

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**GIRDER MOMENT TABLE**

GIRDER 3

		0.4 Sp.1	Pier 1	0.5 Sp.2	Pier 2	0.6 Sp.3
Is	(10 <sup>6</sup> mm <sup>4</sup> )	35585	74222	39780	90378	44538
Ic (n)	(10 <sup>6</sup> mm <sup>4</sup> )	69559	---	78489	---	80122
Ic (3n)	(10 <sup>6</sup> mm <sup>4</sup> )	50790	---	56873	---	60058
Ss	(10 <sup>3</sup> mm <sup>3</sup> )	34254	69081	40365	82941	42457
Sc (n)	(10 <sup>3</sup> mm <sup>3</sup> )	46337	---	54118	---	54293
Sc (3n)	(10 <sup>3</sup> mm <sup>3</sup> )	40725	---	47742	---	48552
Sb <sub>r</sub>	(10 <sup>3</sup> mm <sup>3</sup> )	697	2114	976	2642	976
Q	(kN/m)	14	21	14	22	14
M <sub>ℓ</sub>	(kN-m)	1674	8115	2680	11557	3293
s ℓ	(kN/m)	4	---	4	---	4
Ms ℓ	(kN-m)	667	---	1094	---	1215
M ℓ	(kN-m)	1109	2005	1455	2348	1449
M (Imp)	(kN-m)	222	401	291	470	290
<sup>5</sup> / <sub>3</sub> [M ℓ + M (Imp)]	(kN-m)	2218	4011	2910	4697	2899
Ma	(kN-m)	5928	15763	8689	21130	9629
Mb <sub>r</sub>	(kN-m)	7	36	38	52	43
fs ℓ (non-comp)	(MPa)	49	117	66	139	78
fs ℓ (comp)	(MPa)	16	---	23	---	25
fs <sup>5</sup> / <sub>3</sub> [M ℓ + M (Imp)]	(MPa)	48	58	54	57	53
f <sub>t</sub>	(MPa)	11	17	38	19	45
fs (Overload)	(MPa)	113	176	143	196	156
fs (Total)	(MPa)	147	228	186	255	203
F <sub>cr</sub> (Overload)	(MPa)	328	293	328	289	328
VR	(kN)	267	---	311	---	298
F <sub>cr</sub>	(MPa)	345	323	345	323	345

**GIRDER REACTION TABLE**

GIRDER 3

	E. Abut.	Pier 1	Pier 2	Pier 3E	
R <sub>ℓ</sub>	(kN)	294	1343	1664	383
R <sub>t</sub>	(kN)	164	356	377	171
Imp.	(kN)	41	89	94	43
R (Total)	(kN)	499	1788	2135	597

**GIRDER MOMENT TABLE**

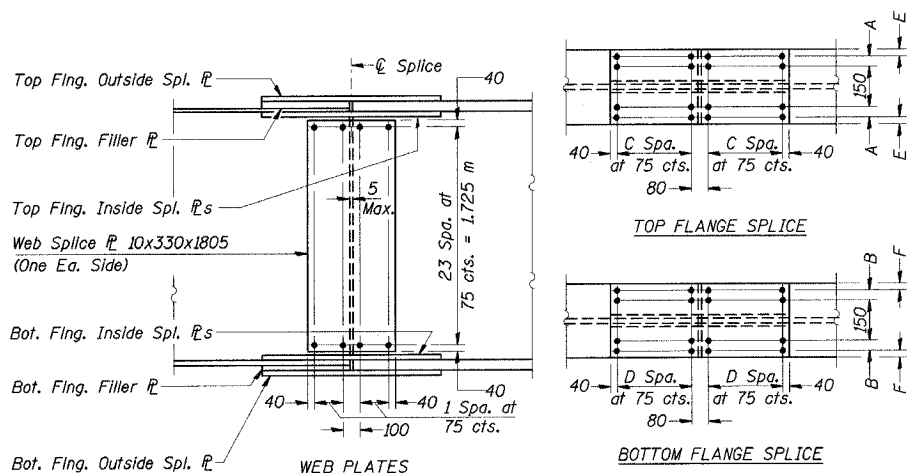
GIRDER 6

		0.4 Sp.1	Pier 1	0.5 Sp.2	Pier 2	0.6 Sp.3
Is	(10 <sup>6</sup> mm <sup>4</sup> )	39780	74222	43554	106994	62684
Ic (n)	(10 <sup>6</sup> mm <sup>4</sup> )	81262	---	90087	---	112269
Ic (3n)	(10 <sup>6</sup> mm <sup>4</sup> )	58665	---	64463	---	83984
Ss	(10 <sup>3</sup> mm <sup>3</sup> )	40365	69081	46595	98190	65115
Sc (n)	(10 <sup>3</sup> mm <sup>3</sup> )	54595	---	62332	---	80218
Sc (3n)	(10 <sup>3</sup> mm <sup>3</sup> )	48319	---	55293	---	72990
Sb <sub>r</sub>	(10 <sup>3</sup> mm <sup>3</sup> )	976	2114	1254	3903	2114
Q	(kN/m)	15	29	15	31	17
M <sub>ℓ</sub>	(kN-m)	1716	9592	3552	16164	6218
s ℓ	(kN/m)	11	---	11	---	11
Ms ℓ	(kN-m)	847	---	1790	---	2510
M ℓ	(kN-m)	1990	3406	2967	4362	3624
M (Imp)	(kN-m)	398	681	593	872	725
<sup>5</sup> / <sub>3</sub> [M ℓ + M (Imp)]	(kN-m)	3981	6812	5933	8723	7248
Ma	(kN-m)	8508	21325	14657	32354	20768
Mb <sub>r</sub>	(kN-m)	4	39	72	69	109
fs ℓ (non-comp)	(MPa)	43	139	76	165	95
fs ℓ (comp)	(MPa)	18	---	32	---	34
fs <sup>5</sup> / <sub>3</sub> [M ℓ + M (Imp)]	(MPa)	73	99	95	89	90
f <sub>t</sub>	(MPa)	4	19	57	18	51
fs (Overload)	(MPa)	133	237	204	253	220
fs (Total)	(MPa)	173	309	265	329	286
F <sub>cr</sub> (Overload)	(MPa)	328	291	328	298	328
VR	(kN)	338	---	423	---	427
F <sub>cr</sub>	(MPa)	345	323	345	334	345

**GIRDER REACTION TABLE**

GIRDER 6

	E. Abut.	Pier 1	Pier 2	Pier 3E	
R <sub>ℓ</sub>	(kN)	374	1437	1775	743
R <sub>t</sub>	(kN)	189	406	445	270
Imp.	(kN)	47	101	111	68
R (Total)	(kN)	610	1944	2331	1081



FIELD SPLICE 1, 2, 3, 4, & 5

**TABLE OF DIMENSIONS**

Girder Location	Field Splice No.	Top Flange Splice ℓ Dimensions		Bottom Flange Splice ℓ Dimensions		Filler ℓ Dimension		Bolt Spacing Dimensions					
		Outside ℓ	Inside ℓ	Outside ℓ	Inside ℓ	Top ℓ	Bottom ℓ	A	B	C	D	E	F
Girders G1, G2, & G3	1	20x410x910	25x170x910	20x410x910	25x170x910	10x410x450	10x410x450	90	90	5	5	40	40
	2	20x410x910	25x170x910	25x410x1210	30x170x1210	10x410x450	-	90	90	5	7	40	40
	3	20x410x910	25x170x910	25x410x1210	30x170x1210	10x410x450	-	90	90	5	7	40	40
	4	25x410x1210	30x170x1210	25x410x1210	30x170x1210	15x410x600	15x410x600	90	90	7	7	40	40
	5	25x410x1210	30x170x1210	25x410x1210	30x170x1210	-	-	90	90	7	7	40	40
Girders G4, G5, & G6	1	20x410x910	25x170x910	25x410x1210	30x170x1210	10x410x450	10x410x600	90	90	5	7	40	40
	2	20x410x910	25x170x910	30x410x1510	35x170x1510	10x410x450	-	90	90	5	9	40	40
	3	20x410x910	25x170x910	30x410x1510	35x170x1510	15x410x450	5x410x750	90	90	5	9	40	40
	4	30x460x1660	35x195x1660	35x460x2410	40x195x2410	20x460x825	-	115	115	10	15	40	40
	5	30x460x1660	35x195x1660	35x460x2410	40x195x2410	-	-	115	115	10	15	40	40

- Notes:
1. All field splice plates, except fill plates to be AASHTO M270M, Grade 345 and meet N.T.R.
  2. All Bolts are 22mm φ AASHTO M164 (ASTM A325).
  3. Bolt Spacing Dimensions E and F are measured from the edge of the smaller width flange when flange plates at field splices are different widths.

DESIGNED	MAS
CHECKED	GPM
DRAWN	LK
CHECKED	GPM/ACF

