

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

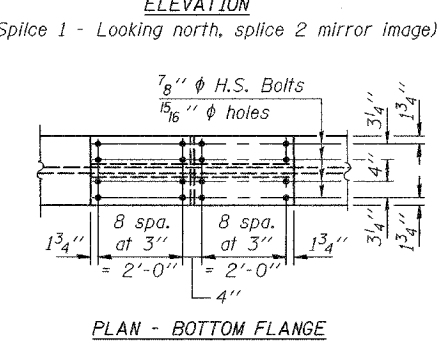
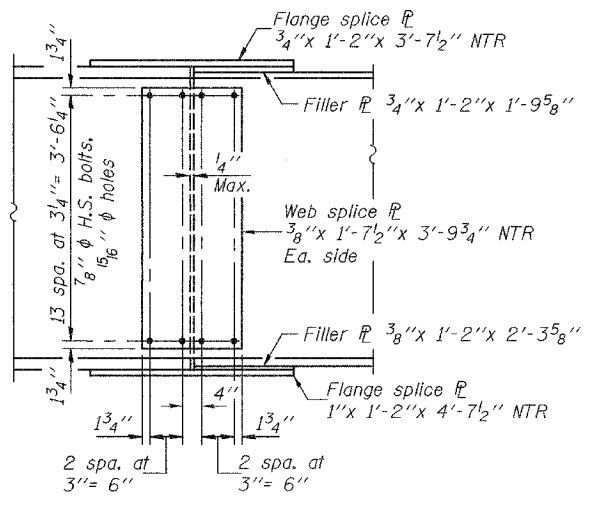
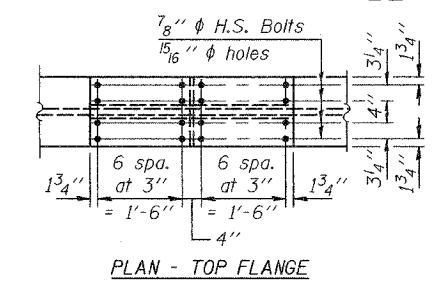
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAP 785	134-IBR-2	MADISON	33	56
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		23 SHEETS

Contract #76902

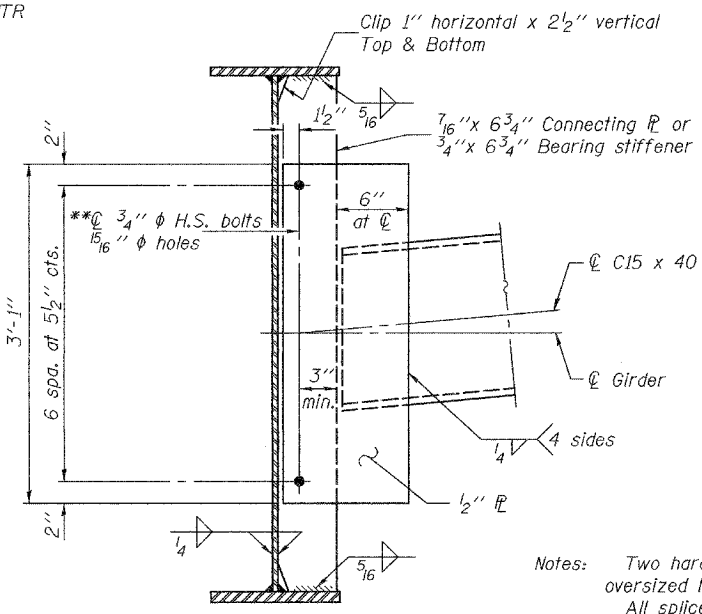
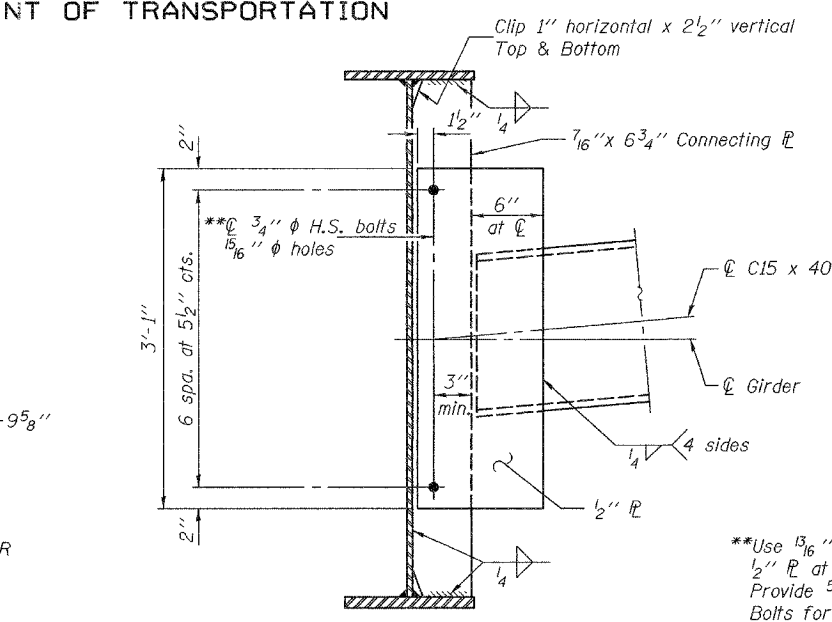
		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I_s	(in ⁴)	17086	30344	20010
I_c (n)	(in ⁴)	42576		52249
I_c (3n)	(in ⁴)	31800		38109
S_s	(in ³)	690	1190	889
S_c (n)	(in ³)	976		1237
S_c (3n)	(in ³)	890		1133
DC1	(k/')	0.944	1.031	0.966
M DC1	(k)	191	1289	766
DC2	(k/')	0.150	0.150	0.150
M DC2	(k)	48	159	158
DW	(k/')	0.375	0.375	0.375
M DW	(k)	120	398	394
M _± + Imp	(k)	1022	1221	1567
M _u (Strength I)	(k)	2267	4544	4488
φ _r M _n	(k)	5129		6118
f _s DC1	(ksi)	3.3	13.0	10.3
f _s DC2	(ksi)	0.6	1.6	1.7
f _s DW	(ksi)	1.6	4.0	4.2
f _s 1.3(k+I)	(ksi)	16.3	16.0	19.8
f _s (Service II)	(ksi)	21.8	34.6	36.0
f _s (Total)(Strength I)	(ksi)		45.8	
V _r	(k)	28.5		25.6

	Abuts.	Piers
R DC1	(k) 20.9	118.9
R DC2	(k) 3.9	17.7
R DW	(k) 9.7	44.2
R _± + Imp	(k) 81.7	159.5
R Total	(k) 116.2	340.3

- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) 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-Strength I, and Service II) 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-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in⁴ and in³).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M_± + Imp: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- M_u (Strength I): Factored design moment (kip-ft.).
1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_± + Imp
- φ_r M_n: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
- f_s (Service II): Sum of stresses as computed from the moments below (ksi).
M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_± + Imp
- f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_± + Imp
- V_r: Factored shear range computed according to Article 6.10.10.

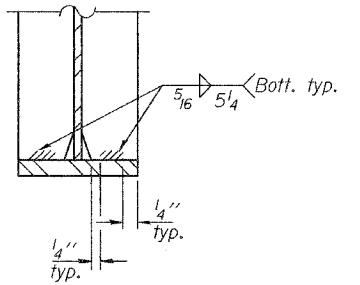
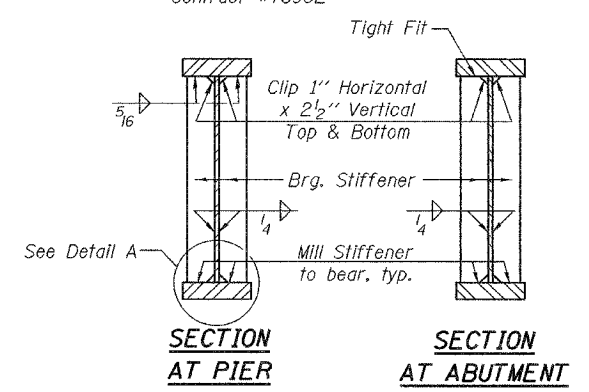


SPLICE DETAIL
(12 required)



**Use 1/2" x 1/2" vertical slotted holes in 1/2" PL at the south side of Girder 3 only. Provide 5/16" PL washers for slotted holes. Bolts for slotted holes shall be finger-tightened prior to the deck pour for Stage II Construction, and then be fully tightened after completion of the deck pour for Stage II Construction.

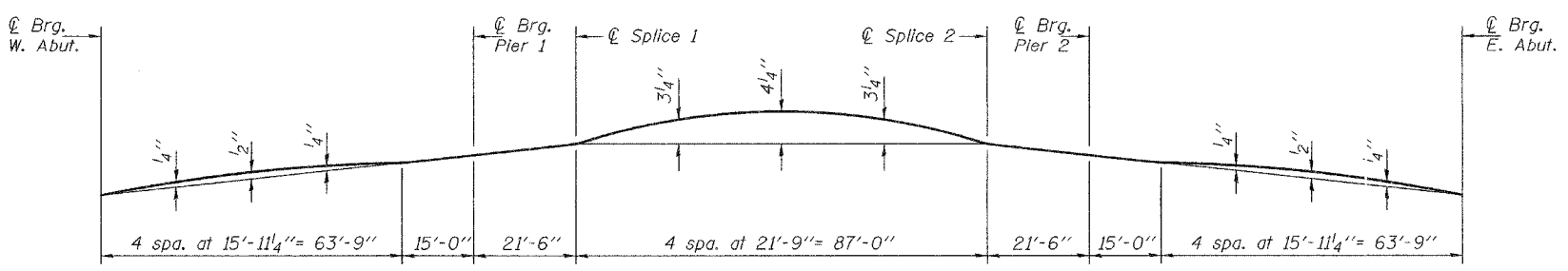
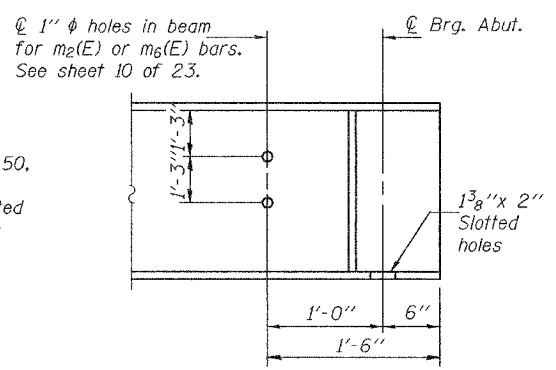
Notes: Two hardened washers required for each set of oversized holes. All splice plates shall be AASHTO M 270, Grade 50, except fill plates. All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.



*TOP OF WEB ELEVATIONS

Location	℄ Brg. W. Abut.	℄ Brg. Pier 1	℄ Splice 1	℄ Splice 2	℄ Brg. Pier 2	℄ Brg. E. Abut.
Girder 1	478.89	479.41	479.55	479.55	479.41	478.89
Girder 2	479.04	479.56	479.71	479.71	479.56	479.04
Girder 3	479.16	479.68	479.82	479.82	479.68	479.16
Girder 4	479.16	479.68	479.82	479.82	479.68	479.16
Girder 5	479.04	479.56	479.71	479.71	479.56	479.04
Girder 6	478.89	479.41	479.55	479.55	479.41	478.89

*For fabrication use only.



STRUCTURAL STEEL DETAILS
F.A.P. RTE. 785 - SEC. 134-IBR-2
MADISON COUNTY
STATION 623+90.00
STRUCTURE NO. 060-0240

DESIGNED	R.L. Tharp
CHECKED	N.R. Barnett
DRAWN	h.t. duong
CHECKED	RLT/NRB

APR 9 2007
EXAMINED Thomas J. Demagallaki
PASSED Robert E. Anderson