

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86) BDR-1, BJR-2	CASS	13	1
		ILLINOIS	CONTRACT NO. 72K15	

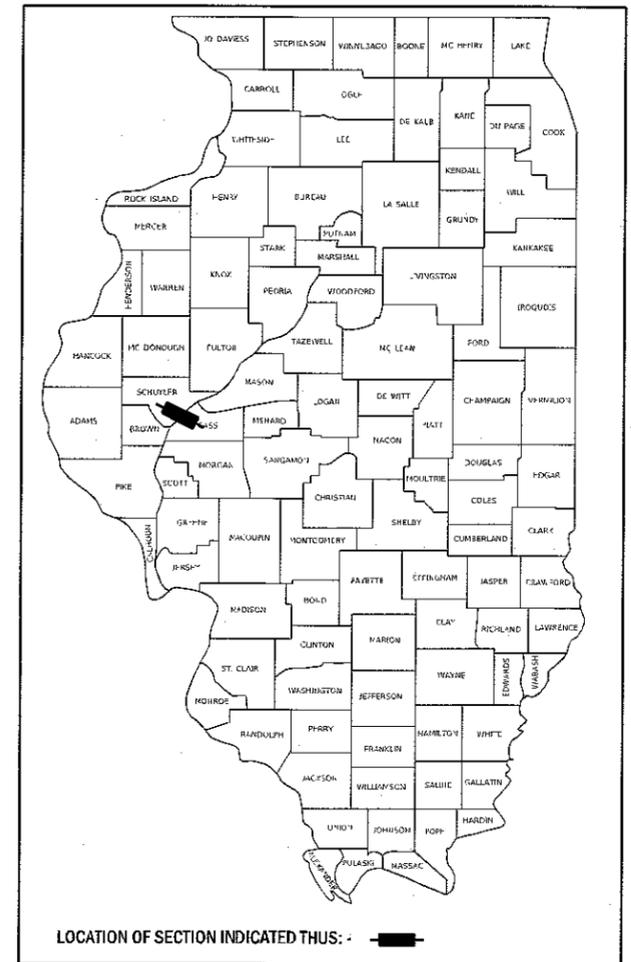
FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROPOSED BRIDGE MAINTENANCE

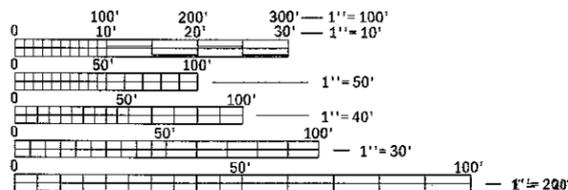
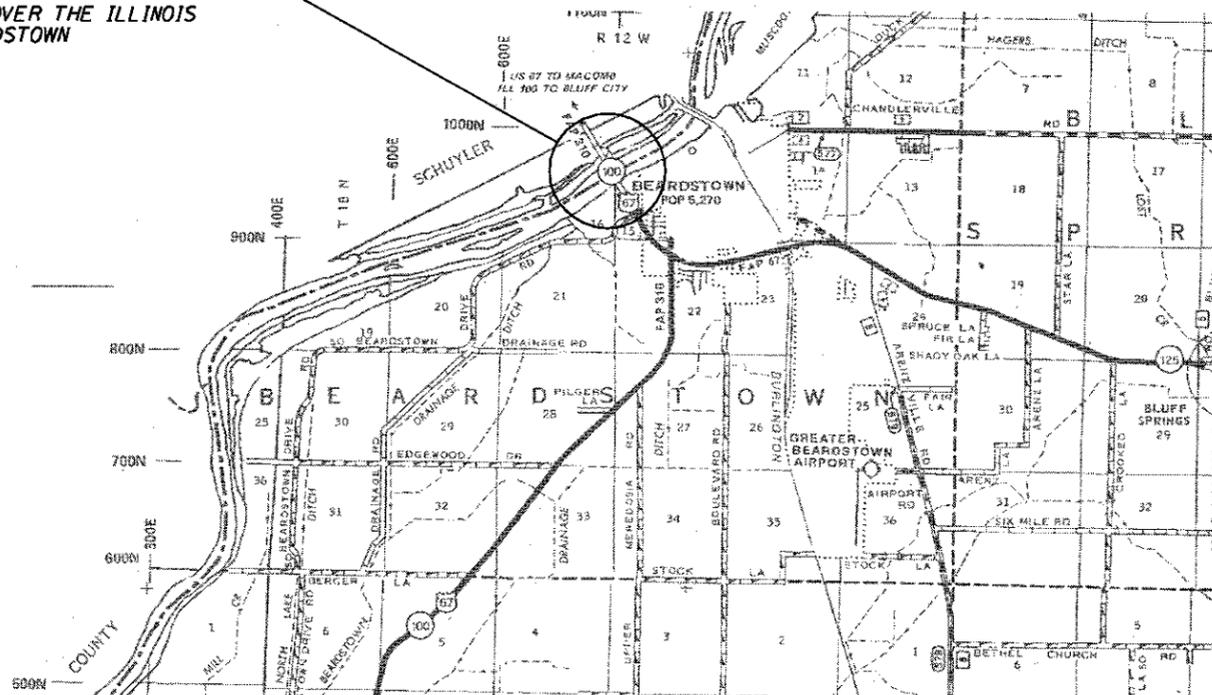
FAP ROUTE 310 (US 67/IL 100)
SECTION (86) BDR-1, BJR-2
PROJECT NHPP-C2QN(008)
BRIDGE DECK REPAIRS
CASS COUNTY

C-96-079-17

D-96-079-17



PROJECT LOCATION
SN 009-0001
US 67 / IL 100 OVER THE ILLINOIS
RIVER AT BEARDSTOWN



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 EXCAVATION
1-800-892-0123
OR 811

BRIDGE MAINTENANCE ENGINEER: BRANDON DUDLEY (217) 785-9290

GROSS LENGTH = 3,655 FT. = 0.69 MILE
NET LENGTH = 3,655 FT. = 0.69 MILE

CONTRACT NO. 72K15

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED *29 August 2017*

[Signature]
REGIONAL ENGINEER

[Signature] 2017
Maurice M. Addis, PE
ENGINEER OF DESIGN AND ENVIRONMENT

[Signature] 2017
DIRECTOR OF PROGRAM DEVELOPMENT

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OF THE STATE OF ILLINOIS

INDEX OF SHEETS

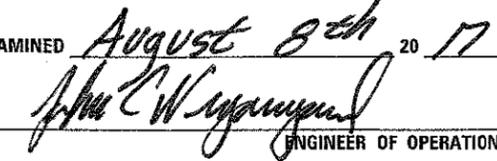
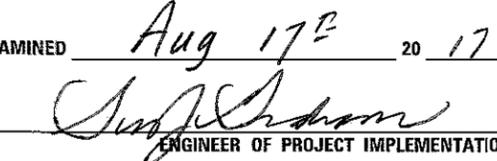
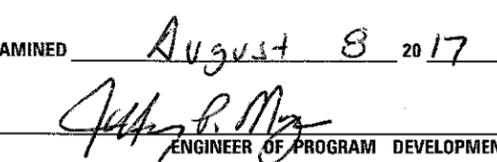
- 1 COVER SHEET
- 2 INDEX OF SHEETS, GENERAL NOTES, & SIGNATURES
- 3 SUMMARY OF QUANTITIES
- 4-6 TRAFFIC CONTROL DETAILS
- 7 WIDTH RESTRICTION SIGNING DETAIL
- 8-13 BRIDGE PLANS

HIGHWAY STANDARDS

- 000001-06
- 001001-02
- 001006
- 701001-02
- 701006-05
- 701201-04
- 701321-16
- 704001-08
- 701901-06
- 782006

GENERAL NOTES:

ESTIMATED PATCHING SCHEDULE	
SPAN	DECK SLAB REPAIR (PARTIAL) (SQ YD)
1	26
2	29
3	41
4	43
5	14
6	56
7	45
8	58
9	127
10	241
11	91
12	119
13	68
14	124
15	125
16	67
17	26
TOTAL	1300

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6	
EXAMINED	<i>August 8th 20 17</i>  ENGINEER OF OPERATIONS
EXAMINED	<i>Aug 17^E 20 17</i>  ENGINEER OF PROJECT IMPLEMENTATION
EXAMINED	<i>August 8 20 17</i>  ENGINEER OF PROGRAM DEVELOPMENT

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	DRAWN -	REVISED -
	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, STANDARDS, GENERAL
NOTES, SCHEDULES OF QUANTITIES, & SIGNATURES**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86) BDR-1, BJR-2	CASS	13	2
CONTRACT NO. 72K15				
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	0-01288-6001	
				80% FED. 20% STATE	BRIDGE 0047 URBAN
50102400	CONCRETE REMOVAL	CU YD	14.1	14.1	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	15.0	15.0	
50300300	PROTECTIVE COAT	SQ YD	43	43	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2250	2250	
50800515	BAR SPLICERS	EACH	60	60	
52000110	PREFORMED JOINT STRIP SEAL	FOOT	99	99	
67100100	MOBILIZATION	L SUM	1	1	
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	750	750	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	750	750	
70600240	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 2	EACH	2	2	
70600340	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 2	EACH	2	2	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	0-01288-6001	
				80% FED. 20% STATE	BRIDGE 0047 URBAN
X7015005	CHANGEABLE MESSAGE SIGN	CAL DAY	200	200	
X7200201	WIDTH RESTRICTION SIGNING	L SUM	1	1	
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	5	5	
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	5	5	
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	1300	1300	

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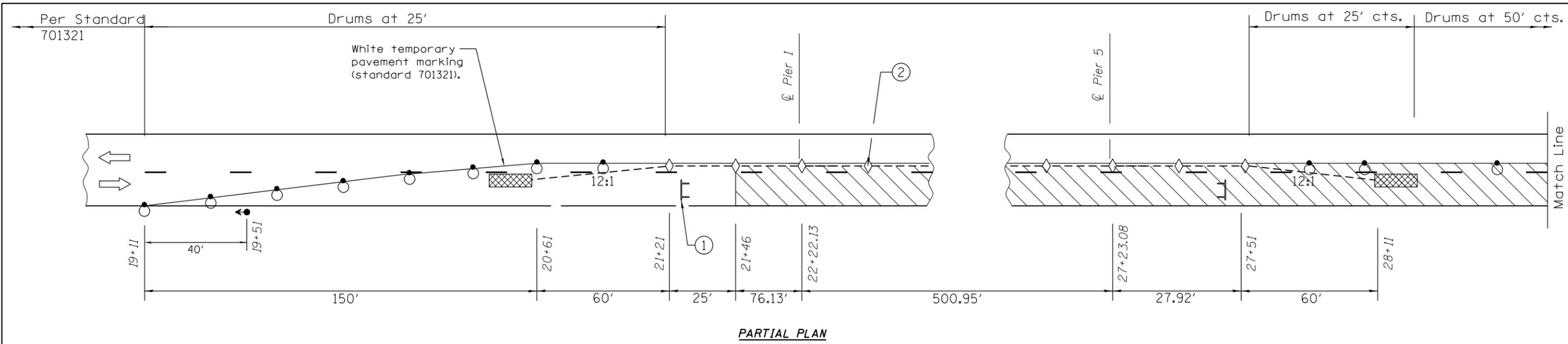
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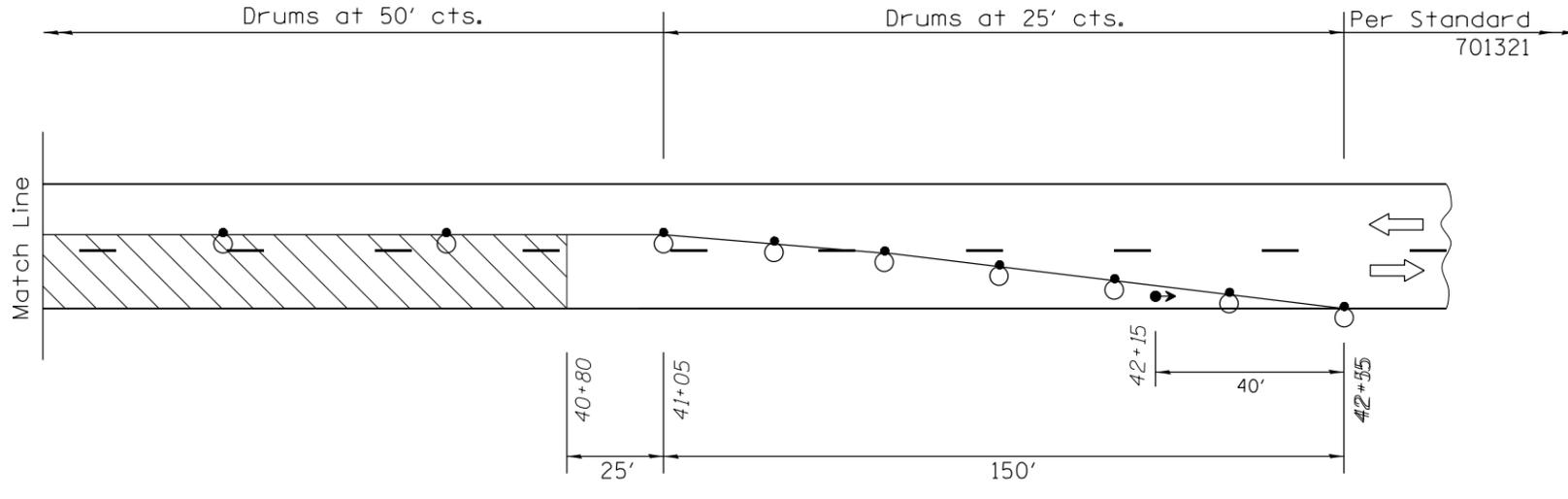
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES			
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	STA.	TO	STA.

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CONTRACT NO. 72K15				
ILLINOIS FED. AID PROJECT				

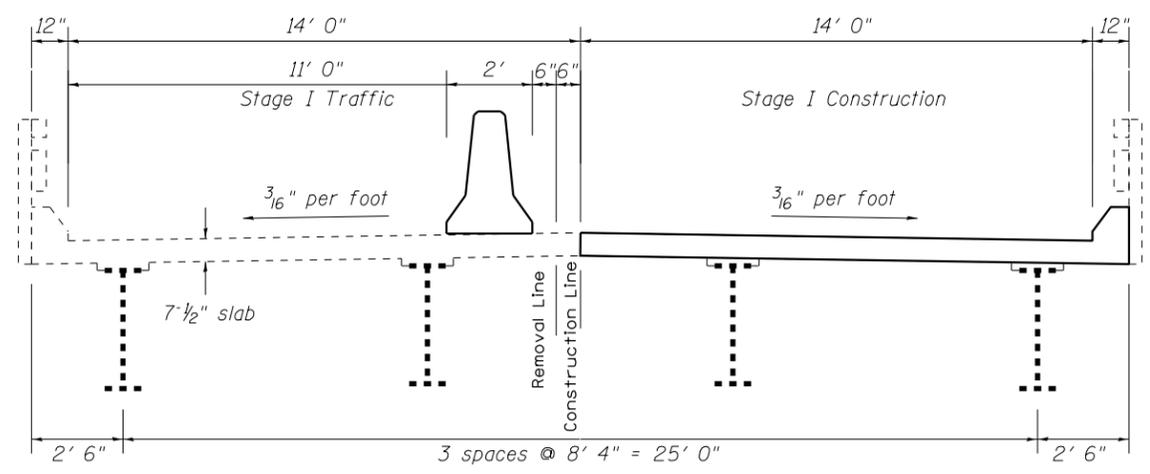


PARTIAL PLAN



PARTIAL PLAN

- ① Type III barricade to be placed when no work is being performed.
- ② Barrier wall/guardrail markers at 25' (7.6 m) cts. See Standards 704001 & 635011.



CROSS SECTION AT PIER 1, 3, & 5 JOINTS (LOOKING SOUTH)

Notes:

- Refer to standard 701321 for traffic control symbols.
- Stop bars shall be placed approximately 150' from signals at each location. Any costs associated with extending signal detection shall be included in the bid price for TRAFFIC CONTROL AND PROTECTION, STANDARD 701321.
- Costs associated with reversing signal heads to comply with the planned traffic control layout shall be included in the bid price for TRAFFIC CONTROL AND PROTECTION, STANDARD 701321.
- The stage sequencing may be altered with the approval of the engineer.
- Sign spacing shown in Standard 701321 may be altered to allow sign placement off the bridge.

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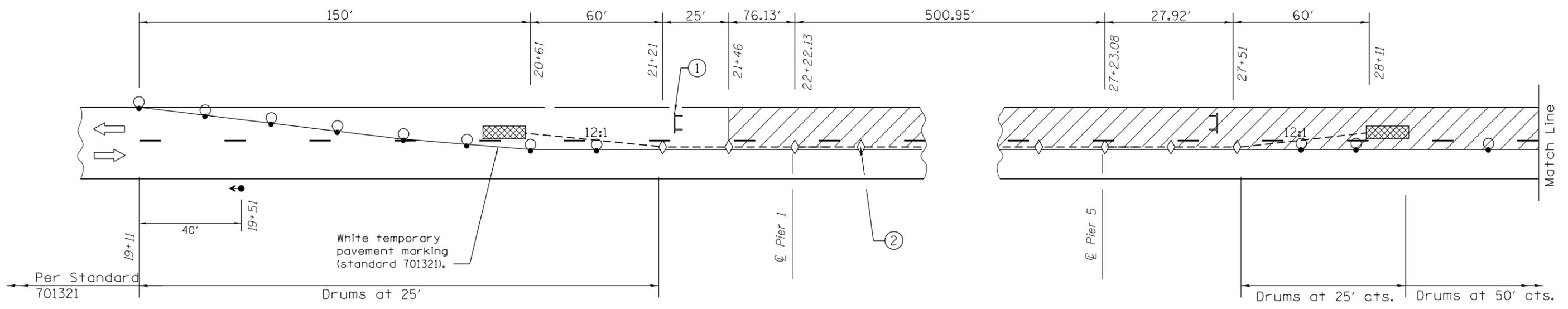
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

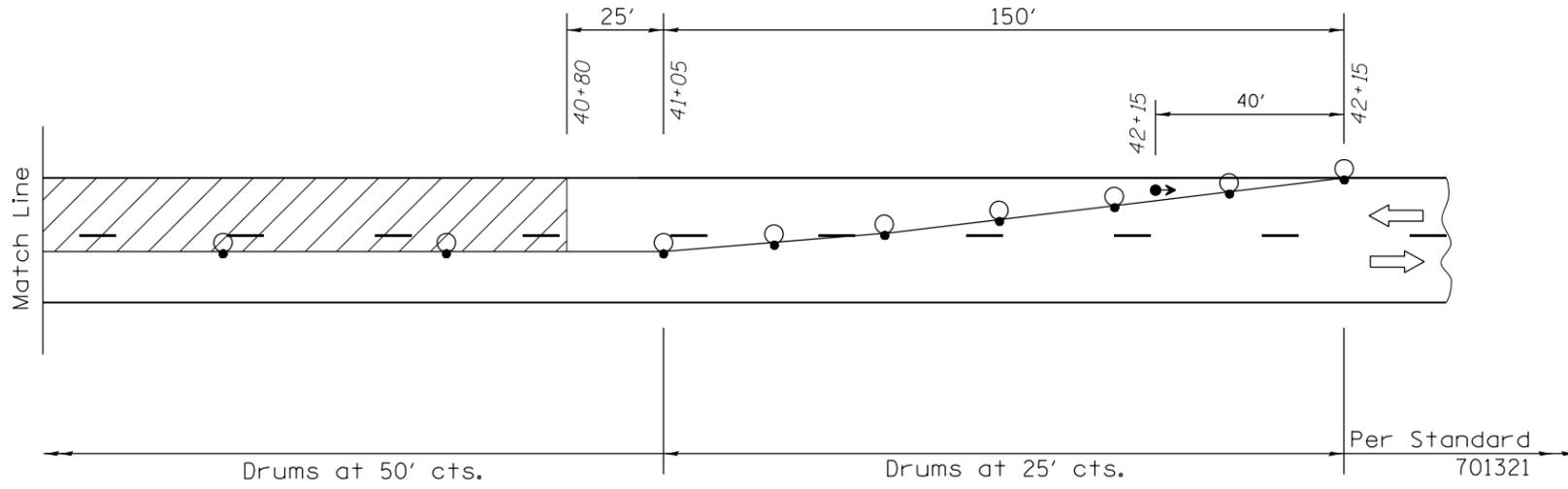
**TRAFFIC CONTROL DETAIL
STAGE I**

SCALE: SHEET OF SHEETS STA. TO STA.

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CONTRACT NO. 72K15				
ILLINOIS FED. AID PROJECT				

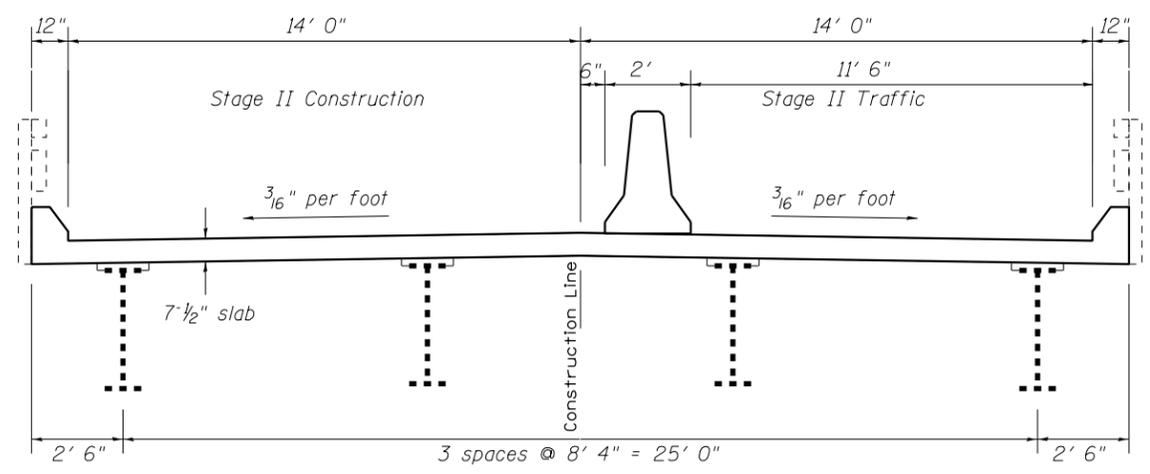


PARTIAL PLAN



PARTIAL PLAN

- ① Type III barricade to be placed when no work is being performed.
- ② Barrier wall/guardrail markers at 25' (7.6 m) cts. See Standards 704001 & 635011.



CROSS SECTION AT PIER 1, 3, & 5 JOINTS (LOOKING SOUTH)

Notes:

- Refer to standard 701321 for traffic control symbols.
- Stop bars shall be placed approximately 150' from signals at each location. Any costs associated with extending signal detection shall be included in the bid price for TRAFFIC CONTROL AND PROTECTION, STANDARD 701321.
- Costs associated with reversing signal heads to comply with the planned traffic control layout shall be included in the bid price for TRAFFIC CONTROL AND PROTECTION, STANDARD 701321.
- The stage sequencing may be altered with the approval of the engineer.
- Sign spacing shown in Standard 701321 may be altered to allow sign placement off the bridge.

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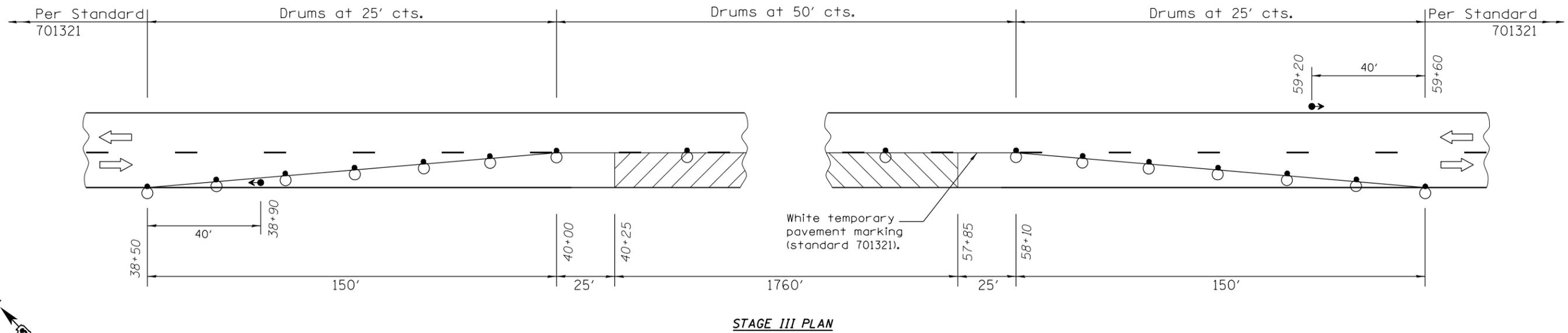
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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

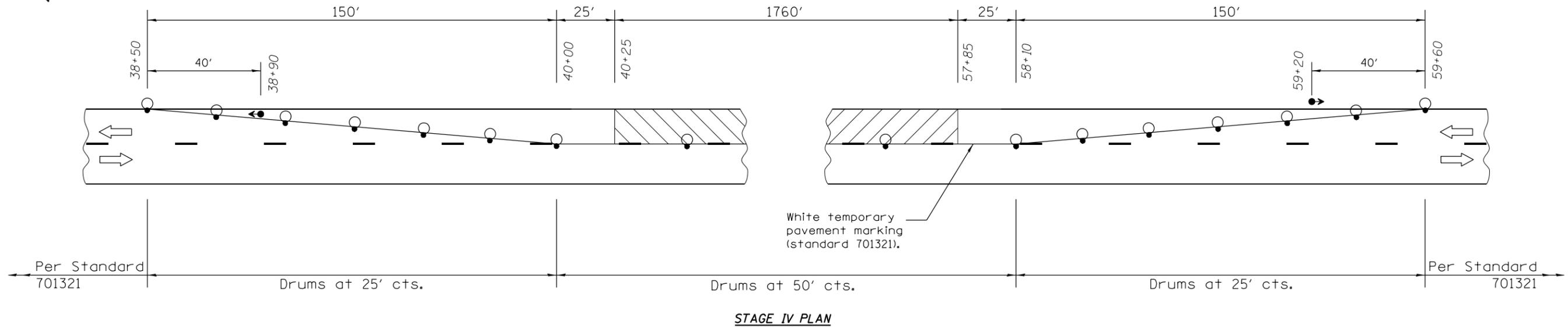
**TRAFFIC CONTROL DETAIL
STAGE II**

SCALE: SHEET OF SHEETS STA. TO STA.

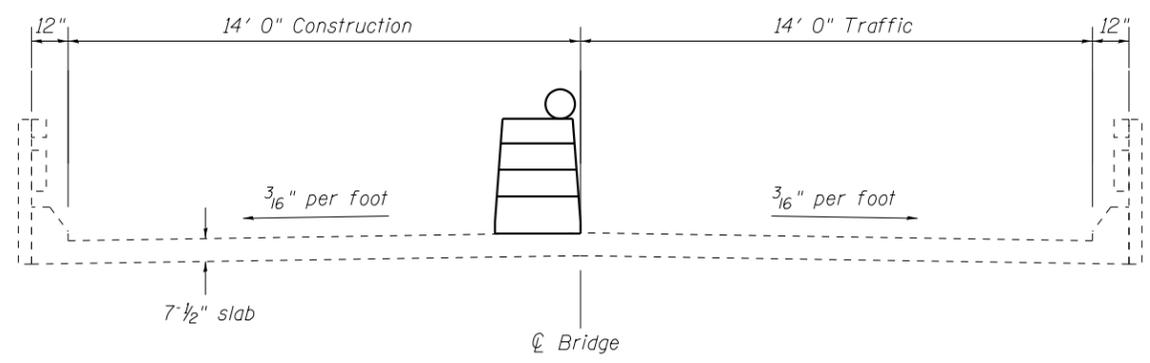
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310	(86) BDR-1, BJR-2	CASS	13	5
CONTRACT NO. 72K15				
ILLINOIS FED. AID PROJECT				



STAGE III PLAN



STAGE IV PLAN



TYPICAL CROSS SECTION - STAGES III & IV

Notes:

- Refer to standard 701321 for traffic control symbols.
- Stop bars shall be placed approximately 150' from signals at each location. Any costs associated with extending signal detection shall be included in the bid price for TRAFFIC CONTROL AND PROTECTION, STANDARD 701321.
- Costs associated with reversing signal heads to comply with the planned traffic control layout shall be included in the bid price for TRAFFIC CONTROL AND PROTECTION, STANDARD 701321.
- The stage sequencing may be altered with the approval of the engineer.
- Sign spacing shown in Standard 701321 may be altered to allow sign placement off the bridge.

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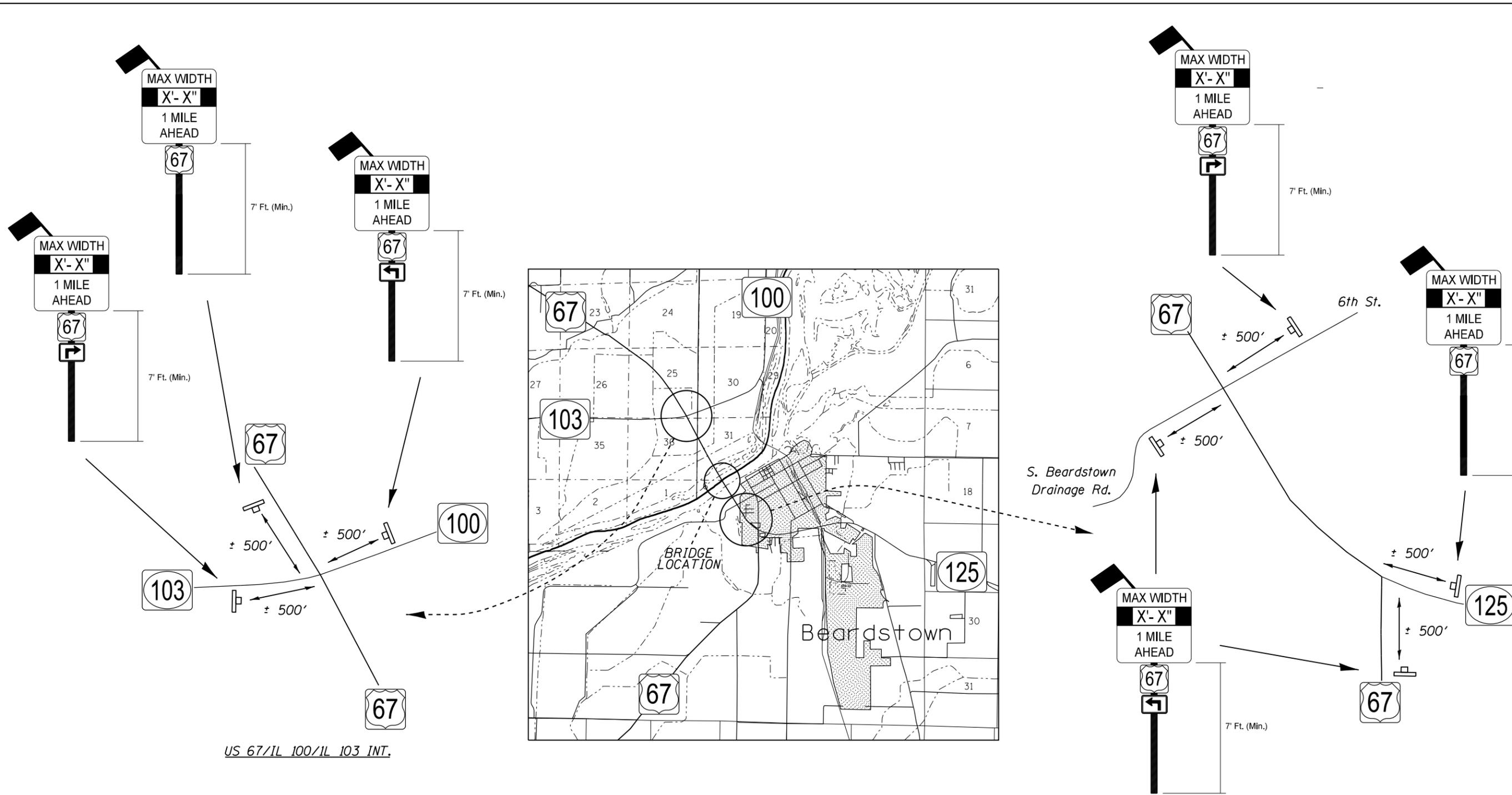
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAIL
STAGE III & IV

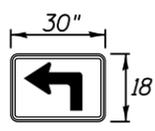
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CONTRACT NO. 72K15				
ILLINOIS FED. AID PROJECT				

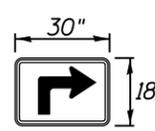


US 67/IL 100/IL 103 INT.

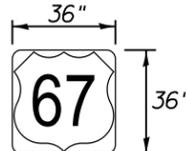
US 67/IL 125 & 6TH ST. INT.



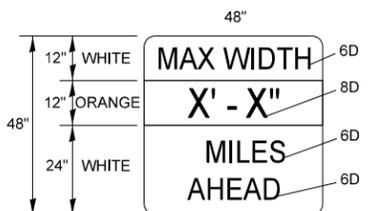
M5-1 (O)(L)



M5-1 (O)(R)



MI-4



W12-1 103 (48)

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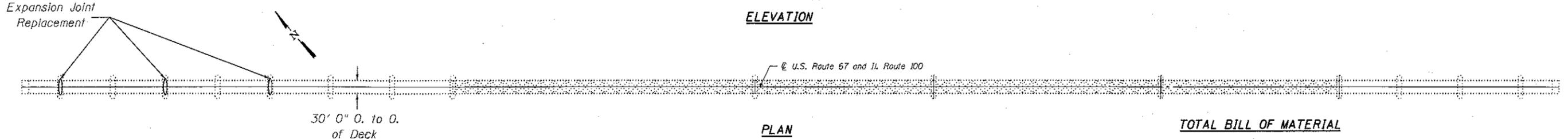
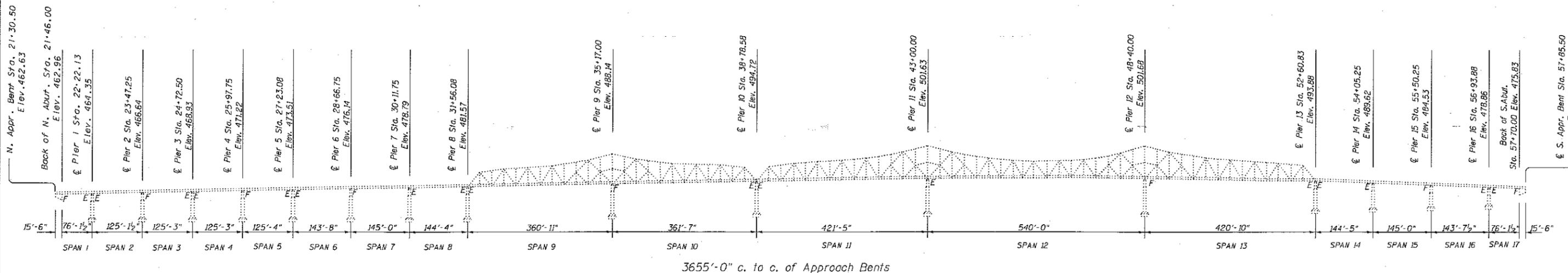
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

WIDTH RESTRICTION SIGNING DETAIL

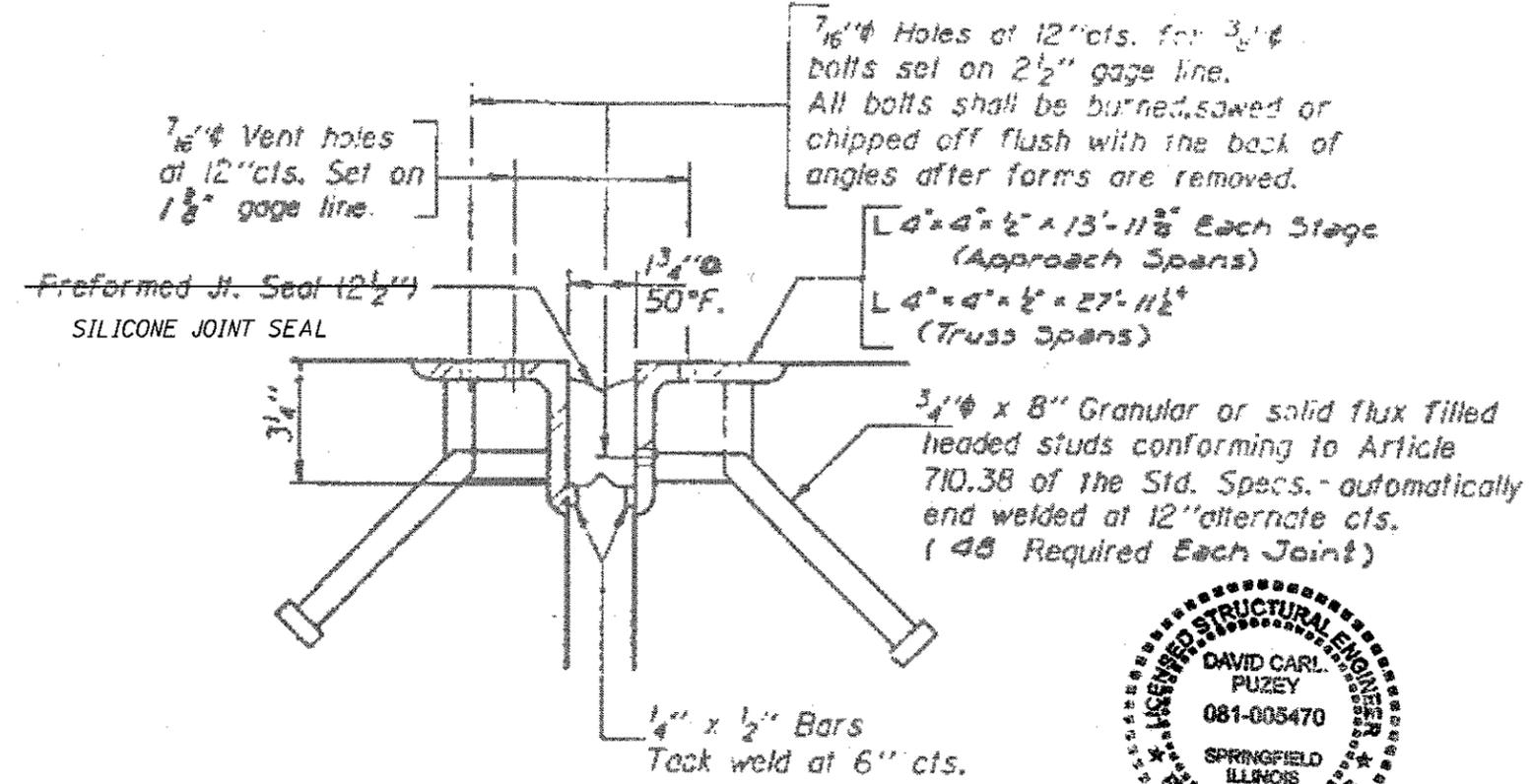
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310	(86) BDR-1, BJR-2	CASS	13	7
CONTRACT NO. 72K15				
ILLINOIS FED. AID PROJECT				



TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	14.1
Concrete Superstructure	Cu. Yd.	15.0
Bar Splicers	Each	60
Reinforcement Bars, Epoxy Coated	Pound	2250
Preformed Joint Strip Seal	Foot	99
Protective Coat	Sq. Yd.	43
Deck Slab Repair (Partial)	Sq. Yd.	1300
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	5
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	5



GENERAL NOTES:

- Only partial depth repairs are anticipated. However, nominal full depth repair quantities have been included for use in the event that removal operations break through the bottom of the deck.
- All full depth patches shall be covered by steel plates overnight, cost included in Deck Slab Repair (Full Depth).
- Deck Slab Repair (Partial) quantities were estimated from a deck survey conducted on 7/31/2017. Refer to the patching schedule for location breakdown. Patch locations shall be shown on the as-built plans.
- Reinforcement bars designated (E) shall be epoxy coated.
- 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 work, however, the Contractor will be paid for the quantity actually furnished based at the unit price bid for the work.
- 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.



David Carl Puzey 9/24/17
Expires 4/30/18

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

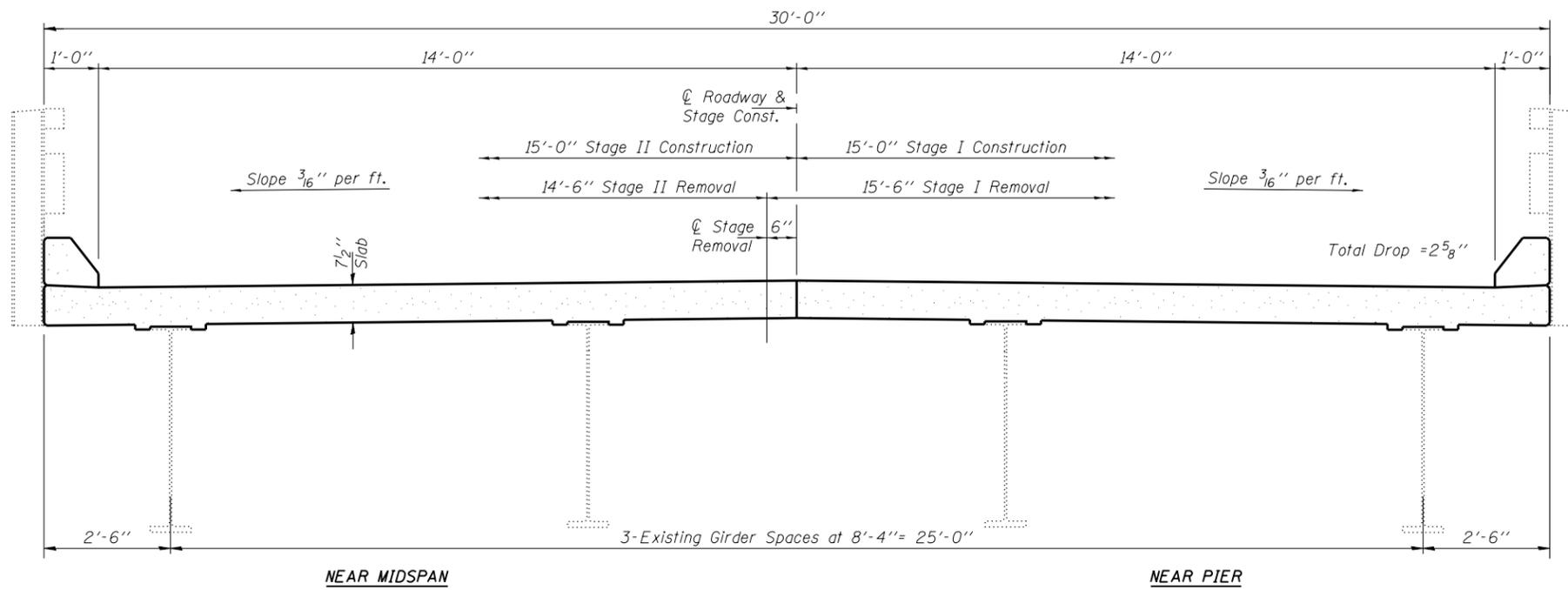
GENERAL PLAN & ELEVATION
SN 009-0001

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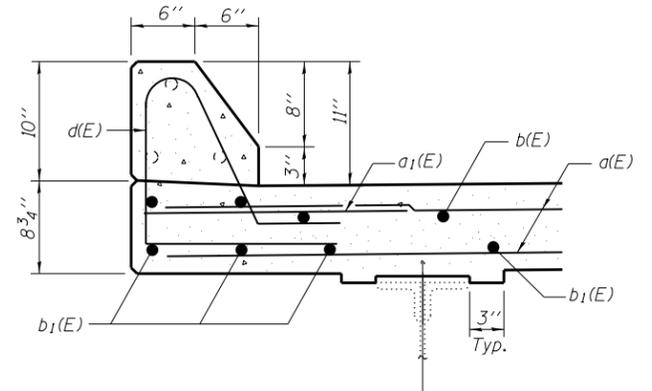
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310	(86) BDR-1, BJR-2	CASS	13	8
CONTRACT NO. 72K15				
ILLINOIS FED. AID PROJECT				

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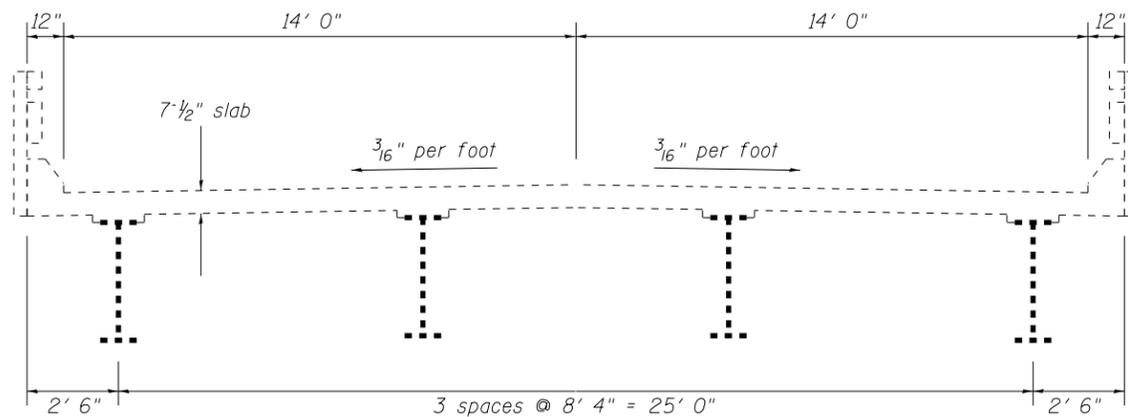


JOINT REPLACEMENT CROSS SECTION

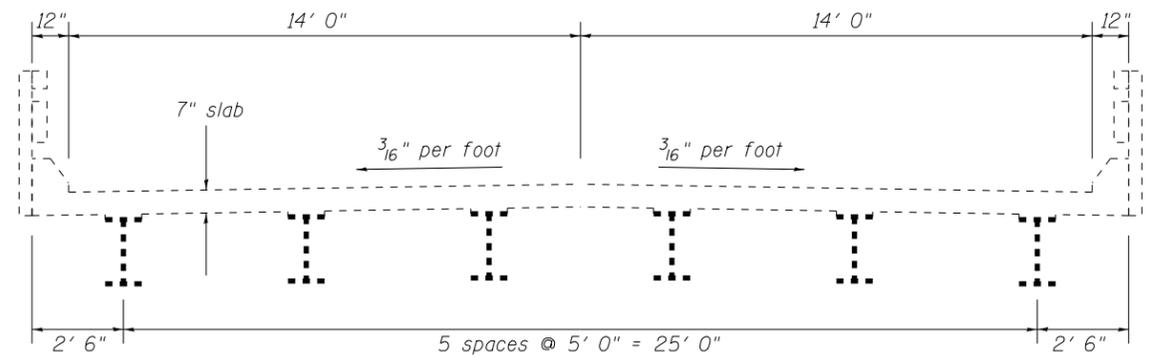
(Looking South)



JOINT REPLACEMENT SECTION THRU CURB



TYPICAL CROSS SECTION - SPANS 1-8 & 14-17



TYPICAL CROSS SECTION - SPANS 9-13

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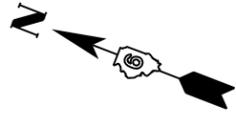
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

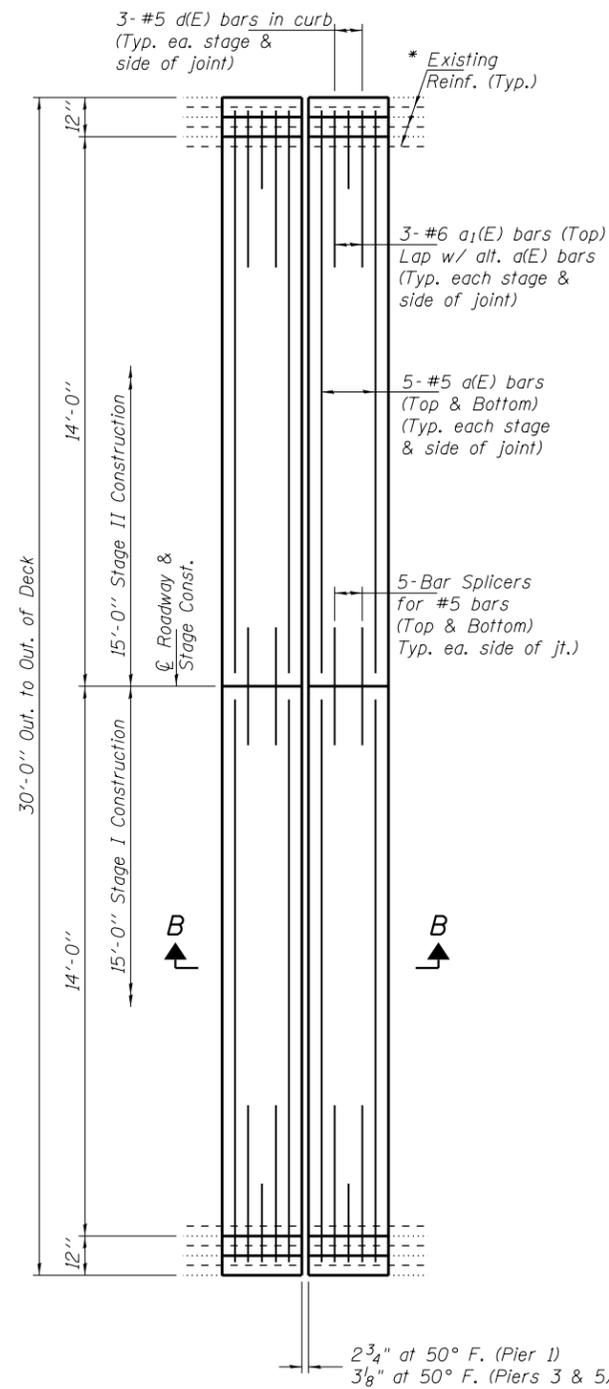
**BRIDGE CROSS SECTIONS
SN 009-0001**

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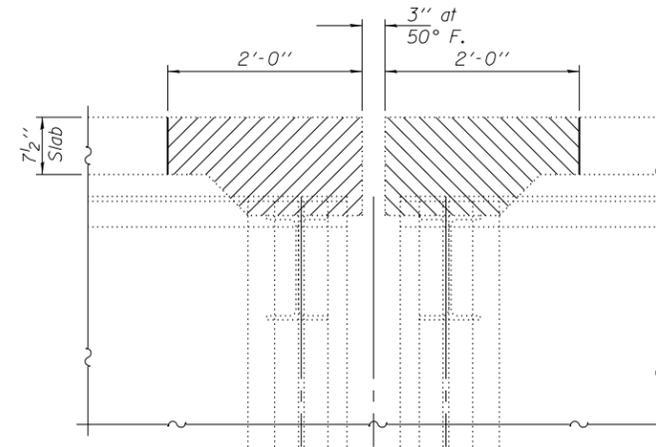
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310	(86) BDR-1, BJR-2	CASS	13	9
CONTRACT NO. 72K15				
ILLINOIS FED. AID PROJECT				



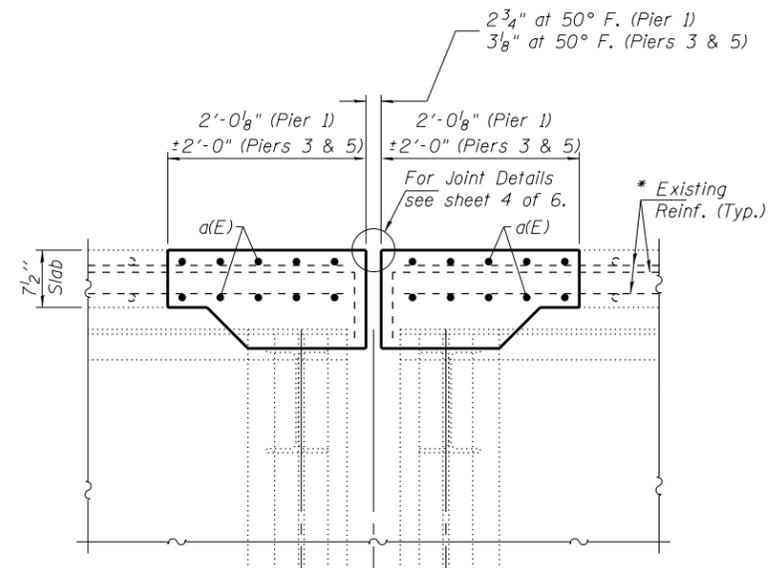
TYPICAL CONCRETE REMOVAL



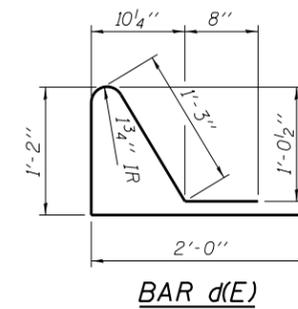
TYPICAL CONCRETE REPLACEMENT



SECTION A-A



SECTION B-B



BAR d(E)

BILL OF MATERIAL (3 JOINTS)

Bar	No.	Size	Length	Shape
a(E)	120	#5	14'-8"	—
a1(E)	36	#6	4'-0"	—
d(E)	36	#5	5'-2"	└
Concrete Removal			Cu. Yd.	14.1
Concrete Superstructure			Cu. Yd.	15.0
Bar Splicers			Each	60
Reinforcement Bars, Epoxy Coated			Pounds	2250

* 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.

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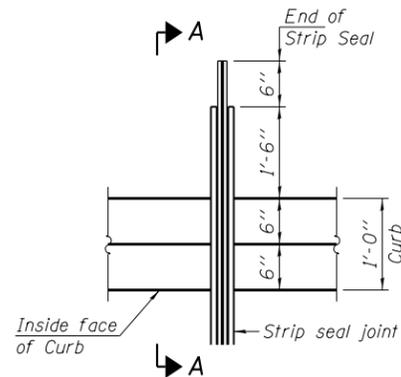
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PLOT DATE = 8/23/2017	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT DETAILS
SN 009-0001

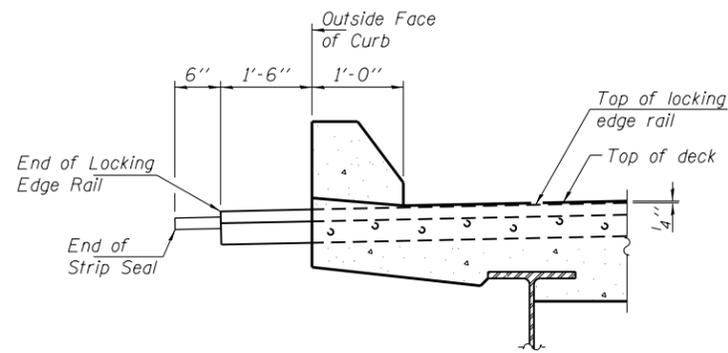
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 72K15				
ILLINOIS FED. AID PROJECT				

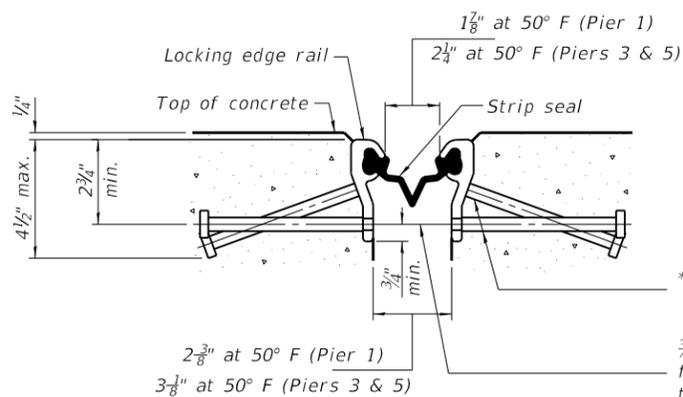


PLAN

The pay items for Preformed Joint Strip Seal shall be to the end of the steel plate. The 6" of rubber extending past the end of the steel shall be considered incidental and shall not be measured for payment.



SECTION A-A

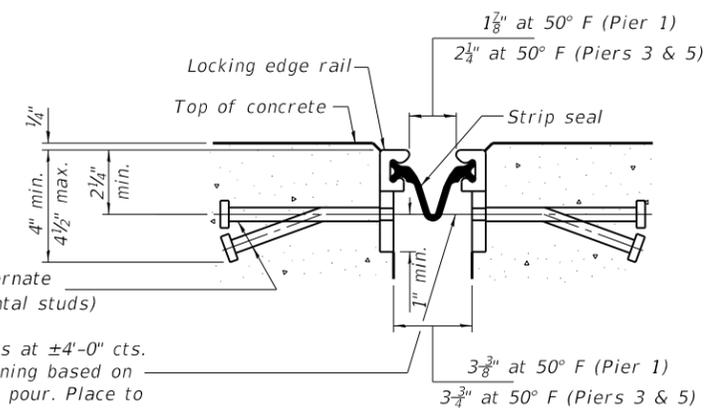


SHOWING ROLLED RAIL JOINT

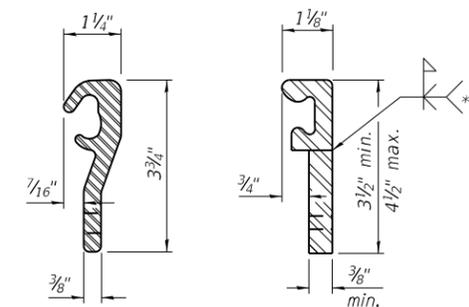
* 5/8" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)
 3/8" Ø threaded rods in 7/16" Ø holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION THROUGH JOINT

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

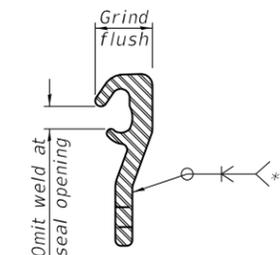


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	99

MODEL Default
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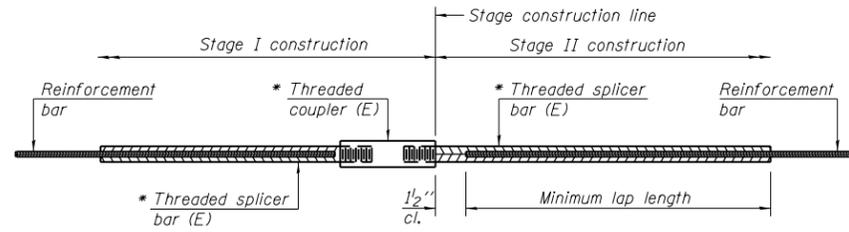
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PLOT DATE = 8/23/2017	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL
 SN 009-0001**

SCALE: SHEET 4 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86) BDR-1, BJR-2	CASS	13	11
CONTRACT NO. 72K15				
ILLINOIS FED. AID PROJECT				

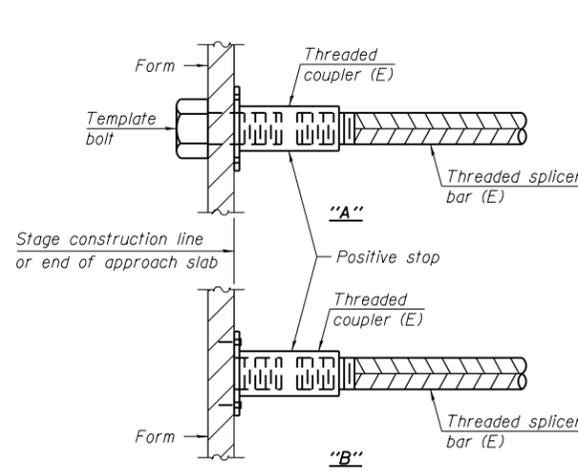


STANDARD BAR SPLICER ASSEMBLY

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

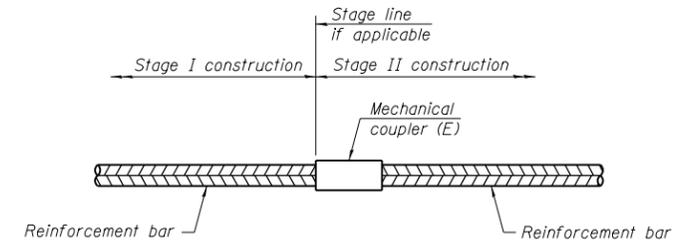
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Joints	#5	60	3' 6"



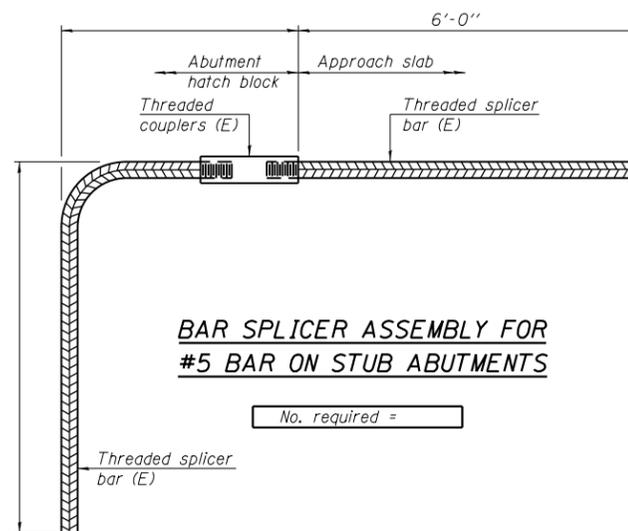
INSTALLATION AND SETTING METHODS

"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



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. 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

6-8-15

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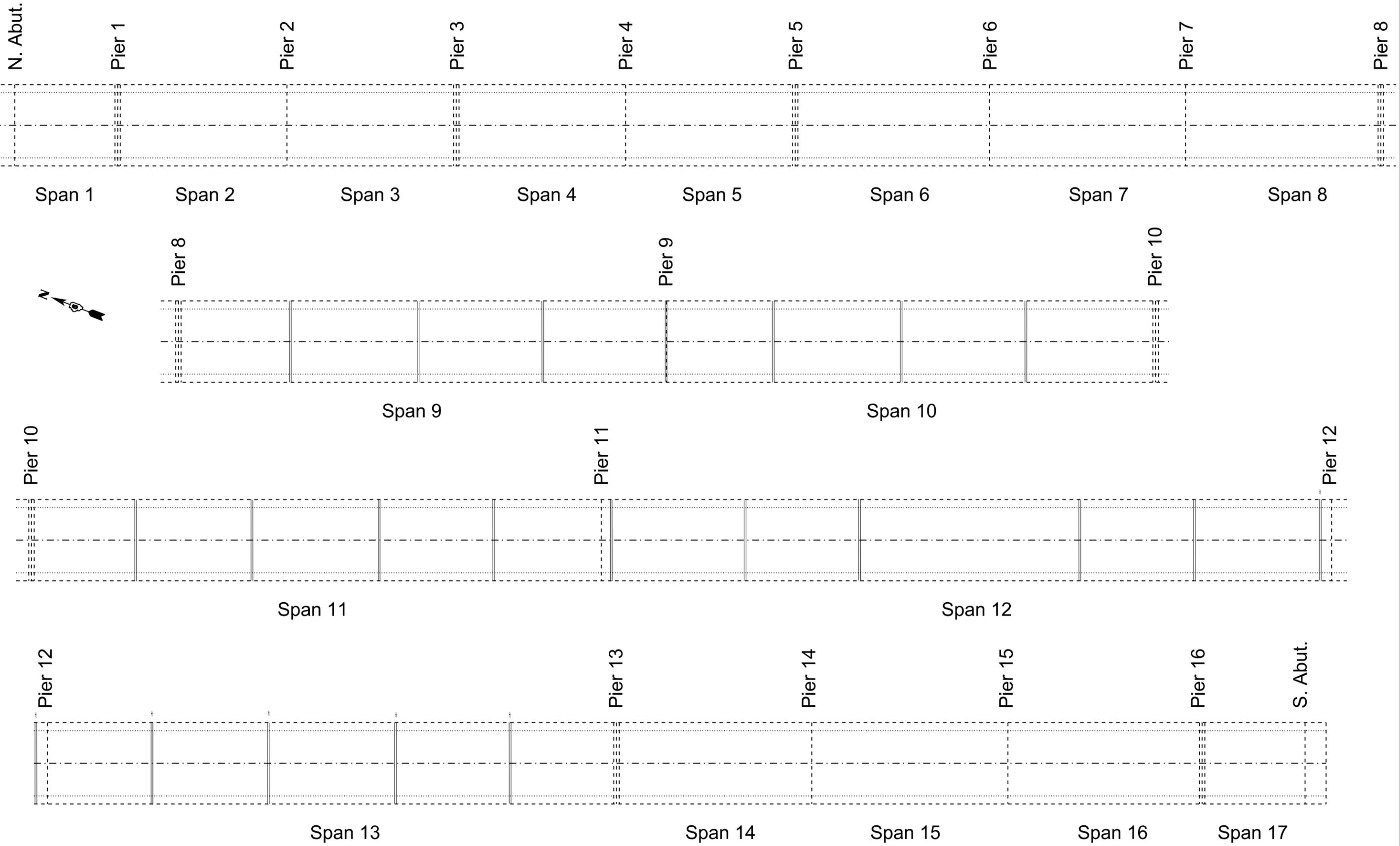
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PLOT DATE = 8/23/2017	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICERS
SN 009-0001

SCALE: SHEET 5 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86) BDR-1, BJR-2	CASS	13	12
CONTRACT NO. 72K15				
ILLINOIS FED. AID PROJECT				



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PLOT DATE = 8/23/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AS-BUILT PATCHING SKETCH
SN 009-0001

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	(86) BDR-1, BJR-2	CASS	13	13
CONTRACT NO. 72K15				
ILLINOIS		FED. AID PROJECT		