

LINN COUNTY TAP-U-4775(645)--8I-57

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LETTING DATE: JUNE 16, 2026

IOWA DNR FLOOD PLAIN DEVELOPMENT PERMIT

This project is covered by Iowa DNR Floodplain Development Permit No. 2025-0776, Linn County Floodplain Development Permit No. PF26-002, and City of Marion Floodplain Development Permit No. EP26-0073.

SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S.Army Corps of Engineers. Permit No. CEMVR-RD-2025-0411. A Copy of this permit is available from the Iowa DOT website (<http://www.envpermits.iowadot.gov/>). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

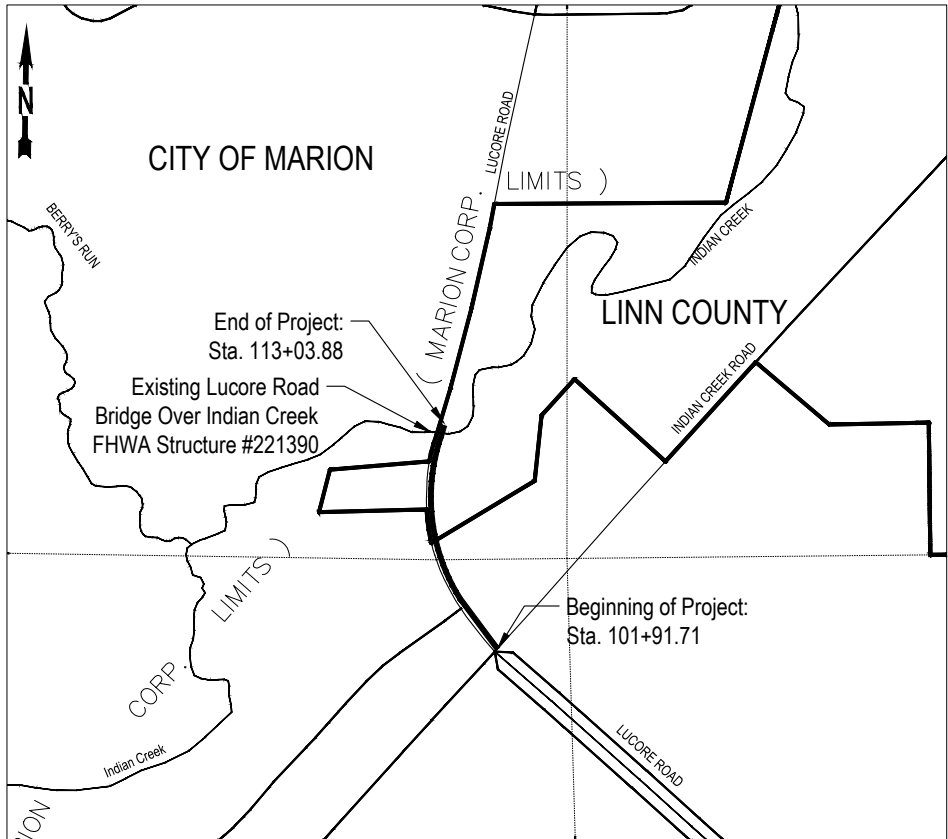
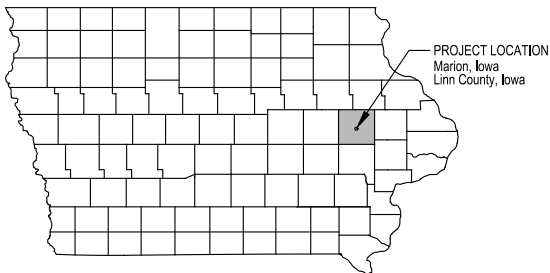
IOWA DNR GENERAL PERMIT #2 - NPDES

This project is covered by the Iowa Department of Natural Resources NPDES General Permit No. 2. The contractor shall carry out the terms and conditions of General Permit No. 2 and the storm water pollution prevention plan which is a part of these contract documents. Refer to Section 2602 of the Standard Specifications for additional information.



TOTAL SHEETS
48

PLANNING, PROGRAMMING, AND MODAL DIVISION
URBAN ROAD SYSTEM
TAP-U-4775(645)--8I-57
LUCORE ROAD PEDESTRIAN BRIDGE AND SIDEPATH
FROM INDIAN CREEK ROAD TO NORTH OF INDIAN CREEK
PCC TRAIL & BRIDGE NEW OTHER



LOCATION MAP
N.T.S.

COUNCIL MEMBERS:
MAYOR NICOLAS ABOUASSALY
SARA MENTZER WILL BRANDT GRANT HARPER
GAGE MISKIMEN STEVE JENSEN RANDY STRNAD

THE PROPOSED IMPROVEMENTS INCLUDED IN THESE DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH IOWA DOT STANDARD SPECIFICATIONS AND STANDARD ROAD PLANS, AND THE CITY OF MARION MUNICIPAL CODE. EXCEPTIONS ARE SHOWN ON A.02. REFER TO THE PROPOSAL FORM FOR LIST OF APPLICABLE SPECIFICATIONS.

CITY OF MARION
THIS ENGINEERING DOCUMENT IS RECOMMENDED FOR
FILING WITH THE CITY CLERK

CITY ENGINEER

3.23.26
DATE

INDEX OF SHEETS	
SHEET No.	DESCRIPTION
A.01	TITLE SHEET & LOCATION MAP
A.02	LEGEND, INDEX OF TABULATIONS, STANDARD ROAD PLANS
B.01 - B.02	TYPICAL CROSS SECTIONS
C.01 - C.05	TABULATIONS
C.06 - C.07	PROJECT REMOVALS
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G.01-G.02	ALIGNMENT AND CONTROL DATA
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J.01-J.03	TRAFFIC CONTROL
M.01 - M.02	PLAN AND PROFILE - STORM
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RR.01-RR.03	EROSION CONTROL PLAN AND SWPPP
S.01	SIDEWALK SHEET
T.01	EARTHWORK QUANTITY
U.01-U.02	DETAILS
V.01	BRIDGE GENERAL NOTES
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V.03	BRIDGE SITUATION PLAN
V.04 - V.09	BRIDGE ABUTMENT DETAILS
W.01 - W.05	CROSS SECTIONS

I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.

Jason J. Vavra Lic. No. 16936 Date **Mar. 23, 26**
My license renewal date is December 31, 2025
Pages or sheets covered by this seal:
ALL EXCEPT V-SHEETS

I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.

Troyer J. Ritter Lic. No. 18457 Date **Mar. 23, 26**
My license renewal date is December 31, 2026
Pages or sheets covered by this seal:
V-Sheets

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LEGEND

LINETYPES

EXISTING		PROPOSED
____(OE)____	ELECTRIC - OVERHEAD	____OE____
____(E)____	ELECTRIC - UNDERGROUND	____E____
____(FO)____	FIBER OPTIC	____FO____
____(G)____	GAS	____G____
____(HPG)____	GAS - HIGH PRESSURE	____HPG____
____(S)____	SEWER - SANITARY	____S____
____(ST)____	SEWER - STORM	____ST____
____(SD)____	SUBDRAIN	____SD____
____(T)____	TELEPHONE	____T____
____(W)____	WATER	____W____
○ ○ ○	FENCE - CHAIN LINK	○ ○ ○
◇ ◇ ◇	FENCE - CONSTRUCTION	◇ ◇ ◇
—//—//—//—//—//—//—	FENCE - WIRE	—//—//—//—//—//—//—
□ □ □	FENCE - WOOD	□ □ □
△ △ △	HANDRAIL	△ △ △
▮ ▮ ▮	SAFETY RAIL	▮ ▮ ▮
---	EASEMENT	---
---	PROPERTY LINE	---
--- 830 ---	CONTOUR	---(830)---
○ ○ ○	SURFACE WATER	○ ○ ○
~~~~~	TREE LINE	~~~~~
	FILTER SOCK	=====
	SILT FENCE	=====
	GRADING LIMITS	-----
	REMOVALS	-XXXXXXXXXXXXXXXXXXXX-

## SYMBOLS

	AIR CONDITIONING UNIT		ELECTRIC METER
	ANCHOR BOLT		ELECTRIC MANHOLE
	ANTENNA		FIRE HYDRANT
	BEE HIVE INLET		FIBER OPTIC BOX
	BUILDING COLUMN		FIBER OPTIC MANHOLE
	SURVEY BENCHMARK		GAS METER
	BOLLARD		GAS VALVE
	CABLE TELEVISION BOX		GAS MANHOLE
	SIGN		GUY WIRE
	CONIFEROUS TREE		LIGHT POLE
	DECIDUOUS TREE		POWER POLE
	SHRUB		TELEPHONE BOX
	ELECTRIC HANDHOLE		TELEPHONE MANHOLE
			SANITARY SEWER MANHOLE
			STORM SEWER MANHOLE
			WATER VALVE
			WELL

## HATCHES

	HOT MIX ASPHALT PAVEMENT		AGGREGATE SURFACING
	PORTLAND CEMENT CONCRETE PAVEMENT		EARTH
	PAVEMENT REMOVAL		SEEDING
	MULCH		TURF REINFORCED MAT
	DECORATIVE BRICK PAVER		RIP RAP

## PROJECT DESCRIPTION

Construction of a 10-foot wide PCC sidepath on the east side of Lucore Road in the City of Marion from the end of the existing sidepath southeast of Indian Creek Rd. to the end of the sidepath on the north side of Indian Creek. Includes construction of a predestrian bridge across Indian Creek.

## UTILITY CONTACTS

CITY OF MARION		
CITY ARBORIST	MIKE CIMPRICH	(319) 447-3580
FIRE	BUSINESS	(319) 377-8237
	EMERGENCY	911
POLICE	BUSINESS	(319) 377-1511
	EMERGENCY	911
PUBLIC SERVICES		(319) 377-6367
WATER		(319) 743-6310

## UTILITIES

IOWA ONE CALL		811
ALLIANT ENERGY	MATT WEDEKING	(319) 786-1913
ATKINS TELEPHONE	TODD CHRISTOPHERSEN	(319) 446-7331
AT&T - TRANSMISSION	LENNY VOHS	(770) 335-8244
SDT SOLUTIONS LLC (ENG. FOR AT&T)	ROD HASKINS	(402) 630-6529
	KEVIN WINGARD	KWINGARD@SDT-1.COM
AUREON NETWORK SERVICES	JEFF KLOCKO	(515) 830-0445
	JON JEWELL	(319) 551-6647
	MATT WEISER	(515) 830-0497
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	NICK STARK	(319) 297-6841
	CYDNEY LOVELL	(319) 721-2476
IMON COMMUNICATIONS	GROUP EMAIL	IMONPLANT@IMON.NET
	ERIC BIBER	(319) 533-2691
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	DAVID AUGSPURGER	(515) 725-4604
	DOUG EBELSHIESER	(515) 725-4742
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	TIM FLICKINGER	(515) 491-3750
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IOWA DOT - UTILITY & ROW PERMITS	MICHELLE BURKE	(319) 730-1533
JOINT COMMUNICATIONS NETWORK (JCN)	BILL SEELEY (CITY IT)	(319) 360-4885
LINN COUNTY REC	JERRY OSWEILER	(319) 377-5754
	JOE CHRISTENSEN	(319) 377-1587 X203
LUMEN TECHNOLOGIES (CTL)	GEORGE ESPERSON	(319) 391-0420
	SHANE GIESE	(563) 650-7350
	MATT HOLUB	O - (319) 206-9094, C - (319) 431-4170
	KENNETH FULLARD	O - (515) 398-0584, C - (319) 651-2175
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	RELOCATIONS	RELOCATIONS@LUMEN.COM
	GROUP EMAIL	CTL-RDMV-IA@LUMEN.COM
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	ROBERT RICHIE	(845) 587-2598
	MARK BIRCHARD	(319) 431-8772
	JASON KEPLER	(845) 741-4196
MIDAMERICAN ENERGY	GREG WILDEBOUR	(319) 298-5162
MURPHY TOWER SERVICE	TODD MINIOR	(319) 551-0379
PALO COOPERATIVE TELEPHONE ASSOC.	KEVIN O'NEIL	(319) 551-5350
SOUTH SLOPE		(319) 626-2211
SPRINT (T-MOBILE)	MIKE CHEBUL	O - (402) 522-2607, C - (402) 880-8720
	BRIAN MATSON	O - (507) 777-2000, C - (507) 920-7319
TERRA TECH., LLC (CIVIL ENG. FOR LUMEN)	TIM CARONE	(847) 812-2247
	BOB WEGENER	BWEGENER@CONGRUEX.COM
UNITE PRIVATE NETWORKS (UPN)	GREG TROEGER	(515) 419-4053
	JAMES KEEGAN	(319) 304-5597
	JOE ERNSTER	(319) 252-7463
VERIZON WIRELESS	RYAN SCHAFFER	(515) 201-5382
VERIZON WIRELINE SERVICES	CHIP MOYER	(319) 573-6471
	THANH (TK) NGUYEN	(515) 783-7177
	MIKE MCCLURE	531-365-4266
OLSSON (ENG. FOR VERIZON)	NICK DANIELSON	NDANIELSON@OLSSON.COM
WINDSTREAM	STEVE KNESS	(319) 538-1985

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## STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
DR-101	04/18/2017	PIPE CULVERT (BEDDING AND BACKFILL)
DR-103	04/21/2015	PIPE CULVERT (INSTALLATION DETAILS)
DR-121	04/18/2023	CONNECTED PIPE JOINTS
DR-201	10/17/2023	CONCRETE APRONS
DR-213	10/18/2022	PIPE APRON GUARD
DR-303	10/17/2017	SUBDRAINS (LONGITUDINAL)
DR-305	04/19/2022	SUBDRAIN OUTLETS (STANDARD SUBDRAIN, PRESSURE RELEASE, AND SPECIAL)
DR-601	04/18/2017	REINFORCED CONCRETE PIPE CULVERT
EC-204	10/19/2021	PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES
EX-303	10/19/2021	STABILIZED CONSTRUCTION ENTRANCE
EC-604	10/17/2023	GRATE INTAKE SEDIMENT FILTER BAG
MI-102	10/20/2015	CHAIN LINK FENCE CONSTRUCTION
MI-210	04/16/2024	PCC DRIVEWAY AND ALLEYS
MI-220	04/15/2025	DETECTABLE WARNINGS AND PEDESTRIAN RAMP
PV-101	04/15/2025	JOINTS
SW-101	04/17/2018	TRENCH BEDDING AND BACKFILL ZONES
SW-102	04/20/2021	RIGID GRAVITY PIPE TRENCH BEDDING
SW-401	04/20/2021	CIRCULAR STORM SEWER MANHOLE
SW-511	04/21/2020	RECTANGULAR AREA INTAKE
SW-512	04/20/2020	CIRCULAR AREA INTAKE
TC-252	04/21/2020	ROUTES CLOSED TO TRAFFIC

## SIDEWALK CONSTRAINTS

290-01

09-28-22

- Widths:  
Widths as shown on the plans are minimums.
- Cross Slopes:  
Construct all sidewalks, curb ramps, and landings / turning spaces at a target cross-slope of 1.5%. Cross slopes exceeding 2.0% will not be allowed, except for areas tying into existing pavement. In these areas, transition from existing pavement cross slope to a cross slope of less than 2.0% within one panel at a rate not to exceed 1.0% per foot.
- Longitudinal Slopes:
  - Sidewalk:
    - Roadway slope exceeds 5.0%: Sidewalk longitudinal slope exceeding the roadway slope by more than 2.0% will not be allowed.
    - Roadway slope 5.0% or less: Sidewalk longitudinal slope exceeding 5.0% will not be allowed.
  - Ramps:
    - Ramps 15.0' in length or less: Longitudinal slope exceeding 8.3% will not be allowed.
    - Ramps greater than 15.0' in length: Construct with the longitudinal slope necessary to conform to the design.
- Landing / Turning Spaces:  
Longitudinal slopes exceeding 2.0% will not be allowed.

FILE NO.

ENGLISH

DESIGN TEAM SHOEMAKER & HAALAND

CITY OF MARION, LINN COUNTY

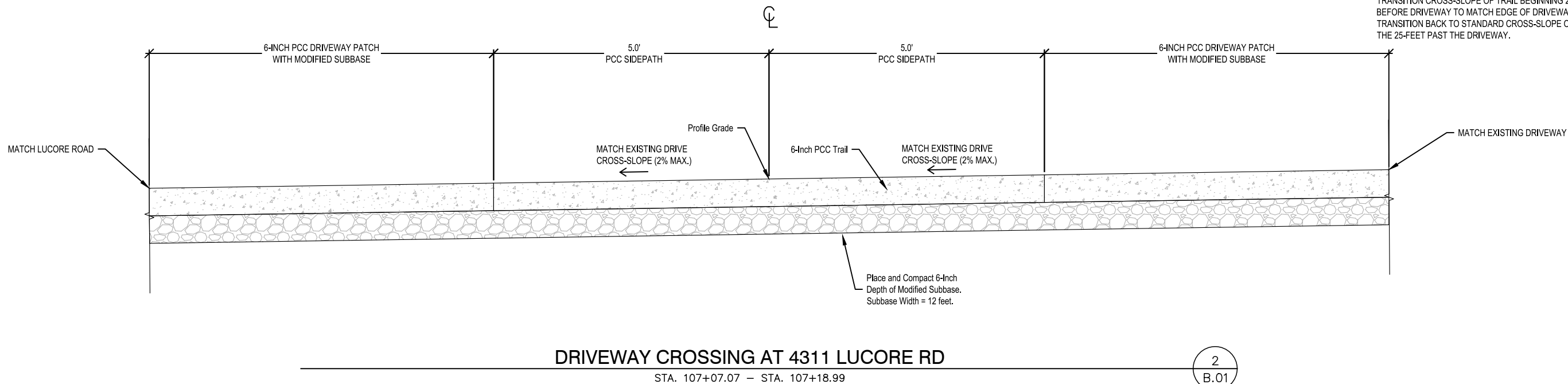
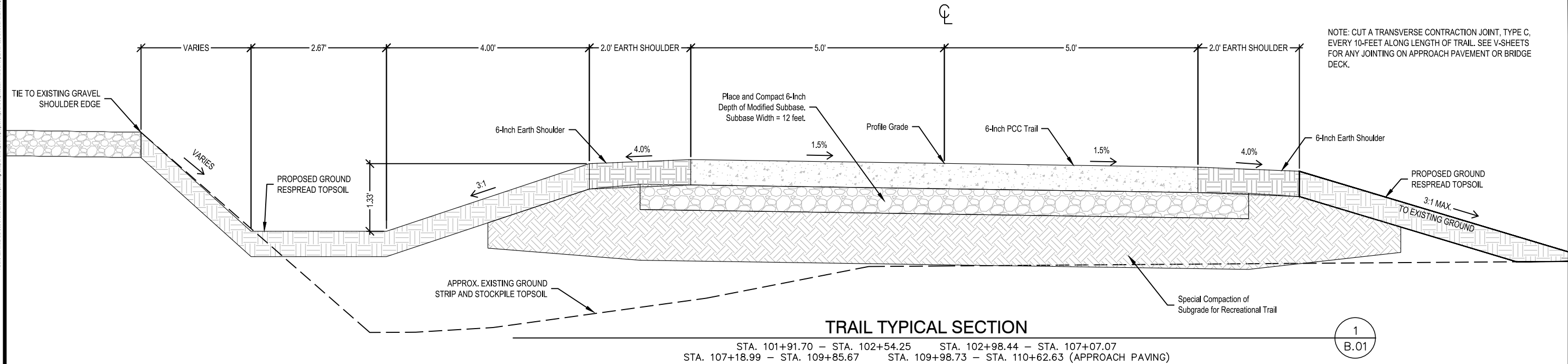
PROJECT NUMBER TAP-U-4775(645)--8I-57

SHEET NUMBER

A.02



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NOTE: CUT A TRANSVERSE CONTRACTION JOINT, TYPE C, EVERY 10-Feet ALONG LENGTH OF TRAIL. SEE V-SHEETS FOR ANY JOINTING ON APPROACH PAVEMENT OR BRIDGE DECK.

NOTE: EXISTING DRIVEWAY HAS A CROSS-SLOPE < 2%. TRANSITION CROSS-SLOPE OF TRAIL BEGINNING 25-Feet BEFORE DRIVEWAY TO MATCH EDGE OF DRIVEWAY. TRANSITION BACK TO STANDARD CROSS-SLOPE OVER THE 25-Feet PAST THE DRIVEWAY.

MATCH LUCORE ROAD

6-INCH HMA DRIVEWAY PATCH WITH MODIFIED SUBBASE

5.0' PCC SIDEPATH

5.0' PCC SIDEPATH

6-INCH HMA DRIVEWAY PATCH WITH MODIFIED SUBBASE

MATCH EXISTING DRIVEWAY

MATCH EXISTING DRIVE CROSS-SLOPE (2% MAX.)

MATCH EXISTING DRIVE CROSS-SLOPE (2% MAX.)

Profile Grade

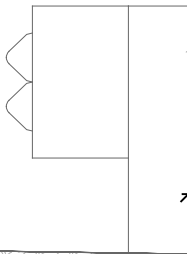
6-Inch PCC Trail

Place and Compact 6-Inch Depth of Modified Subbase. Subbase Width = 12 feet.

DRIVEWAY CROSSING AT 4409 LUCORE RD

STA. 109+85.67 – STA. 109+98.73

1  
B.02



DO NOT DISTURB EXISTING GUARDRAIL

VARIES

VARIES

EXISTING AGGREGATE SHOULDER

4.0%

5.0' (TYP.) VARIES BEGINNING 112+83.68 (TAPER)

5.0' (TYP.) VARIES BEGINNING 112+83.68 (TAPER)

5.0' EARTH SHOULDER

VARIES

Place and Compact 6-Inch Depth of Modified Subbase. Subbase Width = 12 feet.

Profile Grade

6-Inch PCC Trail

1.5%

1.5%

4.0%

2.5:1 MAX TO EXISTING GROUND

Special Compaction of Subgrade for Recreational Trail

NOTE: CUT A TRANSVERSE CONTRACTION JOINT, TYPE C, EVERY 10-Feet ALONG LENGTH OF TRAIL. SEE V-SHEETS FOR ANY JOINTING ON APPROACH PAVEMENT OR BRIDGE DECK.

NOTE: CUT A TRANSVERSE CONTRACTION JOINT, TYPE C, EVERY 10-Feet ALONG LENGTH OF TRAIL. SEE V-SHEETS FOR ANY JOINTING ON APPROACH PAVEMENT OR BRIDGE DECK.

TRAIL TYPICAL SECTION NORTH OF BRIDGE

STA. 112+07.88 (APPROACH PAVING) – STA. 112+98.77

2  
B.02

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Division 1 SidepathIowa DOT Participation (TAP-U-4775(645)–8157)

Division 2 BridgeIowa DOT Participation (TAP-U-4775(645)–8157)

Division 3 Non ParticipatingCity of Marion

ESTIMATED PROJECT QUANTITIES							
Item No.	Item Code	Item	Unit	Division 1 Sidepath Est. Qty.	Division 2 Bridge Est. Qty.	Division 3 Non Participating	As Built Qty.
1	2101-0850001	CLEARING AND GRUBBING	ACRE	0.17			0.17
2	2101-0850002	CLEARING AND GRUBBING	UNIT	187.9			187.9
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	3580			3580
4	2105-8425005	TOPSOIL, FURNISH AND SPREAD	CY	172			172
5	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	688			688
6	2113-0001000	SUBGRADE STABILIZATION MATERIAL, MACADAM	SY	270			270
7	2113-0001100	SUBGRADE STABILIZATION MATERIAL, POLYMER GRID	SY	270			270
8	2115-0100000	MODIFIED SUBBASE	CY	228			228
9	2121-7425010	GRANULAR SHOULDERS, TYPE A	TON	5.5			5.5
10	2123-7450020	SHOULDER FINISHING, EARTH	STA	18			18
11	2213-7100400	RELOCATION OF MAIL BOXES	EACH	3			3
12	2303-9093010	HOT MIX ASPHALT, DRIVEWAY	SY	53			53
13	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE Temporary Access	TON	16			16
14	2401-6745650	REMOVAL OF EXISTING STRUCTURES STORM SEWER APRONS	LS	3			3
15	2401-6750001	REMOVALS, AS PER PLAN	LS	1			1
16	2402-2720000	EXCAVATION, CLASS 20	CY		44		44
17	2403-0100010	STRUCTURAL CONCRETE (BRIDGE)	CY		30.4		30.4
18	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB		2972		2972
19	2416-0100015	APRONS, CONCRETE, 15 IN. DIA.	EACH	1			1
20	2416-0100018	APRONS, CONCRETE, 18 IN. DIA.	EACH	2			2
21	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.	EACH	1			1
22	2416-0100036	APRONS, CONCRETE, 36 IN. DIA.	EACH	1			1
23	2429-0000100	PRE-ENGINEERED STEEL TRUSS TRAIL BRIDGE, 125'-0 x 12'-0	EACH		1		1
24	2435-0140148	MANHOLE, STORM SEWER, SW-401, 48 IN.	EACH	1			1
25	2435-0251224	INTAKE, SW-512, 24 IN.	EACH	1			1
26	2435-0251230	INTAKE, SW-512, 30 IN.	EACH	2			2
27	2501-0201057	PILES, STEEL, HP 10 X 57	LF		150		150
28	2502-8212306	SUBDRAIN, STANDARD, PERFORATED, 6 IN., AS PER PLAN	LF	624			624
29	2502-8221303	SUBDRAIN OUTLET, DR-303	EACH	3			3
30	2503-0110015	STORM SEWER GRAVITY MAIN, TRENCHED, 15 IN.	LF	13			13
31	2503-0110018	STORM SEWER GRAVITY MAIN, TRENCHED, 18 IN.	LF	69			69
32	2503-0110024	STORM SEWER GRAVITY MAIN, TRENCHED, 24 IN.	LF	32			32
33	2503-0110030	STORM SEWER GRAVITY MAIN, TRENCHED, 30 IN.	LF	116			116
34	2503-0110036	STORM SEWER GRAVITY MAIN, TRENCHED, 36 IN.	LF	96			96
35	2507-3250005	ENGINEERING FABRIC	SY	842			842
36	2507-6800011	REVTMENT, CLASS A	SY	46			46
37	2507-6800042	REVTMENT, CLASS D	TON	788			788
38	2511-0302600	RECREATIONAL TRAIL, PORTLAND CEMENT CONCRETE, 6 IN.	SY	1018			1018

Division 1 SidepathIowa DOT Participation (TAP-U-4775(645)–8157)

Division 2 BridgeIowa DOT Participation (TAP-U-4775(645)–8157)

Division 3 Non ParticipatingCity of Marion

ESTIMATED PROJECT QUANTITIES							
39	2511-0310100	SPECIAL COMPACTION OF SUBGRADE FOR RECREATIONAL TRAIL	STA	9.2			9.2
40	2511-7528101	DETECTABLE WARNINGS	SF	48.9			48.9
41	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN.	SY	87			87
42	2515-6745600	REMOVAL OF PAVED DRIVEWAY	SY	167			167
43	2519-1001000	FENCE, CHAIN LINK, VINYL COATED Black	LF		32		32
44	2519-3280000	FENCE, FIELD	LF	65			65
45	2519-4200140	REMOVAL OF FENCE, FIELD	LF	65			65
46	2519-4200190	REMOVAL OF FENCE, WOOD, SPLIT RAIL	LF	147.5			147.5
47	2524-6765010	REMOVAL AND REINSTALL SIGN	EACH	5			5
48	2526-8285010	CONSTRUCTION SURVEY, MONUMENT PRESERVATION	LS	1			1
49	2526-8285020	CONSTRUCTION SURVEY, CONTROL POINT SURVEY	LS	1			1
50	2526-8285030	CONSTRUCTION SURVEY, RIGHT OF WAY	LS	1			1
51	2526-8285040	CONSTRUCTION SURVEY, LOCATION SURVEY	LS	1			1
52	2527-9263217	PAINTED PAVEMENT MARKINGS, DURABLE	STA	0.18			0.18
53	2528-2518000	SAFETY CLOSURE	EACH	2			2
54	2528-8445110	TRAFFIC CONTROL	LS	1			1
55	2533-4980005	MOBILIZATION	LS	1			1
56	2554-0212030	VALVE BOX REPLACEMENT	EACH	1			1
57	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS	LS			1	1
58	2599-9999005	FOOTING FOR CONCRETE PIPE APRON, 15-INCH	EACH	1			1
59	2599-9999005	FOOTING FOR CONCRETE PIPE APRON, 18-INCH	EACH	2			2
60	2599-9999005	FOOTING FOR CONCRETE PIPE APRON, 30-INCH	EACH	1			1
61	2599-9999005	FOOTING FOR CONCRETE PIPE APRON, 36-INCH	EACH	1			1
62	2599-9999010	MAINTENANCE OF POSTAL SERVICE	LS	1			1
63	2599-9999010	MAINTENANCE OF SOLID WASTE COLLECTION	LS	1			1
64	2601-2634100	MULCHING	ACRE	0.02			0.02
65	2601-2636044	SEEDING AND FERTILIZING (URBAN)	ACRE	0.63			0.63
66	2601-2642120	STABILIZING CROP - SEEDING AND FERTILIZING (URBAN)	ACRE	0.63			0.63
67	2601-2643300	MOBILIZATION FOR WATERING	EACH	17			17
68	2602-0000309	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 9 IN. DIA.	LF	1361			1361
69	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	1361			1361
70	2602-0000500	OPEN-THROAT CURB INTAKE SEDIMENT FILTER, EC-602	LF	15			15
71	2602-0000510	MAINTENANCE OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	EACH	2			2
72	2602-0000520	REMOVAL OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	EACH	2			2
73	2602-0000530	GRATE INTAKE SEDIMENT FILTER BAG, EC-604	EACH	3			3
74	2602-0000540	MAINTENANCE OF GRATE INTAKE SEDIMENT FILTER BAG	EACH	3			3
75	2602-0000550	REMOVAL OF GRATE INTAKE SEDIMENT FILTER BAG	EACH	3			3
76	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	5			5
77	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1			1

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ESTIMATE REFERENCE INFORMATION		
Item No.	Item Code	Description
1	2101-0850001	CLEARING AND GRUBBING See tabulation on C-sheets. Contractor shall use reasonable best efforts to preserve two Burr Oak trees at 4409 Lucore Road, Such efforts shall include hand cutting the trees' roots where encountered.
2	2101-0850002	CLEARING AND GRUBBING See tabulation on C-sheets. Contractor shall use reasonable best efforts to preserve two Burr Oak trees at 4409 Lucore Road, Such efforts shall include hand cutting the trees' roots where encountered.
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW See tabulation on T-sheets
4	2105-8425005	TOPSOIL, FURNISH AND SPREAD Quantity is a 25% amendment to the strip, salvage, and spread quantity, Use as directed by the owner, Use is contingent on quantity and quality of stripped and salvaged topsoil.
5	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD Quantity is based on a 6-inch depth over the total surface area of trail plus total area of seeding and fertilizing, excluding extended subbase.
6	2113-0001000	SUBGRADE STABILIZATION MATERIAL, MACADAM Quantity is a contingency based on subbase conditions. Use as directed by the owner.
7	2113-0001100	SUBGRADE STABILIZATION MATERIAL, POLYMER GRID Quantity is a contingency based on subbase conditions. Use as directed by the owner.
8	2115-0100000	MODIFIED SUBBASE See Tabulation on C-Sheets
9	2121-7425010	GRANULAR SHOULDERS, TYPE A See tabulation on C-Sheets. Contractor shall use reasonable best efforts to preserve two Burr Oak trees at 4409 Lucore Road. Such efforts shall include hand cutting the trees' roots where encountered.
10	2123-7450020	SHOULDER FINISHING, EARTH Quantity is based on entire length of trail. One shoulder on each side of trail.
11	2213-7100400	RELOCATION OF MAIL BOXES See Tabulation on C-Sheets
12	2303-9093010	HOT MIX ASPHALT, DRIVEWAY Item is for driveway at 4409 Lucore Rd, Approx Sta. 109+97.13. Contractor shall use reasonable best efforts not to obstruct driveway access to owner's property during construction. Contractor shall give owner notice at least three days prior to any planned obstruction of owners driveway resulting from Contractor's activities within the project area. A Certified Plant Inspection is required for this item. Certified Plant Inspection will not be paid for or measured separately. It shall be included in the contract unit price for this item.
13	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE Temporary Access Item is to provide temporary aggregate surface for residents to access driveways while pavement is removed.
14	2401-6745650	REMOVAL OF EXISTING STRUCTURES STORM SEWER APRONS This item includes the aprons on the ends of existing storm pipes.
15	2401-6750001	REMOVALS, AS PER PLAN See Tabulation on C-Sheets. Contractor shall remove aggregate surfacing to the removal limits as shown on the plan sheets without damage to the adjacent property, trees, utilities, or pavement that are to remain in place. Contractor shall remove pipe culverts as shown on the plan sheets without damage to the adjacent property, trees, utilities, or pavement that are to remain in place. Bid item includes backfilling voids remaining after removal and hauling of waste materials. Contractor shall legally dispose of materials resulting from removal operations, Item is lump sum; no measurement will be made. Payment will be at the lump sum price for Removals, As Per Plan.
16	2402-2720000	EXCAVATION, CLASS 20 Includes 22 CY for each abutment
17	2403-0100010	STRUCTURAL CONCRETE (BRIDGE) Includes quantities as shown on V.02. Includes furnishing and placing subdrain, floodable backfill, porous backfill, geotextile fabric, water flooding, and subdrain outlets at abutments and toe of berm. A Certified Plant Inspection is required for this item.
18	2404-7775005	REINFORCING STEEL, EPOXY COATED Includes quantities as shown on V.02.
19	2416-0100015	APRONS, CONCRETE, 15 IN. DIA. Upstream aprons will be installed with apron guards per Standard Road Plan DR-213 (Incidental). Downstream aprons will be installed on apron footing (U-Sheets). See 2599-9999005.
20	2416-0100018	APRONS, CONCRETE, 18 IN. DIA. Upstream aprons will be installed with apron guards per Standard Road Plan DR-213 (Incidental). Downstream aprons will be installed on apron footing (U-Sheets). See 2599-9999005.
21	2416-0100030	APRONS, CONCRETE, 30 IN. DIA. Upstream aprons will be installed with apron guards per Standard Road Plan DR-213 (Incidental). Downstream aprons will be installed on apron footing (U-Sheets). See 2599-9999005.
22	2416-0100036	APRONS, CONCRETE, 36 IN. DIA. Upstream aprons will be installed with apron guards per Standard Road Plan DR-213 (Incidental). Downstream aprons will be installed on apron footing (U-Sheets). See 2599-9999005.
23	2429-0000100	PRE-ENGINEERED STEEL TRUSS TRAIL BRIDGE, 125'-0 x 12'-0 Bridge shall be manufactured by a company on the approved list as per I.M. 557 Appendix D. Finish of bridge shall be weathering steel. Includes all costs associated with design, fabrication, delivery, erection, and assembly of the pre-engineered steel truss trail bridge. Includes the cost of all materials, equipment, and labor necessary to install the bridge. The bridge manufacturer shall design the bridge to fit within the substructure as detailed in these plans. These plans assume the anchor bolts at each abutment will be located on the inside face of the truss below the deck. Includes cost of epoxy coated rebar, structural concrete, and metal for pan and all materials, labor, and equipment to install these items. Includes cover plate transition at each end of the bridge. A Certified Plant Inspection is required for this item.
24	2435-0140148	MANHOLE, STORM SEWER, SW-401, 48 IN. See Tabulation on C-Sheets
25	2435-0251224	INTAKE, SW-512, 24 IN. See Tabulation on C-Sheets

ESTIMATE REFERENCE INFORMATION		
Item No.	Item Code	Description
26	2435-0251230	INTAKE, SW-512, 30 IN. See Tabulation on C-Sheets
27	2501-0201057	PILES, STEEL, HP 10 X 57 Steel point driving tips shall be included with this item.
28	2502-8212306	SUBDRAIN, STANDARD, PERFORATED, 6 IN., AS PER PLAN See M-Sheets for location. Subdrain cleanout is incidental to this item.
29	2502-8221303	SUBDRAIN OUTLET, DR-303 See M-Sheets for location.
30	2503-0110015	STORM SEWER GRAVITY MAIN, TRENCHED, 15 IN. See M-Sheets. See Tabulation on C-Sheets. Pipe length is measured Center of Structure to Center of Structure. Connected Pipe Joints per Standard Road Plan DR-121 are incidental to this item.
31	2503-0110018	STORM SEWER GRAVITY MAIN, TRENCHED, 18 IN. See M-Sheets. See Tabulation on C-Sheets. Pipe length is measured Center of Structure to Center of Structure. Connected Pipe Joints per Standard Road Plan DR-121 are incidental to this item.
32	2503-0110024	STORM SEWER GRAVITY MAIN, TRENCHED, 24 IN. See M-Sheets. See Tabulation on C-Sheets. Pipe length is measured Center of Structure to Center of Structure. Connected Pipe Joints per Standard Road Plan DR-121 are incidental to this item.
33	2503-0110030	STORM SEWER GRAVITY MAIN, TRENCHED, 30 IN. See M-Sheets. See Tabulation on C-Sheets. Pipe length is measured Center of Structure to Center of Structure. Connected Pipe Joints per Standard Road Plan DR-121 are incidental to this item. Contractor shall use reasonable best efforts to preserve two Burr Oak trees at 4409 Lucore Road. Such efforts shall include hand cutting the trees' roots where encountered.
34	2503-0110036	STORM SEWER GRAVITY MAIN, TRENCHED, 36 IN. See M-Sheets. See Tabulation on C-Sheets. Pipe length is measured Center of Structure to Center of Structure. Connected Pipe Joints per Standard Road Plan DR-121 are incidental to this item.
35	2507-3250005	ENGINEERING FABRIC Item is associated with Revetment. See tabulation on C-Sheets.
36	2507-6800011	REVTMENT, CLASS A Item is for armoring banks of Indian Creek at pipe outlets. See tabulation on C-Sheets.
37	2507-6800042	REVTMENT, CLASS D Item is for armoring banks of Indian Creek. See tabulation on C-Sheets.
38	2511-0302600	RECREATIONAL TRAIL, PORTLAND CEMENT CONCRETE, 6 IN. Quantity includes entire surface area of trail. A Certified Plant Inspection is required for this item. Certified Plant Inspection will not be paid for or measured separately. It shall be included in the contract unit price for this item.
39	2511-0310100	SPECIAL COMPACTION OF SUBGRADE FOR RECREATIONAL TRAIL See Tabulation on C-Sheets.
40	2511-7528101	DETECTABLE WARNINGS See S-Sheets. Item is for crossing of Indian Creek Road, Cast iron detectable warning panels meeting the requirements of Section 4171.04 and Steel detectable warning panels meeting the requirements of Section 4171.05 are acceptable on this project.
41	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN. Item is for driveway at 4311 Lucore Rd, Approx Sta. 107+14.68. Contractor shall use reasonable best efforts not to obstruct driveway access to owner's property during construction. Contractor shall give owner notice at least three days prior to any planned obstruction of owners driveway resulting from Contractor's activities within the project area. A Certified Plant Inspection is required for this item. Certified Plant Inspection will not be paid for or measured separately. It shall be included in the contract unit price for this item.
42	2515-6745600	REMOVAL OF PAVED DRIVEWAY Assumed thickness is 5-inch. See Tabulation on C-Sheets. Contractor shall use reasonable best efforts not to obstruct driveway access to owner's property during construction. Contractor shall give owner notice at least three days prior to any planned obstruction of owners driveway resulting from Contractor's activities within the project area.
43	2519-1001000	FENCE, CHAIN LINK, VINYL COATED Black Chain link fence shall be black vinyl coated.
44	2519-3280000	FENCE, FIELD Field Fence shall meet Iowa DOT specifications. Field Fence shall not include barbed wire. Field Fence shall be installed from Sta 110+21 to Sta 110+86. See H-Sheets for details. Contractor shall coordinate installation of fencing with owner. Contractor shall not removesuch fencing until owner completes construction of permanent fencing and requests its removal.
45	2519-4200140	REMOVAL OF FENCE, FIELD Item is for field fence installed as 2519-32802000. See H-Sheets for details. Contractor shall not remove field fence installed as 2519-32800000 unless/until owner completes construction of permanent fencing and requests its removal. Contractor shall salvage and make available to owner any fencing materials removed.
46	2519-4200190	REMOVAL OF FENCE, WOOD, SPLIT RAIL Item is for wood fence from Sta 110+21 to Sta 110+86 and for field fence installed as 2519-32800000. See H-Sheets for details. Contractor shall coordinate removal of wood fencing with owner. Contractor shall not remove owners existing wood fence until owner completes installation of a temporary electric fence. Contractor shall salvage and make available to owner any fencing materials removed.
47	2524-6765010	REMOVAL AND REINSTALL SIGN See Tabulation on C-Sheets.
48	2526-8285010	CONSTRUCTION SURVEY, MONUMENT PRESERVATION Quantity is one lump sum.
49	2526-8285020	CONSTRUCTION SURVEY, CONTROL POINT SURVEY Quantity is one lump sum.
50	2526-8285030	CONSTRUCTION SURVEY, RIGHT OF WAY Quantity is one lump sum.
51	2526-8285040	CONSTRUCTION SURVEY, LOCATION SURVEY Quantity is one lump sum.
52	2527-9263217	PAINTED PAVEMENT MARKINGS, DURABLE Item is for stop bar at intersection with Indian Creek Road.
53	2528-2518000	SAFETY CLOSURE Quantity is one each for north and south side of work area during a full road closure. See J-Sheets for details
54	2528-8445110	TRAFFIC CONTROL Quantity is one lump sum. Traffic control is shown on the J-Sheets.



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ESTIMATE REFERENCE INFORMATION		
Item No.	Item Code	Description
55	2533-4980005	MOBILIZATION
		Quantity is one lump sum. Contractor shall not use temporary or permanent artificial lighting installed in easement areas for construction.
56	2554-0212030	VALVE BOX REPLACEMENT
		Item is for single valve box at approx. Sta. 102+27. Box will be supplied by Marion Water Department. Contractor shall install.
57	2555-0000010	DELIVER AND STOCKPILE SALVAGED MATERIALS
		Item is for fence removed as part of 2519-4200190. See H-Sheets for details.
58	2599-9999005	FOOTING FOR CONCRETE PIPE APRON, 15-INCH
		Comply with the detail shown on the U-Sheets and Section 2419 and ASTM C478 pr ASTM C913 for precast or Section 2403 for cast in place Class C concrete and apply Section 2404 for reinforcing steel used in apron footings. Install Footing for Concrete Pipe Apron at downstream pipe aprons. Dewater area as necessary to prevent installing the apron footing in water or on saturated soil or bedding. Do not allow water to rise around the apron footing prior to backfilling the area. A Certified Plant Inspection shall be required for this bid item. Method of Measurement: Each type and size of footing installed on a concrete pipe apron will be counted. Basis of Payment: Payment will be made at the unit price for each type and size of footing. Item Includes: Unit price includes, but is not limited to, excavation, dewatering, reinforcing steel, concrete finishing, placing and compacting bedding and backfill material.
59	2599-9999005	FOOTING FOR CONCRETE PIPE APRON, 18-INCH
		Comply with the detail shown on the U-Sheets and Section 2419 and ASTM C478 pr ASTM C913 for precast or Section 2403 for cast in place Class C concrete and apply Section 2404 for reinforcing steel used in apron footings. Install Footing for Concrete Pipe Apron at downstream pipe aprons. Dewater area as necessary to prevent installing the apron footing in water or on saturated soil or bedding. Do not allow water to rise around the apron footing prior to backfilling the area. A Certified Plant Inspection shall be required for this bid item. Method of Measurement: Each type and size of footing installed on a concrete pipe apron will be counted. Basis of Payment: Payment will be made at the unit price for each type and size of footing. Item Includes: Unit price includes, but is not limited to, excavation, dewatering, reinforcing steel, concrete finishing, placing and compacting bedding and backfill material.
60	2599-9999005	FOOTING FOR CONCRETE PIPE APRON, 30-INCH
		Comply with the detail shown on the U-Sheets and Section 2419 and ASTM C478 pr ASTM C913 for precast or Section 2403 for cast in place Class C concrete and apply Section 2404 for reinforcing steel used in apron footings. Install Footing for Concrete Pipe Apron at downstream pipe aprons. Dewater area as necessary to prevent installing the apron footing in water or on saturated soil or bedding. Do not allow water to rise around the apron footing prior to backfilling the area. A Certified Plant Inspection shall be required for this bid item. Method of Measurement: Each type and size of footing installed on a concrete pipe apron will be counted. Basis of Payment: Payment will be made at the unit price for each type and size of footing. Item Includes: Unit price includes, but is not limited to, excavation, dewatering, reinforcing steel, concrete finishing, placing and compacting bedding and backfill material.
61	2599-9999005	FOOTING FOR CONCRETE PIPE APRON, 36-INCH
		Comply with the detail shown on the U-Sheets and Section 2419 and ASTM C478 pr ASTM C913 for precast or Section 2403 for cast in place Class C concrete and apply Section 2404 for reinforcing steel used in apron footings. Install Footing for Concrete Pipe Apron at downstream pipe aprons. Dewater area as necessary to prevent installing the apron footing in water or on saturated soil or bedding. Do not allow water to rise around the apron footing prior to backfilling the area. A Certified Plant Inspection shall be required for this bid item. Method of Measurement: Each type and size of footing installed on a concrete pipe apron will be counted. Basis of Payment: Payment will be made at the unit price for each type and size of footing. Item Includes: Unit price includes, but is not limited to, excavation, dewatering, reinforcing steel, concrete finishing, placing and compacting bedding and backfill material.
62	2599-9999010	MAINTENANCE OF POSTAL SERVICE
		Coordinate with U.S. Postal Service and residents to maintain postal service to all properties within the project area. Method of Measurement: Lump Sum item, Basis of Payment: Payment will be at the lump sum price for maintenance of postal service.
63	2599-9999010	MAINTENANCE OF SOLID WASTE COLLECTION
		Coordinate with City of Marion Public Works Dept. or resident's private solid waste collection service to maintain solid waste collection service to all properties within the project area. Method of Measurement: Lump Sum item, Basis of Payment: Payment will be at the lump sum price for maintenance of postal service.
64	2601-2636044	SEEDING AND FERTILIZING (URBAN)
		See RR-Sheets for placement details. Seed mix is per Table 2601.03-4: Permanent Seed Rates, Urban Areas.
65	2601-2634100	MULCHING
		Mulch is shown on Sheet RR.02. Mulch intended to be placed prior to equipment in area to limit soil compaction. Area shall be reestablished with topsoil and seed after completion of construction.
66	2601-2642120	STABILIZING CROP - SEEDING AND FERTILIZING (URBAN)
		Item is contingent on Contractor schedule and weeding windows. If a Stabilizing Crop is used, the seed mix is per Table 2601.03-2: Urban Stabilizing Crop Seeding Rated.
67	2601-2643300	MOBILIZATION FOR WATERING
		Quantity is assumed and dependent on water conditions. For this bid, the Contractor shall provide water to completely water all seeded areas. The Contractor shall pay for water obtained from City of Marion hydrants. Payment shall be for each watering application for the entire seeded area. Watering shall occur every two days for the first three weeks, thence every three days for the weeks four through six. A time period can be skipped if 0.25 on an inch or more of rainfall occurs after the previous watering.
68	2602-0000309	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 9 IN. DIA.
		See Tabulation on C-Sheets.
69	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE
		See Tabulation on C-Sheets.
70	2602-0000500	OPEN-THROAT CURB INTAKE SEDIMENT FILTER, EC-602
		See Tabulation on C-Sheets.
71	2602-0000510	MAINTENANCE OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER
		See Tabulation on C-Sheets.
72	2602-0000520	REMOVAL OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER
		See Tabulation on C-Sheets.
73	2602-0000530	GRATE INTAKE SEDIMENT FILTER BAG, EC-604
		See Tabulation on C-Sheets.
74	2602-0000540	MAINTENANCE OF GRATE INTAKE SEDIMENT FILTER BAG
		See Tabulation on C-Sheets.
75	2602-0000550	REMOVAL OF GRATE INTAKE SEDIMENT FILTER BAG
		See Tabulation on C-Sheets.
76	2602-0010010	MOBILIZATIONS, EROSION CONTROL
		Quantity is assumed and will be dependant on weather conditions.
77	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL
		Emergency will be considered to be a sudden occurrence of a serious and urgent nature beyond normal maintenance of erosion control items.

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CLEARING AND GRUBBING																							
Location		Work and Material Type	Trees, Stumps, and Logs and Down Timber Material Diameters														All Other Materials			Estimated Quantities			Remarks
Station to Station or Ref. Loc. Sign to Ref. Loc. Sign or Description	Direction of Travel		3"-6"	>6"-9"	>9"-12"	>12"-15"	>15"-18"	>18"-24"	>24"-30"	>30"-36"	>36"-42"	>42"-48"	>48"-60"	>60"-72"	>72"	Calculated Units	Length	Width	Calculated Units	Units	Area	Herbicide Application	
																	FT	FT		Units	Acres	Each	
110+13.03 to 111+11.03	North	Brush and Shrub Removal																			0.05		
111+57.29 to 112+72.11	North	Brush and Shrub Removal																			0.12		
110+55.51	North	Trees - Clearing & Grubbing											1			160.0							
110+91.59	North	Trees - Clearing & Grubbing		1												3.9							
110+94.14	North	Trees - Clearing & Grubbing		1												3.9							
111+01.18	North	Trees - Clearing & Grubbing			1											6.7							
110+99.28	North	Trees - Clearing & Grubbing			1											6.7							
111+02.90	North	Trees - Clearing & Grubbing			1											6.7							
				Total= 2	Total= 3								Total= 1			Total= 187.9					Total= 0.17		

GRANULAR SHOULDERS			
Begin Station	End Station	Length (Stations)	Side
106+84.52	106+96.21	0.12	L
107+25.86	107+37.67	0.12	L
109+70.65	109+78.30	0.09	L
109+97.88	110+03.4	0.06	L
		TOTAL= 0.39	

REMOVAL OF EXISTING STORM SEWER APRONS			
Station	Offset	Size (in.)	Each
102+43.38	4.2' R	15	1
102+44.07	13.1' R	15	1
112+46.91	9.1' R	36	1
		TOTAL= 3	

REMOVALS, AS PER PLAN		
No.	Location	Description
1	102+51, L & R	Aggregate Shoulder
2	102+99, L & R	Aggregate Shoulder
3	107+12.39, 6.9' L	40 LF 18-Inch Driveway Culvert
4	109+91.73, 5.7' L	41 LF 24-Inch Driveway Culvert

REVTMENT & ENGINEERING FABRIC						
Begin Station	End Station	Area (SY)	Revetment Depth (in)	Revetment Tons	Side	Notes
110+73.26	111+13.90	136	24	135	Both	Class D – South Side of Indian Creek
110+91.25	111+13.89	22	36	42	R	Class A – South Side Pipe Outlet
111+31.74	112+98.77	660	24	653	Both	Class D – North and West Sides of Indian Creek
111+33.20	111+71.36	24	36	45	R	Class A – North Side Pipe Outlet
		TOTAL= 842		TOTAL CLASS D = 788		
				TOTAL CLASS A = 87		

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE														
Location					Longitudinal Subdrain (DR-303)				Subdrain Outlet		Porous* Backfill	Class "A"* Crushed Stone	Remarks	
Line No.	Road or Lane Identification	Station to Station		Side	Depth	Shoulder		Backslope		DR-303, DR-305 or DR-306				
						Size	Length	Size	Length	Station				Standard Road Plan and Type
						IN	FT	IN	FT					
1	Ditch Left of Trail	103+37.03	109+60.99	LT	18.0	6.0	624.0			103+37.03	DR-303	46.0		

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EXISTING SIGNS TO BE REINSTALLED									
SIGN DESCRIPTION	DIRECTION OF TRAVEL	LOCATION STATION	NUMBER OF POSTS	SQUARE TUBE STEEL POSTS	WOOD POSTS		INSTALLATION		SEE SIGNING NOTES
					4" x 4"	4" x 6"	TYPE	DIM 'X'	
					LF	LF			
Right Curve Ahead	Northbound	Sta. 103+66.28, 19.45' L	1						
Weight Limit 8 Tons	Northbound	Sta. 103+98.60, 22.14' L	1						
4311 Address	Northbound	Sta. 107+34.13, 13.54' R	1						
No Parking	Northbound	Sta. 108+25.28, 3.78' L	1						
4409 Address Marker	Northbound	Sta. 110+12.30, 1.42' L	1						
			Total= 5						

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE						
Possible Standards: EC-204						
Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
101+81.84	102+55.99	L&R	126.0			
102+46.65	102+46.65	R	16.0			
103+04.66	106+95.34	L&R	520.0			
106+84.60	106+84.60	R	16.0			
107+33.09	109+95.49	L&R	381.0			
110+18.50	111+06.58	L&R	160.0			
112+08.39	113+39.67	L&R	142.0			
			Total= 1361			

104_05B																		
8/15/2022																		
STORM SEWER AND INTAKES																		
(1) Diameter or equivalent diameter																		
*Bid Item																		
Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 2 ft length is added to each end of the Design Length to account for estimated length to center of structures.																		
No.	Location Station	Offset	Type or Standard Road Plan*	Casting Type	Form Grade Elev.	Bottom Well Elev.	Notes	Line Number	Intake / Utility Access No. Downstream	Intake / Utility Access No. Upstream	Pipe Size (IN)	Bid Length (FT)	Design Length (FT)	Slope (%)	Flow Line Elev. Downstream	Flow Line Elev. Upstream	Pipe Profile Sheet No.	Notes
ST-01	109+75.00	13.50' R	SW-512, 30"		808.84	802.50												
ST-02	109+60.99	10.98' L	SW-512, 30"		809.08	803.00												
ST-03	107+01.39	11.03' R	SW-401, 48"		815.72	810.75												
ST-04	106+82.30	12.00' L	SW-512, 24"		814.59	811.00												
			SW-512, 24" Total = 1															
			SW-512, 30" Total = 2					STP-01	Apron-01	Ex. Pipe	36	96.0	96.0	0.92	795.26	796.15	M.02	
			SW-401, 48" Total = 1					STP-02	Apron-02	ST-01	30	116.0	114.0	3.89	799.00	803.44	M.02	
								STP-03	ST-01	ST-02	24	32.0	28.0	2.00	803.44	804.00	M.02	
APRON-01	111+46.56	30.29' R					36-Inch with Footing	STP-04	Apron-03	ST-03	18	53.0	51.0	0.31	811.35	811.51	M.01	
APRON-02	110+97.50	11.05' R					30-Inch with Footing	STP-05	ST-03	ST-04	15	34.0	30.0	0.75	811.61	811.83	M.01	
APRON-03	107+58.75	24.04' R					18-Inch with Footing	STP-06	ST-03	Apron-04	18	16.0	14.0	6.49	811.61	812.50	M.01	
APRON-04	106+84.60	22.15' R					18-Inch with Footing	STP-07	STP-07.1	Ex. Pipe	15	10.0	10.0	0.16	820.70	820.72	M.01	
APRON-05	102+46.34	20.93' R					15-Inch with Footing	STP-07.1	Apron-05	STP-07	15	3.0	3.0	0.49	820.69	820.70	M.01	
												Total 15-inch= 47 LF						
												Total 18-inch= 69 LF						
												Total 24-inch= 32 LF						
												Total 30-inch= 116 LF						
												Total 36-inch= 96 LF						

TOPSOIL STRIPPING AND PLACEMENT								
Location				Topsoil Stripping Thickness		Topsoil Placement Thickness		Remarks
Road Identification	Dir. of Traffic	Begin Station	End Station	IN	FT	IN	FT	
Trail	Both	101+91.71	102+57.29	6.0	0.5	6.0	0.5	Topsoil depth is assumed. Intent is to replace to same depth as existing.
Trail	Both	102+96.63	107+07.41	6.0	0.5	6.0	0.5	Topsoil depth is assumed. Intent is to replace to same depth as existing.
Trail	Both	107+20.80	109+88.39	6.0	0.5	6.0	0.5	Topsoil depth is assumed. Intent is to replace to same depth as existing.
Trail	Both	110+02.46	111+19.80	6.0	0.5	6.0	0.5	Topsoil depth is assumed. Intent is to replace to same depth as existing.
Trail	Both	111+54.49	113+04.03	6.0	0.5	6.0	0.5	Topsoil depth is assumed. Intent is to replace to same depth as existing.

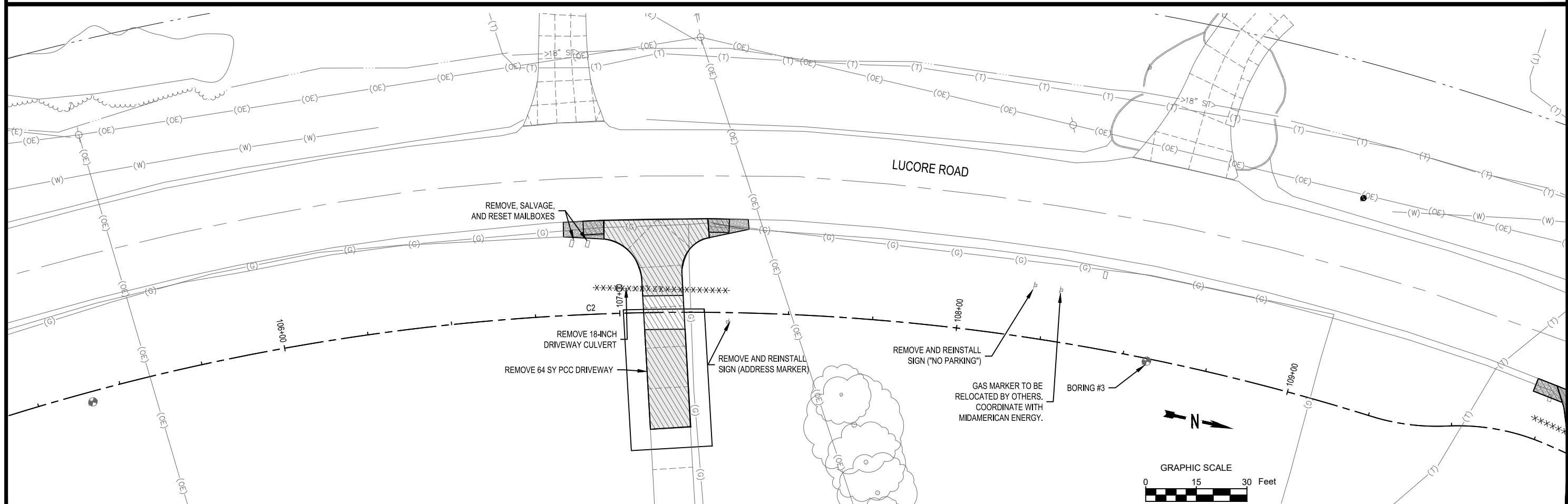
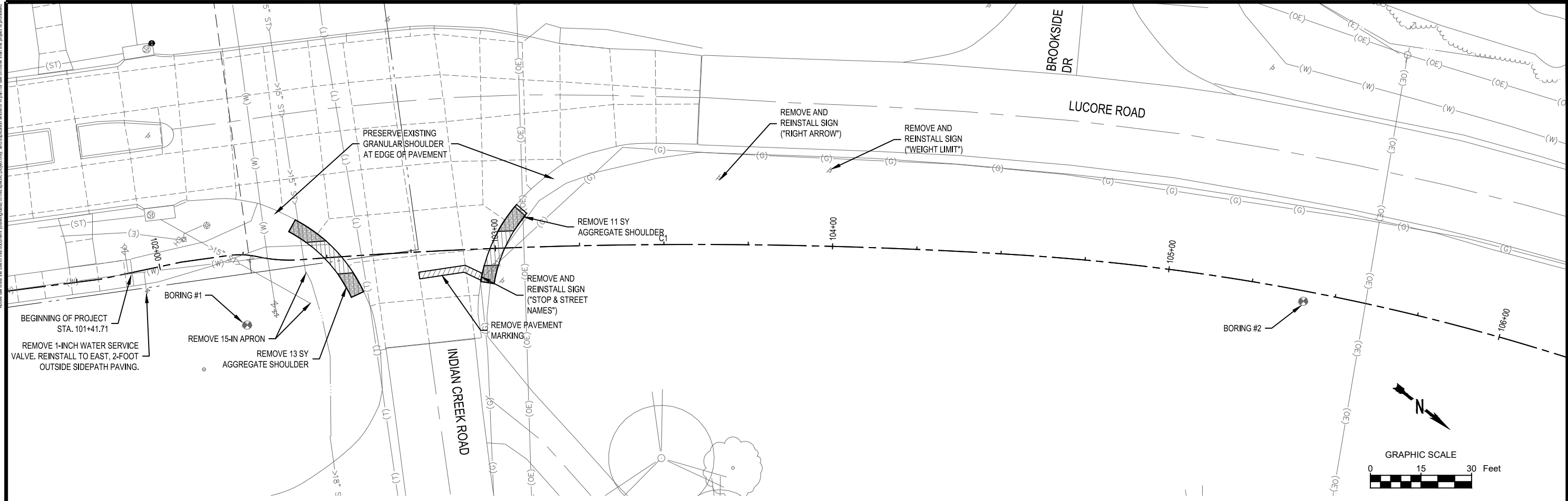
REMOVAL OF CONCRETE DRIVES							
* Not a Bid Item							
Location		Length	Width	Area	Area	Saw Cut*	Remarks
Station	Side	FT	FT	SF	SY	LF	
107+14.68	B	62.2	12.0	903.25	100.36	12.0	4311 Lucore Rd., PCC, Assumed 6-inch
109+97.13	B	46.2	10.5	603.84	67.09	10.5	4409 Lucore Rd., ACC, Assumed 6-inch
				TOTAL= 1507.09	167.45	Total=22.5	

AREAS FOR MODIFIED SUBBASE AND SPECIAL COMPACTION FOR RECREATIONAL TRAIL										106-5 MODIFIED
Station to Station		Side	Pavement Type	Length	Width	Thickness	What is being bid?	Modified subbase 6"	Special Compaction of Subgrade for Recreational Trail	Remarks
				FT	FT	IN		SY	STA	
101+91.70	102+54.25	B	PCC	62.6	12.0	6.0		83.5	0.6	See B-Sheets for section.
102+98.44	110+64.15	B	PCC	765.7	12.0	6.0		1020.9	7.7	See B-Sheets for section.
112+07.40	112+98.77	B	PCC	91.4	12.0	6.0		121.9	0.9	See B-Sheets for section.
Drive at 4311 Lucore		B	PCC	52.2	12.0	6.0		87.0	0.0	Irregular shape. See B-Sheets for Section.
Drive at 4409 Lucore		B	HMA	35.0	10.0	6.0		52.6	0.0	Irregular shape. See B-Sheets for Section.
						Total =		1365.9	9.2	

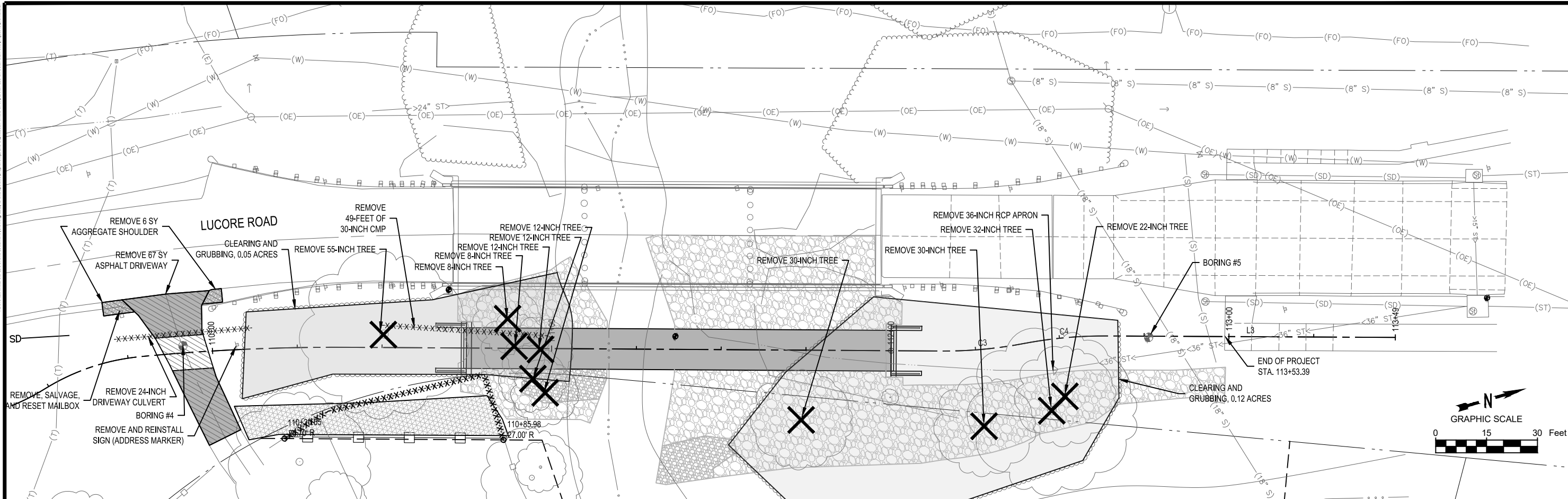
RELOCATION OF MAILBOXES				
Location		Remarks		
Station	Offset			
106+88.88	L	4311 Lucore Rd.		
106+93.49	L	4311 Lucore Rd.		
109+79.33	L	4409 Lucore Rd.		

EROSION CONTROL FOR INTAKE OR MANHOLE WELL					
Possible Detail: 570-5					
Location Station	Side	Cover Assembly			Remarks
		Installation	Maintenance	Removal	
		EACH	EACH	EACH	
102+02.31	L	1	1	1	EC-602, Existing Intake in Lucore Road
106+82.30, ST-03	L	1	1	1	EC-604, Proposed Intake
109+60.99, ST-02	L	1	1	1	EC-604, Proposed Intake
109+76.16, ST-01	R	1	1	1	EC-604, Proposed Intake
113+78.22	L	1	1	1	EC-602, Existing Intake in Lucore Road

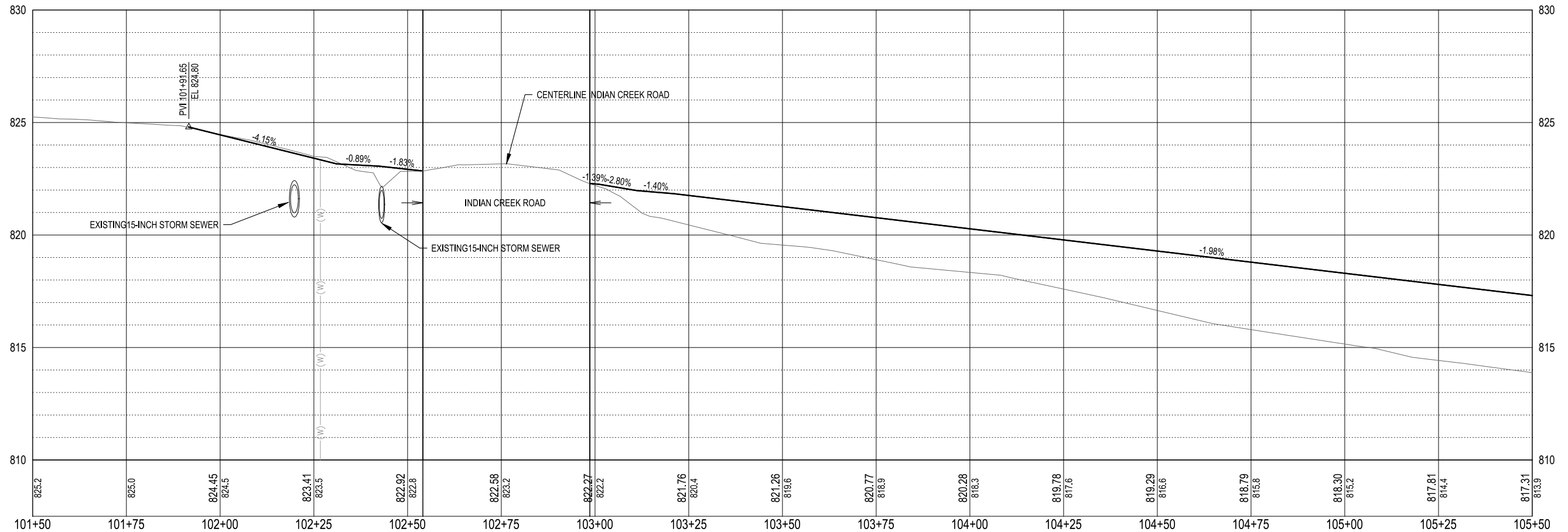
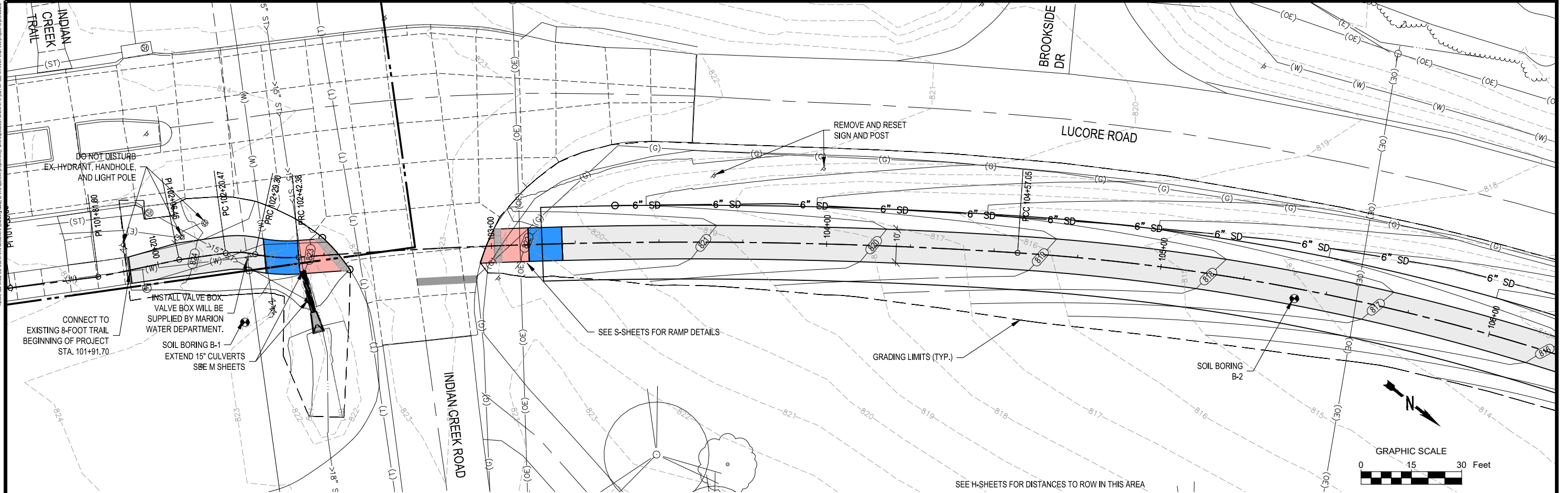
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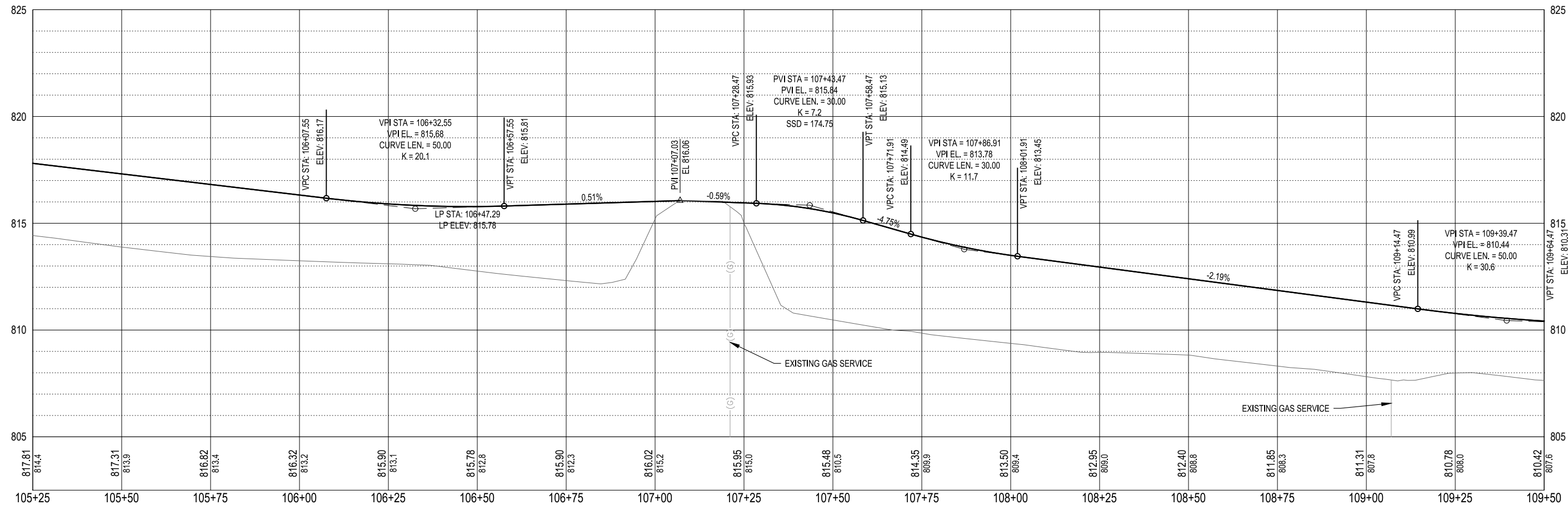
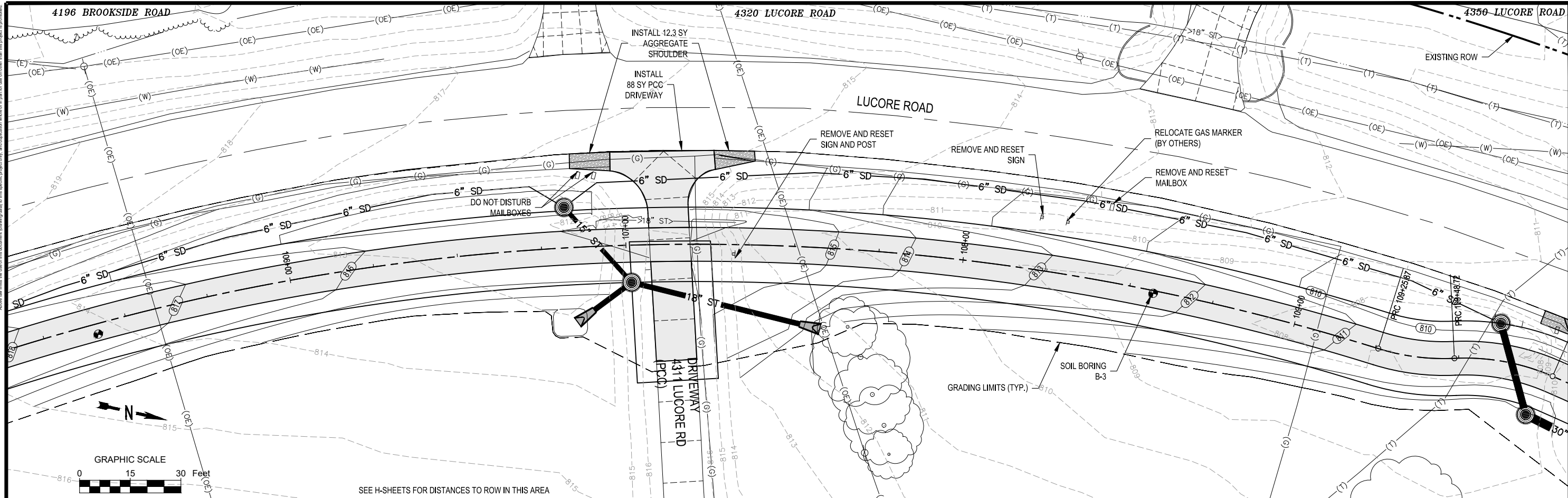




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FILE NO.

ENGLISH

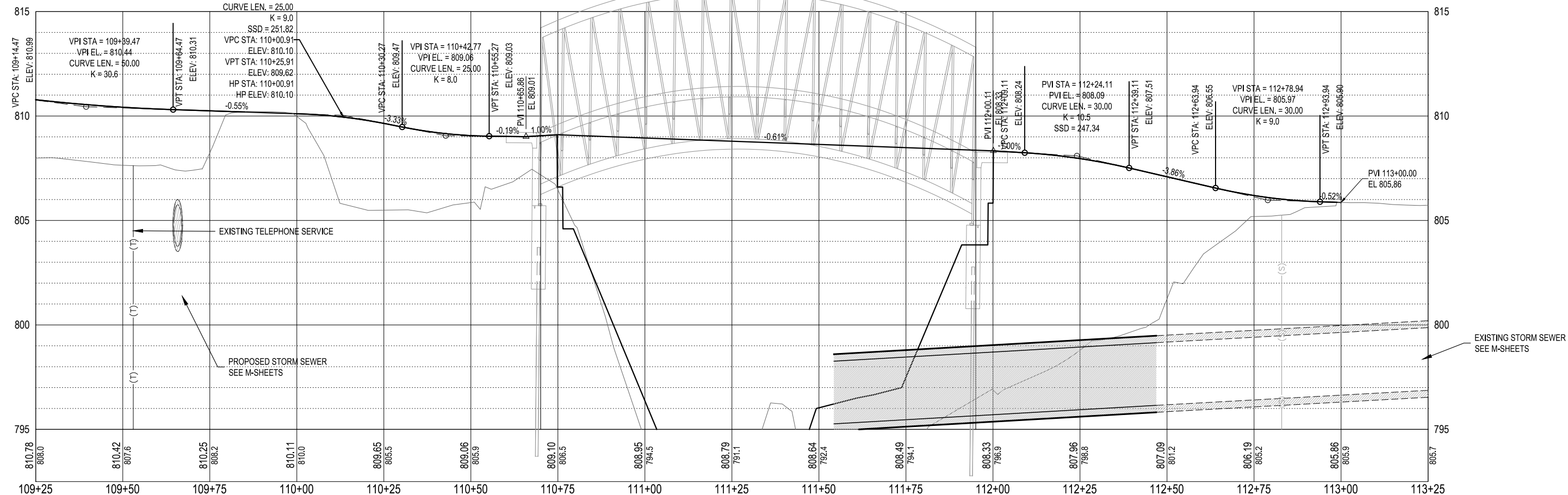
DESIGN TEAM SHOEMAKER & HAALAND

CITY OF MARION, LINN COUNTY

PROJECT NUMBER TAP-U-4775(645)--81-57

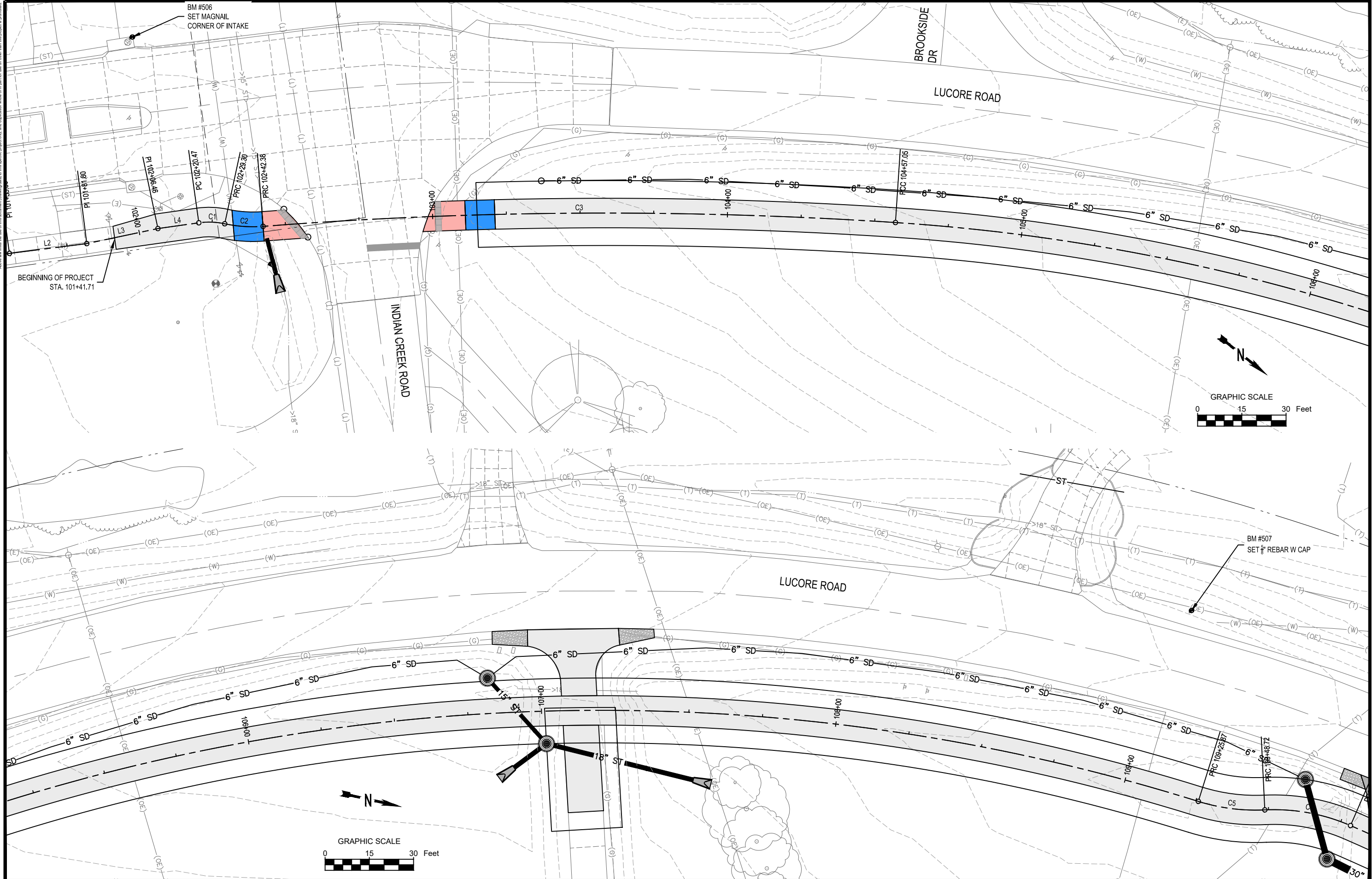
SHEET NUMBER D.02

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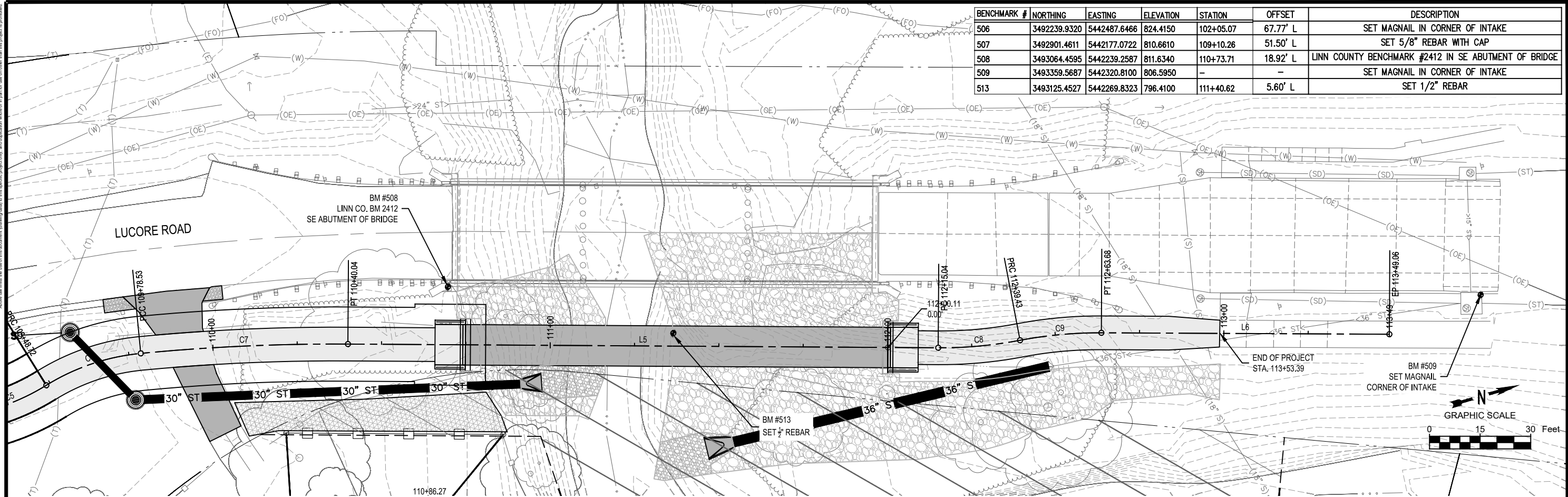
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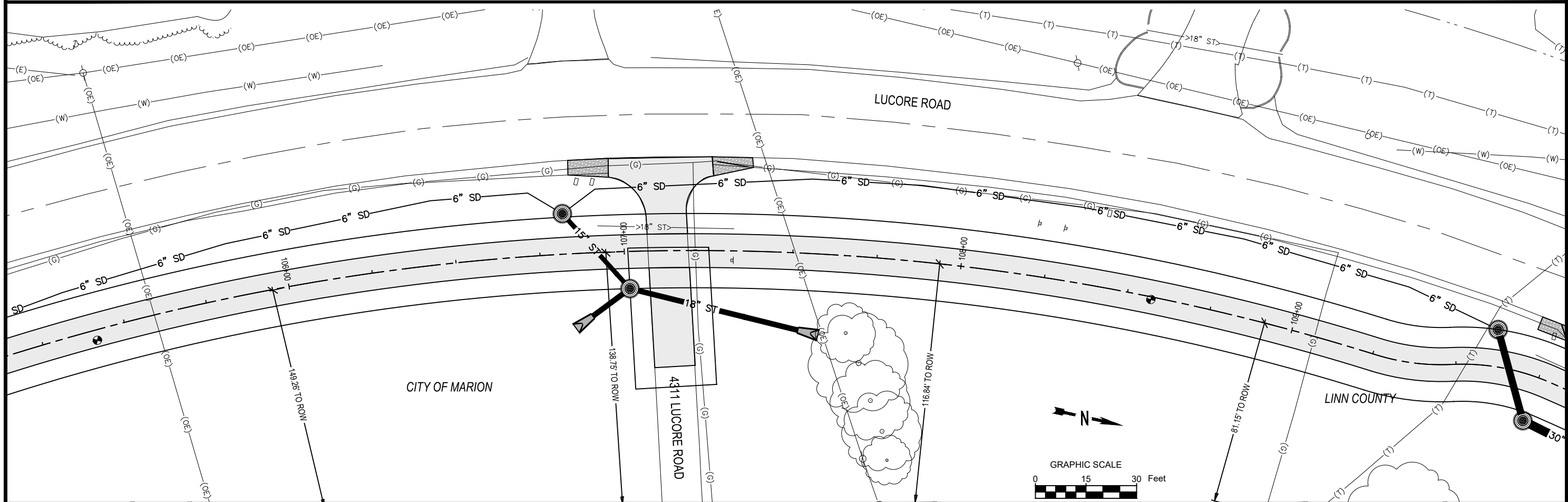
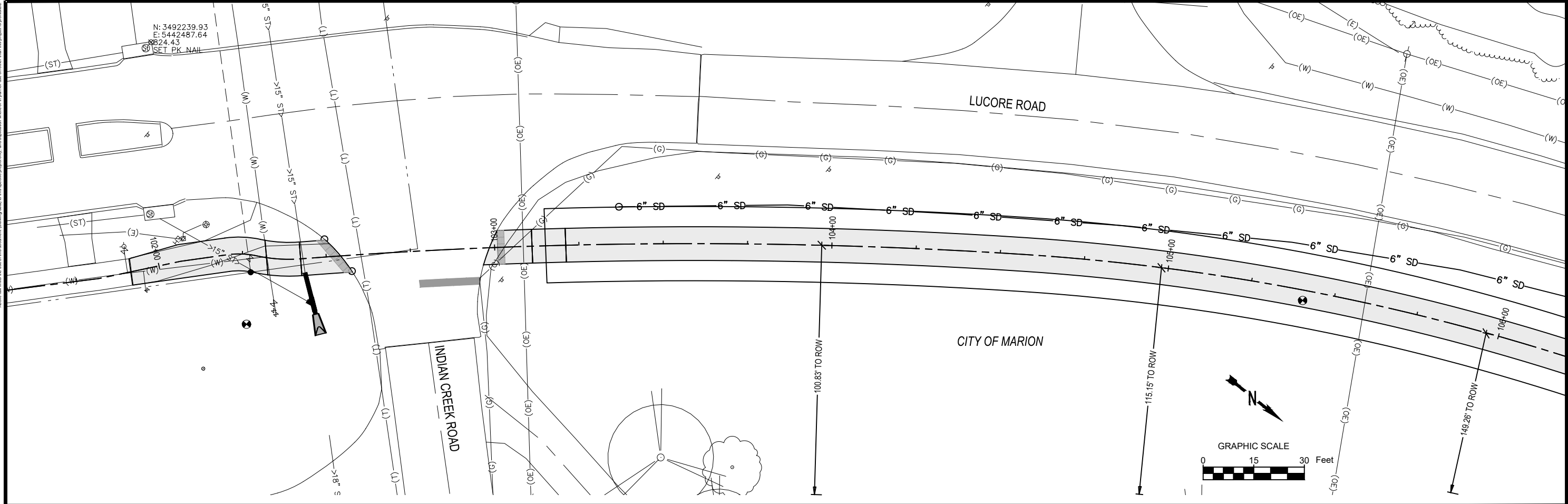
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BENCHMARK #	NORTHING	EASTING	ELEVATION	STATION	OFFSET	DESCRIPTION
506	3492239.9320	5442487.6466	824.4150	102+05.07	67.77' L	SET MAGNAIL IN CORNER OF INTAKE
507	3492901.4611	5442177.0722	810.6610	109+10.26	51.50' L	SET 5/8" REBAR WITH CAP
508	3493064.4595	5442239.2587	811.6340	110+73.71	18.92' L	LINN COUNTY BENCHMARK #2412 IN SE ABUTMENT OF BRIDGE
509	3493359.5687	5442320.8100	806.5950	-	-	SET MAGNAIL IN CORNER OF INTAKE
513	3493125.4527	5442269.8323	796.4100	111+40.62	5.60' L	SET 1/2" REBAR

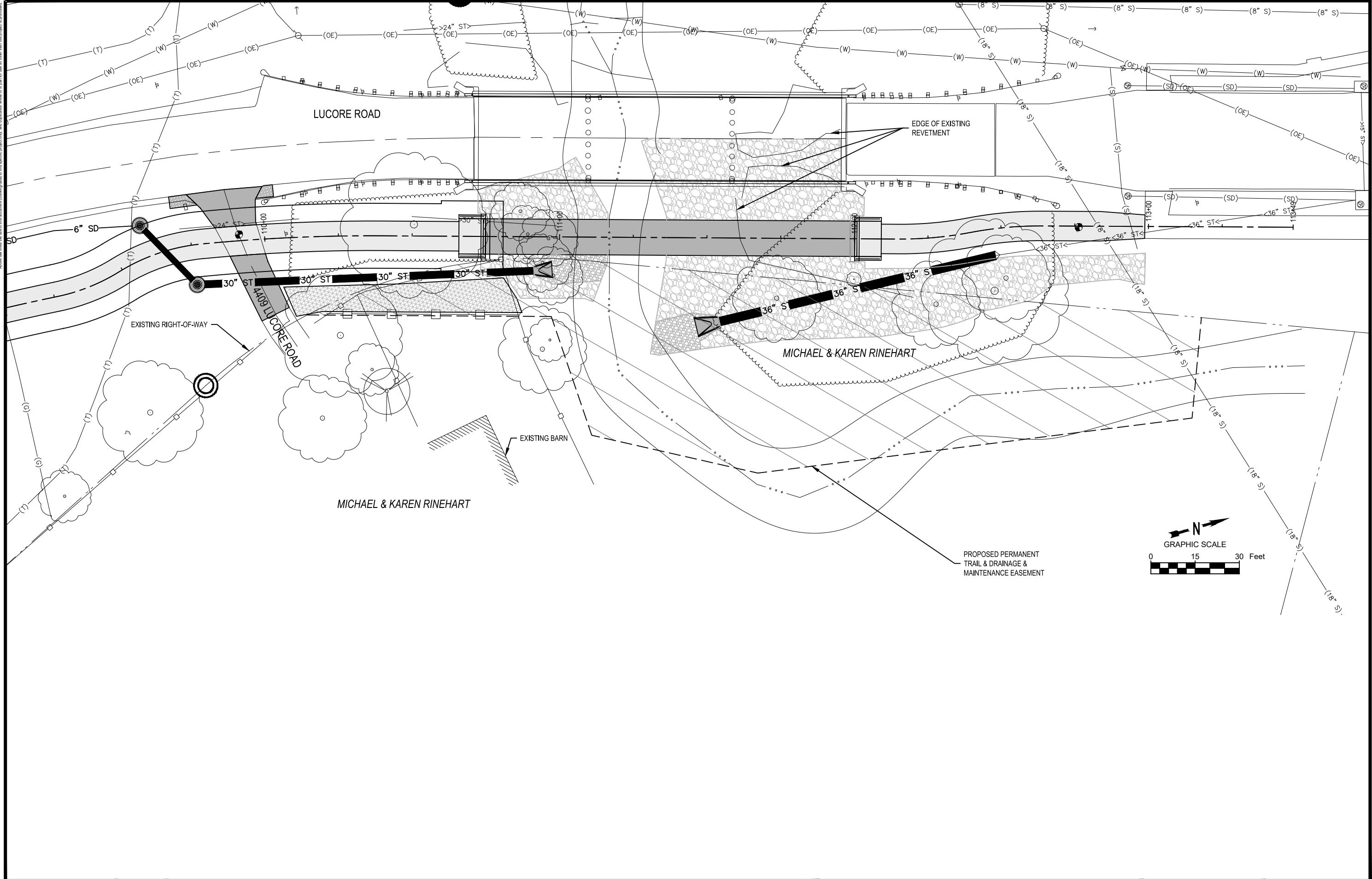
LUCORE SIDEPATH CENTERLINE																		
Number	Type	Length	Radius	Start Station	End Station	Delta Angle	Chord Length	Chord Direction	Start Direction	End Direction	Mid-Ordinate	External Tangent	External Secant	PI Included Angle	PI Station	Start Point	End Point	PI Point
L1	Line	14.159'		101+41.20	101+55.36											N = 3492245.63 E = 5442581.12	N = 3492255.15 E = 5442570.63	
L2	Line	26.445'		101+55.36	101+81.80											N = 3492255.15 E = 5442570.63	N = 3492273.10 E = 5442551.22	
L3	Line	24.660'		101+81.80	102+06.46											N = 3492273.10 E = 5442551.22	N = 3492288.31 E = 5442531.81	
L4	Line	14.006'		102+06.46	102+20.47											N = 3492288.31 E = 5442531.81	N = 3492297.68 E = 5442521.40	
C1	Curve	8.828'	25.00'	102+20.47	102+29.30	020.2332 (d)	8.78'	N37° 53' 29.16"W	N48° 00' 28.97"W	N27° 46' 29.35"W	0.39	4.46'	0.39'	159.7668 (d)	102+24.93'	N = 3492297.68 E = 5442521.40	N = 3492304.61 E = 5442516.00	N = 3492300.66 E = 5442518.08
C2	Curve	13.086'	45.00'	102+29.30	102+42.38	016.6619 (d)	13.04'	N36° 06' 20.80"W	N27° 46' 29.35"W	N44° 26' 12.25"W	0.47	6.59'	0.48'	163.3381 (d)	102+35.89'	N = 3492304.61 E = 5442516.00	N = 3492315.15 E = 5442508.32	N = 3492310.44 E = 5442512.93
C3	Curve	214.664'	1503.96'	102+42.38	104+57.05	008.1780 (d)	214.48'	N40° 20' 51.75"W	N44° 26' 12.10"W	N36° 15' 31.41"W	3.83	107.51'	3.84'	171.8220 (d)	103+49.90'	N = 3492315.15 E = 5442508.32	N = 3492478.61 E = 5442369.46	N = 3492391.91 E = 5442433.05
C4	Curve	468.824'	678.09'	104+57.05	109+25.87	039.6138 (d)	459.54'	N16° 27' 06.54"W	N36° 15' 31.35"W	N03° 21' 18.27"E	40.12	244.22'	42.64'	140.3862 (d)	107+01.27'	N = 3492478.61 E = 5442369.46	N = 3492919.34 E = 5442239.31	N = 3492675.54 E = 5442225.02
C5	Curve	22.852'	65.00'	109+25.87	109+48.72	020.1434 (d)	22.73'	N06° 42' 59.79"W	N03° 21' 18.27"E	N16° 47' 17.85"W	1.00	11.55'	1.02'	159.8566 (d)	109+37.42'	N = 3492919.34 E = 5442239.31	N = 3492941.91 E = 5442236.65	N = 3492930.86 E = 5442239.99
C6	Curve	29.808'	65.00'	109+48.72	109+78.53	026.2750 (d)	29.55'	N03° 39' 02.78"W	N16° 47' 17.85"W	N09° 29' 12.28"E	1.70	15.17'	1.75'	153.7250 (d)	109+63.90'	N = 3492941.91 E = 5442236.65	N = 3492971.40 E = 5442234.77	N = 3492956.44 E = 5442232.27
C7	Curve	61.505'	600.00'	109+78.53	110+40.04	005.8733 (d)	61.48'	N12° 25' 24.14"E	N09° 29' 12.28"E	N15° 21' 35.99"E	0.79	30.78'	0.79'	174.1267 (d)	110+09.31'	N = 3492971.40 E = 5442234.77	N = 3493031.44 E = 5442248.00	N = 3493001.76 E = 5442239.84
L5	Line	175.000'		110+40.04	112+15.04											N = 3493031.44 E = 5442248.00	N = 3493200.19 E = 5442294.35	
C8	Curve	24.397'	125.00'	112+15.04	112+39.43	011.1829 (d)	24.36'	N09° 46' 06.73"E	N15° 21' 35.99"E	N04° 10' 37.46"E	0.59	12.24'	0.60'	168.8171 (d)	112+27.27'	N = 3493200.19 E = 5442294.35	N = 3493224.19 E = 5442298.48	N = 3493211.99 E = 5442297.59
C9	Curve	24.245'	125.00'	112+39.43	112+63.68	011.1129 (d)	24.21'	N09° 44' 00.74"E	N04° 10' 37.46"E	N15° 17' 24.02"E	0.59	12.16'	0.59'	168.8871 (d)	112+51.60'	N = 3493224.19 E = 5442298.48	N = 3493248.05 E = 5442302.58	N = 3493236.32 E = 5442299.37
L6	Line	85.382'		112+63.68	113+49.06											N = 3493248.05 E = 5442302.58	N = 3493330.41 E = 5442325.09	

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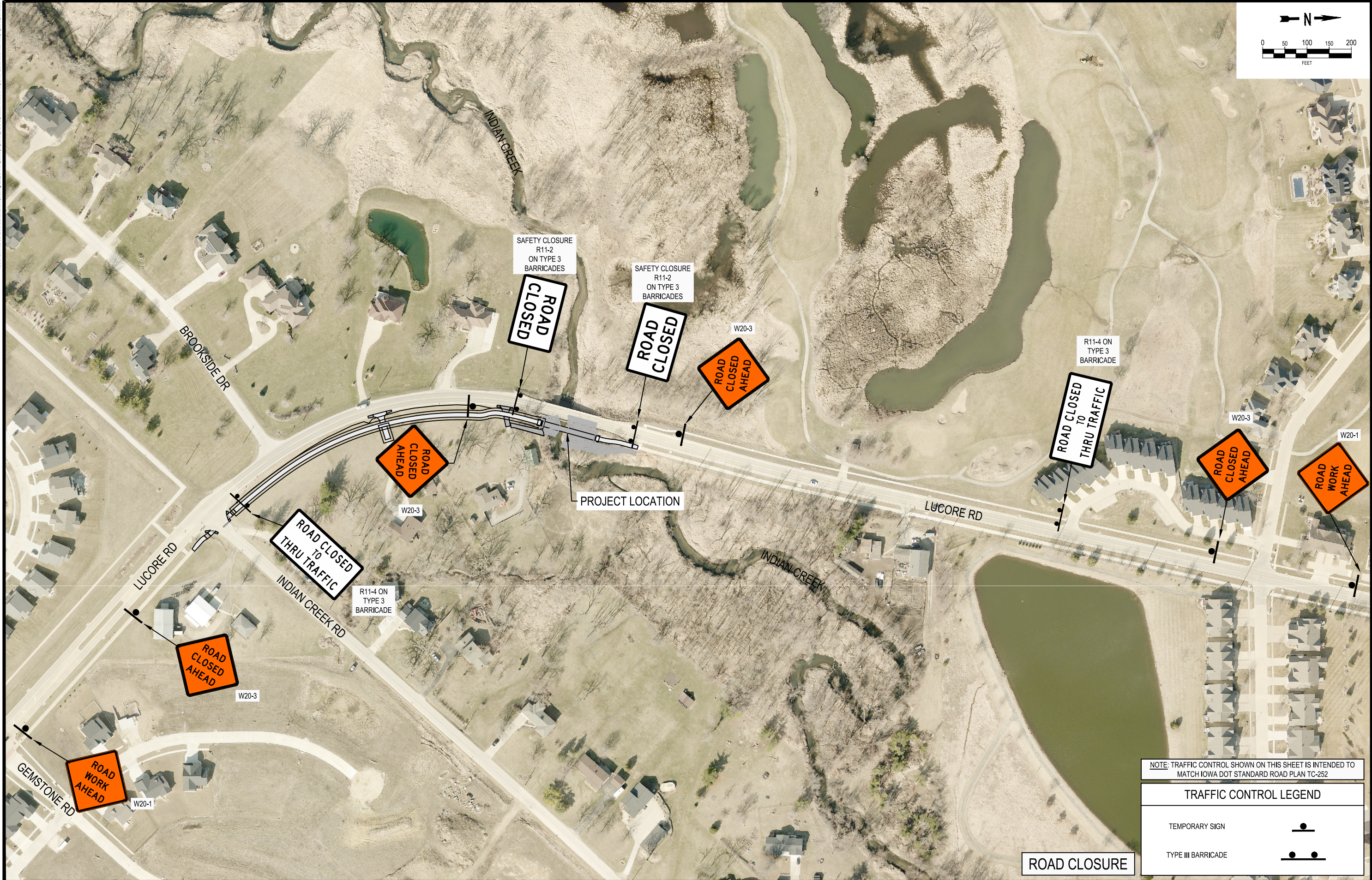
FILE NO.	ENGLISH	DESIGN TEAM	SHOEMAKER & HAALAND	CITY OF MARION, LINN COUNTY	PROJECT NUMBER	TAP-U-4775(645)--81-57	SHEET NUMBER	H.01
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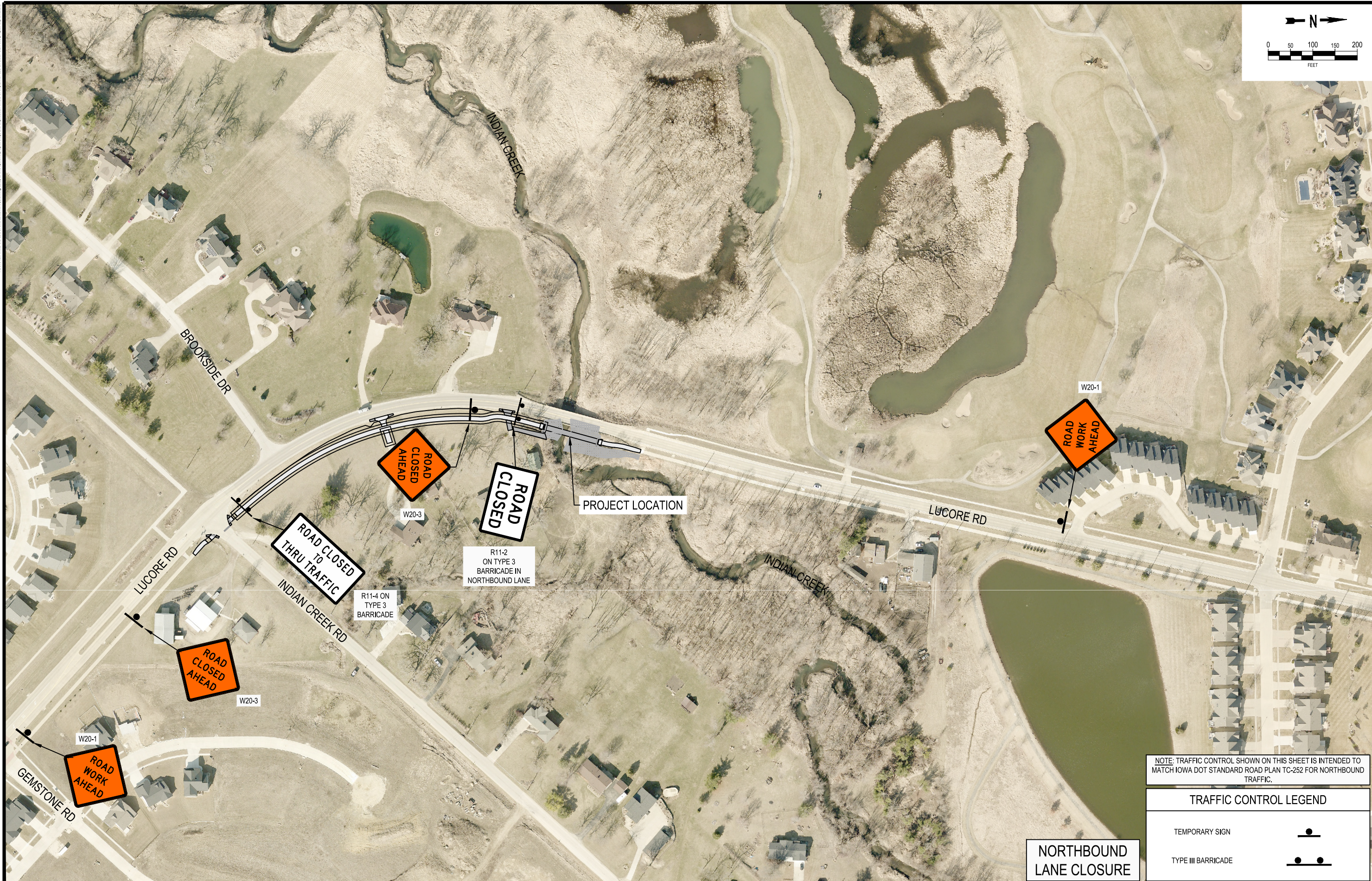




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### TRAFFIC CONTROL LEGEND

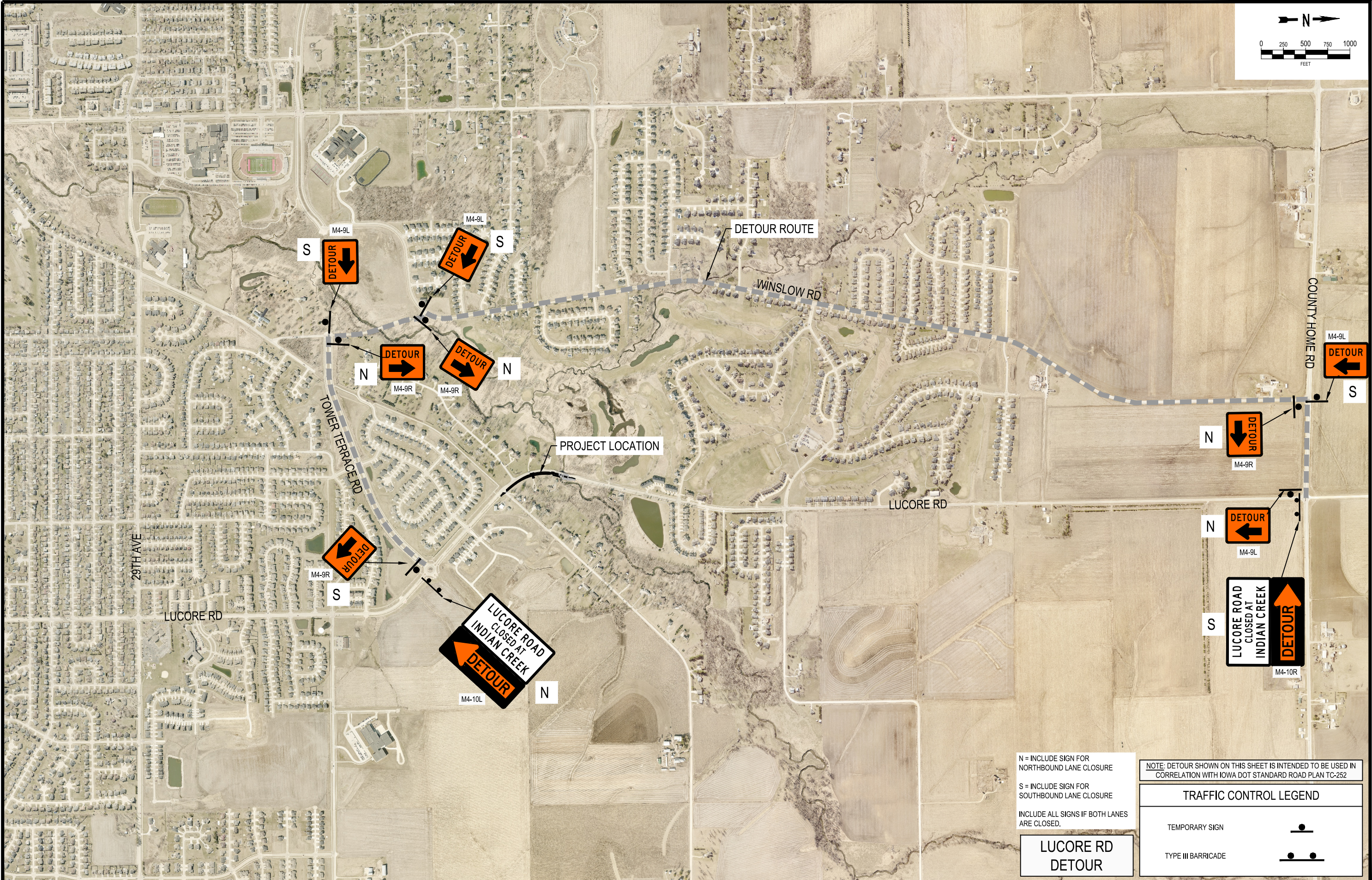
TEMPORARY SIGN

### TYPE III BARRICADE

NORTHBOUND  
LANE CLOSURE



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NORTHBOUND LANE CLOSURE  
  
S = INCLUDE SIGN FOR  
SOUTHBOUND LANE CLOSURE  
  
INCLUDE ALL SIGNS IF BOTH LANES  
ARE CLOSED.

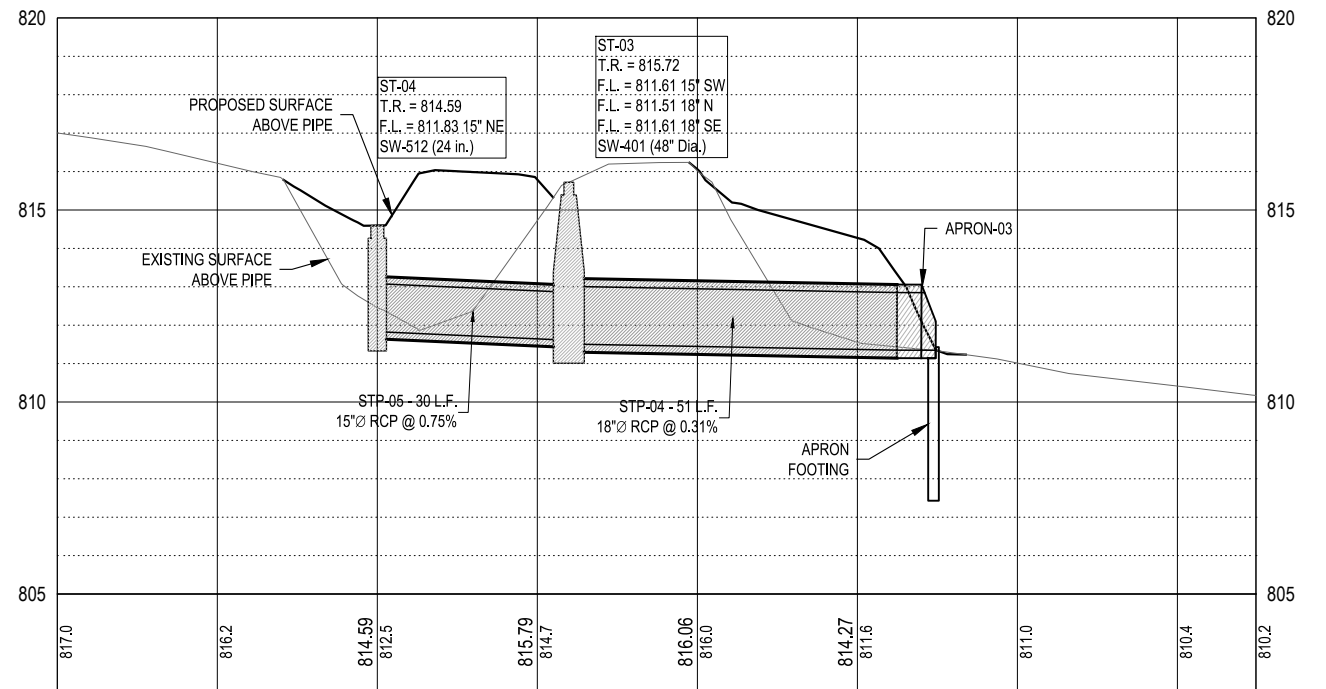
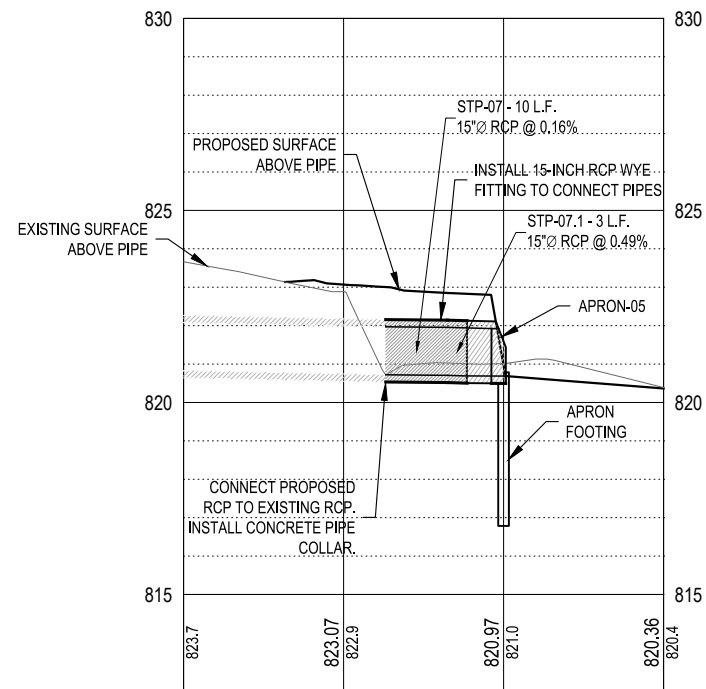
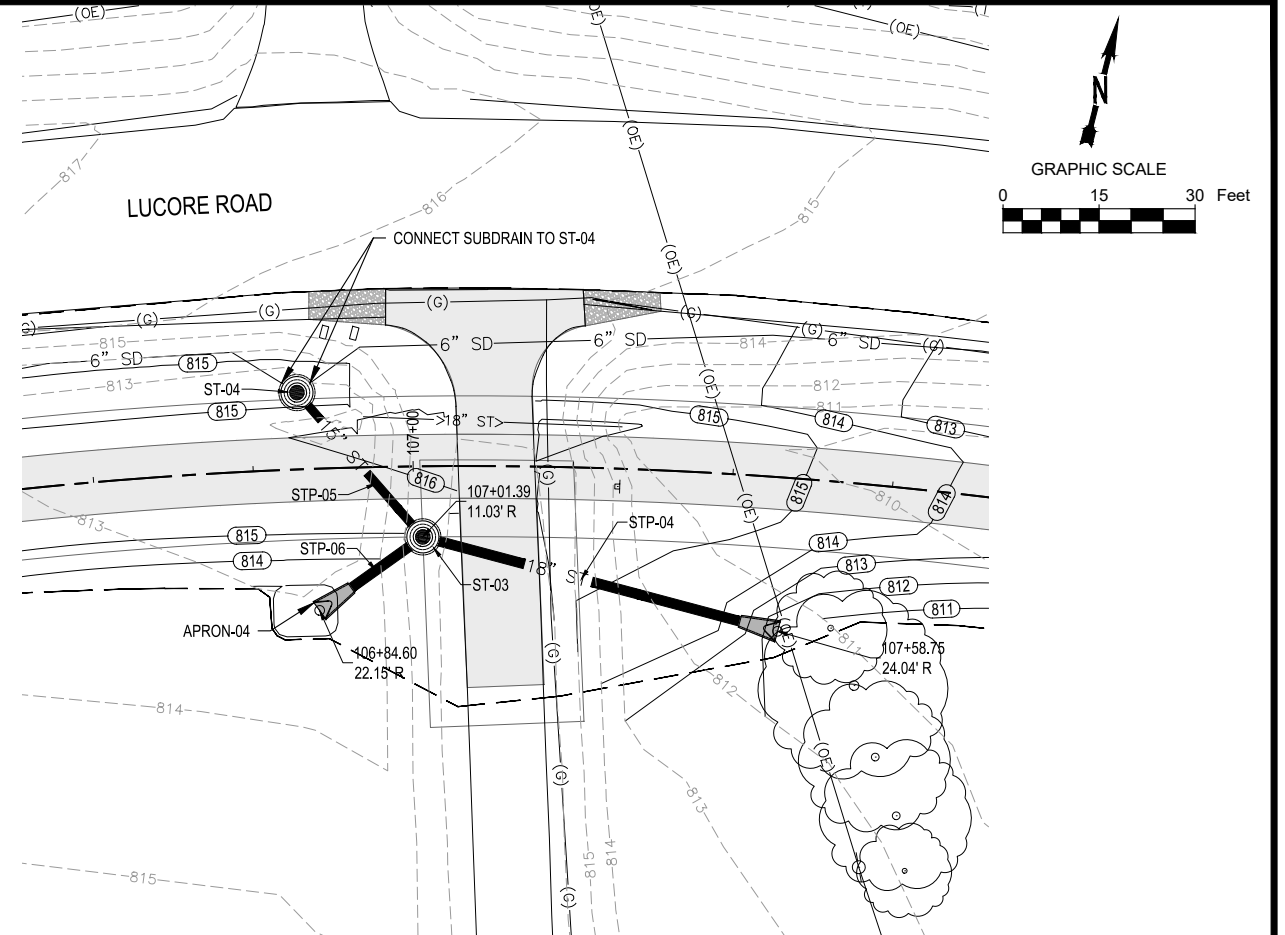
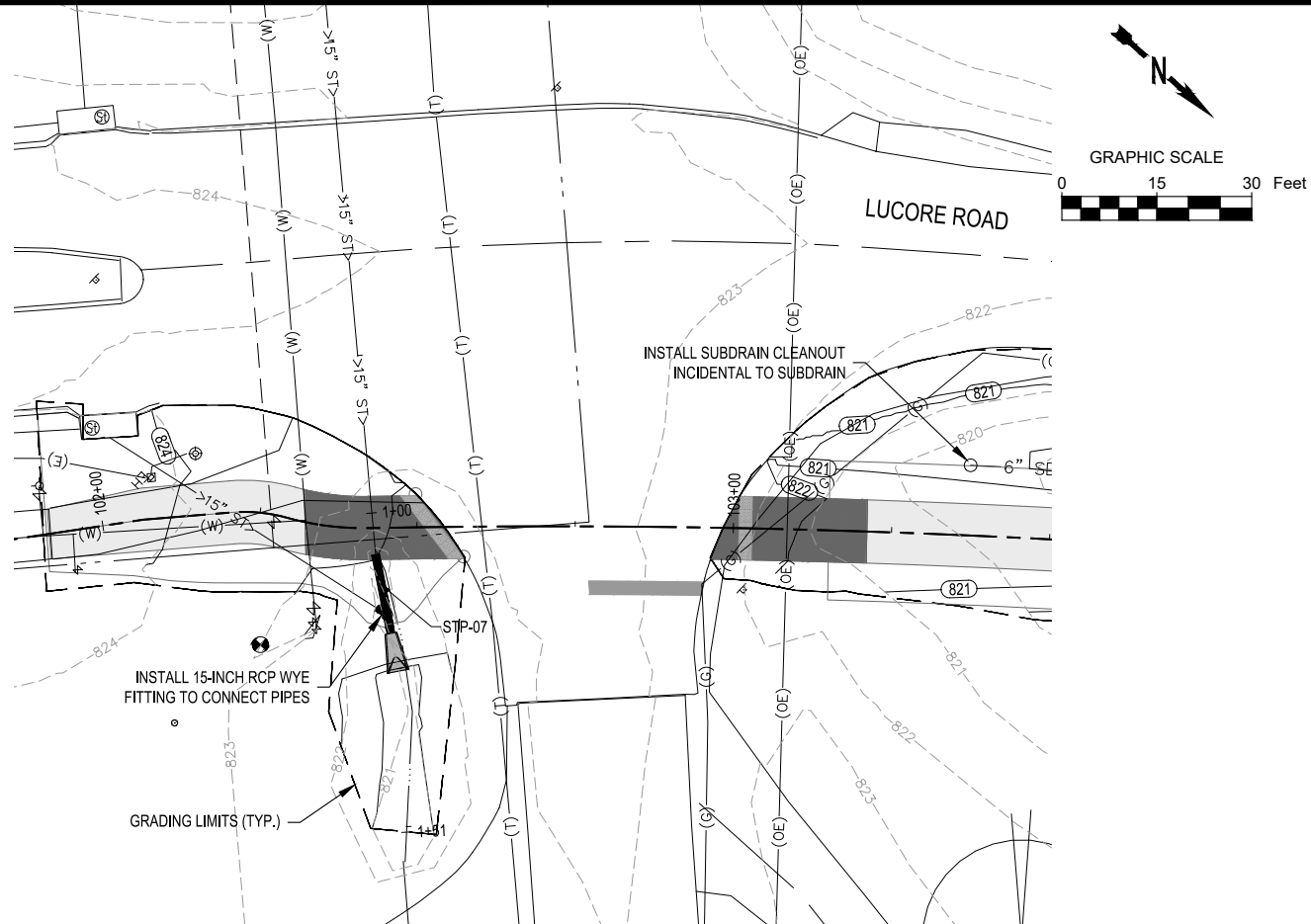
LUCORE RD  
DETOUR

NOTE: DETOUR SHOWN ON THIS SHEET IS INTENDED TO BE USED IN  
CORRELATION WITH IOWA DOT STANDARD ROAD PLAN TC-252

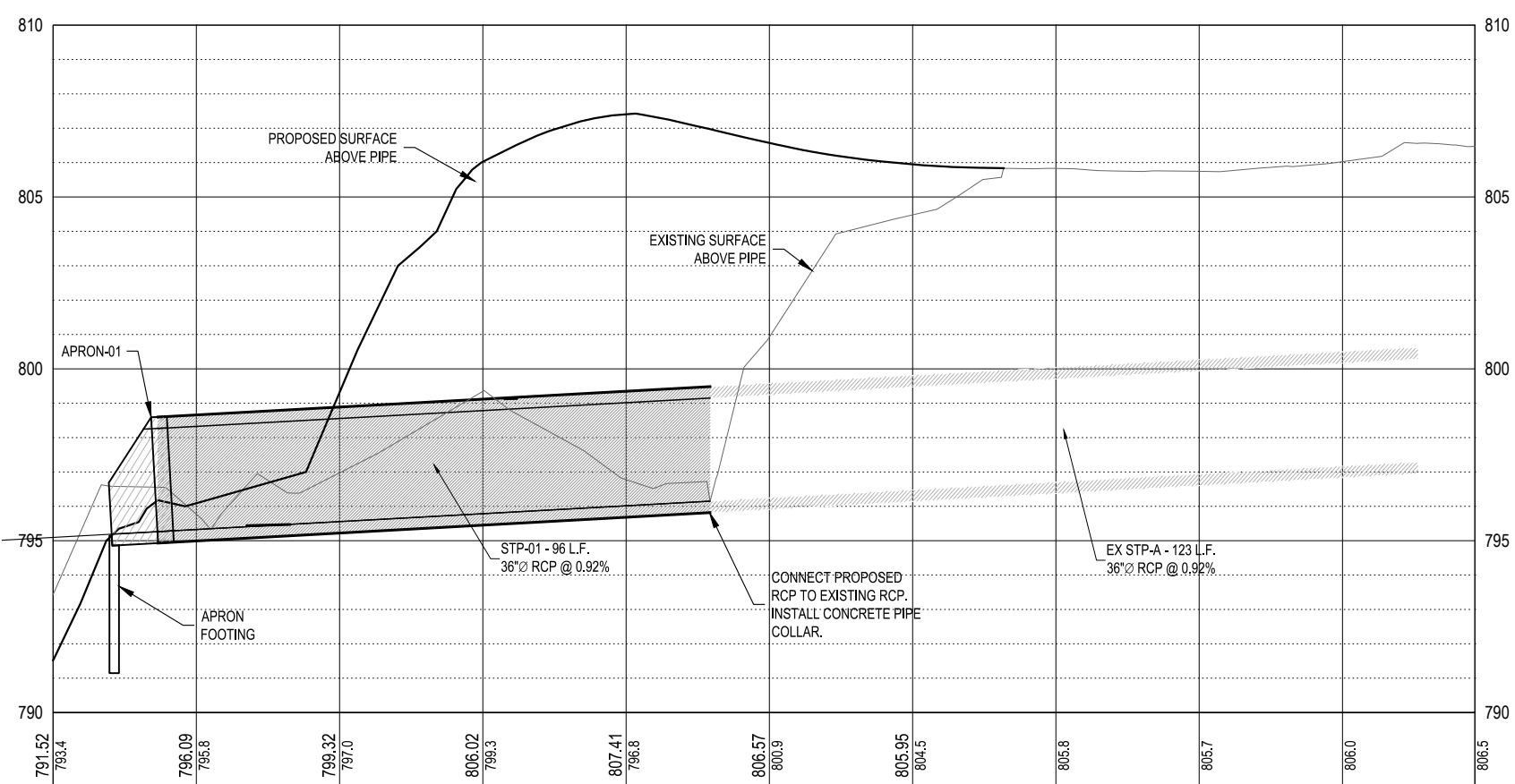
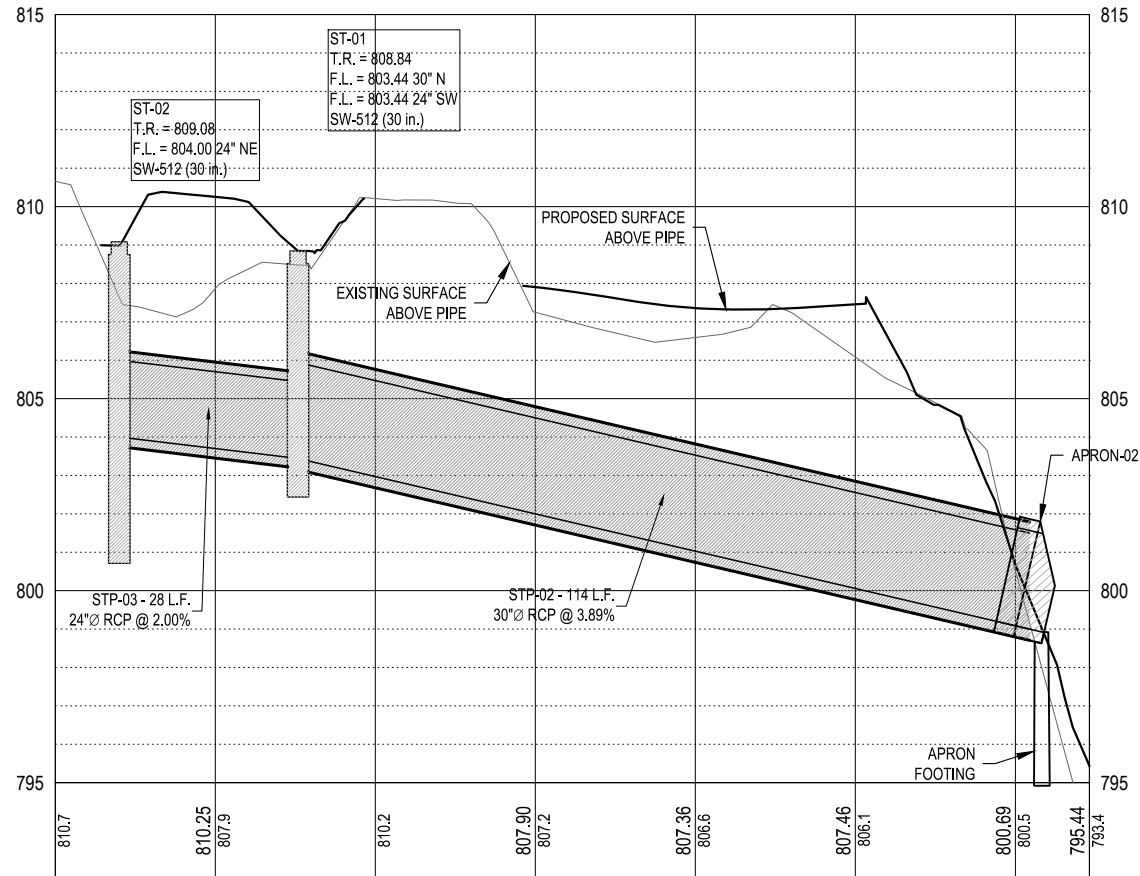
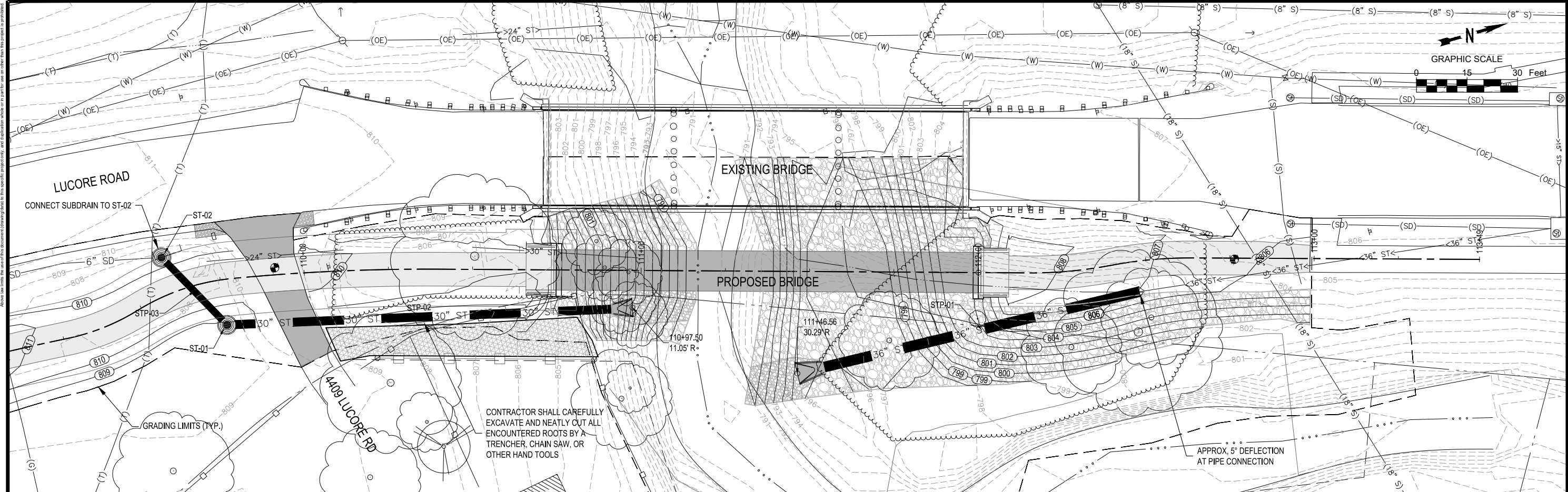
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TEMPORARY SIGN	
TYPE III BARRICADE	



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Lucore Road Pedestrian Bridge  
Lucore Road over Indian Creek | Marion, IA  
Terracon Project No. 06235053

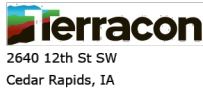


Boring Log No. B-1

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 42.0641° Longitude: -91.5802°	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	HP (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Organic Content (%)
1		Depth (Ft.) Elevation: 823 (Ft.) +/-	0.3									
		4" Root Zone										
		FILL - LEAN CLAY, trace sand, gravel, and organics, dark brown and brown						0.75 (HP)	22.9		41-18-23	
2			2.0					0.5 (HP)	36.5			6.5
		LEAN CLAY (CL), with organics, trace sand, dark brown, soft										
		LEAN CLAY (CL), trace sand, brown and gray, medium stiff						0.75 (HP)	34.2			
		Boring Terminated at 5 Feet	5									
<div><div><div>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</div><div>See Supporting Information for explanation of symbols and abbreviations.</div><div>Elevation Reference: Elevation was interpolated from a topographic site plan.</div></div><div>Notes</div><div><div>Water Level Observations No water encountered during drilling and sampling No water observed after boring</div><div>Advancement Method Hand Auger to termination depth.</div><div>Abandonment Method Boring backfilled with auger cuttings upon completion.</div></div><div><div>Drill Rig Hand Auger</div><div>Driller DL</div><div>Logged by ZP</div><div>Boring Started 11-04-2024</div><div>Boring Completed 11-04-2024</div></div></div>												

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Lucore Road Pedestrian Bridge  
Lucore Road over Indian Creek | Marion, IA  
Terracon Project No. 06235053



Boring Log No. B-2

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	HP (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
		Latitude: 42.0648° Longitude: -91.5809°	Elevation: 814 (Ft.) +/-									LL-PL-PI	Organic Content (%)
		8" Topsoil with 4" Root Zone		0.7									
		CLAYEY SAND (SC), fine to coarse grained, brown		813.3						16.4			
		SANDY LEAN CLAY (CL), with occasional sand seams, brown and gray, medium stiff		812.5									
3									1.0 (HP)	16.7			
				5.0									
		Boring Terminated at 5 Feet		809	5								
See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any). See Supporting Information for explanation of symbols and abbreviations. Elevation Reference: Elevation was interpolated from a topographic site plan.					Water Level Observations No water encountered during drilling and sampling No water observed after boring					Drill Rig Hand Auger			
Notes					Advancement Method Hand Auger to termination depth.					Driller DL			
					Abandonment Method Boring backfilled with auger cuttings upon completion.					Logged by ZP			
										Boring Started 11-04-2024			
										Boring Completed 11-04-2024			

Facilities | Environmental | Geotechnical | Materials

Lucore Road Pedestrian Bridge  
Lucore Road over Indian Creek | Marion, IA  
Terracon Project No. 06235053



Boring Log No. B-3

Model Layer	Graphic Log	Location: See Exploration Plan	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	HP (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
		Latitude: 42.0656° Longitude: -91.5812°									LL-PL-PI	Organic Content (%)	
		Depth (Ft.) Elevation: 809 (Ft.) +/-											
		0.3 3" Topsoil with 3" Root Zone	808.75										
		CLAYEY SAND (SC), fine to coarse grained, brown											
									17.9				
3													
									12.6				
		5.0	804	5									
		Boring Terminated at 5 Feet											
See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any). See Supporting Information for explanation of symbols and abbreviations. Elevation Reference: Elevation was interpolated from a topographic site plan.				Water Level Observations No water encountered during drilling and sampling No water observed after boring				Drill Rig Hand Auger					
								Driller DL					
Notes				Advancement Method Hand Auger to termination depth.				Logged by ZP					
				Abandonment Method Boring backfilled with auger cuttings upon completion.				Boring Started 11-04-2024					
								Boring Completed 11-04-2024					










Facilities | Environmental | Geotechnical | Materials



## Boring Log No. B-4

[illegible]Facilities | Environmental | **Geotechnical** | Materials

**Boring Log No. B-4**

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 42.0659° Longitude: -91.5812°	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	HP (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		Organic Content (%)
											LL-PL-PI		
5		Depth (Ft.) _____ Elevation: 810 (Ft.) +/- <b>SHALE</b> , with limestone pieces, gray ( <i>continued</i> )											
6		24.0 _____ 786 <b>LIMESTONE</b> , gray											
		25.1 _____ 784.9 <b>SPT Refusal at 25.1 Feet</b>	25		 2 SPT = 50/2"				7.1				
					 1 SPT = 50/1½"				7.1				
<b>Notes</b> See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any). See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations. Elevation Reference: Elevation was interpolated from a topographic site plan.				<b>Water Level Observations</b>  10' while drilling and sampling  13' after boring   Cave-in @ 19' after boring				<b>Drill Rig</b> 1206 - CME 550X  <b>Hammer Type</b> CME Automatic  <b>Driller</b> DL					
				<b>Advancement Method</b> Hollow Stem Auger to termination depth.				<b>Logged by</b> ZP					
				<b>Abandonment Method</b> Boring backfilled with auger cuttings and bentonite chips upon completion.				<b>Boring Started</b> 11-04-2024  <b>Boring Completed</b> 11-04-2024					

Facilities | Environmental | **Geotechnical** | Materials

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Lucore Road Pedestrian Bridge  
Lucore Road over Indian Creek | Marion, IA  
Terracon Project No. 06235053

**Terracon**  
2640 12th St SW  
Cedar Rapids, IA

Boring Log No. B-5

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	HP (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
		Latitude: 42.0667° Longitude: -91.5809°	Elevation: 804 (Ft.) +/-									LL-PL-PI	Organic Content (%)
1		0.3 <b>3" Topsoil with 3" Root Zone</b>		803.75									
		<b>FILL - SANDY LEAN CLAY</b> , trace gravel and organics, dark brown and brown											
		IDOT: Stiff Silty Clay											
		7.5 <b>CLAYEY SAND (SC)</b> , trace gravel, fine to coarse grained, dark gray, very loose		796.5									
		IDOT: Silty Sand											
		13.0 <b>POORLY GRADED SAND WITH GRAVEL (SP)</b> , trace silt, dark brown, loose		791									
		IDOT: Silty Sand											
3		organic odor in sample from about 14 to 15.5 feet											
		17.5 <b>POORLY GRADED SAND WITH SILT (SP-SM)</b> , fine to coarse grained, gray, very loose		786.5									
		IDOT: Silty Sand											
		20.5		783.5									
<b>See Exploration and Testing Procedures</b> for a description of field and laboratory procedures used and additional data (if any). <b>See Supporting Information</b> for explanation of symbols and abbreviations. Elevation Reference: Elevation was interpolated from a topographic site plan.				<b>Water Level Observations</b> 9' while drilling and sampling 9' after boring Cave-in @ 12' after boring				<b>Drill Rig</b> 1206 - CME 550X  <b>Hammer Type</b> CME Automatic  <b>Driller</b> DL					
<b>Notes</b> Classification of rock estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.				<b>Advancement Method</b> Hollow Stem Auger to termination depth.				<b>Logged by</b> ZP					
				<b>Abandonment Method</b> Boring backfilled with auger cuttings and bentonite chips upon completion.				<b>Boring Started</b> 11-04-2024  <b>Boring Completed</b> 11-04-2024					

Facilities | Environmental | **Geotechnical** | Materials

Lucore Road Pedestrian Bridge  
Lucore Road over Indian Creek | Marion, IA  
Terracon Project No. 06235053

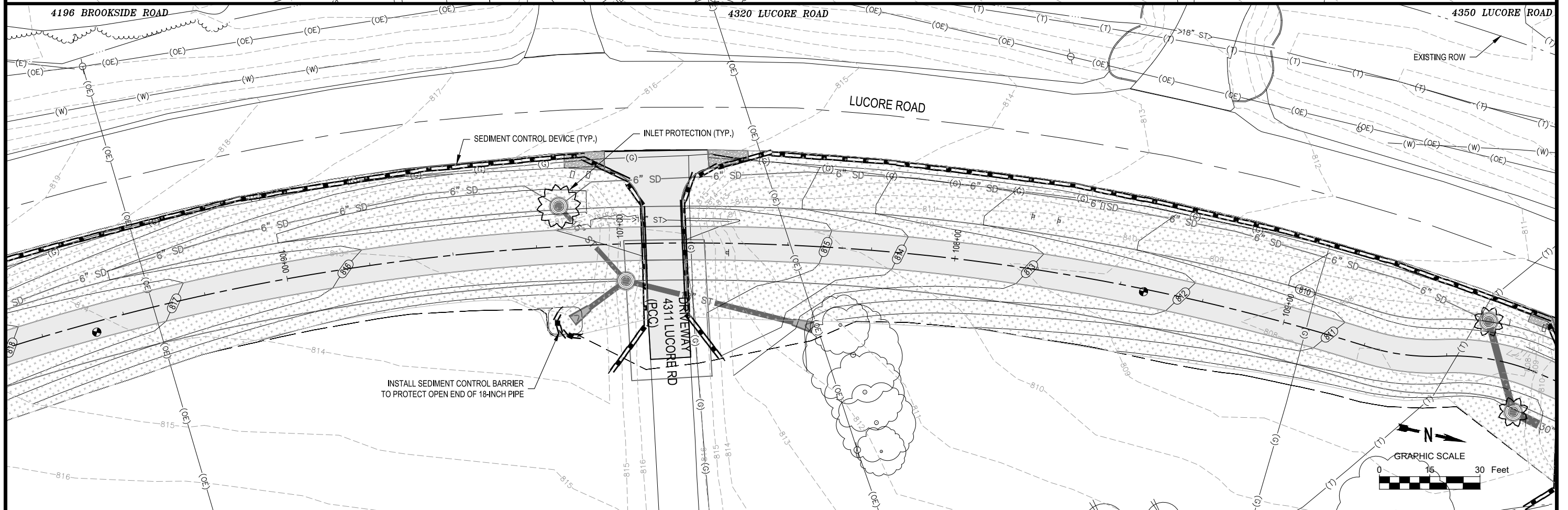
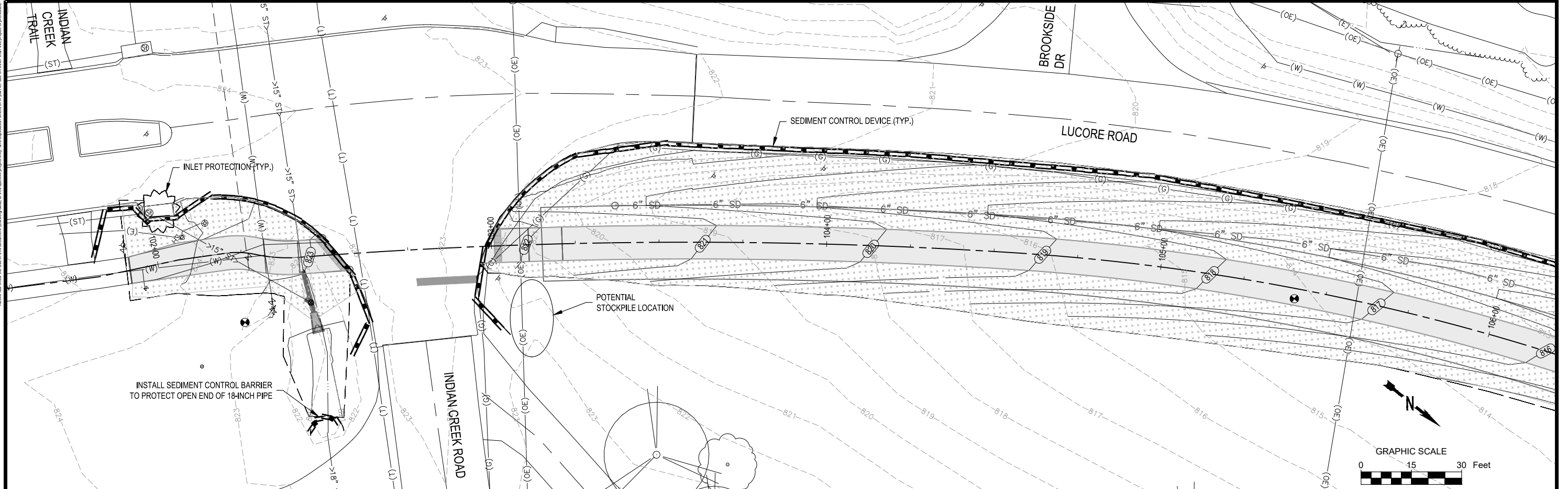
**Terracon**  
2640 12th St SW  
Cedar Rapids, IA

Boring Log No. B-5

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	HP (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
		Latitude: 42.0667° Longitude: -91.5809°										LL-PL-PI	Organic Content (%)
5		Depth (Ft.) Elevation: 804 (Ft.) +/-											
		<b>SHALE</b> , with limestone pieces, gray											
6		23.0	781										
		23.1	780.9			1	SPT = 50/1"			8.8			
		<b>LIMESTONE</b> , gray											
		<b>SPT Refusal at 23.1 Feet</b>											
													</

Facilities | Environmental | **Geotechnical** | Materials

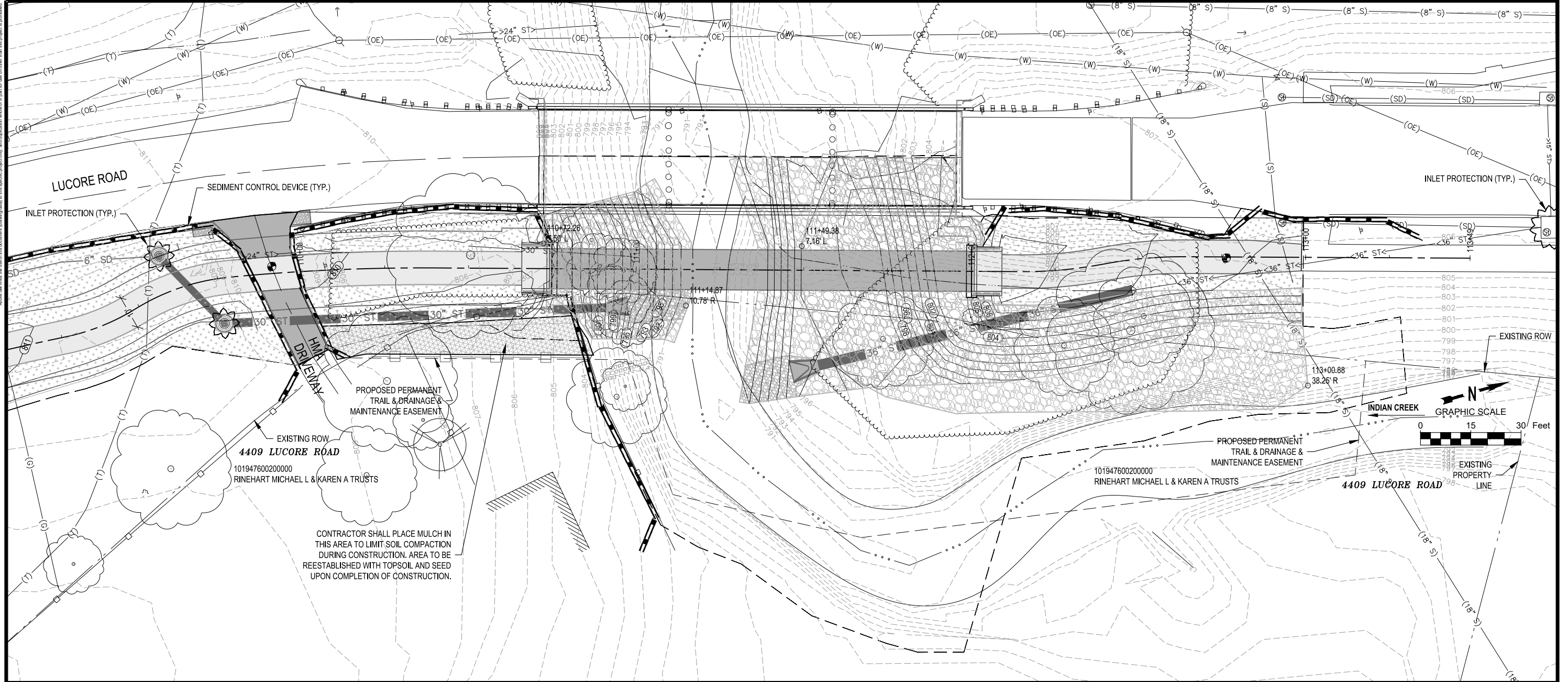
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FILE NO.	ENGLISH	DESIGN TEAM SHOEMAKER & HAALAND	CITY OF MARION, LINN COUNTY	PROJECT NUMBER TAP-U-4775(645)--81-57	SHEET NUMBER RR.01
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2/2023/23114 LUCORE RD/DRAWINGS/RR-SHEETS.DWG, RR.01, 3/17/2026 4:36:33 PM

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STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base SWPPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base SWPPP, amended as needed per plan revisions or by contract modification, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the roadway right-of-way. The prime contractor shall be responsible for compliance and implementation of the SWPPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this SWPPP.

I. ROLES AND RESPONSIBILITIES

- A. Designer:
- 1. Prepares Base SWPPP included in the project plan.
  - 2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
  - 3. Signature authority on the Base SWPPP and NOI.
- B. Contractor/Subcontractor:
- 1. Affected contractors/subcontractors are co-permittees with the Owner and will sign a certification statement adhering to the requirements of the NPDES permit and this SWPPP plan. Affected contractors/subcontractors are anyone responsible for sediment or erosion controls or involved in land disturbing activities. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this SWPPP.
  - 2. Submit an Erosion Control Implementation Plan (ECIP) according to the Specifications and any additional plan notes.
  - 3. Install and maintain appropriate controls.
  - 4. Supervise and implement good housekeeping practices.
  - 5. Conduct joint required inspections of the site with inspection staff.
  - 6. Comply with training and certification requirements of the Specifications.
  - 7. Signature authority on Co-Permittee Certification Statements and storm water inspection reports.
- C. RCE/Inspector:
- 1. Update PPP whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the discharge of pollutants from the project.
  - 2. Maintain an up-to-date record that identifies contractors and subcontractors as co-permittees.
  - 3. Make these plans available to the DNR upon their request.
  - 4. Conduct joint required inspections of the site with the contractor/subcontractor.
  - 5. Complete an inspection report after each inspection.
  - 6. Signature authority on storm water inspection reports and Notice of Discontinuation (NOD).

II. PROJECT SITE DESCRIPTION

- A. This SWPPP is for the construction of recreational trail and bridges.
- B. This SWPPP covers approximately 1.2 acres being disturbed. The portion of the SWPPP covered by this contract has 1.2 acres disturbed.
- C. The SWPPP is located in an area of WAPSI LOAM, SPILLVILLE LOAM, AND CLYDE SILTY CLAY LOAM.
- D. The estimated weighted average runoff coefficient number for this SWPPP after completion will be 0.65.
- E. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including:
- 1. Drainage patterns – Plan and Profile sheets and Situation plans.
  - 2. Proposed Slopes – Cross Section sheets.
  - 3. Areas of Soil Disturbance – Construction Limits of Disturbance shown on Plan and Profile sheets.
  - 4. Location of Structural Controls – Erosion Control Plan and Tabulations on C sheets.
  - 5. Locations of Non-structural Controls – Erosion Control Plan and Tabulations on C sheets.
  - 6. Locations of Stabilization Practices – Erosion Control Plan and Tabulations on C sheets.
  - 7. Surface Waters (including wetlands) – Project Location Map and Plan and Profile sheets.
  - 8. Locations where storm water is discharged – Erosion Control Plan and Storm Sewer Plan and Profile sheets.
- F. The base site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries.
- G. Runoff from this work will flow into into Indian Creek, to Cedar River, to Iowa River, to Mississippi River, to Gulf of Mexico.

III. CONTROLS

- A. The contractor's ECIP for accomplishment of storm water controls should clearly describe the intended sequence of major activities and for each activity define the control measure and the timing during the construction process when the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. The Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base SWPPP and amendment of the plan will be documented via fieldbook entries or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water monitoring inspections.
1. EROSION AND SEDIMENT CONTROLS
- a. Stabilization Practices
- 1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
  - 2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities here:
    - a) Permanently ceased on any portion of the site, or
    - b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
  - 3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
  - 4) Permanent and Temporary Stabilization practices to be used for this project are located in the Estimated Project Quantities and Estimate Reference Information located in the C sheets of the plans.
  - 5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
  - 6) Soil Restoration: Bid items to be used for this project are located in the Estimated Project Quantities and Estimate Reference Information located in the C sheets of the plans. Additional information may be found in Tabulations in the C sheets of the plans or is referenced in Specifications.
- b. Structural Practices
- 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site.
  - 2) Structural practices to be used for this project are located in the Estimated Project Quantities and Estimate Reference Information located in the C sheets of the plans, as well as all other item specific Tabulations.
- c. Storm Water Management
- 1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the Estimated Project Quantities and Estimate Reference Information located in the C sheets of the plans, as well as all other item specific Tabulations. The installation of these devices may be subject to Section 404 of the Clean Water Act.
2. OTHER CONTROLS
- a. Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.
- 1) Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
  - 2) Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
  - 3) Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
  - 4) Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
  - 5) Spill Prevention and Control - Implement procedures to contain and clean-up spills and prevent material discharges to the storm drain system and waters of the state.
  - 6) Concrete Residuals and Washout Wastes - Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams, or other water bodies. Care should be taken to ensure theses facilities do not overflow during storm events.
  - 7) Concrete Grooving/Grinding Slurry - Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
  - 8) Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water.
  - 9) Vehicle and Equipment Cleaning - Employ washing practices that prevent contamination of surface and ground water from wash water.

- 10) Litter Management - Ensure employees properly dispose of litter.
  - 11) Dewatering - Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are to be taken to prevent scour erosion at dewatering discharging point.
3. APPROVED STATE OR LOCAL PLANS
- a. During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.
- IV. MAINTENANCE PROCEDURES
- A. The contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS

- A. Inspections shall be made jointly by the contractor and the contracting authority at least once every seven calendar days. Storm water monitoring inspections will include:
- 1. Date of the inspection.
  - 2. Summary of the scope of the inspection.
  - 3. Name and qualifications of the personnel making the inspection.
  - 4. Rainfall amount.
  - 5. Review erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
  - 6. Major observations related to the implementation of the SWPPP.
  - 7. Identify corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water monitoring inspection reports in the Amended SWPPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection.

VI. NON-STORM WATER DISCHARGES

- A. This includes existing subsurface drains (i.e. longitudinal and standard subdrains and slope drains) that are not part of this project. The velocity of the discharge from these features may be controlled by the use of patio blocks, Class A stone, erosion stone, or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the SWPPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

- A. Silts, sediment, and other forms of pollution may be transported onto roadway ROW and private property as a result of a storm event. Potential sources of pollution located outside the construction site are beyond the control of the SWPPP. Pollution within the construction site will be conveyed and controlled by this SWPPP.

VIII. DEFINITIONS

- A. Base SWPPP - Initial Stormwater Pollution Prevention Plan.
- B. Amended SWPPP - May include Plan Revisions or Contract Modifications for new items and field book entries made by the inspector.
- C. IDR - Inspector's Daily Report - this contains the inspector's daily diary and item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials.
- E. Signature Authority - Representative from Designer, Contractor/Subcontractor, or Inspector authorized to sign various storm water documents.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

  
Signature

Jason J Vavra, PE  
Printed or Typed Name

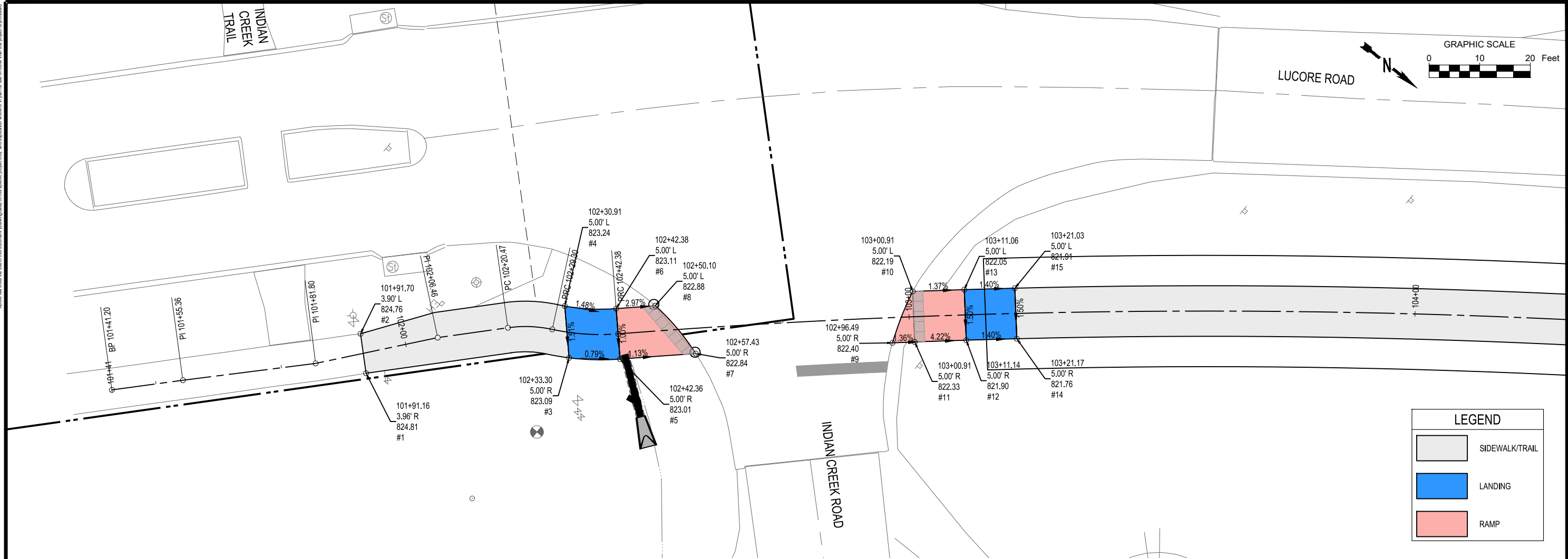
Mar. 23, 26  
Date

  
Signature

Michael D. Barkalow, PE  
Printed or Typed Name

3.23.26  
Date

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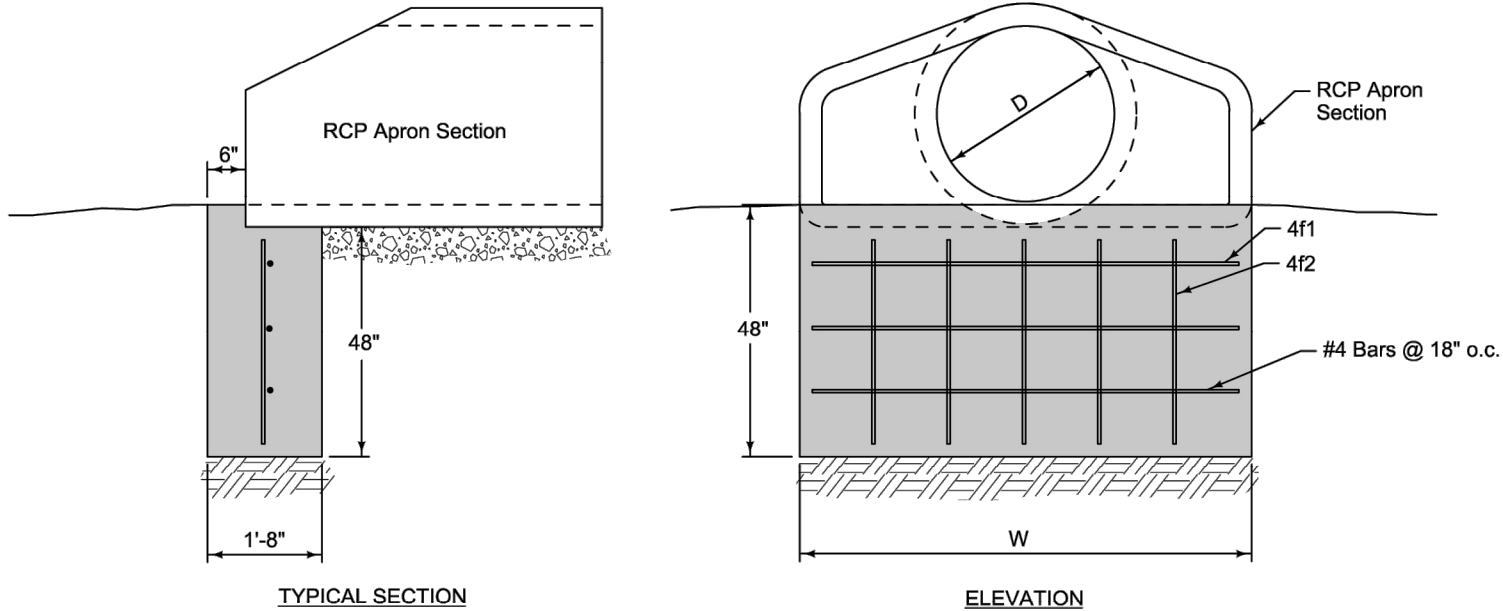


SIDEWALK COMPLIANCE																			113-10
* Does not include curb																			
1 Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.																			
2 Refer to tabulation 113-01 for bid quantities.																			
Point	Station	Offset	Elevation	Point to Point		Sidewalk Designation	" PCC Sidewalk	Distance*	Δ Elevation	Slope	Legally Acceptable Range	Difference between Designed Slope and Maximum Legally Acceptable Range	Acceptable Constructed Range	Does Designer need to obtain design approval from Method's Engineer? 1	Staking Required on this Quadrant?	Measured Slope	Initials	Remarks	
								FT	FT	%	Pos. or Neg.		Pos. or Neg.			%			
1	101+91.16	3.96' R	824.81	1	2	Match Existing Cross Slope	4	10.00	-0.05	-0.5%	Match Existing	FALSE	Match Existing						
2	101+91.70	3.90' L	824.76	1	3	Ramp Running Slope	4	40.52	-1.72	-4.2%	0.5% to 8.3%	4.1%	0.5% to 8.3%						
3	102+33.30	5.00' R	823.09	2	4	Ramp Running Slope	4	40.92	-1.52	-3.7%	0.5% to 8.3%	4.6%	0.5% to 8.3%						
4	102+30.91	5.00' L	823.24	3	4	Landing/Turning Space	6	10.00	0.15	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%						
5	102+42.36	5.00' R	823.01	3	5	Landing/Turning Space	6	10.00	-0.08	-0.8%	0.1% to 2.0%	1.2%	0.1% to 2.0%						
6	102+42.38	5.00' L	823.11	4	6	Landing/Turning Space	6	10.00	-0.13	-1.3%	0.1% to 2.0%	0.7%	0.1% to 2.0%						
7	102+57.43	5.00' R	822.84	5	6	Landing/Turning Space	6	10.00	0.10	1.0%	0.1% to 2.0%	1.0%	0.1% to 2.0%						
8	102+50.10	5.00' L	822.88	5	7	Ramp Running Slope	6	14.88	-0.17	-1.1%	0.5% to 8.3%	7.2%	0.5% to 8.3%						
				6	8	Ramp Running Slope	6	7.48	-0.23	-3.1%	0.5% to 8.3%	5.2%	0.5% to 8.3%						
				7	8	Ramp Cross Slope	6	12.49	0.04	0.3%	0.1% to 2.0%	1.7%	0.1% to 2.0%						
9	102+96.49	5.00' R	822.40	9	10	Ramp Cross Slope	6	10.98	-0.21	-1.9%	0.1% to 2.0%	0.1%	0.1% to 2.0%	Yes	Yes				
10	103+00.91	5.00' L	822.19	9	11	Ramp Running Slope	6	4.48	-0.07	-1.6%	0.5% to 8.3%	6.7%	0.5% to 8.3%						
11	103+00.91	5.00' R	822.33	10	11	Ramp Cross Slope	6	10.00	0.14	1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%						
12	103+11.14	5.00' R	821.90	10	13	Ramp Running Slope	6	10.00	-0.14	-1.4%	0.5% to 8.3%	6.9%	0.5% to 8.3%						
13	103+11.09	5.00' L	822.05	11	12	Ramp Running Slope	6	10.00	-0.43	-4.3%	0.5% to 8.3%	4.0%	0.5% to 8.3%						
14	103+21.17	5.00' R	821.76	12	13	Landing/Turning Space	6	10.00	0.15	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%						
15	103+21.03	5.00' L	821.91	12	14	Landing/Turning Space	6	10.00	-0.14	-1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%						
				13	15	Landing/Turning Space	6	10.00	-0.14	-1.4%	0.1% to 2.0%	0.6%	0.1% to 2.0%						
				14	15	Landing/Turning Space	6	10.00	0.15	1.5%	0.1% to 2.0%	0.5%	0.1% to 2.0%						

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STATION	CUT AREA (SQ.FT.)	CUT VOLUME (CU.YD.)	FILL AREA (SQ.FT.)	FILL VOLUME (CU.YD.)	CUM. CUT VOL. (CU.YD.)	CUM. FILL VOL. (CU.YD.)	CUM. NET VOL. (CU.YD.)
101+50.000	0	0	0	0	0	0	0
101+75.000	0	0	0	0	0	0	0
102+00.000	2.89	1.34	0.62	0.37	1.34	0.37	0.96
102+25.000	10.49	6.19	0	0.37	7.53	0.75	6.78
102+50.000	0.05	4.88	1.48	0.89	12.41	1.64	10.77
102+75.000	0	0.02	0	0.89	12.43	2.53	9.91
103+00.000	0	0	0.62	0.37	12.43	2.9	9.54
103+25.000	0.75	0.35	28.78	17.69	12.78	20.59	-7.81
103+50.000	0	0.35	50.05	47.45	13.13	68.04	-54.9
103+75.000	0	0	59.49	65.93	13.13	133.96	-120.83
104+00.000	0	0	67.6	76.48	13.13	210.45	-197.31
104+25.000	0	0	74.09	85.28	13.13	295.72	-282.59
104+50.000	0	0	81.44	93.6	13.13	389.33	-376.19
104+75.000	0.04	0.02	85.41	100.42	13.15	489.74	-476.59
105+00.000	0.58	0.29	85.01	102.57	13.44	592.31	-578.87
105+25.000	0.81	0.64	87.09	103.58	14.08	695.88	-681.8
105+50.000	0	0.38	78.29	99.56	14.46	795.45	-780.99
105+75.000	0	0	75.2	92.3	14.46	887.74	-873.28
106+00.000	0	0	67.49	85.8	14.46	973.55	-959.08
106+25.000	0	0	60.16	76.77	14.46	1050.31	-1035.85
106+50.000	0	0	62.93	74.01	14.46	1124.32	-1109.86
106+75.000	0	0	73.49	81.9	14.46	1206.22	-1191.76
107+00.000	0	0	10.45	50.32	14.46	1256.54	-1242.07
107+25.000	0	0	0	6.24	14.46	1262.78	-1248.32
107+50.000	0.31	0.15	82.25	49.09	14.61	1311.87	-1297.26
107+75.000	1.05	0.64	71.51	91.78	15.25	1403.65	-1388.4
108+00.000	1.55	1.22	65.66	81.89	16.47	1485.54	-1469.07
108+25.000	1.7	1.53	62.74	76.65	18	1562.19	-1544.19
108+50.000	2.09	1.79	56.1	70.96	19.79	1633.15	-1613.35
108+75.000	1.72	1.8	57.63	67.94	21.59	1701.09	-1679.5
109+00.000	1.09	1.33	58.22	69.29	22.91	1770.38	-1747.46
109+25.000	0.76	0.88	54.15	67.3	23.79	1837.68	-1813.89
109+50.000	0.15	0.43	54.97	65.5	24.22	1903.18	-1878.96
109+75.000	0.04	0.09	55.25	66.36	24.31	1969.54	-1945.23
110+00.000	0	0.02	0	33.32	24.33	2002.86	-1978.53
110+25.000	0	0	85.94	51.61	24.33	2054.47	-2030.14
110+50.000	0	0	75.46	97.15	24.33	2151.62	-2127.29
110+75.000	14.64	6.78	6.84	49.53	31.11	2201.15	-2170.04
111+00.000	4.28	8.76	47.73	32.85	39.87	2234	-2194.13
111+25.000	1.18	2.53	7.78	33.41	42.39	2267.41	-2225.01
111+50.000	75.86	35.67	2.9	6.43	78.06	2273.84	-2195.77
111+75.000	28.56	48.35	84.28	52.47	126.41	2326.31	-2199.9
112+00.000	41.54	32.45	222.44	184.6	158.86	2510.91	-2352.05
112+25.000	46.17	42.49	232.58	276.06	201.36	2786.97	-2585.61
112+50.000	57.55	55.69	209.48	272.66	257.04	3059.63	-2802.59
112+75.000	37.45	34.67	53.89	151.15	291.71	3210.79	-2919.07
113+00.000	9.53	21.75	13.71	40.69	313.46	3251.47	-2938.01
113+25.000	0	4.41	0	8.25	317.87	3259.72	-2941.85
113+50.000	0	0	0	0	317.87	3259.72	-2941.85





REINFORCING BAR LIST

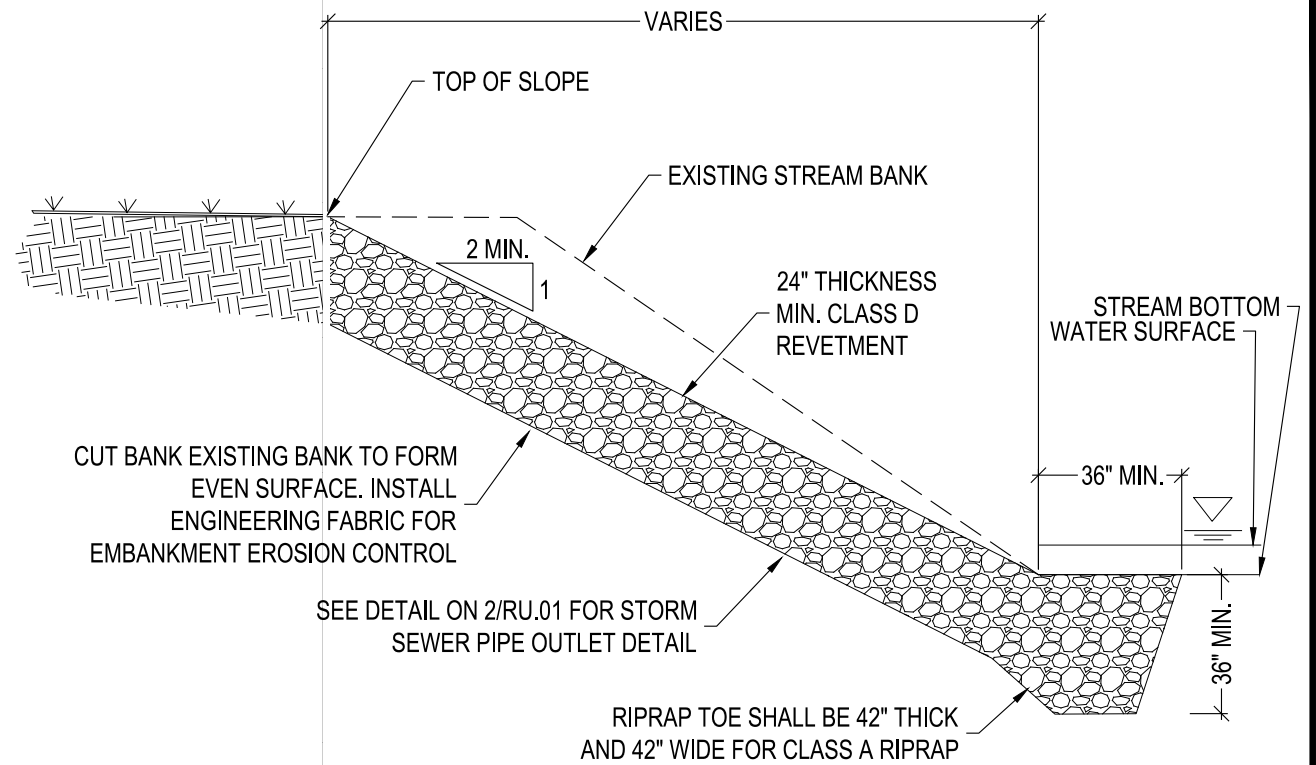
D	W	Mark	Size	Length	Count	D	W	Mark	Size	Length	Count
12"	2'-4"	4f1	4	2'-0"	3	48"	7'-10"	4f1	4	7'-6"	3
		4f2	4	3'-8"	2			4f2	4	3'-8"	6
15"	2'-10 1/2"	4f1	4	2'-6 1/2"	3	54"	8'-5"	4f1	4	8'-1"	3
		4f2	4	3'-8"	2			4f2	4	3'-8"	6
18"	3'-5"	4f1	4	3'-1"	3	60"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	3			4f2	4	3'-8"	6
24"	4'-6"	4f1	4	4'-2"	3	66"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	3			4f2	4	3'-8"	6
30"	5'-7"	4f1	4	5'-3"	3	72"	10'-0"	4f1	4	9'-8"	3
		4f2	4	3'-8"	4			4f2	4	3'-8"	7
36"	6'-8"	4f1	4	6'-4"	3	78"	10'-7"	4f1	4	10'-3"	3
		4f2	4	3'-8"	5			4f2	4	3'-8"	7
42"	7'-3"	4f1	4	6'-11"	3	84"	11'-1"	4f1	4	10'-9"	3
		4f2	4	3'-8"	5			4f2	4	3'-8"	8

APRON FOOTING DETAILS

NTS

1

U.01



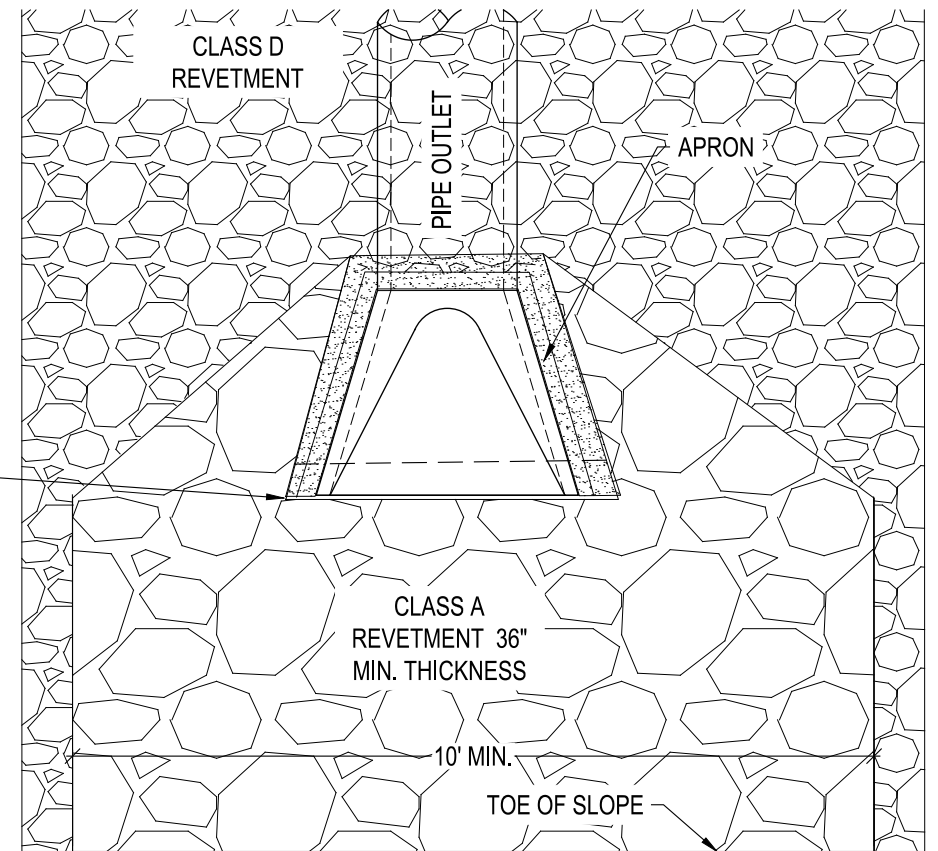
SLOPE STABILIZATION SECTION DETAIL

NTS

2

U.01

RCP APRON  
FOOTING PER  
SUDAS FIGURE  
4030.221

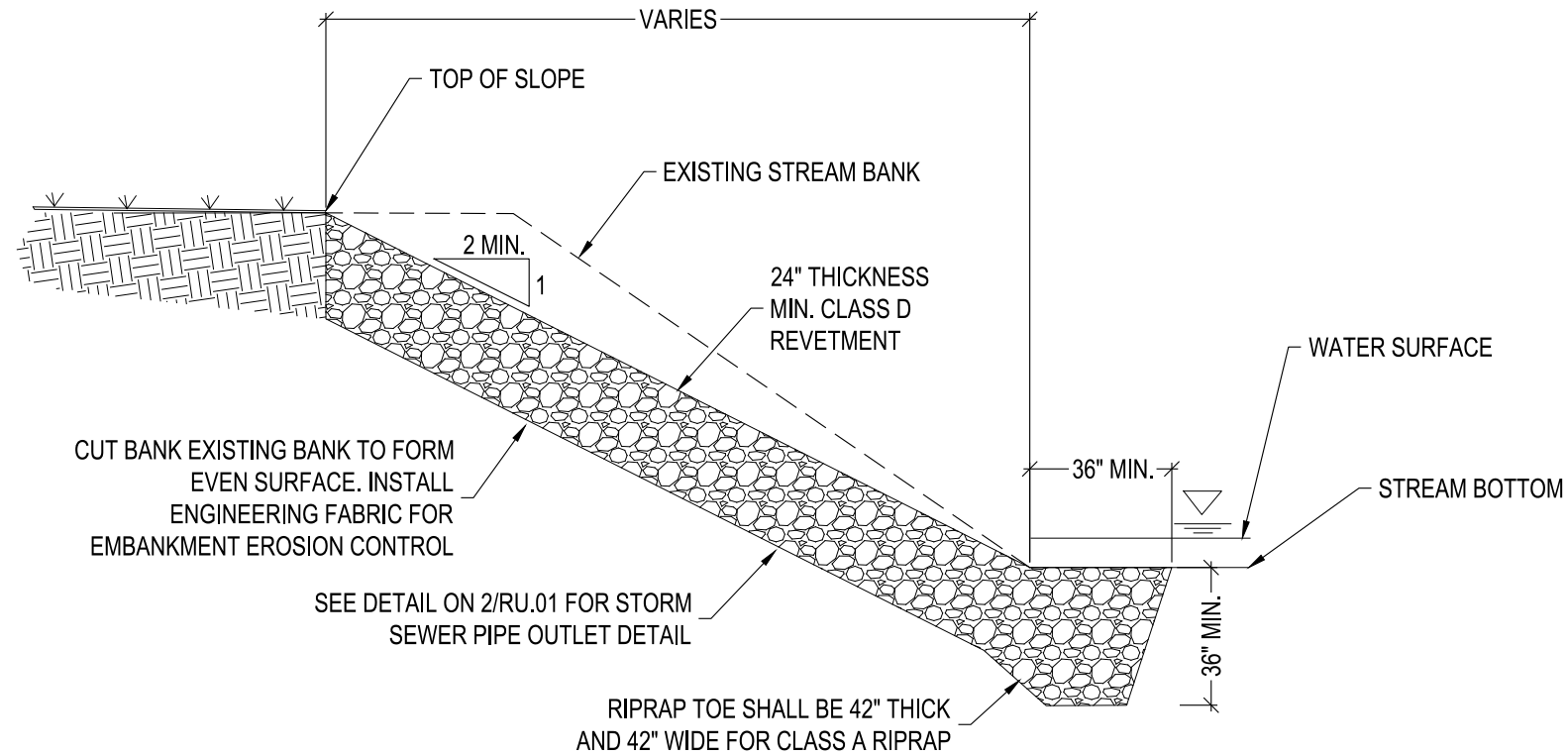


PIPE OUTLET PROTECTION PLAN VIEW DETAIL

NTS

3

U.01

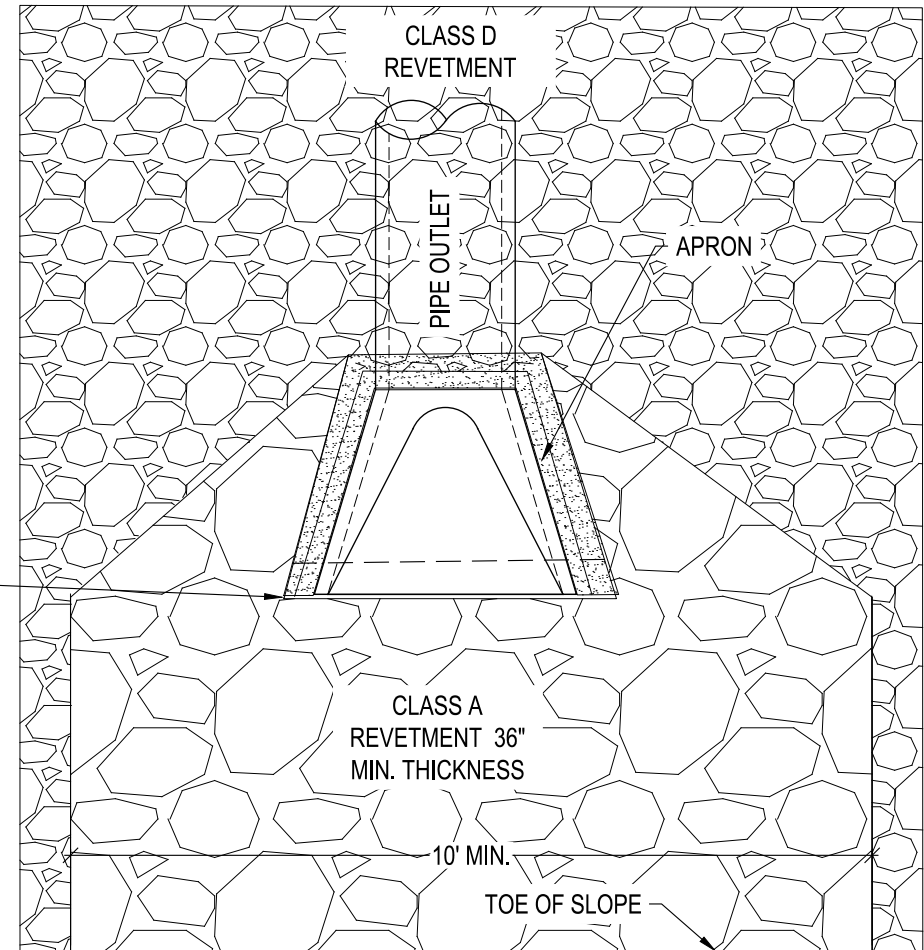


SLOPE STABILIZATION SECTION DETAIL

NTS

1  
U.02

RCP APRON FOOTING PER SUDAS FIGURE 4030.221



PIPE OUTLET PROTECTION PLAN VIEW DETAIL

NTS

2  
U.02

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SPECIFICATIONS:

DESIGN: AASHTO LRFD 8TH ED, SERIES OF 2017, EXCEPT AS NOTED IN THE CURRENT IOWA DOT BRIDGE DESIGN MANUALAASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2ND ED WITH 2015 INTERIMS

CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2023, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

DESIGN STRESSES: DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, SERIES OF 2017, EXCEPT AS NOTED IN THE CURRENT IOWA DOT BRIDGE DESIGN MANUAL.

REINFORCING STEEL IN ACCORDANCE WITH AASHTO LRFD SECTION 5, GRADE 60 FOR EPOXY COATED AND NON-COATED.

CONCRETE IN ACCORDANCE WITH AASHTO LRFD SECTION 5,  $f'c = 4.0$  KSI.

STRUCTURAL STEEL IN ACCORDANCE WITH AASHTO LRFD SECTION 6. ASTM A709, GRADE 36, GRADE 50, AND GRADE 50W (AASHTO M270 GRADE 36, GRADE 50, AND GRADE 50W).

GENERAL NOTES:

THESE PLANS INDICATE A DESIGN FOR A 125'-0" X 12'-0" PRE-ENGINEERED PEDESTRIAN BRIDGE TO CROSS INDIAN CREEK AS A PART OF THE LUCORE ROAD SIDEPATH. THE BRIDGE SHALL HAVE A 12'-0" CLEAR DISTANCE ON THE DECK.

IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE THE DELIVERY OF THE BRIDGE SUPERSTRUCTURE WITH THE BRIDGE MANUFACTURER. THE CONTRACTOR IS RESPONSIBLE FOR UNLOADING THE ITEMS FROM THE DELIVERY TRUCKS. THE BRIDGE MANUFACTURER IS RESPONSIBLE FOR THE COST OF DELIVERY OF THESE ITEMS.

FAINT LINES ON PLANS INDICATE EXISTING STRUCTURE AND TOPOGRAPHY.

THE CITY AND UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE BRIDGE CONTRACTOR OF THE CONSTRUCTION STARTING DATE. THERE IS NO GUARANTEE THE UTILITIES SHOWN ARE ALL UTILITIES IN AREA, ACTIVE OR ABANDONED.

UTILITIES SHOWN ARE FROM RECORD DRAWINGS, IOWA ONE CALL DESIGN REQUEST, ON SITE SURVEY, OR OTHER METHODS. ALL LOCATIONS ARE CONSIDERED APPROXIMATE. THE CONTRACTOR SHOULD NOT RELY ON THESE DRAWINGS AS AN EXACT METHOD OF LOCATING UTILITIES. OTHER UTILITIES MAY BE ENCOUNTERED DURING THE CONSTRUCTION PROCESS. NOTIFY ENGINEER AND OWNER IF ADDITIONAL UTILITIES ARE ENCOUNTERED.

IT SHALL BE THE BRIDGE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITES FOR EXCESS EXCAVATED MATERIAL. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES.

THIS STRUCTURE SHALL BE BUILT WITH WEATHERING STEEL. ALL STRUCTURAL STEEL, EXCEPT AS NOTED, SHALL CONFORM TO ASTM A709 GRADE 50W.

ALL REINFORCING BARS AND BARS NOTED AS DOWELS SUPPLIED FOR THIS STRUCTURE SHALL BE DEFORMED REINFORCEMENT UNLESS OTHERWISE NOTED OR SHOWN.

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

KEYWAY DIMENSIONS SHOWN ON THE PLANS ARE BASED ON NOMINAL DIMENSIONS UNLESS STATED OTHERWISE. IN ADDITION, THE BEVEL USED ON THE KEYWAY SHALL BE LIMITED TO A MAXIMUM OF 10 DEGREES FROM VERTICAL.

ALL CORNERS 90 DEGREES OR SHARPER ARE TO BE FILLETED WITH A DRESSED AND BEVELED 3/4" STRIP.

ALL REINFORCING STEEL IS TO BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS PLACED.

THESE BRIDGE PLANS LABEL ALL REINFORCING STEEL WITH ENGLISH NOTATION (5A1 IS 5/8 INCH DIAMETER BAR). ENGLISH REINFORCING STEEL RECEIVED IN THE FIELD MAY DISPLAY THE FOLLOWING "BAR DESIGNATION". THE "BAR DESIGNATION" IS THE STAMPED IMPRESSION ON THE REINFORCING BARS, AND IS EQUIVALENT TO THE BAR DIAMETER IN MILLIMETERS.

ENGLISH SIZE	BAR DESIGNATION
3	10
4	13
5	16
6	19
7	22
8	25
9	29
10	32
11	36

PRE-ENGINEERED BRIDGE NOTES:

ANY VALUES OR SPECIFICATIONS SHOWN ON THESE NOTES SHALL SUPERCEDE THOSE NOTED IN SECTION 2429 OF THE STANDARD SPECIFICATIONS.

THE PRE-ENGINEERED BRIDGE SHALL BE DESIGNED FOR 90 PSF PEDESTRIAN LIVE LOAD OR AN H10 MAINTENANCE VEHICLE.

THE PRE-ENGINEERED BRIDGE SHALL BE A PRATT OR LINK STYLE TRUSS FABRICATED USING WEATHERING STEEL IN ACCORDANCE WITH SECTION 2429 OF THE STANDARD SPECIFICATIONS.

SAFETY AND RUB RAILS SHALL BE HORIZONTAL, WITH THE TOP RAILINGS A MINIMUM OF 54 INCHES ABOVE THE BRIDGE DECK AND SHALL MEET THE REQUIREMENTS OF SECTION 2429 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE RAILINGS SHALL EXTEND AS REQUIRED TO MEET THE WINGWALL SAFETY FENCE. THE MAXIMUM OPENING SHALL BE 4" ON ALL RAILINGS.

BRIDGE CAMBER SHALL BE AS SPECIFIED IN SECTION 2429 OF THE STANDARD SPECIFICATIONS.

TRUSS BEARING VALUES FOR ABUTMENT DESIGN SHALL NOT EXCEED (PER BEARING,U.N.O.):

DL (VERTICAL): 55,000 LBS  
LL (VERTICAL): 37,500 LBS  
WIND ON STRUCTURE (HORIZONTAL): 14,000 LBS (PER ABUTMENT)  
WIND ON STRUCTURE (UPLIFT): 14,100 LBS  
WIND ON STRUCTURE (VERTICAL): +/- 13,400 LBS  
THERMAL LOAD (LONGITUDINAL): 5,600 LBS

IF THESE VALUES ARE EXCEEDED, CONTACT ENGINEER.

A DECK JOINT COVER PLATE SHALL BE FURNISHED AND INSTALLED BY THE TRUSS MANUFACTURER.

ALL REBAR PROVIDED IN THE CONCRETE DECK SHALL BE EPOXY COATED

DESIGN FOR 0° SKEW

125'-0" x 12'-0" PEDESTRIAN BRIDGE

STEEL TRUSS

GENERAL NOTES

CITY OF MARION

STA. XXX+XX.XX

XXXX, 2025

DESIGN SHEET NO. _____ OF _____ FILE NO. _____ DESIGN NO. _____

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SUMMARY OF CONCRETE QUANTITIES	
LOCATION	STRUCTURAL CONCRETE (BRIDGE) - CY
SOUTH ABUTMENT	12.7
SOUTH APPROACH	2.5
NORTH ABUTMENT	12.7
NORTH APPROACH	2.5
BRIDGE DECK	INCIDENTAL TO PRE-ENGINEERED STEEL TRUSS TRAIL BRIDGE

SUMMARY OF REINFORCING STEEL	
LOCATION	EPOXY COATED REINFORCING STEEL
SOUTH ABUTMENT	1149
SOUTH APPROACH	337
NORTH ABUTMENT	1149
NORTH APPROACH	337
BRIDGE DECK	INCIDENTAL TO PRE-ENGINEERED STEEL TRUSS TRAIL BRIDGE

SUMMARY OF FOUNDATIONS					
LOCATION	SUBSTRUCTURE TYPE	FOUNDATION TYPE	NUMBER	LENGTH (LF)	TOTAL LENGTH (LF)
SOUTH ABUTMENT	STUB ABUTMENT	HP10X57	3	25	75
NORTH ABUTMENT	STUB ABUTMENT	HP10X57	3	25	75

SUMMARY OF EXCAVATION			
LOCATION	SUBSTRUCTURE TYPE	CLASS 20	CLASS 21
SOUTH ABUTMENT	STUB ABUTMENT	22	-
NORTH ABUTMENT	STUB ABUTMENT	22	-

DESIGN FOR 0° SKEW

125'-0" x 12'-0" PEDESTRIAN BRIDGE  
STEEL TRUSS

SUMMARY QUANTITIES

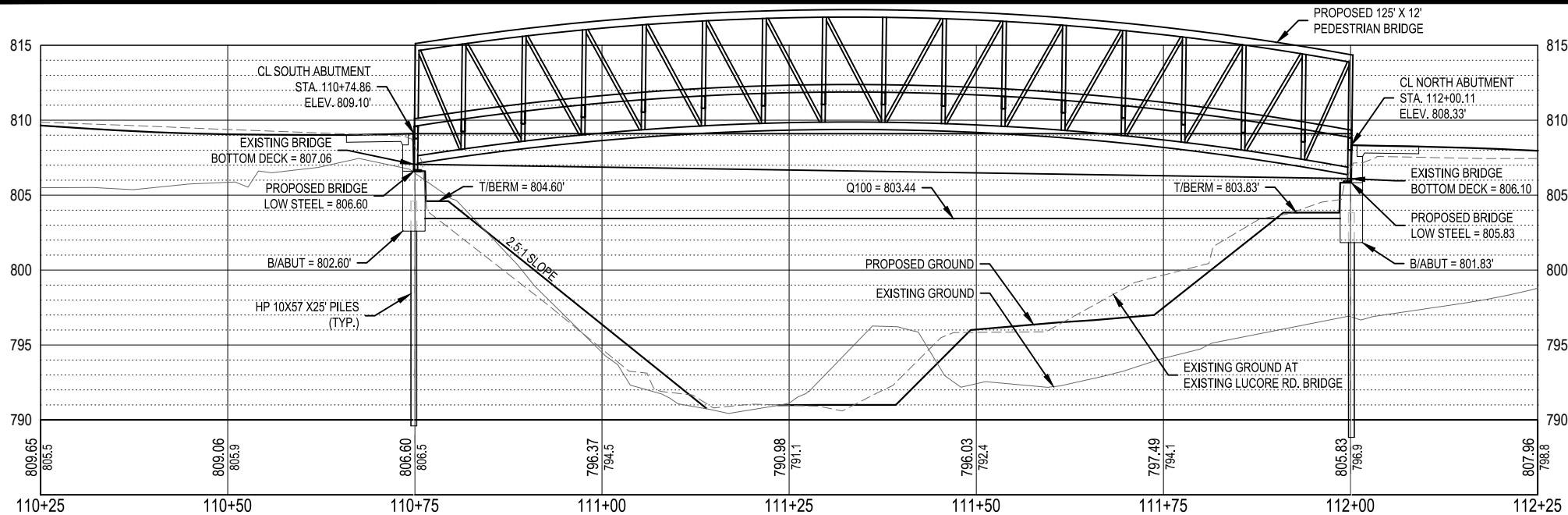
STA. XXX+XX.XX

CITY OF MARION

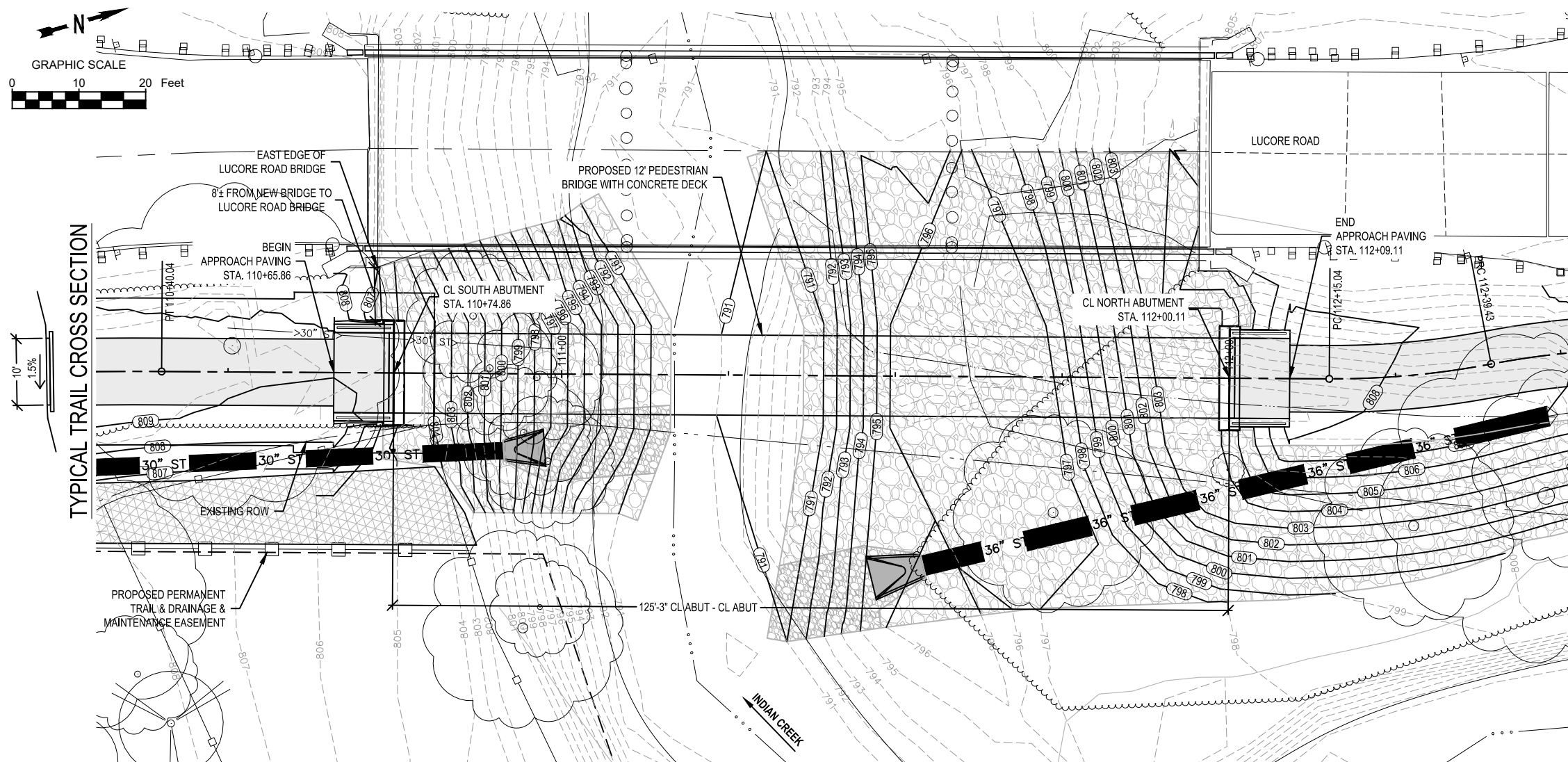
LINN COUNTY

DESIGN SHEET NO. ____ OF ____ FILE NO. ____ DESIGN NO. ____

XXXXX, 2025



LONGITUDINAL SECTION ALONG CL OF BRIDGE



SITUATION PLAN

PROFILE

BENCHMARK

SEE G-SHEETS FOR CONTROL AND BENCHMARKS

HYDRAULIC DATA:

DRAINAGE AREA = 25.3 SQ.MI.  
STREAM SLOPE = 10.5 FT./MI.  
BRIDGE WATERWAY AREA = 1,168 SQ.FT.  
DESIGN Q = Q100  
EXISTING HIGH WATER STAGE = UNKNOWN

Q10 = 3,410 CFS  
STAGE = 801.31

Q25 = 4,957 CFS  
STAGE = 802.72

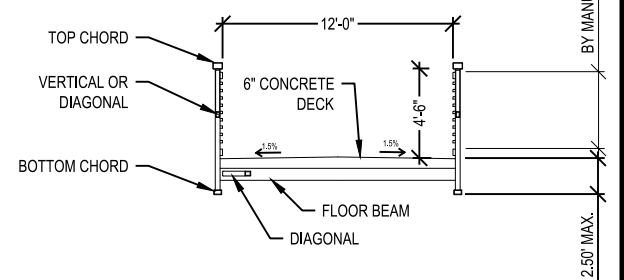
Q50 = 6,297 CFS  
STAGE = 802.81  
VELOCITY = 8.79 FPS

Q100 = 7,811 CFS  
STAGE = 803.44  
VELOCITY = 10.04 FPS  
DESIGN SCOUR = 798.29

Q500 = 11,880 CFS  
STAGE = 805.60  
VELOCITY = 7.78 FPS  
CHECK SCOUR = 794.91

LOCATION

T-84N R-6W  
SECTION 19  
MARION TOWNSHIP  
MARION, IOWA



BRIDGE CROSS SECTION

SCALE: 1"=5'

DESIGN FOR 0° SKEW  
125'-0" x 12'-0" PEDESTRIAN BRIDGE  
STEEL TRUSS

SITUATION PLAN

CITY OF MARION

STA. XXX+XX.XX

XXXXX, 2025

DESIGN SHEET NO. _____ OF _____ FILE NO. _____ DESIGN NO. _____

FILE NO.

ENGLISH

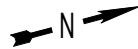
DESIGN TEAM SHOEMAKER & HAALAND

CITY OF MARION, LINN COUNTY

PROJECT NUMBER TAP-U-4775(645)--81-57

SHEET NUMBER V.03

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CL TRAIL & BRIDGE

CL ABUTMENT  
STA. 110+74.86

125' - 3"

CL ABUTMENT  
STA. 112+00.11

1

PILE CAP LAYOUT

1/4" = 1'-0"

DESIGN FOR 0 DEGREE SKEW

125'-0" x 12'-0" PEDESTRIAN BRIDGE  
STEEL TRUSS

ABUTMENT LAYOUT

STA. 111+37.49 (HS10 LOADING)

APRIL 2025

CITY OF MARION , LINN COUNTY

DESIGN SHEET NO. ____ OF ____ FILE NO. _____ DESIGN NO. _____

ENGLISH

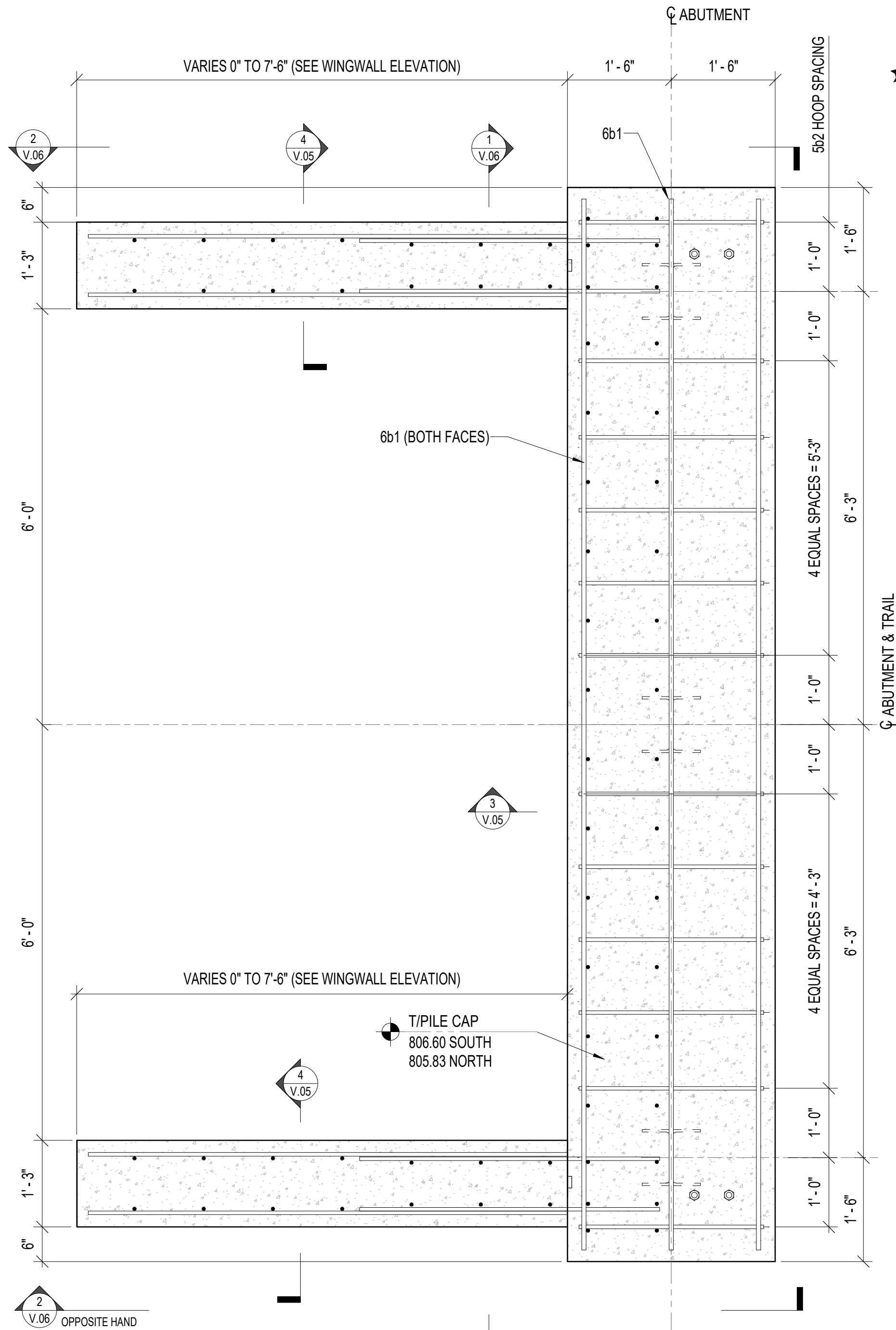
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CITY OF MARION, LINN COUNTY

PROJECT NO. TAP-U-4775(645)-8I-57

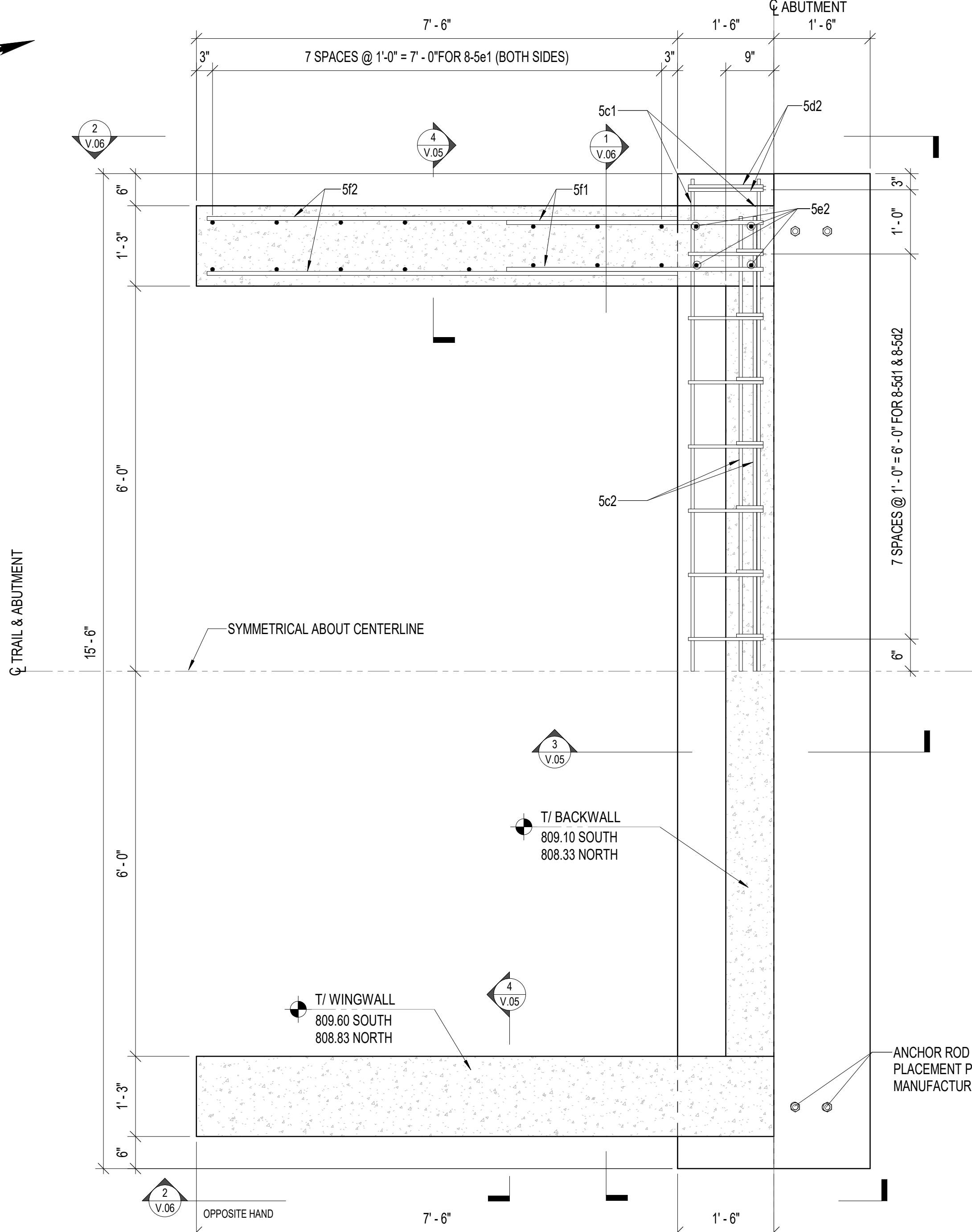
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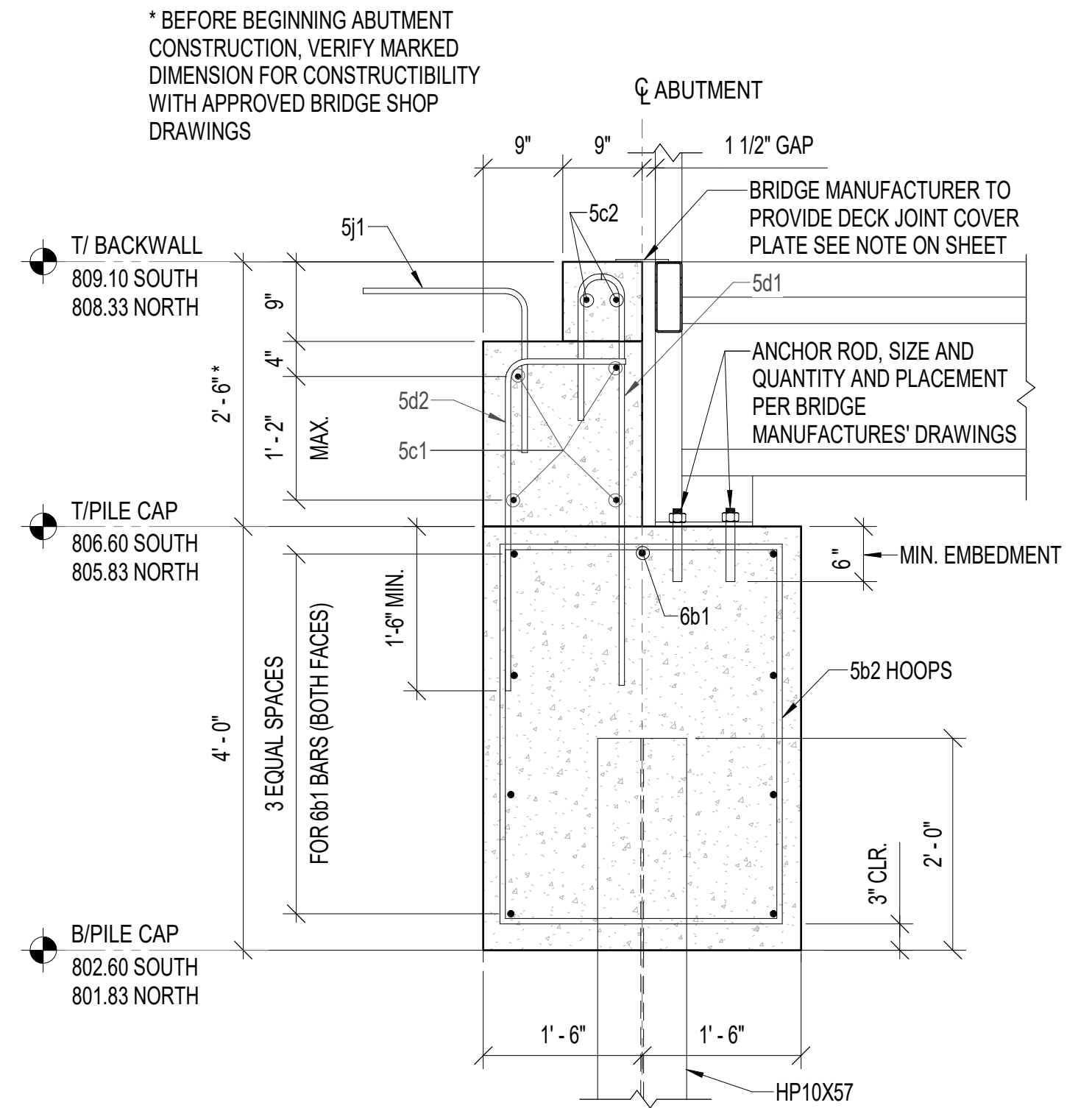
1 PILECAP PLAN  
3/4" = 1'-0"

SOUTH ABUTMENT SHOWN, NORTH ABUTMENT  
SIMILAR EXCEPT OPPOSITE HAND

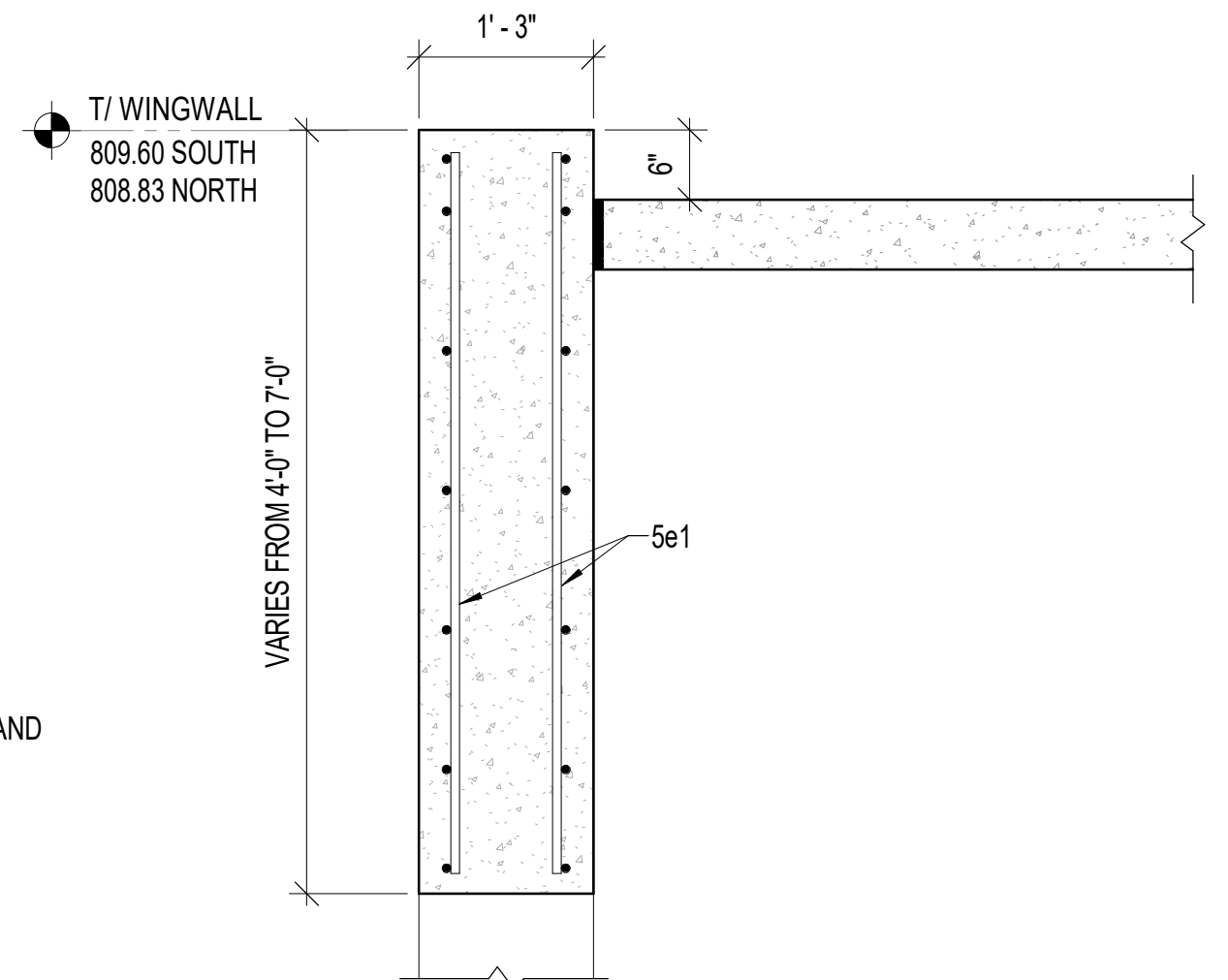


2 ABUTMENT PLAN  
3/4" = 1'-0"

SOUTH ABUTMENT SHOWN, NORTH ABUTMENT  
SIMILAR EXCEPT OPPOSITE HAND



3 ABUTMENT SECTION  
3/4" = 1'-0"



4 WINGWALL SECTION  
3/4" = 1'-0"

DESIGN FOR 0 DEGREE SKEW  
125'-0" x 12'-0" PEDESTRIAN BRIDGE  
STEEL TRUSS

ABUTMENT DETAILS

STA. 111+37.49 (HS10 LOADING)

APRIL 2025

CITY OF MARION , LINN COUNTY

DESIGN SHEET NO. _____ OF _____ FILE NO. _____ DESIGN NO. _____

ENGLISH

DESIGN TEAM SHOEMAKER & HAALAND

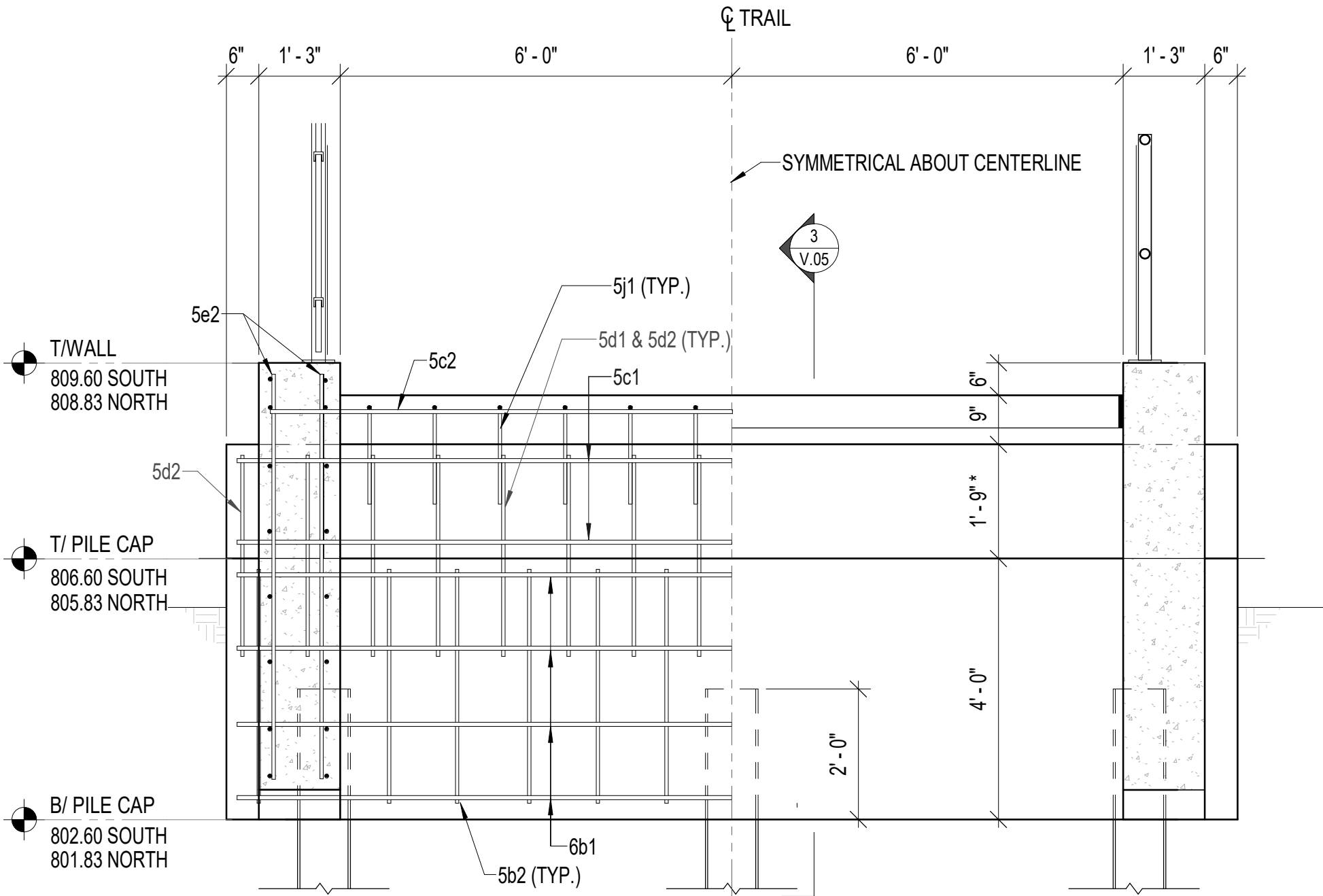
CITY OF MARION, LINN COUNTY

PROJECT NO. TAP-U-4775(645)-8I-57

SHEET NO. V.05



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1 ABUTMENT ELEVATION  
1/2" = 1'-0"

* BEFORE BEGINNING ABUTMENT CONSTRUCTION  
VERIFY MARKED DIMENSION FOR CONSTRUCTIBILITY  
WITH APPROVED BRIDGE SHOP DRAWINGS

#### ABUTMENT NOTES:

MINIMUM CLEAR DISTANCE FROM THE FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

CONSTRUCTION JOINT KEYWAYS ARE TO BE FORMED WITH BEVELED 2X8's EXCEPT AS NOTED.

THE BRIDGE CONTRACTOR IS TO INSTALL SUB-DRAINS BEHIND THE ABUTMENTS AS DETAILED.

THE COST OF RESILIENT JOINT FILLER, FURNISHING AND PLACING SUB-DRAIN (INCLUDING EXCAVATION), FLOODABLE BACKFILL, POROUS BACKFILL, AND COST OF FURNISHING AND PLACING CONCRETE SEALER IS TO BE INCLUDED IN THE BID PRICE FOR STRUCTURAL CONCRETE.

#### SOUTH ABUTMENT PILE DRIVING NOTES:

ALL PILING TO BE HP10X57

THE CONTRACT LENGTH OF 25 FEET FOR SOUTH ABUTMENT PILES IS BASED ON A NON-COHESIVE SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 110 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.5 FOR SOIL AND 0.7 FOR ROCK END BEARING.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A NON-COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.55. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF THE FOOTING. DESIGN SCOUR (200 YEAR) WAS ASSUMED TO AFFECT THE UPPER 5 FEET OF EMBEDDED PILE LENGTH AND CAUSE 8 KIPS OF DRIVING RESISTANCE.

THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR SOUTH ABUTMENT PILES IS 104 TONS AT THE END OF DRIVE OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A MODIFIED IOWA DOT ENR FORMULA.

DIMENSIONS SHOWN ON PILING LAYOUT ARE AT BOTTOM OF FOOTING.

STEEL POINTS ARE REQUIRED FOR THE STEEL H-PILES AT ABUTMENTS.

#### NORTH ABUTMENT PILE DRIVING NOTES:

ALL PILING TO BE HP10X57

THE CONTRACT LENGTH OF 25 FEET FOR NORTH ABUTMENT PILES IS BASED ON A NON-COHESIVE SOIL CLASSIFICATION, A TOTAL FACTORED AXIAL LOAD PER PILE (PU) OF 110 KIPS, AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.5 FOR SOIL AND 0.7 FOR ROCK END BEARING.

THE NOMINAL AXIAL BEARING RESISTANCE FOR CONSTRUCTION CONTROL WAS DETERMINED FROM A NON-COHESIVE SOIL CLASSIFICATION AND A GEOTECHNICAL RESISTANCE FACTOR (PHI) OF 0.55. PILES ARE ASSUMED TO BE DRIVEN FROM A START ELEVATION AT THE BOTTOM OF THE FOOTING. DESIGN SCOUR (200 YEAR) WAS ASSUMED TO AFFECT THE UPPER 7 FEET OF EMBEDDED PILE LENGTH AND CAUSE 9 KIPS OF DRIVING RESISTANCE.

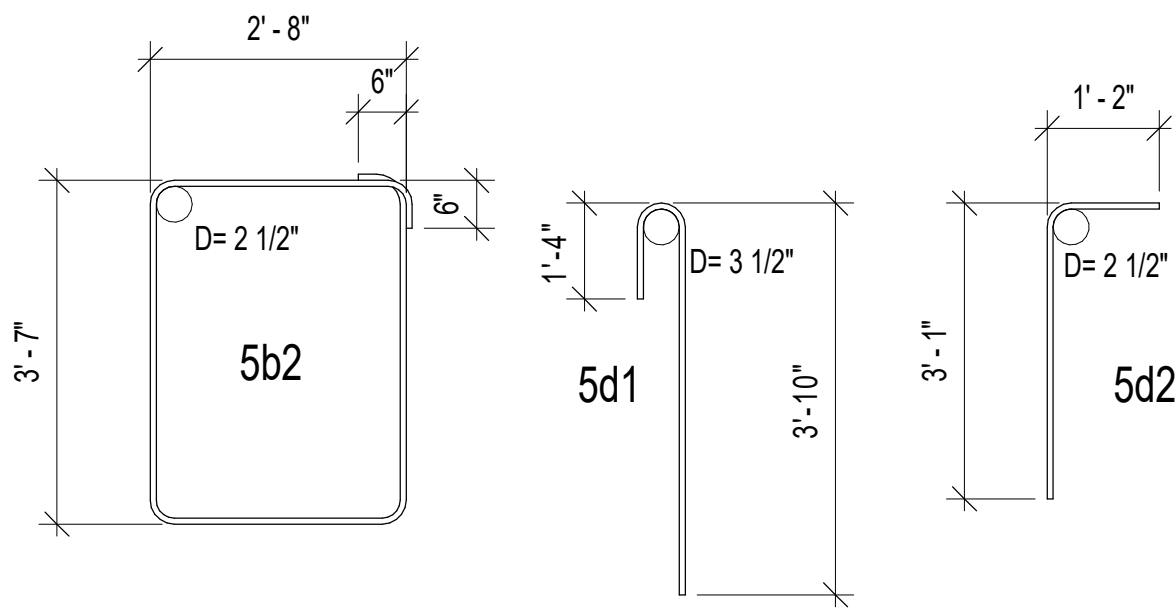
THE REQUIRED NOMINAL AXIAL BEARING RESISTANCE FOR NORTH ABUTMENT PILES IS 104 TONS AT THE END OF DRIVE OR RETAP. THE PILE CONTRACT LENGTH SHALL BE DRIVEN AS PER PLAN UNLESS PILES REACH REFUSAL. CONSTRUCTION CONTROL REQUIRES A MODIFIED IOWA DOT ENR FORMULA.

DIMENSIONS SHOWN ON PILING LAYOUT ARE AT BOTTOM OF FOOTING.

STEEL POINTS ARE REQUIRED FOR THE STEEL H-PILES AT ABUTMENTS.

ABUTMENT REINFORCING SCHEDULE (2 ABUTMENTS)					
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6b1	PILE CAP LONGITUDINAL		18	15'-2"	410
5b2	PILE CAP HOOPS		24	13'-6"	338
5c1	LOWER BACKWALL LONGITUDINAL		8	15'-2"	127
5c2	UPPER BACKWALL LONGITUDINAL		4	14'-2"	59
5d1	BACKWALL VERTICAL		28	5'-2"	151
5d2	BACKWALL VERTICAL		36	4'-3"	160
5e1	WINGWALL VERTICAL		64	VARIES	339
5e2	WINGWALL VERTICAL		16	4'-4"	72
5f1	WINGWALL DOWEL		48	4'-0"	200
5f2	WINGWALL LONGITUDINAL		40	VARIES	296
5f3	WINGWALL LONGITUDINAL		16	8'-8"	145
TOTAL					2297

#### BENT BAR DETAILS



NOTE: ALL DIMENSIONS ARE  
OUT TO OUT  
D=PIN DIAMETER

#### ABUTMENT CONCRETE PLACEMENT (2 ABUTMENTS)

LOCATION	UNITS	TOTAL
PILE CAP	C.Y.	13.8
LOWER BACKWALL	C.Y.	3.1
WINGWALL & UPPER BACKWALL	C.Y.	8.5
TOTAL	C.Y.	25.4

1.) SIDEWALK SLAB DOWELS SHALL BE DEFORMED BAR GRADE 60, TYPE 316 LN. IN ACCORDANCE WITH ASTM A995 / A995M-01.

2.) ALL REINFORCING STEEL TO BE EPOXY COATED.

3.) REINFORCING STEEL QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

NOTE: COST OF 'E' JOINT MATERIAL AND POLYETHYLENE SHEETING IS CONSIDERED INCIDENTAL TO THE COST OF STRUCTURAL CONCRETE.  
NOTE: CONCRETE QUANTITY IS TO BE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

### DESIGN FOR 0 DEGREE SKEW 125'-0" x 12'-0" PEDESTRIAN BRIDGE STEEL TRUSS

#### ABUTMENT DETAILS

STA. 111+37.49 (HS10 LOADING)

APRIL 2025

### CITY OF MARION , LINN COUNTY

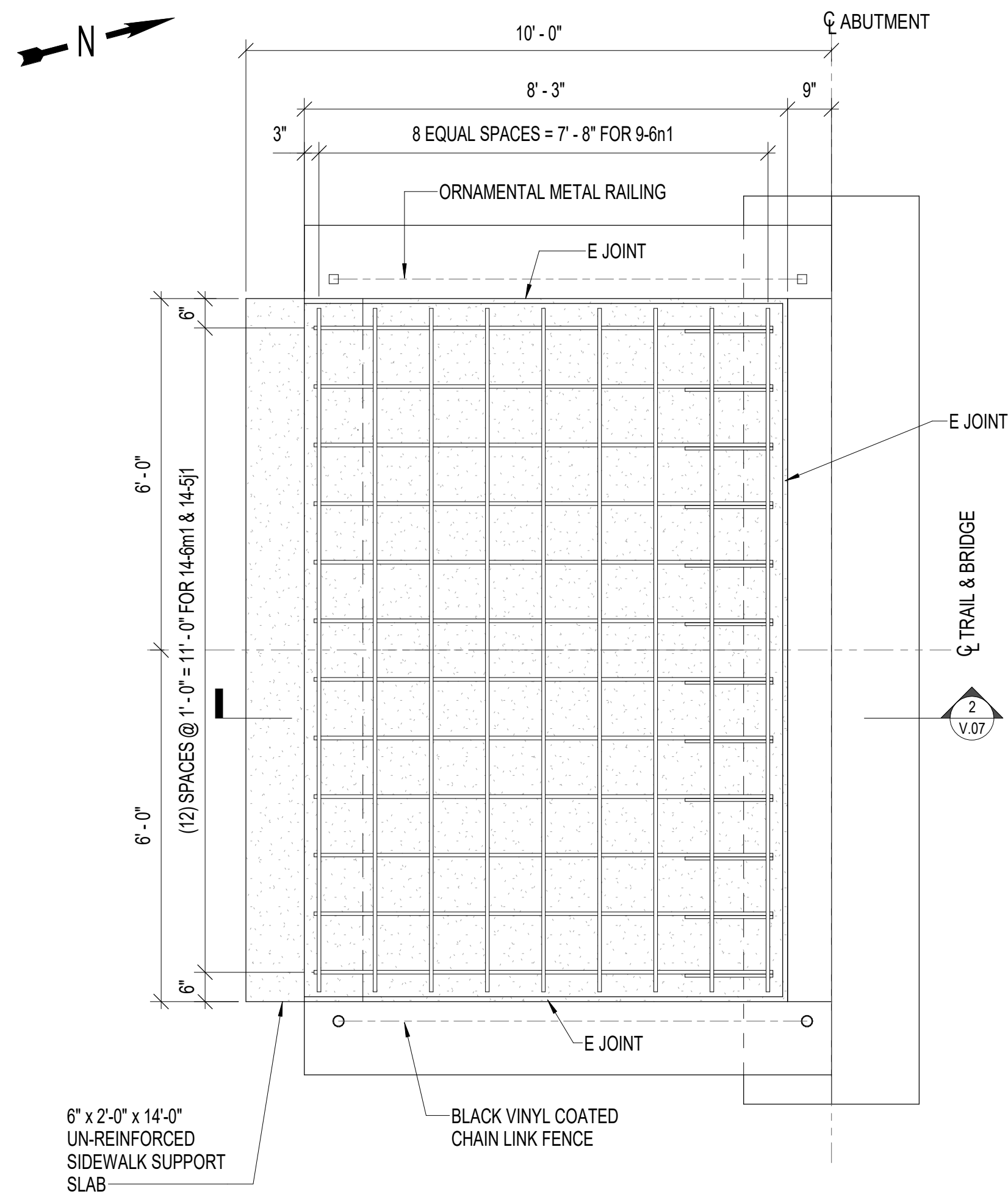
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ENGLISH DESIGN TEAM SHOEMAKER & HAALAND

CITY OF MARION, LINN COUNTY

PROJECT NO. TAP-U-4775(645)-8I-57

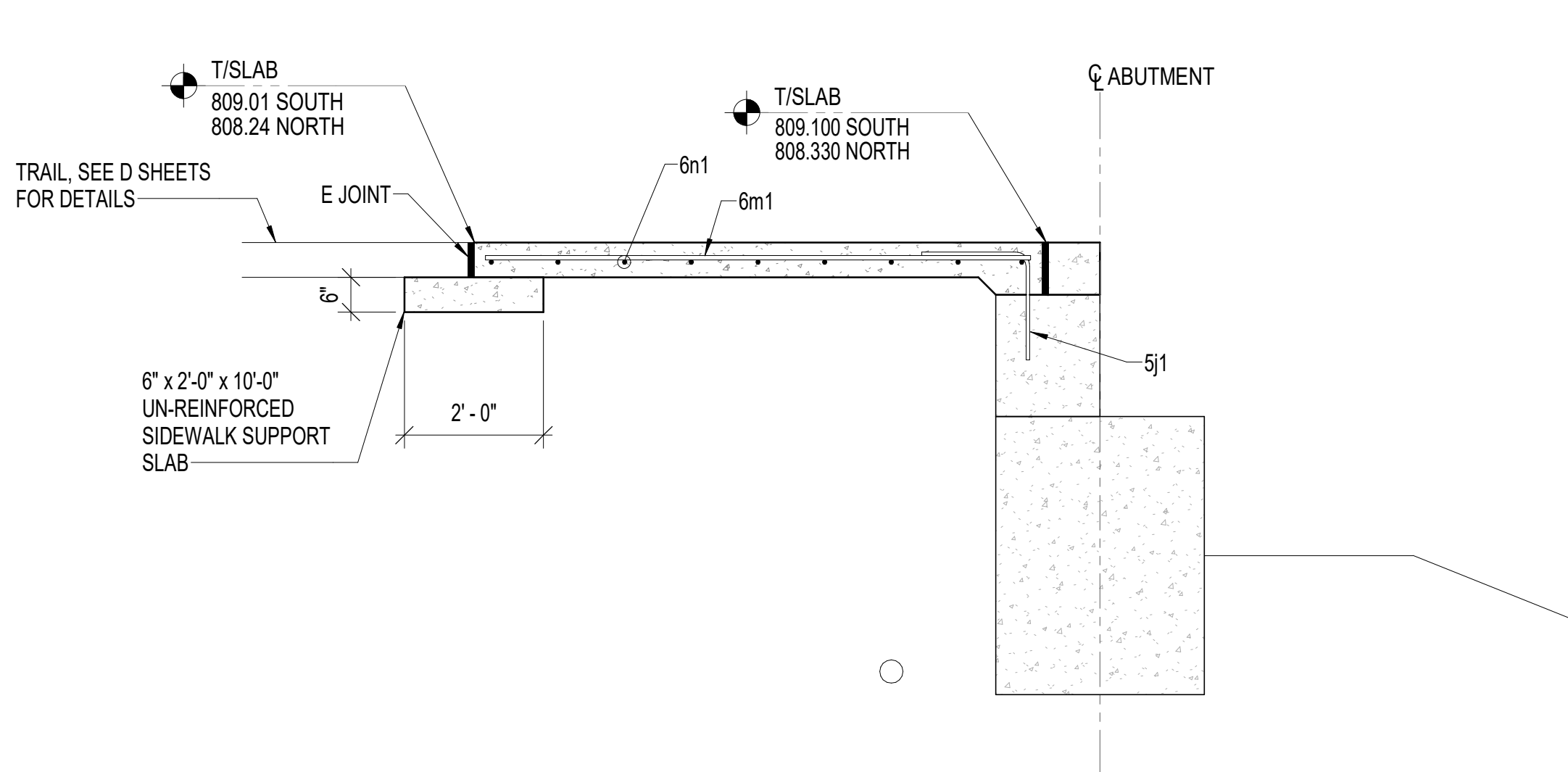
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## 1 SIDEWALK APPROACH SLAB

$$1/2'' = 1'-0''$$

SOUTH SIDEWALK APPROACH SHOWN,  
NORTH SIDEWALK APPROACH SIMILAR  
EXCEPT OPPOSITE HAND



## 2 SIDEWALK APPROACH SECTION

$$1/2'' = 1'-0''$$

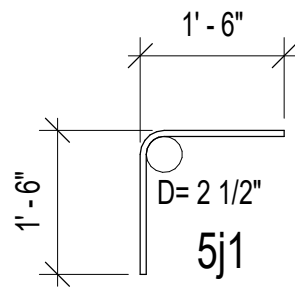
**DOWEL SETTING NOTE:**

THE 5/16 BARS SHALL BE SET AS DOWELS IN DRILLED HOLES. HOLES ARE TO BE 10" DEEP. THE DOWELS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ONE OF THE FOLLOWING SYSTEMS SHALL BE USED AS A BONDING AGENT FOR THE DOWELS.

- A. POLYMER GROUT SYSTEM IN ACCORDANCE WITH ARTICLE 2301.03, E. OF THE STANDARD SPECIFICATIONS.
- B. HYDRAULIC CEMENT GROUT SYSTEMS. DRILLED HOLES ARE TO BE 2 1/2 TIMES THE DOWEL DIAMETER AND ARE TO BE BLOWN CLEAN WITH COMPRESSED AIR IMMEDIATELY PRIOR TO PLACING GROUT. THE HYDRAULIC CEMENT GROUT SHALL BE ONE OF THOSE APPROVED IN MATERIALS I.M. 491.13 AND SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

<b>APPROACH SLAB REINFORCING SCHEDULE (2 APPROACHES)</b>					
<b>BAR</b>	<b>LOCATION</b>	<b>SHAPE</b>	<b>NO.</b>	<b>LENGTH</b>	<b>WEIGHT</b>
6m1	SIDEWALK SLAB LONGITUDINAL	—————	24	7'-10"	282
6n1	SIDEWALK SLAB TRANSVERSE	—————	18	11'-8"	315
5j1	SIDEWALK SLAB DOWELS	┐	24	3'-0"	75
	TOTAL				673

## BENT BAR DETAILS



NOTE: ALL DIMENSIONS ARE  
OUT TO OUT  
D=PIN DIAMETER

## APPROACH SLAB CONCRETE PLACEMENT

LOCATION	UNITS	TOTAL
(2) APPROACH SECTIONS	C.Y.	4.0
(2) UN REINFORCED SLABS	C.Y.	1.0
TOTAL	C.Y.	5.0

- 1.) SIDEWALK SLAB DOWELS SHALL BE DEFORMED BAR GRADE 60, TYPE 316 LN. IN ACCORDANCE WITH ASTM A995 / A995M-01.
- 2.) ALL REINFORCING STEEL TO BE EPOXY COATED.
- 3.) REINFORCING STEEL QUANTITIES ARE INCLUDED ON THE SUMMARY QUANTITIES SHEET
- 4.) APPROACH SLAB SHALL BE ROUGH BROOMED TRANSVERSELY.

NOTE: COST OF 'E' JOINT MATERIAL AND POLYETHYLENE SHEETING IS CONSIDERED  
INCIDENTAL TO THE COST OF STRUCTURAL CONCRETE.  
NOTE: CONCRETE QUANTITY IS TO BE INCLUDED ON THE SUMMARY QUANTITIES SHEET.

### DESIGN FOR 0 DEGREE SKEW

125'-0" x 12'-0" PEDESTRIAN BRIDGE  
STEEL TRUSS

## BRIDGE APPROACH SLAB

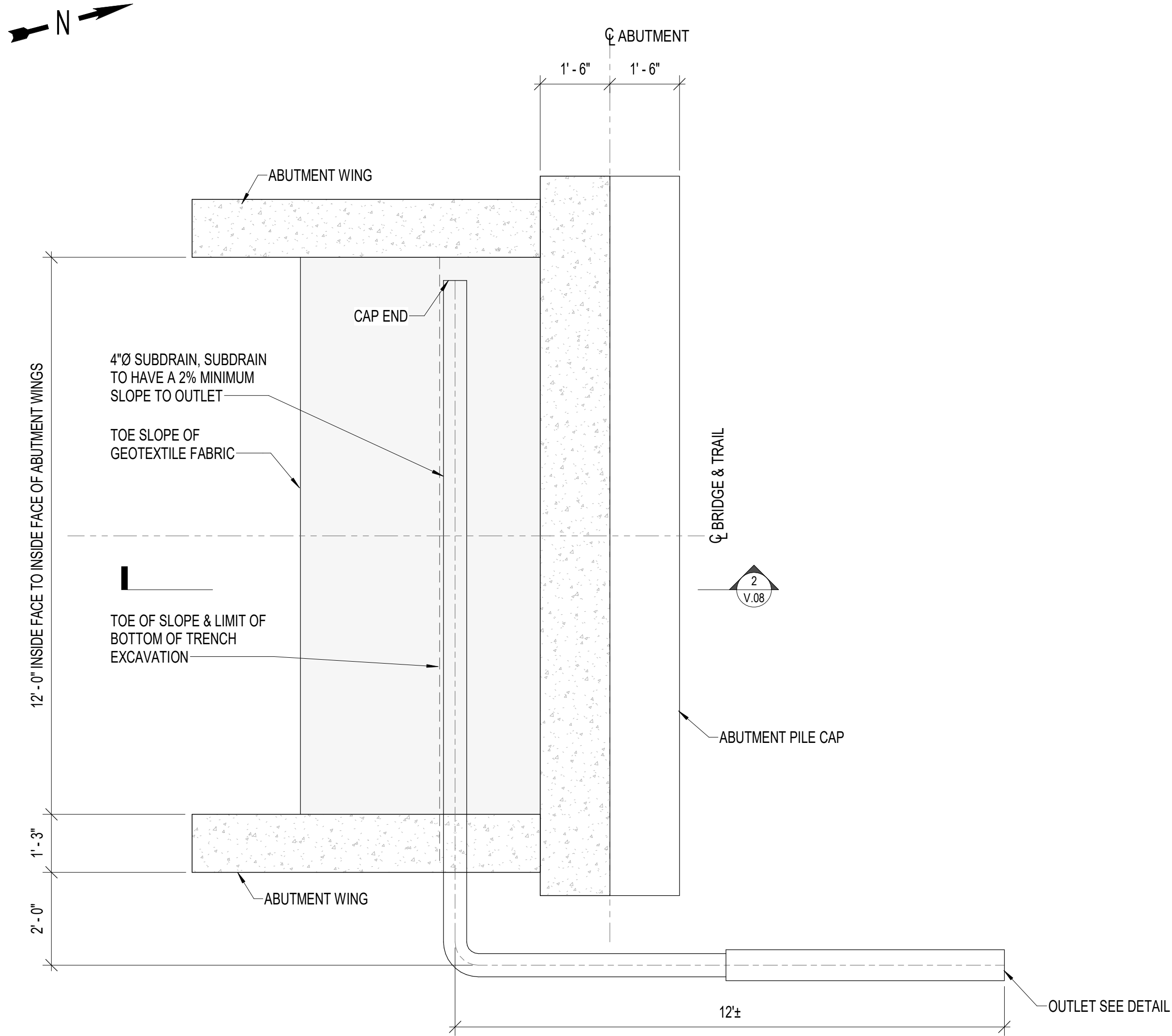
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APRIL 2025

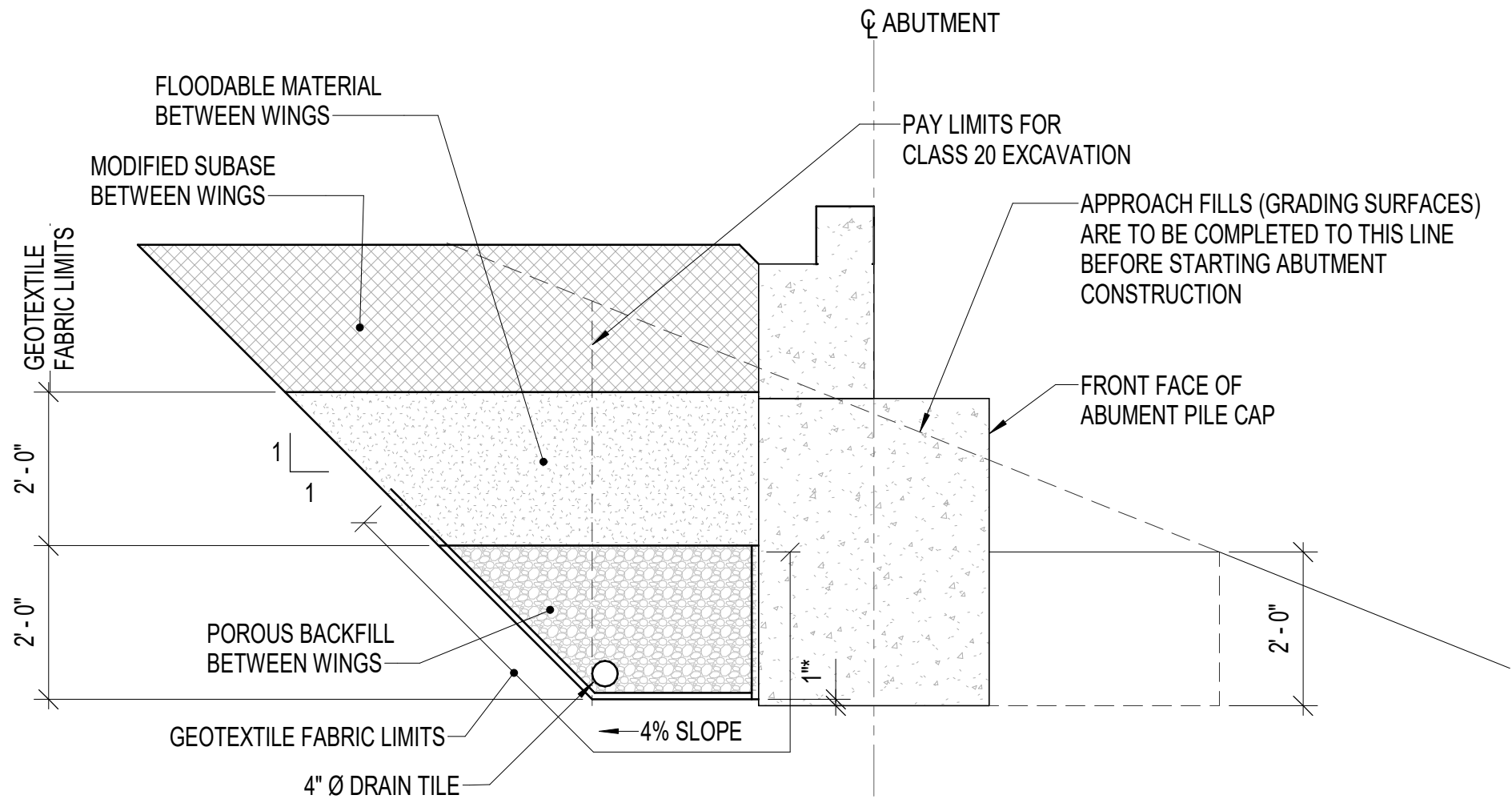
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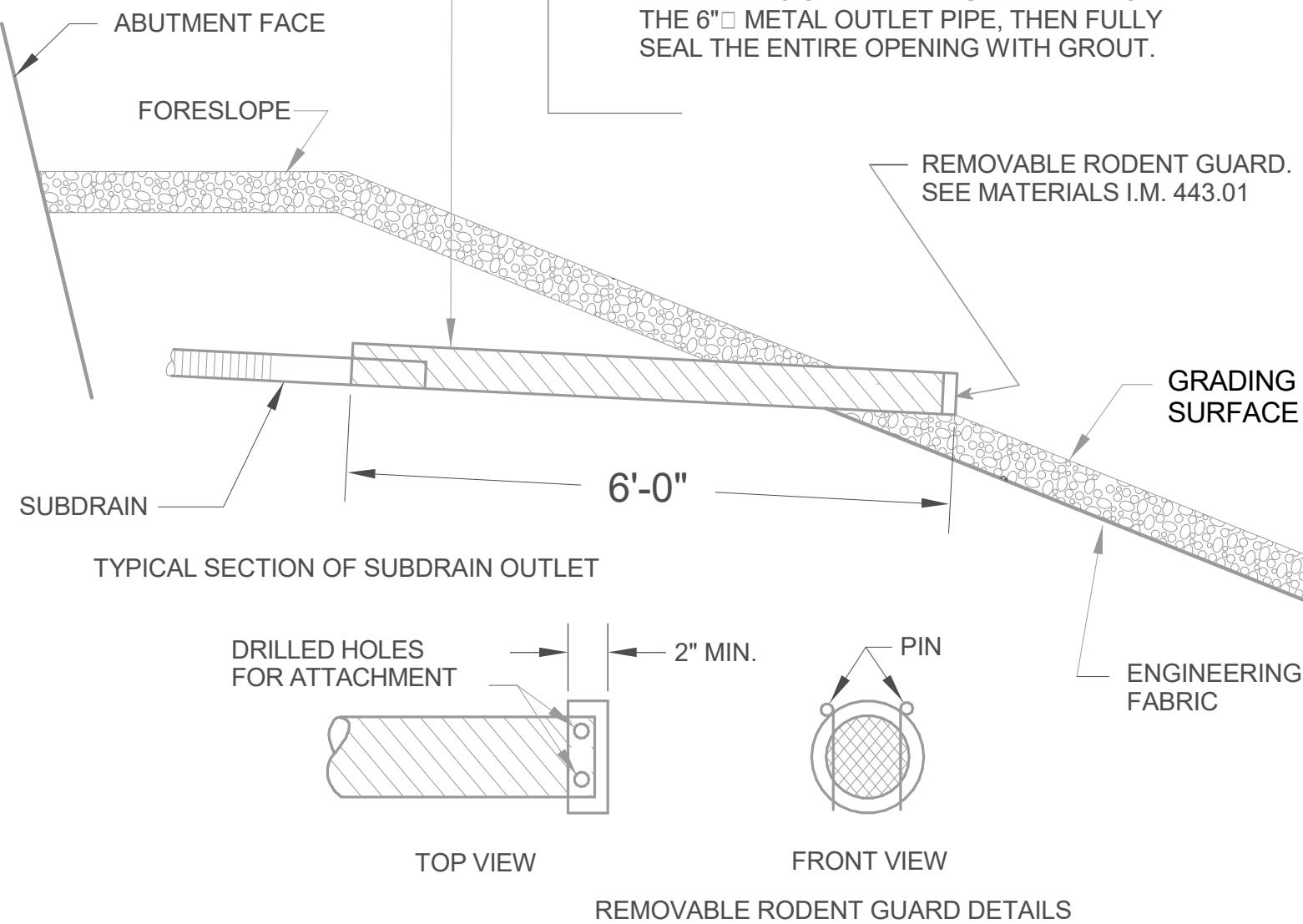
**1 ABUTMENT PLAN WITH WINGS**  
1/2" = 1'-0"  
SOUTH ABUTMENT SHOWN, NORTH  
ABUTMENT SIMILAR EXCEPT OPPOSITE HAND



**2 BACKFILL DETAIL**  
1/2" = 1'-0"

6" □ CORRUGATED METAL PIPE OUTLET, OR 4" □ CORRUGATED DOUBLE-WALLED PE OR PVC PIPE OUTLET WITH AN APPROPRIATE COUPLER. IF METAL PIPE IS USED, THE PIPES SHOULD BE COUPLED IN ONE OF THE TWO FOLLOWING WAYS.

1. USE AN INSIDE FIT REDUCER COUPLER (COUPLER MUST BE INSERTED A MINIMUM OF 1'-0" INTO CMP).
2. INSERT 1'-0" OF THE 4" □ SUBDRAIN INTO THE 6" □ METAL OUTLET PIPE, THEN FULLY SEAL THE ENTIRE OPENING WITH GROUT.



**3 SUBDRAIN OUTLET DETAIL**  
12" = 1'-0"

## ABUTMENT BACKFILL PROCESS

THE BASE OF THE EXCAVATION SUBGRADE BEHIND THE ABUTMENT IS TO BE GRADED WITH A 4% SLOPE AWAY FROM THE ABUTMENT FOOTING AND A 2% CROSS SLOPE IN THE DIRECTION OF THE SUBDRAIN OUTLET. THIS EXCAVATION SHAPING IS TO BE DONE PRIOR TO BEGINNING INSTALLATION OF THE GEOTEXTILE AND BACKFILL MATERIAL.

AFTER THE SUBGRADE HAS BEEN SHAPED THE GEOTEXTILE FABRIC SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN. THE FABRIC IS INTENDED TO BE INSTALLED IN THE BASE OF THE EXCAVATION AND EXTEND UP VERTICALLY UP THE ABUTMENT BACKWALL, ABUTMENT WING WALLS, AND EXCAVATION FACE TO A HEIGHT THAT WILL BE APPROXIMATELY 1 TO 2 FOOT HIGHER THAN THE HEIGHT OF THE POROUS BACKFILL PLACEMENT AS SHOWN IN THE "GRANULAR BACKFILL DETAILS" ON THIS SHEET. THE STRIPS OF THE FABRIC PLACED SHALL OVERLAP APPROXIMATELY 1 FOOT AND SHALL BE PINNED IN PLACE. THE FABRIC SHALL BE ATTACHED TO THE ABUTMENTBY USING LATH. FOLDED IN THE FABRICAND SECURED TO THE CONCRETE WITH SHALLOW CONCRETE NAILS. THE FABRIC PLACED AGAINST THE EXCAVATED FACE SHALL BE PINNED.

WHEN THE FABRIC IS IN PLACE, THE SUBDRAIN SHALL BE INSTALLED DIRECTLY ON THE FABRIC AT THE TOE OF THE REAR EXCAVATION SLOPE. A SLOT WILL NEED TO BE CUT IN THE FABRIC AT THE POINT WHERE THE SUBDRAIN EXITS THE FABRIC NEAR THE END OF THE ABUTMENT WING WALL.

POROUS BACKFILL IS TO BE PLACED AND LEVELED, NO COMPACTION REQUIRED.

THE REMAINING WORK INVOLVES BACKFILLING WITH GRANULAR BACKFILL, SURFACE FLOODING, AND VIBRATORY COMPACTION. THE GRANULAR BACKFILL MATERIAL SHALL HAVE 4% OR LESS PASSING THE #200 SIEVE (I.E. WASHED CONCRTE SAND). THE GRANULAR BACKFILL SHALL BE PLACED IN INDIVIDUAL LIFTS, SURFACE FLOODED, AND COMPACTED WITH VIBRATORY COMPACTION TO ENSURE FULL CONSOLIDATION. LIMIT THE LOOSE LIFTS TO NO MORE THAN 2 FEET IN THICKNESS.

START SURFACE FLOODING FOR EACH SAND LIFT AT THE HIGH POINT OF THE SUBDRAIN AND PROGRESS TO THE LOW POINT WHERE THE SUBDRAIN EXITS THE FABRIC. TO ENSURE UNIFORM SURFACE FLOODING, WATER RUNNING FULL IN 2-INCH DIAMETER HOSE SHOULD BE SPRAYED IN SUCCESSIVE 6-FOOT TO 8-FOOT INCREMENTS FOR 5 MINUTES WITHIN EACH INCREMENT.

LIFT PLACEMENT, FLOODING AND COMPACTION SHALL SHALL PROGRESS UNTIL THE REQUIRED FULL THICKNESS OF THE ABUTMENT BACKFILL HAS BEEN COMPLETED.

NOTE:  
SUBDRAIN SHALL SLOPE DOWNWARD 2% FROM THE CENTERLINE APPROACH TRAIL WHEN OUTLETTING BOTH SIDES OF THE ABUTMENT.

SUBDRAIN SHALL SLOPE DOWNWARD 2% FROM HIGH END WHEN OUTLETTING AT THE ONE AT ONE END OFTHE ABUTMENT.

THE GEOTEXTILE FABRIC SHALL BE IN ACCORDANCE WITH ARTICLE 4196.09.01, B.G OF THE STANDARD STANDARD SPECIFICATIONS. IF THE ENGINEERING FABRIC IS LAPPED THE LAP SHALL BE A MINIMUM OF ONE FOOT IN LENGTH. SHINGLE FASHION WITH UP SLOPE LAP PIECE ON THE TOP AND STAPLED FOR CONTINUITY.

DESIGN FOR 0 DEGREE SKEW

## 125'-0" x 12'-0" PEDESTRIAN BRIDGE STEEL TRUSS

### ABUTMENT BACKFILL DETAIL

STA. 111+37.49 (HS10 LOADING)

APRIL 2025

CITY OF MARION , LINN COUNTY

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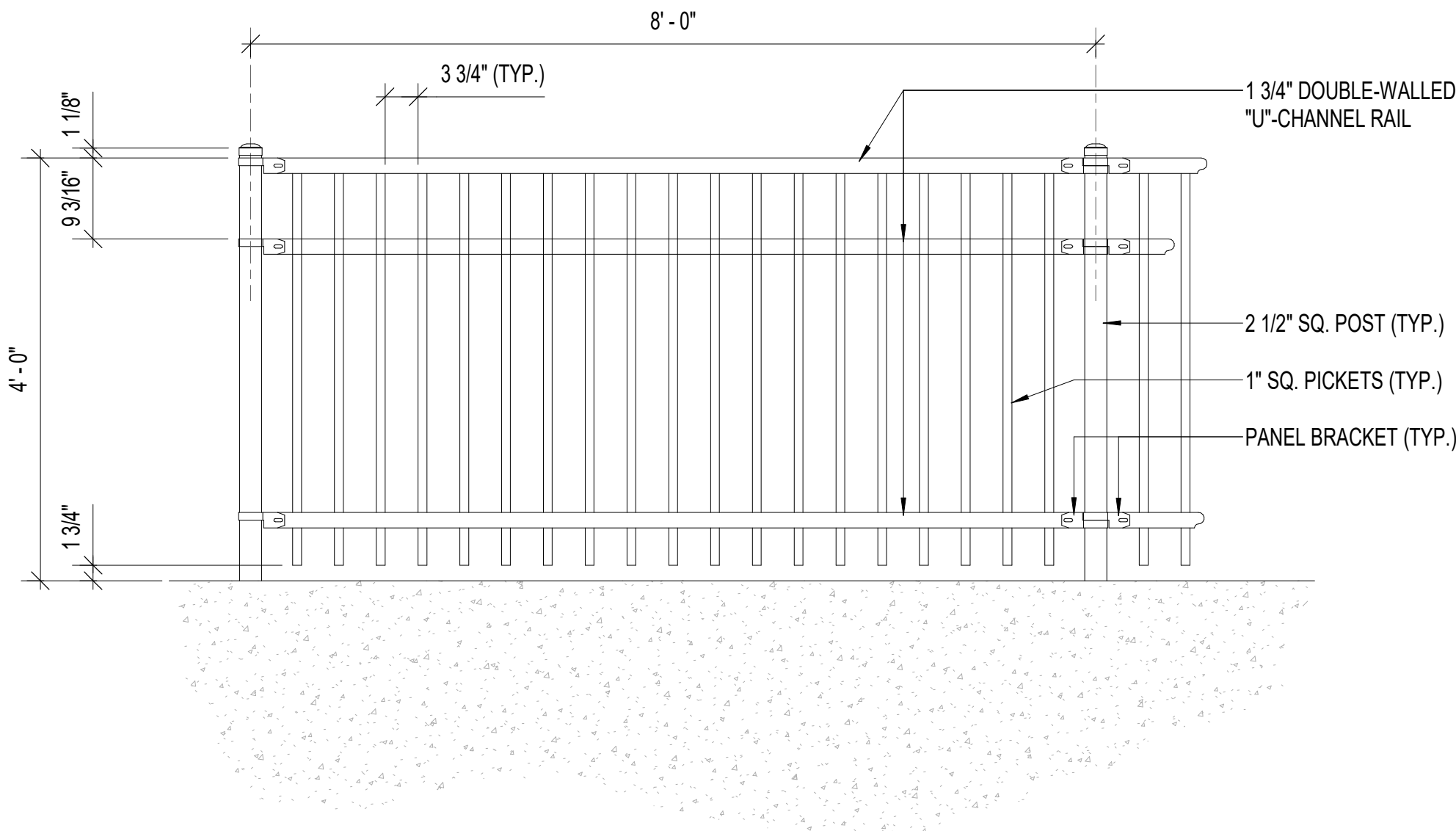
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DESIGN TEAM SHOEMAKER & HAALAND

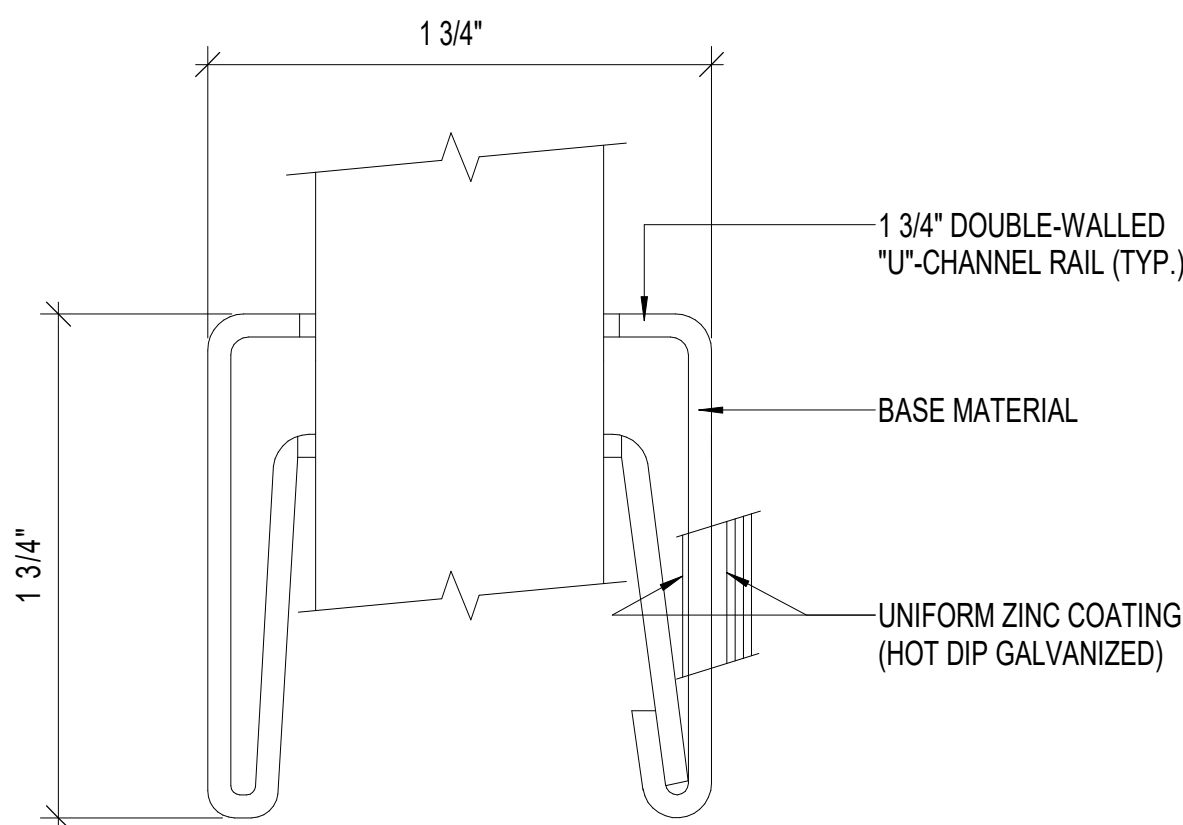
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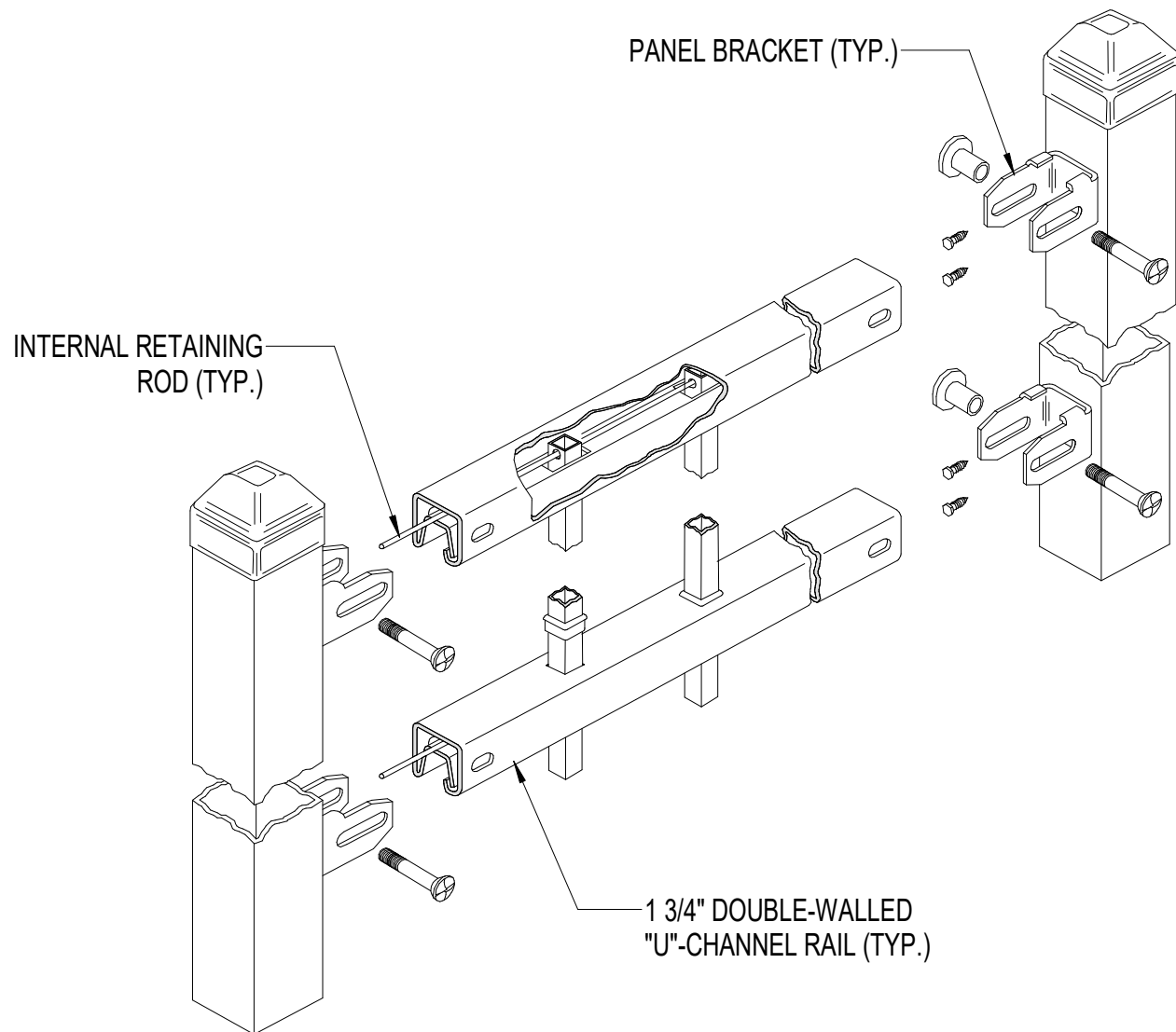
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**RAILING ELEVATION**



**RAIL SECTION**



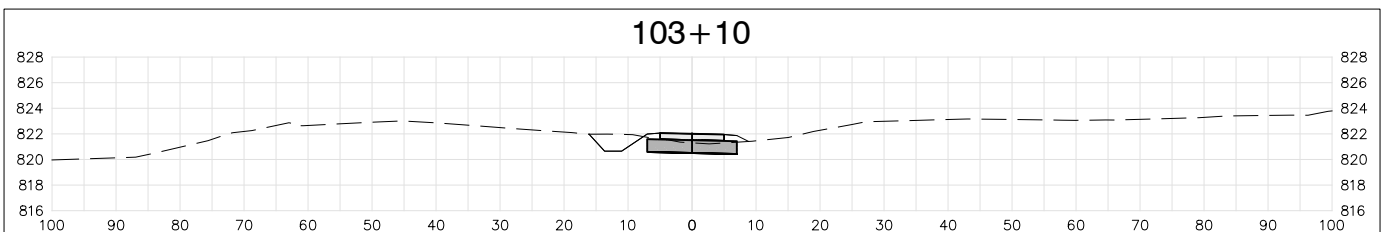
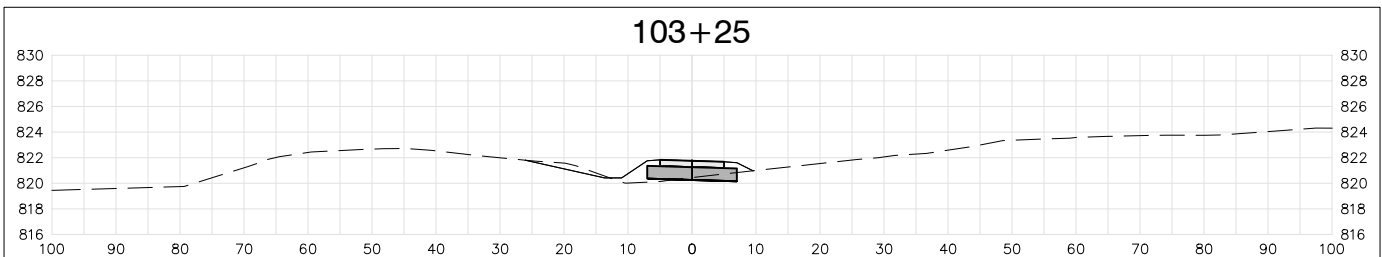
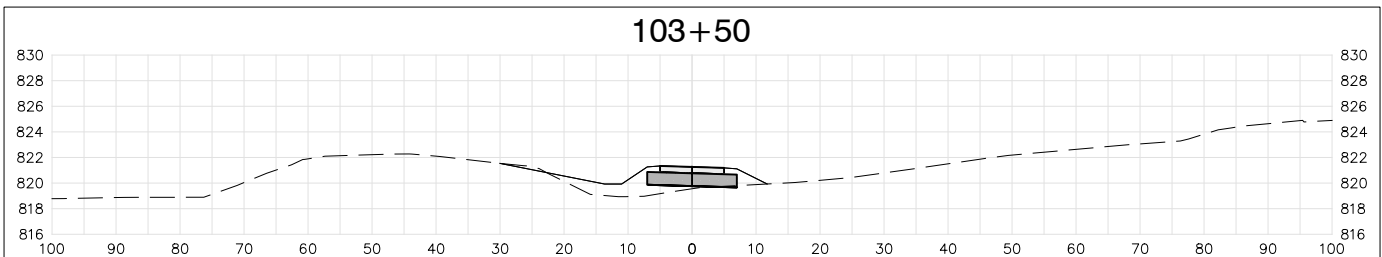
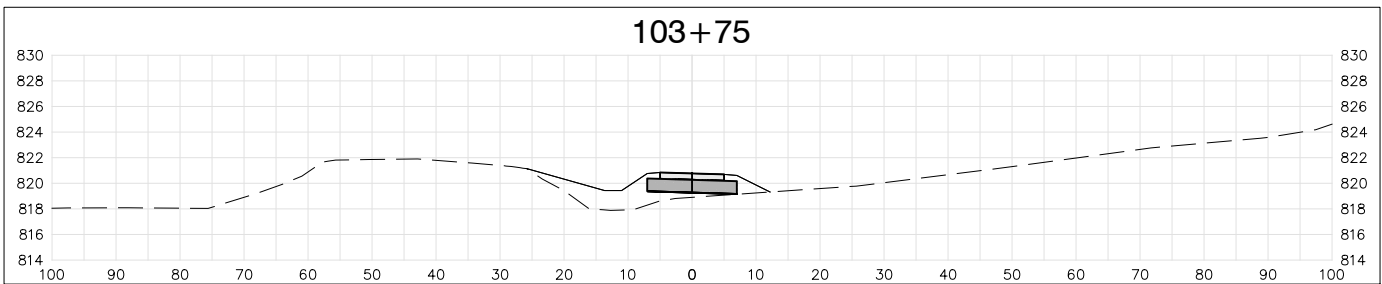
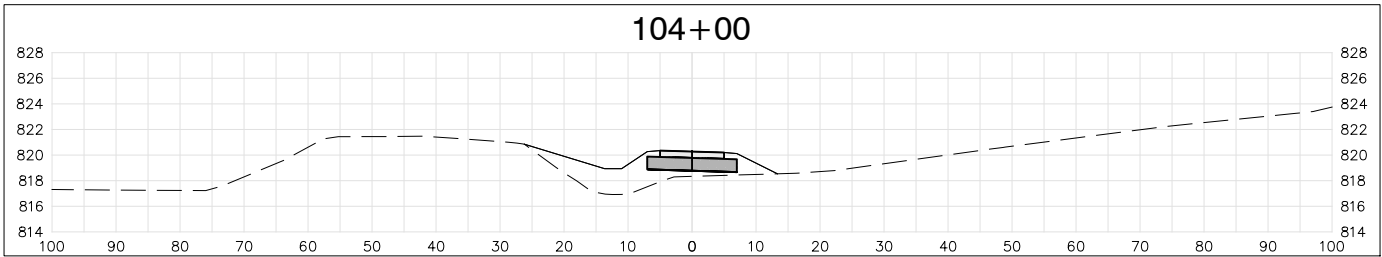
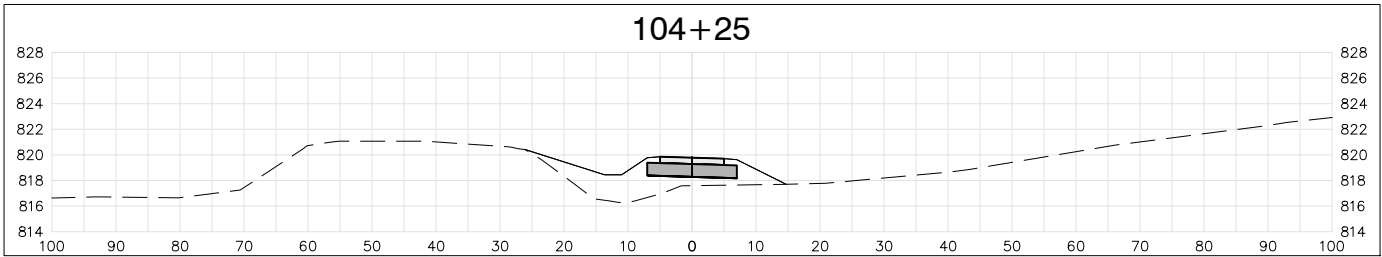
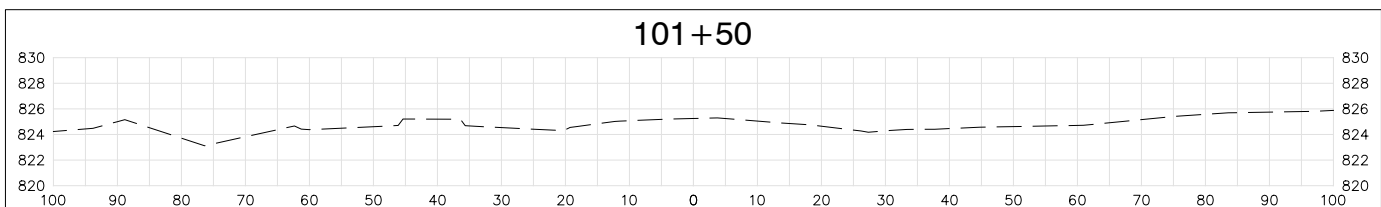
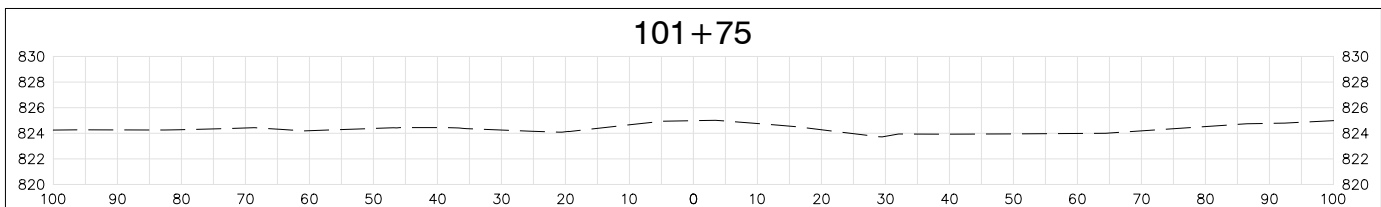
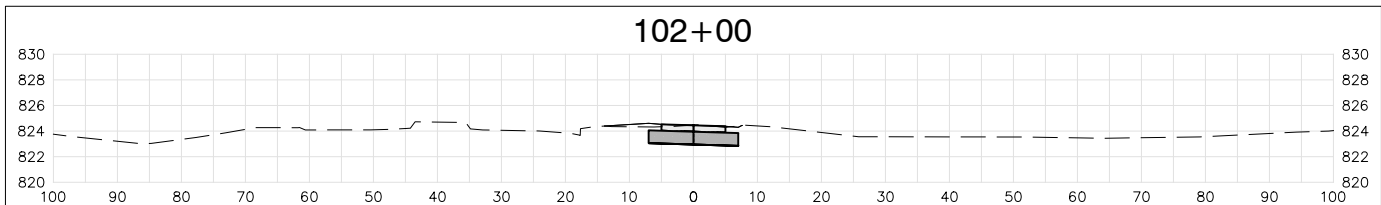
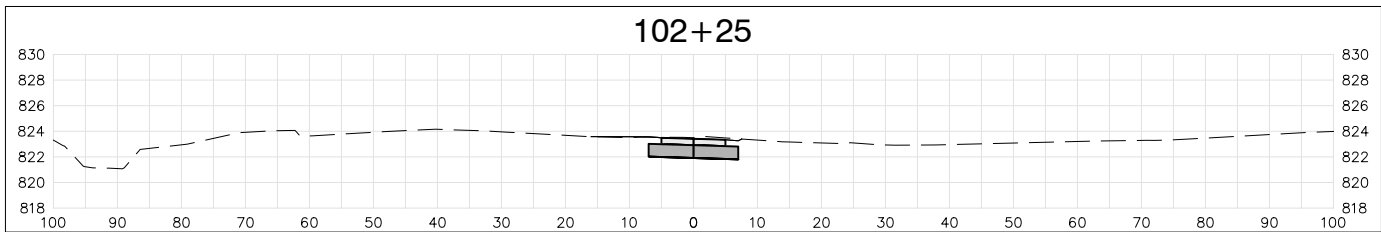
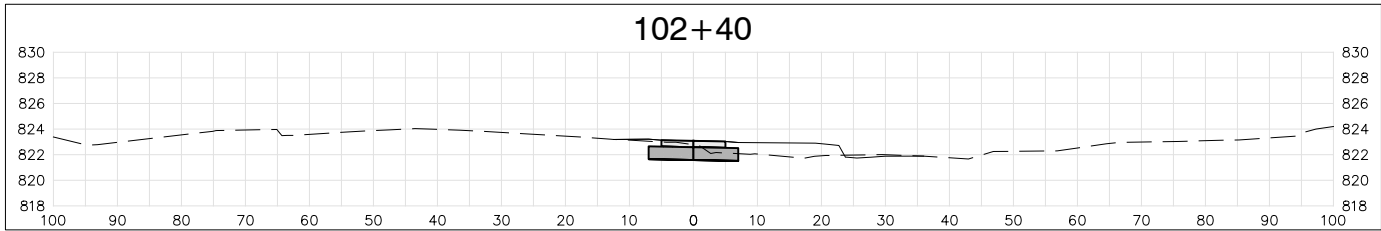
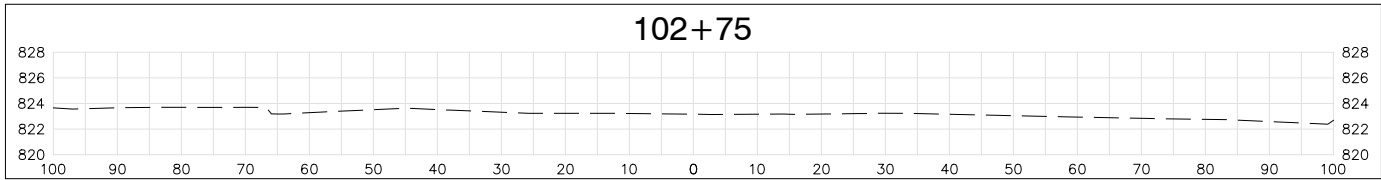
**RAIL PERSPECTIVE**

**RAILING NOTES**

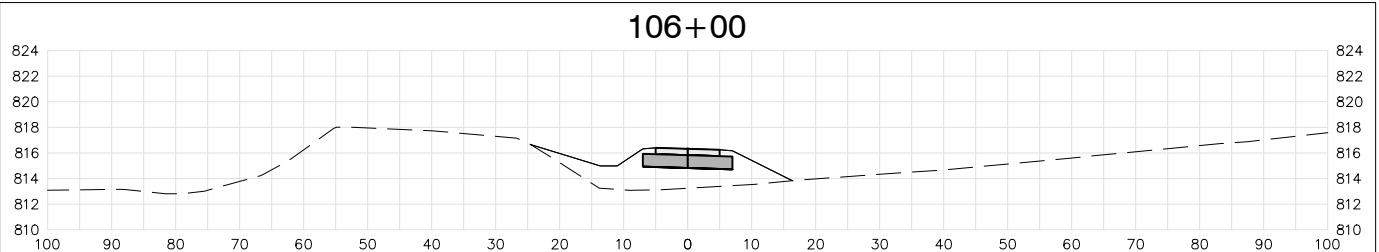
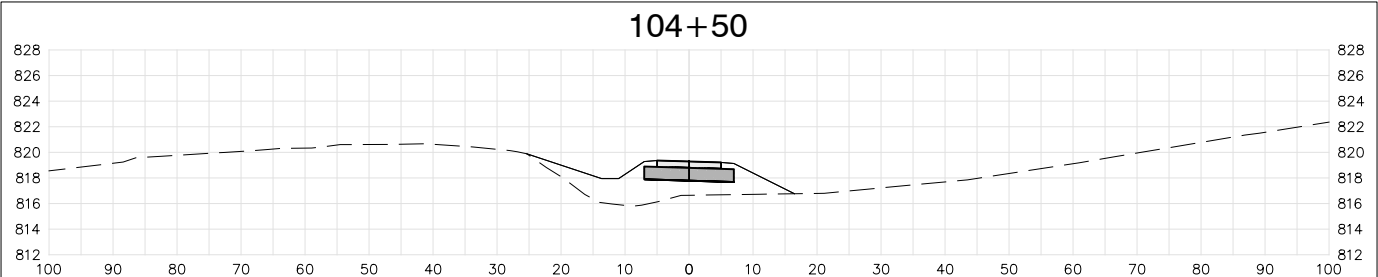
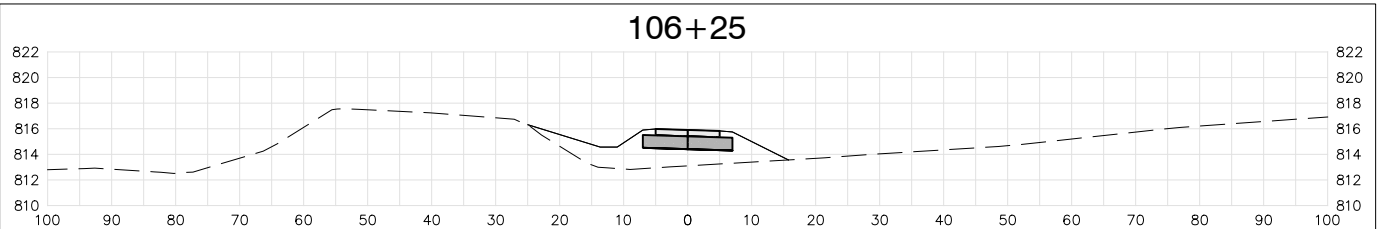
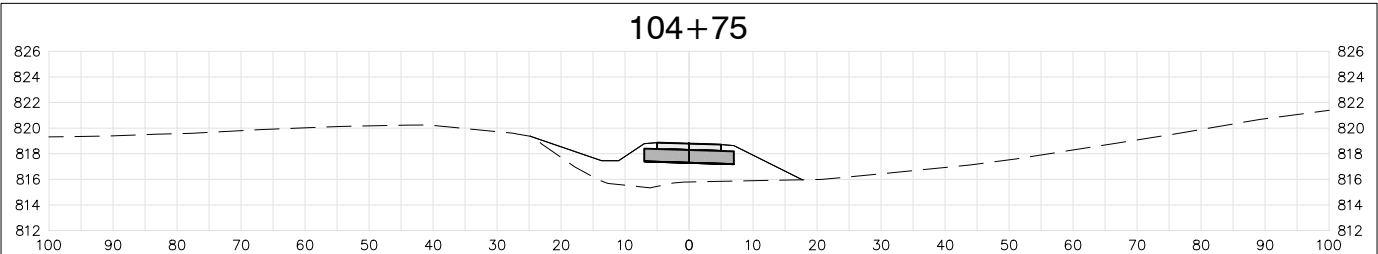
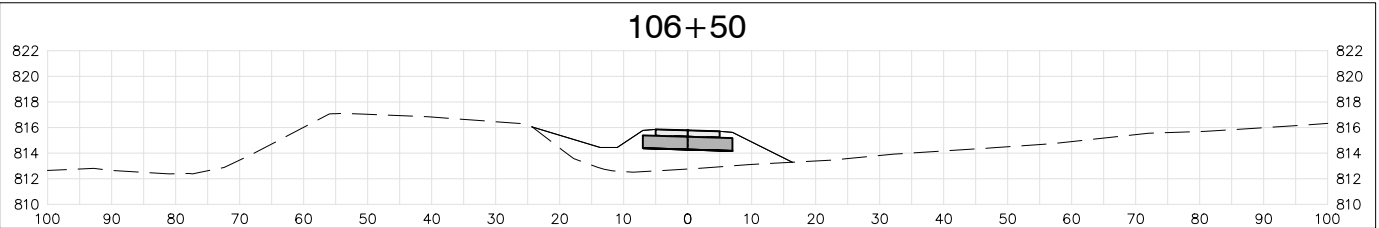
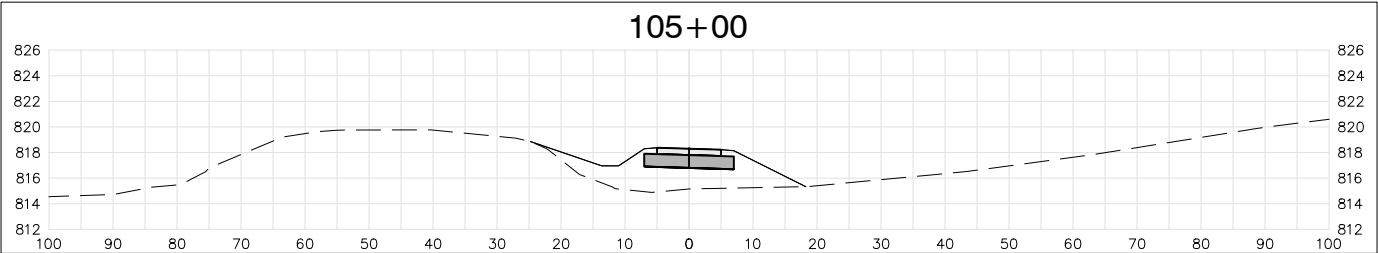
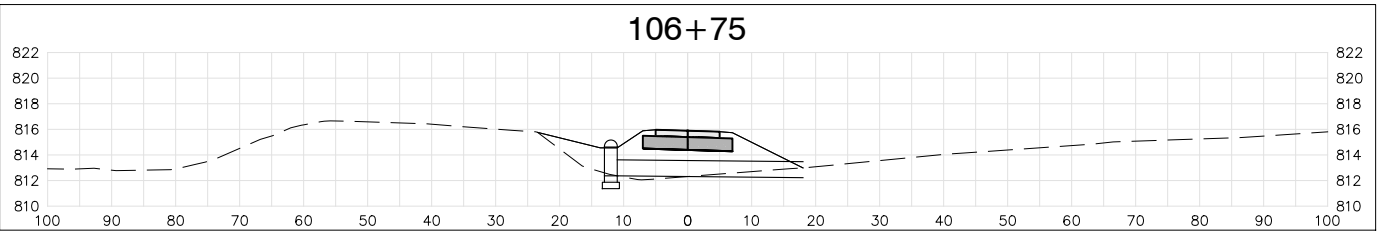
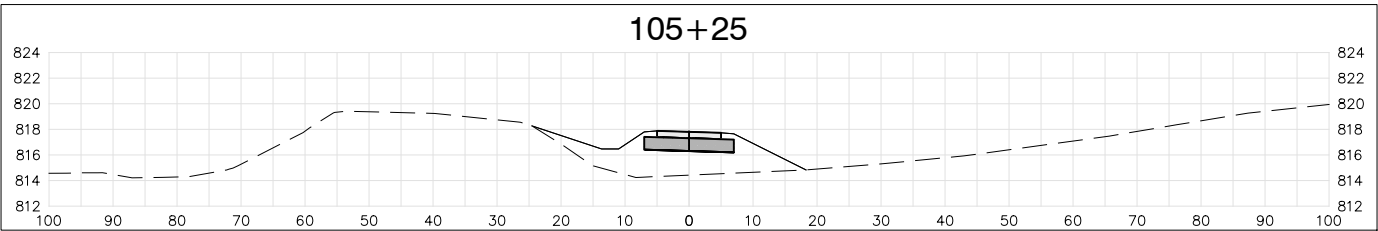
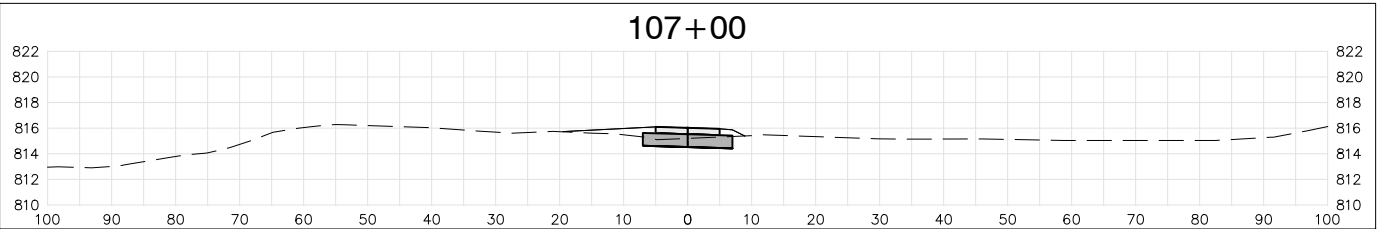
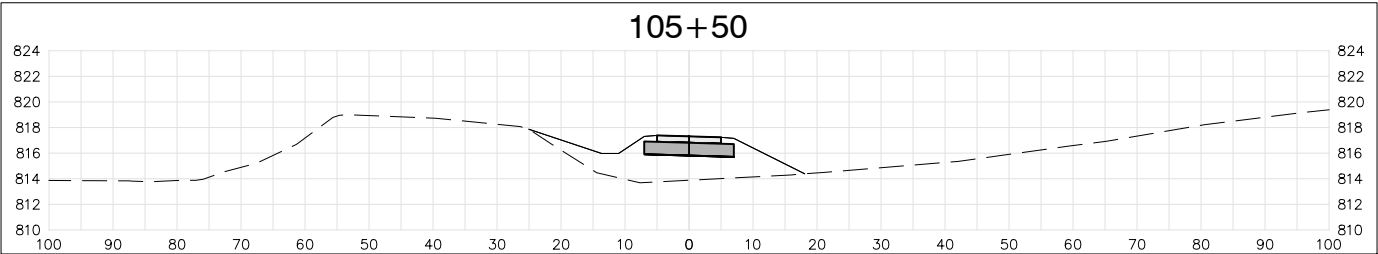
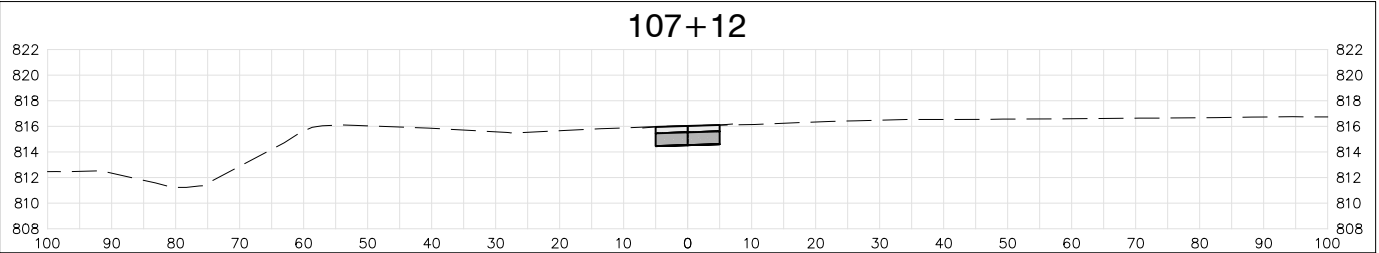
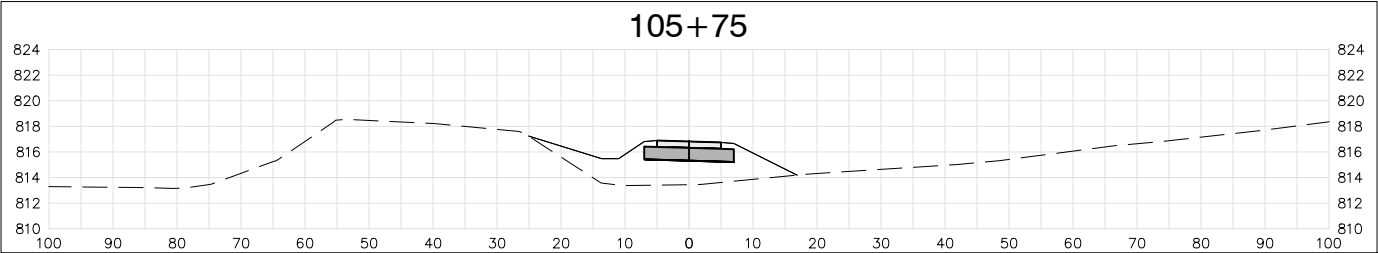
- 1) ORNAMENTAL METAL RAILING SHALL BE 4'-0" TALL FROM TOP OF CURB.
- 2) ORNAMENTAL METAL RAILING SHALL BE CONSTRUCTED FROM GALVANIZED STRUCTURAL STEEL IN ACCORDANCE WITH SECTION 2414 OF THE STANDARD SPECIFICATION.
- 4) ANCHORS ARE TO BE 5/8" DIAMETER THREADED RODS CONFORMING WITH ASTM GRADE A.
- 5) ALL ANCHORING HARDWARE IS TO BE GALVANIZED PER THE STANDARD SPECIFICATIONS AND HAVE A MINIMUM PULLOUT OF 8,000 LBS BASED ON 4,000 PSI CONCRETE.
- 6) ALL BURRS AND SHARP CORNERS OF RAILING COMPONENTS ARE TO BE GROUND SMOOTH PRIOR TO GALVANIZING AND/OR PAINTING.
- 7) RAILING SHALL BE POWDER COATED BLACK IN ACCORDANCE WITH SECTION 2508 OF THE STANDARD SPECIFICATION AND I.M. 568.
- 8) THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL. DRAWINGS SHALL SHOW LAYOUT AND FABRICATION DETAILS OF THE ORNAMENTAL METAL RAILING. ALL PROPOSED ALTERNATIVE DETAILS, IF ANY, SHALL BE SUBMITTED WITH THE SHOP DRAWINGS.
- 9) CAULK FOR BASE PLATES SHALL BE WHITE NONSAG LATEX MARKETED FOR OUTDOOR USE. NO TESTING OR CERTIFICATION IS REQUIRED. EXCESS CAULK SHALL BE REMOVED FROM SURROUNDING CONCRETE SURFACES.

DESIGN FOR 0 DEGREE SKEW			
125'-0" x 12'-0" PEDESTRIAN BRIDGE			
STEEL TRUSS			
ORNAMENTAL METAL RAILING DETAILS			
STA. 111+37.49 (HS10 LOADING)		APRIL 2025	
CITY OF MARION , LINN COUNTY			
DESIGN SHEET NO. _____ OF _____		FILE NO. _____ DESIGN NO. _____	

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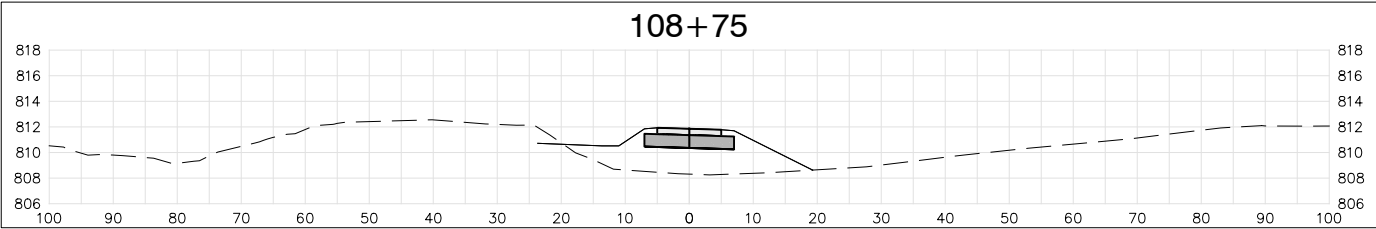
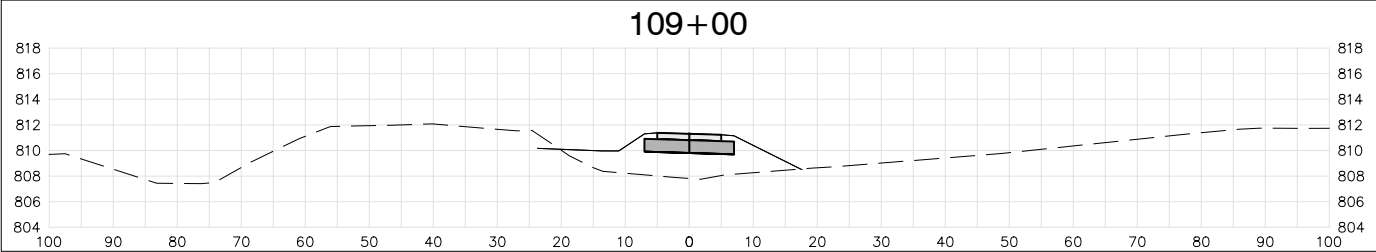
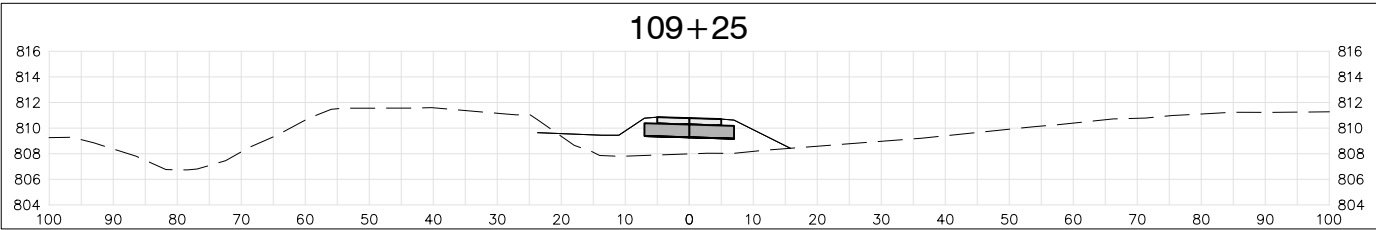
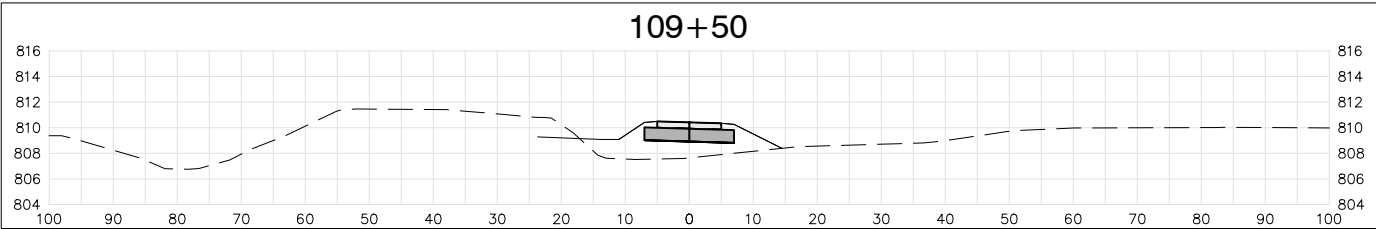
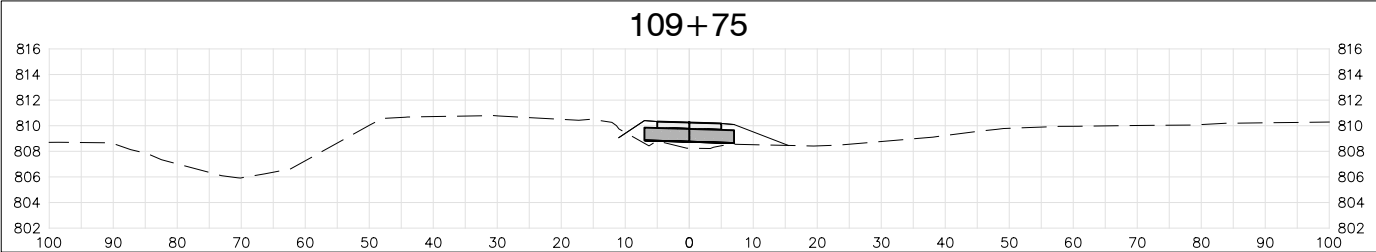
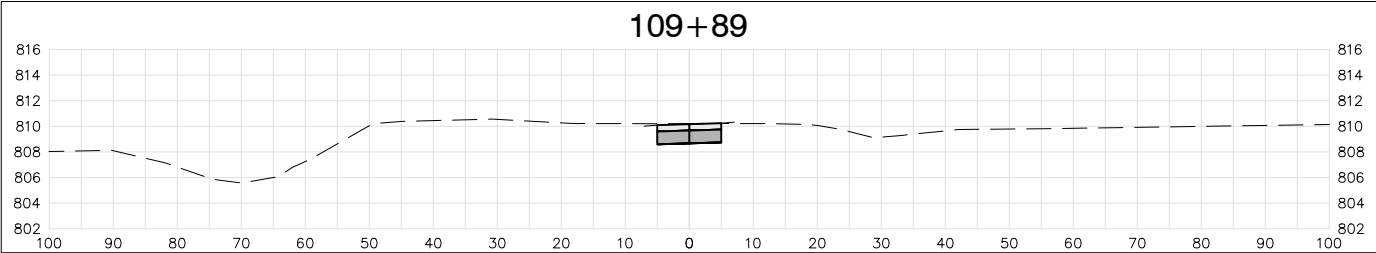
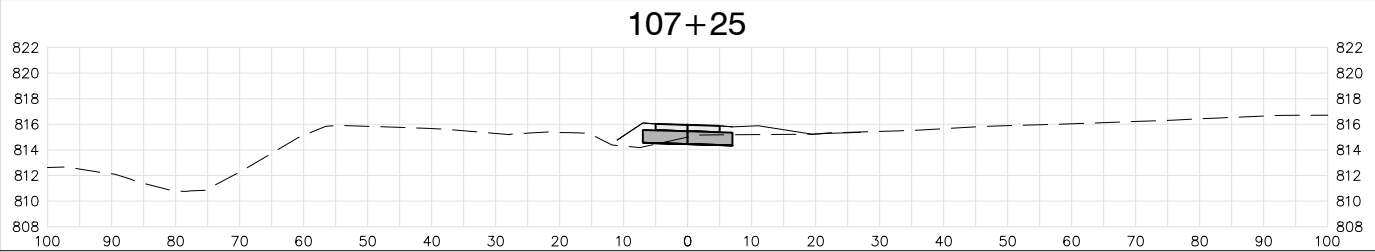
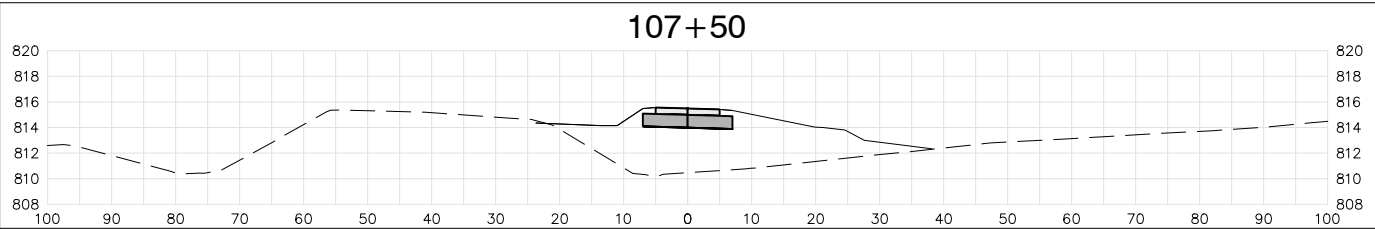
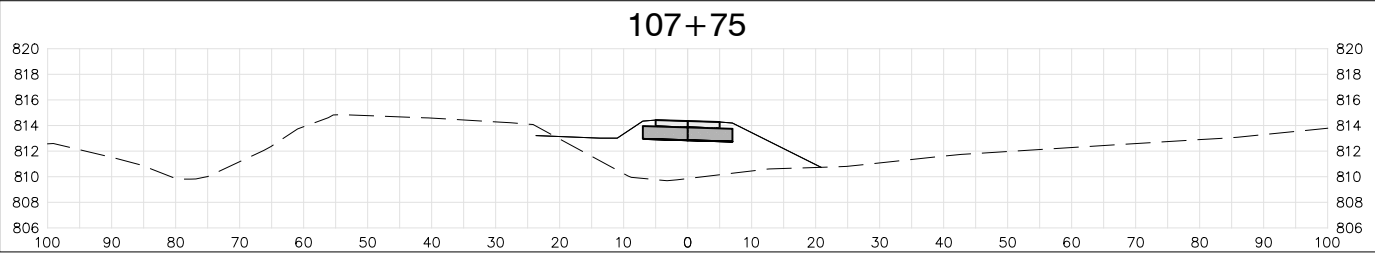
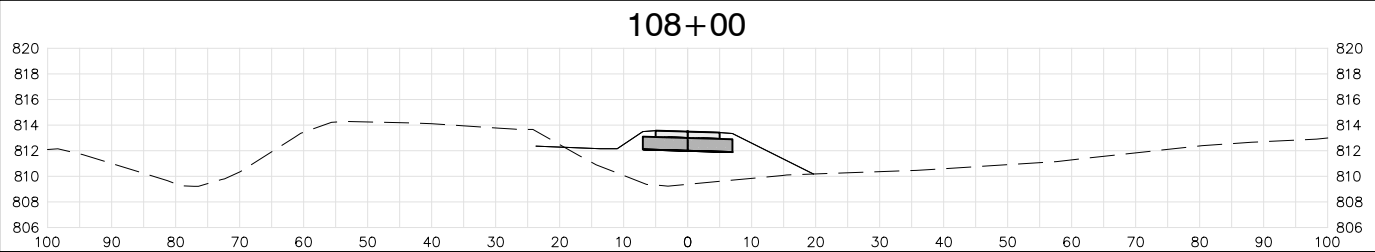
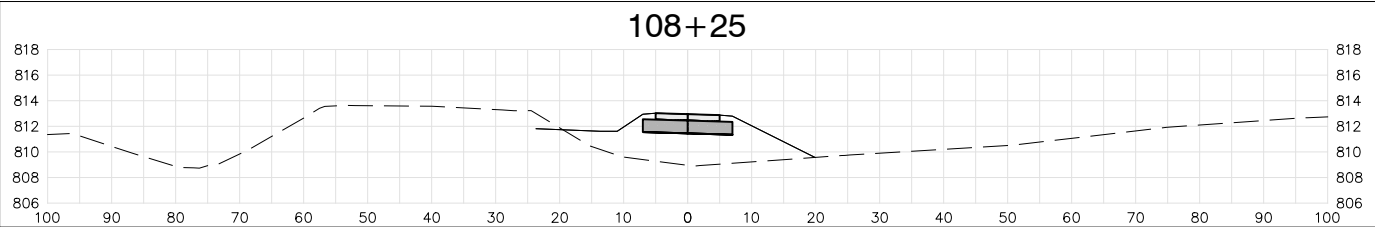
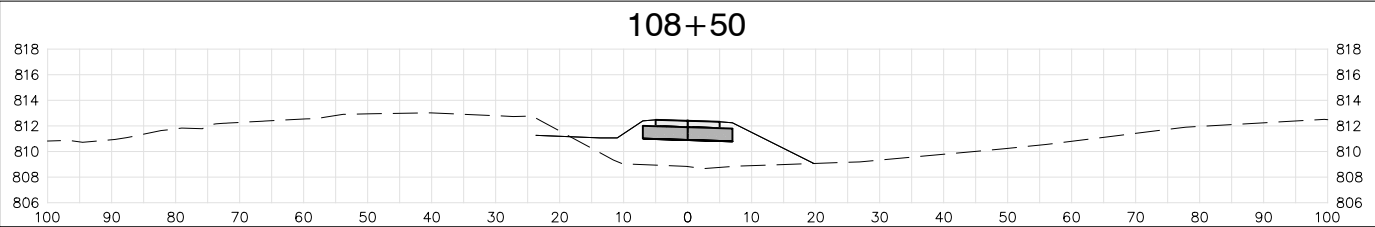


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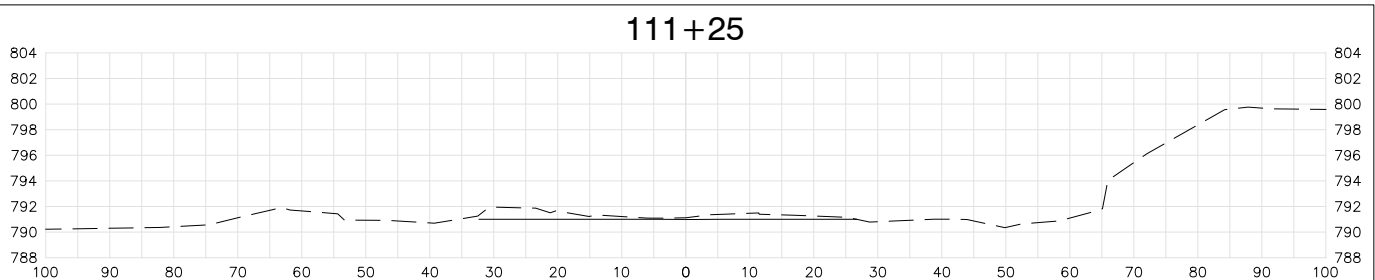
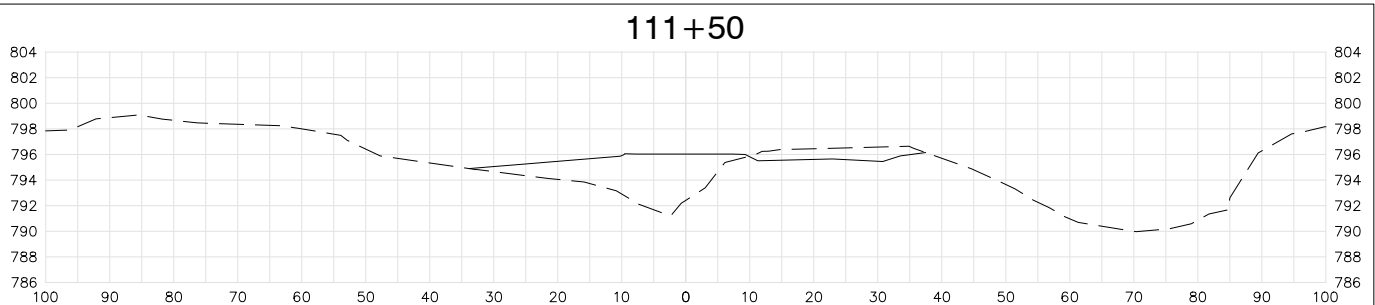
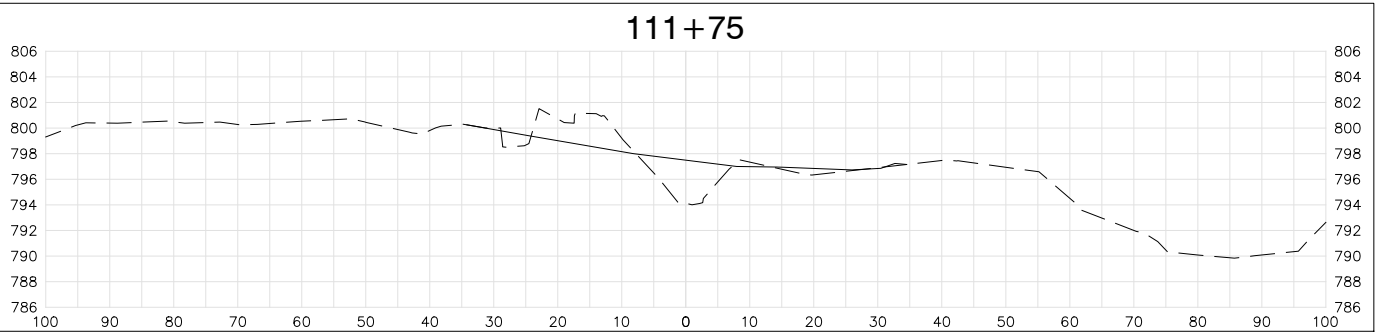
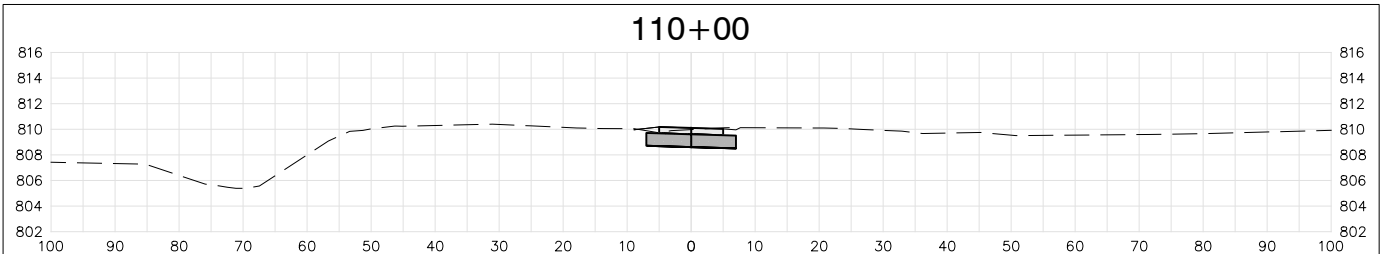
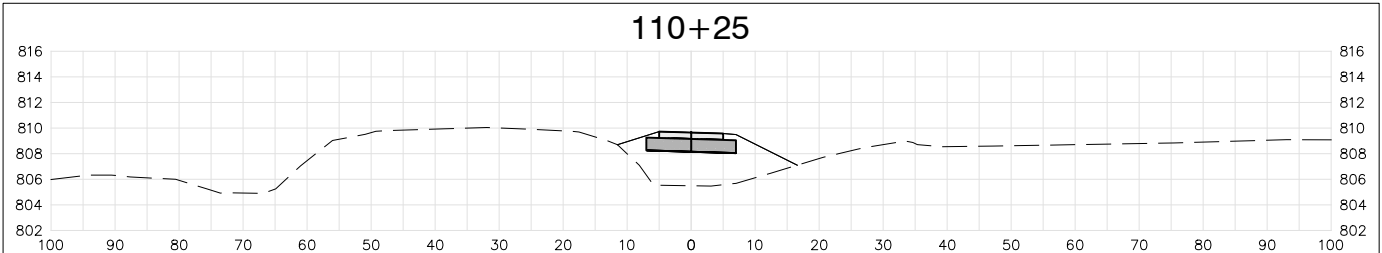
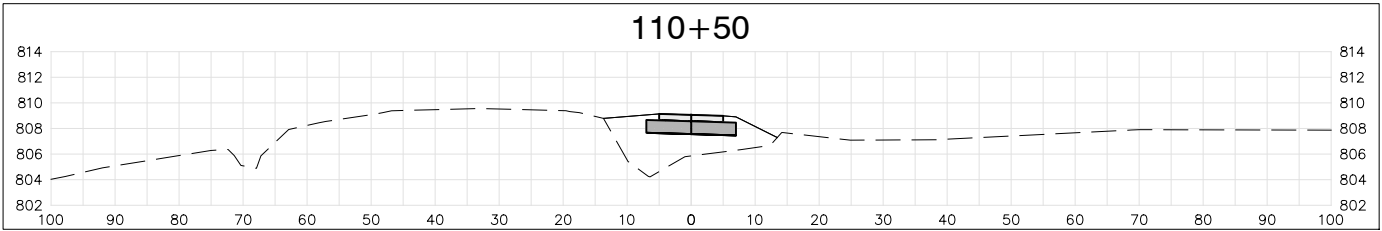
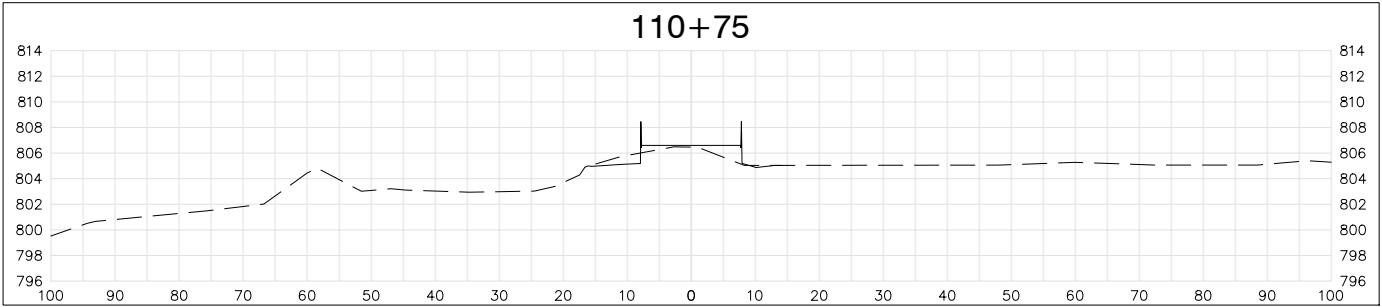
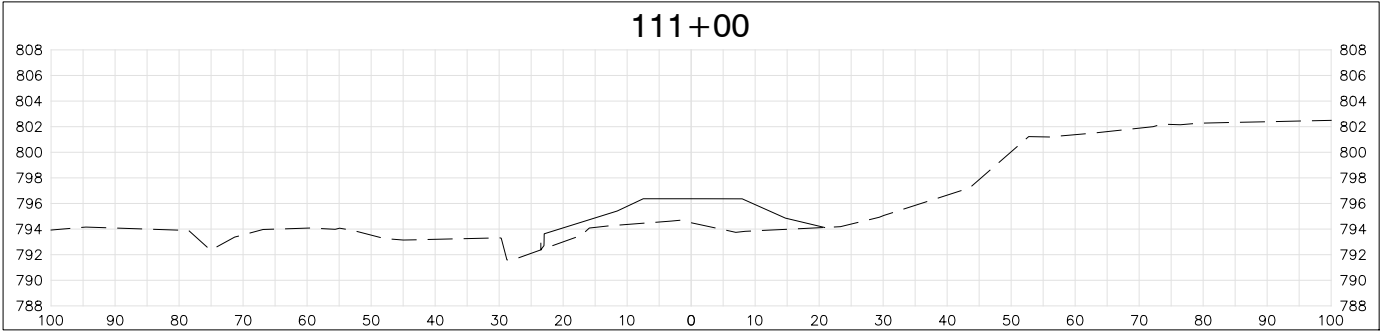




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