH ELEVATION																	
℄ ROUNDING		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.25	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.25
		FINAL DECK ELEVATION	543.98	543.75	543.52	-	543.30	543.07	542.88	542.70	-	542.52	542.33	542.15	541.97	541.78	541.60	541.42	541.21
		*REBOUND																	
		*SCREED ELEVATION																	
RIGHT PROFILE GRADE LINE		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.25	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.25
		FINAL DECK ELEVATION	543.93	543.70	543.47	-	543.24	543.02	542.83	542.65	-	542.47	542.28	542.10	541.92	541.73	541.55	541.37	541.18
		*REBOUND																	
		*SCREED ELEVATION																	
G3		STATION	96+75.64	96+92.04	97+08.44	97+11.21	97+24.84	97+41.25	97+54.44	97+67.64	97+71.41	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.26
	A	FINAL DECK ELEVATION	543.74	543.52	543.30	543.27	543.07	542.85	542.66	542.49	542.44	542.30	542.11	541.92	541.73	541.55	541.37	541.20	541.03
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																	
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																	
	D	*REBOUND																	
	E	WEIGHT OF EXISTING DECK	845	845	845	845	845	845	845	845	845	845	845	845	845	845	845	845	845
	F	WEIGHT OF PROPOSED DECK	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729	729
	G	*DECK DEFLECTION																	
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																	
	K	*TOP OF HAUNCH ELEVATION																	
S6		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.26	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.27
	A	FINAL DECK ELEVATION	543.44	543.22	543.00	-	542.77	542.54	542.36	542.18	-	541.99	541.81	541.62	541.43	541.25	541.07	540.90	540.72
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																	
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																	
	D	*REBOUND																	
	E	WEIGHT OF EXISTING DECK	829	829	829	-	829	829	829	829	-	829	829	829	829	829	829	829	829
	F	WEIGHT OF PROPOSED DECK	701	701	701	-	701	701	701	701	-	701	701	701	701	701	701	701	701
	G	*DECK DEFLECTION																	
	H	DECK THICKNESS	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																	
	K	*TOP OF HAUNCH ELEVATION																	

* ITEM TO BE COMPLETED BY CONTRACTOR

D SURVEYED BEAM ELEVATION BEFORE DECK REMOVAL MINUS SURVEYED BEAM ELEVATION AFTER DECK REMOVAL
D = C - B

G RATIO OF PROPOSED DEAD LOAD (LB./FT.) TO EXISTING DEAD LOAD (LB./FT.) MULTIPLIED BY SURVEYED REBOUND
G = D x (F/E)

J DECK DEFLECTION ADDED TO THE FINAL DECK ELEVATION
J = A + G

K SCREED ELEVATION MINUS DECK THICKNESS
K = A + G - H

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. FOR LOCATIONS NOT AT A BEAM CENTERLINE, USE THE CLOSEST BEAM TO DETERMINE THE REBOUND. FOR LEFT TOE OF RAILING OF RIGHT BRIDGE, USE STRINGER S5. FOR ℄ ROUNDING OF RIGHT BRIDGE, USE GIRDER G3. FOR RIGHT PROFILE GRADE LINE OF RIGHT BRIDGE, USE GIRDER G3. FOR RIGHT TOE OF RAILING OF RIGHT BRIDGE, USE STRINGER S8.
5. FOR PLAN VIEW AND TRANSVERSE SECTION, SEE SHEET 37 OF 50.

RIGHT BRIDGE TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS - 2
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE., STE 1000 CLEVELAND, OHIO 44114
DESIGNER HLD | CHECKER EA
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 34 | TOTAL 50
SHEET P.148 | TOTAL 208

HAM-US 50-29.00

MODEL: Sheet 6 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:34:26 PM USER: rjgreve
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TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS

		LOCATION	SPAN 1												SPAN 2				
			℄ BRG. REAR ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	℄ FIELD SPLICE 1	0.8	0.9	℄ PIER 1	0.1	℄ FIELD SPLICE 2	0.2	0.3	0.4	0.5
S7		STATION	94+45.24	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.26	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
	A	FINAL DECK ELEVATION	545.93	545.77	546.60	545.44	545.28	545.13	544.97	544.82	-	544.67	544.51	544.35	544.16	-	544.96	543.76	543.56	543.36
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																		
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																		
	D	*REBOUND																		
	E	WEIGHT OF EXISTING DECK	829	829	829	829	829	829	829	829	-	829	829	829	829	-	829	829	829	829
	F	WEIGHT OF PROPOSED DECK	701	701	701	701	701	701	701	701	-	701	701	701	701	-	701	701	701	701
	G	*DECK DEFLECTION																		
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																		
	K	*TOP OF HAUNCH ELEVATION																		
G4		STATION	94+45.25	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	95+47.03	95+50.83	95+64.03	95+77.27	95+93.63	96+07.65	96+10.03	96+26.43	96+42.83	96+59.24
	A	FINAL DECK ELEVATION	545.63	545.46	545.30	545.14	544.98	544.83	544.67	544.52	544.42	544.37	544.21	544.05	543.86	543.70	543.67	543.46	543.26	543.06
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																		
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																		
	D	*REBOUND																		
	E	WEIGHT OF EXISTING DECK	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816
	F	WEIGHT OF PROPOSED DECK	753	753	753	753	753	753	753	753	753	753	753	753	753	753	753	753	753	753
	G	*DECK DEFLECTION																		
	H	*DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																		
	K	*TOP OF HAUNCH ELEVATION																		
S8		STATION	94+45.26	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.28	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
	A	FINAL DECK ELEVATION	545.33	545.17	545.02	544.86	544.70	544.54	544.39	544.23	-	544.07	543.91	543.76	543.56	-	543.37	543.17	542.98	542.78
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																		
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																		
	D	*REBOUND																		
	E	WEIGHT OF EXISTING DECK	889	889	889	889	889	889	889	889	-	889	889	889	889	-	889	889	889	889
	F	WEIGHT OF PROPOSED DECK	861	861	861	861	861	861	861	861	-	861	861	861	861	-	861	861	861	861
	G	*DECK DEFLECTION																		
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																		
	K	*TOP OF HAUNCH ELEVATION																		
RIGHT TOE OF RAILING		STATION	94+45.26	94+58.41	94+71.61	94+84.82	94+98.02	95+11.22	95+24.42	95+37.62	-	95+50.83	95+64.03	95+77.28	95+93.63	-	96+10.03	96+26.43	96+42.83	96+59.24
		FINAL DECK ELEVATION	545.25	545.09	544.93	544.78	544.62	544.46	544.30	544.15	-	543.99	543.83	543.67	543.48	-	543.28	543.09	542.89	542.70
		*REBOUND																		
		*SCREED ELEVATION																		

* ITEM TO BE COMPLETED BY CONTRACTOR

D SURVEYED BEAM ELEVATION BEFORE DECK REMOVAL MINUS SURVEYED BEAM ELEVATION AFTER DECK REMOVAL
D = C - B

G RATIO OF PROPOSED DEAD LOAD (LB./FT.) TO EXISTING DEAD LOAD (LB./FT.) MULTIPLIED BY SURVEYED REBOUND
G = D x (F/E)

J DECK DEFLECTION ADDED TO THE FINAL DECK ELEVATION
J = A + G

K SCREED ELEVATION MINUS DECK THICKNESS
K = A + G - H

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. FOR LOCATIONS NOT AT A BEAM CENTERLINE, USE THE CLOSEST BEAM TO DETERMINE THE REBOUND. FOR LEFT TOE OF RAILING OF RIGHT BRIDGE, USE STRINGER S5. FOR ℄ ROUNDING OF RIGHT BRIDGE, USE GIRDER G3. FOR RIGHT PROFILE GRADE LINE OF RIGHT BRIDGE, USE GIRDER G3. FOR RIGHT TOE OF RAILING OF RIGHT BRIDGE, USE STRINGER S8.
5. FOR PLAN VIEW AND TRANSVERSE SECTION, SEE SHEET 37 OF 50.

RIGHT BRIDGE TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS - 3
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER HLD | CHECKER EA
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 35 | TOTAL 50
SHEET P.149 | TOTAL 208

HAM-US 50-29.00

MODEL: Sheet 7 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:34:27 PM USER: rjgreve
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TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS

		LOCATION	SPAN 2					SPAN 3											
			0.6	0.7	0.8	℄ FIELD SPLICE 3	0.9	℄ PIER 2	0.1	0.2	℄ FIELD SPLICE 4	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ BRG. FWD. ABUT.
S7		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.27	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.28
	A	FINAL DECK ELEVATION	543.14	542.92	542.70	-	542.47	542.24	542.06	541.88	-	541.69	541.50	541.32	541.13	540.95	540.77	540.60	540.42
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																	
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																	
	D	*REBOUND																	
	E	WEIGHT OF EXISTING DECK	829	829	829	-	829	829	829	829	-	829	829	829	829	829	829	829	829
	F	WEIGHT OF PROPOSED DECK	701	701	701	-	701	701	701	701	-	701	701	701	701	701	701	701	701
	G	*DECK DEFLECTION																	
	H	DECK THICKNESS	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																	
	K	*TOP OF HAUNCH ELEVATION																	
G4		STATION	96+75.64	96+92.04	97+08.44	97+11.03	97+24.84	97+41.28	97+54.44	97+67.64	97+71.64	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.29
	A	FINAL DECK ELEVATION	542.84	542.62	542.40	542.37	542.17	541.94	541.76	541.58	541.53	541.39	541.20	541.02	540.83	540.65	540.47	540.29	540.12
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																	
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																	
	D	*REBOUND																	
	E	WEIGHT OF EXISTING DECK	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816
	F	WEIGHT OF PROPOSED DECK	753	753	753	753	753	753	753	753	753	753	753	753	753	753	753	753	753
	G	*DECK DEFLECTION																	
	H	*DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																	
	K	*TOP OF HAUNCH ELEVATION																	
S8		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.29	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.30
	A	FINAL DECK ELEVATION	542.55	542.33	542.10	-	541.87	541.65	541.46	541.28	-	541.10	540.92	540.73	540.55	540.37	540.18	540.00	539.82
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)																	
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)																	
	D	*REBOUND																	
	E	WEIGHT OF EXISTING DECK	889	889	889	-	889	889	889	889	-	889	889	889	889	889	889	889	889
	F	WEIGHT OF PROPOSED DECK	861	861	861	-	861	861	861	861	-	861	861	861	861	861	861	861	861
	G	*DECK DEFLECTION																	
	H	DECK THICKNESS	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	-	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION																	
	K	*TOP OF HAUNCH ELEVATION																	
RIGHT TOE OF RAILING		STATION	96+75.64	96+92.04	97+08.44	-	97+24.84	97+41.29	97+54.44	97+67.64	-	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.30
		FINAL DECK ELEVATION	542.47	542.24	542.02	-	541.79	541.56	541.38	541.19	-	541.01	540.83	540.64	540.46	540.28	540.09	539.91	539.73
		*REBOUND																	
		*SCREED ELEVATION																	

* ITEM TO BE COMPLETED BY CONTRACTOR

D SURVEYED BEAM ELEVATION BEFORE DECK REMOVAL MINUS SURVEYED BEAM ELEVATION AFTER DECK REMOVAL
D = C - B

G RATIO OF PROPOSED DEAD LOAD (LB./FT.) TO EXISTING DEAD LOAD (LB./FT.) MULTIPLIED BY SURVEYED REBOUND
G = D x (F/E)

J DECK DEFLECTION ADDED TO THE FINAL DECK ELEVATION
J = A + G

K SCREED ELEVATION MINUS DECK THICKNESS
K = A + G - H

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. FOR LOCATIONS NOT AT A BEAM CENTERLINE, USE THE CLOSEST BEAM TO DETERMINE THE REBOUND. FOR LEFT TOE OF RAILING OF RIGHT BRIDGE, USE STRINGER S5. FOR ℄ ROUNDING OF RIGHT BRIDGE, USE GIRDER G3. FOR RIGHT PROFILE GRADE LINE OF RIGHT BRIDGE, USE GIRDER G3. FOR RIGHT TOE OF RAILING OF RIGHT BRIDGE, USE STRINGER S8.
5. FOR PLAN VIEW AND TRANSVERSE SECTION, SEE SHEET 37 OF 50.

TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS - 4

BRIDGE NO. HAM-00050-29.100

US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

RIGHT BRIDGE

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
HLD	EA

REVIEWER
NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
36	50

SHEET	TOTAL
P.150	208

HAM-US 50-29.00

MODEL: Sheet 8 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:34:27 PM USER: rjgreve
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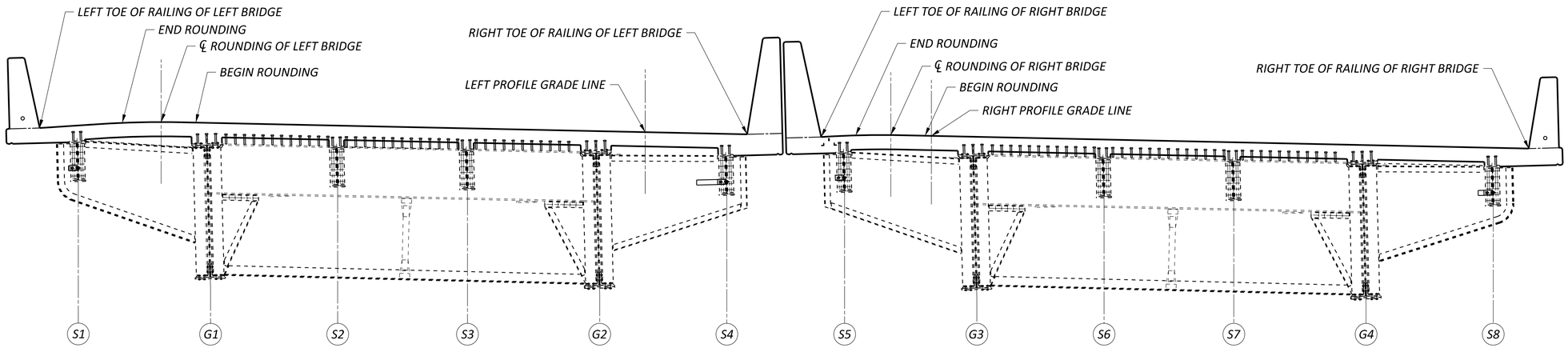
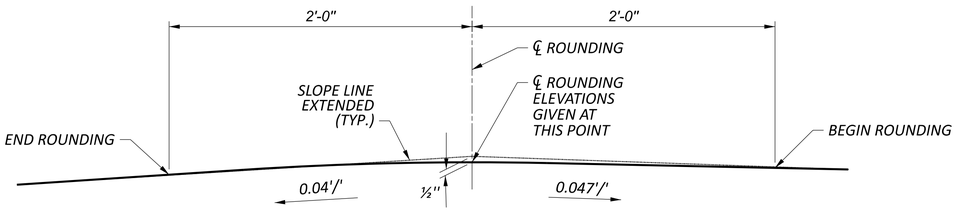
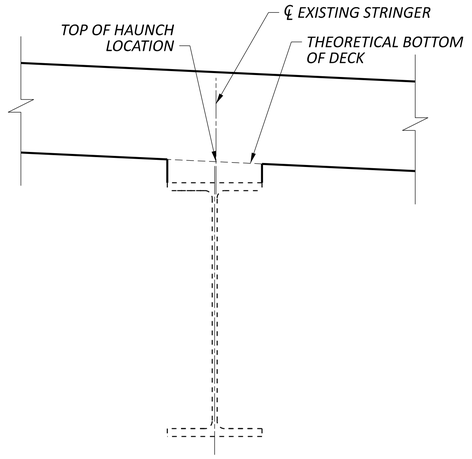


BRIDGE TRANSVERSE SECTION

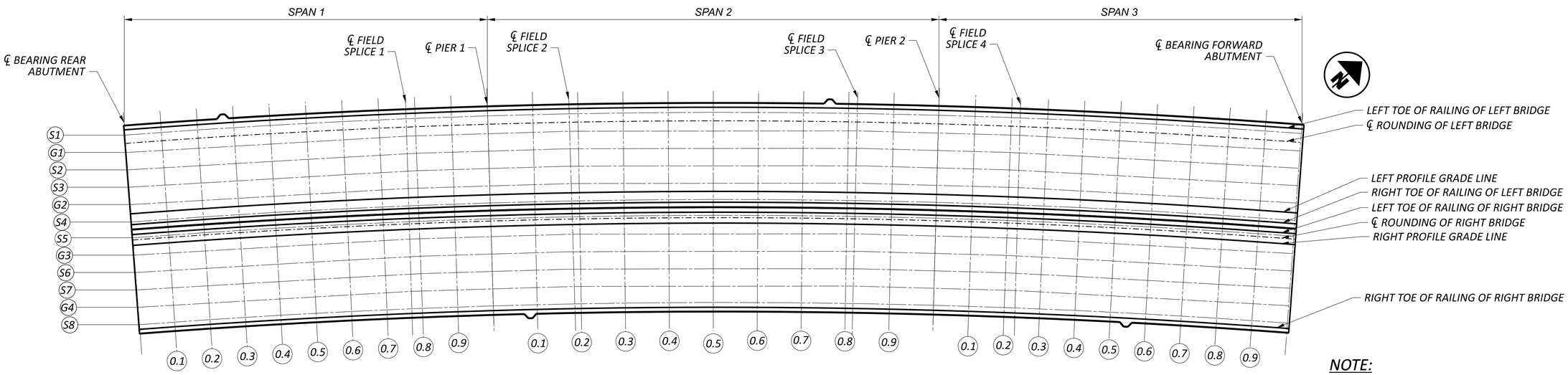


TYPICAL BRIDGE ROUNDING DETAIL



TYPICAL BRIDGE TOP OF HAUNCH DETAIL

(STRINGERS ARE SHOWN, GIRDERS ARE SIMILAR)



BRIDGE DECK ELEVATIONS LAYOUT

NOTE:

1. FOR TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS, SEE SHEET 29 TO 36 OF 50.

LOCATION PLAN AND TRANSVERSE SECTION
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD
BRIDGE NO. HAM-00050-29.100

SFN	3103811
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	HLD
CHECKER	EA
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	37
TOTAL	50
SHEET	P.151
TOTAL	208

HAM-US 50-29.00

MODEL: Untitled Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:34:58 PM USER: rjgreve
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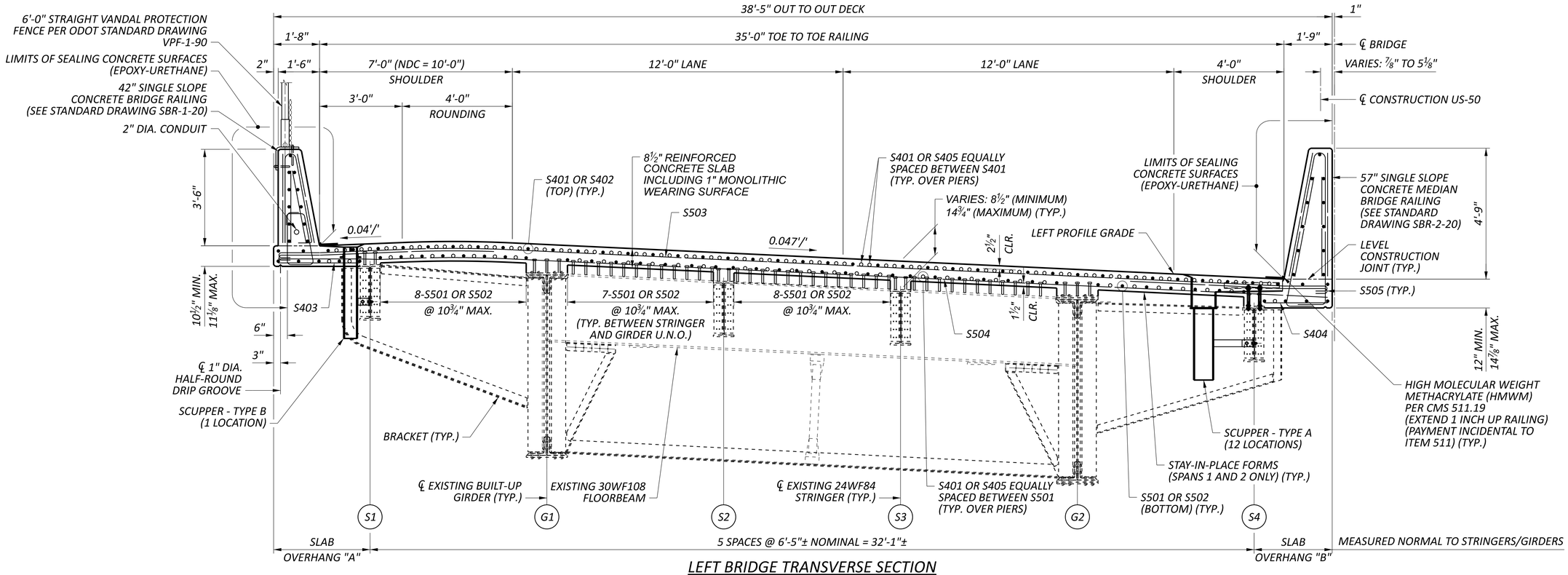

LEFT BRIDGE TRANSVERSE SECTION

SLAB OVERHANG "A" - SPAN 1											
LOCATION	℄ BEARING REAR ABUTMENT	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ PIER 1
STATION AT ℄ S1	94+45.16	94+58.37	94+71.57	94+84.77	94+97.97	95+11.17	95+24.38	95+37.58	95+50.78	95+63.98	95+77.18
SLAB OVERHANG A	3'-7¼"	3'-7⅝"	3'-7¼"	3'-7⅝"	3'-7¼"	3'-7⅝"	3'-7¼"	3'-7⅝"	3'-7⅛"	3'-7½"	3'-7⅛"

SLAB OVERHANG "A" - SPAN 2											
LOCATION	℄ PIER 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ PIER 2
STATION AT ℄ S1	95+77.18	95+93.58	96+09.99	96+26.39	96+42.79	96+59.19	96+75.59	96+91.99	97+08.39	97+24.79	97+41.19
SLAB OVERHANG A	3'-7⅛"	3'-7⅜"	3'-7¼"	3'-7⅛"	3'-7⅛"	3'-6⅝"	3'-6⅞"	3'-6⅝"	3'-6½"	3'-6½"	3'-6"

SLAB OVERHANG "A" - SPAN 3											
LOCATION	℄ PIER 2	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ BEARING FORWARD ABUTMENT
STATION AT ℄ S1	97+41.19	97+54.39	97+67.59	97+80.79	97+94.00	98+07.20	98+20.40	98+33.60	98+46.80	98+60.00	98+73.20
SLAB OVERHANG A	3'-6"	3'-6¼"	3'-5¾"	3'-5⅞"	3'-5⅜"	3'-5⅛"	3'-5⅛"	3'-5¼"	3'-4¾"	3'-4⅞"	3'-4⅜"

SLAB OVERHANG "B" - SPAN 1											
LOCATION	℄ BEARING REAR ABUTMENT	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ PIER 1
STATION AT ℄ S4	94+45.21	94+58.41	94+71.61	94+84.81	94+98.02	95+11.22	95+24.42	95+37.62	95+50.82	95+64.03	95+77.23
SLAB OVERHANG B	2'-8¾"	2'-8⅜"	2'-8¾"	2'-8⅜"	2'-8¾"	2'-8⅜"	2'-8¾"	2'-8⅜"	2'-8⅞"	2'-8½"	2'-8⅞"

SLAB OVERHANG "B" - SPAN 2											
LOCATION	℄ PIER 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ PIER 2
STATION AT ℄ S4	95+77.23	95+93.63	96+10.03	96+26.43	96+42.83	96+59.23	96+75.63	96+92.03	97+08.44	97+24.84	97+41.24
SLAB OVERHANG B	2'-8⅞"	2'-8⅝"	2'-8⅞"	2'-8⅞"	2'-8⅞"	2'-9⅜"	2'-9⅛"	2'-9⅜"	2'-9½"	2'-9½"	2'-10"

SLAB OVERHANG "B" - SPAN 3											
LOCATION	℄ PIER 2	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ BEARING FORWARD ABUTMENT
STATION AT ℄ S4	97+41.24	97+54.44	97+67.64	97+80.84	97+94.04	98+07.24	98+20.44	98+33.64	98+46.84	98+60.04	98+73.24
SLAB OVERHANG B	2'-10"	2'-9¾"	2'-10¼"	2'-10⅛"	2'-10⅝"	2'-10⅜"	2'-10⅞"	2'-10¾"	2'-11¼"	2'-11⅛"	2'-11⅝"

NOTES:

1. FOR PHASE 2 LEFT BRIDGE REMOVAL AND PHASE 2 LEFT BRIDGE CONSTRUCTION, SEE SHEET 12 OF 50.
2. FOR RIGHT BRIDGE TRANSVERSE SECTION, SEE SHEET 39 OF 50.
3. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH STRINGER/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 3.1 INCHES FOR GIRDERS G1 AND G2, 2.1 INCHES FOR STRINGER S1, AND 5.0 INCHES FOR STRINGERS S2 THRU S4, AND A HAUNCH WIDTH EQUAL TO THE TOP FLANGE WIDTH. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE.
4. THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE STRINGER/GIRDER, FROM THE SURFACE OF THE DECK TO THE TOP OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS.
5. FOR BRIDGE ROUNDING DETAIL, SEE SHEET 37 OF 50.
6. FOR LEFT BRIDGE SLAB PLAN, SEE SHEET 40 OF 50.
7. FIELD BEND S503 AND S504 BARS AS REQUIRED.
8. FOR LEFT BRIDGE RAILING ELEVATION AND DETAILS, SEE SHEET 42 OF 50.
9. TRANSVERSE SECTION SHOWN AT FB2 LOCATION ONLY. FOR OTHER SECTIONS, SEE EXISTING PLANS.
10. FOR SCUPPER DETAILS, SEE SHEET 28 OF 50.

LEFT BRIDGE TRANSVERSE SECTION
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114
DESIGNER RSB | CHECKER CCF
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 38 | TOTAL 50
SHEET P.152 | TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:35:27 PM USER: rjgreve
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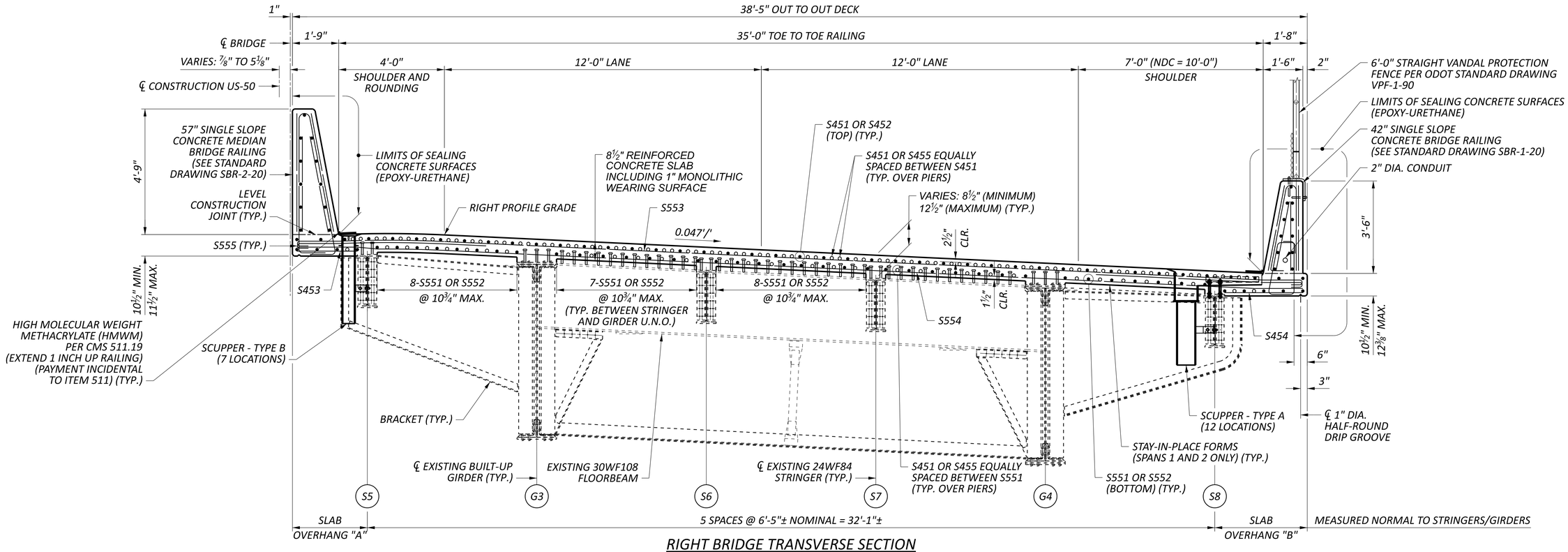

RIGHT BRIDGE TRANSVERSE SECTION

SLAB OVERHANG "A" - SPAN 1											
LOCATION	℄ BEARING REAR ABUTMENT	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ PIER 1
STATION AT ℄ S5	94+45.22	94+58.42	94+71.62	94+84.82	94+98.02	95+11.23	95+24.43	95+37.63	95+50.83	95+64.03	95+77.24
SLAB OVERHANG A	2'-11¼"	2'-11⅝"	2'-11¼"	2'-11⅝"	2'-11¼"	2'-11⅝"	2'-11¼"	2'-11⅝"	2'-11⅛"	2'-11½"	2'-11⅛"

SLAB OVERHANG "A" - SPAN 2											
LOCATION	℄ PIER 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ PIER 2
STATION AT ℄ S5	95+77.24	95+93.64	96+10.04	96+26.44	96+42.84	96+59.24	96+75.64	96+92.04	97+08.44	97+24.84	97+41.24
SLAB OVERHANG A	2'-11⅛"	2'-11⅜"	2'-11¼"	2'-11⅛"	2'-11⅛"	2'-10⅝"	2'-10⅞"	2'-10⅝"	2'-10½"	2'-10½"	2'-10"

SLAB OVERHANG "A" - SPAN 3											
LOCATION	℄ PIER 2	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ BEARING FORWARD ABUTMENT
STATION AT ℄ S5	97+41.24	97+54.45	97+67.65	97+80.85	97+94.05	98+07.25	98+20.45	98+33.65	98+46.85	98+60.05	98+73.25
SLAB OVERHANG A	2'-10"	2'-10¼"	2'-9¾"	2'-9⅞"	2'-9⅜"	2'-9⅝"	2'-9⅛"	2'-9¼"	2'-8¾"	2'-8⅞"	2'-8⅜"

SLAB OVERHANG "B" - SPAN 1											
LOCATION	℄ BEARING REAR ABUTMENT	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ PIER 1
STATION AT ℄ S8	94+45.26	94+58.46	94+71.66	94+84.87	94+98.07	95+11.27	95+24.47	95+37.68	95+50.88	95+64.08	95+77.28
SLAB OVERHANG B	3'-4¾"	3'-4⅜"	3'-4¾"	3'-4⅜"	3'-4¾"	3'-4⅜"	3'-4¾"	3'-4½"	3'-4⅞"	3'-4½"	3'-4⅞"

SLAB OVERHANG "B" - SPAN 2											
LOCATION	℄ PIER 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ PIER 2
STATION AT ℄ S8	95+77.28	95+93.68	96+10.08	96+26.48	96+42.89	96+59.29	96+75.69	96+92.09	97+08.49	97+24.89	97+41.29
SLAB OVERHANG B	3'-4⅞"	3'-4⅝"	3'-4⅞"	3'-4⅞"	3'-4⅞"	3'-5⅜"	3'-5⅛"	3'-5⅜"	3'-5½"	3'-5½"	3'-6"

SLAB OVERHANG "B" - SPAN 3											
LOCATION	℄ PIER 2	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ BEARING FORWARD ABUTMENT
STATION AT ℄ S8	97+41.29	97+54.49	97+67.69	97+80.89	97+94.09	98+07.29	98+20.49	98+33.69	98+46.90	98+60.10	98+73.30
SLAB OVERHANG B	3'-6"	3'-5¾"	3'-6¼"	3'-6⅛"	3'-6⅝"	3'-6⅜"	3'-6⅞"	3'-6¾"	3'-7¼"	3'-7⅛"	3'-7⅝"

NOTES:

1. FOR PHASE 3 RIGHT BRIDGE REMOVAL AND PHASE 3 RIGHT BRIDGE CONSTRUCTION, SEE SHEET 13 OF 50 .
2. FOR LEFT BRIDGE TRANSVERSE SECTION, SEE SHEET 38 OF 50 .
3. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH STRINGER/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 0.7 INCHES FOR GIRDERS G3 AND G4, 1.0 INCHES FOR STRINGER S5, AND 2.9 INCHES FOR STRINGERS S6 THRU S8, AND A HAUNCH WIDTH EQUAL TO THE TOP FLANGE WIDTH. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE.
4. THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE STRINGER/GIRDER, FROM THE SURFACE OF THE DECK TO THE TOP OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS.
5. FOR BRIDGE ROUNDING DETAIL, SEE SHEET 37 OF 50 .
6. FOR RIGHT BRIDGE SLAB PLAN, SEE SHEET 41 OF 50 .
7. FIELD BEND S553 AND S554 BARS AS REQUIRED.
8. FOR RIGHT BRIDGE RAILING ELEVATION AND DETAILS, SEE SHEET 43 OF 50 .
9. TRANSVERSE SECTION SHOWN AT FB2 LOCATION ONLY. FOR OTHER SECTIONS, SEE EXISTING PLANS.
10. FOR SCUPPER DETAILS, SEE SHEET 28 OF 50 .

RIGHT BRIDGE TRANSVERSE SECTION
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
RSB	CCF

REVIEWER: NFF 08/22/23

PROJECT ID: 110570

SUBSET	TOTAL
39	50

SHEET	TOTAL
P.153	208

HAM-US 50-29.00

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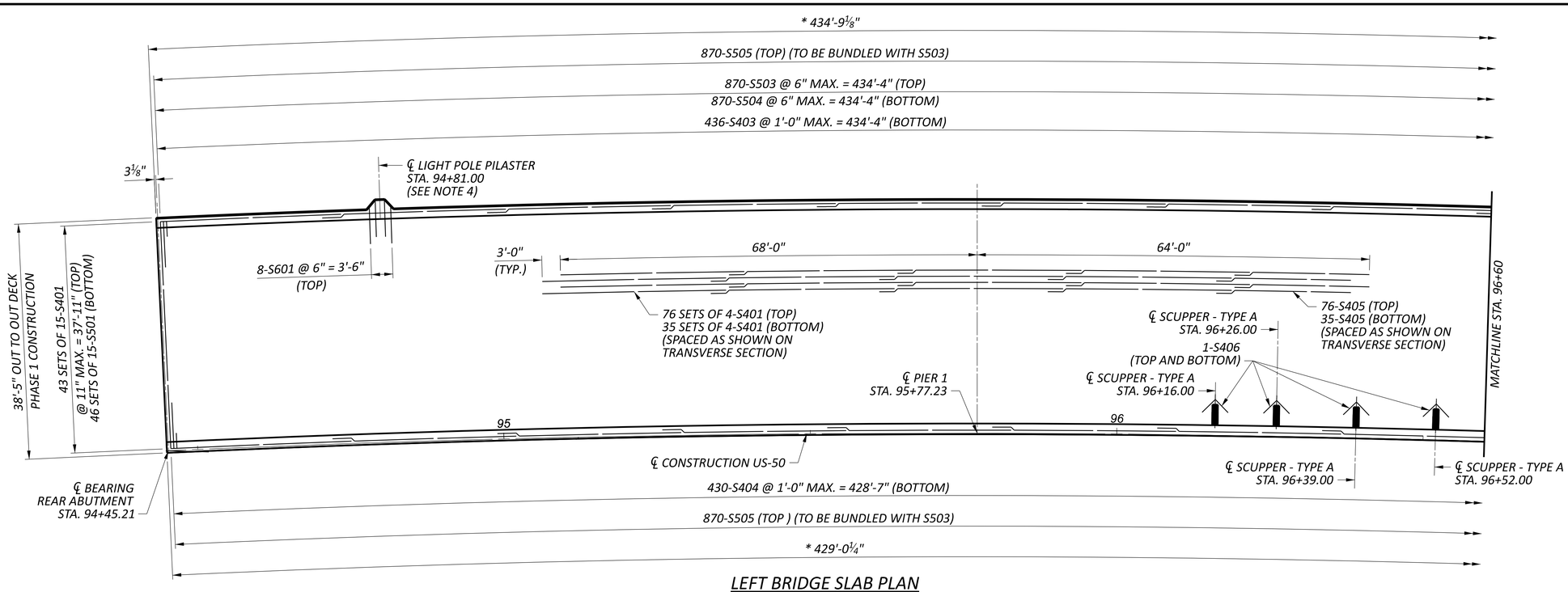
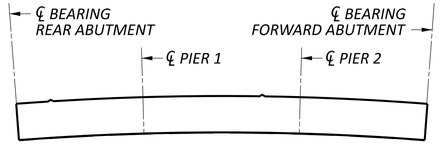
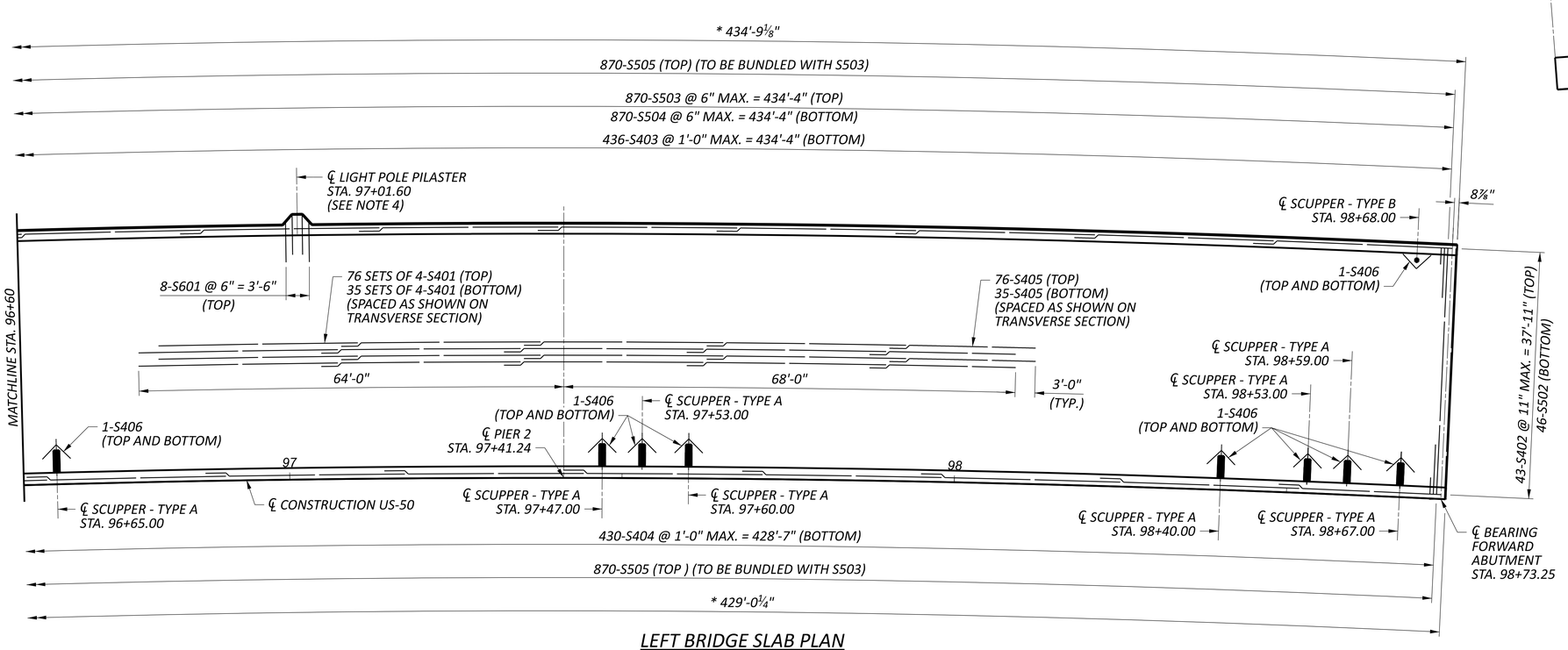


LEFT BRIDGE SLAB PLAN
(REFERENCE CHORD NOT SHOWN)



SUGGESTED DECK CONCRETE POURING SEQUENCE PLAN



LEFT BRIDGE SLAB PLAN
(REFERENCE CHORD NOT SHOWN)

LAP LENGTH TABLE	
BAR	REQUIRED LAP LENGTH
NO. 4 LONGITUDINAL	1'-11" MIN.
NO. 5 LONGITUDINAL	2'-5" MIN.

LEGEND:

* SLAB DIMENSIONS ARE MEASURED ALONG EDGE OF SLAB, DIMENSION WAS BASED ON A 1½" STEEL RETAINER WIDTH AND STRIP SEAL INSTALLED @ 60°F. CONTRACTOR MAY HAVE TO ADJUST DEPENDING ON TEMPERATURE.

NOTES:

1. SEE LEFT BRIDGE TRANSVERSE SECTION ON SHEET 38 OF 50 FOR SPACING OF BOTTOM LONGITUDINAL BARS AND ADDITIONAL SLAB DETAILS.
2. FOR LEFT BRIDGE RAILING DETAILS, SEE SHEET 42 OF 50 .
3. FOR REINFORCING STEEL LIST, SEE SHEET 49 OF 50 .
4. FOR ADDITIONAL LIGHT POLE PILASTER DETAILS, SEE SHEET 44 OF 50 .
5. START POUR, PARALLEL TO THE SUBSTRUCTURE SKEW, AT THE FORWARD ABUTMENT AND PROCEED TO THE REAR ABUTMENT IN ONE CONTINUOUS POUR. SAME PROCEDURE FOR THE RIGHT BRIDGE.
6. FOR SCUPPER DETAILS, SEE SHEET 28 OF 50.

LEFT BRIDGE SLAB PLAN
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
EA	CCF

REVIEWER
NFF 08/22/23

PROJECT ID
110570

SUBSET	TOTAL
40	50

SHEET	TOTAL
P.154	208

HAM-US 50-29.00

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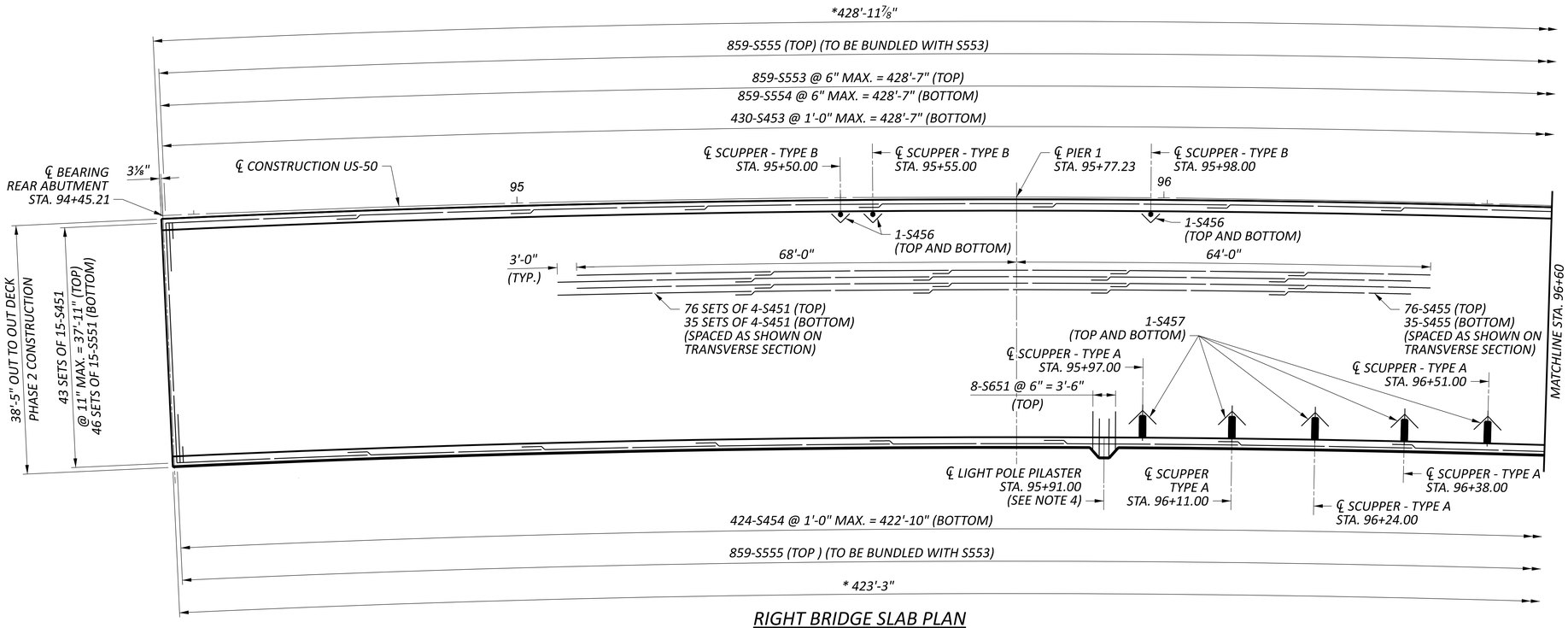
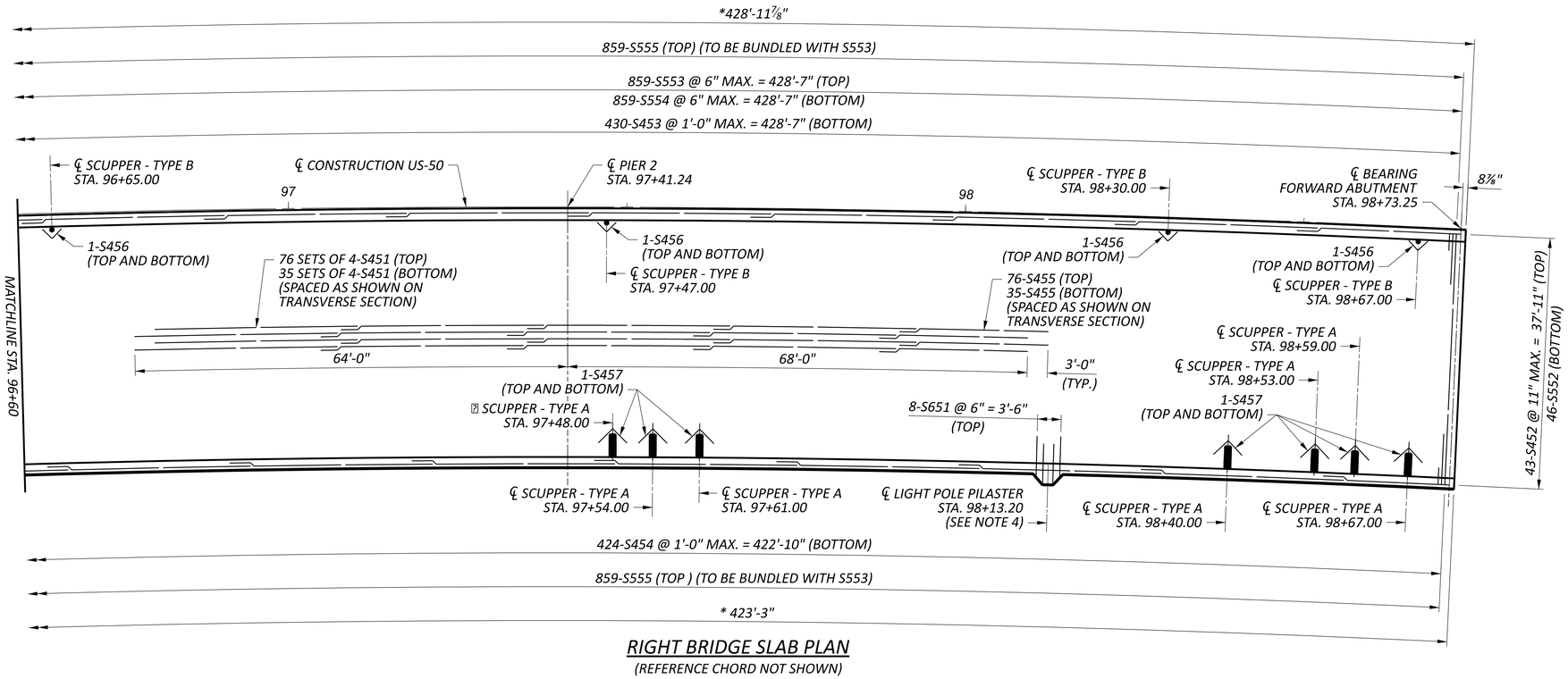


RIGHT BRIDGE SLAB PLAN

(REFERENCE CHORD NOT SHOWN)



RIGHT BRIDGE SLAB PLAN

(REFERENCE CHORD NOT SHOWN)

LAP LENGTH TABLE	
BAR	REQUIRED LAP LENGTH
NO. 4 LONGITUDINAL	1'-11" MIN.
NO. 5 LONGITUDINAL	2'-5" MIN.

LEGEND:

* SLAB DIMENSIONS ARE MEASURED ALONG EDGE OF SLAB, DIMENSION WAS BASED ON A 1½" STEEL RETAINER WIDTH AND STRIP SEAL INSTALLED @ 60°F. CONTRACTOR MAY HAVE TO ADJUST DEPENDING ON TEMPERATURE.

NOTES:

1. SEE RIGHT BRIDGE TRANSVERSE SECTION ON SHEET 39 OF 50 FOR SPACING OF BOTTOM LONGITUDINAL BARS AND ADDITIONAL SLAB DETAILS.
2. FOR RIGHT BRIDGE RAILING DETAILS, SEE SHEET 43 OF 50.
3. FOR REINFORCING STEEL LIST, SEE SHEET 49 OF 50.
4. FOR ADDITIONAL LIGHT POLE PILASTER DETAILS, SEE SHEET 44 OF 50.
5. FOR SCUPPER DETAILS, SEE SHEET 28 OF 50.

RIGHT BRIDGE SLAB PLAN
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
EA	CCF

REVIEWER NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
41	50

SHEET	TOTAL
P.155	208

HAM-US 50-29.00

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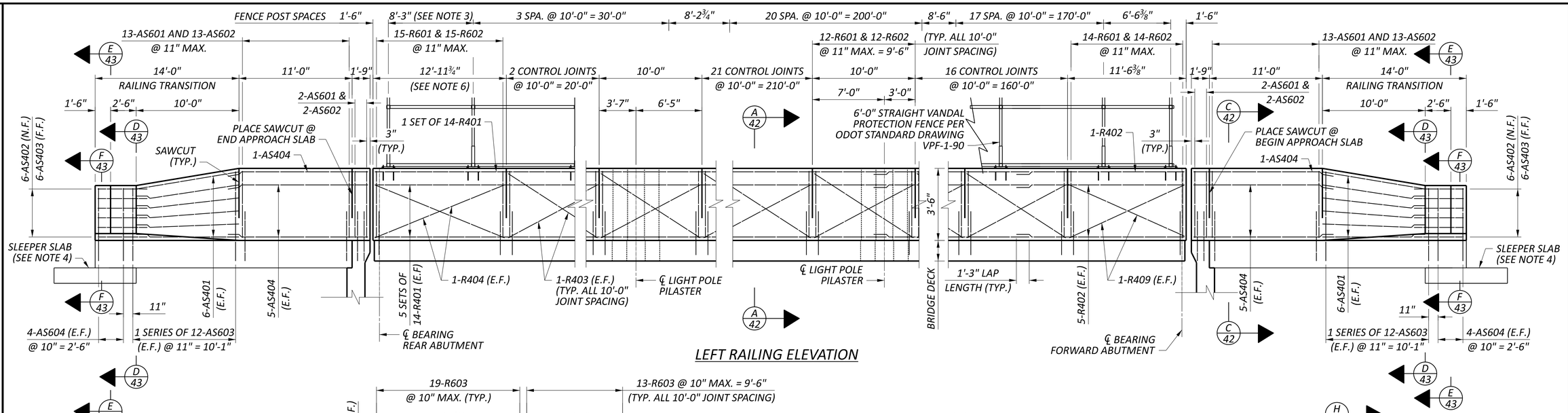
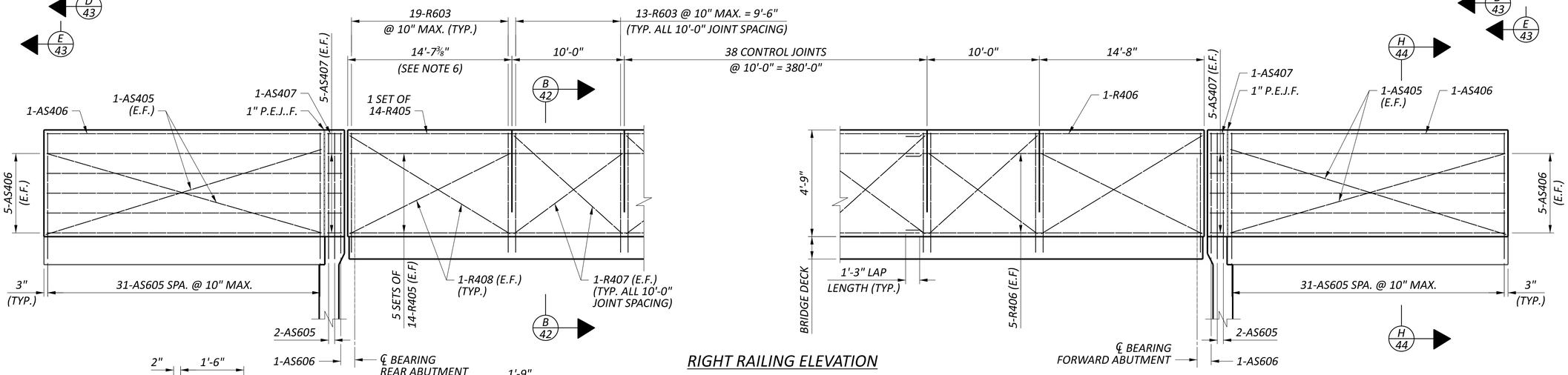
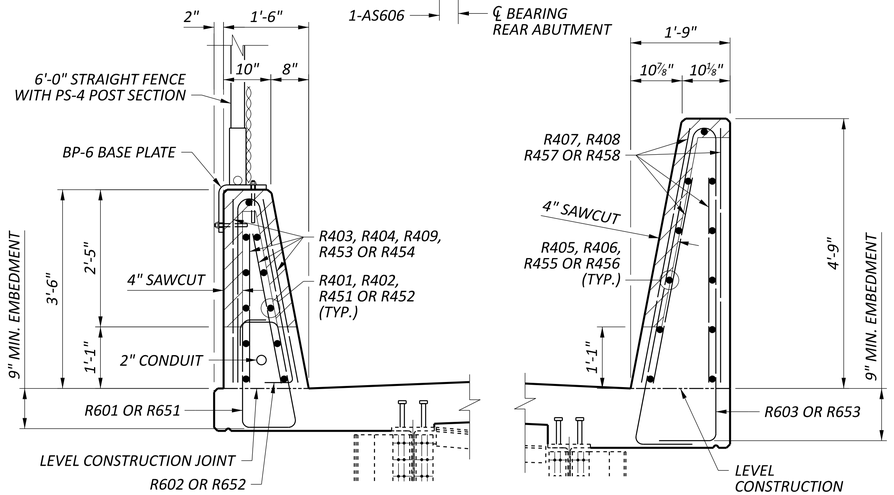


LEFT RAILING ELEVATION

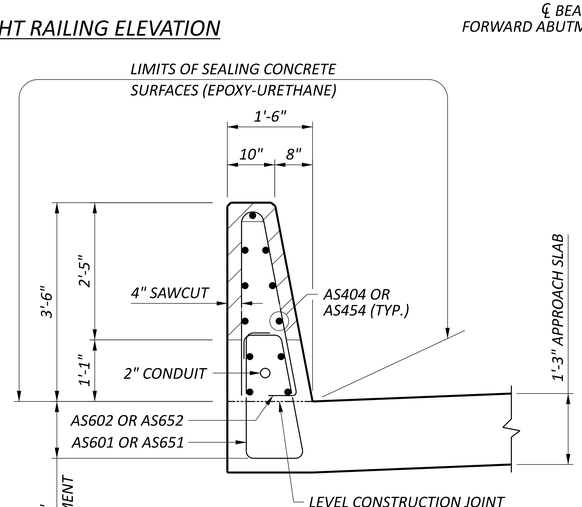


RIGHT RAILING ELEVATION



A 42, 43 SECTION (DECK REINFORCING NOT SHOWN)

B 42, 43 SECTION (DECK REINFORCING NOT SHOWN)



C 42, 43 SECTION (APPROACH SLAB REINFORCING NOT SHOWN)

NOTES:

1. HORIZONTAL DIMENSIONS ARE GIVEN ALONG INSIDE FACE.
2. FOR RIGHT BRIDGE RAILING DETAILS, SEE SHEET 43 OF 50.
3. FOR ADDITIONAL RAILING DETAILS NOT SHOWN, SEE STANDARD DRAWING SBR-1-20 AND SBR-2-20.
4. FOR APPROACH SLAB PLANS AND ADDITIONAL NOTES AND DETAILS, SEE SHEET 46 OF 50.
5. FOR LIGHT POLE PILASTER PLAN AND DETAILS, SEE SHEET 44 OF 50.
6. DIMENSION IS BASED ON A 1½" STEEL RETAINER WIDTH AND STRIP SEAL INSTALLED @ 60°F. CONTRACTOR MAY HAVE TO ADJUST DEPENDING ON TEMPERATURE.

LEFT BRIDGE RAILING ELEVATION
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN	3103811
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE., E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	ZTW
CHECKER	TOR
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	42
TOTAL	50
SHEET	P.156
TOTAL	208

HAM-US 50-29.00

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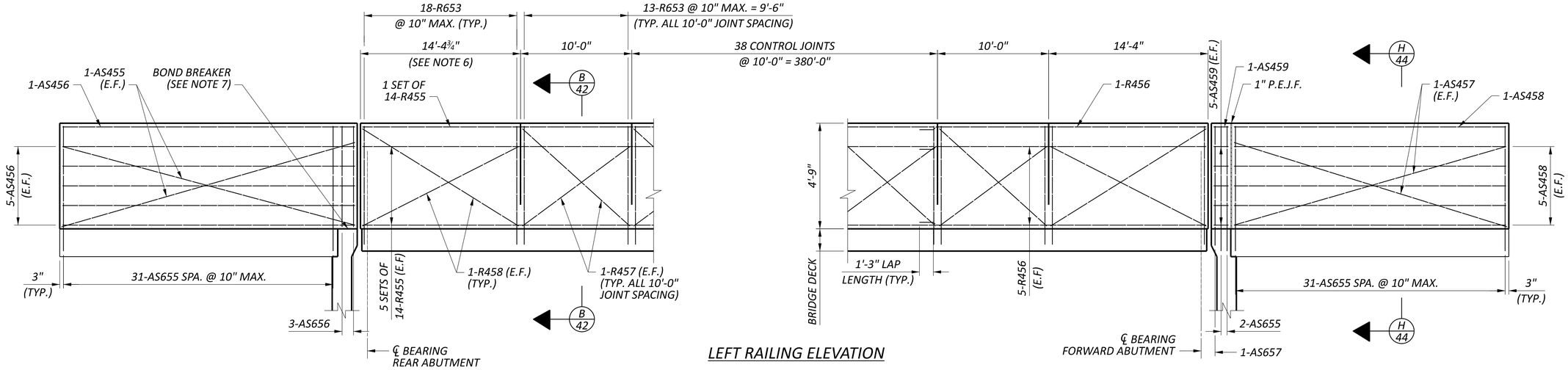
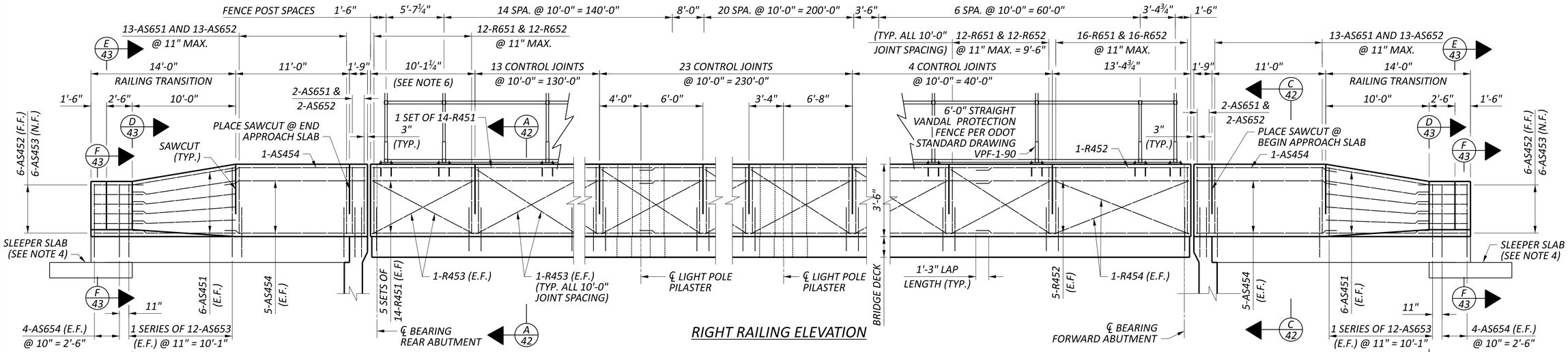
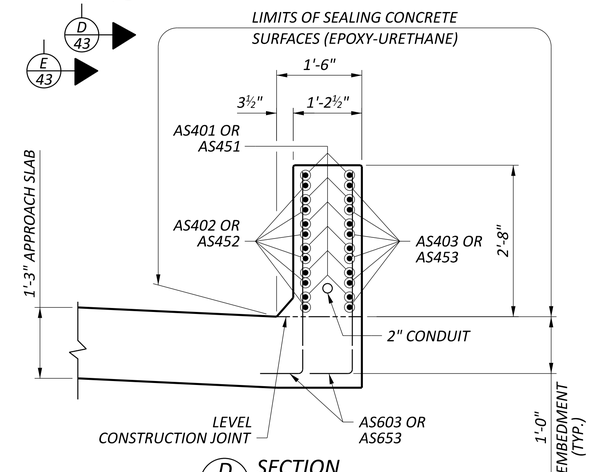


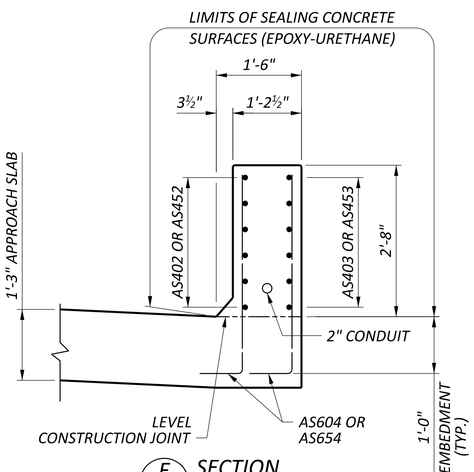
LEFT RAILING ELEVATION



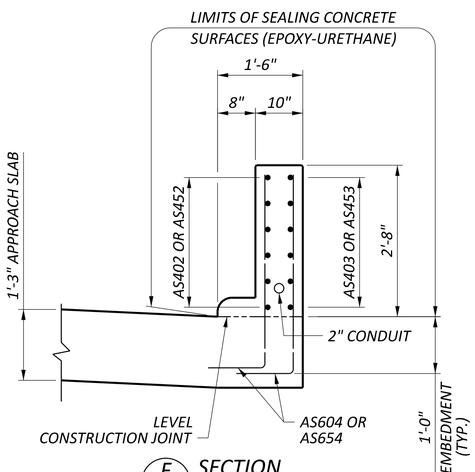
RIGHT RAILING ELEVATION



D 42, 43 SECTION (APPROACH SLAB REINFORCING NOT SHOWN)



E 42, 43 SECTION (APPROACH SLAB REINFORCING NOT SHOWN)



F 42, 43 SECTION (APPROACH SLAB REINFORCING NOT SHOWN)

NOTES:

1. HORIZONTAL DIMENSIONS ARE GIVEN ALONG INSIDE FACE.
2. FOR LEFT BRIDGE RAILING DETAILS, SEE SHEET 42 OF 50.
3. FOR ADDITIONAL RAILING DETAILS NOT SHOWN, SEE STANDARD DRAWING SBR-1-20 AND SBR-2-20.
4. FOR APPROACH SLAB PLANS AND ADDITIONAL NOTES AND DETAILS, SEE SHEET 47 OF 50.
5. FOR LIGHT POLE PILASTER PLAN AND DETAILS, SEE SHEET 44 OF 50.
6. DIMENSION IS BASED ON A 1½" STEEL RETAINER WIDTH AND STRIP SEAL INSTALLED AT 60°F. CONTRACTOR MAY HAVE TO ADJUST DEPENDING ON TEMPERATURE.
7. SEE SHEET 17 OF 50 FOR ADDITIONAL BOND BREAKER DETAILS.

RIGHT BRIDGE RAILING ELEVATION
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:37:54 PM USER: jgreve
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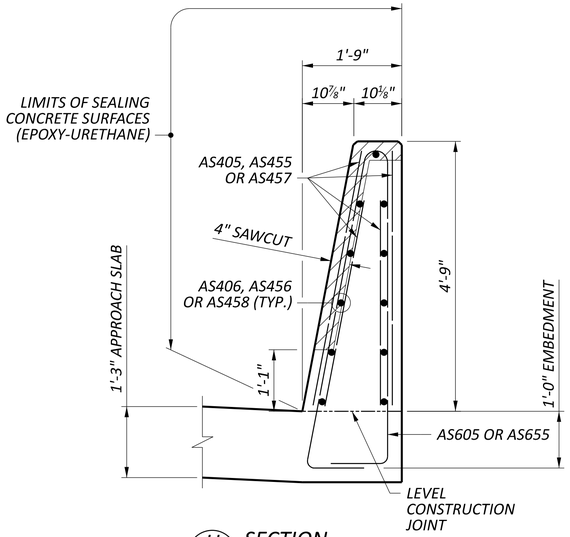
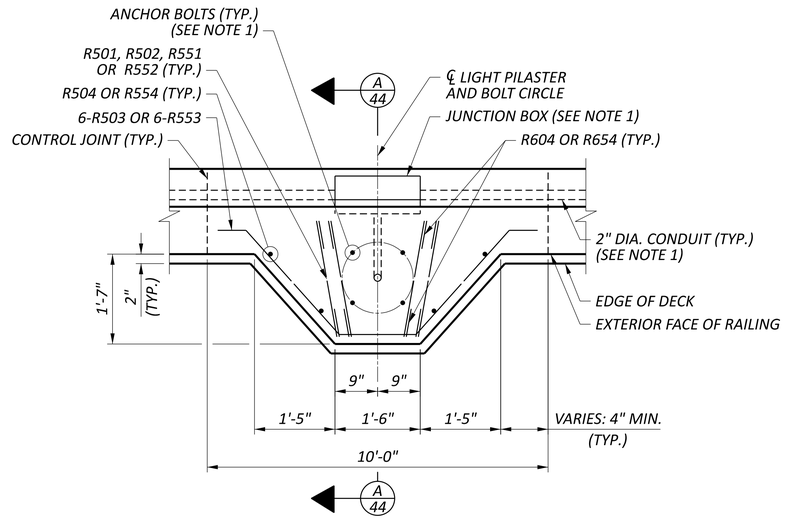
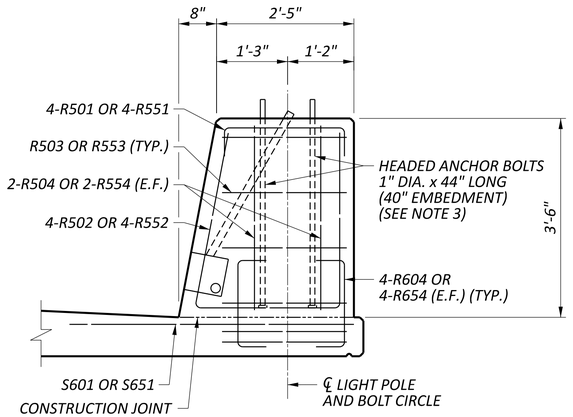
SFN	3103811
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	ZTW
CHECKER	TOR
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	43
TOTAL	50
SHEET	P.157
TOTAL	208



H 42, 43 SECTION (APPROACH SLAB REINFORCING NOT SHOWN)



LIGHT POLE PILASTER PLAN



A 44 SECTION

NOTES:

1. FOR PAYMENT OF ANCHOR BOLTS, JUNCTION BOX, 2" DIA. CONDUIT, AND ADDITIONAL LIGHTING DETAILS, SEE LIGHTING PLANS.
2. CONTRACTOR SHALL MATCH ANCHOR BOLT PATTERN OF EXISTING LIGHT POLE THAT IS TO BE REMOVED AND REINSTALLED ON BRIDGE PILASTER.
3. ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 55 AND SHALL BE GALVANIZED PER CMS 711.02.
4. INSTALL A STRUCTURE GROUNDING SYSTEM PER STANDARD DRAWING HL-50.21. SEE LIGHTING PLANS FOR ADDITIONAL DETAILS AND PAYMENT.

RAILING DETAILS
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE E, STE 1000 CLEVELAND, OHIO 44114
DESIGNER ZTW | CHECKER TOR
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 44 | TOTAL 50
SHEET P.158 | TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:38:23 PM USER: rjgreve
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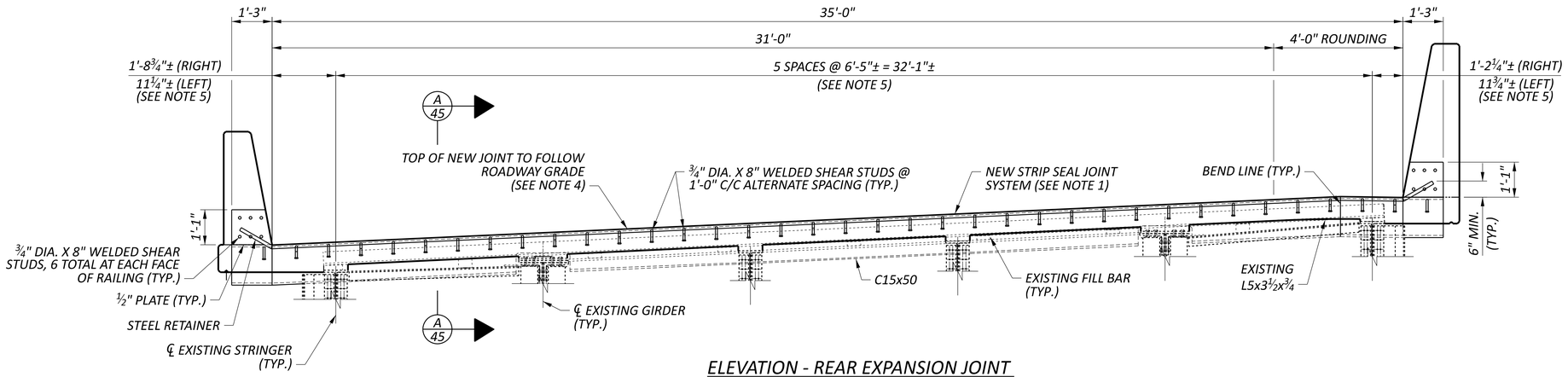
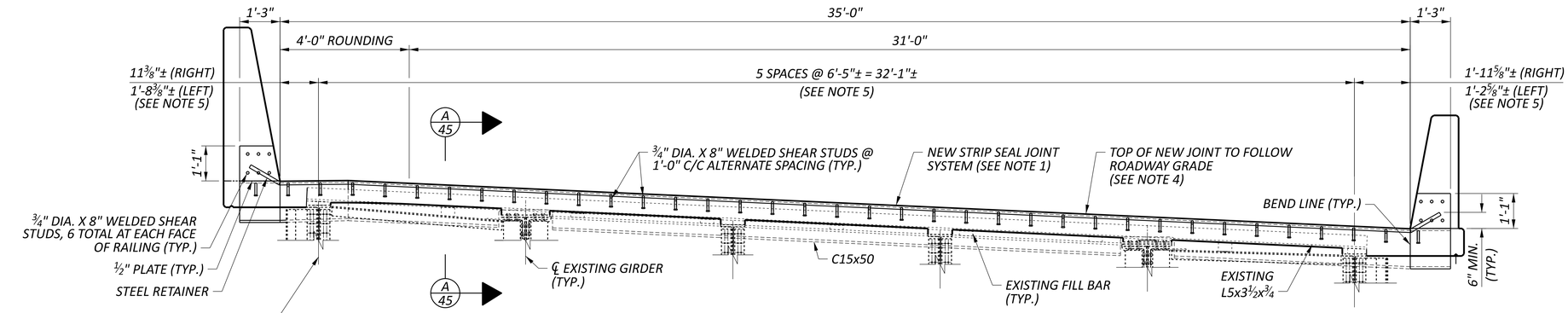


ELEVATION - REAR EXPANSION JOINT

(RIGHT BRIDGE SHOWN, LEFT BRIDGE SIMILAR)
(LOOKING DOWNSTATION)

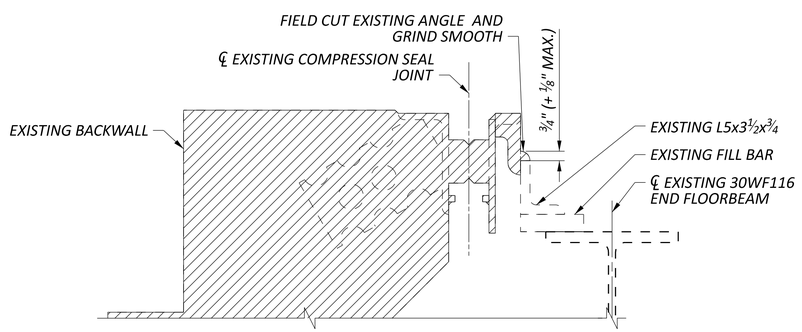
TABLE A		
AMBIENT TEMPERATURE	DIMENSION A (4" STRIP SEAL)	DIMENSION B (3" STRIP SEAL)
30°F	2 9/16"	1 15/16"
40°F	2 3/8"	1 13/16"
50°F	2 1/8"	1 11/16"
60°F	1 7/8"	1 5/8"
70°F	1 11/16"	1 1/2"
80°F	1 7/16"	1 3/8"
90°F	1 3/16"	1 5/16"

NOTE:
THE MINIMUM JOINT OPENING (DIMENSION A OR DIMENSION B) AT THE TIME OF THE SEAL GLAND INSTALLATION SHALL NOT BE LESS THAN 1½". IF THE JOINT OPENING IS LESS, THE INSTALLATION SHALL BE POSTPONED UNTIL THE TEMPERATURE DROPS A SUFFICIENT AMOUNT TO ALLOW THE MINIMUM 1½" OPENING.

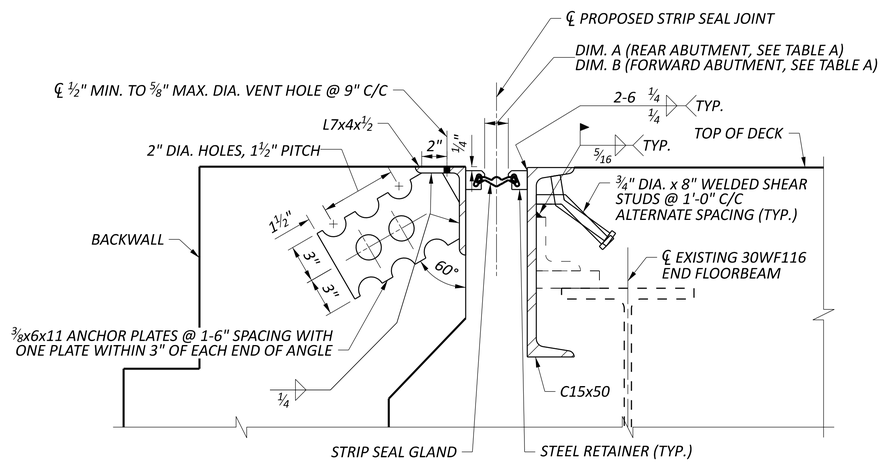


ELEVATION - FORWARD EXPANSION JOINT

(RIGHT BRIDGE SHOWN, LEFT BRIDGE SIMILAR)
(LOOKING UPSTATION)



A/45 SECTION - REMOVAL



A/45 SECTION - PROPOSED

LEGEND:

▨ INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

NOTES:

1. FOR ADDITIONAL NOTES AND DETAILS NOT SHOWN, SEE ODOT STANDARD DRAWING EXJ-4-87.
2. THE STRIP SEAL GLAND SHALL BE ONE PIECE ACROSS THE TOTAL WIDTH OF THE STRUCTURE.
3. ALL LABOR, MATERIALS, AND INCIDENTALS NECESSARY TO FABRICATE AND INSTALL EXPANSION JOINT SYSTEM SHALL BE INCLUDED WITH ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN FOR PAYMENT.
4. FOR ADDITIONAL REAR ABUTMENT BACKWALL INFORMATION, SEE SHEET 17 OF 50 . FOR ADDITIONAL FORWARD ABUTMENT BACKWALL INFORMATION, SEE SHEET 19 OF 50 .
5. CONTRACTOR TO FIELD VERIFY DIMENSIONS PRIOR TO FABRICATION OF EXPANSION JOINT.

EXPANSION JOINT DETAILS
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN	3103811
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	JAA
CHECKER	TOR
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	45
TOTAL	50
SHEET	P.159
TOTAL	208

HAM-US 50-29.00

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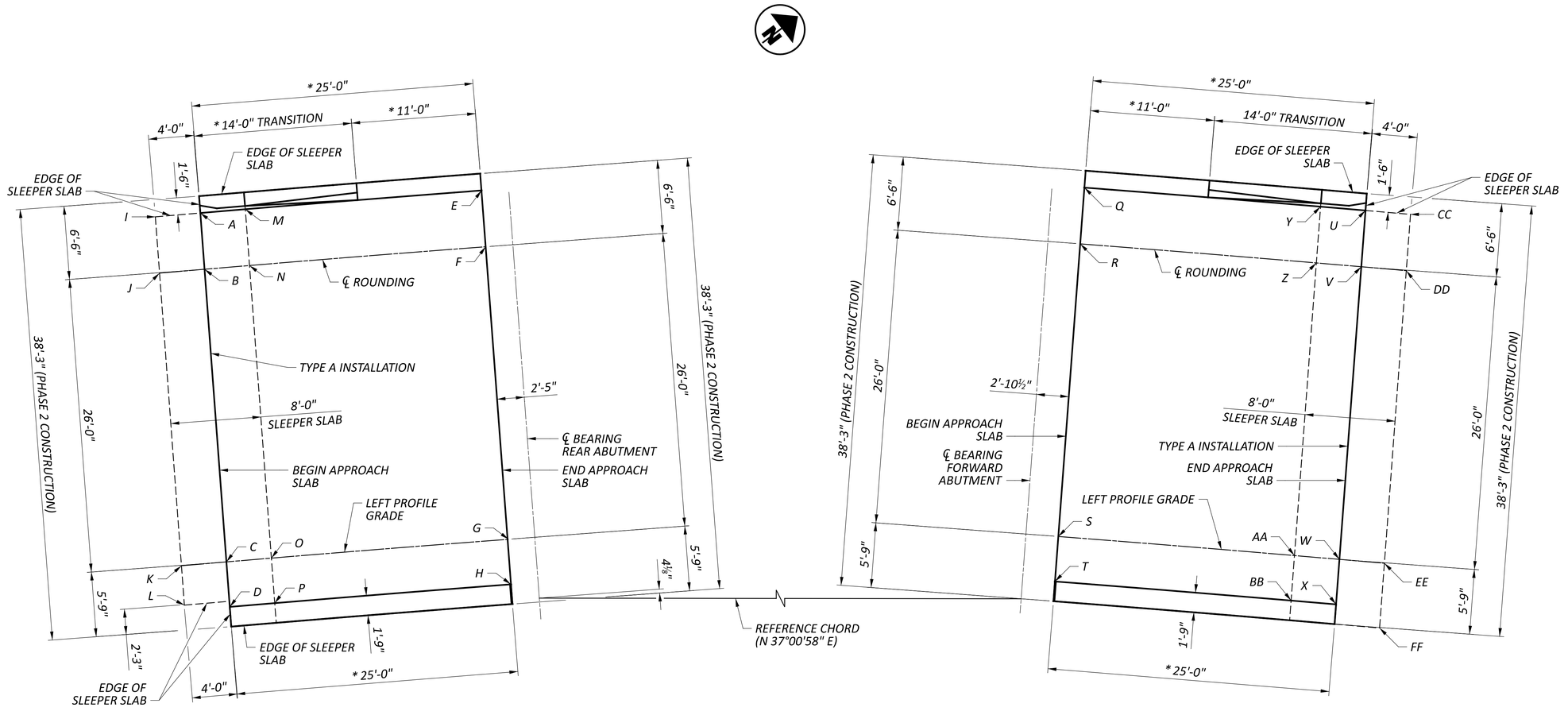

LEFT BRIDGE
REAR APPROACH SLAB PLAN

LEFT BRIDGE
FORWARD APPROACH SLAB PLAN

REAR APPROACH SLAB LOCATIONS							
APPROACH SLAB SURFACE ELEVATIONS				SLEEPER SLAB ELEVATIONS			
	STATION	OFFSET	ELEVATION		STATION	OFFSET	ELEVATION
A	94+18.09	36.36' LT.	548.53	I	94+14.14	36.36' LT.	547.33
B	94+18.05	31.36' LT.	548.69	J	94+14.09	31.36' LT.	547.49
C	94+17.84	5.36' LT.	547.52	K	94+13.84	5.36' LT.	546.31
D	94+17.80	1.36' LT.	547.33	L	94+13.81	1.86' LT.	546.15
E	94+42.77	36.40' LT.	548.23	M	94+22.04	36.37' LT.	547.24
F	94+42.78	31.40' LT.	548.39	N	94+22.00	31.37' LT.	547.39
G	94+42.79	5.40' LT.	547.21	O	94+21.83	5.37' LT.	546.22
H	94+42.79	1.40' LT.	547.02	P	94+21.80	1.37' LT.	546.03

FORWARD APPROACH SLAB LOCATIONS							
APPROACH SLAB SURFACE ELEVATIONS				SLEEPER SLAB ELEVATIONS			
	STATION	OFFSET	ELEVATION		STATION	OFFSET	ELEVATION
Q	98+76.03	36.76' LT.	542.71	Y	98+96.77	36.76' LT.	541.18
R	98+76.05	31.76' LT.	542.86	Z	98+96.82	31.76' LT.	541.34
S	98+76.11	5.76' LT.	541.68	AA	98+97.07	5.76' LT.	540.16
T	98+76.12	1.76' LT.	541.50	BB	98+97.10	1.76' LT.	539.97
U	99+00.72	36.76' LT.	542.38	CC	99+04.67	36.76' LT.	541.08
V	99+00.77	31.76' LT.	542.53	DD	99+04.73	31.76' LT.	541.23
W	99+01.06	5.76' LT.	541.35	EE	99+05.05	5.76' LT.	540.05
X	99+01.10	1.76' LT.	541.16	FF	99+05.12	0.01' LT.	539.86

LEGEND:

* *MEASURED ALONG EDGE OF APPROACH SLAB*

NOTES:

1. *FOR THE 25-FT. APPROACH SLAB REINFORCEMENT REQUIREMENTS AND ADDITIONAL STANDARD APPROACH SLAB DETAILS, SEE GENERAL NOTE ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN AND ODOT STANDARD DRAWING AS-1-15.*
2. *FOR APPROACH SLAB TYPE A INSTALLATION REQUIREMENTS, SEE ODOT STANDARD DRAWING AS-2-15.*
3. *FOR APPROACH SLAB RAILING DETAILS, SEE SHEETS 42 THROUGH 44 OF 50.*
4. *FOR ROUNDING DETAIL, SEE SHEET 37 OF 50.*

LEFT BRIDGE APPROACH SLAB
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
GJZ	TOR

REVIEWER NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
46	50

SHEET	TOTAL
P.160	208

HAM-US 50-29.00

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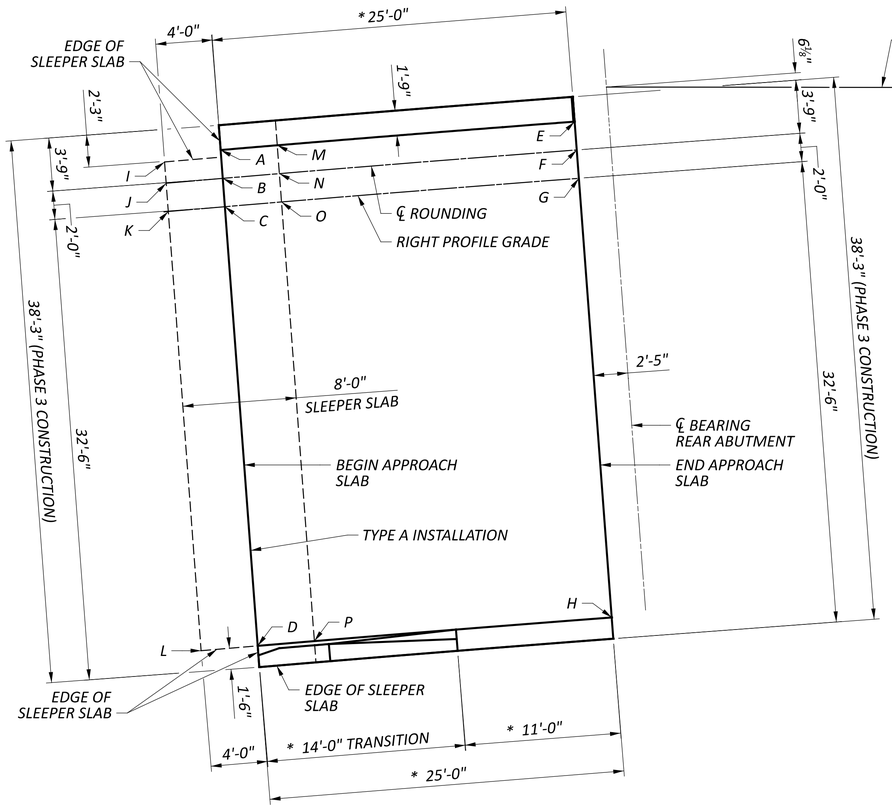
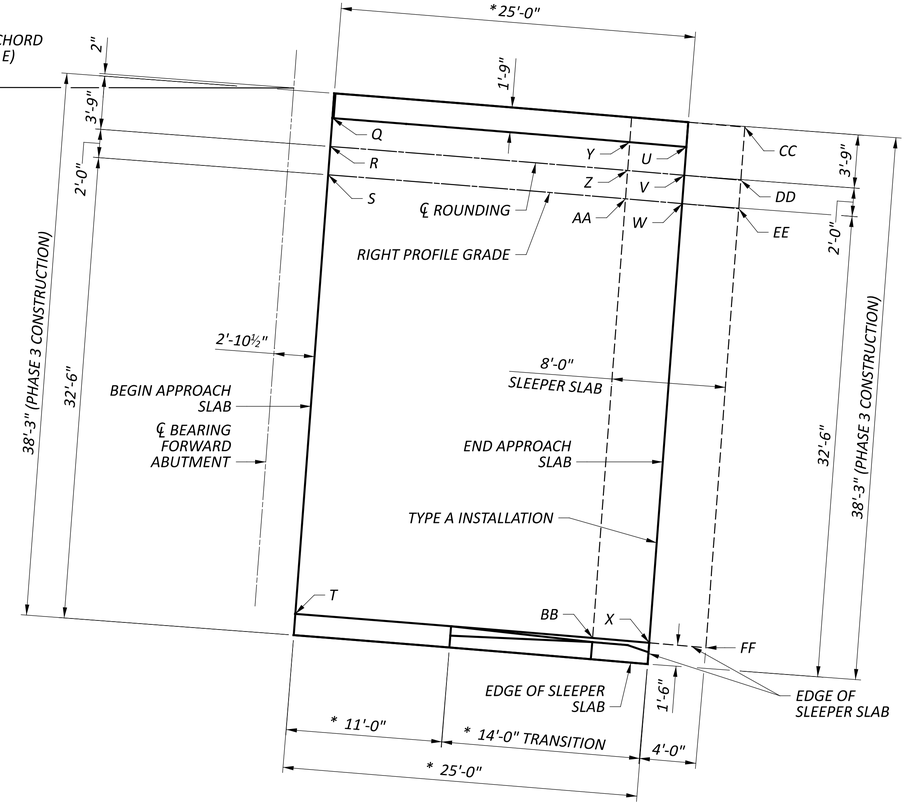


RIGHT BRIDGE
REAR APPROACH SLAB PLAN



RIGHT BRIDGE
FORWARD APPROACH SLAB PLAN

REAR APPROACH SLAB LOCATIONS

APPROACH SLAB SURFACE ELEVATIONS				SLEEPER SLAB ELEVATIONS			
	STATION	OFFSET	ELEVATION		STATION	OFFSET	ELEVATION
A	94+17.77	2.30' RT.	547.05	I	94+13.77	2.81' RT.	545.86
B	94+17.76	4.30' RT.	547.08	J	94+13.75	4.31' RT.	545.88
C	94+17.74	6.30' RT.	547.03	K	94+13.73	6.31' RT.	545.83
D	94+17.48	37.30' RT.	545.58	L	94+13.43	37.31' RT.	544.38
E	94+42.79	2.27' RT.	546.75	M	94+21.78	2.30' RT.	545.75
F	94+42.80	4.27' RT.	546.78	N	94+21.76	4.30' RT.	545.79
G	94+42.80	6.27' RT.	546.73	O	94+21.75	6.30' RT.	545.73
H	94+42.81	37.27' RT.	545.28	P	94+21.54	37.30' RT.	544.28

FORWARD APPROACH SLAB LOCATIONS

APPROACH SLAB SURFACE ELEVATIONS				SLEEPER SLAB ELEVATIONS			
	STATION	OFFSET	ELEVATION		STATION	OFFSET	ELEVATION
Q	98+76.13	1.91' RT.	541.16	Y	98+97.14	1.91' RT.	539.62
R	98+76.13	3.91' RT.	541.19	Z	98+97.16	3.91' RT.	539.65
S	98+76.14	5.91' RT.	541.14	AA	98+97.18	5.91' RT.	539.60
T	98+76.21	36.91' RT.	539.69	BB	98+97.48	36.91' RT.	538.14
U	99+01.14	1.91' RT.	540.81	CC	99+05.12	0.16' RT.	539.50
V	99+01.16	3.91' RT.	540.85	DD	99+05.17	3.91' RT.	539.54
W	99+01.19	5.91' RT.	540.80	EE	99+05.20	5.91' RT.	539.49
X	99+01.54	36.91' RT.	539.33	FF	99+05.59	36.91' RT.	538.03

LEGEND:

* MEASURED ALONG EDGE OF APPROACH SLAB

NOTES:

1. FOR THE 25-FT. APPROACH SLAB REINFORCEMENT REQUIREMENTS AND ADDITIONAL STANDARD APPROACH SLAB DETAILS, SEE GENERAL NOTE ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN AND ODOT STANDARD DRAWING AS-1-15.
2. FOR APPROACH SLAB TYPE A INSTALLATION REQUIREMENTS, SEE ODOT STANDARD DRAWING AS-2-15.
3. FOR APPROACH SLAB RAILING DETAILS, SEE SHEETS 42 THROUGH 44 OF 50.
4. FOR ROUNDING DETAIL, SEE SHEET 37 OF 50 .

RIGHT BRIDGE APPROACH SLAB
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER GJZ | CHECKER TOR
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 47 | TOTAL 50
SHEET P.161 | TOTAL 208

HAM-US 50-29.00

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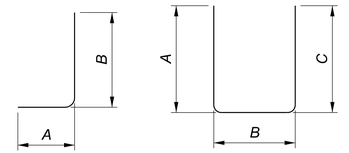
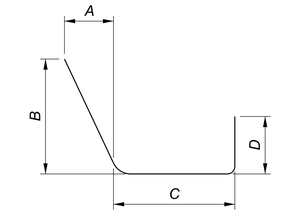
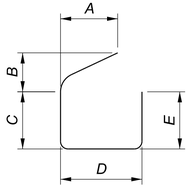
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
LEFT BRIDGE - REAR ABUTMENT											
RA501	86	3'-8"	329	STR							
RA502	88	7'-2"	658	STR							
RA503	41	7'-1"	303	12	1'-3"	1'-3"	6"	1'-5"	3'-8"		
RA504	41	9'-6"	406	2	4'-2"	1'-5"	4'-2"				
RA505	3	8'-6"	27	2	3'-8"	1'-5"	3'-8"				
RA506	3	8'-4"	26	2	3'-4"	1'-11"	3'-4"				
RA507	22	30'-0"	688	STR							
RA508	22	13'-9"	316	STR							
RA509	22	6'-1"	140	1	3'-1"	3'-1"					
RA510	11	5'-9"	66	1	2'-9"	3'-1"					
RA511	2	26'-11"	56	STR							
RA512	2	15'-9"	33	2	10"	14'-4"	10"				
RA513	2	9'-3"	19	1	10"	8'-7"					
RA514	2	8'-6"	18	1	10"	7'-10"					
RA515	2	7'-11"	17	STR							
RA516	33	2'-8"	92	1	10"	1'-11"					
RA517	24	19'-5"	486	2	9'-3"	1'-2"	9'-3"				
RA518	48	8'-5"	421	1	10"	7'-8"					
RA519	11	6'-0"	69	2	10"	4'-7"	10"				
RA520	20	6'-1"	127	2	2'-7"	1'-2"	2'-7"				
	1	6'-5"			2'-9"		2'-9"				
RA521	SER OF	TO	183	2	TO	1'-2"	TO				$11\frac{1}{4}$"
	14	18'-7"			8'-10"		8'-10"				
RA522	14	9'-9"	142	STR							
	2	10'-0"									
RA523	SER OF	TO	516	STR							$11\frac{1}{8}$"
	15	23'-0"									
RA524	12	26'-5"	331	STR							
RA525	2	17'-0"	35	STR							
RA526	10	3'-1"	32	STR							
RA527	7	2'-1"	15	1	10"	1'-5"					
RA528	7	3'-4"	24	1	1'-4"	2'-1"					
RA529	2	7'-6"	16	STR							
TOTAL LEFT BRIDGE REAR ABUTMENT			5591								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
RIGHT BRIDGE - REAR ABUTMENT											
RA551	85	3'-6"	310	STR							
RA552	82	7'-0"	599	STR							
RA553	38	7'-1"	281	12	1'-3"	1'-3"	6"	1'-5"	3'-8"		
RA554	38	9'-6"	377	2	4'-2"	1'-5"	4'-2"				
RA555	3	8'-6"	27	2	3'-8"	1'-5"	3'-8"				
RA556	3	7'-8"	24	2	3'-0"	1'-11"	3'-0"				
RA557	22	30'-0"	688	STR							
RA558	22	11'-8"	268	STR							
RA559	36	6'-1"	228	1	3'-1"	3'-1"					
RA560	5	5'-9"	30	1	2'-9"	3'-1"					
RA561	2	28'-2"	59	STR							
RA562	2	16'-2"	34	2	10"	14'-9"	10"				
RA563	2	9'-0"	19	1	10"	8'-4"					
RA564	2	6'-6"	14	1	10"	5'-10"					
RA565	20	6'-11"	144	2	3'-0"	1'-2"	3'-0"				
	1	6'-11"			3'-0"		3'-0"				
RA566	SER OF	TO	219	2	TO	1'-2"	TO				$8\frac{1}{8}$"
	17	17'-9"			8'-5"		8'-5"				
RA567	3	18'-3"	57	2	8'-8"	1'-2"	8'-8"				
	2	2'-6"									
RA568	SER OF	TO	229	STR							$1'-5\frac{7}{8}$"
	11	17'-5"									
RA569	16	18'-9"	313	STR							
RA570	2	17'-8"	37	STR							
RA571	3	6'-4"	20	STR							
RA572	14	7'-0"	102	10	1'-8"	2'-3"	1'-7"	2'-8"			
TOTAL RIGHT BRIDGE REAR ABUTMENT			4079								

BAR BENDING DIAGRAMS







NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, RA501 BAR: RA: LOCATION OF THE BAR IN THE STRUCTURE (REAR ABUTMENT) 5: BAR SIZE DESIGNATION NO. 5 01: SEQUENCE NUMBER
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. ALL CONCRETE REINFORCEMENT IS TO BE GALVANIZED STEEL. STRAIGHT BARS ARE INDICATED BY "STR".

CONCRETE REINFORCEMENT BAR LIST - 1
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114
DESIGNER GJZ | CHECKER RSB
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 48 | TOTAL 50
SHEET P.162 | TOTAL 208

HAM-US 50-29.00

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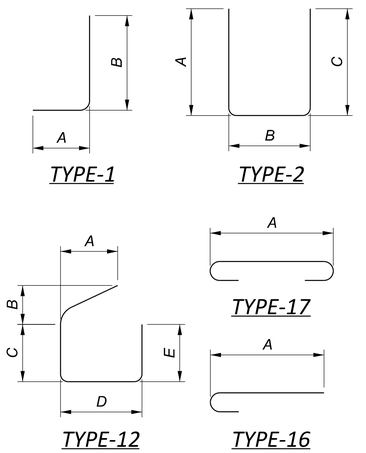
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
LEFT BRIDGE - FORWARD ABUTMENT											
FA501	82	3'-6"	299	STR							
FA502	82	7'-4"	627	STR							
FA503	38	7'-1"	281	12	1'-3"	1'-3"	6"	1'-5"	3'-8"		
FA504	38	9'-6"	377	2	4'-2"	1'-5"	4'-2"				
FA505	3	8'-6"	27	2	3'-8"	1'-5"	3'-8"				
FA506	3	8'-4"	26	2	3'-4"	1'-11"	3'-4"				
FA507	22	30'-0"	688	STR							
FA508	22	12'-8"	291	STR							
FA509	22	6'-1"	140	1	3'-1"	3'-1"					
FA510	11	5'-11"	68	1	2'-11"	3'-1"					
FA511	2	26'-0"	54	STR							
FA512	2	16'-1"	34	2	10"	14'-8"	10"				
FA513	2	9'-2"	19	1	10"	8'-6"					
FA514	2	7'-6"	16	1	10"	6'-10"					
FA515	2	6'-11"	14	STR							
FA516	51	2'-8"	142	1	10"	1'-11"					
FA517	12	4'-9"	59	2	1'-1"	2'-10"	1'-1"				
FA518	1	10'-6"	11	STR							
FA519	44	10'-5"	478	1	10"	9'-8"					
FA520	22	19'-5"	446	2	9'-2"	1'-4"	9'-2"				
FA521	16	6'-5"	107	2	2'-8"	1'-4"	2'-8"				
	1	6'-5"			2'-8"		2'-8"				
FA522	SER OF	TO	209	2	TO	1'-4"	TO				9¾"
	16	18'-7"			8'-9"		8'-9"				
FA523	16	8'-6"	142	STR							
	2	8'-10"									
FA524	SER OF	TO	462	STR							1'-0⅞"
	14	22'-10"									
FA525	14	23'-8"	346	STR							
FA526	2	16'-6"	34	STR							
FA527	8	3'-6"	29	STR							
FA528	6	2'-1"	13	1	10"	1'-5"					
FA529	6	3'-3"	20	1	1'-4"	2'-1"					
FA530	2	6'-3"	13	STR							
FA801	4	10'-6"	112	STR							
TOTAL LEFT BRIDGE FORWARD ABUTMENT			5584								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
RIGHT BRIDGE - FORWARD ABUTMENT											
FA551	82	3'-6"	299	STR							
FA552	82	7'-1"	606	STR							
FA553	38	7'-1"	281	12	1'-3"	1'-3"	6"	1'-5"	3'-8"		
FA554	38	9'-2"	363	2	4'-0"	1'-5"	4'-0"				
FA555	3	8'-6"	27	2	3'-8"	1'-5"	3'-8"				
FA556	3	7'-4"	23	2	2'-10"	1'-11"	2'-10"				
FA557	22	30'-0"	688	STR							
FA558	22	13'-3"	304	STR							
FA559	20	6'-1"	127	1	3'-1"	3'-1"					
FA560	10	6'-1"	63	1	3'-2"	3'-1"					
FA561	2	28'-9"	60	STR							
FA562	2	16'-1"	34	2	10"	14'-8"	10"				
FA563	2	9'-8"	20	1	10"	9'-0"					
FA564	2	7'-6"	16	1	10"	6'-10"					
FA565	51	2'-8"	142	1	10"	1'-11"					
FA566	12	5'-9"	72	2	1'-7"	2'-10"	1'-7"				
FA567	1	10'-6"	11	STR							
FA568	44	8'-0"	367	1	10"	7'-3"					
FA569	22	18'-8"	428	2	8'-8"	1'-7"	8'-8"				
FA570	16	6'-8"	111	2	2'-8"	1'-7"	2'-8"				
	1	6'-8"			2'-8"		2'-8"				
FA571	SER OF	TO	200	2	TO	1'-7"	TO				8½"
	16	17'-4"			8'-0"		8'-0"				
FA572	12	8'-6"	106	STR							
	2	8'-11"									
FA573	SER OF	TO	462	STR							1'-0¾"
	14	22'-9"									
FA574	16	23'-8"	395	STR							
FA575	2	16'-3"	34	STR							
FA576	8	3'-6"	29	STR							
FA577	6	2'-2"	14	1	10"	1'-6"					
FA578	6	3'-4"	21	1	1'-4"	2'-2"					
FA579	2	6'-3"	13	STR							
FA851	4	10'-6"	112	STR							
TOTAL RIGHT BRIDGE FORWARD ABUTMENT			5428								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
LEFT BRIDGE - SUPERSTRUCTURE											
S401	1533	30'-0"	30721	STR							
S402	43	15'-3"	438	STR							
S403	436	3'-0"	874	STR							
S404	430	2'-4"	670	STR							
S405	222	19'-9"	2929	STR							
S406	26	5'-11"	103	1	3'-0"	3'-0"					
S501	690	30'-0"	21590	STR							
S502	46	22'-9"	1091	STR							
S503	870	39'-3"	35616	17	38'-1"						
S504	870	38'-1"	34557	STR							
S505	1740	8'-7"	15577	16	8'-0"						
S601	16	9'-6"	228	STR							
TOTAL LEFT BRIDGE SUPERSTRUCTURE			144394								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
RIGHT BRIDGE - SUPERSTRUCTURE											
S451	1533	30'-0"	30721	STR							
S452	43	9'-6"	273	STR							
S453	430	2'-4"	670	STR							
S454	424	3'-0"	850	STR							
S455	222	19'-9"	2929	STR							
S456	14	3'-11"	37	1	2'-0"	2'-0"					
S457	24	5'-11"	95	1	3'-0"	3'-0"					
S551	690	30'-0"	21590	STR							
S552	46	17'-0"	816	STR							
S553	859	39'-3"	35166	17	38'-1"						
S554	859	38'-1"	34120	STR							
S555	1718	8'-7"	15380	16	8'-0"						
S651	16	9'-6"	228	STR							
TOTAL RIGHT BRIDGE SUPERSTRUCTURE			142875								

BAR BENDING DIAGRAMS



NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, RA501 BAR: RA: LOCATION OF THE BAR IN THE STRUCTURE (REAR ABUTMENT) 5: BAR SIZE DESIGNATION NO. 5 01: SEQUENCE NUMBER
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. ALL CONCRETE REINFORCEMENT IS TO BE GALVANIZED STEEL. STRAIGHT BARS ARE INDICATED BY "STR".

CONCRETE REINFORCEMENT BAR LIST - 2
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER GJZ | CHECKER RSB
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 49 | TOTAL 50
SHEET P.163 | TOTAL 208

HAM-US 50-29.00

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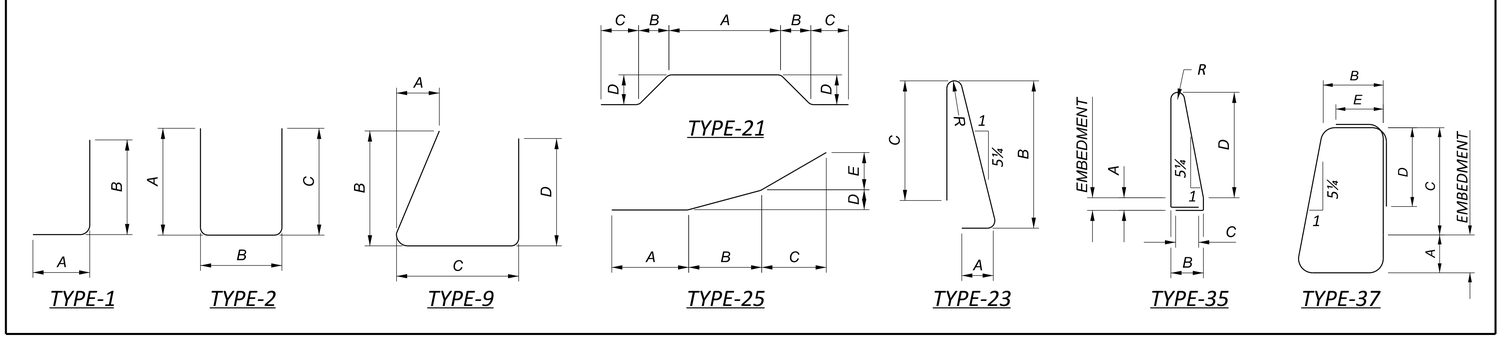
MARK	NUMBER TOTAL	LENGTH	MATERIAL	WEIGHT	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	R	INC
LEFT BRIDGE - RAILING													
R401	154	30'-0"	GFRP		4620	STR							
R402	11	32'-0"	GFRP		352	STR							
R403	164	10'-0"	GFRP		1640	STR							
R404	4	13'-0"	GFRP		52	STR							
R405	154	30'-0"	GFRP		4620	STR							
R406	11	26'-6"	GFRP		292	STR							
R407	160	10'-6"	GFRP		1680	STR							
R408	8	15'-2"	GFRP		122	STR							
R409	4	11'-6"	GFRP		46	STR							
R501	8	3'-6"	GSR	29		2	10"	2'-1"	10"				
R502	8	8'-7"	GSR	72		9	6½"	3'-2"	2'-6"	3'-2"			
R503	12	7'-5"	GSR	93		21	1'-4"	1'-10"	6"	1'-10"			
R504	8	3'-2"	GSR	26		STR							
R601	521	7'-2"	GSR	5608		37	9"	9½"	1'-5"	1'-0"	7"		
R602	521	7'-1"	GSR	5543		23	6"	3'-3"	3'-3"			2"	
R603	558	13'-0"	GSR	10896		35	9"	1'-5"	10"	4'-7"		2"	
R604	16	3'-2"	GSR	76		2	1'-0"	1'-6"	1'-0"				
AS401	24	10'-0"	GFRP		240	STR							
AS402	12	6'-4"	GFRP		76	25	2'-6"	2'-5"	1'-5"	1½"	5"		
AS403	12	5'-1"	GFRP		61	STR							
AS404	22	13'-10"	GFRP		305	STR							
AS405	8	25'-6"	GFRP		204	STR							
AS406	22	24'-7"	GFRP		541	STR							
AS407	22	1'-5"	GFRP		32	STR							
AS601	30	7'-8"	GSR	345		37	1'-0"	9½"	1'-5"	1'-0"	7"		
AS602	30	7'-1"	GSR	319		23	6"	3'-3"	3'-3"			2"	
	4	4'-4"						3'-6"					
AS603	SER OF	TO	GSR	342		1	1'-0"	TO					⅞"
	12	5'-2"						4'-4"					
AS604	16	4'-4"	GSR	104		1	1'-0"	3'-6"					
AS605	66	13'-6"	GSR	1338		35	1'-0"	1'-5"	10"	4'-7"		2"	
AS606	2	13'-0"	GSR	39		35	9"	1'-5"	10"	4'-7"		2"	
TOTAL LEFT BRIDGE - RAILING				24830	14883								

MARK	NUMBER TOTAL	LENGTH	MATERIAL	WEIGHT	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	R	INC
RIGHT BRIDGE - RAILING													
R451	154	30'-0"	GFRP		4620	STR							
R452	11	20'-8"	GFRP		228	STR							
R453	164	10'-0"	GFRP		1640	STR							
R454	4	13'-5"	GFRP		54	STR							
R455	154	30'-0"	GFRP		4620	STR							
R456	11	26'-0"	GFRP		286	STR							
R457	160	10'-6"	GFRP		1680	STR							
R458	8	14'-10"	GFRP		119	STR							
R551	8	3'-6"	GSR	29		2	10"	2'-1"	10"				
R552	8	8'-7"	GSR	72		9	6½"	3'-2"	2'-6"	3'-2"			
R553	12	7'-5"	GSR	93		21	1'-4"	1'-10"	6"	1'-10"			
R554	8	3'-2"	GSR	26		STR							
R651	508	7'-2"	GSR	5468		37	9"	9½"	1'-5"	1'-0"	7"		
R652	508	7'-1"	GSR	5405		23	6"	3'-3"	3'-3"			2"	
R653	556	13'-0"	GSR	10856		35	9"	1'-5"	10"	4'-7"		2"	
R654	16	3'-2"	GSR	76		2	1'-0"	1'-6"	1'-0"				
AS451	24	10'-0"	GFRP		240	STR							
AS452	12	6'-4"	GFRP		76	25	2'-6"	2'-5"	1'-5"	1½"	5"		
AS453	12	5'-1"	GFRP		61	STR							
AS454	22	13'-10"	GFRP		305	STR							
AS455	4	27'-3"	GFRP		109	STR							
AS456	11	26'-5"	GFRP		291	STR							
AS457	4	25'-6"	GFRP		102	STR							
AS458	11	24'-7"	GFRP		271	STR							
AS459	11	1'-5"	GFRP		16	STR							
AS651	30	7'-8"	GSR	345		37	1'-0"	9½"	1'-5"	1'-0"	7"		
AS652	30	7'-1"	GSR	319		23	6"	3'-3"	3'-3"			2"	
	4	4'-4"						3'-6"					
AS653	SER OF	TO	GSR	342		1	1'-0"	TO					⅞"
	12	5'-2"						4'-4"					
AS654	16	4'-4"	GSR	104		1	1'-0"	3'-6"					
AS655	64	13'-6"	GSR	1298		35	1'-0"	1'-5"	10"	4'-7"		2"	
AS656	3	11'-6"	GSR	52		35	0"	1'-5"	10"	4'-7"		2"	
AS657	1	13'-0"	GSR	20		35	9"	1'-5"	10"	4'-7"		2"	
TOTAL RIGHT BRIDGE - RAILING				24505	14718								

BAR BENDING DIAGRAMS



LEGEND:

GFRP - GLASS FIBER REINFORCED POLYMER

GSR - GALVANIZED STEEL REINFORCEMENT

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, RA501 BAR: RA: LOCATION OF THE BAR IN THE STRUCTURE (REAR ABUTMENT) 5: BAR SIZE DESIGNATION NO. 5 01: SEQUENCE NUMBER

2. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. CONCRETE REINFORCEMENT IS DENOTED IN MATERIAL COLUMN. STRAIGHT BARS ARE INDICATED BY "STR".

CONCRETE REINFORCEMENT BAR LIST - 3
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE.E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
GJZ	RSB

REVIEWER
NFF 08/22/23

PROJECT ID
110570

SUBSET	TOTAL
50	50

SHEET	TOTAL
P.164	208

HAM-US 50-29.00

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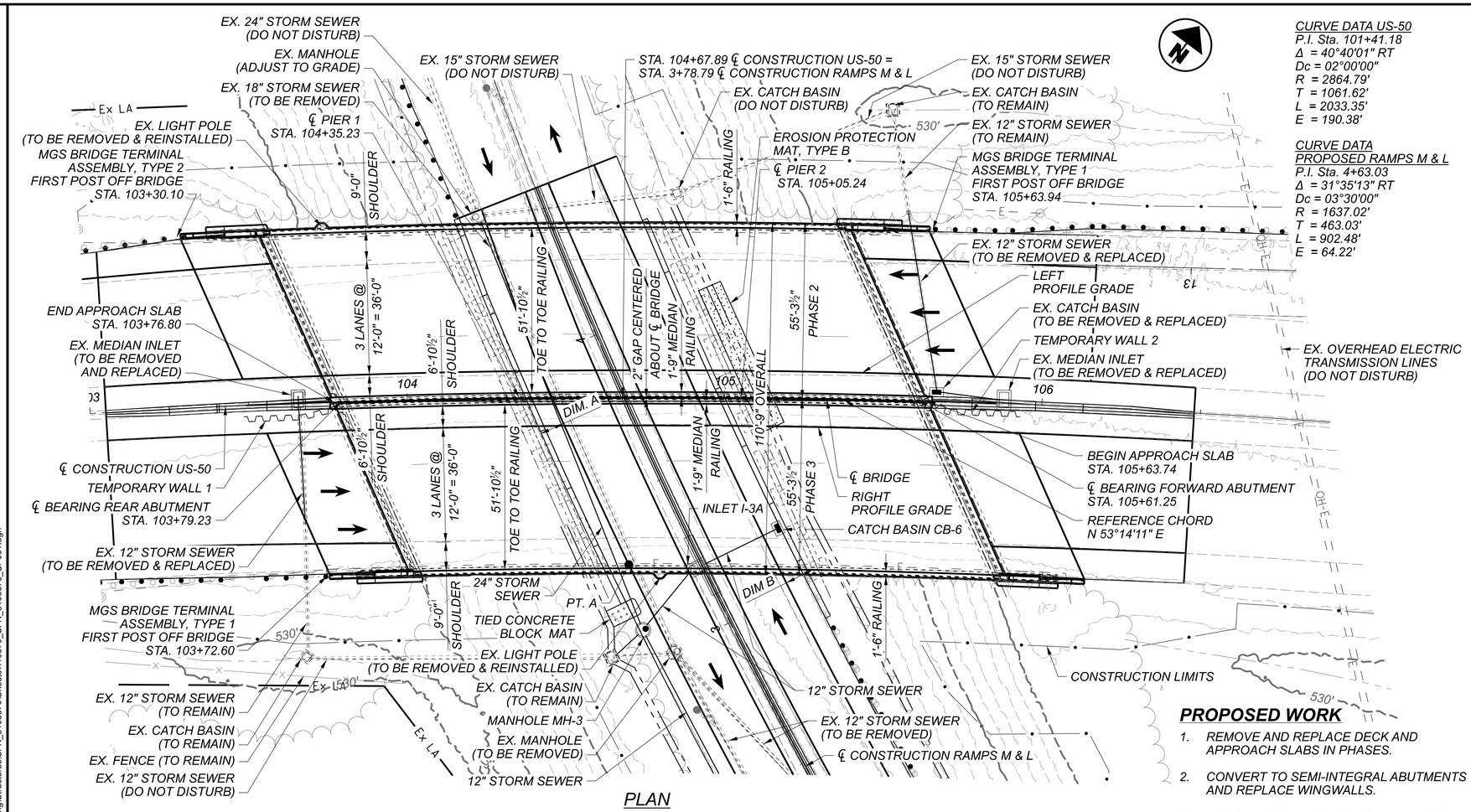


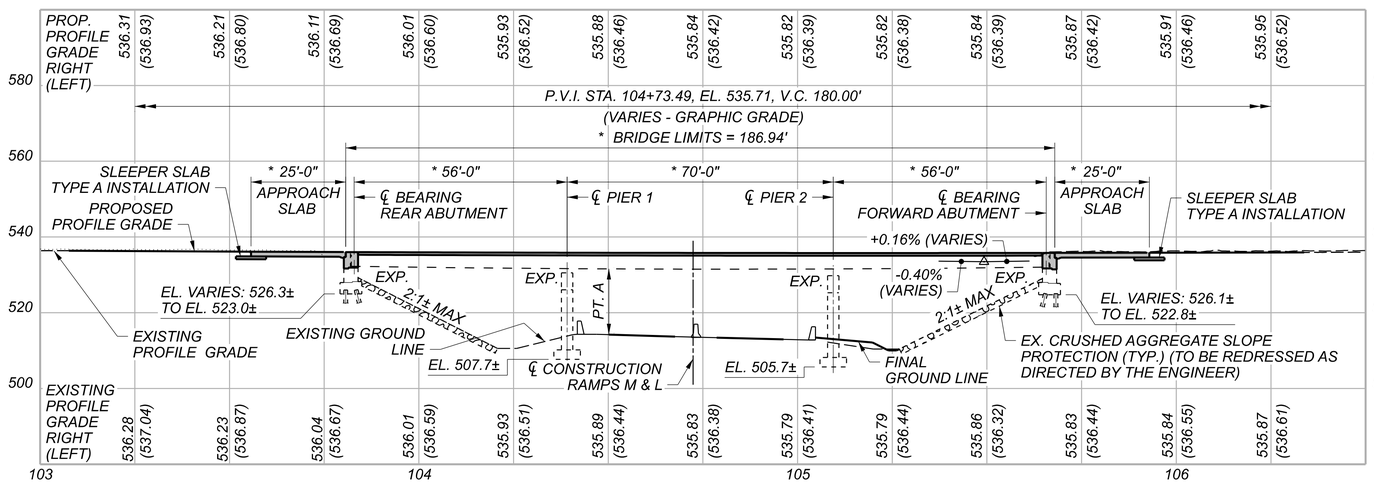
PLAN

CURVE DATA US-50
P.I. Sta. 101+41.18
Δ = 40°40'01" RT
Dc = 02°00'00"
R = 2864.79'
T = 1061.62'
L = 2033.35'
E = 190.38'

CURVE DATA PROPOSED RAMPS M & L
P.I. Sta. 4+63.03
Δ = 31°35'13" RT
Dc = 03°30'00"
R = 1637.02'
T = 463.03'
L = 902.48'
E = 64.22'

PROPOSED WORK

1. REMOVE AND REPLACE DECK AND APPROACH SLABS IN PHASES.
2. CONVERT TO SEMI-INTEGRAL ABUTMENTS AND REPLACE WINGWALLS.
3. JACK BRIDGE AND REPLACE BEARINGS.
4. PERFORM STRUCTURAL STEEL FATIGUE RETROFITS AND SPOT PAINTING.
5. SEAL CONCRETE SURFACES.



ELEVATION ALONG PROFILE GRADE LINE

BENCHMARK DATA

BM #1 STA.	99+28.63,	ELEV.	541.66,	OFFSET	42.04,	LT.
BM #2 STA.	102+99.72,	ELEV.	538.14,	OFFSET	58.23,	LT.
BM #3 STA.	102+99.80,	ELEV.	533.21,	OFFSET	57.94,	RT.

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLAN SHEET P.002

NOTES

ALL EXISTING BRIDGE ELEVATIONS HAVE BEEN ADJUSTED TO THE CURRENT PROJECT SURVEY ELEVATIONS AND ARE APPROXIMATELY 0.71 FEET LOWER THAN THE ELEVATIONS IN THE ORIGINAL PLANS.

DESIGN TRAFFIC:

2024 ADT =	32,500	2024 ADTT =	975
2044 ADT =	40,833	2044 ADTT =	1,225

DIRECTIONAL DISTRIBUTION = 60%

LEGEND

PROPOSED STRUCTURE

* INDICATES MEASURED ALONG ℄ CONSTRUCTION US-50

● 15'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
PT. A: 15'-6" ACTUAL MINIMUM VERTICAL CLEARANCE

HORIZONTAL CLEARANCES
DIM. A: 7'-11⅜" ACTUAL HORIZONTAL CLEARANCE, 17'-0" REQUIRED
DIM. B: 9'-4⅛" ACTUAL HORIZONTAL CLEARANCE, 17'-0" REQUIRED

AREA OF SUITABLE WOODED HABITAT FOR ENDANGERED BAT SPECIES. FOR DETAILS, SEE SHEET P.011.

EXISTING STRUCTURE

TYPE: 3 SPAN CONTINUOUS STEEL ROLLED BEAM WITH NON-COMPOSITE REINFORCED CONCRETE DECK SUPPORTED ON STUB TYPE ABUTMENTS AND SUPPORTED ON PILES CAP AND COLUMN PIERS.

SPANS: 56'-0"±, 70'-0"±, 56'-0"± ℄ TO ℄ BEARINGS MEASURED ALONG ℄ CONSTRUCTION US-50

ROADWAY: 106'-6"± TOE/TOE EXTERIOR RAILING

LOADING: CF-2000 ('57)

SKEW: 23°50'00"± RIGHT FORWARD

WEARING SURFACE: 1.75" SUPERPLASTICIZED CONCRETE OVERLAY

APPROACH SLABS: AS-1-54 (25'-0" LONG)

ALIGNMENT: 2° CURVE RIGHT

SUPERELEVATION: 0.047± FT./FT.

STRUCTURE FILE NUMBER: 3103870

DATE BUILT: 1960

DISPOSITION: TO BE REHABILITATED

PROPOSED STRUCTURE

TYPE: 3 SPAN CONTINUOUS STEEL ROLLED BEAM WITH COMPOSITE REINFORCED CONCRETE DECK SUPPORTED ON SEMI-INTEGRAL ABUTMENTS SUPPORTED ON PILES AND CAP AND COLUMN PIERS.

SPANS: 56'-0"±, 70'-0"±, 56'-0"± ℄ TO ℄ BEARINGS MEASURED ALONG ℄ CONSTRUCTION US-50

ROADWAY: 107'-5" TOE/TOE EXTERIOR RAILING

LOADING: SEE GENERAL NOTES

SKEW: 23°52'49" RIGHT FORWARD

WEARING SURFACE: 1" MONOLITHIC CONCRETE

APPROACH SLABS: 25'-0" LONG (AS-1-15, AS-2-15)

ALIGNMENT: 2° CURVE RIGHT

SUPERELEVATION: 0.047 FT/FT

DECK AREA: 20,192 SF

COORDINATES: LATITUDE W39°08'17.46"
LONGITUDE N84°24'06.34"

HORIZONTAL SCALE IN FEET
0 10 20 40

SITE PLAN
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN	3103870
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	RSB
CHECKER	ZTW
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	1
TOTAL	44
SHEET	P.165
TOTAL	208

HAM-US 50-29.00

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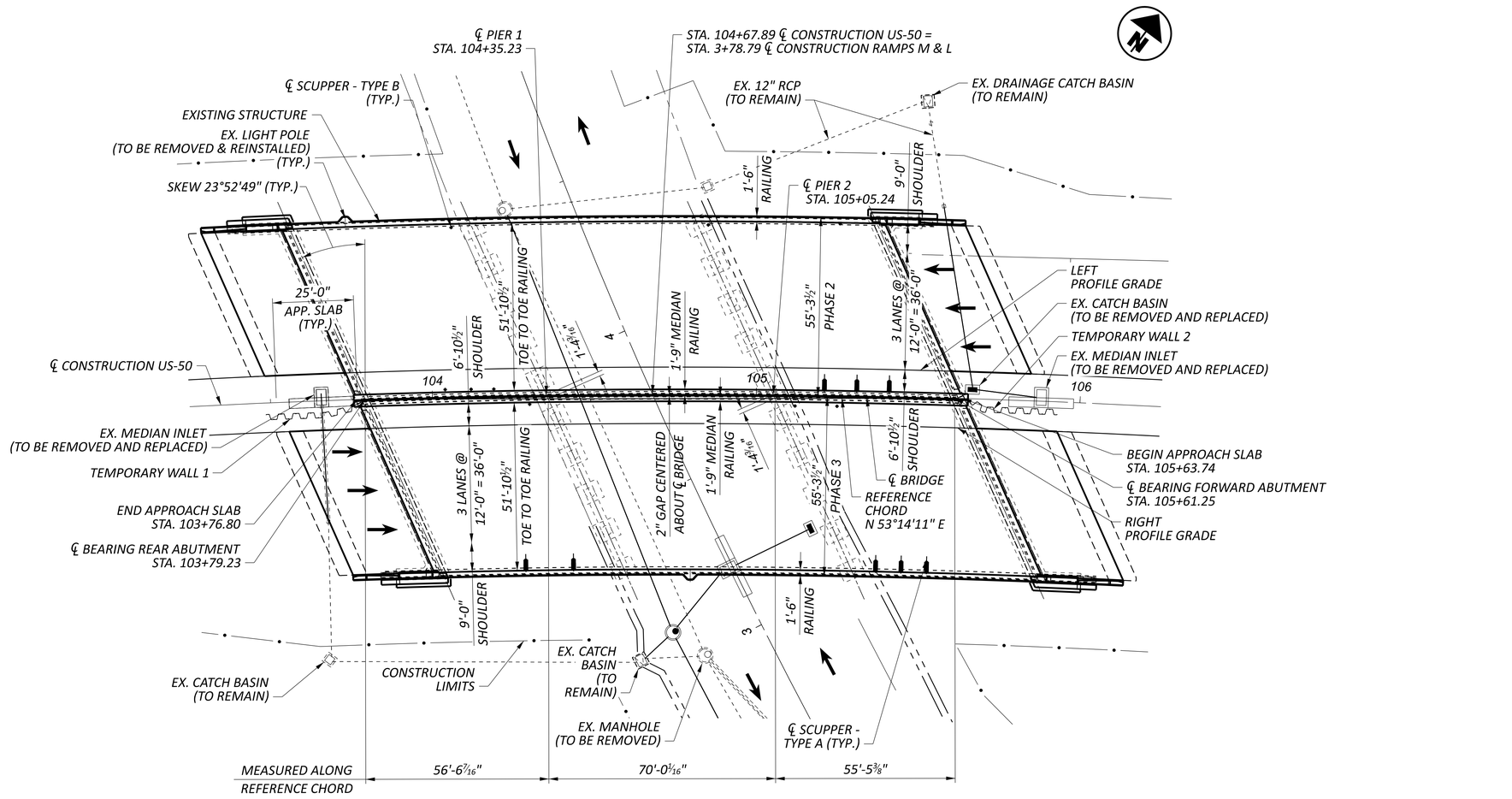
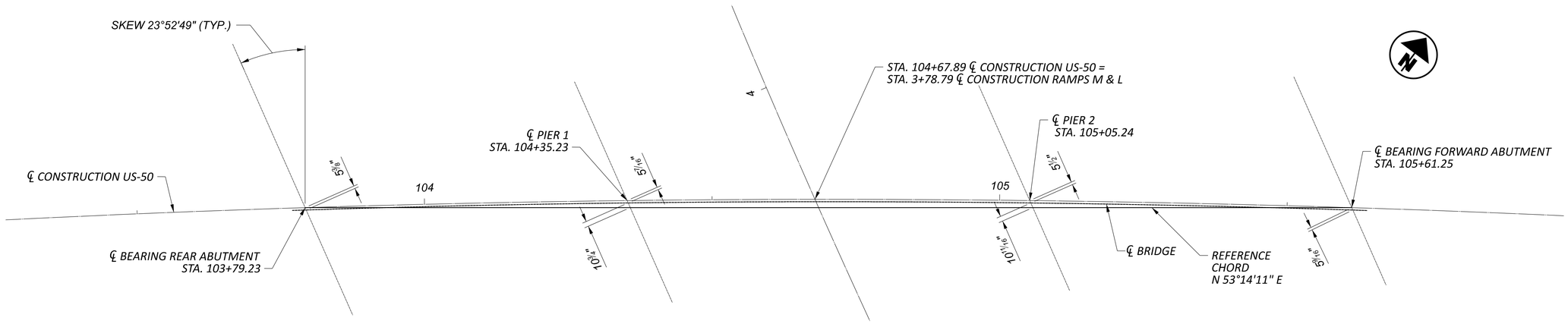


PLAN



GEOMETRIC LAYOUT

GENERAL PLAN
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

HAM-US 50-29.00

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SFN	3103870
DESIGN AGENCY	TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER	EA
CHECKER	RSB
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	2
TOTAL	44
SHEET	P.166
TOTAL	208

STRUCTURE GENERAL NOTES

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	01-20-2023
AS-2-15	REVISED	07-21-2023
PCB-91	REVISED	07-17-2020
SBR-1-20	REVISED	07-21-2023
SBR-2-20	REVISED	07-21-2023
SICD-2-14	REVISED	01-15-2021

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

800	DATED	10-20-2023

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF 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.

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.00 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.

DESIGN LOADING:

DECK:	VEHICULAR LIVE LOAD: HL-93 FUTURE WEARING SURFACE (FWS) OF 0.00KSF
SUPERSTRUCTURE:	EXISTING BEAMS - AS LOAD RATED, VEHICULAR LIVE LOAD: HL-93 FUTURE WEARING SURFACE (FWS) OF 0.00KSF
SUBSTRUCTURE:	EXISTING SUBSTRUCTURE VEHICULAR LIVE LOAD: CF 2000 (57) FUTURE WEARING SURFACE (FWS) OF 0.00KSF
FOUNDATIONS:	EXISTING FOUNDATIONS VEHICULAR LIVE LOAD: CF 2000 (57) FUTURE WEARING SURFACE (FWS) OF 0.00KSF

DESIGN DATA:

CONCRETE CLASS QC3 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE REINFORCEMENT: GALVANIZED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (DECK, BRIDGE RAILING, DIAPHRAGM, WINGWALLS, APPROACH SLABS)

GFRP REINFORCEMENT (BRIDGE RAILING)

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

MONOLITHIC WEARING SURFACE:

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

PROTECTION OF TRAFFIC:

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE AND SUBSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF VEHICULAR TRAFFIC ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE ENGINEER AT LEAST 30 DAYS BEFORE DEMOLITION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT WILL BE NECESSARY TO ENSURE SUCH PROTECTION. ALL COSTS ASSOCIATED WITH THIS TRAFFIC PROTECTION WILL BE INCLUDED WITH ITEM 202 FOR PAYMENT.

MAINTENANCE OF TRAFFIC:

FOR MAINTENANCE OF TRAFFIC NOTES, PERMITTED LANE CLOSURES AND DETAILS, REFER TO MAINTENANCE OF TRAFFIC PLANS.

EXISTING STRUCTURE PLANS:

CONSTRUCTION PLANS FOR THE EXISTING BRIDGE ARE ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 8 OFFICE, 505 S. STATE ROUTE 741, LEBANON, OH 45036 AND ARE AVAILABLE FOR REFERENCE. EXISTING PLANS HAVE BEEN INCLUDED IN THE REFERENCE FOLDER ON THE OFFICE OF CONTRACTS WEB PAGE FOR DOWNLOAD.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.58 KIPS FOR THE LEFT AND RIGHT BRIDGES.

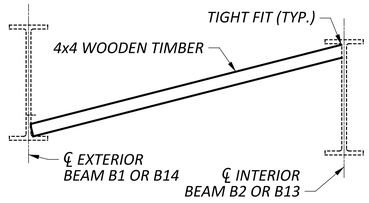
A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 INCHES.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA BEAM TO THE FACE OF THE SAFETY HANDRAIL OF 65 INCHES.

THE EXISTING BEAMS REQUIRE LATERAL RESTRAINT DURING THE DECK POURING OPERATION AT THE CENTERLINE OF ABUTMENT BEARINGS IF THE DIAPHRAGM CONCRETE ENCASING THE BEAM ENDS IS PLACED CONCURRENTLY WITH THE DECK CONCRETE. THE CONTRACTOR SHALL PROVIDE A MEANS OF TEMPORARILY BRACING THE EXISTING BEAMS TO PREVENT ROTATION, SLIDING, TIPPING, OR OTHER MOVEMENT THAT MAY RESULT FROM THE DECK POURING OPERATION IN A MANNER SATISFACTORY TO THE ENGINEER. SUBMIT SEALED CONSTRUCTION PLANS AND CALCULATIONS FOR THE BEAM RESTRAINT PER CMS 501.05.

THE LEFT AND RIGHT BRIDGES REQUIRE TEMPORARY TIMBER BLOCKING OF THE EXISTING EXTERIOR BEAM BOTTOM FLANGE TO PREVENT ROTATION DURING DECK PLACEMENT. THE LOCATIONS OF THE TEMPORARY TIMBER BLOCKING ARE SHOWN ON THE LEFT AND RIGHT BRIDGE FRAMING PLAN, SHEETS 21 AND 22 OF 44 , RESPECTIVELY. SEE TEMPORARY TIMBER BLOCKING DETAIL BELOW FOR ADDITIONAL DETAILS.



TEMPORARY TIMBER BLOCKING DETAIL

(LEFT BRIDGE SHOWN, RIGHT BRIDGE SIMILAR)

ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO PROVIDE RESTRAINT OF THE EXISTING BEAMS AT THE ℄ OF ABUTMENT BEARING DURING DECK PLACEMENT, AS WELL AS TEMPORARY TIMBER BLOCKING AS SHOWN IN THE PLANS, SHALL BE INCLUDED WITH ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, BRIDGE DECK FOR PAYMENT.

NON-USE OF ASBESTOS-CONTAINING MATERIALS:

THE CONTRACTOR SHALL AT NO TIME INCORPORATE ANY MATERIALS WHICH ARE COMPOSED OF OR CONTAIN ANY AMOUNTS OF ASBESTOS. THE SUBSTITUTION OF MATERIALS WHICH CONTAIN ANY AMOUNTS OF ASBESTOS WILL IN NO CIRCUMSTANCES BE ACCEPTABLE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF CERTIFICATION ASSERTING THAT NO ASBESTOS CONTAINING MATERIALS WERE USED IN ANY PORTION OF THE CONSTRUCTION.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:

DESCRIPTION:
THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING CONCRETE BRIDGE RAILINGS, DECK JOINTS, BEARINGS, EXISTING UTILITY LINES, AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, END CROSS-FRAMES, SCUPPERS, ETC.) THIS ITEM INCLUDES TAKING SURVEY SHOTS OF THE BEAM FLANGES BEFORE AND AFTER DECK REMOVAL AND CALCULATING THE REQUIRED ITEMS TO DETERMINE THE SCREED AND TOP OF HAUNCH ELEVATIONS. IT SHALL ALSO INCLUDE THE REMOVAL OF ABUTMENT BACKWALLS, PORTIONS OF THE WINGWALLS, POROUS BACKFILL, PLUGGING OF WEEPHOLES, AND OTHER APPURTENANCES AS SHOWN IN THE PLANS. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE DEPARTMENT WILL NOT PERMIT THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

MAXIMUM REMOVAL LIMITS:
SOUND THE CONCRETE TO DETERMINE THE LIMITS OF THE CONCRETE TO BE REMOVED AND COMPARE THESE LIMITS TO THE AREAS SHOWN IN THE PLANS. IF NEW AREAS ARE DISCOVERED OR IF THE DIMENSIONS OF THE PLAN AREAS INCREASE BY MORE THAN 25% IN ANY DIRECTION, DOCUMENT THE AREAS AND NOTIFY THE ENGINEER FOR EVALUATION TWO WEEKS PRIOR TO REMOVAL. THE ENGINEER WILL DETERMINE IF PATCHING IN DISCRETE SECTIONS/STAGES IS NEEDED OR IF THE INSTALLATION OF TEMPORARY FALSEWORK IS REQUIRED.

PROTECTION OF STEEL SUPPORT SYSTEMS:
BEFORE DECK SLAB CUTTING BEGINS, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF THE DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF CONCRETE REINFORCEMENT IN THE DECK SLAB. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS:
REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

REMOVAL METHODS:
THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL BEAMS, STEEL GIRDER, ETC.), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS. DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

CUT LINE CONSTRUCTION JOINT PREPARATION:
SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING CONCRETE REINFORCEMENT, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING STEEL REINFORCEMENT DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN (CONTINUED):

SUBSTRUCTURE CONCRETE REMOVAL:
REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. THE DEPARTMENT WILL NOT PERMIT HYDRAULIC HOE-RAM TYPE HAMMERS. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

PLUGGING EXISTING WEEPHOLES:
THE EXISTING WEEPHOLES SHALL BE FLUSHED OUT TO REMOVE ANY LOOSE DEBRIS AND FILLED ENTIRELY WITH CLASS QC1 CONCRETE AS PER ITEM 499.

MEASUREMENT & PAYMENT:
THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVAL AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 202 - REMOVAL MISC.: PORTION OF STRUCTURE REMOVED, BULB ANGLE, AS PER PLAN:

THIS WORK CONSISTS OF REMOVING IN ITS ENTIRETY THE EXISTING BULB ANGLES THAT WERE CAST INTO THE DECK WHEN THE EXISTING DECK WAS CONSTRUCTED. THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE, OR DAMAGE THE STRUCTURAL STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

EXISTING WELDED ATTACHMENTS:
GRIND THE FLANGE SURFACES SMOOTH WHERE THE EXISTING WELDED BULB ANGLE ATTACHES TO THE FLANGES LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS.

MEASUREMENT & PAYMENT:
THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LINEAR FOOT BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVAL AT THE CONTRACT PRICE FOR ITEM 202 - REMOVAL MISC.: PORTION OF STRUCTURE REMOVED, BULB ANGLE, AS PER PLAN.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (TEMPORARY WALL 1):
ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (TEMPORARY WALL 2):

THIS ITEM SHALL INCLUDE THE INSTALLATION AND REMOVAL OF THE TEMPORARY WALLS AS SHOWN IN THE PLANS.

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH CMS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE BID FOR COFFERDAMS AND EXCAVATION BRACING. THE DEPARTMENT WILL NOT MAKE ADDITIONAL PAYMENT FOR PROVIDING AN ALTERNATE DESIGN.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH PERTINENT SECTIONS OF CMS SECTION 503 AND SHALL INCLUDE THE EXCAVATION AND BACKFILLING REQUIRED TO CONSTRUCT THE NEW PORTIONS OF THE ABUTMENT DIAPHRAGMS AND WINGWALLS. EXCAVATION AND BACKFILLING FOR SUBSTRUCTURE REMOVAL AND STRUCTURE DRAINAGE SHALL BE INCLUDED WITH RESPECTIVE ITEMS 202 AND 518.

GENERAL NOTES - 1
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
ZTW	RSB

REVIEWER: NFF 08/22/23

PROJECT ID: 110570

SUBSET	TOTAL
3	44

SHEET	TOTAL
P.167	208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/24/2024 TIME: 1:48:38 PM USER: hidegeorge
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ITEM 509 - CONCRETE REINFORCEMENT, REPLACEMENT OF EXISTING CONCRETE REINFORCEMENT, AS PER PLAN:

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT CONCRETE REINFORCEMENT BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. REPLACE ALL EXISTING STEEL REINFORCEMENT BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW CONCRETE REINFORCEMENT OF THE SAME SIZE, COATING, AND MATERIAL AT NO COST TO THE DEPARTMENT. AN ESTIMATED QUANTITY OF 100 POUNDS HAS BEEN INCLUDED FOR THIS WORK.

ITEM 509 - GALVANIZED STEEL REINFORCEMENT, AS PER PLAN:

IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE STEEL REINFORCEMENT DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE GALVANIZED COATING, AS A RESULT OF THIS WORK, ACCORDING TO CMS 711.02.

ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN:

DOWEL BARS SHALL BE INSTALLED USING NONSHRINK, NONMETALLIC GROUT PER CMS 510 AND ACI 355.4. ALL EXISTING CONCRETE REINFORCEMENT IN THE AREA OF THE DOWEL HOLE SHALL BE LOCATED WITH THE AID OF A CONCRETE REINFORCEMENT LOCATOR (PACHOMETER) PRIOR TO DRILLING THE HOLES. IF EXISTING CONCRETE REINFORCEMENT IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, THE DOWEL HOLE SHALL BE MOVED TO EITHER SIDE OF THE EXISTING CONCRETE REINFORCEMENT.

ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, BRIDGE DECK:
ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, BRIDGE RAILING:
ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, DIAPHRAGMS:
ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA,(T=15"), AS PER PLAN:

THIS ITEM MODIFIES THE STANDARD 511 CONCRETE FOR STRUCTURES SPECIFICATION TO INCLUDE MACRO-SYNTHETIC FIBERS AND CORROSION INHIBITORS INTO THE SUPERSTRUCTURE CONCRETE. THIS ITEM SHALL CONFORM TO 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

PORTLAND CEMENT CONCRETE	499.03, CLASS QC3 MEETING A DESIGN STRENGTH OF 4,500 PSI WITH MACRO-SYNTHETIC FIBERS AND WITH MODIFICATION PER 511.02
FIBERS FOR CONCRETE	ASTM C1116, TYPE III
CORROSION INHIBITOR	515.15

THE CLASS QC3 CONCRETE FOR THE SUPERSTRUCTURE SHALL MEET THE FOLLOWING CRITERIA:
WATER/CEMENT RATIO = 0.40 MAXIMUM; MINIMUM 4 LBS/CY MACRO-SYNTHETIC FIBERS (1.5 INCHES MIN. TO 2.5 INCHES MAX.) MEETING ASTM C1116 TYPE III SHALL BE ADDED TO THE MIX.

MIX SHALL INCLUDE A MIGRATING CORROSION INHIBITOR AS MANUFACTURED BY AN APPROVED SUPPLIER LISTED ON ODOT'S QUALIFIED APPROVED SUPPLIERS, ITEM 515.15. THE DOSAGE RATE LISTED ON THE ODOT QUALIFIED APPROVED SUPPLIERS LIST WILL APPLY.

THE MACRO-SYNTHETIC FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX AT THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, AND MACRO-SYNTHETIC FIBERS PRIOR TO THE ADDITION OF WATER AND ADMIXTURES. PROVIDE MACRO-SYNTHETIC FIBERS THAT ARE MONOFILAMENT FIBERS MADE FROM VIRGIN POLYPROPYLENE, POLYETHYLENE, OR CO-POLYMERS THAT ARE INERT TO ALKALI ATTACK. ENSURE THE MACRO-SYNTHETIC FIBERS HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI, A MINIMUM MODULUS OF ELASTICITY OF 800 KSI, A MINIMUM FILAMENT DIAMETER OF 0.012 INCHES, AN ASPECT RATIO BETWEEN 60 AND 100, AND ARE BETWEEN 1.5 AND 2.5 INCHES IN LENGTH. STORE THE MACRO-SYNTHETIC FIBERS ACCORDING TO THE MANUFACTURER'S RECOMMENDATION AND KEEP THE MATERIAL FREE FROM DUST, DIRT, AND MOISTURE. PLACING THE BAG THAT THE FIBERS COME IN INTO THE CONCRETE MIX IS NOT PERMITTED.

ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, BRIDGE DECK (CONTINUED):
ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, BRIDGE RAILING (CONTINUED):
ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, DIAPHRAGMS (CONTINUED):
ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA, (T=15"), AS PER PLAN (CONTINUED):

USE A MINIMUM DOSAGE RATE OF MACRO-SYNTHETIC FIBERS OF 4.0 LBS/CY OF CONCRETE. DETERMINE THE FINAL PROPOSED DOSAGE RATE THROUGH MIX TESTING. ENSURE THE FIBER REINFORCED CONCRETE MEETS OR EXCEEDS A MINIMUM EQUIVALENT FLEXURAL STRENGTH RATIO OF 25% ACCORDING TO ASTM C 1609. ENSURE THE FINAL PROPOSED MIX IS WORKABLE AND ABLE TO BE PRODUCED SUCH THAT BALLING OR CLUMPING OF THE FIBERS IS NOT A PROBLEM AS DETERMINED BY THE ENGINEER. UTILIZE A LABORATORY REGULARLY INSPECTED BY THE CEMENT AND CONCRETE REFERENCE LABORATORY (CCRL) OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, OR OTHER APPROVED REFERENCE LABORATORY, TO PERFORM THE TESTING. BEFORE USE, SUBMIT DOCUMENTATION TO THE PROJECT ENGINEER CERTIFYING BOTH THE MACRO-SYNTHETIC FIBERS AND THE MIX MEET OR EXCEED THE REQUIRED PROPERTIES. SAMPLING WILL BE ALLOWED FOR TESTING PURPOSES. A DEMONSTRATION OF THE MIX PRODUCTION OR TRIAL MIX MAY BE REQUIRED BY THE ENGINEER PRIOR TO PLACING ANY OF THE MIX ON THE PROJECT.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED. THE TRANSIT MIXER CHARGE SHALL BE LIMITED TO 3/4 OF ITS RATED CAPACITY OR 6 CUBIC YARDS, WHICHEVER IS SMALLER. THE FIRST THREE TRANSIT MIXER LOADS ARE REQUIRED TO BE AT THE MINIMUM YARDAGE LISTED ABOVE TO SHOW PROOF OF THE SUCCESSFUL BATCHING OPERATION. AFTER CONSISTENCY IN THE DELIVERED MATERIAL HAS BEEN ESTABLISHED, THE CONCRETE SUPPLIER MAY INCREASE THE BATCH DELIVERED QUANTITIES AS LONG AS THE QUALITY REMAINS ACCEPTABLE TO THE ENGINEER. THE ENGINEER CAN REDUCE THE BATCH LOAD SIZE AT ANY TIME AS NEEDED TO CORRECT/IMPROVE CONCRETE QUALITY.

CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR AND ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CORROSION INHIBITOR IS SUGGESTED TO BE AN MCI PRODUCT BY CORTEC OR AN APPROVED EQUAL FROM THE QUALIFIED PRODUCTS LIST. THE CONCRETE SUPPLIER'S CHOICE OF ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS. PLEASE BE ADVISED THAT SOME PRODUCTS ON THE LIST AFFECT THE DELIVERED MIX PROPERTIES GREATLY WHILE OTHER PRODUCTS DO NOT.

APPROACH SLABS, DIAPHRAGMS, AND BRIDGE RAILING CONCRETE ARE TO USE THE SAME MIX DESIGN AS THE BRIDGE DECK. THE CONTRACTOR SHOULD BE ADVISED THAT CONCRETE RETARDING AGENTS MAY NEED TO BE ADDED TO OFFSET THE EFFECTS OF THE MIGRATING CORROSION INHIBITOR SELECTED. USE SELF-COMPACTING CONCRETE ON DECORATIVE RAILING SIMILAR TO TEXAS RAILING AND MACRO-SYNTHETIC CONCRETE PER THIS SPECIFICATION ON TRADITIONAL CONCRETE RAILING WHEN APPLICABLE.

THE CONTRACTOR SHALL PROVIDE TRADITIONAL BRIDGE DECK FORMS CONFORMING TO CMS 508. PERMANENT STAY-IN-PLACE (SIP) FORMS ARE NOT ALLOWED. THE PLACING OF THE DECK AND THE APPROACH SLABS IN THE SAME CONCRETE POUR IS NOT PERMITTED.

FURNISH GALVANIZED STEEL REINFORCEMENT 709.16 IN LIEU OF EPOXY COATED STEEL REINFORCEMENT FOR REINFORCED CONCRETE APPROACH SLABS.

ABBREVIATONS:

CONST.	CONSTRUCTION
DIA.	DIAMETER
DIM.	DIMENSION
E.F.	EACH FACE
EL.	ELEVATION
EX.	EXISTING
EXP.	EXPANSION
F.F.	FAR FACE
FIX.	FIXED
FT.	FOOT/FEET
H.P.	HIGH PRESSURE
INV.	INVERT
LT.	LEFT
MAX.	MAXIMUM
MIN.	MINIMUM
N.F.	NEAR FACE
P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
PT.	POINT
RT.	RIGHT
SPA.	SPACING/SPACES
STA.	STATION
TYP.	TYPICAL

ITEM 513 - STRUCTURAL STEEL, MISC.: MOMENT PLATE RETROFIT
ITEM 513 - STRUCTURAL STEEL, MISC.: FIELD DRILLING HOLES

THE EXISTING BEAMS SHALL HAVE RETROFIT SPLICE PLATES INSTALLED AS INDICATED IN THE PLANS. STEEL SHALL BE ASTM A709 GRADE 50 (YIELD STRENGTH 50 KSI) AND BOLTS SHALL BE ASTM F3125 GRADE A325, TYPE 1.

AFTER THE DECK HAS BEEN REMOVED, PERFORM SURFACE PREPARATION OF THE TOP FLANGE RETROFIT AREAS TO REMOVE THE EXISTING PAINT SYSTEM. THE SURFACE PREPARATION LIMITS SHALL EXTEND 1-FT. PAST EACH END OF THE TOP RETROFIT SPLICE PLATES.

THE ENGINEER SHALL CAREFULLY VISUALLY INSPECT THE CLEANED AREA AT EACH END OF ALL THE TOP FLANGE MOMENT PLATES.

IF THE ENGINEER DETERMINES THE TRANSVERSE MOMENT PLATE WELD IS STILL PERFORMING ADEQUATELY, LEAVE THE WELD IN PLACE. IF THE WELD APPEARS RUSTED OR HAS SEPARATED FROM THE EXISTING BEAM OR MOMENT PLATE, THE CONTRACTOR SHALL REMOVE THE EXISTING TRANSVERSE MOMENT PLATE WELD AND INSPECT FOR DAMAGE TO THE BASE METAL OF THE BEAM. GRINDING MAY BE DIRECTED BY THE ENGINEER TO ENHANCE THE INVESTIGATION FOR CRACK PRESENCE. ALL STEEL GRINDING MUST BE DONE CAUTIOUSLY ON A CASE-BY-CASE BASIS.

IF THE ENGINEER SUSPECTS THAT A CRACK HAS ADVANCED INTO THE BASE METAL OF THE BEAM, IMMEDIATELY ALERT THE OFFICE OF CONSTRUCTION ADMINISTRATION - BRIDGE CONSTRUCTION SPECIALIST. PROVIDE THE LOCATION OF THE CRACK, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

AFTER APPROVAL FROM THE ENGINEER, EXISTING MOMENT PLATES WITH ADEQUATE TRANSVERSE WELDS OR TRANSVERSE WELD AREAS THAT HAVE BEEN REPAIRED TO THE SATISFACTION OF THE ENGINEER, SHALL BE RETROFITTED WITH BOLTED SPLICE PLATES AS SHOWN IN THE PLANS.

APPLY ORGANIC ZINC PRIME COAT TO THE EXISTING STRUCTURAL STEEL IN THE RETROFIT AREA TO THE SURFACE PREPARATION LIMITS. NEW STRUCTURAL STEEL FOR THE MOMENT PLATE RETROFIT SHALL HAVE SHOP DRILLED BOLT HOLES AND SHALL BE DELIVERED TO THE SITE WITH A SHOP APPLIED INORGANIC ZINC PRIME COAT.

FIELD DRILL BOLT HOLES THROUGH THE EXISTING STEEL MOMENT PLATES AND EXISTING BEAM FLANGES USING THE NEW RETROFIT SPLICE PLATES AS A TEMPLATE. INSTALL BOLTED RETROFIT SPLICE PLATES AT EACH END OF ALL TOP MOMENT PLATES OF BOTH LEFT AND RIGHT BRIDGES (56 LOCATIONS).

APPLY INTERMEDIATE AND FINISH PAINT COATS TO THE NEW AND EXISTING STEEL AT EACH MOMENT PLATE RETROFIT LOCATION. SEE SHEET 23 OF 44 FOR ADDITIONAL MOMENT PLATE RETROFIT/FLANGE PAINTING LIMITS. PAINT COLOR SHALL MATCH EXISTING.

STEEL MEMBERS TO BE FABRICATED UNDER THIS ITEM DO NOT REQUIRE SHOP DRAWINGS PRIOR TO FABRICATION. HOWEVER, THE CONTRACTOR SHALL MAKE NECESSARY MEASUREMENTS AND PREPARE SKETCHES, DRAWINGS, TABLES, ETC. TO ENSURE ADEQUATE INFORMATION IS PROVIDED TO THE FABRICATOR. THE ENGINEER SHALL HAVE THE AUTHORITY AND RESPONSIBILITY FOR ENSURING THE FABRICATED STEEL IS ACCEPTABLE. TECHNICAL ASSISTANCE WILL BE PROVIDED TO THE ENGINEER, IF REQUESTED, BY THE OFFICE OF STRUCTURAL ENGINEERING.

IN ACCORDANCE WITH CMS 501.06, MILL TEST REPORTS AND SHIPPING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INCORPORATING NEW STEEL ITEMS INTO THE WORK. AFTER FABRICATION, THE CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL TO ENSURE THE DRAWINGS DEPICT THE STEEL AS ACTUALLY INCORPORATED INTO THE WORK. THE ENGINEER WILL THEN SEND AN APPROVED SET OF DRAWINGS TO THE OFFICE OF STRUCTURAL ENGINEERING FOR INFORMATION. PAY WEIGHTS SHALL BE COMPUTED IN COMPLIANCE WITH CMS 513 AND SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

ALL NECESSARY LABOR, EQUIPMENT, AND MATERIAL TO PERFORM THE INITIAL INSPECTION, APPLY A SHOP PRIME COAT, AND INSTALL THE BOLTED RETROFIT SPLICE PLATES AS DESCRIBED ABOVE SHALL BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, MISC.: MOMENT PLATE RETROFIT FOR PAYMENT.

ALL NECESSARY LABOR, EQUIPMENT, AND MATERIAL TO PERFORM THE FIELD DRILLING OF BOLT HOLES THROUGH THE EXISTING STRUCTURAL STEEL BEAM FLANGES AND EXISTING MOMENT PLATES SHALL BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, MISC.: FIELD DRILLING HOLES FOR PAYMENT.

SURFACE PREPARATION AND PAINTING OF NEW AND EXISTING STRUCTURAL STEEL AS DESCRIBED SHALL BE INCLUDED WITH ITEM 514 FOR PAYMENT.

ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT:
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN:
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN:

PAINTED AREAS THAT ARE DAMAGED BY WELDING, DRILLING, CUTTING, OR OTHER MEANS TO REHABILITATE THIS BRIDGE ARE DESIGNATED IN THE PROJECT PLANS.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL NECESSARY EQUIPMENT TO INSPECT THIS WORK. THE MAJORITY OF THE AREAS TO BE REPAIR PAINTED ARE:
EXISTING BEAM MOMENT PLATE RETROFIT LOCATIONS

EXISTING STEEL AREAS SHALL RECEIVE A PRIME, INTERMEDIATE, AND FINISH COAT APPLIED IN THE FIELD. PROPOSED STEEL SHALL BE SHOP PRIMED AND RECEIVE AN INTERMEDIATE AND FINISH COAT APPLIED IN THE FIELD.

THE FINISH COAT SHALL MATCH THE EXISTING BEAM'S COLOR. OBTAIN THE ENGINEER'S APPROVAL OF PAINT COLOR BEFORE APPLYING FINISH COAT.

PRIOR TO THE START OF WORK ON THE STRUCTURE, THE CONTRACTOR SHALL DOCUMENT THE EXISTING CONDITION OF THE PAINTED STRUCTURE TO IDENTIFY AREAS PREVIOUSLY DAMAGED THAT ARE OUTSIDE THE LIMITS OF THE CURRENT PAY ITEMS. PAINTED AREAS THAT WERE NOT PREVIOUSLY DAMAGED THAT RECEIVE DAMAGE BY THE CONTRACTOR'S ACTIVITIES ONCE WORK BEGINS WILL BE REPAIRED AT THE CONTRACTOR'S COST.

ITEM 514 - FIELD PAINTING, MISC.: COATING OF BEAM ENDS:

PRIOR TO ENCASING THE BEAM ENDS, PREPARE THE ENDS PER SSPC SP10 OR SSPC SP11 TO BARE METAL ACHIEVING A 1.5 TO 3.5 MIL PROFILE. PAINT THE BEAM ENDS WITH ORGANIC ZINC PRIME COAT PER CMS 514. PROVIDE THE PRIME COAT THICKNESS AS PER CMS 514.20. EXTEND THE LIMITS OF THE BEAM PREPARATION AND PAINTING 1 FOOT BEYOND THE LIMITS OF THE END DIAPHRAGM CONCRETE.

AFTER THE DIAPHRAGM IS SET, SEAL THE INTERFACE BETWEEN THE BEAM AND CONCRETE WITH CAULK.

THE DEPARTMENT WILL PAY FOR ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO PERFORM WORK AS DESCRIBED ABOVE AT THE CONTRACT BID PRICE FOR ITEM 514 - FIELD PAINTING, MISC.: COATING OF BEAM ENDS.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS. SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05. IF, DURING THE JACKING OPERATIONS, DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS. THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN:

PRIOR TO THE SURFACE CLEANING SPECIFIED IN CMS 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED STEEL REINFORCEMENT. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN:

WITH PRIOR APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY REDRESS THE SLOPES WITH THE EXISTING CRUSHED AGGREGATE. WHERE ADDITIONAL MATERIAL IS REQUIRED, FURNISH AND PLACE CRUSHED AGGREGATE IN ACCORDANCE WITH CMS 601. AN ESTIMATED QUANTITY OF 100 SQUARE YARDS HAS BEEN INCLUDED FOR THIS WORK. ACTUAL QUANTITIES OF SLOPE TO BE REDRESSED AND NEW MATERIAL TO BE PLACED SHALL BE AS DIRECTED BY THE ENGINEER.

GENERAL NOTES - 2
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114
DESIGNER ZTW | CHECKER RSB
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 4 | TOTAL 44
SHEET P.168 | TOTAL 208

HAM-US 50-29.00

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CALC:	EA	DATE:	5/5/2023
CHECKED:	BTA	DATE:	8/28/2023

ESTIMATED QUANTITIES

STRUCTURE FILE NUMBER: 3103870

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPERSTRUCTURE	GENERAL	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	P.167
202	22900	400	SY	APPROACH SLAB REMOVED				400	
202	23500	2,471	SY	WEARING COURSE REMOVED				2,471	
202	98200	368	FT	REMOVAL MISC.: PORTION OF STRUCTURE REMOVED, BULB ANGLE, AS PER PLAN				368	P.167
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (TEMPORARY WALL 1)				LS	P.167
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (TEMPORARY WALL 2)				LS	P.167
503	21301	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN				LS	P.167
509	20001	100	LB	CONCRETE REINFORCEMENT, REPLACEMENT OF EXISTING CONCRETE REINFORCEMENT, AS PER PLAN				100	P.168
509	26001	199,025	LB	GALVANIZED STEEL REINFORCEMENT, AS PER PLAN	21,995		185,820		P.168
509	30020	13,191	FT	NO. 4 DEFORMED GFRP REINFORCEMENT			13,101		
510	10001	448	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	448				P.168
511	33501	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	4				P.180
511	43510	51	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING	51				
511	53014	157	CY	CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, BRIDGE RAILING			157		P.168
511	53014	564	CY	CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, BRIDGE DECK			564		P.168
511	53014	126	CY	CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, DIAPHRAGMS			126		P.168
512	10100	833	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)				833	
512	10600	15	FT	CONCRETE REPAIR BY EPOXY INJECTION	15				
512	33000	17	SY	TYPE 2 WATERPROOFING	17				
513	20000	12,285	EACH	WELDED STUD SHEAR CONNECTORS			12,285		
513	90000	18,889	LB	STRUCTURAL STEEL, MISC.: MOMENT PLATE RETROFIT			18,889		P.168
513	95030	196	EACH	STRUCTURAL STEEL, MISC.: FIELD DRILLING HOLES			196		P.168
513	95030	28	EACH	STRUCTURAL STEEL, MISC.: BEAM MODIFICATION			28		P.185 & P.186
514	00050	1,152	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			1,152		P.168
514	00057	1,152	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN			1,152		P.168
514	00061	1,245	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN			1,245		P.168
514	00067	1,245	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			1,245		P.168
514	00504	8	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			8		
514	10000	2	EACH	FINAL INSPECTION REPAIR			2		
514	27700	776	SF	FIELD PAINTING, MISC.: COATING OF BEAM ENDS			776		P.168
516	13600	46	SF	1" PREFORMED EXPANSION JOINT FILLER			46		
516	13900	247	SF	2" PREFORMED EXPANSION JOINT FILLER	247				
516	14020	243	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	243				
516	44000	14		ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)			14		
				(15" x 13" x 1.399" PAD WITH 14" x 16" x 0.75" LOAD PLATE)					
516	44000	14		ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)			14		
				(15" x 13" x 1.439" PAD WITH 14" x 16" x 0.75" LOAD PLATE)					
516	44101	28		ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN			28		P.183 & P.184
				(12" x 12" x 2.908" PAD WITH 13" x 13" x 0.75" TOP AND BOTTOM LOAD PLATES AND HP SECTION)					
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LS	P.168
518	12301	8	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN (TYPE A)			8		P.188
518	12301	9	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN (TYPE B)			9		P.188
518	20000	15	SY	PREFABRICATED GEOCOMPOSITE DRAIN	15				
518	21200	131	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	131				
518	40000	265	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	265				
518	40011	120	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	120				P.176 & P.178
519	11101	564	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	467	97			P.168
526	25011	518	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN				518	P.168
526	90010	198	FT	TYPE A INSTALLATION				198	
601	20001	100	SY	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN				100	P.168

ESTIMATED QUANTITIES
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
ZTW	RSB

REVIEWER
NFF 08/22/23

PROJECT ID
110570

SUBSET	TOTAL
5	44

SHEET	TOTAL
P.169	208

HAM-US 50-29.00

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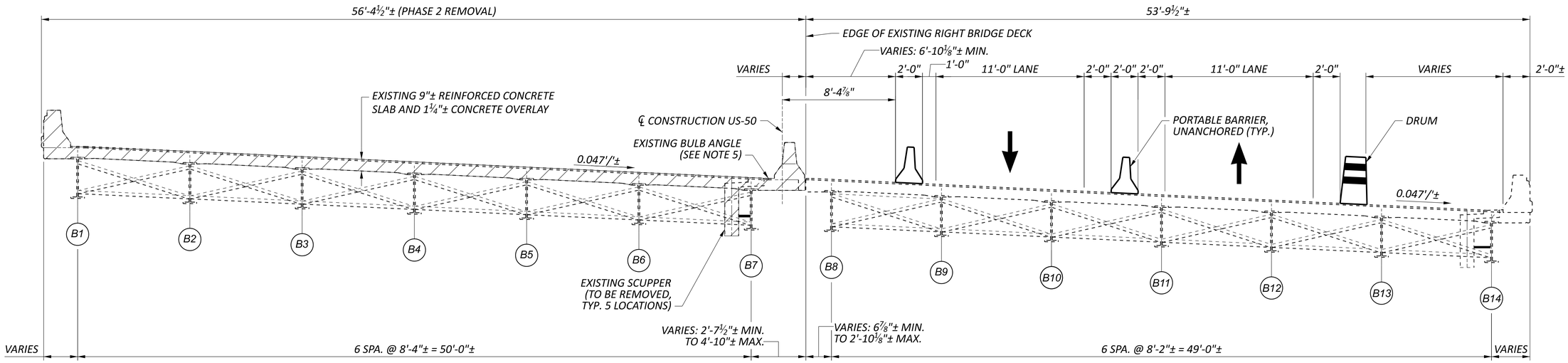
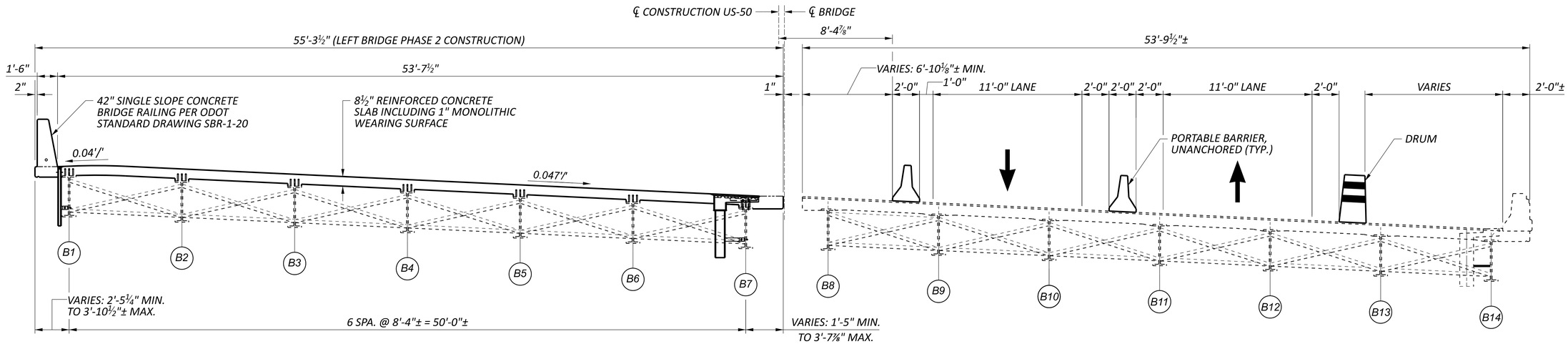


PHASE 2 - REMOVAL



PHASE 2 - CONSTRUCTION

SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION:

PHASE 2

1. PLACE PHASE 2 PORTABLE BARRIERS AND DIRECT TRAFFIC AS SHOWN IN MOT PLANS.
2. REMOVE PHASE 2 OF THE EXISTING DECK, END CROSS-FRAMES, SCUPPERS, RAILINGS, LIGHT POLE, AND APPROACH SLABS.
3. REMOVE PORTION OF EXISTING 12-IN. DRAINAGE PIPE AT REAR ABUTMENT.
4. INSTALL TEMPORARY WALLS 1 AND 2 AT BOTH ABUTMENTS.
5. REMOVE PHASE 2 OF THE REAR AND FORWARD ABUTMENT BACKWALLS.
6. PATCH CONCRETE AND SEAL CRACKS AT REAR ABUTMENT, FORWARD ABUTMENT, PIER 1, AND PIER 2.
7. PERFORM BOLTED SPLICE RETROFITS AT BEAM TOP FLANGE MOMENT PLATES.
8. JACK THE EXISTING STEEL SUPERSTRUCTURE FRAMING (B1-B7), MODIFY BEAM ENDS, AND INSTALL NEW BEARINGS.
9. CONSTRUCT PHASE 2 OF THE DECK, ABUTMENT DIAPHRAGMS, SCUPPERS, RAILINGS, AND APPROACH SLABS.

PHASE 3

1. PLACE PHASE 3 PORTABLE BARRIERS AND DIRECT TRAFFIC AS SHOWN IN MOT PLANS.
2. REMOVE PHASE 3 OF THE EXISTING DECK, END CROSS-FRAMES, SCUPPERS, RAILINGS, LIGHT POLE, AND APPROACH SLABS.
3. REMOVE PHASE 3 OF THE REAR AND FORWARD ABUTMENT BACKWALLS.
4. PERFORM BOLTED SPLICE RETROFITS AT BEAM TOP FLANGE MOMENT PLATES.
5. JACK THE EXISTING STEEL SUPERSTRUCTURE FRAMING (B8 - B14), MODIFY BEAM ENDS, AND INSTALL NEW BEARINGS.
6. CONSTRUCT PHASE 3 OF THE DECK, ABUTMENT DIAPHRAGMS, SCUPPERS, RAILINGS, AND APPROACH SLABS.
7. REMOVE TEMPORARY WALLS 1 AND 2 AT BOTH ABUTMENTS.

LEGEND:

INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

NOTES:

1. FOR PHASE 3 REMOVAL AND PHASE 3 CONSTRUCTION, SEE SHEET 7 OF 44.
2. FOR LEFT BRIDGE TRANSVERSE SECTION, SEE SHEET 30 OF 44 .
3. SEE EXISTING PLANS FOR ADDITIONAL BRIDGE DETAILS NOT SHOWN.
4. FOR ADDITIONAL MOT DETAILS AND PAY ITEMS, SEE MAINTENANCE OF TRAFFIC PLANS.
5. SEE ITEM 202 - REMOVAL MISC.: PORTION OF STRUCTURE REMOVED, BULB ANGLE, AS PER PLAN NOTE ON SHEET 3 OF 44 FOR ADDITIONAL BULB ANGLE REMOVAL DETAILS.

PHASE CONSTRUCTION DETAILS - 1
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN	3103870
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE., E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	RSB
CHECKER	ZTW
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	6
TOTAL	44
SHEET	P.170
TOTAL	208

HAM-US 50-29.00

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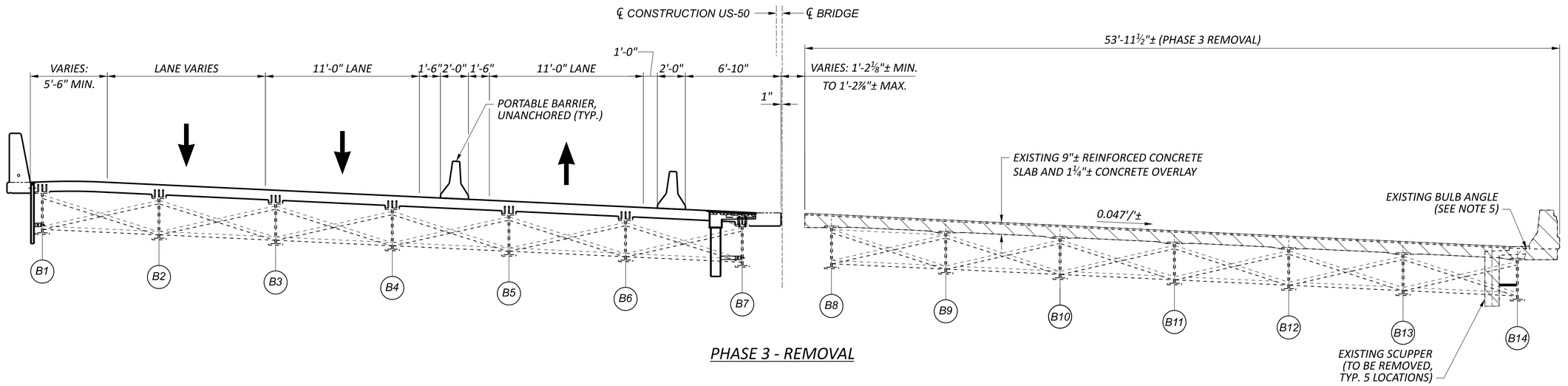
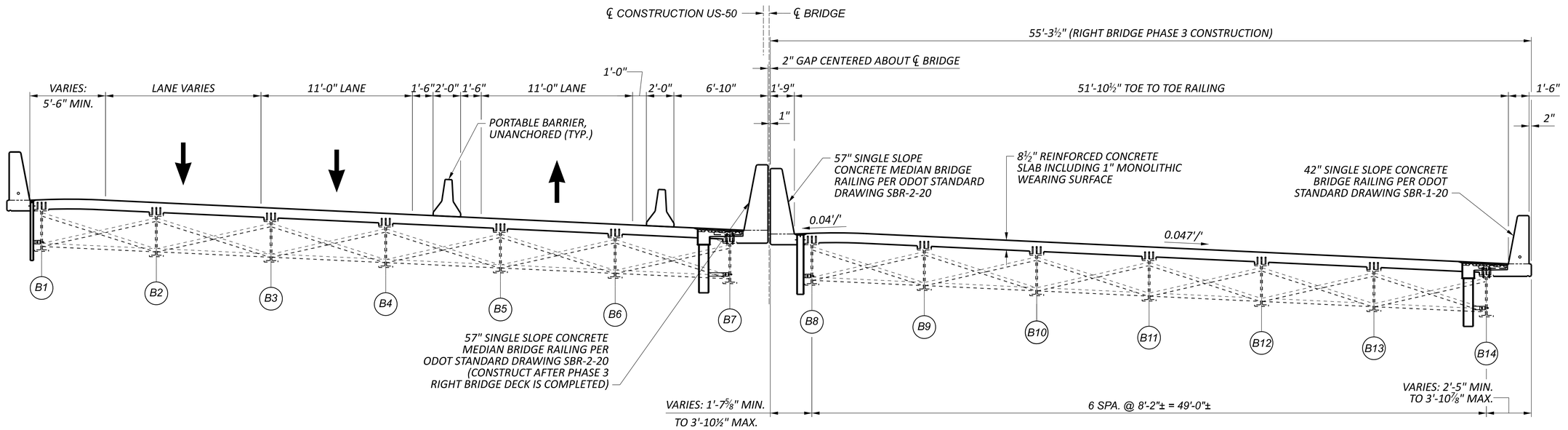


PHASE 3 - REMOVAL



PHASE 3 - CONSTRUCTION

LEGEND:

INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

NOTES:

1. FOR PHASE 2 REMOVAL AND PHASE 2 CONSTRUCTION, SEE SHEET 6 OF 44.
2. FOR RIGHT BRIDGE TRANSVERSE SECTION, SEE SHEET 31 OF 44.
3. SEE EXISTING PLANS FOR ADDITIONAL BRIDGE DETAILS NOT SHOWN.
4. FOR ADDITIONAL MOT DETAILS AND PAY ITEMS, SEE MAINTENANCE OF TRAFFIC PLANS.
5. SEE ITEM 202 - REMOVAL MISC.: PORTION OF STRUCTURE REMOVED, BULB ANGLE, AS PER PLAN NOTE ON SHEET 3 OF 44 FOR ADDITIONAL BULB ANGLE REMOVAL DETAILS.

PHASE CONSTRUCTION DETAILS - 2
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
RSB	ZTW

REVIEWER NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
7	44

SHEET	TOTAL
P.171	208

HAM-US 50-29.00

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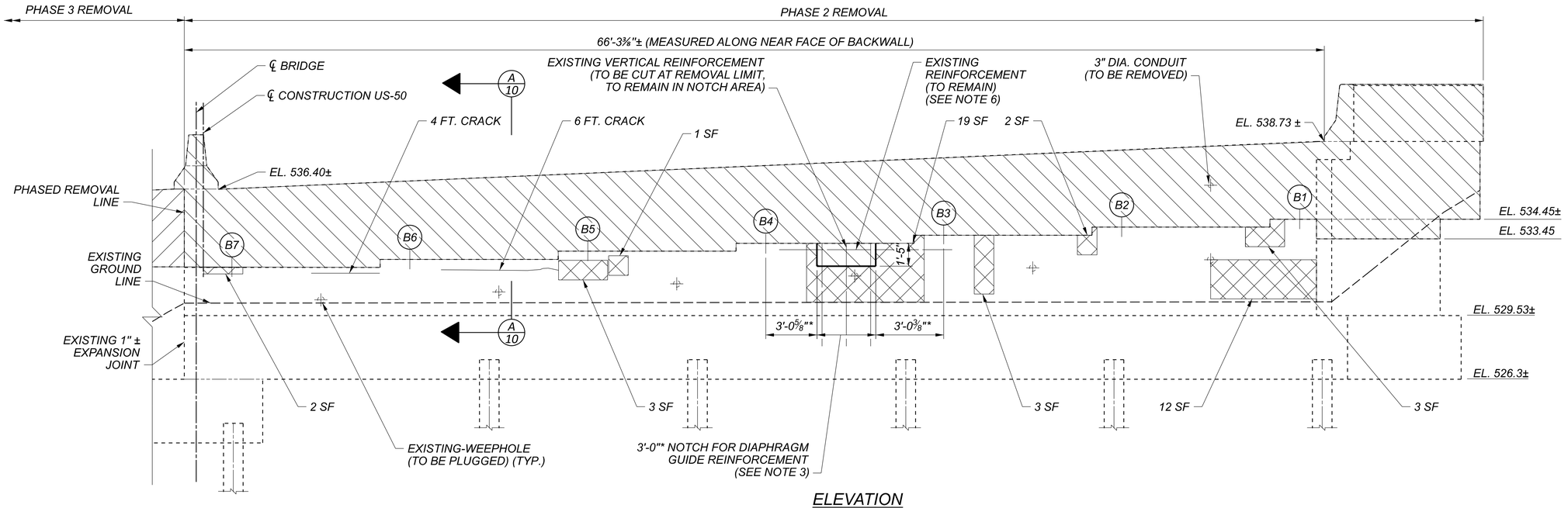
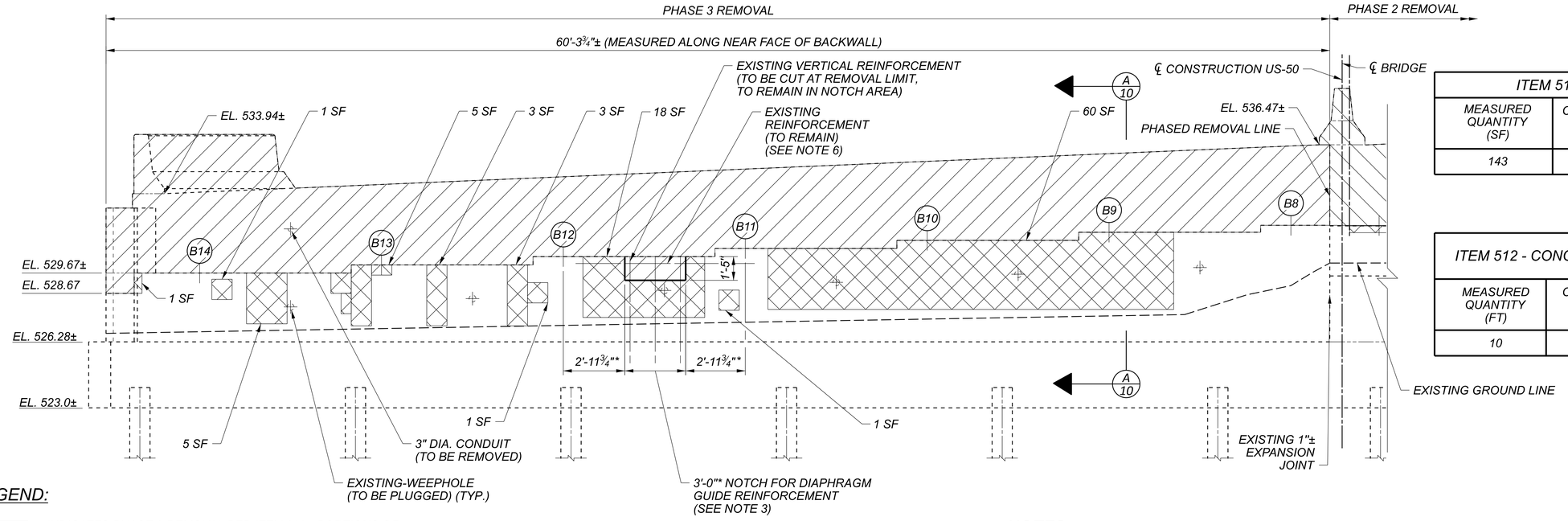


ELEVATION



ELEVATION

ITEM 519 REPAIR AREAS		
MEASURED QUANTITY (SF)	CONTINGENT QUANTITY (SF)	TOTAL QUANTITY (SF)
143	72	215

ITEM 512 - CONCRETE REPAIR LENGTHS		
MEASURED QUANTITY (FT)	CONTINGENT QUANTITY (FT)	TOTAL QUANTITY (FT)
10	5	15

LEGEND:

- INDICATES PHASE 2 REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
- INDICATES PHASE 3 REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
- INDICATES AREAS TO BE PATCHED PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN
- INDICATES CRACKS TO BE REPAIRED PER ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION
- * INDICATES MEASURED ALONG ℄ BEARING

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION PERFORMED IN SEPTEMBER 2021. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED SHALL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE TOTAL CONCRETE PATCHING AND CRACK REPAIR AREAS INDICATED ON THE DETAILS HAVE BEEN INCREASED TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.
3. FOR ADDITIONAL DIAPHRAGM GUIDE DETAILS, SEE SHEETS 12 AND 16 OF 44.
4. ALL EXISTING BRIDGE ELEVATIONS HAVE BEEN ADJUSTED TO THE CURRENT PROJECT SURVEY ELEVATIONS AND ARE APPROXIMATELY 0.71 FEET LOWER THAN THE ELEVATIONS IN THE ORIGINAL PLANS.
5. SEE EXISTING PLANS FOR ADDITIONAL BRIDGE DETAILS NOT SHOWN.
6. A MAXIMUM 2 INCH LENGTH MAY BE REMOVED FROM EXISTING REINFORCEMENT TO ALLOW PLACEMENT OF DIAPHRAGM GUIDE STIRRUPS. CUT IN EXISTING REINFORCEMENT SHALL BE LOCATED AT CENTER OF NOTCH AREA.

REAR ABUTMENT REMOVAL & PATCHING DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN	3103870
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	RSB
CHECKER	TOR
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	8
TOTAL	44
SHEET	P.172
TOTAL	208

HAM-US 50-29.00

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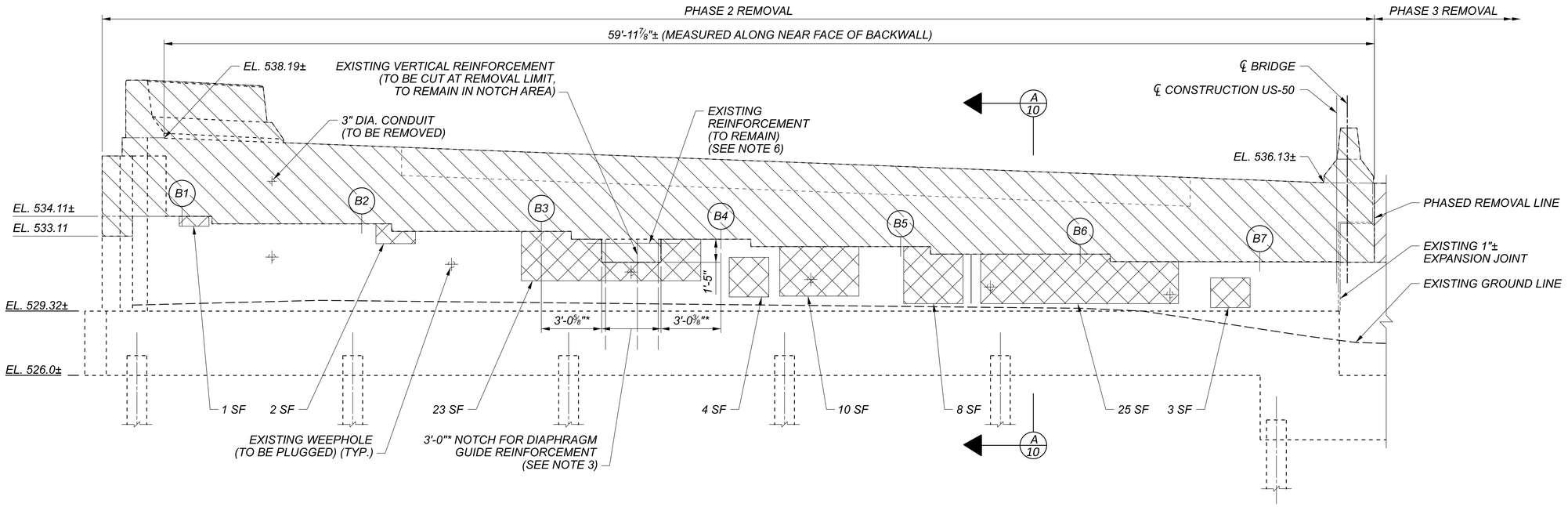
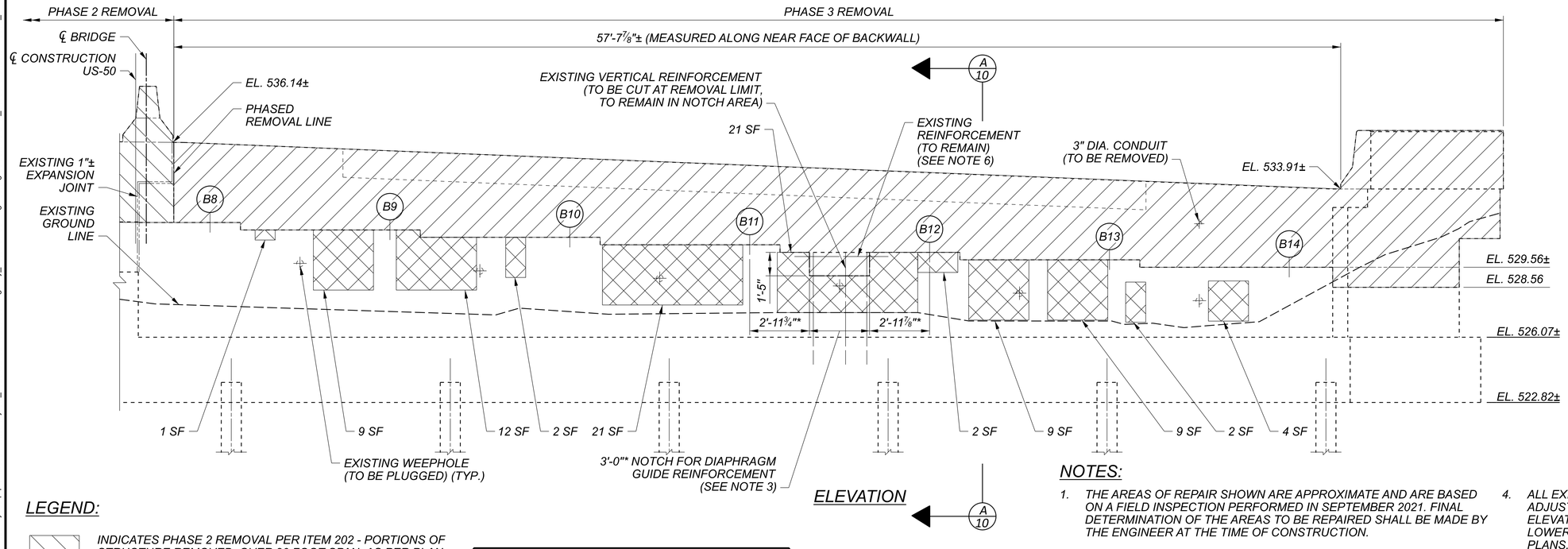


ELEVATION



ELEVATION

LEGEND:

- INDICATES PHASE 2 REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
- INDICATES PHASE 3 REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
- INDICATES AREAS TO BE PATCHED PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN
- * INDICATES MEASURED ALONG ℄ BEARING

ITEM 519 REPAIR AREAS		
MEASURED QUANTITY (SF)	CONTINGENT QUANTITY (SF)	TOTAL QUANTITY (SF)
168	84	252

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION PERFORMED IN SEPTEMBER 2021. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED SHALL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE TOTAL CONCRETE PATCHING AND CRACK REPAIR AREAS INDICATED ON THE DETAILS HAVE BEEN INCREASED TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.
3. FOR ADDITIONAL DIAPHRAGM GUIDE DETAILS, SEE SHEETS 14 AND 16 OF 44 .
4. ALL EXISTING BRIDGE ELEVATIONS HAVE BEEN ADJUSTED TO THE CURRENT PROJECT SURVEY ELEVATIONS AND ARE APPROXIMATELY 0.71 FEET LOWER THAN THE ELEVATIONS IN THE ORIGINAL PLANS.
5. SEE EXISTING PLANS FOR ADDITIONAL BRIDGE DETAILS NOT SHOWN.
6. A MAXIMUM 2 INCH LENGTH MAY BE REMOVED FROM EXISTING REINFORCEMENT TO ALLOW PLACEMENT OF DIAPHRAGM GUIDE STIRRUPS. CUT IN EXISTING REINFORCEMENT SHALL BE LOCATED AT CENTER OF NOTCH AREA.

FORWARD ABUTMENT REMOVAL & PATCHING DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN	3103870
DESIGN AGENCY	TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER	RSB
CHECKER	TOR
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	9
TOTAL	44
SHEET	P.173
TOTAL	208

HAM-US 50-29.00

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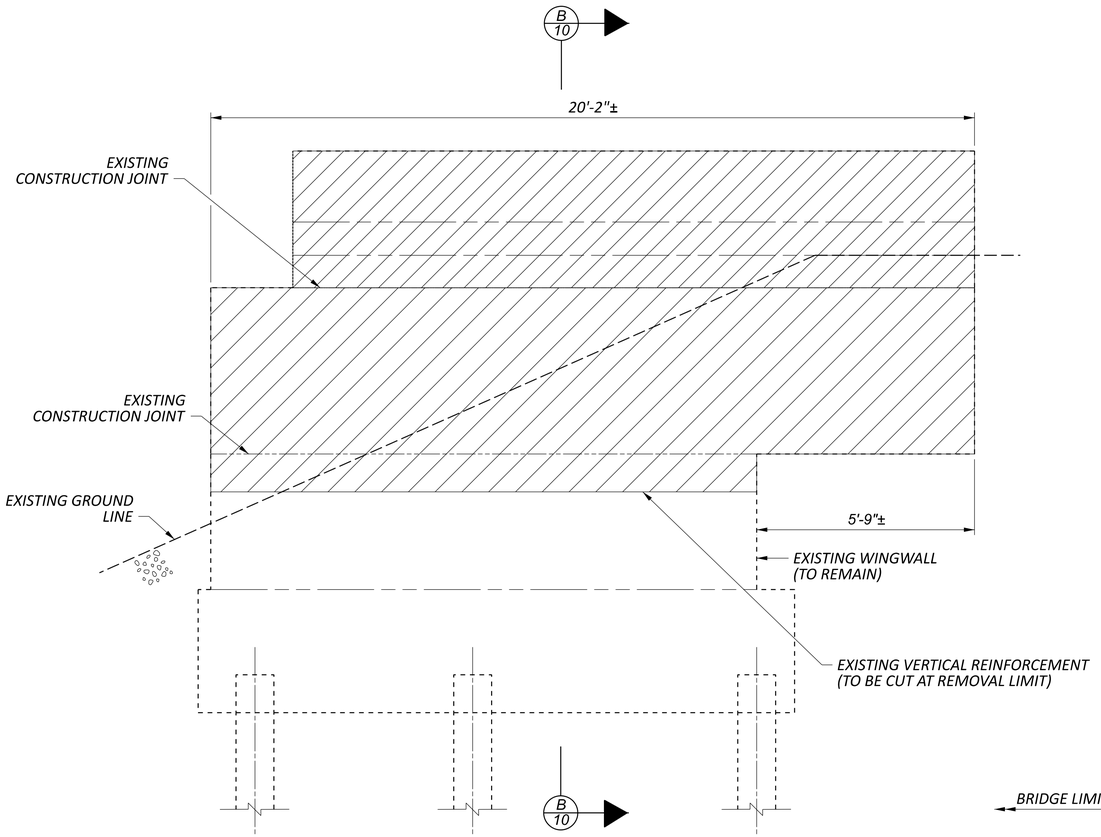
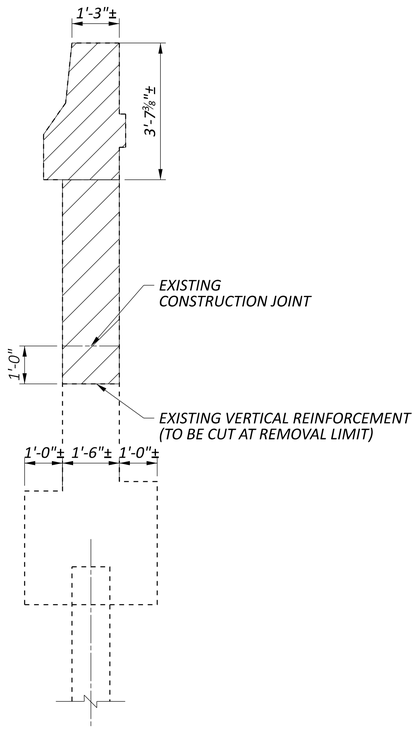
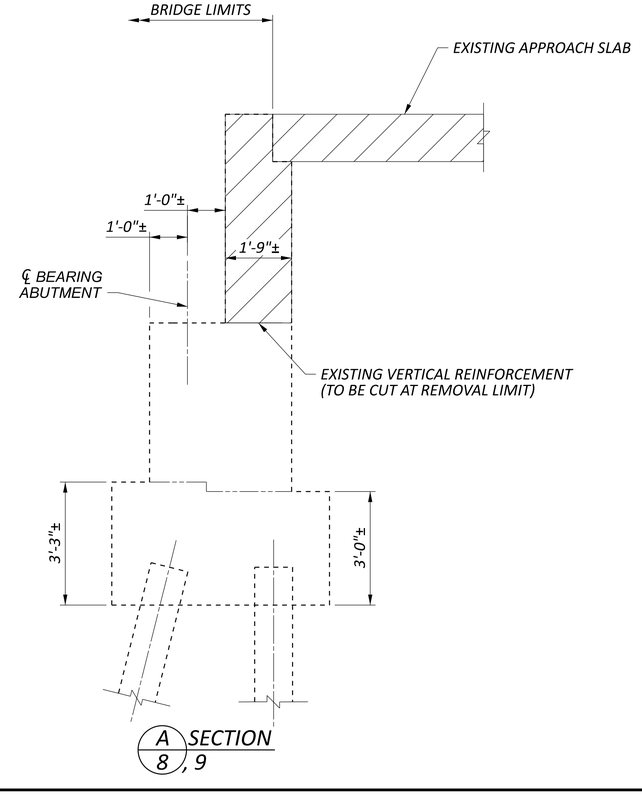


TYPICAL WINGWALL ELEVATION

(LEFT WINGWALL TO BE PARTIALLY REMOVED IN PHASE 2,
RIGHT WINGWALL TO BE PARTIALLY REMOVED IN PHASE 3)



B / 10 SECTION



A / 8, 9 SECTION

LEGEND:

INDICATES REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

ABUTMENT AND WINGWALL REMOVAL DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
RSB	TOR

REVIEWER: NFF 08/22/23

PROJECT ID: 110570

SUBSET	TOTAL
10	44

SHEET	TOTAL
P.174	208

HAM-US 50-29.00

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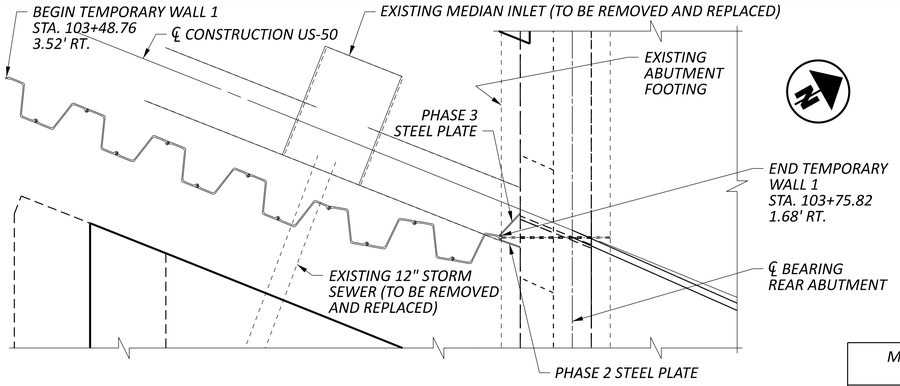
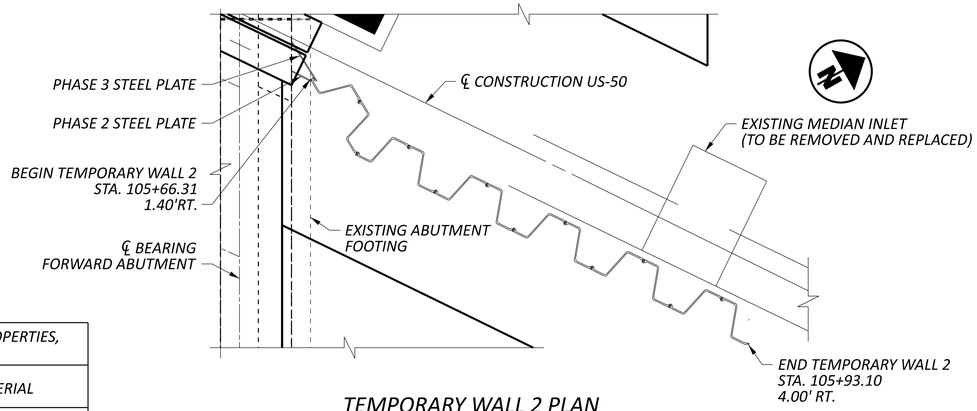
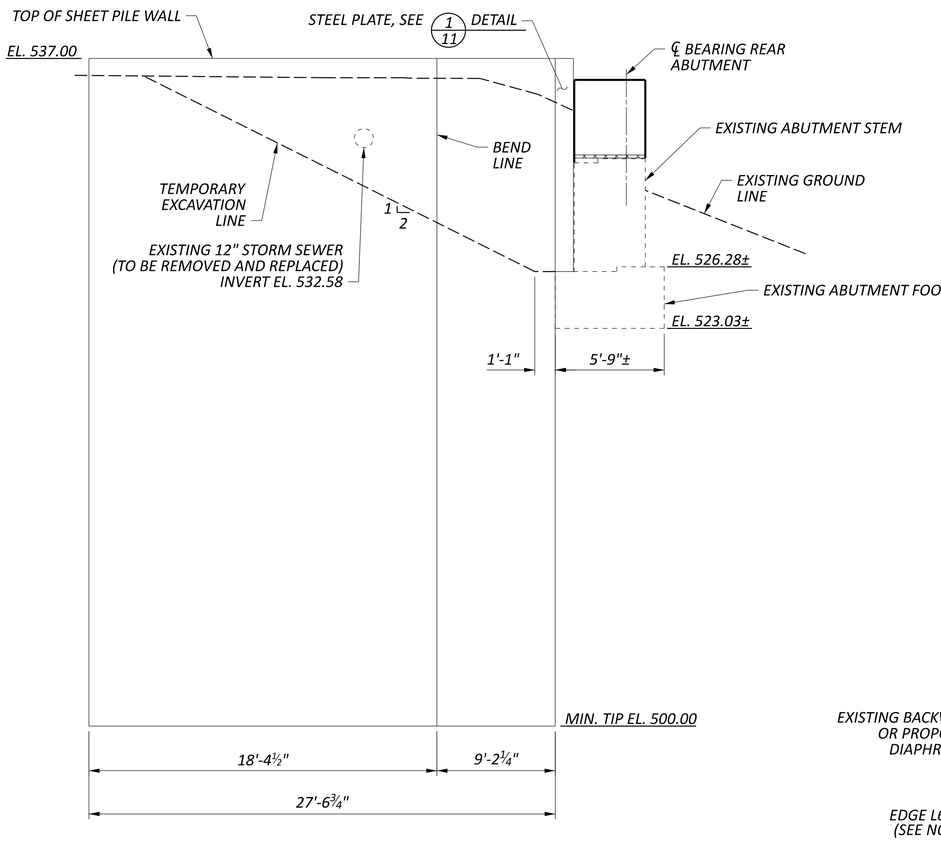


TEMPORARY WALL 1 PLAN

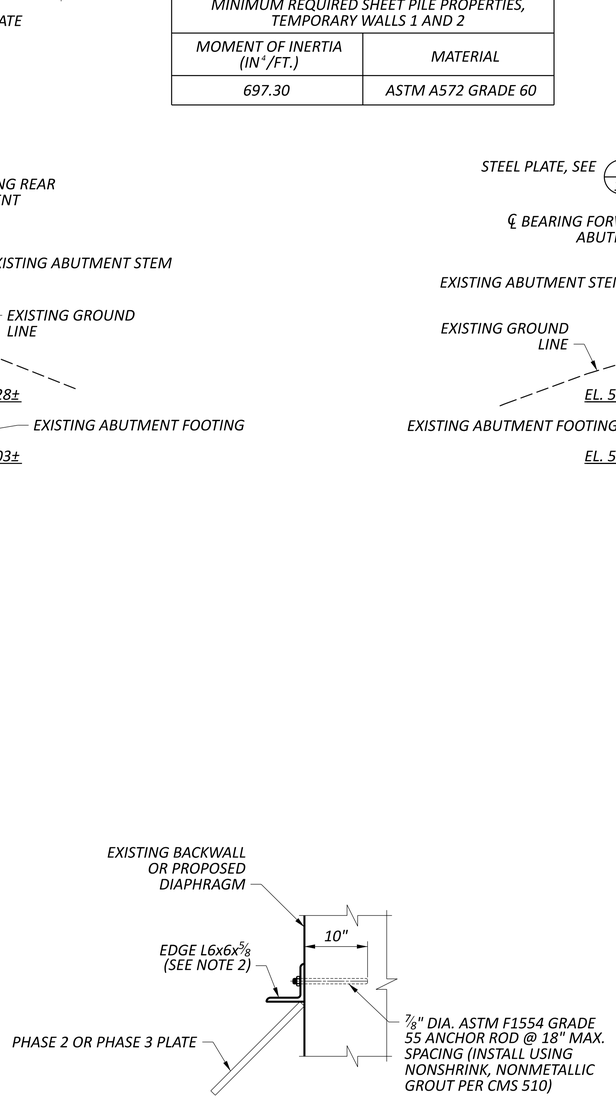
MINIMUM REQUIRED SHEET PILE PROPERTIES, TEMPORARY WALLS 1 AND 2	
MOMENT OF INERTIA (IN^4/FT.)	MATERIAL
697.30	ASTM A572 GRADE 60



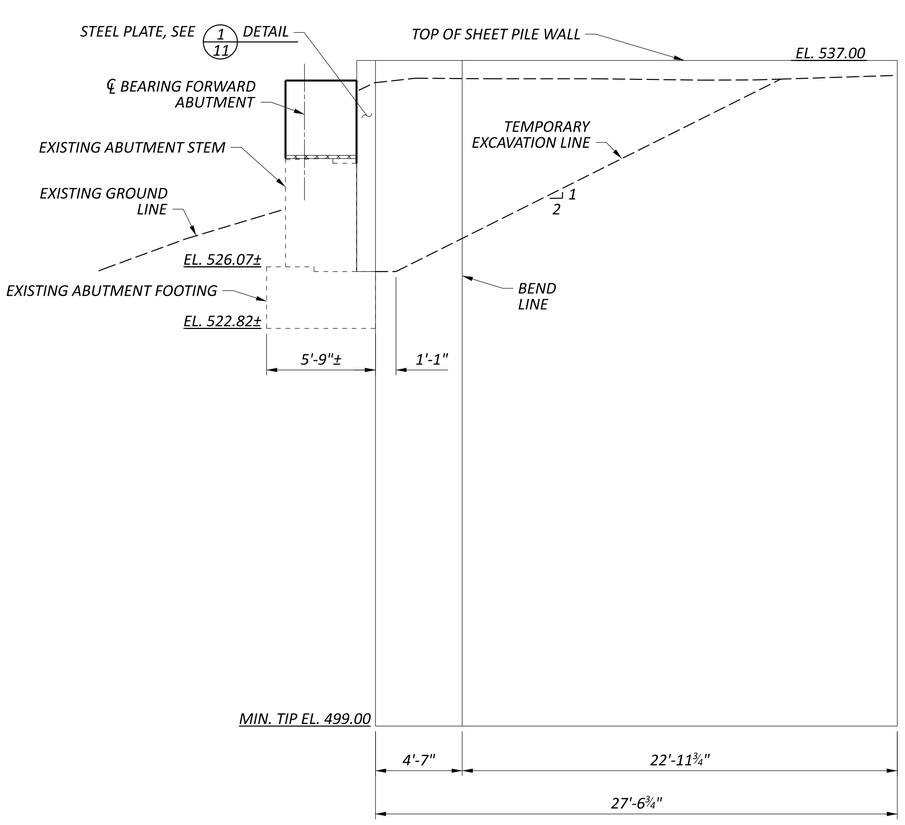
TEMPORARY WALL 2 PLAN



TEMPORARY WALL 1 ELEVATION
(LOOKING NORTH)



1/11 DETAIL
(PHASE 2 SHOWN, PHASE 3 SIMILAR)



TEMPORARY WALL 2 ELEVATION
(LOOKING NORTH)

NOTES:

1. ALL STATIONS AND OFFSETS ARE ALONG THE FAR FACE OF THE SHEET PILING FOR TEMPORARY WALL 1, AND ALONG THE NEAR FACE OF THE SHEET PILING FOR TEMPORARY WALL 2.
2. POSITION EDGE ANGLES SNUGLY AGAINST STEEL PLATE AND WEDGE AS NECESSARY TO ENSURE FULL CONTACT WITH STEEL PLATE. ANCHOR EACH ANGLE WITH 7/8" DIAMETER ANCHOR RODS WITH 10" MINIMUM EMBEDMENT INTO CONCRETE PER CMS 510. NONSHRINK, NONMETALLIC GROUT SHALL CONFORM TO CMS 705.20. PAYMENT SHALL BE INCLUDED WITH ITEM 503.

TEMPORARY WALL 1 AND WALL 2 DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
JPD	TOR

REVIEWER: NFF 08/22/23

PROJECT ID: 110570

SUBSET	TOTAL
11	44

SHEET	TOTAL
P.175	208

HAM-US 50-29.00

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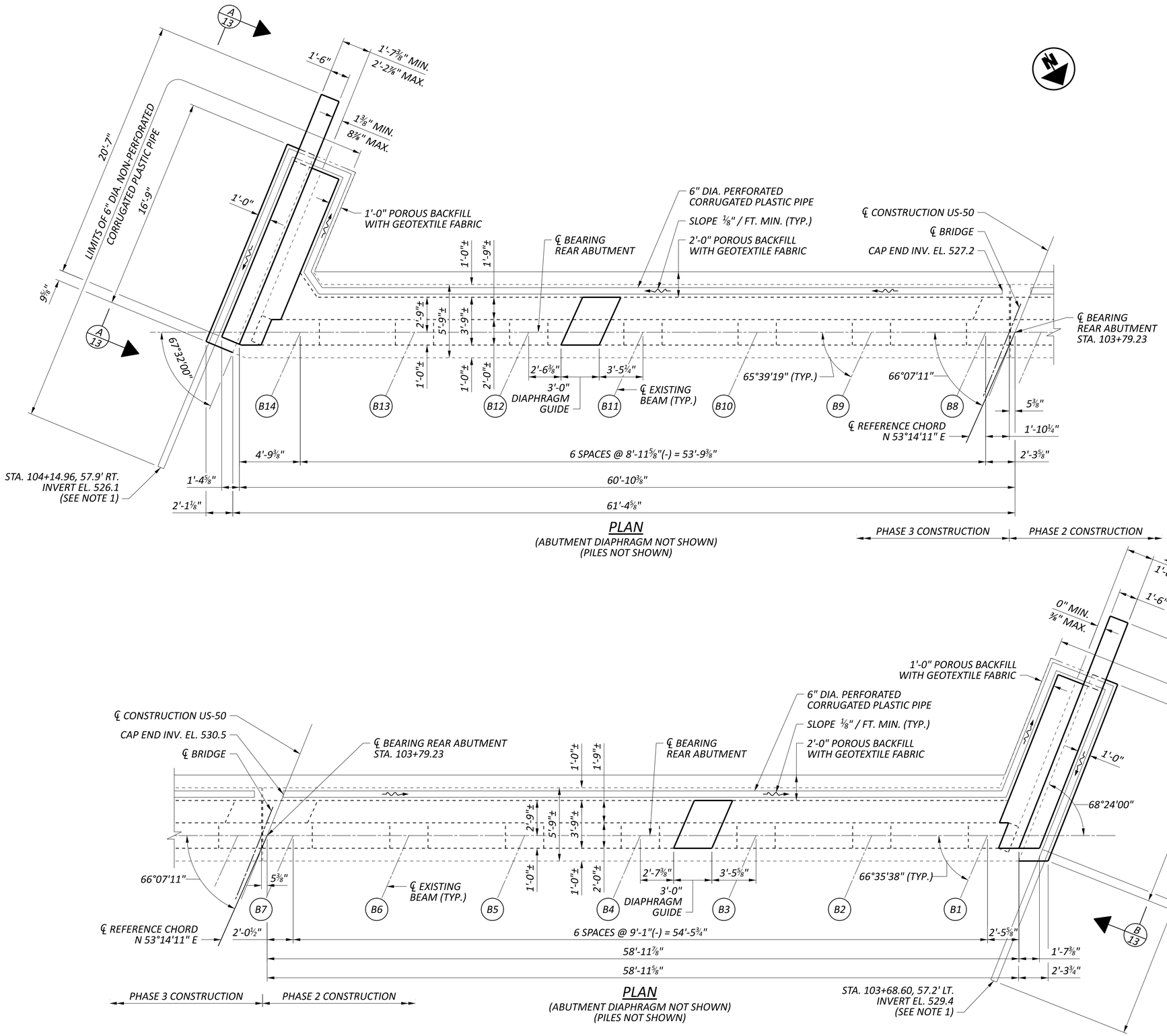
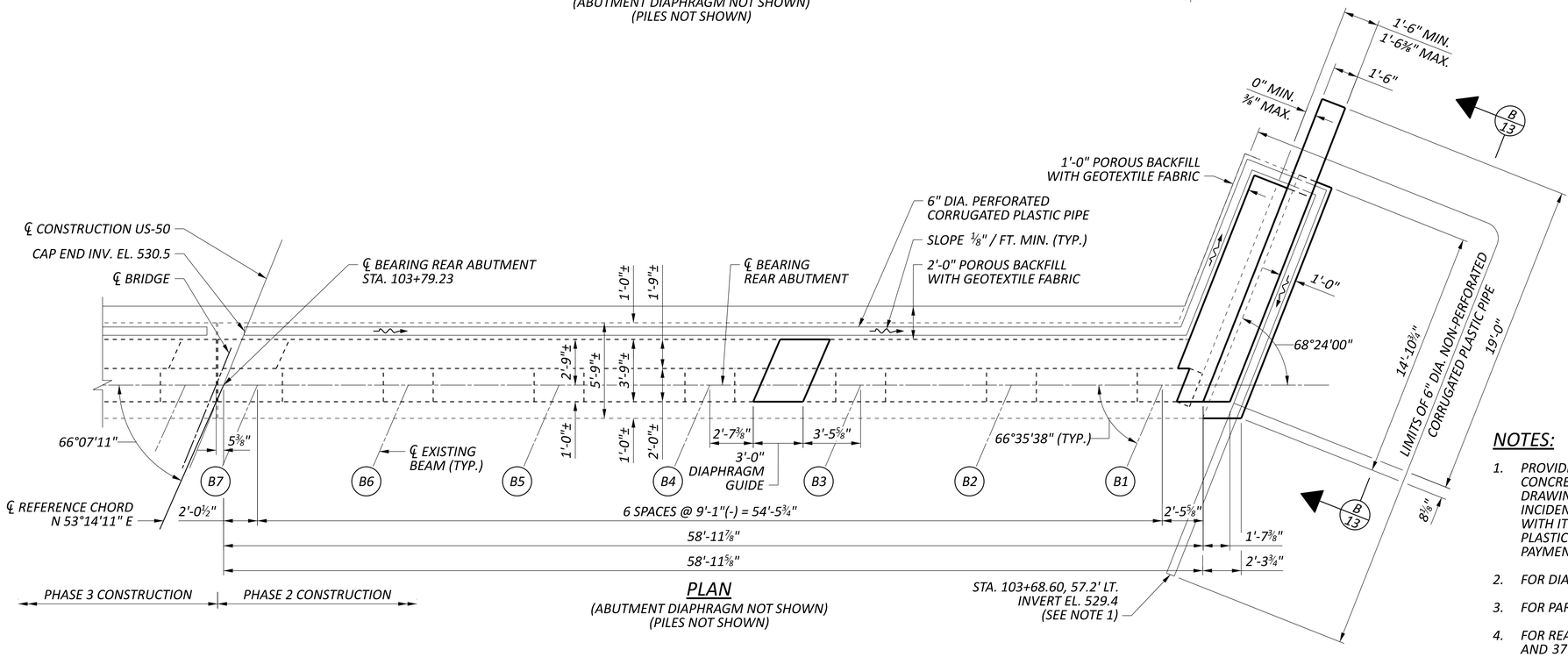


PLAN
(ABUTMENT DIAPHRAGM NOT SHOWN)
(PILES NOT SHOWN)



PLAN
(ABUTMENT DIAPHRAGM NOT SHOWN)
(PILES NOT SHOWN)

NOTES:

1. PROVIDE PRECAST CONCRETE OUTLET WITH TYPE 1 TIED CONCRETE BLOCK MAT AS SHOWN IN ODOT STANDARD DRAWING DM-1.1. ALL LABOR, MATERIAL, AND INCIDENTALS REQUIRED TO PLACE SHALL BE INCLUDED WITH ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN FOR PAYMENT.
2. FOR DIAPHRAGM GUIDE DETAILS, SEE SHEET 16 OF 44.
3. FOR PARTIAL FOOTING PLAN, SEE SHEET 13 OF 44.
4. FOR REAR ABUTMENT DIAPHRAGM DETAILS, SEE SHEETS 35 AND 37 OF 44.

REAR ABUTMENT PLAN
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN	3103870
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	ZTW
CHECKER	JPD
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	12
TOTAL	44
SHEET	P.176
TOTAL	208

HAM-US 50-29.00

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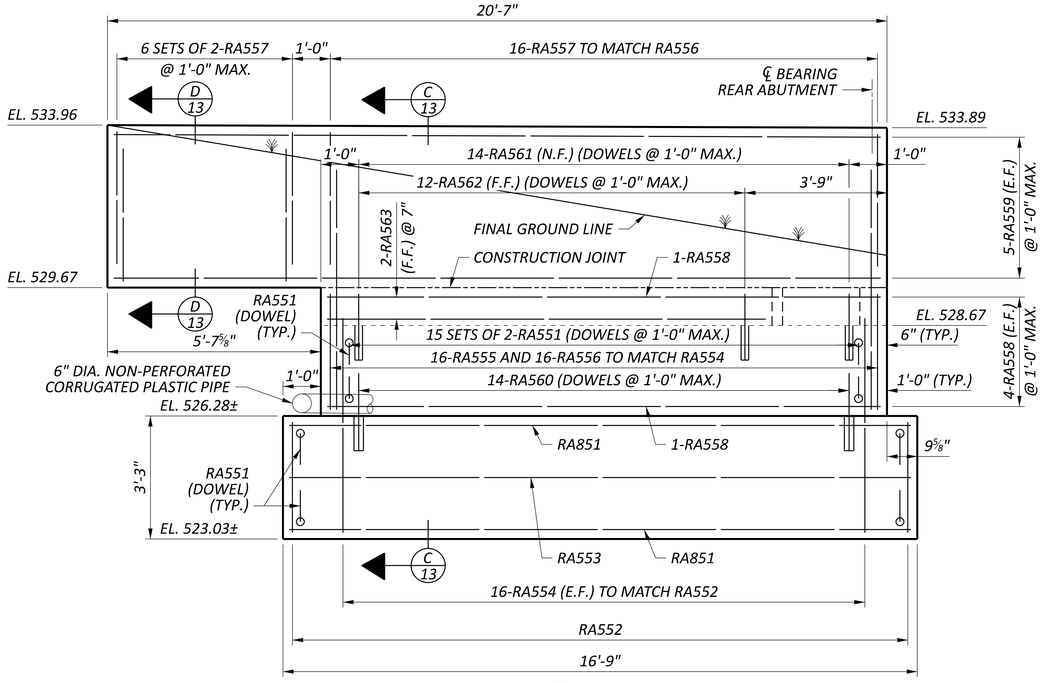
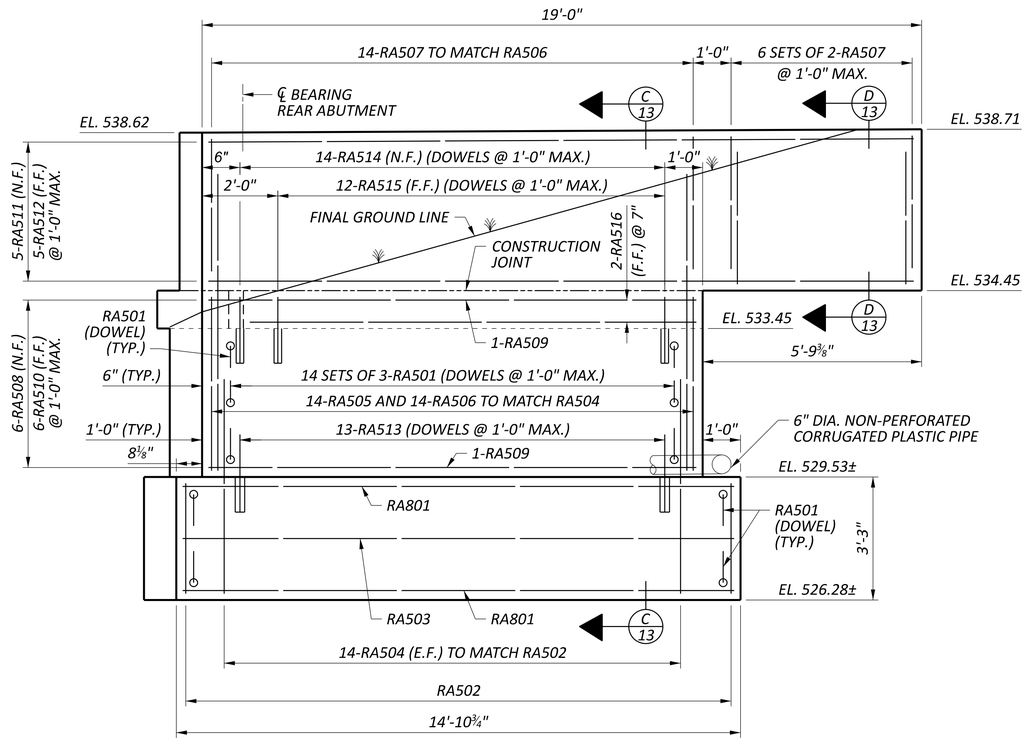
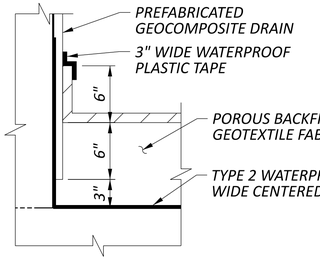


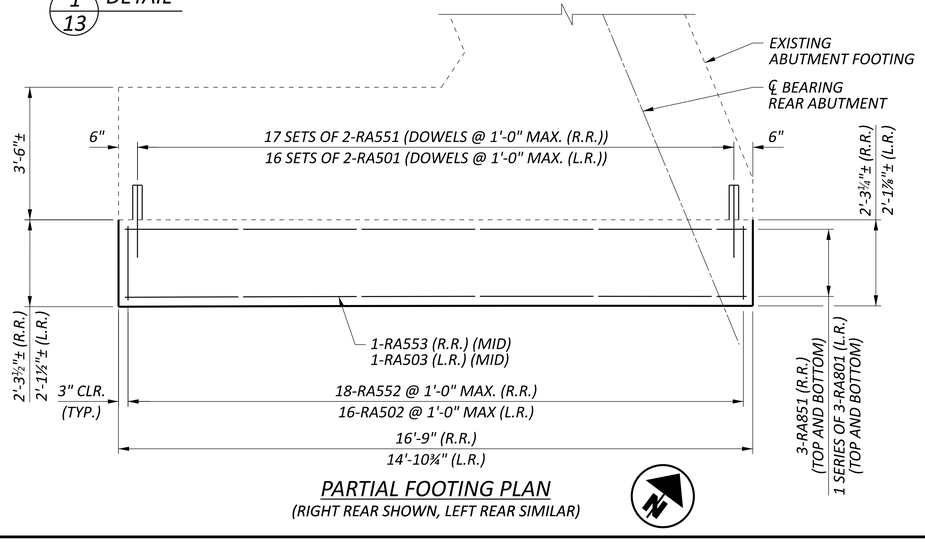
A 12 VIEW (PILES NOT SHOWN)



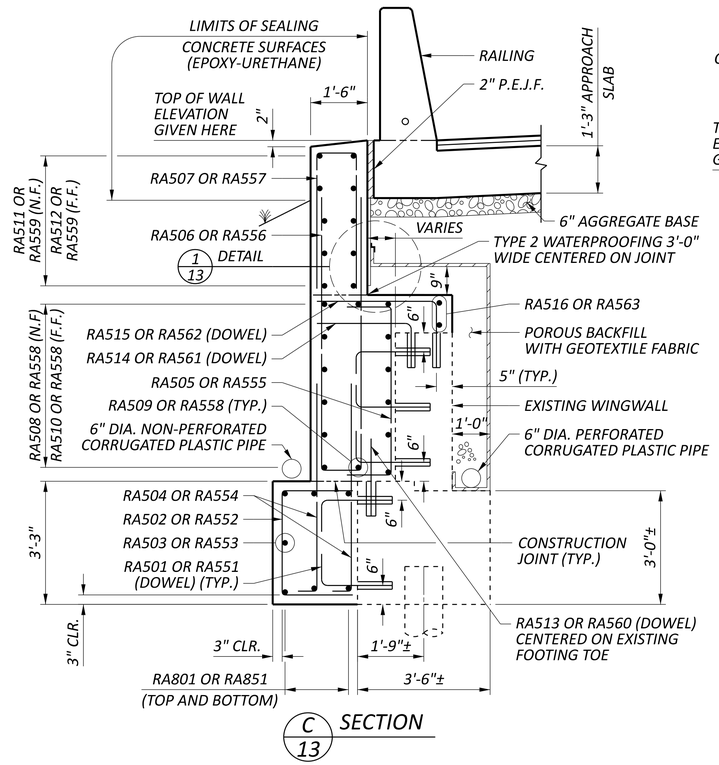
B 12 VIEW (PILES NOT SHOWN)



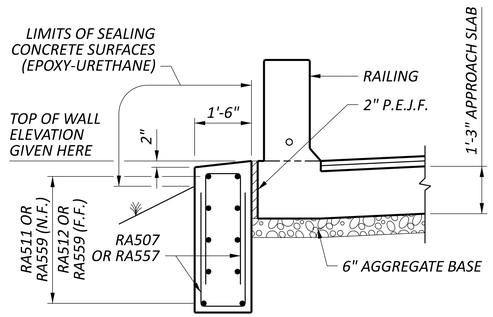
1 13 DETAIL



PARTIAL FOOTING PLAN
(RIGHT REAR SHOWN, LEFT REAR SIMILAR)



C 13 SECTION



D 13 SECTION

LAP LENGTH TABLE	
BAR	REQUIRED LAP LENGTH
NO. 5 VERTICAL	2'-5" MIN.

LEGEND:

L.R.	LEFT REAR
R.R.	RIGHT REAR
N.F.	NEAR FACE
F.F.	FAR FACE
E.F.	EACH FACE

NOTES:

1. ALL DOWELS SHALL BE INSTALLED PER CMS 510 AND SET WITH A NONSHRINK, NONMETALLIC GROUT THAT SATISFIES ACI 355.4 REQUIREMENTS. DOWEL HOLE MAY BE REPOSITIONED 1" AS REQUIRED TO CLEAR EXISTING REINFORCING.

   REINFORCING DOWEL LENGTHS ARE BASED ON THE FOLLOWING MINIMUM EMBEDMENT DEPTHS:

   NO. 5 BAR = 6"

REAR ABUTMENT WINGWALL DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN	3103870
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE., E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	ZTW
CHECKER	JPD
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	13
TOTAL	44
SHEET	P.177
TOTAL	208

HAM-US 50-29.00

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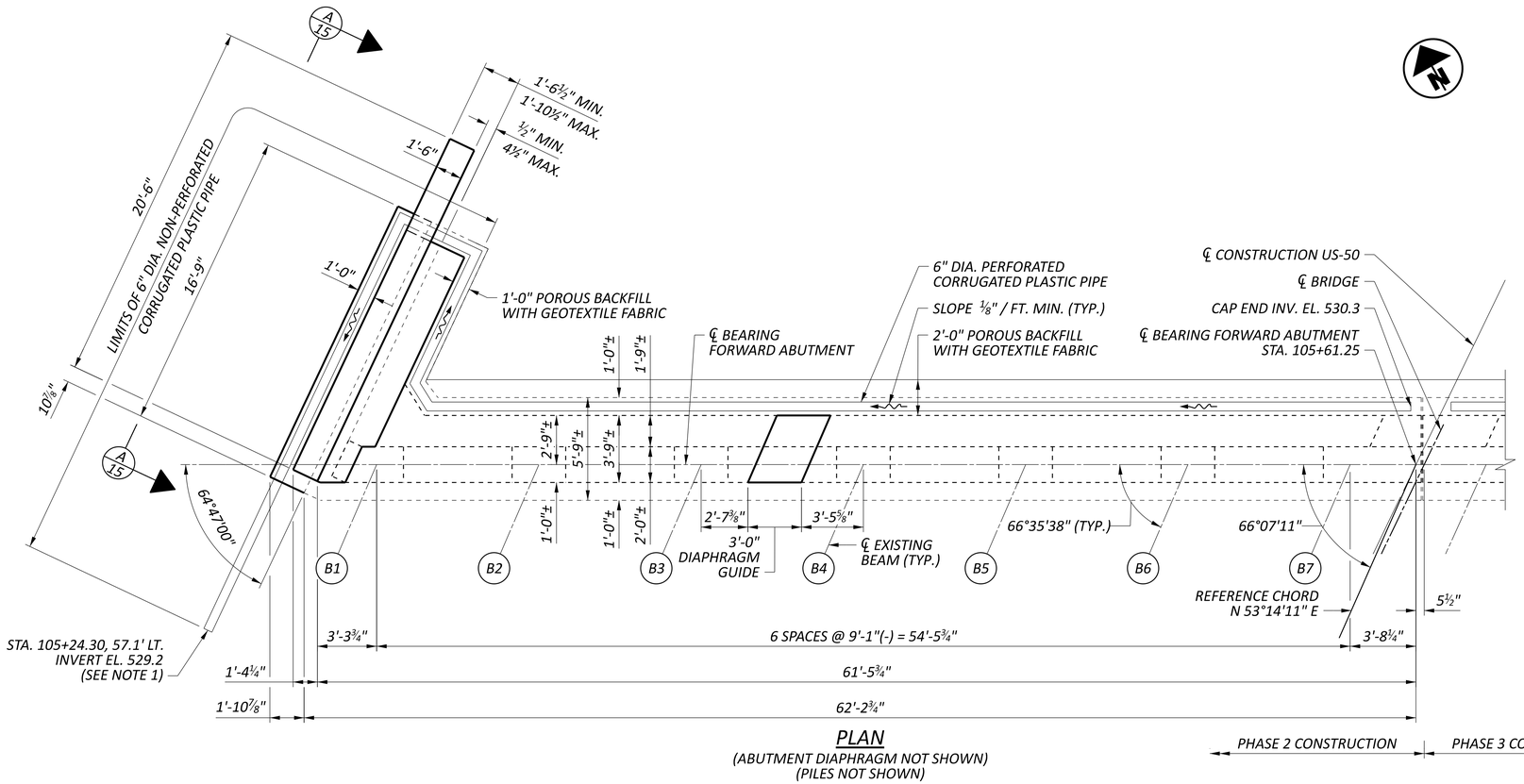
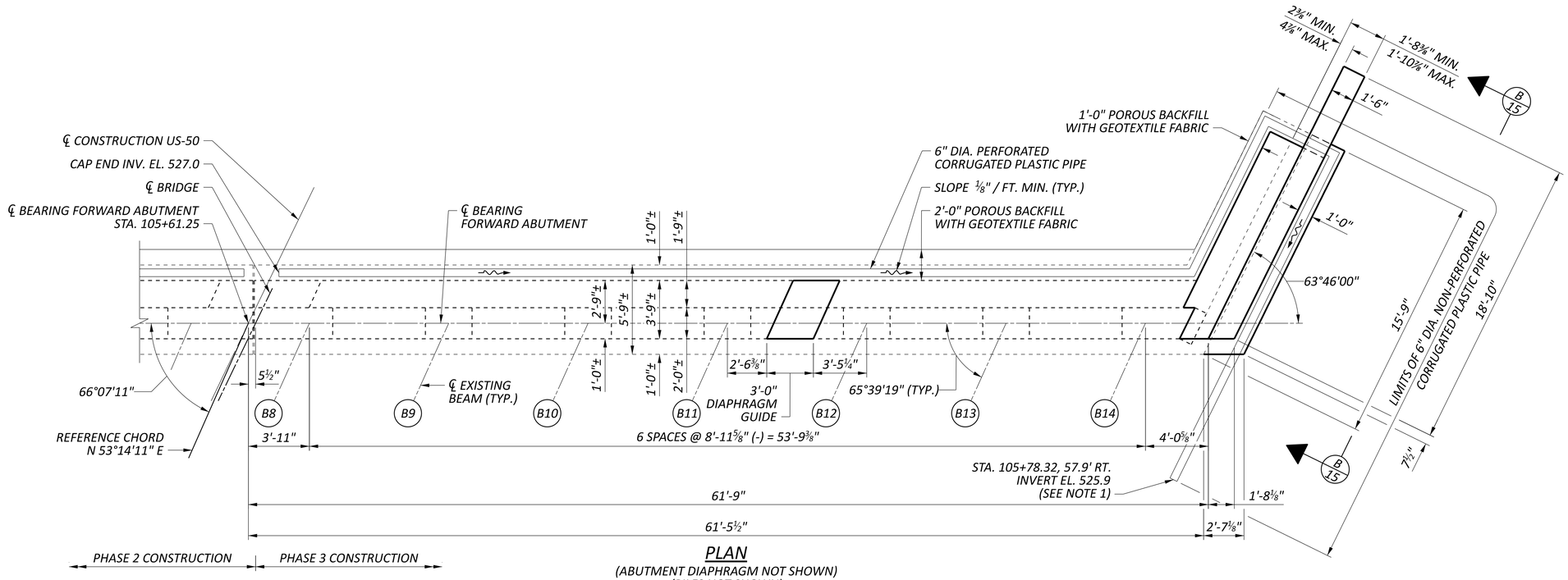


PLAN
(ABUTMENT DIAPHRAGM NOT SHOWN)
(PILES NOT SHOWN)



PLAN
(ABUTMENT DIAPHRAGM NOT SHOWN)
(PILES NOT SHOWN)

NOTES:

1. PROVIDE PRECAST CONCRETE OUTLET WITH TYPE 1 TIED CONCRETE BLOCK MAT AS SHOWN IN ODOT STANDARD DRAWING DM-1.1. ALL LABOR, MATERIAL, AND INCIDENTALS REQUIRED TO PLACE SHALL BE INCLUDED WITH ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN FOR PAYMENT.
2. FOR DIAPHRAGM GUIDE DETAILS, SEE SHEET 16 OF 44.
3. FOR PARTIAL FOOTING PLAN, SEE SHEET 15 OF 44.
4. FOR FORWARD ABUTMENT DIAPHRAGM DETAILS, SEE SHEETS 36 AND 37 OF 44.

FORWARD ABUTMENT PLAN
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

HAM-US 50-29.00

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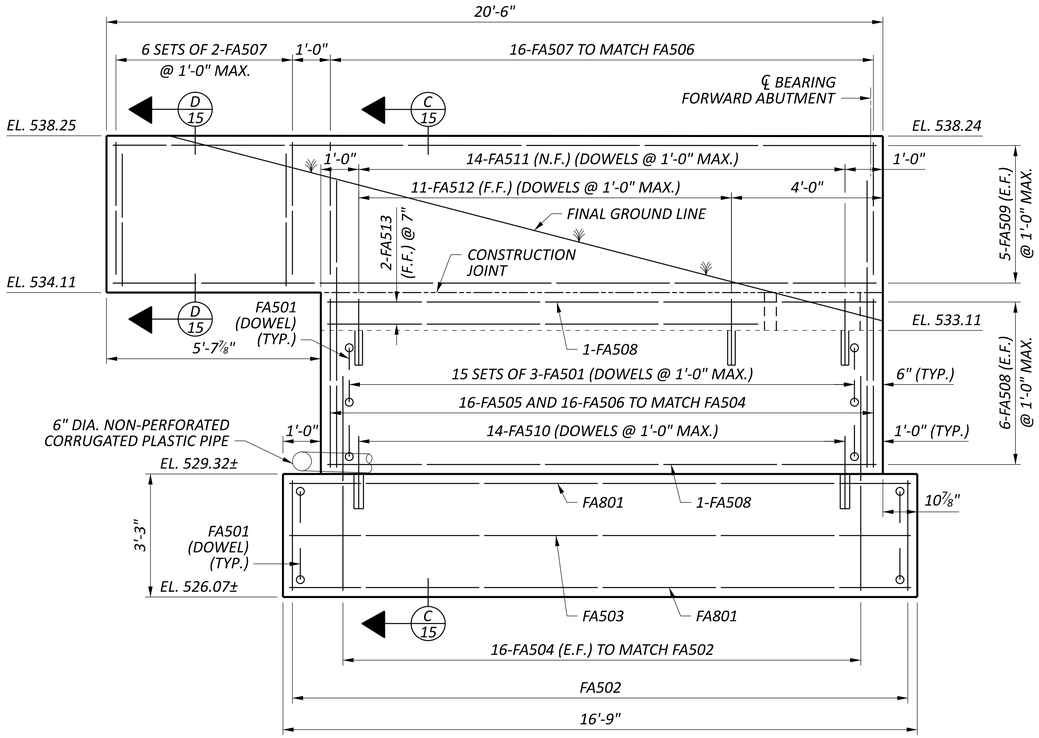
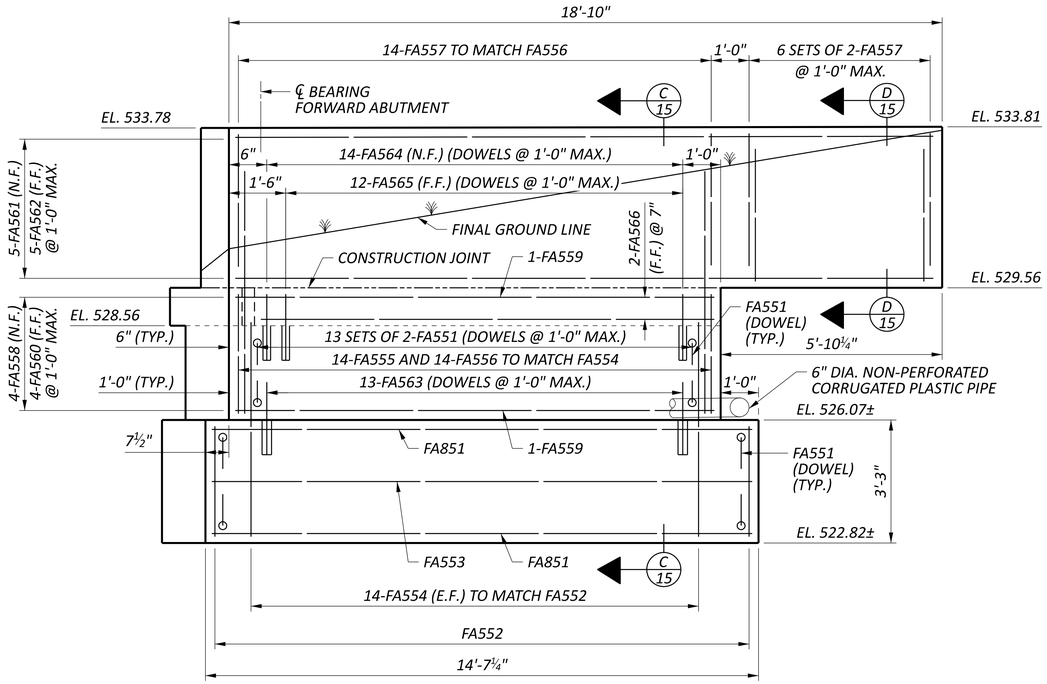
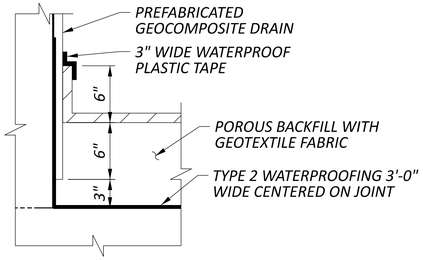
SFN	3103870
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	ZTW
CHECKER	JPD
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	14
TOTAL	44
SHEET	P.178
TOTAL	208



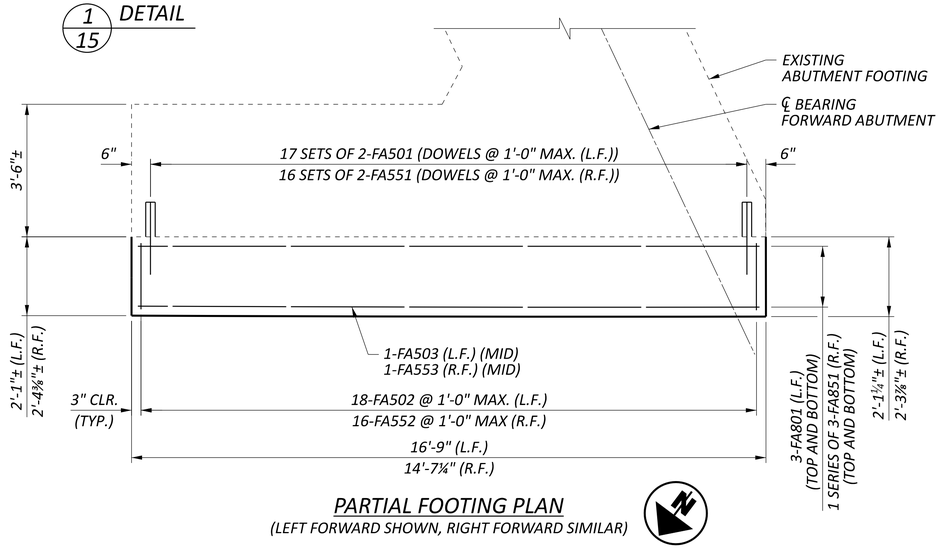
A 14 VIEW (PILES NOT SHOWN)



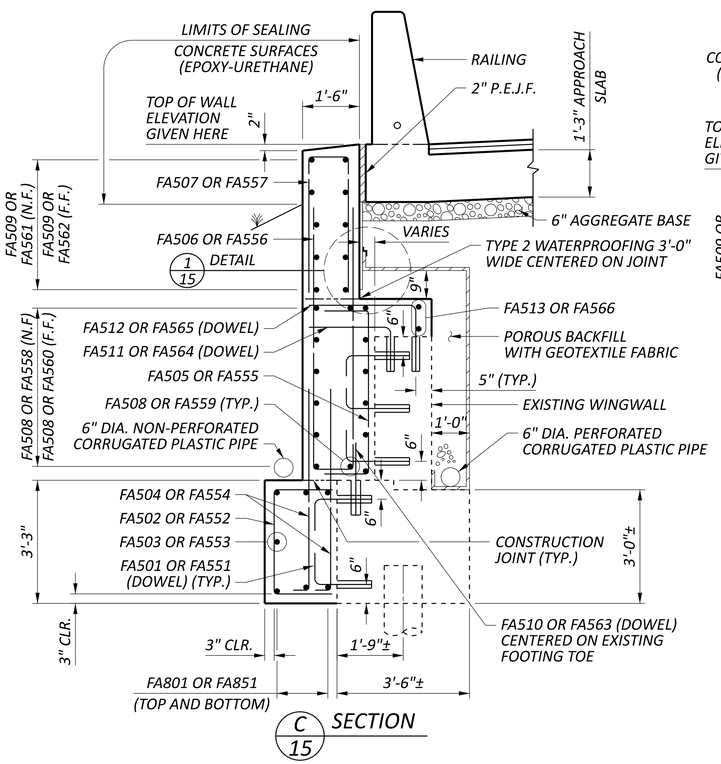
B 14 VIEW (PILES NOT SHOWN)



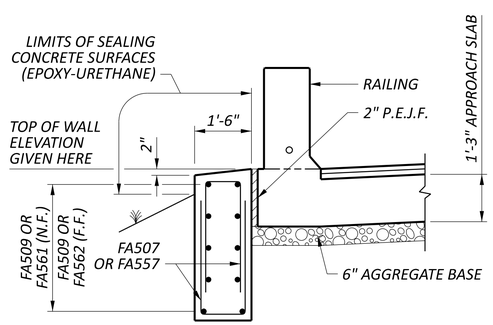
1 15 DETAIL



PARTIAL FOOTING PLAN
(LEFT FORWARD SHOWN, RIGHT FORWARD SIMILAR)



C 15 SECTION



D 15 SECTION

LAP LENGTH TABLE	
BAR	REQUIRED LAP LENGTH
NO. 5 VERTICAL	2'-5" MIN.

LEGEND:

L.R.	LEFT REAR
R.R.	RIGHT REAR
N.F.	NEAR FACE
F.F.	FAR FACE
E.F.	EACH FACE

NOTES:

1. ALL DOWELS SHALL BE INSTALLED PER CMS 510 AND SET WITH A NONSHRINK, NONMETALLIC GROUT THAT SATISFIES ACI 355.4 REQUIREMENTS. DOWEL HOLE MAY BE REPOSITIONED 1" AS REQUIRED TO CLEAR EXISTING REINFORCING.

   REINFORCING DOWEL LENGTHS ARE BASED ON THE FOLLOWING MINIMUM EMBEDMENT DEPTHS:

   NO. 5 BAR = 6"

FORWARD ABUTMENT WINGWALL DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E. STE 1000 CLEVELAND, OHIO 44114
DESIGNER ZTW | CHECKER JPD
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 15 | TOTAL 44
SHEET P.179 | TOTAL 208

HAM-US 50-29.00

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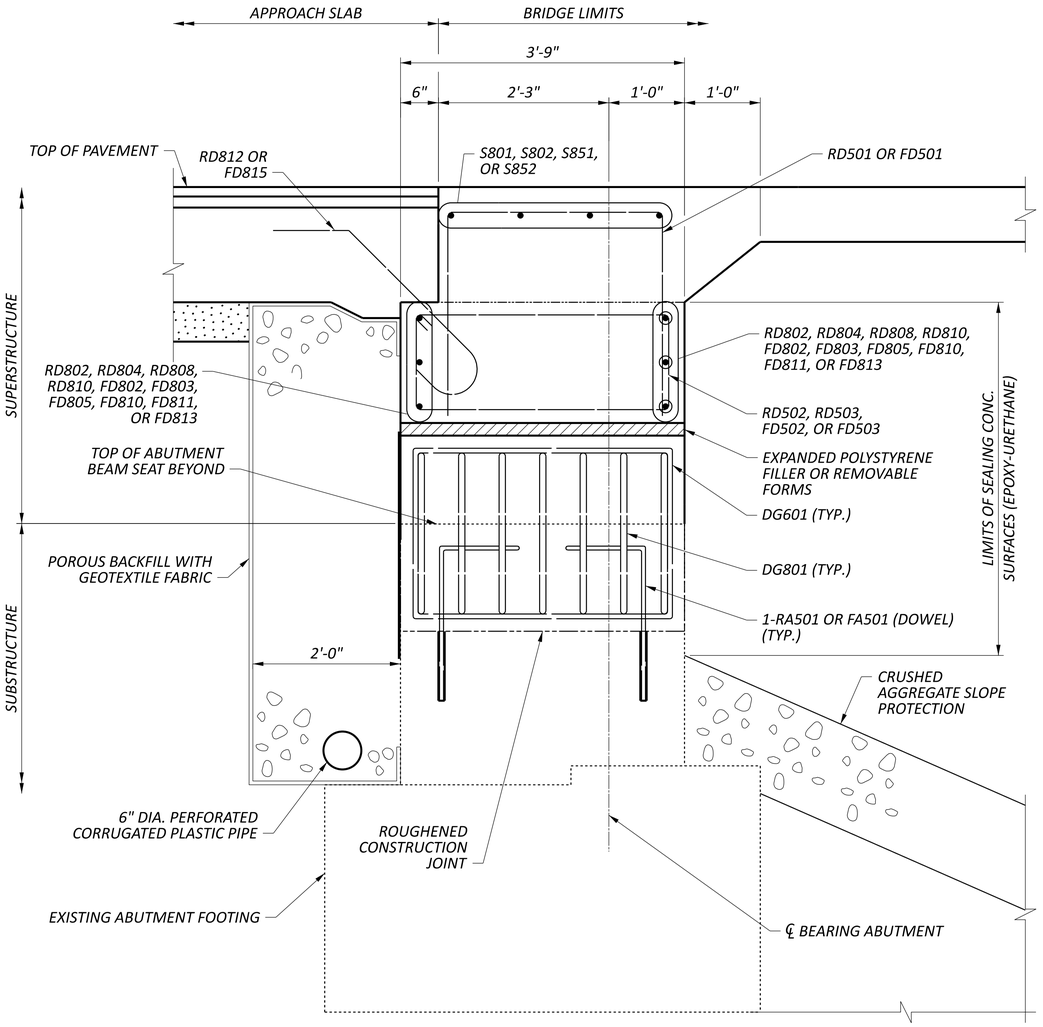
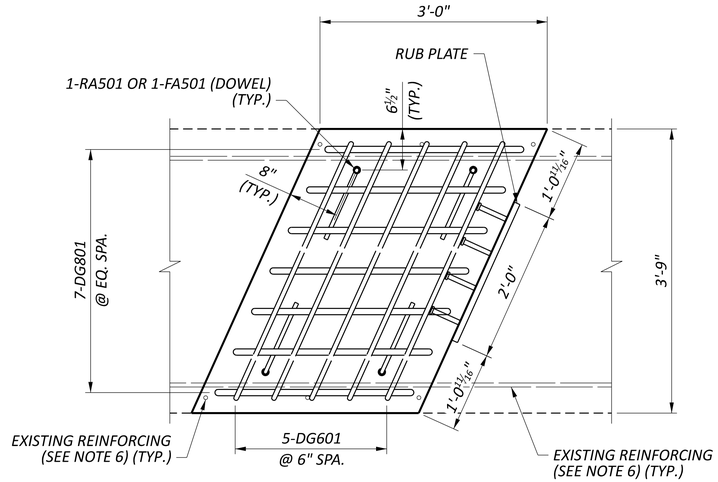
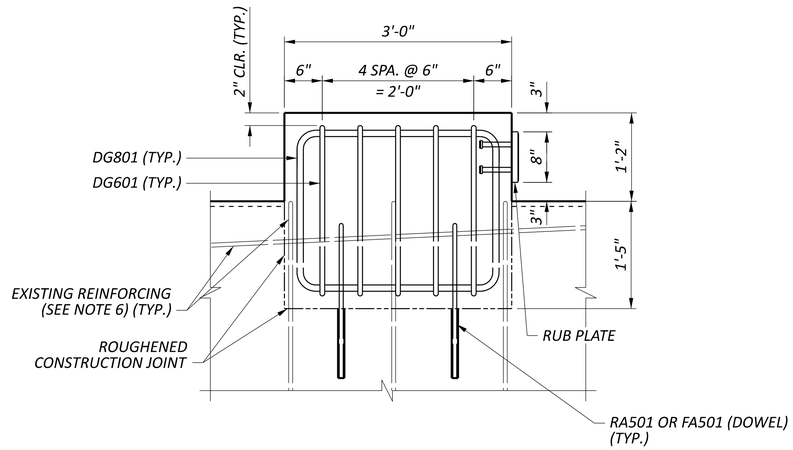


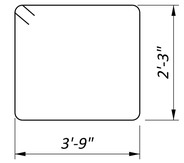
TYPICAL DIAPHRAGM GUIDE SECTION
(PILES NOT SHOWN)



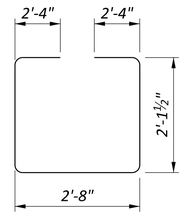
DIAPHRAGM GUIDE PLAN



DIAPHRAGM GUIDE ELEVATION



DG601



DG801

NOTES:

1. FOR ADDITIONAL DIAPHRAGM GUIDE NOTES AND DETAILS, SEE ODOT STANDARD DRAWING SICD-2-14.
2. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES OF CAULK, P.E.J.F., CONCRETE, REINFORCING BARS DG601 AND DG801, END WELDED STUDS AND RUB PLATES UNDER ITEM 511 - SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN.
3. FOR REAR ABUTMENT DIAPHRAGM GUIDE LOCATION, SEE SHEET 12 OF 44 .
4. FOR FORWARD ABUTMENT DIAPHRAGM GUIDE LOCATION, SEE SHEET 14 OF 44 .
5. ALL DOWELS SHALL BE INSTALLED PER CMS 510 AND SET WITH A NONSHRINK, NONMETALLIC GROUT THAT SATISFIES ACI 355.4 REQUIREMENTS. DOWEL HOLE MAY BE REPOSITIONED 1" AS REQUIRED TO CLEAR EXISTING REINFORCING.

   REBAR DOWEL LENGTHS ARE BASED ON THE FOLLOWING MINIMUM EMBEDMENT DEPTHS:
   NO. 5 BAR = 6"
6. LOCATION OF EXISTING REINFORCING STEEL SHALL BE CONSIDERED APPROXIMATE.

ABUTMENT DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN	3103870
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	JPD
CHECKER	TOR
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	16
TOTAL	44
SHEET	P.180
TOTAL	208

HAM-US 50-29.00

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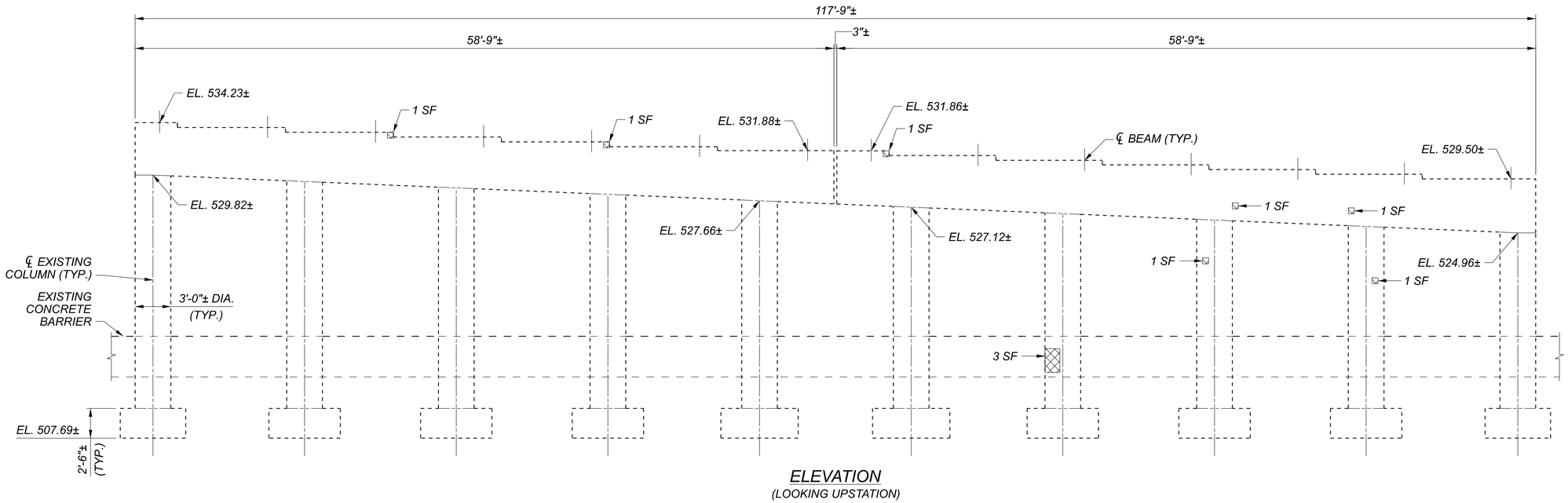
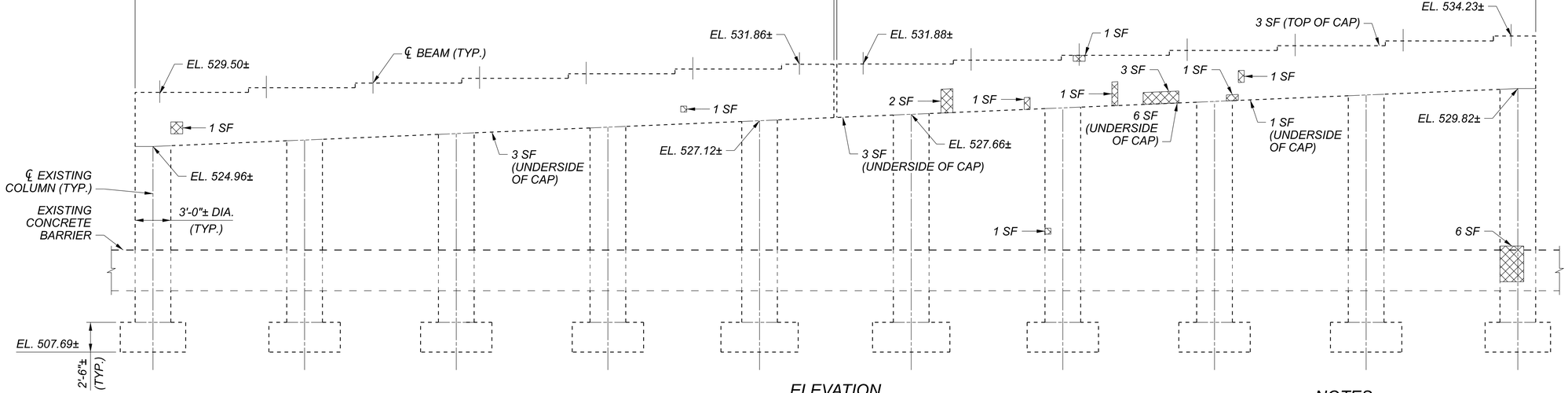


ELEVATION
(LOOKING UPSTATION)



ELEVATION
(LOOKING DOWNSTATION)

ITEM 519 REPAIR AREAS		
MEASURED QUANTITY (SF)	CONTINGENT QUANTITY (SF)	TOTAL QUANTITY (SF)
45	23	68

LEGEND:

INDICATES AREAS TO BE PATCHED PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION PERFORMED IN SEPTEMBER 2021. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED SHALL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE TOTAL CONCRETE PATCHING REPAIR AREAS INDICATED ON THE DETAILS HAVE BEEN INCREASED TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.
3. ALL EXISTING BRIDGE ELEVATIONS HAVE BEEN ADJUSTED TO THE CURRENT PROJECT SURVEY ELEVATIONS AND ARE APPROXIMATELY 0.71 FEET LOWER THAN THE ELEVATIONS IN THE EXISTING PLANS.

PIER 1 PATCHING DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
GJZ	TOR

REVIEWER NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
17	44

SHEET	TOTAL
P.181	208

HAM-US 50-29.00

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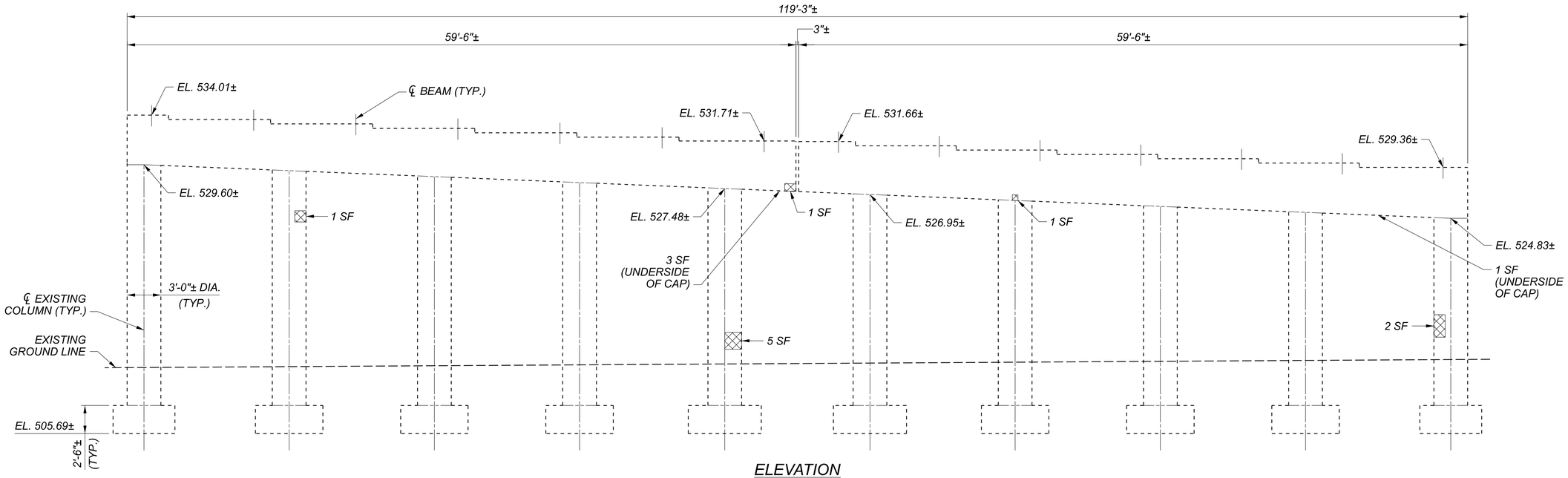
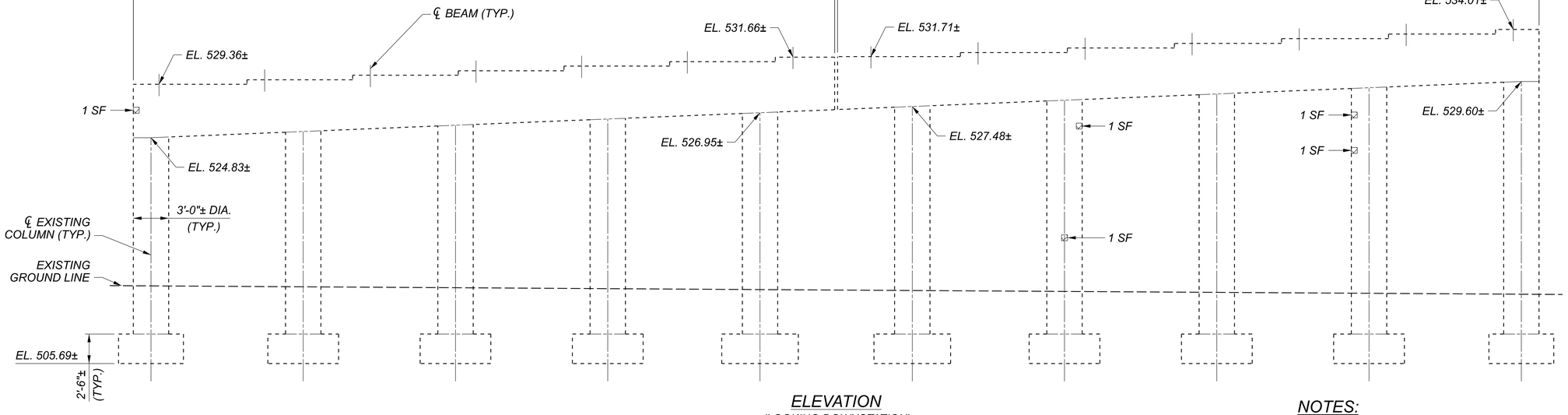


ELEVATION
(LOOKING UPSTATION)



ELEVATION
(LOOKING DOWNSTATION)

ITEM 519 REPAIR AREAS		
MEASURED QUANTITY (SF)	CONTINGENT QUANTITY (SF)	TOTAL QUANTITY (SF)
19	10	29

LEGEND:

INDICATES AREAS TO BE PATCHED PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

NOTES:

1. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION PERFORMED IN SEPTEMBER 2021. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED SHALL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
2. THE TOTAL CONCRETE PATCHING REPAIR AREAS INDICATED ON THE DETAILS HAVE BEEN INCREASED TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.
3. ALL EXISTING BRIDGE ELEVATIONS HAVE BEEN ADJUSTED TO THE CURRENT PROJECT SURVEY ELEVATIONS AND ARE APPROXIMATELY 0.71 FEET LOWER THAN THE ELEVATIONS IN THE EXISTING PLANS.

PIER 2 PATCHING DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
GJZ	TOR

REVIEWER NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
18	44

SHEET	TOTAL
P.182	208

HAM-US 50-29.00

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LEFT BRIDGE ELASTOMERIC BEARING DATA

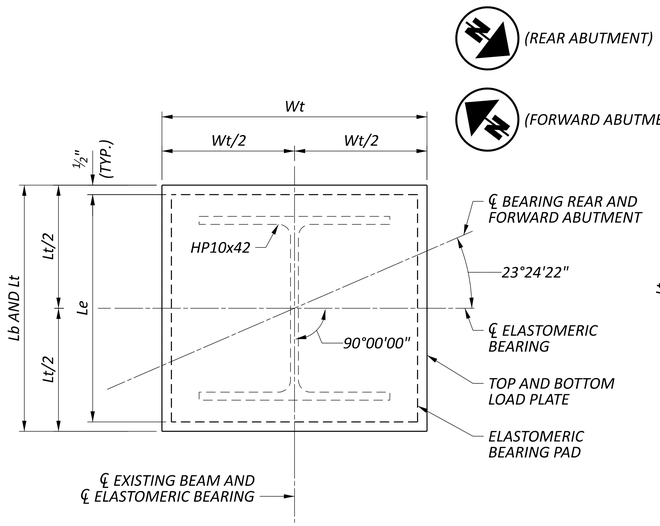
LOCATION	TYPE	NO. REQ'D.	**REACTION (K) DL	**REACTION (K) *LL	MAXIMUM DESIGN LOAD (K)	Le (in.)	We (in.)	ti (in.)	te (in.)	No. of ti's	No. of te's	NO. INTERNAL LAMINATES	Te (in.)
REAR ABUTMENT	EXP	7	67	70	137	12.00	12	0.350	0.180	6	1	6	2.908
PIER 1	EXP	7	103	128	231	15.00	13	0.475	0.240	2	1	2	1.399
PIER 2	EXP	7	102	128	230	15.00	13	0.475	0.280	2	1	2	1.439
FORWARD ABUTMENT	EXP	7	66	69	135	12.00	12	0.350	0.180	6	1	6	2.908

*LL DENOTES LIVE LOAD WITHOUT DYNAMIC LOAD ALLOWANCE

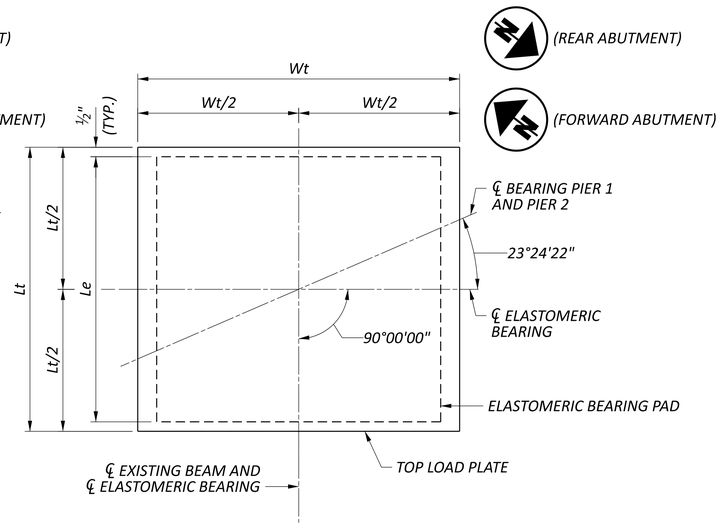
** REACTIONS ARE SERVICE LOADS (I.E. UNFACTORED)

BOTTOM LOAD PLATE DATA			
LOCATION	Wb (in.)	Lb (in.)	Tb (in.)
REAR ABUTMENT	13	13.00	0.750
FORWARD ABUTMENT	13	13.00	0.750

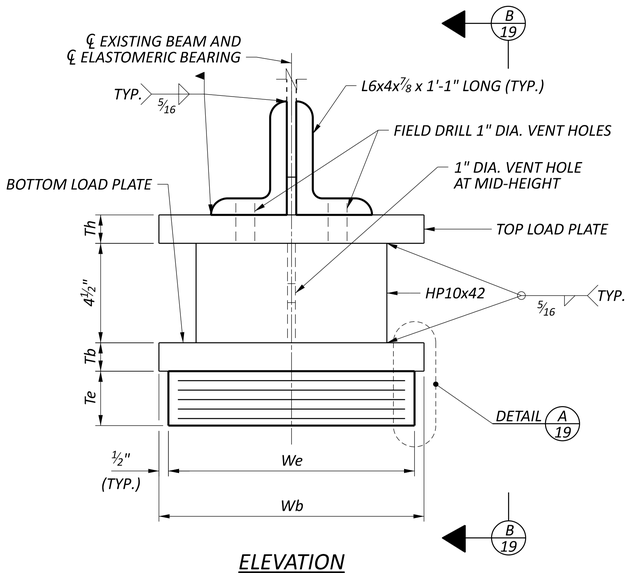
TOP LOAD PLATE DATA			
LOCATION	Wt (in.)	Lt (in.)	Th (in.)
REAR ABUTMENT	13	13.00	0.750
PIER 1	14	16.00	0.750
PIER 2	14	16.00	0.750
FORWARD ABUTMENT	13	13.00	0.750



PLAN

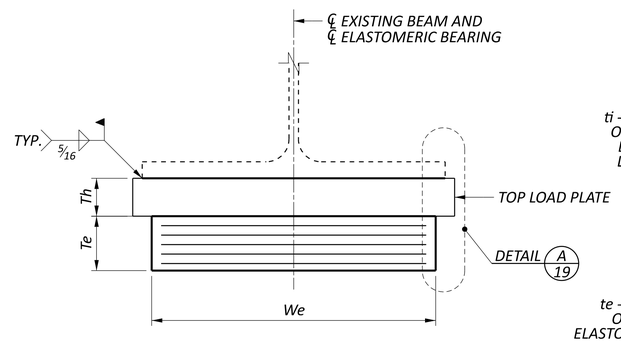


PLAN



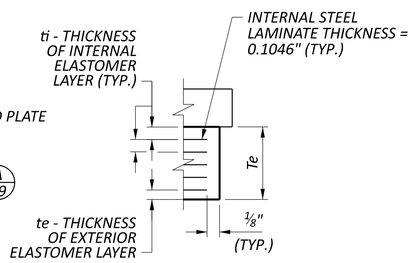
ELEVATION

ELASTOMERIC EXPANSION BEARING
REAR AND FORWARD ABUTMENT

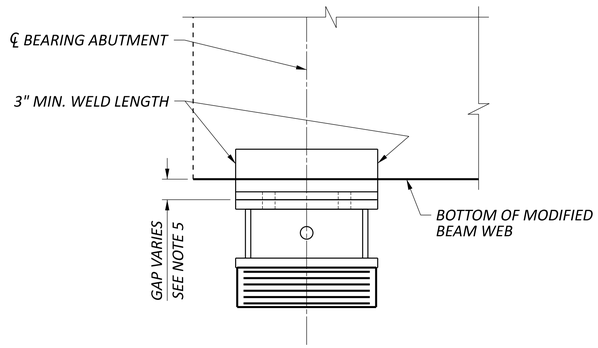


ELEVATION

ELASTOMERIC EXPANSION BEARING
PIER 1 AND PIER 2



A 19 DETAIL



B 19 VIEW

NOTES:

1. STEEL LOAD PLATE, HP SECTION, AND ANGLES SHALL BE ASTM A709 GRADE 50 STEEL AND SHALL BE SHOP PRIMED IN ACCORDANCE WITH CMS 514.
2. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER AT THE ABUTMENTS AND 60 DUROMETER AT THE PIERS. 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.
3. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND SHALL BE VISIBLE AFTER THE BEARING IS INSTALLED.
4. BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS, INCLUDING LOAD PLATES, ANGLES, AND HP SECTIONS. PAYMENT WILL BE AT THE UNIT PRICE BID FOR ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.
5. THE GAP BETWEEN TOP OF LOAD PLATE AND BOTTOM OF THE MODIFIED BEAM WEB SHALL BE SET TO MAINTAIN THE EXISTING TOP OF BEAM ELEVATION AT THE ℄ BEARING ABUTMENT.

LEFT BRIDGE BEARING DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114
DESIGNER EA | CHECKER TOR
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 19 | TOTAL 44
SHEET P.183 | TOTAL 208

HAM-US 50-29.00

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RIGHT BRIDGE ELASTOMERIC BEARING DATA

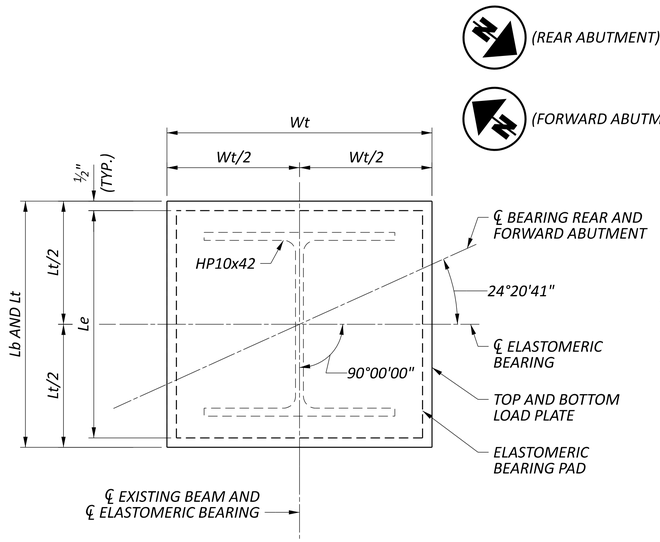
LOCATION	TYPE	NO. REQ'D.	**REACTION (K) DL	**REACTION (K) *LL	MAXIMUM DESIGN LOAD (K)	Le (in.)	We (in.)	ti (in.)	te (in.)	No. of ti's	No. of te's	NO. INTERNAL LAMINATES	Te (in.)
REAR ABUTMENT	EXP	7	67	70	137	12.00	12	0.350	0.180	6	1	6	2.908
PIER 1	EXP	7	102	127	229	15.00	13	0.475	0.240	2	1	2	1.399
PIER 2	EXP	7	100	127	227	15.00	13	0.475	0.280	2	1	2	1.439
FORWARD ABUTMENT	EXP	7	65	69	134	12.00	12	0.350	0.180	6	1	6	2.908

*LL DENOTES LIVE LOAD WITHOUT DYNAMIC LOAD ALLOWANCE

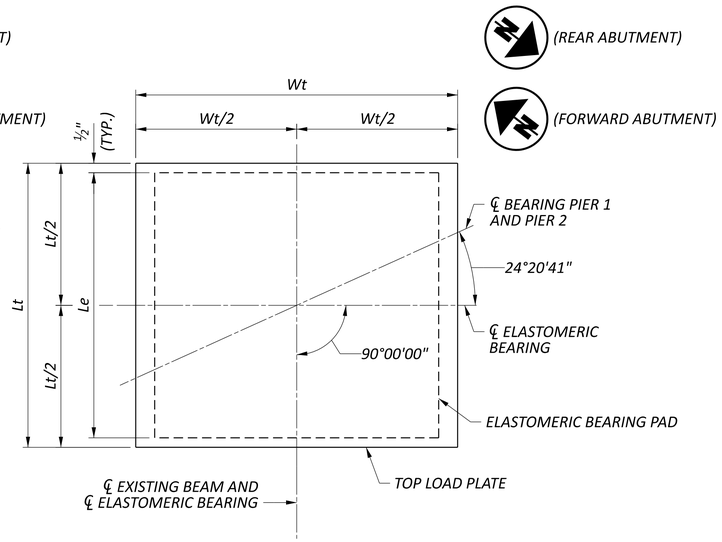
**REACTIONS ARE SERVICE LOADS (I.E. UNFACTORED)

BOTTOM LOAD PLATE DATA			
LOCATION	Wb (in.)	Lb (in.)	Tb (in.)
REAR ABUTMENT	13	13.00	0.750
FORWARD ABUTMENT	13	13.00	0.750

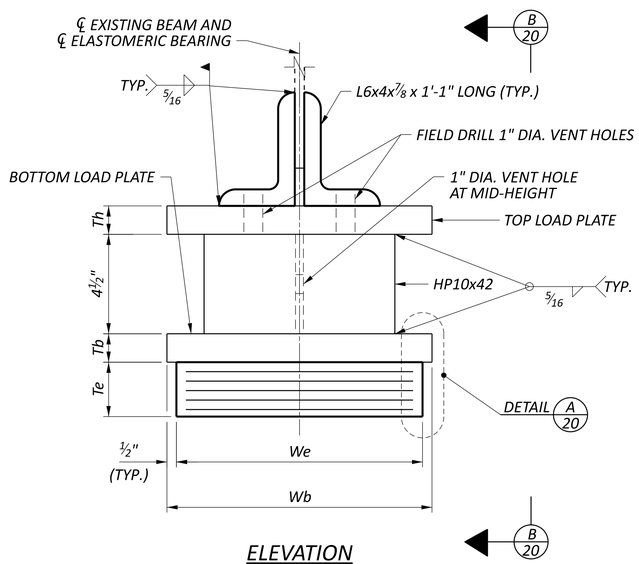
TOP LOAD PLATE DATA			
LOCATION	Wt (in.)	Lt (in.)	Th (in.)
REAR ABUTMENT	13	13.00	0.750
PIER 1	14	16.00	0.750
PIER 2	14	16.00	0.750
FORWARD ABUTMENT	13	13.00	0.750



PLAN

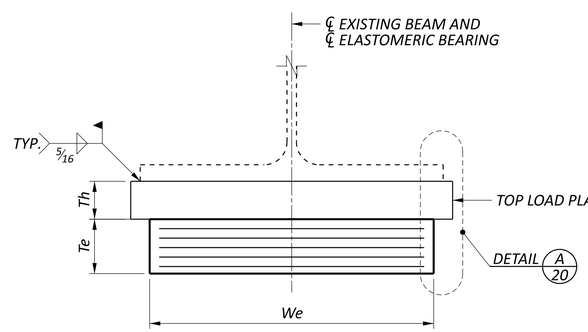


PLAN



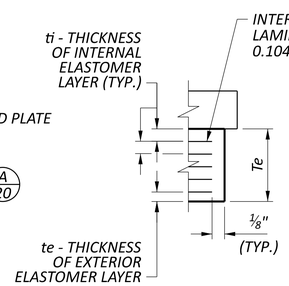
ELEVATION

ELASTOMERIC EXPANSION BEARING
REAR AND FORWARD ABUTMENT

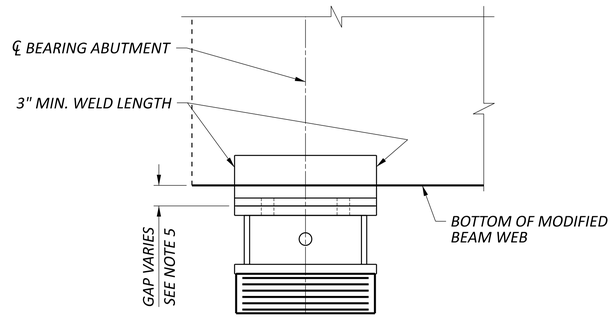


ELEVATION

ELASTOMERIC EXPANSION BEARING
PIER 1 AND PIER 2



A 20 DETAIL



B 20 VIEW

NOTES:

1. STEEL LOAD PLATE, HP SECTION, AND ANGLES SHALL BE ASTM A709 GRADE 50 STEEL AND SHALL BE SHOP PRIMED IN ACCORDANCE WITH CMS 514.
2. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER AT THE ABUTMENTS AND 60 DUROMETER AT THE PIERS. 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.
3. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND SHALL BE VISIBLE AFTER THE BEARING IS INSTALLED.
4. BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS, INCLUDING LOAD PLATES, ANGLES, AND HP SECTIONS. PAYMENT WILL BE AT THE UNIT PRICE BID FOR ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.
5. THE GAP BETWEEN TOP OF LOAD PLATE AND BOTTOM OF THE MODIFIED BEAM WEB SHALL BE SET TO MAINTAIN THE EXISTING TOP OF BEAM ELEVATION AT THE ℄ BEARING ABUTMENT.

RIGHT BRIDGE BEARING DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E. STE 1000 CLEVELAND, OHIO 44114
DESIGNER EA | CHECKER TOR
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 20 | TOTAL 44
SHEET P.184 | TOTAL 208

HAM-US 50-29.00

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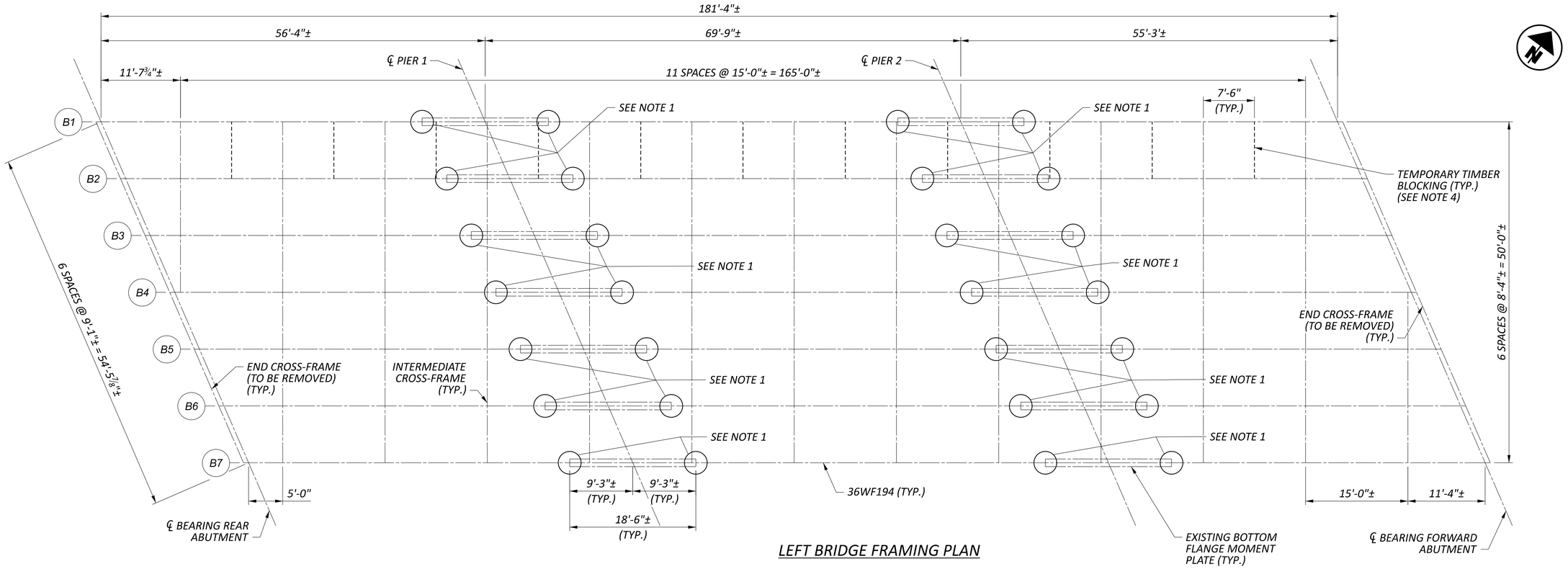
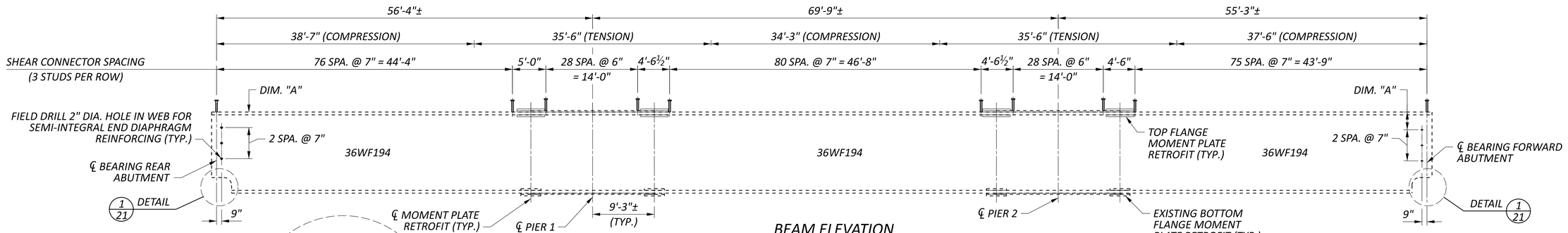
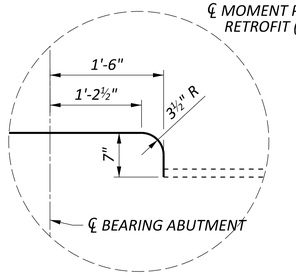


LEFT BRIDGE FRAMING PLAN

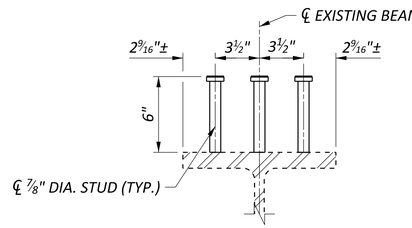


BEAM ELEVATION

LOCATION	DIM. "A"	
BEAM	REAR ABUTMENT	FORWARD ABUTMENT
B1	10½"	1'-0¾"
B2 - B7	10¼"	10¼"



1/21 DETAIL 22 (TYPICAL AT ALL BEAM END LOCATIONS)



TYPICAL SHEAR CONNECTOR DETAIL

NOTES:

1. PERFORM BOLTED SPLICE RETROFIT OF TOP MOMENT PLATES NEAR PIERS 1 & 2. (TYPICAL AT 28 LOCATIONS). PERFORM SURFACE PREPARATION PER CMS 514.13 AND PLACE ORGANIC ZINC PRIME COAT AT RETROFIT AREAS PRIOR TO INSTALLATION OF SPLICE PLATES. ONCE RETROFIT IS INSTALLED, PERFORM INTERMEDIATE AND FINISH COATS. PAINT STRUCTURAL STEEL USING OZEU SPECIFICATION. SEE SHEET 23 OF 44 FOR MOMENT PLATE RETROFIT DETAILS.
2. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA BEAM FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESS UP TO ¾" OR 9/16" FOR GREATER THAN ¾" THICK.
3. FOR ADDITIONAL EXISTING BEAM AND FRAMING DETAILS NOT SHOWN, SEE EXISTING PLANS.
4. FOR ADDITIONAL TEMPORARY TIMBER BLOCKING DETAILS, SEE SHEET 3 OF 44 .
5. MODIFICATION OF BEAM ENDS AND FIELD DRILLING OF 2" DIA. HOLES IN WEB SHALL BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, MISC.: BEAM MODIFICATION FOR PAYMENT. ALL WORK SHALL BE IN ACCORDANCE WITH CMS 513.

LEFT BRIDGE FRAMING PLAN AND BEAM ELEVATION
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
EA	TOR

REVIEWER NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
21	44

SHEET	TOTAL
P.185	208

HAM-US 50-29.00

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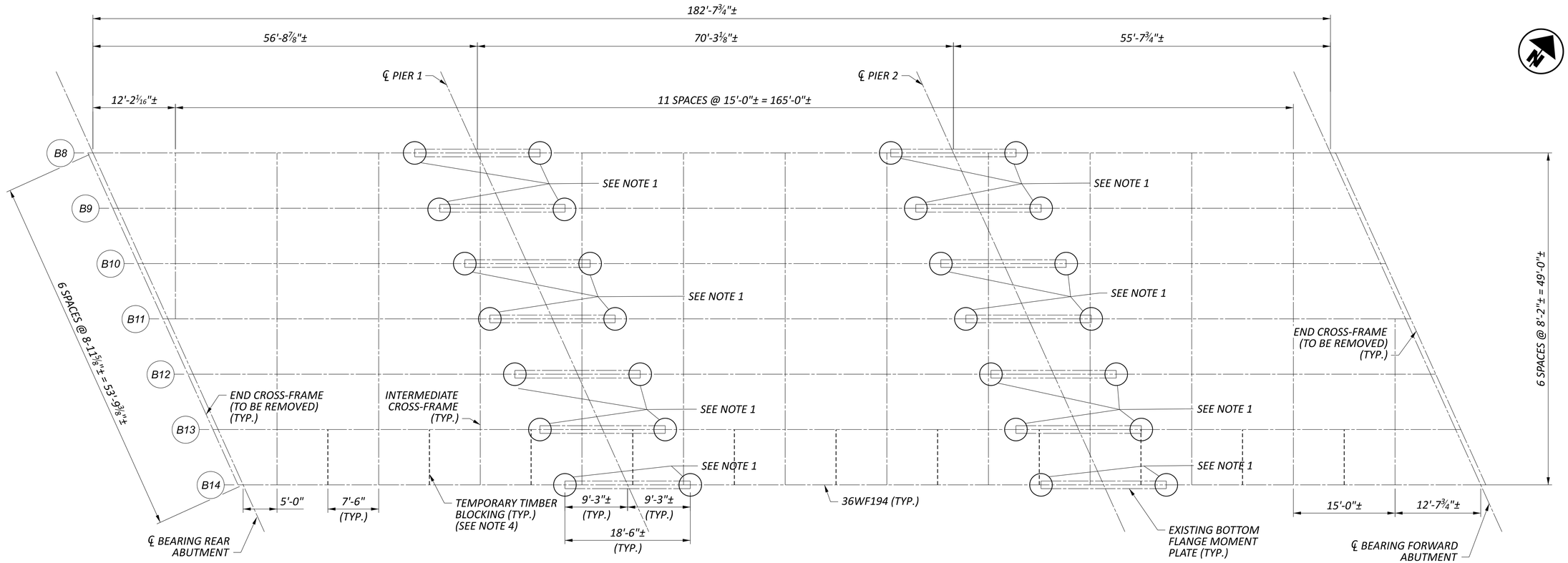
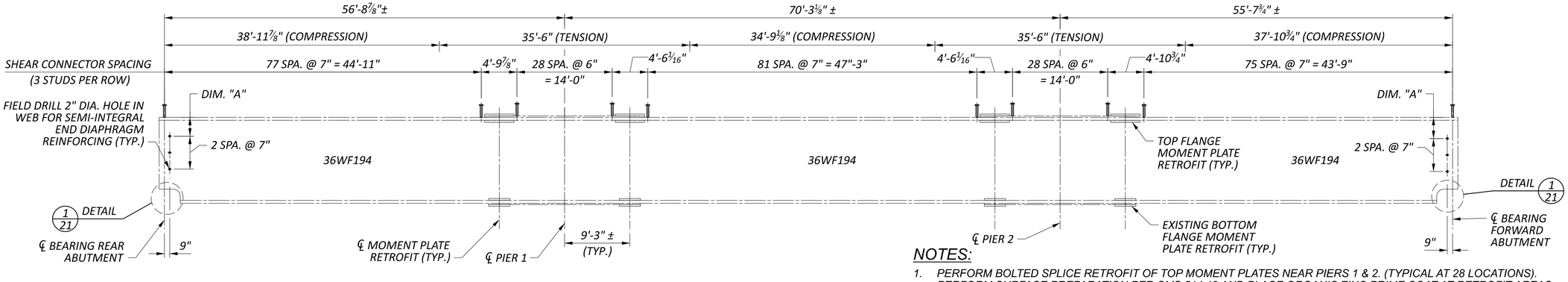


RIGHT BRIDGE FRAMING PLAN



BEAM ELEVATION

LOCATION	DIM. "A"	
BEAM	REAR ABUTMENT	FORWARD ABUTMENT
B8	1'-0¾"	1'-0¾"
B9 - B14	10¼"	10¼"

NOTES:

1. PERFORM BOLTED SPLICE RETROFIT OF TOP MOMENT PLATES NEAR PIERS 1 & 2. (TYPICAL AT 28 LOCATIONS). PERFORM SURFACE PREPARATION PER CMS 514.13 AND PLACE ORGANIC ZINC PRIME COAT AT RETROFIT AREAS PRIOR TO INSTALLATION OF SPLICE PLATES. ONCE RETROFIT IS INSTALLED, PERFORM INTERMEDIATE AND FINISH COATS. PAINT STRUCTURAL STEEL USING OZEU SPECIFICATION. SEE SHEET 23 OF 44 FOR MOMENT PLATE RETROFIT DETAILS.
2. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA BEAM FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESS UP TO ¾" OR ⅝" FOR GREATER THAN ¾" THICK.
3. FOR ADDITIONAL EXISTING BEAM AND FRAMING DETAILS NOT SHOWN, SEE EXISTING PLANS.
4. FOR ADDITIONAL TEMPORARY TIMBER BLOCKING DETAILS, SEE SHEET 3 OF 44 .
5. MODIFICATION OF BEAM ENDS AND FIELD DRILLING OF 2" DIA. HOLES IN WEB SHALL BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, MISC.: BEAM MODIFICATION FOR PAYMENT. ALL WORK SHALL BE IN ACCORDANCE WITH CMS 513.

RIGHT BRIDGE FRAMING PLAN AND BEAM ELEVATION
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER EA | CHECKER TOR
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 22 | TOTAL 44
SHEET P.186 | TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:52:11 PM USER: rjgreve
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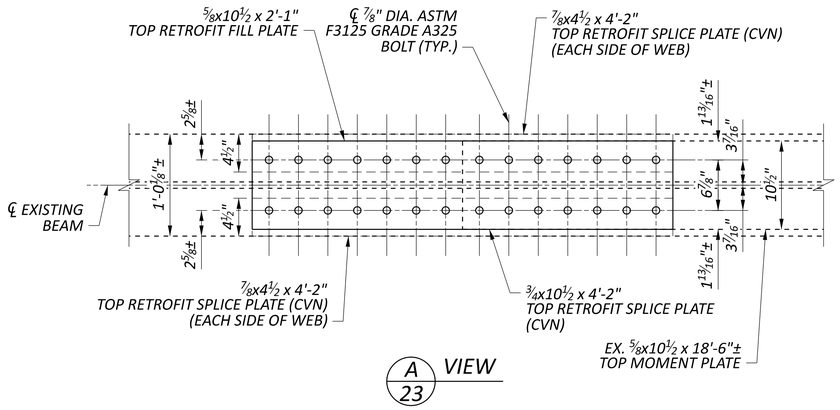
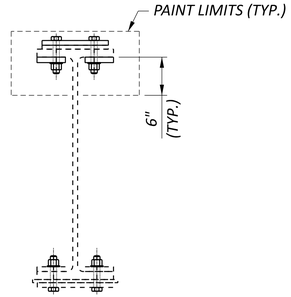
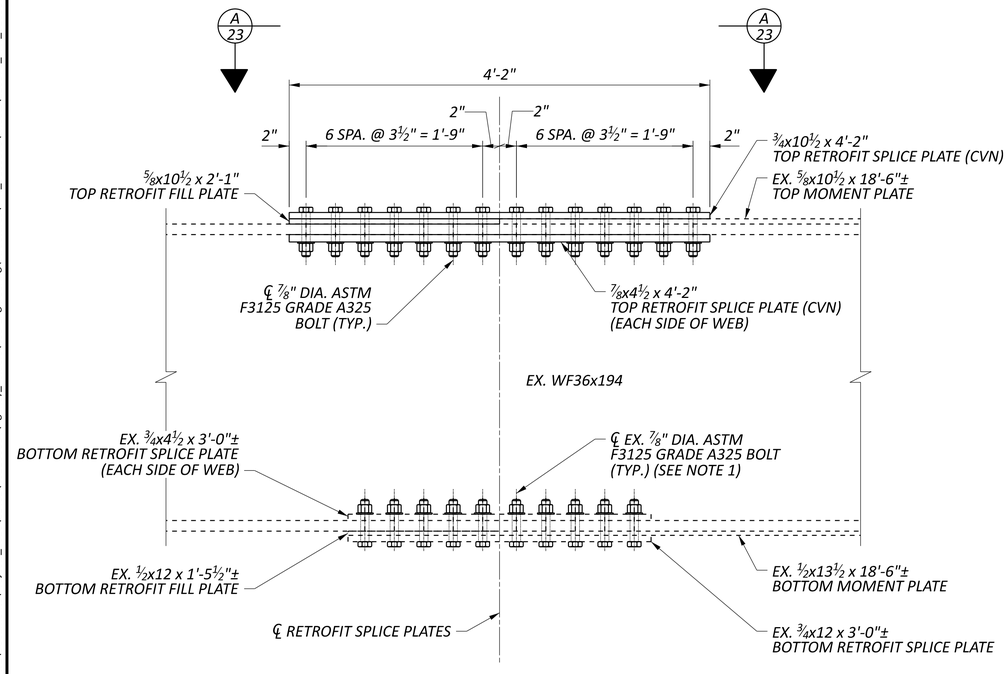


A/23 VIEW



DETAIL A



MOMENT PLATE SPLICE RETROFIT

NOTES:

1. THE EXISTING BOTTOM FLANGE MOMENT PLATE SPLICE RETROFIT WAS INSTALLED WITHOUT RELIEVING THE BEAM DEAD LOAD THROUGH DECK SLAB REMOVAL OR JACKING OF THE BEAM AT MIDSPAN. ALTHOUGH DESIGNED TO ACCOMMODATE BOTH DEAD AND LIVE LOAD, THE SPLICE PLATE RETROFIT ONLY SAW LIVE LOADING.

   DURING THIS DECK REPLACEMENT, THE EXISTING SPLICE RETROFIT BOLTS SHALL BE REPLACED ONCE THE DECK SLAB IS REMOVED AND PRIOR TO PERFORMING TOP FLANGE RETROFIT TO ALLOW THE SPLICE RETROFIT TO TAKE BOTH DEAD AND LIVE LOAD. CONTRACTOR SHALL VERIFY THE SIZE OF EXISTING BOLTS PRIOR TO ORDERING THE REPLACEMENT BOLTS

2. ALL STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50.
3. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN CMS 711.01.
4. HIGH STRENGTH BOLTS SHALL BE ⅞" DIAMETER ASTM F3125 GRADE A325, TYPE 1.
5. FOR LEFT BRIDGE BEAM ELEVATION AND FRAMING PLAN, SEE SHEET 21 OF 44 . FOR RIGHT BRIDGE BEAM ELEVATION AND FRAMING PLAN, SEE SHEET 22 OF 44.
6. FOR ADDITIONAL RETROFIT PLATE INFORMATION, SEE ITEM 513 - STRUCTURAL STEEL, MISC.: MOMENT PLATE RETROFIT NOTE ON SHEET 4 OF 44 .
7. MOMENT PLATE RETROFIT NEW STEEL SHALL BE SHOP PRIMED AND FIELD PAINTED PER CMS 514. EXISTING STRUCTURAL STEEL BEAM FLANGES, TOP AND BOTTOM, INSIDE AND OUTSIDE, INCLUDING EXISTING MOMENT PLATES, SHALL BE SURFACE PREPPED AND FIELD PAINTED PER CMS 514. PAINTING LIMITS SHALL EXTEND 1 FOOT PAST EACH END OF THE NEW TOP RETROFIT SPLICE PLATE.

STRUCTURAL STEEL DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
TOR	EA

REVIEWER
NFF 08/22/23

PROJECT ID
110570

SUBSET	TOTAL
23	44

SHEET	TOTAL
P.187	208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:52:39 PM USER: rjgreve
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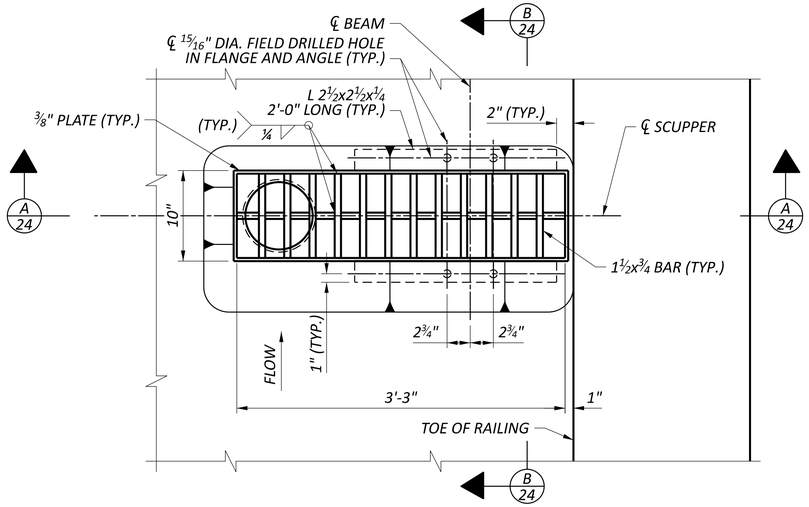
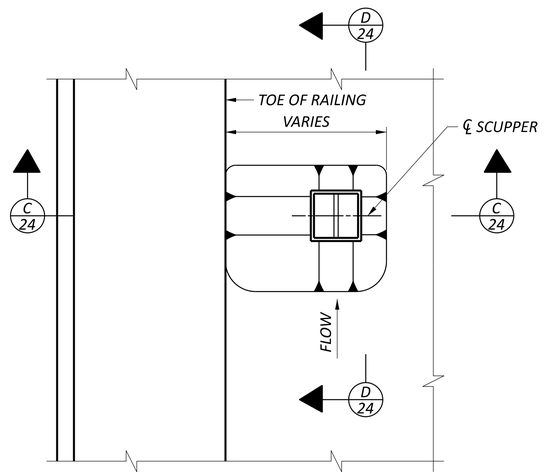
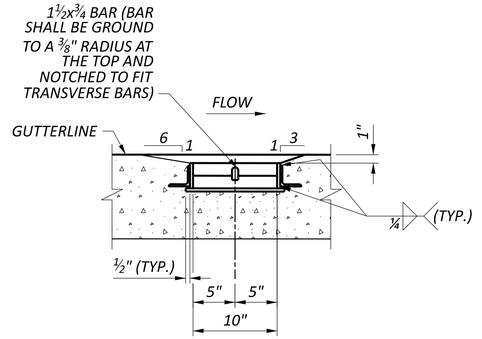


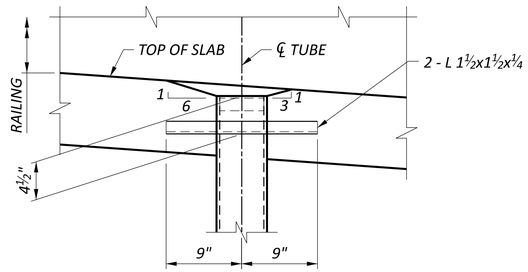
SCUPPER - TYPE A



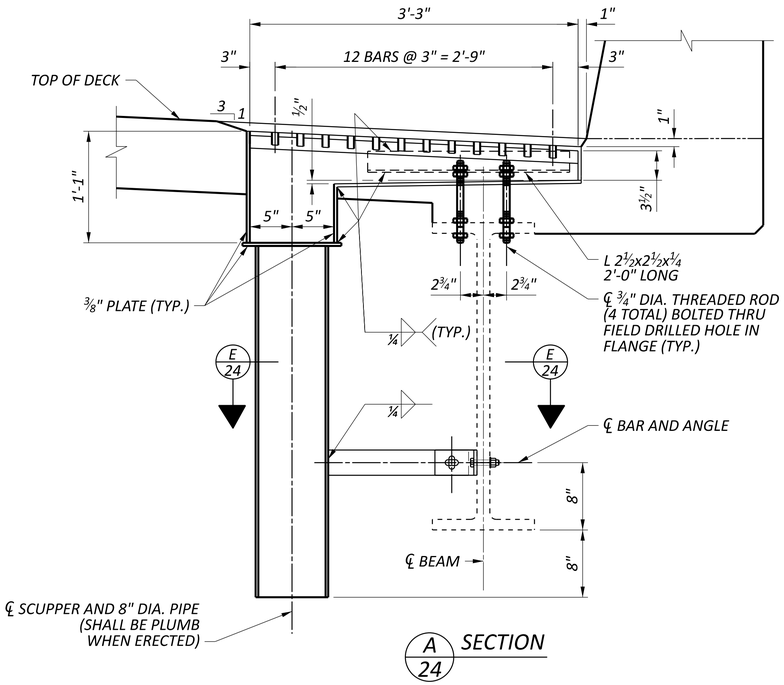
SCUPPER - TYPE B



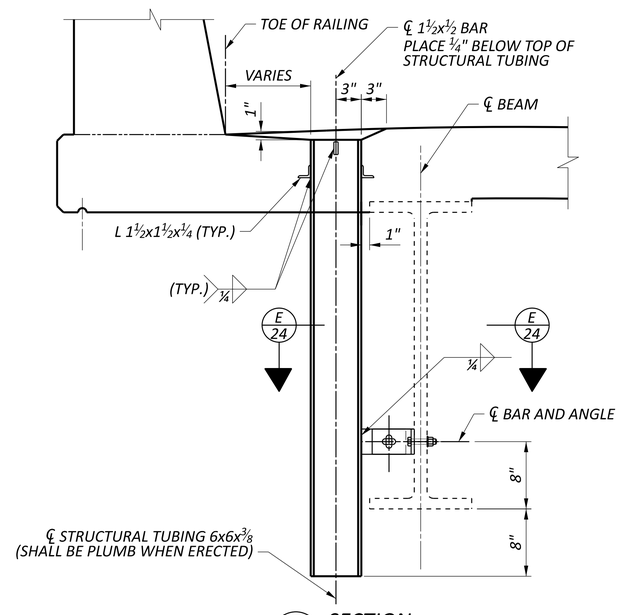
B 24 SECTION



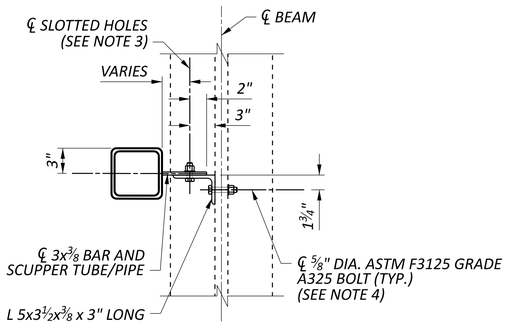
D 24 SECTION



A 24 SECTION



C 24 SECTION (SEE NOTE 8)



E 24 SECTION
(SCUPPER - TYPE B SHOWN, SCUPPER - TYPE A SIMILAR)
(SEE NOTE 8)

NOTES:

1. FURNISH STRUCTURAL STEEL TUBING AND PIPES ACCORDING TO CMS 707.10. TOUGHNESS TESTING IN ACCORDANCE WITH ATSM E436 IS NOT REQUIRED. ALL OTHER MATERIAL SHALL BE ASTM A709 GRADE 36, 50, OR 50W. GALVANIZE SUPPORT ANGLES, BARS, BOLTS, NUTS AND WASHERS IN ACCORDANCE WITH CMS 711.02.

2. CUT THE TOP OF THE STEEL TUBING SQUARE FOR CROSS SLOPES ½" PER FOOT AND LESS. CUT THE TOP OF THE TUBING PARALLEL TO THE DECK SURFACE FOR CROSS SLOPES GREATER THAN ½" PER FOOT.

3. THE SIZE OF THE SLOTTED HOLES SHALL BE 11/16" x 1 9/16". THE SLOT SHALL BE HORIZONTAL IN THE 3"x3/8" BAR AND VERTICAL IN THE ANGLE. BOLTS SHALL BE 5/8" DIA. ASTM F3125 GRADE A325 TYPE 1, GALVANIZED, WITH HEX NUT AND TWO WASHERS. TIGHTEN ACCORDING TO CMS 513.

4. THE BOLTS SHALL BE 5/8" DIA. ASTM F3125 GRADE A325 TYPE 1, GALVANIZED. EACH ASSEMBLY SHALL INCLUDE A BOLT, NUT, AND TWO WASHERS. TIGHTEN ACCORDING TO CMS 513.

5. THE SCUPPERS AND SCUPPER SUPPORTS SHALL BE INCLUDED WITH ITEM 518 - SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN FOR PAYMENT.

6. FOR PLACEMENT OF ADDITIONAL REINFORCEMENT AT SCUPPER, SEE SHEETS 32 AND 33 OF 44 .

7. SUBMIT SHOP DRAWINGS ACCORDING TO CMS 501.04 FOR APPROVAL. PREPARATION OF SHOP DRAWINGS SHALL BE INCIDENTAL TO ITEM 518 - SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN FOR PAYMENT .

8. SCUPPERS LOCATED AT STA. 104+04.00, STA. 104+12.00, AND STA. 104+19.00 SHALL BE MOUNTED TO INSIDE FACE OF BEAM.

SCUPPER DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114
DESIGNER RSB | CHECKER TOR
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 24 | TOTAL 44
SHEET P.188 | TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:53:12 PM USER: rjgreve
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TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS

		LOCATION	SPAN 1				SPAN 2				SPAN 3				
			℄ BRG. REAR ABUT.	0.25	0.5	0.75	℄ PIER 1	0.25	0.5	0.75	℄ PIER 2	0.25	0.5	0.75	℄ BRG. FWD. ABUT.
LEFT TOE OF RAILING		STATION	103+58.06	103+71.76	103+85.46	103+99.17	104+12.87	104+29.99	104+47.11	104+64.23	104+81.35	104+95.05	105+08.74	105+22.43	105+36.12
		FINAL DECK ELEVATION	538.62	538.56	538.50	538.45	538.41	538.36	538.32	538.29	538.26	538.25	538.24	538.24	538.24
		*REBOUND													
		*SCREED ELEVATION													
B1		STATION	103+58.38	103+72.25	103+86.09	103+99.91	104+13.70	104+30.90	104+48.05	104+65.16	104+82.23	104+95.84	105+09.42	105+22.96	105+36.48
	A	FINAL DECK ELEVATION	538.65	538.60	538.56	538.51	538.47	538.43	538.39	538.36	538.33	538.31	538.30	538.28	538.27
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)													
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)													
	D	*REBOUND													
	E	WEIGHT OF EXISTING DECK	945	945	945	945	945	945	945	945	945	945	945	945	945
	F	WEIGHT OF PROPOSED DECK	985	985	985	985	985	985	985	985	985	985	985	985	985
	G	*DECK DEFLECTION													
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION													
	K	*TOP OF HAUNCH ELEVATION													
℄ ROUNDING		STATION	103+59.23	103+72.95	103+86.67	104+00.38	104+14.10	104+31.25	104+48.39	104+65.53	104+82.67	104+96.38	105+10.09	105+23.80	105+37.51
		FINAL DECK ELEVATION	538.69	538.63	538.57	538.52	538.48	538.43	538.39	538.36	538.34	538.32	538.32	538.31	538.32
		*REBOUND													
		*SCREED ELEVATION													
B2		STATION	103+61.68	103+75.59	103+89.47	104+03.33	104+17.16	104+34.41	104+51.61	104+68.77	104+85.88	104+99.53	105+13.15	105+26.74	105+40.28
	A	FINAL DECK ELEVATION	538.43	538.35	538.28	538.22	538.17	538.11	538.07	538.05	538.03	538.03	538.04	538.06	538.08
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)													
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)													
	D	*REBOUND													
	E	WEIGHT OF EXISTING DECK	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092
	F	WEIGHT OF PROPOSED DECK	923	923	923	923	923	923	923	923	923	923	923	923	923
	G	*DECK DEFLECTION													
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION													
	K	*TOP OF HAUNCH ELEVATION													
B3		STATION	103+65.00	103+78.94	103+92.87	104+06.77	104+20.64	104+37.94	104+55.19	104+72.40	104+89.56	105+03.25	105+16.90	105+30.53	105+44.11
	A	FINAL DECK ELEVATION	538.02	537.94	537.87	537.81	537.76	537.71	537.68	537.65	537.64	537.64	537.65	537.67	537.70
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)													
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)													
	D	*REBOUND													
	E	WEIGHT OF EXISTING DECK	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092
	F	WEIGHT OF PROPOSED DECK	923	923	923	923	923	923	923	923	923	923	923	923	923
	G	*DECK DEFLECTION													
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION													
	K	*TOP OF HAUNCH ELEVATION													
B4		STATION	103+68.33	103+82.32	103+96.29	104+10.23	104+24.14	104+41.49	104+58.79	104+76.05	104+93.26	105+06.98	105+20.68	105+34.34	105+47.97
	A	FINAL DECK ELEVATION	537.60	537.53	537.46	537.41	537.36	537.31	537.28	537.26	537.25	537.25	537.26	537.28	537.31
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)													
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)													
	D	*REBOUND													
	E	WEIGHT OF EXISTING DECK	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092
	F	WEIGHT OF PROPOSED DECK	923	923	923	923	923	923	923	923	923	923	923	923	923
	G	*DECK DEFLECTION													
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION													
	K	*TOP OF HAUNCH ELEVATION													

* ITEM TO BE COMPLETED BY CONTRACTOR

D SURVEYED BEAM ELEVATION BEFORE DECK REMOVAL MINUS SURVEYED BEAM ELEVATION AFTER DECK REMOVAL
D = C - B

G RATIO OF PROPOSED DEAD LOAD (LB./FT.) TO EXISTING DEAD LOAD (LB./FT.) MULTIPLIED BY SURVEYED REBOUND
G = D x (F/E)

J DECK DEFLECTION ADDED TO THE FINAL DECK ELEVATION
J = A + G

K SCREED ELEVATION MINUS DECK THICKNESS
K = A + G - H

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. FOR LOCATIONS NOT AT A BEAM CENTERLINE, USE THE CLOSEST BEAM TO DETERMINE THE REBOUND. FOR LEFT TOE OF RAILING OF LEFT BRIDGE, USE BEAM B1. FOR ℄ ROUNDING OF LEFT BRIDGE, USE BEAM B1. FOR LEFT PROFILE GRADE LINE OF LEFT BRIDGE, USE BEAM B6. FOR RIGHT TOE OF RAILING OF LEFT BRIDGE, USE BEAM B7.
5. FOR PLAN VIEW AND TRANSVERSE SECTION, SEE SHEET 29 OF 44.

LEFT BRIDGE TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS - 1
BRIDGE NO. HAM-00050-29.28
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
HLD	EA

REVIEWER
NFF 08/22/23

PROJECT ID
110570

SUBSET	TOTAL
25	44

SHEET	TOTAL
P.189	208

HAM-US 50-29.00

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TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS

		LOCATION	SPAN 1				SPAN 2				SPAN 3				
			℄ BRG. REAR ABUT.	0.25	0.5	0.75	℄ PIER 1	0.25	0.5	0.75	℄ PIER 2	0.25	0.5	0.75	℄ BRG. FWD. ABUT.
B5		STATION	103+71.69	103+85.72	103+99.73	104+13.71	104+27.66	104+45.06	104+62.41	104+79.72	104+96.97	105+10.74	105+24.48	105+38.18	105+51.84
	A	FINAL DECK ELEVATION	537.19	537.12	537.06	537.00	536.96	536.91	536.88	536.86	536.86	536.86	536.88	536.90	536.93
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)													
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)													
	D	*REBOUND													
	E	WEIGHT OF EXISTING DECK	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092
	F	WEIGHT OF PROPOSED DECK	923	923	923	923	923	923	923	923	923	923	923	923	923
	G	*DECK DEFLECTION													
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION													
	K	*TOP OF HAUNCH ELEVATION													
B6		STATION	103+75.07	103+89.14	104+03.18	104+17.21	104+31.20	104+48.65	104+66.05	104+83.41	105+00.72	105+14.52	105+28.30	105+42.03	105+55.73
	A	FINAL DECK ELEVATION	536.78	536.71	536.65	536.60	536.56	536.51	536.48	536.47	536.47	536.47	536.49	536.52	536.55
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)													
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)													
	D	*REBOUND													
	E	WEIGHT OF EXISTING DECK	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092	1092
	F	WEIGHT OF PROPOSED DECK	923	923	923	923	923	923	923	923	923	923	923	923	923
	G	*DECK DEFLECTION													
	H	*DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION													
	K	*TOP OF HAUNCH ELEVATION													
LEFT PROFILE GRADE LINE		STATION	103+75.88	103+89.83	104+03.79	104+17.74	104+31.69	104+49.13	104+66.58	104+84.02	105+01.46	105+15.41	105+29.36	105+43.32	105+57.27
		FINAL DECK ELEVATION	536.69	536.63	536.58	536.54	536.50	536.46	536.43	536.40	536.39	536.38	536.38	536.39	536.40
		*REBOUND													
		*SCREED ELEVATION													
B7		STATION	103+78.46	103+92.58	104+06.66	104+20.73	104+34.76	104+52.26	104+69.72	104+87.12	105+04.48	105+18.32	105+32.14	105+45.91	105+59.65
	A	FINAL DECK ELEVATION	536.37	536.31	536.25	536.21	536.17	536.13	536.10	536.08	536.08	536.09	536.10	536.13	536.17
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)													
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)													
	D	*REBOUND													
	E	WEIGHT OF EXISTING DECK	969	969	969	969	969	969	969	969	969	969	969	969	969
	F	WEIGHT OF PROPOSED DECK	783	783	783	783	783	783	783	783	783	783	783	783	783
	G	*DECK DEFLECTION													
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION													
	K	*TOP OF HAUNCH ELEVATION													
RIGHT TOE OF RAILING		STATION	103+78.65	103+92.65	104+06.64	104+20.63	104+34.63	104+52.12	104+69.61	104+87.10	105+04.59	105+18.59	105+32.58	105+46.57	105+60.56
		FINAL DECK ELEVATION	536.35	536.30	536.25	536.21	536.17	536.13	536.10	536.08	536.06	536.06	536.06	536.07	536.08
		*REBOUND													
		*SCREED ELEVATION													

* ITEM TO BE COMPLETED BY CONTRACTOR

D SURVEYED BEAM ELEVATION BEFORE DECK REMOVAL MINUS SURVEYED BEAM ELEVATION AFTER DECK REMOVAL
D = C - B

G RATIO OF PROPOSED DEAD LOAD (LB./FT.) TO EXISTING DEAD LOAD (LB./FT.) MULTIPLIED BY SURVEYED REBOUND
G = D x (F/E)

J DECK DEFLECTION ADDED TO THE FINAL DECK ELEVATION
J = A + G

K SCREED ELEVATION MINUS DECK THICKNESS
K = A + G - H

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. FOR LOCATIONS NOT AT A BEAM CENTERLINE, USE THE CLOSEST BEAM TO DETERMINE THE REBOUND. FOR LEFT TOE OF RAILING OF LEFT BRIDGE, USE BEAM B1. FOR ℄ ROUNDING OF LEFT BRIDGE, USE BEAM B1. FOR LEFT PROFILE GRADE LINE OF LEFT BRIDGE, USE BEAM B6. FOR RIGHT TOE OF RAILING OF LEFT BRIDGE, USE BEAM B7.
5. FOR PLAN VIEW AND TRANSVERSE SECTION, SEE SHEET 29 OF 44.

LEFT BRIDGE TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS - 2
BRIDGE NO. HAM-00050-29.28
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
HLD	EA

REVIEWER NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
26	44

SHEET	TOTAL
P.190	208

HAM-US 50-29.00

MODEL: Sheet 2 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:53:43 PM USER: rjgreve
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TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS

			SPAN 1				SPAN 2				SPAN 3				
LOCATION			℄ BRG. REAR ABUT.	0.25	0.5	0.75	℄ PIER 1	0.25	0.5	0.75	℄ PIER 2	0.25	0.5	0.75	℄ BRG. FWD. ABUT.
LEFT TOE OF RAILING		STATION	103+80.14	103+94.15	104+08.17	104+22.18	104+36.20	104+53.71	104+71.23	104+88.75	105+06.27	105+20.28	105+34.30	105+48.31	105+62.33
		FINAL DECK ELEVATION	536.14	536.08	536.04	535.99	535.96	535.92	535.89	535.88	535.87	535.87	535.87	535.89	535.90
		*REBOUND													
		*SCREED ELEVATION													
B8		STATION	103+80.09	103+94.32	104+08.53	104+22.71	104+36.87	104+54.53	104+72.14	104+89.71	105+07.23	105+21.21	105+35.16	105+49.07	105+62.95
	A	FINAL DECK ELEVATION	536.14	536.10	536.07	536.04	536.02	535.99	535.96	535.95	535.94	535.94	535.94	535.95	535.96
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)													
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)													
	D	*REBOUND													
	E	WEIGHT OF EXISTING DECK	901	901	901	901	901	901	901	901	901	901	901	901	901
	F	WEIGHT OF PROPOSED DECK	960	960	960	960	960	960	960	960	960	960	960	960	960
	G	*DECK DEFLECTION													
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION													
	K	*TOP OF HAUNCH ELEVATION													
℄ ROUNDING		STATION	103+81.41	103+95.44	104+09.47	104+23.51	104+37.54	104+55.08	104+72.62	104+90.16	105+07.70	105+21.74	105+35.77	105+49.80	105+63.84
		FINAL DECK ELEVATION	536.21	536.16	536.11	536.07	536.04	536.00	535.97	535.96	535.95	535.95	535.96	535.97	535.99
		*REBOUND													
		*SCREED ELEVATION													
RIGHT PROFILE GRADE LINE		STATION	103+82.94	103+96.99	104+11.04	104+25.10	104+39.15	104+56.72	104+74.29	104+91.86	105+09.43	105+23.48	105+37.54	105+51.60	105+65.65
		FINAL DECK ELEVATION	536.08	536.02	535.98	535.93	535.90	535.86	535.84	535.82	535.82	535.82	535.83	535.84	535.86
		*REBOUND													
		*SCREED ELEVATION													
B9		STATION	103+83.47	103+97.75	104+12.00	104+26.22	104+40.42	104+58.13	104+75.79	104+93.41	105+10.98	105+25.00	105+38.99	105+52.94	105+66.86
	A	FINAL DECK ELEVATION	536.01	535.93	535.87	535.81	535.76	535.71	535.68	535.66	535.66	535.67	535.68	535.71	535.74
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)													
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)													
	D	*REBOUND													
	E	WEIGHT OF EXISTING DECK	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070
	F	WEIGHT OF PROPOSED DECK	906	906	906	906	906	906	906	906	906	906	906	906	906
	G	*DECK DEFLECTION													
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION													
	K	*TOP OF HAUNCH ELEVATION													
B10		STATION	103+86.88	104+01.19	104+15.48	104+29.75	104+43.99	104+61.75	104+79.46	104+97.13	105+14.75	105+28.81	105+42.84	105+56.83	105+70.79
	A	FINAL DECK ELEVATION	535.61	535.53	535.47	535.41	535.36	535.32	535.29	535.28	535.27	535.29	535.30	535.33	535.37
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)													
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)													
	D	*REBOUND													
	E	WEIGHT OF EXISTING DECK	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070
	F	WEIGHT OF PROPOSED DECK	906	906	906	906	906	906	906	906	906	906	906	906	906
	G	*DECK DEFLECTION													
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION													
	K	*TOP OF HAUNCH ELEVATION													

* ITEM TO BE COMPLETED BY CONTRACTOR

D SURVEYED BEAM ELEVATION BEFORE DECK REMOVAL MINUS SURVEYED BEAM ELEVATION AFTER DECK REMOVAL
D = C - B

G RATIO OF PROPOSED DEAD LOAD (LB./FT.) TO EXISTING DEAD LOAD (LB./FT.) MULTIPLIED BY SURVEYED REBOUND
G = D x (F/E)

J DECK DEFLECTION ADDED TO THE FINAL DECK ELEVATION
J = A + G

K SCREED ELEVATION MINUS DECK THICKNESS
K = A + G - H

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. FOR LOCATIONS NOT AT A BEAM CENTERLINE, USE THE CLOSEST BEAM TO DETERMINE THE REBOUND. FOR LEFT TOE OF RAILING OF RIGHT BRIDGE, USE BEAM B8. FOR ℄ ROUNDING OF RIGHT BRIDGE, USE BEAM B8. FOR RIGHT PROFILE GRADE LINE OF RIGHT BRIDGE, USE BEAM B9. FOR RIGHT TOE OF RAILING OF RIGHT BRIDGE, USE BEAM B14.
5. FOR PLAN VIEW AND TRANSVERSE SECTION, SEE SHEET 29 OF 44.

TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS - 1
BRIDGE NO. HAM-00050-29.28
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD
RIGHT BRIDGE TOP OF HAUNCH

SFN 3103870
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E. STE 1000 CLEVELAND, OHIO 44114
DESIGNER HLD | CHECKER EA
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 27 | TOTAL 44
SHEET P.191 | TOTAL 208

HAM-US 50-29.00

MODEL: Sheet 3 PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:53:44 PM USER: rjgreve
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TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS

		LOCATION	SPAN 1				SPAN 2				SPAN 3				
			℄ BRG. REAR ABUT.	0.25	0.5	0.75	℄ PIER 1	0.25	0.5	0.75	℄ PIER 2	0.25	0.5	0.75	℄ BRG. FWD. ABUT.
B11		STATION	103+90.30	104+04.65	104+18.99	104+33.29	104+47.58	104+65.39	104+83.16	105+00.88	105+18.55	105+32.65	105+46.71	105+60.74	105+74.74
	A	FINAL DECK ELEVATION	535.21	535.13	535.07	535.01	534.97	534.93	534.90	534.89	534.89	534.91	534.93	534.96	535.00
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)													
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)													
	D	*REBOUND													
	E	WEIGHT OF EXISTING DECK	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070
	F	WEIGHT OF PROPOSED DECK	906	906	906	906	906	906	906	906	906	906	906	906	906
	G	*DECK DEFLECTION													
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION													
	K	*TOP OF HAUNCH ELEVATION													
B12		STATION	103+93.74	104+08.14	104+22.51	104+36.86	104+51.19	104+69.05	104+86.87	105+04.64	105+22.36	105+36.50	105+50.61	105+64.68	105+78.72
	A	FINAL DECK ELEVATION	534.80	534.73	534.67	534.62	534.58	534.54	534.51	534.51	534.51	534.53	534.55	534.59	534.63
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)													
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)													
	D	*REBOUND													
	E	WEIGHT OF EXISTING DECK	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070
	F	WEIGHT OF PROPOSED DECK	906	906	906	906	906	906	906	906	906	906	906	906	906
	G	*DECK DEFLECTION													
	H	*DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION													
	K	*TOP OF HAUNCH ELEVATION													
B13		STATION	103+97.20	104+11.64	104+26.06	104+40.45	104+54.82	104+72.73	104+90.60	105+08.43	105+26.20	105+40.38	105+54.53	105+68.64	105+82.71
	A	FINAL DECK ELEVATION	534.40	534.33	534.27	534.22	534.18	534.15	534.13	534.12	534.13	534.15	534.18	534.21	534.25
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)													
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)													
	D	*REBOUND													
	E	WEIGHT OF EXISTING DECK	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070
	F	WEIGHT OF PROPOSED DECK	906	906	906	906	906	906	906	906	906	906	906	906	906
	G	*DECK DEFLECTION													
	H	DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION													
	K	*TOP OF HAUNCH ELEVATION													
B14		STATION	104+00.68	104+15.17	104+29.63	104+44.06	104+58.47	104+76.44	104+94.36	105+12.24	105+30.06	105+44.28	105+58.47	105+72.62	105+86.73
	A	FINAL DECK ELEVATION	534.00	533.93	533.88	533.83	533.79	533.76	533.74	533.74	533.75	533.77	533.80	533.84	533.88
	B	*BOTTOM OF FLANGE ELEVATION (BEFORE REMOVAL)													
	C	*BOTTOM OF FLANGE ELEVATION (AFTER REMOVAL)													
	D	*REBOUND													
	E	WEIGHT OF EXISTING DECK	920	920	920	920	920	920	920	920	920	920	920	920	920
	F	WEIGHT OF PROPOSED DECK	922	922	922	922	922	922	922	922	922	922	922	922	922
	G	*DECK DEFLECTION													
	H	*DECK THICKNESS	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
	J	*SCREED ELEVATION													
	K	*TOP OF HAUNCH ELEVATION													
RIGHT TOE OF RAILING		STATION	104+01.62	104+15.94	104+30.26	104+44.58	104+58.90	104+76.80	104+94.71	105+12.62	105+30.53	105+44.86	105+59.19	105+73.52	105+87.86
		FINAL DECK ELEVATION	533.89	533.85	533.81	533.77	533.75	533.72	533.71	533.70	533.71	533.72	533.73	533.76	533.78
		*REBOUND													
		*SCREED ELEVATION													

* ITEM TO BE COMPLETED BY CONTRACTOR

D SURVEYED BEAM ELEVATION BEFORE DECK REMOVAL MINUS SURVEYED BEAM ELEVATION AFTER DECK REMOVAL
D = C - B

G RATIO OF PROPOSED DEAD LOAD (LB./FT.) TO EXISTING DEAD LOAD (LB./FT.) MULTIPLIED BY SURVEYED REBOUND
G = D x (F/E)

J DECK DEFLECTION ADDED TO THE FINAL DECK ELEVATION
J = A + G

K SCREED ELEVATION MINUS DECK THICKNESS
K = A + G - H

NOTES:

1. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.
4. FOR LOCATIONS NOT AT A BEAM CENTERLINE, USE THE CLOSEST BEAM TO DETERMINE THE REBOUND. FOR LEFT TOE OF RAILING OF RIGHT BRIDGE, USE BEAM B8. FOR ℄ ROUNDING OF RIGHT BRIDGE, USE BEAM B8. FOR RIGHT PROFILE GRADE LINE OF RIGHT BRIDGE, USE BEAM B9. FOR RIGHT TOE OF RAILING OF RIGHT BRIDGE, USE BEAM B14.
5. FOR PLAN VIEW AND TRANSVERSE SECTION, SEE SHEET 29 OF 44.

TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS - 2
BRIDGE NO. HAM-00050-29.28
OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD
RIGHT BRIDGE TOP OF
US-50 OVER

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
HLD	EA

REVIEWER
NFF 08/22/23

PROJECT ID
110570

SUBSET	TOTAL
28	44

SHEET	TOTAL
P.192	208

HAM-US 50-29.00

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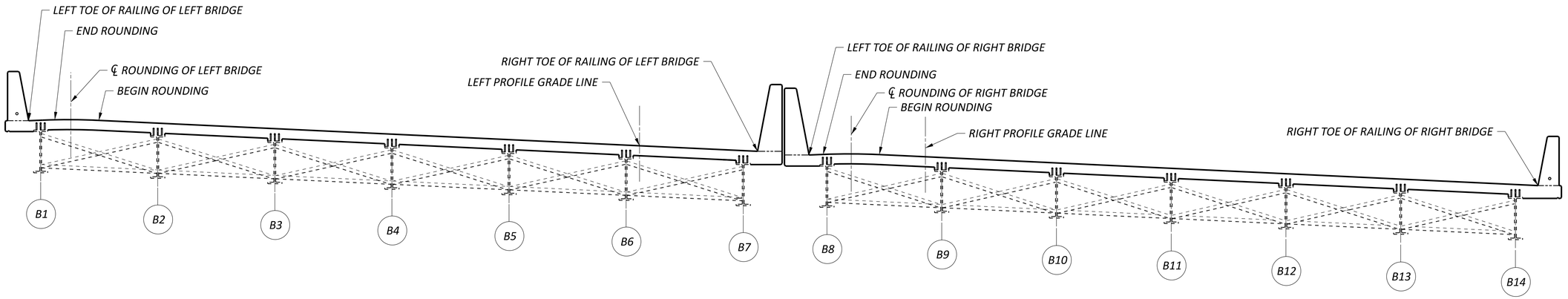
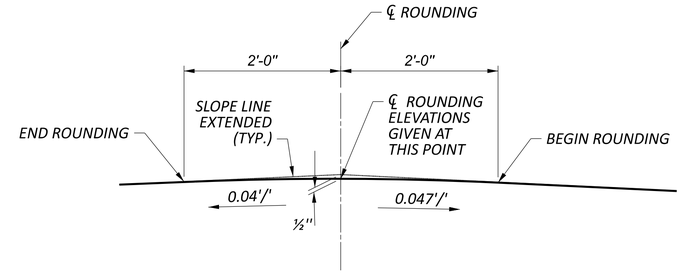
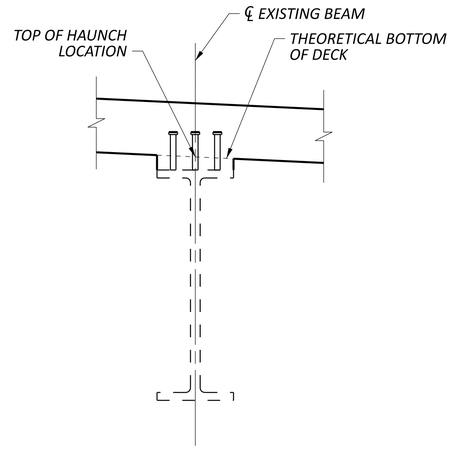


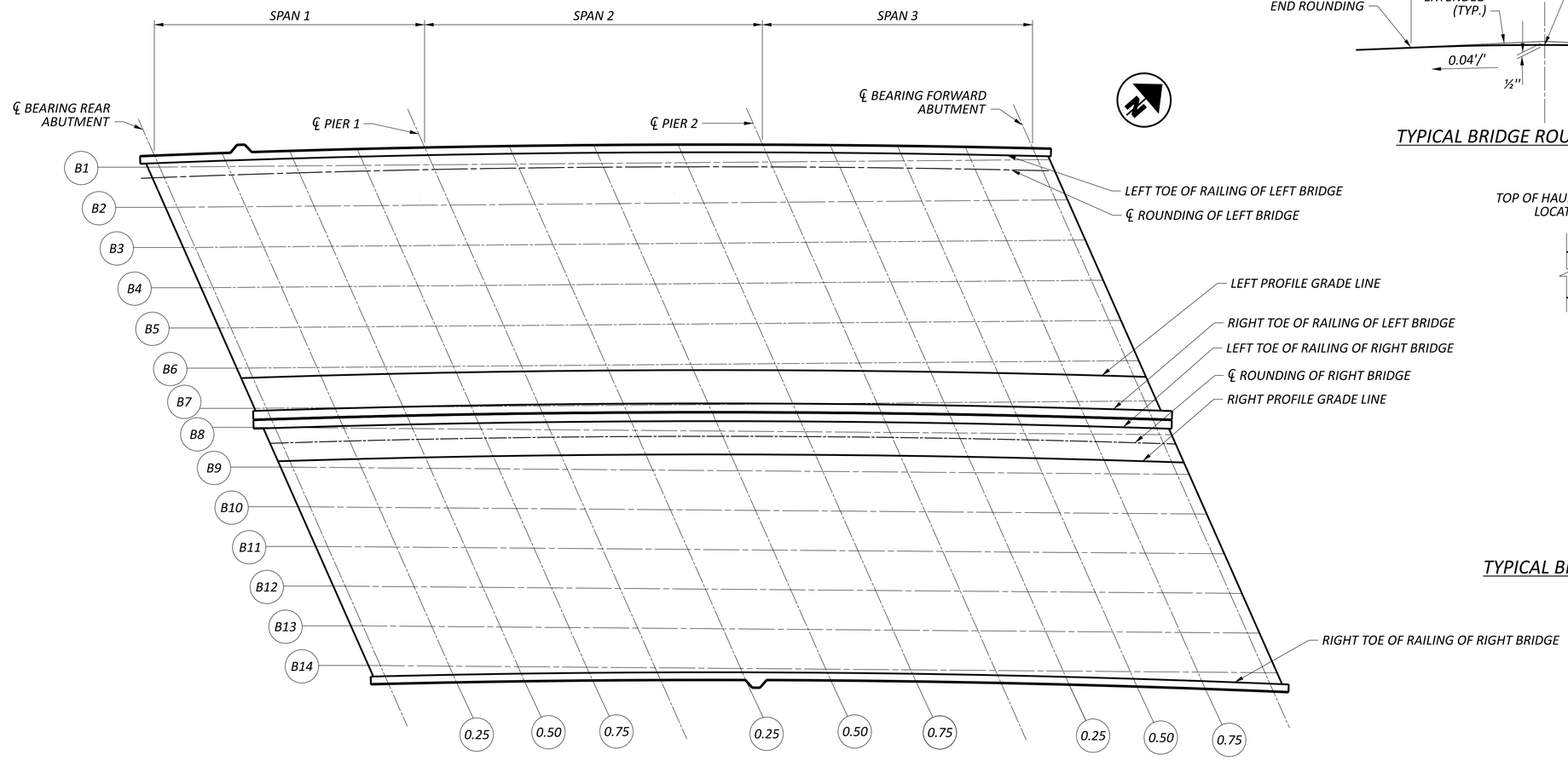
BRIDGE TRANSVERSE SECTION



TYPICAL BRIDGE ROUNDING DETAIL



TYPICAL BRIDGE TOP OF HAUNCH DETAIL



BRIDGE DECK ELEVATIONS LAYOUT

NOTE:

1. FOR TOP OF HAUNCH, SCREED, AND FINAL DECK ELEVATIONS, SEE SHEET 25 TO 28 OF 44.

LOCATION PLAN AND TRANSVERSE SECTION
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN	3103870
DESIGN AGENCY	TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER	HLD
CHECKER	EA
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	29
TOTAL	44
SHEET	P.193
TOTAL	208

HAM-US 50-29.00

MODEL: Untitled Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 12:54:14 PM USER: rjgreve
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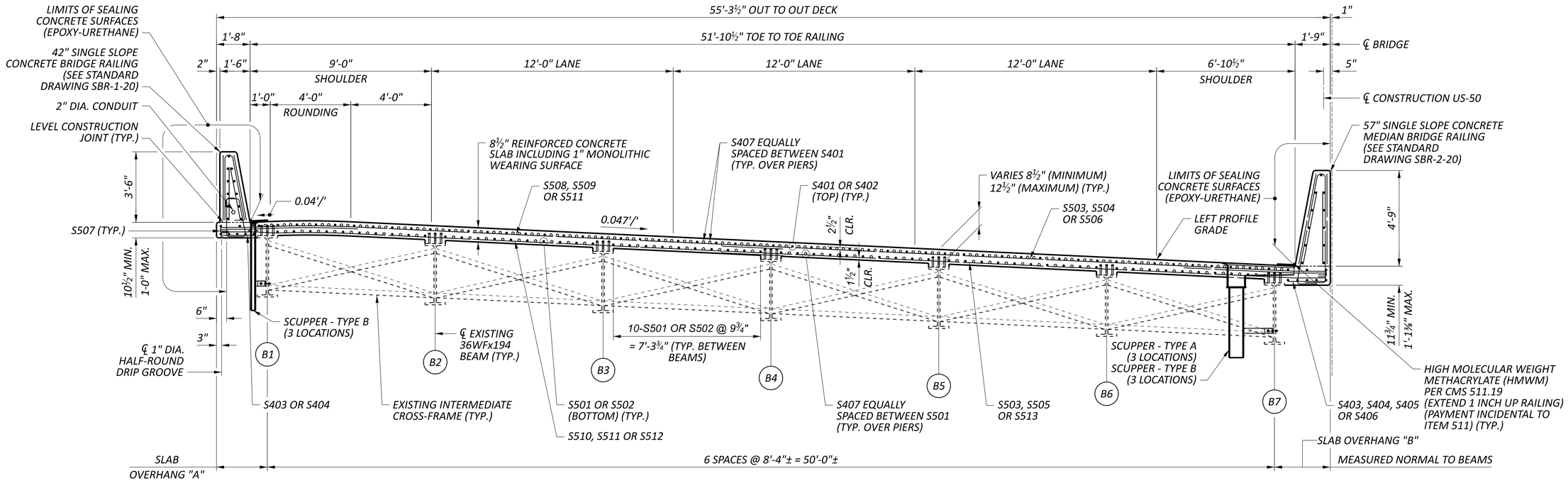

LEFT BRIDGE TRANSVERSE SECTION

SLAB OVERHANG "A" - SPAN 1							
LOCATION	℄ BEARING REAR ABUTMENT	0.2	0.4	0.5	0.6	0.8	℄ PIER 1
STATION AT ℄ B1	103+58.38	103+69.44	103+80.50	103+86.03	103+91.57	104+02.63	104+13.70
SLAB OVERHANG A	2'-6"	2'-9⅞"	3'-1¼"	3'-2¾"	3'-4⅛"	3'-6⅜"	3'-8¼"

SLAB OVERHANG "A" - SPAN 2							
LOCATION	℄ PIER 1	0.2	0.4	0.5	0.6	0.8	℄ PIER 2
STATION AT ℄ B1	104+13.70	104+27.40	104+41.11	104+47.96	104+54.82	104+68.52	104+82.23
SLAB OVERHANG A	3'-8¼"	3'-9¾"	3'-10½"	3'-10½"	3'-10⅜"	3'-9½"	3'-7⅞"

SLAB OVERHANG "A" - SPAN 3							
LOCATION	℄ PIER 2	0.2	0.4	0.5	0.6	0.8	℄ BEARING FORWARD ABUTMENT
STATION AT ℄ B1	104+82.23	104+93.08	105+03.93	105+09.36	105+14.78	105+25.63	105+36.48
SLAB OVERHANG A	3'-7⅞"	3'-5⅞"	3'-3½"	3'-2⅛"	3'-0⅝"	2'-9¼"	2'-5¼"

SLAB OVERHANG "B" - SPAN 1							
LOCATION	℄ BEARING REAR ABUTMENT	0.2	0.4	0.5	0.6	0.8	℄ PIER 1
STATION AT ℄ B7	103+78.46	103+89.72	104+00.98	104+06.61	104+12.24	104+23.50	104+34.76
SLAB OVERHANG B	2'-2⅝"	1'-11¾"	1'-9⅜"	1'-8¼"	1'-7⅜"	1'-6⅛"	1'-5¼"

SLAB OVERHANG "B" - SPAN 2							
LOCATION	℄ PIER 1	0.2	0.4	0.5	0.6	0.8	℄ PIER 2
STATION AT ℄ B7	104+34.76	104+48.70	104+62.65	104+69.62	104+76.59	104+90.54	105+04.48
SLAB OVERHANG B	1'-5¼"	1'-5"	1'-5½"	1'-6⅛"	1'-6⅞"	1'-9"	2'-0"

SLAB OVERHANG "B" - SPAN 3							
LOCATION	℄ PIER 2	0.2	0.4	0.5	0.6	0.8	℄ BEARING FORWARD ABUTMENT
STATION AT ℄ B7	105+04.48	105+15.52	105+26.55	105+32.07	105+37.59	105+48.62	105+59.65
SLAB OVERHANG B	2'-0"	2'-3"	2'-6⅜"	2'-8⅜"	2'-10⅜"	3'-2⅞"	3'-7⅞"

NOTES:

1. FOR PHASE 2 LEFT BRIDGE REMOVAL AND PHASE 2 LEFT BRIDGE CONSTRUCTION, SEE SHEET 6 OF 44.
2. FOR RIGHT BRIDGE TRANSVERSE SECTION, SEE SHEET 31 OF 44.
3. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 3.0 INCHES FOR BEAM B1, AND 4.3 INCHES FOR BEAMS B2 THRU B7, AND A HAUNCH WIDTH EQUAL TO THE TOP FLANGE WIDTH. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE.
4. THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH CMS 511.23.
5. FOR BRIDGE ROUNDING DETAIL, SEE SHEET 29 OF 44.
6. FOR LEFT BRIDGE SLAB PLAN, SEE SHEET 32 OF 44.
7. FIELD BEND S507, S508, AND S509 BARS AS REQUIRED.
8. FOR LEFT BRIDGE RAILING ELEVATION AND DETAILS, SEE SHEET 38 OF 44.
9. FOR SCUPPER DETAILS, SEE SHEET 24 OF 44.

LEFT BRIDGE TRANSVERSE SECTION
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
RSB	CCF

REVIEWER NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
30	44

SHEET	TOTAL
P.194	208

HAM-US 50-29.00

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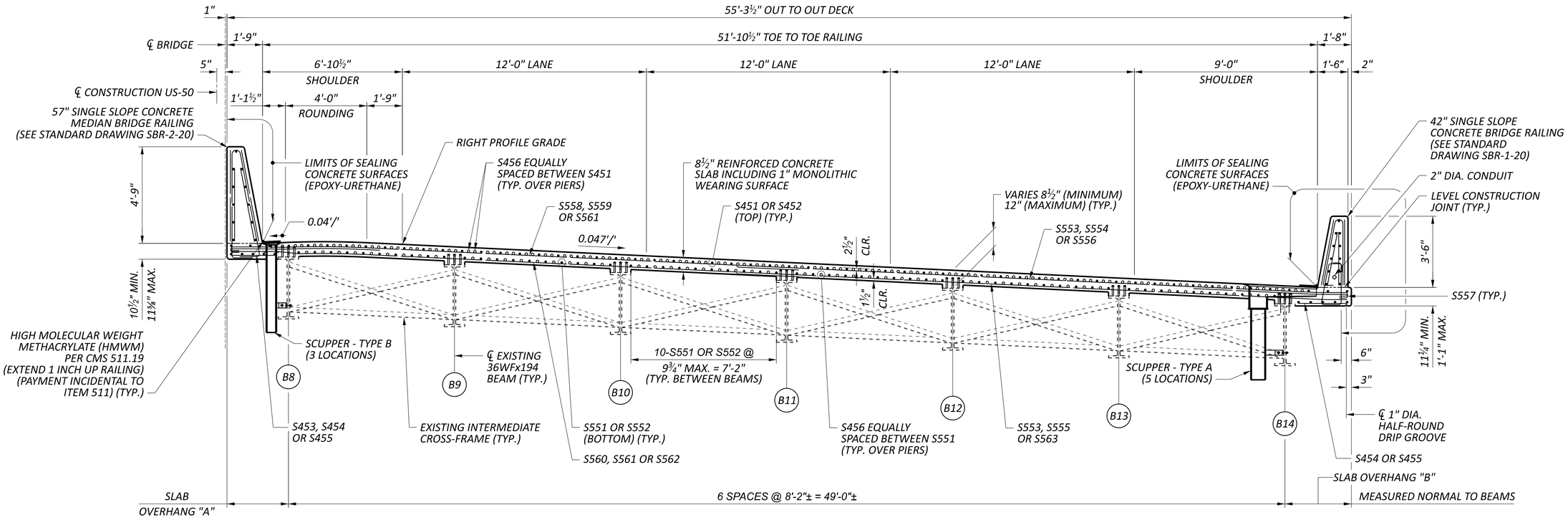

RIGHT BRIDGE TRANSVERSE SECTION

SLAB OVERHANG "A" - SPAN 1							
LOCATION	℄ BEARING REAR ABUTMENT	0.2	0.4	0.5	0.6	0.8	℄ PIER 1
STATION AT ℄ B8	103+80.09	103+91.44	104+02.80	104+08.47	104+14.15	104+25.51	104+36.87
SLAB OVERHANG A	1'-7⅝"	2'-0¾"	2'-5⅜"	2'-7⅜"	2'-9⅜"	3'-0⅞"	3'-3⅞"

SLAB OVERHANG "A" - SPAN 2							
LOCATION	℄ PIER 1	0.2	0.4	0.5	0.6	0.8	℄ PIER 2
STATION AT ℄ B8	104+36.87	104+50.94	104+65.01	104+72.05	104+79.08	104+93.16	105+07.23
SLAB OVERHANG A	3'-3⅞"	3'-6¾"	3'-8⅞"	3'-9⅝"	3'-10⅛"	3'-10½"	3'-10⅛"

SLAB OVERHANG "A" - SPAN 3							
LOCATION	℄ PIER 2	0.2	0.4	0.5	0.6	0.8	℄ BEARING FORWARD ABUTMENT
STATION AT ℄ B8	105+07.23	105+18.38	105+29.52	105+35.09	105+40.67	105+51.81	105+62.95
SLAB OVERHANG A	3'-10⅛"	3'-9¼"	3'-7¾"	3'-6⅞"	3'-5⅞"	3'-3⅜"	3'-0⅜"

SLAB OVERHANG "B" - SPAN 1							
LOCATION	℄ BEARING REAR ABUTMENT	0.2	0.4	0.5	0.6	0.8	℄ PIER 1
STATION AT ℄ B14	104+00.68	104+12.23	104+23.79	104+29.57	104+35.35	104+46.91	104+58.47
SLAB OVERHANG B	3'-10¾"	3'-6½"	3'-3"	3'-1⅜"	2'-11⅞"	2'-9½"	2'-7½"

SLAB OVERHANG "B" - SPAN 2							
LOCATION	℄ PIER 1	0.2	0.4	0.5	0.6	0.8	℄ PIER 2
STATION AT ℄ B14	104+58.47	104+72.79	104+87.11	104+94.26	105+01.42	105+15.74	105+30.06
SLAB OVERHANG B	2'-7½"	2'-5⅞"	2'-5"	2'-5"	2'-5⅛"	2'-6"	2'-7¾"

SLAB OVERHANG "B" - SPAN 3							
LOCATION	℄ PIER 2	0.2	0.4	0.5	0.6	0.8	℄ BEARING FORWARD ABUTMENT
STATION AT ℄ B14	105+30.06	105+41.40	105+52.73	105+58.40	105+64.07	105+75.40	105+86.73
SLAB OVERHANG B	2'-7¾"	2'-9¾"	3'-0¼"	3'-1⅝"	3'-3¼"	3'-6¾"	3'-10⅞"

NOTES:

1. FOR PHASE 3 RIGHT BRIDGE REMOVAL AND PHASE 3 RIGHT BRIDGE CONSTRUCTION, SEE SHEET 7 OF 44.
2. FOR LEFT BRIDGE TRANSVERSE SECTION, SEE SHEET 30 OF 44.
3. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 2.3 INCHES FOR BEAM B8, AND 3.9 INCHES FOR BEAMS B9 THRU B14, AND A HAUNCH WIDTH EQUAL TO THE TOP FLANGE WIDTH. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE.
4. THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH CMS 511.23.
5. FOR BRIDGE ROUNDING DETAIL, SEE SHEET 29 OF 44.
6. FOR RIGHT BRIDGE SLAB PLAN, SEE SHEET 33 OF 44.
7. FIELD BEND S557, S558, AND S559 BARS AS REQUIRED.
8. FOR RIGHT BRIDGE RAILING ELEVATION AND DETAILS, SEE SHEET 39 OF 44.
9. FOR SCUPPER DETAILS, SEE SHEET 24 OF 44.

RIGHT BRIDGE TRANSVERSE SECTION
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER RSB | CHECKER CCF
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 31 | TOTAL 44
SHEET P.195 | TOTAL 208

HAM-US 50-29.00

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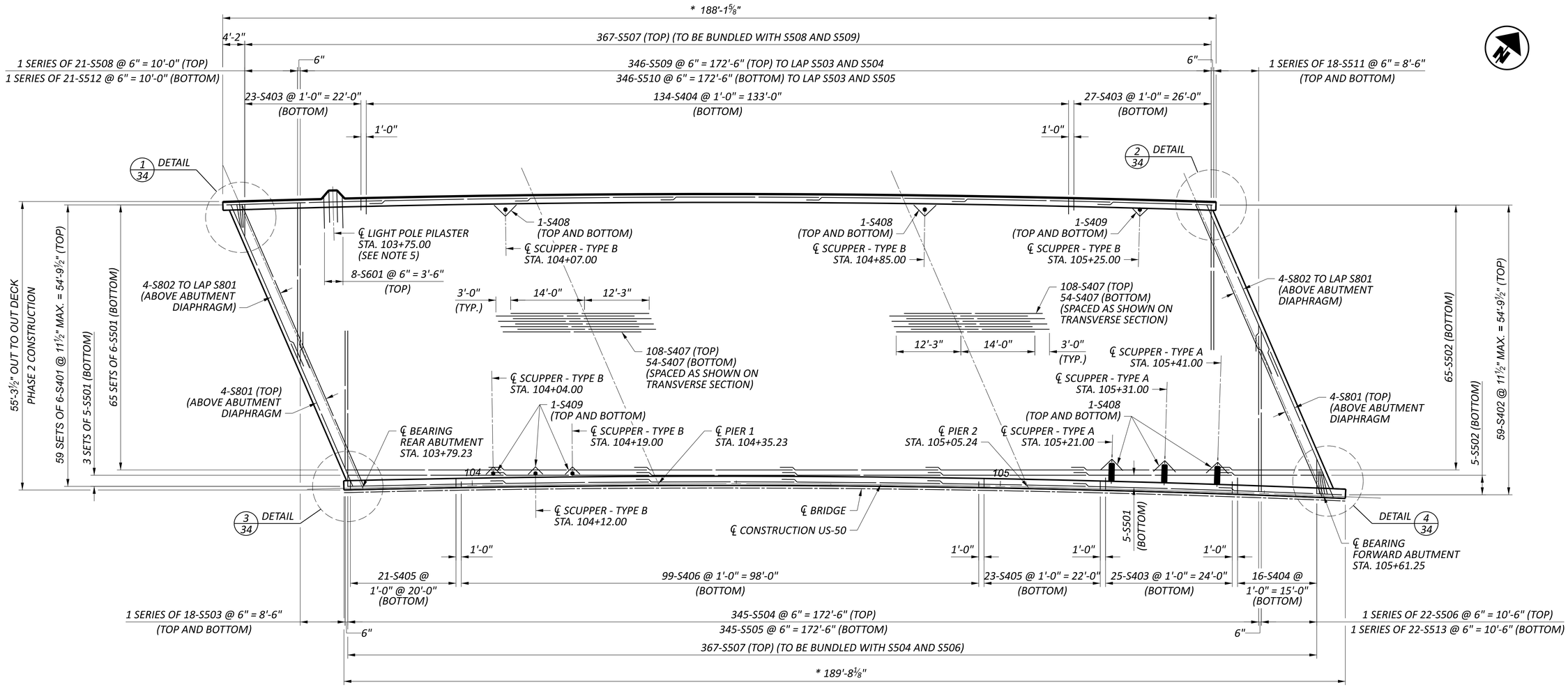
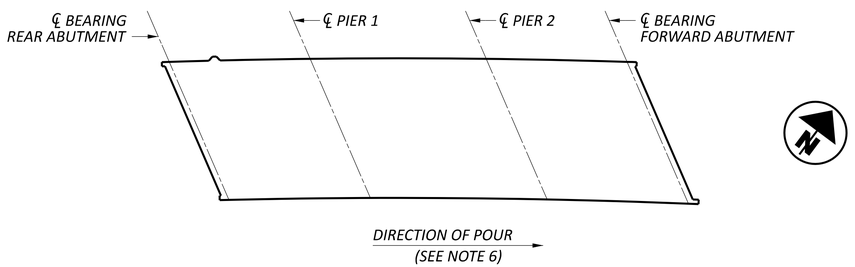


LEFT BRIDGE SLAB PLAN

(REFERENCE CHORD NOT SHOWN)

LAP LENGTH TABLE	
BAR	REQUIRED LAP LENGTH
NO. 4 LONGITUDINAL	1'-11" MIN.
NO. 5 LONGITUDINAL	2'-5" MIN.
NO. 5 TRANSVERSE	3'-0" MIN.
NO. 8 TRANSVERSE	4'-11" MIN.



SUGGESTED DECK CONCRETE POURING SEQUENCE PLAN

LEGEND:

* MEASURED ALONG EDGE OF SLAB

NOTES:

1. SEE LEFT BRIDGE TRANSVERSE SECTION ON SHEET 30 OF 44 FOR SPACING OF BOTTOM LONGITUDINAL BARS AND ADDITIONAL SLAB DETAILS.
2. FOR LEFT BRIDGE RAILING DETAILS, SEE SHEET 38 OF 44.
3. FOR REINFORCING STEEL LIST, SEE SHEET 43 OF 44.
4. FOR ADDITIONAL DIAPHRAGM DETAILS, SEE SHEETS 35 THROUGH 37 OF 44.
5. FOR ADDITIONAL LIGHT POLE PILASTER DETAILS, SEE SHEET 33 OF 44.
6. START POUR, PARALLEL TO THE SUBSTRUCTURE SKEW, AT THE REAR ABUTMENT AND PROCEED TO THE FORWARD ABUTMENT IN ONE CONTINUOUS POUR. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING OF THE BEAMS AT THE CENTERLINE OF ABUTMENT BEARINGS IF THE DIAPHRAGM CONCRETE ENCASING THE BEAM ENDS IS PLACED CONCURRENTLY WITH THE DECK CONCRETE. SEE DECK PLACEMENT DESIGN ASSUMPTIONS NOTE ON SHEET 3 FOR ADDITIONAL INFORMATION.
7. FOR SCUPPER DETAILS, SEE SHEET 24 OF 44.

LEFT BRIDGE SLAB PLAN
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
RSB	CCF

REVIEWER
NFF 08/22/23

PROJECT ID
110570

SUBSET	TOTAL
32	44

SHEET	TOTAL
P.196	208

HAM-US 50-29.00

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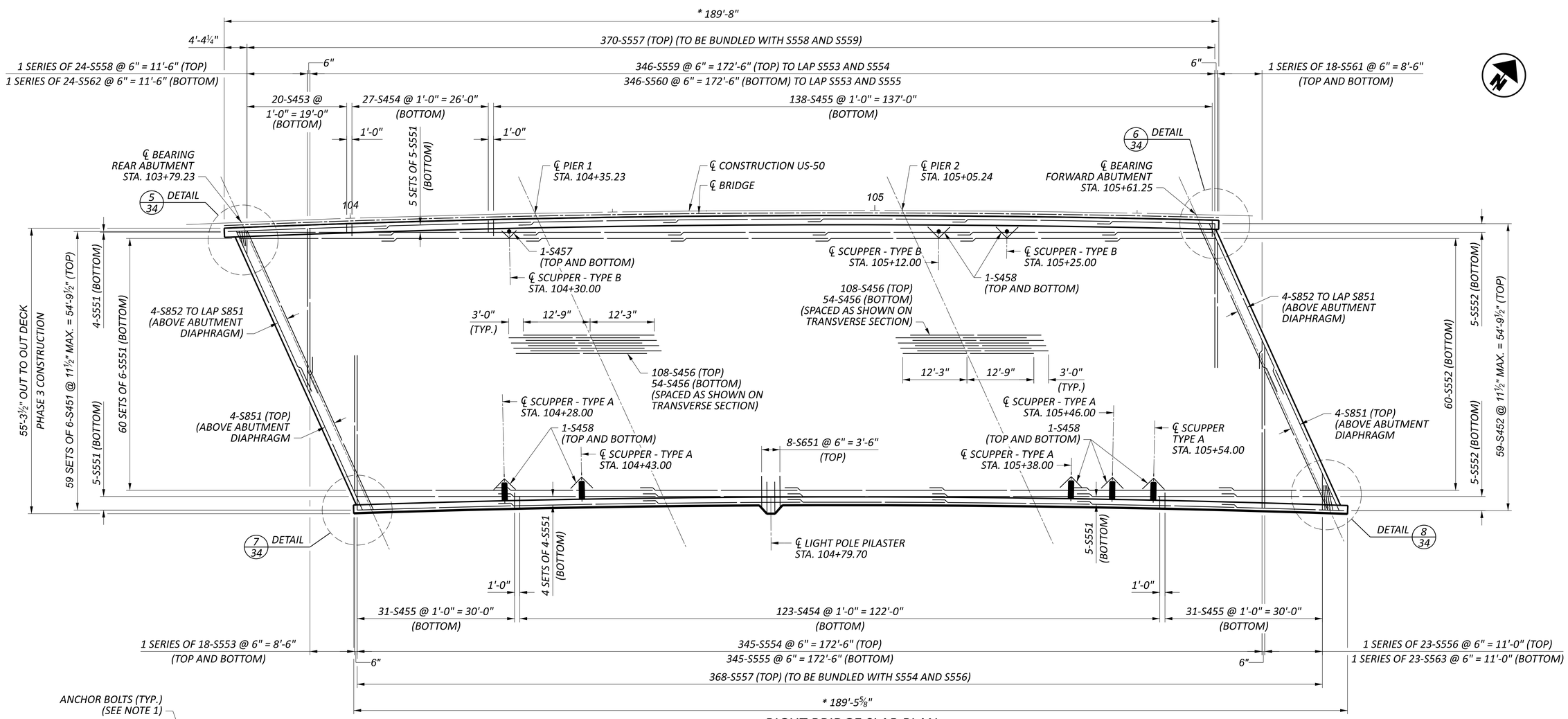
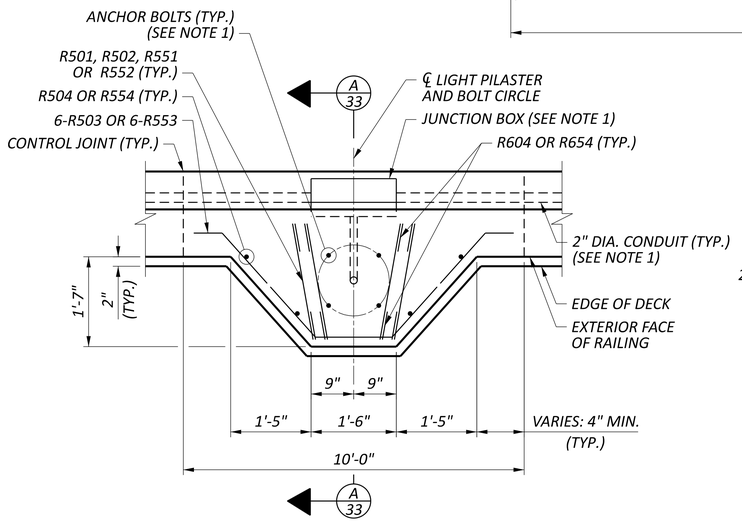
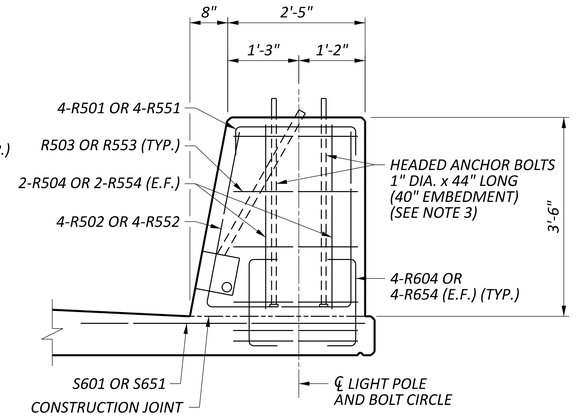


RIGHT BRIDGE SLAB PLAN

(REFERENCE CHORD NOT SHOWN)



LIGHT POLE PILASTER PLAN



A 33 SECTION

LAP LENGTH TABLE	
BAR	REQUIRED LAP LENGTH
NO. 4 LONGITUDINAL	1'-11" MIN.
NO. 5 LONGITUDINAL	2'-5" MIN.
NO. 5 TRANSVERSE	3'-0" MIN.
NO. 8 TRANSVERSE	4'-11" MIN.

LEGEND:

* MEASURED ALONG EDGE OF SLAB

NOTES:

1. FOR PAYMENT OF ANCHOR BOLTS, JUNCTION BOX, 2" DIA. CONDUIT, AND ADDITIONAL LIGHTING DETAILS, SEE LIGHTING PLANS.
2. CONTRACTOR SHALL MATCH ANCHOR BOLT PATTERN OF EXISTING LIGHT POLE THAT IS TO BE REMOVED AND REINSTALLED ON BRIDGE PILASTER.
3. ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 55 AND SHALL BE GALVANIZED PER CMS 711.02.
4. SEE RIGHT BRIDGE TRANSVERSE SECTION ON SHEET 31 OF 44 FOR SPACING OF BOTTOM LONGITUDINAL BARS AND ADDITIONAL SLAB DETAILS.
5. FOR RIGHT BRIDGE RAILING DETAILS, SEE SHEET 39 OF 44.
6. FOR REINFORCING STEEL LIST, SEE SHEET 43 OF 44.
7. FOR ADDITIONAL DIAPHRAGM DETAILS, SEE SHEETS 35 THROUGH 37 OF 44 .
8. FOR SCUPPER DETAILS, SEE SHEET 24 OF 44.
9. INSTALL A STRUCTURE GROUNDING SYSTEM PER STANDARD DRAWING HL-50.21. SEE LIGHTING PLANS FOR ADDITIONAL DETAILS AND PAYMENT.

RIGHT BRIDGE SLAB PLAN
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN	3103870
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE. E. STE 1000, CLEVELAND, OHIO 44114
DESIGNER	RSB
CHECKER	CCF
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	33
TOTAL	44
SHEET	P.197
TOTAL	208

HAM-US 50-29.00

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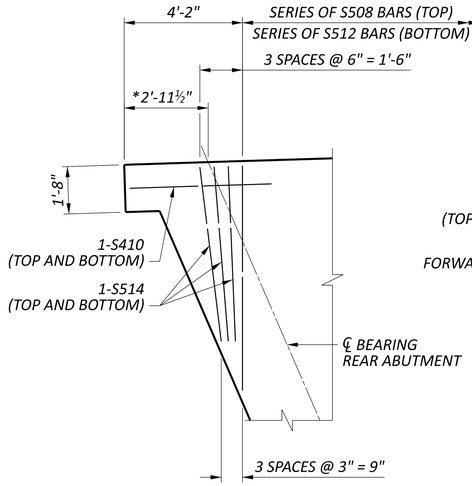
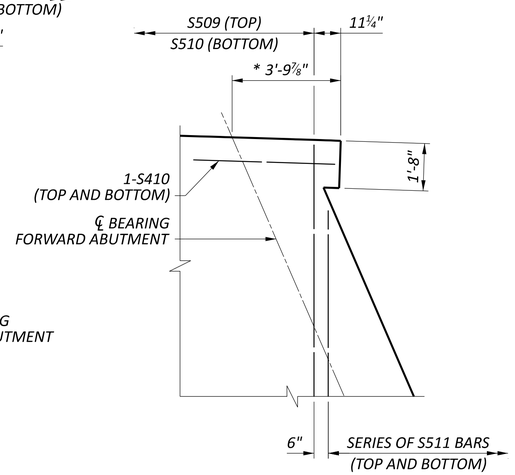
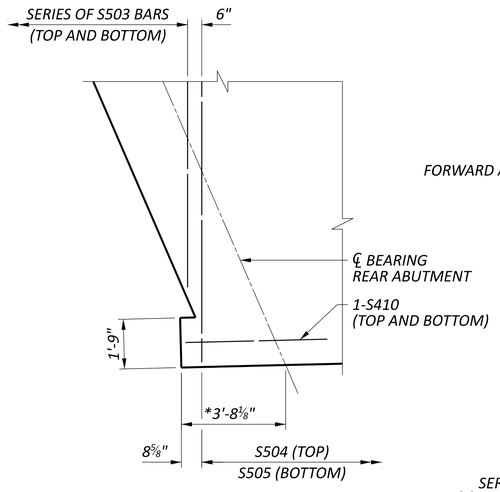


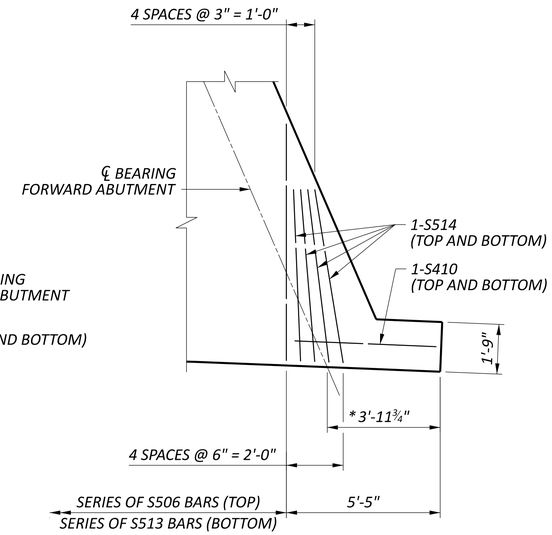
1 / 32 DETAIL



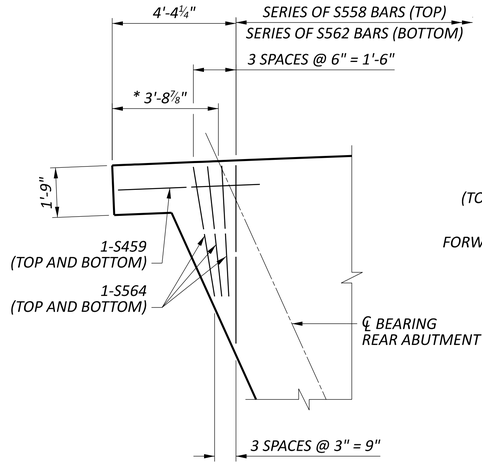
2 / 32 DETAIL



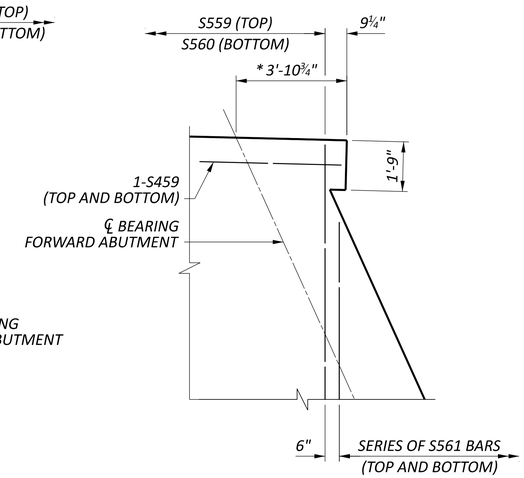
3 / 32 DETAIL



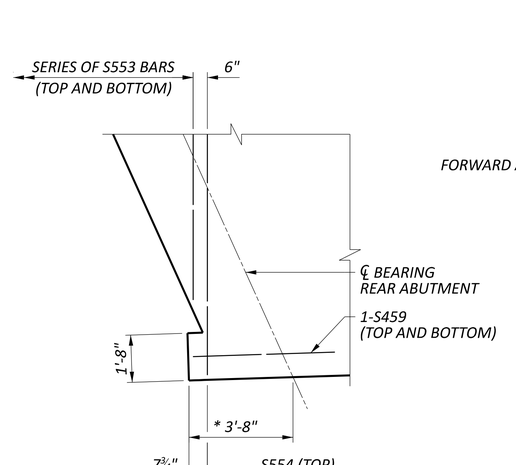
4 / 32 DETAIL



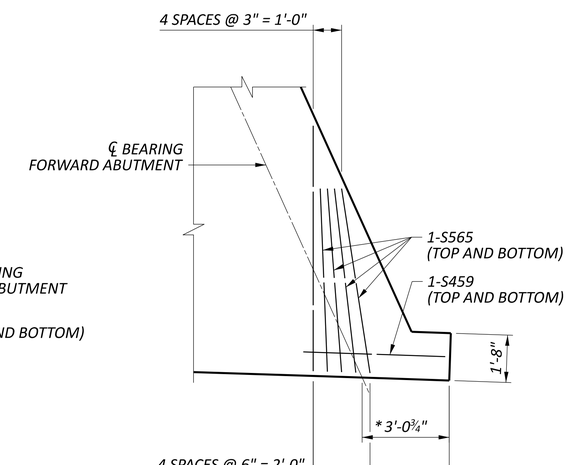
5 / 33 DETAIL



6 / 33 DETAIL



7 / 33 DETAIL



8 / 33 DETAIL

LEGEND:

* *MEASURED ALONG EDGE OF SLAB*

SLAB DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
RSB	CCF

REVIEWER
NFF 08/22/23

PROJECT ID
110570

SUBSET	TOTAL
34	44

SHEET	TOTAL
P.198	208

HAM-US 50-29.00

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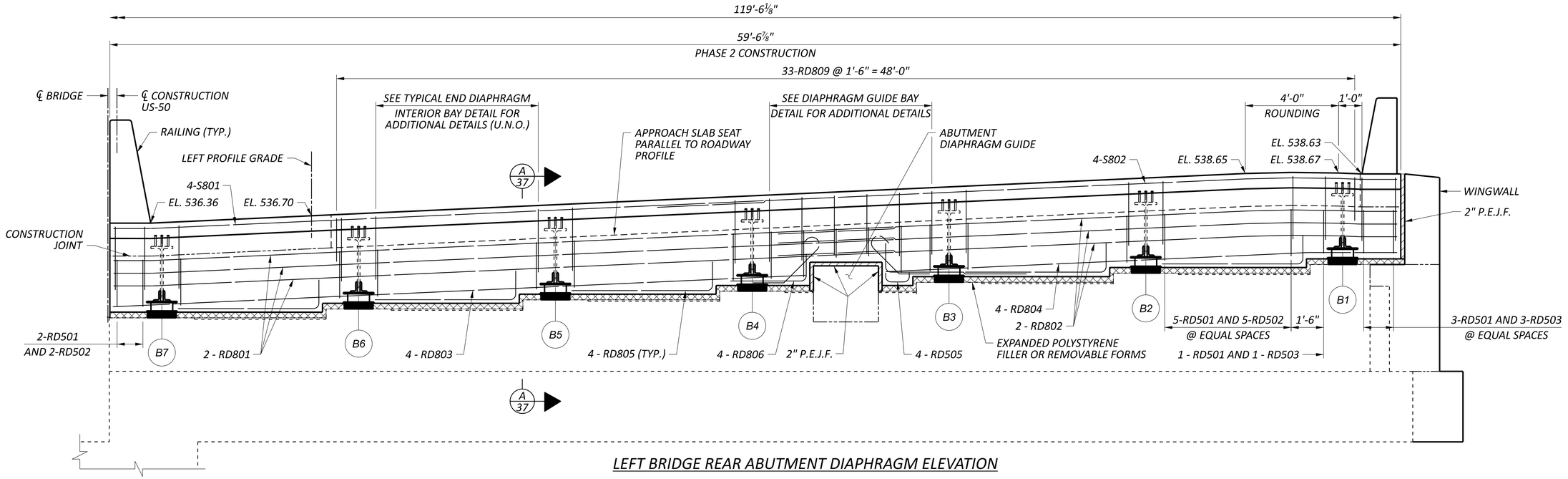
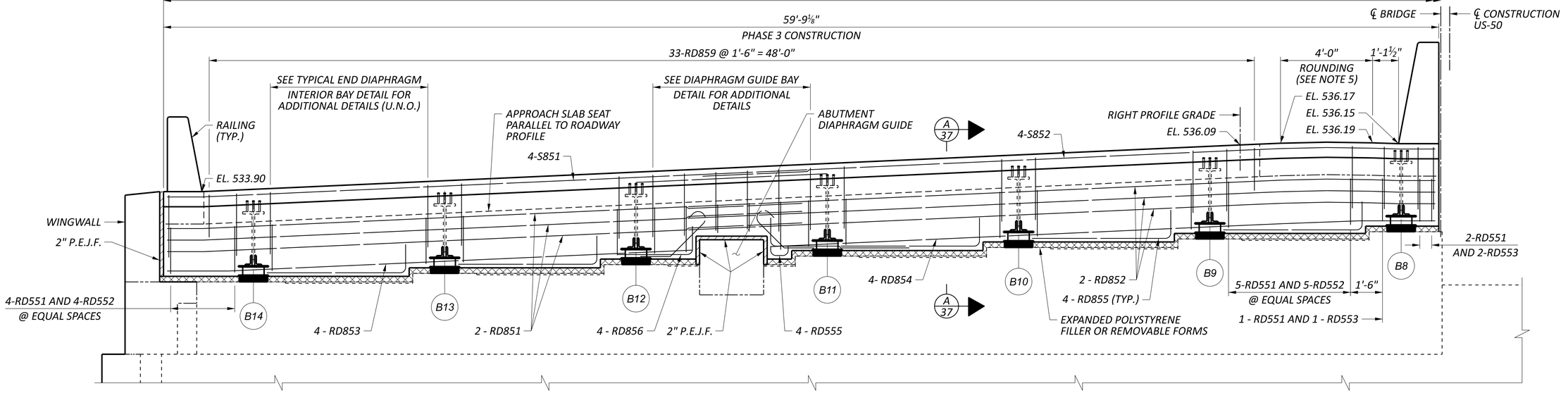


LEFT BRIDGE REAR ABUTMENT DIAPHRAGM ELEVATION



RIGHT BRIDGE REAR ABUTMENT DIAPHRAGM ELEVATION

EXISTING BEAM SEAT ELEVATIONS			
BEAM	ELEV.	BEAM	ELEV.
1	534.45±	8	532.02±
2	534.05±	9	531.68±
3	533.63±	10	531.28±
4	533.22±	11	530.88±
5	532.82±	12	530.48±
6	532.40±	13	530.07±
7	531.99±	14	529.67±

LAP LENGTH TABLE	
BAR	REQUIRED LAP LENGTH
NO. 8 HORIZONTAL	5'-4" MIN.

NOTES:

1. PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE A HORIZONTAL CONSTRUCTION JOINT IN THE DIAPHRAGM AS SHOWN IN SECTION A AND PLACE REMAINING DIAPHRAGM CONCRETE WITH THE DECK.
2. FOR REAR ABUTMENT PLAN AND ADDITIONAL WINGWALL DETAILS, SEE SHEETS 12 AND 13 OF 44 .
3. ALL VERTICAL REINFORCEMENT SHALL BE PLACED PARALLEL TO BEAMS.
4. HORIZONTAL DIMENSIONS ARE MEASURED ALONG THE ℄ BEARING.
5. FOR ROUNDING DETAILS, SEE SHEET 29 OF 44 .

REAR ABUTMENT DIAPHRAGM ELEVATION
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE., E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER ZTW | CHECKER RSB
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 35 | TOTAL 44
SHEET P.197 | TOTAL 206

HAM-US 50-29.00

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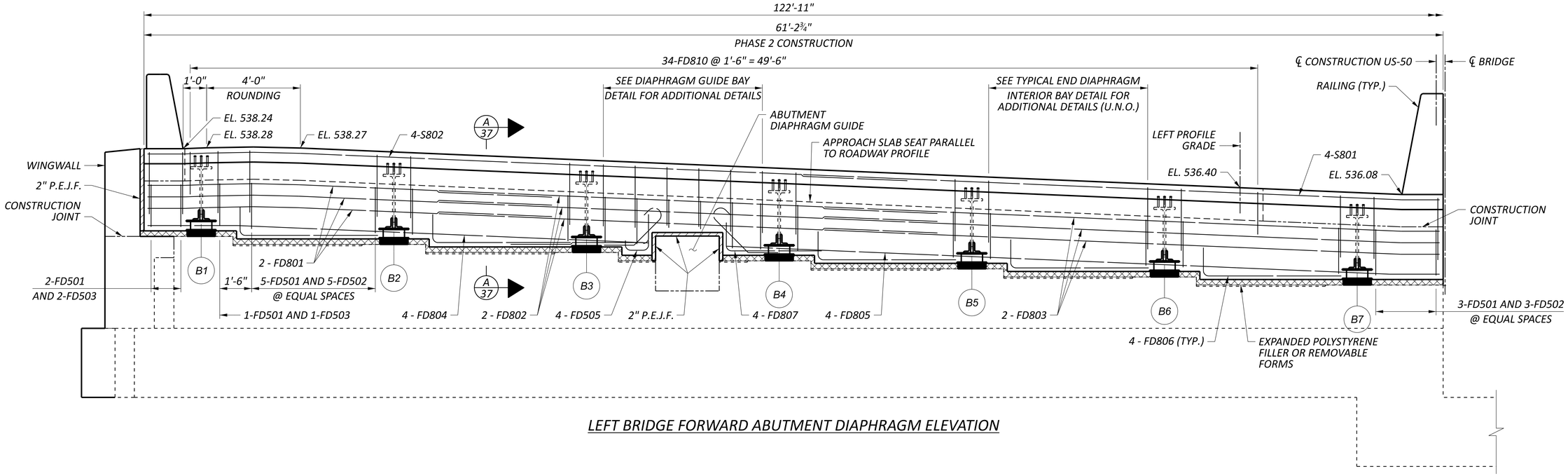
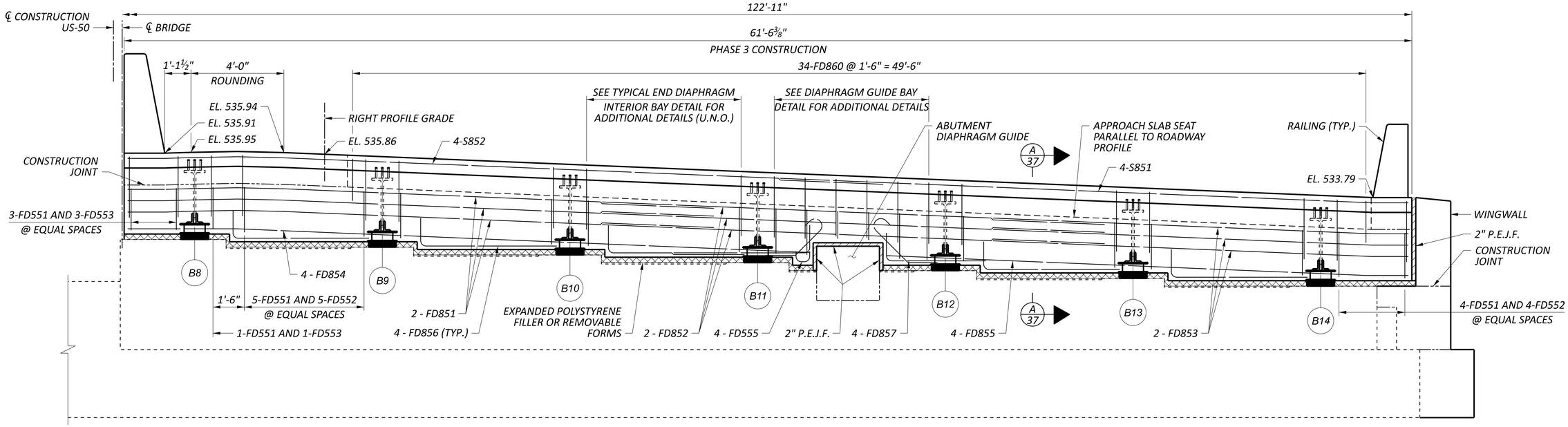


LEFT BRIDGE FORWARD ABUTMENT DIAPHRAGM ELEVATION



RIGHT BRIDGE FORWARD ABUTMENT DIAPHRAGM ELEVATION

EXISTING BEAM SEAT ELEVATIONS			
BEAM	ELEV.	BEAM	ELEV.
1	534.11±	8	531.79±
2	533.73±	9	531.42±
3	533.35±	10	531.05±
4	532.96±	11	530.68±
5	532.58±	12	530.30±
6	532.20±	13	529.93±
7	531.82±	14	529.56±

LAP LENGTH TABLE	
BAR	REQUIRED LAP LENGTH
NO. 8 HORIZONTAL	5'-4" MIN.

NOTES:

1. PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE A HORIZONTAL CONSTRUCTION JOINT IN THE DIAPHRAGM AS SHOWN IN SECTION A AND PLACE REMAINING DIAPHRAGM CONCRETE WITH THE DECK.
2. FOR FORWARD ABUTMENT PLAN AND ADDITIONAL WINGWALL DETAILS, SEE SHEETS 14 AND 15 OF 44.
3. ALL VERTICAL REINFORCEMENT SHALL BE PLACED PARALLEL TO BEAMS.
4. HORIZONTAL DIMENSIONS ARE MEASURED ALONG THE ℄ BEARING.
5. FOR ROUNDING DETAILS, SEE SHEET 29 OF 44.

FORWARD ABUTMENT DIAPHRAGM ELEVATION
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER ZTW | CHECKER RSB
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 36 | TOTAL 44
SHEET P.200 | TOTAL 208

HAM-US 50-29.00

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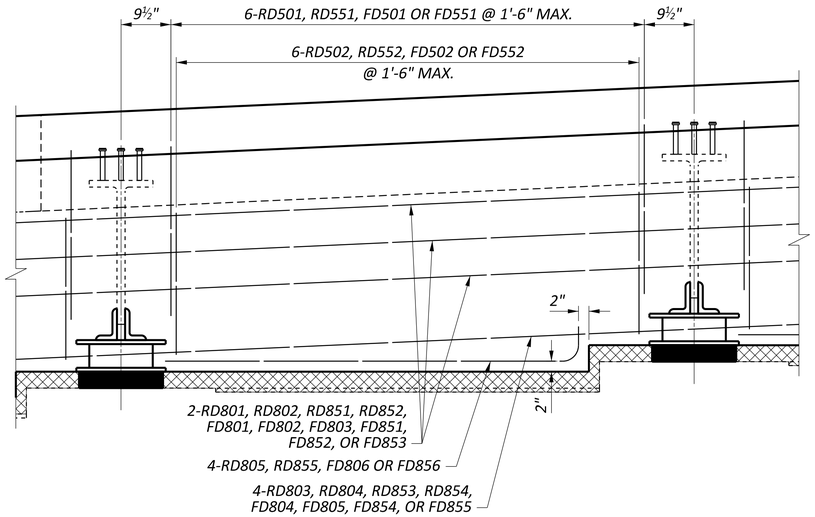
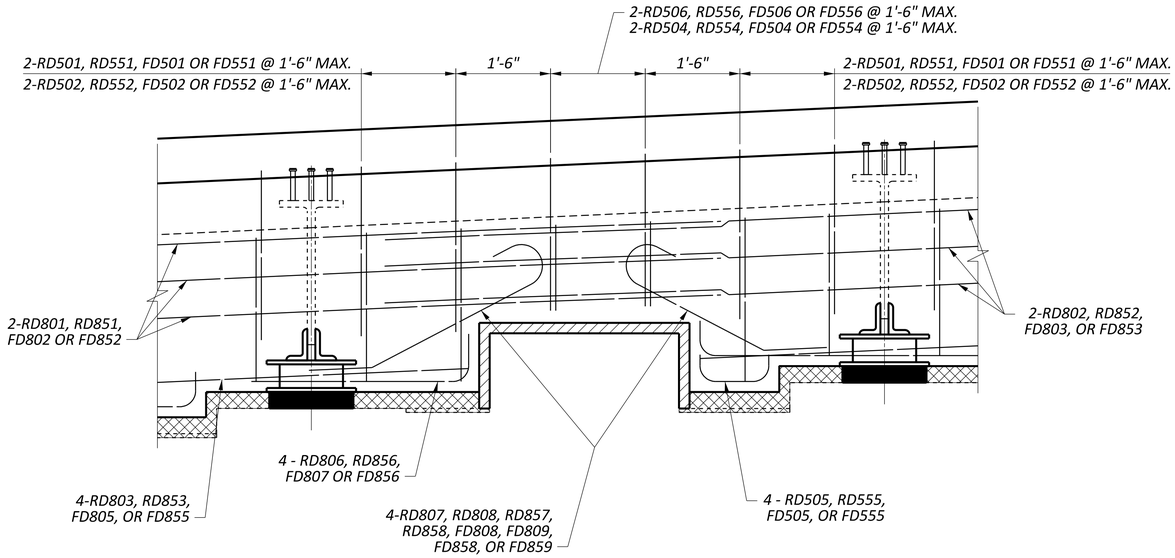
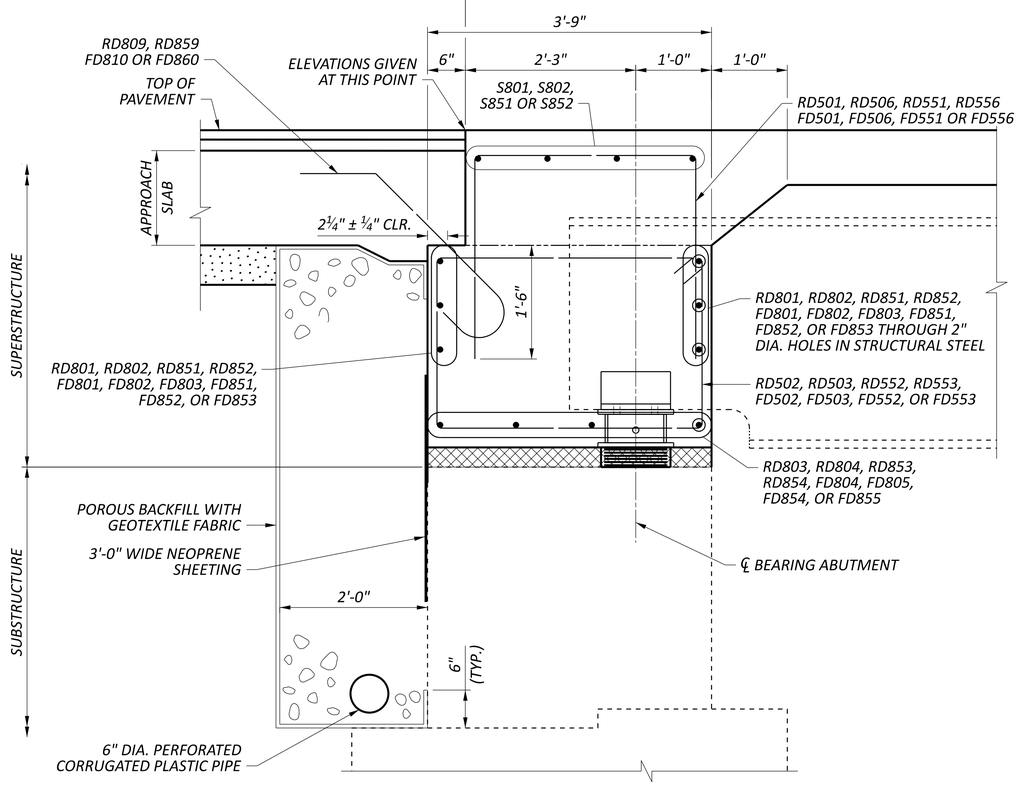


TYPICAL END DIAPHRAGM INTERIOR BAY DETAIL



DIAPHRAGM GUIDE BAY DETAIL



A
35, 36 SECTION

ABUTMENT DIAPHRAGM DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN	3103870
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	ZTW
CHECKER	RSB
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	37
TOTAL	44
SHEET	P.201
TOTAL	208

HAM-US 50-29.00

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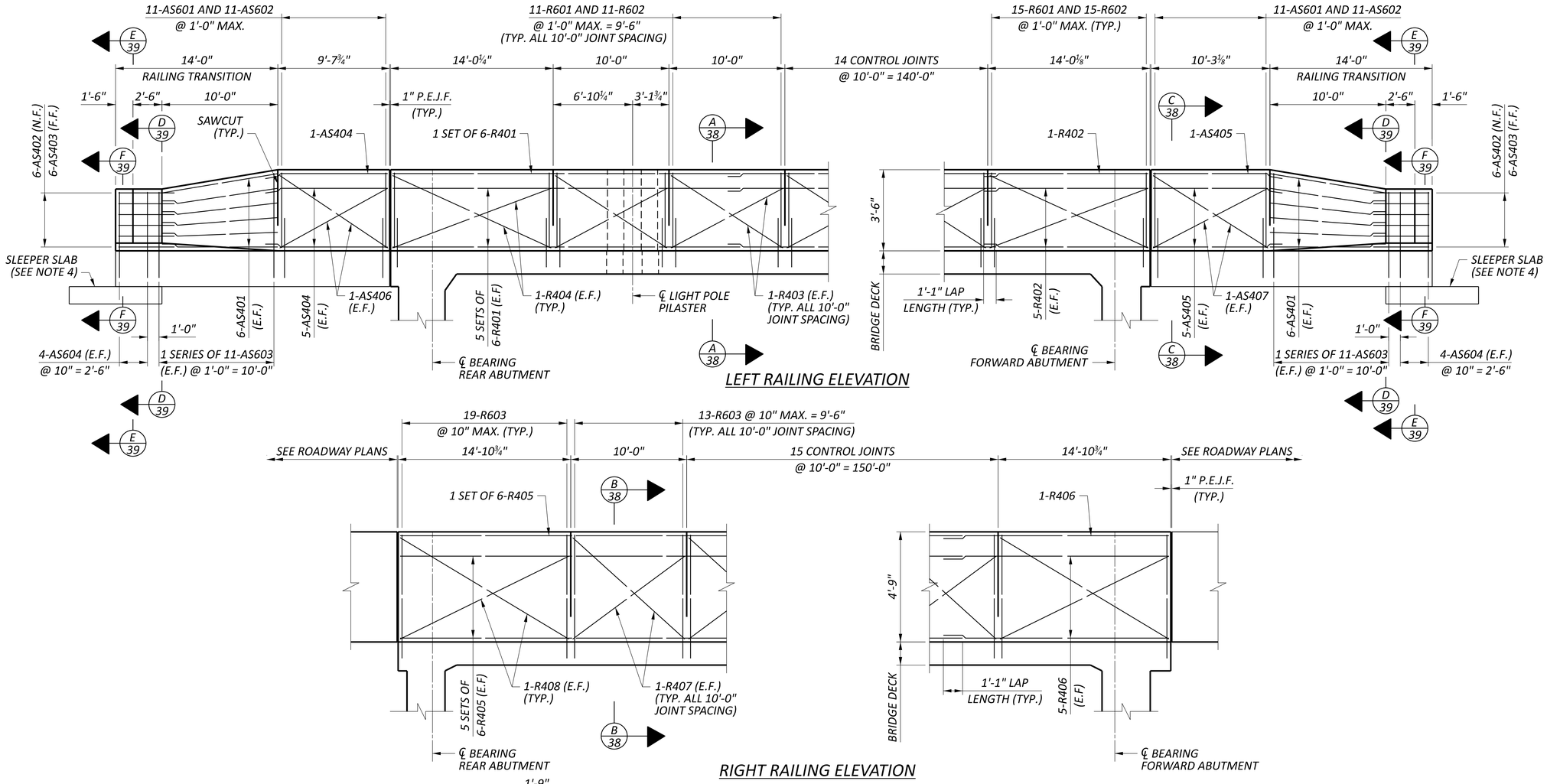

LEGEND:

1. ITEM 442 - 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (448)
2. ITEM 442 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5MM, TYPE A (448)

E.F. EACH FACE
N.F. NEAR FACE
F.F. FAR FACE

NOTES:

1. HORIZONTAL DIMENSIONS ARE GIVEN ALONG INSIDE FACE.
2. FOR RIGHT BRIGDE RAILING DETAILS, SEE SHEET 39 OF 44.
3. FOR ADDITIONAL RAILING DETAILS NOT SHOWN, SEE STANDARD DRAWING SBR-1-20 AND SBR-2-20.
4. FOR APPROACH SLAB PLANS AND ADDITIONAL NOTES AND DETAILS, SEE SHEET 40 OF 44.
5. FOR LIGHT POLE PILASTER PLAN AND DETAILS, SEE SHEET 33 OF 44.

LEFT BRIDGE RAILING ELEVATION
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
GJZ	TOR

REVIEWER: NFF 08/22/23

PROJECT ID: 110570

SUBSET	TOTAL
38	44

SHEET	TOTAL
P.202	208

HAM-US 50-29.00

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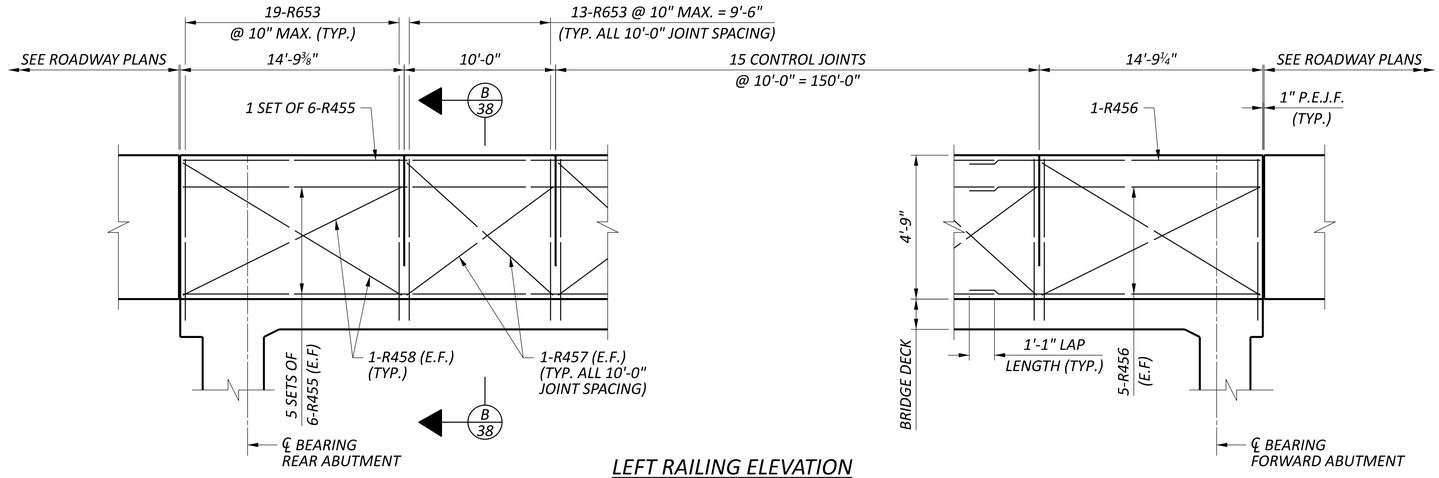
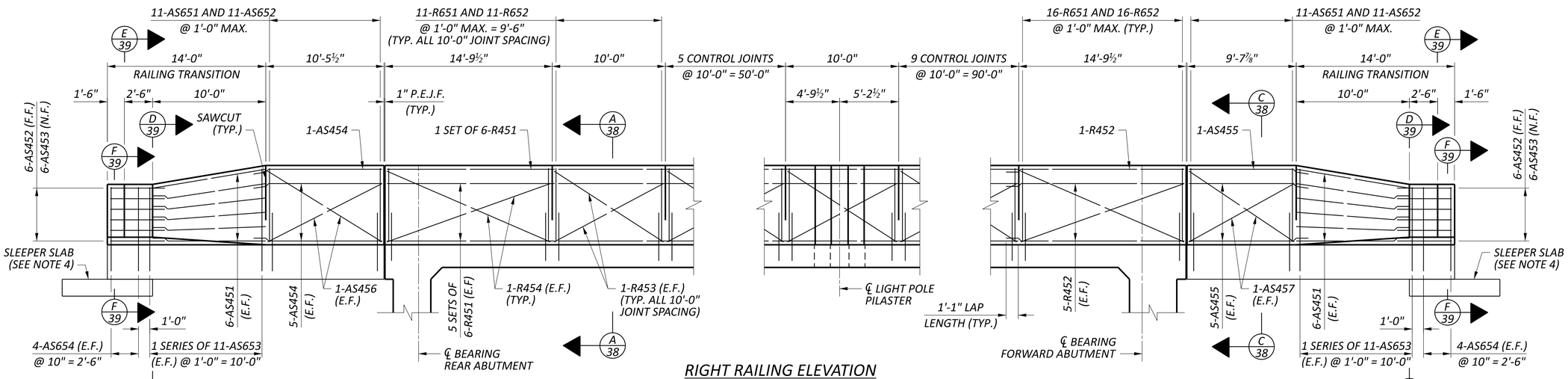
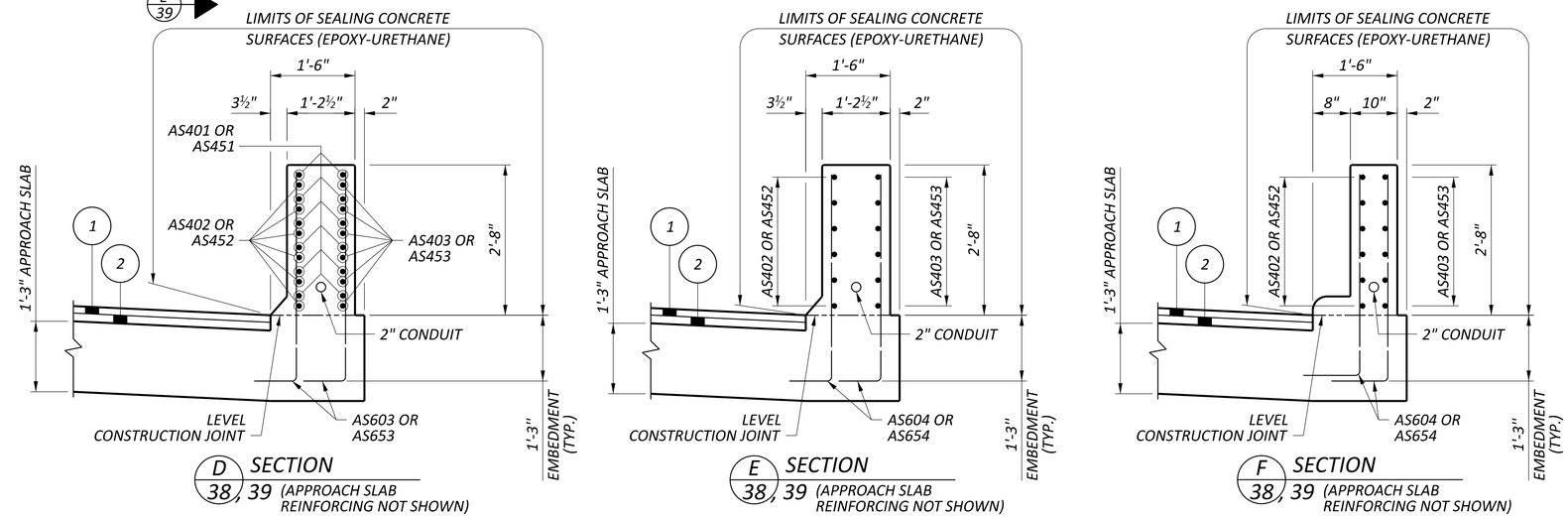


LEFT RAILING ELEVATION



RIGHT RAILING ELEVATION



D 38, 39 SECTION (APPROACH SLAB REINFORCING NOT SHOWN)

E 38, 39 SECTION (APPROACH SLAB REINFORCING NOT SHOWN)

F 38, 39 SECTION (APPROACH SLAB REINFORCING NOT SHOWN)

LEGEND:

1. ITEM 442 - 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (448)
2. ITEM 442 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5MM, TYPE A (448)

E.F. EACH FACE
N.F. NEAR FACE
F.F. FAR FACE

NOTES:

1. HORIZONTAL DIMENSIONS ARE GIVEN ALONG INSIDE FACE.
2. FOR LEFT BRIDGE RAILING DETAILS, SEE SHEET 38 OF 44.
3. FOR ADDITIONAL RAILING DETAILS NOT SHOWN, SEE STANDARD DRAWING SBR-1-20 AND SBR-2-20.
4. FOR APPROACH SLAB PLANS AND ADDITIONAL NOTES AND DETAILS, SEE SHEET 41 OF 44.
5. FOR LIGHT POLE PILASTER PLAN AND DETAILS, SEE SHEET 33 OF 44.

RIGHT BRIDGE RAILING ELEVATION
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

HAM-US 50-29.00

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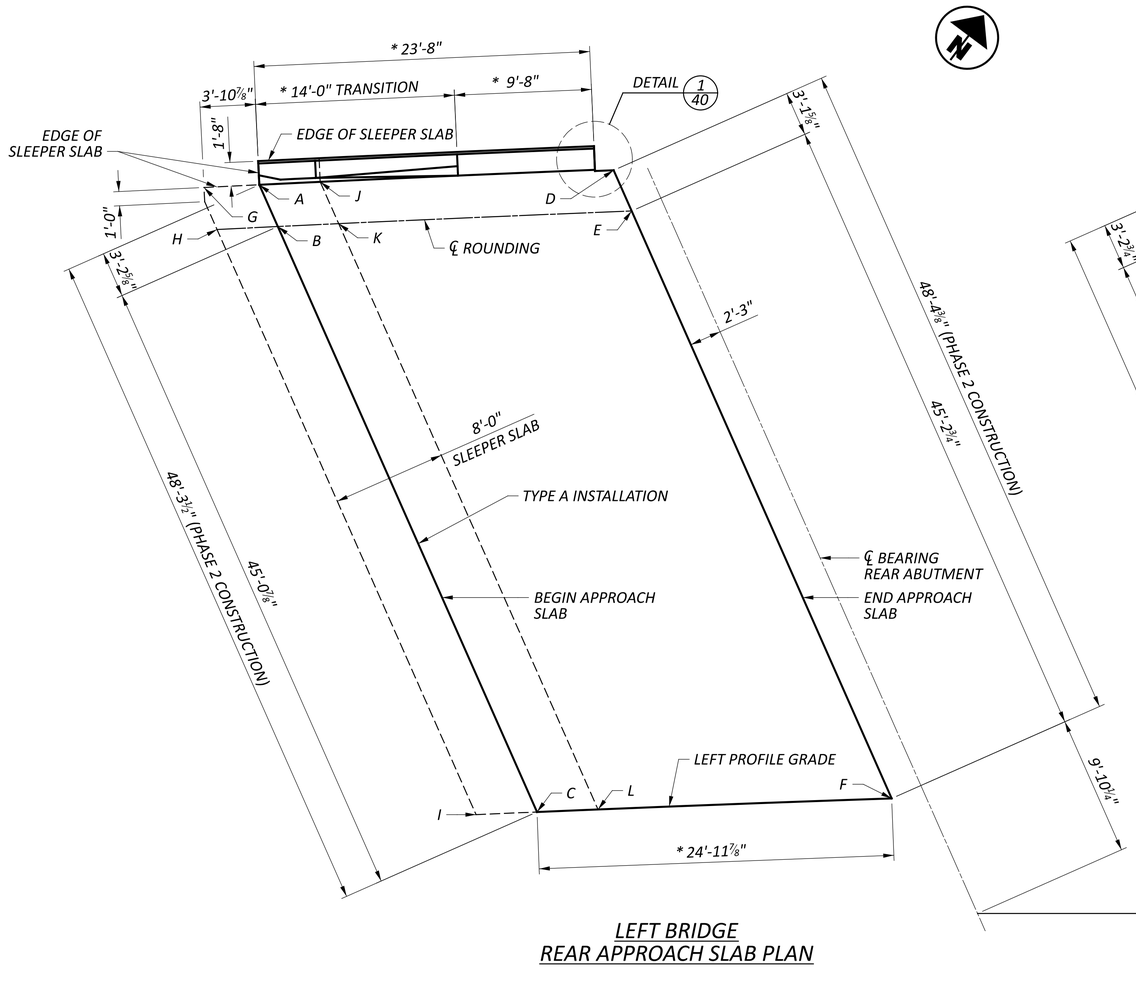
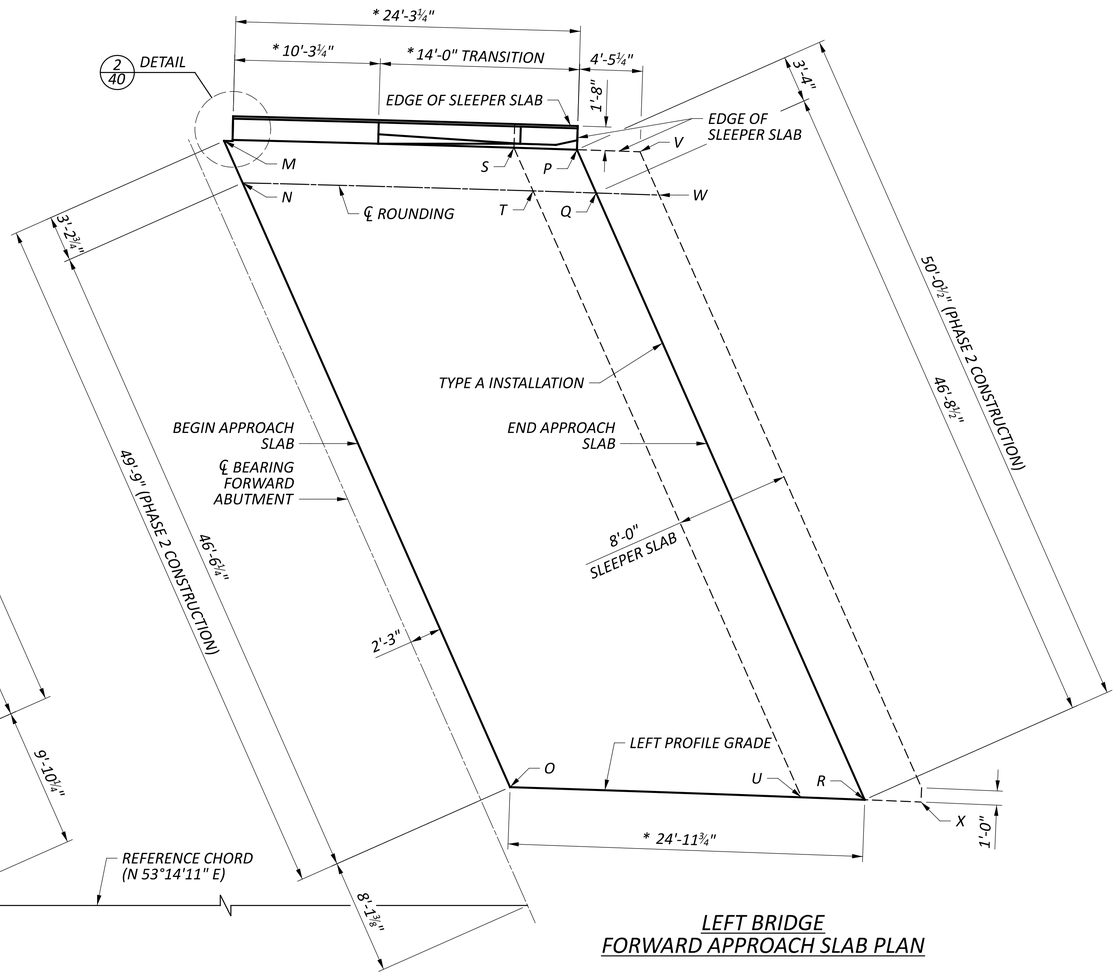
SFN	3103870
DESIGN AGENCY	TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114
DESIGNER	GJZ
CHECKER	TOR
REVIEWER	NFF 08/22/23
PROJECT ID	110570
SUBSET	39
TOTAL	44
SHEET	P.203
TOTAL	208



LEFT BRIDGE
REAR APPROACH SLAB PLAN



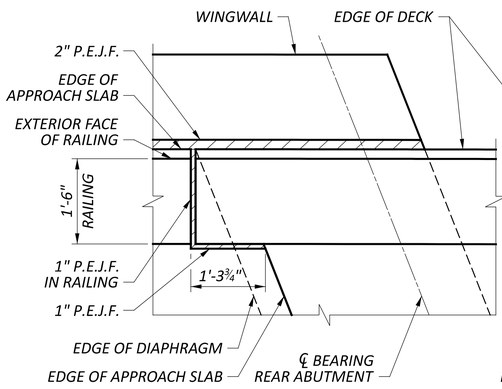
LEFT BRIDGE
FORWARD APPROACH SLAB PLAN

REAR APPROACH SLAB LOCATIONS

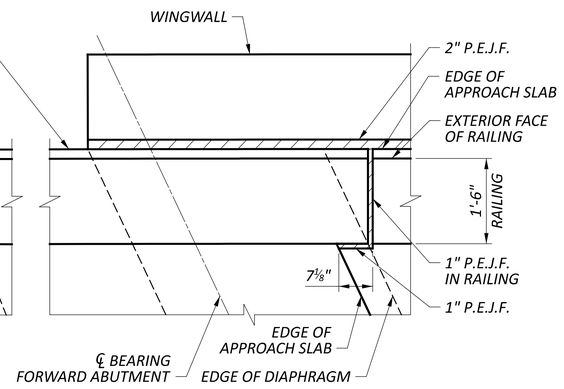
	APPROACH SLAB SURFACE ELEVATIONS (SEE NOTE 4)				SLEEPER SLAB ELEVATIONS		
	STATION	OFFSET	ELEVATION		STATION	OFFSET	ELEVATION
A	103+31.21	53.29' LT.	538.48	G	103+27.38	53.29' LT.	537.25
B	103+32.35	50.29' LT.	538.55	H	103+28.13	50.29' LT.	537.32
C	103+48.54	8.29' LT.	536.54	I	103+44.26	8.29' LT.	535.31
D	103+55.71	53.21' LT.	538.36	J	103+35.42	53.29' LT.	537.21
E	103+56.85	50.29' LT.	538.43	K	103+36.56	50.29' LT.	537.28
F	103+73.46	8.29' LT.	536.43	L	103+52.83	8.29' LT.	535.27

FORWARD APPROACH SLAB LOCATIONS

	APPROACH SLAB SURFACE ELEVATIONS (SEE NOTE 4)				SLEEPER SLAB ELEVATIONS		
	STATION	OFFSET	ELEVATION		STATION	OFFSET	ELEVATION
M	105+38.60	53.21' LT.	537.97	S	105+58.64	53.29' LT.	536.73
N	105+39.95	50.29' LT.	538.05	T	105+60.06	50.29' LT.	536.81
O	103+59.76	8.29' LT.	536.13	U	105+80.23	8.29' LT.	534.91
P	105+63.00	53.29' LT.	537.99	V	105+67.36	53.29' LT.	536.74
Q	105+64.42	50.29' LT.	538.07	W	105+68.79	50.29' LT.	536.82
R	105+84.67	8.29' LT.	536.16	X	105+88.62	8.29' LT.	534.92



1/40 DETAIL



2/40 DETAIL

LEGEND:

* MEASURED ALONG EDGE OF APPROACH SLAB

NOTES:

1. FOR THE 25-FT. APPROACH SLAB REINFORCEMENT REQUIREMENTS AND ADDITIONAL STANDARD APPROACH SLAB DETAILS, SEE GENERAL NOTE ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA, (T=15"), AS PER PLAN AND ODOT STANDARD DRAWING AS-1-15.
2. FOR APPROACH SLAB TYPE A INSTALLATION REQUIREMENTS, SEE ODOT STANDARD DRAWING AS-2-15.
3. FOR APPROACH SLAB RAILING DETAILS, SEE SHEETS 38 AND 39 OF 44 .
4. APPROACH SLAB SURFACE ELEVATIONS ARE GIVEN AT TOP OF CONCRETE APPROACH SLAB, UNDERNEATH THE ASPHALT.
5. FOR ROUNDING DETAIL, SEE SHEET 29 OF 44 .

LEFT BRIDGE APPROACH SLAB DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
GJZ	TOR

REVIEWER: NFF 08/22/23

PROJECT ID: 110570

SUBSET	TOTAL
40	44

SHEET	TOTAL
P.204	208

HAM-US 50-29.00

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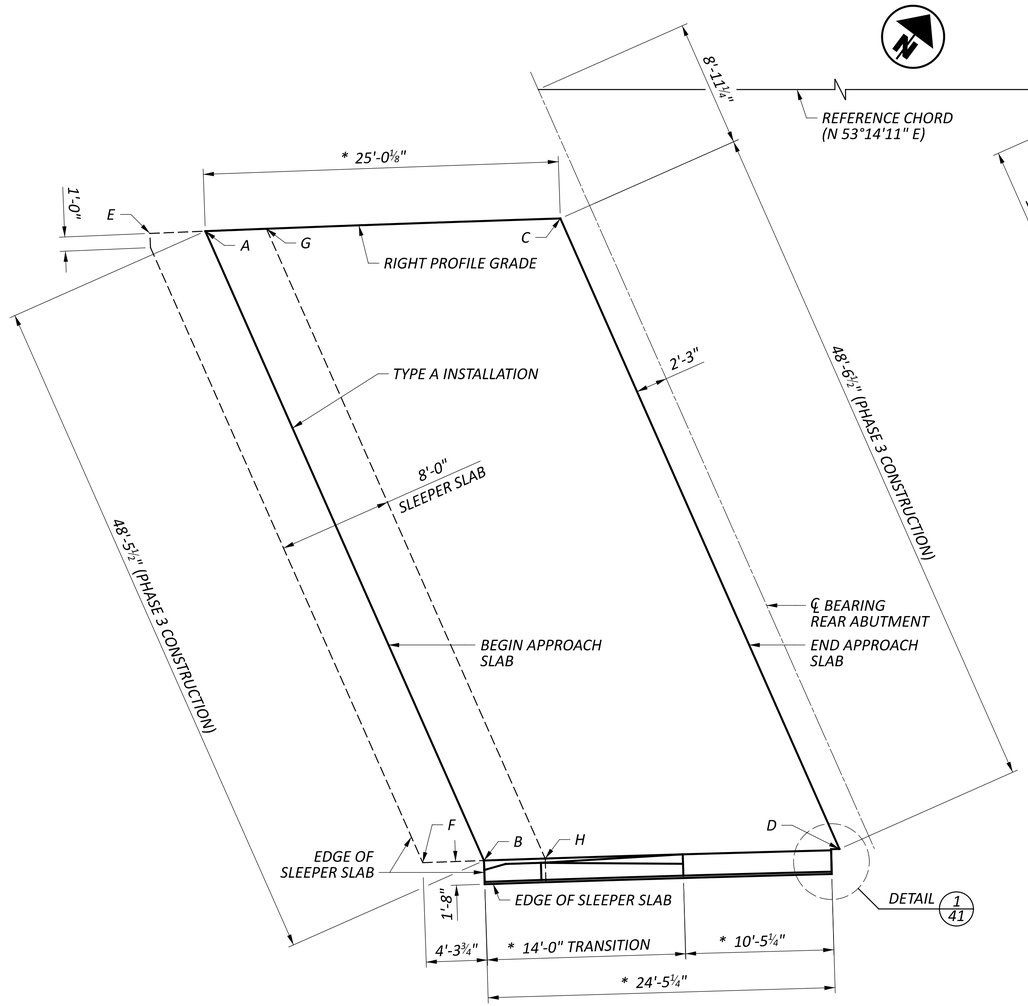
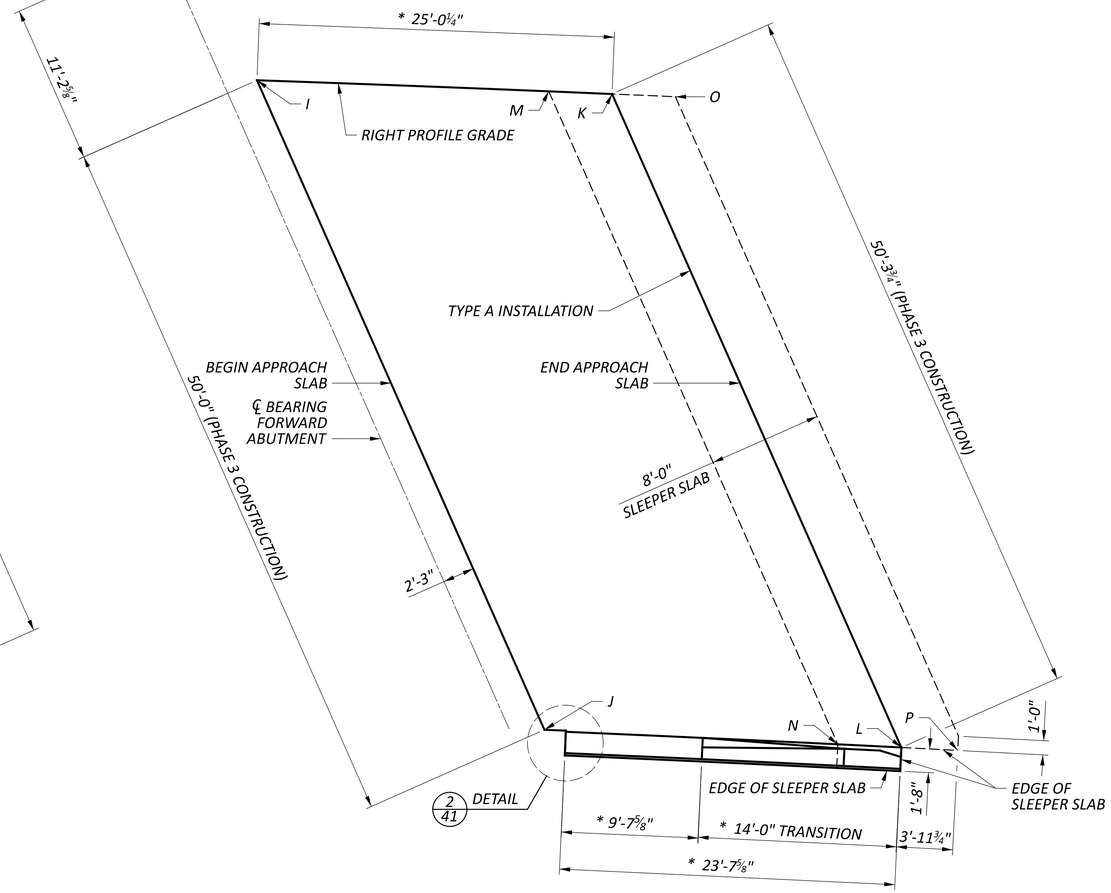


RIGHT BRIDGE
REAR APPROACH SLAB PLAN



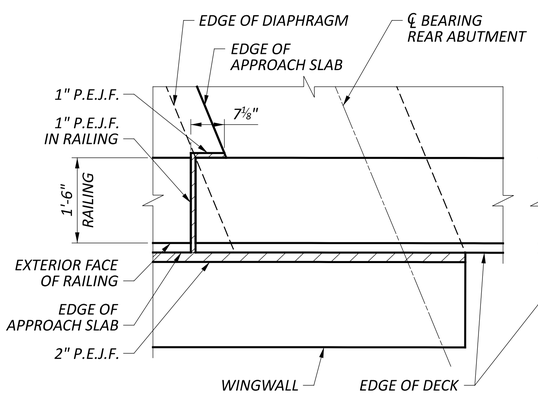
RIGHT BRIDGE
FORWARD APPROACH SLAB PLAN

REAR APPROACH SLAB LOCATIONS

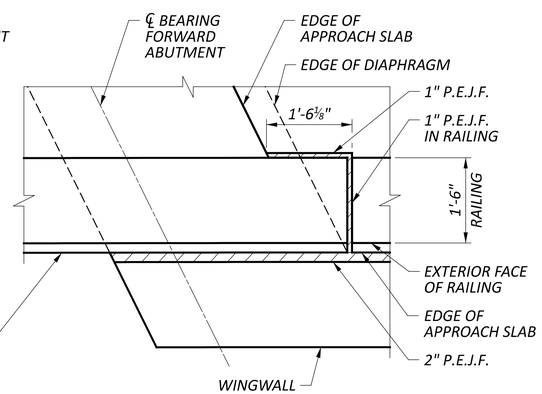
	APPROACH SLAB SURFACE ELEVATIONS (SEE NOTE 4)				SLEEPER SLAB ELEVATIONS		
	STATION	OFFSET	ELEVATION		STATION	OFFSET	ELEVATION
A	103+55.41	9.13' RT.	535.91	E	103+51.49	9.13' RT.	534.68
B	103+73.58	54.13' RT.	533.73	F	103+69.18	54.13' RT.	532.49
C	103+80.50	9.13' RT.	535.81	G	103+59.73	9.13' RT.	534.65
D	103+99.10	54.04' RT.	533.63	H	103+77.97	54.13' RT.	532.46

FORWARD APPROACH SLAB LOCATIONS

	APPROACH SLAB SURFACE ELEVATIONS (SEE NOTE 4)				SLEEPER SLAB ELEVATIONS		
	STATION	OFFSET	ELEVATION		STATION	OFFSET	ELEVATION
I	105+68.16	9.13' RT.	535.59	M	105+88.78	9.13' RT.	534.37
J	105+90.37	54.04' RT.	533.52	N	106+11.45	54.13' RT.	532.30
K	105+93.26	9.13' RT.	535.63	O	105+97.74	9.13' RT.	534.39
L	106+16.01	54.13' RT.	533.55	P	106+20.07	54.13' RT.	532.31



1/41 DETAIL



2/41 DETAIL

LEGEND:

* MEASURED ALONG EDGE OF APPROACH SLAB

NOTES:

1. FOR THE 25-FT. APPROACH SLAB REINFORCEMENT REQUIREMENTS AND ADDITIONAL STANDARD APPROACH SLAB DETAILS, SEE GENERAL NOTE ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN AND ODOT STANDARD DRAWING AS-1-15.
2. FOR APPROACH SLAB TYPE A INSTALLATION REQUIREMENTS, SEE ODOT STANDARD DRAWING AS-2-15.
3. FOR APPROACH SLAB RAILING DETAILS, SEE SHEETS 38 AND 39 OF 44 .
4. APPROACH SLAB SURFACE ELEVATIONS ARE GIVEN AT TOP OF CONCRETE APPROACH SLAB, UNDERNEATH THE ASPHALT.

RIGHT BRIDGE APPROACH SLAB DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER GJZ | CHECKER TOR
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 41 | TOTAL 44
SHEET P.205 | TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/24/2024 TIME: 10:13:30 AM USER: hdegeorge
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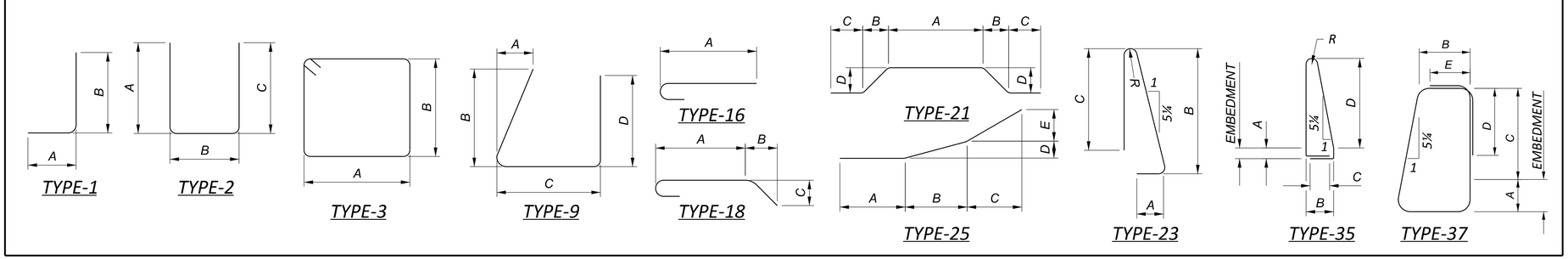
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
LEFT BRIDGE - REAR ABUTMENT											
RA501	78	2'-2"	176	1	10"	1'-6"					
RA502	16	6'-0"	100	2	1'-9"	2'-9"	1'-9"				
RA503	1	14'-6"	15	STR							
RA504	28	6'-3"	183	1	10"	5'-7"					
RA505	14	6'-8"	97	2	1'-2"	4'-7"	1'-2"				
RA506	14	16'-7"	242	2	7'-10"	1'-2"	7'-10"				
RA507	26	7'-11"	215	2	3'-6"	1'-2"	3'-6"				
RA508	6	12'-11"	81	STR							
RA509	2	13'-4"	28	STR							
RA510	6	13'-5"	84	STR							
RA511	5	18'-9"	98	STR							
RA512	5	19'-2"	100	STR							
RA513	13	3'-0"	41	STR							
RA514	14	2'-5"	35	1	10"	1'-9"					
RA515	12	3'-7"	45	1	1'-4"	2'-5"					
RA516	2	11'-11"	25	STR							
	2	14'-8"									
RA801	SER OF	TO	236	STR							1"
	3	14'-10"									
TOTAL LEFT BRIDGE REAR ABUTMENT			1801								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
LEFT BRIDGE - FORWARD ABUTMENT											
FA501	83	2'-2"	188	1	10"	1'-6"					
FA502	18	6'-0"	113	2	1'-9"	2'-9"	1'-9"				
FA503	1	16'-5"	17	STR							
FA504	32	6'-3"	209	1	10"	5'-7"					
FA505	16	6'-6"	108	2	1'-2"	4'-5"	1'-2"				
FA506	16	16'-1"	268	2	7'-7"	1'-2"	7'-7"				
FA507	28	7'-11"	231	2	3'-6"	1'-2"	3'-6"				
FA508	14	14'-6"	212	STR							
FA509	10	20'-2"	210	STR							
FA510	14	3'-0"	44	STR							
FA511	14	2'-5"	35	1	10"	1'-9"					
FA512	11	3'-7"	41	1	1'-4"	2'-5"					
FA513	2	11'-8"	24	STR							
FA801	6	16'-5"	263	STR							
TOTAL LEFT BRIDGE FORWARD ABUTMENT			1963								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
RIGHT BRIDGE - REAR ABUTMENT											
RA551	68	2'-2"	154	1	10"	1'-6"					
RA552	18	6'-4"	119	2	1'-11"	2'-9"	1'-11"				
RA553	1	16'-5"	17	STR							
RA554	32	6'-3"	209	1	10"	5'-7"					
RA555	16	5'-1"	85	2	1'-2"	3-0"	1'-2"				
RA556	16	12'-5"	207	2	5'-9"	1'-2"	5'-9"				
RA557	28	7'-11"	231	2	3'-6"	1'-2"	3'-6"				
RA558	10	14'-7"	152	STR							
RA559	10	20'-3"	211	STR							
RA560	14	3'-0"	44	STR							
RA561	14	2'-5"	35	1	10"	1'-9"					
RA562	12	3'-7"	45	1	1'-4"	2'-5"					
RA563	2	11'-8"	24	STR							
RA851	6	16'-5"	263	STR							
TOTAL RIGHT BRIDGE REAR ABUTMENT			1796								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
RIGHT BRIDGE - FORWARD ABUTMENT											
FA551	62	2'-2"	140	1	10"	1'-6"					
FA552	16	6'-4"	106	2	1'-11"	2'-9"	1'-11"				
FA553	1	14'-3"	15	STR							
FA554	28	6'-3"	183	1	10"	5'-7"					
FA555	14	5'-2"	75	2	1'-2"	3'-1"	1'-2"				
FA556	14	13'-9"	201	2	6'-5"	1'-2"	6'-5"				
FA557	26	7'-11"	215	2	3'-6"	1'-2"	3'-6"				
FA558	4	12'-7"	52	STR							
FA559	2	13'-3"	28	STR							
FA560	4	13'-5"	56	STR							
FA561	5	18'-7"	97	STR							
FA562	5	19'-1"	100	STR							
FA563	13	3'-0"	41	STR							
FA564	14	2'-5"	35	1	10"	1'-9"					
FA565	12	3'-7"	45	1	1'-4"	2'-5"					
FA566	2	12'-2"	25	STR							
	2	14'-4"									
FA851	SER OF	TO	238	STR							6"
	3	15'-4"									
TOTAL RIGHT BRIDGE FORWARD ABUTMENT			1652								

BAR BENDING DIAGRAMS



NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, RA501 BAR: RA: LOCATION OF THE BAR IN THE STRUCTURE (REAR ABUTMENT) 5: BAR SIZE DESIGNATION NO. 5 01: SEQUENCE NUMBER

2. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. ALL CONCRETE REINFORCEMENT IS TO BE GALVANIZED STEEL. STRAIGHT BARS ARE INDICATED BY "STR".

CONCRETE REINFORCEMENT BAR LIST - 1
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
GJZ	RSB

REVIEWER: NFF 08/22/23

PROJECT ID: 110570

SUBSET	TOTAL
42	44

SHEET	TOTAL
P.206	208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 1:00:42 PM USER: rjgreve
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MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
LEFT BRIDGE - SUPERSTRUCTURE											
S401	354	30'-0"	7094	STR							
S402	59	23'-0"	906	STR							
S403	75	2'-3"	113	STR							
S404	150	3'-0"	301	STR							
S405	44	1'-6"	44	STR							
S406	99	1'-0"	66	STR							
S407	324	26'-3"	5681	STR							
S408	10	5'-11"	40	1	3'-0"	3'-0"					
S409	8	3'-11"	21	1	2'-0"	2'-0"					
S410	8	5'-0"	27	STR							
S501	410	30'-0"	12829	STR							
S502	70	26'-0"	1898	STR							
	2	7'-6"									
S503	SER OF	TO	656	STR							1'-2"
	18	27'-5"									
S504	345	30'-7"	11005	16	30'-0"						
S505	345	30'-0"	10795	STR							
	1	8'-11"			8'-4"						
S506	SER OF	TO	479	16	TO						1'-1⅜"
	22	32'-10"			32'-3"						
S507	734	8'-10"	6762	16	8'-3"						
	1	8'-6"			7'-11"						
S508	SER OF	TO	443	16	TO						1'-2"
	21	31'-11"			31'-4"						
S509	346	28'-7"	10315	16	28'-0"						
S510	346	28'-0"	10105	STR							
	2	6'-4"									
S511	SER OF	TO	601	STR							1'-1⅜"
	18	25'-8"									
	1	7'-11"									
S512	SER OF	TO	430	STR							1'-2"
	21	31'-4"									
	1	8'-4"									
S513	SER OF	TO	466	STR							1'-1⅜"
	22	32'-3"									
S514	14	6'-2"	90	STR							
S601	8	9'-0"	108	STR							
S801	8	30'-0"	641	STR							
S802	8	35'-10"	765	STR							
TOTAL LEFT BRIDGE SUPERSTRUCTURE			82681								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
RIGHT BRIDGE - SUPERSTRUCTURE											
S451	354	30'-0"	7094	STR							
S452	59	23'-0"	906	STR							
S453	20	1'-6"	20	STR							
S454	150	2'-3"	225	STR							
S455	200	3'-0"	401	STR							
S456	324	25'-0"	5411	STR							
S457	2	3'-11"	5	1	2'-0"	2'-0"					
S458	14	5'-11"	55	1	3'-0"	3'-0"					
S459	8	5'-0"	27	STR							
S551	415	30'-0"	12985	STR							
S552	70	26'-0"	1898	STR							
	2	8'-3"									
S553	SER OF	TO	668	STR							1'-1½"
	18	27'-4"									
S554	345	30'-7"	11005	16	30'-0"						
S555	345	30'-0"	10795	STR							
	1	9'-3"			8'-8"						
S556	SER OF	TO	509	16	TO						1'-1"
	23	33'-2"			32'-7"						
S557	738	8'-10"	6799	16	8'-3"						
	1	6'-10"			6'-3"						
S558	SER OF	TO	495	16	TO						1'-1½"
	24	32'-9"			32'-2"						
S559	346	28'-7"	10315	16	28'-0"						
S560	346	28'-0"	10105	STR							
	2	6'-8"									
S561	SER OF	TO	599	STR							1'-1⅛"
	18	25'-3"									
	1	6'-3"									
S562	SER OF	TO	481	STR							1'-1½"
	24	32'-2"									
	1	8'-8"									
S563	SER OF	TO	495	STR							1'-1"
	23	32'-7"									
S564	6	4'-8"	29	STR							
S565	8	6'-6"	54	STR							
S651	8	8'-6"	102	STR							
S851	8	30'-0"	641	STR							
S852	8	36'-1"	771	STR							
TOTAL RIGHT BRIDGE SUPERSTRUCTURE			82890								

LEFT BRIDGE - REAR DIAPHRAGM											
RD501	39	8'-9"	356	2	2'-11"	3'-2"	2'-11"				
RD502	35	12'-3"	447	3	3'-8"	2'-2"					
RD503	4	11'-11"	50	3	3'-8"	2'-0"					
RD504	2	10'-7"	22	3	3'-8"	1'-4"					
RD505	4	2'-6"	10	2	10"	1'-1"	10"				
RD506	2	8'-5"	18	2	2'-9"	3'-2"	2'-9"				
RD801	6	30'-0"	481	STR							
RD802	6	34'-7"	554	STR							
RD803	4	32'-3"	344	STR							
RD804	4	23'-3"	248	STR							
RD805	24	7'-8"	491	1	1'-4"	6'-6"					
RD806	4	4'-8"	50	1	1'-4"	3'-6"					
RD807	4	4'-4"	46	18	2'-0"	1'-0"	1'-0"				
RD808	4	4'-10"	52	18	2'-6"	1'-0"	1'-0"				
RD809	33	4'-10"	426	18	2'-8"	1'-0"	1'-0"				
TOTAL REAR DIAPHRAGM			3595								

RIGHT BRIDGE - REAR DIAPHRAGM											
RD551	40	8'-9"	365	2	2'-11"	3'-2"	2'-11"				
RD552	37	12'-3"	473	3	3'-8"	2'-2"					
RD553	3	11'-11"	37	3	3'-8"	2'-0"					
RD554	2	10'-7"	22	3	3'-8"	1'-4"					
RD555	4	2'-2"	9	2	10"	9"	10"				
RD556	2	8'-5"	18	2	2'-9"	3'-2"	2'-9"				
RD851	6	30'-0"	481	STR							
RD852	6	36'-3"	581	STR							
RD853	4	23'-5"	250	STR							
RD854	4	31'-2"	333	STR							
RD855	24	7'-8"	491	1	1'-4"	6'-6"					
RD856	4	4'-8"	50	1	1'-4"	3'-6"					
RD857	4	4'-4"	46	18	2'-0"	1'-0"	1'-0"				
RD858	4	4'-10"	52	18	2'-6"	1'-0"	1'-0"				
RD859	33	4'-10"	426	18	2'-8"	1'-0"	1'-0"				
TOTAL REAR DIAPHRAGM			3634								

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, AR501 BAR: AR: LOCATION OF THE BAR IN THE STRUCTURE (REAR ABUTMENT) 5: BAR SIZE DESIGNATION NO. 5 01: SEQUENCE NUMBER
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. ALL CONCRETE REINFORCEMENT IS TO BE GALVANIZED STEEL. STRAIGHT BARS ARE INDICATED BY "STR".

CONCRETE REINFORCEMENT BAR LIST - 2
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
GJZ	RSB

REVIEWER NFF 08/22/23

PROJECT ID 110570

SUBSET	TOTAL
43	44

SHEET	TOTAL
P.207	208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 1:01:11 PM USER: rjgreve
pw:\\hq-pwint01.a-e.transyscorp.com:transyscorp-pw1\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\Structures\SFN_3103870\Sheets\110570_SFN_3103870_SL002.dgn

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
LEFT BRIDGE - FORWARD DIAPHRAGM											
FD501	39	8'-9"	356	2	2'-11"	3'-2"	2'-11"				
FD502	36	12'-3"	460	3	3'-8"	2'-2"					
FD503	3	11'-11"	37	3	3'-8"	2'-0"					
FD504	2	10'-7"	22	3	3'-8"	1'-4"					
FD505	4	2'-0"	8	2	10"	7"	10"				
FD506	2	8'-5"	18	2	2'-9"	3'-2"	2'-9"				
FD801	6	19'-0"	304	STR							
FD802	6	23'-8"	379	STR							
FD803	6	29'-0"	465	STR							
FD804	4	23'-8"	253	STR							
FD805	4	33'-8"	360	STR							
FD806	24	7'-8"	491	1	1'-4"	6'-6"					
FD807	4	5'-8"	61	1	1'-4"	4'-6"					
FD808	4	4'-4"	46	18	2'-0"	1'-0"	1'-0"				
FD809	4	4'-10"	52	18	2'-6"	1'-0"	1'-0"				
FD810	34	4'-10"	439	18	2'-8"	1'-0"	1'-0"				
TOTAL FORWARD DIAPHRAGM			3751								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
RIGHT BRIDGE - FORWARD DIAPHRAGM											
FD551	41	8'-9"	374	2	2'-11"	3'-2"	2'-11"				
FD552	37	12'-3"	473	3	3'-8"	2'-2"					
FD553	4	11'-11"	50	3	3'-8"	2'-0"					
FD554	2	10'-7"	22	3	3'-8"	1'-4"					
FD555	4	2'-0"	8	2	10"	7"	10"				
FD556	2	8'-5"	18	2	2'-9"	3'-2"	2'-9"				
FD851	6	28'-0"	449	STR							
FD852	6	24'-0"	384	STR							
FD853	6	20'-0"	320	STR							
FD854	4	32'-7"	348	STR							
FD855	4	24'-11"	266	STR							
FD856	24	7'-8"	491	1	1'-4"	6'-6"					
FD857	4	5'-11"	63	1	1'-4"	4'-9"					
FD858	4	4'-4"	46	18	2'-0"	1'-0"	1'-0"				
FD859	4	4'-10"	52	18	2'-6"	1'-0"	1'-0"				
FD860	34	4'-10"	439	18	2'-8"	1'-0"	1'-0"				
TOTAL FORWARD DIAPHRAGM			3803								

LEGEND:

GFRP - GLASS FIBER REINFORCED POLYMER

GSR - GALVANIZED STEEL REINFORCEMENT

NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, RA501 BAR: RA: LOCATION OF THE BAR IN THE STRUCTURE (REAR ABUTMENT) 5: BAR SIZE DESIGNATION NO. 5 01: SEQUENCE NUMBER
2. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. CONCRETE REINFORCEMENT IS DENOTED IN MATERIAL COLUMN. STRAIGHT BARS ARE INDICATED BY "STR".

MARK	NUMBER TOTAL	LENGTH	MATERIAL	WEIGHT	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	R	INC
LEFT BRIDGE - RAILING													
R401	66	30'-0"	GFRP		1980	STR							
R402	11	14'-3"	GFRP		157	STR							
R403	64	10'-0"	GFRP		640	STR							
R404	8	14'-0"	GFRP		112	STR							
R405	66	30'-0"	GFRP		1980	STR							
R406	11	15'-10"	GFRP		174	STR							
R407	64	10'-6"	GFRP		672	STR							
R408	8	15'-5"	GFRP		124	STR							
R501	4	2'-9"	GSR	11		2	7"	1'-10"	7"				
R502	4	8'-5"	GSR	35		9	6 1/2"	3'-2"	2'-4"	3'-2"			
R503	6	7'-3"	GSR	45		21	1'-4"	1'-10"	6"	1'-10"			
R504	4	3'-2"	GSR	13		STR							
R601	206	7'-2"	GSR	2217		37	9"	9 1/2"	1'-5"	1'-0"	7"		
R602	206	7'-0"	GSR	2166		23	6"	3'-3"	3'-3"			2"	
R603	246	13'-0"	GSR	4803		35	9"	1'-5"	10"	4'-7"		2"	
R604	8	2'-10"	GSR	34		2	10"	1'-6"	10"				
AS401	24	10'-0"	GFRP		240	STR							
AS402	12	6'-4"	GFRP		76	25	2'-6"	2'-5"	1'-5"	1 1/2"	5"		
AS403	12	5'-1"	GFRP		61	STR							
AS404	11	10'-7"	GFRP		117	STR							
AS405	11	11'-3"	GFRP		124	STR							
AS406	4	9'-8"	GFRP		39	STR							
AS407	4	10'-3"	GFRP		41	STR							
AS601	22	8'-3"	GSR	273		37	1'-3"	9 1/2"	1'-5"	1'-0"	7"		
AS602	22	7'-0"	GSR	231		23	6"	3'-3"	3'-3"			2"	
	2	4'-7"						3'-9"					
AS603	SER OF	TO	GSR	165		1	1'-0"	TO					1"
	11	5'-5"						4'-7"					
AS604	16	4'-7"	GSR	110		1	1'-0"	3'-9"					
TOTAL RAILING				10103	6537								

MARK	NUMBER TOTAL	LENGTH	MATERIAL	WEIGHT	LENGTH	TYPE	DIMENSIONS A	B	C	D	E	R	INC
RIGHT BRIDGE - RAILING													
R451	66	30'-0"	GFRP		1980	STR							
R452	11	15'-10"	GFRP		175	STR							
R453	64	10'-0"	GFRP		640	STR							
R454	8	14'-10"	GFRP		119	STR							
R455	66	30'-0"	GFRP		1980	STR							
R456	11	15'-10"	GFRP		174	STR							
R457	64	10'-6"	GFRP		672	STR							
R458	8	15'-4"	GFRP		123	STR							
R551	4	2'-9"	GSR	11		2	7"	1'-10"	7"				
R552	4	8'-5"	GSR	35		9	6 1/2"	3'-2"	2'-4"	3'-2"			
R553	6	7'-3"	GSR	45		21	1'-4"	1'-10"	6"	1'-10"			
R554	4	3'-2"	GSR	13		STR							
R651	208	7'-2"	GSR	2239		37	9"	9 1/2"	1'-5"	1'-0"	7"		
R652	208	7'-0"	GSR	2187		23	6"	3'-3"	3'-3"			2"	
R653	246	13'-0"	GSR	4803		35	9"	1'-5"	10"	4'-7"		2"	
R654	8	2'-10"	GSR	34		2	10"	1'-6"	10"				
AS451	24	10'-0"	GFRP		240	STR							
AS452	12	6'-4"	GFRP		76	25	2'-6"	2'-5"	1'-5"	1 1/2"	5"		
AS453	12	5'-1"	GFRP		61	STR							
AS454	11	11'-5"	GFRP		126	STR							
AS455	11	10'-7"	GFRP		117	STR							
AS456	4	10'-6"	GFRP		42	STR							
AS457	4	9'-8"	GFRP		39	STR							
AS651	22	8'-3"	GSR	273		37	1'-3"	9 1/2"	1'-5"	1'-0"	7"		
AS652	22	7'-0"	GSR	231		23	6"	3'-3"	3'-3"			2"	
	2	4'-7"						3'-9"					
AS653	SER OF	TO	GSR	165		1	1'-0"	TO					1"
	11	5'-5"						4'-7"					
AS654	16	4'-7"	GSR	110		1	1'-0"	3'-9"					
TOTAL RAILING				10146	6564								

CONCRETE REINFORCEMENT BAR LIST - 3

BRIDGE NO. HAM-00050-29.280

US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER	CHECKER
GJZ	RSB

REVIEWER
NFF 08/22/23

PROJECT ID
110570

SUBSET	TOTAL
44	44

SHEET	TOTAL
P.208	208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/27/2023 TIME: 1:01:40 PM USER: rjgreve
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