

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	"SET"
FAP 303 IL 173	134(B&B-2)R-1	LAKE	137	100
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 20
23 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:

- Minimum Capacity = $1.25 \times 10^{-3} \times f_y \times A_t$
(Tension in KN)
 - 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."

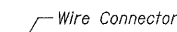
The diameter of this part is the same as the diameter of the bar spliced.

The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



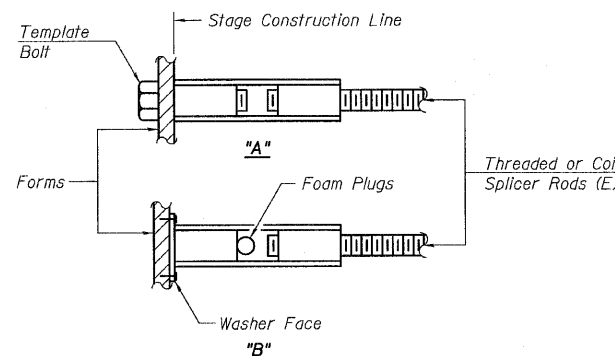
** ONE PIECE



WELDED SECTIONS

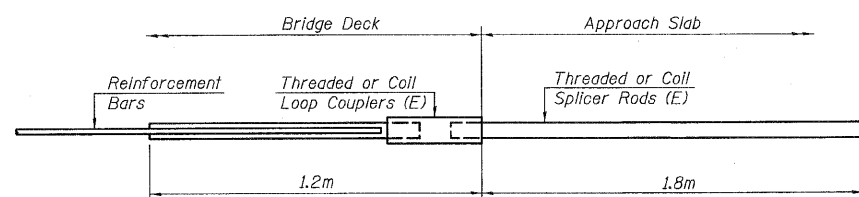
BAR SPLICER ASSEMBLY ALTERNATIVES

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



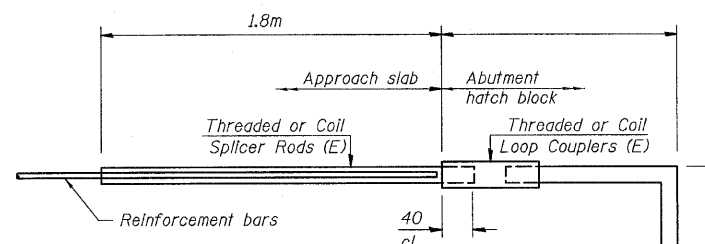
INSTALLATION AND SETTING METHODS

"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.



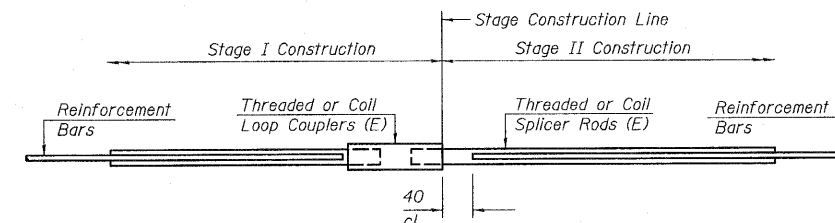
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #16 bar	
Min. Capacity = 100 KN - tension	
Min. Pull-out Strength = 40 KN - tension	
No. Required = 88	



FOR PILE BENT ABUTMENTS

Bar Splicer for #16 bar	
Min. Capacity = 100 KN - tension	
Min. Pull-out Strength = 40 KN - tension	



STANDARD

Bar Size	No. Assemblies Required	Location
#16	581	Deck
#19	16	Diaphragms
#19	12	Abutments
#16	26	Pier
#19	2	Pier
#29	6	Pier
#16	146	Approaches

BAR SPLICER DETAILS
FAP 303 IL. ROUTE 173
OVER EAST BOAT CHANNEL
SECTION 134(B&B-2)R-1
LAKE COUNTY
STATION 26+271.906
STRUCTURE NO. 049-0198

DESIGNED	JRF
CHECKED	RCJ
DRAWN	RDS
CHECKED	JRF



3116-049-0198.dgn