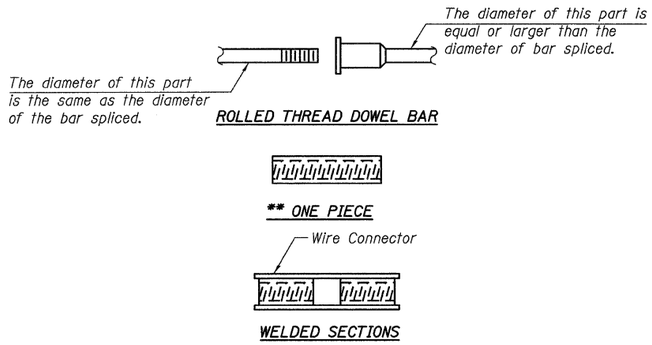
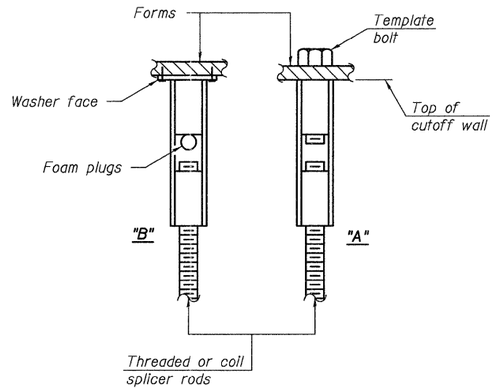


BAR SPLICER ASSEMBLY ALTERNATIVES

**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.

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.

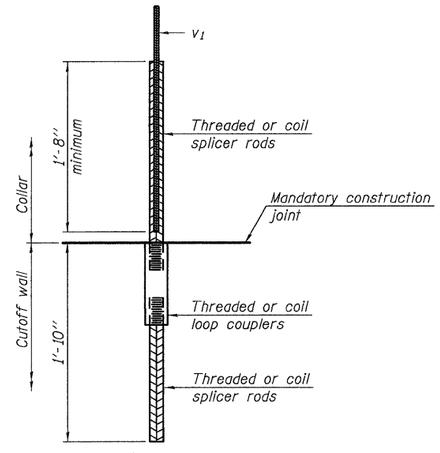
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

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 for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 20



FOR BOX CULVERT END SECTIONS

DESIGNED - DAVID L. GREIFZU	EXAMINED	Thomas J. Domagalski ENGINEER OF BRIDGE DESIGN	DATE - August 1, 2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY DETAILS STRUCTURE NO. 018-8311	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - MICHAEL D. ROLAPE						828	(108,109,110)RS-3	CUMBERLAND	56	43
DRAWN - MICHAEL B. MOSSMAN	PASSED							CONTRACT NO. 74252		
CHECKED - D.L.G. / M.D.R.		ENGINEER OF BRIDGES AND STRUCTURES			SHEET NO. 5 OF 6 SHEETS			ILLINOIS FED. AID PROJECT		