

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	D7 BRIDGE REPAIRS 2024-11	WAYNE	17	1
		ILLINOIS	CONTRACT NO. 74B40	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

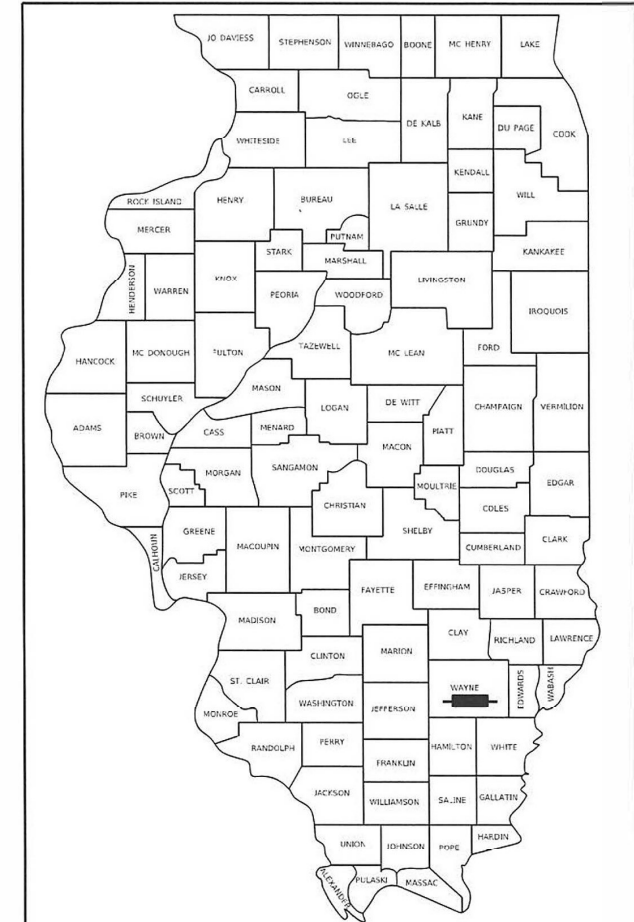
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**PROPOSED
HIGHWAY PLANS**

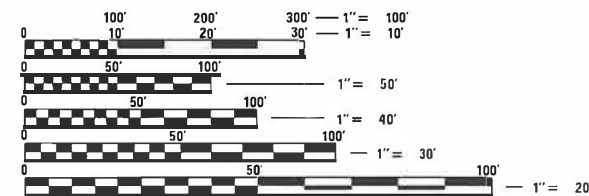
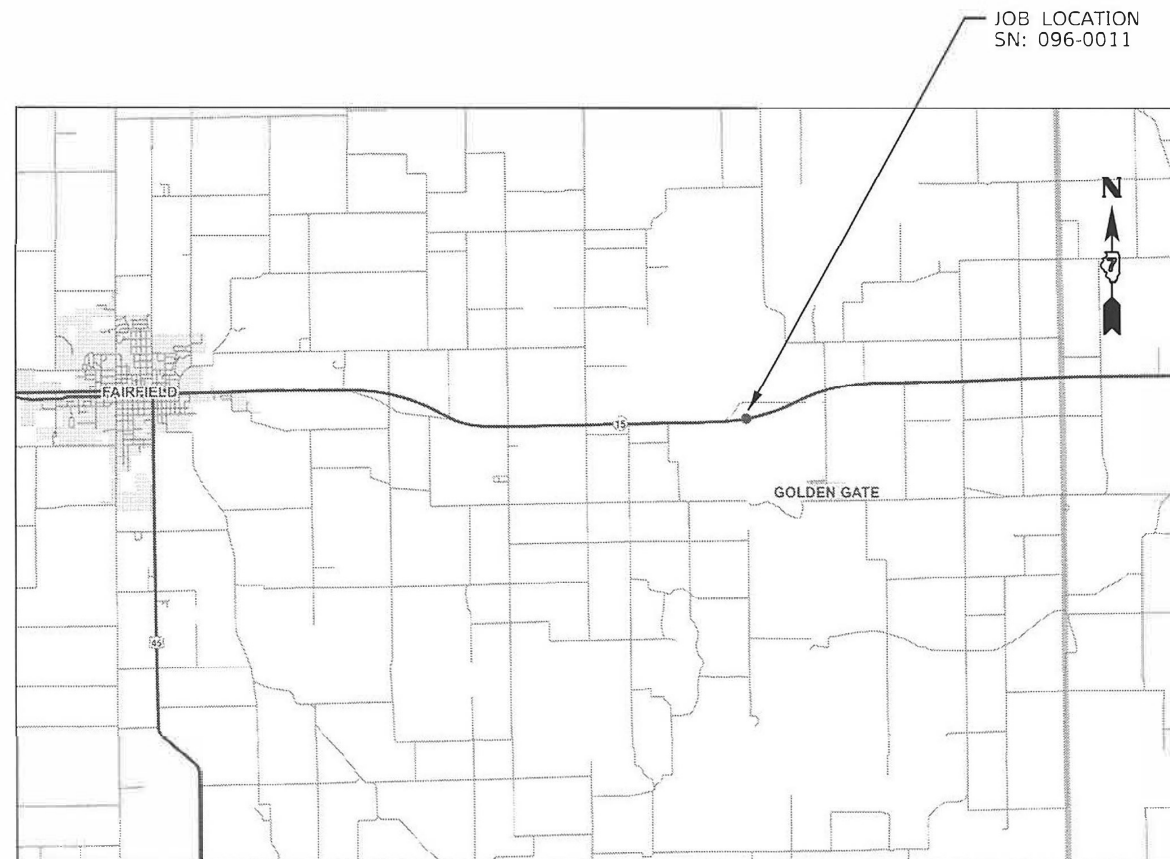
FAP ROUTE 823 (IL 15)
SECTION D7 BRIDGE REPAIRS 2024-11
PROJECT NHPP-R692(793)
BRIDGE REPAIRS
WAYNE COUNTY

C-97-109-22

D-97-061-22



LOCATION OF SECTION INDICATED THUS: - [black rectangle] -



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS
1-800-892-0123
OR 811

PROJECT ENGINEER - KYLE PRICE
PROJECT MANAGER - MATT BOWER

CONTRACT NO. 74B40

LENGTH = 83.84 FT. = 0.016 MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED September 23, 2023
Jeffrey P. Myer
REGIONAL ENGINEER

December 8, 2023
Scott A. Etk
ENGINEER OF DESIGN AND ENVIRONMENT

December 8, 2023
Stephen M. Smith
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

80% FED
20% STATE

80% FED
20% STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0059		
50102400	CONCRETE REMOVAL	CU YD	12.4	12.4		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	11.4	11.4		
50300260	BRIDGE DECK GROOVING	SO YD	232	232		
50300300	PROTECTIVE COAT	SO YD	266	266		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1580	1580		
50800515	BAR SPLICERS	EACH	28	28		
52000110	PREFORMED JOINT STRIP SEAL	FOOT	69	69		
67100100	MOBILIZATION	L SUM	1	1		
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD	EACH	1	1		
	701321					
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD	L SUM	1	1		
	701201					
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1		
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6		
70107005	PAVEMENT MARKING BLACKOUT TAPE, 5"	FOOT	696	696		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0059		
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	28		
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SO FT	290	290		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	300	300		
70400125	PINNING TEMPORARY CONCRETE BARRIER	EACH	12	12		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	300	300		
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	188	188		
Z0012110	BRIDGE DECK FLY ASH OR GGBF SLAG CONCRETE OVERLAY, 2 1/4"	SO YD	235	235		
Z0012142	BRIDGE DECK SCARIFICATION 2 1/4"	SO YD	235	235		
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SO YD	7	7		
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SO YD	9	9		

* SPECIALTY ITEM

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	DRAWN -	REVISED -
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PLOT DATE = 9/28/2023	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	D7 BRIDGE REPAIRS 2024-11	WAYNE	17	3
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74B40	

STATION	TO	STATION	LOCATION	PAVEMENT MARKING BLACKOUT TAPE, 5"	SHORT TERM PAVEMENT MARKING REMOVAL	PAINT PAVEMENT MARKING - LINE 4"	TEMPORARY RUMBLE STRIPS	TEMPORARY BRIDGE TRAFFIC SIGNALS
				70107005	70300150	78001110	70106700	70106500
				FT	SQ FT	FT	EACH	EACH
447+42.00		450+36.00	CENTERLINE	80	33			
451+20.00		454+18.00	CENTERLINE	80	33			
449+44.00		452+12.00	EOP LT	268	112			
449+44.00		452+12.00	EOP RT	268	112			
			EAST END				3	
			WEST END				3	
450+36.00		451+20.00	CENTERLINE			20.0		1
450+36.00		451+20.00	EOP LT			84.0		
450+36.00		451+20.00	EOP RT			84.0		
			TOTALS	696	290	188	6	1

SKIPS
SKIPS
STAGE 1
STAGE 2

SKIPS

STATION	TO	STATION	LOCATION	TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	PINNING TEMPORARY CONCRETE BARRIER	NOTES
				70400100	70400200	70600250	70600350	70400125	
				FT	FT	FT	EACH	EACH	
449+26		452+30	CL	300.0		2		6	STAGE 1 (24 PCS)
449+26		452+30	CL		300.0		2	6	STAGE 2 (24 PCS)
			TOTALS	300.0	300.0	2	2	12	

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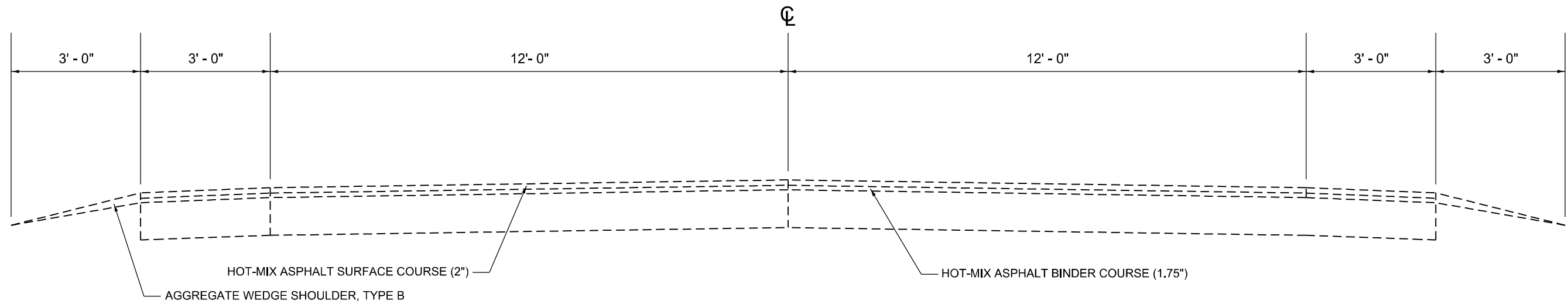
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SCHEDULE OF QUANTITIES

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	D7 BRIDGE REPAIRS 2024-11	WAYNE	17	4
CONTRACT NO. 74B40			ILLINOIS FED. AID PROJECT	

EXISTING TYPICAL SECTION



STA. 447+00.00 TO STA. 450+36.00

STA. 451+20.00 TO STA. 454+00.00

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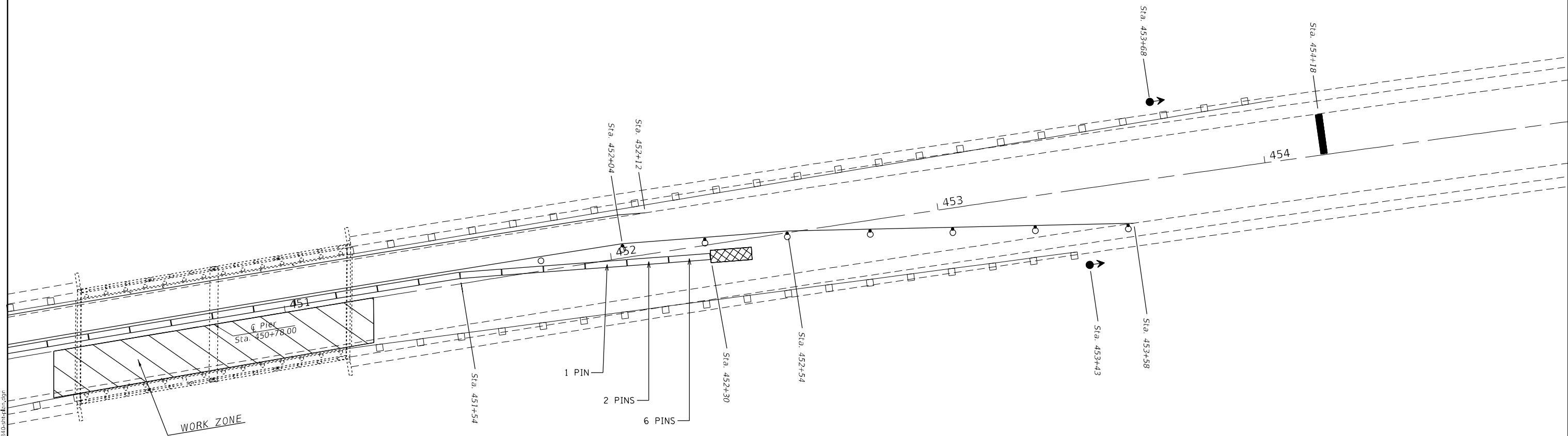
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

TYPICAL SECTION

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74B40				
ILLINOIS FED. AID PROJECT				



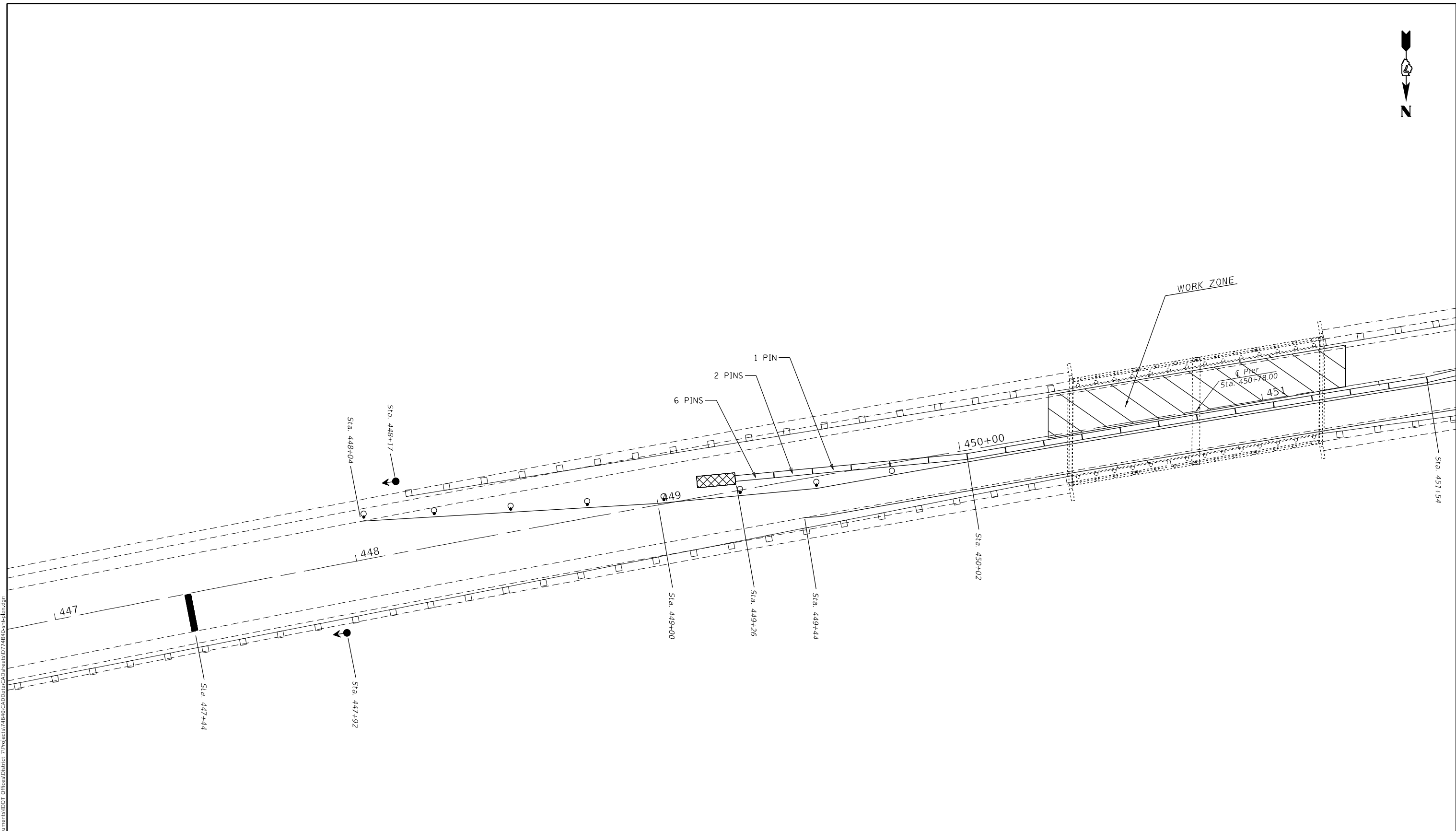
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PLOT DATE = 9/28/2023	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

PLAN VIEW - STAGE 1				
SCALE:	SHEET	OF	SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	D7 BRIDGE REPAIRS 2024-11	WAYNE	17	7
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74B40	

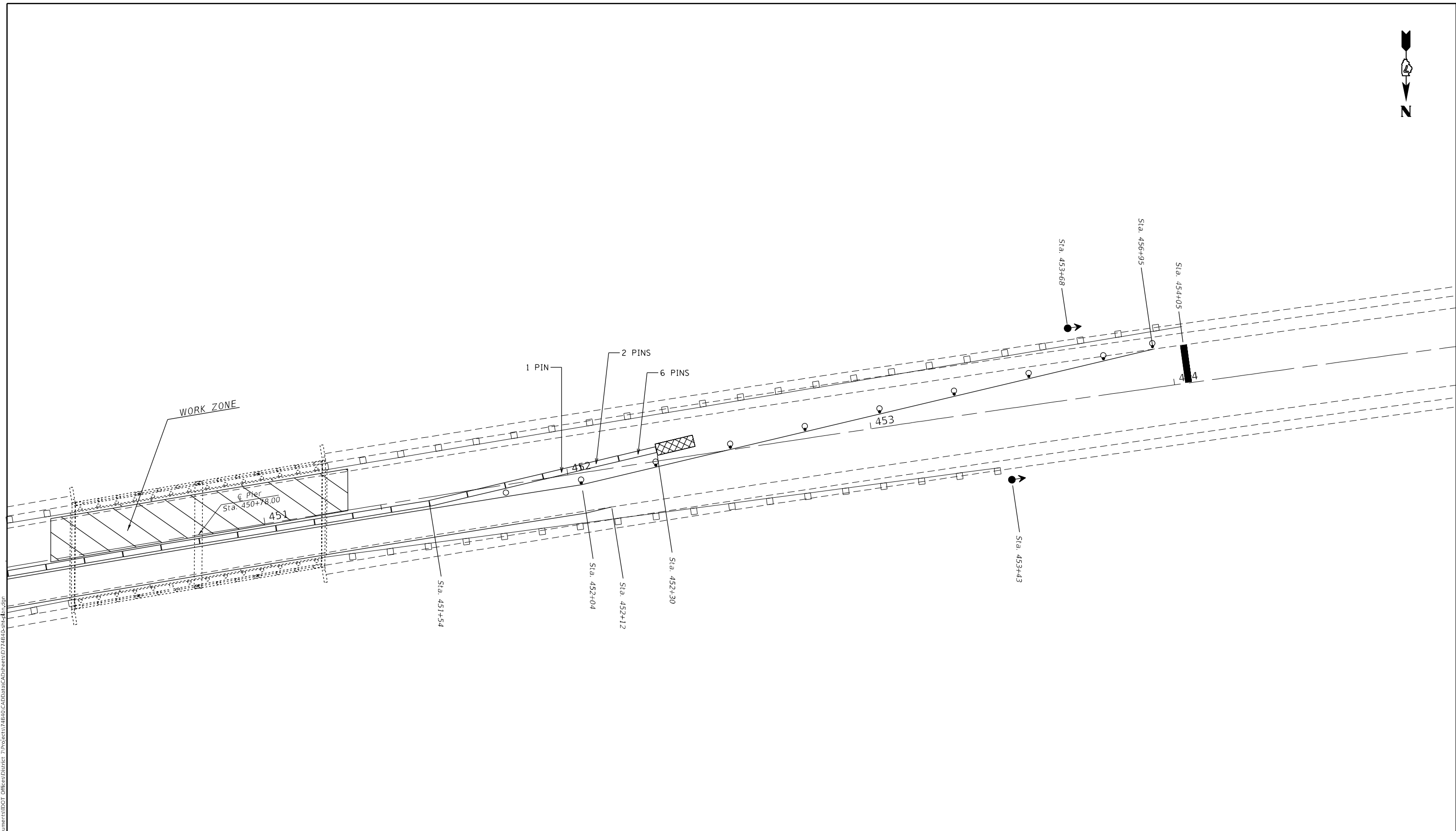


FOR BARRIER OFFSET AND TRAFFIC CLEAR WIDTH
REFER TO SHEET 11 OF THE PLANS

REFER TO STANDARD 701321 FOR LOCATIONS AND SPACING
OF RUMBLE STRIPS, SIGNAGE, DETECTOR LOOPS

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	DRAWN -	REVISED -		823	D7 BRIDGE REPAIRS 2024-11	WAYNE	17	8				
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PLOT DATE = 9/28/2023	DATE -	REVISED -						ILLINOIS FED. AID PROJECT				



FOR BARRIER OFFSET AND TRAFFIC CLEAR WIDTH
REFER TO SHEET 11 OF THE PLANS

REFER TO STANDARD 701321 FOR LOCATIONS AND SPACING
OF RUMBLE STRIPS, SIGNAGE, DETECTOR LOOPS

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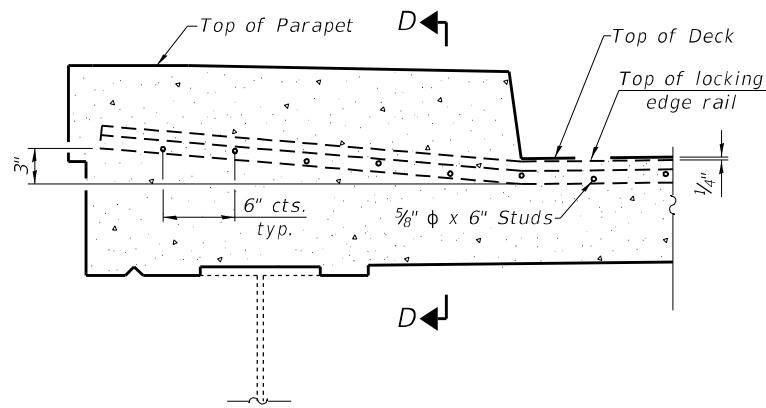
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

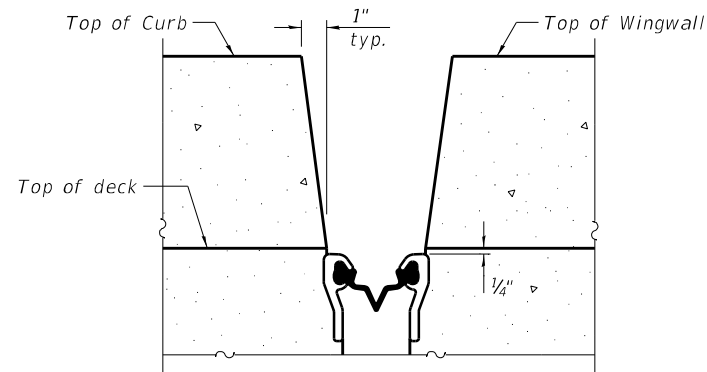
PLAN VIEW - STAGE 2

SCALE: SHEET OF SHEETS STA. TO STA.

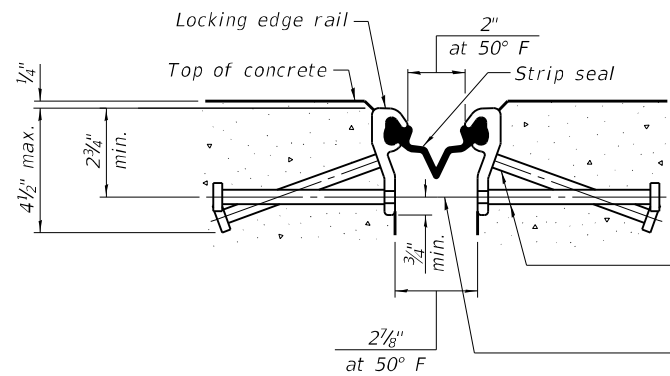
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823	D7 BRIDGE REPAIRS 2024-11	WAYNE	17	9
CONTRACT NO. 74B40				
ILLINOIS FED. AID PROJECT				



SECTION THRU PARAPET



SECTION D-D
Dimensions at Rt. Z's

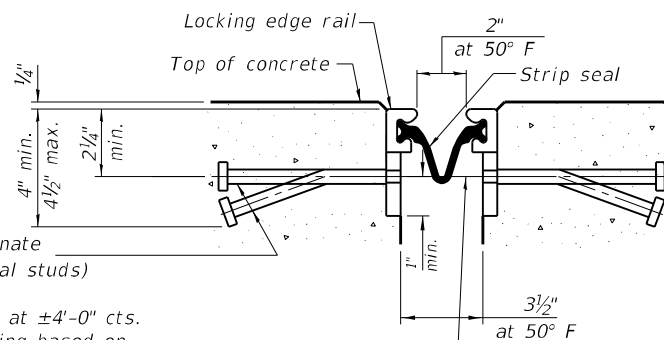


SHOWING ROLLED RAIL JOINT

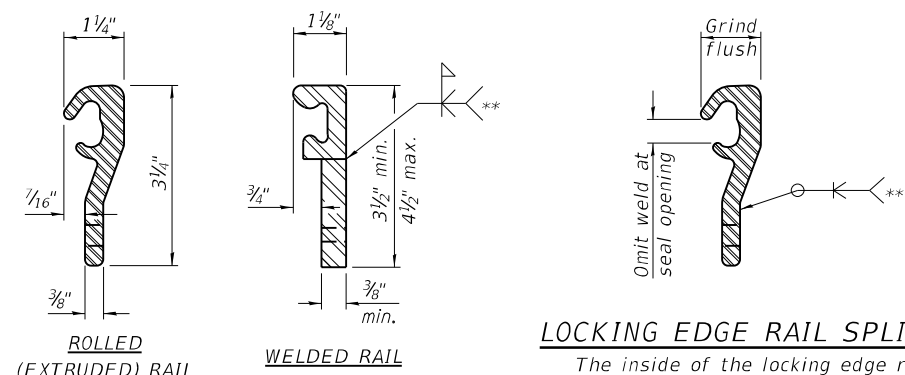
* 5/8" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)
 3/8" Ø threaded rods in 7/16" Ø holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION C-C

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	69

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

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PLOT DATE = 9/28/2023	CHECKED - D. Macklin	REVISED -
	DATE - January 2023	REVISED -

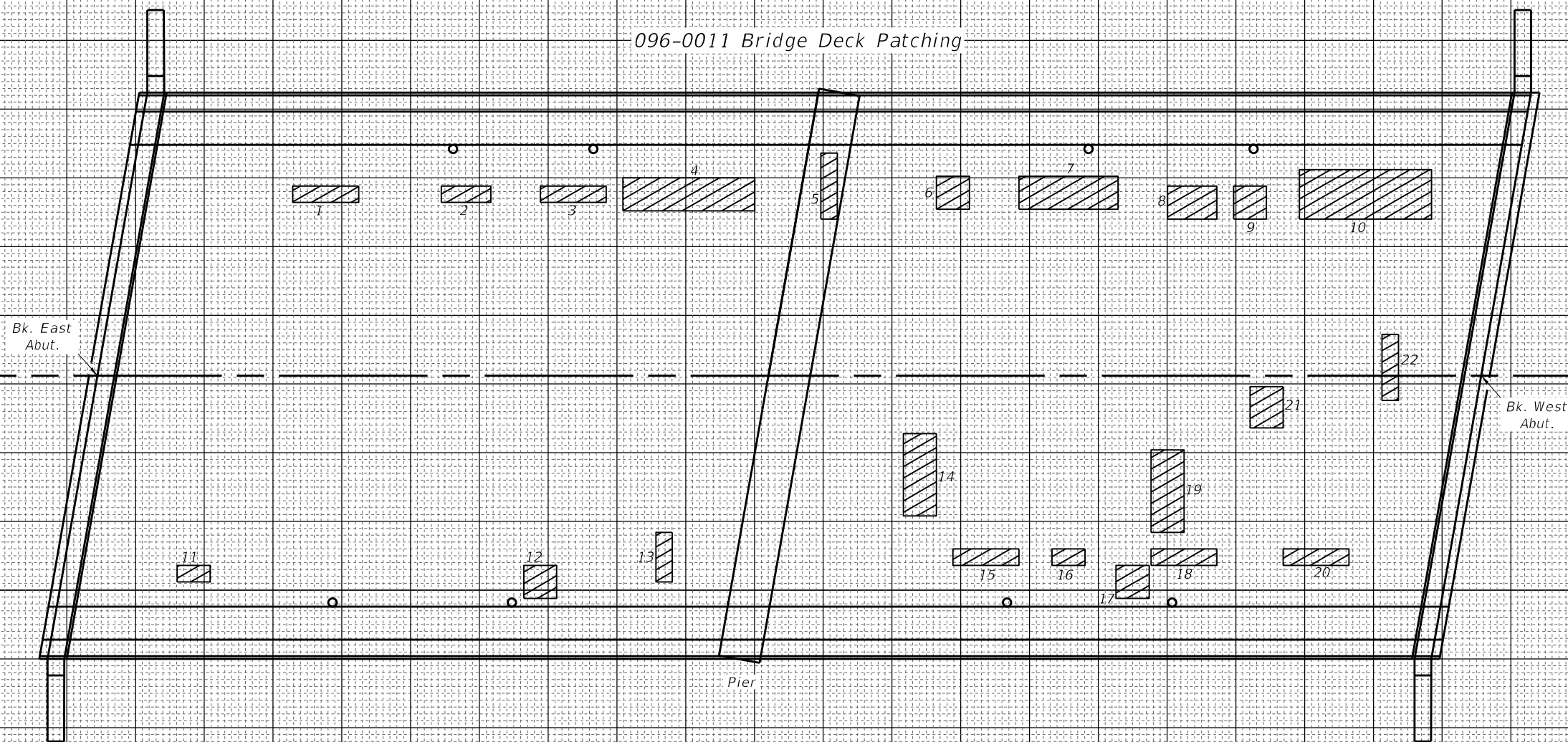
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL DETAIL
S.N. 096-0011

SCALE: SHEET 5 OF 8 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	D7 BRIDGE REPAIRS 2024-11	WAYNE	17	14
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74B40	

096-0011 Bridge Deck Patching



PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
1	4.0	1.0	0.4	
2	3.0	1.0	0.3	
3	4.0	1.0	0.4	
4	8.0	2.0		1.8
5	1.0	4.0	0.4	
6	2.0	2.0	0.4	
7	6.0	2.0		1.3
8	3.0	2.0		0.7
9	2.0	2.0	0.4	
10	8.0	3.0		2.7
11	2.0	1.0	0.2	
12	2.0	2.0	0.4	
13	1.0	3.0	0.3	
14	2.0	5.0		1.1
15	4.0	1.0	0.4	
16	2.0	1.0	0.2	

PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
17	2.0	2.0	0.4	
18	4.0	1.0	0.4	
19	2.0	5.0		1.1
20	4.0	1.0	0.4	
21	2.0	2.0	0.4	
22	1.0	1.0	0.4	
TOTAL ROUNDS TO:			7.0	9.0

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.



DATE OF SURVEY: 10-19-22
 SURVEY BY: DPM & TMW
 METHOD OF SURVEY: VISUAL

ESTIMATED PAY QUANTITIES:
 DECK SLAB REPAIR (FULL DEPTH TYPE I)
 7.0 SQ YD
 DECK SLAB REPAIR (FULL DEPTH TYPE II)
 9.0 SQ YD

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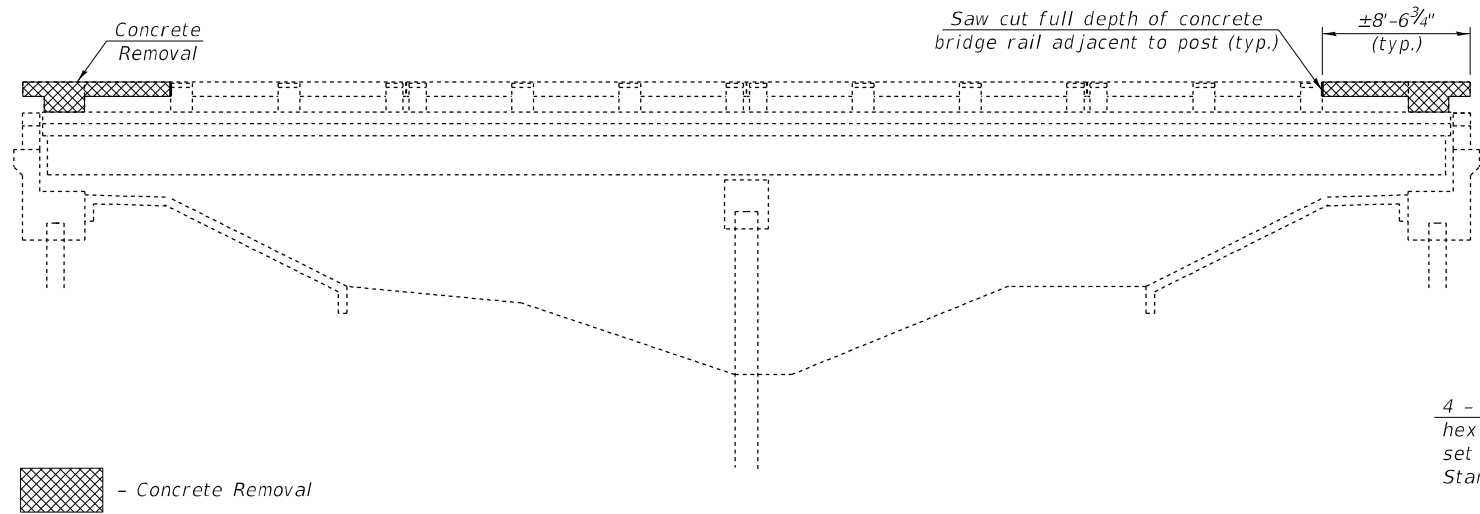
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	DATE - January 2023	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

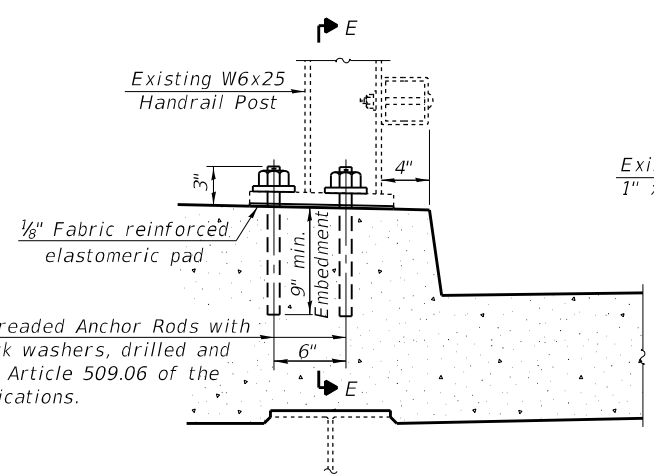
BRIDGE DECK PATCHING
 SN. 096-0011

SCALE: SHEET 6 OF 8 SHEETS STA. TO STA.

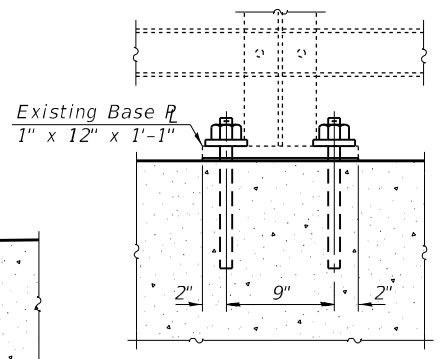
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CONTRACT NO. 74B40				
ILLINOIS FED. AID PROJECT				



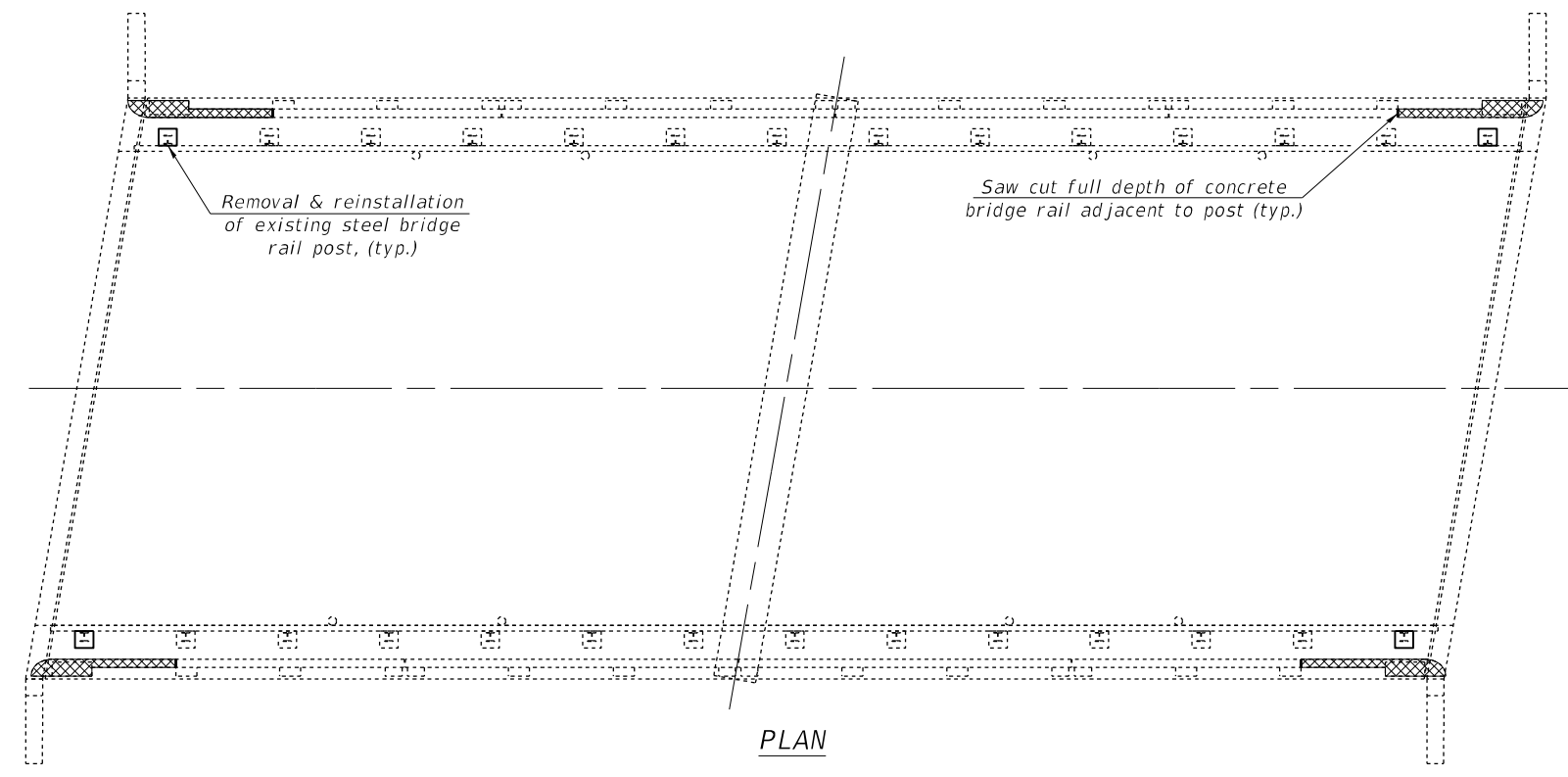
ELEVATION



SECTION AT RAIL POST



SECTION E-E



PLAN

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	0.8

NOTES

Existing concrete bridge rail to be saw cut and permanently removed to the edge of the second post from the end at each corner of the structure. Concrete Removal quantity for this work included with CONCRETE REMOVAL for each abutment.

Removal and reinstallation of the steel bridge rail sections and support posts at both abutments will be necessary for construction of the expansion joints and parapet repair. The existing steel bridge rail sections and support posts shall be reused. New post support anchor assemblies, as detailed in the plans, are to be provided and installed for the replacement of the steel bridge rail sections. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

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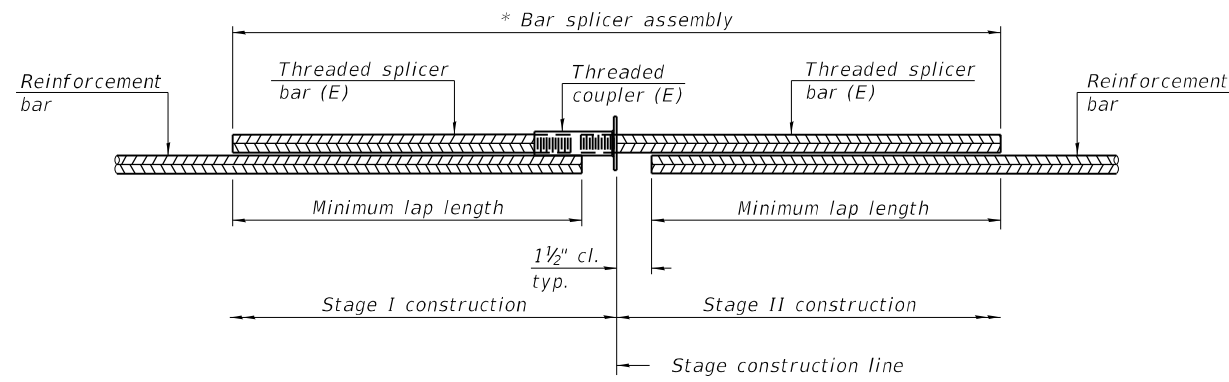
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PLOT DATE = 9/28/2023	CHECKED - D. Macklin	REVISED -
	DATE - November 2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE RAIL DETAILS
S.N. 096-0011**

SCALE: SHEET 7 OF 8 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	D7 BRIDGE REPAIRS 2024-11	WAYNE	17	16
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74840	

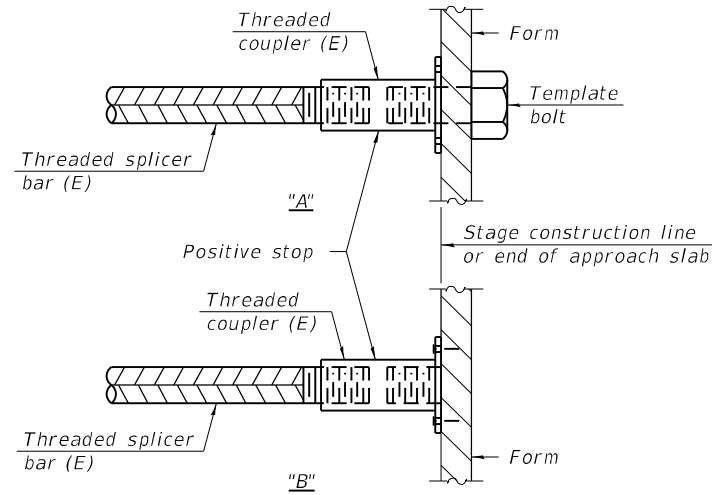


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

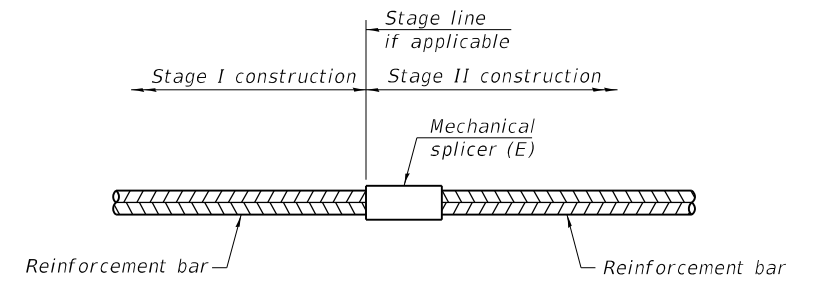
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Deck	#5	20	3'-2"
Abutment	#6	8	4'-0"



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:
 Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

1-1-2020

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	DRAWN - T. Walk	REVISED -
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PLOT DATE = 9/28/2023	DATE - January 2023	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
S.N. 096-0011

SCALE: SHEET 8 OF 8 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
823	D7 BRIDGE REPAIRS 2024-11	WAYNE	17	17
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74B40	