

	0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I_s	(in ⁴) 2850	2850	2850	2850	2850
I_c	(in ⁴) 8717	-	8717	-	8717
I_c (3n)	(in ⁴) 6438	-	6438	-	6438
S_s	(in ³) 213	213	213	213	213
S_c	(in ³) 334	-	334	-	334
S_c (3n)	(in ³) 301	-	301	-	301
Z	(in ³) -	-	-	-	-
D	(k/ft.) 0.64	1.06	0.64	1.06	0.64
$M\ell$	(k) 66.5	138.5	34.2	106.7	42.3
$s\ell$	(k/ft.) 0.42	-	0.42	-	0.42
$Ms\ell$	(k) 49.3	-	34.2	-	31.1
$M\ell$	(k) 175.5	89.9	152.1	86.4	133.6
M (Imp)	(k) 52.7	27.0	45.6	25.9	40.1
$S_2[M\ell + M$ (Imp)]	(k) 380.3	194.8	329.5	187.2	289.5
Ma	(k) 644.9	433.3	517.3	382.1	471.8
Mu	(k) 1332.6	-	1359.8	-	1353.9
$fs\ell$ non-comp	(k.s.i.) 3.7	7.8	1.9	6.0	2.4
$fs\ell$ (comp)	(k.s.i.) 2.0	-	1.4	-	1.2
fs_{s_2} (4+Imp)	(k.s.i.) 13.7	11.0	11.8	10.5	10.4
fs (Overload)	(k.s.i.) 19.4	18.8	15.1	16.5	14.0
fs (Total)	(k.s.i.) -	24.4	-	21.4	-
VR	(k) 37.2	-	33.2	-	36.1

	W. Abut.	Pier 1	Pier 2	E. Abut.
$R\ell$	(k) 15.6	44.1	38.8	12.5
$R\ell$	(k) 31.4	37.1	32.5	29.5
Imp.	(k) 9.4	11.1	11.0	8.9
R (Total)	(k) 56.4	92.3	82.3	50.9

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

$I_{c(m)}$ and $S_{c(m)}$ are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

$I_{c(3n)}$ and $S_{c(3n)}$ 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.

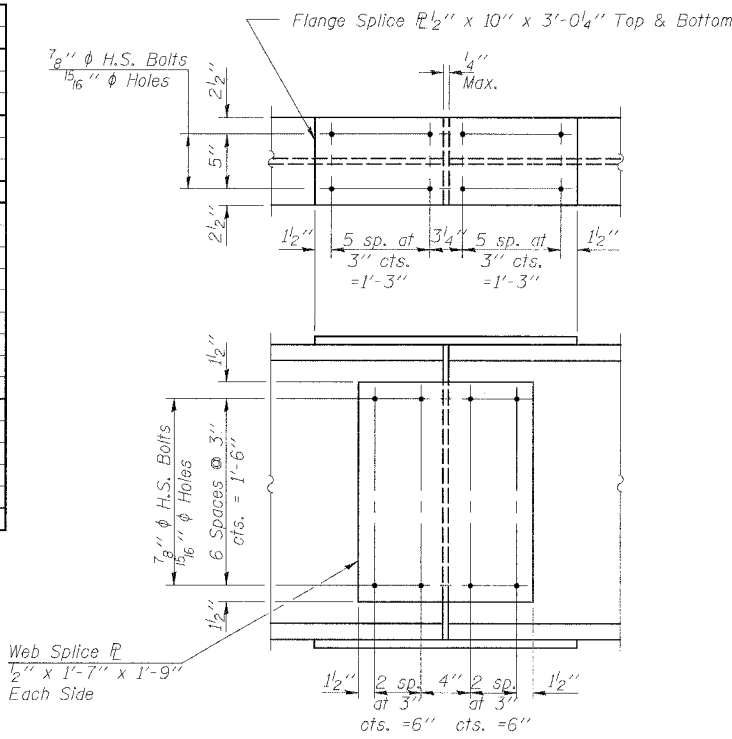
Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.

Ma (Applied Moment) = $1.3[M\ell + Ms\ell + S_2(M\ell + M$ (Imp))].

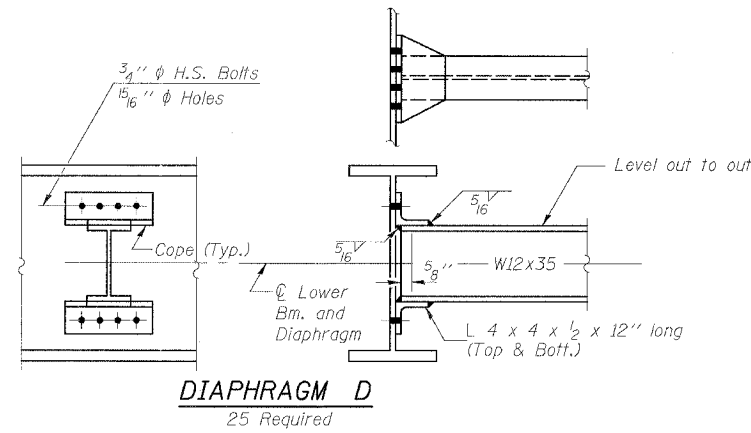
The Plastic Moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1.

fs (Overload) is the sum of the stresses due to $M\ell + Ms\ell + S_2(M\ell + M$ (Imp)).

fs (Total) (Non-compact section) is the sum of the stresses due to $1.3[M\ell + Ms\ell + S_2(M\ell + M$ (Imp))].

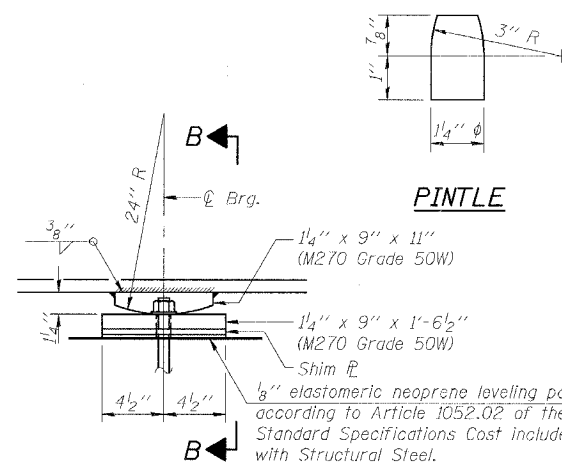


SPLICE
6 Required

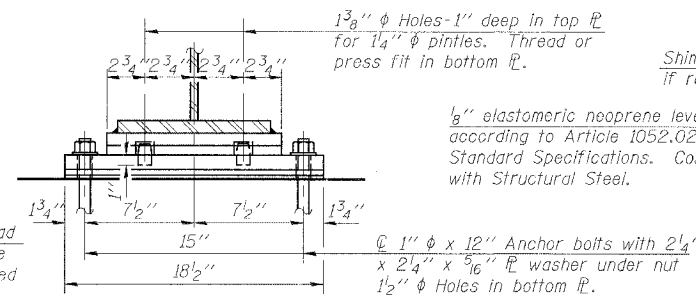


NOTES

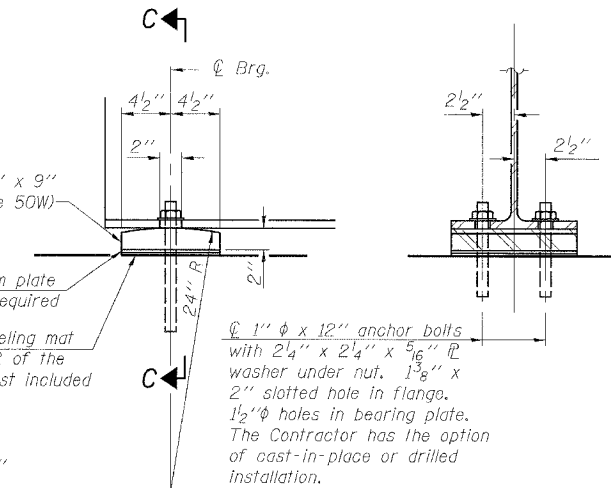
Two hardened washers shall be required over all oversized holes for diaphragms. Notch toughness requirements are applicable to all splice materials. Anchor bolts at fixed bearings may be built into the masonry. See Sheet 10 of 17 for Anchor Bolt installation.



ELEVATION AT PIER



SECTION B-B



ELEVATION AT ABUTMENT

SECTION C-C

FIXED BEARING AT PIERS
12 Required

FIXED BEARING AT ABUTMENTS
12 Required

TOP OF BEAM ELEVATIONS**

Location	Q. Brg. W. Abut.	Q. Brg. Pier 1	Q. Splice	Q. Brg. Pier 2	Q. Brg. E. Abut.
Beam #1 Elev.	618.666	618.684	618.700	618.712	618.781
Beam #2 Elev.	618.769	618.787	618.803	618.815	618.885
Beam #3 Elev.	618.859	618.877	618.894	618.906	618.975
Beam #4 Elev.	618.858	618.876	618.892	618.904	618.973
Beam #5 Elev.	618.766	618.784	618.800	618.812	618.881
Beam #6 Elev.	618.659	618.677	618.694	618.706	618.775

**Elevations are before any deflections and are to be used for fabrication only.

<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	<p>ILLINOIS DEPARTMENT OF TRANSPORTATION</p> <p>STRUCTURAL STEEL DETAILS IL 23 OVER MOLE CREEK FAP RTE 68 - SECTION 102 BR LIVINGSTON COUNTY STATION 530+05 STRUCTURE NO. 053-0183</p>
	<p>DATE: 10/20/2006</p> <p>DRAWN BY JMT CHECKED BY WJV</p>