

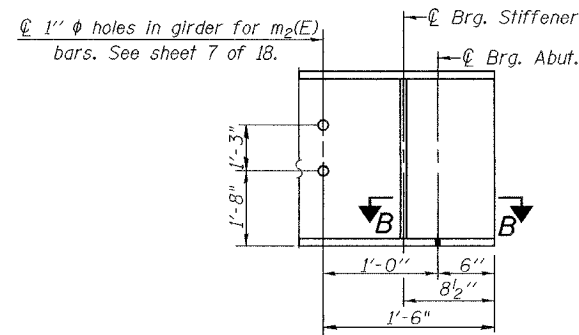
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STATION	SHEET NO.	SHEET NO. 9
F.A.I. 80	37-IHBR-1	HENRY	133	72	18 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	Contract #64602		

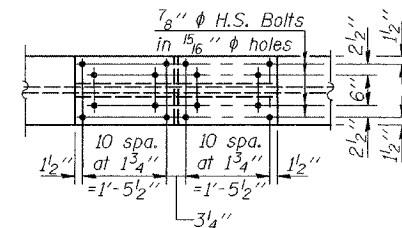
	0.4 Sp. 1 & 0.6 Sp. 2	Pier
I_s	(in ⁴) 14436	22385
I_c (n)	(in ⁴) 32007	—
I_c (3n)	(in ⁴) 23694	—
S_s	(in ³) 687	1035
S_c (n)	(in ³) 910	—
S_c (3n)	(in ³) 831	—
Z	(in ³) —	—
DC1	(k/ft.) 0.764	0.836
M DC1	(k) 500.0	1146.8
DC2	(k/ft.) 0.15	0.15
M DC2	(k) 117.1	173.2
DW	(k/ft.) 0.296	0.296
M DW	(k) 231.0	341.8
M ₄ +Imp	(k) 1172.0	1044.3
M _a (Strength I)	(k) 3168.9	3990.3
φM _n	(k) 4593	—
f _s DC1	(k.s.i.) 8.73	13.30
f _s DC2	(k.s.i.) 1.69	2.01
f _s DW	(k.s.i.) 3.34	3.96
f _s 1.3(4+I)	(k.s.i.) 20.09	15.74
f _s (Service II)	(k.s.i.) 33.85	35.01
f _s (Total)(Strength I)	(k.s.i.) —	46.27
V _{sr}	(k) 25.1	—

	Abuts.	Pier
R DC1	(k) 27.8	103.5
R DC2+DW	(k) 17.6	55.5
R _L	(k) 57.1	113.6
R Imp.	(k) 18.8	23.4
R (Total)	(k) 121.3	296.0

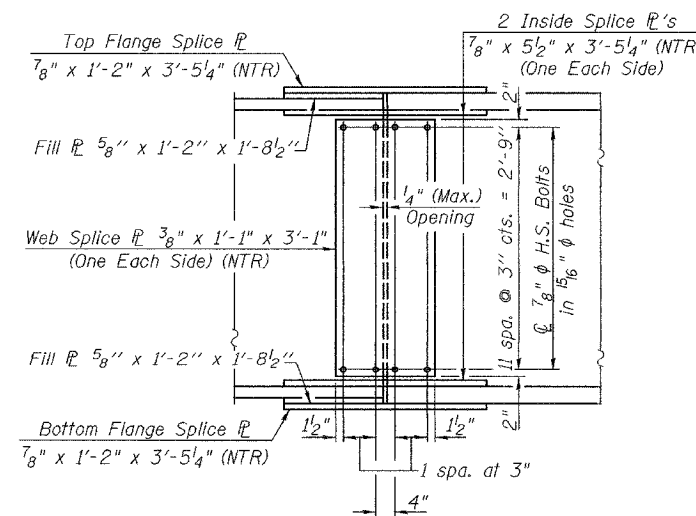
I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s due to non-composite loads.
 I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_s due to short-term composite loads.
 $I_{c(3n)}$ and $S_{c(3n)}$ are the moment of inertia and section modulus of the composite section used in computing f_s 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.
M_a (Strength I) = 1.25 MDC1 + DC2 + 1.5M (DW) + 1.75 M(4+Imp).
φM_n is the full plastic moment capacity computed in accordance with appendix D6.1 and 6.10.7.
f_s (Service II) is the sum of the stresses due to DC1 + DC2 + DW + 1.3(4+Imp).
f_s (Total) (Strength I) (Non-compact section) is the sum of the stresses due to 1.25(DC1 + DC2) + 1.5DW + 1.75(4+Imp).
V_{sr} is the maximum shear range in the span 0.75 (4+Imp).



TYP. END OF GIRDER ELEVATION



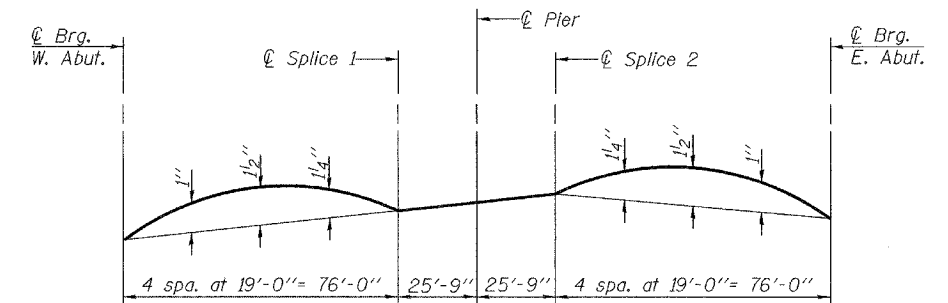
TOP & BOTTOM FLANGE P



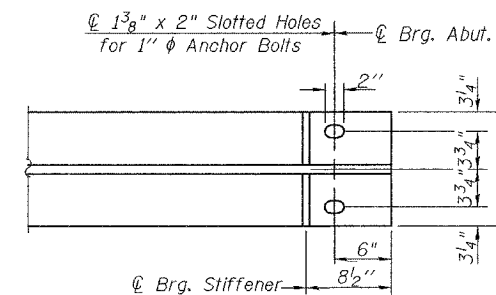
SPLICE DETAILS

(12 Required)

For Splice locations 1 & 2.

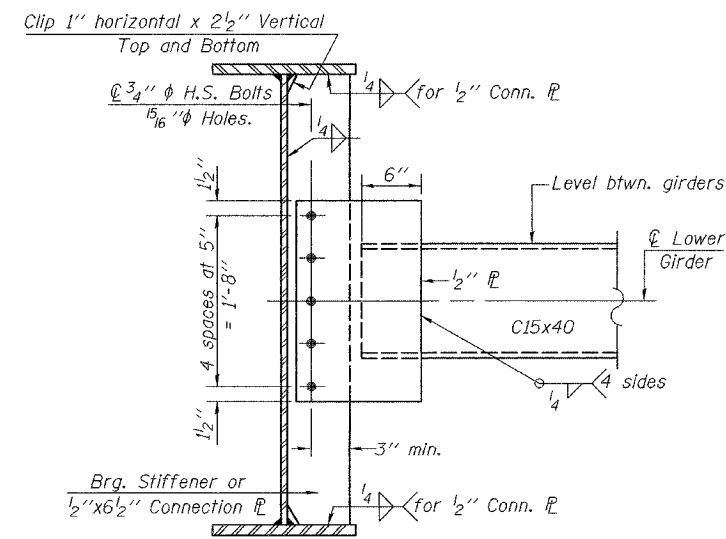


CAMBER DIAGRAM



SECTION B-B

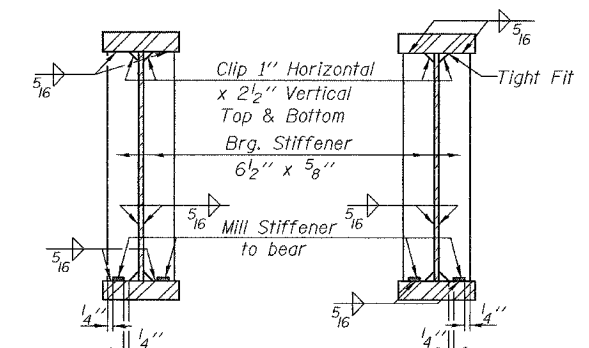
Note: All structural steel for splice plates shall be AASHTO M 270 Grade 50.



DIAPHRAGM D

(65 Required)

Note: Two hardened washers shall be required for all 1/16\"/>



SECTION AT PIER

SECTION AT ABUTMENTS

BEARING STIFFENER P's

DESIGNED	Michael D. Cima
CHECKED	Phillip R. Litchfield
DRAWN	R. Sommer
CHECKED	MDC/PRL

September 25 2006
EXAMINED *Thomas J. Demagabaki*
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

STRUCTURAL STEEL DETAILS
F.A.I. RT. 80 SEC. 37-IHBR-1
HENRY COUNTY
STATION 461+73.82
STRUCTURE NO. 037-0171