

08-04-2023 LETTING ITEM 060

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	D9 BRIDGE REPAIR 2023-2	HARDIN	18	1
		ILLINOIS	CONTRACT NO. 78971	

FOR INDEX OF SHEETS, SEE SHEET NO. 3
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 4-6

PROPOSED HIGHWAY PLANS

FAP ROUTE 778 (IL 34)
SECTION D9 BRIDGE REPAIR 2023-2
PROJECT HBFP-X1TZ(659)
BRIDGE REPAIR
HARDIN COUNTY

C-99-015-23

TRAFFIC DATA

SN 035-0004 : 2023 ADT = 1,790
WITH 20.95% TRUCKS

TOWNSHIPS

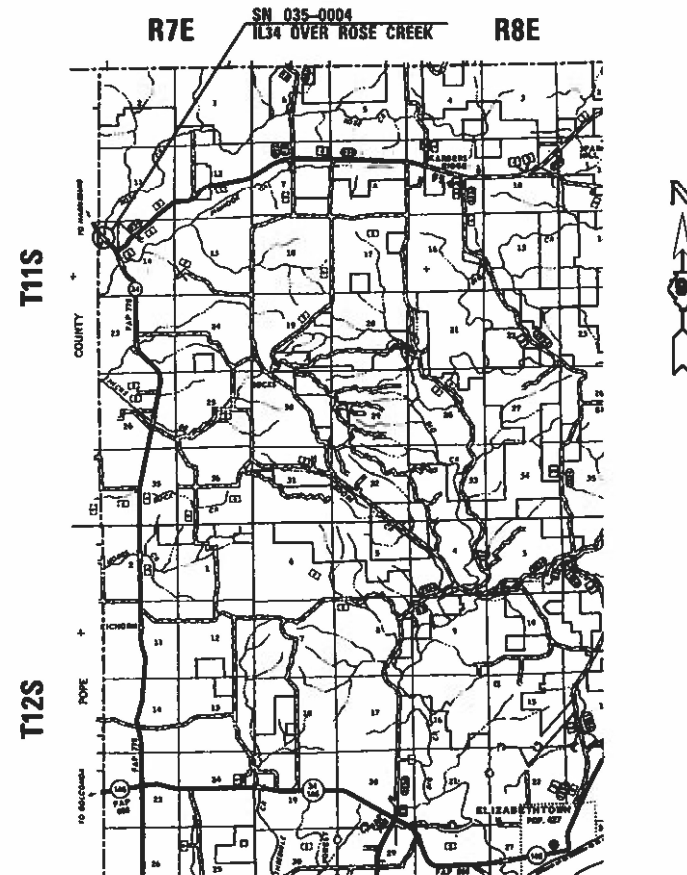
MONROE

DESIGN DESIGNATION : N/A
COORDINATE SYSTEM : STATE PLANE ZONE - ILLINOIS EAST
POSTED SPEED : 55 MPH

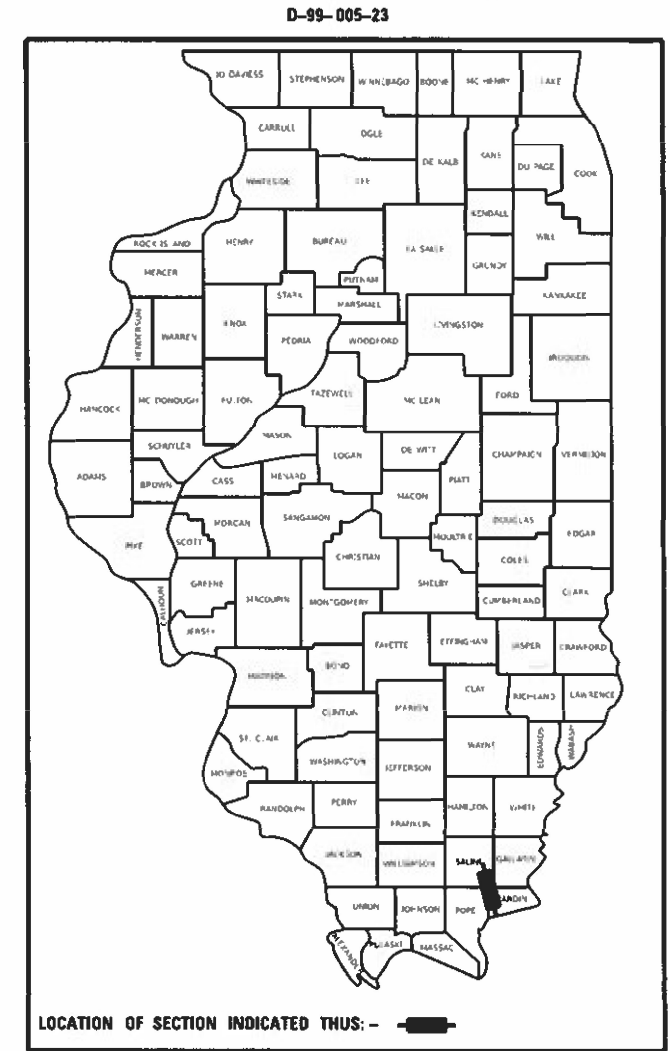
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER GRANT DETERDING
PROJECT DESIGNER DEREK SNIDER

CONTRACT NO. 78971



GROSS LENGTH = 218.98 FT. = 0.041 MILES
NET LENGTH = 218.98 FT. = 0.041 MILES



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED May 3 2023
Kirk H. Brown
REGION FIVE ENGINEER

June 30, 2023 [Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

June 30, 2023 [Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

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FILE NAME: \\s0820001\share\dot.com\PM\DOT\Documents\DOT\Office\District\DCDD\District\78971\64020104\G\District\03\3333\5104\Contract_Sig.dgn

Prepared By: Charles Stein
DISTRICT STUDIES & PLANS ENGINEER

Examined By: Nancy Lee
DISTRICT LAND ACQUISITION ENGINEER

Examined By: Carroll
DISTRICT PROGRAM DEVELOPMENT ENGINEER

Examined By: R. Coe
DISTRICT OPERATIONS ENGINEER

Examined By: Douglas J. Muehl
DISTRICT PROJECT IMPLEMENTATION ENGINEER

Examined By: Douglas J. Muehl
DISTRICT CONSTRUCTION ENGINEER

Examined By: Aan Day
DISTRICT MATERIALS ENGINEER

USER NAME = Derek.Snyder	DESIGNED - _____	REVISED - _____
DRAWN - _____	REVISIONS - _____	
PLOT SCALE = 0.18666633' / in.	CHECKED - _____	REVISED - _____
PLOT DATE = 4/14/2023	DATE - _____	REVISED - _____

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SIGNATURE SHEET

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	D9 BRIDGE REPAIR 2023-2	HARDIN	18	2
CONTRACT NO. 78971				
ILLINOIS FED. AID PROJECT				

INDEX OF SHEETS

1	COVER SHEET
2	SIGNATURES
3	GENERAL NOTES, INDEX OF SHEETS, AND STANDARDS
4-6	SUMMARY OF QUANTITIES
7-18	SN 035-0004 REPAIR DETAILS

GENERAL NOTES

FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:
 ALL HOT MIX ASPHALT 2.016 TONS/CU YD
 ALL AGGREGATE 2.05 TONS/CU YD

COMMITMENTS: NONE

Location(s):	Hot-Mix Asphalt Surface Course (IL-34)
Mixture Use(s):	Hot-Mix Asphalt Surface Course, Mix D, N70
PG:	PG64-22
Design Air Voids:	4.0%, 70 Gyration Design
Mixture Composition:(Gradation Mixture)	IL-9.5mm
Friction Aggregate:	Mix D
Mixture Weight:	112 lbs/sq yd/in
Quality Management Program:	QC/QA
Sublot Size:	3000 tons
Material Transfer Device (Required?):	No

Location(s):	Hot-Mix Asphalt 10" widening (Top Lift)
Mixture Use(s):	Hot-Mix Asphalt Surface Course, Mix C, N70
PG:	PG64-22
Design Air Voids:	4.0%, 70 Gyration Design
Mixture Composition:(Gradation Mixture)	IL-9.5mm
Friction Aggregate:	Mix C
Mixture Weight:	112 lbs/sq yd/in
Quality Management Program:	QC/QA
Sublot Size:	3000 tons
Material Transfer Device (Required?):	No

Location(s):	Hot-Mix Asphalt 10" widening (Bottom Lifts)
Mixture Use(s):	Hot-Mix Asphalt Surface Binder, N70
PG:	PG64-22
Design Air Voids:	4.0%, 70 Gyration Design
Mixture Composition:(Gradation Mixture)	IL-19.0mm
Friction Aggregate:	None
Mixture Weight:	112 lbs/sq yd/in
Quality Management Program:	QC/QA
Sublot Size:	3000 tons
Material Transfer Device (Required?):	No

Lift Thickness:
 1 1/2" Surface Course
 2 1/4" Binder Course
 2 1/4" Binder Course
 4" Binder Course

STANDARDS

000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701201-05	LANE CLOSURE, 2L, 2W DAY ONLY
701321-18	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-04	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS > 45 MPH
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
780001-05	TYPICAL PAVEMENT MARKINGS
862001-01	UNINTERRUPTABLE POWER SUPPLY (UPS)
420001-10	PAVEMENT JOINTS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

REV. - MS

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PLOT SCALE = 0.16666633 ' / in.	CHECKED - _____	REVISED - _____			SCALE:	SHEET OF SHEETS	STA. ___+___ TO STA. ___+___	ILLINOIS FED. AID PROJECT CONTRACT NO. 78971			
PLOT DATE = 5/1/2023	DATE - _____	REVISED - _____									

SUMMARY OF QUANTITIES

COUNTY:	HARDIN CO
ROUTE:	FAP 778
FUNDING:	80% FEDERAL 20% STATE
LOCATION:	BRIDGE
	0013
	035-0004

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
35650500	BASE COURSE WIDENING 10"	SQ YD	224	224
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	473	473
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	185	185
40600990	TEMPORARY RAMP	SQ YD	33	33
40604062	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N70	TON	85	85
44004250	PAVED SHOULDER REMOVAL	SQ YD	224	224
50102400	CONCRETE REMOVAL	CU YD	11.1	11.1
50300255	CONCRETE SUPERSTRUCTURE	CU YD	12.4	12.4
50300300	PROTECTIVE COAT	SQ YD	33	33
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1,950	1,950
50800515	BAR SPLICERS	EACH	20	20
50800530	MECHANICAL SPLICERS	EACH	60	60
52000110	PREFORMED JOINT STRIP SEAL	FOOT	83	83
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	282	282
59000200	EPOXY CRACK INJECTION	FOOT	145	145

REV. - MS

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: SHEET OF 17 SHEETS STA. ___+___ TO STA. ___+___

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	D9 BRIDGE REPAIR 2023-2	HARDIN	18	4
ILLINOIS FED. AID PROJECT CONTRACT NO. 78971				

SUMMARY OF QUANTITIES - CONT

COUNTY:	HARDIN CO
ROUTE:	FAP 778
FUNDING:	80% FEDERAL 20% STATE
LOCATION:	BRIDGE
	0013
	035-0004

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5	5
67100100	MOBILIZATION	L SUM	1	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	6	6
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	28
70300100	SHORT TERM PAVEMENT MARKING	FOOT	63	63
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	21	21
70300221	TEMPORARY PAVEMENT MARKING - LINE 4"- PAINT	FOOT	1,377	1,377
70400100	TEMPORARY CONCRETE BARRIER	FOOT	388	388
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	350	350

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

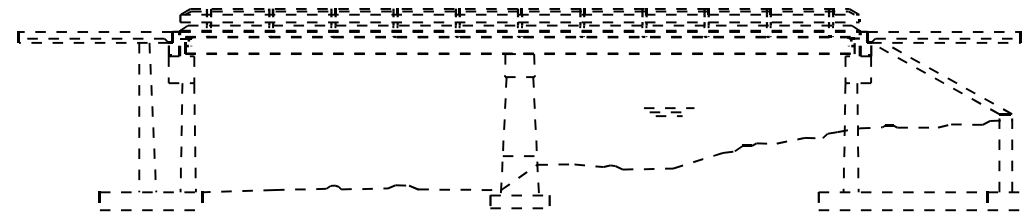
SUMMARY OF QUANTITIES

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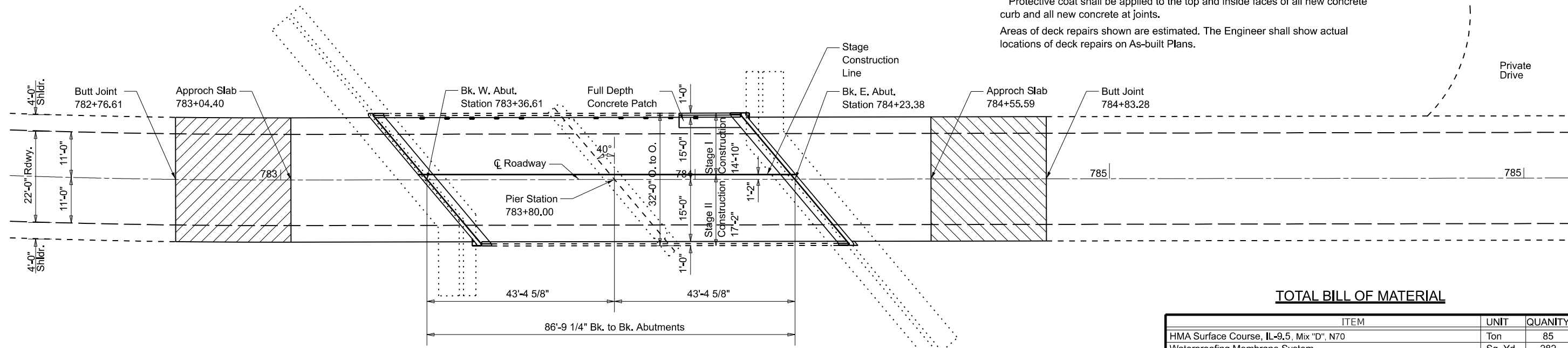
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778	D9 BRIDGE REPAIR 2023-2	HARDIN	18	5
CONTRACT NO. 78971				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.
 Prior to pouring the new concrete deck section, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
 Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.
 Joint openings shall be adjusted according to Article 520.04 of the Std. Specs. when the deck is poured at an ambient temperature other than 50°F.
 Protective coat shall be applied to the top and inside faces of all new concrete curb and all new concrete at joints.
 Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on As-built Plans.



ELEVATION



PLAN

LEGEND:

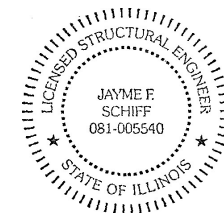
HMA Surface Removal - Butt Joint

SCOPE OF WORK

- Deck and Approach Slab Repair (Partial)
- Concrete Removal & Replacement Northeast corner of Deck
- Abutment Joint Reconstruction
- HMA Overlay & (Waterproofing Membrane System)
- Structural Repair of Concrete (Depth ≤ 5")
- Epoxy Crack Injection

DESIGN STRESSES

(From Existing Plans)
 Design Loading HS 20-44
 Design Stresses
 $f_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinf.)
 $f_s = 20,000$ to 27,000 psi (Structure)



EXPIRES 11-30-2024
Jayme F. Schiff

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
HMA Surface Course, IL-9.5, Mix "D", N70	Ton	85
Waterproofing Membrane System	Sq. Yd.	282
Bituminous Material (Tack Coat)	Pound	473
Deck Slab Repair (Partial Depth)	Sq. Yd.	6
Approach Slab Repair (Partial Depth)	Sq. Yd.	16
Bar Splicers	Each	20
Concrete Superstructure	Cu. Yd.	12.4
Concrete Removal	Cu. Yd.	11.1
Reinforcement Bars, Epoxy Coated	Pound	1950
Preformed Joint Strip Seal	Foot	83
Structural Repair of Concrete (Depth < 5")	Sq Ft	10
Epoxy Crack Injection	Foot	145
Protective Coat	Sq. Yd.	33
Temporary Slab Support System	L Sum	1
Mechanical Splicer	Each	60

BRIDGE REPAIRS
IL 34 OVER ROSE CREEK
FAP 778 - D9 BRIDGE OVERLAY 2023-2
HARDIN COUNTY
STRUCTURE NO. 035-0004

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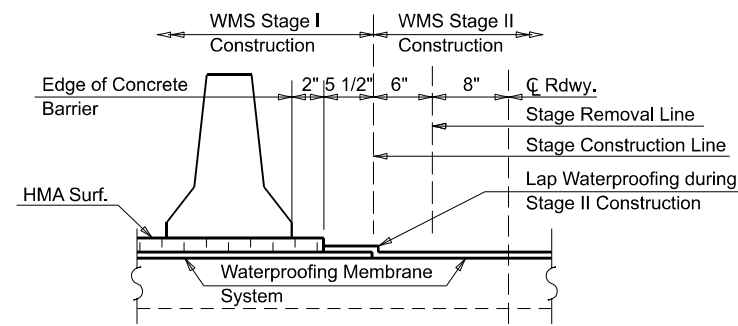
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

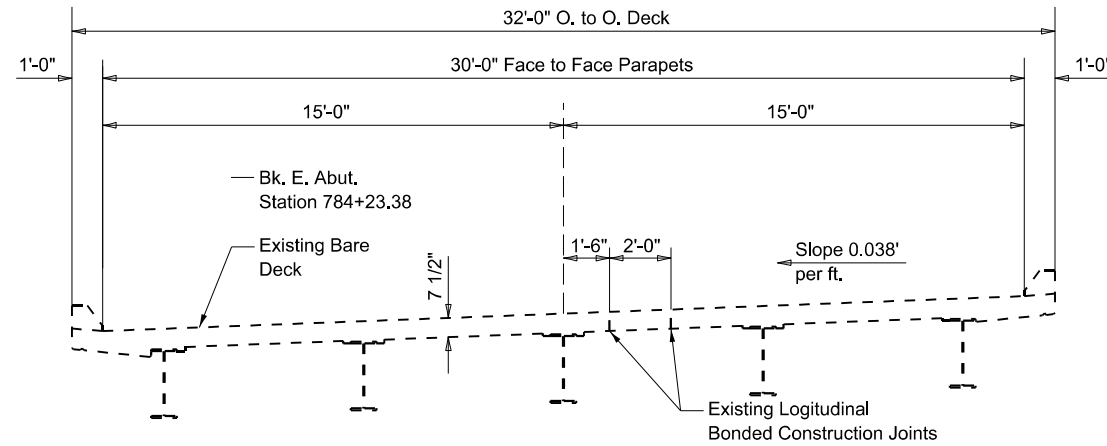
GENERAL PLAN AND ELEVATION
 SN 035-0004

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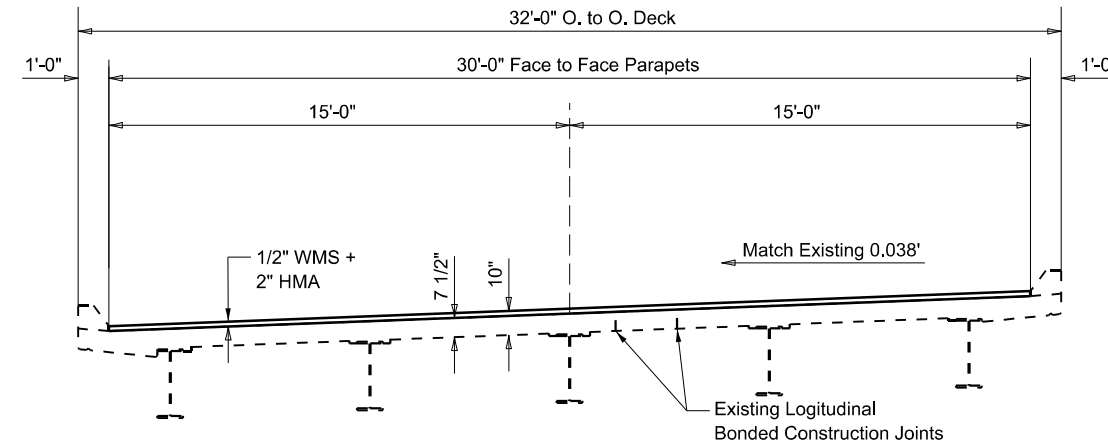
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778	D9 BRIDGE REPAIR 2023-2	HARDIN	18	7
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78971	



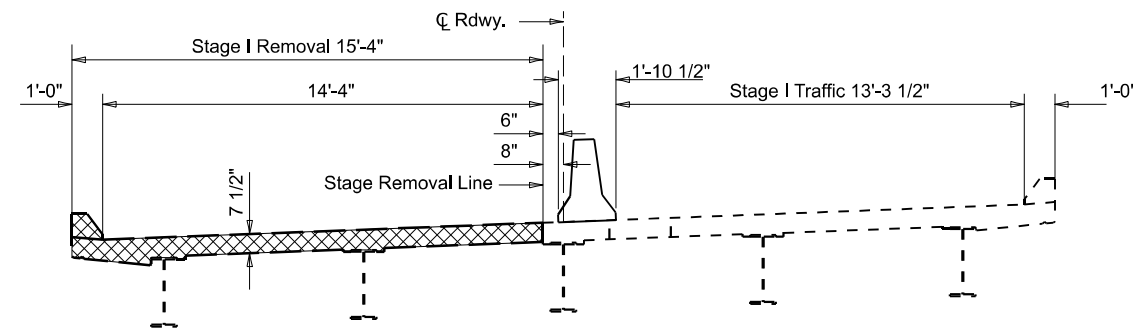
**WATERPROOFING TREATMENT
AT STAGE CONSTRUCTION**



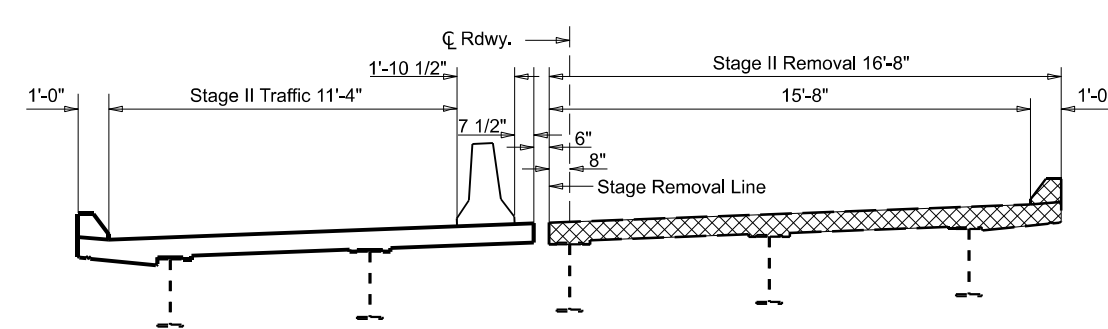
TYPICAL BRIDGE SECTION - EXISTING



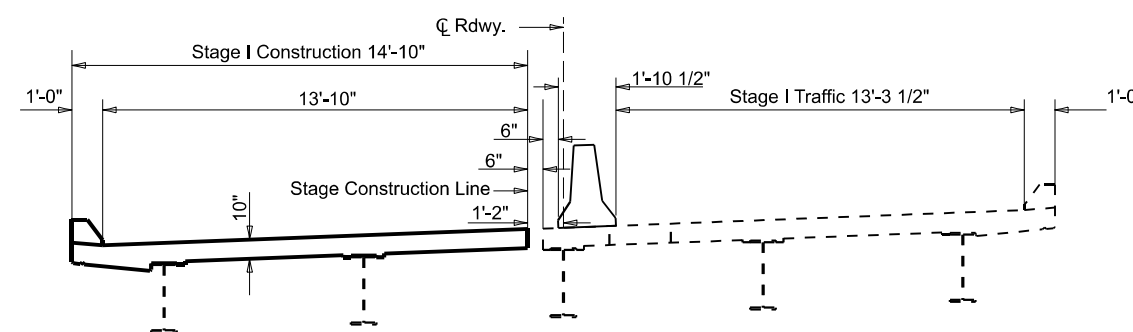
TYPICAL BRIDGE SECTION - PROPOSED



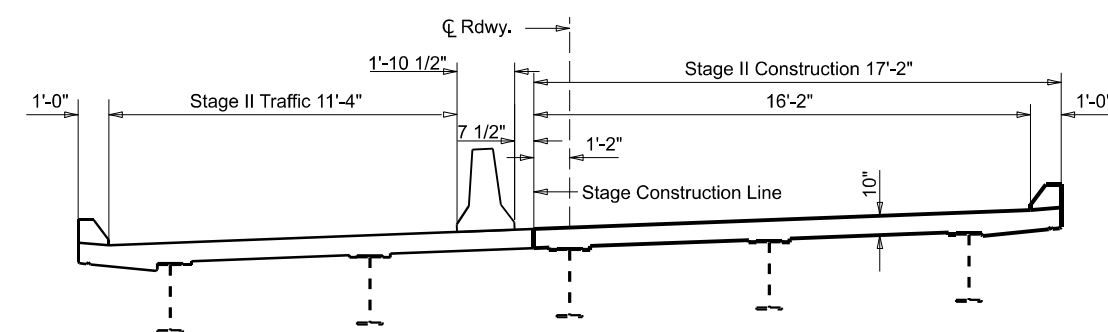
**STAGE I REMOVAL
(AT JOINT LOCATIONS ONLY)**



**STAGE II REMOVAL
(AT JOINT LOCATIONS ONLY)**



**STAGE I CONSTRUCTION
(AT JOINT LOCATIONS ONLY)**



**STAGE II CONSTRUCTION
(AT JOINT LOCATIONS ONLY)**

Concrete Removal

Notes: All Sections Looking East

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PLOT DATE = 4/17/2023		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

TYPICAL SECTIONS
SN 035-0004

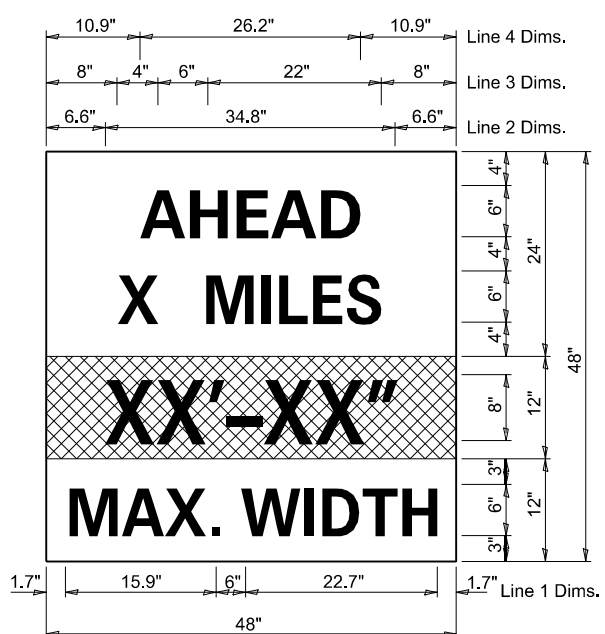
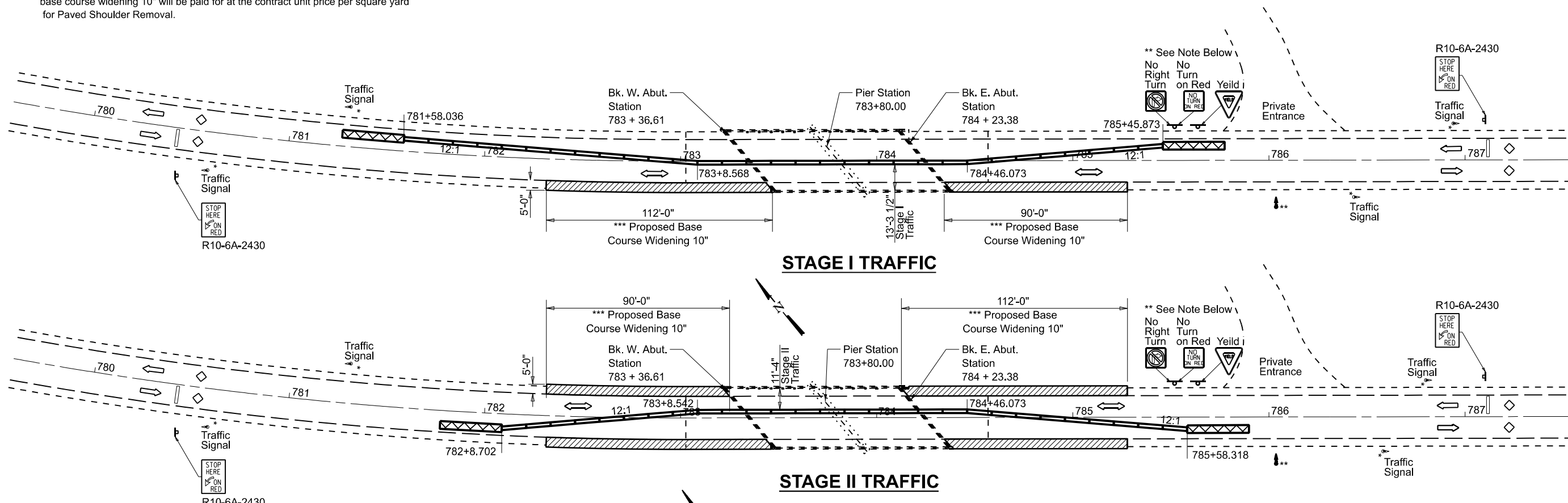
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	D9 BRIDGE REPAIR 2023-2	HARDIN	18	8
CONTRACT NO. 78971				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

Removal of existing HMA pavement, aggregate shoulders, and earth to construct base course widening 10" will be paid for at the contract unit price per square yard for Paved Shoulder Removal.

* Must be installed pre stage I under traffic standard 701326.



Notes for Max Width Sign:

1. Install a Max Width Sign each direction on IL 34 to give traffic approaching work zone enough advance notice to change routes if needed. Exact locations as directed by engineer.
2. The contractor shall furnish the posts and erect the signs at the locations directed by the engineer. All signs shall be post mounted.
3. The noted work, including signs, posts, hardware and labor shall be included in the contract unit price, each, for Traffic Control and Protection, Std. 701321, no other compensation will be allowed.
4. The width shown on the W12-I103 sign shall be 18" less than what is shown in the staged lane widths or as directed by the Engineer.
5. The "X" MILES AHEAD will be determined by the engineer.

Notes for Private Drive Signal & Signs

** The contractor shall provide a temporary signal across from the private entrance at the location detailed above. The signal shall contain a red arrow and two yellow arrows. The private entrance signal shall be wired directly with both phases. The private entrance signal shall coordinate with both phases as follows; red arrow to red, top yellow arrow to yellow and bottom yellow arrow to green. This Signal will be included in the cost of Temporary Bridge Traffic Signals, Each. Additional signage for entrances and advance with restriction warning shall be included in the cost of standard 701321.

* See Contract Special Provisions for "TEMPORARY BRIDGE TRAFFIC SIGNALS".

LEGEND:

Impact Attenuator

W12-I103
W12-I103, No Border
"MAX WIDTH" 6D, No Border, Black on White
"XX'-XX'" 8D, No Border, Black on Orange
"X MILES" 6D, No Border, Black on White
"AHEAD" 6D, No Border, Black on White

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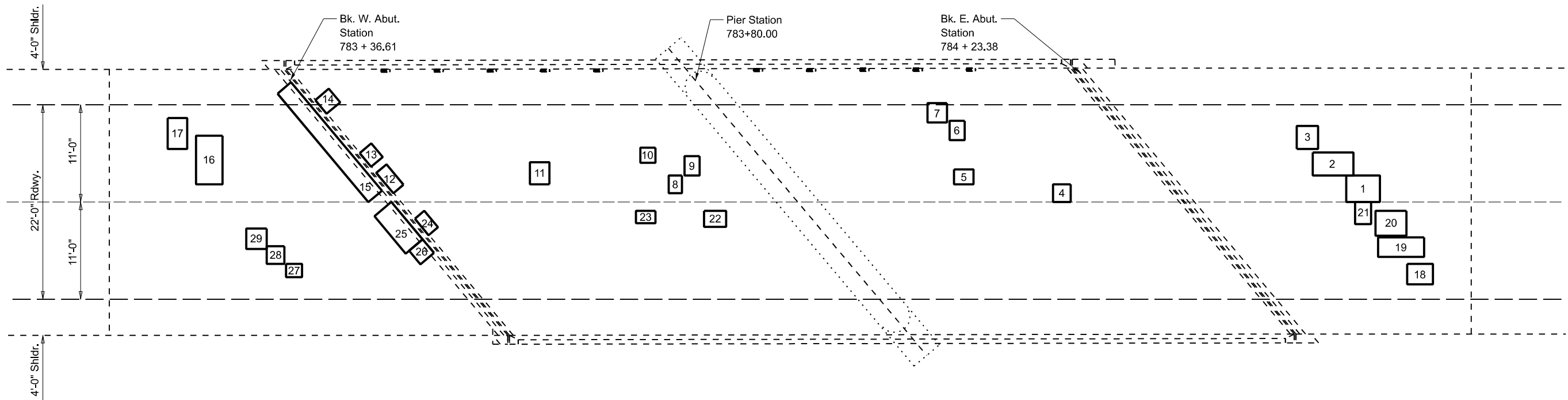
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PLOT DATE = 4/19/2023	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGING PLAN
SN 035-0004**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	D9 BRIDGE REPAIR 2023-2	HARDIN	18	9
CONTRACT NO. 78971				
ILLINOIS FED. AID PROJECT				



North Bound			
Number	Length (ft)	Width (ft)	Area (Sq. Yd.)
1	3.8	3.0	1.267
2	4.6	2.6	1.329
3	2.6	2.4	0.693
4	2.0	2.0	0.444
5	2.2	1.7	0.416
6	2.0	2.6	0.578
7	2.2	2.2	0.538
8	1.7	2.2	0.416
9	1.5	2.0	0.333
10	1.7	1.7	0.321
11	2.2	2.5	0.611
12	1.5	3.0	0.500
13	1.7	2.0	0.378
14	2.0	2.0	0.444
15	2.0	16.0	3.556
16	3.0	5.5	1.833
17	3.5	2.2	0.856
North Bound Total			14.512

South Bound			
Number	Length (ft)	Width (ft)	Area (Sq. Yd.)
18	2.9	2.3	0.741
19	5.2	2.2	1.271
20	3.5	2.8	1.089
21	1.8	2.5	0.500
22	2.5	1.8	0.500
23	2.2	1.4	0.342
24	1.4	2.4	0.373
25	5.5	2.5	1.528
26	2.0	2.0	0.444
27	1.8	1.5	0.300
28	2.0	2.0	0.444
29	2.3	2.3	0.588
South Bound Total			8.121

Notes: The Engineer will determine final patch locations and quantities in the field before bridge deck and approach slab patching operations begin.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Deck Slab Repair (Partial Depth)	SQ. YD.	6.2
Approach Slab Repair (Partial Depth)	SQ. YD.	16.4

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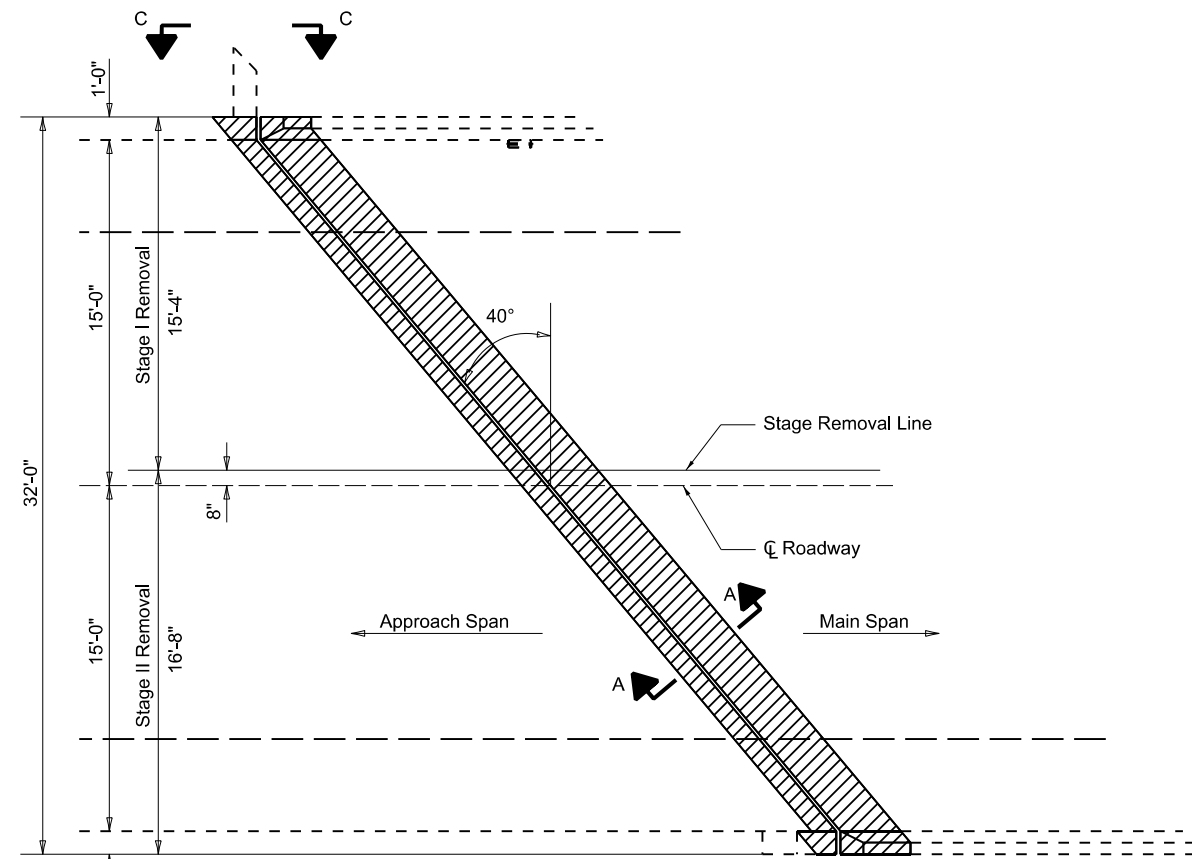
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

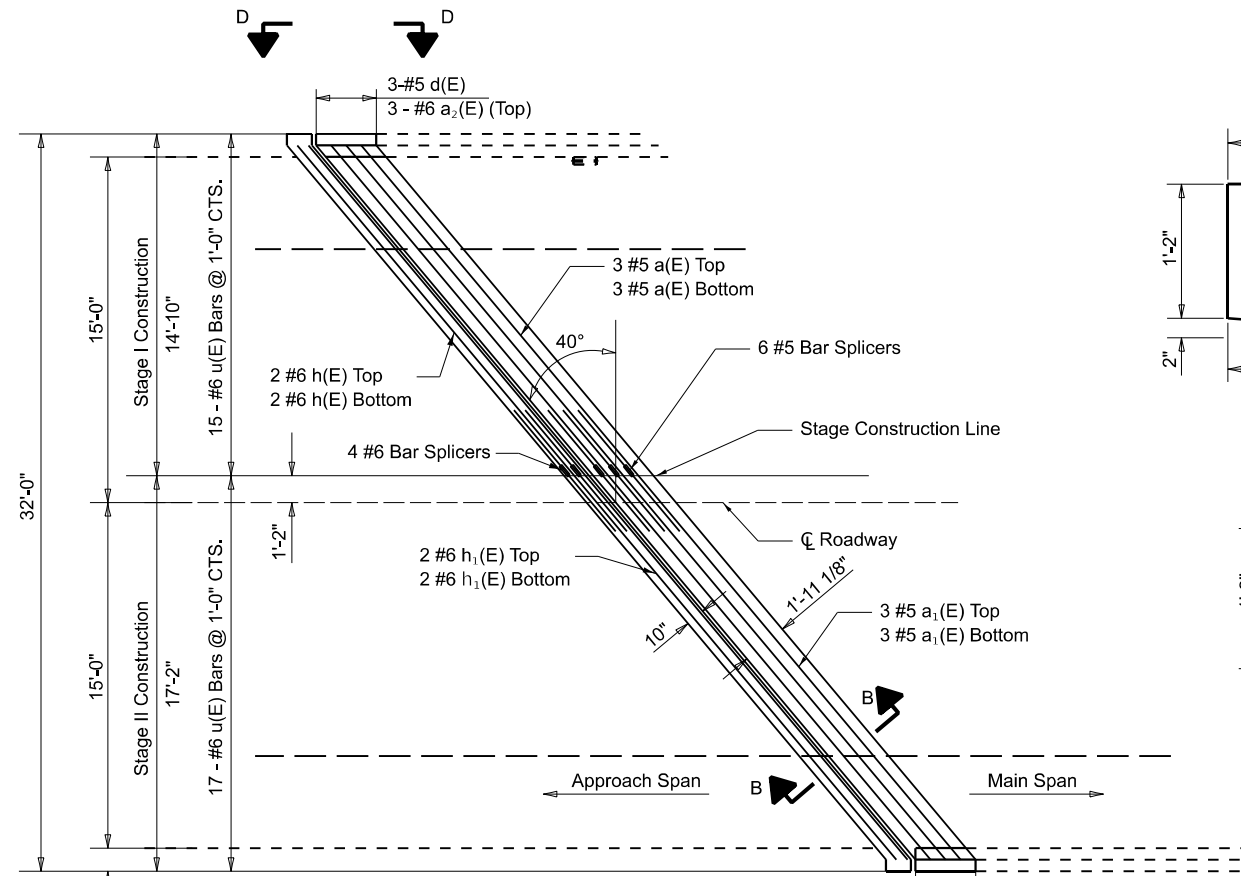
**DECK AND APPROCH PATCHING
SN 035-0004**

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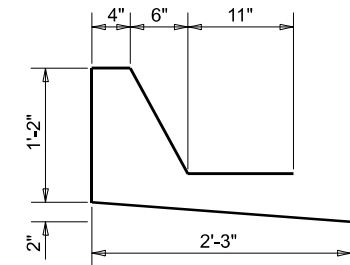
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778	D9 BRIDGE REPAIR 2023-2	HARDIN	18	10
CONTRACT NO. 78971				
ILLINOIS FED. AID PROJECT				



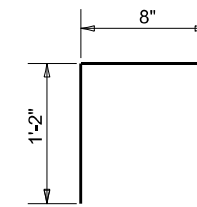
**JOINT AT W. ABUTMENT
SHOWING CONCRETE REMOVAL**



**JOINT AT W. ABUTMENT
SHOWING NEW CONCRETE**

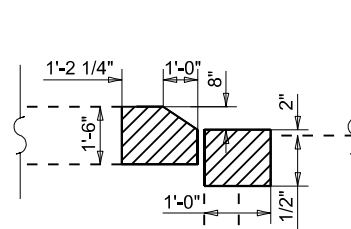


BAR d(E)

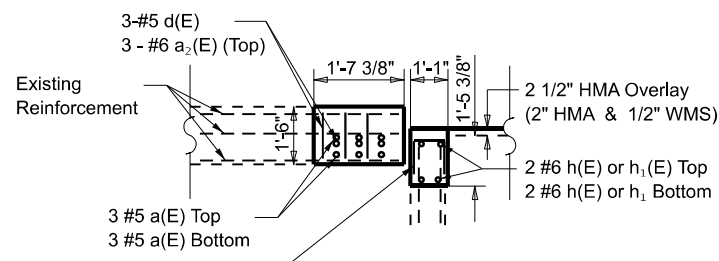


BAR u(E)

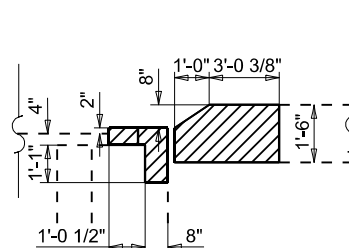
Note: Steel sliding plate shown on sheet 14 is not required.



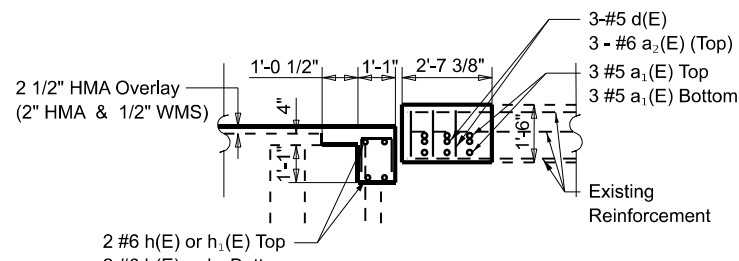
ELEVATION C-C



ELEVATION D-D



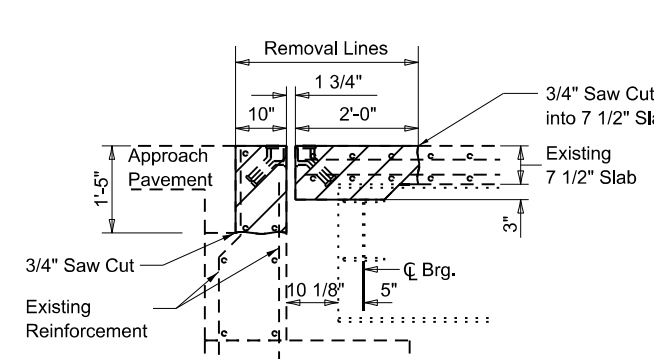
ELEVATION E-E



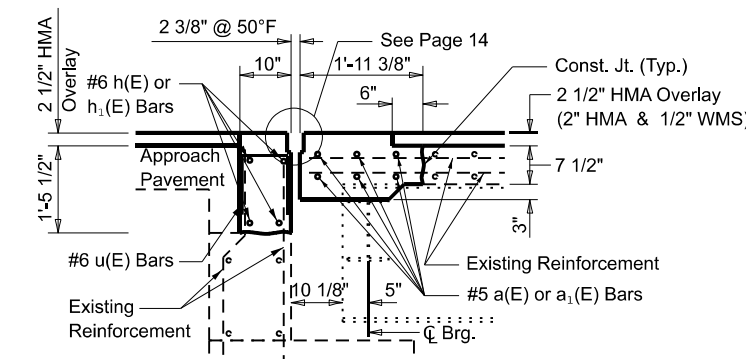
ELEVATION F-F

BILL OF MATERIAL (WEST ABUTMENT)

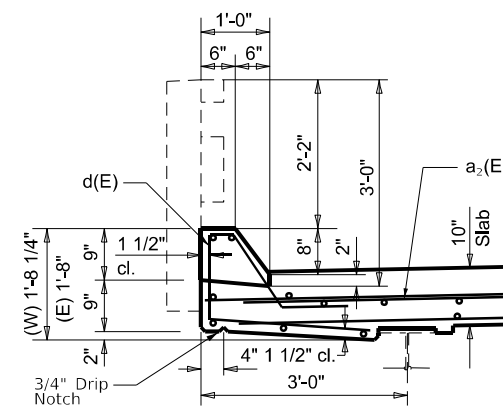
Bar	No.	Size	Length	Shape
a(E)	6	#5	19'-0"	—
a ₁ (E)	6	#5	22'-0"	—
a ₂ (E)	6	#6	4'-0"	—
d(E)	6	#5	5'-4"	U
h(E)	4	#6	19'-0"	—
h ₁ (E)	4	#6	22'-0"	—
u(E)	32	#6	3'-0"	U
Bar Splicer			Each	10
Concrete Superstructure			Cu. Yd.	5.2
Concrete Removal			Cu. Yd.	4.6
Reinforcement Bars, Epoxy Coated			Pound	720



SECTION A-A
Looking North West Abutment
(Dimensions are at Right Angles)



SECTION B-B
Looking North West Abutment
(Dimensions are at Right Angles)



SECTION THROUGH CURB
@ Joint Reconstruction

**JOINT RECONSTRUCTION DETAILS
IL 34 OVER ROSE CREEK
FAP 778 - D9 BRIDGE OVERLAY 2023-2
HARDIN COUNTY
STRUCTURE NO. 035-004**

MODEL: P:\in Sheet 11 (Sheet).
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PROJECT: FAP 778 - D9 BRIDGE OVERLAY 2023-2
DRAWN: DEREK SNIDER
CHECKED: DEREK SNIDER
DATE: 6/22/2023

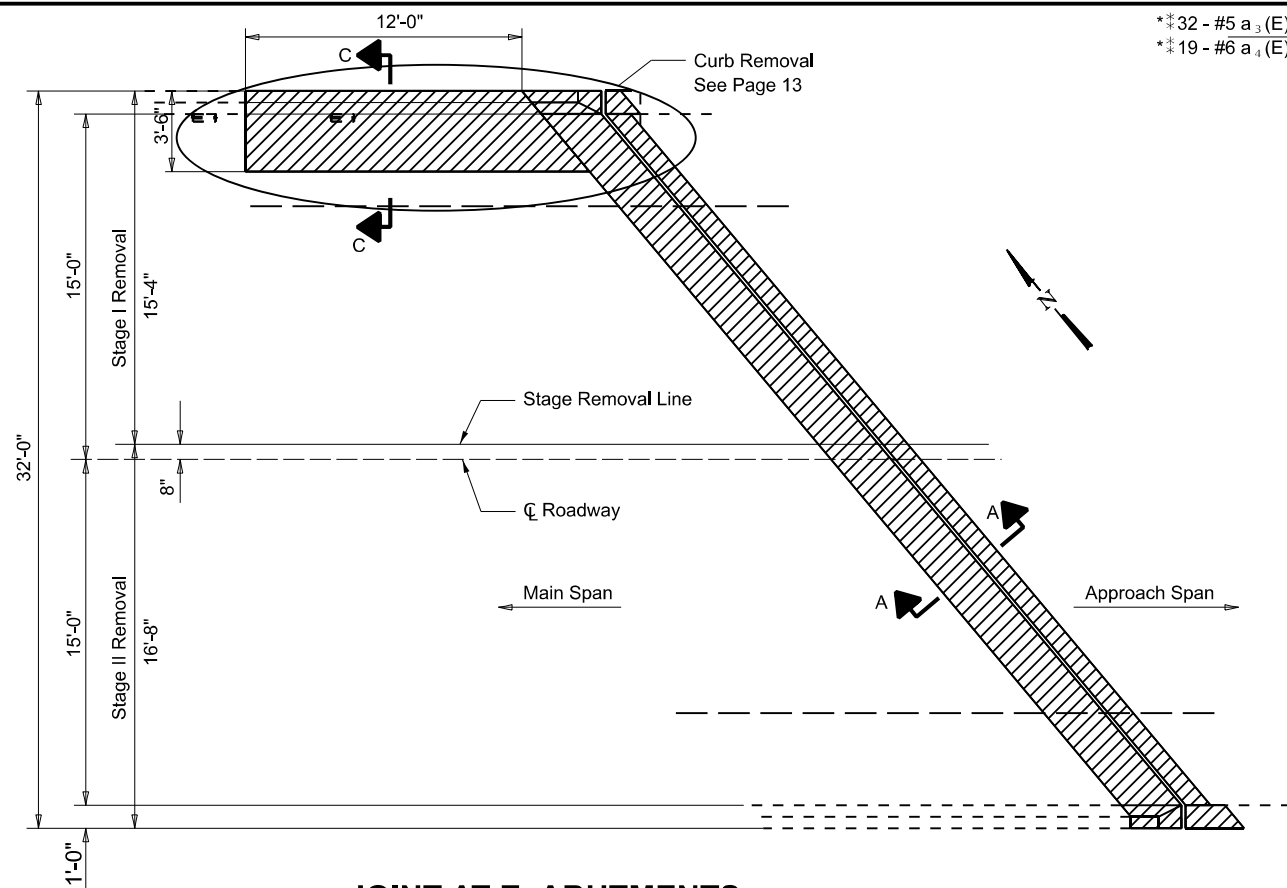
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PLOT SCALE = 0.16666633 1/ in.	DRAWN -	REVISED -
PLOT DATE = 6/22/2023	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

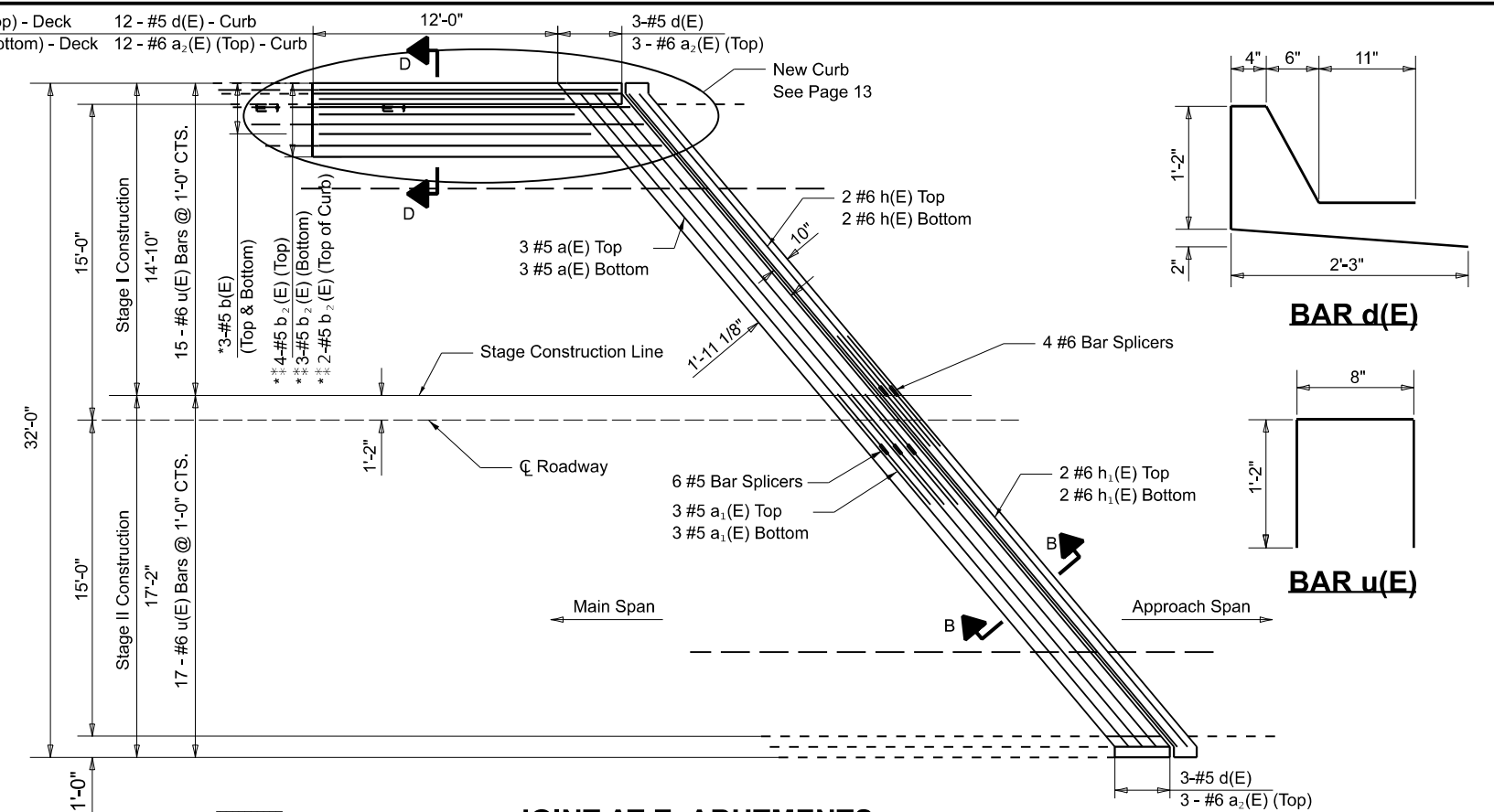
**JOINT RECONSTRUCTION DETAILS
AT W. ABUTMENTS 035-004**

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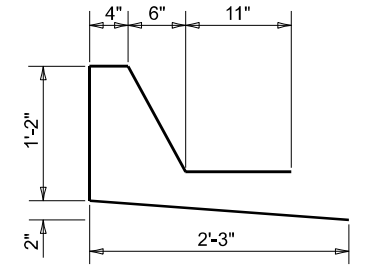
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778	D9 BRIDGE REPAIR 2023-2	HARDIN	18	11
CONTRACT NO. 78971				
ILLINOIS FED. AID PROJECT				



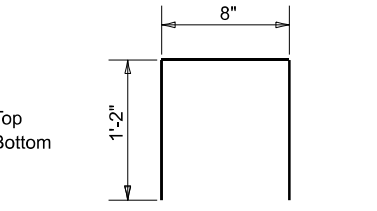
**JOINT AT E. ABUTMENTS
SHOWING CONCRETE REMOVAL**



**JOINT AT E. ABUTMENTS
SHOWING NEW CONCRETE**



BAR d(E)



BAR u(E)

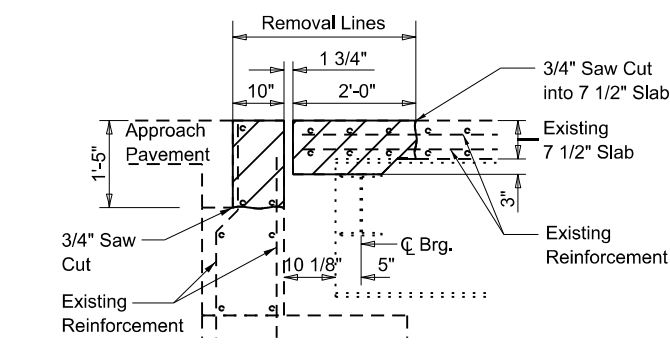
Concrete Removal

Note: Steel sliding plate shown on sheet 14 is not required.
See sheet 13 for elevation views E-E and F-F
*Cut #5 b(E) and #5 b2(E) bars cut in field to fit
†Cut both existing transverse bars and longitudinal bars 6" min from removal line and connect new bars with existing bars using mechanical splicers.

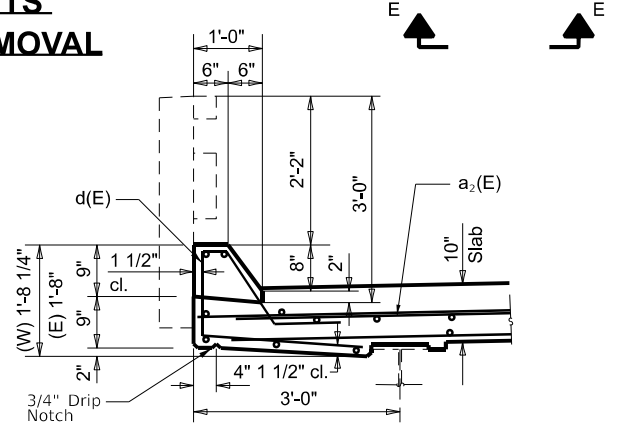
BILL OF MATERIAL (EAST ABUTMENT)

Bar	No.	Size	Length	Shape
a(E)	6	#5	19'-0"	—
a1(E)	6	#5	22'-0"	—
a2(E)	18	#6	4'-0"	—
a3(E)	32	#5	2'-6"	—
a4(E)	19	#5	2'-6"	—
b(E)	6	#5	13'-4"	—
b2(E)	9	#5	16'-3"	—
d(E)	18	#5	5'-4"	⌒
h(E)	4	#6	19'-0"	—
h1(E)	4	#6	22'-0"	—
u(E)	32	#6	3'-0"	U
Bar Splicer			Each	10
Mechanical Splicer			Each	58
Concrete Superstructure			Cu. Yd.	7.2
Concrete Removal			Cu. Yd.	6.5
Reinforcement Bars, Epoxy Coated			Pound	1230
Temporary Slab Support System			L Sum	1

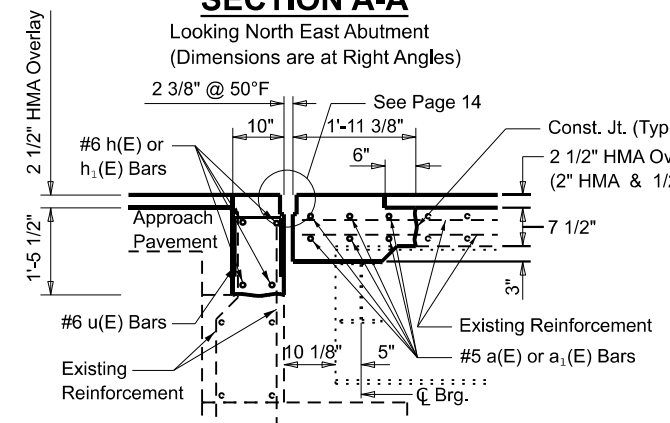
**JOINT RECONSTRUCTION DETAILS
IL 34 OVER ROSE CREEK
FAP 778 - D9 BRIDGE OVERLAY 2023-2
HARDIN COUNTY
STRUCTURE NO. 035-004**



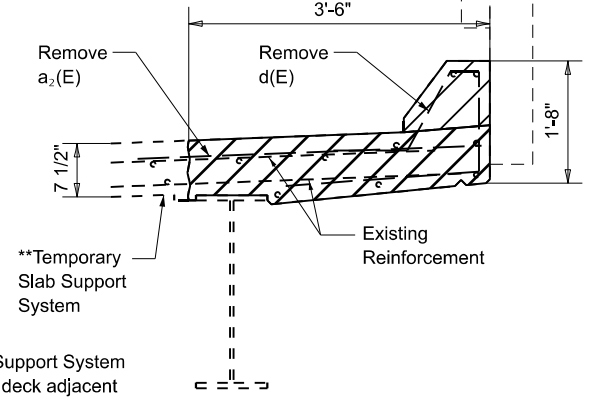
SECTION A-A
Looking North East Abutment
(Dimensions are at Right Angles)



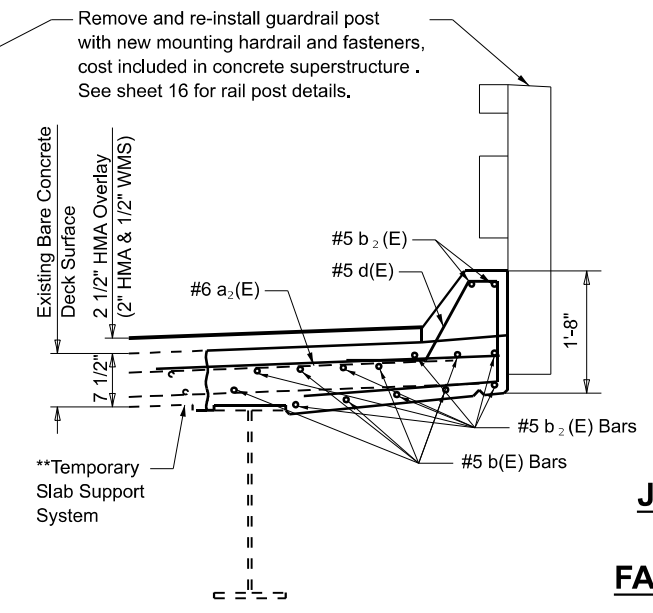
SECTION THROUGH CURB
@ Joint Reconstruction



SECTION B-B
Looking North East Abutment
(Dimensions are at Right Angles)



SECTION C-C
Looking West



SECTION D-D
Looking West

MODEL: P:\In-Sheet 12 (Sheet) FILE NAME: P:\In-Sheet 12 (Sheet) \Documents\DOT\Office\District 9\BROD Projects\78971\ICAD\data\CADsheets\03578971-SN03-Types.dwg

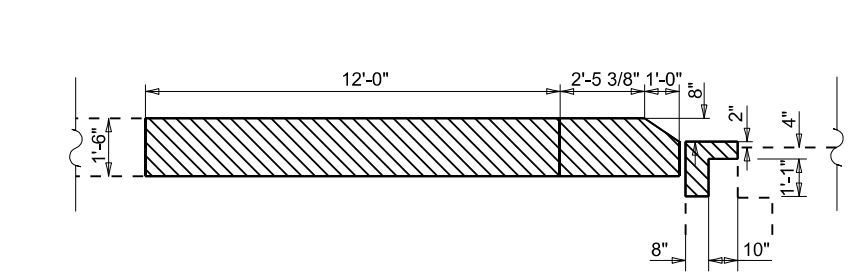
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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

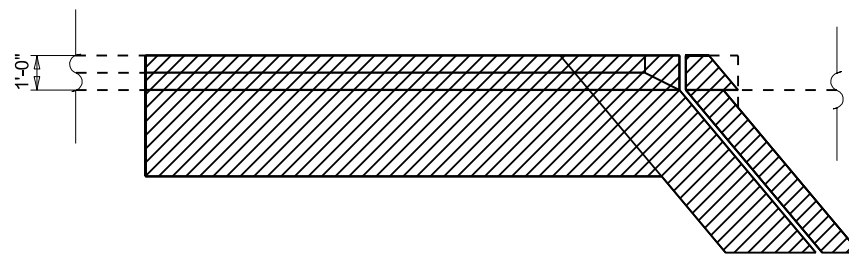
**JOINT RECONSTRUCTION DETAILS
AT E. ABUTMENTS SN 035-004**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	D9 BRIDGE REPAIR 2023-2	HARDIN	18	12
CONTRACT NO. 78971			ILLINOIS FED. AID PROJECT	

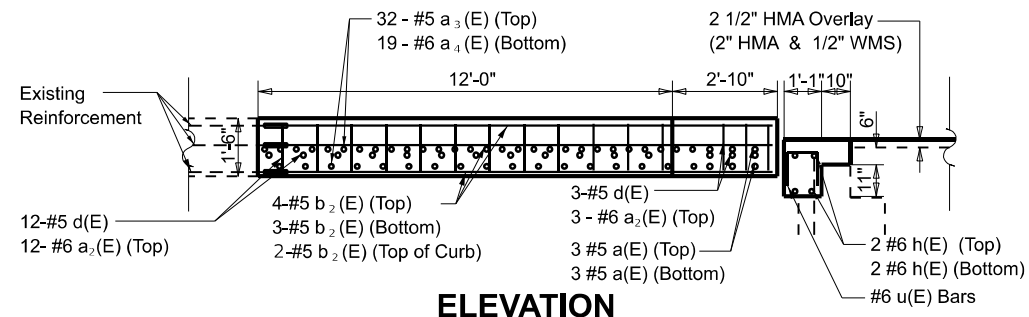


ELEVATION

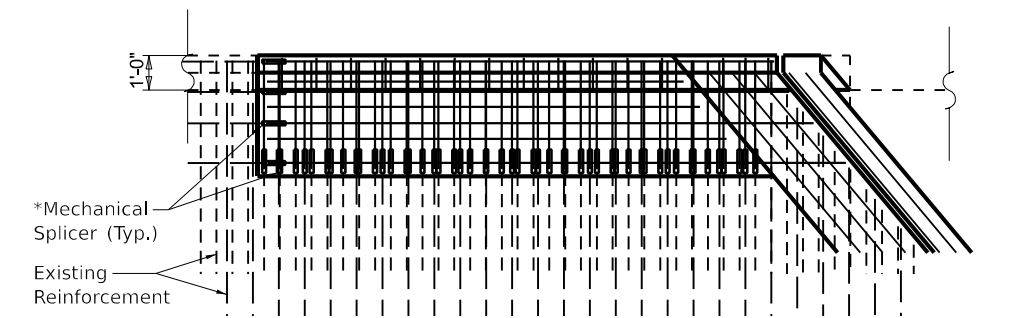


PLAN

Northeast Quadrant Curb Removal
Looking South @ East Abutment

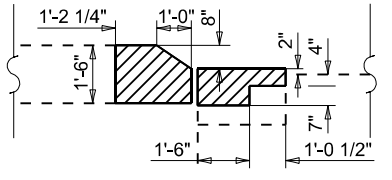


ELEVATION

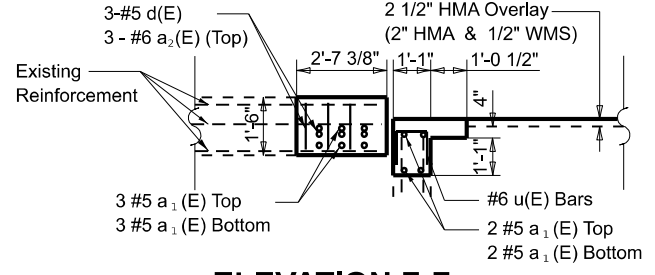


PLAN


Northeast Quadrant Curb New
Looking South @ East Abutment



ELEVATION E-E



ELEVATION F-F

 Concrete Removal

JOINT RECONSTRUCTION AT CURB DETAILS
IL 34 OVER ROSE CREEK
FAP 778 - D9 BRIDGE OVERLAY 2023-2
HARDIN COUNTY
STRUCTURE NO. 035-004

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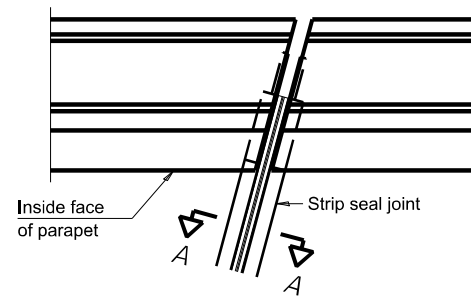
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DRAWN - _____	REVISIONS - _____	
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PLOT DATE = 6/22/2023	DATE - _____	REVISED - _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

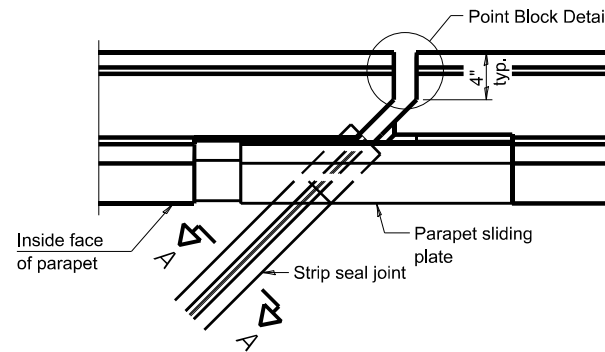
CURB REMOVAL & REPLACEMENT DETAILS
SN 035-004

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 78971	

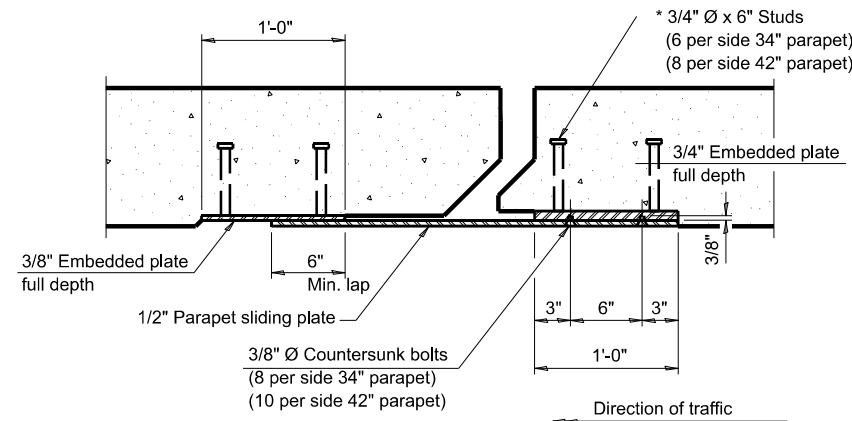


FOR SKEWS $\leq 30^\circ$

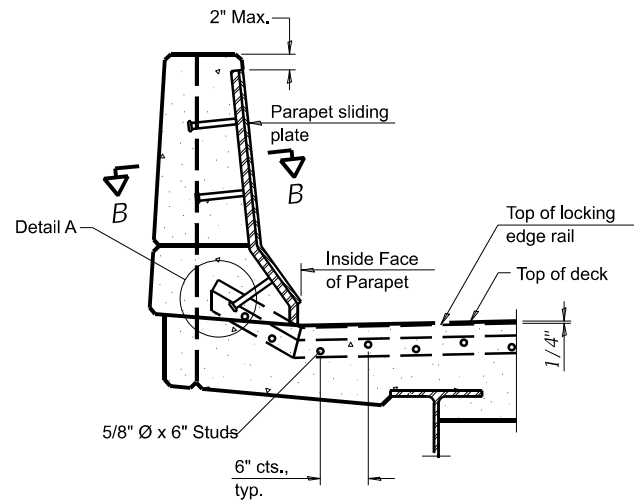


FOR SKEWS $> 30^\circ$

PLAN AT PARAPET

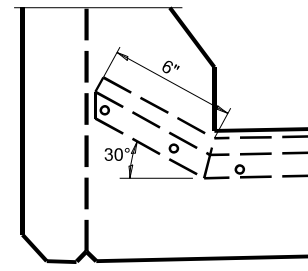


SECTION B-B



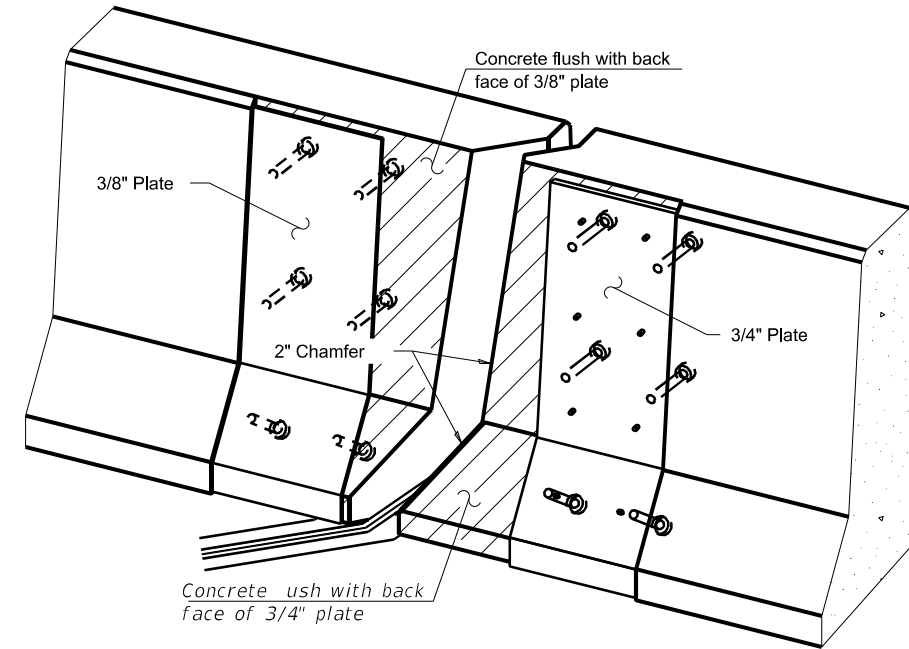
ELEVATION AT PARAPET

(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



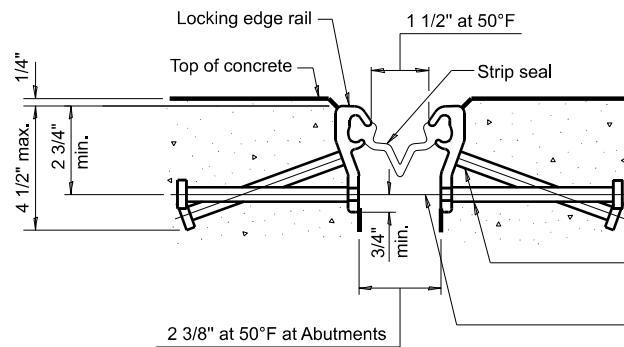
DETAIL A

(West & East Abutment)
SN 035-0004



TRIMETRIC VIEW

(Showing embedded plates only)



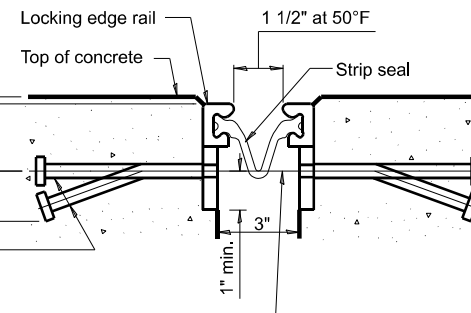
SHOWING ROLLED RAIL JOINT

* 5/8" ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

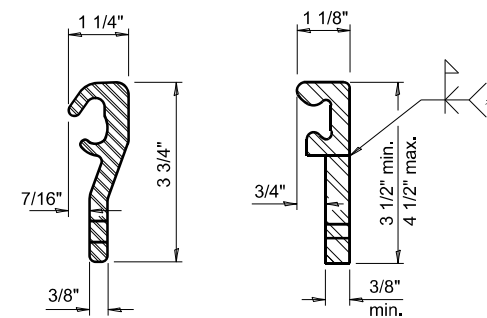
3/8" ϕ threaded rods in "D" ϕ holes at $\pm 4'-0"$ cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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

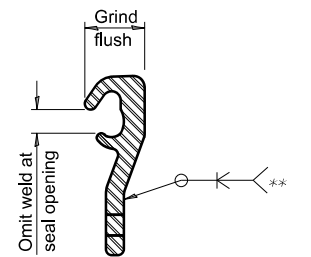


SHOWING WELDED RAIL JOINT



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	83

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.

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 c" 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.

Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.

34" F-shape barrier shown, 42" F-shape similar as noted.

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. Such adjustments shall be at no additional cost to the State.

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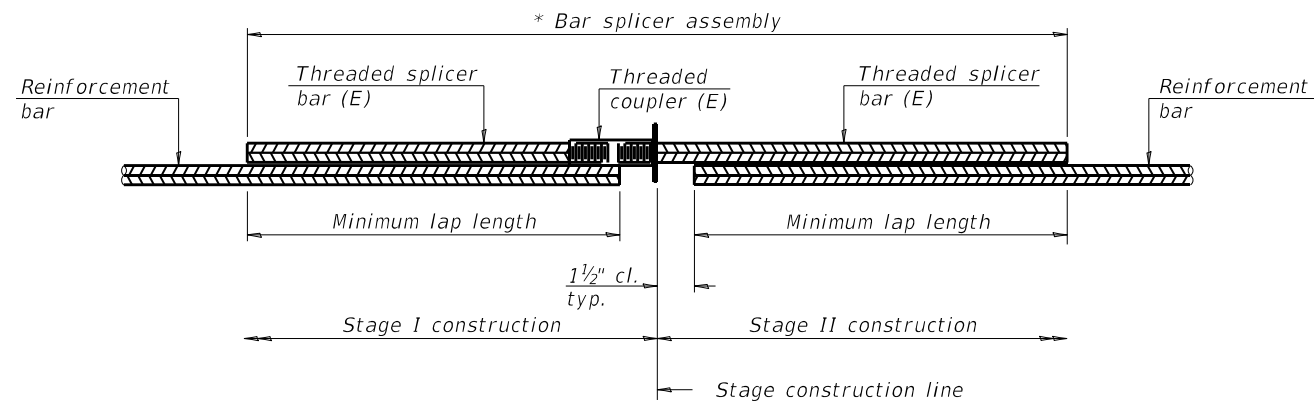
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PLOT DATE = 6/22/2023	CHECKED - _____	REVISED - _____
	DATE - _____	REVISED - _____

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL DETAILS
SN 035-0004**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	D9 BRIDGE REPAIR 2023-2	HARDIN	18	14
CONTRACT NO. 78971				
ILLINOIS FED. AID PROJECT				

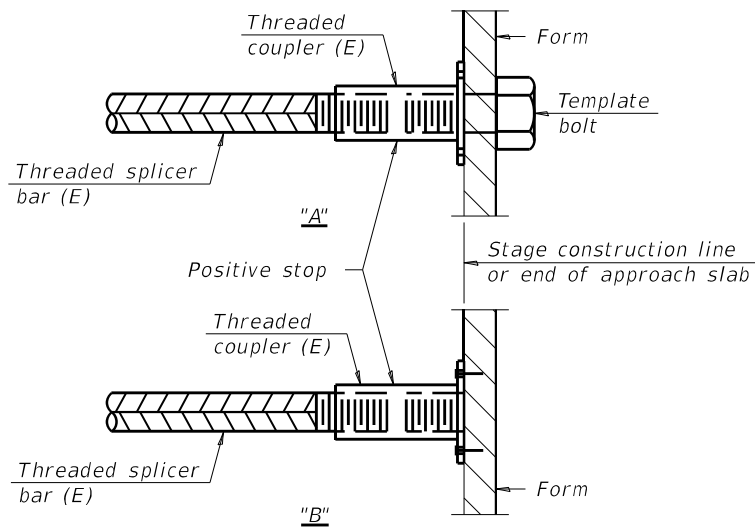


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

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	12	3'-2"
Hatchblock	#6	8	3'-10"

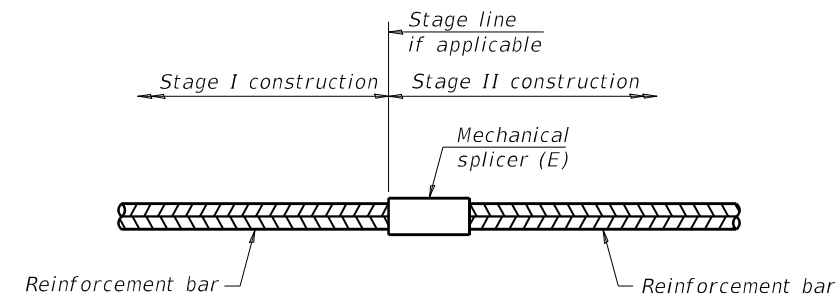


INSTALLATION AND SETTING METHODS

"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
Deck	#5	60

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.

BAR SPLICER ASSEMBLY DETAILS
IL 34 OVER ROSE CREEK
FAP 778 - D9 BRIDGE OVERLAY 2023-2
HARDIN COUNTY
STRUCTURE NO. 035-0004

BSD-1

1-1-2020

MODEL: P:\in Sheet 15 (Sheet)
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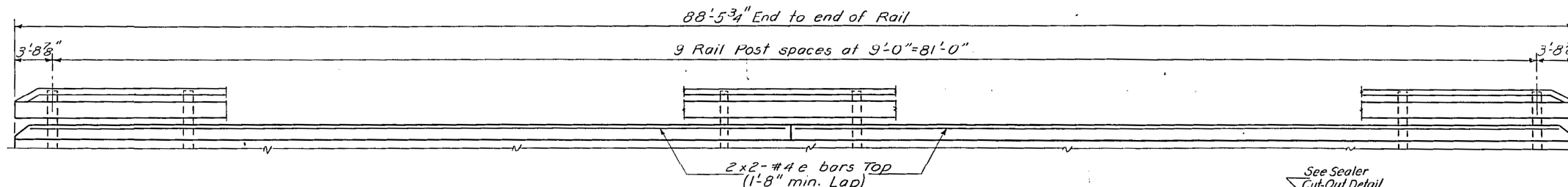
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PLOT DATE = 6/22/2023		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SLICER DETAILS
SN 035-0004

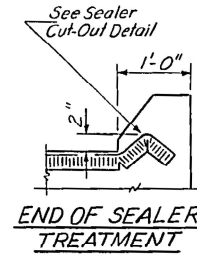
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 78971				
ILLINOIS FED. AID PROJECT				

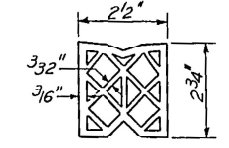


ELEVATION

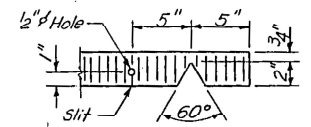
FOR INFORMATION ONLY
THIS SHEET IS INCLUDED TO SHOW DETAILS
FOR REATTACHING THE EXISTING STEEL RAILING.



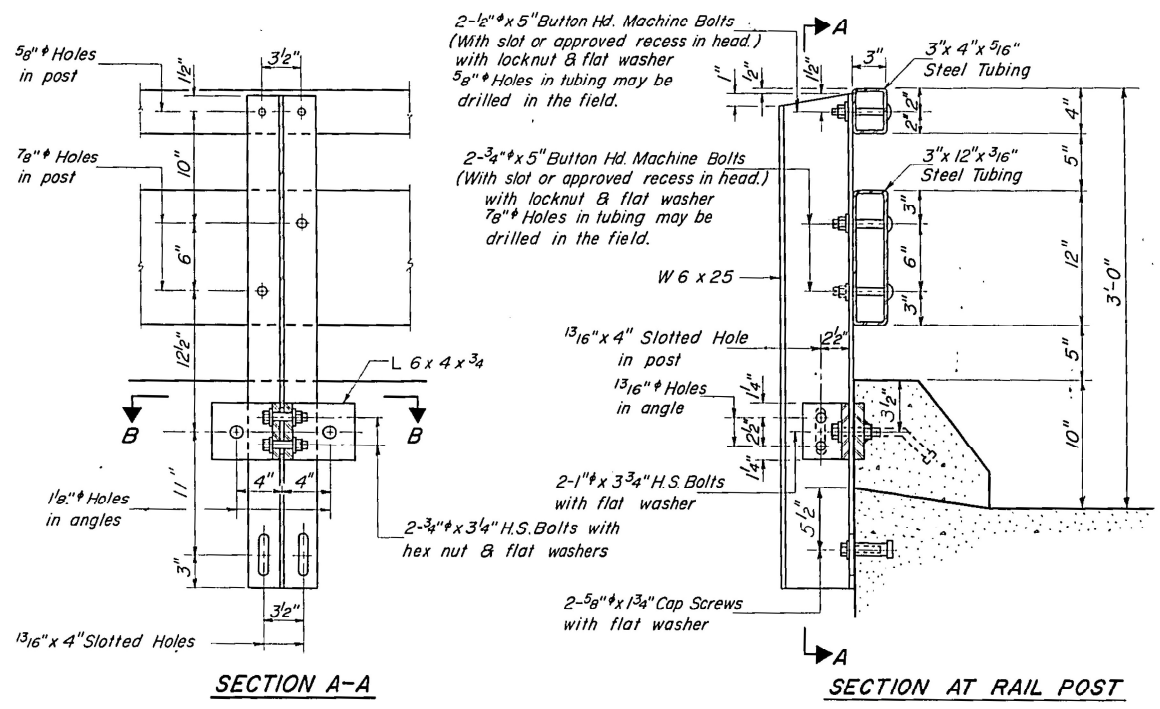
END OF SEALER TREATMENT



PREFORMED JOINT SEALER (2 1/2")

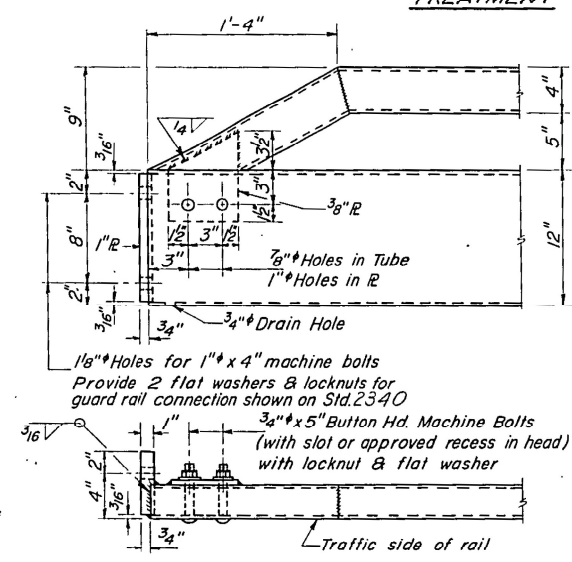


SEALER CUT-OUT (2 1/2")



SECTION A-A

SECTION AT RAIL POST



END OF RAIL DETAILS

NOTES

Hollow structural steel tubing shall conform to the requirements of A.S.T.M. designation A-500 Grade B or A-501 Structural Steel Tubing.

All other steel shapes and plates shall conform to the requirements of A.A.S.H.T.O. M-183 except posts shall conform to A.A.S.H.T.O. M-188.

Bolts, cap screws, and nuts shall conform to the requirement of A.S.T.M. designation A-307 except for high strength bolts, nuts and washers noted which shall conform to A.A.S.H.T.O. M-164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with A.A.S.H.T.O. M-232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with A.A.S.H.T.O. M-111 and A.S.T.M. A-385. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 508 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per lineal foot for STEEL RAILING, TYPE T.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

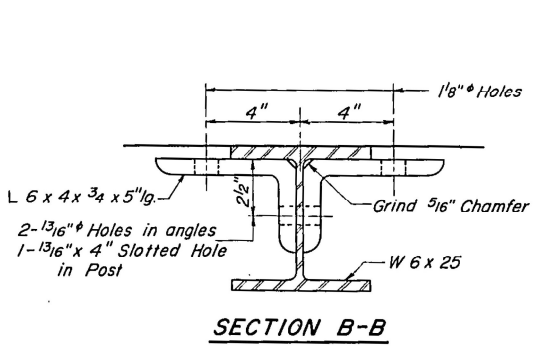
The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 714.08 Type B or place 1/8" fabric bearing pad between the post and concrete.

The 3/4" high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Article 50704(g)(3) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn.

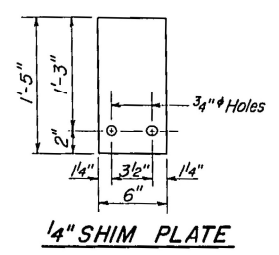
For multi-span bridges, sufficient 1/4" x 6" x 1'-5" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to Steel Railing.

BILL OF MATERIAL

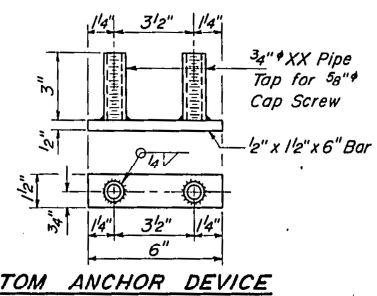
Bar	No.	Size	Length	Shape
a(E)	194	# 5	13'-9"	—
a1	119	# 5	13'-9"	—
a2(E)	188	# 6	4'-0"	—
a3(E)	4	# 5	18'-0"	—
a4(E)	194	# 5	18'-9"	—
a5	119	# 5	18'-9"	—
a6(E)	4	# 5	24'-6"	—
b(E)	99	# 5	30'-6"	—
b1(E)	32	# 6	22'-2"	—
b2	90	# 5	30'-6"	—
d(E)	172	# 5	5'-9"	—
e	16	# 4	22'-4"	—
Reinforcement Bars			Lbs.	714.0
Class X Concrete			Cu. Yds.	74.3
Steel Railing, Type T			Lin. Ft.	177
Reinforcement Bars (Epoxy Coated)			Lbs.	13,130



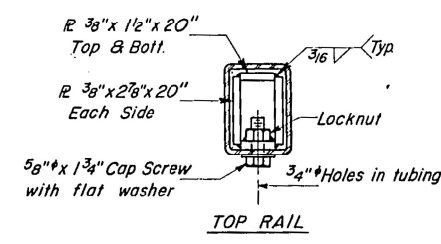
SECTION B-B



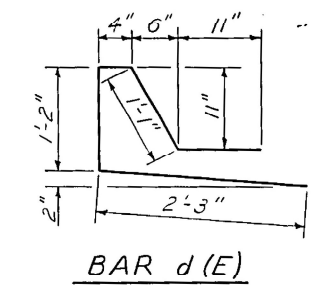
1/4" SHIM PLATE



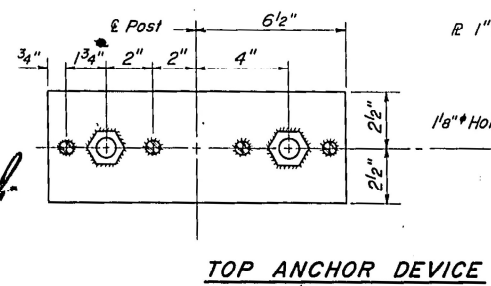
BOTTOM ANCHOR DEVICE



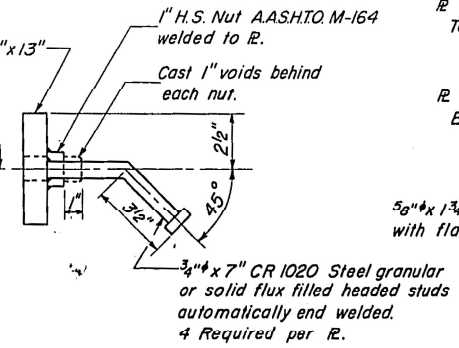
TOP RAIL



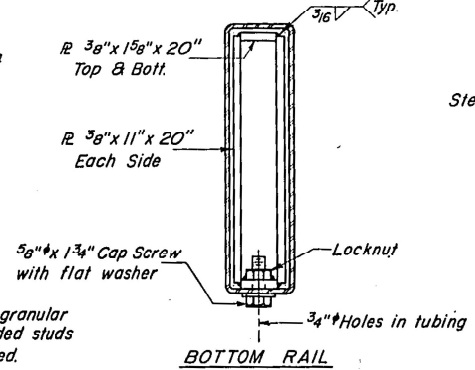
BAR d (E)



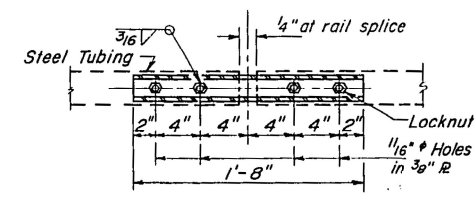
TOP ANCHOR DEVICE



SECTIONS AT RAIL SPLICE



BOTTOM RAIL



PLAN-BOTT SPLICE R TYPICAL

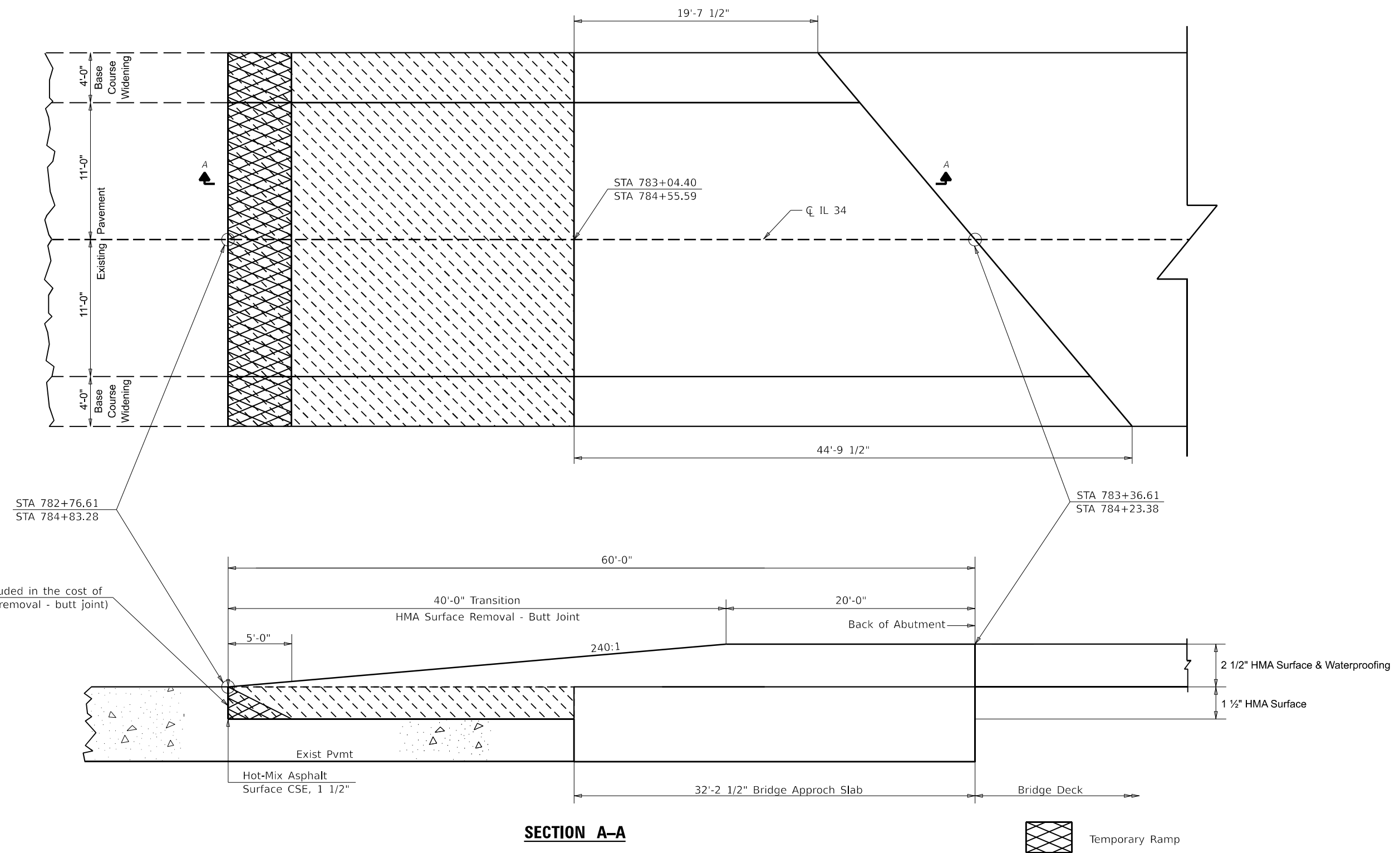
DESIGNED Lee Sheng Hanch
CHECKED R. P. Summer
DRAWN R. P. Summer
CHECKED S. K. H.

EXAMINED *Mark E. Thompson*
PASSED
APPROVED
16" DIRECTOR OF HIGHWAYS

R-24 8-1-76 (19'-0" Maximum Post Spacing)

MODEL: Rtn Sheet 16 (Sheet) FILE NAME: P:\Info\p2023\2023\DOT\Office\District 9\DRD\Projects\78971\CD\Drawings\CD\Sheet\035004\035004.dwg

BUTT JOINT



SECTION A-A

-  Temporary Ramp
 -  Milling
- * Additional milling included in the quantity of hot mix asphalt surface removal - butt joint.

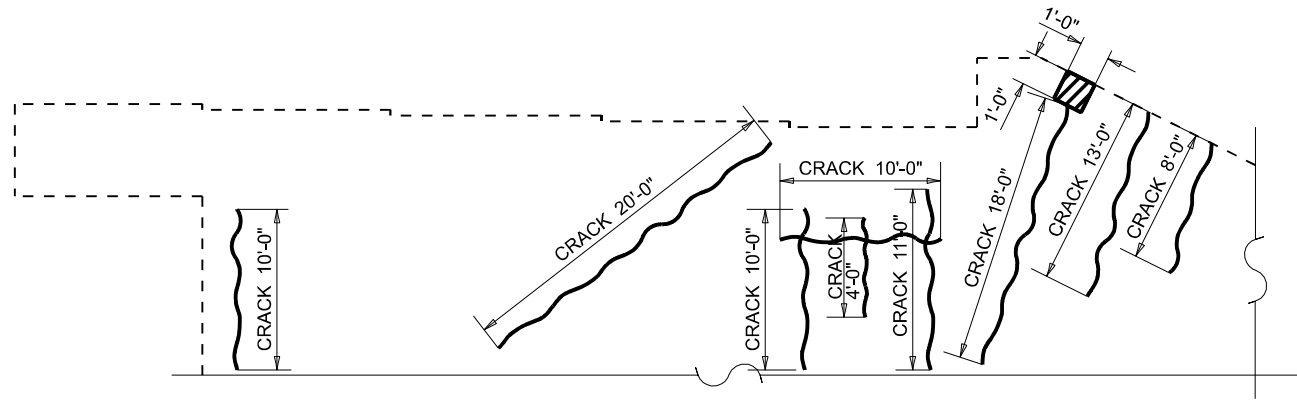
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USER NAME = Derek.Snider	DESIGNED - _____	REVISED - _____
PLOT SCALE = 0.16666633' / in.	DRAWN - _____	REVISED - _____
PLOT DATE = 4/14/2023	CHECKED - _____	REVISED - _____
	DATE - _____	REVISED - _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BUTT JOINT DETAIL SN 035-0004	
SCALE: _____	SHEET _____ OF _____ SHEETS STA. _____ TO STA. _____

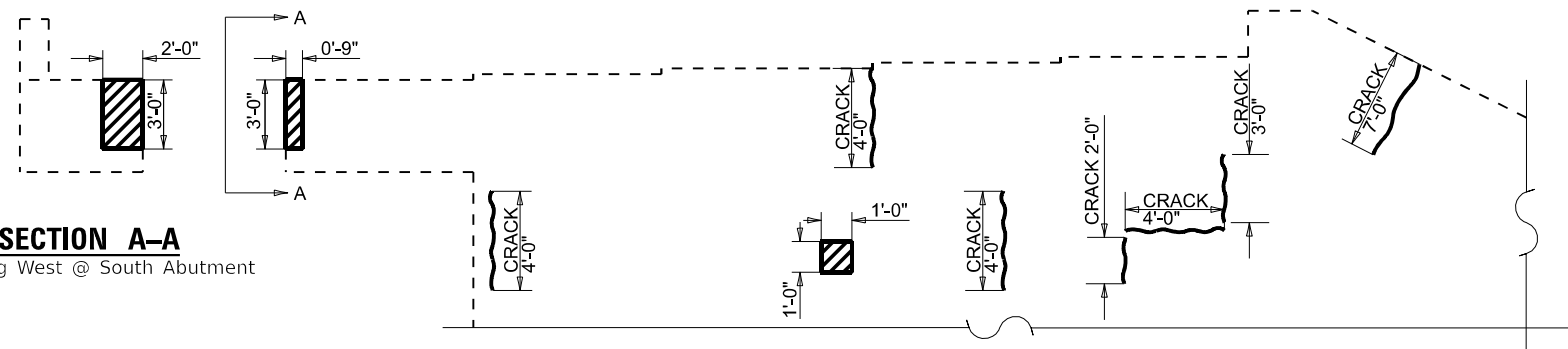
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	D9 BRIDGE REPAIR 2023-2	HARDIN	18	17
CONTRACT NO. 78971				
ILLINOIS FED. AID PROJECT				



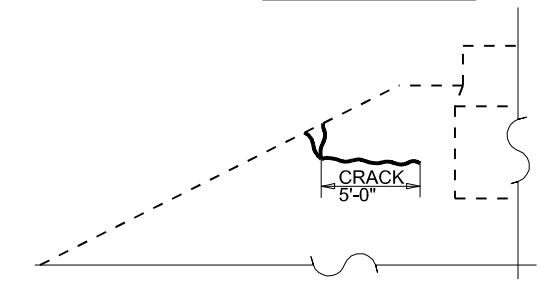
**SOUTH FACE NORTH ABUTMENT
LOOKING NORTH**



**NORTH FACE AT PEIR
LOOKING SOUTH**



**NORTH FACE SOUTH ABUTMENT
LOOKING SOUTH**



**WEST WING WALL AT SOUTH ABUTMENT
LOOKING SOUTH**

SECTION A-A
Looking West @ South Abutment

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth < 5")	SQ. FT.	10,25
Epoxy Crack Injection	FOOT	145

- Structural Repair of concrete (Depth < 5")
- Epoxy Crack Injection

MODEL: P:\in Sheet 18 (Sheet)
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USER NAME = Derek.Snyder	DESIGNED - _____	REVISED - _____
PLOT SCALE = 0.16666633' / in.	DRAWN - _____	REVISED - _____
PLOT DATE = 4/14/2023	CHECKED - _____	REVISED - _____
	DATE - _____	REVISED - _____

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL REPAIR OF CONCRETE
SN 035-0004**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	D9 BRIDGE REPAIR 2023-2	HARDIN	18	18
CONTRACT NO. 78971				
ILLINOIS FED. AID PROJECT				