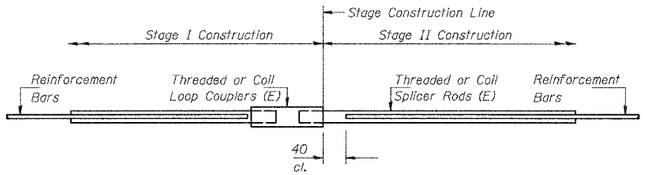
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.P. 383	29R-T	McHENRY	88	81
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT-		

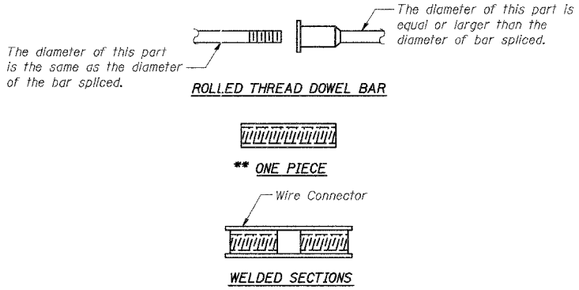
CONTRACT NO. 62202

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



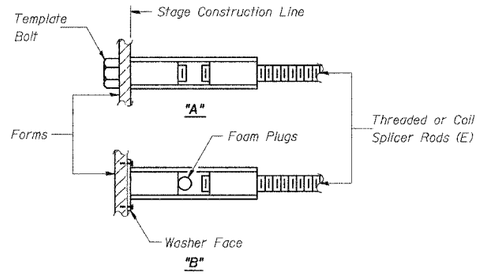
BAR SPLICER ASSEMBLY DETAIL

Bar Size	No. Assemblies Required	Location
#16	212	Culvert T & B Slab
#16	53	Culvert Walls



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.

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 (Tension in kN) $= 1.25 \times 10^{-3} \times f_y \times A_1$

② Minimum *Pull-out Strength (Tension in kN) $= 1.25 \times 10^{-3} \times fs_{allow} \times A_1$

Where f_y = Yield strength of lapped reinforcement bars in MPa.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in MPa (Service Load)
A_1 = Tensile stress area of lapped reinforcement bars (mm^2).
* = 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
#13	510 mm	68	27
#16	610 mm	102	41
#19	790 mm	147	59
#22	1.04 m	201	80
#25	1.37 m	262	105

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 are in millimeters (mm) except as noted.

Sheet S2-5 of 8

BAR SPLICER ASSEMBLY DETAILS

U.S. ROUTE 14
OVER MOKELER CREEK
SECTION 29R-T
McHENRY COUNTY
STA. 0+956.56
STRUCTURE NO. 056-0076

Date: February, 2005 Scale : None

DESIGNED	J.S. / R.A.
CHECKED	H.T. / N.U.S
DRAWN	J.S.
CHECKED	H.T./M.R.

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BSD-1 (M) 9-1-03