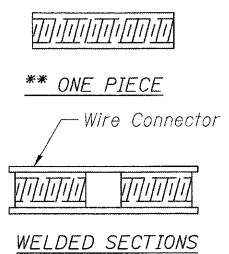
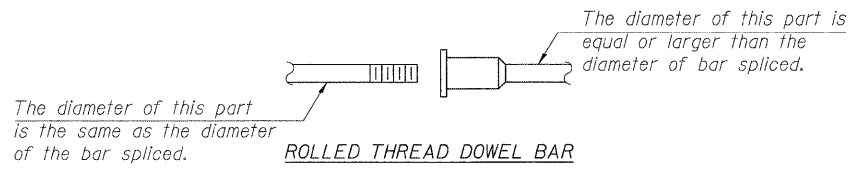
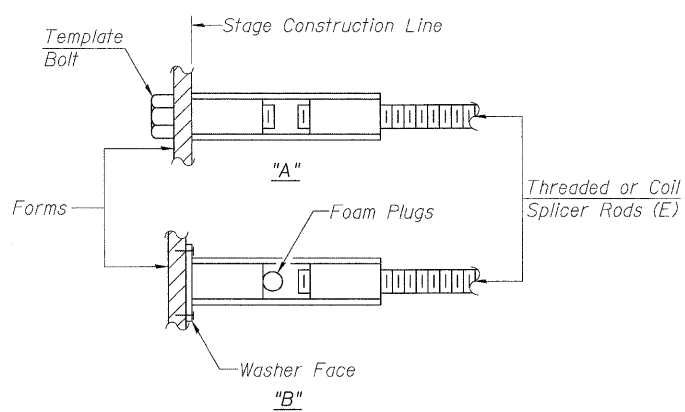


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

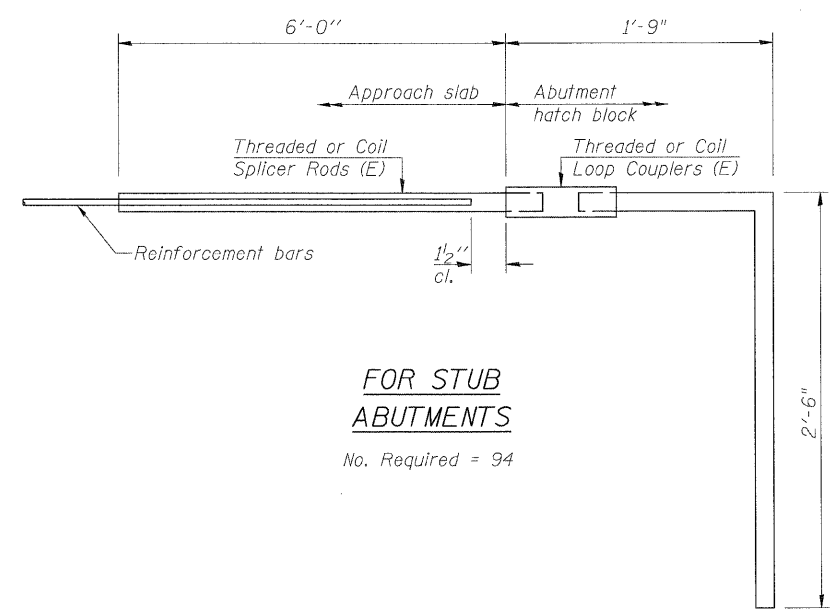
"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.

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:

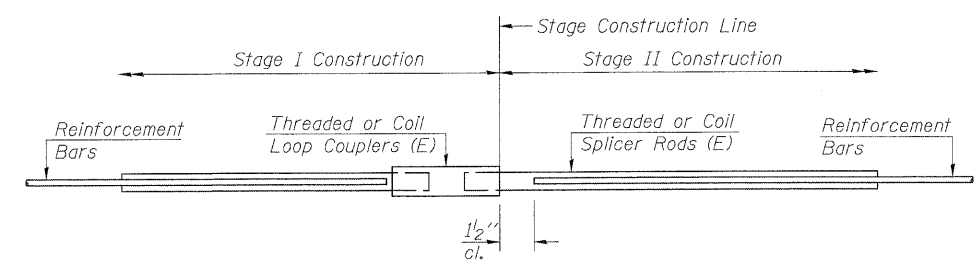
- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
 - ② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

BAR SPLICER 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 STUB ABUTMENTS

No. Required = 94



STANDARD

Bar Size	No. Assemblies Required	Location
#4	50	Appr. Slab
#5	172	Appr. Slab
#5	6	N. Abut.
#6	5	N. Abut.
#7	10	N. Abut.
#6	16	Pier 1
#7	8	Pier 1
#6	16	Pier 2
#7	8	Pier 2

Bar Size	No. Assemblies Required	Location
#5	6	S. Abut.
#6	5	S. Abut.
#7	10	S. Abut.
#4	8	Deck
#5	607	Deck
#6	14	Deck
Total	941	

BAR SPLICER ASSEMBLY DETAILS
S.N. 018-0064

DESIGNED	SCD
CHECKED	DRB
DRAWN	THW
CHECKED	SCD

ie consultants

IE CONSULTANTS, INC
6420 SOUTH SIXTH STREET
SPRINGFIELD, ILLINOIS 62712
TEL. (217) 529-8027
FAX (217) 529-4543
WWW.IE-CONSULTANTS.COM

BSD-1 10-1-08

SHEET NO. 30 OF 33 SHEETS	F.A.P. RTE. 116	SECTION (112BR1)B	COUNTY CUMBERLAND	TOTAL SHEETS 72	SHEET NO. 61
	CONTRACT NO. 74236				
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					