

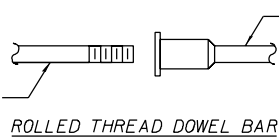
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 332	47BR-2	VERMILION	68	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 21
23 SHEETS

Contract #70420

The diameter of this part is the same as the diameter of the bar spliced.

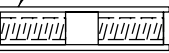


ROLLED THREAD DOWEL BAR



** ONE PIECE

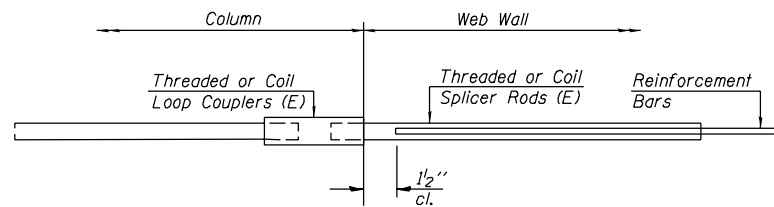
Wire Connector



WELDED SECTIONS

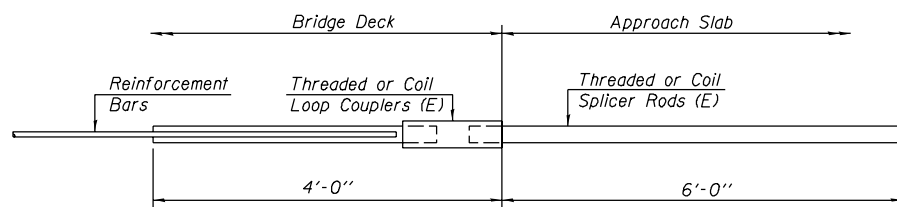
BAR SPLICER ASSEMBLY ALTERNATIVES

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



FOR PIER

Bar Size	No. Assembly Required
#5	166

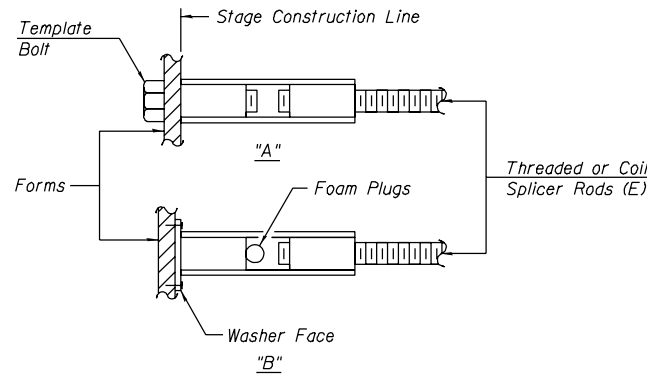


FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar	
Min. Capacity =	23.0 kips - tension
Min. Pull-out Strength =	9.2 kips - tension
No. Required =	80

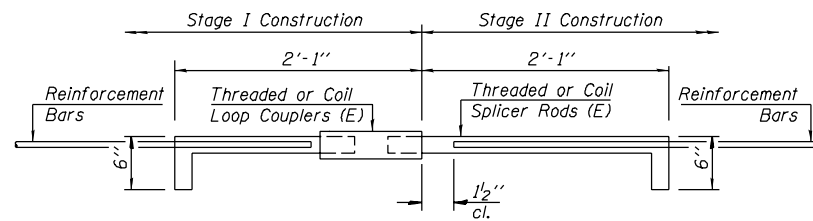
DESIGNED	D. P. Narielwala
CHECKED	S. M. Ryan
DRAWN	h.t. duong
CHECKED	DPN/SMR

EXAMINED	August 4, 2006
PASSED	Thomas J. Damagala ENGINEER OF BRIDGE DESIGN
	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES



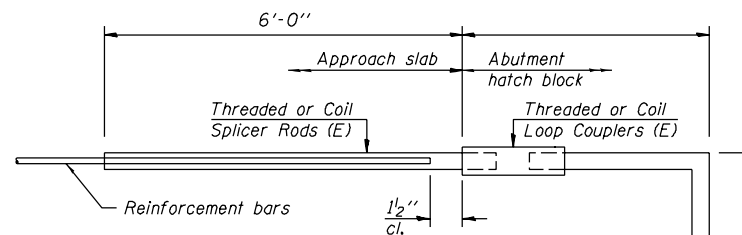
INSTALLATION AND SETTING METHODS

"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.



FOR DIAPHRAGM AT ABUTMENTS

Bar Splicer for #6 bar	
Min. Capacity =	33.1 kips - tension
Min. Pull-out Strength =	13.3 kips - tension
No. Required =	6



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar	
Min. Capacity =	23.0 kips - tension
Min. Pull-out Strength =	9.2 kips - tension
No. Required =	

NOTES

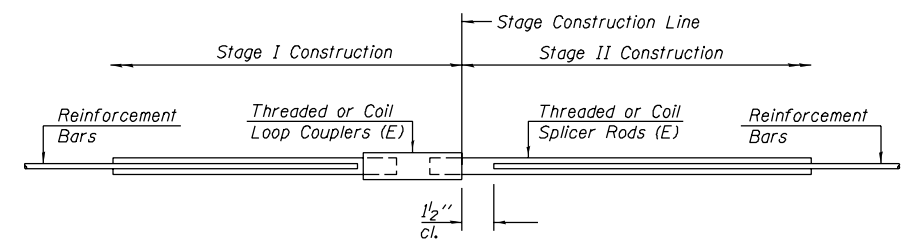
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the 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:

- Minimum Capacity = $1.25 \times f_y \times A_l$
(Tension in kips)
- Minimum *Pull-out Strength = $1.25 \times f_{s,allow} \times A_l$
(Tension in kips)

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 $f_{s,allow}$ = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_l = 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	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



STANDARD

Bar Size	No. Assemblies Required	Location
#5	424	Deck
#5	6	Abutments
#6	10	Abut. diaph.
#6	6	Pier diaph.
#7	18	Abutment
#7	12	Pier

BAR SPLICER ASSEMBLY DETAILS
F.A.P. RTE. 332 - SEC. 47BR-2
VERMILION COUNTY
STATION 2522+72.00
STRUCTURE NO. 092-0206