

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80/94		COOK	631	498
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
• (2425 & 2626) R-2		CONTRACT NO. 62111		

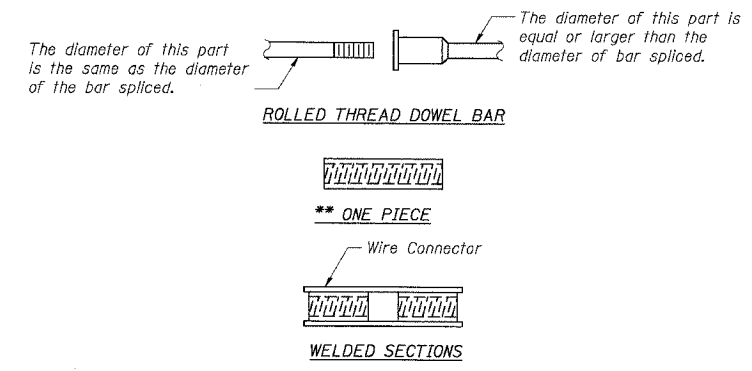
NOTES

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 = $1.25 \times f_y \times A_t$
(Tension in kN)
 - ② Minimum *Pull-out Strength = $1.25 \times f_{s_{allow}} \times A_t$
(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 (mm²).
 * = 28 day concrete

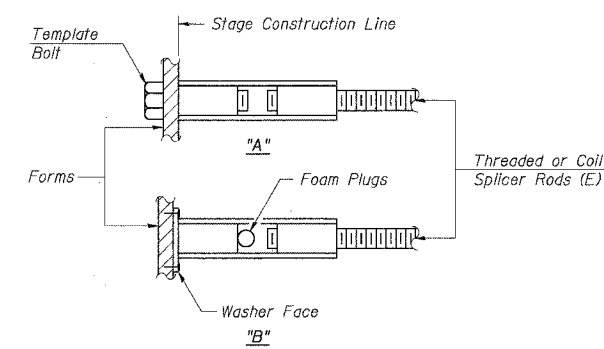
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kN - tension	Min. Pull-Out Strength kN - tension
#15	640 mm	100	40
#20	790 mm	150	60
#25	1.32 m	250	100
#30	1.85 m	350	140
#35	2.64 m	500	200

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."
 All dimensions in millimeters (mm) except as noted.



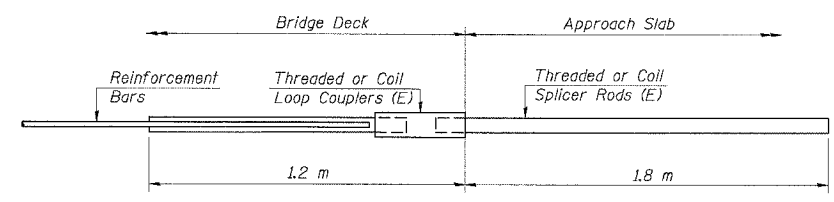
BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

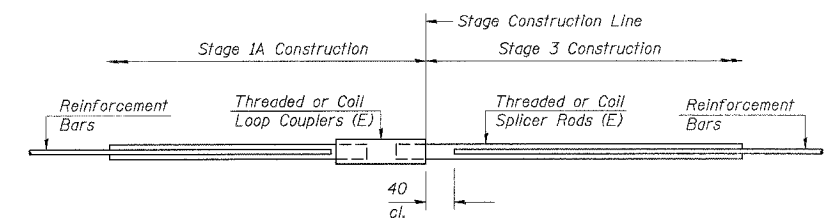
"A": Set bar splicer assembly by means of a template bolt.
 "B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #15 bar		
Min. Capacity = 100 kN - tension		
Min. Pull-out Strength = 40 kN - tension		
No. Required =	Deck Plan	Construction Stage
77	I	1
120	II	4
96	III	2 & 3
91	IV	2

** Provided in Previous Contract 62110, See Note 1.



STANDARD

No. Assemblies Required				Locations
Bar Size #15	Bar Size #20	Bar Size #25	Bar Size #30	
6		8		W. Abutment **
11	4	14	24	Pier 1
11	4	14	24	Pier 2
11	6	14	24	Pier 1 **
11	6	14	24	Pier 2 **
6		8		E. Abutment **
880	24			Deck Plan I/II **
805	24			Deck Plan III/IV

** Provided in Previous Contract 62110, See Note 1.

Note:

1. Bar Splicers were paid for and the coupler ends installed during a previous contract. The splicer rods are in storage under ownership of the Department. The Contractor shall obtain the splicer rods from the Engineer and install them under this contract. Installation of the splicer rods including cleaning of coupler ends and splicer rods shall be included with Concrete Structures or Concrete Superstructure as applicable.

SHT. BS-56 OF 60

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. ROUTE 80/94 (KINGERY EXPRESSWAY)
 EB & WB INSIDE LANES (MAINLINE) CONSTRUCTION
 I-80/94 OVER BURNHAM AVENUE
 STRUCTURE NO. 016-2791 STA. 6+772.591
 SECTION 1977-121-R
 COOK COUNTY

BAR SPLICER DETAILS

DATE: 7/18/2005
 DRAWN BY: LG
 CHECKED BY: MJK

TENG
 TENG & ASSOCIATES, INC.
 ENGINEERS/ARCHITECTS/PLANNERS
 CHICAGO, ILLINOIS

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