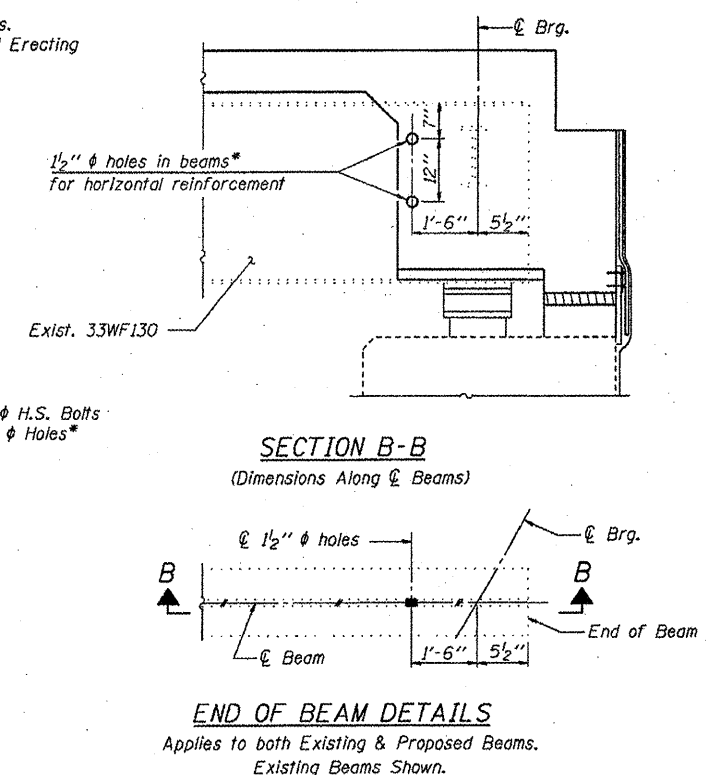


Note:  
Two hardened washers shall be required over all oversize holes for diaphragms.

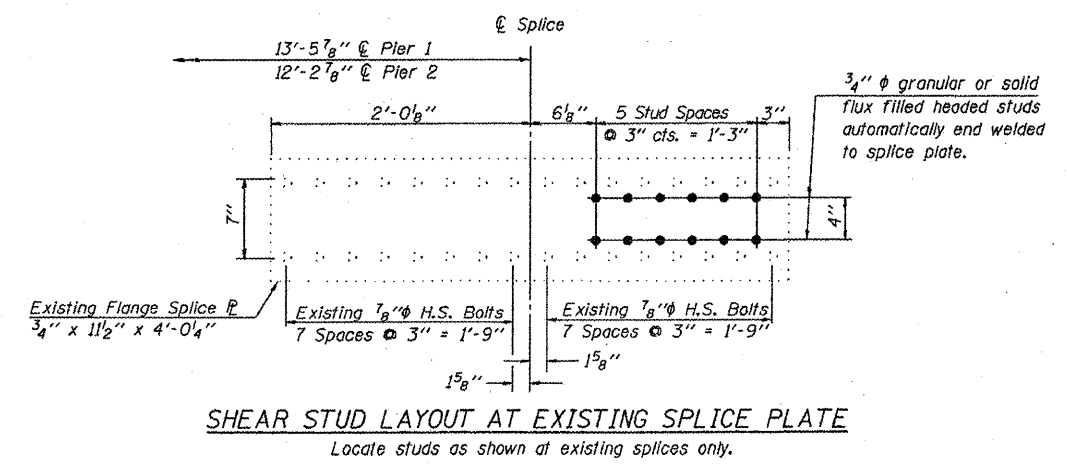
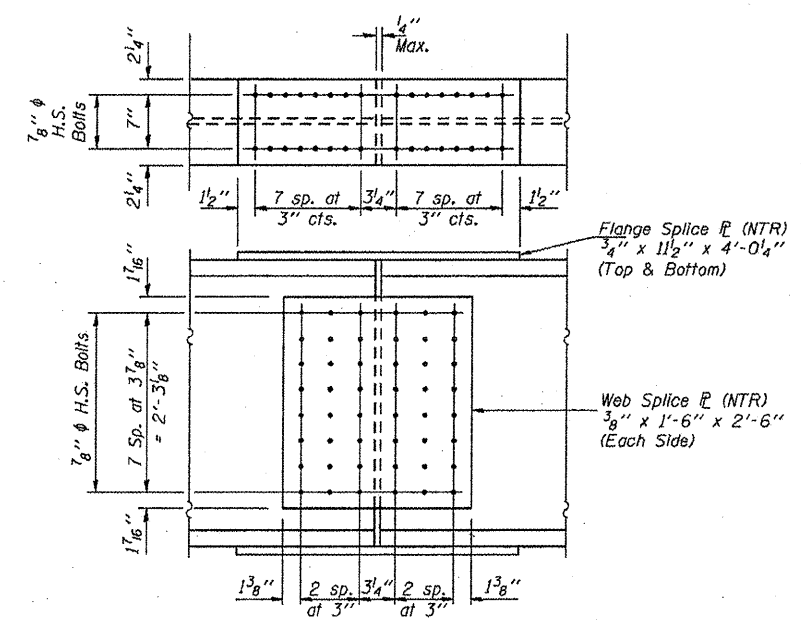


		Abuts.	Piers
RR	(k)	46.4	61.8
Rt	(k)	32.1	37.9
Imp.	(k)	9.0	10.6
R (Total)	(k)	87.5	110.3

		0.4 Sp. 1 0.6 Sp. 4	Piers 1 & 2	0.5 Sp. 2
Is	(in <sup>4</sup> )	6710	6710	6710
Ic (n)	(in <sup>4</sup> )	17200	---	17200
Ic (3n)	(in <sup>4</sup> )	12590	---	12590
Ss	(in <sup>3</sup> )	406	406	406
Sc (n)	(in <sup>3</sup> )	586	---	586
Sc (3n)	(in <sup>3</sup> )	529	---	529
l <sub>p</sub>	(k/ft.)	0.75	1.00	0.75
M <sub>l</sub>	(k)	145	298	108
s <sub>l</sub>	(k/ft.)	0.25	---	0.25
M <sub>s</sub>	(k)	55	---	53
M <sub>t</sub>	(k)	316	170	323
M (Imp)	(k)	89	48	87
M <sub>3</sub> [M <sub>t</sub> +M(Imp)]	(k)	675	363	683
M <sub>a</sub>	(k)	1140	860	1100
M <sub>u</sub>	(k)	1520	---	1540
fs <sub>l</sub> non-comp (k.s.i.)		4.3	8.8	3.2
fs <sub>l</sub> (comp) (k.s.i.)		1.2	---	1.2
fs <sub>3</sub> (k.s.i.)		13.8	10.7	14.0
fs (Overload) (k.s.i.)		19.3	19.5	18.4
fs (Total) (k.s.i.)		---	25.4	---
VR	(k)	44.8	---	39.1

\*\*Compact, braced section.  
\*\*\*Non-compact, braced section.

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).  
Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.  
Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)  
VR is the maximum Live Load + Impact shear range in span.  
The Plastic Moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1.  
fs (Total) (Non-compact section) is the sum of the stresses due to 1.3[M<sub>l</sub> + M<sub>s</sub> + 5/3(M<sub>t</sub> + M(Imp))].  
fs (Overload) is the sum of the stresses due to M<sub>l</sub> + M<sub>s</sub> + 5/3(M<sub>t</sub> + M(Imp)).  
M<sub>l</sub> - Moment due to dead loads on non-composite section.  
M<sub>s</sub> - Moment due to dead loads on composite section.  
M<sub>t</sub> - Moment due to live loads on non-composite or composite section.  
M (Imp) - Moment due to live load impact on non-composite or composite section.  
M<sub>a</sub> (Applied Moment) = 1.3[M<sub>l</sub> + M<sub>s</sub> + 5/3(M<sub>t</sub> + M(Imp))].



TOP OF BEAM ELEVATIONS

(Existing Beams 1-6 For Information Only; Proposed IA & 6A For Fabrication Only)

Location	Beam IA	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6	Beam 6A
C Brg. W. Abut.	453.77	453.84	453.97	454.09	454.22	454.34	454.47	454.54
C Pier 1	453.72	453.79	453.92	454.04	454.17	454.29	454.42	454.49
C Splice 1	453.71	453.78	453.91	454.03	454.16	454.28	454.41	454.48
C Pier 2	453.71	453.78	453.91	454.03	454.16	454.28	454.41	454.48
C Splice 2	453.71	453.78	453.91	454.03	454.16	454.28	454.41	454.48
C Brg. E. Abut.	453.77	453.84	453.97	454.09	454.22	454.34	454.47	454.54

Note: Elevations have been taken from the existing plans and reduced by 0.40' to match the new bench mark datum.

Notes:  
Beams IA & 6A (W33x130), L's and splice plates shall be AASHTO M270, Grade 36.  
"NTR" denotes members to which Notch Toughness Requirements, Zone 2 are applicable.  
Work this sheet with sheet 9 of 19.

DESIGNED Ruben V. Boehler  
CHECKED Tim S. Howard  
DRAWN TSH / RVB  
CHECKED Michael D. Cummins

**STRUCTURAL STEEL**

IL ROUTE 15 OVER SEVEN MILE CREEK  
F.A.P. ROUTE 821 SECTION (15-2)BR  
JEFFERSON COUNTY  
STA. 129+81.00  
S.N. 041-0027

CUMMINS ENGINEERING CORPORATION  
JOB #: 2175  
FILE: 2175ss  
DATE: 3/07/06