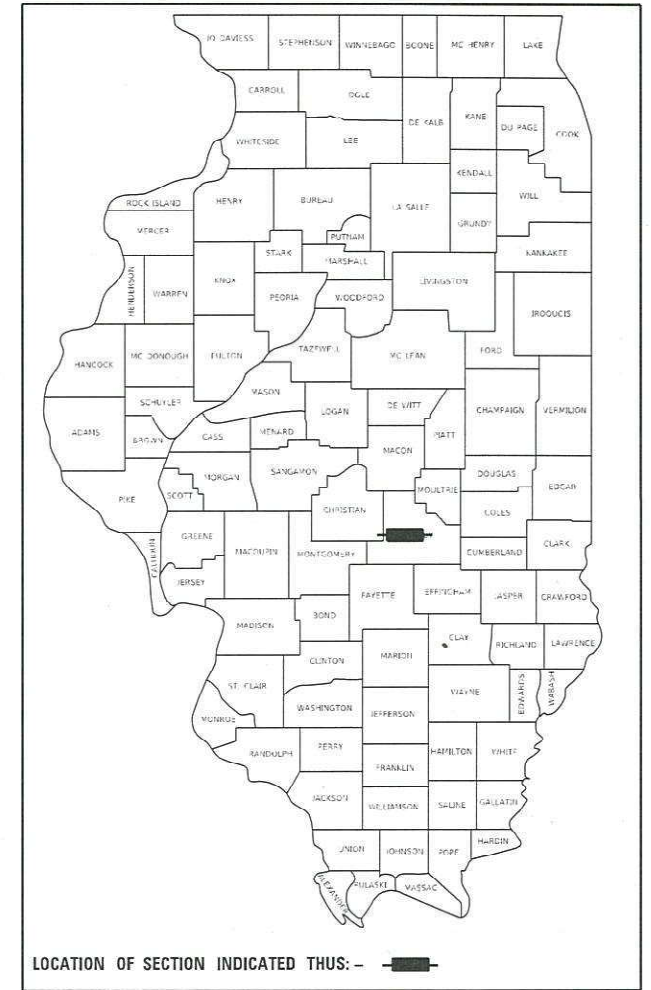


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
774	D7 BRIDGE REPAIRS 2021-4	SHELBY	22	1
		ILLINOIS	CONTRACT NO. 74991	

D-97-068-20

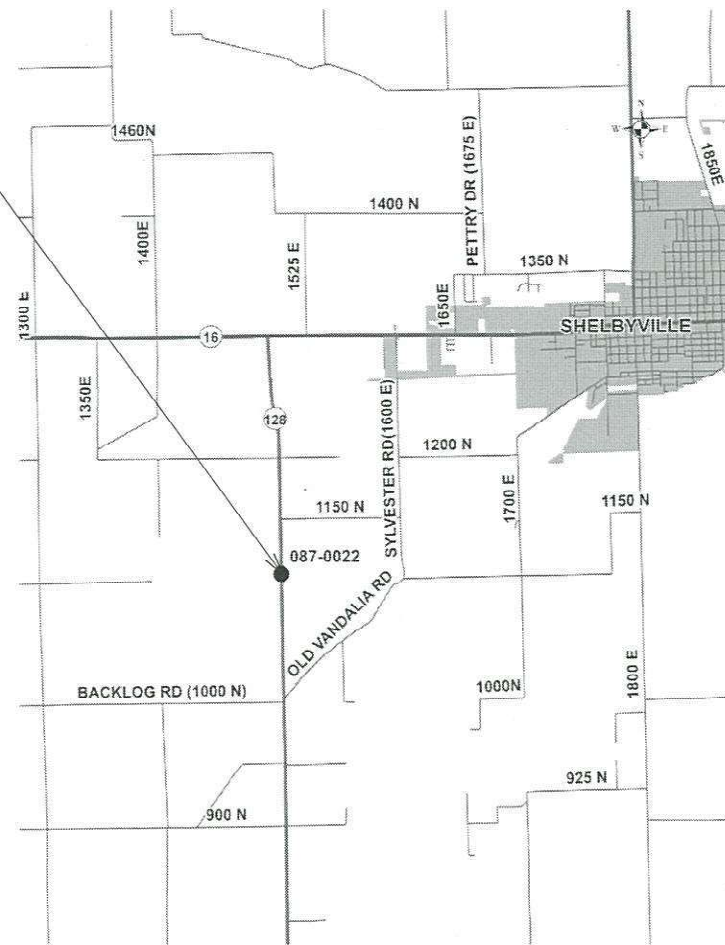


**PROPOSED  
HIGHWAY PLANS**

FAP ROUTE 774 (IL 128)  
D7 BRIDGE REPAIRS 2021-4  
PROJECT STP-R37B(806)  
BRIDGE DECK REPAIRS  
SHELBY COUNTY

C-97-076-20

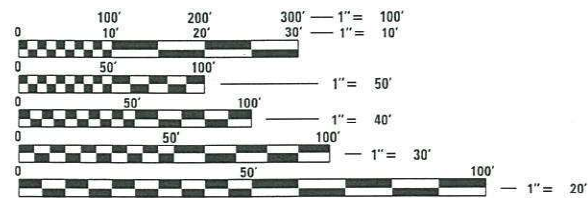
PROJECT LOCATION  
STATION 102 + 75



GROSS LENGTH = 326.00 FT. = 0.062 MILE  
NET LENGTH = 326.00 FT. = 0.062 MILE

FOR INDEX OF SHEETS, SEE SHEET NO. 2

AADT (2021) = 2800



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: DEBRA G. BARRETT  
PROJECT MANAGER: LEVI LUND  
PHONE NO.: (217) 342-8243  
CONTRACT NO. 74991

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED January 26 20 21  
Jeffrey P. Myrnes  
REGIONAL ENGINEER

March 19, 2021  
Scott A. Etk  
ENGINEER OF DESIGN AND ENVIRONMENT

March 19, 2021  
James J. Gu  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

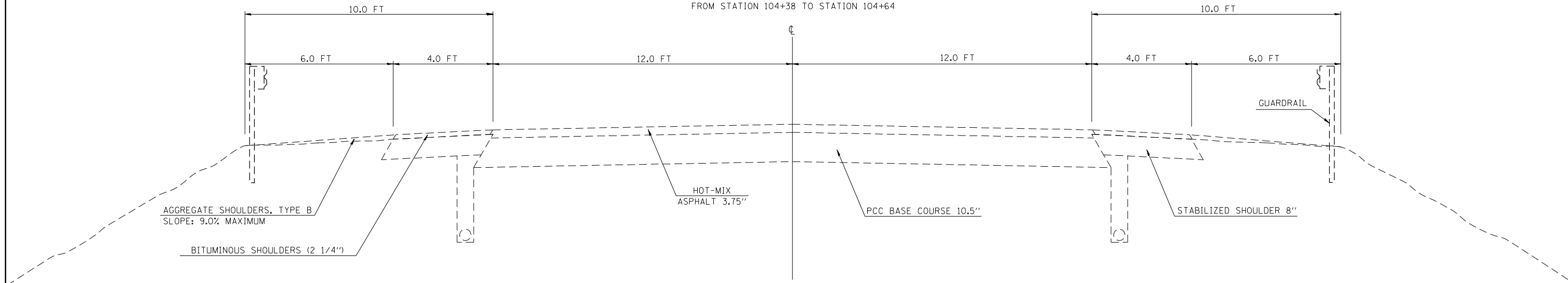






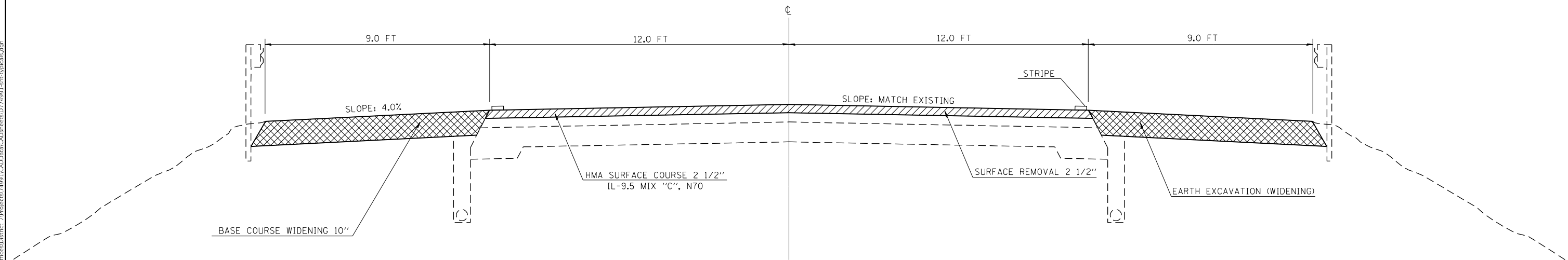
EXISTING TYPICAL CROSS SECTION

FROM STATION 100+86 TO STATION 101+12  
FROM STATION 104+38 TO STATION 104+64



PROPOSED TYPICAL CROSS SECTION

FROM STATION 100+86 TO STATION 101+12  
FROM STATION 104+38 TO STATION 104+64



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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>TYPICAL CROSS SECTION</b>				
SCALE:	SHEET	OF	SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
774	D7 BRIDGE REPAIRS 2021-4	SHELBY	22	5
CONTRACT NO. 74991				
ILLINOIS FED. AID PROJECT				

EARTH EXCAVATION (WIDENING)						
STATION	TO	STATION	LENGTH (FT)	WIDTH (FT)	DEPTH (FT)	AREA (CU YD)
99+51.00		101+08.00	157.00	9	0.83	43.6
104+34.00		105+91.00	157.00	9	0.83	43.6
99+39.00		101+17.00	178.00	9	0.83	49.4
104+42.00		106+11.00	169.00	9	0.83	46.9
<b>TOTAL =</b>						<b>184</b>

BASE COURSE WIDENING 10"						
STATION	TO	STATION	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)	
LT 99+51.00		101+08.00	157.00	9	157.0	
LT 104+34.00		105+91.00	157.00	9	157.0	
RT 99+39.00		101+17.00	178.00	9	178.0	
RT 104+42.00		106+11.00	169.00	9	169.0	
<b>TOTAL =</b>						<b>661</b>

BITUMINOUS MATERIALS (TACK COAT)							
STATION	TO	STATION	LENGTH (FT)	WIDTH (FT)	AREA (SQ FT)	POUND	
<b>MAINLINE</b>							
100+86.00		101+12.00	26.00	24	624.0	31.20	
104+38.00		104+64.00	26.00	24	624.0	31.20	
<b>TOTAL =</b>							<b>669</b>

TEMPORARY RAMP						
STATION	TO	STATION	DROPOFF (FT)	LENGTH (FT)	MAINLINE WIDTH (FT)	AREA (SQ YD)
100+86.00		100+94.32	0.208	8.32	42	38.83
101+03.68		101+12.00	0.208	8.32	42	38.83
104+38.00		104+46.32	0.208	8.32	42	38.83
104+55.68		104+64.00	0.208	8.32	42	38.83
<b>TOTAL =</b>						<b>155</b>

HOT-MIX ASPHALT SURFACE COURSE, IL-9.5 MIX "C", N70							
STATION	TO	STATION	LENGTH (FT)	WIDTH (FT)	MAINLINE AREA (SQ YD)	THICKNESS (IN)	(TON)
100+86.00		101+12.00	26.00	24	69.3	2.50	9.7
104+38.00		104+64.00	26.00	24	69.3	2.50	9.7
<b>TOTAL =</b>							<b>20</b>

PAVEMENT REMOVAL 2 1/2"					
STATION	TO	STATION	LENGTH (FT)	WIDTH (FT)	SQ YD
100+86.00		101+12.00	26.00	24	69.3
104+38.00		104+64.00	26.00	24	69.3
<b>TOTAL =</b>					<b>139</b>

PAVEMENT MARKING BLACKOUT TAPE, 5"				
STAGE	STATION	TO	STATION	LENGTH (FT)
<b>STAGE 1</b>				
CENTERLINE	97+79.00		100+02.00	55.75
CENTERLINE	105+48.00		107+65.00	54.25
LT	99+63.00		105+80.00	617.00
<b>STAGE 2</b>				
CENTERLINE	97+79.00		99+51.00	43.00
CENTERLINE	105+36.00		107+65.00	57.25
RT	99+39.00		106+11.00	672.00
<b>TOTAL =</b>				<b>1499</b>

SHORT TERM PAVEMENT MARKING				
	STATION	TO	STATION	LENGTH (FT)
CENTERLINE	100+86.00		104+64.00	40.00
LT	100+86.00		104+64.00	16.00
RT	100+86.00		104+64.00	16.00
<b>TOTAL =</b>				<b>72</b>

SHORT TERM PAVEMENT MARKING REMOVAL						
	STATION	TO	STATION	LENGTH (FT)	WIDTH (FT)	SQ FT
CENTERLINE	100+86.00		104+64.00	40.00	0.33	13.3
LT	100+86.00		104+64.00	16.00	0.33	5.3
RT	100+86.00		104+64.00	16.00	0.33	5.3
REMOVAL FOR BLACKOUT TAPE 5"						
STAGE	STATION	TO	STATION	LENGTH (FT)	WIDTH (FT)	SQ FT
<b>STAGE 1</b>						
CENTERLINE	97+79.00		100+02.00	55.75	0.42	23.23
CENTERLINE	105+48.00		107+65.00	54.25	0.42	22.60
RT	99+63.00		105+80.00	617.00	0.42	257.08
<b>STAGE 2</b>						
CENTERLINE	97+79.00		99+51.00	43.00	0.42	17.92
CENTERLINE	105+36.00		107+65.00	57.25	0.42	23.85
LT	99+39.00		106+11.00	672.00	0.42	280.00
<b>TOTAL =</b>						<b>649</b>

TEMPORARY CONCRETE BARRIER				
STAGE	STATION	TO	STATION	LENGTH (FT)
<b>STAGE 1</b>				
	99+54.00		105+96.00	642.00
<b>TOTAL =</b>				<b>642</b>

RELOCATE TEMPORARY CONCRETE BARRIER				
STAGE	STATION	TO	STATION	LENGTH (FT)
<b>STAGE 2</b>				
	99+66.00		105+84.00	618.00
<b>TOTAL =</b>				<b>618</b>

PAINT PAVEMENT MARKING - LINE 4"					
	STATION	TO	STATION	LENGTH (FT)	COLOR
LT	99+51.00		105+91.00	640.00	WHITE
RT	99+39.00		106+11.00	672.00	WHITE
CENTERLINE	100+86.00		104+64.00	96.00	YELLOW
<b>TOTAL =</b>				<b>1408</b>	

PINNING TEMPORARY CONCRETE BARRIER					
STAGE	STATION	TO	STATION	LENGTH (FT)	EACH
<b>STAGE 1</b>					
	99+54.00		100+61.00	107.00	26
	104+89.00		105+96.00	107.00	26
TRANSITIONS ON EACH END 3 PINS EACH					6
<b>STAGE 2</b>					
	99+66.00		100+61.00	95.00	23
	104+89.00		105+84.00	95.00	23
TRANSITIONS ON EACH END 3 PINS EACH					6
<b>TOTAL =</b>					<b>109</b>

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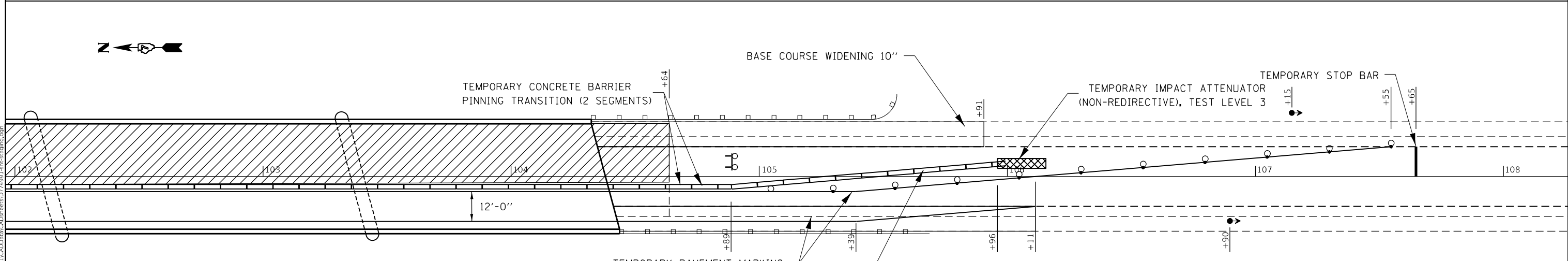
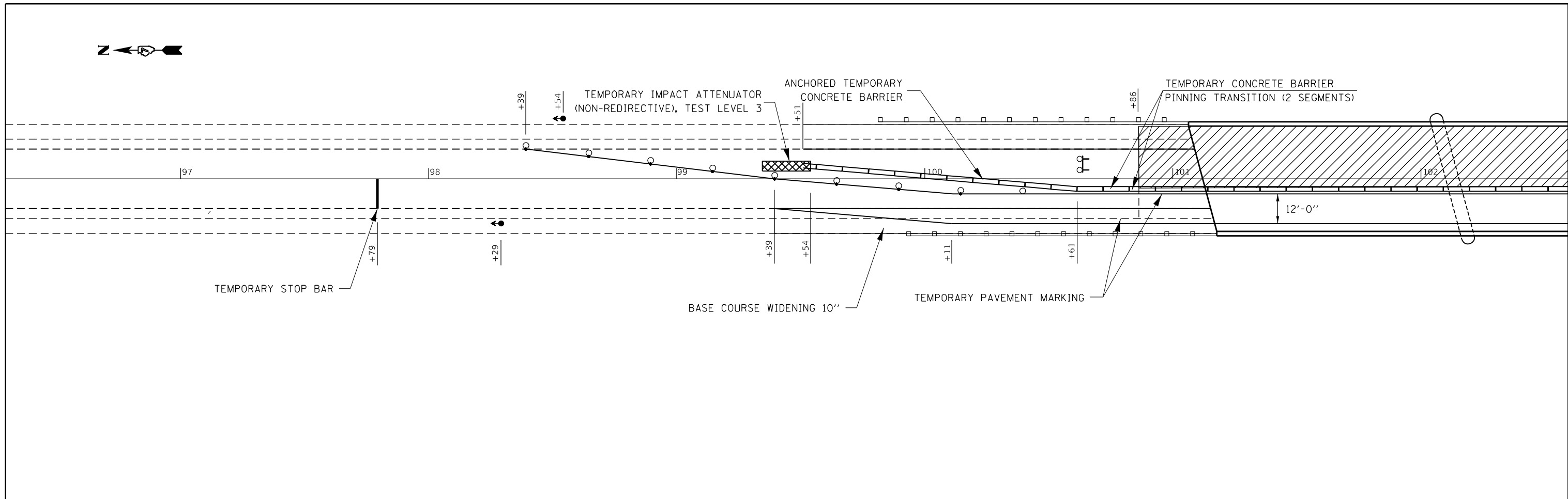
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SCHEDULE OF QUANTITIES**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
774	D7 BRIDGE REPAIR 2021-4	SHELBY	22	6
CONTRACT NO. 74991				
ILLINOIS FED. AID PROJECT				



**SECTION**  
STAGE 1 TYPICAL SECTION

**SYMBOLS**

- WORK AREA
- DRUM WITH STEADY BURNING BI-DIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER
- TYPE III BARRICADE WITH FLASHING LIGHTS
- TRAFFIC SIGNAL
- IMPACT ATTENUATOR
- DRUM

**NOTES**

SEE TRAFFIC CONTROL AND PROTECTION STANDARD 701321 FOR INFORMATION NOT SHOWN ON THIS SHEET

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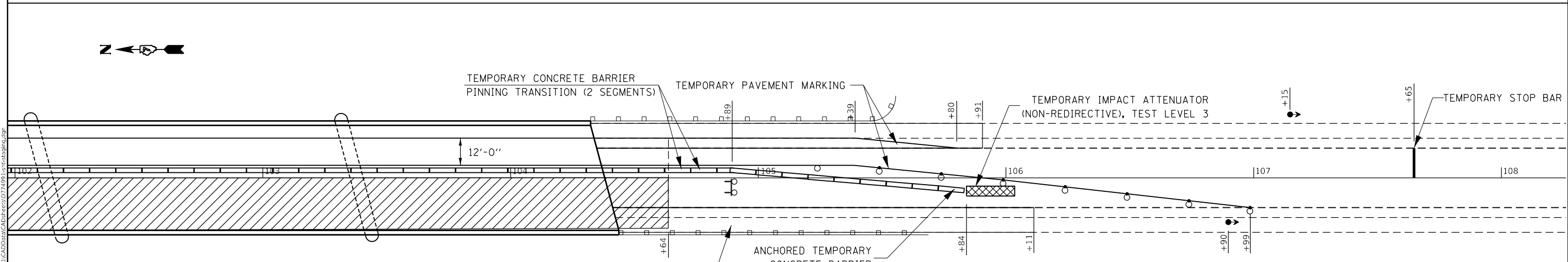
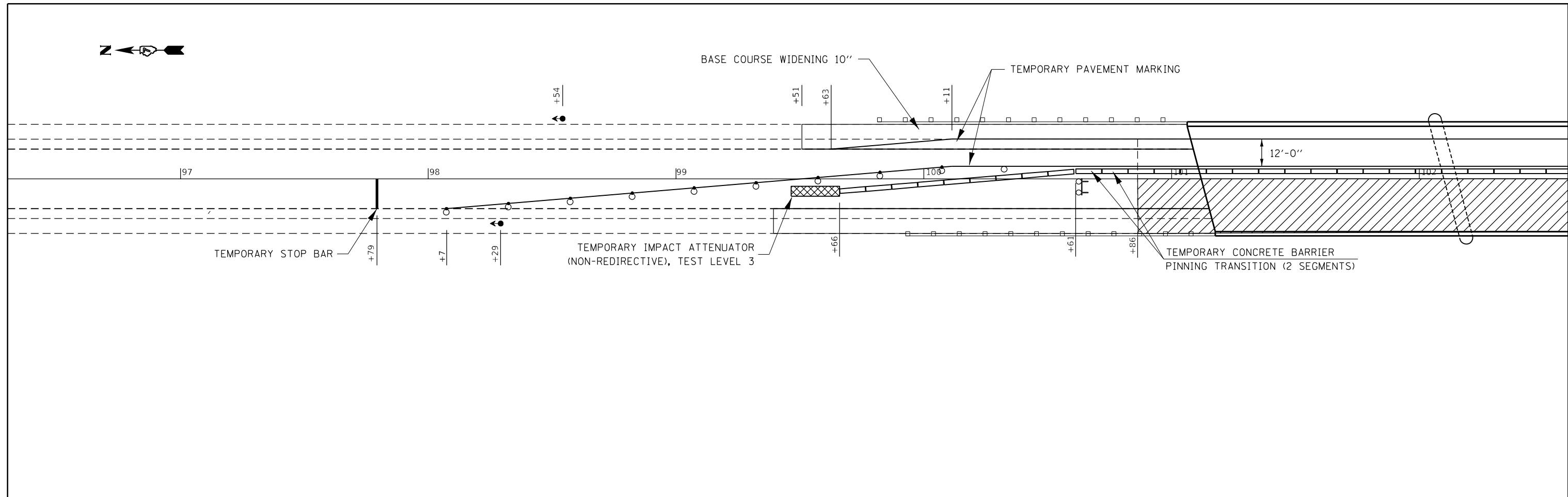
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGE I CONSTRUCTION**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
774	D7 BRIDGE REPAIRS 2021-4	SHELBY	22	7
CONTRACT NO. 74991				
ILLINOIS		FED. AID PROJECT		



**SECTION**  
STAGE I TYPICAL SECTION

EXISTING GUARDRAIL

9.0'

EX. PAVEMENT

BASE COURSE WIDENING 10"

**SYMBOLS**

- WORK AREA
- DRUM WITH STEADY BURNING BI-DIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER
- TYPE III BARRICADE WITH FLASHING LIGHTS
- TRAFFIC SIGNAL
- IMPACT ATTENUATOR
- DRUM

**NOTES**

SEE TRAFFIC CONTROL AND PROTECTION STANDARD 701321 FOR INFORMATION NOT SHOWN ON THIS SHEET

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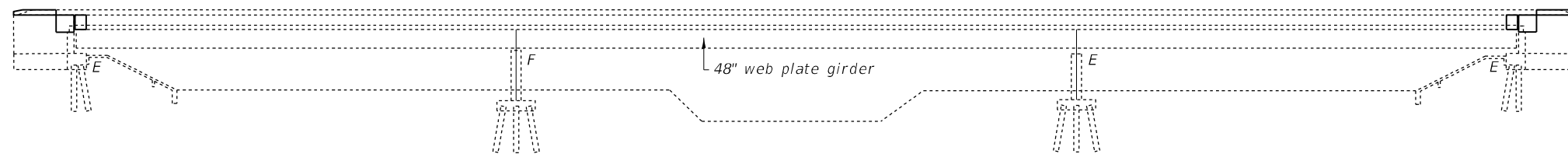
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

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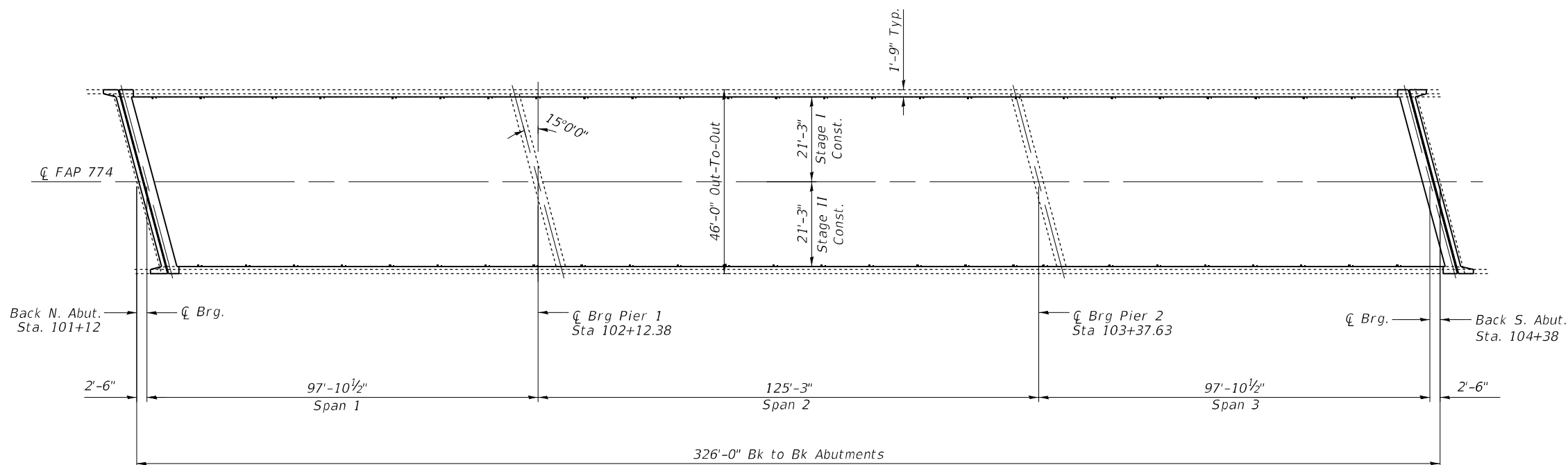
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774	D7 BRIDGE REPAIR 2021-4	SHELBY	22	8
CONTRACT NO. 74991				
ILLINOIS		FED. AID PROJECT		



The existing three span, steel plate girder structure was constructed in 1975 as SBI 128, Section 101BR. Structure 087-0022 carries ILL-128(FAP 774) over Robinson Creek. The proposed project consists of new expansions joints, deck patching, scarification, concrete overlay and structural steel repairs.



ELEVATION



PLAN



Expires 11-30-2022

*David Carl Puzey*

03/08/2021

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION  
STRUCTURE 087-0022

SCALE: SHEET 1 OF 14 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
774	D7 BRIDGE REPAIRS 2021-4	SHELBY	22	9
			CONTRACT NO. 74991	
ILLINOIS FED. AID PROJECT				

**GENERAL NOTES**

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 operations shall be replaced with an approved bar splicer or anchorage system. Cost included with CONCRETE REMOVAL.

Removal and reinstallation of the handrail support posts will be necessary for construction of the expansion joints. The existing handrail sections and support posts shall be reused. New bolts and post support anchor assemblies, are to be provided and installed as detailed in the plan. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

Synthetic fibers should be added to the bridge Deck Fly Ash or GGBF Slag Overlay 2½". See Special Provisions.

Protective Coat shall be applied to areas of Concrete Superstructure consisting of the front face and the top of wingwall and curb, and the top surface of the exposed expansion joint blockouts. In addition, Protective Coat shall be applied the new Bridge Deck Fly Ash or GGBF Concrete Overlay 2½".

Prior to pouring the new concrete deck, 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.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50 °F.

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.

It is anticipated that a full depth deck slab repair will be necessary at each existing floor drains location. Removal and disposal of the existing floor drains shall be included in the contract unit price for Deck Slab Repair (Full Depth, Type I).

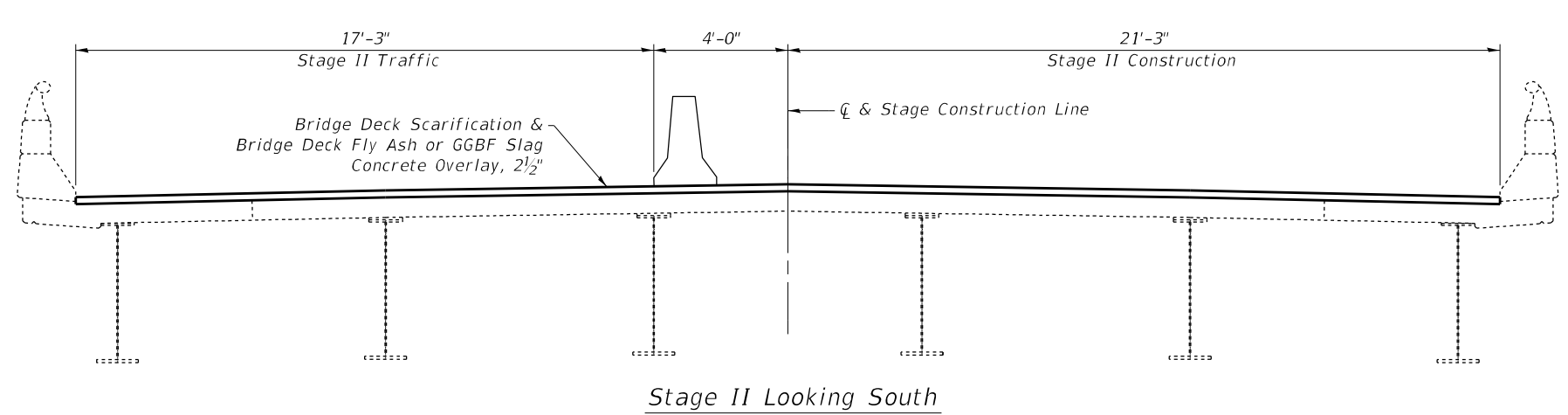
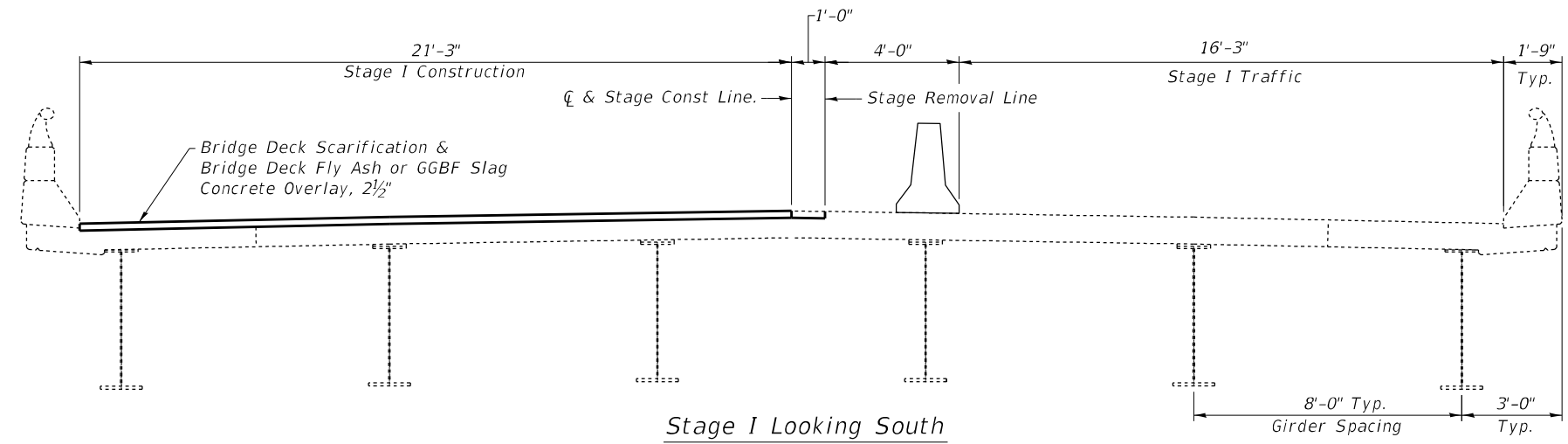
Full depth deck slab repairs performed in the exterior bays of the bridge deck (between the parapet walls and the first interior beams) shall be limited to individual lengths no greater than 10'. In these portions of the deck, repair areas longer than 10' shall be divided into segments not greater than 10' in length, and the segments shall be poured in alternating sequence. Subsequent segments repaired in sequence shall not be removed until 72 hours shall have elapsed from the end of the previous, adjacent pour, and the adjacent pour shall have attained a minimum modulus of rupture of 650psi.

Reinforcement Bars designated (E) shall be epoxy coated.

Proposed new Floor Drains shall be constructed of 6" diameter aluminum tube. Fiberglass pipe alternative shall not be allowed.

**TOTAL BILL OF MATERIALS**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	18.0
Concrete Superstructure	Cu. Yd.	19.6
Reinforcement Bars, Epoxy Coated	Pound	2830
Bridge Deck Scarification 2½"	Sq. Yd.	1498
Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2½"	Sq. Yd.	1498
Bridge Deck Grooving	Sq. Yd.	1449
Preformed Joint Strip Seal	Foot	92
Protective Coat	Sq. Yd.	1545.2
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	19
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	41
Floor Drains	Each	40
Bar Splicers	Each	24
Structural Repair of Concrete (Depth ≤ 5")	Sq. Ft.	241
Temporary Shoring & Cribbing	Each	2
Structural Steel Repair	Pound	1420



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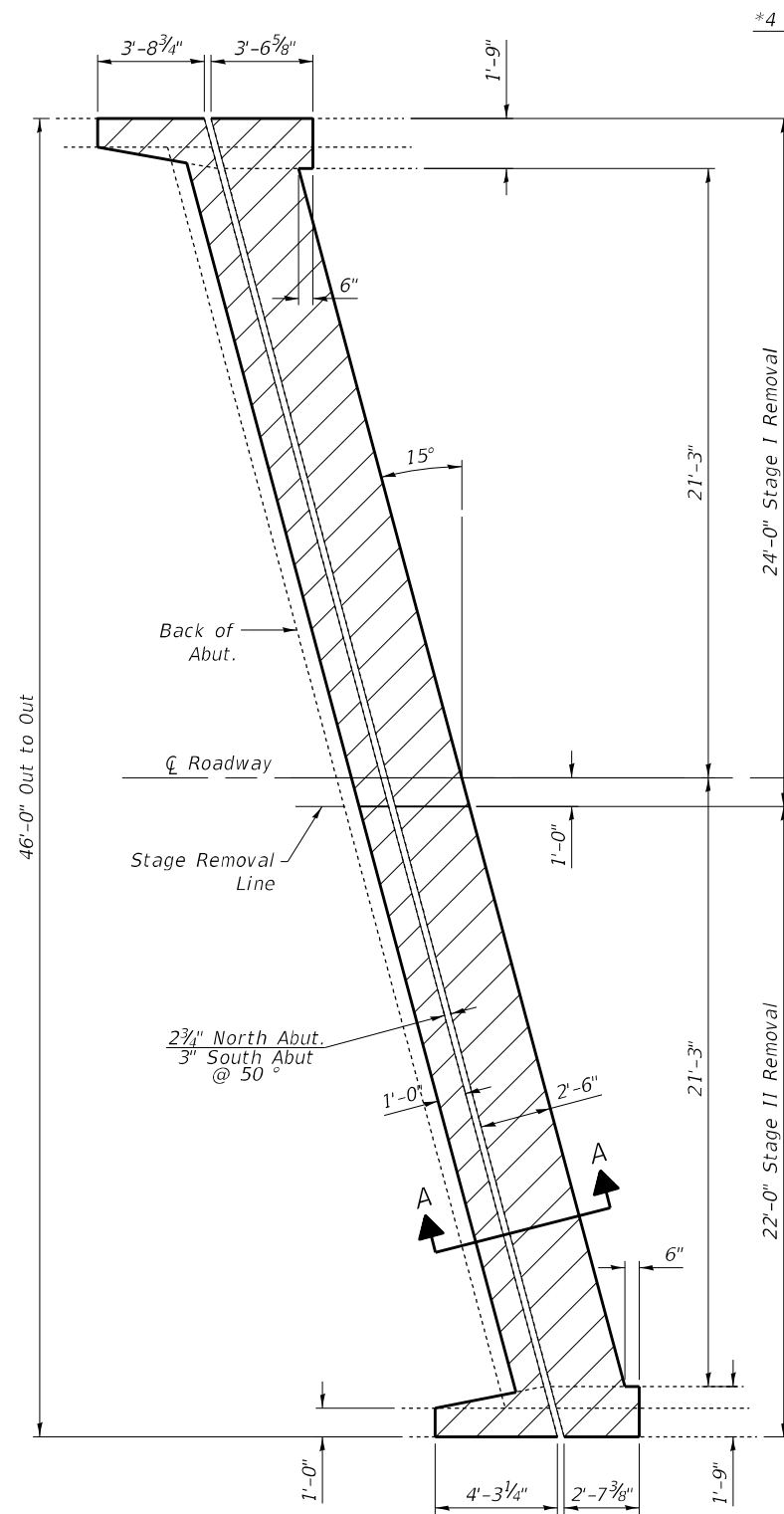
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS & GENERAL NOTES  
STRUCTURE 087-0022**

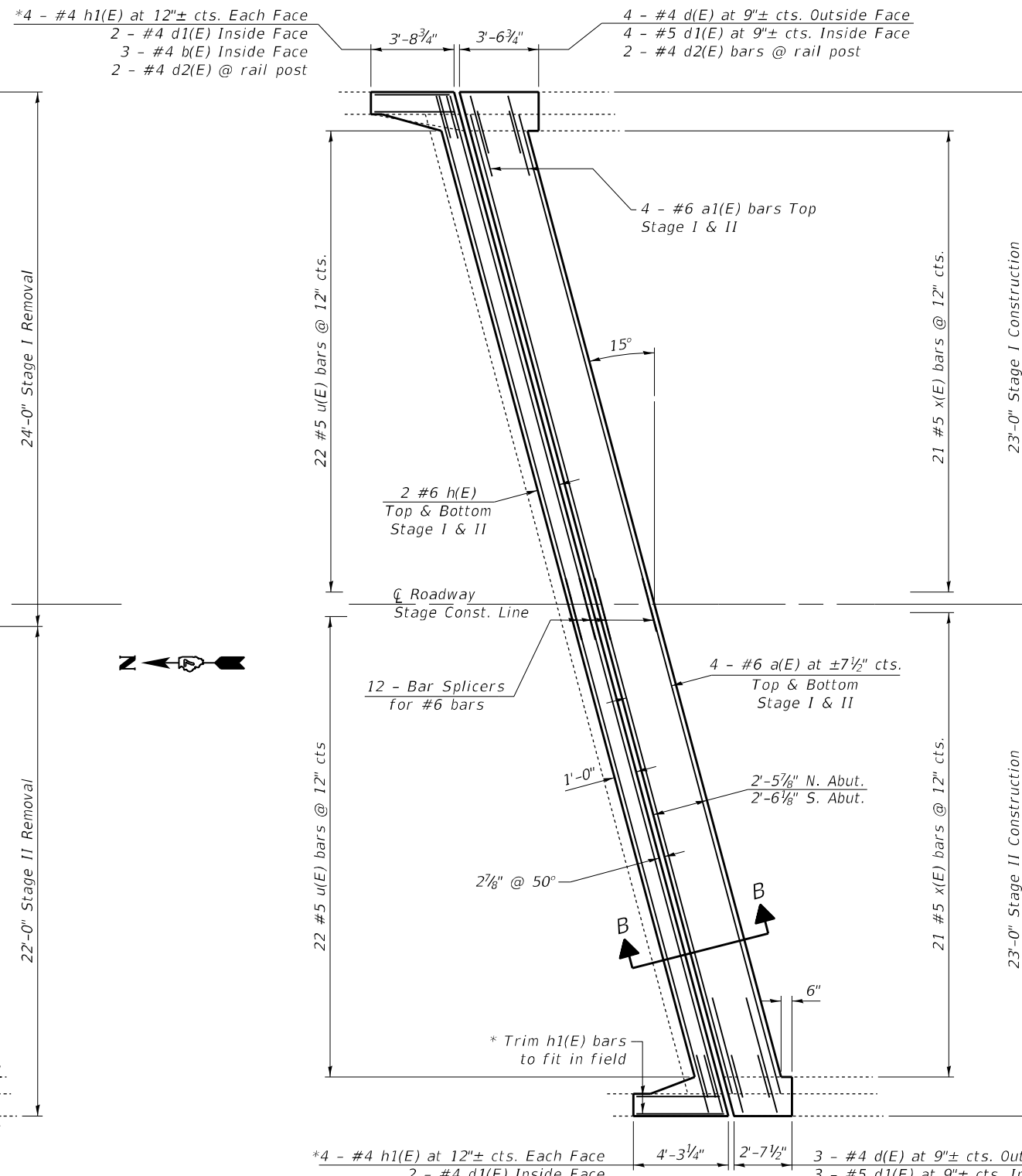
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F.A.P. RTE. 774	SECTION D7 BRIDGE REPAIRS 2021-4	COUNTY SHELBY	TOTAL SHEETS 22	SHEET NO. 10
CONTRACT NO. 74991				
ILLINOIS FED. AID PROJECT				

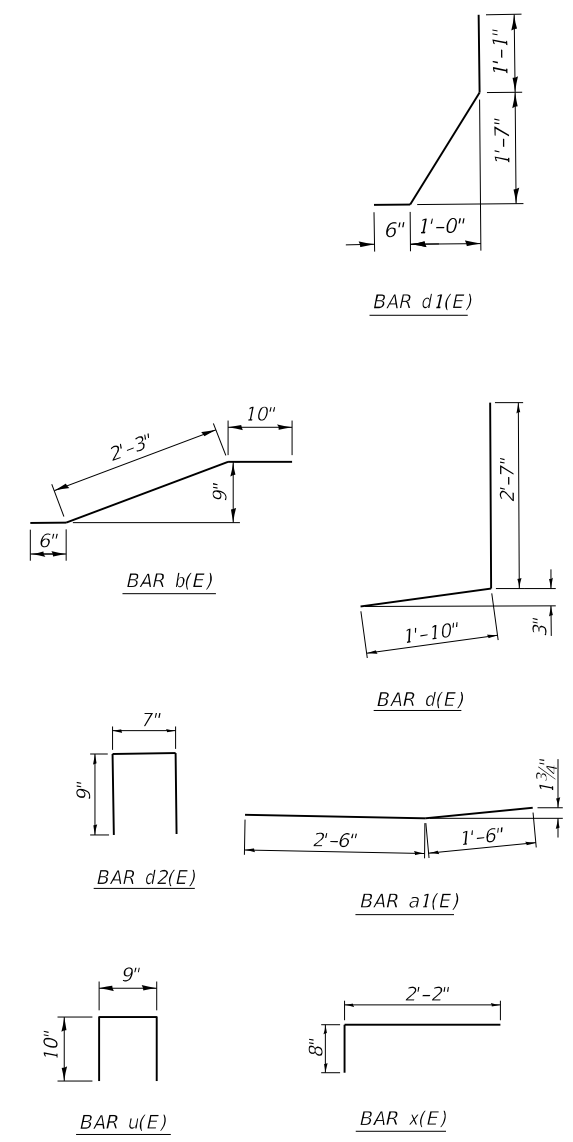


**JOINT REMOVAL PLAN**  
(N. Abut. shown, S. Abut. similar by rotation.)

Note:  
Hatched Area Indicates Removal



**REINFORCEMENT PLAN**  
(N. Abut. shown, S. Abut. similar by rotation.)



**BILL OF MATERIALS - TWO ABUTMENTS**

Bar	No.	Size	Length	Shape
a (E)	32	#6	22'-8"	—
a1(E)	16	#6	4'-0"	—
d (E)	14	#4	4'-5"	J
d1(E)	22	#5	3'-5"	J
d2(E)	16	#4	2'-1"	П
b(E)	12	#4	3'-7"	—
x(E)	84	#5	2'-10"	┌
u(E)	88	#5	2'-5"	П
h(E)	16	#6	23'-6"	—
h1(E)	32	#4	4'-0"	—
ITEM	UNIT	QUANTITY		
Concrete Removal	Cu. Yd.	18		
Concrete Superstructure	Cu. Yd.	18		
Bar Splicers	Each	24		
Reinforcement Bars, Epoxy Coated	Pound	2480		

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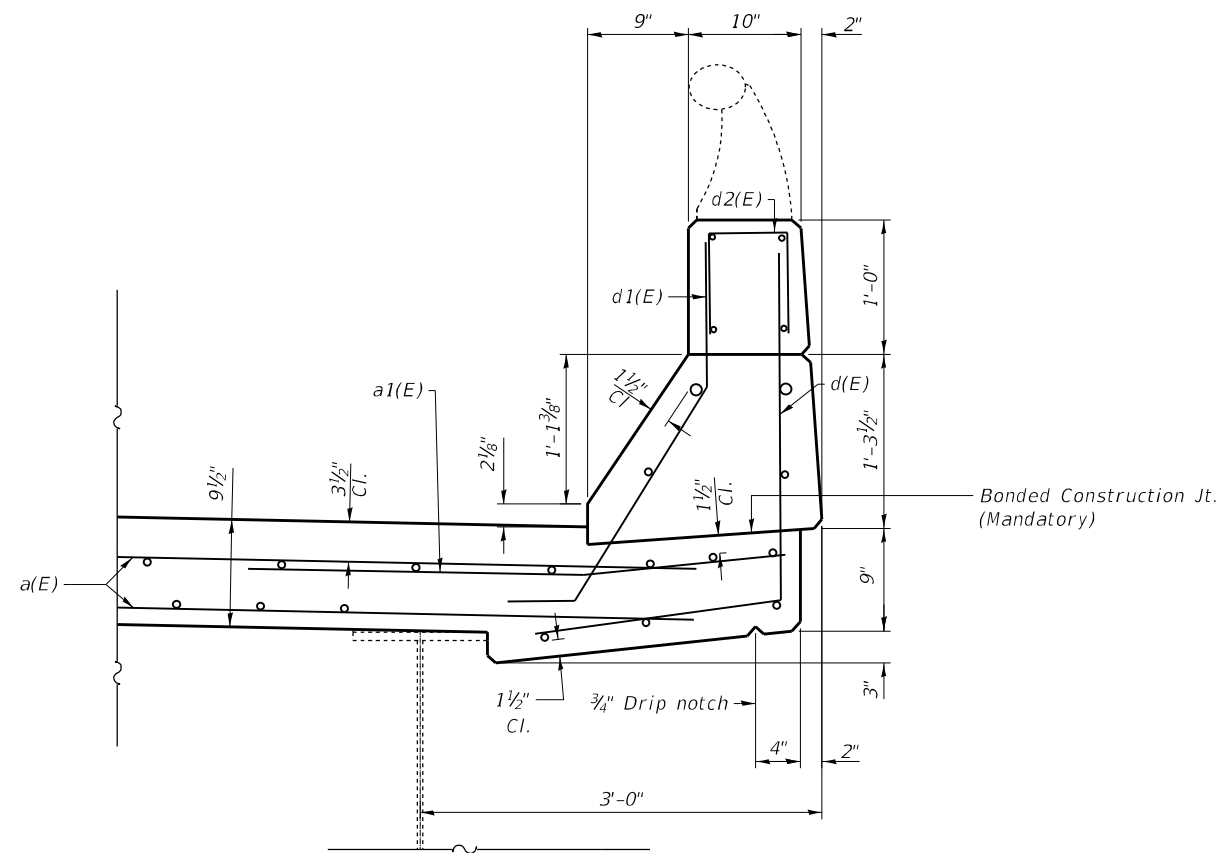
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

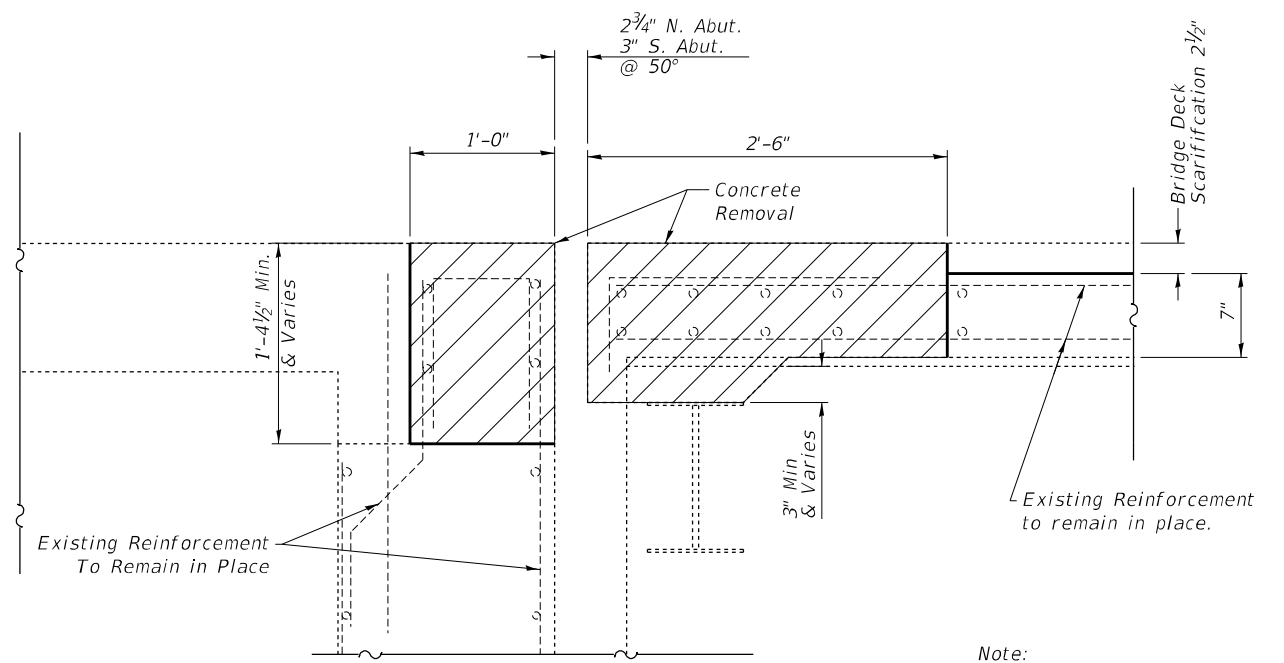
**EXPANSION JOINT REPLACEMENT DETAILS  
STRUCTURE 087-0022**

SCALE: SHEET 3 OF 14 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74991				
ILLINOIS / FED. AID PROJECT				

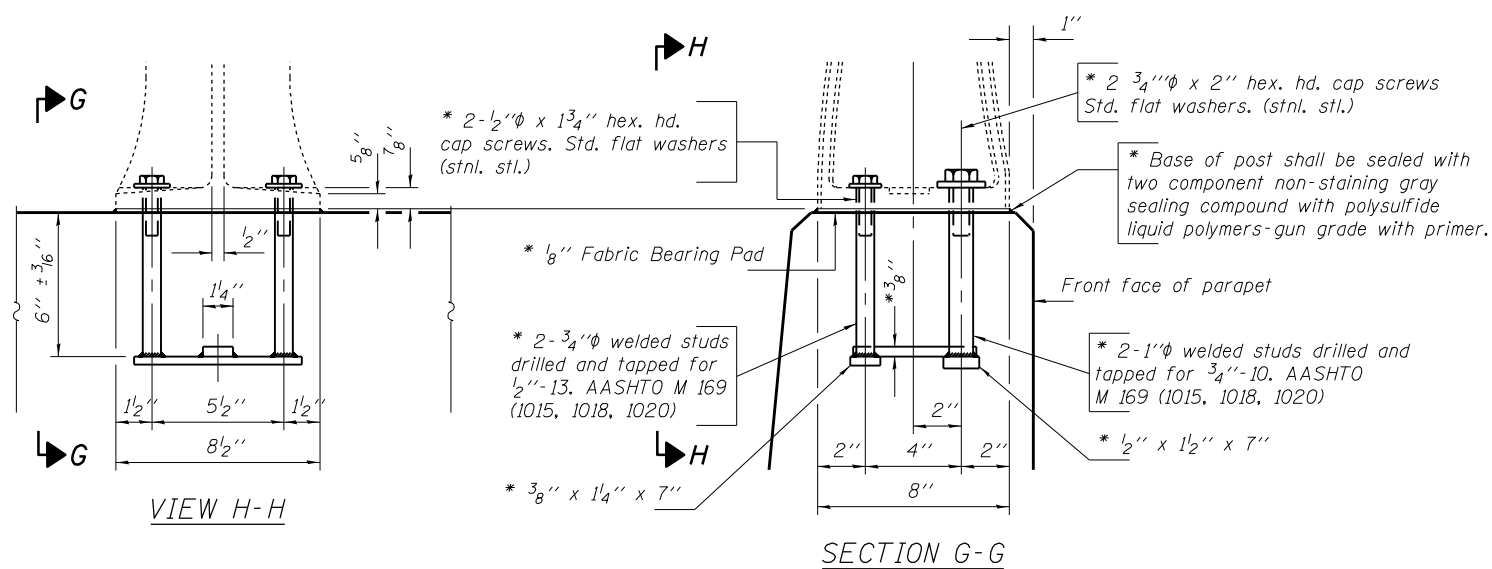


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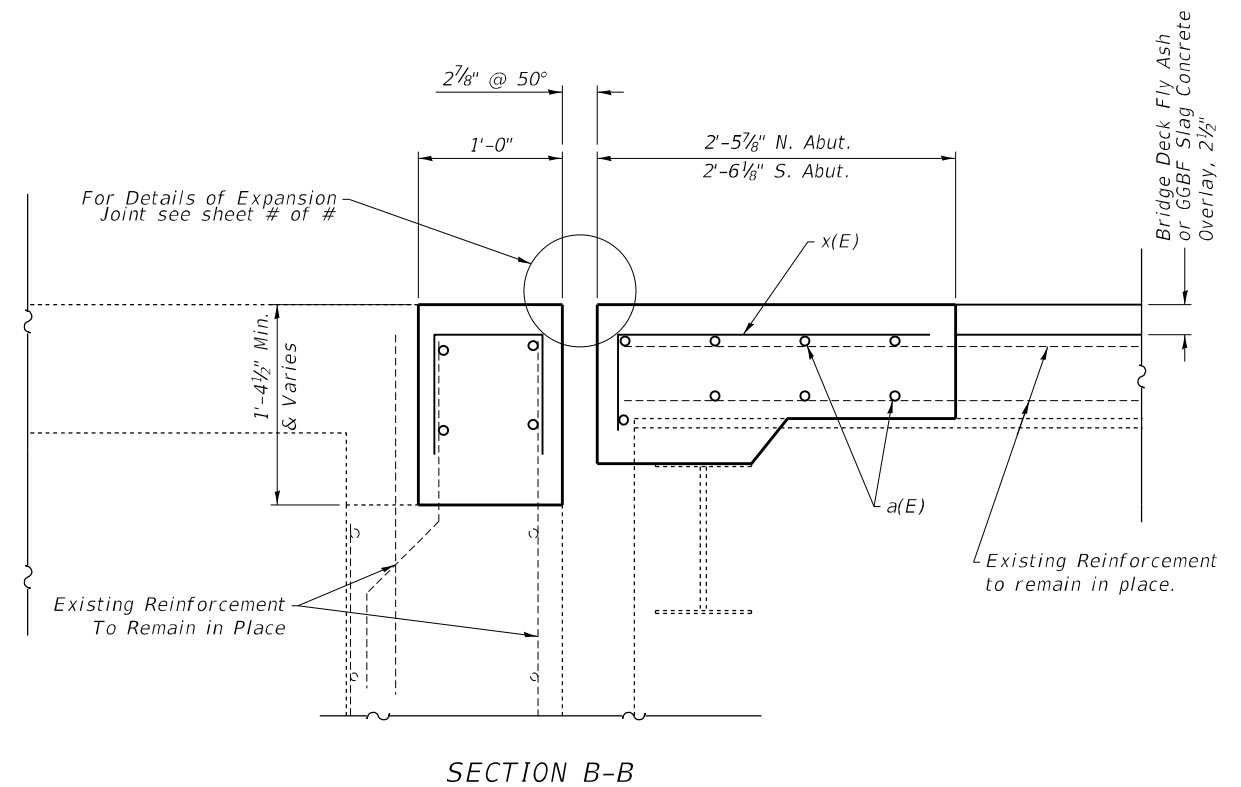


SECTION A-A

Note:  
Hatched Areas  
Indicate Removal



RAIL POST DETAILS  
(8 Locations Required)



SECTION B-B

\* New Rail Post anchorage devices will be required at each location where posts are connected to new construction. Cost shall be included with Concrete Superstructure. In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting stainless steel anchor rods of the same diameter and grade as the specified cap screws according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

MODEL: Default  
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 PROJECT: 74991\CADD\DATA\CAD\Drawings\DOT Office\Drawings\74991\Structure\074991-Structure.dwg

USER NAME = steffemk	DESIGNED - R. BALLARD	REVISED -
PLOT SCALE = 100,0000' / in.	DRAWN - R. BALLARD	REVISED -
PLOT DATE = 1/27/2021	CHECKED - D. MACKLIN	REVISED -
	DATE - 05/2020	REVISED -

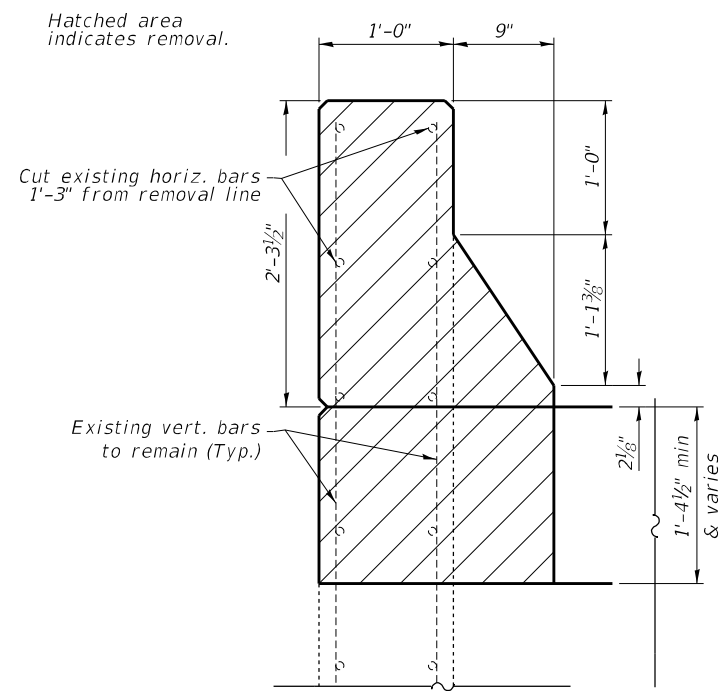
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REPLACEMENT DETAILS  
STRUCTURE 087-0022

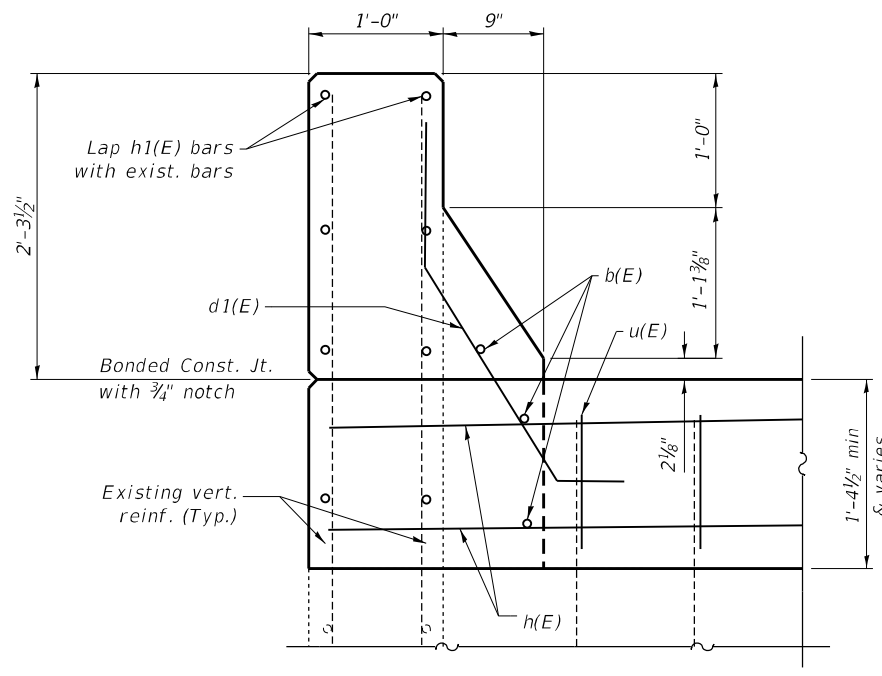
SCALE: SHEET 4 OF 14 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
774	D7 BRIDGE REPAIRS 2021-4	SHELBY	22	12
CONTRACT NO. 74991				
ILLINOIS FED. AID PROJECT				

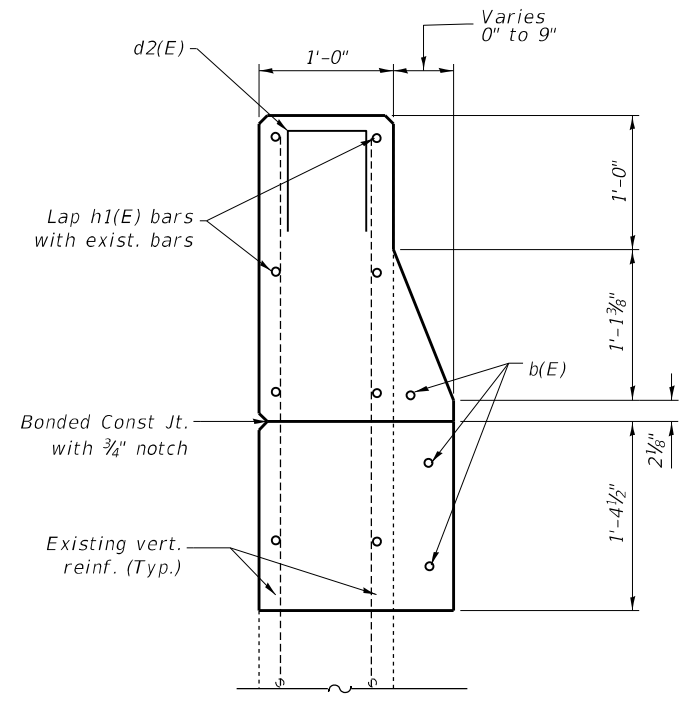
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PROJECT: 74991\CADD\data\CAD\projects\074991-1-struct.dwg



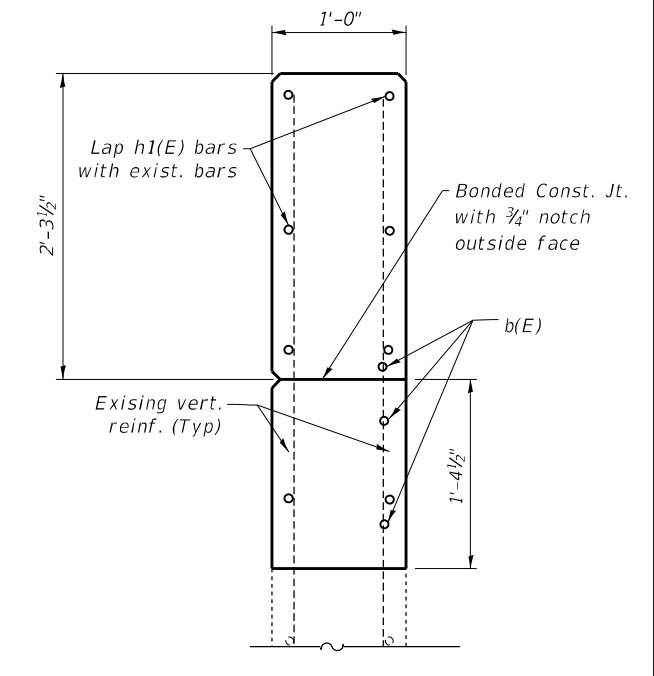
**SECTION C-C**  
Removal section  
at wing wall



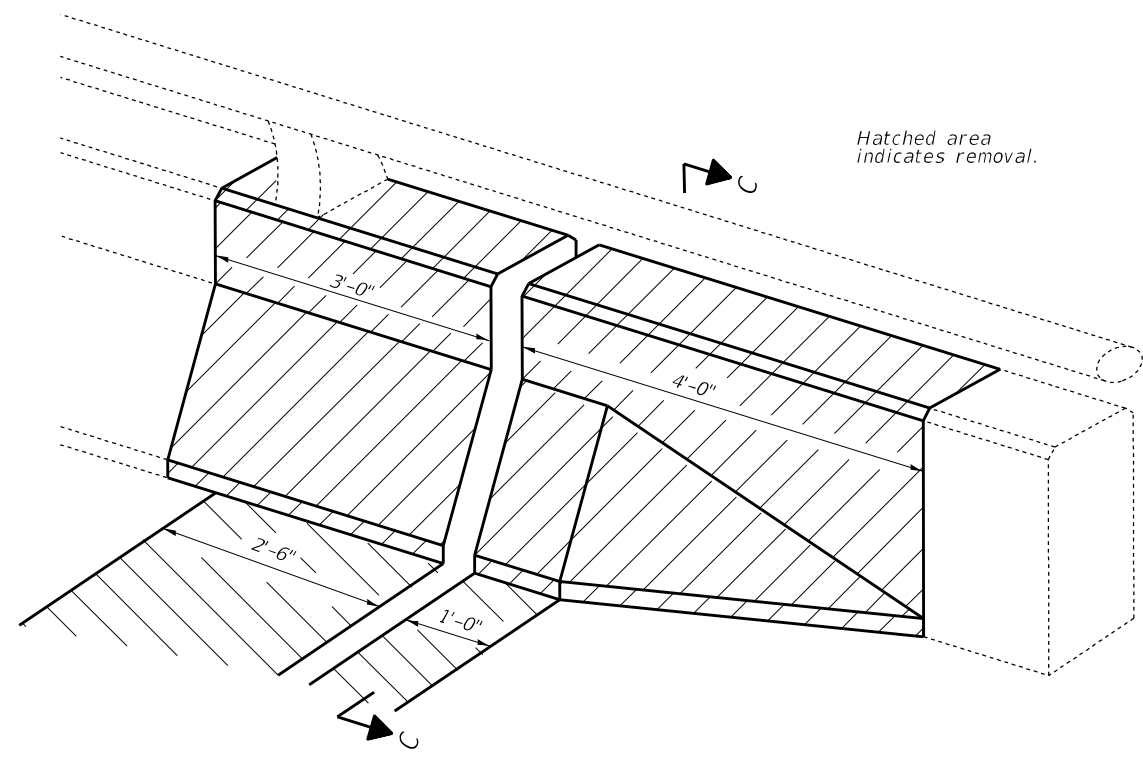
**SECTION D-D**  
Proposed section thru wing  
wall at expansion joint



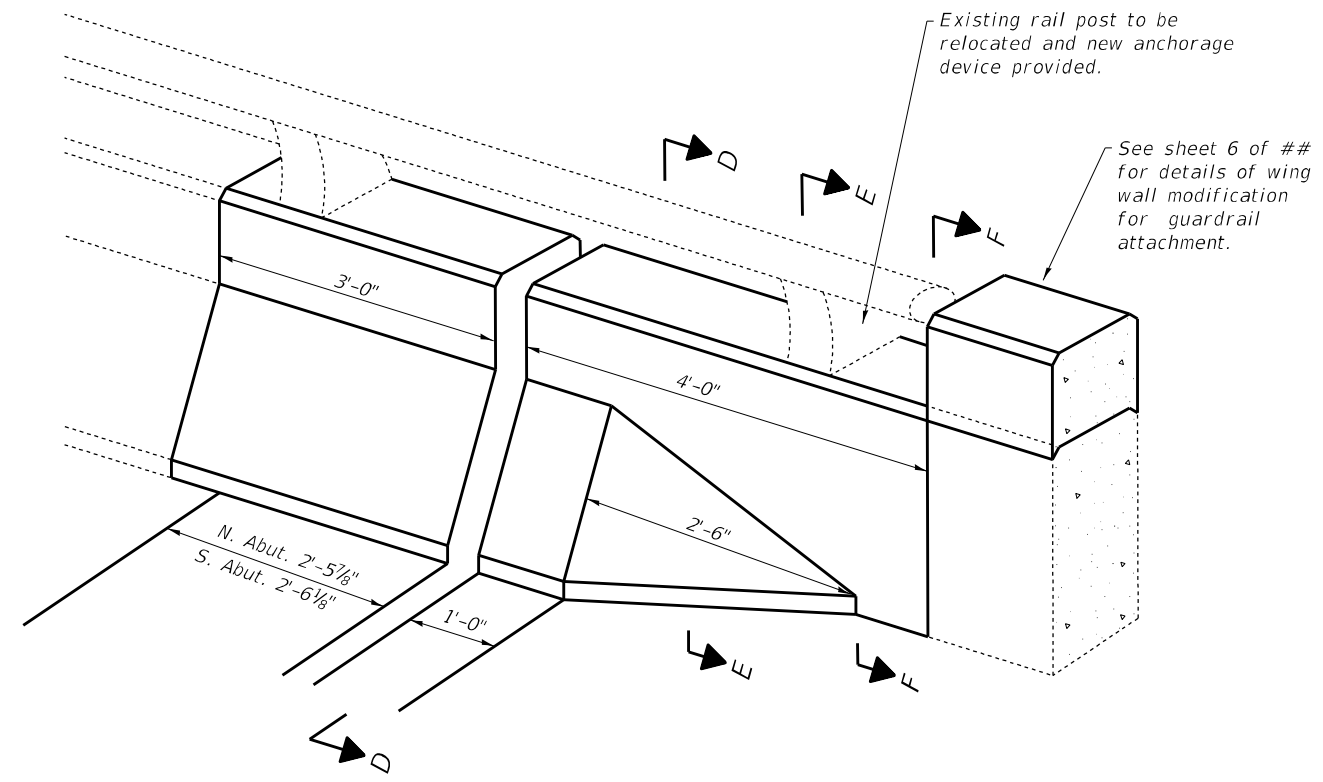
**SECTION E-E**  
Section thru proposed  
wing wall transition



**SECTION F-F**  
Section thru end of  
proposed wing wall



**TYPICAL CONCRETE REMOVAL AT EACH ABUTMENT CORNER**



**TYPICAL PROPOSED WING WALL AT EACH ABUTMENT CORNER**

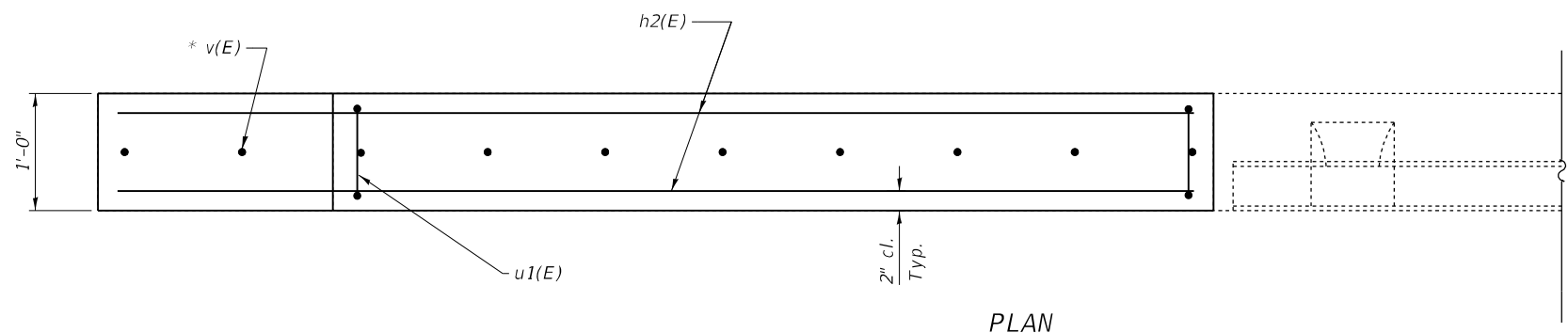
USER NAME = steffnmk	DESIGNED - R. BALLARD	REVISED -
	DRAWN - R. BALLARD	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED - D. MACKLIN	REVISED -
PLOT DATE = 1/27/2021	DATE - 05/2020	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

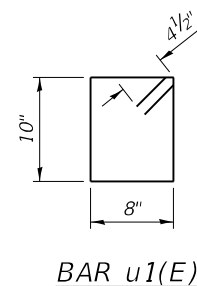
**WING WALL MODIFICATION AT EXPANSION JOINTS  
STRUCTURE 087-0022**

SCALE: SHEET 5 OF 14 SHEETS STA. TO STA.

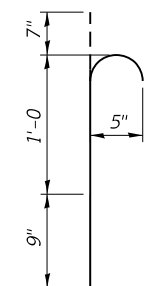
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
774	D7 BRIDGE REPAIRS 2021-4	SHELBY	22	13
CONTRACT NO. 74991			ILLINOIS FED. AID PROJECT	



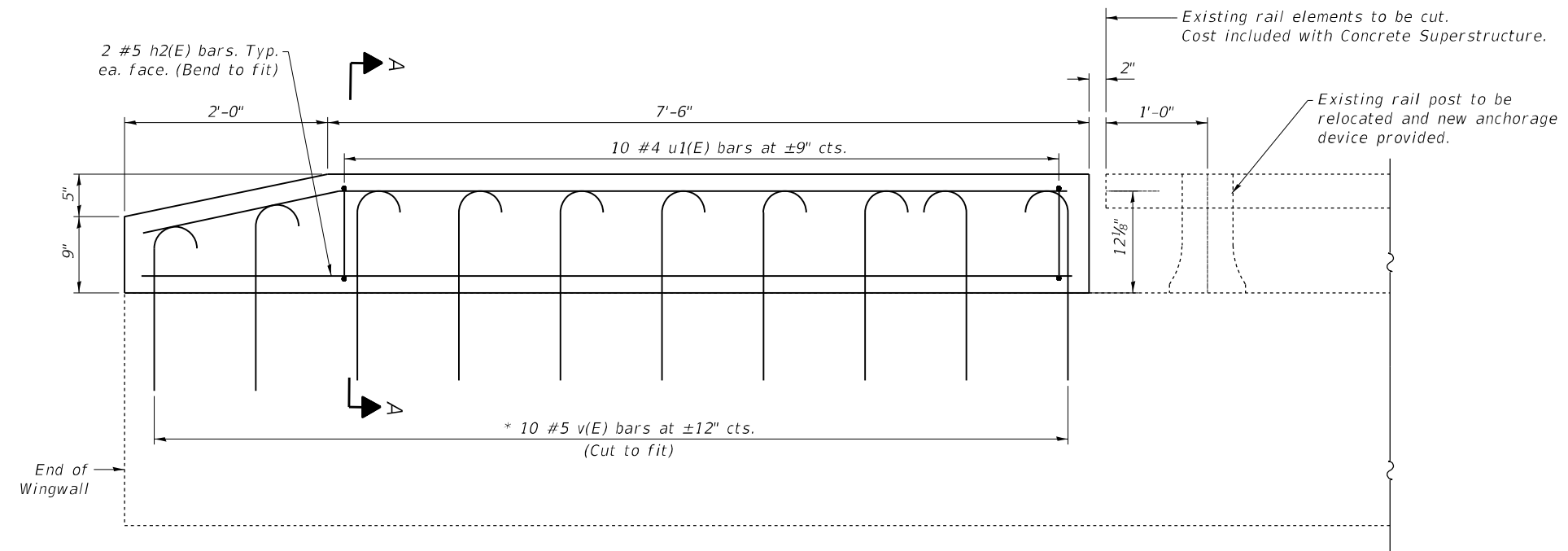
PLAN



BAR u1(E)

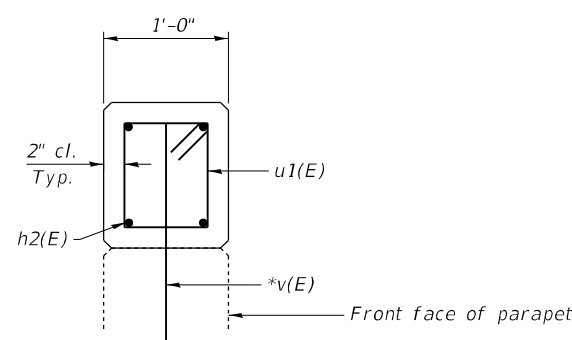


BAR v(E)



PROPOSED ELEVATION

\* Epoxy grout v(E) bars in 9" min. hole according to Article 584 of the Standard Specifications.



SECTION A-A

BILL OF MATERIAL  
FOUR WINGWALLS

Bar	No.	Size	Length	Shape
h2(E)	16	#5	9'-2"	—
v(E)	40	#5	2'-4"	U
u1(E)	40	#4	3'-9"	□
Concrete Superstructure			Cu. Yd.	1.6
Reinforcement Bars, Epoxy Coated			Pound	350

MODEL: Default  
 FILE NAME: p:\pub\baronm.dwg  
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USER NAME = steffnmk	DESIGNED - R. BALLARD	REVISED -
	DRAWN - R. BALLARD	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED - D. MACKLIN	REVISED -
PLOT DATE = 1/27/2021	DATE - 05/2020	REVISED -

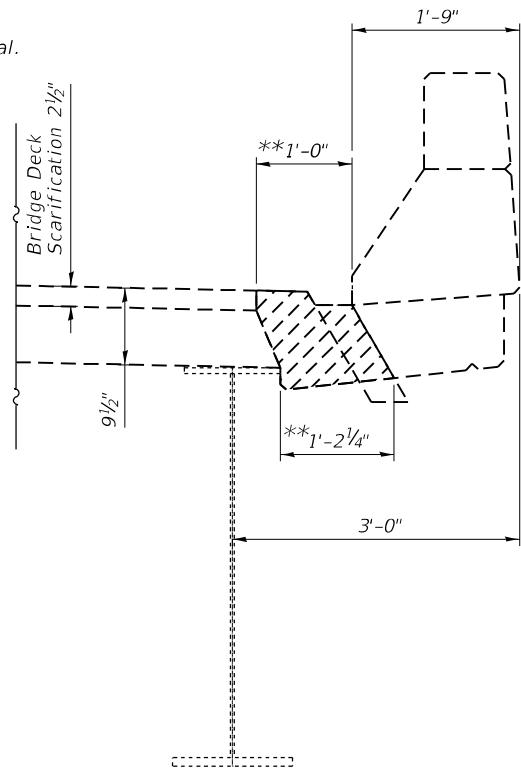
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

WINGWALL AND RAILING MODIFICATIONS  
STRUCTURE 087-0022

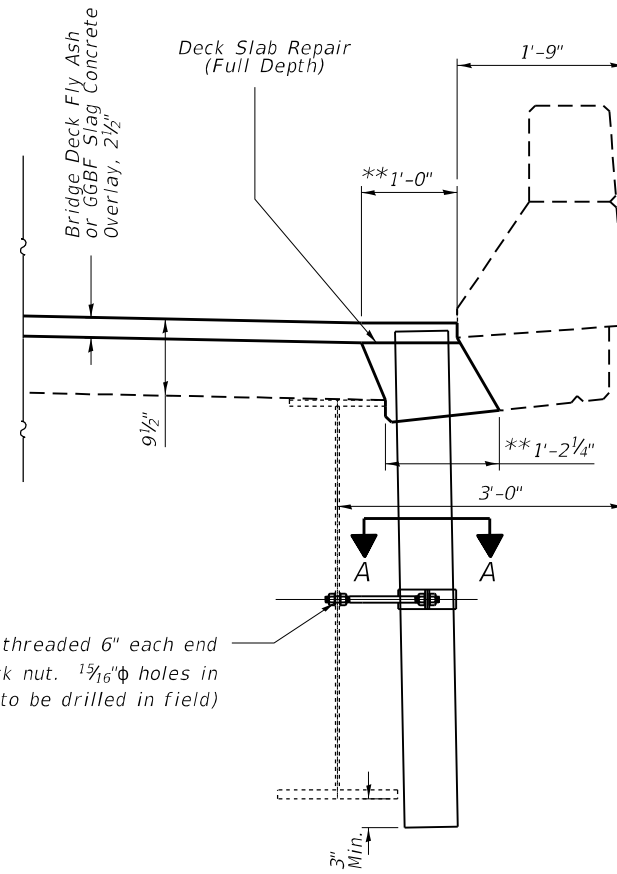
SCALE: SHEET 6 OF 14 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
774	D7 BRIDGE REPAIRS 2021-4	SHELBY	22	14
CONTRACT NO. 74991			ILLINOIS FED. AID PROJECT	

Hatched area indicates removal.



\*\* Actual dimensions of Deck Slab Repair shall be determined by the Engineer



3/4"  $\phi$  Steel Stud Bolts threaded 6" each end with 2 washers & lock nut. 1 5/16"  $\phi$  holes in center of web (to be drilled in field)

**SECTIONS THRU DRAIN TO BE REPLACED**

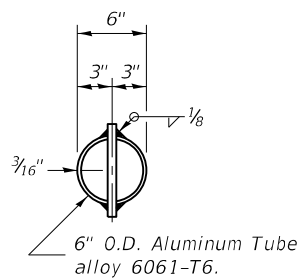
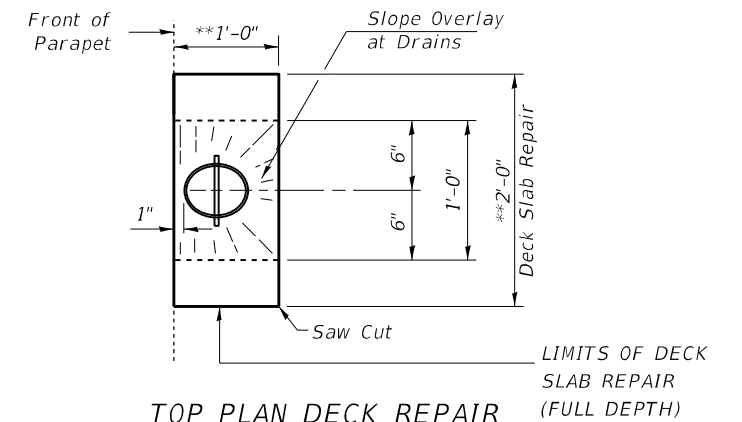
40 Locations - see bridge patching sheet

**NOTES**

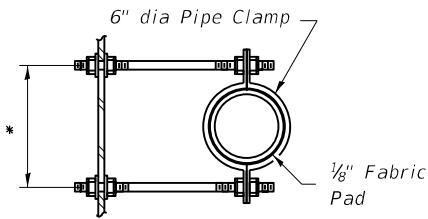
Fiberglass pipe alternative shall not be allowed for floor drains.

Galvanize clamping device according to AASHTO M232. Cost of clamping device, bolts and galvanizing is included with Floor Drains.

Concrete removal and replacement quantities and locations for drains are included in Deck Slab Repair (Full Depth, Type 1) as shown on "Bridge Deck Patching Sheets", see sheet 9 of ##.

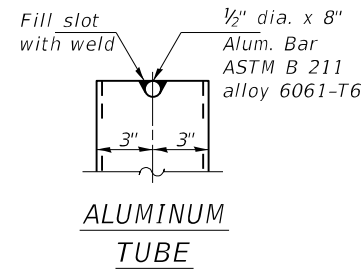


TOP PLAN

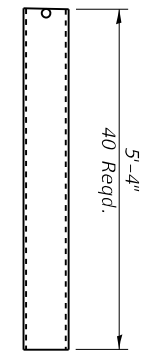


\* Dimension as required by Pipe Clamp

SECTION A-A



ALUMINUM TUBE



DRAIN DETAIL

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PROJECT: 74991\CADD\DATA\CAD\PROJECTS\0774991-1-1-2021.dwg

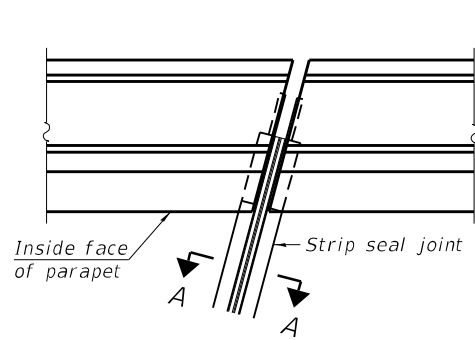
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	DRAWN - R. BALLARD	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED - D. MACKLIN	REVISED -
PLOT DATE = 1/27/2021	DATE - 05/2020	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

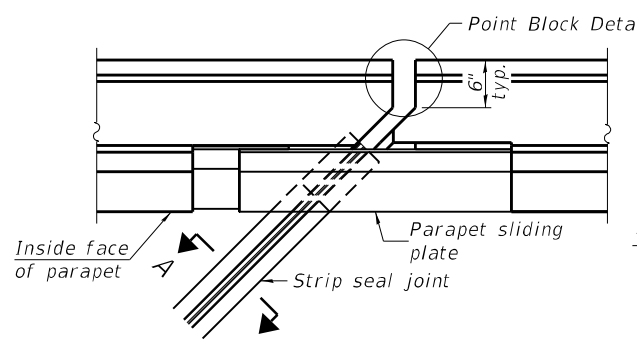
DECK DRAIN REPLACEMENT  
STRUCTURE 087-0022

SCALE: SHEET 7 OF 14 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
774	D7 BRIDGE REPAIRS 2021-4	SHELBY	22	15
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74991	

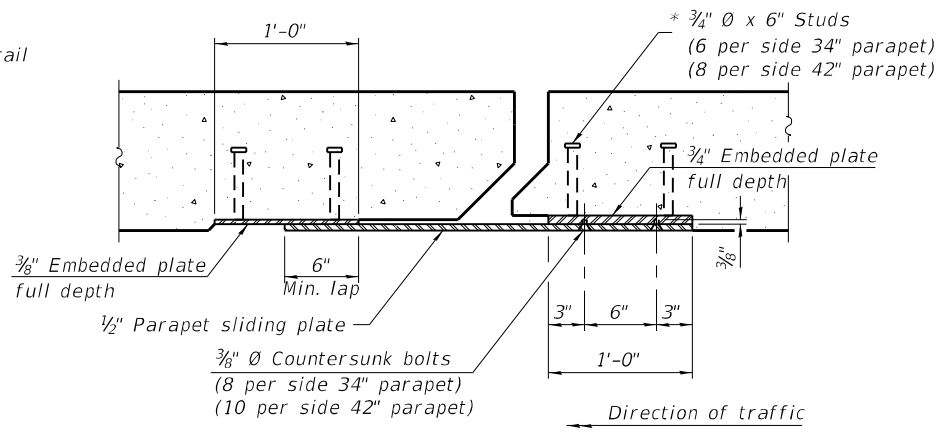


FOR SKEWS  $\leq 30^\circ$



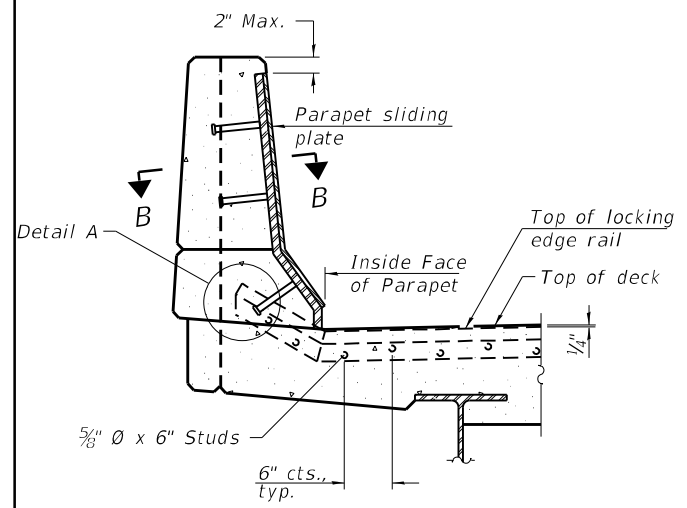
FOR SKEWS  $> 30^\circ$

**PLAN AT PARAPET**



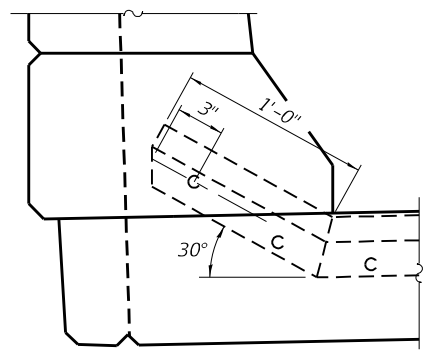
**SECTION B-B**

**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.

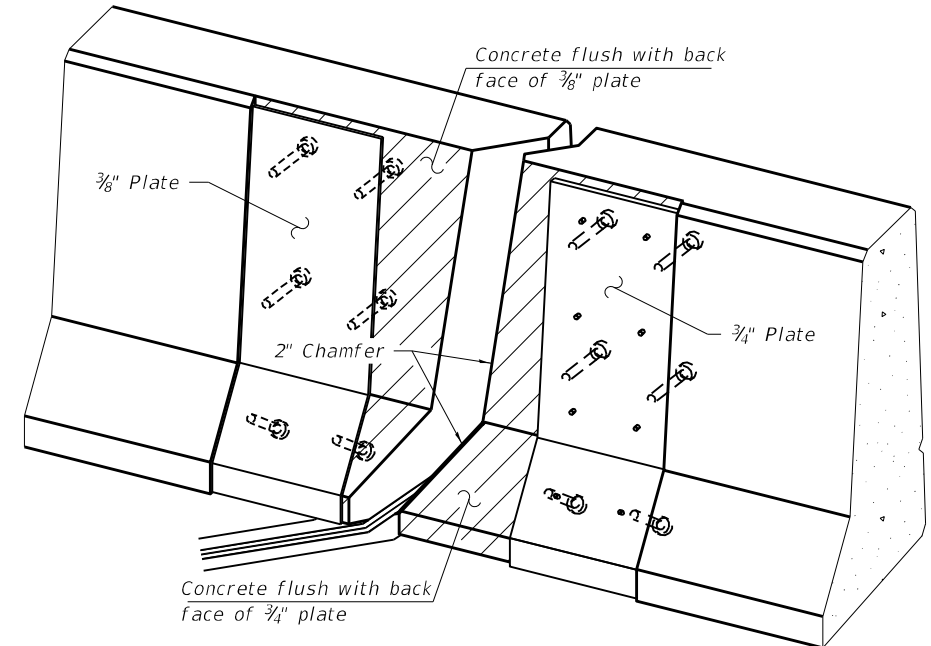


**ELEVATION AT PARAPET**

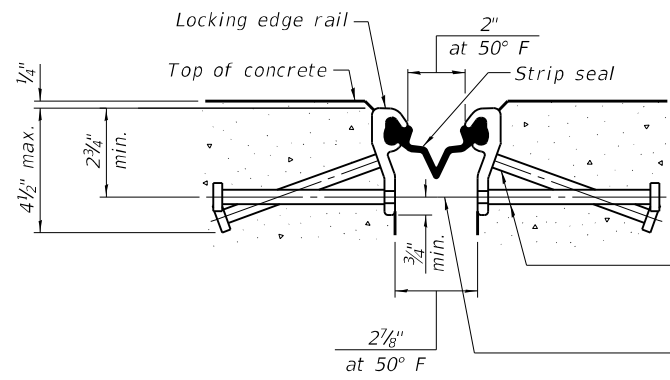
(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)



**DETAIL A**



**TRIMETRIC VIEW**  
 (Showing embedded plates only)



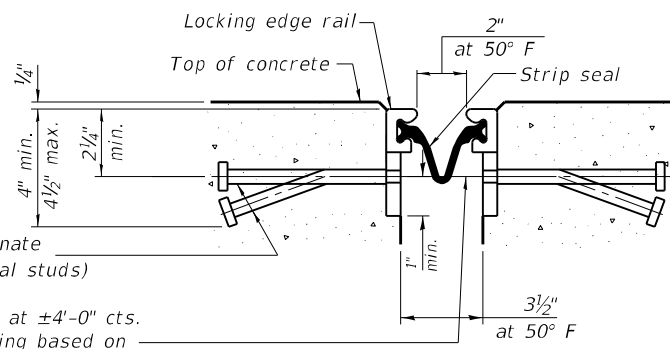
**SHOWING ROLLED RAIL JOINT**

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

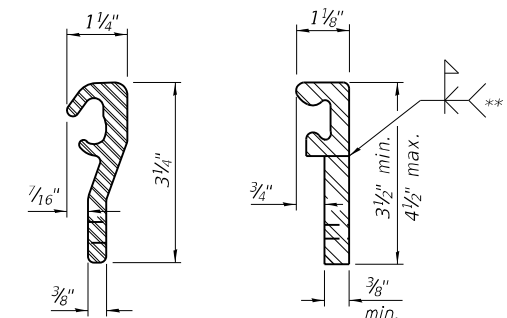
3/8" Ø threaded rods in 7/16" Ø holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

**SECTION A-A**

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

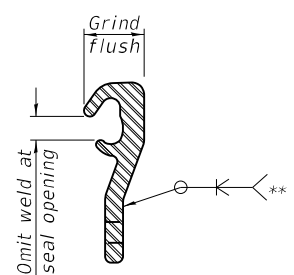


**SHOWING WELDED RAIL JOINT**



**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	92

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 PLOT DATE: 1/27/2021  
 PLOT SCALE: = 100,0000' / in.  
 USER NAME: = stefienmk  
 DESIGNED - R. BALLARD  
 DRAWN - R. BALLARD  
 CHECKED - D. MACKLIN  
 DATE - 05/2020  
 REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL DETAIL  
 STRUCTURE NO. 087-0022**

SCALE: SHEET 8 OF 14 SHEETS STA. TO STA.

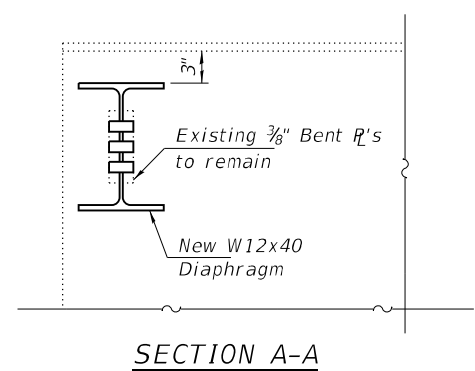
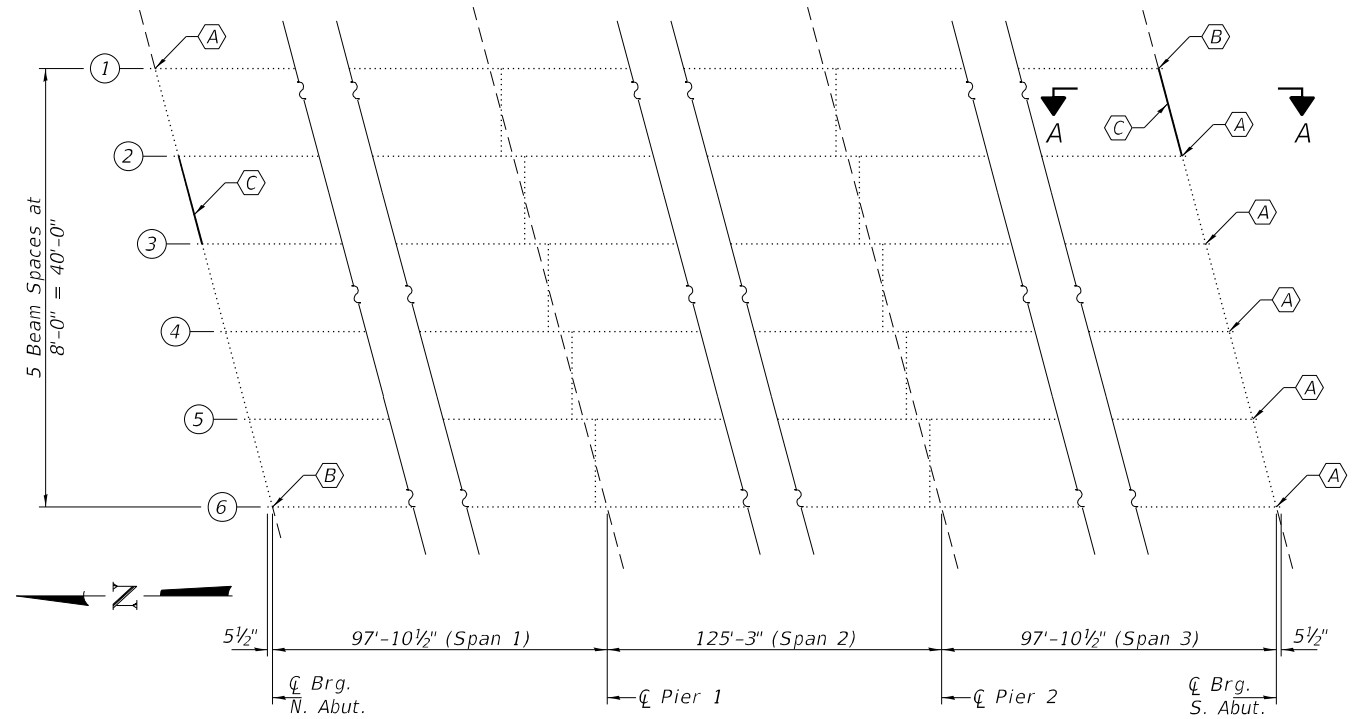
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
774	D7 BRIDGE REPAIRS 2021-4	SHELBY	22	16
				CONTRACT NO. 74991
ILLINOIS FED. AID PROJECT				





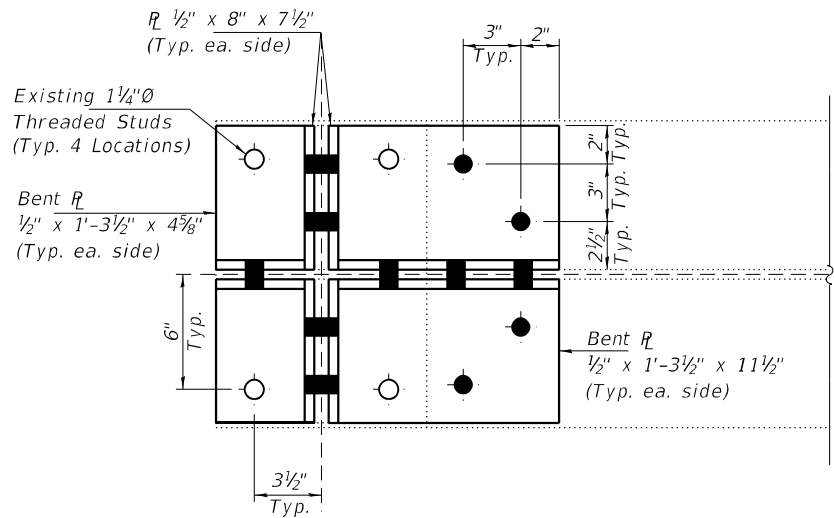
**GENERAL NOTES**

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.  
 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.  
 The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.  
 Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the special provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures". Cost included with Structural Steel Repair.  
 Cost of removal and re-installation of members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Structural Steel Repair.  
 Other damaged beams to be replaced on a separate contract.  
 Fasteners shall be high strength bolts. Bolts  $\frac{7}{8}"\varnothing$ , open holes  $\frac{15}{16}"\varnothing$ , unless otherwise noted.  
 All new structural steel shall be hot-dip galvanized. See Special Provisions for "Hot Dip Galvanizing for Structural Steel."

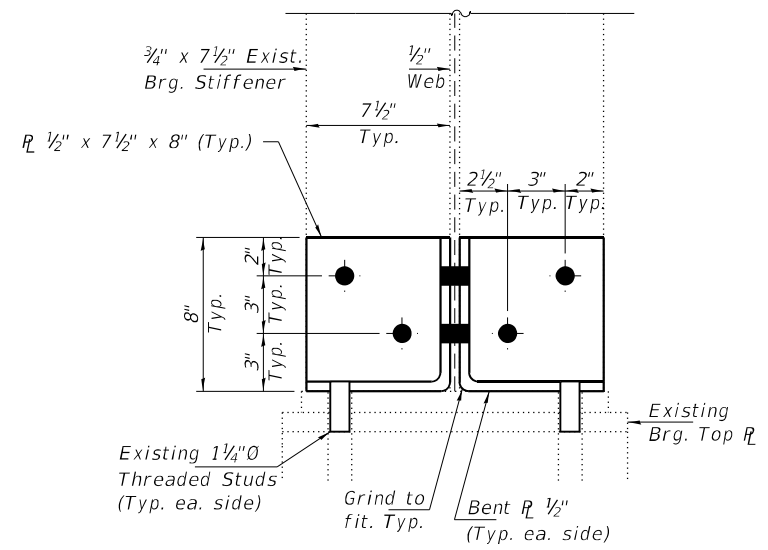


**PARTIAL FRAMING PLAN**

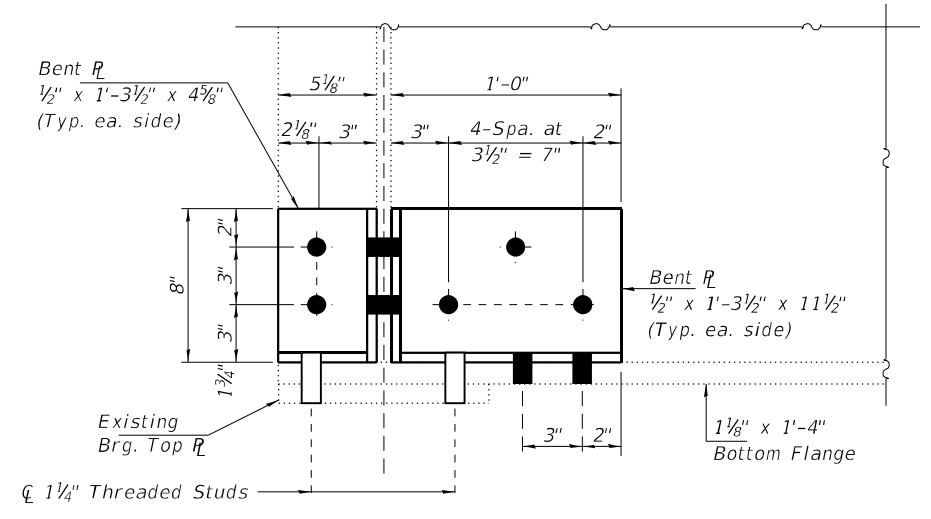
- A - Beam End Repairs
- B - Beam End Repairs
- C - Replacement of Diaphragm



**REPAIR "A" PLAN**  
(6 Locations)



**END VIEW**



**REPAIR "A" ELEVATION**

**BOLT HOLE LEGEND**

- - Field drill using holes in existing steel as template.
- - Field drill using holes in new steel as template.

**BILL OF MATERIAL**

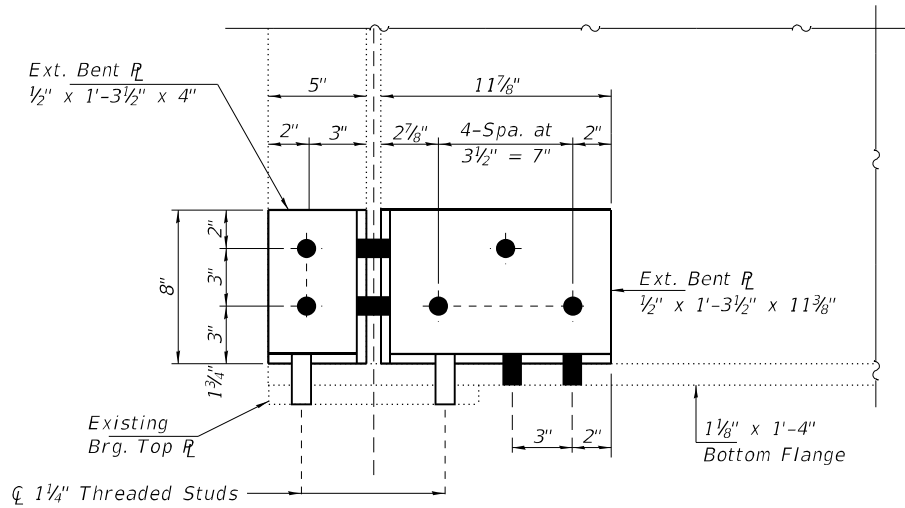
ITEM	UNIT	QUANTITY
Structural Steel Repair	Pound	1420

DESIGNED - Steven M. Ryan	EXAMINED	DATE - MARHC 05, 2021
CHECKED - Adrian T. Halloway	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - Venkat Reddy	PASSED	REVISED -
CHECKED - SMR ATH	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -

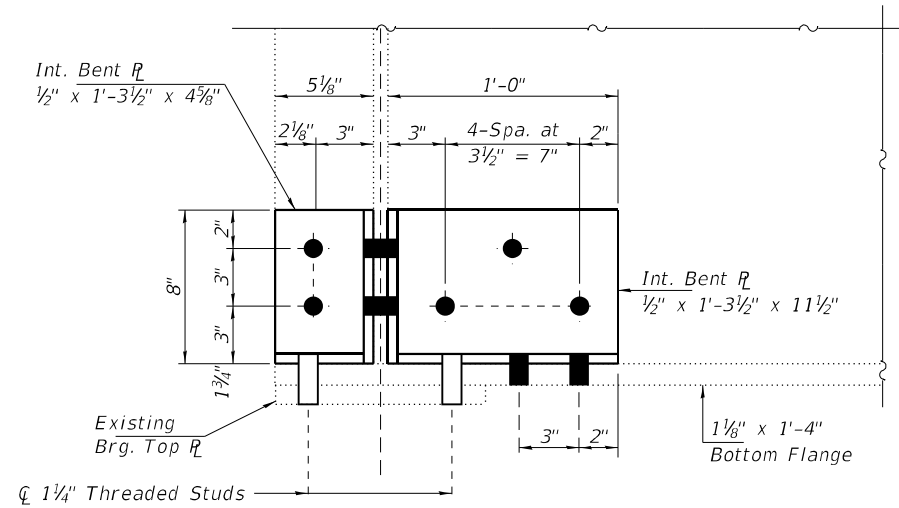
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION**  
**IL 128 OVER ROBINSON CREEK**  
**SN 087 - 0022**

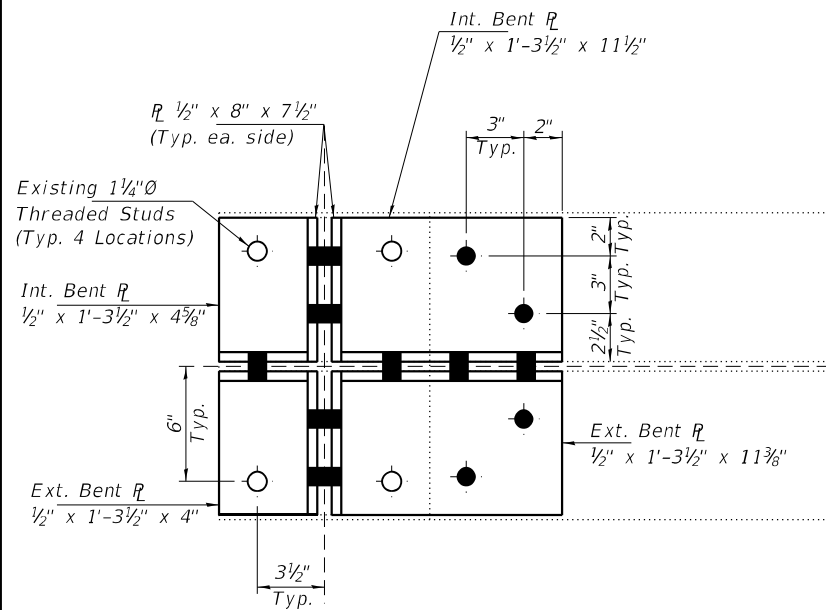
S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 74991	



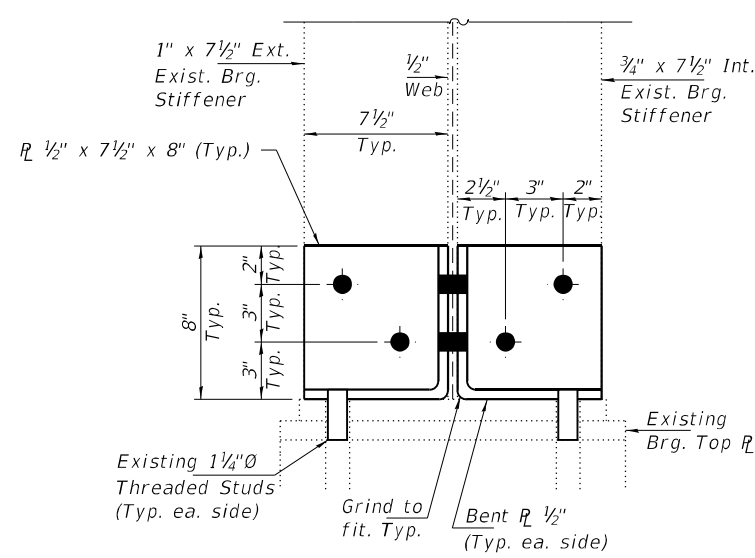
REPAIR "B" ELEVATION - EXTERIOR SIDE



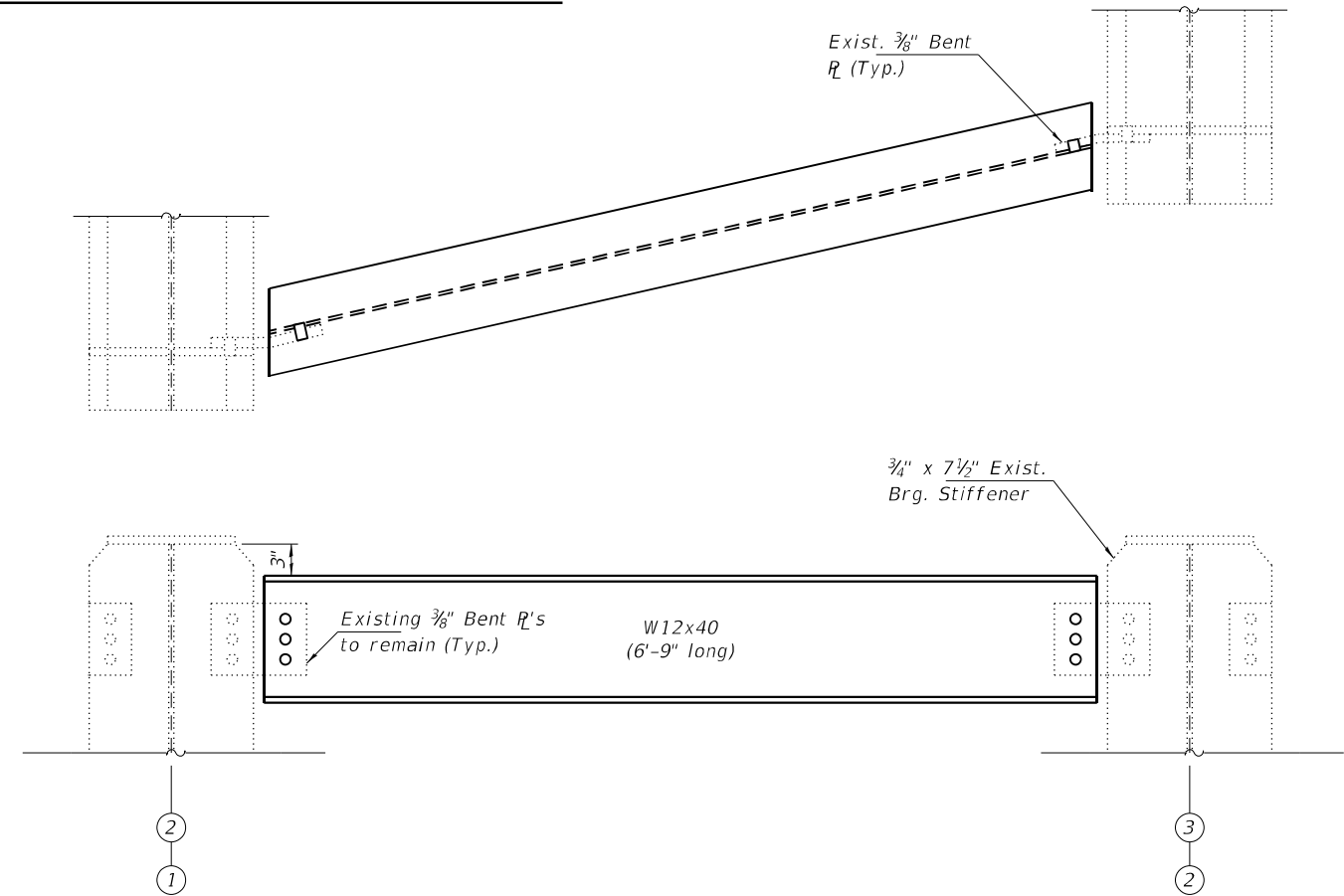
REPAIR "B" ELEVATION - INTERIOR SIDE



REPAIR "B" PLAN  
(2 Locations)



REPAIR "B" END VIEW



DIAPHRAGM REPLACEMENT DETAIL  
(2 Required)

BOLT HOLE LEGEND

- - Field drill using holes in existing steel as template.
- - Field drill using holes in new steel as template.

DESIGNED - SMR	EXAMINED
CHECKED - ATH	PASSED
DRAWN - Venkat Reddy	
CHECKED - SMR ATH	

 ENGINEER OF STRUCTURAL SERVICES	DATE - MARHC 05, 2021
 ENGINEER OF BRIDGES AND STRUCTURES	REVISER -
	REVISER -

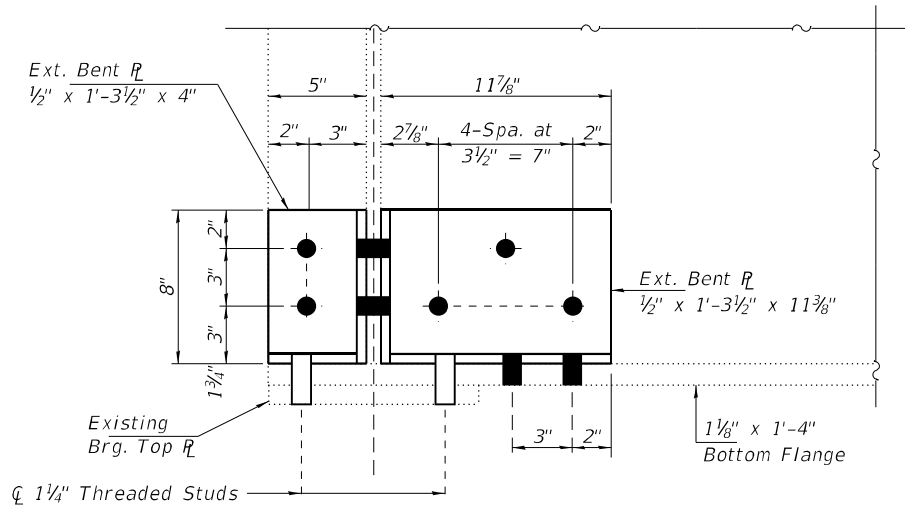
DATE - MARHC 05, 2021
REVISER -
REVISER -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

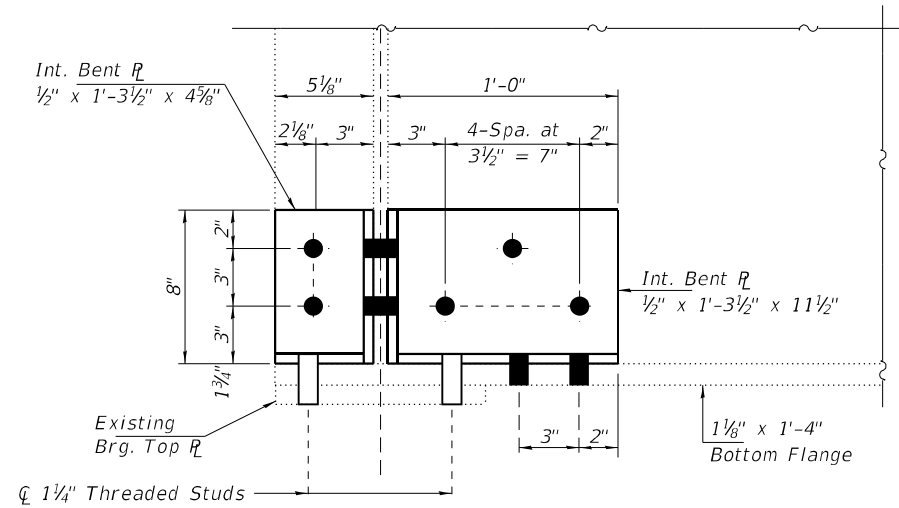
REPAIR - B DETAILS  
SN 087 - 0022

SHEET NO. 2 OF 2 SHEETS

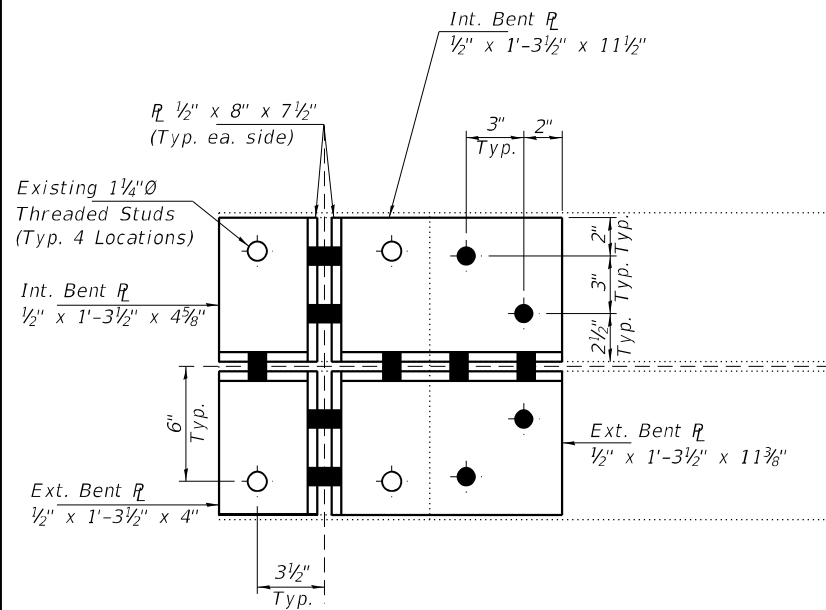
S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
774	D7 BRIDGE REPAIRS 2021-1	SHELBY	22	19
CONTRACT NO. 74991				
ILLINOIS FED. AID PROJECT				



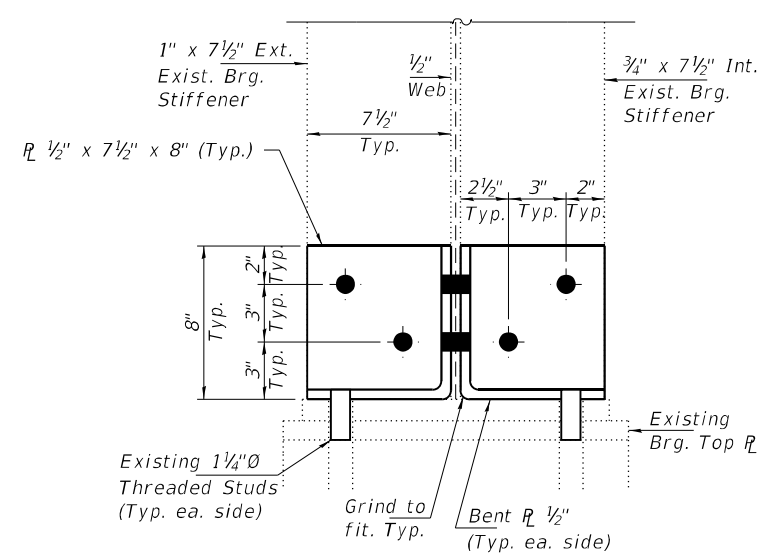
REPAIR "B" ELEVATION - EXTERIOR SIDE



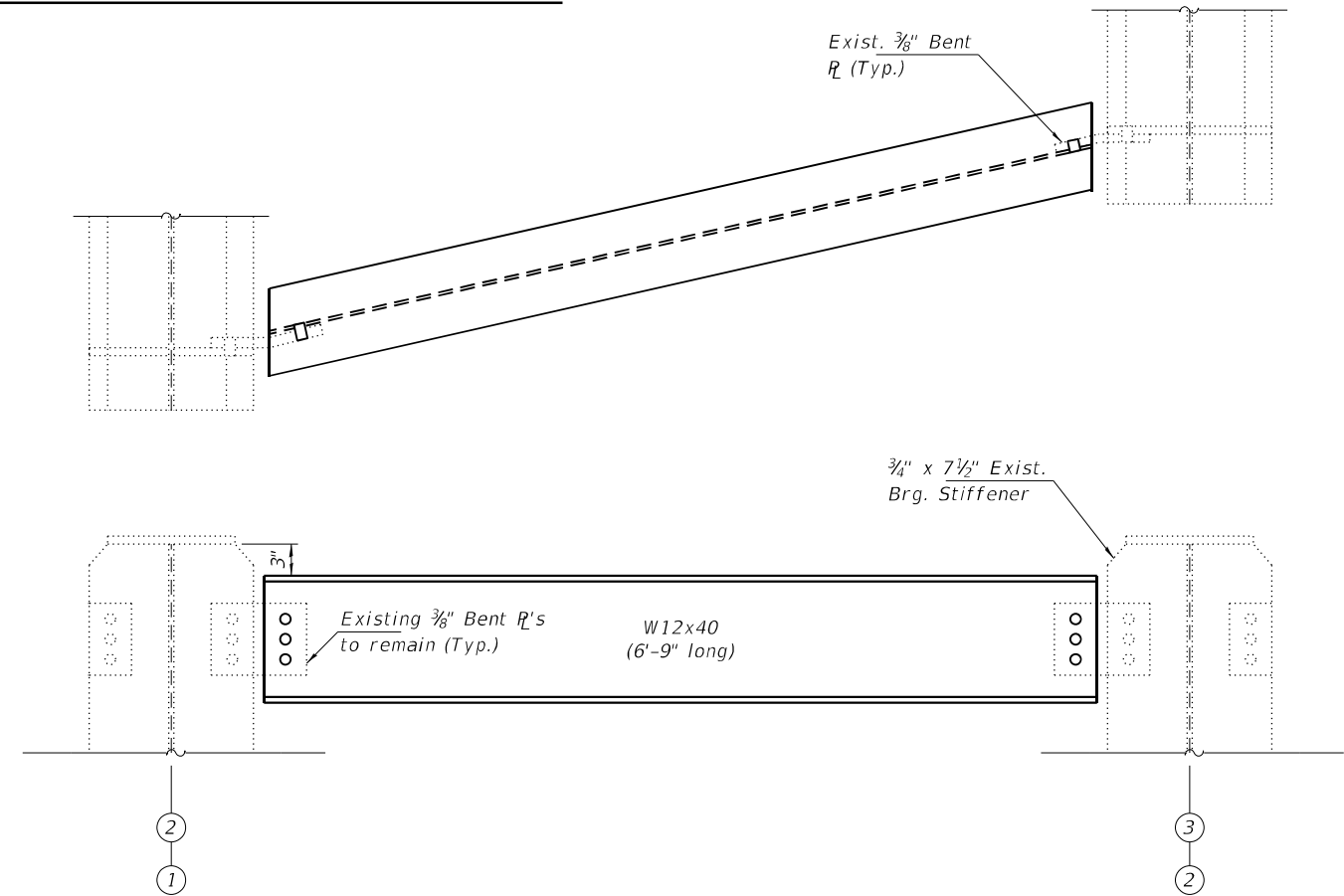
REPAIR "B" ELEVATION - INTERIOR SIDE



REPAIR "B" PLAN  
(2 Locations)



REPAIR "B" END VIEW



DIAPHRAGM REPLACEMENT DETAIL  
(2 Required)

BOLT HOLE LEGEND

- - Field drill using holes in existing steel as template.
- - Field drill using holes in new steel as template.

DESIGNED - SMR	EXAMINED
CHECKED - ATH	PASSED
DRAWN - Venkat Reddy	
CHECKED - SMR ATH	

 ENGINEER OF STRUCTURAL SERVICES	DATE - MARHC 05, 2021
 ENGINEER OF BRIDGES AND STRUCTURES	REVISIONS
	REVISIONS

DATE - MARHC 05, 2021
REVISIONS
REVISIONS

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

REPAIR - B DETAILS  
SN 087 - 0022

SHEET NO. 2 OF 2 SHEETS

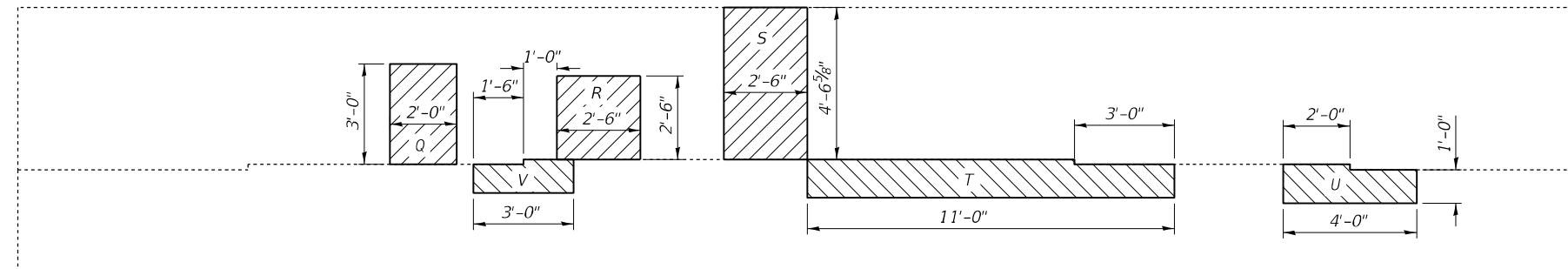
S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
774	D7 BRIDGE REPAIRS 2021-1	SHELBY	22	19
CONTRACT NO. 74991				

ILLINOIS FED. AID PROJECT



Notes

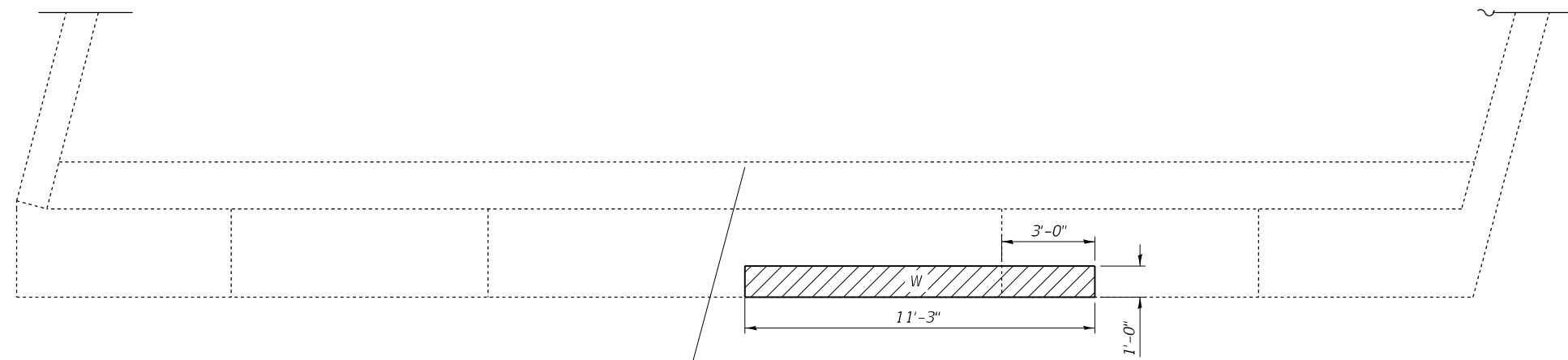
Areas of Structural Repair of Concrete shown are estimated. The Engineer shall determine actual areas in the field.



SOUTH ABUT. ELEVATION  
(showing face of back wall & face of abut. cap)

Structural Repair of Concrete  
(Depth ≤ 5")

Repair	Area(sqft)
Q	6.0
R	6.3
S	11.4
T	12.1
U	4.3
V	2.8
W	11.3
<b>S. Abut. Total</b>	<b>54.2 SqFt</b>



SOUTH ABUT. TOP VIEW  
(showing horizontal face of bearing seat)

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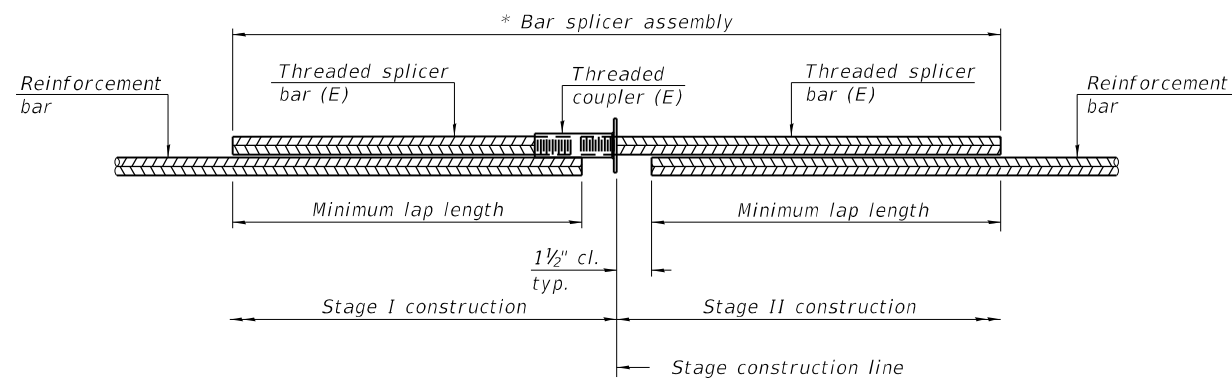
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PLOT DATE = 1/27/2021	DATE - 05/2020	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL REPAIR OF CONCRETE SOUTH ABUT.**  
**STRUCTURE 087-0022**

SCALE: SHEET 13 OF 14 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
774	D7 BRIDGE REPAIRS 2021-4	SHELBY	22	21
			CONTRACT NO. 74991	
ILLINOIS FED. AID PROJECT				

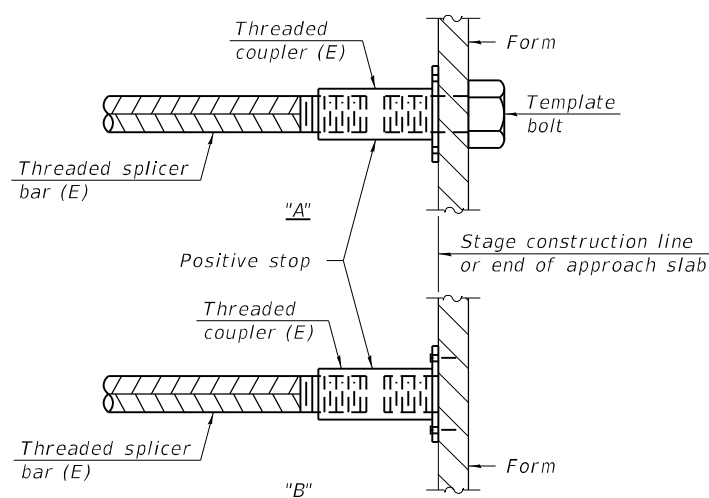


**STANDARD BAR SPLICER ASSEMBLY PLAN**  
 (All components shall be provided from one supplier)

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

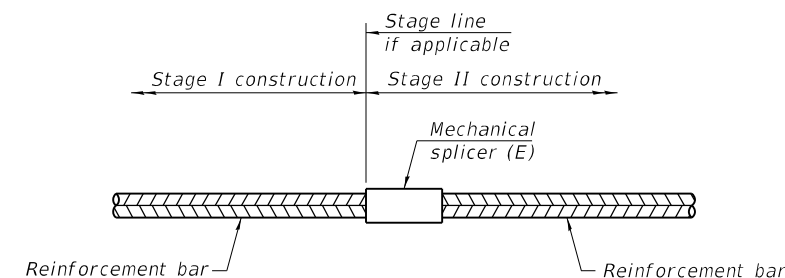
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Top & Bott. Slab	#6	16	4'-0"
Hatch Block	#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

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PLOT DATE = 1/27/2021	DATE - 05/2020	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
 STRUCTURE NO. 087-0022**

SCALE: SHEET 14 OF 14 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
774	D7 BRIDGE REPAIRS 2021-4	SHELBY	22	22
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