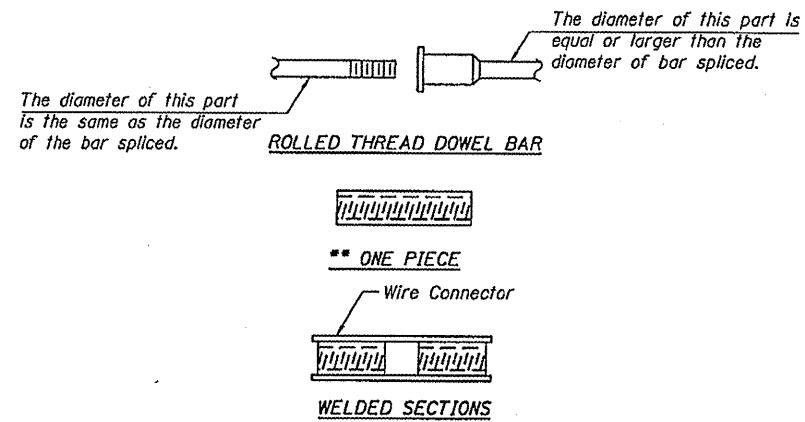
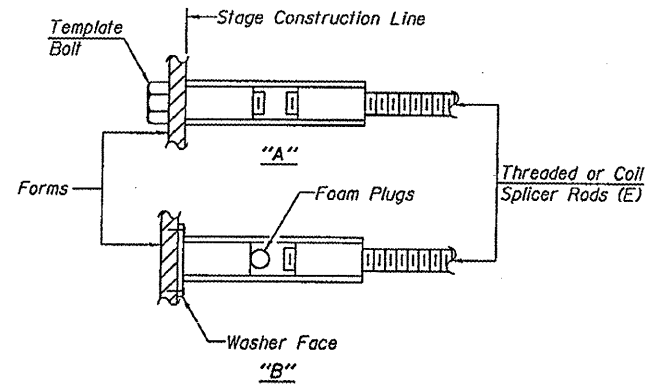


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

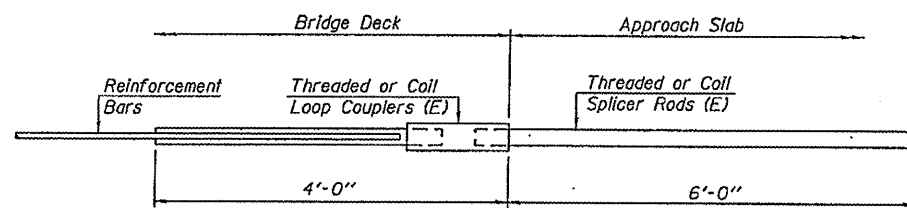
"A": Set bar splicer assembly by means of a template bolt.
"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E): Indicates epoxy coating.

NOTES

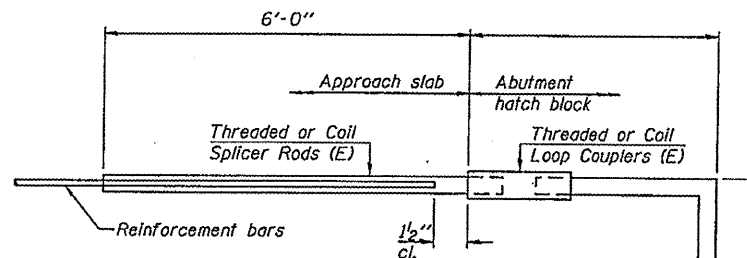
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the 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) = $1.25 \times f_y \times A_1$
 - ② Minimum * Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_1$
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_1 = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

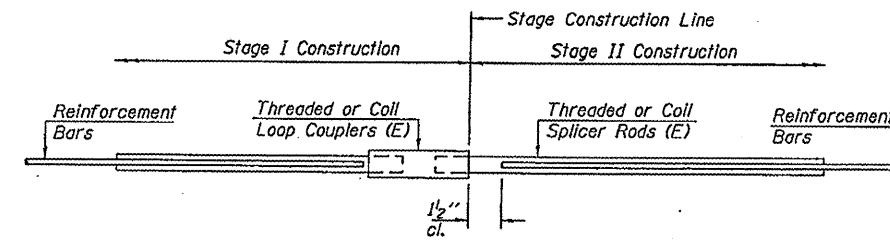
BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0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



FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS



FOR STUB ABUTMENTS



STANDARD

Bar Size	No. Assemblies Required	Location
#5	16	Each abutment
#6	8	Each backwall

Bar Splicer for #6 bar	
Min. Capacity	= 33.1 kips - tension
Min. Pull-out Strength	= 17.4 kips - tension
No. Required	= 16

Bar Splicer for #5 bar	
Min. Capacity	= 23.0 kips - tension
Min. Pull-out Strength	= 12.3 kips - tension
No. Required	= 32

DESIGNED	GGE
CHECKED	AJB
DRAWN	ballva
CHECKED	GGE AJB

SEPTEMBER 16, 2009

EXAMINED *Carl Perry*
ENGINEER OF STRUCTURAL SERVICES

PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

BSD-1 5-16-08

BAR SPLICER ASSEMBLY DETAILS
US RTE 150 OVER I-74
SN 057-0073

SHEET NO.	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6	2466	(57-18)BJR	Mc LEAN	17	16
7 SHEETS					
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 70807					