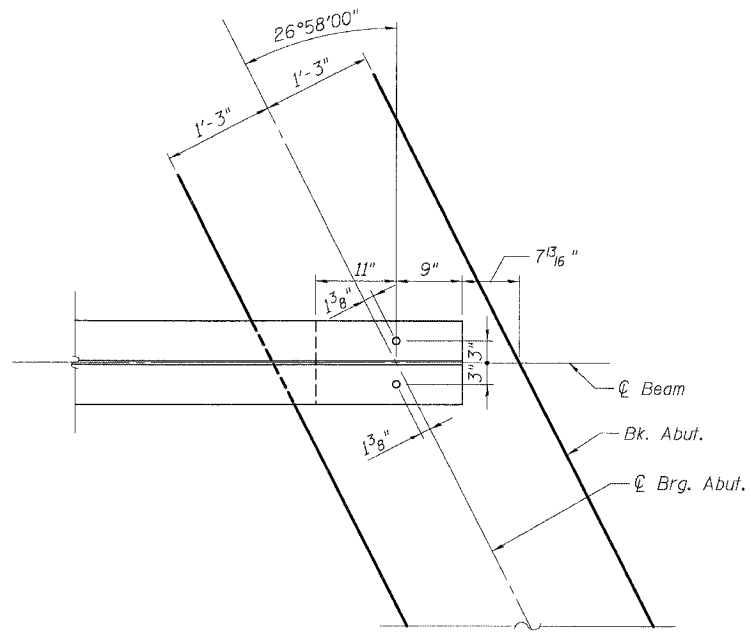
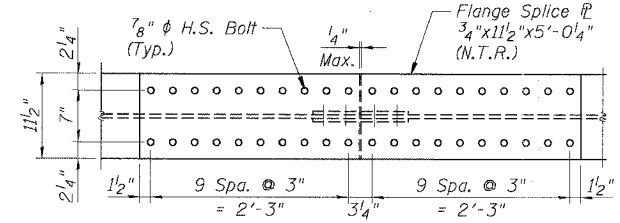


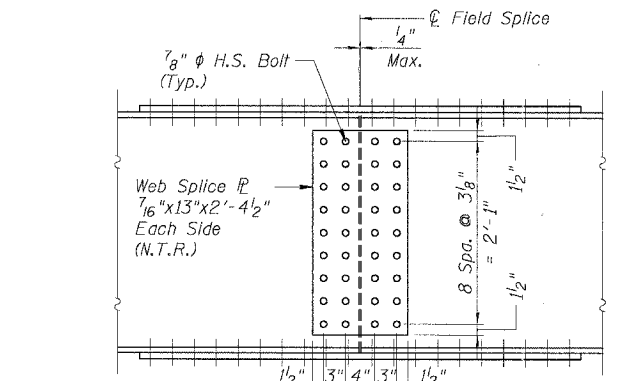
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	2006-031	BY WILL	137	76
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



PLAN AT ABUTMENT

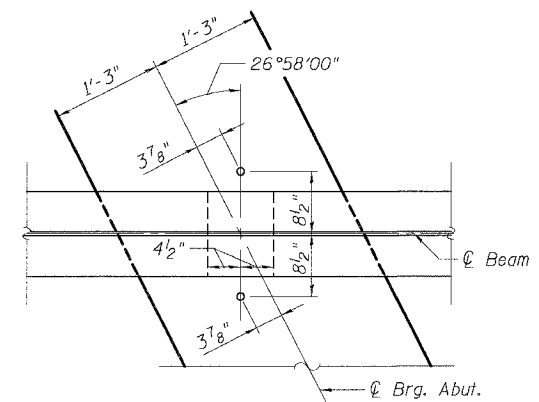


TOP & BOTTOM FLANGE

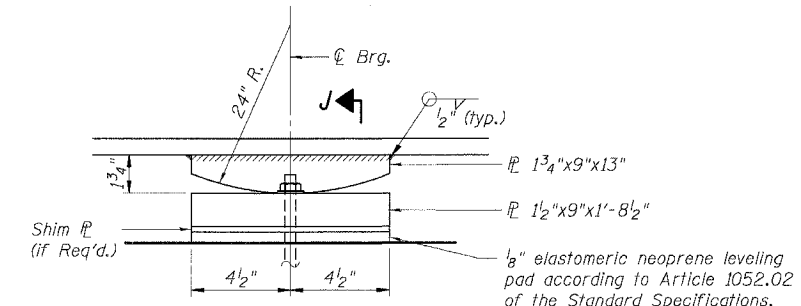


ELEVATION  
SPLICE DETAILS

All bolts in splices shall be AASHTO M164 (ASTM A325) with Class A contact surfaces and standard holes.



PLAN AT PIER



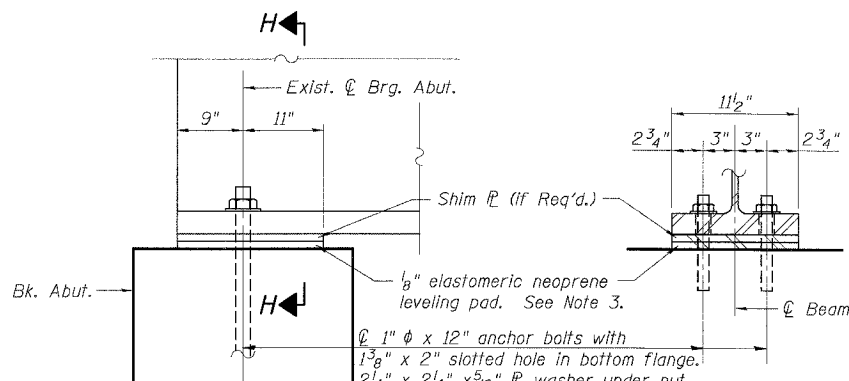
ELEVATION AT PIER

INTERIOR GIRDER MOMENT TABLE  
(PROPOSED BEAMS 8 AND 9)

	0.4 Sp. 1	Pier	0.5 Sp. 2
$I_s$ (in <sup>4</sup> )	5,900	5,900	5,900
$I_c$ (n) (in <sup>4</sup> )	14,919	---	14,919
$I_c$ (3n) (in <sup>4</sup> )	11,031	---	11,031
$S_s$ (in <sup>3</sup> )	359	359	359
$S_c$ (n) (in <sup>3</sup> )	514	---	514
$S_c$ (3n) (in <sup>3</sup> )	465	---	465
$Z$ (in <sup>3</sup> )	---	415	---
$M$ (k/ft.)	0.699	1.149	0.699
$M$ (k)	133	577	242
$s$ (k/ft.)	0.450	---	0.450
$M_s$ (k)	99	---	190
$M$ (k)	359	252	484
$M$ (Imp) (k)	98	64	116
$M_3$ (M <sub>L</sub> + M <sub>Imp</sub> ) (k)	763	528	1,000
$M_a$ (k)	1,292	1,437	1,861
$M_u$ (k)	2,598	1,701	2,598
$f_s$ non-comp (k.s.i.)	4.4	19.3	8.1
$f_s$ (comp) (k.s.i.)	2.5	---	4.9
$f_s$ (k + Imp) (k.s.i.)	17.8	17.6	23.4
$f_s$ (Overload) (k.s.i.)	24.8	36.9	36.3
$f_s$ (Total) (k.s.i.)	---	---	---
$VR$ (k)	50.0	---	51.0

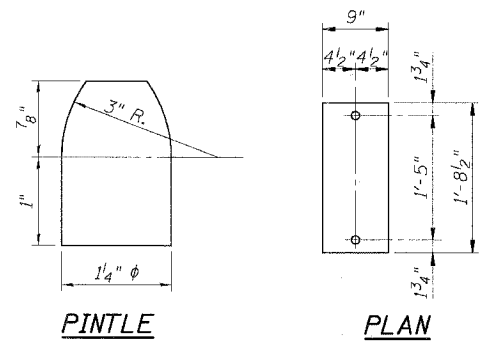
INTERIOR GIRDER REACTION TABLE  
(PROPOSED BEAMS 8 AND 9)

	Abut.	Pier
$R$ (k)	23.2	91.2
$R$ (k)	35.9	42.5
$Imp.$ (k)	9.8	10.9
$R$ (Total) (k)	69.0	144.6



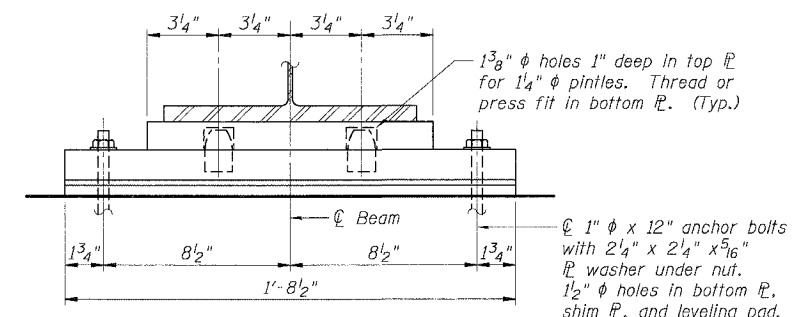
SECTION AT ABUTMENTS

SECTION H-H



PINTLE

PLAN



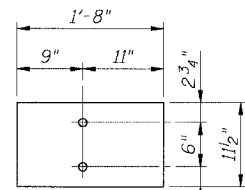
SECTION J-J

$I_s$  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 in span.  
 $Z$  is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.  
 $M_a$  (Applied Moment) =  $1.3[M] + Ms + 5_3(M_L + M[Imp])$ .  
 The Plastic Moment capacity ( $M_u$ ) is computed according to AASHTO 10.48.1 and 10.50.1.1.  
 $f_s$  (Overload) is the sum of the stresses due to  $M$  +  $M_s$  +  $5_3(M_L + M[Imp])$ .  
 $f_s$  (Total) (Non-compact section) is the sum of the stresses due to  $1.3[M] + Ms + 5_3(M_L + M[Imp])$ .

Notes:

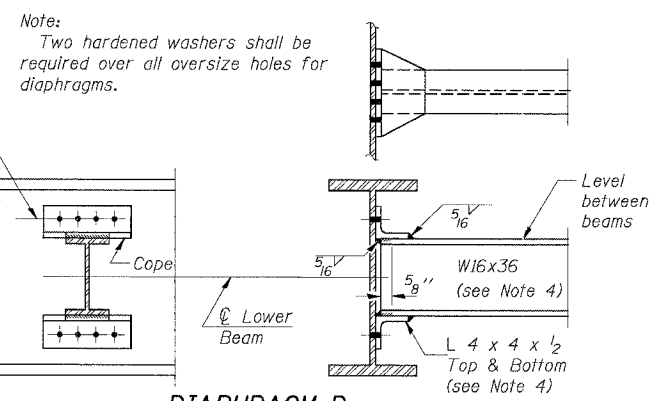
1. Work this sheet with Sht. SA-11.
2. N.T.R. denotes steel is subject to Supplemental Requirements for Notch Toughness (Zone 2).
3. 1/2" elastomeric neoprene leveling pad according to Article 1052.02 of the Standard Specifications.
4. All steel shown on this sheet shall be AASHTO M270 Grade 50 except diaphragms and shim plates may be AASHTO M 270 Grade 36.
5. Anchor bolts shall be furnished and installed under the pay item Furnishing and Erecting Structural Steel. See Sht. SA-13 for details.
6. Fixed bearing assemblies including pintles, shim plates, adjusting shims, and elastomeric neoprene leveling pads will be furnished by the Fabrication Contractor and shall be installed under the pay item Erecting Structural Steel
7. Adjusting shim plates shall be placed as required during erection, see General Notes on Sht. SA-2.

\* These notes included in erection contract for information only.



PLAN

3/4" H.S. Bolts  
 1 5/16" phi Holes at Beams 1, 8, 9 and 10.  
 Field Drill 1 5/16" phi holes in existing Beams 2 and 7.  
 Cost of field drilling is included in Erecting Structural Steel



DIAPHRAGM D  
(40 Required)

SHT. SA-12 OF 21

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 FAI ROUTE 55 (OVER CSX RR AND SUNNYLAND DRAIN)  
 BRIDGE WIDENING  
 SB I-55 OVER CSX RAILROAD, S.N. 099-0312  
 STA. 167+72.58, SECTION 2006-031 BY  
 WILL COUNTY

**BEARING DETAILS,  
 MOMENT & REACTION TABLES  
 SPLICE & DIAPHRAGM DETAILS**

SCALE: DATE 07/07/06 DRAWN BY MDB CHECKED BY MJK

**TENG** TENG & ASSOCIATES, INC.  
 ENGINEERS/ARCHITECTS/PLANNERS  
 CHICAGO, ILLINOIS

PLOT DATE = 07/07/06  
 PLOT SCALE = 1/8" = 1'-0"  
 USER NAME = MUSER  
 S:\DOCUMENT\2023\61581\STRUCT\TOD\GABR\BR\BR12.SHT  
 7-95-2006, 13:35:44  
 GARCIA/ALZ