04-28-2023 LETTING ITEM 072

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

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

D9 BRIDGE OVERLAY 2023-5 ILLINOIS CONTRACT NO. 78939

D-99-033-22



LOCATION OF SECTION INDICATED THUS: - -

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

SUBMITTED Jan 27 20 23

Kirk H. Brain.

REGION FIVE ENGINEER March 24, 202

ENGINEER OF DESIGN AND ENVIRONMENT

March 24, 2023

DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

PROPOSED HIGHWAY PLANS

FAP 726/FAP 873 (IL 37/L 149) **SECTION D9 BRIDGE OVERLAY 2023-5** PROJECT COVD-HBFP-JLFA(906) **BRIDGE REPAIRS** JOHNSON/JACKSON COUNTY

C-99-045-22

TRAFFIC DATA

FOR INDEX OF SHEETS, SEE SHEET NO. 3

BRIDGE NO. 1 SN 044-0012 IL 37 2021 ADT = 1400, 17% TRUCKS

BRIDGE_NO.2 SN 039-0057 IL 149 2021 ADT = 3000, 5% TRUCKS

TOWNSHIPS

SN 044-0012 CACHE

SN_039-0057 **DESOTO**

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

PROJECT ENGINEER: GRANT DETERDING PROJECT DESIGNER: DAVID WILSON

JOHNSON COUNTY RANGE 2E

JOHNSON COUNTY

STRUCTURE 044-0012

IL 37 OVER ABANDONED RR

0.2 MILES SOUTH OF CYPRESS

RANGE 1W JACKSON COUNTY STRUCTURE 039-0057

JACKSON COUNTY

IL 149 OVER LITTLE MUDDY RIVER 2 MILES EAST OF DESOTO

NET LENGTH = 693 .08 FT. = 0 .13 MILES

CONTRACT NO. 78939

REV. - MS

POSTED SPEED: 55 MPH

0

0

Prepared By: Charles Stein

DISTRICT STUDIES & PLANS ENGINEER

Examined By:

Nancyte

DISTRICT LAND ACQUISITION ENGINEER

Examined By:

DISTRICT PROGRAM DEVELOPMENT ENGINEER

Examined By:

DISTRICT OPERATIONS ENGINEER

Examined By:

Dayla & Tuelis

DISTRIC PROJECT IMPLEMENTATION ENGINEER

Examined By:

Dayl July

DISTRICT CONSTRUCTION ENGINEER

Examined By:

DISTRICT MATERIALS ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

SHEET 2 OF 25 SHEETS STA.

SCALINO SCALE

*FAP 728/FAP 873

JOHNSON JACKSON

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

ON ALL SUPERELEVATED CURVES, THE PROPOSED BASE COURSE WIDENING SHALL BE CONSTRUCTED WITH A SLOPE CONFORMING TO THE RATE OF SUPERELEVATION OF THE EXISTING PAVEMENT.

THE QUANTITIY OF SHORT TERM PAVEMENT MARKING SHOWN IN THE PLANS IS BASED ON ONE APPLICATION EACH FOR THE HMA SURFACE REMOVAL, BINDER COURSE, AND SURFACE COURSE.

AT ALL LOCATIONS WHERE THE PROPOSED HOT MIX ASPHALT OR CONCRETE PAVEMENT JOINS AN EXISTING HOT MIX ASPHALT OR CONCRETE PAVEMENT, A FULL DEPTH SAWED JOINT SHALL BE CONSTRUCTED. THE COST OF THIS JOINT WILL BE INCLUDED IN THE COST OF THE TYPE OF PAVEMENT BEING CONSTRUCTED.

EDGE LINE PAVEMENT MARKING SHALL BE REMOVED IF A 10 FT LANE WIDTH CANNOT BE MAINTAINED. TEMPORARY EDGE LINES SHALL BE INSTALLED WHEN THE EDGE LINES ARE REMOVED.

COMMITMENTS: NONE

HMA MIXTURE REQUIREMENTS

Locations:	Hot-Mix Asphalt Surface Course Approach Grade Raise/Full
	Depth Shoulders surface lift
Mixture Use(s):	Hot-Mix Asphalt Surface Course, Mix C, N70
PG:	SBS PG64-22
Design Air Voids:	4.0%, 70 Gyration Design
Mixture Compostion:	IL-9.5mm
(Gradation Mixture)	
Friction Aggregate:	Mix C
Mixture Weight:	112lbs/Sq Yd/in
Quality Management	QC/QA
Program:	
Sublot Size:	3000
Material Transfer	NO
Devide:	

Locations:	Full Depth Shoulders Bottom Lifts
Mixture Use(s):	Hot-Mix Asphalt Binder Course, N70
PG:	SBS PG64-22
Design Air Voids:	4.0%, 70 Gyration Design
Mixture Composition:	IL-19.mm
(Gradation Mixture)	
Friction Aggregate:	None
Mixture Weight:	112 lbs/Sq Yd/in
Quality Management	QC/QA
Program:	
Sublot Size:	3000
Material Transfer	NO
Device:	

Paving Lifts

HMA Approach Grade Raise:

1¾"-Hot-Mix Asphalt Surface Course, Mix C, N70, 9.5mm

Full Depth Shoulders, 10":

Top Lift, 2" - Hot-Mix Asphalt Surface Course, Mix C, N70 Bottom Lifts, 2 each 4" - Hot-Mix Asphalt Binder Course, N70

INDEX OF SHEETS

1	COVER SHEET
2	SIGNATURE SHEET
3	GENERAL NOTES, INDEX OF SHEETS AND STANDARDS
4-6	SUMMARY OF QUANTITIES
7	SCHEDULES
8	GENERAL PLAN AND ELEVATION SN 044-0012
9	TYPICAL SECTION SN 044-0012
10	STAGING SN 044-0012
11	PATCHING DETAILS SN 044-0012
12	NORTH ABUTMENT JOINT RECONSTRUCTION SN 044-0012
13	SOUTH ABUTMENT JOINT ELIMINATION SN 044-0012
14	PIERS 2&3 REPAIRS SN 044-0012
15	PIERS 1&4 AND NORTH ABUTMENT REPAIRS SN 044-0012
16	ELASTOMERIC BEARINGS SN 044-0012
17	BAR SPLICERS SN 044-0012
18	PREFORMED JOINT STRIP SEAL DETAILS SN 044-0012
19	TEMPORARY CONCRETE BARRIER SN 044-0012
20	BUTT JOINT DETAILS SN 044-0012
21	GENERAL PLAN AND ELEVATION SN 039-0057
22	TYPICAL SECTION SN 039-0057
23	STAGING DETAILS SN 039-0057
24	PATCHING DETAILS SN 039-0057
25	BUTT JOINT DETAILS SN 039-0057

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 THAT 15' AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24' FROM PAVEMENT EDGE
701316-13	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR FOR SPEEDS > 45 MPH
701321-18	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-04	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS \geq 45 MPH
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
780001-05	TYPICAL PAVEMENT MARKINGS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
862001-01	UNINTERRUPTABLE POWER SUPPLY (UPS)
420001-10	PAVEMENT JOINTS
631031-18	TRAFFIC BARRIER TERMINAL, TYPE 6
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS >= 45 MPH

REV. - MS

USER NAME = David.A.Wilson	DESIGNED -	REVISED _								SECTION	COUNTY	TOTAL SH	IEET I
	DRAWN -	REVISED -	STATE OF ILLINOIS	GENERAL	GENERAL NOTES, INDEX OF S			AND STANDARDS	*	D9 BRIDGE OVERLAY 2023-5	**	25	, "
PLOT SCALE = 0.16666633 ' / in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION		,						CONTRAC	CT NO. 78939	ヿ
PLOT DATE = 1/27/2023	DATE -	REVISED -		SCAL B IO SCALE SHEET 3 OF 25 SHEETS STA. TO STA.				TO STA.		ILLINOIS FED. AII	D PROJECT		
*FAP 726/FAI							ô/FAP 873		**J	OHNSON/JACK	ON د		

SUMMARY OF QUANTITIES

COUNTY:	JOHNSON (1) CO	JACKSON CO
ROUTE:	IL 37 (FAP 726)	IL 149 (FAP 873)
FUNDING:	80% FEDERAL 20% STATE	100% FEDERAL
LOCATION:	RURAL	RURAL

			LOCATION:	RURAL	RURAL
CODE	ITEM DESCRIPTION	UNIT	TOTAL	SN 044-0012	SN 039-0057
NUMBER	3. 24 - 22 - 34	12.00	QUANTITY	0047	00 47
20200600	EXCAVATING AND GRADING EXISTING SHOULDER	UNIT	6	3	3
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	357	173	184
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	293	142	151
40600990	TEMPORARY RAMP	SQ YD	83	43	40
40604052	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N70	TON	118	60	58
48203037	HOT-MIX ASPHALT SHOULDERS, 10"	SQ YD	206	99	107
50102400	CONCRETE REMOVAL	CU YD	-10	10	
30102400	CONCRETE REMOVAL	CO 10	1019	1419	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	21.3	21,3	
50300260	BRIDGE DECK GROOVING	SQ YD	1,391	629	762
50300300	PROTECTIVE COAT	SQ YD	1,494	681	813
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	580	580	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2,010	2,010	
50800515	BAR SPLICERS	EACH	2.4	24	
52000110	PREFORMED JOINT STRIP SEAL	FOOT	50	50	

REV. - MS

USER NAME = David.A.Wilson	DESIGNED -	REVISED _	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES						F.A.*	SECTION	COUNTY	TOTAL	SHEET
	DRAWN -	REVISED _							- F	*	D9 BRIDGE OVERLAY 2023-5	**	25	4
PLOT SCALE = 0.16666633 ' / in.	CHECKED -	REVISED _										CONTRACT	T NO. 789	39
PLOT DATE = 1/27/2023	DATE -	REVISED -		SCALENO SCALE	SHEET 4	OF 25	SHEETS STA.	TO STA.	- 1		ILLINOIS FED. AID	PROJECT		
									*FAP 726/FAI	P 873		**JO	HNSON/JAC	KSON

Sommer of Quittilles conti	SUMMARY	OF	QUANTITIES	-	CONT
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COUNTY:	JOHNSON CO	JACKSON CO
ROUTE:	IL 37 (FAP 726)	IL 149 (FAP 873)
FUNDING:	80% FEDERAL 20% STATE	100% FEDERAL 💍
LOCATION:	RURAL	RURAL

7			LOCATION:	RURAL	RURAL
CODE	ITEM DESCRIPTION	UNIT	TOTAL	SN 044-0012	SN 039-0057
NUMBER			QUANTITY	0047	0047
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	5	5	
52100520	ANCHOR BOLTS, 1"	EACH	10	10	
60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	2	2	
60300103	PRAMIES AND GRATES TO BE ADJUSTED	EACH	2	2	
63302700	REMOVE AND REERECT TRAFFIC BARRIER TERMINALS, TYPE 6	EACH	4	4	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	8	5	3
01000400	Endinger Street, Title X	CAL IIIO			3
67100 <u>1</u> 00	MOBILIZATION	L SUM	1	0.5	0.5
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	1		1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	0.5	0.5
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	0.5	0.5
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2	1	1
			2 17		
70106700	TEMPORARY RUMBLE STRIPS	EACH	12	6	6
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	56	28	28
70300100	SHORT TERM PAVEMENT MARKING	FOOT	3,754	2,252	1,502
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	1,252	751	501

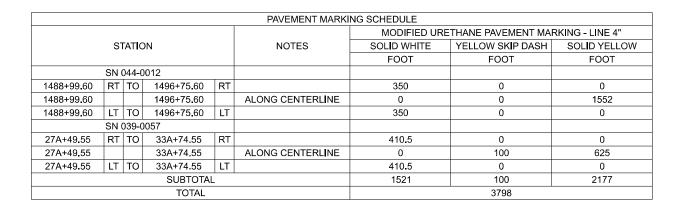
* SPECIALTY ITEM

REV. - MS

USER NAME = David.A.Wilson	DESIGNED -	REVISED -		SUMMARY OF QUANTITIES						SECTION	COUNTY	TOTAL SH	F
	DRAWN -	REVISED -	STATE OF ILLINOIS							D9 BRIDGE OVERLAY 2023-5	**	25 5	
PLOT SCALE = 0.16666633 ' / in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION					i i	1		CONTRAC	T NO. 78939	T
PLOT DATE = 1/27/2023	DATE -	REVISED -		SCALE/O SCALE	SHEET 5	OF 25	SHEETS STA.	TO STA.	1	ILLINOIS FED. AI	D PROJECT		_

* SPECIALTY ITEM

				_
- 3	PLOT DATE = 1/27/2023	DATE -	REVISED -	
	PLOT SCALE = 0.16666633 ' / in.	CHECKED -	REVISED -	
		DRAWN -	REVISED -	
	USER NAME = David.A.Wilson	DESIGNED _	REVISED -	



CONCRETE AND REINFORCEMENT SCHEDULE								
BRIDGE	LOCATION	CONCRETE REMOVAL (CU YD)	CONCRETE SUPERSTRUCTURE (CU YD)	REINFORCEMENT BARS, EPOXY COATED (POUND)				
SN 044-0012								
	N. ABUT. JOINT	9.4	10.5	920				
	S. ABUT. JOINT	9.6	10,8	1090				
TOTAL		19	21.3	2010				

FILE NAME: pw://ildot.pw.bentley.com:PWIDOT/Documents/IDOT Offices/District 9/ORD |

USER NAME = David.A.Wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	İ
PLOT SCALE = 0.16666633 ' / in.	CHECKED -	REVISED -	İ
PLOT DATE = 3/21/2023	DATE -	REVISED -	ı

Elev. 389.41 Elev. 389.41 Elev. 389.41 Elev. 389.41 Elev. 389.41 Elev. 389.41

ELEVATION

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".

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.

All new structural steel and bearing assembly shall be hot-dip galvanized. See Special Provisions for "Hot Dip Galvanizing For Structural Steel"

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 materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

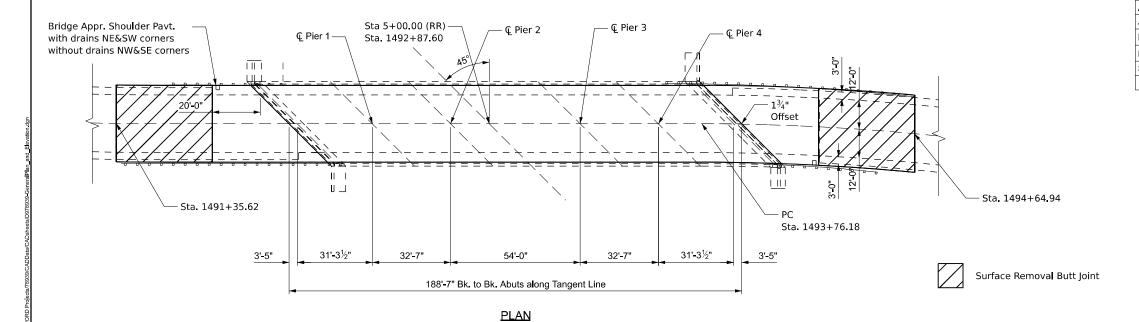
Reinforcement bars designated (E) shall be epoxy coated.

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.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu Yd	19.0
Concrete Superstructure	Cu Yd	21.3
Bridge Deck Grooving	Sq Yd	629
Protective Coat	Sq Yd	681
Furnishing and Erecting Structural Steel	Pound	580
Reinforcement Bars, Epoxy Coated	Pound	2010
Bar Splicers	Each	24
Preformed Joint Strip Seal	Foot	50
Elastomeric Bearing Assembly, Type II	Each	5
Anchor Bolts, 1"	Each	10
Approach Slab Repair (Partial Depth)	Sq Yd	27
Jack and Remove Existing Bearings	Each	5
Bridge Deck Scarification 3/4"	Sq Yd	671
Bridge Deck Microsilica Concrete Overlay 2 ½"	Sq Yd	671
Structural Repair of Concrete (Depth ≤ 5")	Sq Ft	61.9





SCOPE OF WORK

- 1) Scarify and Microsilica Overlay
- 2) Full depth strip seal at North Abutment
- 3) Enclose Joint at South Abutment
- 4) Replace Rocker bearings at North Abutment with Elastomeric Bearings
- 5) Structural Repair of Concrete on substructure repairs



BRIDGE REPAIRS

IL 37 (FAP 726)

OVER ABANDONED RR

JOHNSON COUNTY

D9 BRIDGE OVERLAY 2023-5

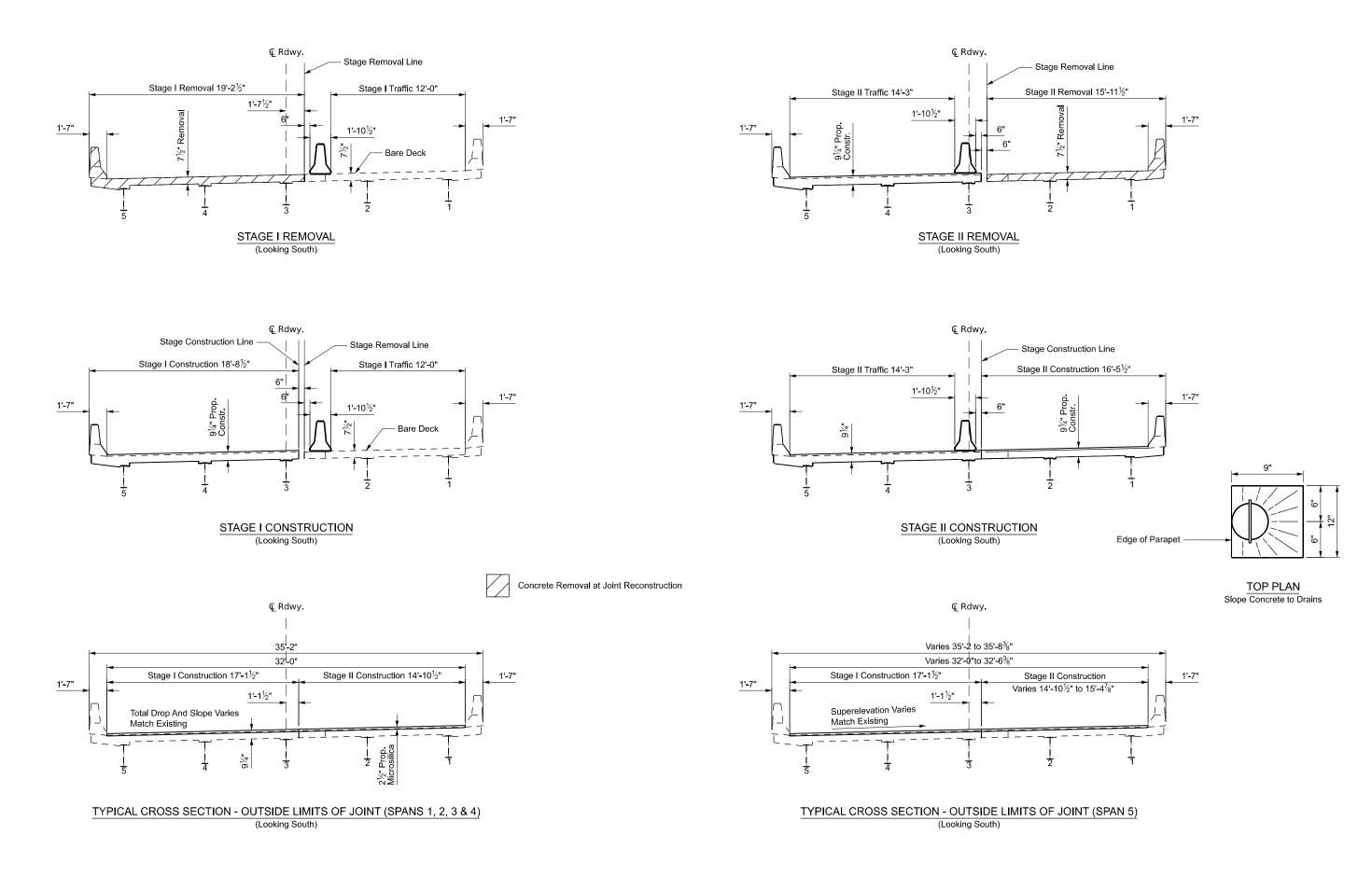
SN 044-0012

USER NAME = David.A.Wilson	DESIGNED -	REVISED -			GEN	FRΔ	ΙΡΙΔΝΙΔΙ	VID FLE	VATION		F.A.*	SECTION	COUNTY	TOTAL S	SHEET
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PLOT SCALE = 0.16666633 '/ in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION	SN 044-0012				CONTRAC	T NO. 7893	39					
PLOT DATE = 3/21/2023	DATE -	REVISED -		SCALINO SCALE	SHEET	- 8	OF 25 SH	FETS STA		TO STA		ILLINOIS EED AID	PROJECT		

MODEL: SN 044-0012 General Plan and Ele

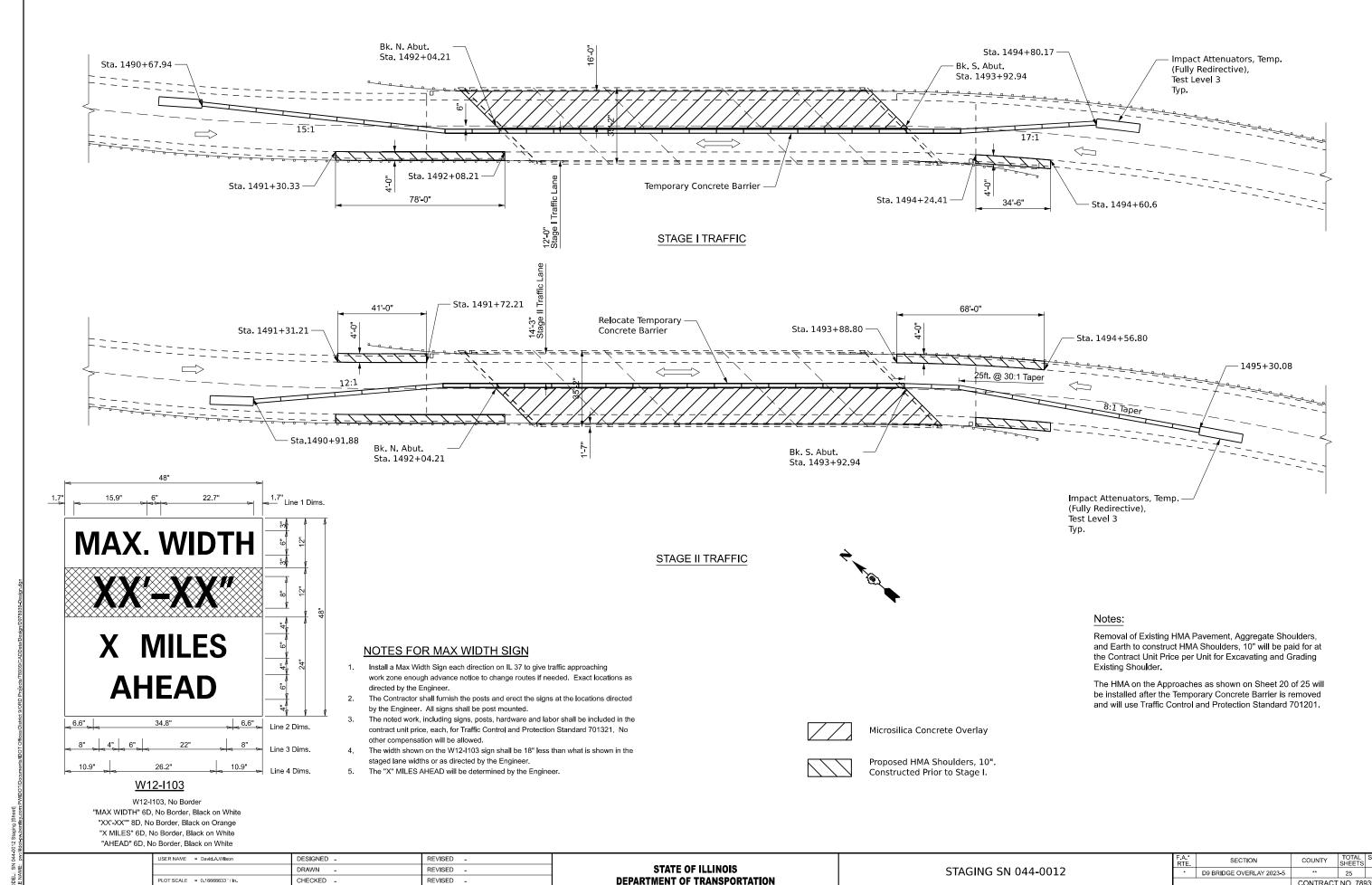
*FAP 726/FAP 873

**JOHNSON/JACKSO



MODEL: SN 044-0012 Typical Section [Shee

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



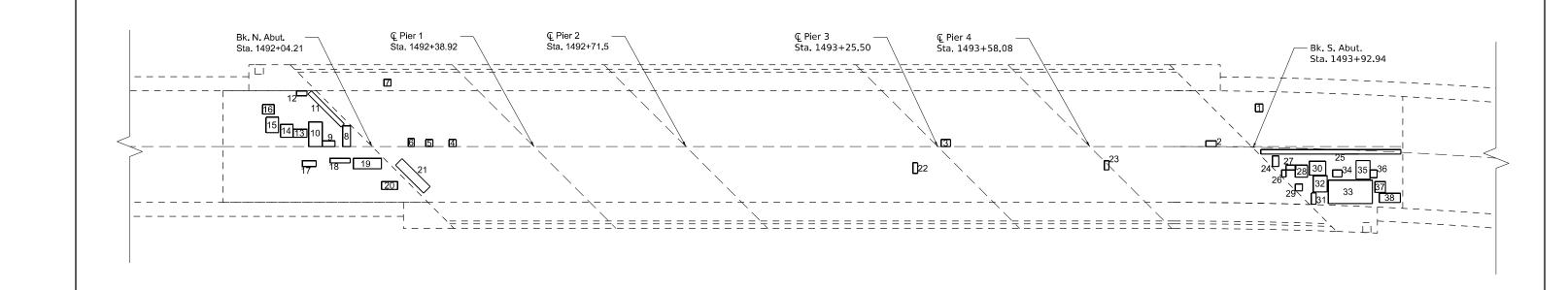
PLOT DATE = 3/21/2023

DATE

REVISED

DEPARTMENT OF TRANSPORTATION

* D9 BRIDGE OVERLAY 2023-5 CONTRACT NO. 78939 SCALINO SCALE SHEET 10 OF 25 SHEETS STA.



> 10

APPROACH SLAB REPAIR (PARTIAL DEPTH)

			1	1
Patch No.	Dist. From © (Ft.)	Length (Ft.)	Width (Ft.)	Area (Sq. Yd.)
1	7.5	1.6	1.6	0.3
8	0	1.7	4.5	0.9
9	0	2.7	1.2	0.4
10	0	2.8	5.3	1.7
11	5	1	10	1.1
12	12	2.2	1	0.3
13	2	3	1.7	0.6
14	2	2.7	2.7	0.8
15	3	2.7	3.3	1
16	7	2.5	2	0.6
17	3	3	1.3	0.4
18	2.5	4.4	1	0.5
19	2.5	6.1	2.3	1.6
20	7.5	3.5	1.7	0.7
24	2	1.3	2.3	0.3
25	2	30	1	3.3
26	5	1	1.5	0.2
27	4	2.1	1	0.2
28	4	2.6	2.6	0.8
29	8	1.5	1.5	0.3
30	4	3.5	3	1.2
31	11	1	2.4	0.3
32	6.5	3	3.5	1.2
33	8	9.5	5	5.3
34	5	2	1.5	0.3
35	3	3	4	0.3
36	5	1.5	1.7	0.3
37	8	2.3	2.3	0.6
38	10	4.5	2	1
	То	tal		27

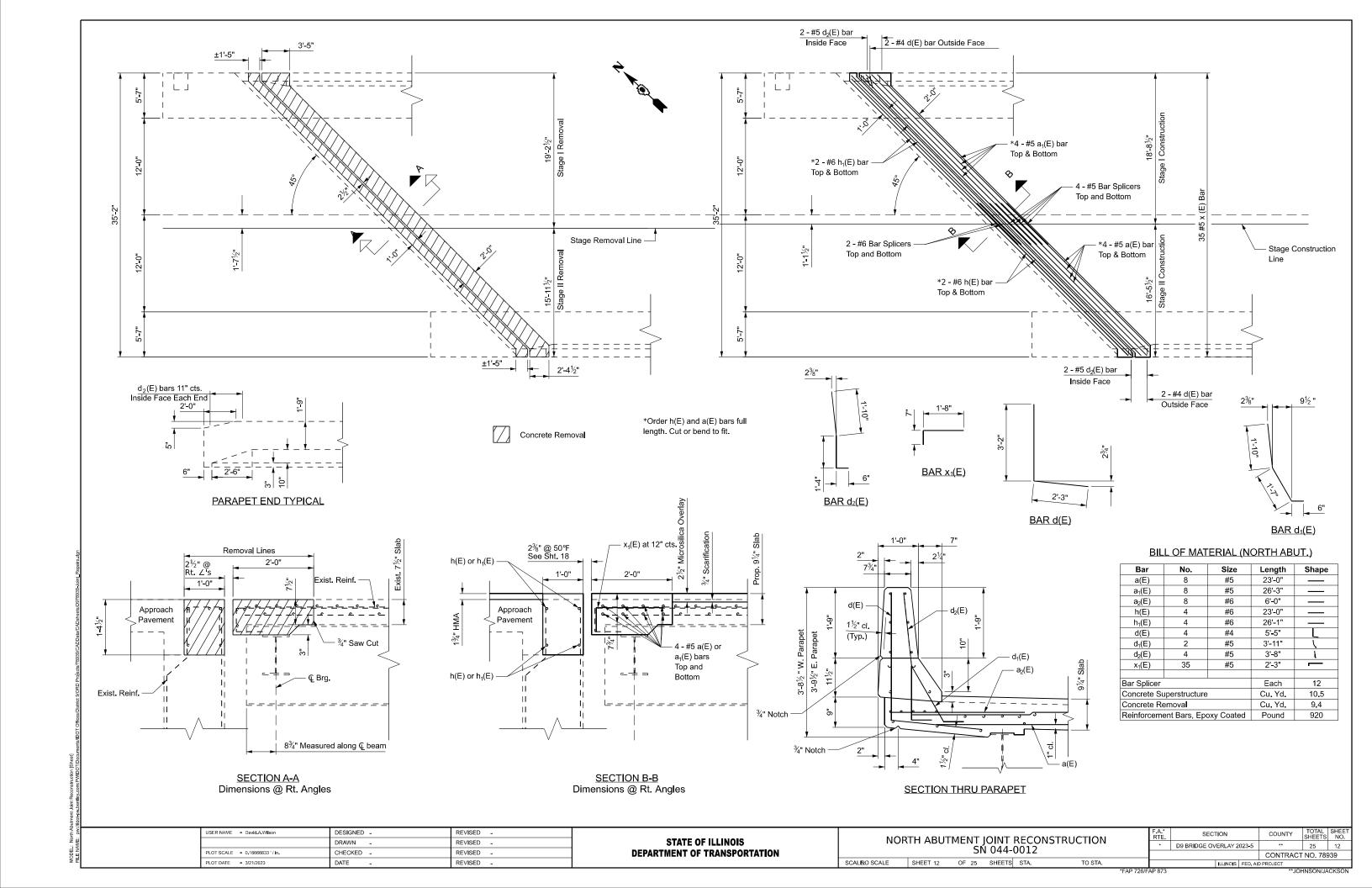
PARTIAL DEPTH DECK SLAB PATCHING (FOR INFORMATION ONLY)

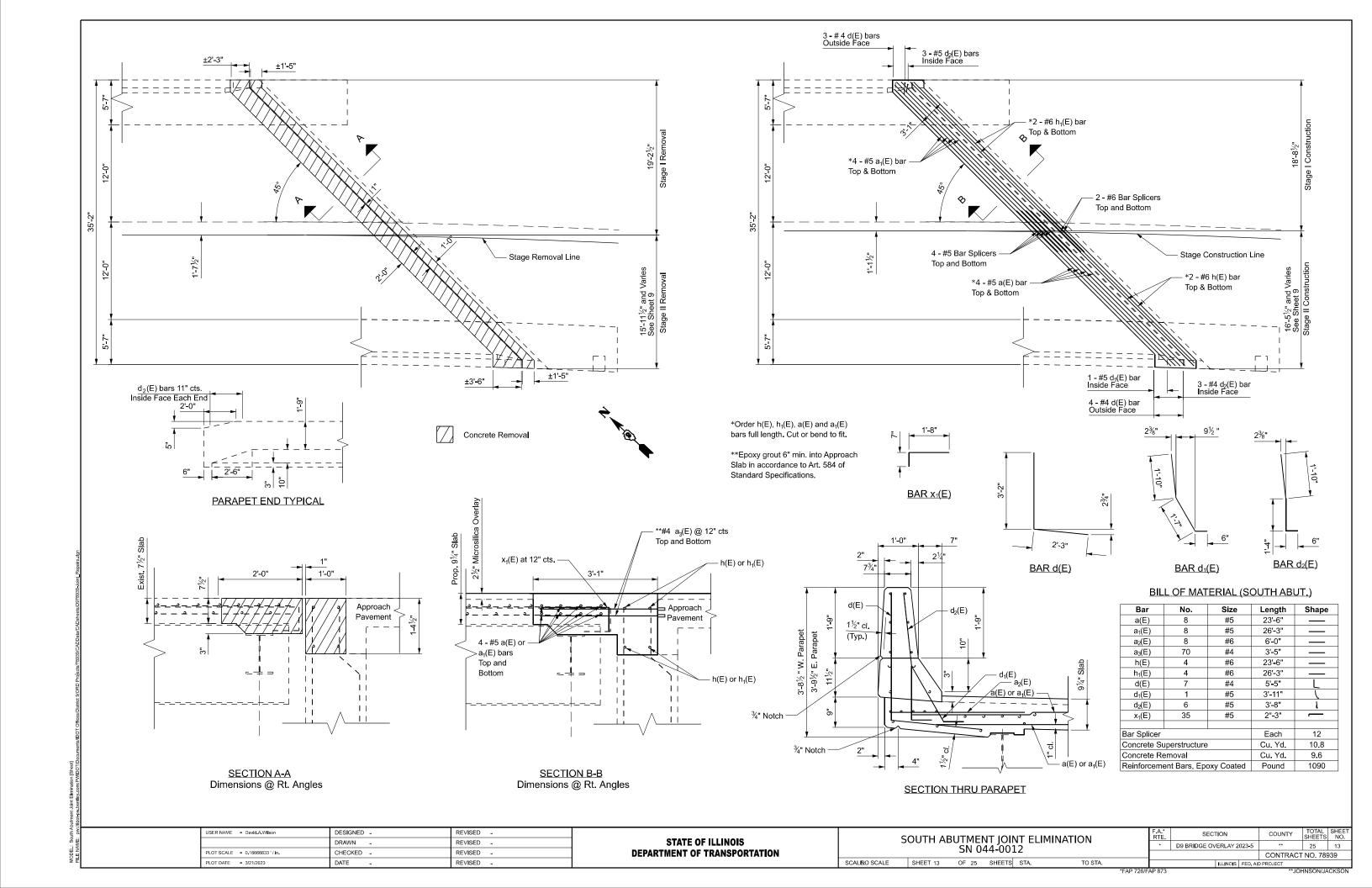
Patch No.	Dist. From ር (Ft.)	Length (Ft.)	Width (Ft.)
2	0	2.9	1.5
3	0	1.6	1.6
4	2.3	2.7	2.7
5	3	1.2	2
6	1	2.7	2.3
7	4	1.8	1.4
21	5.5	1.6	2.2
22	11	1.5	2
23	1	1.5	1.6

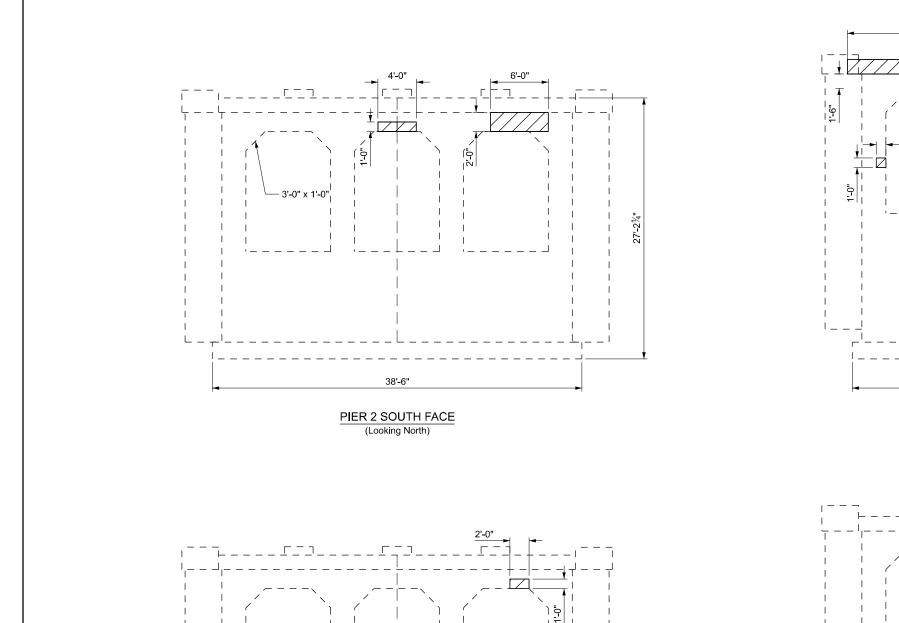
BILL OF MATERIAL

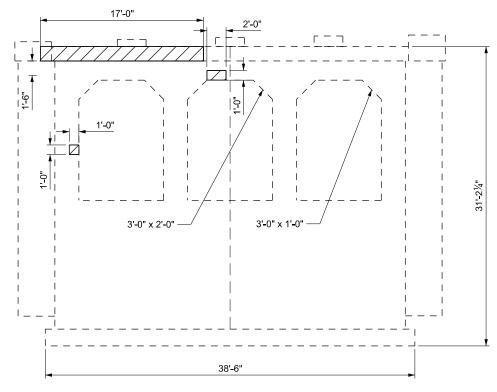
ITEM	UNIT	TOTAL
Approach Slab Repair (Partial Depth)	Sq. Yd.	27

USER NAME = David.A.Wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 0.16666633 ' / in.	CHECKED -	REVISED -
PLOT DATE = 1/27/2023	DATE -	REVISED -

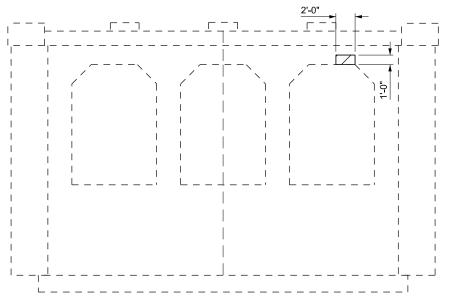








PIER 3 SOUTH FACE (Looking North)



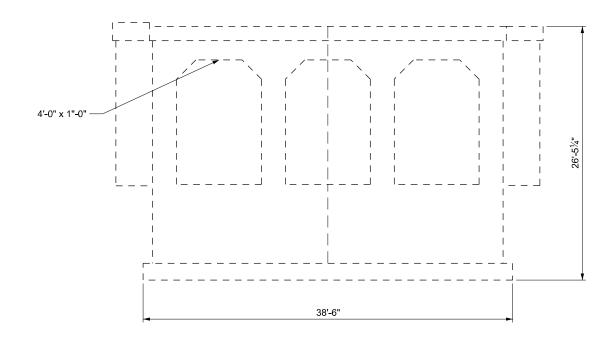
	11-71/4"	2'-2'/2"	3.0.	3'-0"

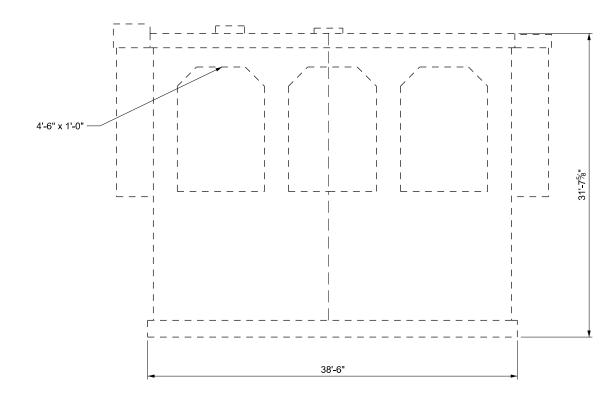
ITEM	UNIT	TOTAL
Structural Repair of Concrete ≤ 5"	Sq. Ft.	50.4

PIER 2 NORTH FACE (Looking South)

PIER 3 NORTH FACE (Looking South)

USER NAME = David.A.Wilson	DESIGNED -	REVISED -					F.A.*	SECTION	COUNTY	TOTAL SHEET
	DRAWN -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION SCALERO S		PIERS 2&3 REPAIRS SN 044-0012			D9 BRIDGE OVERLAY 2023-5	**	25 14
PLOT SCALE = 0.16666633 "/ in.	CHECKED -	REVISED -		TIERO EGO REITAIRO SILOTT GOLE					CONTRACT	
PLOT DATE = 1/27/2023	DATE -	REVISED -		SCALETO SCALE	SHEET 14 OF 25 SHEETS STA. TO	STA.		ILLINOIS FED. AID		
						*FAP 726	/FAP 873		**JOF	INSON/JACKSON





PIER 4 NORTH FACE (Looking North)

PIER 1 SOUTH FACE (Looking North)

<u> </u>	3'-0" -
!	
3'-2%"	
ਲ	49'-87/8"

NORTH ABUTMENT BACKWALL

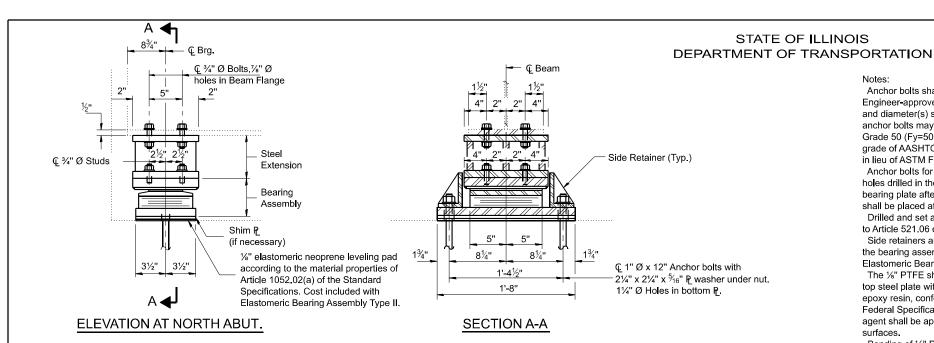
(Looking North)

ITEM	UNIT	TOTAL
Structural Repair of Concrete ≤ 5"	Sq. Ft.	11.5

COUNTY TOTAL SHEETS NO.

** 25 15

CONTRACT NO. 78939 JSER NAME = David.A.Wilson DESIGNED -REVISED -PIERS 1&4 AND NORTH ABUTMENT REPAIRS SECTION STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION DRAWN -REVISED -* D9 BRIDGE OVERLAY 2023-5 SN 044-0012 CHECKED -REVISED -PLOT DATE = 1/27/2023 DATE REVISED -SCAL**I**EO SCALE SHEET 15 OF 25 SHEETS STA.



TYPE II ELASTOMERIC EXP. BRG.

1/8" PTFE with dimpled,

© Bottom Brg.

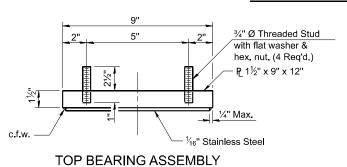
*1/8" PTFE dimpled,

unlubricated

6 - Layers of \(^{5}\)₁₆" Elastome

5 - 14 ga. Steel Plates

© 11/4" Ø Hole



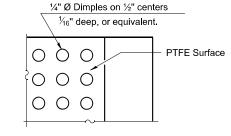
--- Ç 1¼" Ø Holes

SIDE RETAINER

Equivalent rolled angle with stiffeners

will be allowed in lieu of welded plates.

BOTTOM BEARING ASSEMBLY



PLAN-PTFE SURFACE

SECTION THRU PTFE

(Move bottom. brg. away from fixed brg.)

GIRDER REACTIONS

(K)	14.5
(K)	32.2
(K)	9.7
(K)	56.4
	(K) (K) (K)

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 50 (Fy=50ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

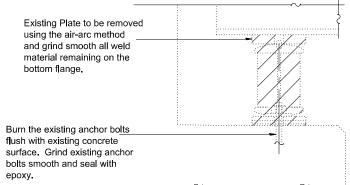
The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

The minimum jack capacity required is 35 Tons. Existing diaphragm removal and reinstallation may be required to facilitate drilling holes, cost to be included with "Jack and Remove Existing Bearings".

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on

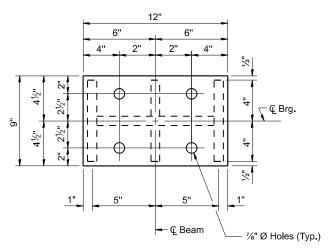
bearing details. New steel extensions, connection bolts, and Shim P's are included in "Furnishing and Erecting Structural Steel".



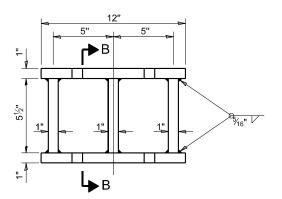


EXISTING BEARING REMOVAL DETAIL

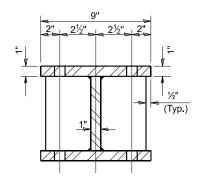
Cost is included with Jack and Remove **Existing Bearings**



PLAN-TOP & BOTTOM PLATE



STEEL EXTENSION DETAIL



SECTION B-B

BILL OF MATERIAL

	_	
Item	Unit	Total
Elastomeric Bearing	Fach	5
Assembly Type II		_
Anchor Bolts, 1"	Each	10
Jack and Remove	Fach	5
Existing Bearings	Eacii	٥
Furnishing and Erecting	Pound	580
Structural Steel	Pourid	560

NORTH ABUTMENT BEARING DETAILS STRUCTURE NO. 044-0012

SETTING ANCHOR BOLTS AT EXP. BRG.

C Bottom Brg.

ABOVE 50°F.

(Move bottom. brg. toward fixed brg.)

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

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	DRAWN -	REVISED -
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PLOT DATE = 3/21/2023	DATE -	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

						F.A.* RTE.	SECTION
ELA	STOMER	IC BEAI	RINGS	SN 044	4-0012	*	D9 BRIDGE OVERLAY 2023-5
SCALINO SCALE	SHEET 16	OF 25	SHEETS	STA.	TO STA.		ILLINOIS FED AIR

CONTRACT NO. 78939

Bonded

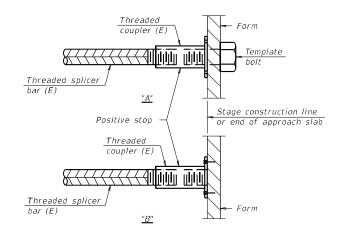
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + $1\frac{1}{2}$ " + thread length

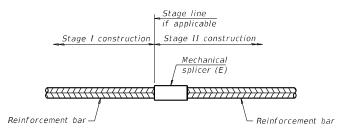
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar	No. assemblies	Minimum
Location	size	required	lap length
Deck (N. Joint)	#5	8	3'-6"
Deck (N. Joint)	#6	4	4'-0"
Deck (S. Joint)	#5	8	3'-6"
Deck (S. Joint)	#6	4	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 Speci cations. See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BAR SPLICER ASSEMBLY DETAILS IL 37 OVER ABANDONED RAILROAD F.A.P. RTE 726 - D9 BRIDGE OVERLAY 2023-5 JOHNSON COUNTY STATION 1492+87.60 STRUCTURE NO. 044-0012

BSD-1

1-1-2020

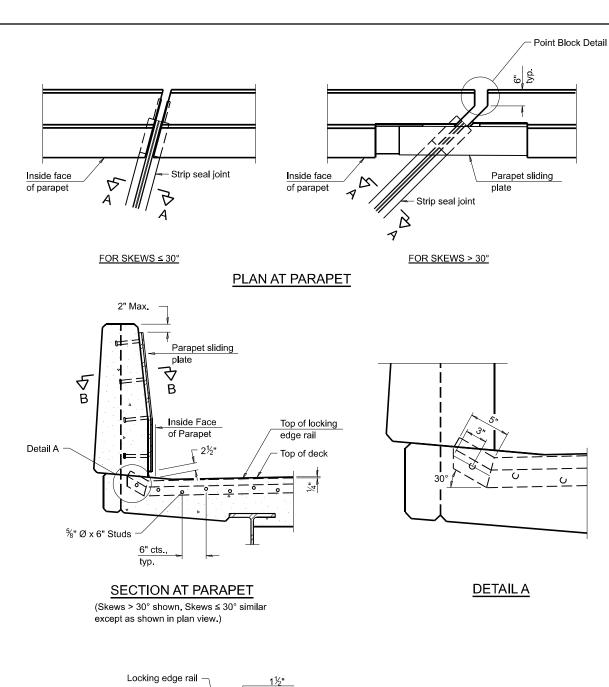
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	DRAWN -	REVISED -	
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PLOT DATE = 3/21/2023	DATE -	REVISED -	

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

SCALETO SCALE

BAR SPLICERS SN 044-0012 SHEET 17 OF 25 SHEETS STA. TO STA.

SECTION COUNTY 25 17 * D9 BRIDGE OVERLAY 2023-5 CONTRACT NO. 78939



at 50° F

Strip seal

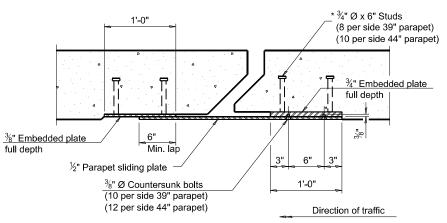
Top of concrete

EJ-SS

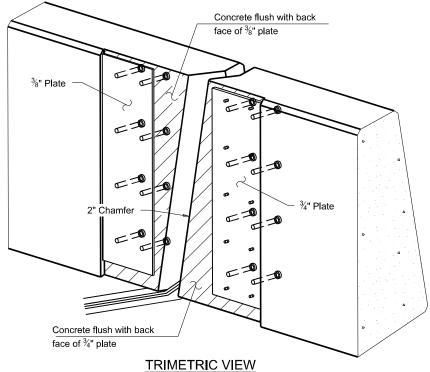
at 50° F

1-1-2020

SHOWING ROLLED RAIL JOINT



SECTION B-B



Notes:

The strip seal shall be made continuous and shall have a minimum thickness of $\frac{1}{4}$ ". 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 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

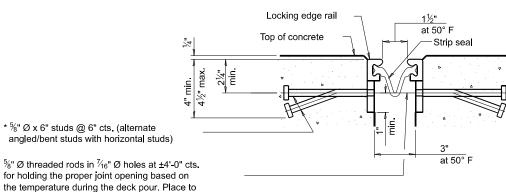
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be 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.

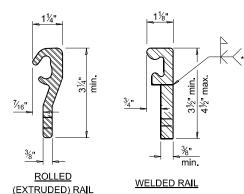
Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal. 39" constant slope barrier shown, 44" constant slope barrier similar as noted.

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. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.



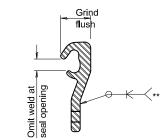


SHOWING WELDED RAIL JOINT



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

I tem	Unit	Total
Preformed Joint Strip Seal	Foot	50

SECTION A-A

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

* 5/8" Ø x 6" studs @ 6" cts. (alternate

miss studs. All rods shall be burned, or sawed

off flush with the plates after concrete is set.

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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL SN 044-0012 SCALE/O SCALE SHEET 18 OF 25 SHEETS STA.

SECTION D9 BRIDGE OVERLAY 2023-5 25 18 CONTRACT NO. 78939

TO STA.

When "A" is 3'-1" or less, the temporary concrete ─ See Detail I, II or III 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

Temporary Concrete Barrie See Standard 704001 min. Drill 3-1 $\frac{1}{4}$ " Ø Holes in existing slab for 1" Ø restraining pins. Tra c side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint

* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

→ Stage removal line

1'-101/2"

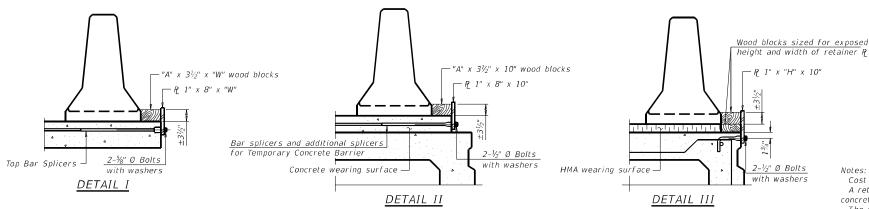
SECTIONS THRU SLAB OR DECK BEAM

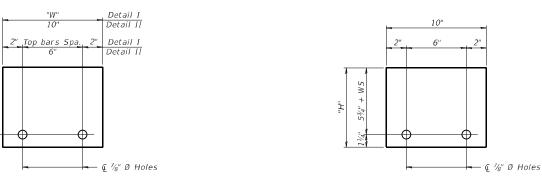
is required when "A" is greater than 3'-1".

→ Stage removal line

1'-101/2"

EXISTING SLAB





RAILING CRITERIA R-27 10-12-2021

STEEL RETAINER P 1" x 8" x "W" (Detail I and II)

STEEL RETAINER P 1" x "H" x 10" (Detail III)



BAR SPLICER FOR #4 BAR - DETAIL III

Cost of retainer assembly is included with Temporary Concrete Barrier. A retainer assembly shall be located at the approximate Q of each temporary

1x8 UNC -

1" Ø pin -

US Std. 11/16" I.D. x 21/2" O.D. x approx. 8 gauge thick washer 1" 2/2"

RESTRAINING PIN

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 $1\frac{1}{2}$ ", 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.

- $\label{eq:decomposition} \textit{Detail I Installation for a new bridge deck or bridge slab}.$
- 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.

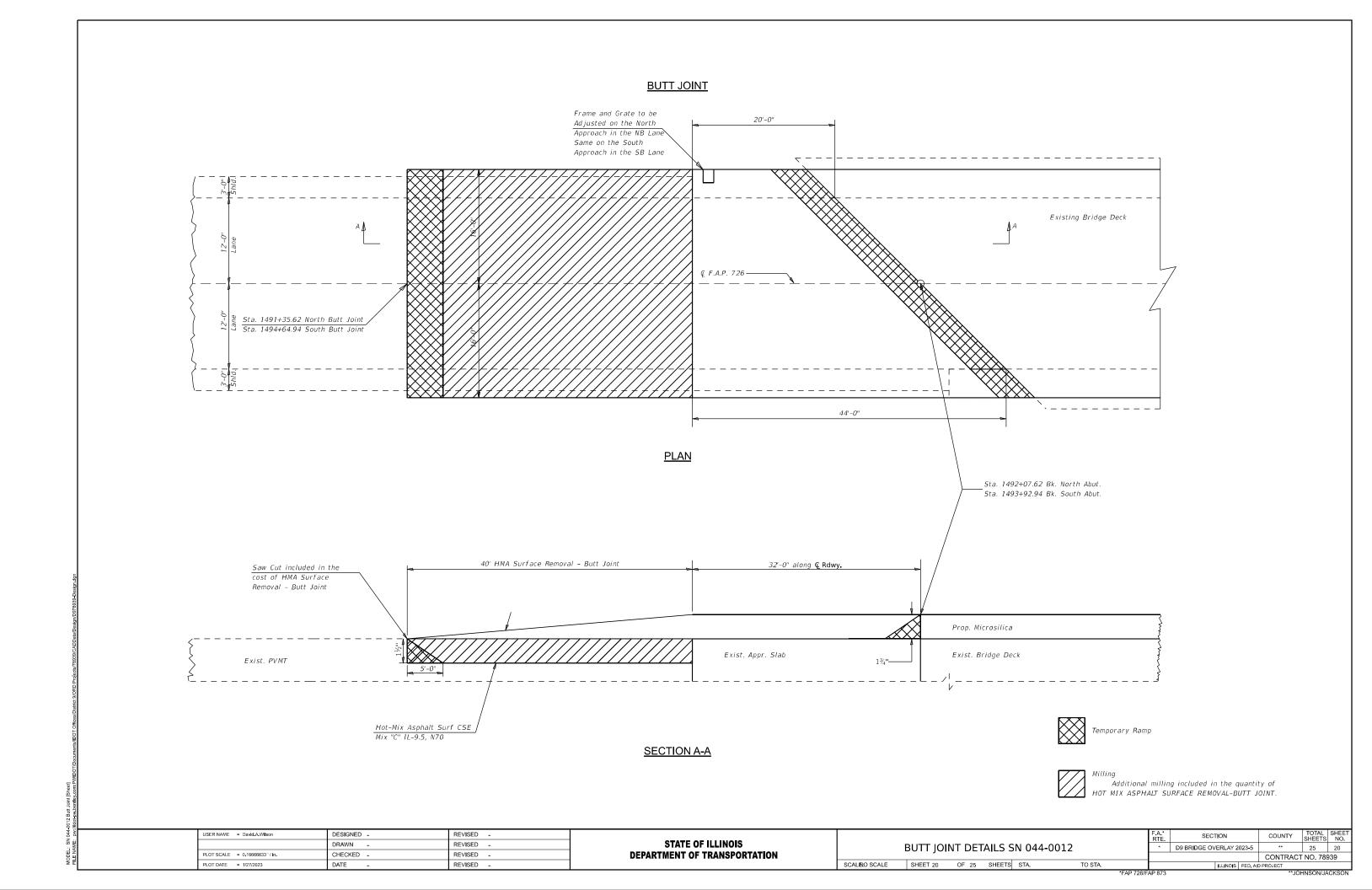
USER NAME = David.A.Wilson	DESIGNED -	REVISED -
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PLOT DATE = 1/27/2023	DATE -	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER SN 044-0012 SCALETO SCALE

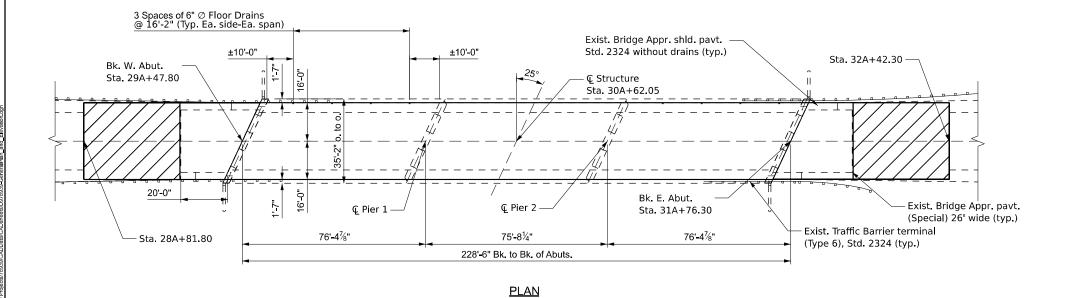
SECTION D9 BRIDGE OVERLAY 2023-5 25 19 CONTRACT NO. 78939

SHEET 19 OF 25 SHEETS STA.



ELEVATION





SCOPE OF WORK

- 1) Scarify and Microsilica Overlay
- 2) Approach Patching

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 materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Bridge Deck Grooving	Sq Yd	762
Protective Coat	Sq Yd	813
Approach Slab Repair (Partial Depth)	Sq Yd	24
Bridge Deck Scarification 3/4"	Sq Yd	813
Bridge Deck Microsilica Concrete Overlay 2 ½"	Sq Yd	813
Structural Repair of Concrete (Depth ≤ 5")	Sq Ft	1.8



BRIDGE REPAIRS

IL 149 (FAP 873)

LITTLE MUDDY RIVER

JACKSON COUNTY

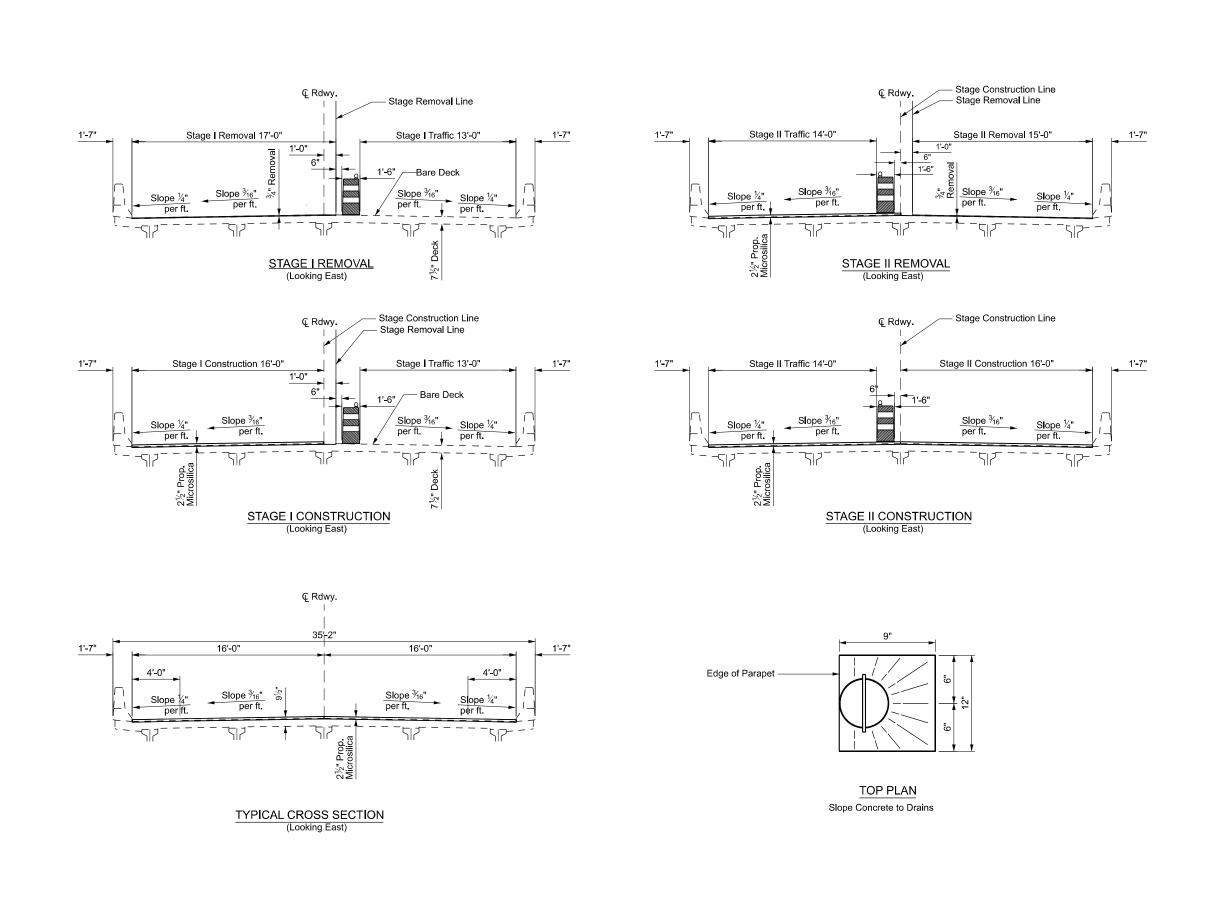
D9 BRIDGE OVERLAY 2023-5

SN 039-0057

	USER NAME = David.A.Wilson	DESIGNED -	REVISED -		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION GENERAL PLAN AND ELEVATION SN 039-0057		F.A.* RTE	SECTION	COUNTY	TOTAL SH	HEET NO
		DRAWN -	REVISED -				*	D9 BRIDGE OVERLAY 2023-5	**	25 2	21
	PLOT SCALE = 0.16666633 '/in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION					CONTRAC	T NO. 78939	,
	PLOT DATE = 3/21/2023	DATE -	REVISED -		SCALETO SCALE	SHEET 21 OF 25 SHEETS STA. TO STA.		ILLINOIS FED. AI	D PROJECT	-	\neg

Surface Removal Butt Joint

SN 039-0057 General Plan and Elevation (Sheet)

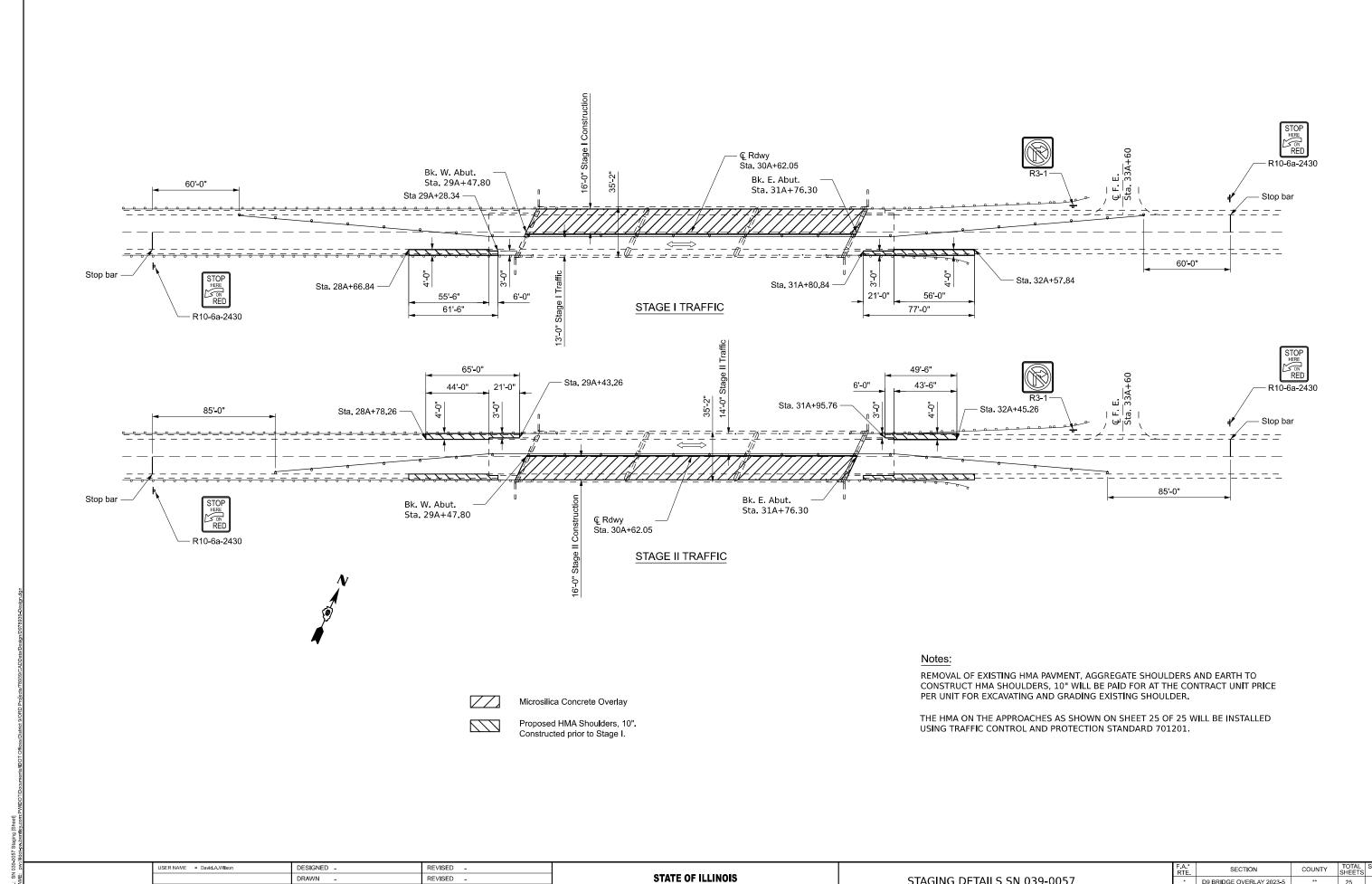


USER NAME = David.A.Wilson DESIGNED -REVISED -SECTION TYPICAL SECTION SN 039-0057 STATE OF ILLINOIS DRAWN REVISED * D9 BRIDGE OVERLAY 2023-5 PLOT SCALE = 0.16666633 '/ in. CHECKED -REVISED **DEPARTMENT OF TRANSPORTATION** CONTRACT NO. 78939 SCALENO SCALE SHEET 22 OF 25 SHEETS STA. PLOT DATE = 1/27/2023 DATE REVISED -

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*FAP 726/FAP 873

**JOHNSON/JACK



PLOT SCALE = 0.16666633 '/ in.

PLOT DATE = 3/21/2023

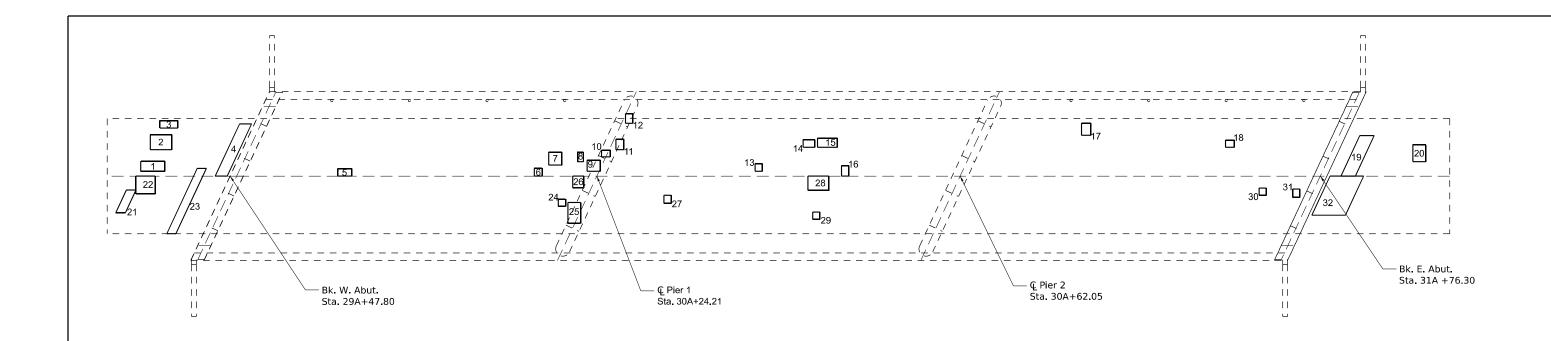
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REVISED -

STAGING DETAILS SN 039-0057 * D9 BRIDGE OVERLAY 2023-5 CONTRACT NO. 78939 SCALENO SCALE SHEET 23 OF 25 SHEETS STA. TO STA.



APPROACH SLAB REPAIR (PARTIAL DEPTH)

Patch No.	Dist. From Q (Ft.)	Length (Ft.)	Width (Ft.)	Area (Sq. Yd.)
1	1	5	2.1	1.2
2	5.5	4.5	3.1	1.6
3	10	3.7	1.5	0.6
4	0, on skew	2.5	12	3.3
19	0, on skew	3	9.3	3.1
20	3	2.7	3.5	1.1
21	2.9, on skew	2	5.2	1.2
22	0	4	3.7	1.6
23	0, on skew	1.9	15	3.2
32	0, on skew	7	9	7
Total				23.9



PARTIAL DEPTH DECK SLAB PATCHING (FOR INFORMATION ONLY)

Patch No.	Dist. From Q (Ft.)	Length (Ft.)	Width (Ft.)
5	0	2.9	1.5
6	0	1.6	1.6
7	2.3	2.7	2.7
8	3	1.2	2
9	1	2.7	2.3
10	4	1.8	1.4
11	5.5	1.6	2.2
12	11	1.5	2
13	1	1.5	1.6
14	6	2.4	1.6
15	6	4.1	1.9
16	0	1.5	2.2
17	8.5	1.9	2.5
18	6	1.8	1 . 5
24	4.8	1.5	1.5
25	5.5	2.6	4.3
26	0	2.3	2.4
27	4	1.5	1.7
28	0	4.3	3
29	7.5	1.5	1.5
30	2.5	1.5	1.5
31	2.7	1.5	1.7

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Approach Slab Repair (Partial Depth)	Sq. Yd.	23.9

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PLOT DATE = 1/27/2023

DATE

REVISED -

*FAP 726/FAP 873

SCAL**I**EO SCALE SHEET 25 OF 25 SHEETS STA.

**JOHNSON/JACKS