

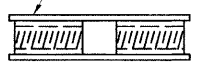
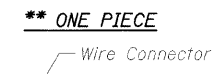
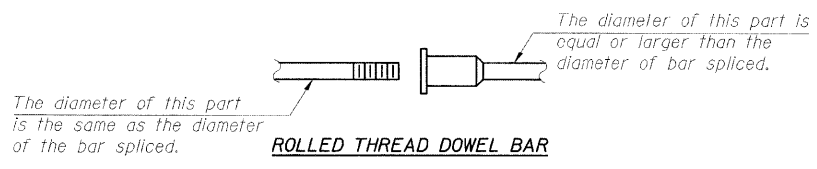
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SUBSHEETS	SHEET NO.	SHEET NO. 7 9 SHEETS
FAP 824	*	COLES	52	41	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	Contract #14157 *16-2, 19X-2)RS-1, 19B, 19BR		

NOTES

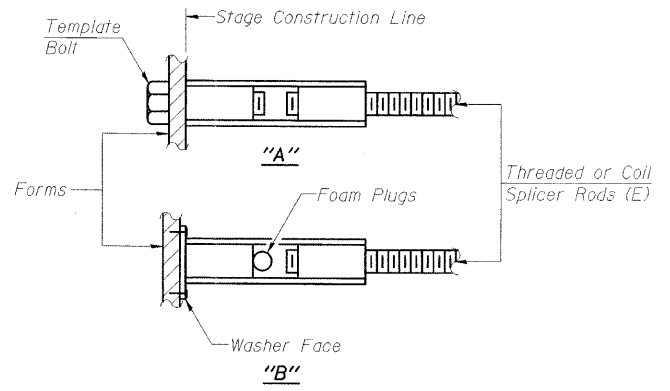
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the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



BAR SPLICER ASSEMBLY ALTERNATIVES

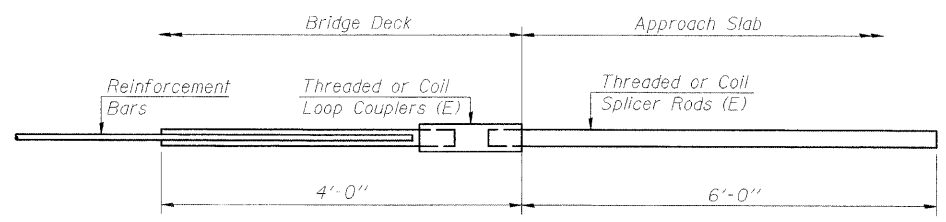
**Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



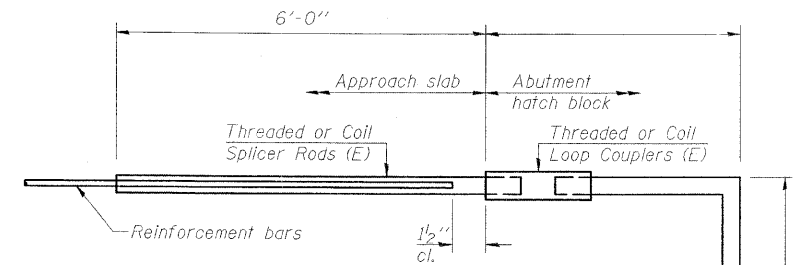
INSTALLATION AND SETTING METHODS

"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.

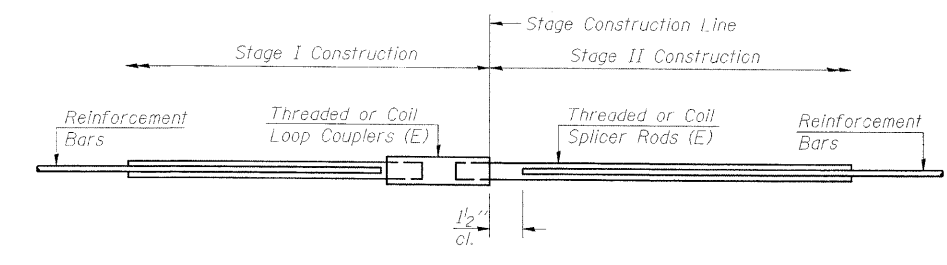
BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0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



FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS



FOR STUB ABUTMENTS



STANDARD

Bar Splicer for #5 bar		
Min. Capacity =	23.0 kips - tension	
Min. Pull-out Strength =	12.3 kips - tension	
No. Required =	0	

Bar Splicer for #5 bar		
Min. Capacity =	23.0 kips - tension	
Min. Pull-out Strength =	12.3 kips - tension	
No. Required =	0	

Bar Size	No. Assemblies Required	Location
#5	112	Bottom Slab
#5	48	Walls
#6	120	Top Slab

BAR SPLICER ASSEMBLY DETAILS
US 45 OVER KICKAPOO CREEK
FAP ROUTE 824
SECTION (16-2, 19X-2)RS-1, 19B, 19BR
COLES COUNTY
STATION 1381+22.50
STRUCTURE NO. 015-2023

ESCA
CONSULTANTS, INC.

DESIGNED BY:	DAJ	07/08
DRAWN BY:	HAS	07/08
CHECKED BY:	ELH	08/08
APPROVED BY:	ADP	08/08