

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FAS 583	*	SCHUYLER	56	32
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

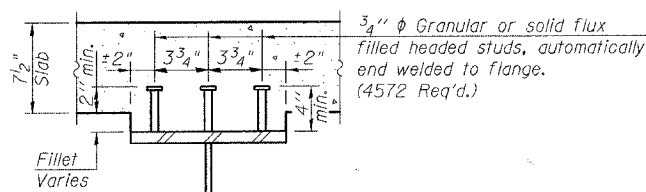
* 02-00067-00-BR
Contract # 93425

TOP OF BEAM ELEVATIONS*

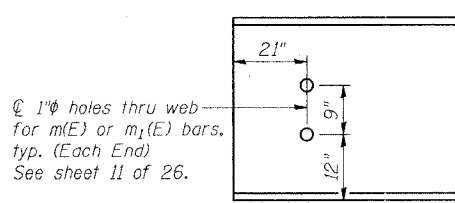
	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
⊕ Bearing West Abut.	481.607	481.728	481.834	481.853	481.787	481.707
⊕ Bearing Pier 1	482.444	482.557	482.657	482.669	482.595	482.508
⊕ Splice 1	482.610	482.722	482.820	482.831	482.756	482.667
⊕ Bearing Pier 2	483.017	483.122	482.212	483.216	483.134	483.038
⊕ Splice 2	483.101	483.204	483.293	483.296	483.212	483.115
⊕ Splice 3	483.115	483.212	483.296	483.293	483.204	483.101
⊕ Bearing Pier 3	483.038	483.134	483.216	483.212	483.122	483.017
⊕ Splice 4	482.667	482.756	482.831	482.820	482.722	482.610
⊕ Bearing Pier 4	482.508	482.595	482.669	482.657	482.557	482.444
⊕ Bearing East Abut.	481.707	481.787	481.853	481.834	481.728	481.607

*For fabrication use only

	0.4 Sp. 2 0.6 Sp. 5	Pier 1 or Pier 4	0.5 Sp. 2 0.5 Sp. 4	0.5 Sp. 3	Pier 2 or Pier 3
I_s (in ⁴)	7450	7450	7450	7450	7450
I_c (n) (in ⁴)	19,068		19,068	19,068	
I_c (sn) (in ⁴)	13,811		13,811	13,811	
S_s (in ³)	448	448	448	448	448
S_c (n) (in ³)	655		655	655	
S_c (sn) (in ³)	591		591	591	
Z (in ³)		514			514
ϕ (k/ft.)	0.691	1.09	0.691	0.691	1.09
$M\phi$ (k)	319	804	260	268	789
$s\phi$ (k/ft.)	0.399		0.399	0.399	
$Ms\phi$ (k)	206		198	197	
$M\phi$ (k)	500	330	534	533	352
M (Imp) (k)	122	77	121	121	80
$S_3[M\phi + M(\text{Imp})]$ (k)	1036	678	1092	1090	719
M_a (k)	2029	1927	2014	2021	1960
M_u (k)	3054	2142	3054	3054	2142
$f_s\phi$ non-comp (k.s.i.)	8.5	21.5	7.0	7.2	21.1
$f_s\phi$ (comp) (k.s.i.)	4.2		4.0	4.0	
$f_s S_3(\phi + \text{Imp})$ (k.s.i.)	19.0	18.2	20.0	20.0	19.3
f_s (Overload) (k.s.i.)	31.7	39.7	31.0	31.1	40.4
f_s (Total) (k.s.i.)					
VR (k)	41.9		35.8	35.8	



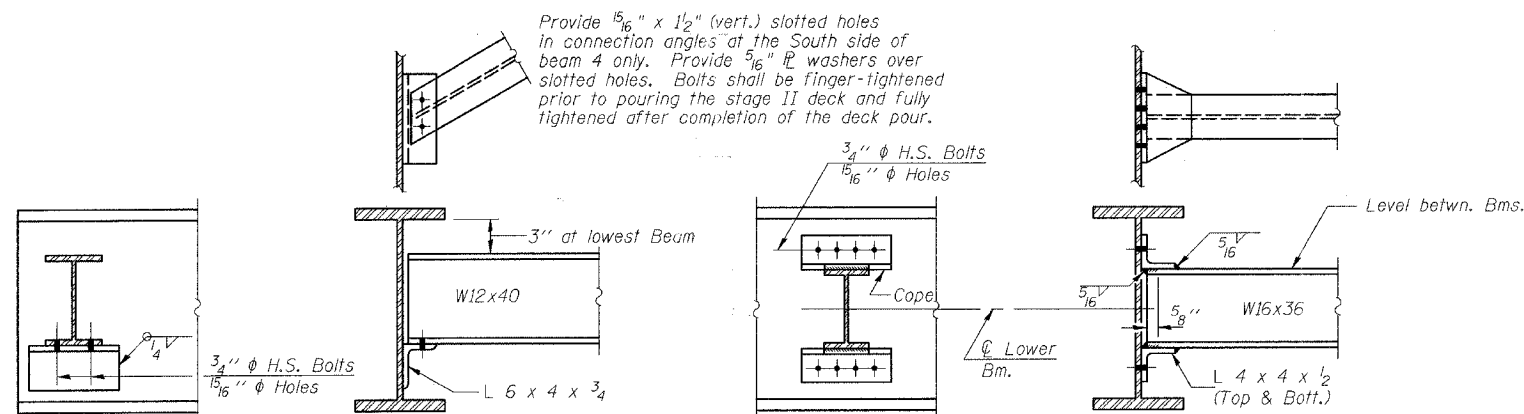
SECTION THRU TOP FLANGE



END OF BEAM ELEVATION

	Abutments	Piers 1 & 4	Piers 2 & 3
$R\phi$ (k)	55.1	109.2	107.2
$R\phi$ (k)	31.2	45.5	47.0
Imp. (k)	7.6	10.6	10.6
R (Total) (k)	93.9	165.3	164.8

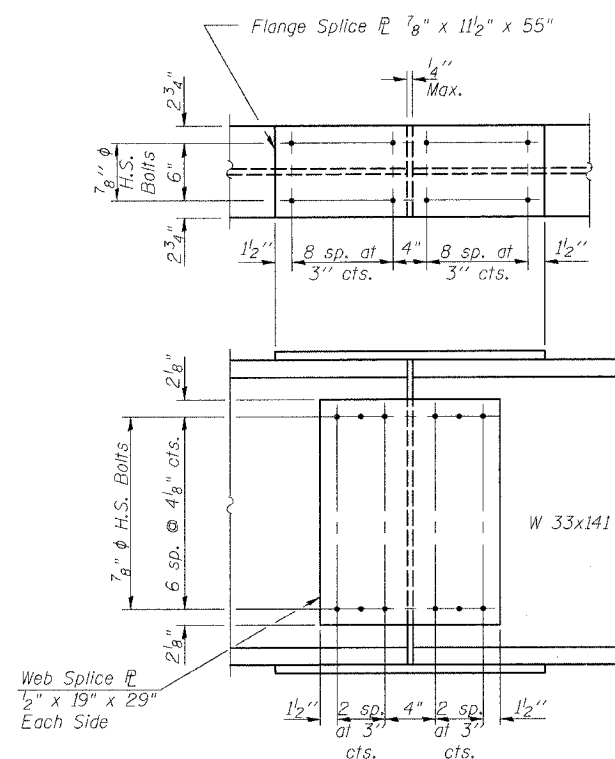
I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).
 $I_c(n)$ and $S_c(n)$ are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.
 $I_c(sn)$ and $S_c(sn)$ are the moment of 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) = $1.3[M\phi + Ms\phi + S_3(M\phi + M(\text{Imp}))]$.
 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 $M\phi + Ms\phi + S_3(M\phi + M(\text{Imp}))$.
 f_s (Total) (Non-compact section) is the sum of the stresses due to $1.3[M\phi + Ms\phi + S_3(M\phi + M(\text{Imp}))]$.



DIAPHRAGM D1
8 Required

DIAPHRAGM D
115 Required

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



SPlice 1, 2, 3 & 4
24 Required

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
STRUCTURAL STEEL DETAILS

FAS 583 (CH5) OVER LAMOINE RIVER
SECTION 02-00067-00-BR
SCHUYLER COUNTY
STATION 54+95.75
S.N. 085-3054

SCALE: VERT. DATE: 6/7/05
DRAWN BY: LANDREY
DESIGNED BY: MATHUR
CHECKED BY: TRELLO
COMPUTER FILE NO. SNO853054.BMD
PROJECT 02157
10/27/06-MML

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