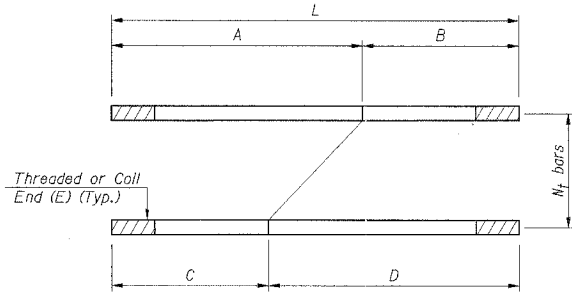


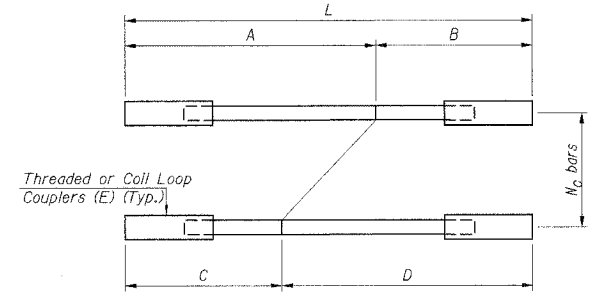
INSTALLATION AND SETTING METHODS

"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.



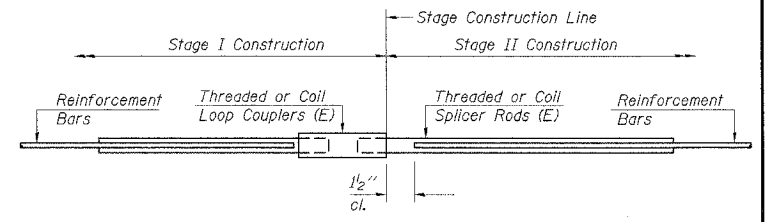
VARIABLE LENGTH THREADED TAIL ASSEMBLIES
 For use in Stage II Construction

Location	Bar Mark	Size	A	B	C	D	L	N _b
S. Abut	113(E)	#8	11'-4"	1'-2"	6'-0"	6'-6"	12'-6"	11
S. Abut	114(E)	#9	11'-7 1/2"	1'-1 1/2"	6'-6 1/2"	6'-6 1/2"	12'-9"	15
N. Abut	14(E)	#8	8'-10"	17'-1"	17'-1"	8'-10"	25'-11"	22
N. Abut	116(E)	#8	8'-4"	8'-4"	8'-4"	8'-4"	16'-8"	3



VARIABLE LENGTH COUPLER TAIL ASSEMBLIES
 For use in Stage I Construction

Location	Bar Mark	Size	A	B	C	D	L	N _c
S. Abut	1102(E)	#8	15'-5"	5'-3"	10'-1"	10'-7"	20'-8"	11
S. Abut	1107(E)	#9	15'-6"	5'-0"	10'-1"	10'-5"	20'-6"	15
N. Abut	16(E)	#8	10'-7"	5'-7"	5'-7"	10'-7"	16'-2"	22
N. Abut	117(E)	#8	10'-2"	10'-2"	10'-2"	10'-2"	20'-4"	3



STANDARD LENGTH ASSEMBLIES

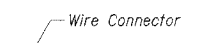
Bar Size	South Abutment	North Abutment	Superstructure
#5	83	92	447
#6	5	5	
#7			
#8			
#9			

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

ROLLED THREAD DOWEL BAR



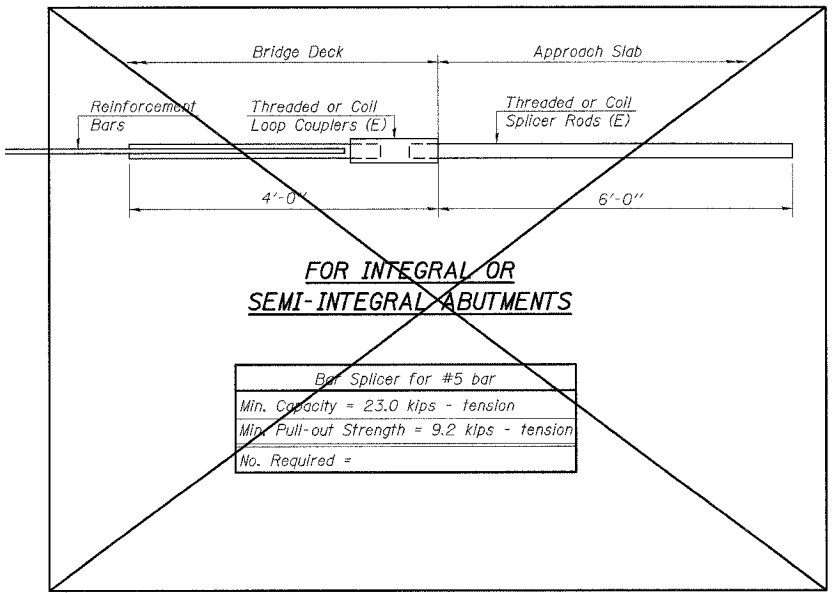
** ONE PIECE



WELDED SECTIONS

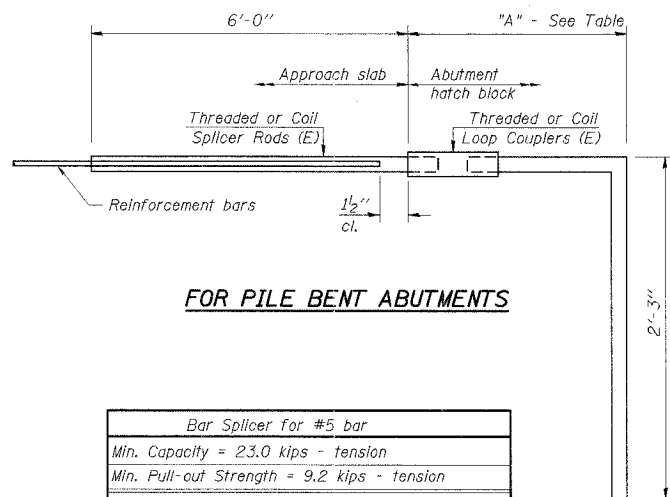
BAR SPLICER ASSEMBLY ALTERNATIVES

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



FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar		
Min. Capacity =	23.0 kips - tension	
Min. Pull-out Strength =	9.2 kips - tension	
No. Required =		



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar		
Min. Capacity =	23.0 kips - tension	
Min. Pull-out Strength =	9.2 kips - tension	
Location	No. Req'd	"A" Dim.
South Abutment, Stage I	22	3'-2"
South Abutment, Stage II	38	2'-11"
North Abutment, Stage I	15	2'-9"
North Abutment, Stage II	50	2'-5"

* The total number of variable length bar splicer assemblies required shall be N_c + N_t, paid for as BAR SPLICERS

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 f_y x A₁
 ② Minimum *Pull-out Strength (Tension in kips) = 1.25 x f_{s,allow} x A₁
 Where f_y = Yield strength of lapped reinforcement bars in ksi.
 f_{s,allow} = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A₁ = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete
 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."

Bar Size to be Spliced	Splicer Rod or Dowel Bar Standard Lengths	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

SHT. S-043

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. ROUTE 57 (INTERSTATE 57)
 I-57 NB OVER WB CONNECTOR
 SN 016-0072 OLD, SN 016-2852 NEW
 STA. 238+73.54
 COOK COUNTY, SECTION (1516.1, 1717, & 1818) R-4
BAR SPLICER DETAILS

DRAWN BY: VV
 CHECKED BY: RDS
 DATE: 03/07/06

TENG
 TENG & ASSOCIATES, INC.
 ENGINEERS ARCHITECTS PLANNERS
 205 N. MICHIGAN AVE., CHICAGO, IL 60601
 TELEPHONE: 312.464.6000

IJDET
 \NF5-000\PROJ\CIVIL\DOCUMENT\030860\STRUCT\CON\BSPICER.DGN
 3-01-2006 15:58:37