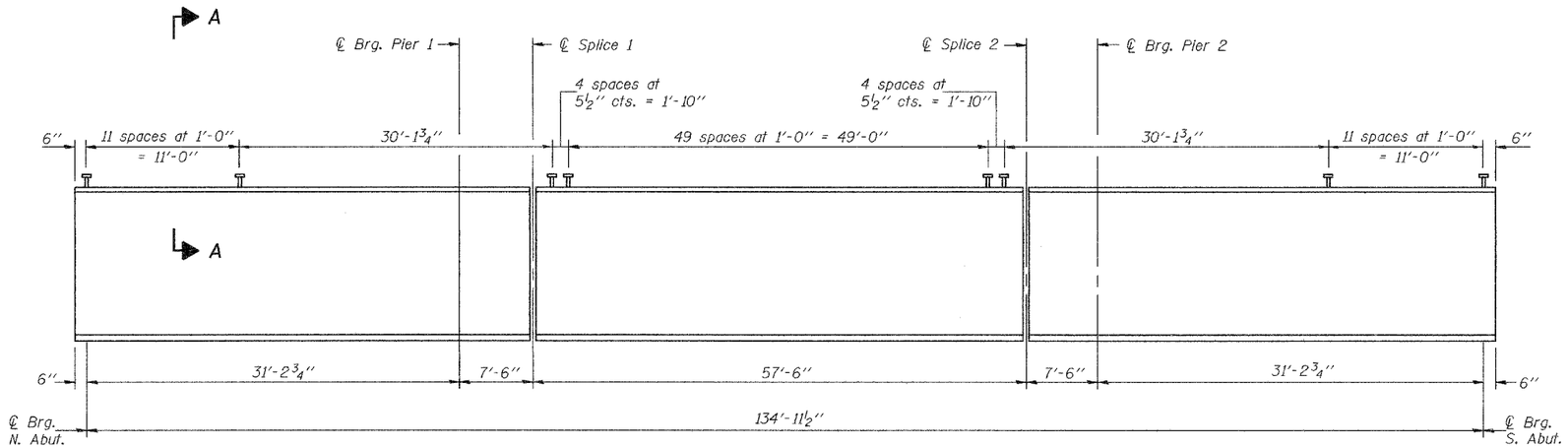
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 669	11BR-1	TAZEWELL	442	282
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 13
32 SHEETS

Contract #88804



BEAM ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.
All beams are W27x102 AASHTO M270, Grade 50, NTR.

INTERIOR GIRDER MOMENT TABLE				
		0.3 Sp. 1 0.7 Sp. 3	Pier 1 or 2	0.5 Sp. 2
Is	(in⁴)	3620	3620	3620
Ic (n)	(in⁴)	–	–	10173
Ic (3n)	(in⁴)	–	–	7458
Ss	(in³)	267	267	267
Sc (n)	(in³)	–	–	402
Sc (3n)	(in³)	–	–	362
℄	(k/ft.)	1.116	1.116	0.674
M℄	('k)	4.3	367.5	195.1
s℄	(k/ft.)	–	–	0.442
Ms℄	('k)	–	–	170.9
M℄	('k)	129.7	171.9	383.6
M (Imp)	('k)	38.9	48.6	97.1
5/3[M℄+M(Imp)]	('k)	281.0	367.5	801.2
Ma	('k)	370.9	955.1	1517.3
Mu	('k)	–	–	1679.7
fs℄ non-comp	(k.s.i.)	0.2	16.5	8.8
fs℄ (comp)	(k.s.i.)	–	–	5.7
fs 5/3(℄+Imp)	(k.s.i.)	12.6	16.5	23.9
fs (Overload)	(k.s.i.)	12.8	33.0	38.4
fs (Total)	(k.s.i.)	16.7	42.9	–
VR	(k)	–	–	37.8

INTERIOR GIRDER REACTION TABLE			
		Abut.	Pier
R℄	(k)	5.7	69.7
R℄	(k)	25.2	36.8
Imp.	(k)	7.6	10.2
R (Total)	(k)	38.5	116.7

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

Ic(3n) and Sc(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.

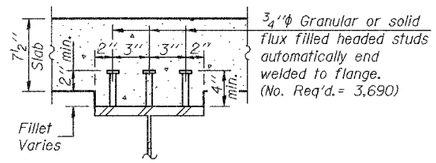
Ma (Applied Moment)=1.3[M℄ + Ms℄ +5/3(M℄ + M(Imp))].

The Plastic Moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1.

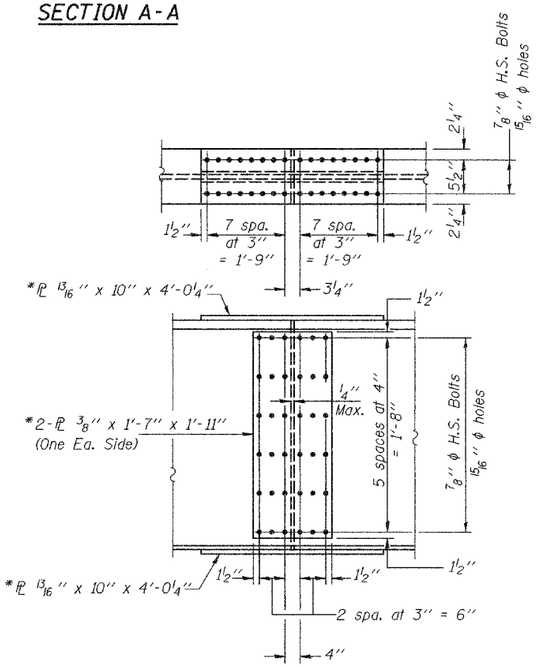
fs (Overload) is the sum of the stresses due to M℄ + Ms℄ +5/3(M℄ + M(Imp)).

fs (Total) (Non-compact section) is the sum of the stresses due to 1.3[M℄ + Ms℄ +5/3(M℄ + M(Imp))].

**Use 1½" vertical x 13/16" slotted holes in top and bottom of 4" x 4" x ½" connection angles at the west side of beam 7 only. Provide 5/16" plate washers for slotted holes. The bolts for the slotted holes in angles at beam 7 shall be finger tightened prior to the Stage II Construction deck pour and then fully tightened after completion of the Stage II Construction deck pour.



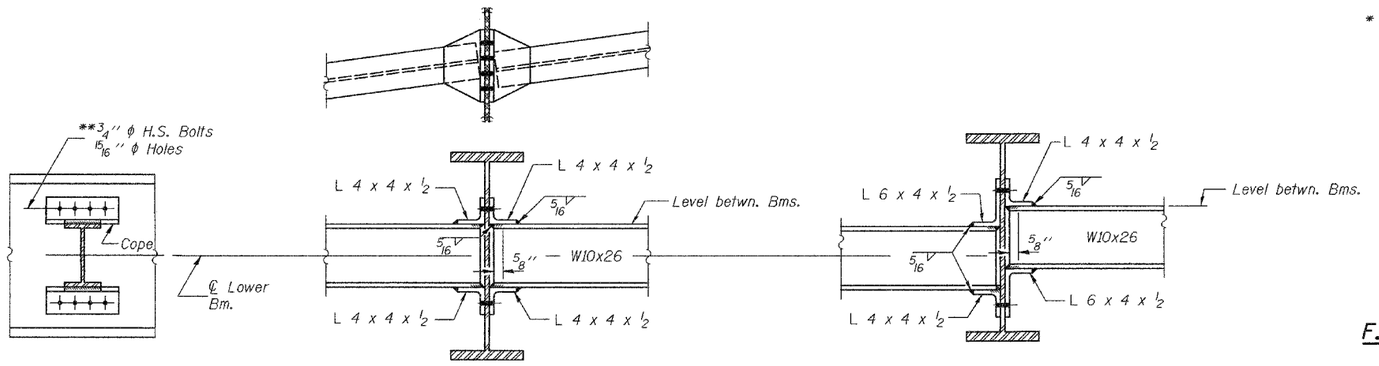
SECTION A-A



SPLICE

* AASHTO M270, Grade 50.

Note:
Two hardened washers shall be required over all oversize holes for diaphragms.
Notch Toughness Requirements are applicable for all splice plates.



Typ. at beams 2,4,6,8,10,12 & 14.

Typ. at beams 3,5,7,9,11 & 13.

DIAPHRAGM D

112 Required

DESIGNED	T.L.K.
CHECKED	A.M.J.
DRAWN	BECKY M. LEACH
CHECKED	A.M.J. & P.E.C.

May 10, 2006
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STRUCTURAL STEEL
F.A.P. ROUTE 669 - SECTION 11BR-1
TAZEWELL COUNTY
STATION 301+87.90
STRUCTURE NO. 090-0172