

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	D9 BRIDGE OVERLAY 2023-1	JACKSON	15	1
		ILLINOIS	CONTRACT NO 78913	

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

PROPOSED HIGHWAY PLANS

F.A.P. ROUTE 331 (IL 149)
SECTION D9 BRIDGE OVERLAY 2023-1
PROJECT COVD-C6JC(985)
BRIDGE REPAIRS
JACKSON COUNTY

C-99-007-22

TRAFFIC DATA

IL 149
2019 ADT = 2,300 (SN 039-0056)
WITH 11% TRUCKS

TOWNSHIPS

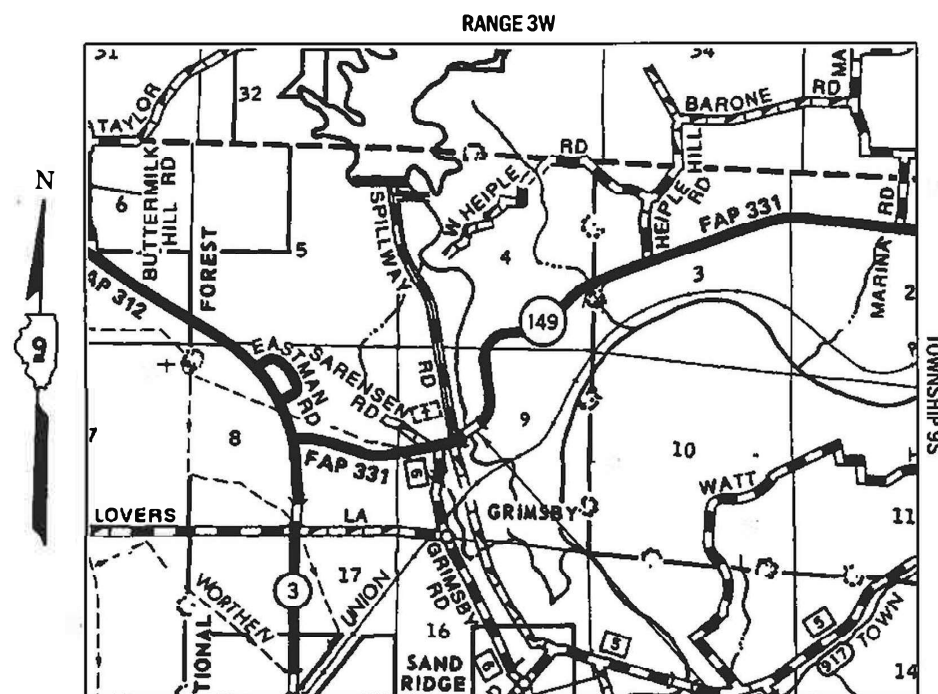
SAND RIDGE (SN 039-0056)

POSTED SPEED : 55 MPH

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

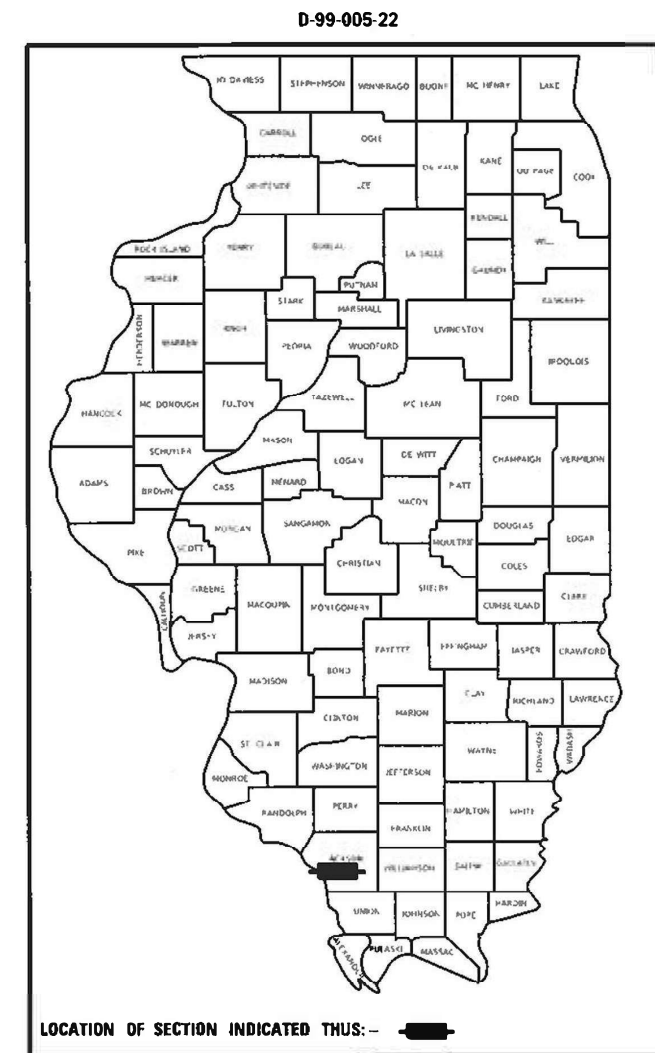
PROJECT ENGINEER: GRANT DETERDING
PROJECT DESIGNER: BRANDON HENK

CONTRACT NO. 78913



REPAIR LOCATION
STRUCTURE 039-0056
IL 149 OVER KINKAID CREEK

GROSS LENGTH = 318.0 FT. = 0.06 MILE
NET LENGTH = 318.0 FT. = 0.06 MILE



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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED May 4 20 22
Kirk H. Brown REGION FIVE ENGINEER

July 1, 2022 [Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

July 1, 2022 [Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

Prepared By: Charles Stein
DISTRICT STUDIES & PLANS ENGINEER

Examined By: Nancy Hei
DISTRICT LAND ACQUISITION ENGINEER

Examined By: Carrie Nelson
DISTRICT PROGRAM DEVELOPMENT ENGINEER

Examined By: [Signature]
DISTRICT OPERATIONS ENGINEER

Examined By: Douglas J. Theis
DISTRICT PROJECT IMPLEMENTATION ENGINEER

Examined By: Douglas J. Theis
DISTRICT CONSTRUCTION ENGINEER

Examined By: [Signature]
DISTRICT MATERIALS ENGINEER

MODEL: \MODEL\NAMES
FILE NAME: \$FILEL\$

USER NAME = \$USERS	DESIGNED - _____	REVISED - _____
PLOT SCALE = \$SCALES	DRAWN - _____	REVISED - _____
PLOT DATE = \$DATES	CHECKED - _____	REVISED - _____
	DATE - _____	REVISED - _____

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

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

F.A.P. RTE. 331	SECTION	COUNTY JACKSON	TOTAL SHEETS 15	SHEET NO. 2
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78913	

GENERAL NOTES

1) 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
BITUMINOUS MATERIALS: ON PAVEMENT	0.05 LB/SQ FT
HIGH-DENSITY FOAM	6.0 LB/CU FT

COMMITMENTS

NONE

MIXTURE REQUIREMENTS

The following HMA mixture requirements are applicable for this project:	
Location(s):	Hot-Mix Asphalt Surface Course & Top Lift HMA Base Course Widening
Mixture Use(s):	Hot-Mix Asphalt Surface Course, Mix D, N70
PG:	PG64-22
Design Air Voids:	4%, 70 Gyration Design
Mixture Composition (Gradation Design):	IL-9.5mm
Friction Aggregate:	D Surface
Mixture Weight:	112 lbs/Sq. Yd/in
Quality Management Program:	QCQA
Sublot Size:	3000 ton
Material Transfer Device:	No
Location(s):	HMA Base Course Widening Bottom Lift
Mixture Use(s):	Hot-Mix Asphalt Binder Course, N70, IL-19.0
PG:	PG64-22
Design Air Voids:	4%, 70 Gyration Design
Mixture Composition (Gradation Design):	IL-19.0 mm
Friction Aggregate:	None
Mixture Weight:	112 lbs/Sq. Yd/in
Quality Management Program:	QCQA
Sublot Size:	3000 ton
Material Transfer Device:	No
Base Course Widening Lifts: 2 each 4 inch lifts Binder Course 1 each 2 inch lift of Surface Course	

INDEX OF SHEETS

1	COVER SHEET
2	SIGNATURES
3	GENERAL NOTES, INDEX OF SHEETS, STANDARDS, AND COMMITMENTS
4-6	SUMMARY OF QUANTITIES
7	GENERAL PLAN AND ELEVATION
8	STAGING DETAILS AND TYPICAL SECTION
9	STAGING DETAILS
10	JOINT RECONSTRUCTION DETAILS AT ABUTMENTS
11	BAR SPLICER ASSEMBLY DETAILS
12	PREFORMED JOINT STRIP SEAL DETAILS
13	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
14	DECK SLAB REPAIR
15	BUTT JOINT DETAILS

STANDARDS

000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001006	DECIMAL OF AN INCH AND OF A FOOT
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 M) AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' (4.5 M) TO 24" (600 MM) FROM PAVEMENT EDGE
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - 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	UNINTERRUPTIBLE POWER SUPPLY
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
420001-10	PAVEMENT JOINTS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

REV. - MS

MODEL NUMBER: MAM1ES
FILE NAME: 811E15

USER NAME = SUSERS	DESIGNED - _____	REVISED - _____	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES, INDEX OF SHEETS, STANDARDS, AND COMMITMENTS	F.A.P. RTE. 331	SECTION *	COUNTY JACKSON	TOTAL SHEETS 15	SHEET NO. 3	
PLOT SCALE = 5SCALES	CHECKED - _____	REVISED - _____			SCALE: _____	SHEET _____ OF _____ SHEETS	STA. _____ TO STA. _____	ILLINOIS FED. AID PROJECT		
PLOT DATE = SDATES	DATE - _____	REVISED - _____								

SUMMARY OF QUANTITIES

COUNTY:	COUNTY:	JACKSON CO
ROUTE:	ROUTE:	FAP 331
FUNDING:	FUNDING:	100% FEDERAL
LOCATION:	LOCATION:	RURAL
		SN 039-0056
		0047

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
35650500	BASE COURSE WIDENING 10"	SQ YD	243	243
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	153	153
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	160	160
40600985	PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT	SQ YD	140	140
40600990	TEMPORARY RAMP	SQ YD	80	80
40604062	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5FG, MIX "D", N70	TON	37	37
44004250	PAVED SHOULDER REMOVAL	SQ YD	243	243
50102400	CONCRETE REMOVAL	CU YD	12.1	12.1
50300255	CONCRETE SUPERSTRUCTURE	CU YD	13.5	13.5
50300260	BRIDGE DECK GROOVING	SQ YD	917	917
50300300	PROTECTIVE COAT	SQ YD	954	954
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1,330	1,330
50800515	BAR SPLICERS	EACH	22	22
52000110	PREFORMED JOINT STRIP SEAL	FOOT	91	91

REV. - MS

MODEL NAME: MAMIES
FILE NAME: 811EUS

USER NAME = SUSERS	DESIGNED - _____	REVISED - _____	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.P. RTE. 331	SECTION *	COUNTY JACKSON	TOTAL SHEETS 15	SHEET NO. 4		
PLOT SCALE = 5SCALES	CHECKED - _____	REVISED - _____			SCALE: _____	SHEET _____ OF _____ SHEETS	STA. _____	TO STA. _____	CONTRACT NO. 78913		
PLOT DATE = SDATES	DATE - _____	REVISED - _____			ILLINOIS FED. AID PROJECT						

SUMMARY OF QUANTITIES - CONT

COUNTY:	COUNTY:	JACKSON CO
ROUTE:	ROUTE:	FAP 331
FUNDING:	FUNDING:	100% FEDERAL
LOCATION:	LOCATION:	RURAL
		SN 039-0056
		0047

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	1	1
63300575	REMOVE AND REERECT RAIL ELEMENT OF EXISTING GUARDRAIL	FOOT	112	112
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	268	268
70300100	SHORT TERM PAVEMENT MARKING	FOOT	64	64
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	22	22
70300221	TEMPORARY PAVEMENT MARKING - LINE 4"- PAINT	FOOT	1,272	1,272

REV. - MS

MODEL NUMBER: MAM15
FILE NAME: 81115

USER NAME = SUSERS	DESIGNED - _____	REVISED - _____	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLOT SCALE = 5SCALES	DRAWN - _____	REVISED - _____			331	*	JACKSON	15	5	
PLOT DATE = SDATES	CHECKED - _____	REVISED - _____			CONTRACT NO. 78913					
	DATE - _____	REVISED - _____			SCALE: _____	SHEET _____ OF _____ SHEETS	STA. _____ TO STA. _____	ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES - CONT

COUNTY:	COUNTY:	JACKSON CO
ROUTE:	ROUTE:	FAP 331
FUNDING:	FUNDING:	100% FEDERAL
LOCATION:	LOCATION:	RURAL
		SN 039-0056
		0047

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	462.5	462.5
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	462.5	462.5
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2
70600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,272	1,272
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	4	4
78300201	PAVEMENT MARKING REMOVAL - GRINDING	SQ FT	424	424
* 86200300	UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	1	1
X0326223	FOAM, EXPANDING POLYURETHANE, HIGH-DENSITY	POUND	1,248	1,248
Z0012130	BRIDGE DECK SCARIFICATION 3/4"	SQ YD	917	917
Z0012164	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 2 1/2"	SQ YD	917	917

* SPECIALTY ITEM

REV. - MS

MODEL NAME: MAMES
FILE NAME: 811215

USER NAME = SUSERS	DESIGNED - _____	REVISED - _____	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = \$SCALES	CHECKED - _____	REVISED - _____			331	*	JACKSON	15	6
PLOT DATE = \$DATES	DATE - _____	REVISED - _____			CONTRACT NO. 78913		ILLINOIS FED. AID PROJECT		
SCALE: _____				SHEET _____ OF _____ SHEETS		STA. _____ TO STA. _____			

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.

In addition to the requirements of article 107.16 the contractor shall protect the surface of all bridge decks and bridge approach pavements in a manner satisfactory to the engineer before any equipment is allowed to cross the structure. Protection shall be provided for all equipment as defined in article 101.16 regardless if track mounted or wheeled.

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.

The cost of any saw cuts made to complete the work as described in plan details shall not be paid for separately but shall be included in the various pay items involved.

Protective coat shall be applied to all new concrete surfaces on bridge parapet areas, concrete overlay, and at joints. Seasonal limits for application shall not apply.

Synthetic Fibers shall be added to the Bridge Deck Microsilica Concrete Overlay, see Special Provisions. The cost of Synthetic Fibers shall be included in the cost of Bridge Deck Microsilica Concrete Overlay, 2 1/2".

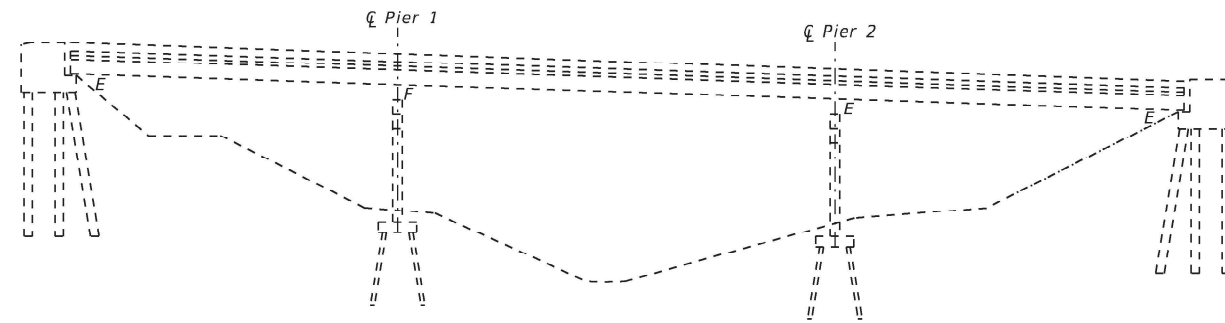
Reinforcement bars designated (E) shall be epoxy coated.

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.

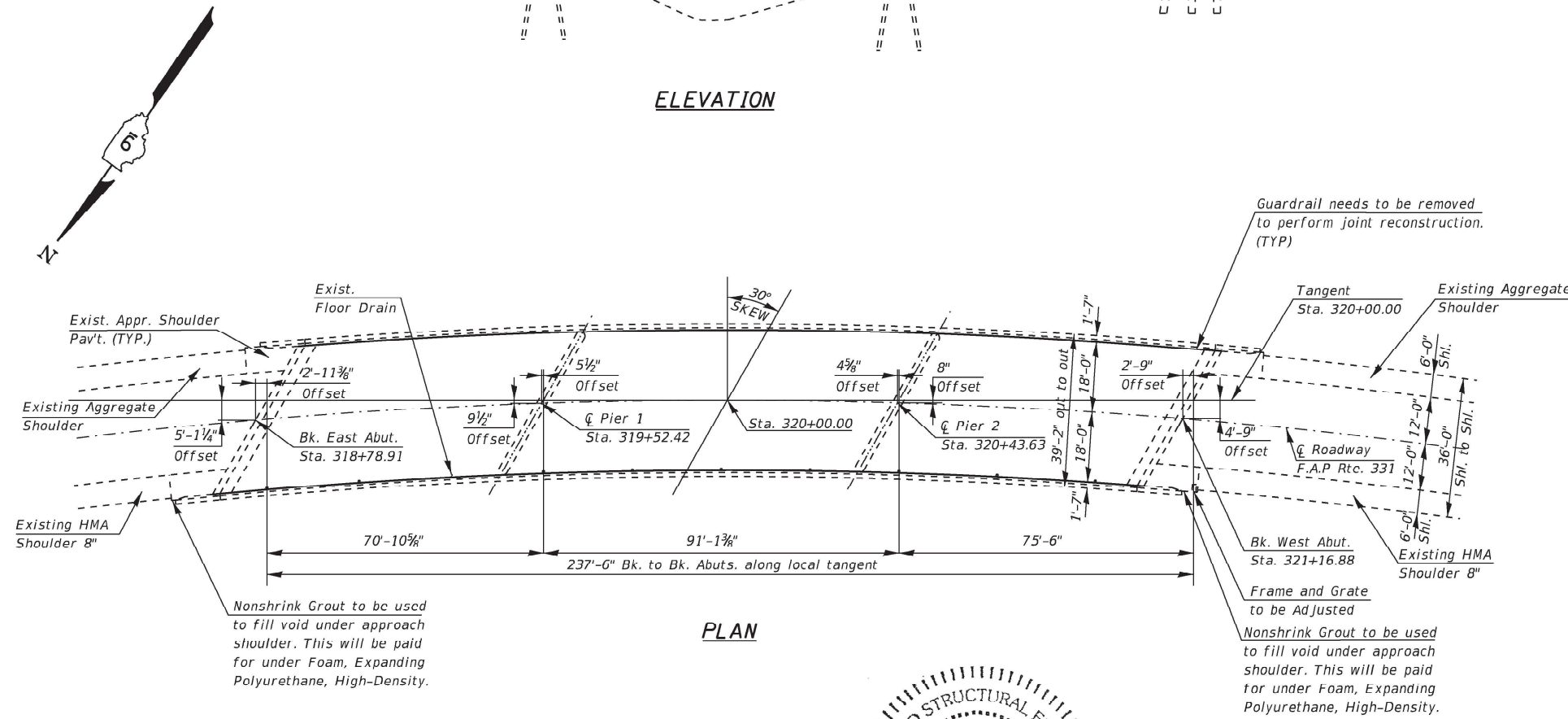
Existing reinforcement bars extending into the removal area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

TOTAL BILL OF MATERIAL

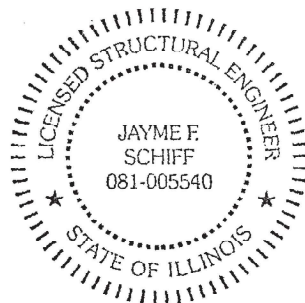
	UNIT	QUANTITY
Base Course Widening 10"	Sq. Yd.	243
Bituminous Materials (Tack Coat)	Pound	153
HMA Surface Removal - Butt Joint	Sq. Yd.	160
PCC Surface Removal - Butt Joint	Sq. Yd.	140
Temporary Ramp	Sq. Yd.	80
Hot-Mix Asphalt Surface Course, IL-9.5FG, Mix "D", N70	Ton	37
Protective Coat	Sq. Yd.	954
Paved Shoulder Removal	Sq. Yd.	243
Concrete Removal	Cu. Yd.	12.1
Concrete Superstructure	Cu. Yd.	13.5
Bridge Deck Grooving	Sq. Yd.	917
Reinforcement Bars, Epoxy Coated	Pound	1330
Bar Splicers	Each	22
Preformed Joint Strip Seal	Foot	91
Framed and Grates to be Adjusted	Each	1
Remove and Reerect Rail Element of Exist. Guardrail	Foot	112
Foam, Expanding Polyurethane, High-Density	Pound	1,248
Bridge Deck Scarification, 3/4"	Sq. Yd.	917
Bridge Deck Microsilica Concrete Overlay, 2 1/2"	Sq. Yd.	917



ELEVATION



PLAN



Jayme F. Schiff

CURVE DATA

(From Existing Plans)

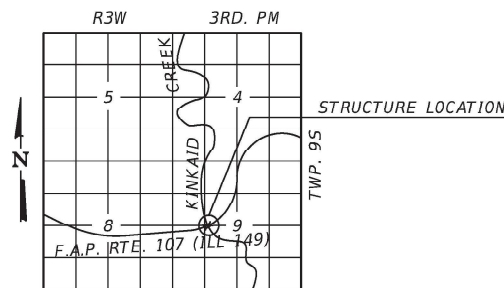
- Δ = 86°-52'-14.0"
- R = 1436.62'
- L = 2178.17'
- D = 3°-59'-17.7"
- T = 1360.22'
- E = 541.78'
- P.I. Sta. 318+20.31
- Super = 0.08 FT/FT
- Attain: Sta. 303+43 to 305+18

SCOPE OF WORK

1. Restore bridge approach pavements using grout.
2. Perform base course widening.
3. Set up traffic control with temporary concrete barrier.
2. Perform full depth joint reconstruction with strip seals at abutments.
4. Install microsilica concrete overlay using 3/4" scarification; 2 1/2" overlay.

DESIGN STRESSES

- Proposed Concrete
- f'c = 4,000 psi
- (From Existing Plans)
- f'c = 3,500 psi
- f_y = 60,000 psi (Reinforcement)
- f_y = 50,000 psi AASHTO M222 (Struct.)



BRIDGE REPAIRS
IL 149 OVER KINKAID CREEK
F.A.P. RTE 331 - D9 BRIDGE OVERLAY 2023-1
JACKSON COUNTY
STATION 320+00.00
STRUCTURE NO. 039-0056

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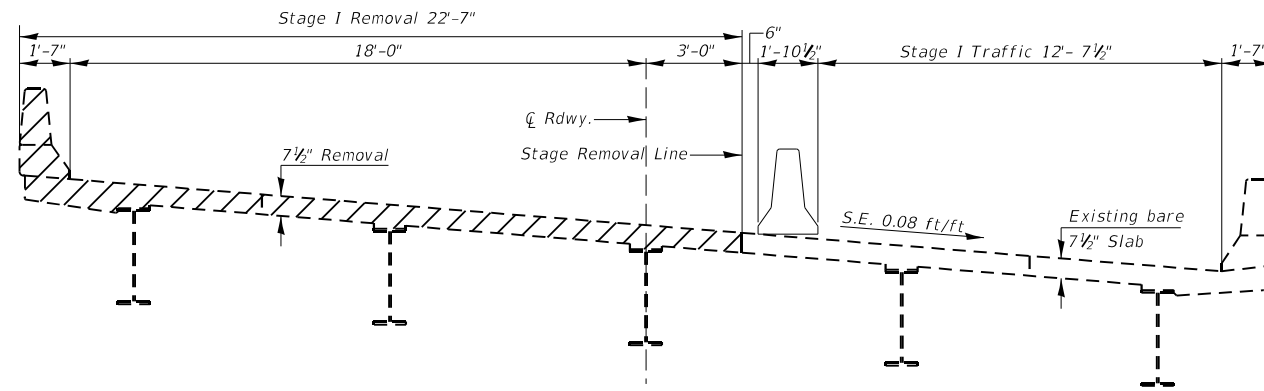
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DRAWN - _____	CHECKED - _____	REVISIED - _____
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PLOT DATE = 6/16/2022		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

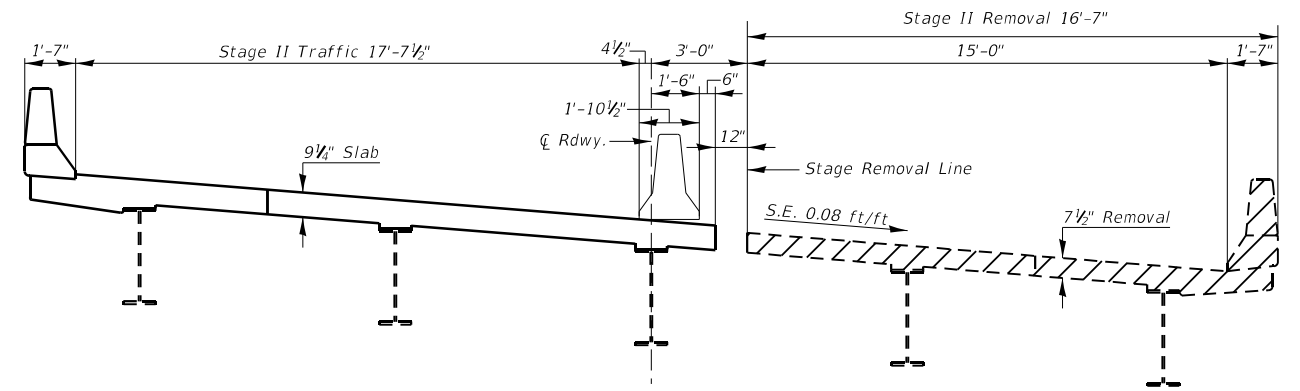
GENERAL PLAN & ELEVATION
SN 039-0056

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

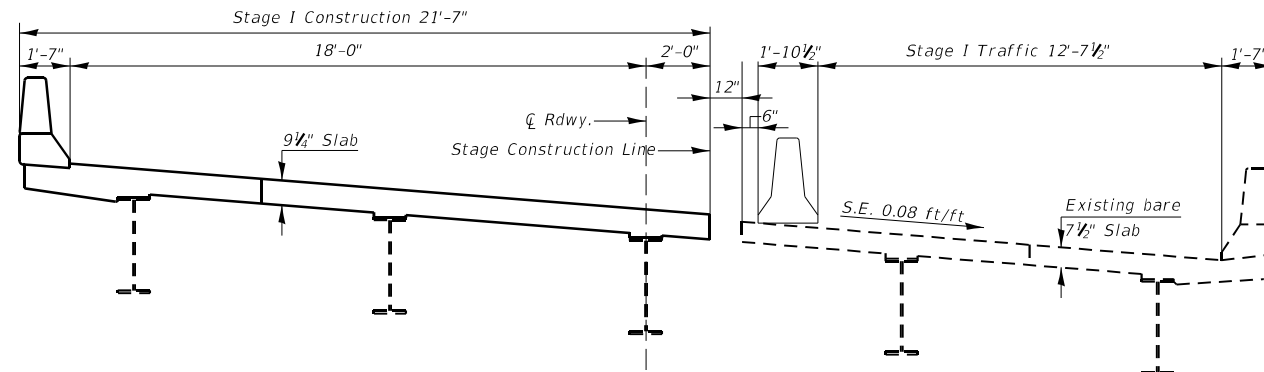
F.A.P. RTE. 331	SECTION *	COUNTY JACKSON	TOTAL SHEETS 15	SHEET NO. 7
CONTRACT NO. 78913			ILLINOIS FED. AID PROJECT	



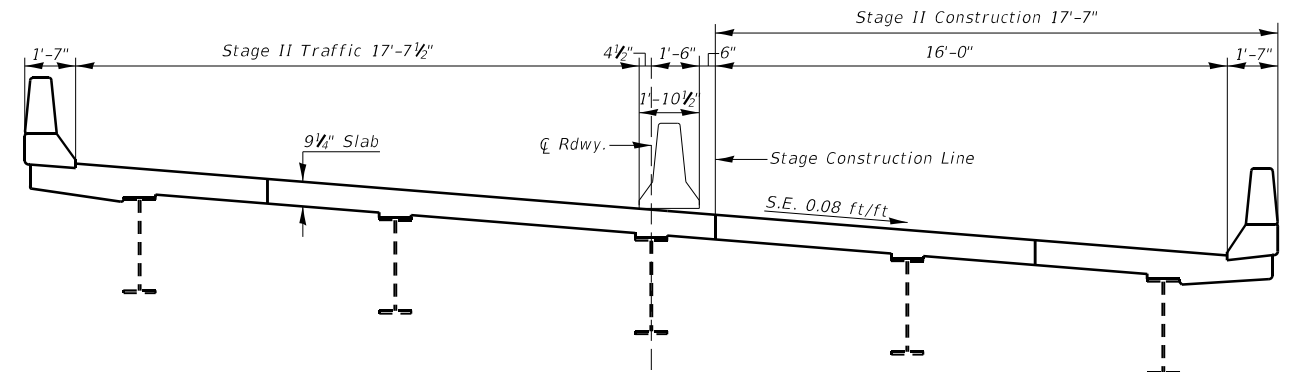
STAGE I REMOVAL



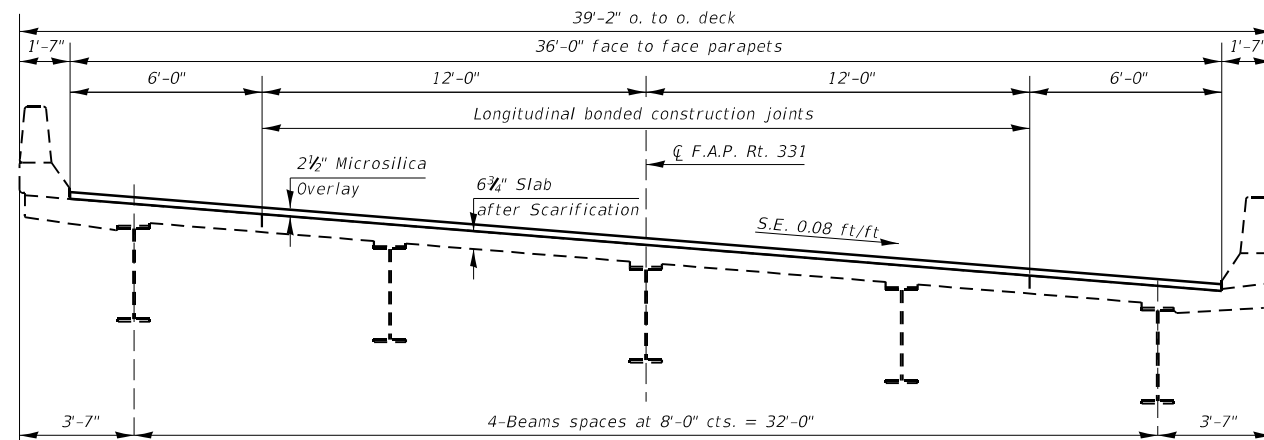
STAGE II REMOVAL



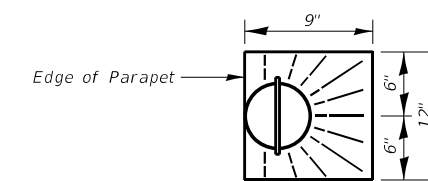
STAGE I CONSTRUCTION



STAGE II CONSTRUCTION

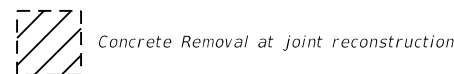


TYPICAL CROSS SECTION - OUTSIDE LIMITS OF JOINT



TOP PLAN

Slope Concrete to Drains



Concrete Removal at joint reconstruction

Note: All sections are looking west.

STAGING DETAILS AND TYPICAL SECTION
IL 149 OVER KINKAID CREEK
F.A.P. RTE 331 - D9 BRIDGE OVERLAY 2023-1
JACKSON COUNTY
STATION 320+00.00
STRUCTURE NO. 039-0056

MODEL NUMBER: MAMTMS
 FILE NAME: 039.DWG

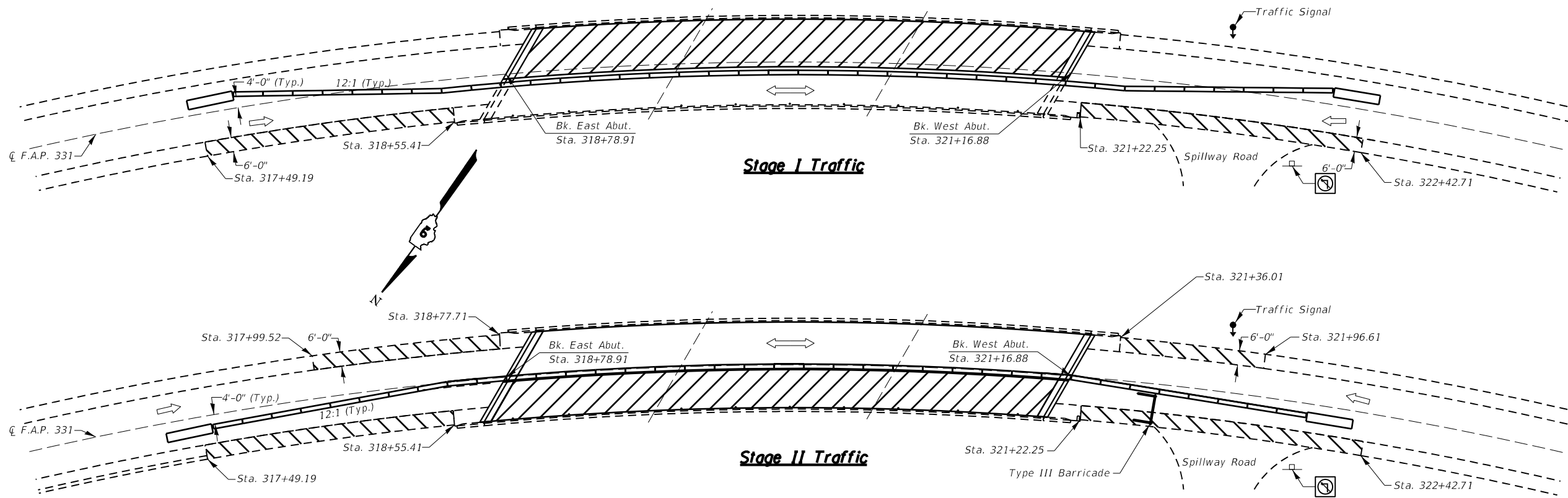
USER NAME = SUSERS	DESIGNED - _____	REVISED - _____
PLOT SCALE = 5SCALES	DRAWN - _____	REVISED - _____
PLOT DATE = SDATES	CHECKED - _____	REVISED - _____
	DATE - _____	REVISED - _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGING DETAILS AND TYPICAL SECTION	
SCALE: _____	SHEET _____ OF _____ SHEETS
STA. _____	TO STA. _____

F.A.P. RTE. 331	SECTION *	COUNTY JACKSON	TOTAL SHEETS 15	SHEET NO. 8
CONTRACT NO. 78913				
ILLINOIS FED. AID PROJECT				

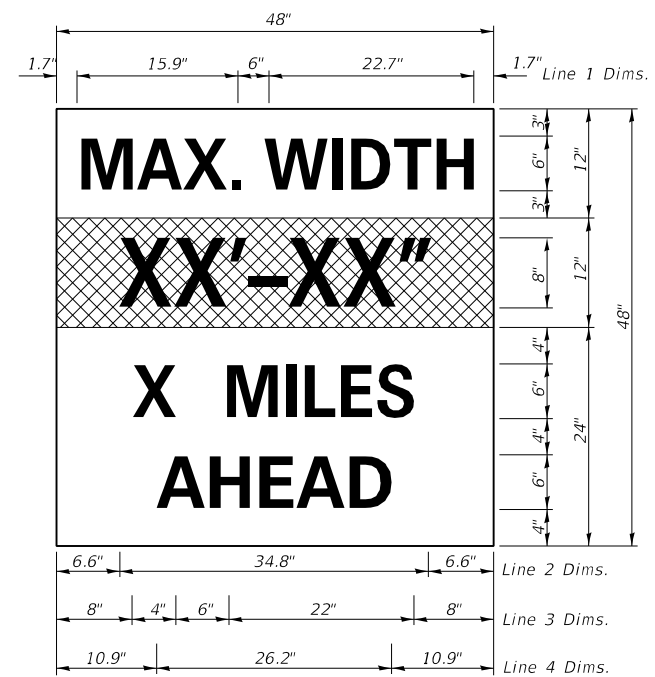
*D9 Bridge Overlay 2023-1



New Microsilica Concrete Overlay on deck
 Proposed Base Course Widening, 10' (6'-0" Wide)

PAVEMENT MARKING SCHEDULE				
STATION	NOTES	PAINT PAVEMENT MARKING - LINE 4"		
		SOILD WHITE	WHITE SKIP DASH	SOLID YELLOW
SN 039-0056				
		FOOT	FOOT	FOOT
318+38.91 RT TO 321+56.88 RT	ALONG CENTERLINE			318
318+38.91 RT TO 321+56.88 RT		318		
318+38.91 LT TO 321+56.88 LT	ALONG CENTERLINE			318
318+38.91 LT TO 321+56.88 LT		318		
SUBTOTAL		636		636
TOTAL		1272		

TEMPORARY CONCRETE BARRIER SCHEDULE				
SN 039-0056				
STAGE	TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	TEMPORARY NARROW IMPACT ATTENUATORS	RELOCATE TEMPORARY NARROW IMPACT ATTENUATORS
	FOOT	FOOT	EACH	EACH
STAGE I - STA 317+64 TO 322+27	462.5		2	
STAGE II - STA 317+54 TO 322+17		462.5		2
TOTAL	463	463	2	2



NOTES

See Standard 71321 for additional details.
 This bridge is located at the bottom of a long, steep hill along a curve. Special attention should be taken when laying out traffic control to make drivers aware of the work zone with enough time to reduce speed prior to entering the work zone. 2 additional changeable message signs shall be placed on the westbound, downhill approach for the duration of the project (see Special Provisions).

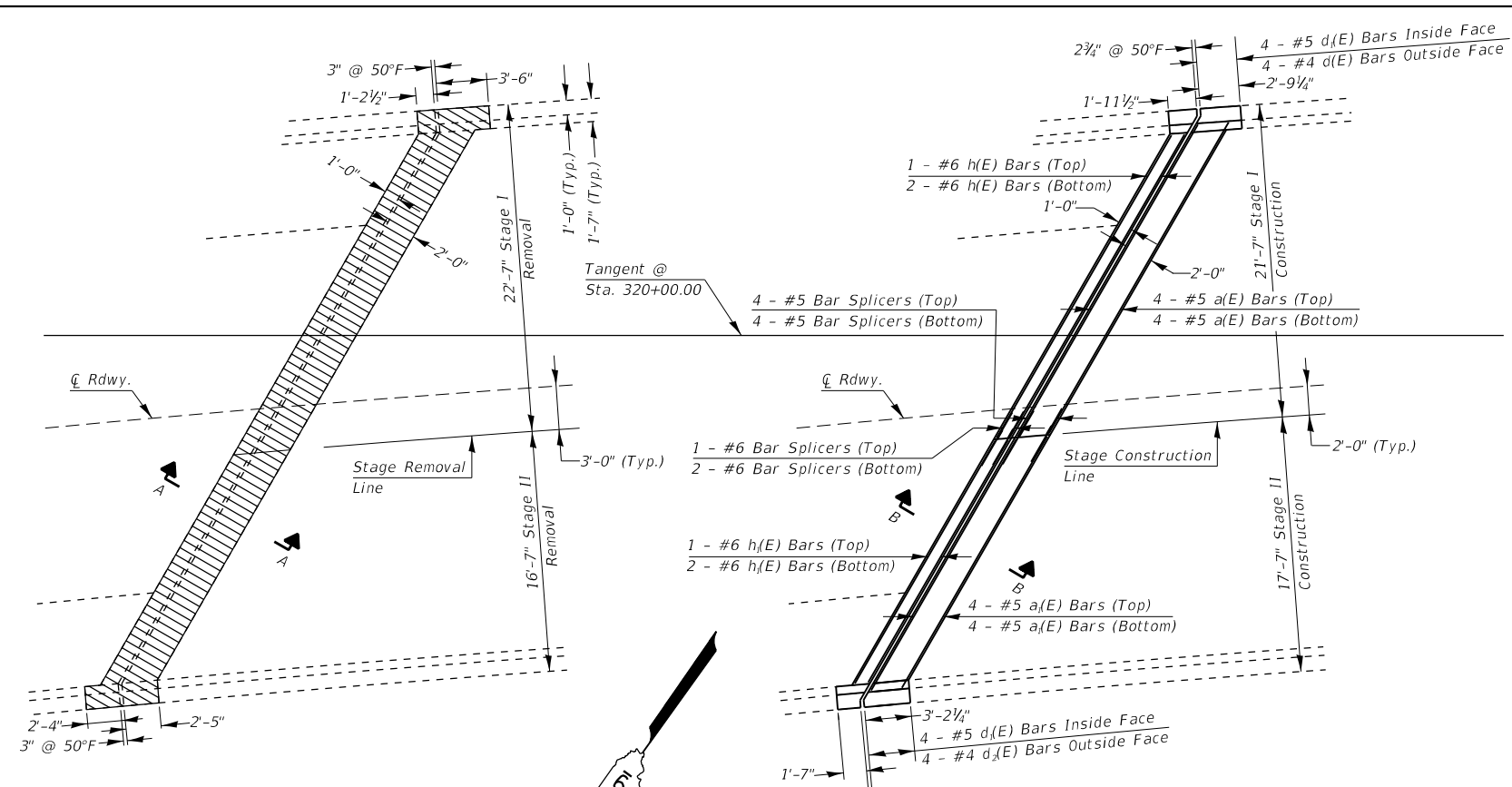
NOTES FOR MAX WIDTH SIGN

1. Install a Max Width Sign each direction on IL 149 to give traffic approaching work zone enough advance notice to change routes if needed. Exact locations as directed by the 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 Standard 701321. No other compensation will be allowed.
4. The width shown on the W12-1103 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.

STAGING DETAILS
IL 149 OVER KINKAID CREEK
F.A.P. RTE 331 - D9 BRIDGE OVERLAY 2023-1
JACKSON COUNTY
STATION 320+00.00
STRUCTURE NO. 039-0056

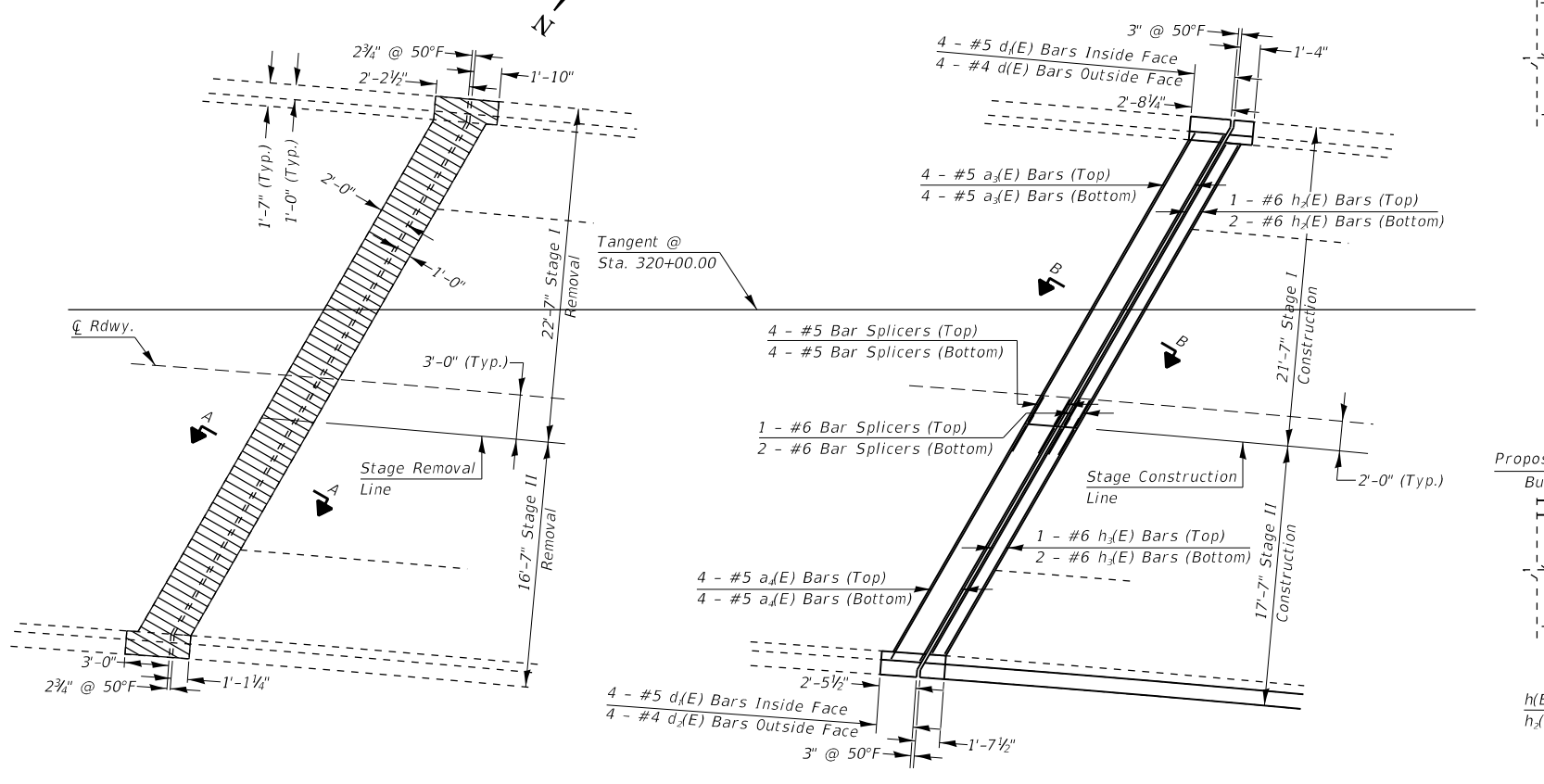
MODEL NUMBER/DATE
FILE NUMBER/REVISED

USER NAME = SUSERS	DESIGNED - _____	REVISED - _____	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGING DETAILS		F.A.P. RTE. 331	SECTION *	COUNTY JACKSON	TOTAL SHEETS 15	SHEET NO. 9	
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PLOT DATE = SDATES	DATE - _____	REVISED - _____		CONTRACT NO. 78913							
*D9 Bridge Overlay 2023-1											



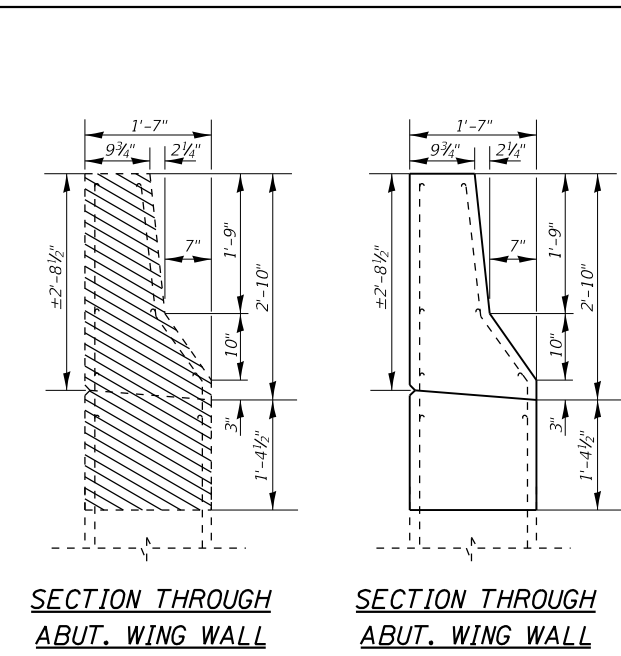
**JOINT @ EAST ABUTMENT
SHOWING CONCRETE REMOVAL**

**JOINT @ EAST ABUTMENT
SHOWING NEW CONCRETE**

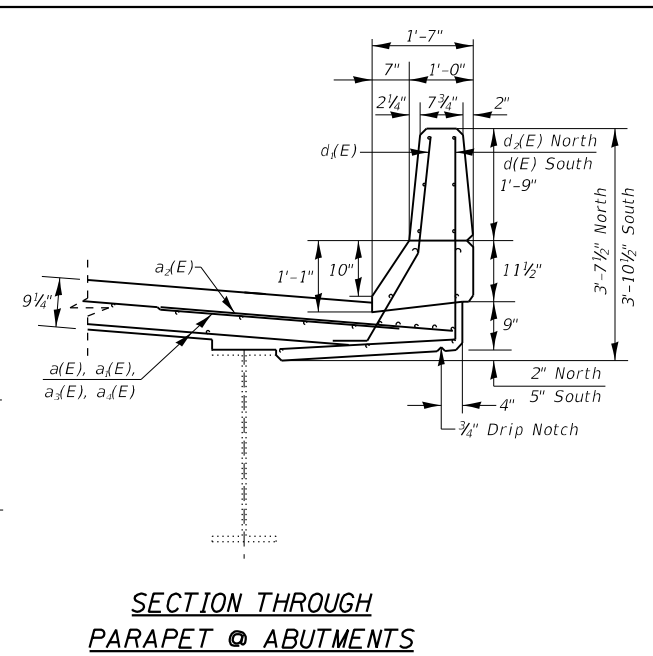


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SHOWING CONCRETE REMOVAL**

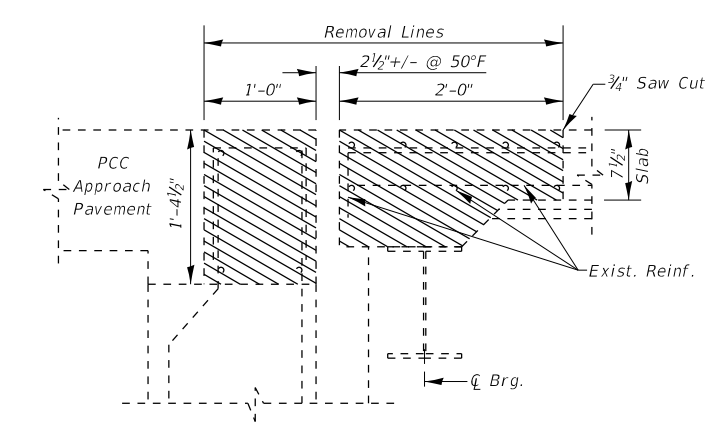
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SHOWING NEW CONCRETE**



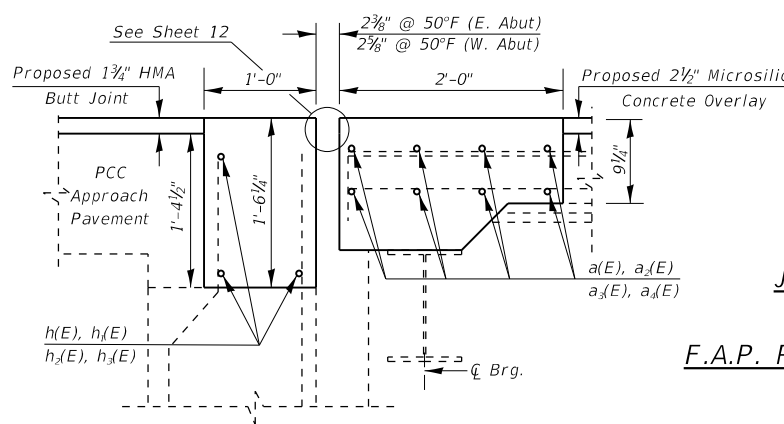
**SECTION THROUGH
ABUT. WING WALL**



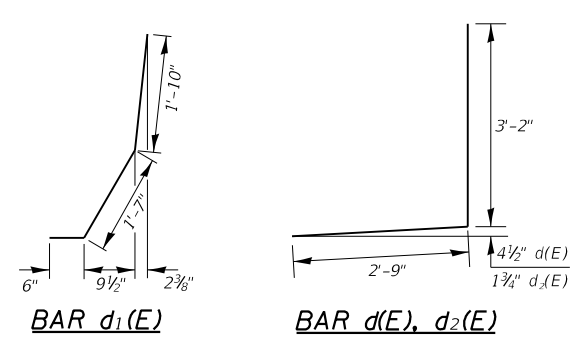
**SECTION THROUGH
PARAPET @ ABUTMENTS**



SECTION A-A



SECTION B-B



BAR d₁(E) BAR d(E), d₂(E)

**BILL OF MATERIAL
(TWO ABUTMENTS)**

Bar	No.	Size	Length	Shape
a ₁ (E)	8	#5	24'-9"	—
a ₂ (E)	8	#5	20'-0"	—
a ₃ (E)	16	#6	4'-7"	—
a ₄ (E)	8	#5	22'-7"	—
a ₅ (E)	8	#5	18'-2"	—
d(E)	8	#4	5'-11"	J
d ₁ (E)	16	#5	3'-11"	J
d ₂ (E)	8	#4	5'-11"	J
h(E)	3	#6	24'-0"	—
h ₁ (E)	3	#6	19'-4"	—
h ₂ (E)	3	#6	21'-10"	—
h ₃ (E)	3	#6	17'-6"	—
Concrete Superstructure		Cu. Yd.	13.5	
Concrete Removal		Cu. Yd.	12.1	
Bar Splicers		Each	22	
Reinforcement Bars, Epoxy Coated		Pound	1,330	

**JOINT RECONSTRUCTION DETAILS
IL 149 OVER KINKAID CREEK
F.A.P. RTE 331 - D9 BRIDGE OVERLAY 2023-1
JACKSON COUNTY
STATION 320+00.00
STRUCTURE NO. 039-0056**

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DRAWN - _____	REVISIONS - _____	
CHECKED - _____	REVISIONS - _____	
DATE - _____	REVISIONS - _____	

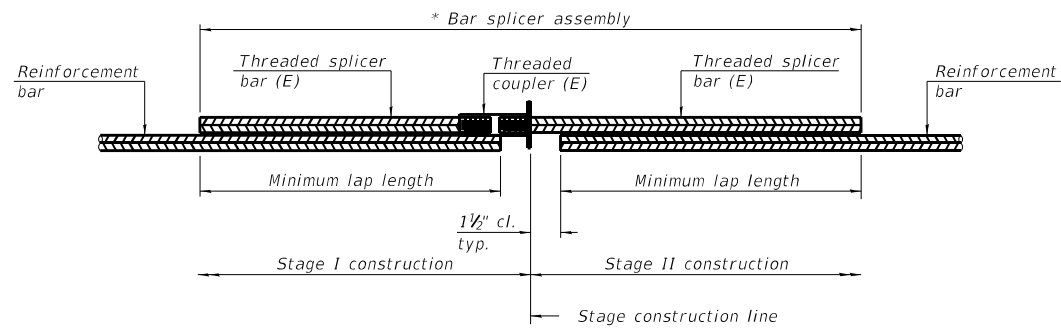
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**JOINT RECONSTRUCTION DETAILS
AT ABUTMENTS SN 039-0056**

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

F.A.P. RTE. 331	SECTION *	COUNTY JACKSON	TOTAL SHEETS 15	SHEET NO. 10
			CONTRACT NO. 78913	
ILLINOIS FED. AID PROJECT				

*D9 Bridge Overlay 2023-1

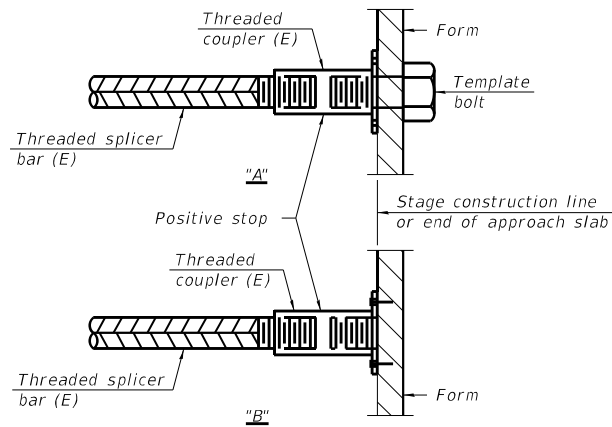


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

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	16	3'-6"
Appr. Slab	#6	6	4'-0"

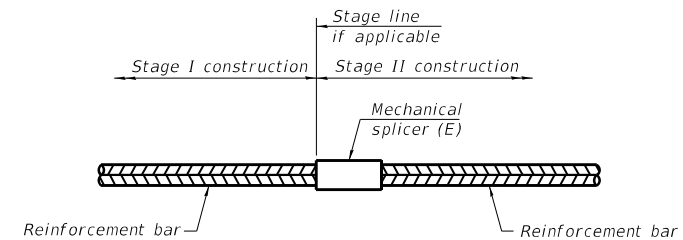


INSTALLATION AND SETTING METHODS

"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.

BAR SPLICER ASSEMBLY DETAILS
IL 149 OVER KINKAID CREEK
F.A.P. RTE 331 - D9 BRIDGE OVERLAY 2023-1
JACKSON COUNTY
STATION 320+00.00
STRUCTURE NO. 039-0056

BSD-1 1-1-2020

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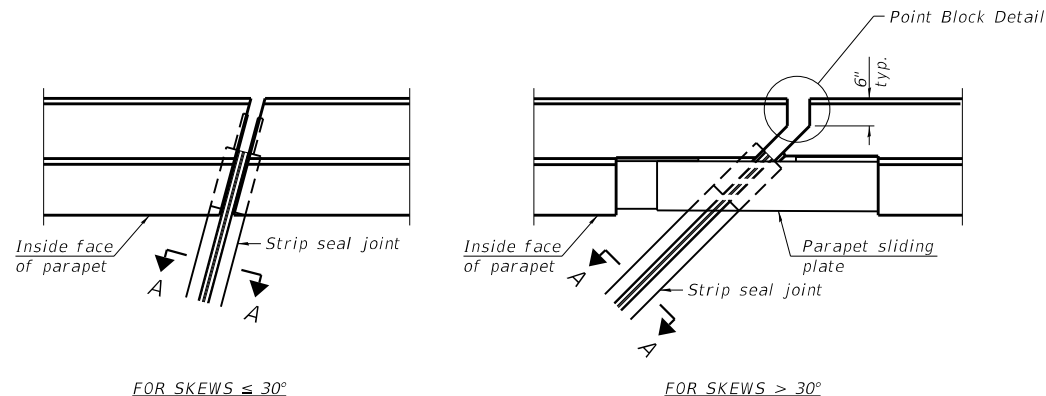
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

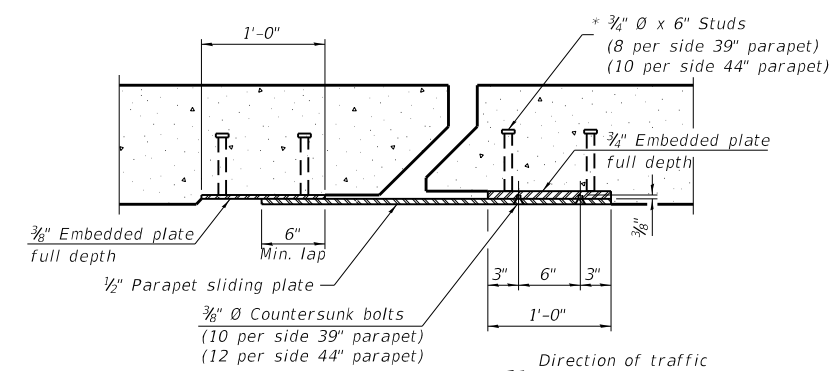
BAR SPLICER ASSEMBLY DETAILS

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

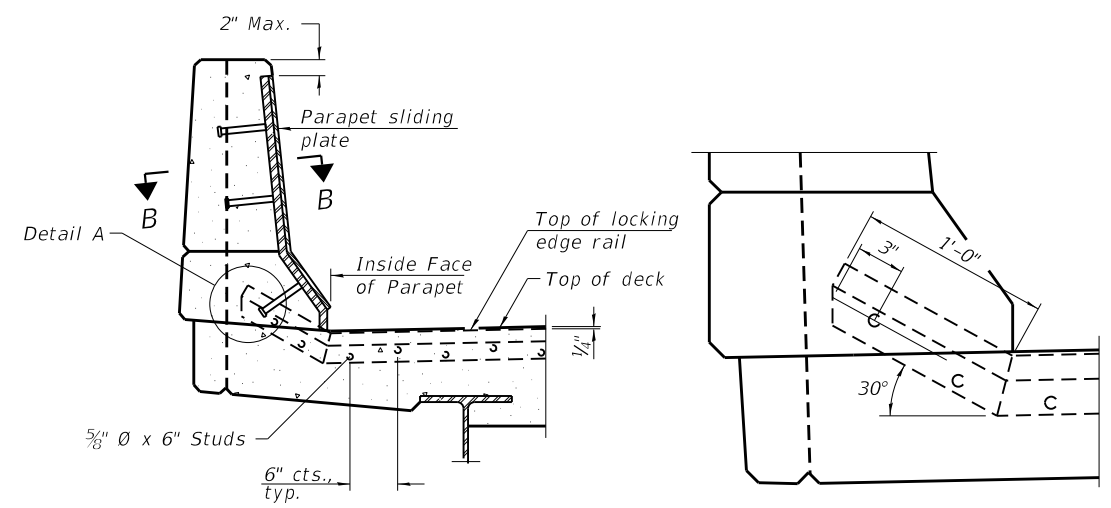
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	*	JACKSON	15	11
CONTRACT NO. 78913			ILLINOIS FED. AID PROJECT	



PLAN AT PARAPET



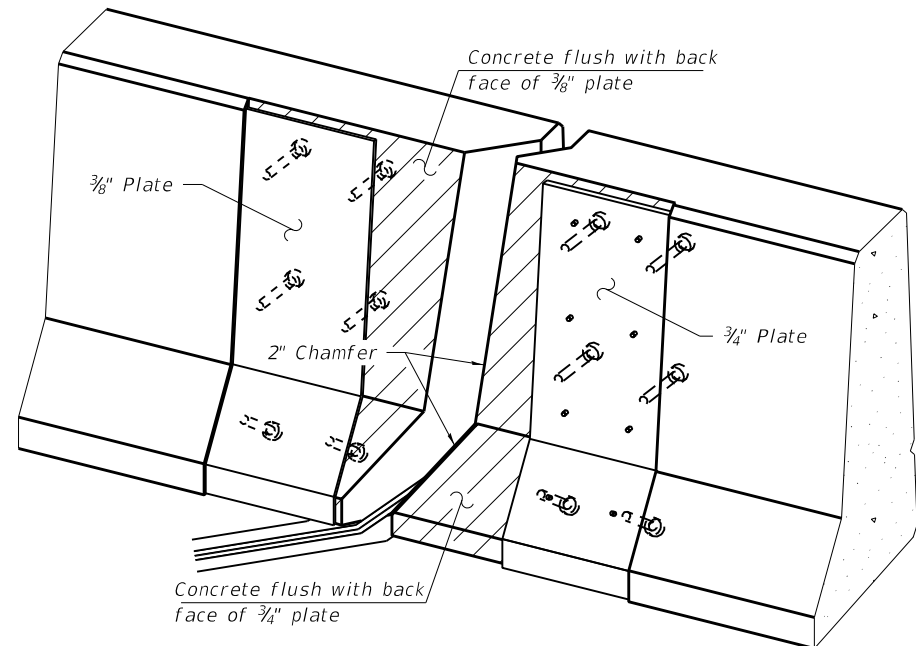
SECTION B-B



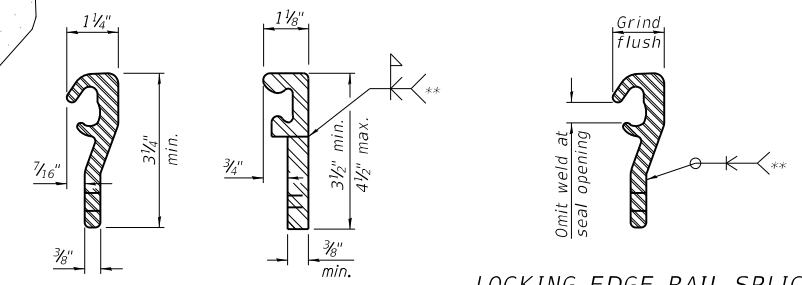
ELEVATION AT PARAPET

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

DETAIL A



TRIMETRIC VIEW
(Showing embedded plates only)



ROLLED (EXTRUDED) RAIL

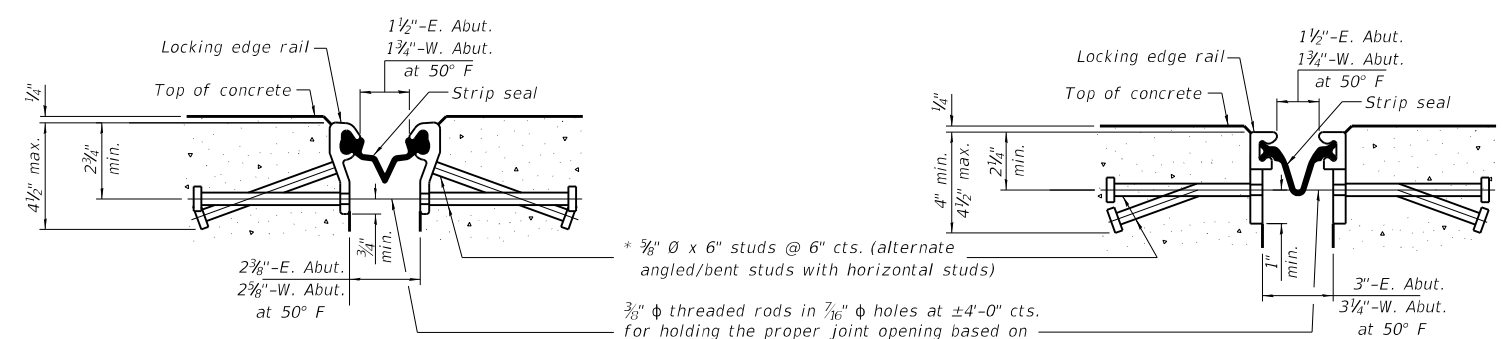
WELDED RAIL

LOCKING EDGE RAIL SPLICE

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

LOCKING EDGE RAILS

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



SHOWING ROLLED RAIL JOINT

SHOWING WELDED RAIL JOINT

* $\frac{3}{8}$ " \varnothing x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

$\frac{3}{8}$ " \varnothing threaded rods in $\frac{7}{16}$ " \varnothing 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.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	91

PREFORMED JOINT STRIP SEAL DETAILS
 IL 149 OVER KINKAID CREEK
 F.A.P. RTE 331 - D9 BRIDGE OVERLAY 2023-1
 JACKSON COUNTY
 STATION 320+00.00
 STRUCTURE NO. 039-0056

EJ-SS 1-1-2020

USER NAME = William.Porter	DESIGNED - _____	REVISED - _____
PLOT SCALE = 100,0000' / in.	DRAWN - _____	REVISED - _____
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	DATE - _____	REVISED - _____

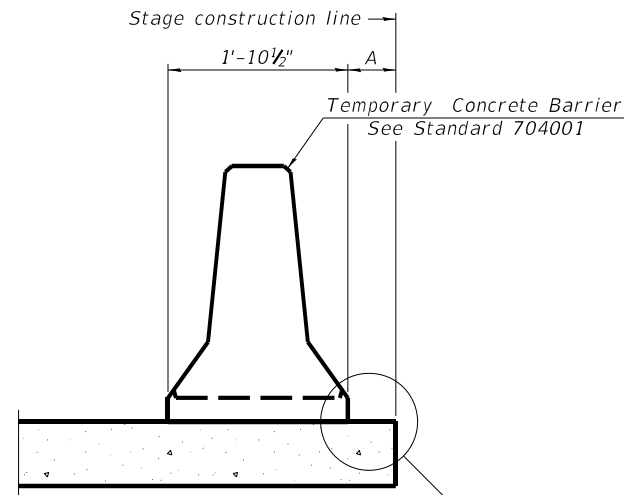
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL DETAILS

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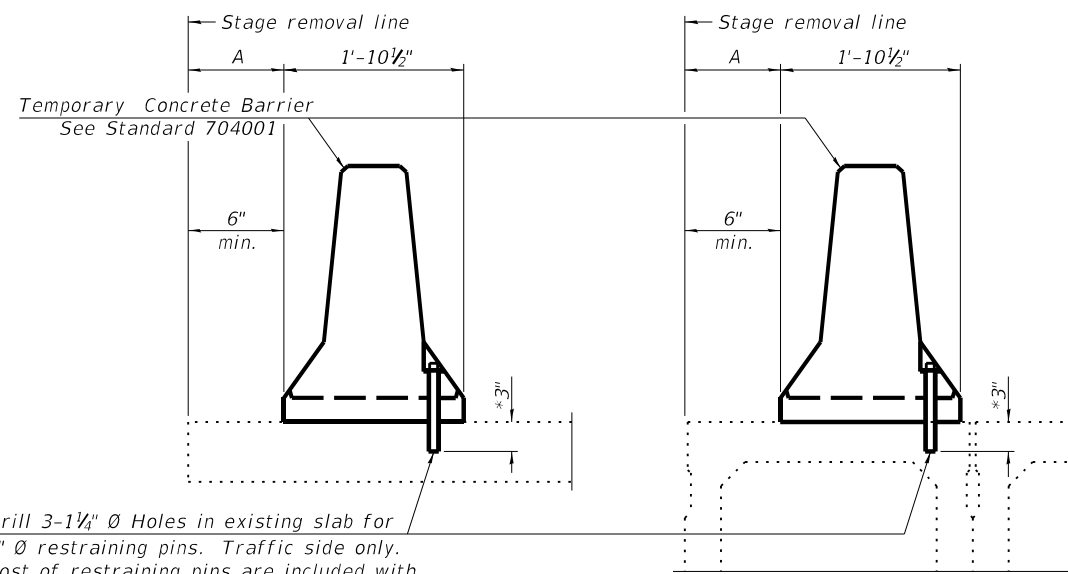
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	*	JACKSON	15	12
			CONTRACT NO. 78913	

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 PROJECT: 78913



When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM

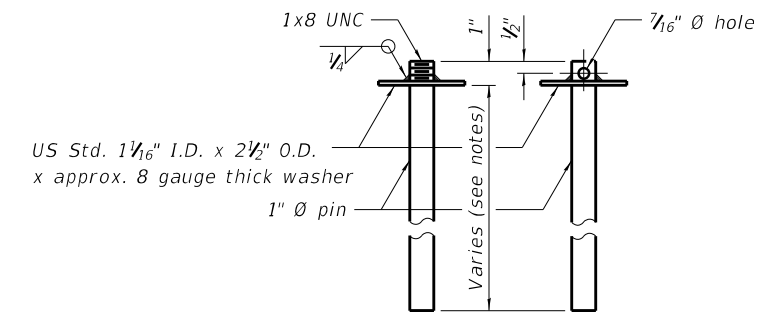


Drill 3-1 1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

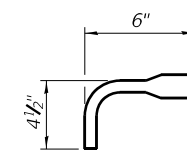
EXISTING SLAB

EXISTING DECK BEAM

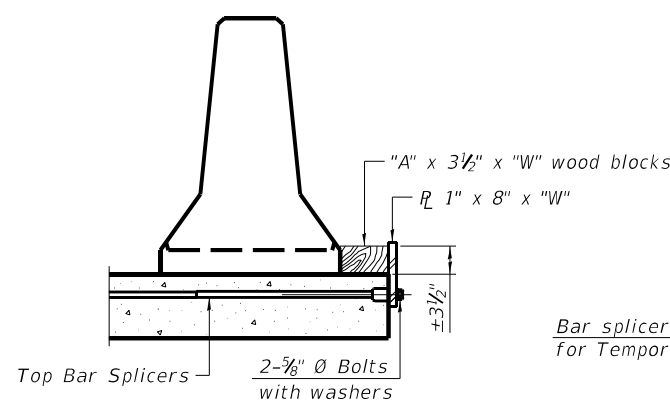
SECTIONS THRU SLAB OR DECK BEAM



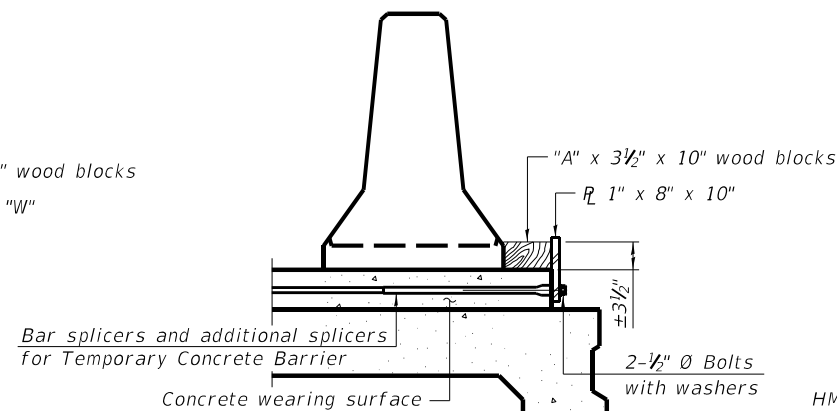
RESTRAINING PIN



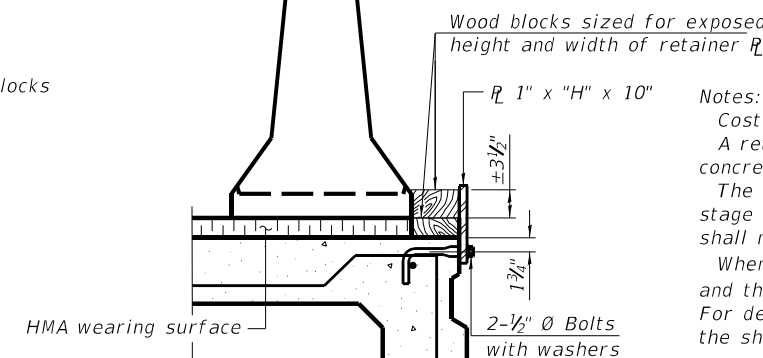
BAR SPLICER FOR #4 BAR - DETAIL III



DETAIL I



DETAIL II



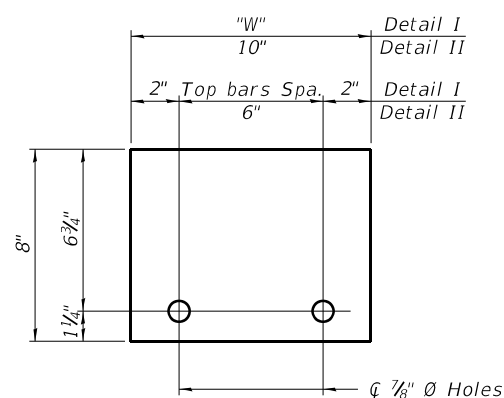
DETAIL III

Notes:
 Cost of retainer assembly is included with Temporary Concrete Barrier.
 A retainer assembly shall be located at the approximate \bar{C} of each temporary concrete barrier.
 The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
 When the 'A' dimension is less than 1 1/2", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

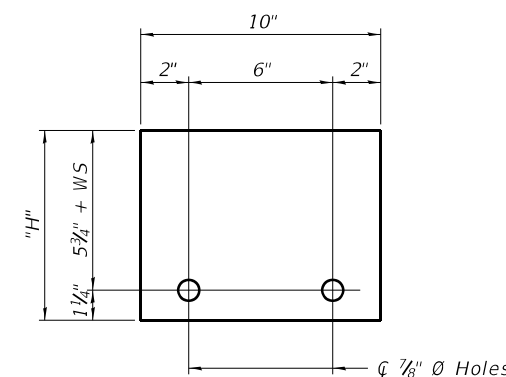
Detail I - Installation for a new bridge deck or bridge slab.

Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.

Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.



STEEL RETAINER \bar{R} 1" x 8" x "W"
(Detail I and II)



STEEL RETAINER \bar{R} 1" x "H" x 10"
(Detail III)

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27 10-12-2021

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION DETAILS

IL 149 OVER KINKAID CREEK

F.A.P. RTE 331 - D9 BRIDGE OVERLAY 2023-1

JACKSON COUNTY

STATION 320+00.00

STRUCTURE NO. 039-0056

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION

USER NAME = SUSERS	DESIGNED - _____	REVISED - _____
PLOT SCALE = 5SCALES	DRAWN - _____	REVISED - _____
PLOT DATE = SDATES	CHECKED - _____	REVISED - _____
	DATE - _____	REVISED - _____

SCALE: _____	SHEET _____ OF _____ SHEETS	STA. _____ TO STA. _____
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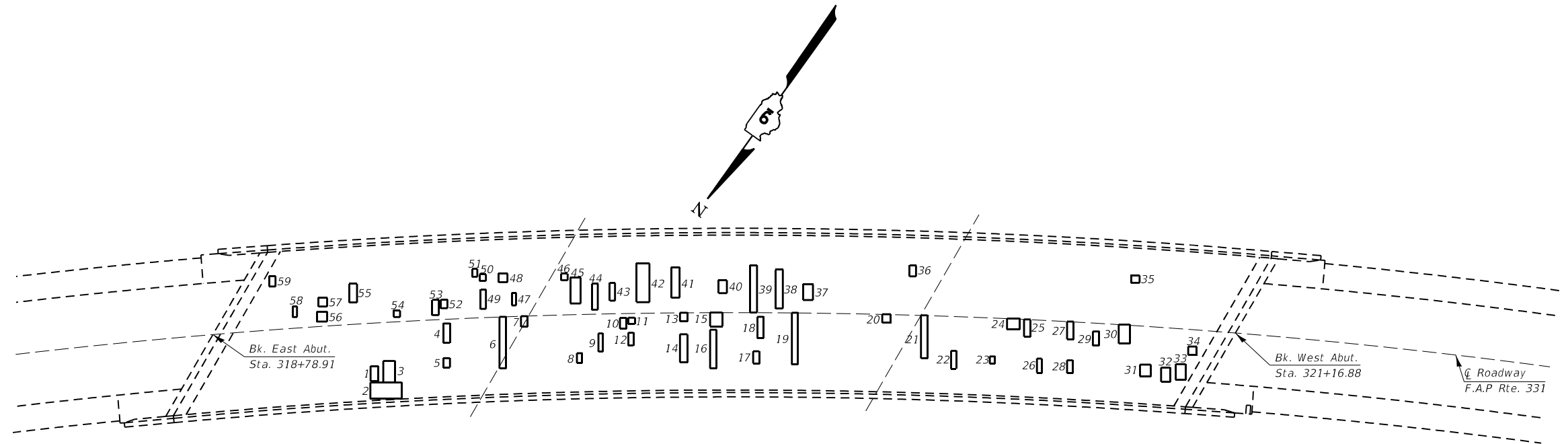
F.A.P. RTE. 331	SECTION *	COUNTY JACKSON	TOTAL SHEETS 15	SHEET NO. 13
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78913	

DECK SLAB REPAIR (PARTIAL DEPTH)

PATCH NO.	DIST. FROM C	LENGTH	WIDTH	AREA
1	10'	1.8'	3.5'	6 Sq Ft
2	14'	7.3'	3.8'	28 Sq Ft
3	9'	2.7'	5.0'	14 Sq Ft
4	1'	1.5'	4.5'	7 Sq Ft
5	9'	1.5'	2.2'	3 Sq Ft
6	0'	1.5'	12.0'	18 Sq Ft
7	0'	1.5'	2.5'	4 Sq Ft
8	9'	1.2'	2.3'	3 Sq Ft
9	4.5'	1.0'	4.3'	4 Sq Ft
10	1'	1.5'	2.5'	4 Sq Ft
11	1'	1.5'	1.5'	2 Sq Ft
12	4.5'	1.2'	3.0'	4 Sq Ft
13	0'	1.7'	2.0'	3 Sq Ft
14	5'	1.7'	6.5'	11 Sq Ft
15	0'	2.8'	3.2'	9 Sq Ft
16	4'	1.5'	9.0'	14 Sq Ft
17	9'	1.4'	2.8'	4 Sq Ft
18	1'	1.4'	5.0'	7 Sq Ft
19	0'	1.4'	12.0'	17 Sq Ft
20	0'	2.0'	2.0'	4 Sq Ft
21	0'	1.5'	10.0'	15 Sq Ft
22	8'	1.2'	4.2'	5 Sq Ft
23	9'	1.2'	1.7'	2 Sq Ft
24	0'	3.0'	2.5'	8 Sq Ft
25	0'	1.5'	4.0'	6 Sq Ft
26	9'	1.1'	3.3'	4 Sq Ft
27	0'	1.5'	4.1'	6 Sq Ft
28	9'	1.3'	3.0'	4 Sq Ft
29	2'	1.5'	3.3'	5 Sq Ft
30	0'	2.6'	4.4'	11 Sq Ft
31	9'	2.5'	2.7'	7 Sq Ft
32	9'	2.1'	3.3'	7 Sq Ft
33	8'	2.3'	3.6'	8 Sq Ft
34	3'	2.0'	2.0'	4 Sq Ft
35	10'	2.0'	1.7'	3 Sq Ft
36	9'	1.5'	2.5'	4 Sq Ft
37	3'	2.3'	3.6'	8 Sq Ft
38	1'	1.7'	9.0'	15 Sq Ft
39	0'	1.6'	11.0'	18 Sq Ft
40	4.5'	1.9'	3.0'	6 Sq Ft
41	3.5'	1.9'	7.1'	13 Sq Ft
42	2.5'	3.0'	9.0'	27 Sq Ft
43	3'	1.2'	4.1'	5 Sq Ft
44	1'	1.4'	6.0'	8 Sq Ft
45	2.5'	2.4'	6.0'	14 Sq Ft
46	8'	1.5'	1.5'	2 Sq Ft
47	2.5'	1.0'	2.9'	3 Sq Ft
48	8'	2.0'	2.0'	4 Sq Ft
49	2'	1.2'	4.5'	5 Sq Ft
50	8.5'	1.5'	1.5'	2 Sq Ft
51	9.5'	1.2'	1.8'	2 Sq Ft
52	2.5'	1.5'	2.0'	3 Sq Ft
53	1'	1.5'	3.5'	5 Sq Ft
54	1'	1.5'	1.5'	2 Sq Ft
55	5'	1.8'	4.5'	8 Sq Ft
56	1'	2.4'	2.3'	6 Sq Ft
57	4.5'	2.0'	2.0'	4 Sq Ft
58	2.5'	1.0'	2.5'	3 Sq Ft
59	10'	1.5'	2.4'	4 Sq Ft
SUBTOTAL				432 Sq Ft
TOTAL				48 Sq Yd

NOTES

This sheet is for information only and is intended to help estimate the total quantity of microsilica concrete that will be needed after hydro-scarifying the bridge deck.



PLAN

DECK SLAB REPAIR
IL 149 OVER KINKAID CREEK
F.A.P. RTE 331 - D9 BRIDGE OVERLAY 2023-1
JACKSON COUNTY
STATION 320+00.00
STRUCTURE NO. 039-0056

MODEL NUMBER: MAM1ES
FILE NAME: 039-0056

USER NAME = SUSERS	DESIGNED - _____	REVISED - _____
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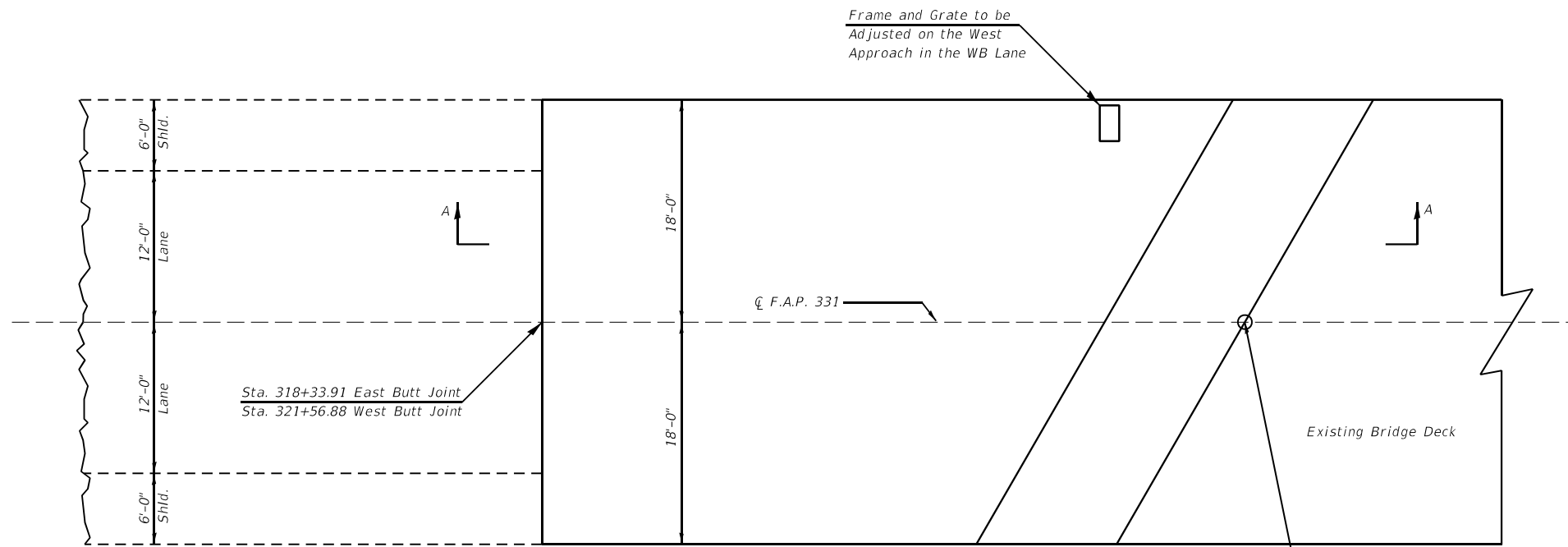
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DECK SLAB REPAIR

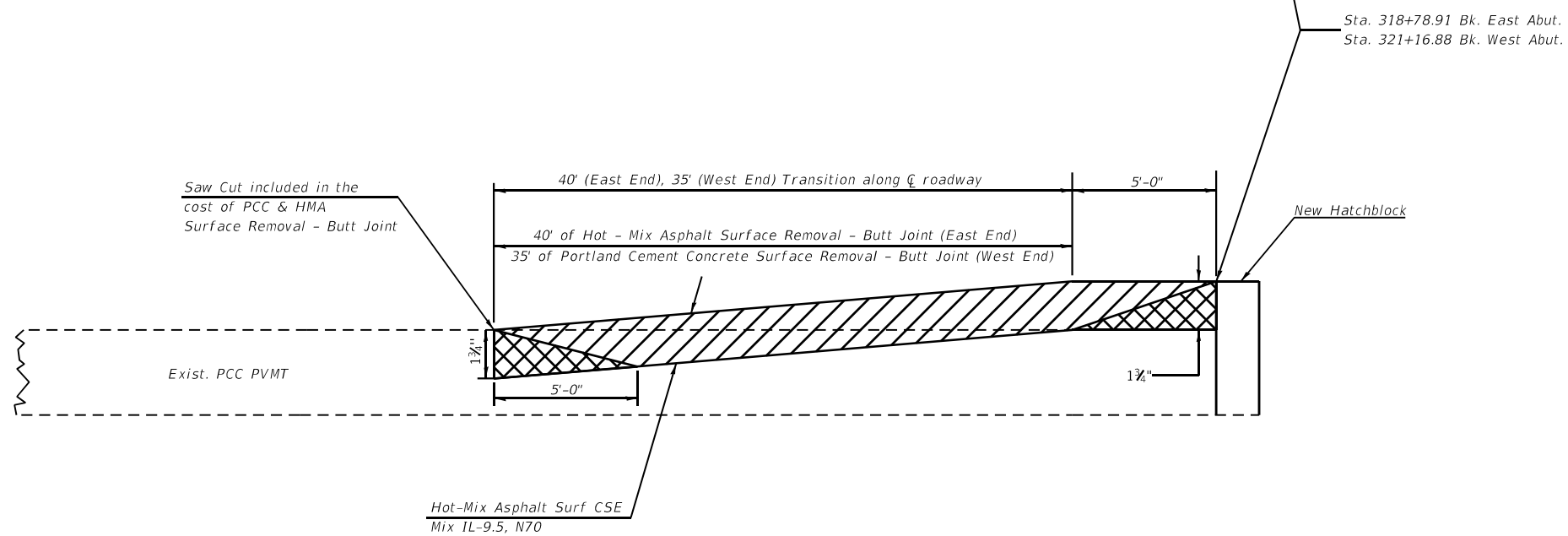
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	*	JACKSON	15	14
CONTRACT NO. 78913				
ILLINOIS FED. AID PROJECT				

BUTT JOINT



PLAN



SECTION A-A



MODEL NUMBER: MAMES
FILE NAME: 331EUS

USER NAME = SUSERS	DESIGNED - _____	REVISED - _____
	DRAWN - _____	REVISED - _____
PLOT SCALE = 5SCALES	CHECKED - _____	REVISED - _____
PLOT DATE = SDATES	DATE - _____	REVISED - _____

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BUTT JOINT DETAIL
SN 039-0056**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	*	JACKSON	15	15
CONTRACT NO. 78913			ILLINOIS FED. AID PROJECT	

*D9 Bridge Overlay 2023-1