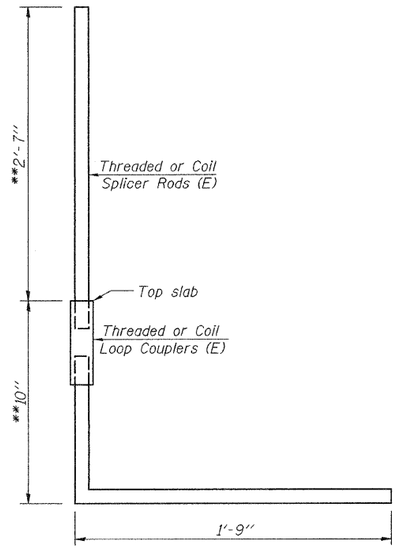
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 330	104B-3-BR	WILL	42	27
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 8
11 SHEETS

Contract No. 60B80

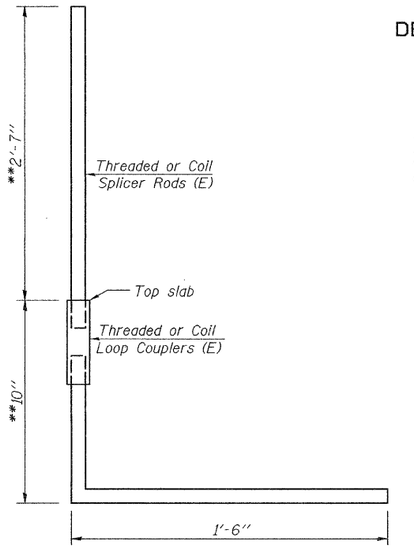


***FOR HEADWALLS

(Cast into Three-Sided Precast Concrete Structure)

Bar Splicer d for #6 bar
Min. Capacity = 33.1 kips - tension
Min. Pull-out Strength = 17.4 kips - tension
No. Required = 84

***The cost of the bar splicer assemblies for the headwalls shall be included in the cost of the Three-Sided Precast Concrete Structure 32'x10'.

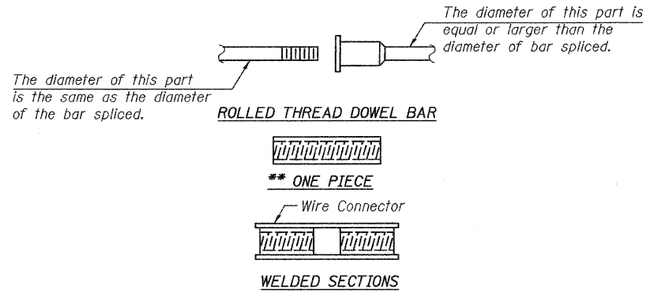


***FOR HEADWALLS

(Cast into Three-Sided Precast Concrete Structure)

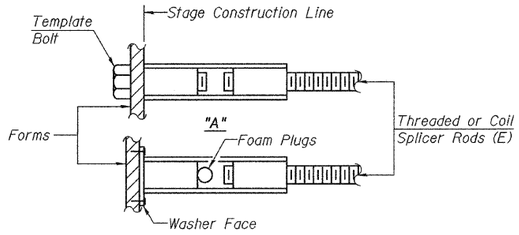
Bar Splicer d_1 for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 70

***The cost of the bar splicer assemblies for the headwalls shall be included in the cost of the Three-Sided Precast Concrete Structure 32'x10'.



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.

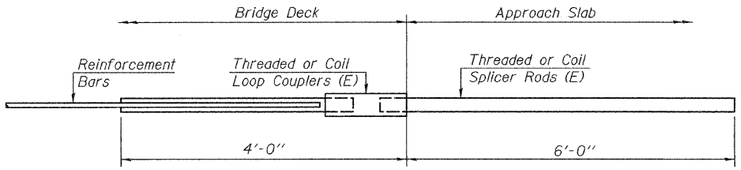
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) = 1.25 x fy x A_t

② Minimum *Pull-out Strength (Tension in kips) = 0.66 x fy x A_t

Where fy = Yield strength of lapped reinforcement bars in ksi.
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

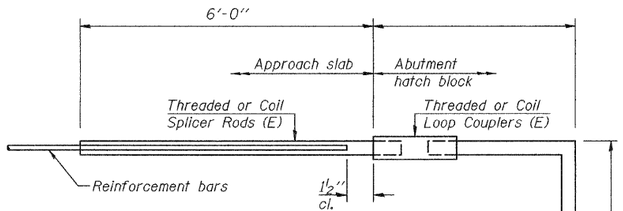
BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0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



FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

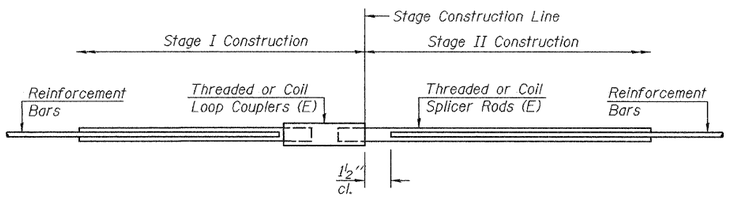
Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =

**May vary depending on top slab thickness of Three Sided Precast Concrete Structure. The horizontal leg of the bar splicer shall be 3" clear from bottom of the top slab.



FOR STUB ABUTMENTS

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



STANDARD

Bar Size	No. Assemblies Required	Location
#5	28	Footing
#5	32	Pedestal

DESIGNED	Dhruv P. Narielwala
CHECKED	Stephen M. Ryan
DRAWN	h.t. duong
CHECKED	DPN/SMR

November 20 2007

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

BAR SPLICER ASSEMBLY DETAILS
F.A.P. RT. 330 SEC. 104B-3-BR
WILL COUNTY
STATION 149+06.00
STRUCTURE NO. 099-4649