

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

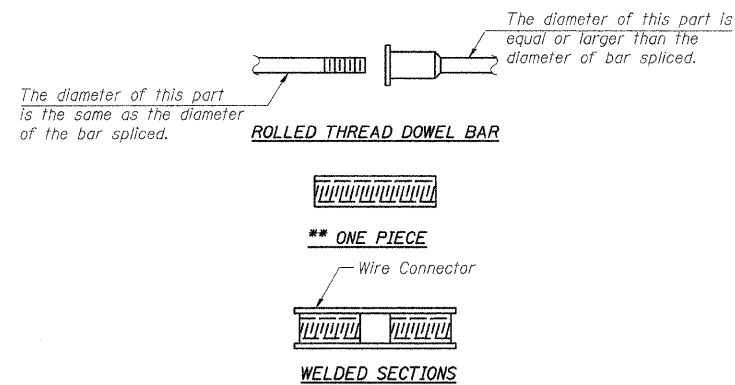
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 84	(1,2)B-2M	HENRY and ROCK ISLAND	23	17
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT-				
CONTRACT 64E18				

SHEET NO. 15  
15 SHEETS

**NOTES**

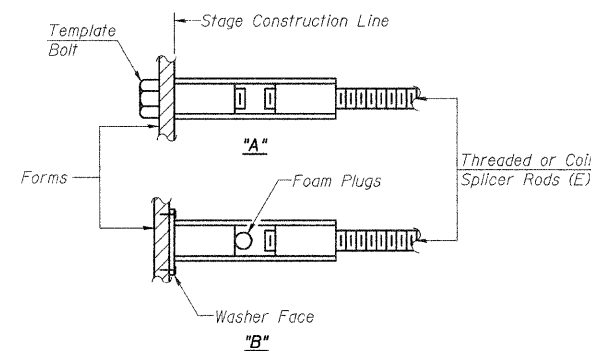
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.  
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) =  $1.25 \times f_y \times A_t$
  - ② Minimum \*Pull-out Strength (Tension in kips) =  $0.66 \times f_y \times A_t$
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete



**BAR SPLICER ASSEMBLY ALTERNATIVES**

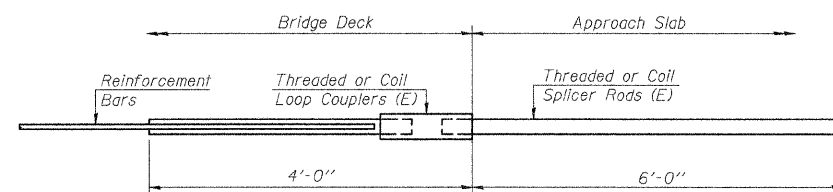
\*\*Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



**INSTALLATION AND SETTING METHODS**

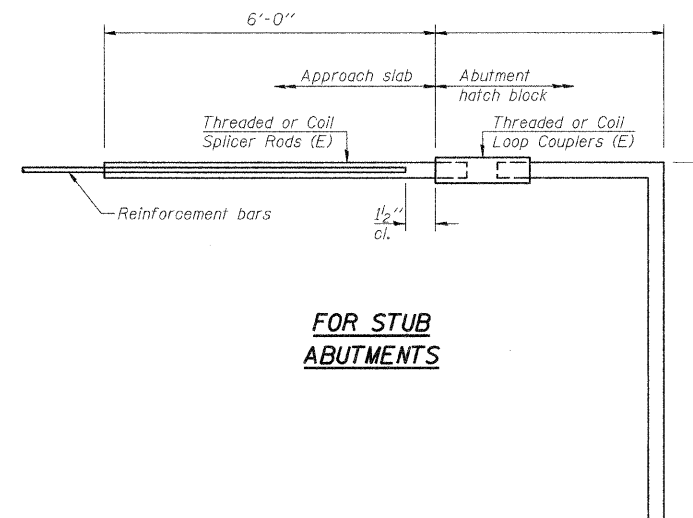
"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-2"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



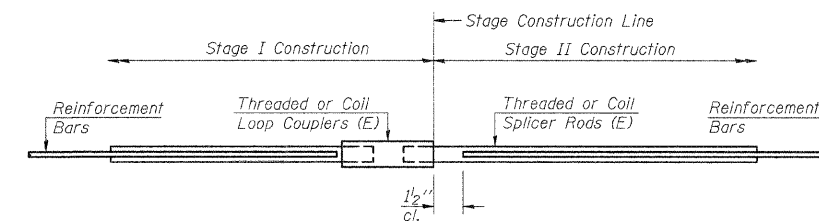
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



**FOR STUB ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



**STANDARD**

Bar Size	No. Assemblies Required	Location
#5	52	Deck
#6	36	Abutment
#5	32	Approach Slab

DESIGNED	M.H.
CHECKED	P.B.
DRAWN	C.L.
CHECKED	M.H./P.B.

BSD-1

10-1-08

**BAR SPLICER ASSEMBLY DETAILS**

IL ROUTE 84 OVER ROCK RIVER  
FAP ROUTE 595 (IL 84), SECTION (1,2)B-2-M  
HENRY COUNTIES  
STATION 189+44  
STRUCTURE NO. 037-0128

SCALE: DATE: Sept. 30, 2009  
Soodan & Associates, Inc.  
100 North LaSalle Street, Suite 1800  
Chicago, Illinois 60602

**Soodan**