

06-15-12 LETTING ITEM 149

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

# PROPOSED HIGHWAY PLANS

FAP 326 ROUTE (IL 47)  
SECTION (126C)I

CULVERT REPAIR  
CONSTRUCTING CONCRETE SLAB  
SUPPORT ON SN 027-2524  
FORD COUNTY

C-93-125-12

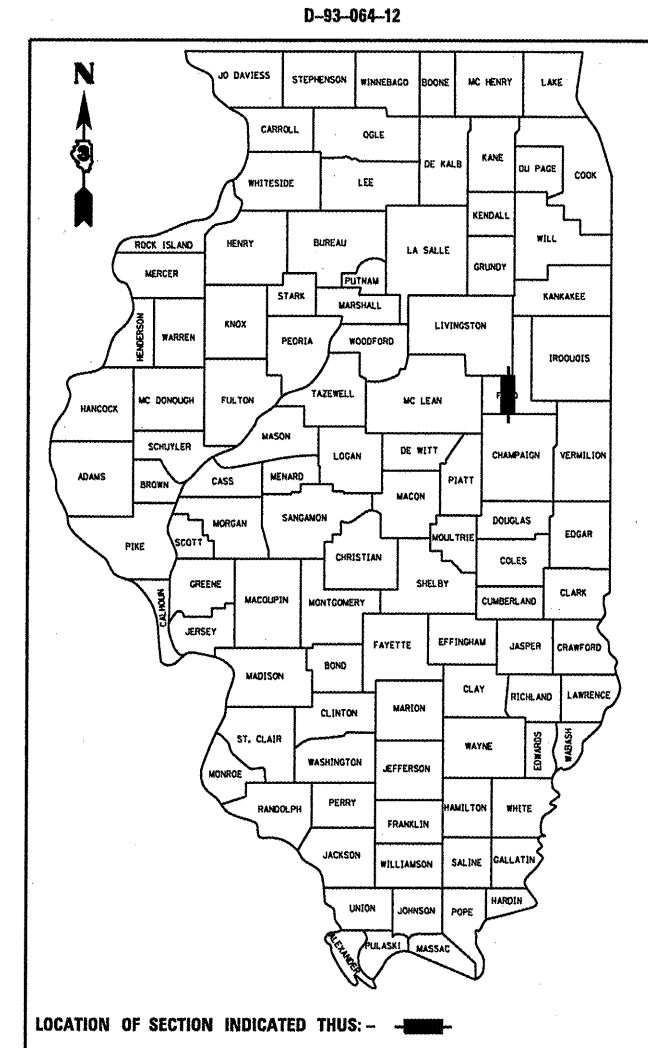
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	(126C)I	FORD	9	1
		ILLINOIS	CONTRACT NO. 66C29	

**INDEX OF SHEETS**

1. COVER SHEET
2. GENERAL NOTES
3. SUMMARY OF QUANTITIES
4. TYPICAL SECTION
- 5-6. STAGING DETAILS
7. ROADWAY DETAILS
- 8-9. STRUCTURE PLANS

**STANDARDS**

000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
701001-02	OFF-ROAD OPERATIONS 2L, 2W, MORE THAN 15' (4.5 m) AWAY
701006-03	OFF-ROAD OPERATIONS 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701206-03	LANE CLOSURE, 2L, 2W, NIGHT ONLY, FOR SPEEDS ≥ 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701316-06	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR, FOR SPEEDS ≥ 45 MPH
701901-02	TRAFFIC CONTROL DEVICES



RURAL  
OTHER PRINCIPAL ARTERIAL  
FAP 326 (IL 47)  
2011

ADT	3550
P.V.	78.88%
S.U.	5.63%
M.U.	15.49%

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

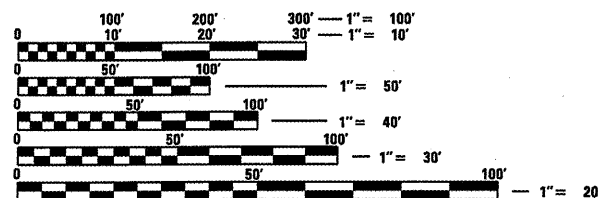
SUBMITTED 4/6 20 12  
*Eric S. Therkelsen*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 11 20 12  
*John D. Baranzello, P.E.*  
ENGINEER OF DESIGN AND ENVIRONMENT

May 11 20 12  
*William R. Friebe*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**

**PROJECT LOCATION  
SN 027-2524**



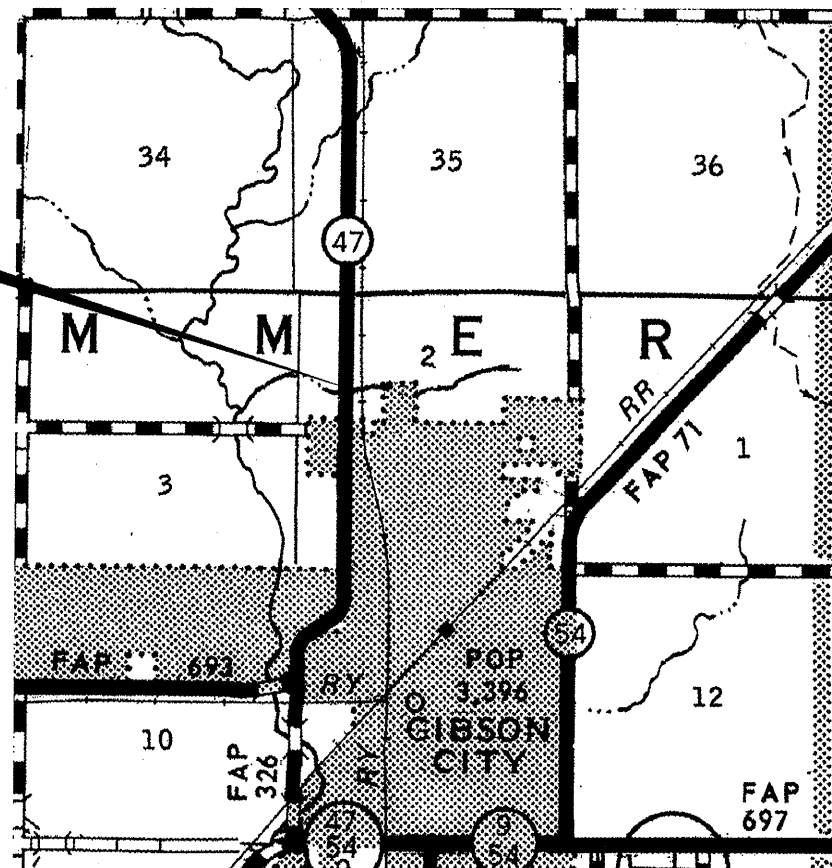
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

DISTRICT NO. (815)-434-6131

PROJECT ENGINEER: JOE KANNEL, P.E.  
UNIT CHIEF: RON WOODSHANK  
TOWNSHIP: DRUMMER

CONTRACT NO. 66C29



GROSS LENGTH = 19 1/2' FT. = 0.003 MILE  
NET LENGTH = 19 1/2' FT. = 0.003 MILE

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO ROUTINE 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 THE SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY FURNISHED BASED UPON THE UNIT BID PRICE FOR THE WORK.

FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER LISTED ON THE INDEX OF SHEETS OR THE COPY OF THE STANDARD INCLUDED IN THESE PLANS.

COMMITMENTS:

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DISTRICT THREE

PREPARED BY: Don Bonil  
DISTRICT STUDIES & PLANS ENGINEER

DATE: 4-6-12

EXAMINED BY: Hadiet K. Husein  
DISTRICT CONSTRUCTION ENGINEER

Sam E. [Signature]  
DISTRICT MATERIALS ENGINEER

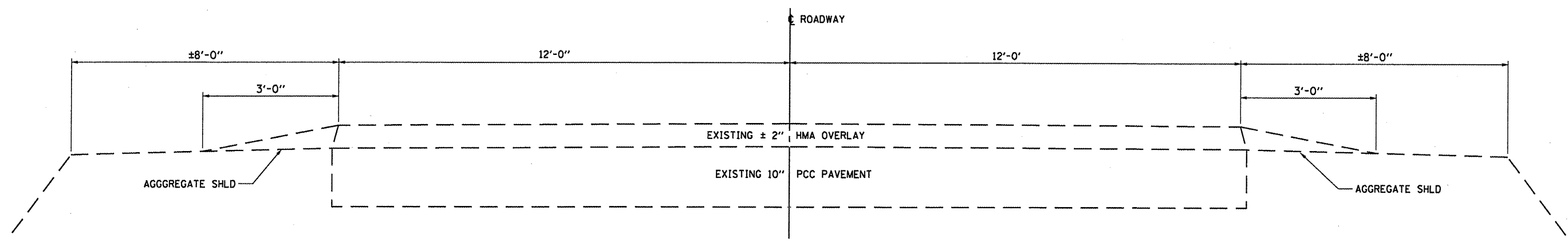
James A. [Signature]  
DISTRICT OPERATIONS ENGINEER

FILE NAME =	USER NAME = petelj	DESIGNED - R.W.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL NOTES</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
01\pwwork\pwwork\petelj\0303935\0366	29-aht-ALL SHEETS.dgn	DRAWN - R.W.	REVISED -			326	(126C)	FORD	9	2	
	PLOT SCALE = 100.0000' / 1" =	CHECKED -	REVISED -			CONTRACT NO. 66C29		ILLINOIS FED. AID PROJECT			
	PLOT DATE = 4/5/2012	DATE -	REVISED -			SCALE:	SHEET 1	OF 1	SHEETS	STA.	TO STA.

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				STATE FUNDS
				100% STATE
				ROADWAY
				0040
				RURAL
44000177	HOT-MIX ASPHALT SURFACE REMOVAL, 7"	SQ YD	90.4	90.4
50300255	CONCRETE SUPERSTRUCTURE	CU YD	17.6	17.6
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	6390	6390
50800515	BAR SPLICERS	EACH	40	40
63000025	STEEL PLATE BEAM GUARDRAIL, ATTACHED TO STRUCTURES	FOOT	39	39
67100100	MOBILIZATION	L SUM	1	1
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	1	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1
70100455	TRAFFIC CONTROL AND PROTECTION, STANDARD 701206	L SUM	1	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1
78005110	EPOXY PAVEMENT MARKING - LINE 4"	FOOT	39	39
78005130	EPOXY PAVEMENT MARKING - LINE 6"	FOOT	10	10
X6320100	GUARDRAIL REMOVAL SPECIAL	FOOT	39	39

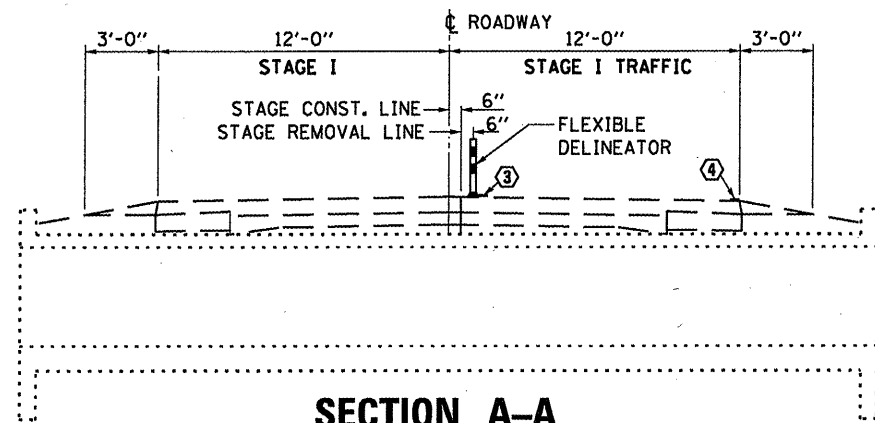
• SPECIALITY ITEMS

FILE NAME =	USER NAME = petelj	DESIGNED - R.W.	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
et\pw\work\p\d\petelj\0303935\036829-ahh-ALL SHEETS.dgn	DRAWN - R.W.	REVISED -	326			(126C)	FORD	9	3	
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PLOT DATE = 4/5/2012	DATE -	REVISED -	ILLINOIS FED. AID PROJECT							
					SCALE:	SHEET 1 OF 1 SHEETS		STA.	TO STA.	



**TYPICAL SECTION**

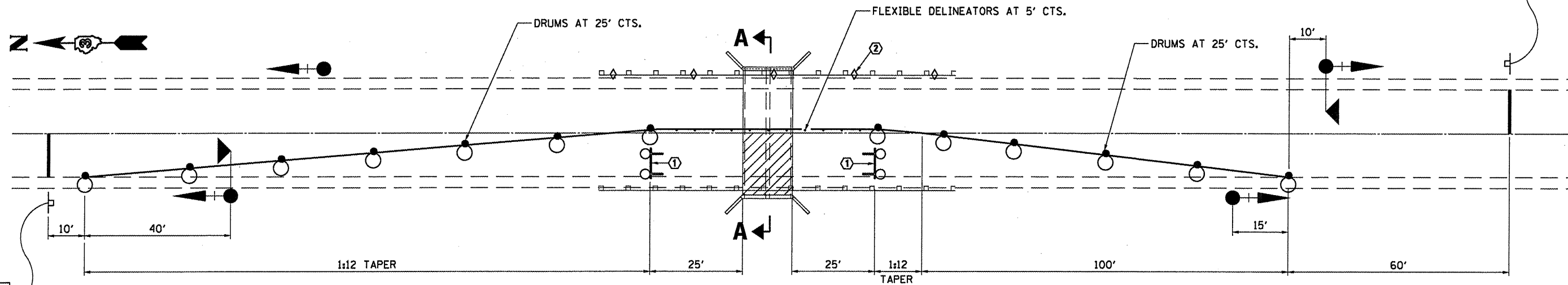
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cd:\pwork\pwidot\potelyj\0303935\036629-sh1-ALL SHEETS.dgn	DRAWN - R.W.	REVISED -	326					(126C)	FORD	9	4	
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PLOT DATE = 4/5/2012	DATE -	REVISED -	ILLINOIS FED. AID PROJECT									
				SCALE:	SHEET 1	OF 1	SHEETS	STA.	TO STA.			



**SECTION A-A**

LOOKING NORTH

- ① Type III barricade to be placed when no work is being performed.
- ② Guardrail markers at 25' (7.6 m) cts. See Standard 635011
- ③ Temporary Pavement Marking
- ④ Existing pavement marking



STOP  
HERE  
ON  
RED  
R10-6A-2430

STOP  
HERE  
ON  
RED

R10-6A-2430

**SYMBOLS**

- Work area
- Sign
- Type III barricade
- Microwave detector
- Traffic signal with backplate
- Drum with steady burning bi-directional light
- Crystal, bidirectional guardrail marker

**GENERAL NOTES**

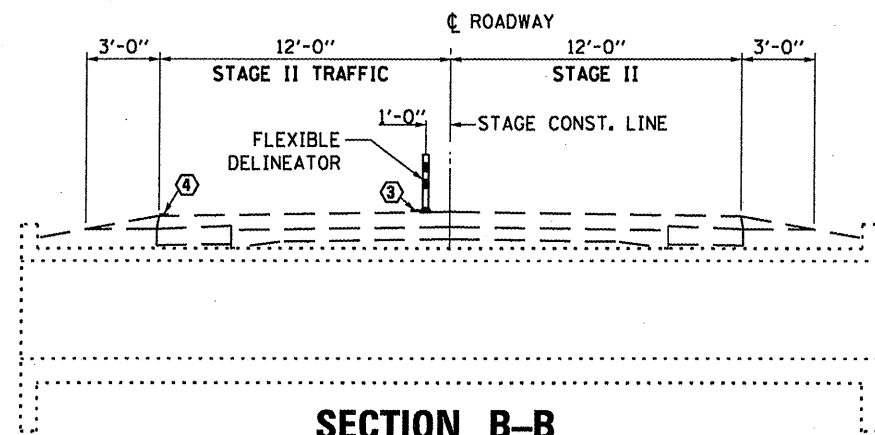
This Detail is used where, at any time, any vehicle, equipment, workers, or their activities will encroach on one lane of a bridge. Traffic signals and a positive barrier are required.

See traffic Control and Protection, Standard 701316 for advanced signing details.

Traffic signals shall be operational only when all traffic controls are in place. When traffic signals are not in operation, flaggers shall be used and traffic control shall conform to Standard 701201.

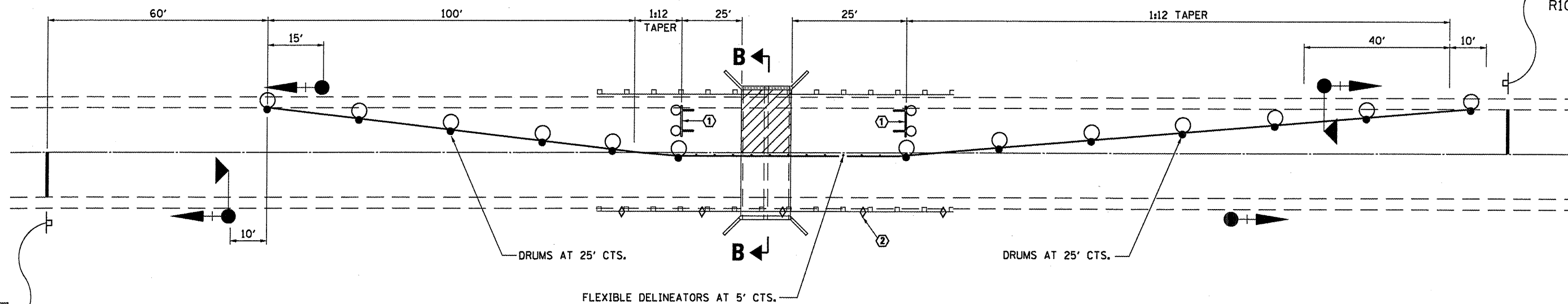
Existing or temporary pavement markings shall be on both sides of open lane from stop bar to stop bar.

FILE NAME =	USER NAME = patelyj	DESIGNED - RON WOODSHANK	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>STAGING DETAILS FOR STAGE I CONSTRUCTION</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
c:\pvt\work\pwidat\patelyj\08303935\036629-shc-ALL SHEETS.dgn	PLOT SCALE = 100.0000' / 1" =	DRAWN - RON WOODSHANK	REVISED -			326	(126C)	FORD	9	5	
	PLOT DATE = 4/5/2012	CHECKED -	REVISED -			CONTRACT NO. 66C29					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE:	SHEET NO. 1 OF 2 SHEETS		STA.	TO STA.		



**SECTION B-B**

LOOKING NORTH



STOP  
HERE  
ON  
RED  
R10-6A-2430

STOP  
HERE  
ON  
RED  
R10-6A-2430

- ① Type III barricade to be placed when no work is being performed.
- ② Guardrail markers at 25' (7.6 m) cts. See Standard 635011
- ③ Temporary Pavement Marking
- ④ Existing pavement marking

**SYMBOLS**

- Work area
- Sign
- Type III barricade
- Traffic signal with microwave detector and backplate
- Drum with steady burning bi-directional light
- Crystal, bidirectional guardrail marker

**GENERAL NOTES**

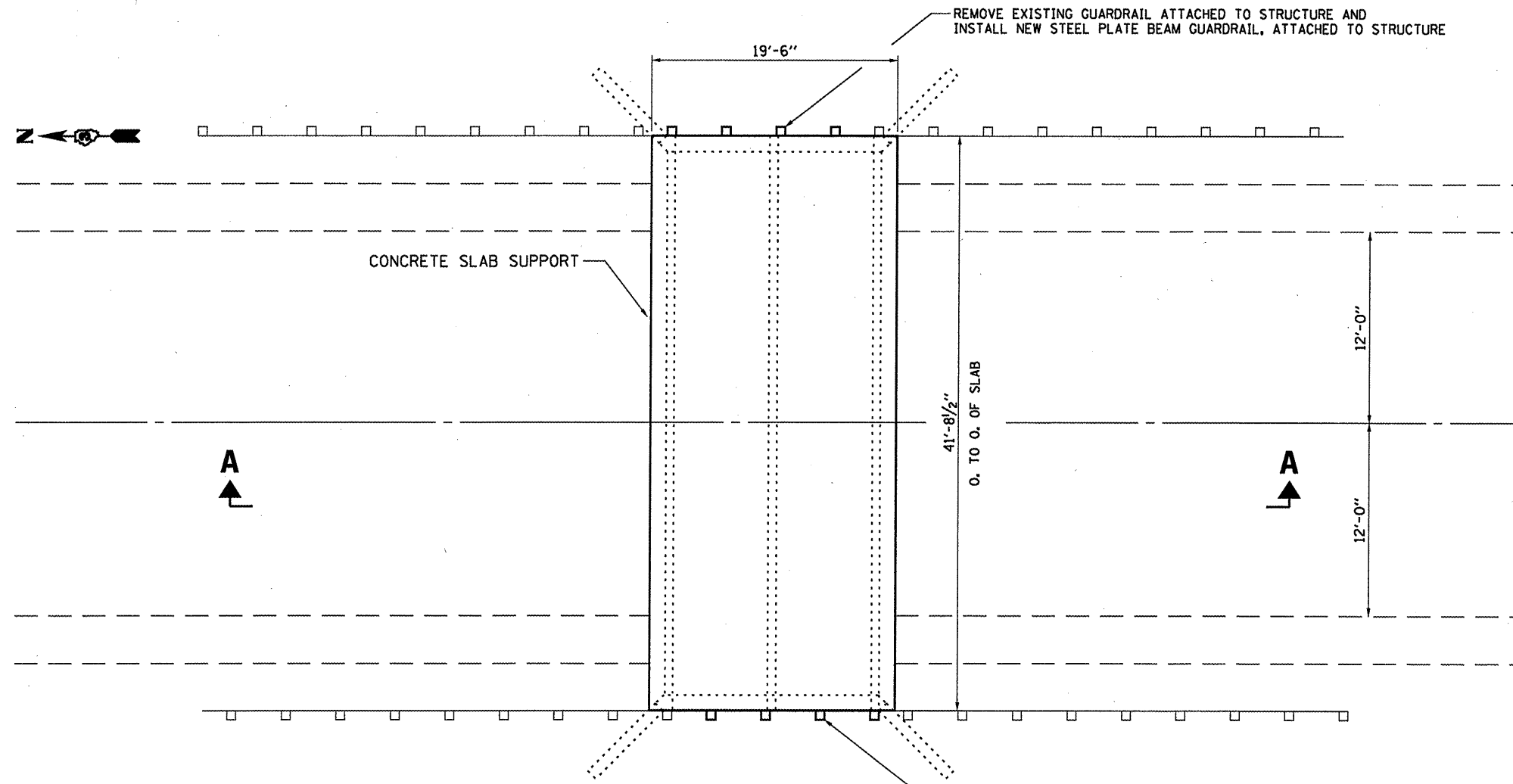
This Detail is used where, at any time, any vehicle, equipment, workers, or their activities will encroach on one lane of a bridge. Traffic signals and a positive barrier are required.

See traffic Control and Protection, Standard 701316 for advanced signing details.

Traffic signals shall be operational only when all traffic controls are in place. When traffic signals are not in operation, flaggers shall be used and traffic control shall conform to Standard 701201.

Existing or temporary pavement markings shall be on both sides of open lane from stop bar to stop bar.

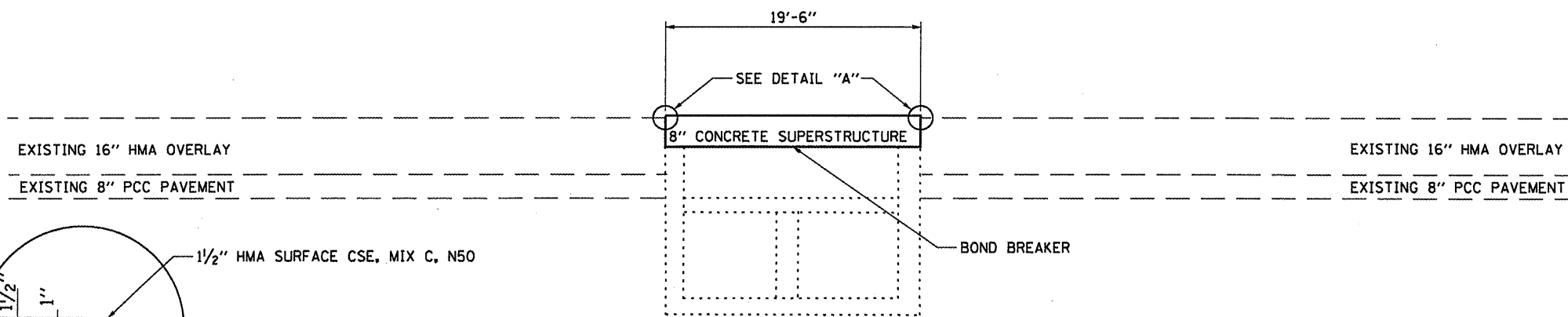
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ci\pw\work\pwidot\petelj\d0303935\036629-ah-ALL SHEETS.dgn	PLT SCALE = 100.0000' / 1" =	DRAWN - RON WOODSHANK	REVISED -			326	(126C)1	FORD	9	6	
	PLT DATE = 4/5/2012	CHECKED -	REVISED -			SCALE: SHEET NO. 2 OF 2 SHEETS STA. TO STA.		CONTRACT NO. 66C29			
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					



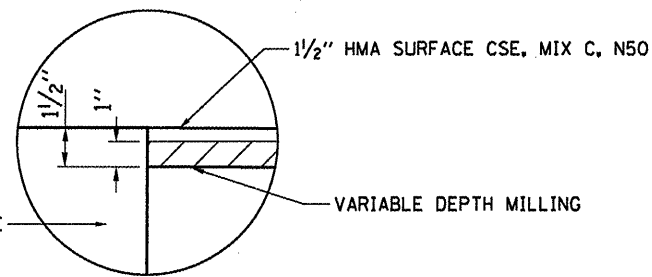
**PLAN**

SN 027-2524

REMOVE EXISTING GUARDRAIL ATTACHED TO STRUCTURE AND INSTALL NEW STEEL PLATE BEAM GUARDRAIL, ATTACHED TO STRUCTURE



**SECTION A-A**



**DETAIL "A"**

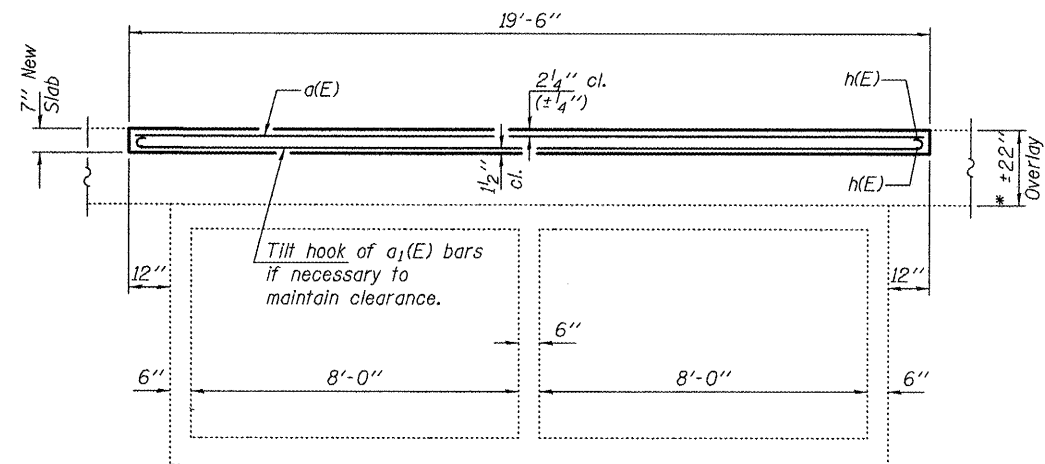
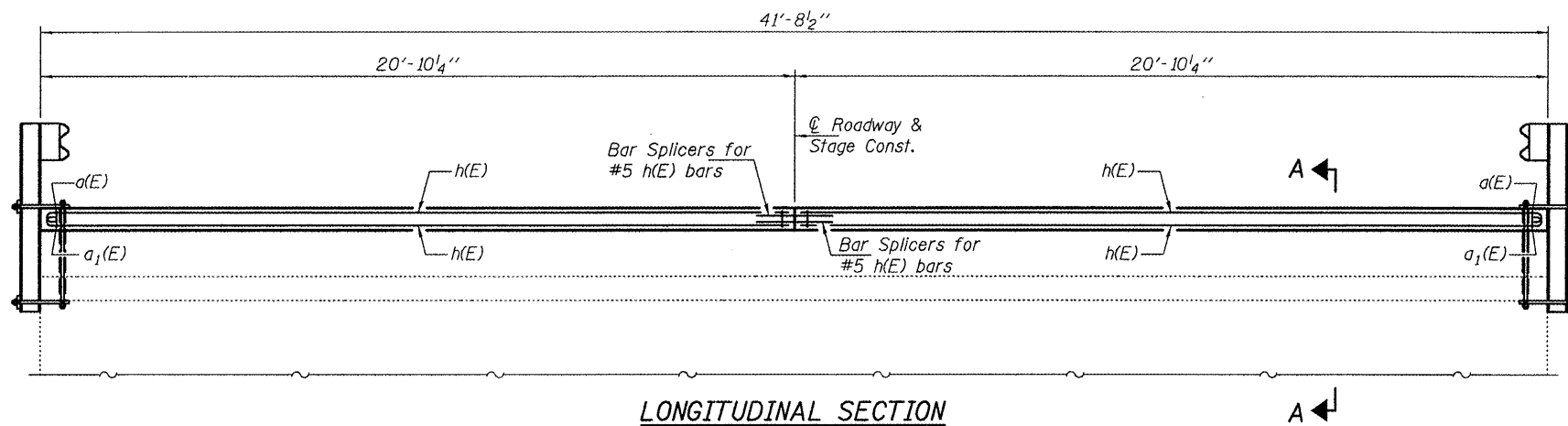
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PLOT SCALE = 100.0000' / 1in.		CHECKED -	REVISED -
PLOT DATE = 4/5/2012		DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

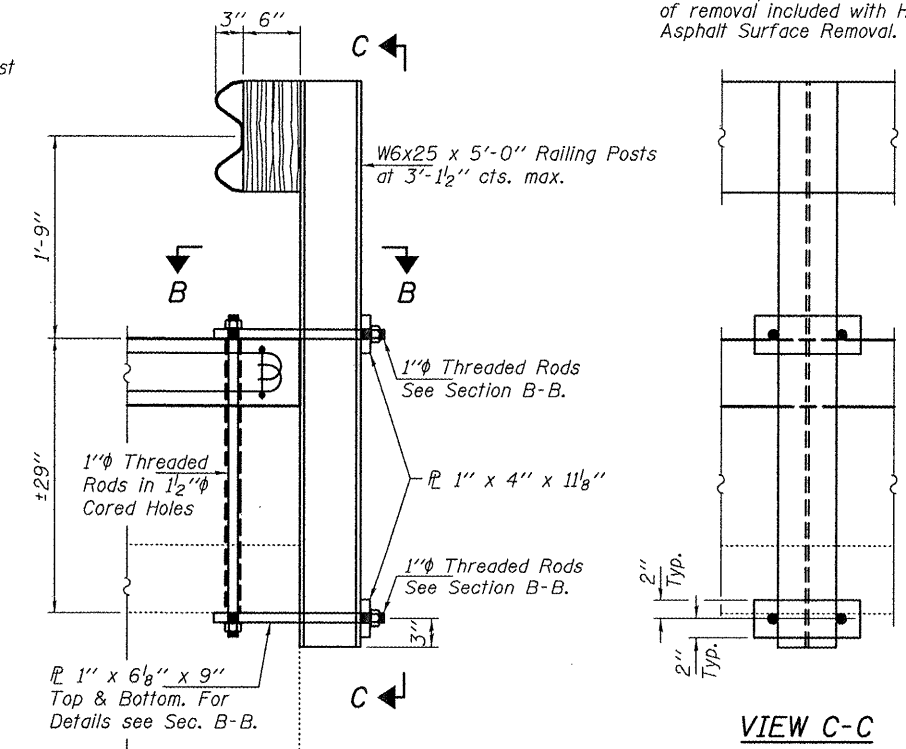
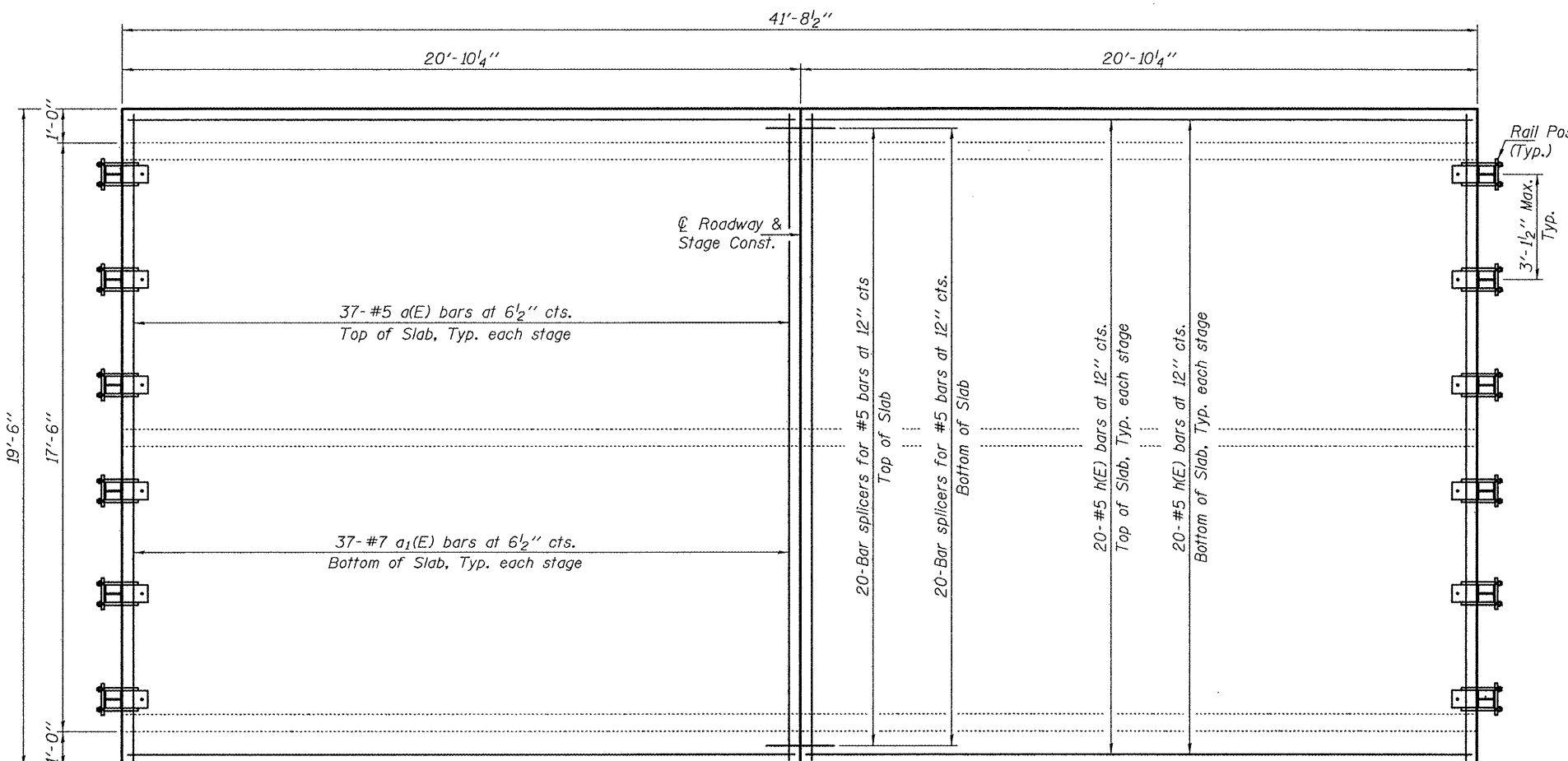
**ROADWAY DETAILS**

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

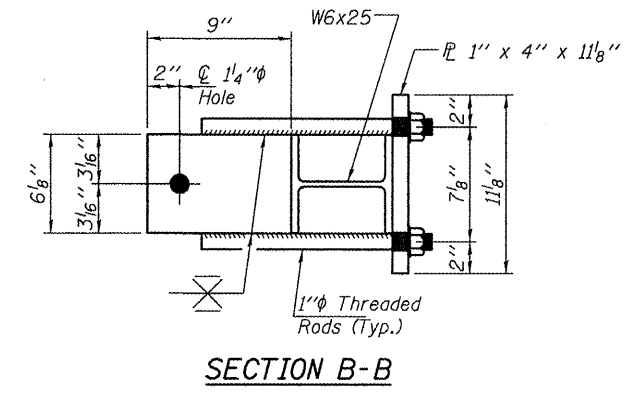
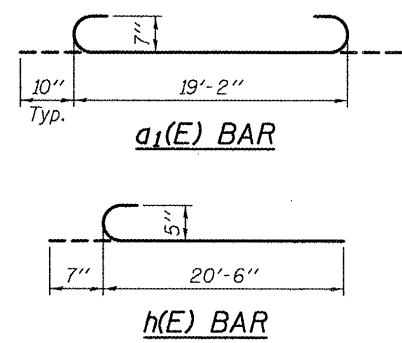
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
326	(126C)1	FORD	9	7
CONTRACT NO. 66C29				
ILLINOIS FED. AID PROJECT				



\* Remove 7" of existing HMA overlay and replace with 7" concrete slab as shown. Slope to match roadway. Cost of removal included with Hot-Mix Asphalt Surface Removal.



RAILING ATTACHMENT DETAILS



SECTION B-B

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	74	#5	19'-2"	—
a1(E)	74	#7	20'-10"	U
h(E)	80	#5	21'-1"	—
Bar Splicers			Each	40
Hot-Mix Asphalt Surface Removal			Sq. Yds.	90.4
Reinforcement Bars, Epoxy Coated			Pound	6390
Concrete Superstructure			Cu. Yds.	17.6
SPBGR Attached to Structure (Special)			Foot	39.0

GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement bars designated (E) shall be epoxy coated.

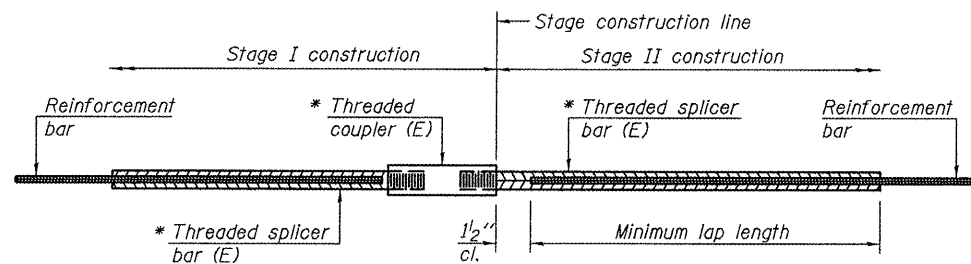
The slab surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructures.

DESIGN STRESSES

FIELD UNITS  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinf.)







**STANDARD BAR SPLICER ASSEMBLY**

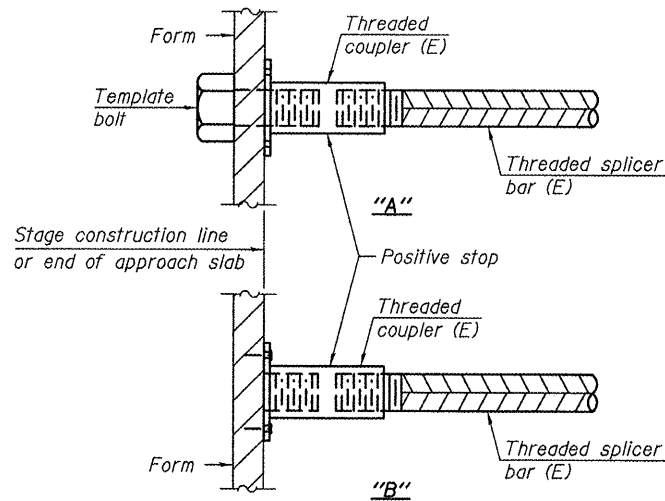
Bar size to be spliced	Minimum Lap Lengths					
	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

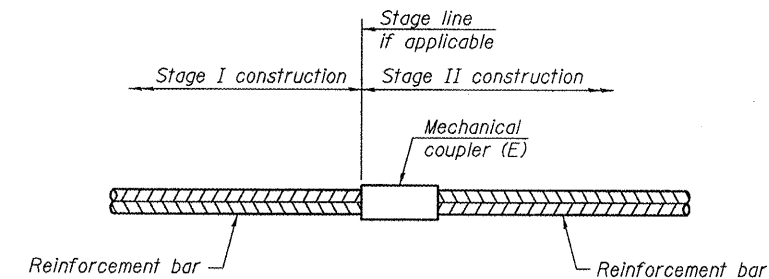
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Top of Slab	#5	20	3
Bottom of Slab	#5	20	3



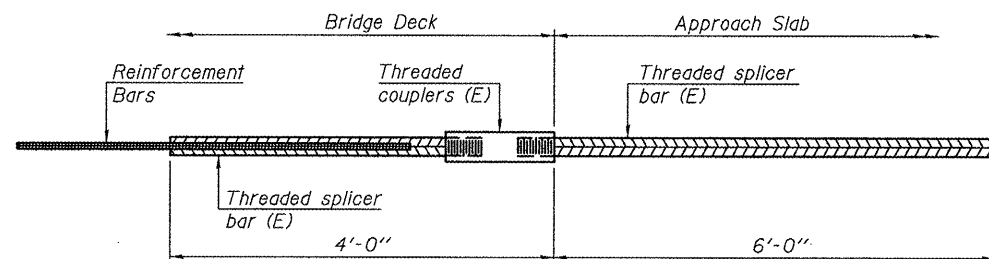
**INSTALLATION AND SETTING METHODS**

"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.



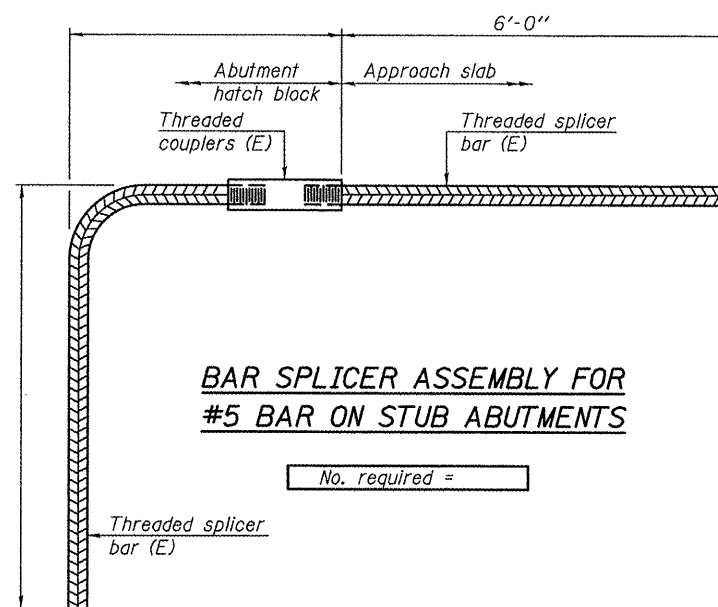
**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



**BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

No. 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

1-27-12

DESIGNED - DAB	EXAMINED - <i>Jayne F. Hoff</i>	DATE - MAY 8, 2012
CHECKED - VHV	PASSED - <i>Kyle M. Steffen</i>	
DRAWN - Kyle M. Steffen	ACTING ENGINEER OF BRIDGES AND STRUCTURES	
CHECKED - DAB	VHV	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
SN 027-2524

F.A.P. RTE. 326	SECTION 126C1	COUNTY FORD	TOTAL SHEETS 9	SHEET NO. 9
				CONTRACT NO. 66C29

SHEET NO. 2 OF 2 SHEETS

ILLINOIS FED. AID PROJECT