ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. RTE. 774	107BY-1	EFFINGHAM	344	279
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 13

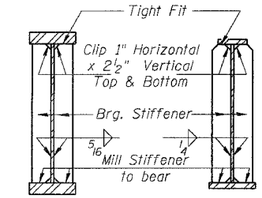
26 SHEETS

CONTRACT NO. 94827

TOP OF WEB ELEVATIONS

	Girder 1A	Girder 2A	Girder 3A	Girder 4A
℄ Brg. W. Abut.	541.646	541.515	540.622	540.486
℄ Splice 1	541.488	541.356	540.464	540.328
℄ Pier	541.488	541.356	540.464	540.328
℄ Splice 2	541.488	541.356	540.464	540.328
℄ Brg. E. Abut.	541.640	541.508	540.615	540.479

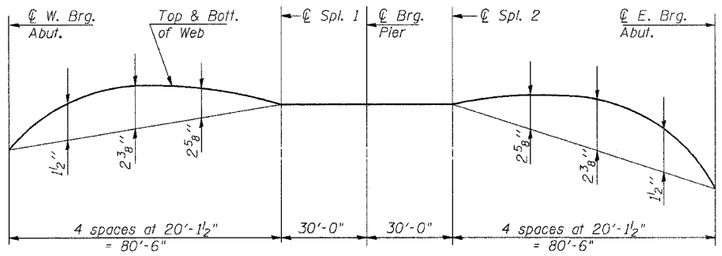
For Fabrication Only



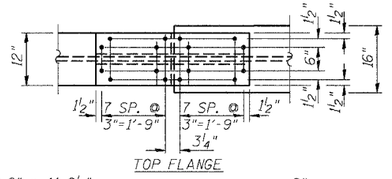
SECTION AT PIER

SECTION AT ABUTMENT

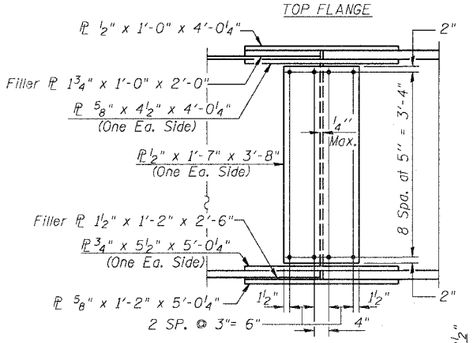
BEARING STIFFENER DETAILS

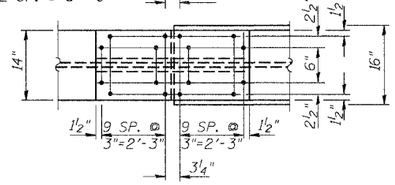


CAMBER DIAGRAM



TOP FLANGE





BOTTOM FLANGE

FIELD SPLICE DETAIL

All splice plates excluding filler ℄'s shall be subject to Notch Toughness Requirements

PROP. INTERIOR GIRDER MOMENT TABLE			
		0.4 Sp. 1 or 0.6 Sp. 2	Pier
Is	(in⁴)	22670	61900
Ic (n)	(in⁴)	54340	———
Ic (3n)	(in⁴)	39630	———
Ss	(in³)	993	2314
Sc (n)	(in³)	1338	———
Sc (3n)	(in³)	1224	———
Z	(in³)	———	2557
℄	(k/ft.)	1.12	1.73
M℄	('k)	741	3107
s℄	(k/ft.)	0.53	———
Ms℄	('k)	433	———
M4	('k)	1090	1158
M (Imp)	('k)	229	243
$5/3[M4+M(Imp)]$	('k)	2198	2335
Ma	('k)	4384	7075
Mu	('k)	6285	7671
fs℄(non-comp)	(k.s.i.)	8.9	16.1
fs℄(comp)	(k.s.i.)	4.2	———
$fs\,5/3(4+Imp)$	(k.s.i.)	19.7	12.1
fs (Overload)	(k.s.i.)	32.8	28.2
VR	(k)	68.8	

INTERIOR GIRDER REACTION TABLE			
		Abuts.	Pier
R℄	(k)	107	238.6
R4	(k)	51.2	91.8
Imp.	(k)	10.8	19.3
R (Total)	(k)	169	349.7

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs ℄ (non-comp.) and live load stresses at pier.

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

Ic(3n) and Sc(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.

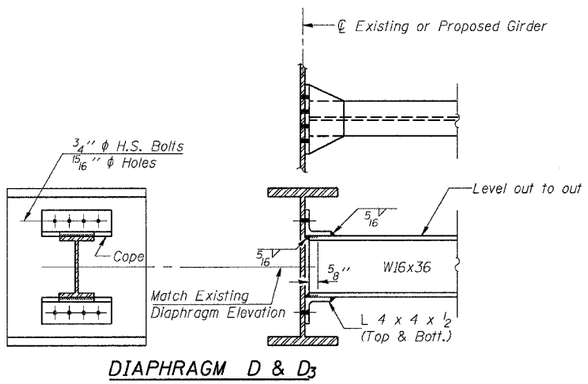
Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.

Ma (Applied Moment)=1.3[M℄ + Ms℄ + 5/3(M4 + M(Imp))].

The Plastic Moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1.

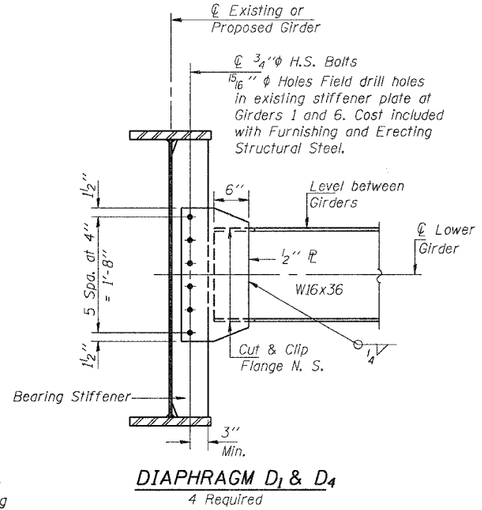
fs (Overload) is the sum of the stresses due to M℄ + Ms℄ + 5/3(M4 + M(Imp)).

R℄ includes the weight of the concrete diaphragm and the dead load reaction from the approach pavement.



DIAPHRAGM D & D3

32 Required



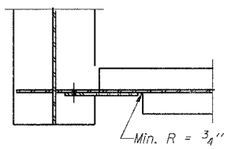
DIAPHRAGM D1 & D4

4 Required

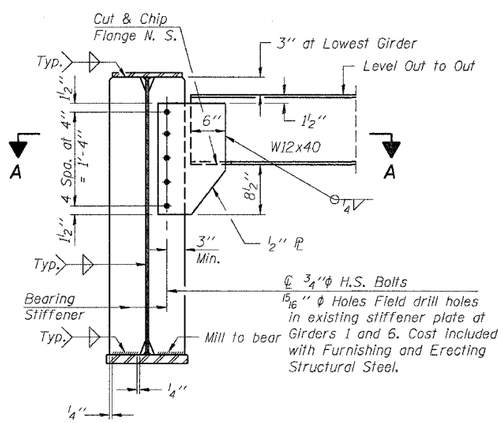
NOTES

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

Remove and replace existing bolts at diaphragms connected to existing Girders 1 and 6. Cost included with Furnishing and Erecting Structural Steel.



SECTION A-A



DIAPHRAGM D2 & D5

8 Required

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

Work this Sheet with Sheet 12 of 26.

SHEET TITLE: STRUCTURAL STEEL

PROJECT: IL RTE. 32/33 OVER LITTLE WABASH RIVER OVERFLOW
F.A.P. RTE. 774 SECTION 107BY-1
EFFINGHAM COUNTY
STATION 1018+86.92
STRUCTURE NO. 025-0077

PROJECT NO. 02017
SCALE
DATE
DRAWN BY TFG
CHECKED BY KPS/CME/MCB
DRAWING NO. 13 OF 26 SHTS

COOMBE-BLOXDORF P.C.
Engineers / Land Surveyors
Springfield, Illinois
Design Firm License No. 184-002703

...\FINAL PLANS\sheet 13.dgn 03/22/07 09:20:45 SM