

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 303 IL 173	248&B-2R-1	LAKE	137	79
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 16
17 SHEETS

NOTES

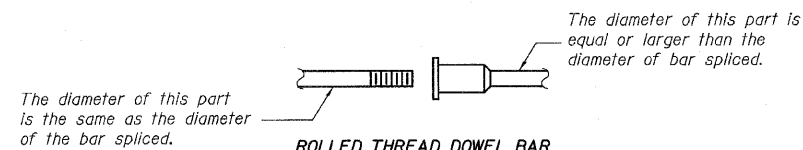
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 400 MPa yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the 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 = $1.25 \times 10^{-3} \times f_y \times A_t$
(Tension in KN)
- ② Minimum *Pull-out Strength = $1.25 \times 10^{-3} \times f_{s_{allow}} \times A_t$
(Tension in KN)

Where f_y = Yield strength of lapped reinforcement bars in MPa.
 $f_{s_{allow}}$ = Allowable tensile stress in lapped reinforcement bars in MPa (Service Load)
 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 KN - tension	Min. Pull-Out Strength KN - tension
#16	610	100	40
#19	790	150	60
#25	1.04m	250	100
#29	1.37m	350	140

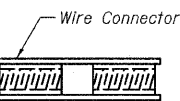
Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



ROLLED THREAD DOWEL BAR



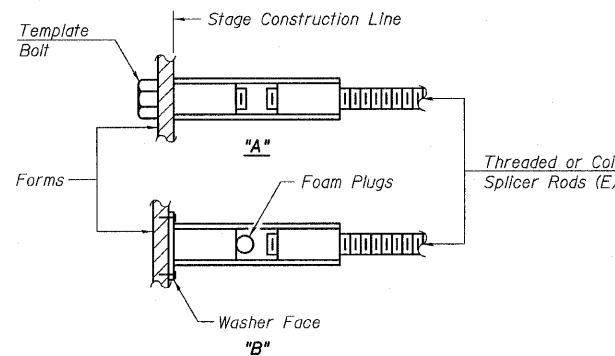
** ONE PIECE



WELDED SECTIONS

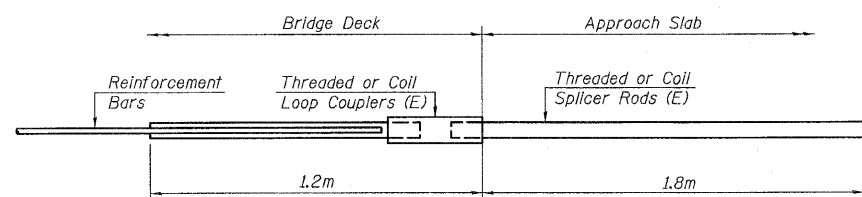
BAR SPLICER ASSEMBLY ALTERNATIVES

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



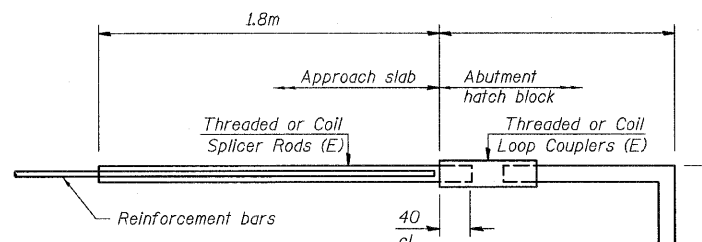
INSTALLATION AND SETTING METHODS

"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.



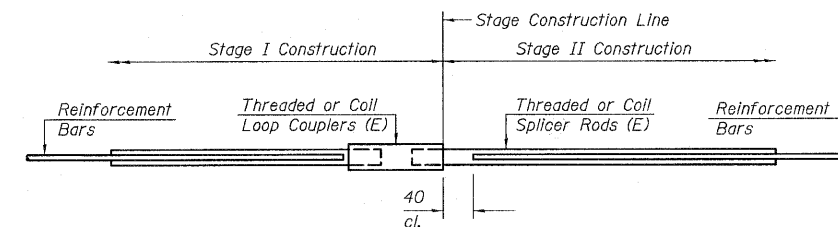
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #16 bar	
Min. Capacity = 100 KN - tension	
Min. Pull-out Strength = 40 KN - tension	
No. Required = 84	



FOR PILE BENT ABUTMENTS

Bar Splicer for #16 bar	
Min. Capacity = 100 KN - tension	
Min. Pull-out Strength = 40 KN - tension	
No. Required = 0	



STANDARD

Bar Size	No. Assemblies Required	Location
#16	118	Deck
#16	4	Diaphragm
#16	20	Abutment
#16	80	Approach Footing
#16	76	Approach Pavement

BAR SPLICER DETAILS
FAP 303 IL. ROUTE 173
OVER WEST BOAT CHANNEL
SECTION 134(B&B-2)R-1
LAKE COUNTY
STATION 25+098.390
STRUCTURE NO. 049-0055

DESIGNED	PAT2
CHECKED	RCJ/JRF
DRAWN	RDS
CHECKED	PAT2

BSD-1 10-31-02

