04-29-2022 LETTING ITEM 137

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(107Z) BDR-1	SANGAMON	24	1
	ILLINOIS	CONTRACT NO. 72M29		

FOR INDEX OF SHEETS, SEE SHEET NO. 2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

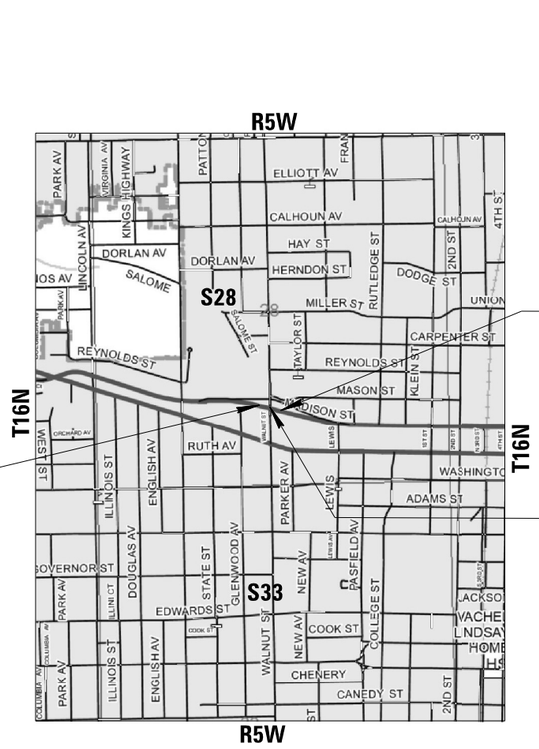
PROPOSED
HIGHWAY PLANS

FAP ROUTE 67 (IL 97)
SECTION (107Z) BDR–1
PROJECT NHPP–TX7N(254)
BRIDGE DECK REPAIR
SANGAMON COUNTY

C–96–129–20

D-96-099-20

LOCATION OF SECTION INDICATED THUS: – ■ –



PROJECT BEGINS
EB STA 39 + 94.00

PROJECT ENDS
EB STA 43 + 22.27

EXISTING STRUCTURE
SN 084–0183–STA 41 + 46.25
BRIDGE DECK OVERLAY

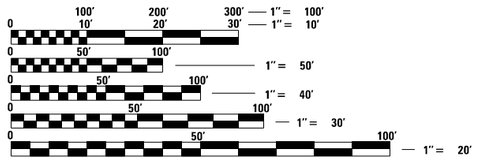
LOCATION MAP
NOT TO SCALE

GROSS LENGTH = 332.27 FT. = 0.060 MILE
NET LENGTH = 332.27 FT. = 0.060 MILE

HIGHWAY CLASSIFICATION

A.D.T. (2019)	12,032	PV = 95.71%
DESIGN SPEED	35	SU = 2.45%
POSTED SPEED	35	MU = 1.84%

CLASSIFICATION: OTHER PRINCIPAL ARTERIAL



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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED February 15 20 22
Jay P. Myers
REGIONAL ENGINEER

March 25 20 22
ENGINEER OF DESIGN AND ENVIRONMENT

March 25 20 22
Stephen M Travis
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

PROJECT ENGINEER: JAY EDWARDS (217–785–0596)
TEAM MANAGER: ROBERT MILES (618–447–4656)

CONTRACT NO. 72M29

REV. - MS

STANDARDS

000001-08	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
701101-05	OFF-ROAD OPERATIONS, MULTILANE, 15' (4.5 M) TO 24" (600 MM) FROM PAVEMENT EDGE
701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5 M)
701427-05	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPERATIONS, SPEEDS LESS THAN 40 MPH
701601-09	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
701602-10	URBAN LANE CLOSURE, MULTILANE, 2W WITH BIDIRECTIONAL LEFT TURN LANE
701801-06	SIDEWALK, CORNER OR CROSSWALK CLOSURE
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
780001-05	TYPICAL PAVEMENT MARKINGS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
420001-10	PAVEMENT JOINTS
442001-04	CLASS A PATCHES

INDEX OF SHEETS

GENERAL NOTES

1 THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE

LOCATIONS:	IL 97
MIXTURE USE(S):	HMA SURF CSE
PG:	SBS PG 70-28
DESIGN AIR VOIDS	4.0% @ N70
MIXTURE COMPOSITION (GRADATION MIXTURE)	IL-9.5
FRICTION AGGREGATE	MIX "D"
QUALITY MANAGEMENT	QC/QA
SUBLOT SIZE	N/A

2 CHANGEABLE MESSAGE SIGNS SHALL BE SET UP 7 DAYS PRIOR TO THE INSTALLATION OF THE TEMPORARY BARRIER WALL AND SHALL REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION.

3 SYNTHETIC FIBERS ARE NOT REQUIRED IN THE BRIDGE DECK MICROSILICA CONCRETE OVERLAY.

4 NUCLEAR GUAGES WILL BE USED FOR DENSITY VERIFICATION BY THE ENGINEER FOR QC/QA.

5 ANY FULL DEPTH PATCHES THAT ARE DISCOVERED SHALL BE COVERED WHEN WORKERS ARE NOT PRESENT.

RATE TABLE

THE FOLLOWING RATES OF APPLICATION HAVE BEEN ASSUMED IN CALCULATING PLAN QUANTITIES.

BITUMINOUS MATERIALS (TACK COAT): 0.05 LBS/SQ FT (MILLING)
0.025 LBS/SQ FT (HMA LIFTS)

HMA SURFACE MIX "D": 0.056 TONS/SQ YD

COMMITMENTS

NONE

STATE OF ILLINOIS
DEPARTMENT OF HIGHWAYS
DISTRICT 6

EXAMINED February 8 20 22
ENGINEER OF OPERATIONS

EXAMINED February 4 20 22
ENGINEER OF PROJECT IMPLEMENTATION

EXAMINED February 4 20 22
ENGINEER OF PROGRAM DEVELOPMENT

REV. - MS

MODEL: Default
FILE NAME: pw:\\dot-pw.bentley.com:PWDOT\Documents\IDOT Offices\District 6\Projects\D672M29\CADData\CADSheets\D672M29-sht-gennotes.dgn

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	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 2/11/2022	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HIGHWAY STANDARDS, INDEX OF SHEETS, GENERAL NOTES, RATE TABLE, & COMMITMENTS

SCALE: N/A | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(107Z) BDR-1	SANGAMON	24	2
		CONTRACT NO. 72M29		
	ILLINOIS	FED. AID PROJECT		

URBAN

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	6-01458-0000 80% FEDERAL 20% STATE BRIDGE 0059 S.N. 084-0183
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	395	395
40600370	LONGITUDINAL JOINT SEALANT	FOOT	395	395
40600985	PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT	SQ YD	312	312
40600990	TEMPORARY RAMP	SQ YD	107	107
40604162	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N70	TON	74	74
50102400	CONCRETE REMOVAL	CU YD	4.3	4.3
50157300	PROTECTIVE SHIELD	SQ YD	405	405
50300255	CONCRETE SUPERSTRUCTURE	CU YD	5.2	5.2
X5030250	BRIDGE DECK GROOVING (LONGITUDINAL)	SQ YD	274	274
50300300	PROTECTIVE COAT	SQ YD	452	452
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	790	790
50800515	BAR SPLICERS	EACH	8	8
52000110	PREFORMED JOINT STRIP SEAL	FOOT	87	87
60260100	INLETS TO BE ADJUSTED	EACH	2	2

URBAN

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	6-01458-0000 80% FEDERAL 20% STATE BRIDGE 0059 S.N. 084-0183
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6
67100100	MOBILIZATION	L SUM	1	1
70102632	TRAFFIC CONTROL AND PROTECTION, STANDARD 701602	L SUM	1	1
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	1
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	308	308
70400100	TEMPORARY CONCRETE BARRIER	FOOT	467	467
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	467	467
70600255	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 2	EACH	1	1
70600322	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 2	EACH	1	1
*78009005	MODIFIED URETHANE PAVEMENT MARKING - LINE 5"	FOOT	82	82
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	6	6
X4420557	CLASS A PATCHES, TYPE III, 10 INCH (SPECIAL)	SQ YD	112	112
X7010228	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601, SPECIAL	L SUM	1	1
*X5060601	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1

* SPECIALTY ITEM

REV. - MS

USER NAME = milesra	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 2/14/2022	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES
FAP 67 (IL97 / MADISON ST)

SCALE: N/A | SHEET 1 OF 2 SHEETS | STA. N/A | TO STA. N/A

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(107Z) BDR-1	SANGAMON	24	3
		CONTRACT NO. 72M29		
	ILLINOIS	FED. AID PROJECT		

URBAN

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	6-01458-0000 80% FEDERAL 20% STATE BRIDGE 0059 S.N. 084-0183
*	Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1
	Z0010615	CLEANING EXISTING INLETS	EACH	2	2
	Z0012130	BRIDGE DECK SCARIFICATION 3/4"	SQ YD	432	432
	Z0012166	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 2 3/4"	SQ YD	432	432
	Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	5	5
	Z0029090	DIAMOND GRINDING (BRIDGE SECTION)	SQ YD	388	388
	Z0073346	SLEEPER SLAB	SQ YD	64	64

* SPECIALTY ITEM

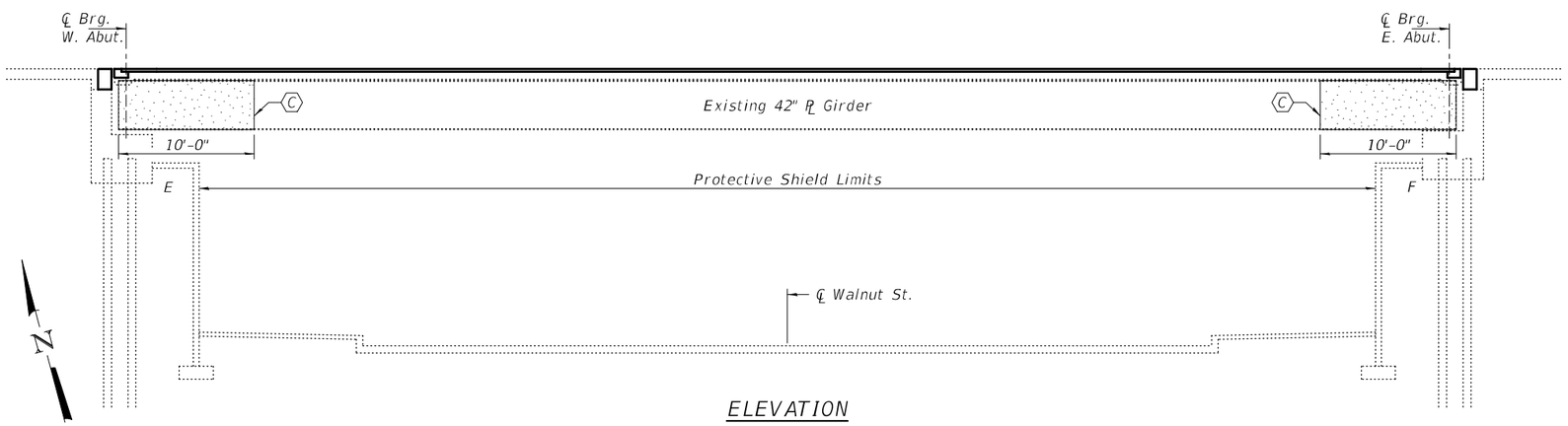
USER NAME = milesra	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 2/14/2022	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

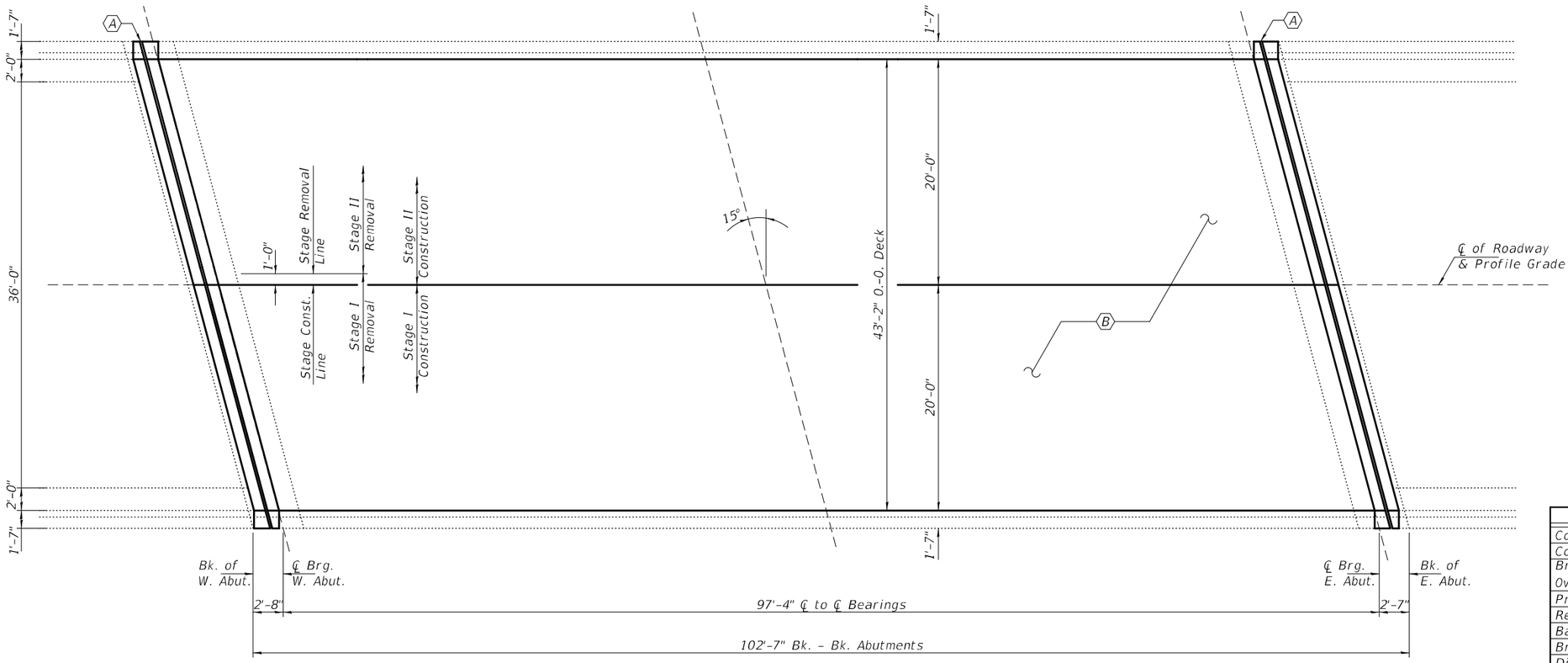
SUMMARY OF QUANTITIES
FAP 67 (IL97 / MADISON ST)

SCALE: N/A | SHEET 2 OF 2 SHEETS | STA. N/A | TO STA. N/A

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(107Z) BDR-1	SANGAMON	24	4
		CONTRACT NO. 72M29		
	ILLINOIS	FED. AID PROJECT		



ELEVATION



PLAN

Ⓐ - Remove existing Neoprene Joints and install new Preformed Joint Strip Seal.

Ⓑ - ¾" Bridge Deck Scarification, 2¾" Microsilica Concrete Overlay & ¼" Diamond Grinding

Ⓒ - Paint 10' of all Beam Ends.

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.

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.

Reinforcement bars designated (E) shall be epoxy coated.

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 Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

Traffic will be maintained using stage construction.

TOTAL BILL OF MATERIAL

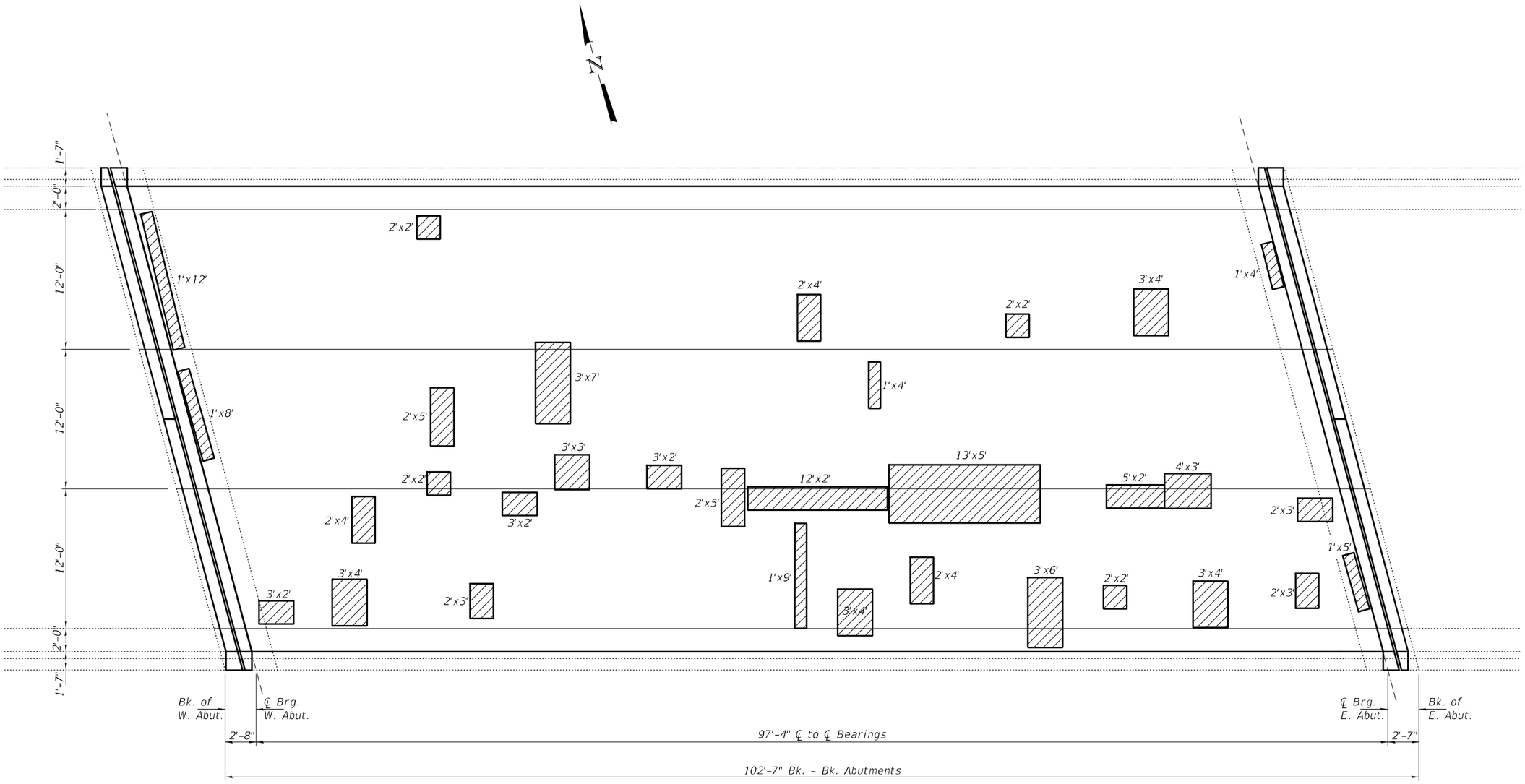
	ITEM	UNIT	QUANTITY
	Concrete Removal	Cu. Yd.	4.3
	Concrete Superstructure	Cu. Yd.	5.2
	Bridge Deck Microsilica Concrete Overlay 2¾"	Sq. Yd.	432
	Preformed Joint Strip Seal	Foot	87
	Reinforcement Bars, Epoxy Coated	Pound	790
	Bar Splicers	Each	8
	Bridge Deck Scarification ¾"	Sq. Yd.	432
	Diamond Grinding (Bridge Section)	Sq. Yd.	388
*	Protective Coat	Sq. Yd.	452
	Protective Shield	Sq. Yd.	405
	Bridge Deck Grooving (Longitudinal)	Sq. Yd.	274
	Cleaning and Painting Steel Bridge No. 1	L. Sum	1
	Containment and Disposal of Non Lead Paint Cleaning Residues No. 1	L. Sum	1
	Deck Slab Repair (Full Depth Type II)	Sq. Yd.	5

* Apply to new concrete only.

LICENSED STRUCTURAL ENGINEER
JAYME F. SCHIFF
081-005540
STATE OF ILLINOIS

EXPIRES 11-30-2022

DESIGNED - Adrian T. Halloway	EXAMINED	ENGINEER OF STRUCTURAL SERVICES	DATE - MARCH 16, 2022	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION IL 97 (MADISON STREET) OVER WALNUT STREET SN 084-0183	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Stephen M. Ryan						67	(107Z) BDR-1	SANGAMON	24	5
DRAWN - Venkat Ramana Reddy	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET NO. 1 OF 9 SHEETS			CONTRACT NO. 72M29		
CHECKED - ATH SMR			REVISED -					ILLINOIS FED. AID PROJECT		



PLAN

Deck Slab Repair (Partial Depth)

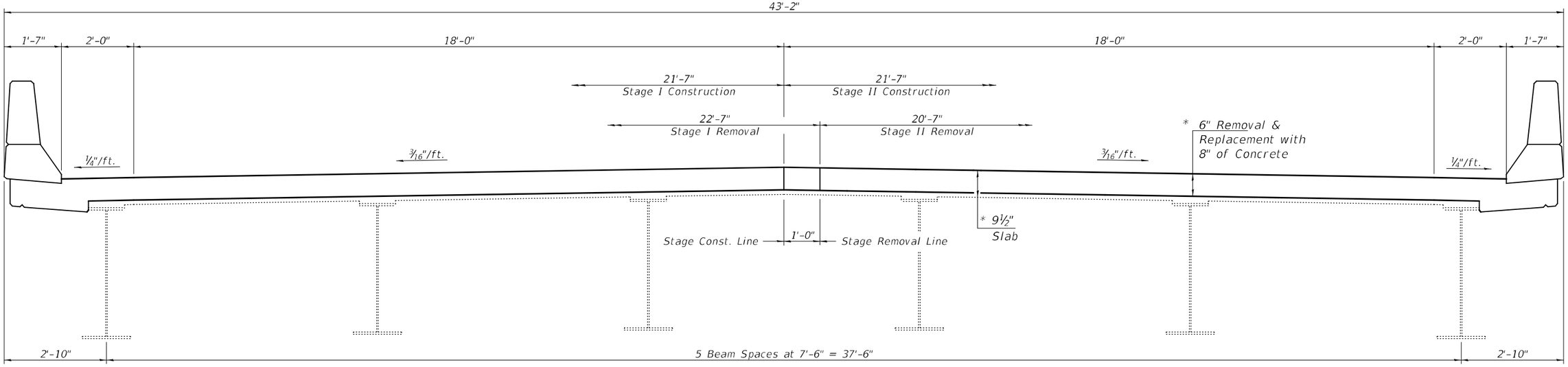
BILL OF MATERIAL

	Item	Unit	Total
*	Deck Slab Repair (Full Depth Type II)	Sq. Yd.	5

* No Full Depth patches anticipated. Nominal value included.

DESIGNED - ATH	EXAMINED	DATE - MARCH 16, 2022	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
CHECKED - SMR		REVISED -	
DRAWN - Venkat Ramana Reddy	PASSED	REVISED -	**DECK REPAIR DETAILS**
CHECKED - ATH SMR	ENGINEER OF STRUCTURAL SERVICES / ENGINEER OF BRIDGES AND STRUCTURES		**084 - 0183**
			SHEET NO. 2 OF 9 SHEETS

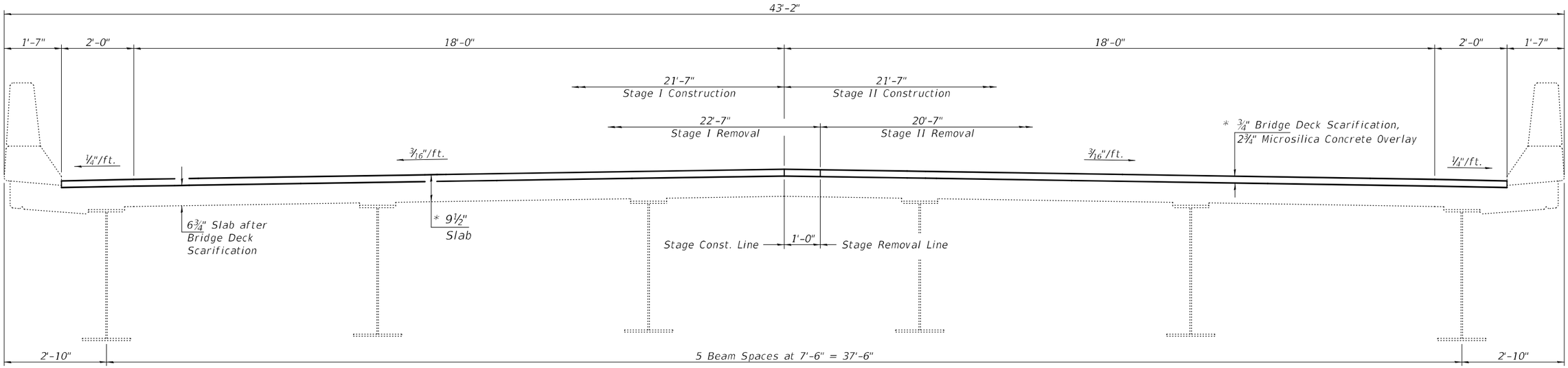
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(107Z) BDR-1	SANGAMON	24	6
		CONTRACT NO. 72M29		
	ILLINOIS	FED. AID PROJECT		



CROSS SECTION AT ABUTMENTS

(Looking West)

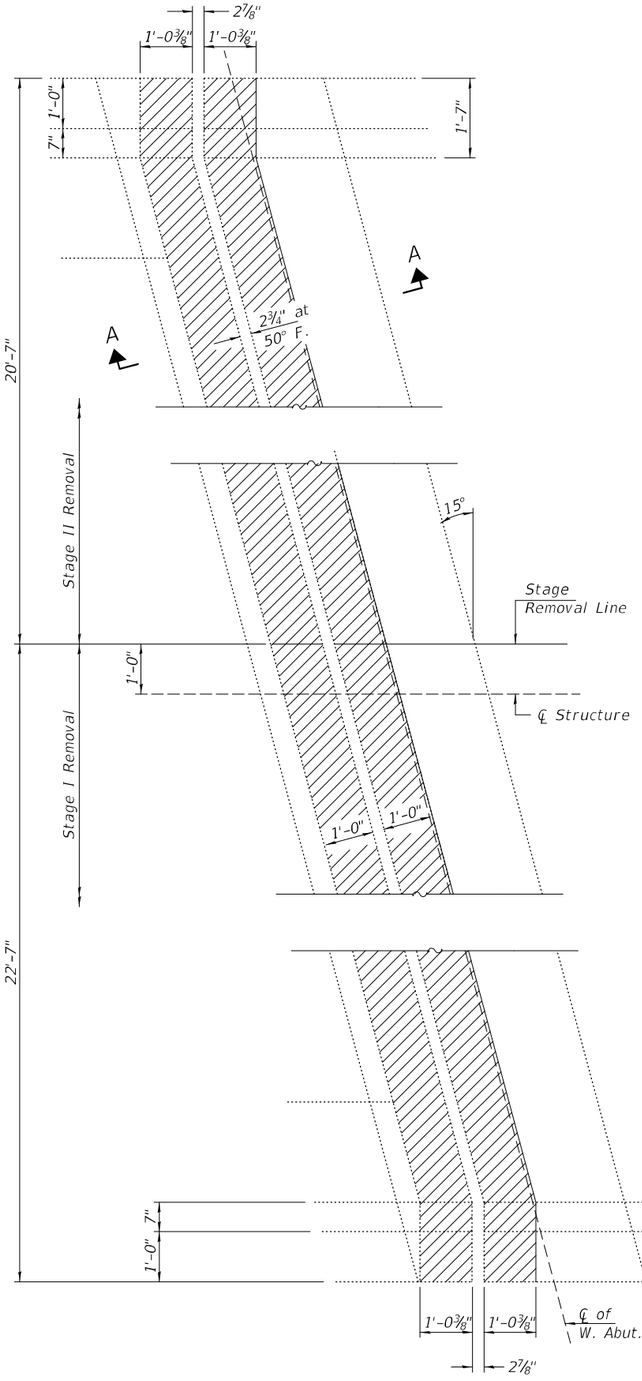
* Prior to ¼" Diamond Grinding



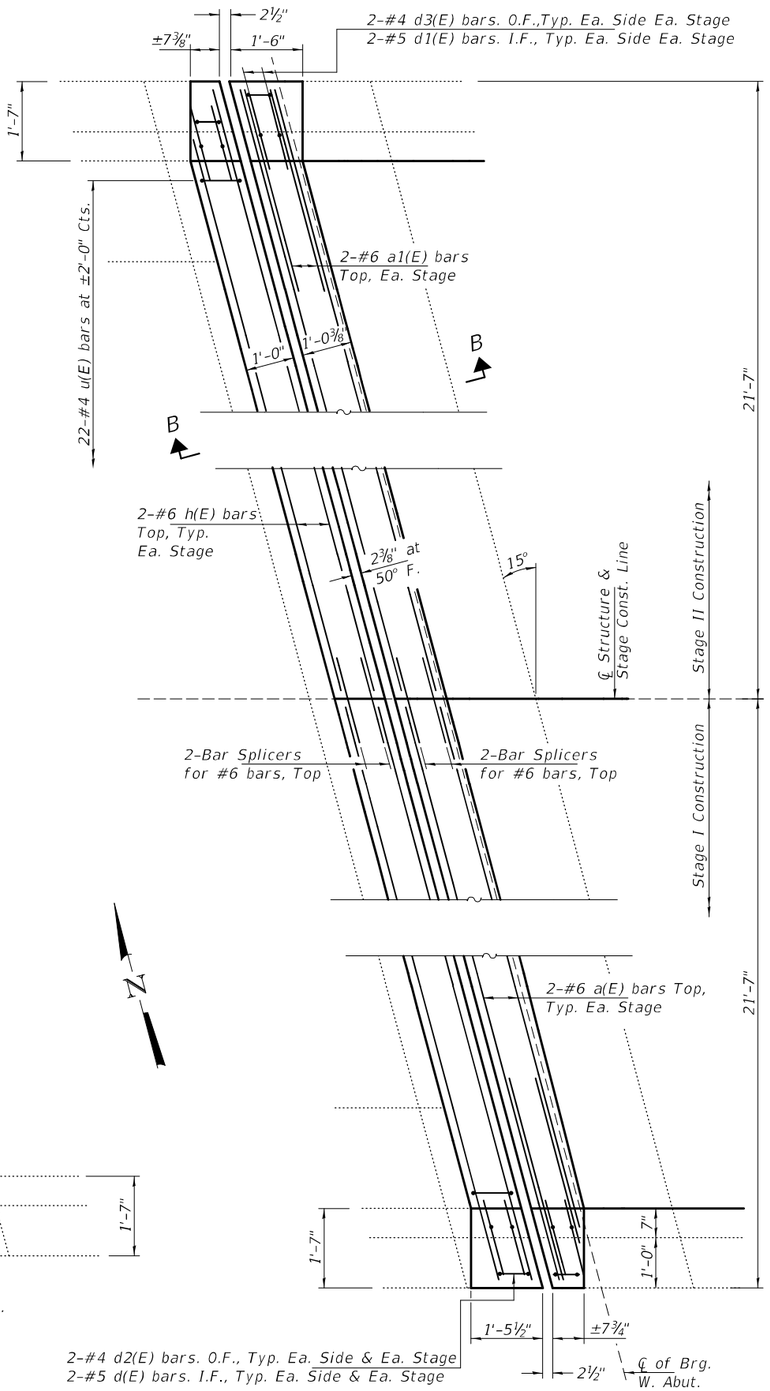
CROSS SECTION AT MID SPAN

(Looking West)

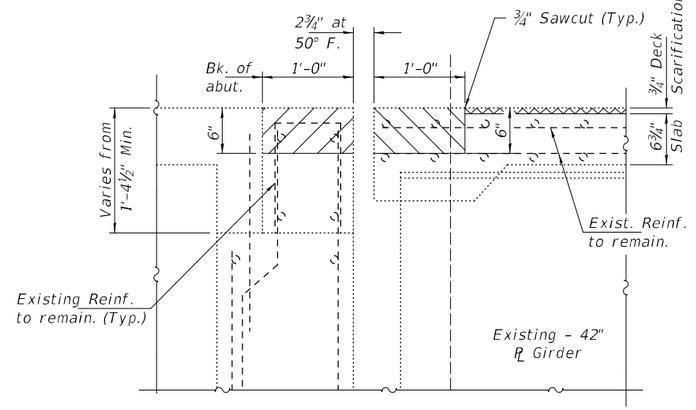
DESIGNED - ATH	EXAMINED	Timothy A. Bradley	DATE - MARCH 16, 2022	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**CROSS SECTIONS & STAGING DETAILS 084 - 0183**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - SMR		ENGINEER OF STRUCTURAL SERVICES				67	(107Z) BDR-1	SANGAMON	24	7
DRAWN - Venkat Ramana Reddy	PASSED	Joyce F. Oakley	REVISED -		SHEET NO. 3 OF 9 SHEETS			CONTRACT NO. 72M29		
CHECKED - ATH SMR		ENGINEER OF BRIDGES AND STRUCTURES	REVISED -					ILLINOIS	FED. AID PROJECT	



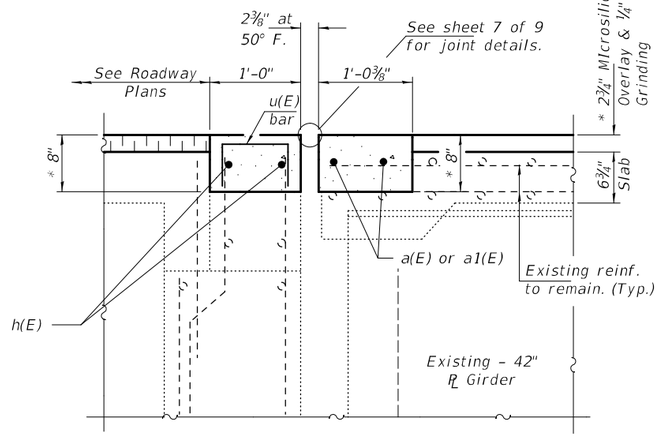
REMOVAL PLAN
(West Abutment)



REPLACEMENT PLAN
(West Abutment)



SECTION A-A



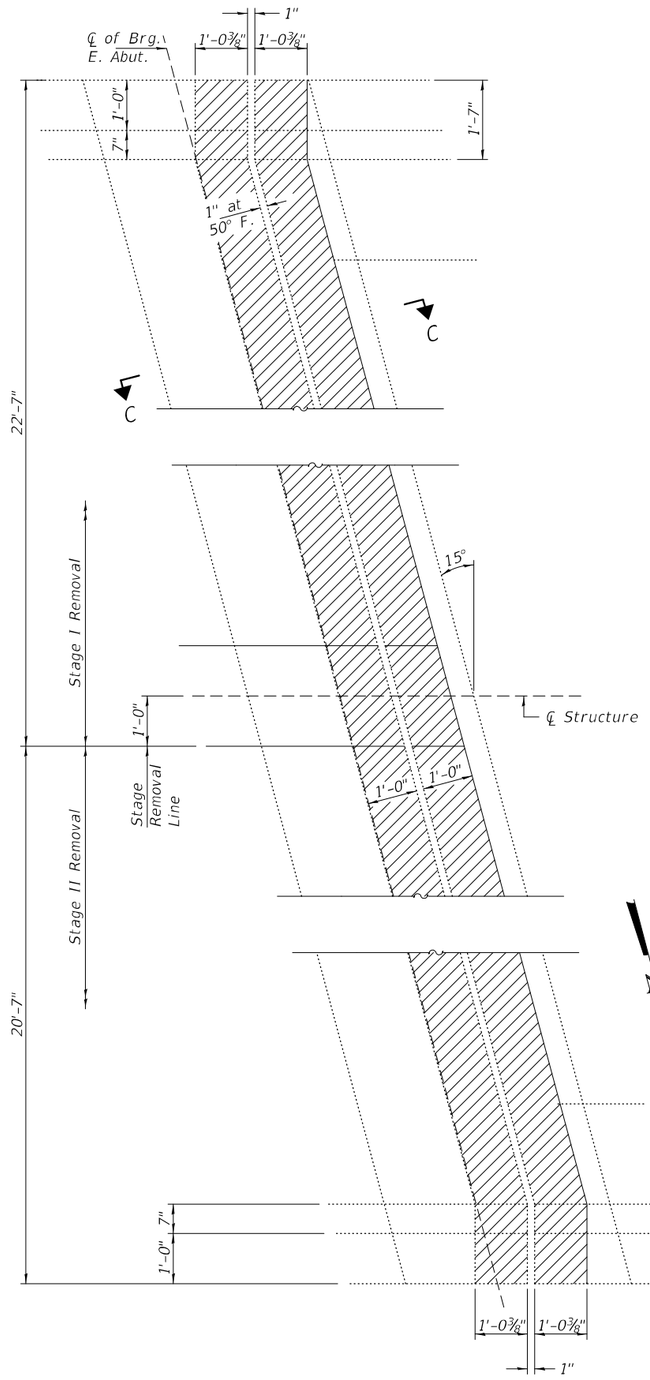
SECTION B-B

* Prior to ¼" Grinding

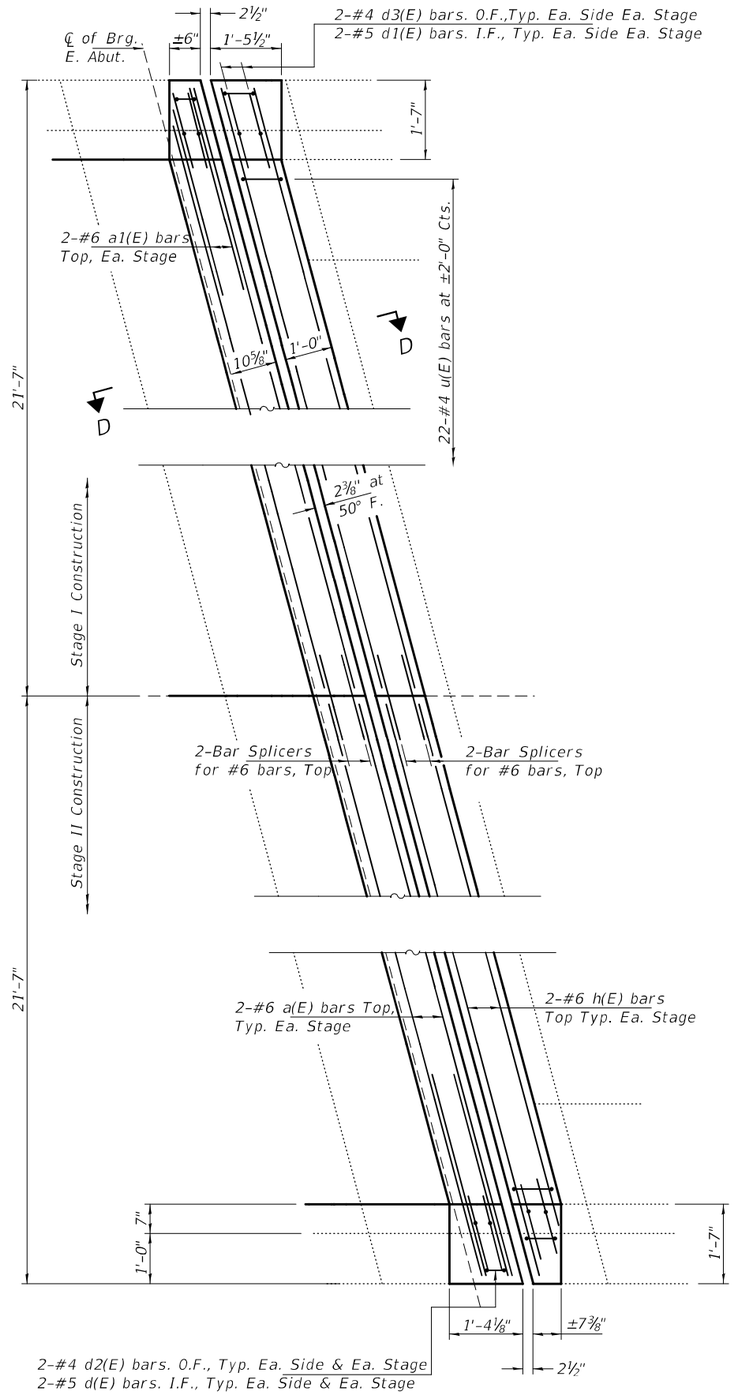
Note:
See Sheet 6 of 9 for Reinforcement and Parapet Details.

DESIGNED - ATH	EXAMINED	DATE - MARCH 16, 2022	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOINT REMOVAL & REPLACEMENT DETAILS - WEST ABUTMENT 084 - 0183
CHECKED - SMR	ENGINEER OF STRUCTURAL SERVICES			
DRAWN - Venkat Ramana Reddy	PASSED	REVISED -		SHEET NO. 4 OF 9 SHEETS
CHECKED - ATH SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		

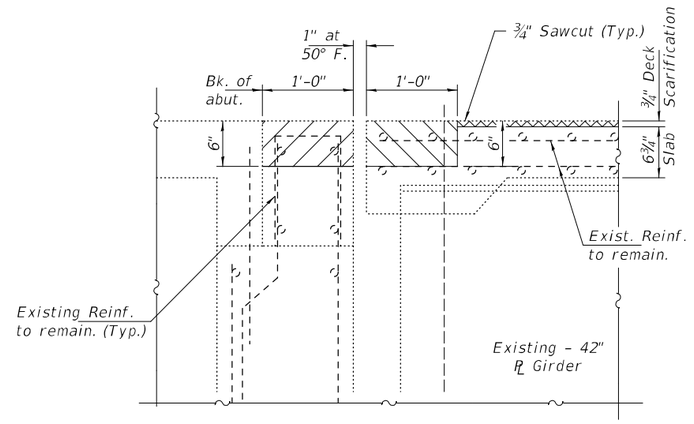
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(107Z) BDR-1	SANGAMON	24	8
		CONTRACT NO. 72M29		
	ILLINOIS FED. AID PROJECT			



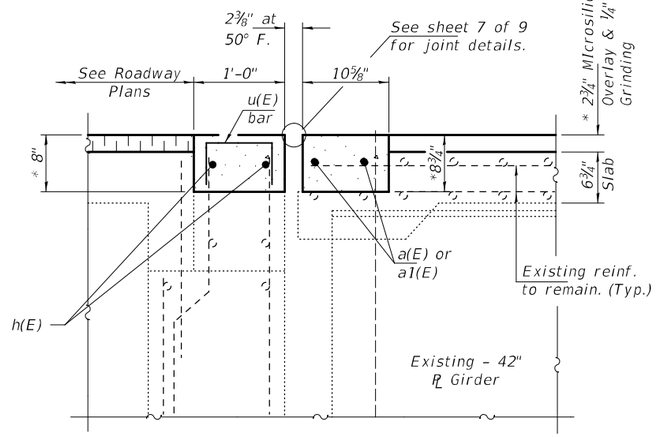
REMOVAL PLAN
(East Abutment)



REPLACEMENT PLAN
(East Abutment)



SECTION C-C

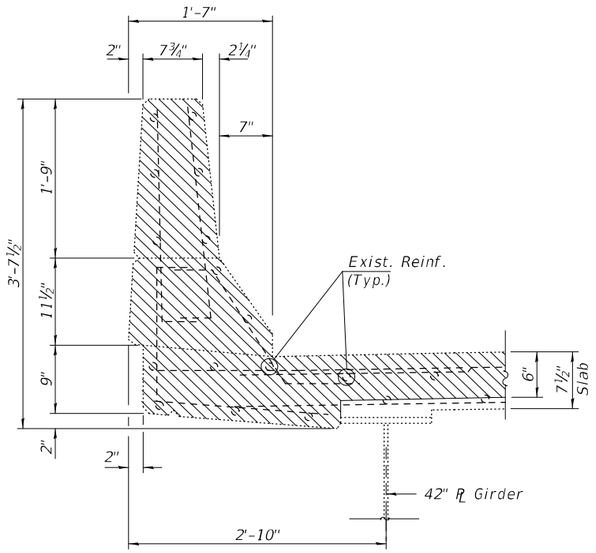


SECTION D-D

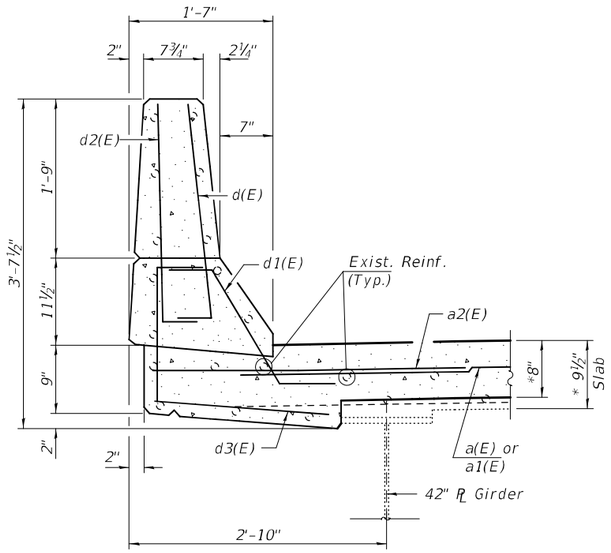
* Prior to ¼" Grinding

Note:
See Sheet 6 of 9 for Reinforcement and Parapet Details.

DESIGNED - ATH	EXAMINED		DATE - MARCH 16, 2022	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOINT REMOVAL & REPLACEMENT DETAILS - EAST ABUTMENT 084 - 0183	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - SMR		ENGINEER OF STRUCTURAL SERVICES				67	(107Z) BDR-1	SANGAMON	24	9
DRAWN - Venkat Ramana Reddy	PASSED		REVISED -					CONTRACT NO. 72M29		
CHECKED - ATH SMR		ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET NO. 5 OF 9 SHEETS			ILLINOIS FED. AID PROJECT		



REMOVAL DETAILS



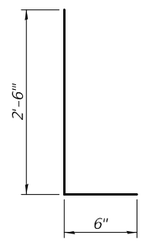
REPLACEMENT DETAILS

* Prior to ¼" Grinding

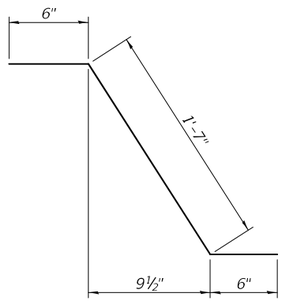
SECTION THRU BRIDGE PARAPET AT BOTH ABUTMENTS

Concrete Replacement

Concrete Replacement



BAR d(E) & d2(E)



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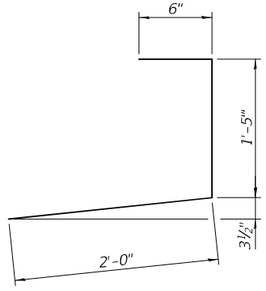
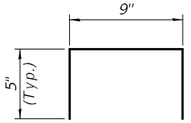


BAR d3(E)



BAR u(E)

BILL OF MATERIAL
(TWO ABUTMENTS)

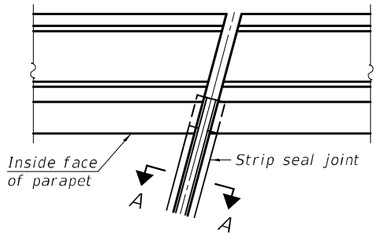
Bar	No.	Size	Length	Shape
a(E)	8	#6	21'-10"	
a1(E)	8	#6	4'-0"	
d(E)	16	#5	3'-0"	
d1(E)	16	#5	2'-7"	
d2(E)	16	#4	3'-0"	
d3(E)	16	#4	3'-11"	
h(E)	8	#6	22'-0"	
u(E)	44	#4	1'-7"	
Concrete Removal			Cu. Yd.	4.3
Concrete Superstructure			Cu. Yd.	5.2
Protective Coat			Sq. Yd.	452
Bar Splicers			Each	8
Reinforcement Bars, Epoxy Coated			Pound	790

DESIGNED - ATH	EXAMINED	DATE - MARCH 16, 2022	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - SMR	ENGINEER OF STRUCTURAL SERVICES		
DRAWN - Venkat Ramana Reddy	PASSED	REVISED -	
CHECKED - ATH SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -	

JOINT REMOVAL & REPLACEMENT DETAILS - WEST ABUTMENT
084 - 0183

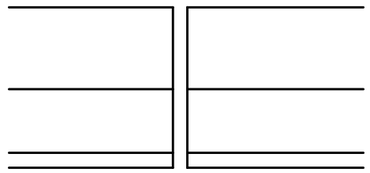
SHEET NO. 6 OF 9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(107Z) BDR-1	SANGAMON	24	10
		CONTRACT NO. 72M29		
	ILLINOIS FED. AID PROJECT			

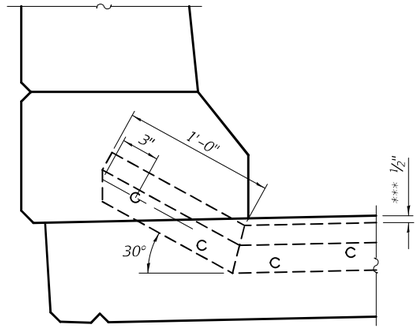


FOR SKEWS ≤ 30°

PLAN AT PARAPET



ELEVATION AT PARAPET



PARAPET ELEVATION AT ABUTMENTS

(Skews ≤ 30°)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". 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.

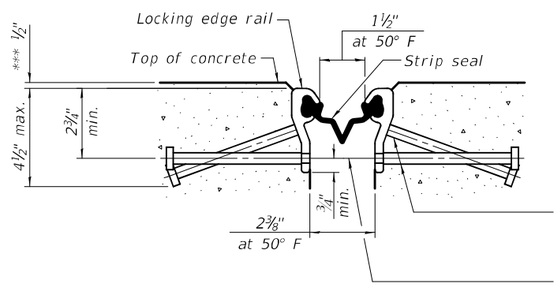
The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, 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.

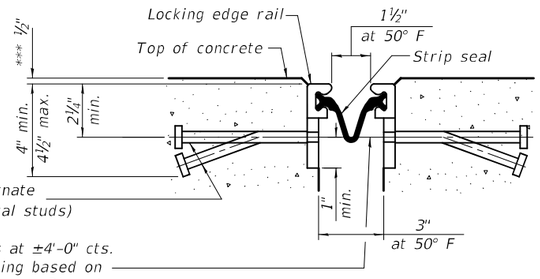
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

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

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



SHOWING ROLLED RAIL JOINT



SHOWING WELDED RAIL JOINT

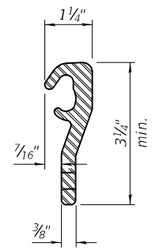
* ⅝" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

⅜" ϕ threaded rods in 7/16" ϕ 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.

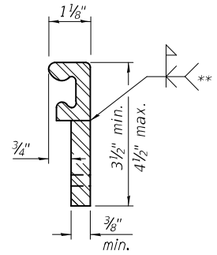
SECTION A-A

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

***Prior to ¼" Grinding



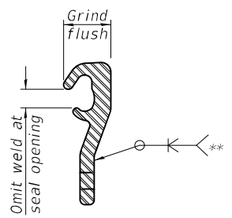
ROLLED (EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

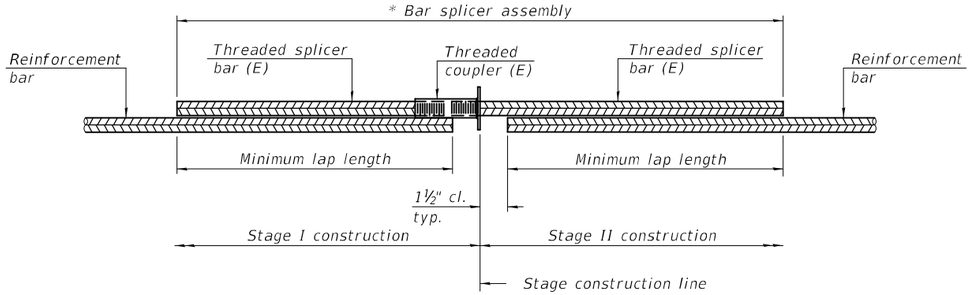
The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	87

EJ-SS1 LT30/REPS 2-25-20

DESIGNED - ATH	EXAMINED	Timothy A. Sheley ENGINEER OF STRUCTURAL SERVICES	DATE - MARCH 16, 2022	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PREFORMED JOINT STRIP SEAL 084 - 0183	F.A.P. RTE. 67 | SECTION (107Z) BDR-1 | COUNTY SANGAMON | TOTAL SHEETS 24 | SHEET NO. 11
CHECKED - SMR	PASSED	Joyce F. Oldfield ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET NO. 7 OF 9 SHEETS	CONTRACT NO. 72M29
DRAWN - Venkat Ramana Reddy			REVISED -			ILLINOIS | FED. AID PROJECT
CHECKED - ATH SMR						



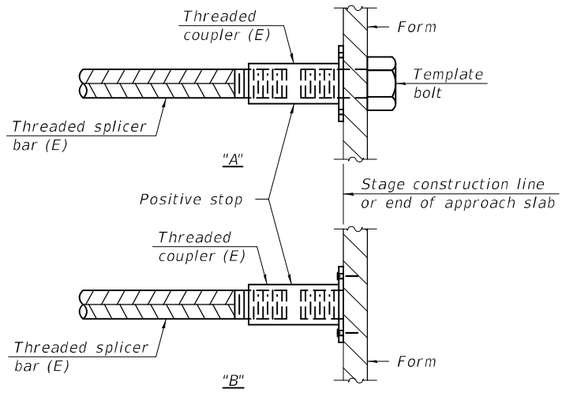
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + 1½" + thread length

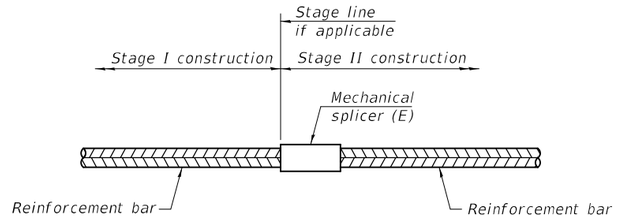
** Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.*

Location	Bar size	No. assemblies required	Minimum lap length
East Abutment	#6	2	3'-7"
East Abutment Hatch Block	#6	2	4'-0"
West Abutment	#6	2	3'-7"
West Abutment Hatch Block	#6	2	4'-0"



INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

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

BSD-1 1-1-2020

DESIGNED - ATH	EXAMINED	DATE - MARCH 16, 2022	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
CHECKED - SMR	ENGINEER OF STRUCTURAL SERVICES	REVISED -	
DRAWN - Venkat Ramana Reddy	PASSED	REVISED -	
CHECKED - ATH SMR	ENGINEER OF BRIDGES AND STRUCTURES		

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS SN 084 - 0183

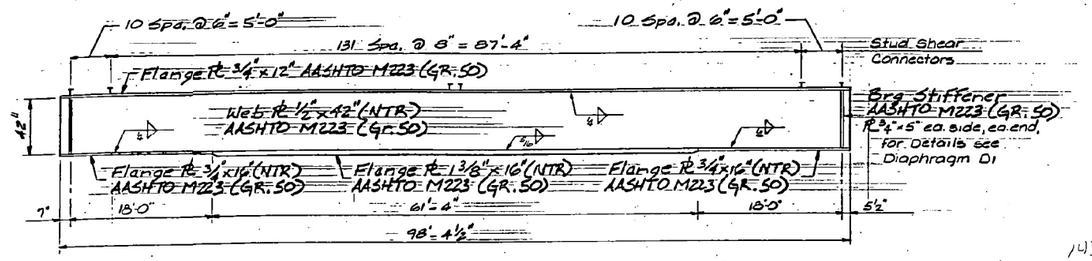
SHEET NO. 8 OF 9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(107Z) BDR-1	SANGAMON	24	12
		CONTRACT NO. 72M29		
	ILLINOIS	FED. AID PROJECT		

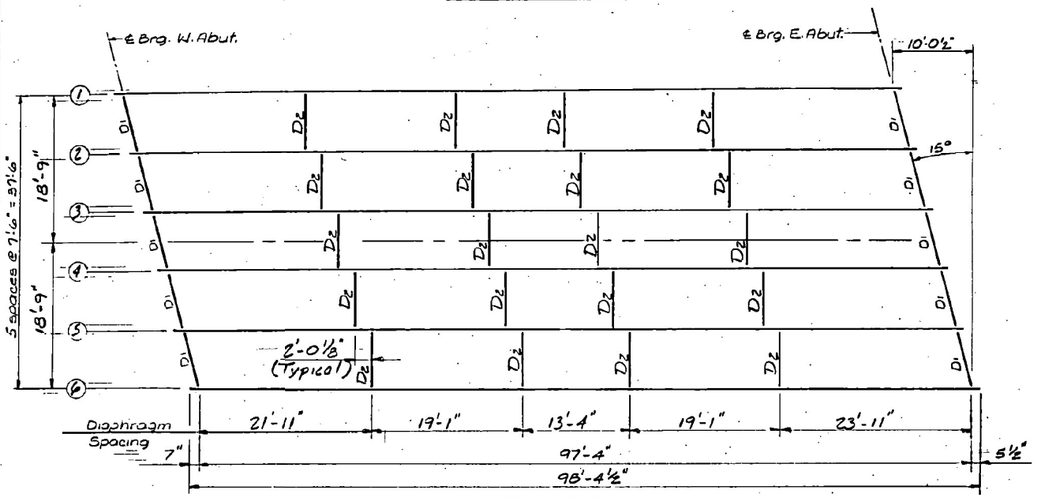
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67		SANGAMON 95		43
STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS			

Sht. 5 of 9 Shts.

*Sec. 107Z-6, X-5 & 107Z HB-1



GIRDER ELEVATION



FRAMING PLAN

145'
2 splices
1 2" x 42 Web
1'4 x 14 T.F.
2'8 x 16" B.F.

INTERIOR GIRDER MOMENT TABLE

		.5 Span
Is	(in^4)	15,990
Ic	(in^4)	45,400
Ss	(in^3)	946
Sc	(in^3)	1313
D ℄	(k/i)	0.930
M℄	(ik)	1099
S ℄	(k/i)	0.355
Ms ℄	(ik)	420
M 4	(ik)	1006
MI	(ik)	221
5/3 (M℄ + MI)	(ik)	2045
Ma	(ik)	4634
fs ℄ Non-Comp	(KSI)	13.94
fs ℄ Comp.	(KSI)	3.84
fs 5/3 (4 + I)	(KSI)	18.69
fs (overload)	(KSI)	36.47
VR	(K)	54.4
Mu	(K)	4918

INTERIOR GIRDER REACTION TABLE

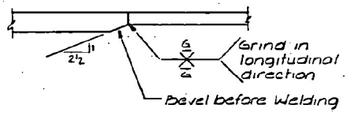
		Abutment
R ℄	(k)	62.5
R 4	(k)	44.4
R I	(k)	10.0
R TOTAL	(k)	116.9

Is & Ss are the Moment of Inertia and section modulus of the steel section used in Computing fs (Overload), and fs (Total).
Ic & Sc are the Moment of Inertia and section modulus of the Composite Section used in Computing fs (Overload), and fs (Total).
VR is the Maximum Live Load + Impact Shear Range in Span.
Ma (Applied Moment) = 1.3[M ℄ + Ms ℄ + 5/3 (M 4 + I)].
Mu is the Moment Capacity for Braced - Non compact, Section Computed According to AASHTO Art. 10.50.1.2.
fs (overload) is the sum of the stresses due to, M℄ + Ms ℄ + 5/3 (M 4 + I).
M ℄ = Moment due to Loads on Non-Composite Section.
Ms ℄ = Moment due to dead Loads on Composite Section.
M 4 = Moment due to Live Loads on Composite Section.
I = Live Load Impact.
MI = Moment due to Impact on Composite Section

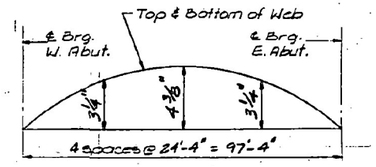
TOP OF WEB ELEVATIONS **

Girder	1	2	3	4	5	6
℄ Brg. West Abut.	591.46	591.56	591.66	591.64	591.50	591.36
℄ Brg. East Abut.	590.49	590.59	590.69	590.67	590.53	590.39

** Elevations are for Fabrication only.



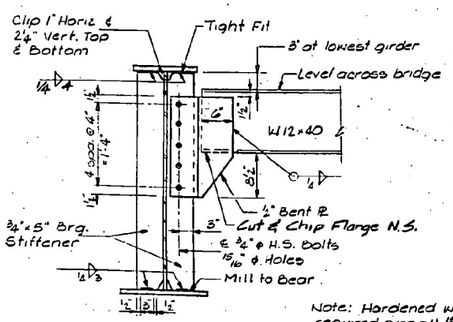
WELDED FLANGE SPLICE



CAMBER DIAGRAM

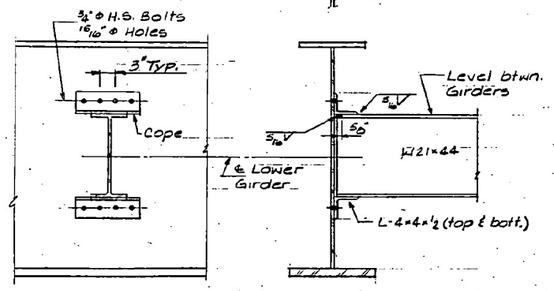
NOTES
Plates Noted (NTR) Indicate Notch Toughness Requirements Zone 2 are Applicable.

FOR INFORMATION ONLY

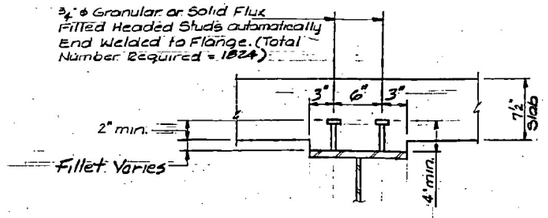


DIAPHRAGM D1
10 Req'd.

Note: Hardened washers required over all 15/16" ø Holes
2 Washers per Bolt (One Ea. Side)



DIAPHRAGM D2
20 Req'd.



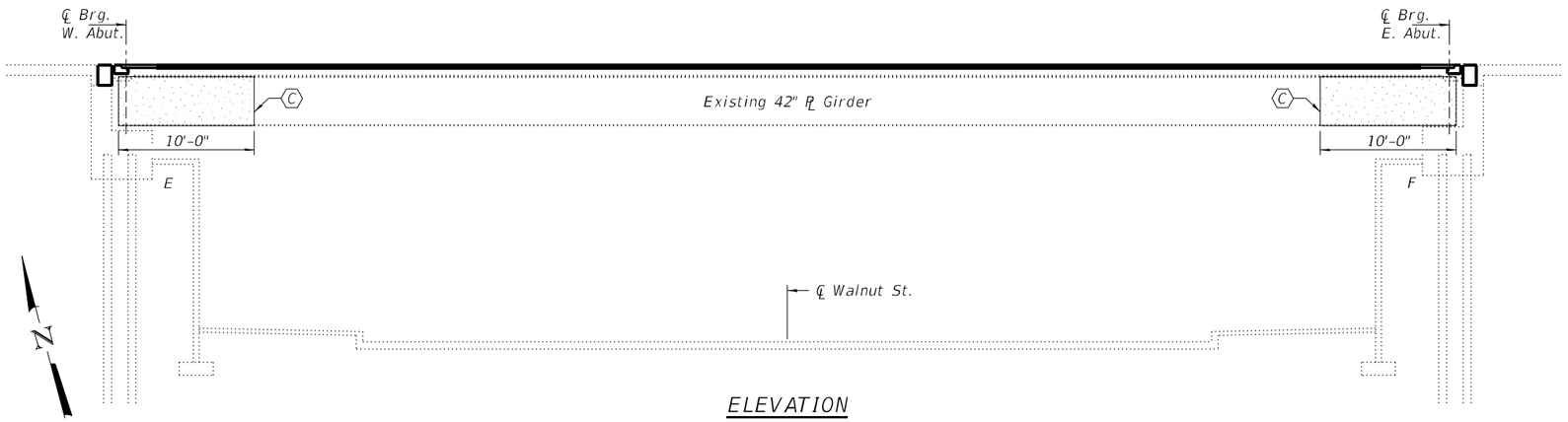
SHEAR CONNECTOR DETAIL

STRUCTURAL STEEL
BRIDGE OVER WALNUT STREET
CITY OF SPRINGFIELD
F.A.P. ROUTE 67 (MADISON STREET)
SECTION 107Z HB-1
SANGAMON COUNTY
STATION 41+51.53

DESIGNED - ATH	EXAMINED	DATE - MARCH 16, 2022	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - SMR	ENGINEER OF STRUCTURAL SERVICES		
DRAWN - Venkat Ramana Reddy	PASSED	REVISED -	
CHECKED - ATH SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -	

EXISTING PLAN SHEET - FOR INFORMATION ONLY
SN 084-0183
SHEET NO. 9 OF 9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(107Z) BDR-1	SANGAMON	24	13
		CONTRACT NO. 72M29		
	ILLINOIS	FED. AID PROJECT		



ELEVATION

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.

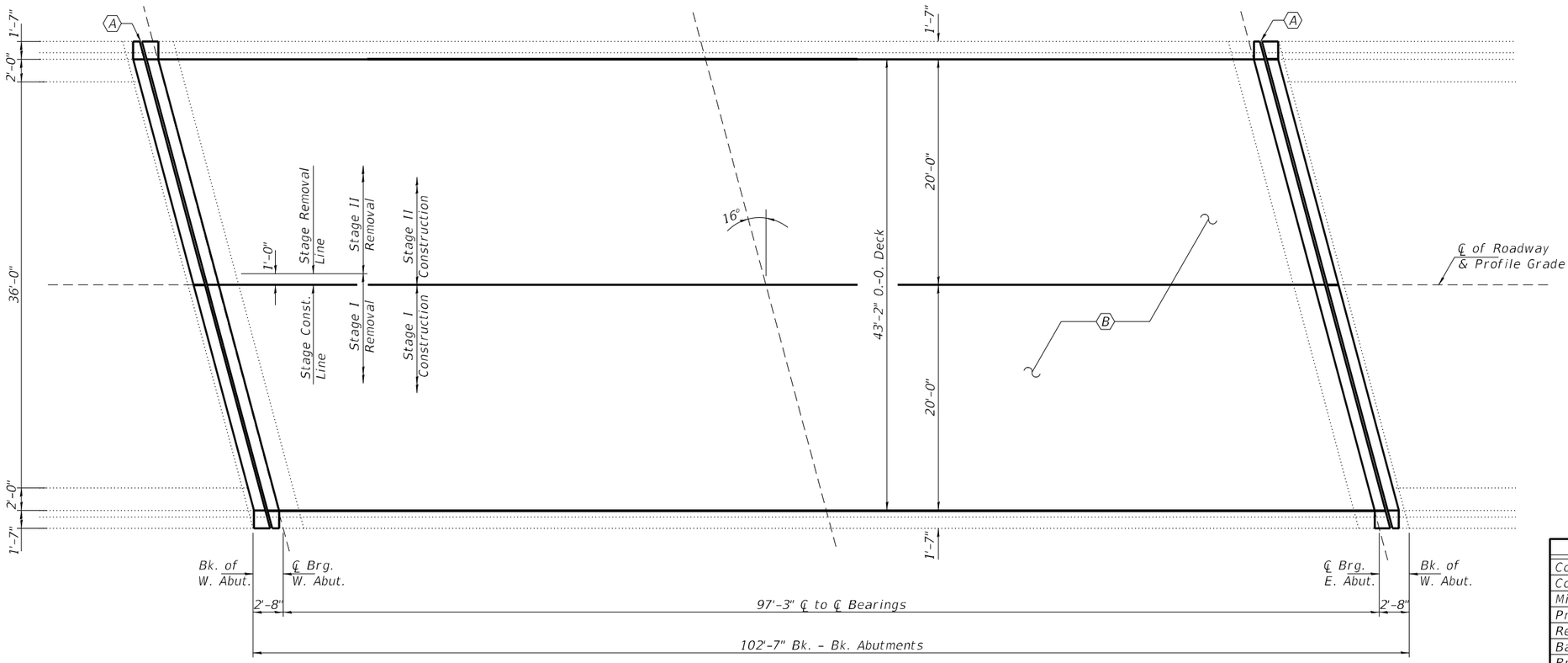
Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

Reinforcement bars designated (E) shall be epoxy coated.

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 Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

Traffic will be maintained using stage construction.



PLAN

Ⓐ - Remove existing Neoprene Joints and install new Preformed Joint Strip Seal.

Ⓑ - Bridge Deck Scarification ¾" and 2½" Microsilica Concrete Overlay

Ⓒ - Paint 10' of all Beam Ends.

TOTAL BILL OF MATERIAL

	ITEM	UNIT	QUANTITY
	Concrete Removal	Cu. Yd.	4.3
	Concrete Superstructure	Cu. Yd.	5.2
	Microsilicia Concrete Overlay 2½"	Sq. Yd.	432
	Preformed Joint Strip Seal	Foot	87
	Reinforcement Bars, Epoxy Coated	Pound	1040
	Bar Splicers	Each	12
	Bridge Deck Scarification ¾"	Sq. Yd.	432
	Deck Slab Repair (Partial)	Sq. Yd.	40
	Diamond Grinding (Bridge Section)	Sq. Yd.	388
*	Protective Coat	Sq. Yd.	452
	Protective Shield	Sq. Yd.	405
	Bridge Deck Grooving (Longitudinal)	Sq. Yd.	274
	Cleaning and Painting Steel Bridge No. 1	L. Sum	1
	Containment and Disposal of Lead Paint Cleaning Residues No. 1	L. Sum	1

* Apply to new concrete only.

DRAFT

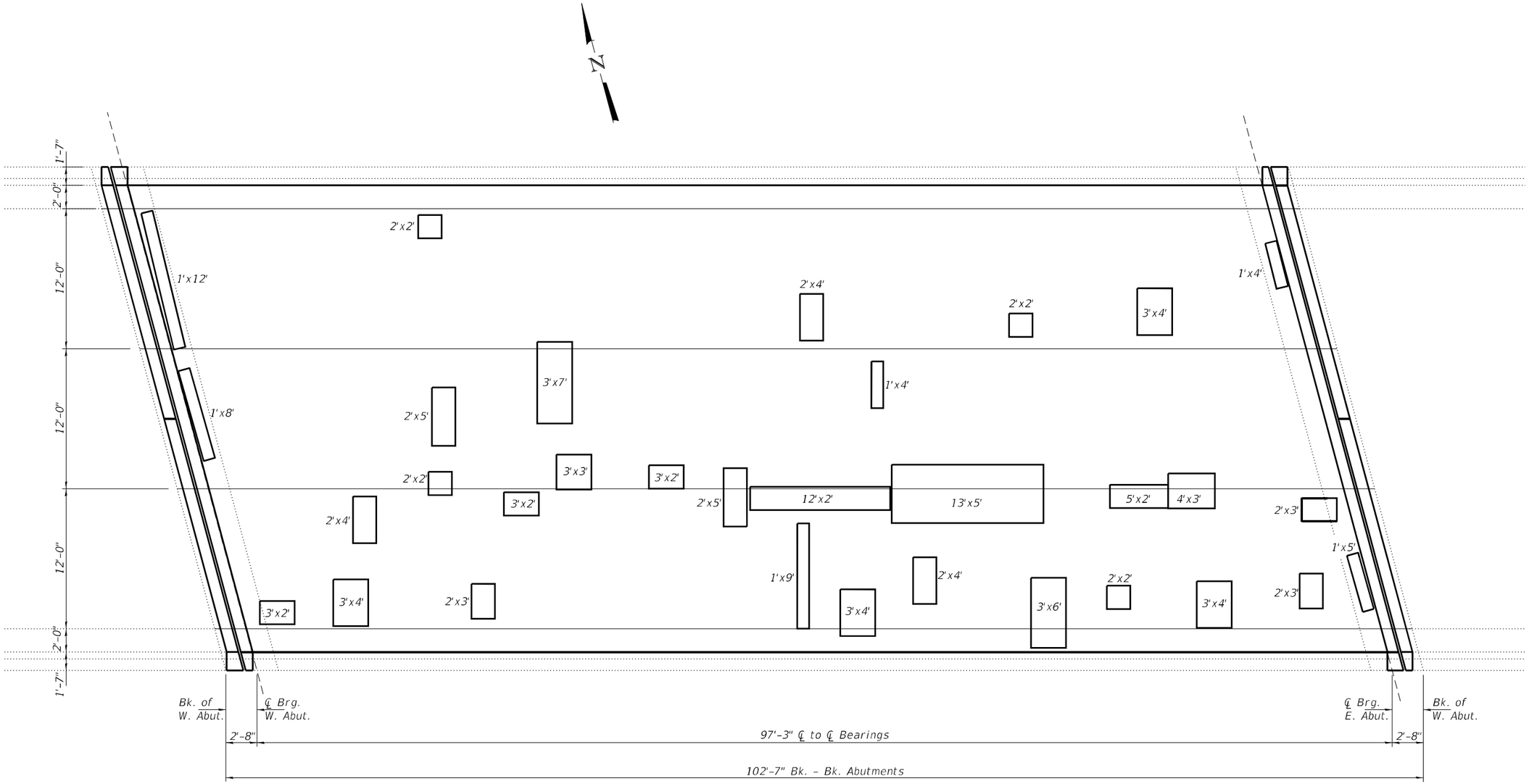
DATE: 02/08/2022

EXPIRES 11-30-2022

DESIGNED - Adrian T. Halloway	EXAMINED	DATE - FEBRUARY 08, 2022	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - Victor H. Veliz	ENGINEER OF STRUCTURAL SERVICES		
DRAWN - Venkat Ramana Reddy	PASSED	REVISED -	
CHECKED - ATH VHV	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -	

GENERAL PLAN AND ELEVATION
IL 97 (MADISON STREET) OVER WALNUT STREET
SN 084-0183
SHEET NO. 1 OF 9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	-	SANGAMON	-	-
		CONTRACT NO. 72M29		
		ILLINOIS FED. AID PROJECT		



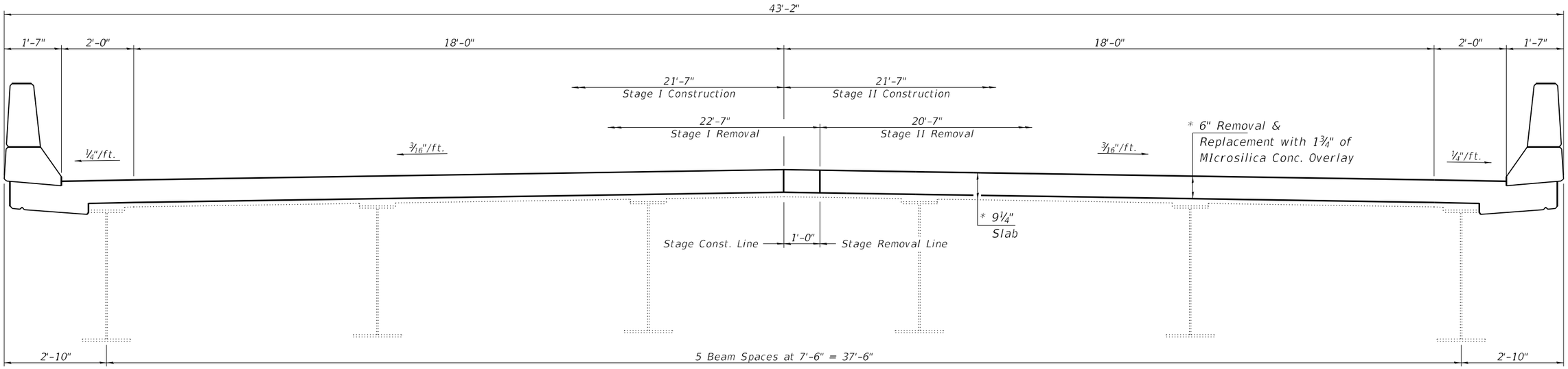
PLAN

DRAFT
DATE: 02/08/2022

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Partial)	Sq. Yd.	40

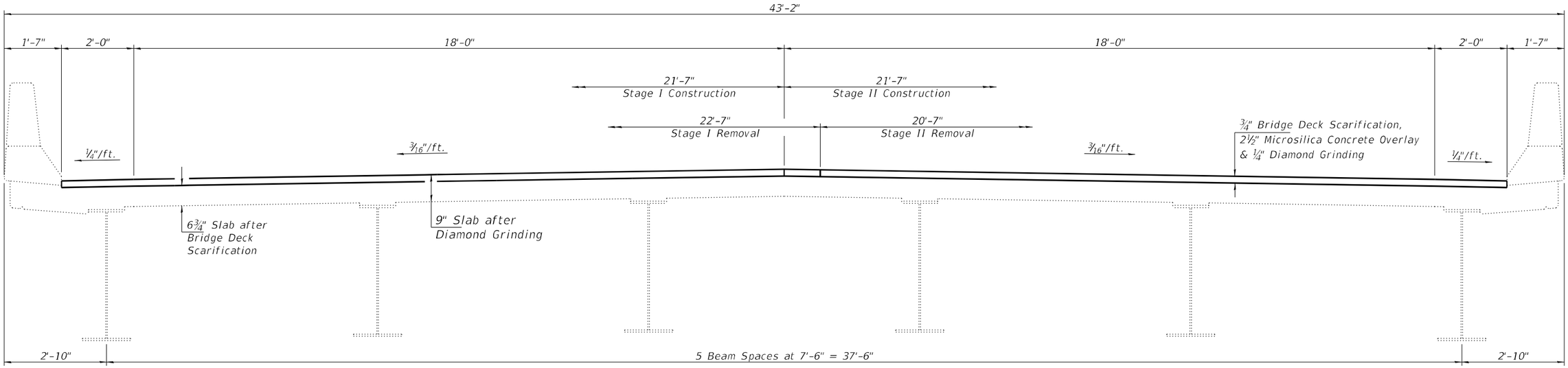
DESIGNED - ATH	EXAMINED	ENGINEER OF STRUCTURAL SERVICES	DATE - FEBRUARY 08, 2022	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS & STAGING DETAILS 084 - 0183	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - VHV						67	-	SANGAMON	-	-
DRAWN - Venkat Ramana Reddy	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET NO. 2 OF 9 SHEETS			CONTRACT NO. 72M29		
CHECKED - ATH VHV			REVISED -					ILLINOIS FED. AID PROJECT		



CROSS SECTION AT ABUTMENTS

(Looking West)

* Prior to ¼" Diamond Grinding



CROSS SECTION AT MID SPAN

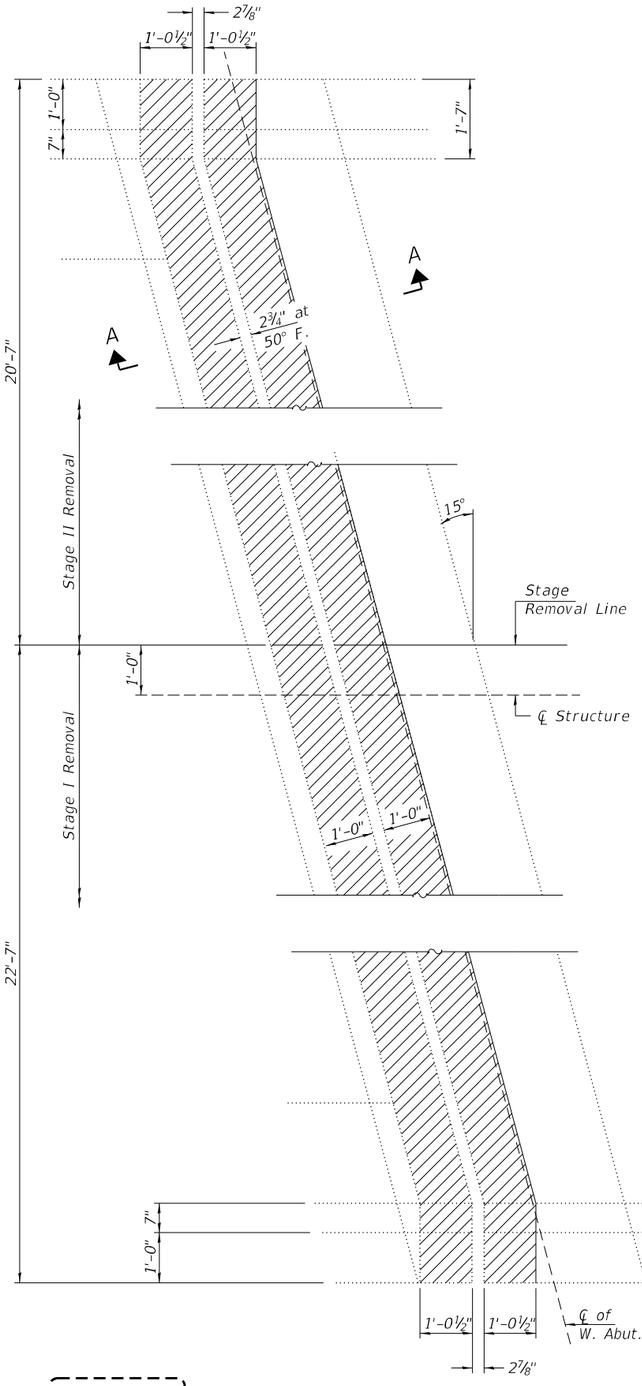
(Looking West)

DRAFT

DATE: 02/08/2022

DESIGNED - ATH	EXAMINED	ENGINEER OF STRUCTURAL SERVICES	DATE - FEBRUARY 08, 2022	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**CROSS SECTIONS & STAGING DETAILS 084 - 0183**
CHECKED - VHV					
DRAWN - Venkat Ramana Reddy	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET NO. 3 OF 9 SHEETS
CHECKED - ATH VHV			REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	-	SANGAMON	-	-
		CONTRACT NO. 72M29		
		ILLINOIS	FED. AID PROJECT	

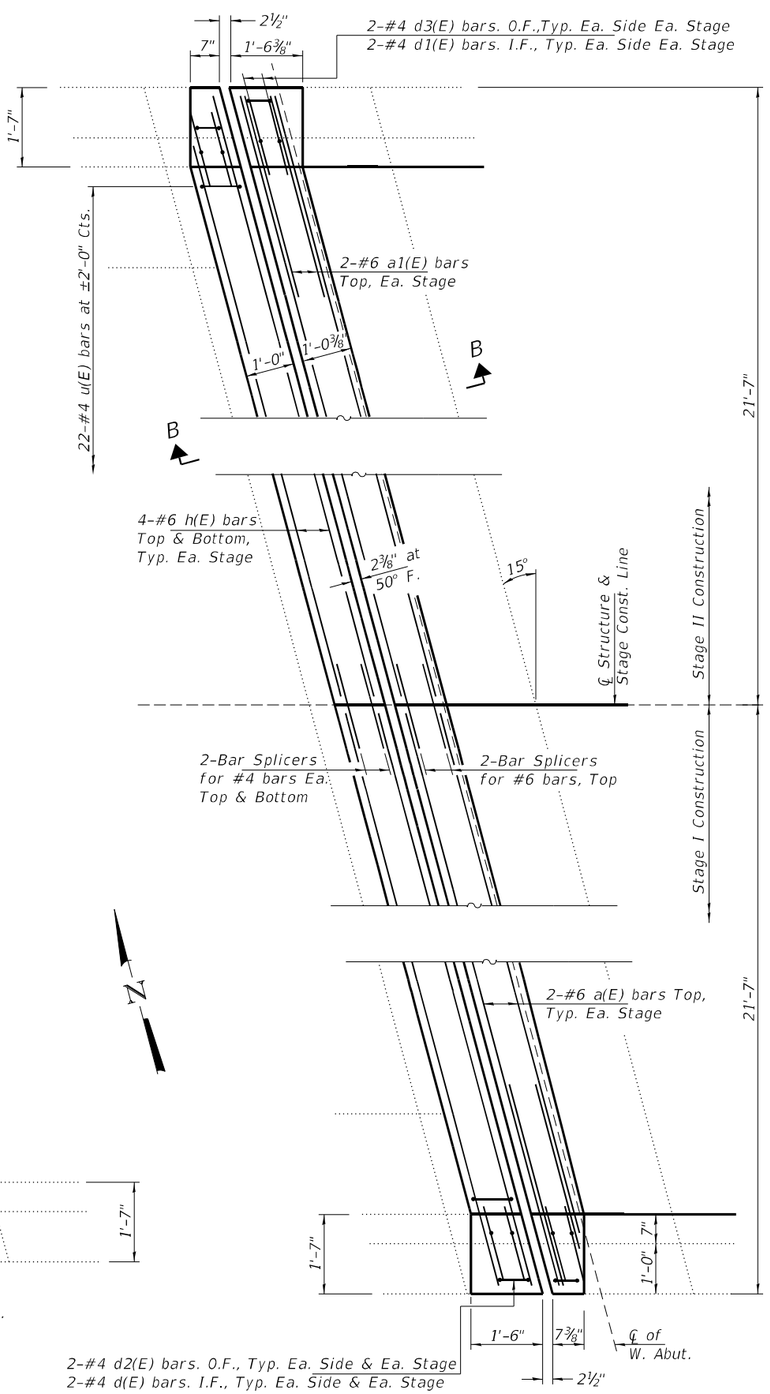


DRAFT

DATE: 02/08/2022

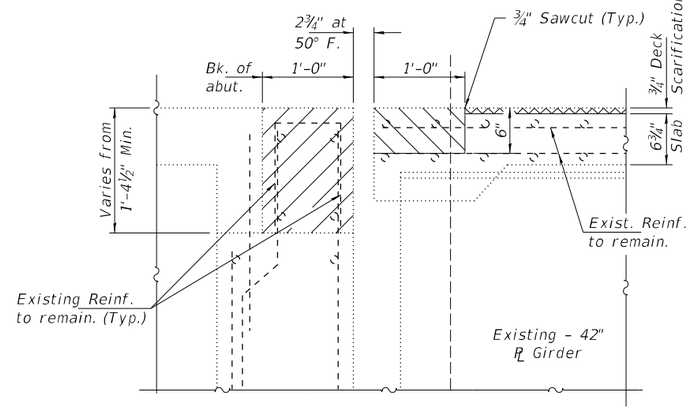
REMOVAL PLAN

(West Abutment)

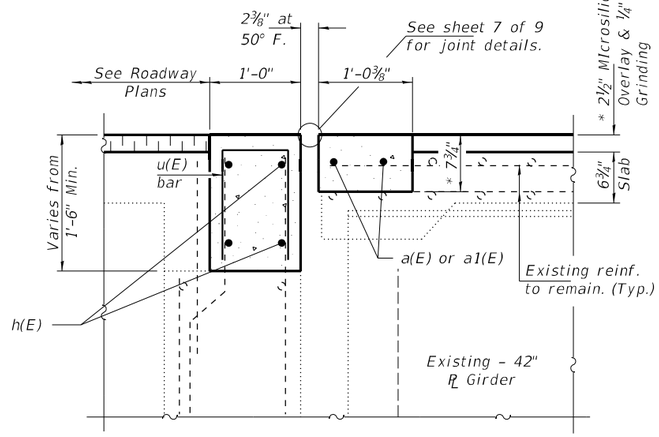


REPLACEMENT PLAN

(West Abutment)



SECTION A-A

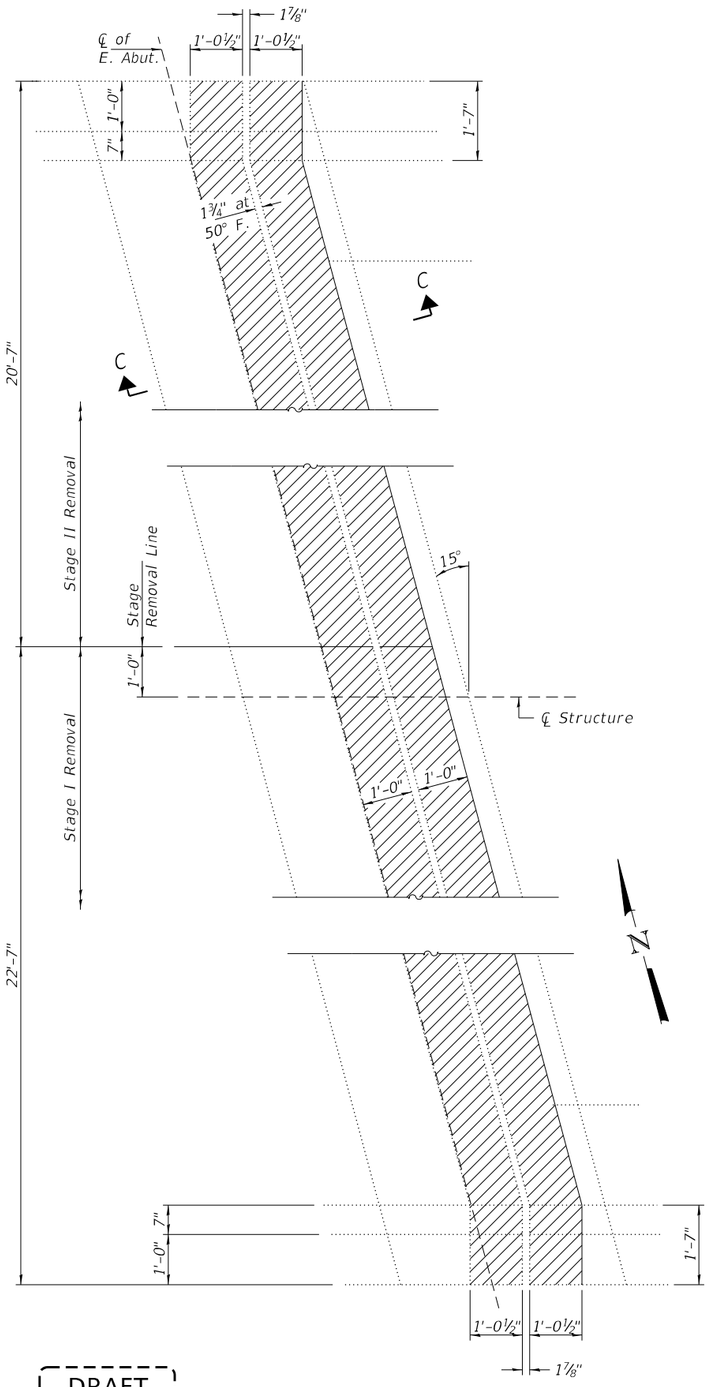


SECTION B-B

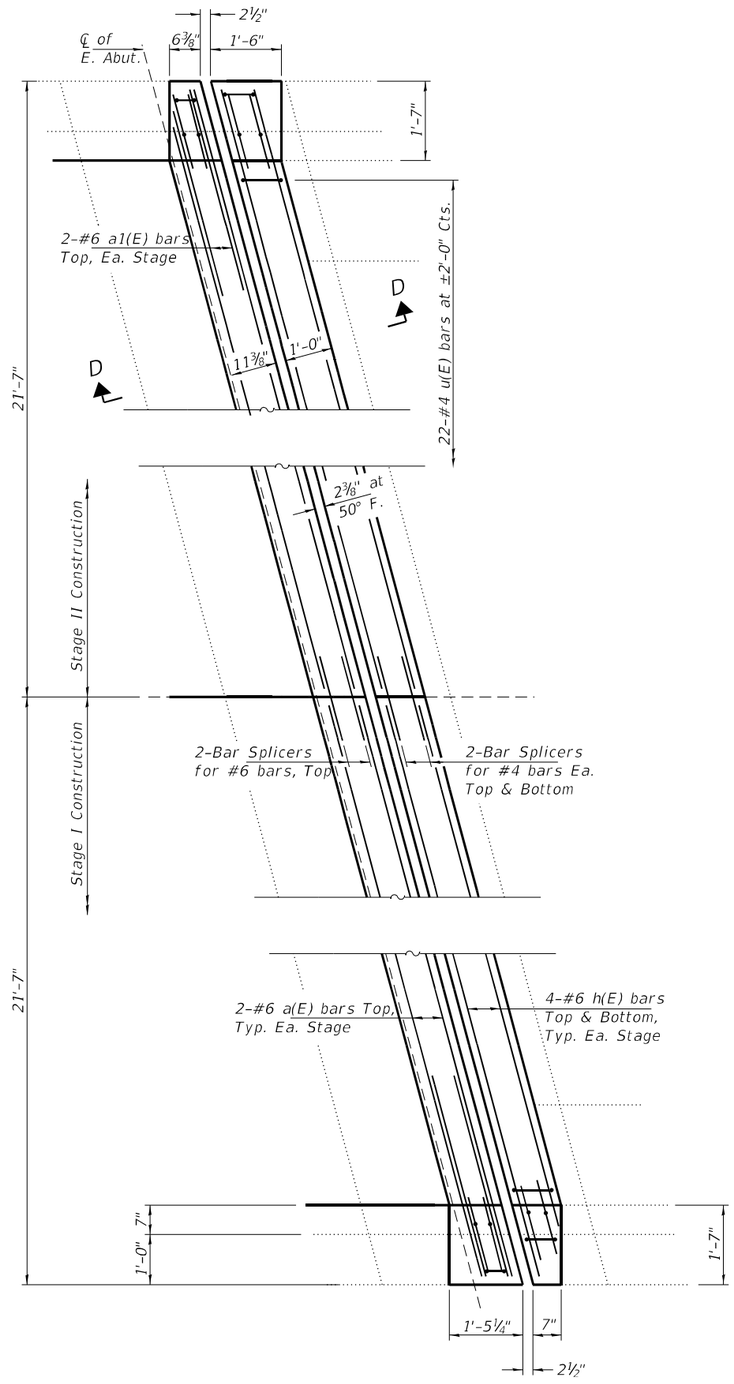
* Prior to ¼" Grinding

Note:
See Sheet 6 of 9 for Reinforcement and Parapet Details.

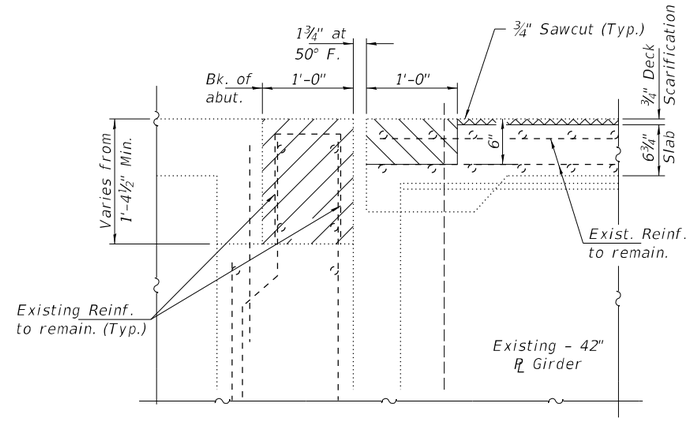
DESIGNED - ATH	EXAMINED		DATE - FEBRUARY 08, 2022	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOINT REMOVAL & REPLACEMENT DETAILS - WEST ABUTMENT 084 - 0183	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - VHV		ENGINEER OF STRUCTURAL SERVICES				67	-	SANGAMON	-	-
DRAWN - Venkat Ramana Reddy	PASSED		REVISED -					CONTRACT NO. 72M29		
CHECKED - ATH VHV		ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET NO. 4 OF 9 SHEETS			ILLINOIS FED. AID PROJECT		



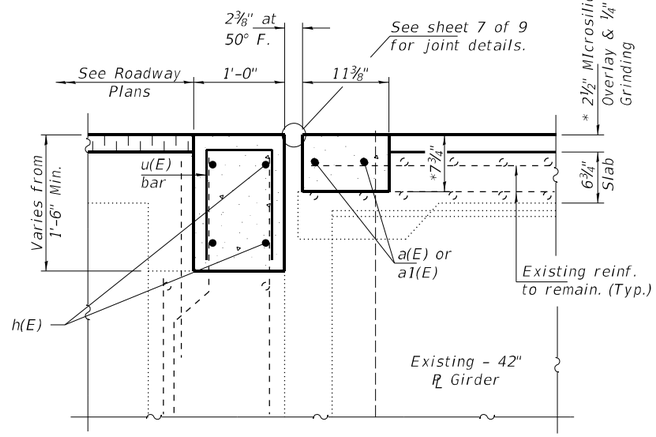
REMOVAL PLAN
(East Abutment)



REPLACEMENT PLAN
(East Abutment)



SECTION C-C



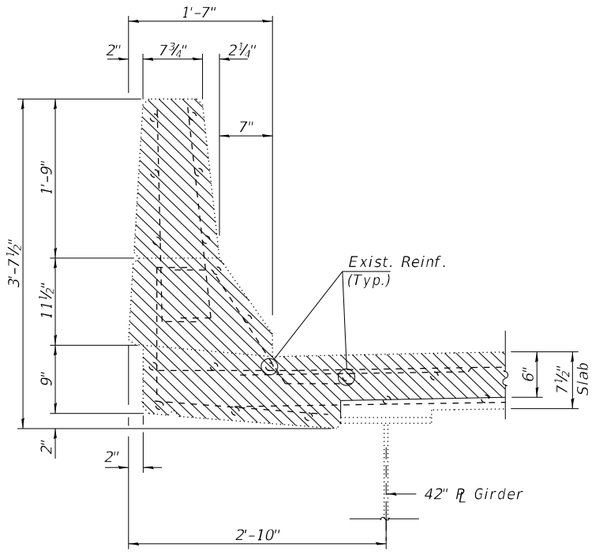
SECTION D-D

* Prior to ¼" Grinding

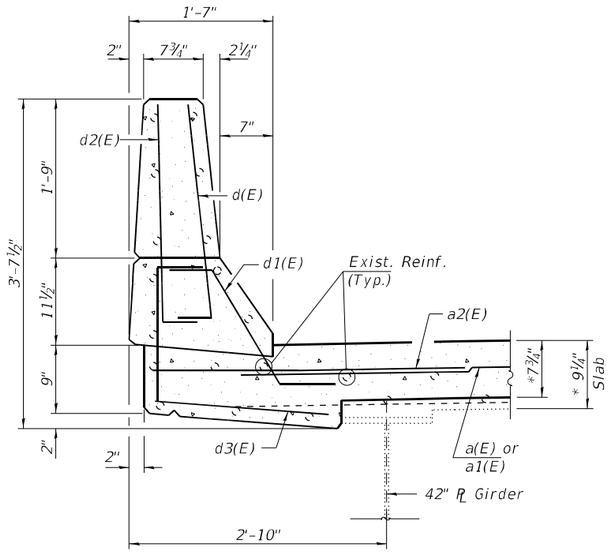
Note:
See Sheet 6 of 9 for Reinforcement and Parapet Details.

DRAFT
DATE: 02/08/2022

DESIGNED - ATH	EXAMINED	Timothy A. Ahlgrim ENGINEER OF STRUCTURAL SERVICES	DATE - FEBRUARY 08, 2022	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOINT REMOVAL & REPLACEMENT DETAILS - EAST ABUTMENT 084 - 0183	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - VHV			REVISED -			67	-	SANGAMON	-	-
DRAWN - Venkat Ramana Reddy	PASSED	V. Carl Tumey ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET NO. 5 OF 9 SHEETS			CONTRACT NO. 72M29		
CHECKED - ATH VHV								ILLINOIS FED. AID PROJECT		



REMOVAL DETAILS



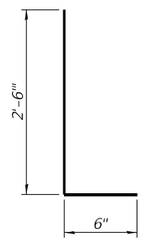
REPLACEMENT DETAILS

***Prior to ¼" Grinding

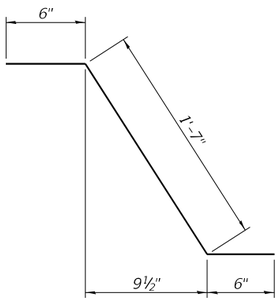
SECTION THRU BRIDGE PARAPET AT BOTH ABUTMENTS

Concrete Replacement

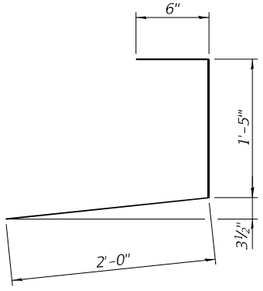
Concrete Replacement



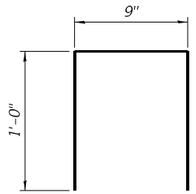
BAR d(E) & d2(E)



BAR d1(E)



BAR d3(E)



BAR u(E)

DRAFT

DATE: 02/08/2022

BILL OF MATERIAL (TWO ABUTMENTS)

Bar	No.	Size	Length	Shape
a(E)	8	#6	21'-3"	
a1(E)	8	#6	4'-0"	
d(E)	16	#4	3'-0"	
d1(E)	16	#4	2'-7"	
d2(E)	16	#4	3'-0"	
d3(E)	16	#4	3'-11"	
h(E)	16	#6	21'-3"	
u(E)	44	#4	2'-9"	
Concrete Removal			Cu. Yd.	4.3
Concrete Superstructure			Cu. Yd.	5.2
Protective Coat			Sq. Yd.	452
Bar Splicers			Each	12
Reinforcement Bars, Epoxy Coated			Pound	1040

DESIGNED - ATH
CHECKED - VHV
DRAWN - Venkat Ramana Reddy
CHECKED - ATH VHV

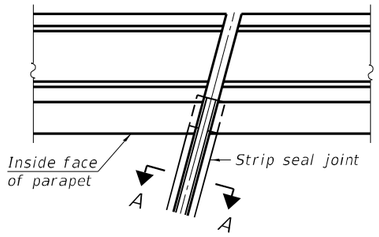
EXAMINED — ENGINEER OF STRUCTURAL SERVICES
PASSED — ENGINEER OF BRIDGES AND STRUCTURES

DATE - FEBRUARY 08, 2022
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

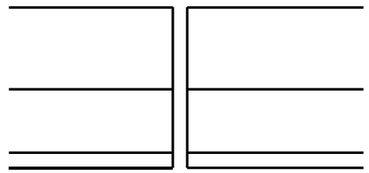
JOINT REMOVAL & REPLACEMENT DETAILS - WEST ABUTMENT
084 - 0183
SHEET NO. 6 OF 9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	-	SANGAMON	-	-
		CONTRACT NO. 72M29		
	ILLINOIS FED. AID PROJECT			

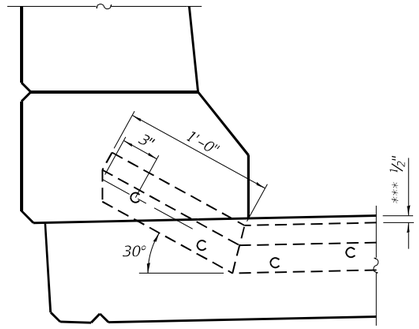


FOR SKEWS ≤ 30°

PLAN AT PARAPET



ELEVATION AT PARAPET



PARAPET ELEVATION AT ABUTMENTS

(Skews ≤ 30°)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". 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.

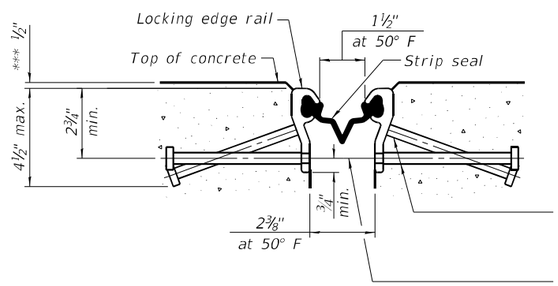
The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, 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.

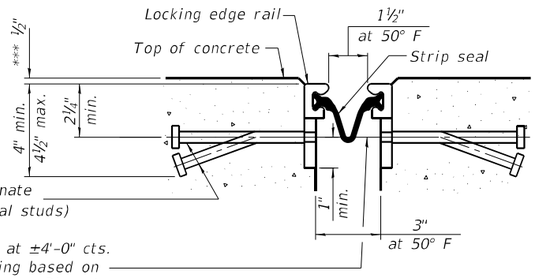
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

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

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



SHOWING ROLLED RAIL JOINT



SHOWING WELDED RAIL JOINT

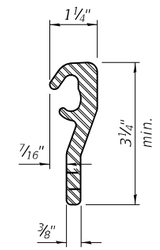
* ⅝" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

⅜" ϕ threaded rods in 7/16" ϕ 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.

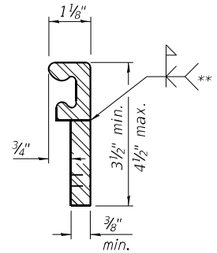
SECTION A-A

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

***Prior to ¼" Grinding



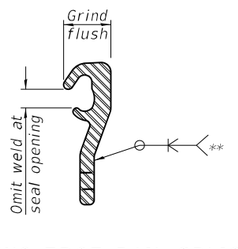
ROLLED (EXTRUDED) RAIL



WELDED RAIL

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	87

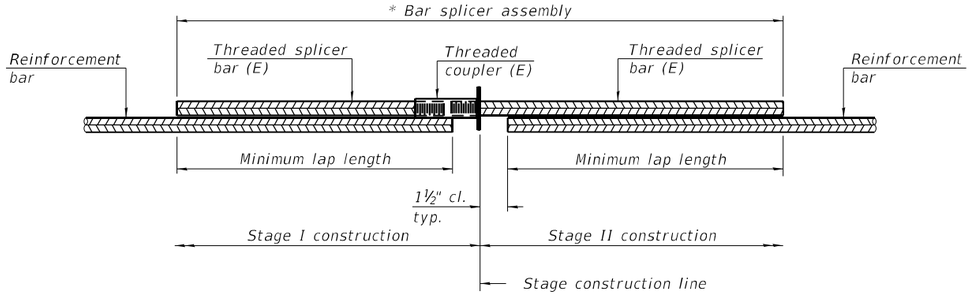
DRAFT

DATE: 02/08/2022

EJ-SS1 LT30/REPS 2-25-20

DESIGNED - ATH	EXAMINED	Timothy A. Bridges ENGINEER OF STRUCTURAL SERVICES	DATE - FEBRUARY 08, 2022	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**PREFORMED JOINT STRIP SEAL 084 - 0183**
CHECKED - VHV	PASSED	Carl Truxaw ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET NO. 7 OF 9 SHEETS
DRAWN - Venkat Ramana Reddy			REVISED -		
CHECKED - ATH VHV					

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	-	SANGAMON	-	-
		CONTRACT NO. 72M29		
	ILLINOIS	FED. AID PROJECT		



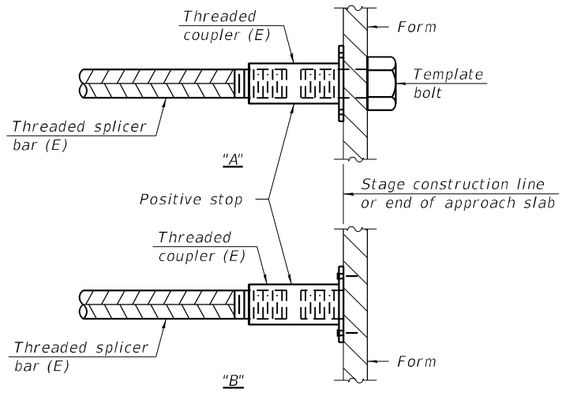
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + 1½" + thread length

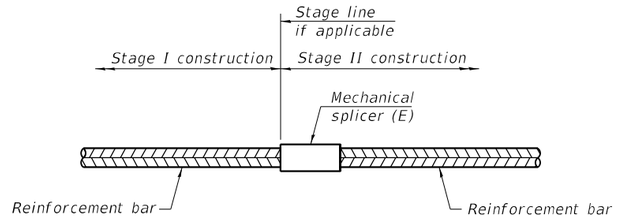
** Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.*

Location	Bar size	No. assemblies required	Minimum lap length
East Abutment	#6	2	3'-7"
East Abutment	#4	4	2'-5"
West Abutment	#6	2	3'-7"
West Abutment	#4	4	2'-5"



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.

DRAFT
DATE: 02/08/2022

BSD-1 1-1-2020

DESIGNED - ATH	EXAMINED	DATE - FEBRUARY 08, 2022	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
CHECKED - VHV	ENGINEER OF STRUCTURAL SERVICES	REVISED -	
DRAWN - Venkat Ramana Reddy	PASSED	REVISED -	
CHECKED - ATH VHV	ENGINEER OF BRIDGES AND STRUCTURES		

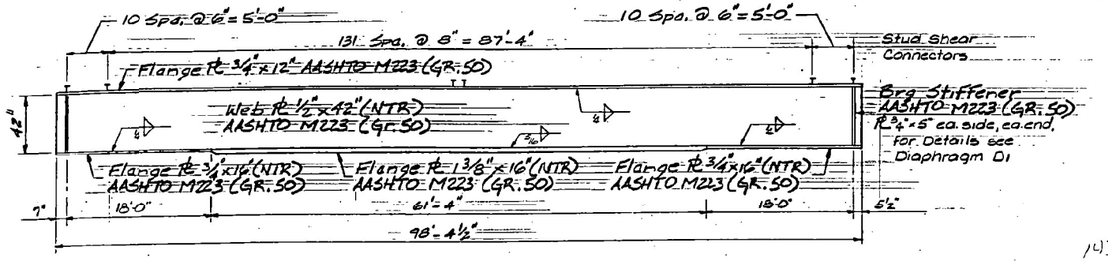
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
SN 084 - 0183
SHEET NO. 8 OF 9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	-	SANGAMON	-	-
		CONTRACT NO. 72M29		
		ILLINOIS	FED. AID PROJECT	

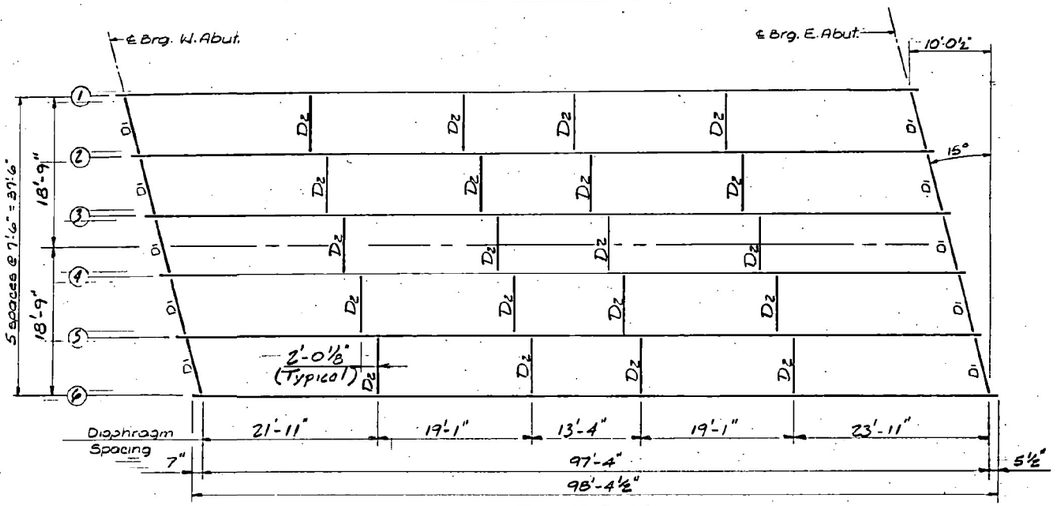
TAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	*	SANGAMON	95	43
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS		

Sht. 5 of 9 Shts.

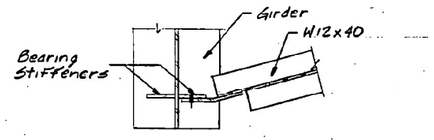
*Sec. 1072-6, X-5 & 1072 HB-1

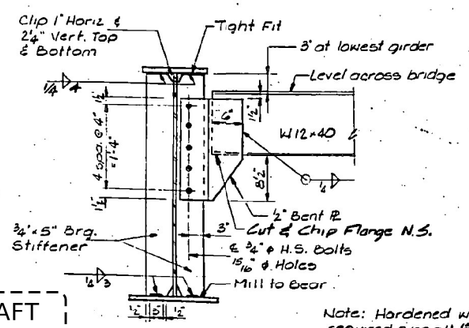


GIRDER ELEVATION

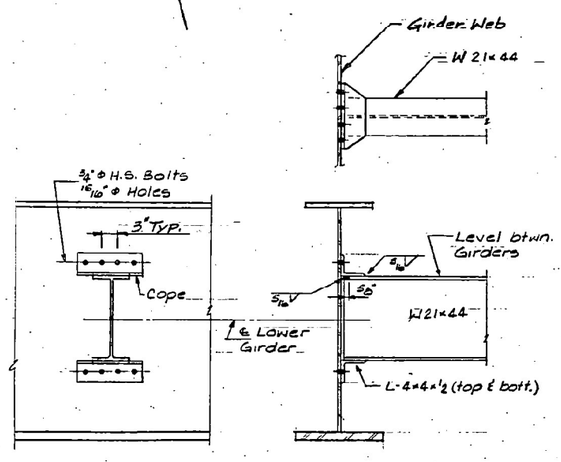


FRAMING PLAN





DIAPHRAGM D1
10 Req'd.



Note: Hardened washers required over all 15/16" ϕ Holes
2 Washers per Bolt (One Ea. Side)

DIAPHRAGM D2
202 Req'd.

DRAFT
DATE 02/08/2022

145'
2 Splices
12" x 42" Web
14" x 14" T.F.
28" x 1 1/2" B.F.

INTERIOR GIRDER MOMENT TABLE

		5 Span
Is	(in⁴)	15,990
Ic	(in⁴)	45,400
Ss	(in³)	946
Sc	(in³)	1313
D	(k/i)	0.930
M℄	(i.k)	1099
S℄	(k/i)	0.355
Ms℄	(i.k)	420
M℄	(i.k)	1006
MI	(i.k)	221
5/3(ML+MI)	(i.k)	2045
Ma	(i.k)	4634
fs ℄ Non-Comp.	(KSI)	13.94
fs ℄ Comp.	(KSI)	3.84
fs 5/3 (L+I)	(KSI)	18.69
fs (overload)	(KSI)	36.47
VR	(K)	54.4
Mu	('K)	4918

INTERIOR GIRDER REACTION TABLE

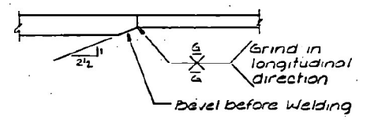
		Abutment
R℄	(k)	62.5
R℄	(k)	44.4
RI	(k)	10.0
R TOTAL	(k)	116.9

Is & Ss are the Moment of Inertia and section modulus of the steel section used in computing fs (Overload), and fs (Total).
Ic & Sc are the Moment of Inertia and section modulus of the Composite Section used in computing fs (Overload), and fs (Total)
VR is the Maximum Live Load + Impact Shear Range in Span.
Ma (Applied Moment) = 1.3[M℄ + Ms℄ + 5/3(M℄ + I)].
Mu is the Moment Capacity for Braced - Non compact, section Computed According to AASHTO Art. 10.50.1.2.
fs (Overload) is the sum of the Stresses due to M℄ + Ms℄ + 5/3(M℄ + I).
M℄ = Moment due to Loads on Non-Composite Section.
Ms℄ = Moment due to dead Loads on Composite Section.
M℄ = Moment due to Live Loads on Composite Section.
I = Live Load Impact.
MI = Moment due to Impact on Composite Section

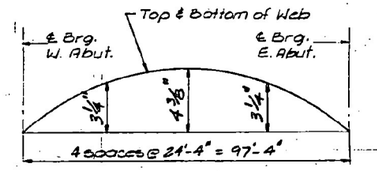
TOP OF WEB ELEVATIONS **

Girder	1	2	3	4	5	6
℄ Brg. West Abut.	591.46	591.56	591.66	591.64	591.50	591.36
℄ Brg. East Abut.	590.49	590.59	590.69	590.67	590.53	590.39

** Elevations are for Fabrication only.



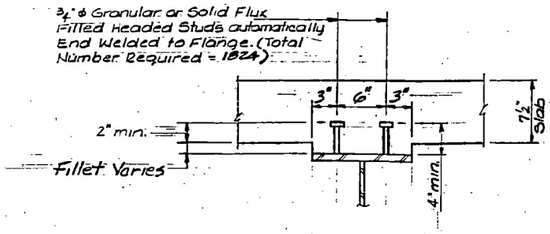
WELDED FLANGE SPLICE



CAMBER DIAGRAM

NOTES
Plates Noted (NTR) Indicate Notch Toughness Requirements Zone 2 are Applicable.

FOR INFORMATION ONLY



SHEAR CONNECTOR DETAIL

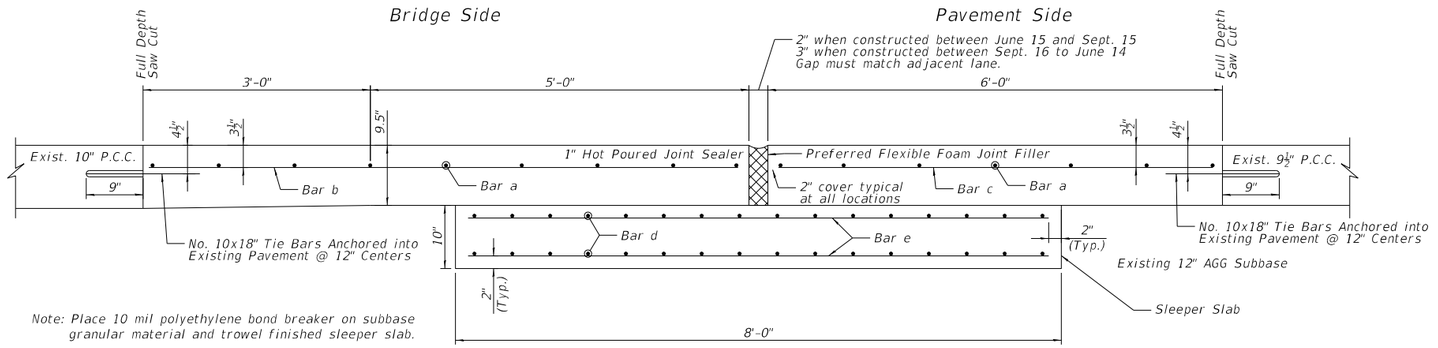
STRUCTURAL STEEL
BRIDGE OVER WALNUT STREET
CITY OF SPRINGFIELD
F.A.P. ROUTE 67 (MADISON STREET)
SECTION 107 Z HB-1
SANGAMON COUNTY
STATION 41+51.53

DESIGNED - ATH	EXAMINED	DATE - FEBRUARY 08, 2022	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - VHV	ENGINEER OF STRUCTURAL SERVICES		
DRAWN - Venkat Ramana Reddy	PASSED	REVISED -	
CHECKED - ATH VHV	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -	

EXISTING PLAN SHEET - FOR INFORMATION ONLY
SN 084-0183
SHEET NO. 9 OF 9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	-	SANGAMON	-	-
		CONTRACT NO. 72M29		
		ILLINOIS FED. AID PROJECT		

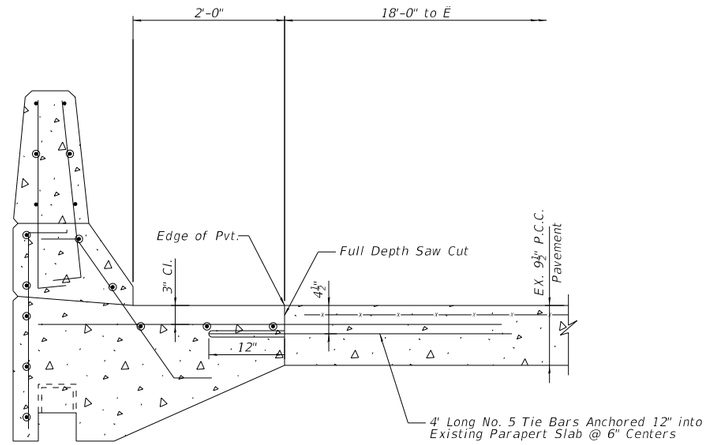
72M29 Expansion Joint Replacment



Note: Place 10 mil polyethylene bond breaker on subbase granular material and trowel finished sleeper slab.

Bar a	11'-8"	#6 @ 12" centers	16 Bars per Lane
Bar b	7'-8"	#6 @ 6" centers	13 Bars per Lane
Bar c	5'-8"	#6 @ 6" centers	13 Bars per Lane
Bar d	11'-8"	#5 @ 6" centers	34 Bars per Lane
Bar e	7'-8"	#4 @ 12" centers	13 Bars per Lane

72M29 Detail Adjacent to Parapet Removal Plan



PARAPET SECTION

USER NAME = milesra	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 2/11/2022	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

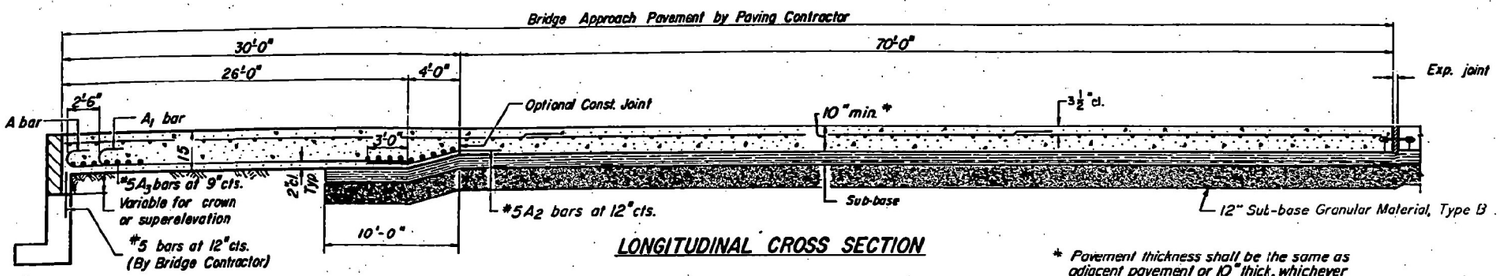
EXPANSION JOINT REPLACEMENT DETAIL

SCALE: N/A | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(107Z) BDR-1	SANGAMON	24	23
		CONTRACT NO. 72M29		
	ILLINOIS	FED. AID PROJECT		

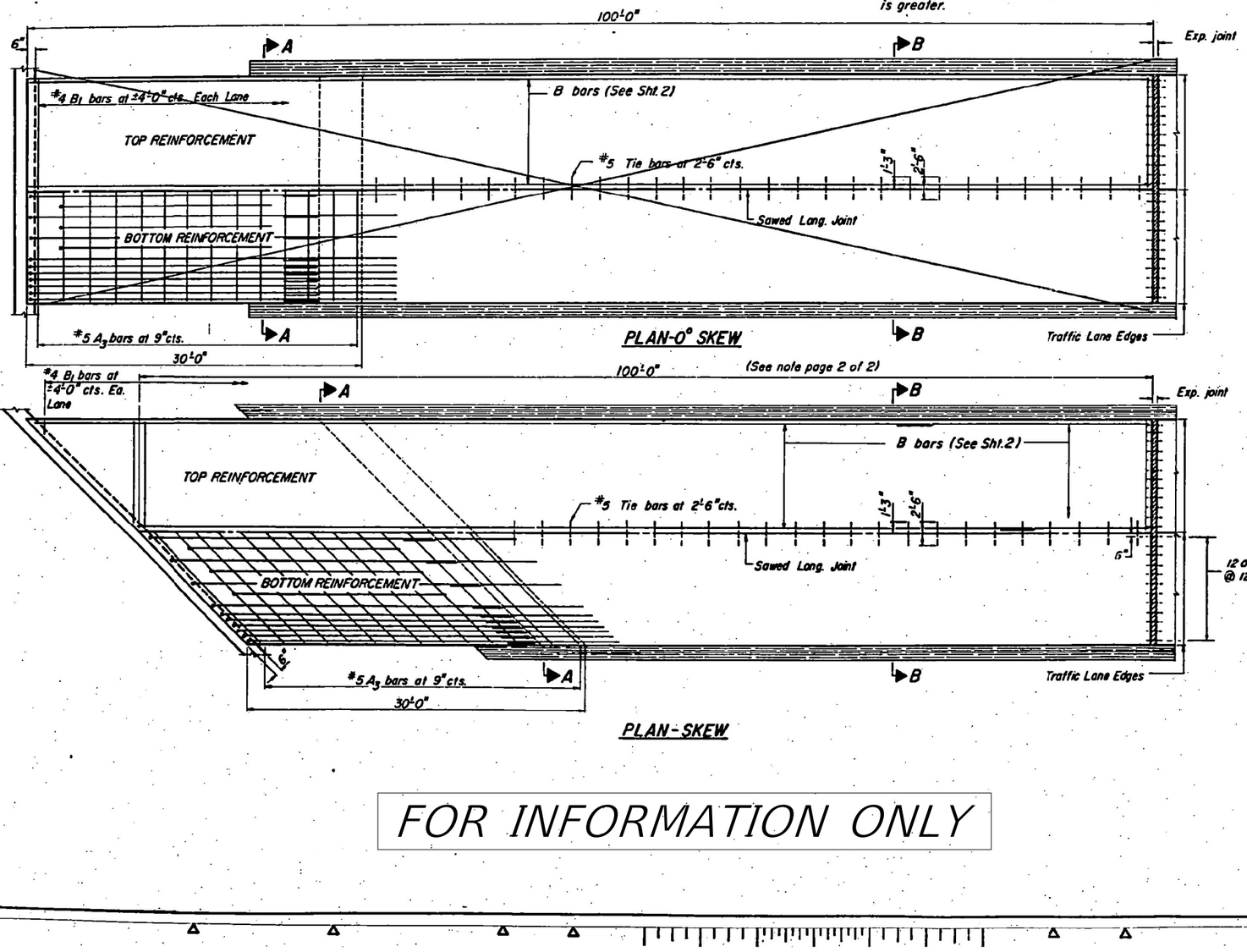
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 67	107Z-6 BDR-1	Sangamon	95	43A

Bridge Approach Pavement by Paving Contractor



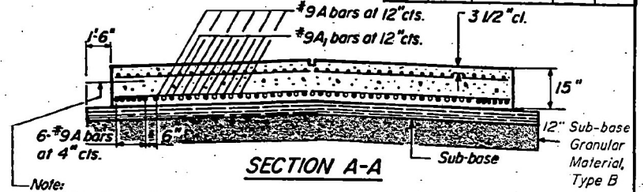
LONGITUDINAL CROSS SECTION

* Pavement thickness shall be the same as adjacent pavement or 10" thick, whichever is greater.



PLAN-0° SKEW

PLAN-SKEW

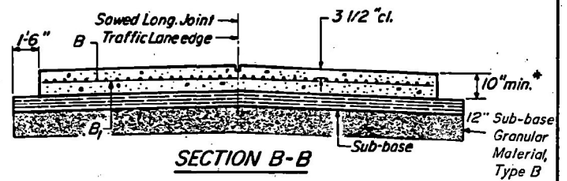


SECTION A-A

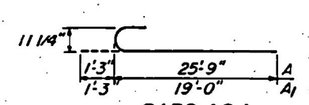
Note:

When the road plans show curb and gutter or bridge approach shoulder pavement adjacent to approach slabs, the tie bars shall be as specified on the appropriate standard. The cost of these tie bars will be included in the contract unit price for the adjacent item.

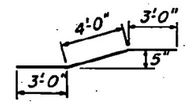
Transitions for curb and gutter shall be as shown on the plans.



SECTION B-B



BARS A & A1



BAR A2

GENERAL NOTES

With the approval of the Engineer the contractor will be permitted to reduce the paving widths by substituting a Keyed Longitudinal Construction Joint with tie bars in lieu of the Specified Sawed Longitudinal Joint.

~~When Bridge Approach Pavement is constructed adjacent to flexible pavement, the expansion joint and dowel bars are not required.~~

Pavement joints shall be as detailed on Standard 2323.

The Contractor at his option may place the subbase monolithic with the bridge approach pavement. When this option is used, the subbase may be constructed to the same width as the pavement, and the reinforcement shall be in accordance to the total pavement and subbase thickness.

The cost of tie bars, expansion joint and sub-base shall be included in the cost of Bridge Approach Pavement.

The sub-base shall be of the same material and thickness as under adjacent pavement. When sub-base is not required under adjacent pavement, the sub-base shall be either 6" granular or 4" stabilized material.

FOR INFORMATION ONLY

BRIDGE APPROACH PAVEMENT

(SPECIAL)

(Sheet 1 of 2)

USER NAME = milesra	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 2.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 2/11/2022	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE APPROACH PAVEMENT (SPECIAL)

SCALE: N/A | SHEET 1 OF 1 SHEETS | STA. N/A | TO STA. N/A

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(107Z) BDR-1	SANGAMON	24	24
		CONTRACT NO. 72M29		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
FILE NAME: pw:\\dot-pw.bentley.com:PWIDOT\Documents\IDOT Offices\District 6\Projects\D672M29\CADData\CADSheets\D672M29-pint-details.dgn