

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAP ROUTE 315 (US 136)
SECTION (30) BJR

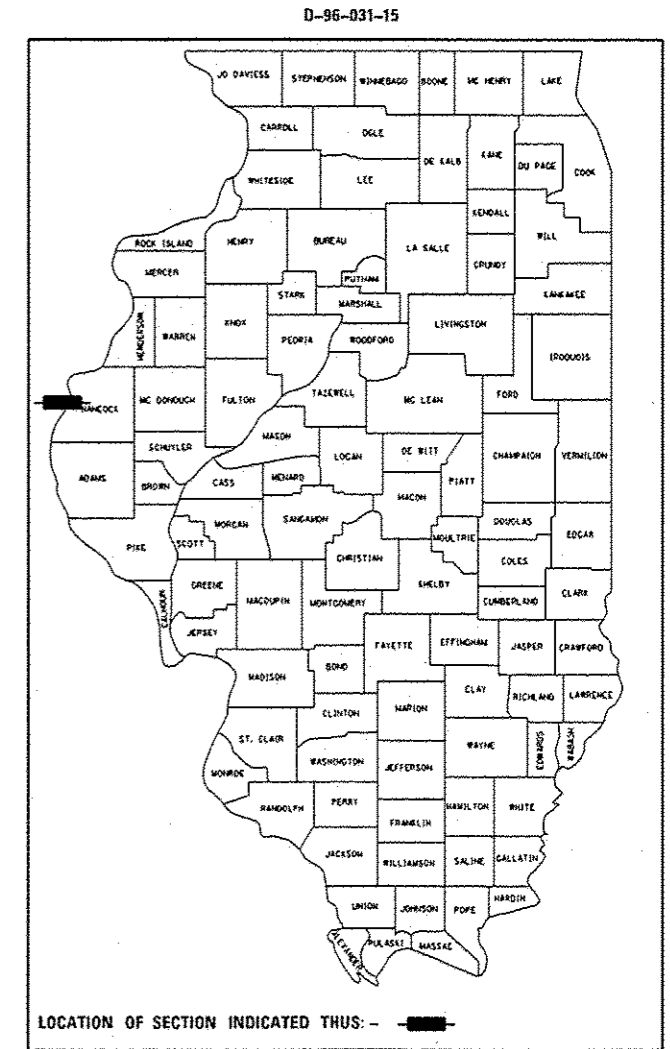
EXPANSION JOINT REPLACEMENT
HANCOCK COUNTY

C-96-031-15

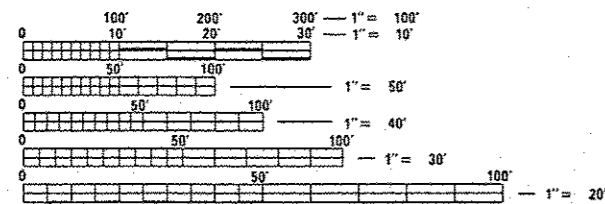
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	(30) BJR	HANCOCK	11	1
		ILLINOIS	CONTRACT NO. 72H56	

FOR INDEX OF SHEETS, SEE SHEET NO. 2.

PROJECT LOCATION
SN 034-0062
US 136 OVER THE MISSISSIPPI
RIVER AT KEOKUK, IOWA
N40.3918° W91.3790°

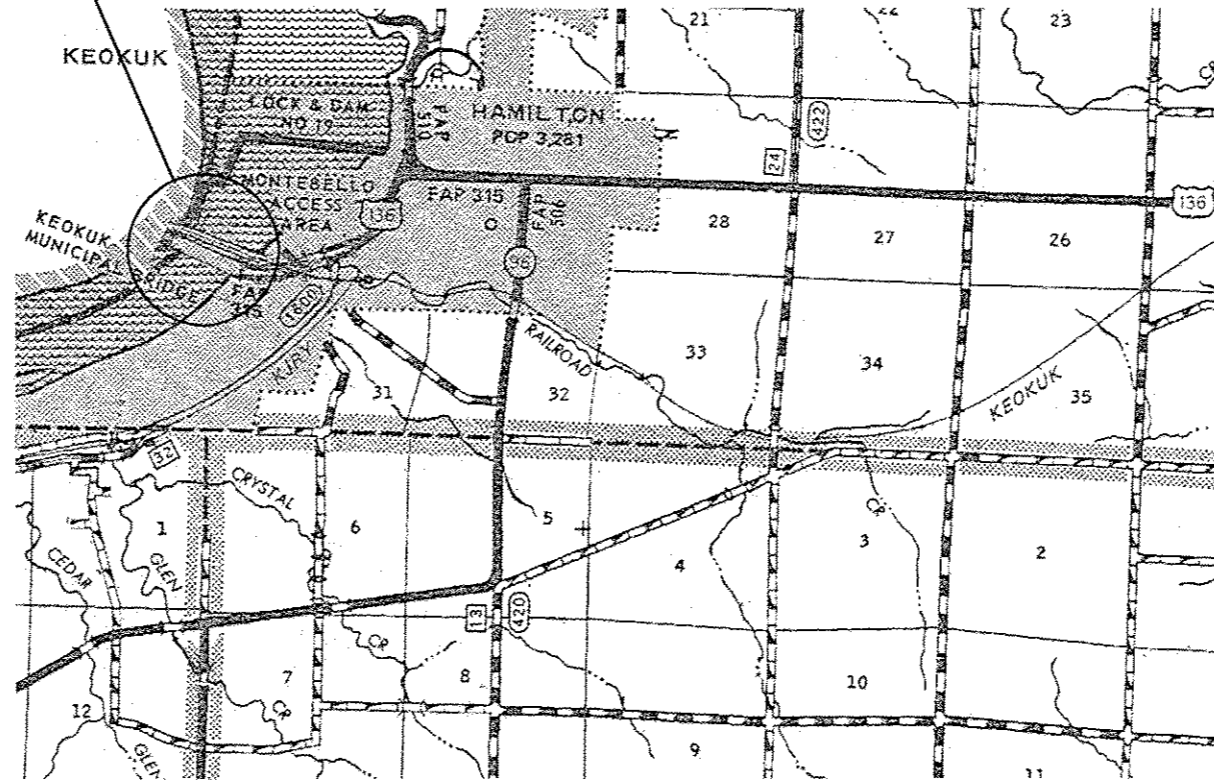


LOCATION OF SECTION INDICATED THUS: - [black rectangle] -



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 (ACTING): BRANDON DUDLEY - (217) 785-9290
BRIDGE INSPECTION ENGINEER: DAVE COPENBARGER - (217) 785-5306

NET LENGTH = 3,340 FT. = 0.63 MILE

CONTRACT NO. 72H56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED March 23 20 15
Roger Z. Prichard
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 8 20 15
John D. Baranzelli, PE
ENGINEER OF DESIGN AND ENVIRONMENT

May 8 20 15
Omec Osman, PE
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

INDEX OF SHEETS

- 1. COVER SHEET
- 2. INDEX, STANDARDS, SIGNATURES, & SUMMARY OF QUANTITIES
- 3-6 TRAFFIC CONTROL PLAN
- 7-11 BRIDGE PLANS

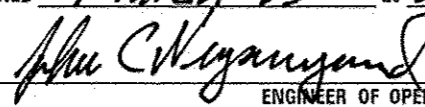
STANDARDS


- 000001-06
- 701101-04
- 701106-02
- 701421-07
- 701423-08
- 701601-09
- 701901-04
- 704001-07

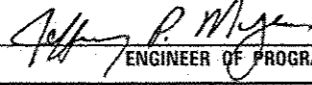
GENERAL NOTES:

PROTECTIVE SHIELD SHALL BE PLACED UNDER THE WEST ABUTMENT REMOVAL AREA AT THE DIRECTION OF THE ENGINEER.

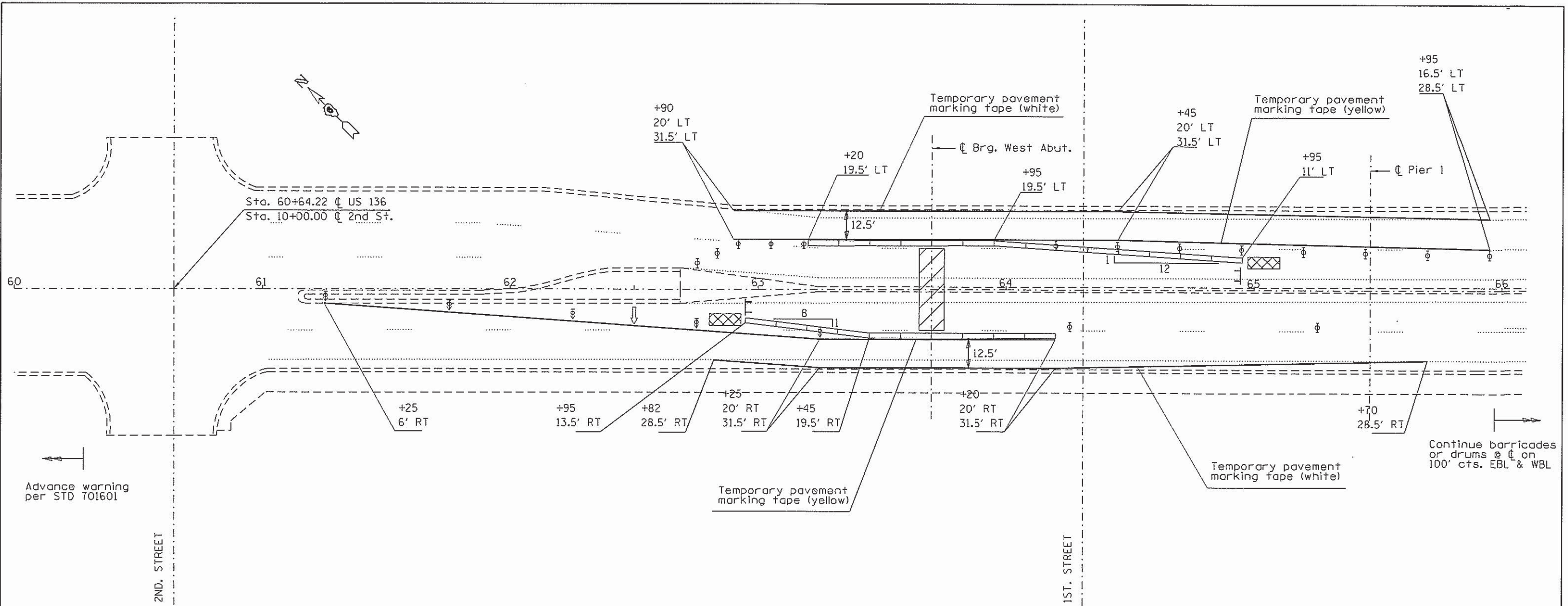
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6**

EXAMINED March 13th 20 15

 ENGINEER OF OPERATIONS

EXAMINED March 12 20 15

 ENGINEER OF PROJECT IMPLEMENTATION

EXAMINED March 16 20 15

 ENGINEER OF PROGRAM DEVELOPMENT

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				100% STATE
				ROADWAY
				0014 S.N. 034-0062
50102400	CONCRETE REMOVAL	CU YD	6.1	6.1
50157300	PROTECTIVE SHIELD	SO YD	30	30
50300255	CONCRETE SUPERSTRUCTURE	CU YD	6.2	6.2
50300300	PROTECTIVE COAT	SO YD	29.5	29.5
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	660	660
50800515	BAR SPLICERS	EACH	16	16
52000110	PREFORMED JOINT STRIP SEAL	FOOT	140	140
67100100	MOBILIZATION	L SUM	1	1
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6
70100310	TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	L SUM	1	1
70100325	TRAFFIC CONTROL AND PROTECTION, STANDARD 701423	EACH	2	2
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	8	8
70107006	PAVEMENT MARKING BLACKOUT TAPE, 6"	FOOT	2920	2920
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SO FT	4200	4200
70400100	TEMPORARY CONCRETE BARRIER	FOOT	800	800
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	800	800
70600240	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 2	EACH	4	4
70600340	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 2	EACH	4	4
XT200201	WIDTH RESTRICTION SIGNING	L SUM	1	1
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	2.7	2.7
20				










Advance warning per STD 701601

2ND. STREET

1ST. STREET

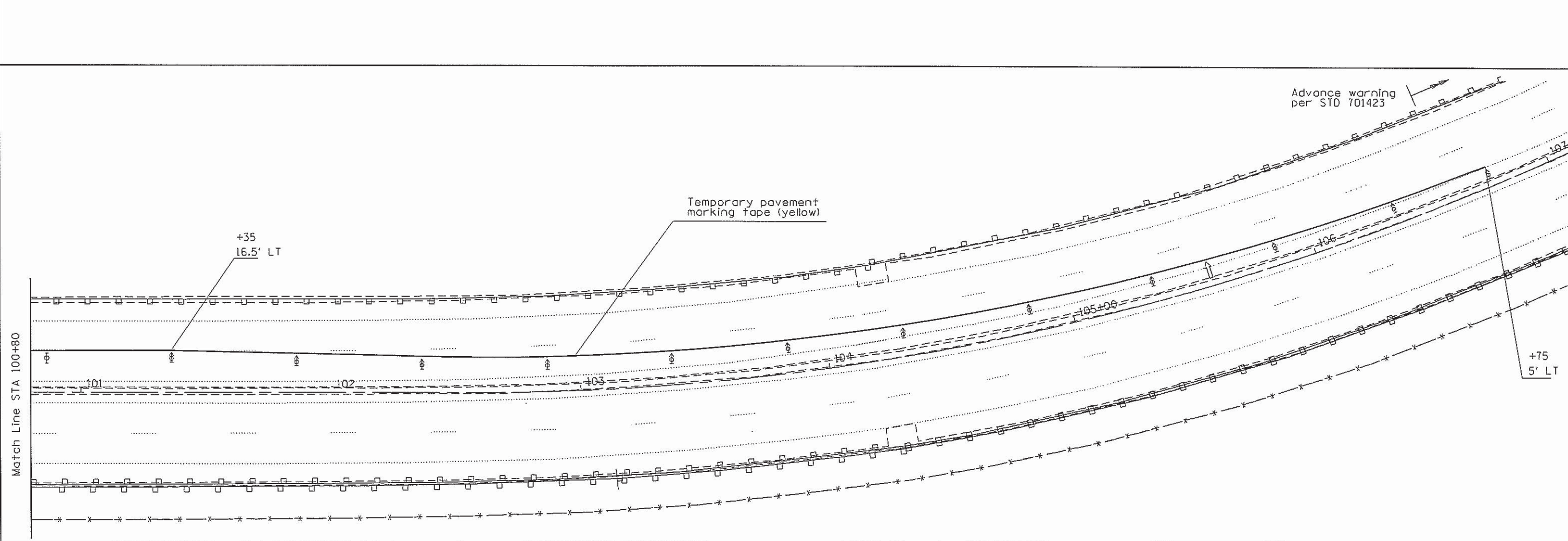
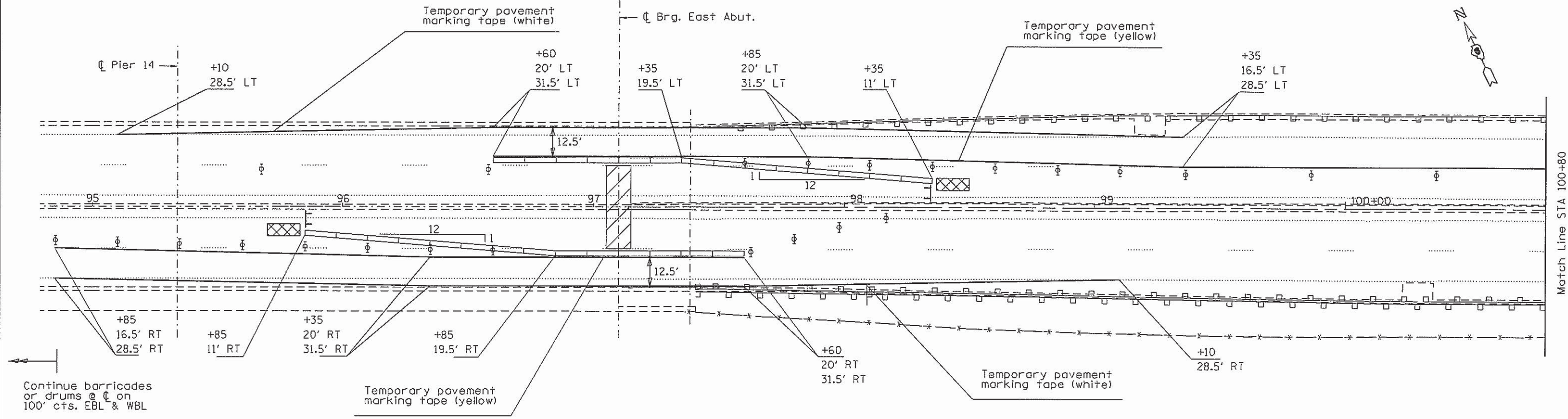
SYMBOLS

-  Arrow board
-  Work area
-  Direction indicator barricade with steady burn monodirectional light
-  Type II barricade, drum, or vertical barricade with steady burn monodirectional light
-  Temporary concrete barrier
-  Impact attenuator
-  Type III barricade with two steady burn monodirectional lights

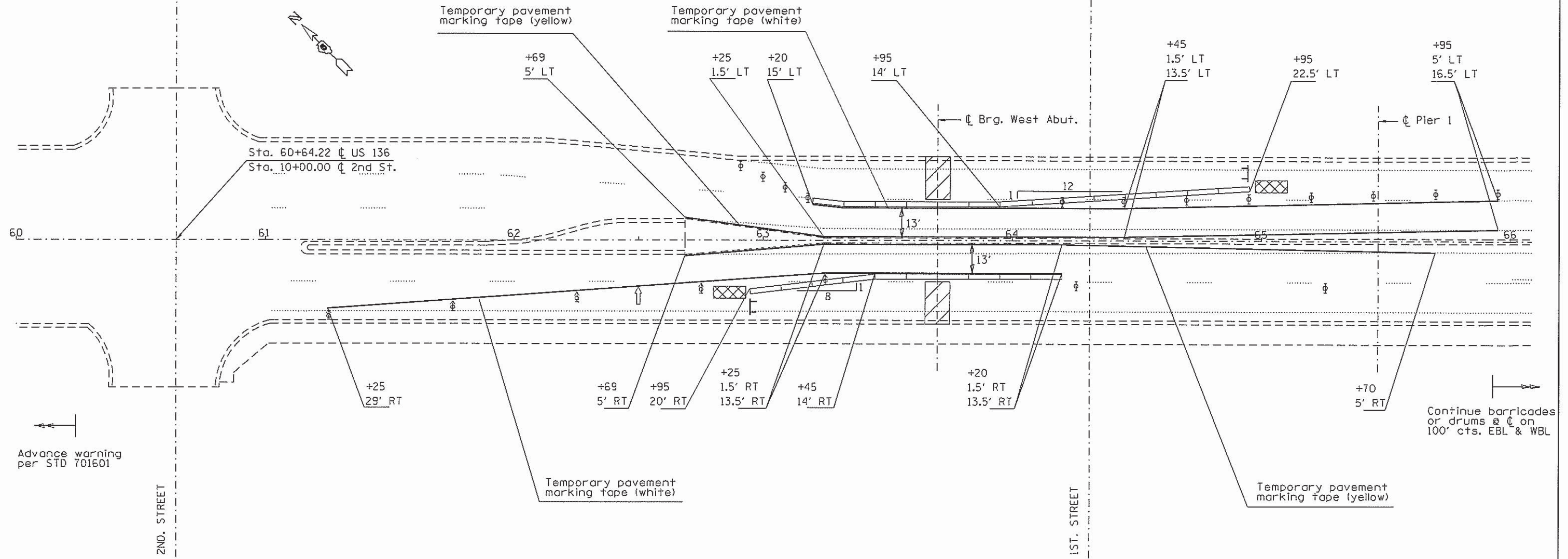
PAVEMENT MARKING BLACKOUT TAPE, 6" (PAID SEPARATELY)			
LOCATION	STA	TO STA	LENGTH
WBL OUTSIDE EDGE	62+90	65+95	305'
WBL OUTSIDE EDGE	95+10	99+35	425'
WBL INSIDE EDGE	62+69	65+95	326'
WBL INSIDE EDGE	95+10	99+35	425'
EBL INSIDE EDGE	62+69	65+70	301'
EBL INSIDE EDGE	94+85	99+10	425'
EBL OUTSIDE EDGE	62+82	65+70	288'
EBL OUTSIDE EDGE	94+85	99+10	425'
TOTAL:			2920'

NOTES:








1. Traffic control shall be per standard 701423 and as modified in this detail.
2. All advanced warning signage shall conform to the standards specified in this detail and the cost shall be included in the bid price for TRAFFIC CONTROL AND PROTECTION, STANDARD 701423.
3. Temporary pavement markings shown, excluding blackout tape, shall be considered incidental to TRAFFIC CONTROL AND PROTECTION, STANDARD 701423 and shall not be measured for payment.



FILE NAME *	USER NAME = dudleybm	DESIGNED - _____	REVISED - _____	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL DETAIL (STAGE 1 - EAST ABUTMENT JOINT)		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
D:\OPERATIONS\Bridges\BridgesPlans_CAD\7255 - Keokuk joint replacement 2015\plansheet.dwg	DESIGNED BY	REVISED BY	DATE		315	(30) BJR	HANCOCK	11	4	CONTRACT NO. 72H56		
Default	PLOT SCALE = 100.0000' / 1" =	CHECKED - _____	REVISED - _____		SCALE: _____	SHEET _____ OF _____ SHEETS	STA. _____ TO STA. _____	ILLINOIS FED. AID PROJECT				
	PLOT DATE = Mar-18-2015 02:37:18PM	DATE - _____	REVISED - _____									



SYMBOLS

-  Arrow board
-  Work area
-  Direction indicator barricade with steady burn monodirectional light
-  Type II barricade, drum, or vertical barricade with steady burn monodirectional light
-  Temporary concrete barrier
-  Impact attenuator
-  Type III barricade with two steady burn monodirectional lights

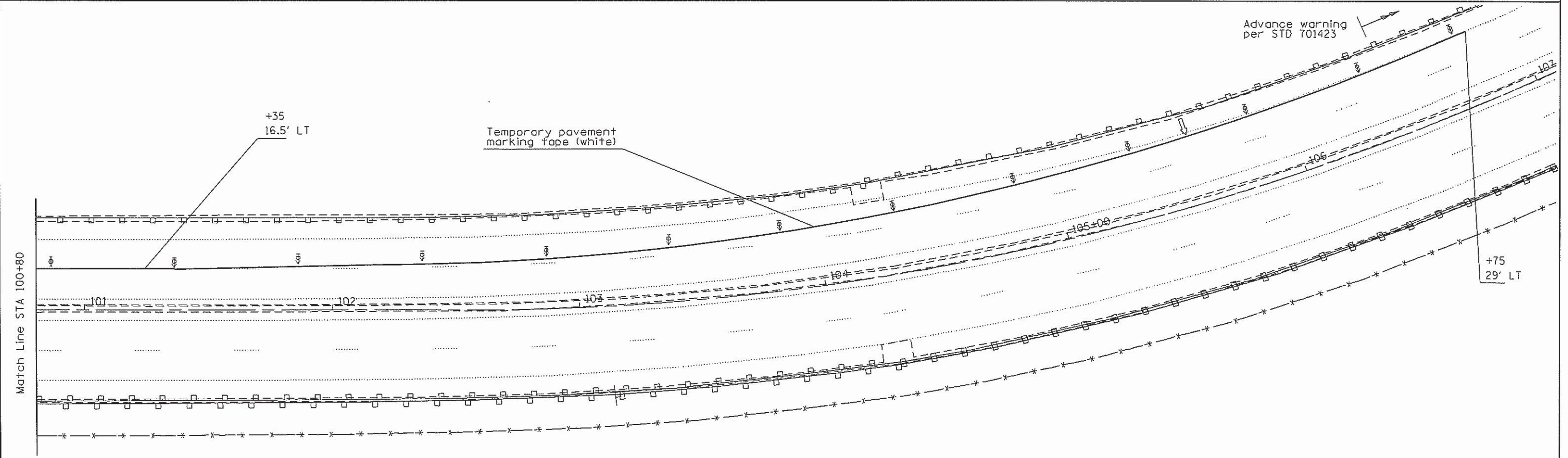
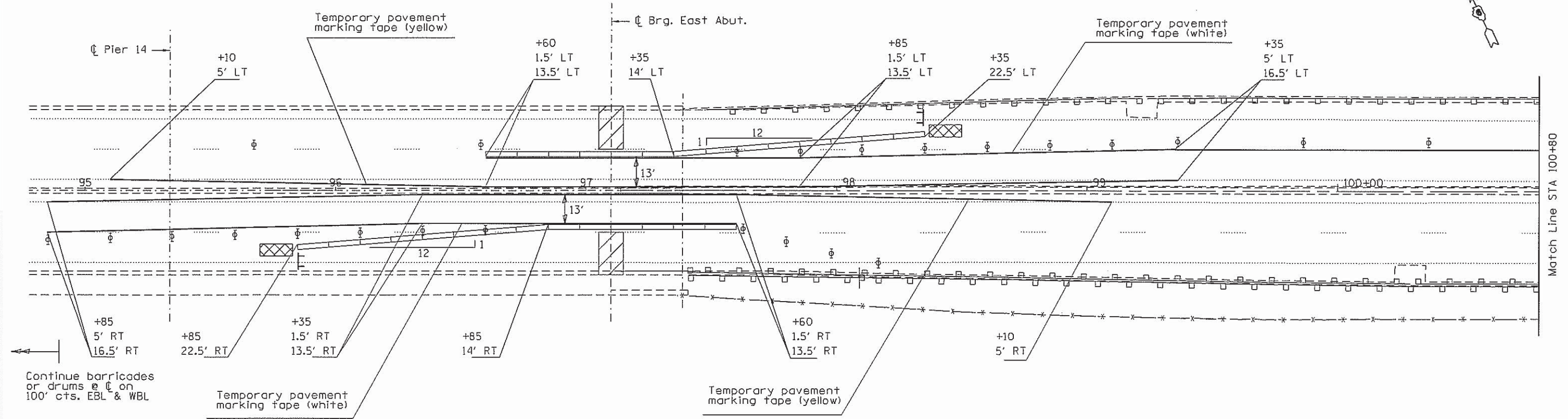
FILE NAME =	USER NAME = dudleybm	DESIGNED - _____	REVISED - _____
D:\OPERATIONS\Bridges\Bridgplans_CAD\72H56 - Keokuk joint replacement 2015\plansheet	DRAWN - _____	CHECKED - _____	REVISED - _____
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

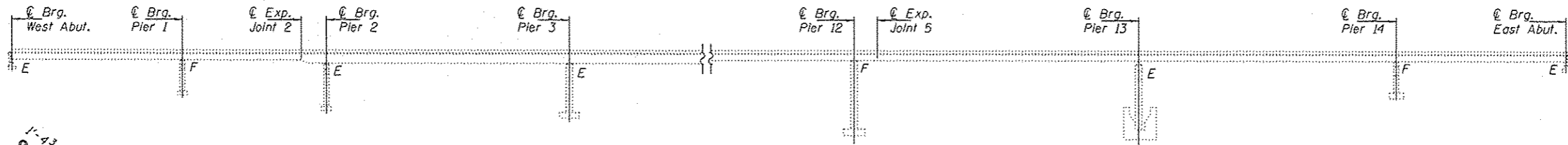
**TRAFFIC CONTROL DETAIL
(STAGE 2 - WEST ABUTMENT JOINT)**

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

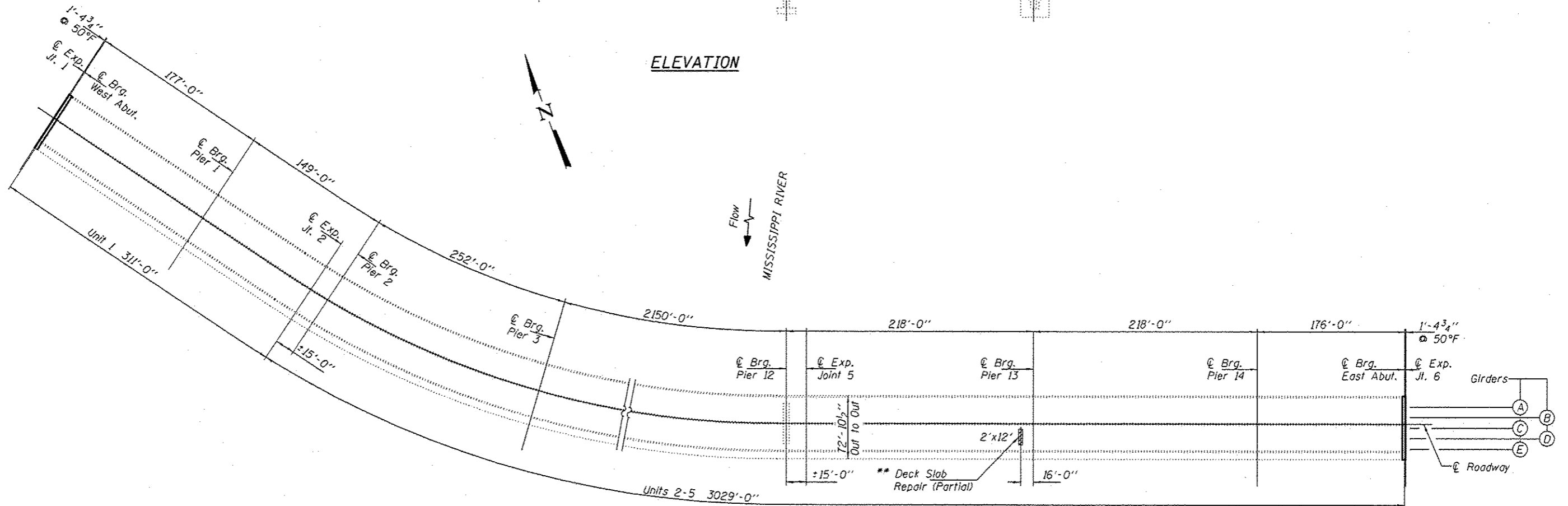
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	(30) BJR	HANCOCK	11	5
CONTRACT NO. 72H56				
ILLINOIS FED. AID PROJECT				



FILE NAME =	USER NAME = dudleybm	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL DETAIL (STAGE 2 - EAST ABUTMENT JOINT)		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D:\OPERATIONS\Bridges\Bridgeplans.CAD\72556 - Kaskaskia joint replacement 2015\planshe	DRAWN -	REVISED -	REVISED -		315	(30) BJR	HANCOCK	11	6	CONTRACT NO. 72H56	
Default	PLOT SCALE = 100.0000' / 1" =	CHECKED -	REVISED -		SCALE: _____ SHEET _____ OF _____ SHEETS STA. _____ TO STA. _____		ILLINOIS FED. AID PROJECT				
	PLOT DATE = Mon-10-2015 02:37:41PM	DATE -	REVISED -								



ELEVATION



PLAN

** Existing weather monitors in the deck to be removed with partial depth patching.

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
 The deck surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructure.
 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.
 Reinforcement bars designated (E) shall be epoxy coated.

TOTAL BILL OF MATERIAL

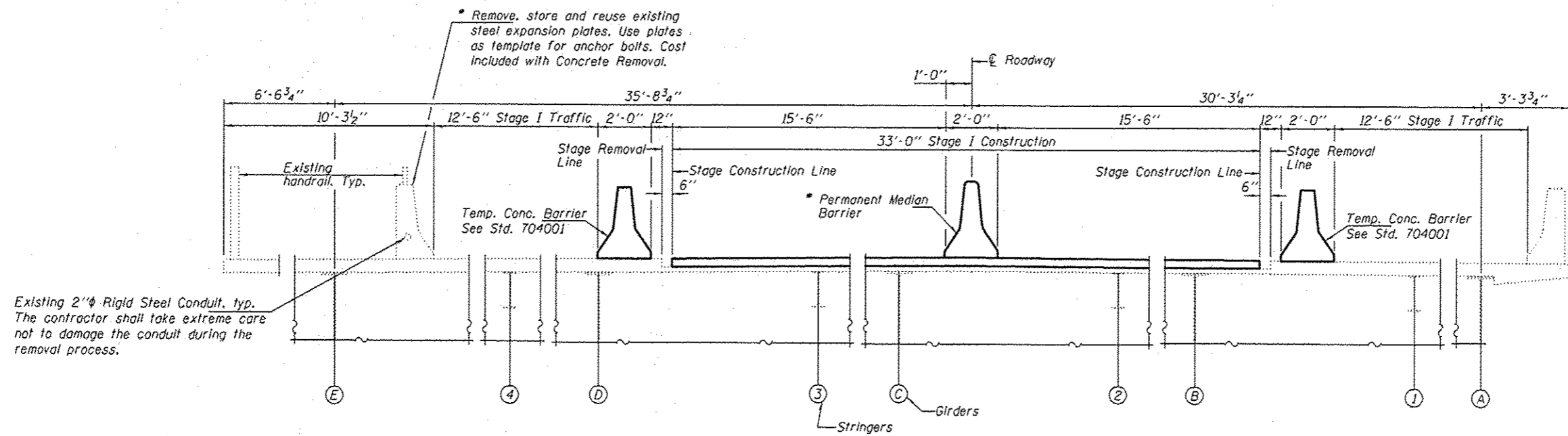
ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	6.1
Concrete Superstructure	Cu. Yd.	6.2
Preformed Joint Strip Seal	Foot	140
Reinforcement Bars, Epoxy Coated	Pound	650
Bar Splicers	Each	16
Deck Slab Repair (Partial)	Sq. Yd.	2.7
Protective Coat	Sq. Yd.	29.5

* New concrete only



Expires: November 30, 2016

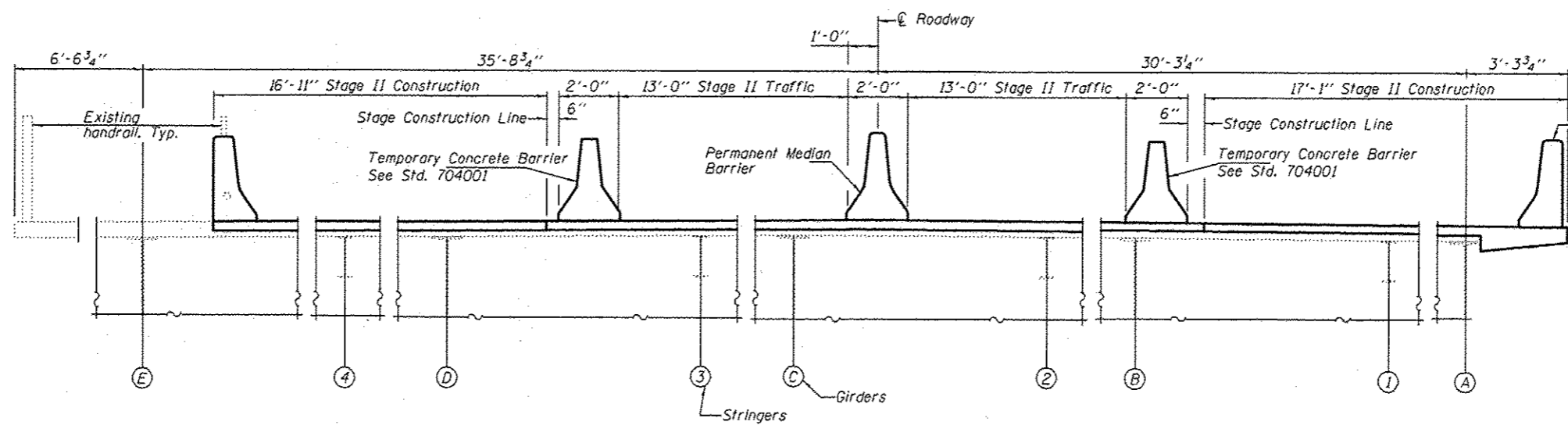
DESIGNED - <i>[Signature]</i>	CHECKED - <i>[Signature]</i>	DRAWN - Kyle M. Stoffan	CHECKED - CCC	PASSED - <i>[Signature]</i>	DATE - MAY 5, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN & ELEVATION U.S. ROUTE 136 OVER THE MISSISSIPPI RIVER SN 034-0062	F.A.P. RTE. 315	SECTION (30)BJR	COUNTY HANCOCK	TOTAL SHEETS 11	SHEET NO. 7	CONTRACT NO. 72H56
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Existing 2" Rigid Steel Conduit, typ. The contractor shall take extreme care not to damage the conduit during the removal process.

* Remove, store and reuse existing steel expansion plates. Use plates as template for anchor bolts. Cost included with Concrete Removal.

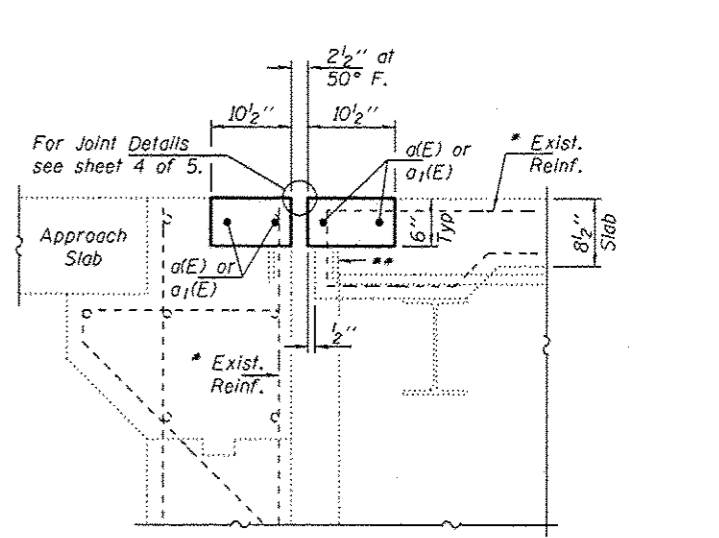
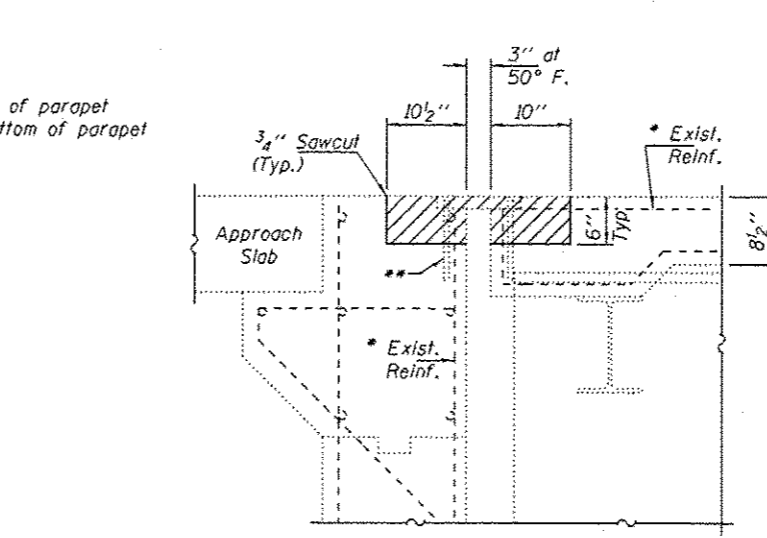
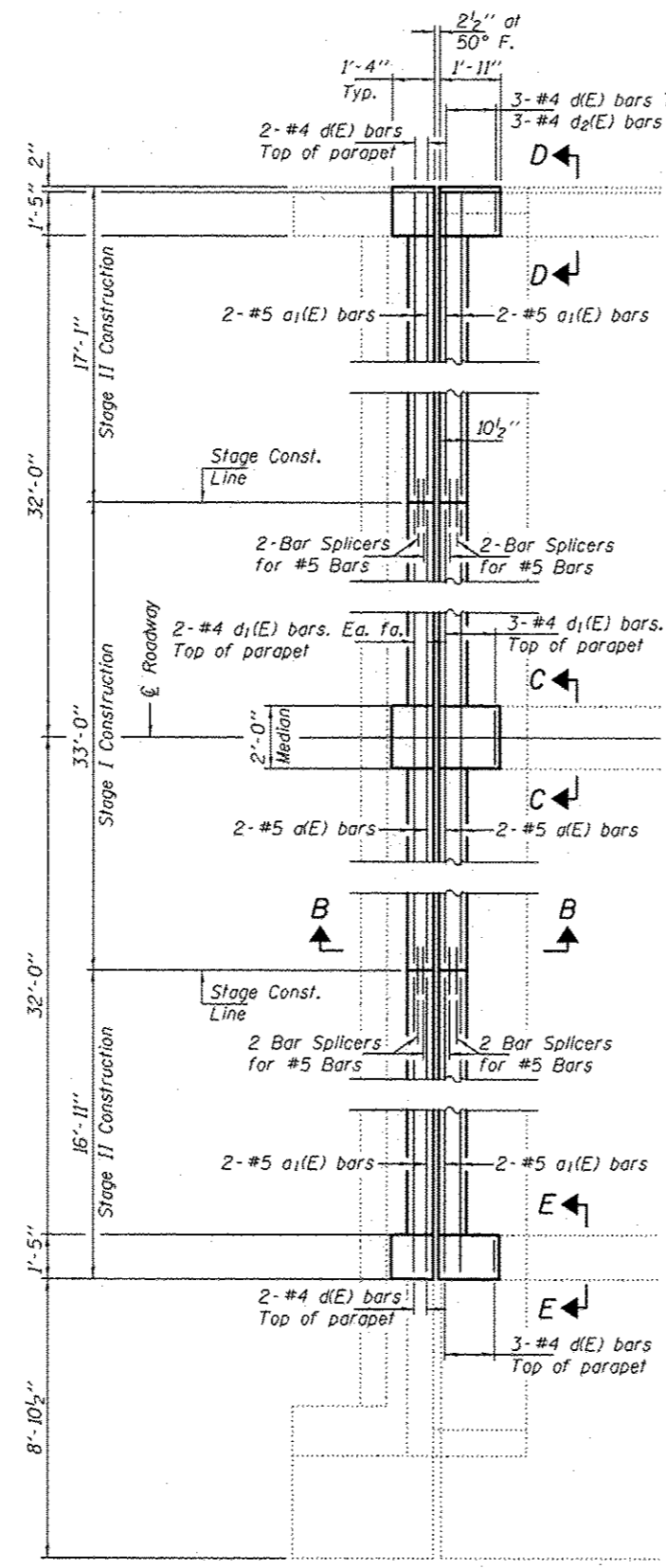
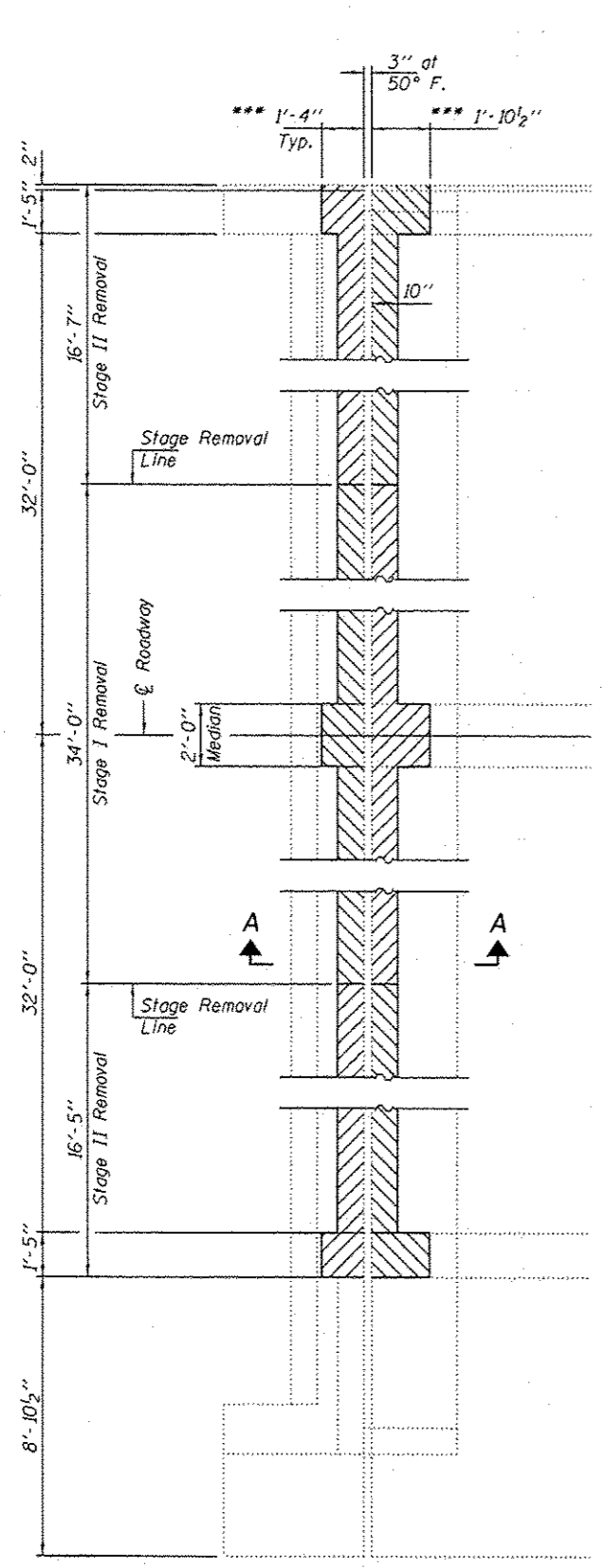
STAGE I CONSTRUCTION DETAILS
(Looking West)



Remove & discard existing steel expansion plates. Cost included with Concrete Removal.

STAGE II CONSTRUCTION DETAILS
(Looking West)

DESIGNED - CCC	DATE - MAY 5, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGING DETAILS SN 034-0062		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - SMR			315	13018JR	HANCOCK	11	8		
DRAWN - Kyle M. Steffen	PASSED <i>[Signature]</i> ACTING ENGINEER OF BRIDGES AND STRUCTURES		SHEET NO. 2 OF 5 SHEETS		CONTRACT NO. 72H56		ILLINOIS FED. AID PROJECT		
CHECKED - CCC SMR									

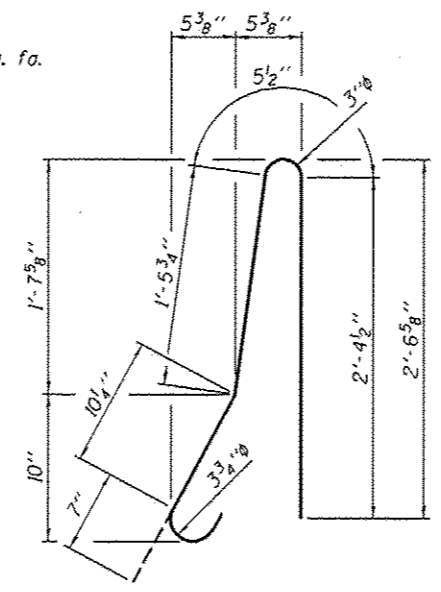


SECTION A-A

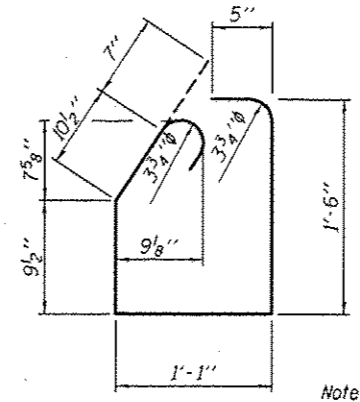
SECTION B-B

* 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.

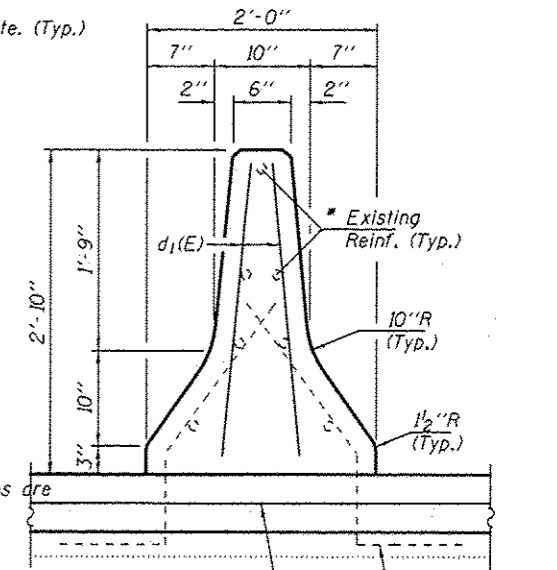
** Existing Studs to be cut flush with concrete. (Typ.)



BAR d(E)

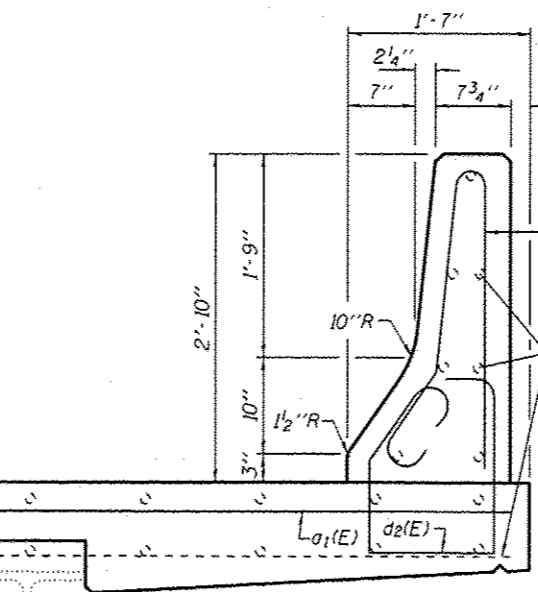


BAR d2(E)

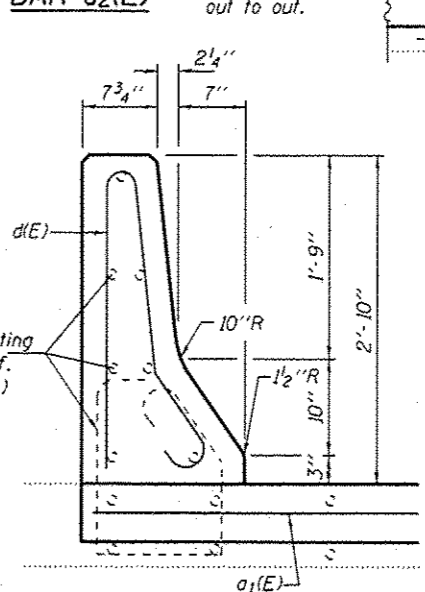


VIEW C-C

Note: Rebar dimensions are out to out.



VIEW D-D



VIEW E-E

CONCRETE REMOVAL AT ABUTMENT

(West Abutment shown, East Abutment similar by 180° rotation)

CONCRETE REPLACEMENT AT ABUTMENT

(West Abutment shown, East Abutment similar by 180° rotation)

*** Limits of parapet removal may be varied in the field by the Engineer to match the locations of existing construction and open joints or to miss existing name plates. Any roll post anchorage within the removal area at the south parapet shall be cleaned and incorporated in the new construction. Cost included with concrete removal.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	8	#5	32'-8"	—
a1(E)	16	#5	16'-7"	—
d(E)	20	#4	5'-9"	⏏
d1(E)	10	#4	2'-7"	—
d2(E)	6	#4	5'-3"	⏏
Concrete Removal		Cu. Yd.	6.1	
Concrete Superstructure		Cu. Yd.	6.2	
Bar Splicers		Each	16	
Reinforcement Bars, Epoxy Coated		Pound	660	

DESIGNED - CCC
 CHECKED - SMR
 DRAWN - Kyle M. Steffen
 CHECKED - CCC SMR

PASSED

 ACTING ENGINEER OF BRIDGES AND STRUCTURES

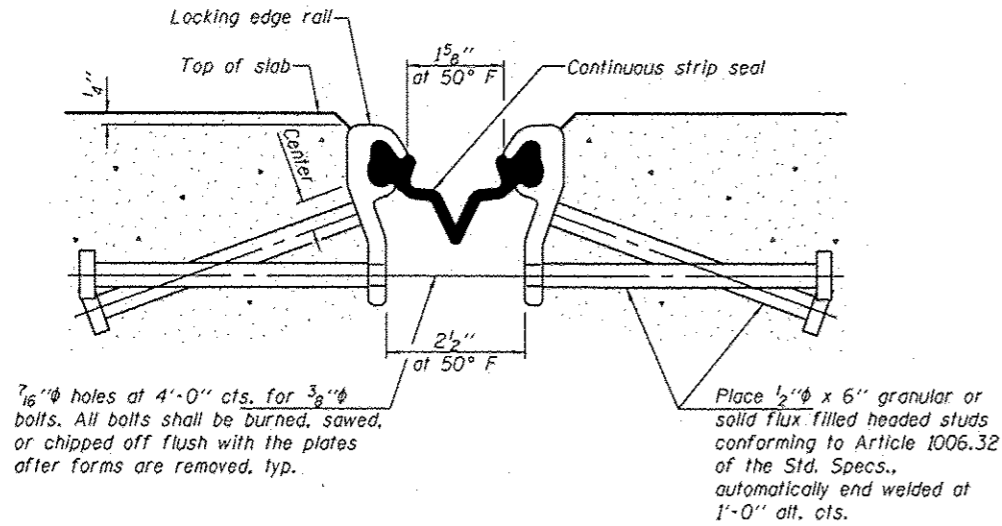
DATE - MAY 5, 2015

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

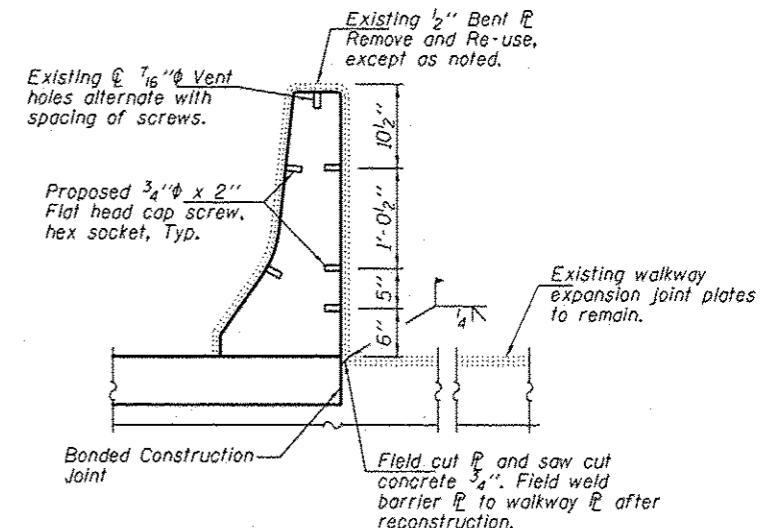
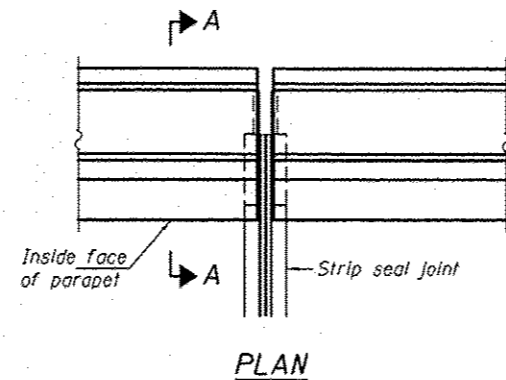
JOINT REMOVAL & REPLACEMENT DETAILS
 SN 034-0062

SHEET NO. 3 OF 5 SHEETS

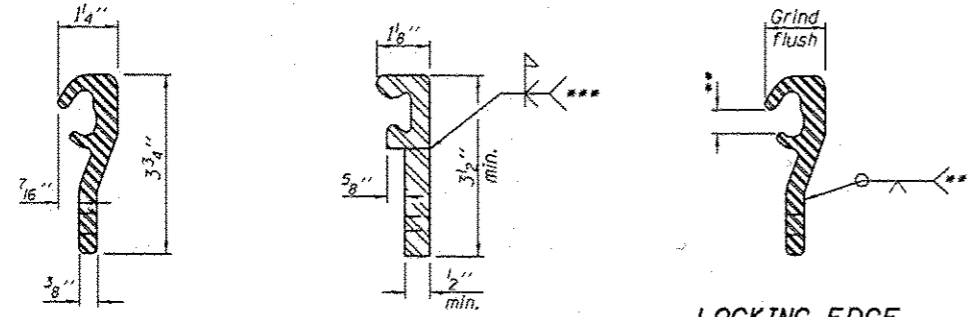
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	(30)BR	HANCOCK	11	9
			CONTRACT NO. 72H56	
ILLINOIS)FEB. AID PROJECT				



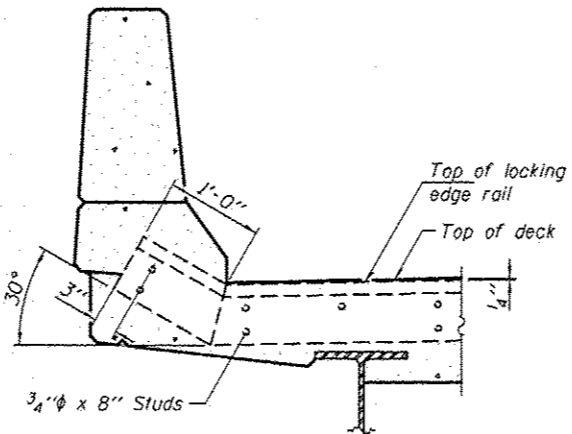
SECTION THRU SHALLOW STRIP SEAL JOINT



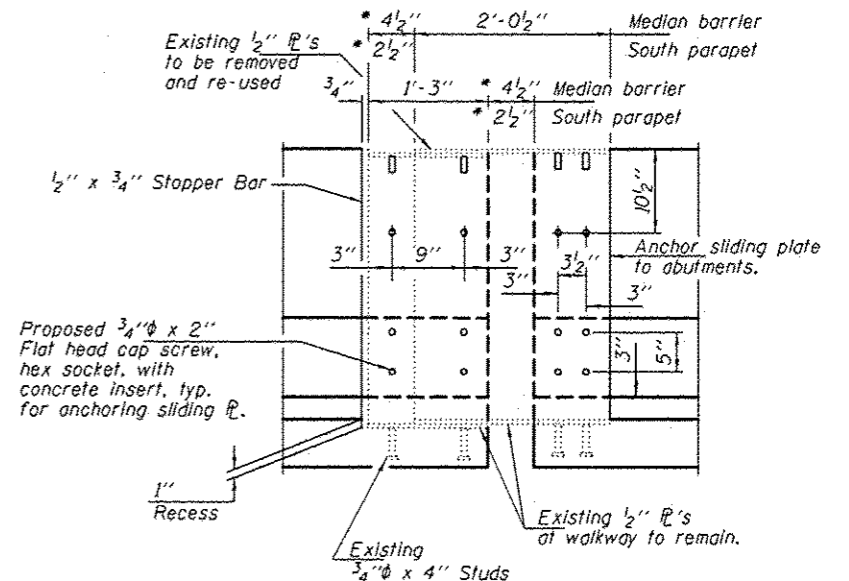
SOUTH BARRIER



LOCKING EDGE RAIL SPLICE



SECTION A-A



ELEVATION OF SOUTH BARRIER AT EXPANSION JOINT
(Median Barrier Similar)
* at 50° F

ROLLED (EXTRUDED) RAIL

WELDED RAIL

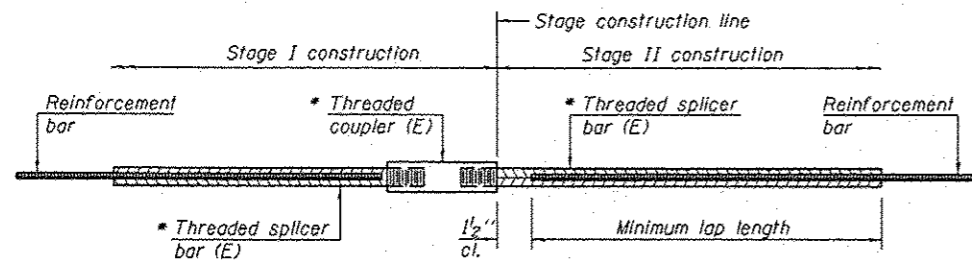
LOCKING EDGE RAIL

** Omit weld at seal opening.
*** Back gauge not required if complete joint penetration is verified by mock-up.

Notes:
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.
The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.
The inside of the Locking Edge Rail groove shall be free of weld residue. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.
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.
Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	140



STANDARD BAR SPLICER ASSEMBLY

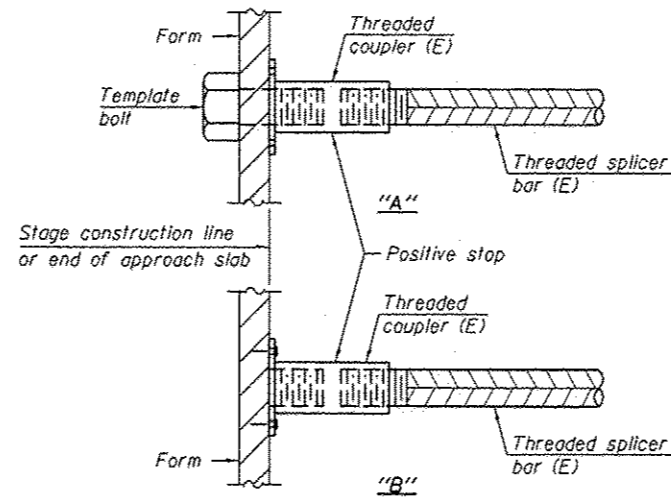
Bar size to be spliced	Minimum Lap Lengths					
	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

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

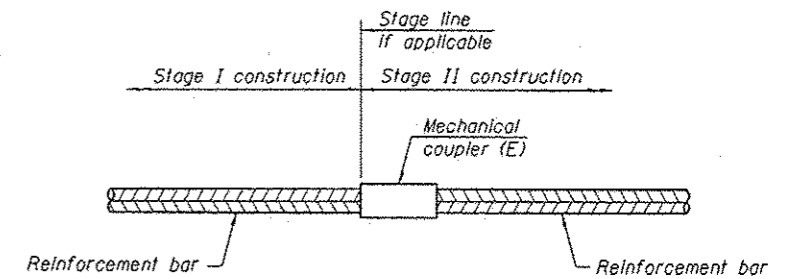
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
W. Abut.	5	8	3
E. Abut.	5	8	3



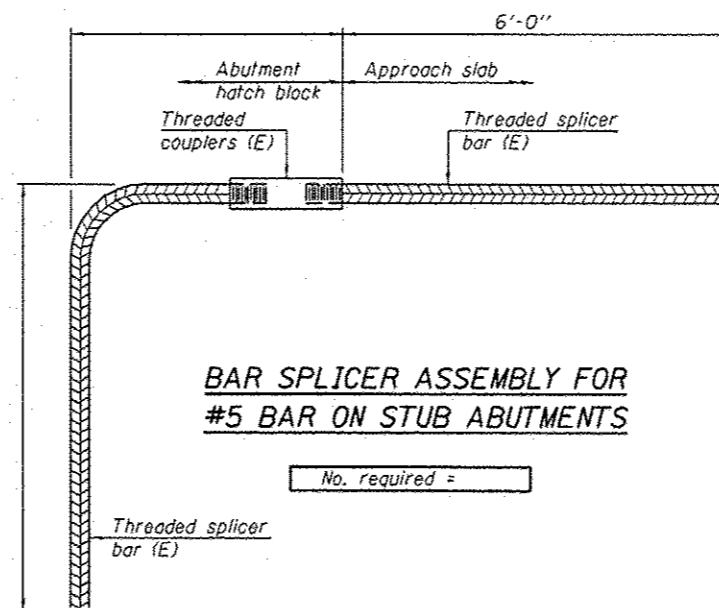
INSTALLATION AND SETTING METHODS

"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

8-31-12

DESIGNED - CCC
 CHECKED - SMR
 DRAWN - Kyle M. Stoffen
 CHECKED - CCC SMR

PASSED

Carl Perry
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - MAY 5, 2015

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 SN 034-0062

SHEET NO. 5 OF 5 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
315	(3018)R	HANCOCK	11	11

CONTRACT NO. 72HS6
 ILLINOIS FED. AID PROJECT