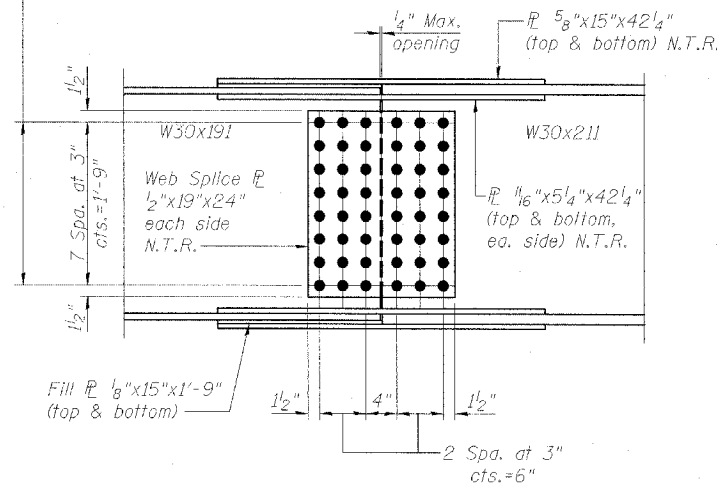
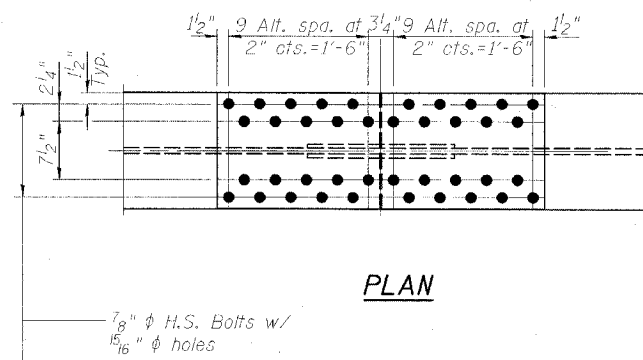
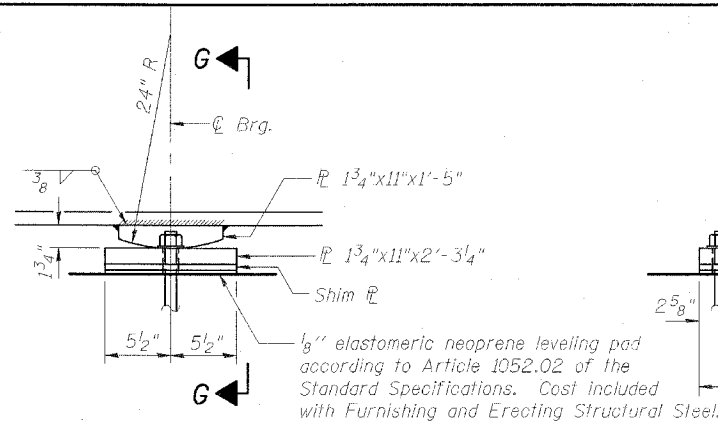


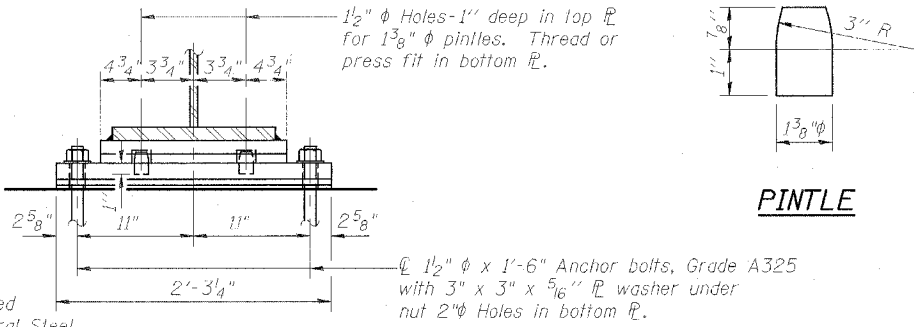
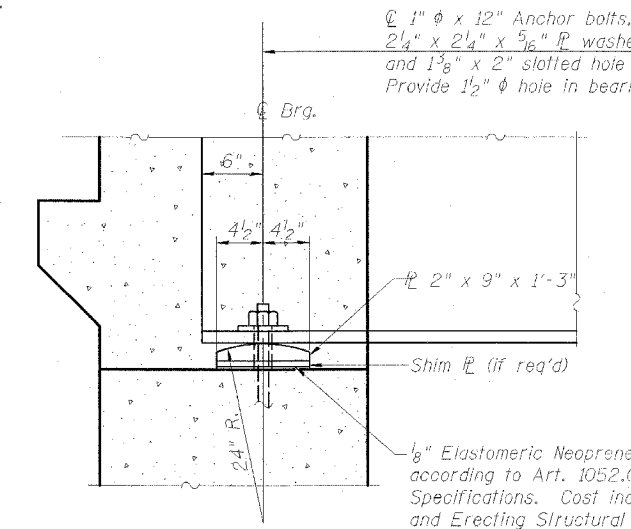
Contract #98950



Note:
All beams and splice material except fill plates shall be AASHTO M270 Gr. 50 and shall meet Notch Toughness Requirements (N.T.R.).
All bearings and pintles shall be AASHTO M270 Gr. 50.



FIXED BEARING
(23 Required)



PINTLE

FIXED BEARING AT NORTH & SOUTH ABUTMENT
(46 Required)

NOTES:

- Bolts for slotted holes in diaphragm connection shall be finger tightened prior to deck slab pour and then fully tightened after completion of Stage II pouring.
- ASTM F1554 Grade 105, ASTM A449, and AASHTO M314 Grade 105 anchor bolts may be substituted for the anchor bolts shown.

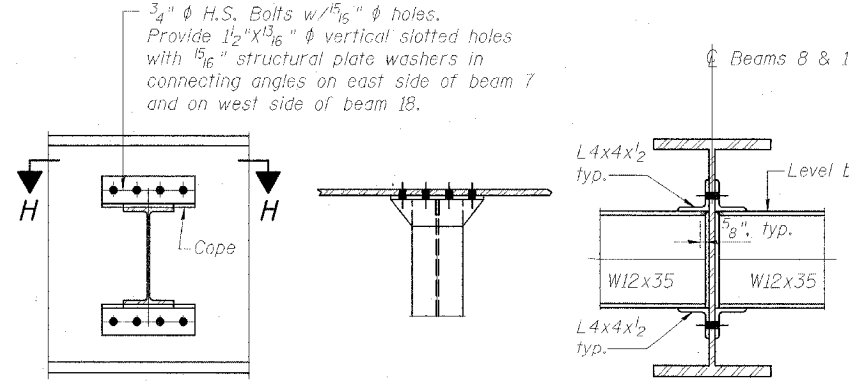
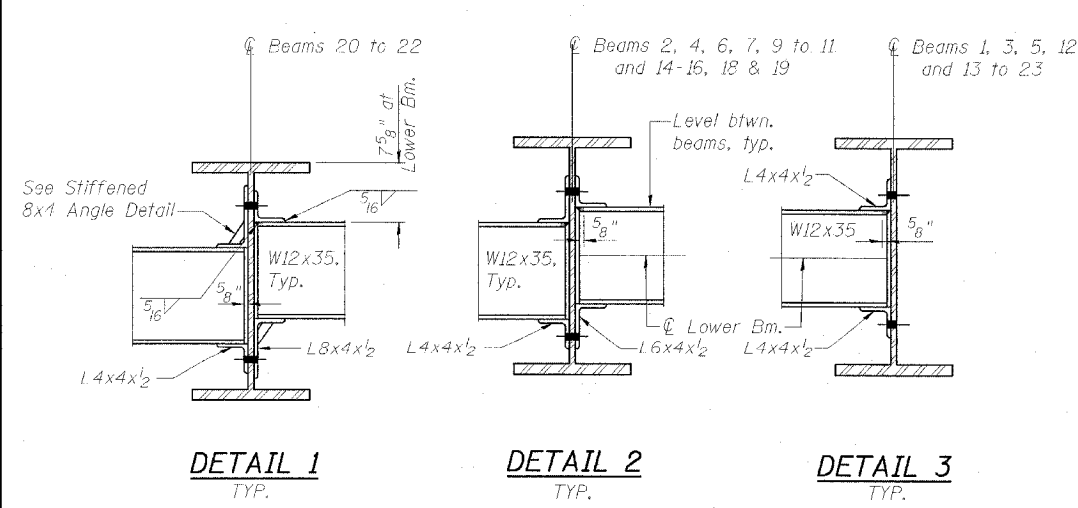
I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).
 $I_c(n)$ and $S_c(n)$ are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.
 $I_c(3n)$ and $S_c(3n)$ are the moment of 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 within the composite portion of the span.
 Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.
 M_a (Applied Moment) = $1.3[M \ell + M_s \ell + M \ell + M(imp)]$.
The Plastic Moment capacity (M_u) is computed according to AASHTO 10.48.1 and 10.50.1.1.
 $M \ell$ Moment due to dead loads on non-composite section.
 $M_s \ell$ Moment due to dead loads on composite section.
 $M \ell$ Moment due to live load on non-composite or composite section.
 $M(imp)$ Moment due to live load impact on non-composite or composite section.
 f_s (Overload) is the sum of the stresses due to $M \ell + M_s \ell + M \ell + M(imp)$.
 f_s (Total) (Non-compact section) is the sum of the stresses due to $1.3[M \ell + M_s \ell + M \ell + M(imp)]$.

INTERIOR GIRDER MOMENT TABLE

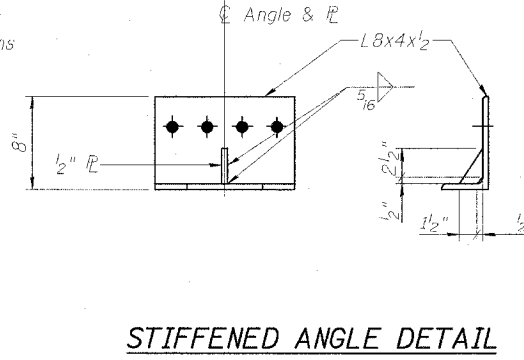
	0.4 Sp. 1 or 0.6 Sp. 2	Pier
I_s	(in ⁴) 9170	10300
$I_c(n)$	(in ⁴) 20947	
$I_c(3n)$	(in ⁴) 15337	
S_s	(in ³) 598	665
$S_c(n)$	(in ³) 806	
$S_c(3n)$	(in ³) 751	
Z	(in ³) 751	751
ω	(K/ft.) 0.903	1.369
$M \ell$	(K) 456	1225
$s \ell$	(K/ft.) 0.444	
$M_s \ell$	(K) 248	
$M \ell$	(K) 701	460
$M(imp)$	(K) 165	108
M_a	(K) 1443	947
M_u	(K) 2791	2824
M_u	(K) 3668	3111
$f_s \ell$ non-comp	(k.s.i.) 9.2	22.1
$f_s \ell$ (comp)	(k.s.i.) 4.1	
$f_s \ell$ (M ℓ + M(imp))	(k.s.i.) 21.5	17.1
f_s (Overload)	(k.s.i.) 34.8	39.2
f_s (Total)	(k.s.i.) 46	51.0
VR	(K) 46	

INTERIOR GIRDER REACTION TABLE

	Abut.	Pier
$R \ell$	(K) 43.7	144.7
$R \ell$	(K) 45.7	59.8
$Imp.$	(K) 10.9	14.2
R (Total)	(K) 100.3	218.7



DIAPHRAGM CONNECTION



(D: 49 Req'd at Northbound, D1 thru D14: 2 Req'd at Northbound, D15: 70 Req'd at Southbound)

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

STRUCTURAL STEEL DETAILS,
FIXED BEARING DETAILS
& MOMENT TABLE

INTERSTATE 57 OVER
WEST MAIN ST. (OLD IL RT. 13)
F.A.I. RT. 57 SEC. (X1-6)HBK-2
WILLIAMSON COUNTY
STATION 1529+96.11
STRUCTURE NO. 100-0084 (N.B.)
STRUCTURE NO. 100-0085 (S.B.)

DESIGN FIRM REGISTRATION
No. 184-000450

1817 SOUTH NEIL STREET
SUITE 100
CHAMPAIGN, IL 61820
PHONE : 217.373.8900
FAX : 217.373.8923

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DRAWING NUMBER
S-18