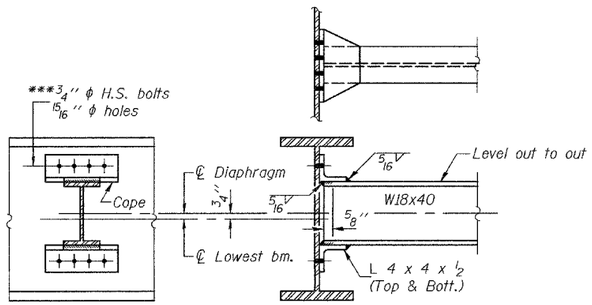
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

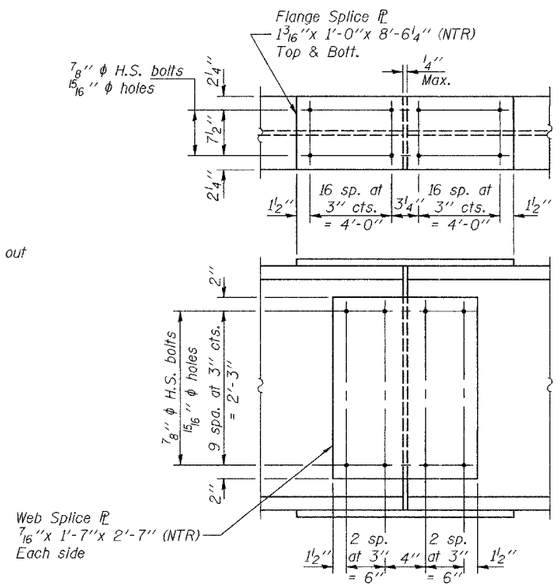
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 698	IVBR	BUREAU	72	42
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 15
24 SHEETS

Contract No. 66361



DIAPHRAGM D
70 Required



SPLICE
12 Required

* Span 1 was designed non-composite. Stud shear connectors shown on sheet 14 of 24 were added for fatigue only.

*** Use 13/16"x 1 1/2" vertical slotted holes in top and bottom angles at West side of Beam 3 only except at Pier. Provide 5/16" plate washers for slotted holes. The bolts for slotted holes in angles at Beam 3 shall only be finger tightened prior to the deck pour for Stage II Construction. The bolts shall be fully tightened after completion of the deck pour for Stage II Construction.

All splice plate material, diaphragms and angles shall be AASHTO M270, Grade 50W.

Notes: Two hardened washers shall be required over all oversized holes for diaphragms.

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

**TOP OF BEAM ELEVATIONS

Location	℄ Brg. N. Abut.	℄ Brg. Pier 1	℄ Splice 1	℄ Splice 2	℄ Brg. Pier 2	℄ Splice 3 (Optional)	℄ Brg. S. Abut.
Beam 1	493.799	493.800	493.800	492.612	492.049	491.449	489.094
Beam 2	493.911	493.912	493.912	492.724	492.162	491.561	489.207
Beam 3	494.013	494.014	494.014	492.826	492.263	491.663	489.308
Beam 4	493.944	493.945	493.945	492.757	492.194	491.594	489.239
Beam 5	493.842	493.843	493.843	492.655	492.093	491.492	489.138
Beam 6	493.707	493.708	493.708	492.520	491.958	491.357	489.003

**For fabrication use only.

INTERIOR BEAM MOMENT TABLE - 3 SPAN						
		*0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
Is	(in^4)	11300	11300	11300	11300	11300
Ic (n)	(in^4)	———	———	26369	———	26369
Ic (3n)	(in^4)	———	———	19175	———	19175
Ss	(in^3)	623	623	623	623	623
Sc (n)	(in^3)	———	———	866	———	866
Sc (3n)	(in^3)	———	———	778	———	778
DC1	(k/ft.)	0.834	0.834	0.834	0.834	0.834
M DC1	('k)	49	521	391	699	341
DC2	(k/ft.)	0.232	0.232	0.232	0.232	0.232
M DC2	('k)	24	120	142	154	111
DW	(k/ft.)	0.325	0.325	0.325	0.325	0.325
M DW	('k)	33	168	199	215	156
M℄+Imp	('k)	548	731	1061	802	993
Ma (Strength I)	('k)	1098	2333	2822	2792	2537
Mr	('k)	2959	2959	4248	2959	4248
fs DC1	(k.s.i.)	0.9	10.0	7.5	13.5	6.6
fs DC2	(k.s.i.)	0.4	2.3	2.2	3.0	1.7
fs DW	(k.s.i.)	0.6	3.2	3.1	4.1	2.4
fs 1.3 (℄+I)	(k.s.i.)	13.7	18.3	19.1	20.1	17.9
fs (Service II)	(k.s.i.)	15.6	33.8	31.9	40.7	28.6
Vsr	(k)	25.7	———	26.3	———	28.7

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs due to non-composite loads.

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing fs due to short-term composite loads.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing fs due to long-term composite loads.

DC1 is the dead load acting on the non-composite section.

DC2 is the dead load acting on the long-term composite section.

DW is the dead load acting on the long-term composite section due to wearing surface.

Ma (Strength I)=1.25 M(DC1+DC2)+1.5M DW+1.75 M(℄+Imp).

Mr is the full plastic moment capacity computed in accordance with 6.10.3.1.3 and 6.10.4.2.

fs (Service II) is the sum of the stresses due to DC1+DC2+DW+1.3(℄+Imp).

Vsr is the maximum shear range in the span (0.75 ℄+Imp).

M℄, R℄, and Vsr include pedestrian live loads.

INTERIOR BEAM REACTION TABLE - HL 93 LOADING					
		N. Abut.	Pier 1	Pier 2	S. Abut.
R DC1	(k)	10.9	70.5	84.4	24.0
R DC2+DW	(k)	8.4	46.3	54.7	17.3
R℄	(k)	52.0	102.1	112.4	63.5
Imp.	(k)	13.1	18.9	20.1	14.5
R (Total)	(k)	84.4	237.8	271.6	119.3

DESIGNED	RLT
CHECKED	PEC
DRAWN	h.t. duong
CHECKED	RLT/PEC

Jan 9, 2007
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STRUCTURAL STEEL DETAILS
F.A.P. RTE. 698 - SECTION IVBR
BUREAU COUNTY
STATION 32+32.00
STRUCTURE NO. 006-0164

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