

FRAMING PLAN - EASTBOUND

		0.4 Sp. 1	Pier	0.6 Sp. 2
I_s	(in ⁴)	15,303	26,667	19,983
$I_c(n)$	(in ⁴)	39,966		56,752
$I_c(3n)$	(in ⁴)	29,966		40,784
S_s	(in ³)	618	1046	949
$S_c(n)$	(in ³)	901		1,349
$S_c(3n)$	(in ³)	822		1,236
\bar{Q}	(k/')	0.911	1.437	0.911
$M\bar{Q}$	(k)	210	1,578	751
$s\bar{Q}$	(k/')	0.526		0.526
$M_s\bar{Q}$	(k)	195		508
$M\bar{L}$	(k)	588	514	855
M_{Imp}	(k)	147	118	188
$^{5/8}LM\bar{L} + M_{Imp}$	(k)	1,225	1,053	1,738
M_a	(k)	2,119	3,420	3,896
M_u	(k)	3,606	4,358	5,148
$f_s \bar{Q}$ non-comp	(ksi)	4.1	18.1	9.5
$f_s \bar{Q}$ (comp)	(ksi)	2.8		4.9
$f_s \bar{Q} [M\bar{L} + M_{Imp}]$	(ksi)	16.3	12.1	15.5
f_s (Overload)	(ksi)	23.2	30.2	29.9
f_s (Total)	(ksi)	30.2	39.3	38.9
VR	(k)	54		52.5

	W. Abut.	Pier	E. Abut.	
$R\bar{Q}$	(k)	35.4	166.4	60.1
$R\bar{L}$	(k)	38.8	60.9	40.5
Imp.	(k)	9.7	14	8.9
R_{Total}	(k)	83.9	241.3	109.5

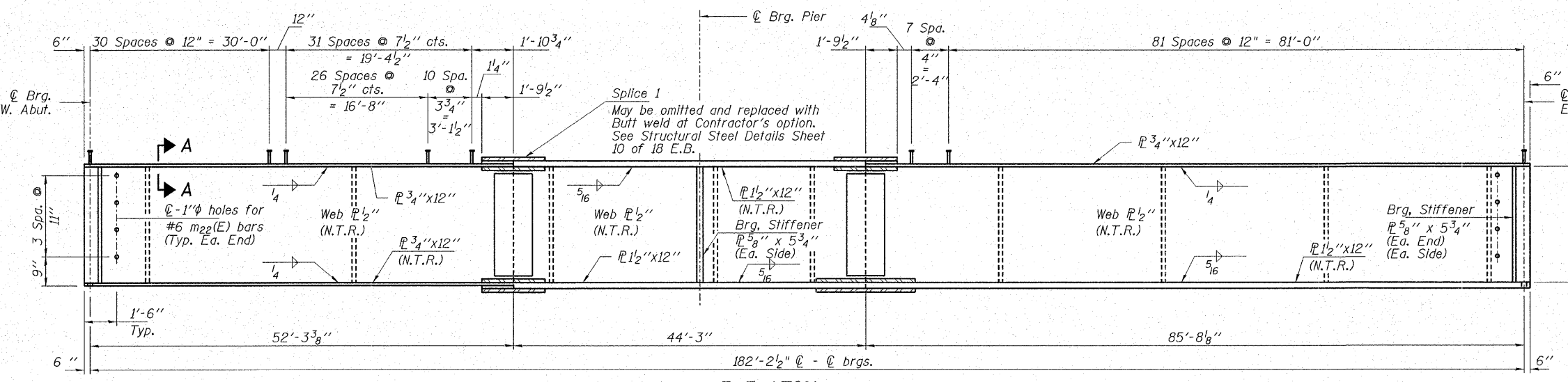
* Compact section
 ** Braced non-compact and partially braced section

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).

\bar{Q} : Un-factored non-composite dead load (kips/ft.).
 $M\bar{Q}$: Un-factored moment due to non-composite dead load (kip-ft.).
 $s\bar{Q}$: Un-factored long-term composite (superimposed) dead load (kips/ft.).
 $M_s\bar{Q}$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
 $M\bar{L}$: Un-factored live load moment (kip-ft.).
 M_{Imp} : Un-factored moment due to impact (kip-ft.).
 M_a : Factored design moment (kip-ft.).
 $1.3 [M\bar{Q} + M_s\bar{Q} + \frac{5}{8} (M\bar{L} + M_{Imp})]$
 M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
 f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 $M\bar{Q} + M_s\bar{Q} + \frac{5}{8} (M\bar{L} + M_{Imp})$
 f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M\bar{Q} + M_s\bar{Q} + \frac{5}{8} (M\bar{L} + M_{Imp})]$
 VR: Maximum \bar{L} + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

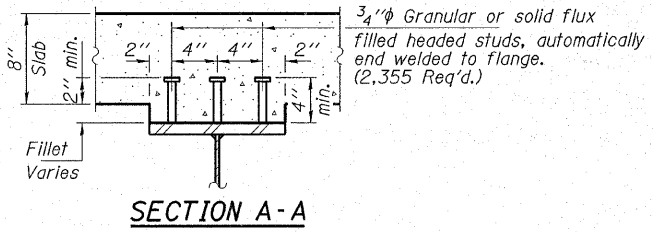


ELEVATION

Location	© Brg. W. Abut.	© Splice 1	© Brg. Pier	© Splice 2	© Brg. E. Abut.
BEAM 1S	702.63	702.74	702.93	702.98	703.60
BEAM 2S	702.42	702.53	702.72	702.76	703.39
BEAM 3S	702.21	702.32	702.50	702.55	703.17
BEAM 4S	702.00	702.10	702.29	702.33	702.95
BEAM 5S	701.79	701.89	702.08	702.12	702.73

TOP OF WEB ELEVATIONS
 (For fabrication only)
 (Does not include Dead Load Deflections)

Notes:
 N.T.R. indicates Notch Toughness Requirements are applicable.
 All structural steel shall be M270 Grade 50W.
 For additional Structural Steel details see Sheet 10 of 18 E.B.



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PROJECT NUMBER: 12-05-0077-1 DATE: 09/20/07
 DESIGNED T.P.L. CHECKED: J.L.B. DRAWN: P.J.L.

STRUCTURAL STEEL
 SECTION 06-00214-08-BR
 F.A.U. ROUTE 361 / NEW STEARNS ROAD
 OVER THE NORTH ARM OF BREWSTER CREEK
 KANE COUNTY

STRUCTURE NO. 045-3167 (E.B.) / STATION 590+50.50