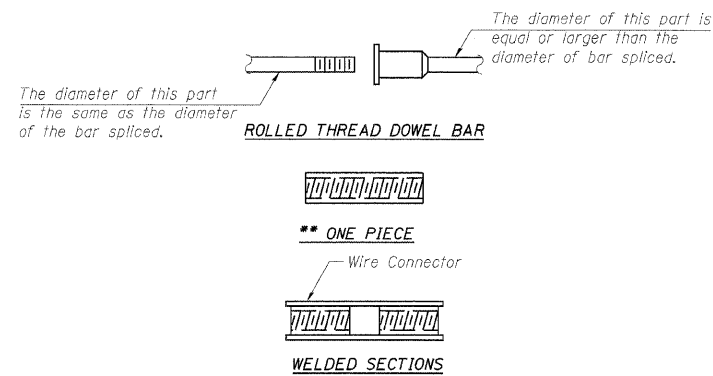
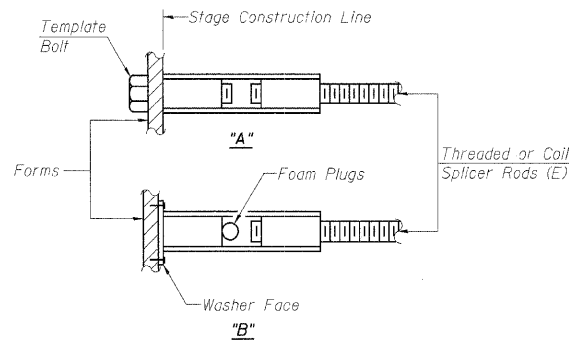


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**BAR SPLICER ASSEMBLY ALTERNATIVES**

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



**INSTALLATION AND SETTING METHODS**

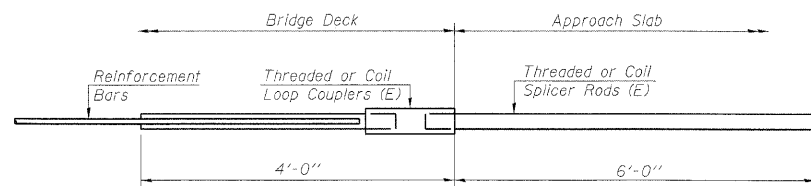
"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.

**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:

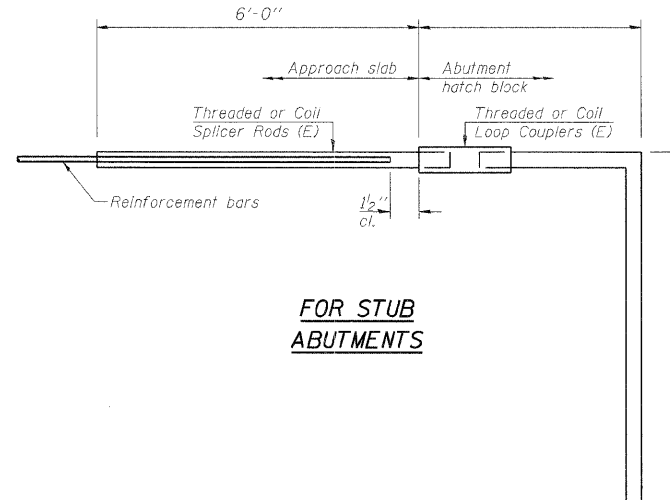
- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
(Tension in kips)
  - ② Minimum \*Pull-out Strength =  $0.66 \times f_y \times A_t$   
(Tension in kips)
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28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

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



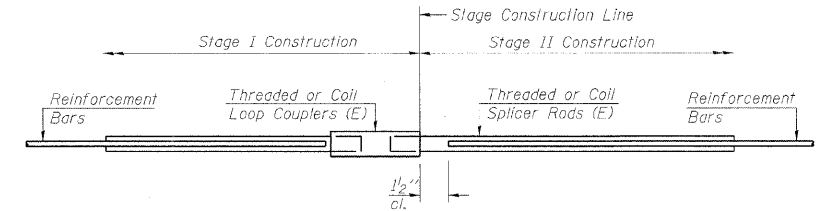
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

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	72	Deck
#4	100	Approach Slab
#5	184	Approach Slab
#5	160	Approach Footing

**BAR SPLICER ASSEMBLY DETAILS  
STRUCTURE NO. 022-0138**

DESIGNED -	MFB
CHECKED -	KWS
DRAWN -	RMG
CHECKED -	KWS

BSD-1

10-1-08

**benesch**

alfred benesch & company  
Engineers - Surveyors - Planners  
205 North Michigan Avenue, Suite 2400  
Chicago, Illinois 60601  
312-565-0460 Job No. 10050

SHEET NO. 17	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	290	22(1, 1-1, 2&3)RS-7	DUPAGE	546	392
38 SHEETS	CONTRACT NO. 60G51		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

x:\100000s\100050\engineer\ing\_documents\contract\1\SN.022.0138.0137\_Roh\w.ring\_Rd\0138-60G51-017-Bar-Splicer.dgn 18:10:35 11\12\2009