



GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.

F_b - Maximum allowable stress F_{bu} or F_{by} computed according to AASHTO [Guide Specifications for Horizontally Curved Highway Bridges Section 2.12(B) and 2.16].

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

$I_{c(n)}$ and $S_{c(n)}$ 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 load (see AASHTO 10.38).

VR is the maximum \pm impact shear range in span.

$$M_a \text{ (Applied Moment)} = 1.3[M \ell + M_s \ell + \frac{5}{3}(M \ell + M(\text{Imp}))]$$

$(f_s + f_w)(\text{Overload})$ is the sum of the stress due to $M \ell + M_s \ell + \frac{5}{3}(M \ell + M(\text{Imp})) + \frac{M_{bl}}{1.3}$

f_s (Total) is the sum of stress due to $1.3[M \ell + M_s \ell + \frac{5}{3}(M \ell + M(\text{Imp}))]$

S_{bl} is the section modulus for one flange plate for lateral flange bending.

M_{bl} is the lateral bending moment for flange plate (factored).

f_w is the calculated normal stress at the edge of flange due to lateral bending (factored).

		0.4 Sp. 6 or 0.6 Sp. 8	Pier 6 or Pier 7	0.5 Sp. 7
I_s	(in ⁴)	16538	16538	16538
I_c (n)	(in ⁴)	39030	---	39030
I_c (3n)	(in ⁴)	27495	---	27495
S_s	(in ³)	919	919	919
S_c (n)	(in ³)	1298	---	1298
S_c (3n)	(in ³)	1150	---	1150
S_{bl}	(in ³)	64	64	64
ϕ	(k/ft.)	0.93	0.99	0.93
$M \ell$	(k)	292.59	595.26	294.37
$s \ell$	(k/ft.)	0.06	---	0.06
$M_s \ell$	(k)	17.39	---	17.64
$M \ell$	(k)	376.05	511.77	369.34
M (Imp)	(k)	---	---	---
$5/3[M \ell + M(\text{Imp})]$	(k)	626.75	852.95	615.57
M_a	(k)	1217.75	1882.67	1205.85
M_{bl}	(k)	32.13	53.52	9.88
$f_s \ell$ non-comp	(ksi)	3.82	7.77	3.84
$f_s \ell$ (comp)	(ksi)	0.18	---	0.18
$f_s 5/3[M \ell + M(\text{Imp})]$	(ksi)	5.79	11.14	5.69
f_w	(ksi)	6.02	10.04	1.85
$f_s + f_w$ (Overload)	(ksi)	14.43	26.63	11.14
f_s (Total)	(ksi)	12.74	24.58	12.63
VR	(k)	35.34	---	41.19
F_b	(ksi)	50	45.3	50

		Pier 5-N. Brg.	Pier 6	Pier 7	Pier 8-S. Brg.
$R \ell$	(k)	26.9	75.9	75.9	26.9
$R \ell$	(k)	29.3	62.5	62.5	29.3
R (Total)	(k)	56.2	138.4	138.4	56.2

Girder	℄ N. Bearing Pier 5	℄ Bearing Pier 6	℄ Field Splice 5	℄ Field Splice 6	℄ Bearing Pier 7	℄ S. Bearing Pier 8
1	770.565	768.810	768.303	766.804	766.233	764.225
2	770.565	768.810	768.303	766.804	766.233	764.225

- NOTES:
1. For diaphragm and splice details see sheet No. S13
 2. For Section A-A see sheet No. S13.
 3. For Girder Dimension Table see sheet No. S13.

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NO.		DATE		DESCRIPTION	

STEEL GIRDER DETAILS				
PEDESTRIAN/BICYCLE PATH BRIDGE OVER UNION PACIFIC RAILROAD				
FILE NAME: GIRDER	DSGN. BY: MMH	JOB NO.: 551.007	FLD. BK./PG.: -----	SHEET NO. 28 of 54
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