

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 25
FAP 0525	*	WINNEBAGO	157	82	50 SHEETS
FED. ROAD DIST. NO. 7					ILLINOIS FED. AID PROJECT
* 02-00518-00-BR					

TOP OF BEAM ELEVATIONS

	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
℄ Brg. W. Abut.	800.58	800.89	801.18	801.43	801.82	802.36
℄ Pier 1	803.12	803.36	803.57	803.75	804.06	804.53
Splice 1 (W36x210)	803.72	803.94	804.14	804.30	804.59	805.04
Splice 1 (W36x170)	803.70	803.92	804.12	804.28	804.57	805.02
Splice 2 (W36x170)	806.52	806.63	806.72	806.77	806.95	807.29
℄ Pier 2	806.72	806.82	806.89	806.93	807.10	807.43
℄ Pier 3	807.98	808.00	808.00	807.96	808.05	808.30
Splice 3 (W36x170)	808.13	808.15	808.13	808.08	808.17	808.40
Splice 4 (W36x170)	808.88	808.79	808.68	808.53	808.51	808.65
Splice 4 (W36x280)	808.89	808.80	808.69	808.54	808.53	808.66
℄ Pier 4	808.89	808.77	808.63	808.45	808.40	808.51
Splice 5 (W36x280)	808.89	808.75	808.58	808.37	808.30	808.38
Splice 5 (W36x210)	808.89	808.75	808.58	808.38	808.30	808.39
℄ Brg. E. Abut.	808.29	808.04	807.77	807.46	807.28	807.26

Top of Beam Elevations are given for fabrication only.
Elevations have been adjusted up to account for Dead Load Deflection.

INTERIOR GIRDER MOMENT TABLE

	0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.5 Sp. 3***	Pier 3	0.5 Sp. 4	Pier 4	0.6 Sp. 5
<i>I_s</i> (in ⁴)	13,200	13,200	10,500	10,500	10,500	10,500	10,500	18,900	13,200
<i>I_c</i> (n) (in ⁴)	31,087	—	26,380	—	—	—	26,380	—	31,087
<i>I_c</i> (3n) (in ⁴)	22,554	—	19,276	—	—	—	19,276	—	22,554
<i>S_s</i> (in ³)	720	720	581	581	581	581	581	1035	720
<i>S_c</i> (n) (in ³)	1008	—	831	—	—	—	831	—	1008
<i>S_c</i> (3n) (in ³)	905	—	750	—	—	—	750	—	905
<i>φ</i> (K/ft.)	0.98	1.41	0.94	1.39	1.38	1.40	0.96	1.43	1.00
<i>M_℄</i> (K)	37	1125	544	852	162	640	410	1731	609
<i>s_℄</i> (K/ft.)	0.45	—	0.45	—	—	—	0.45	—	0.45
<i>M_{s℄}</i> (K)	35	—	318	—	—	—	250	—	307
<i>M_℄</i> (K)	413	453	752	417	198	410	736	652	832
<i>M</i> (Imp) (K)	115	113	164	103	54	101	162	146	188
<i>S₃(M_℄+1)</i> (K)	880	943	1527	867	420	852	1497	1330	1700
<i>M_a</i> (K)	1238	2688	3106	2235	757	1940	2804	3979	3401
<i>M_u</i> (K)	4324	—	3645	—	—	—	3942	—	4858
<i>f_{s℄ non-comp}</i> (k.s.i.)	0.6	18.8	11.2	17.6	3.3	13.2	8.5	20.1	10.2
<i>f_{s℄ comp}</i> (k.s.i.)	0.5	—	5.1	—	—	—	4.0	—	4.1
<i>f_{s S₃(℄+1)}</i> (k.s.i.)	10.5	15.7	22.1	17.9	8.7	17.6	21.6	15.4	20.3
<i>f_s (Overload)</i> (k.s.i.)	11.6	34.5	38.4	35.5	12.0	30.8	34.1	35.5	34.6
<i>f_s (Total)</i> (k.s.i.)	—	44.9	—	46.2	15.6	40.0	—	46.2	—
<i>VR</i> (K)	65	—	65	—	—	—	67	—	64

* Compact, Braced Section
** Non-compact Section
*** Entire Span treated as negative moment region as total negative moments are larger than total positive moments.

INTERIOR GIRDER REACTION TABLE

	W. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	E. Abut.
<i>R_℄</i> (K)	19.1	134.5	113.2	98.3	170.9	51.8
<i>R_℄</i> (K)	44.3	59.4	58.7	57.6	69.2	48.3
<i>Imp.</i> (K)	12.3	14.8	14.4	14.2	15.5	11.0
<i>R</i> (Total) (K)	75.7	208.7	186.3	170.1	255.6	111.1

I_s and *S_s* are the moment of inertia and section modulus of the steel section used in computing *f_s* (Total & 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 Loads. (See AASHTO 10.38)
VR is the maximum Live Load + Impact shear range in span.
M_a (Applied Moment) = 1.3(*M_℄* + *M_{s℄}* + *S₃(M_℄ + *M* (Imp))).
The Plastic Moment capacity (*M_u*) is computed according to AASHTO 10.48.1 and 10.50.1.1.
f_s (Overload) is the sum of the stresses due to *M_℄* + *M_{s℄}* + *S₃(M_℄ + *M* (Imp)).
f_s (Total) is the sum of the stresses due to 1.3(*M_℄* + *M_{s℄}* + *S₃(M_℄ + *M* (Imp))).***

Corporate License Number 184-001-084

STRUCTURAL STEEL DETAILS

EASTBOUND HARRISON AVENUE
OVER UP & CC&P RAILROAD
F.A.P. ROUTE 0525
SECTION 02-00518-00-BR
ROCKFORD, ILLINOIS
STATION 95+72.00
STRUCTURE NO. 101-6111

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LAYOUT	SLG	02/01/06
DRAWN	MEM	07/24/06
REVIEWED	FLN	09/04/06