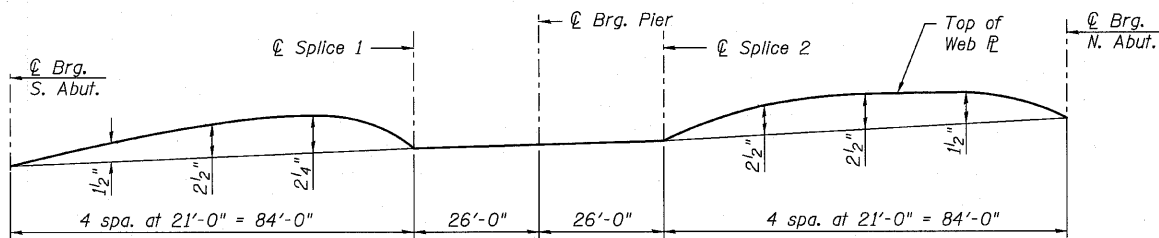


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERIOR GIRDER MOMENT TABLE		
	0.4 Sp. 1 or 0.6 Sp. 2	Pier
I_s	(in ⁴) 20,626	33,995
$I_c(n)$	(in ⁴) 45,572	
$I_c(3n)$	(in ⁴) 34,253	
S_s	(in ³) 859	1,374
$S_c(n)$	(in ³) 1,124	
$S_c(3n)$	(in ³) 1,035	
DC1	(k/ft) 0.92	1.01
M _{DC1}	(k) 709	1739
DC2	(k/ft) 0.15	0.15
M _{DC2}	(k) 127	227
DW	(k/ft) 0.33	0.33
M _{DW}	(k) 282	504
M _{Σ + IM}	(k) 1,504	1,388
M _u (Strength I)	(k) 4,159	5,643
φ _r M _{nc} , φ _r M _{nc}	(k) 5,646	
f _s DC1	(ksi) 9.9	14.2
f _s DC2	(ksi) 1.5	2.0
f _s DW	(ksi) 3.3	4.4
f _s 1.3(Σ+IM)	(ksi) 20.9	15.8
f _s (Service II)	(ksi) 35.6	36.4
f _s (Total)(Strength I)	(ksi) 45.7	
V _r	(k) 28.4	

* Compact section
** Non-compact section

INTERIOR GIRDER REACTION TABLE		
	Abut.	Pier
R _{DC1}	(k) 37.4	135.1
R _{DC2}	(k) 6.2	20.6
R _{DW}	(k) 13.7	45.8
R _{Σ + IM}	(k) 88.4	162.4
R _{Total}	(k) 145.7	363.9



CAMBER DIAGRAM

TOP OF WEB ELEVATIONS
(For fabrication use only)

Location	℄ Brg. S. Abut.	℄ Splice #1	℄ Brg. Pier 1	℄ Splice #2	℄ Brg. N. Abut.
Girder 1	660.85	661.40	661.61	661.82	662.65
Girder 2	660.99	661.54	661.75	661.97	662.79
Girder 3	661.10	661.65	661.86	662.08	662.91
Girder 4	661.10	661.65	661.86	662.08	662.91
Girder 5	660.99	661.54	661.75	661.97	662.79
Girder 6	660.85	661.40	661.61	661.82	662.65

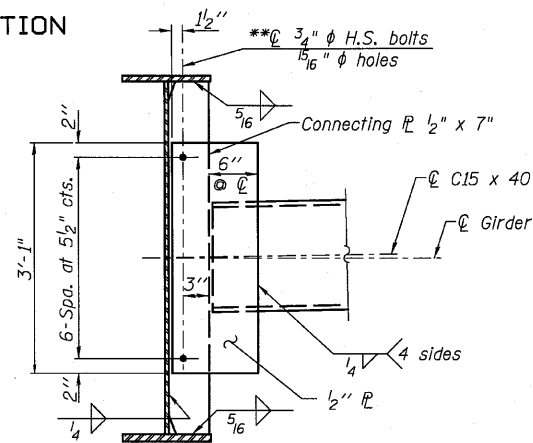
DESIGNED -	AEU
CHECKED -	DLS
DRAWN -	AWH
CHECKED -	AEU

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).

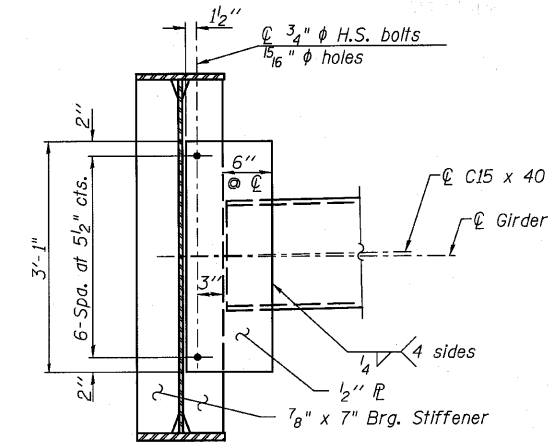
$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: 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_{Σ + IM}: 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_{Σ + IM}
φ_rM_{nc}: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
φ_rM_{nc}: Compact non-composite negative moment capacity computed according to Article A6.1.1 (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_{Σ + IM}
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_{Σ + IM}
V_r: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

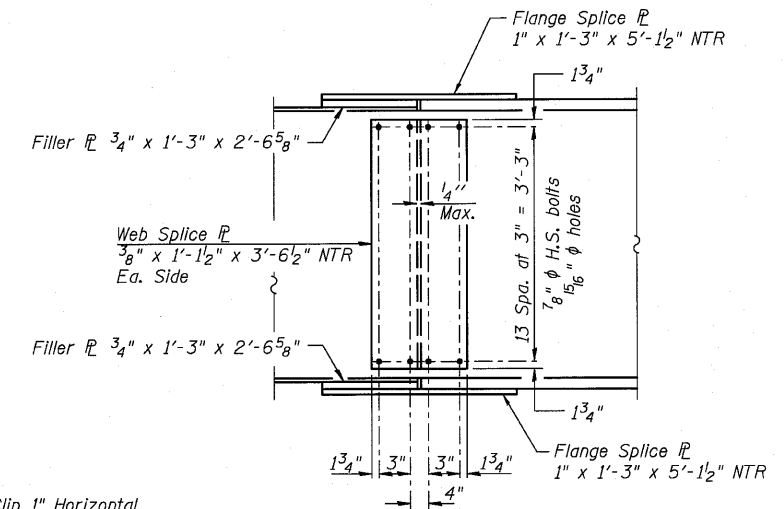


INTERIOR DIAPHRAGM, D
(50-Required)

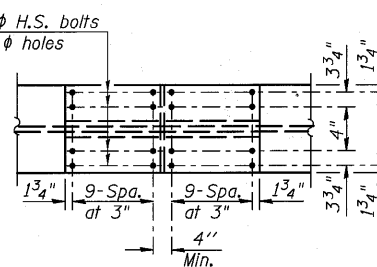


INTERIOR DIAPHRAGM, D1
(5-Required)

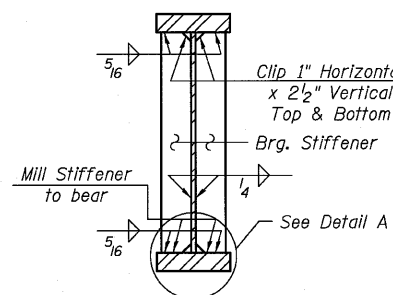
** Use 1 1/2" x 1 7/8" vertical slotted holes in 1/2" connecting PL and 1/2" connection PL at the west side of Girder 4 only. Provide 5/16" PL washers for slotted holes. Bolts for slotted holes shall be finger-tightened prior to the deck pour for Stage II Construction, and then be fully tightened after completion of the deck pour for Stage II Construction.



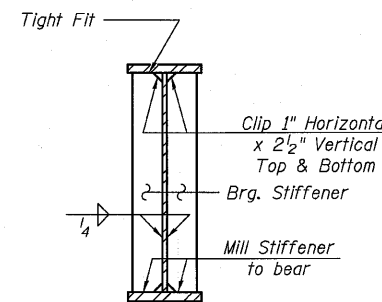
ELEVATION



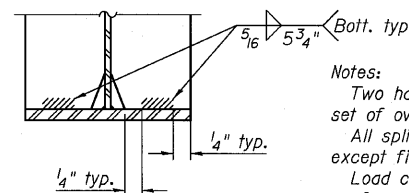
PLAN - TOP & BOTTOM FLANGE
SPLICE DETAIL
(12 required)



SECTION AT PIER



SECTION AT ABUTMENT



DETAIL A

Notes:
Two hardened washers required for each set of oversized holes.
All splice plates shall be AASHTO M 270, Grade 50, except fill plates.
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 098-0117

WILLS BURKE KELSEY ASSOCIATES LTD. 116 West Main Street, Suite 201 St. Charles, Illinois 60174 (630) 443-7755	SHEET NO. 16	F.A.P. RTE. 646	SECTION 8BR-1	COUNTY WHITESIDE	TOTAL SHEETS 90	SHEET NO. 50
	26 SHEETS	CONTRACT NO. 84854		ILLINOIS FED. AID PROJECT		