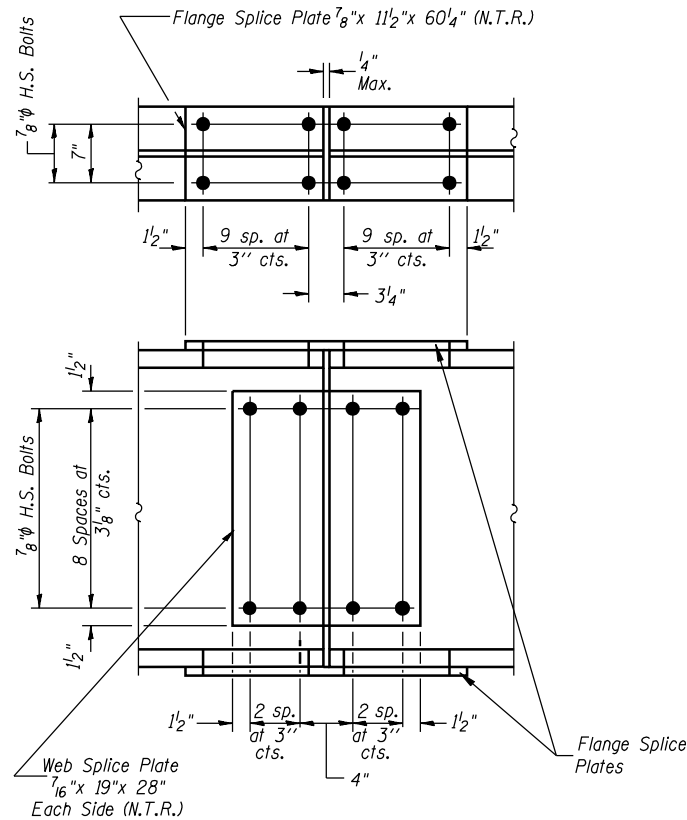


D-98-551-02
CONTRACT NO. 72680



SPLICE DETAIL
35 Required

INTERIOR BEAM MOMENT TABLE						
Units	0.4 Span 1 & 0.6 Span 6	Piers 1 & 5	0.5 Span 2 & 5	Piers 2 & 4	0.5 Span 3 & 4	Pier 3
Is (in ⁴)	6710	6710	6710	6710	6710	6710
Ic (n) (in ⁴)	16730		16730		16730	
Ic (3n) (in ⁴)	12316		12316		12316	
Ss (in ³)	406	406	406	406	406	406
Sc (n) (in ³)	576		576		576	
Sc (3n) (in ³)	521		521		521	
ϕ (K/f.t.)	0.75	1.187	0.75	1.187	0.75	1.187
M ϕ (K)	223.6	611.6	206.4	625.5	204.7	621.4
S ϕ (K/f.t.)	0.437		0.437		0.437	
Ms ϕ (K)	142.9		148.6		145.3	
M ϕ (K)	435.5	278.8	479.2	305.8	478.6	307.1
M (Imp) (K)	114.5	70.3	116.5	74.0	116.3	74.3
S_3 (M ϕ + I) (K)	916.7	581.8	992.8	633.0	991.5	635.7
Ma (K)	1668.2	1551.4	1752.1	1636.0	1744.0	1634.2
Mu (K)	2800		2800		2800	
fs ϕ non-comp (k.s.i.)	6.61	18.07	6.10	18.49	6.05	18.36
fs ϕ comp (k.s.i.)	2.98		3.1		3.02	
fs S_3 (ϕ + I) (k.s.i.)	19.09	17.20	20.68	18.71	20.66	18.79
fs (Overload) (k.s.i.)	28.68	35.27	29.88	37.20	29.73	37.15
fs (Total) (k.s.i.)		45.85		48.36		48.30
VR (K)	50.0		49.5		49.5	

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs (Total & Overload).

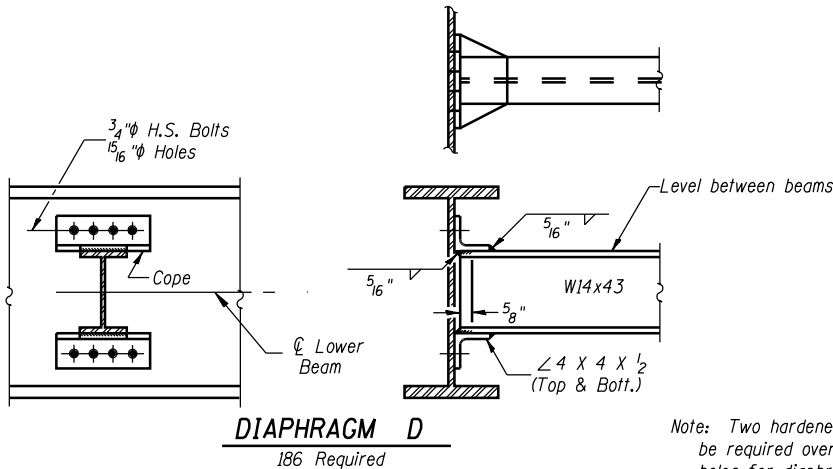
M ϕ = Moment due to dead loads on non-composite section.
Ms ϕ = Moment due to dead loads on composite section.
M ϕ = Moment due to live loads on non-composite or composite section.
I = Live load impact

Ma (Applied Moment)=1.3[M ϕ + Ms ϕ + S_3 (M ϕ + I)].
Mu=Full plastic moment capacity for compact, braced section.
fs (Overload) is the sum of the stresses due to M ϕ + Ms ϕ + S_3 (M ϕ + I).
fs (Total) is the sum of the stresses due to 1.3[M ϕ + Ms ϕ + S_3 (M ϕ + I)].
VR is the maximum Live Load + Impact shear range in span.

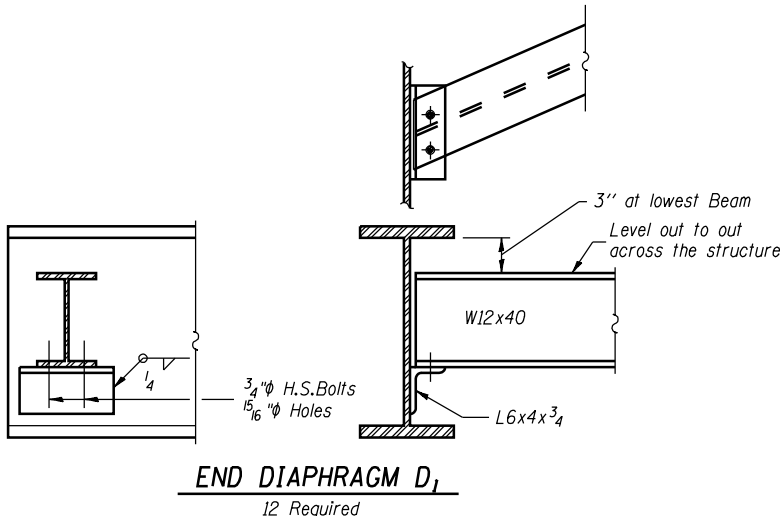
TOP OF BEAM ELEVATIONS												
Beam No.	ϕ Brg. West Abut.	ϕ Brg. Pier #1	ϕ Splice #1	ϕ Brg. Pier #2	ϕ Splice #2	ϕ Brg. Pier 3	ϕ Splice #3	ϕ Brg. Pier #4	ϕ Splice #4	ϕ Brg. Pier #5	ϕ Splice #5	ϕ Brg. East Abut.
1	557.571	557.832	557.889	558.109	558.157	558.242	558.261	558.212	558.201	558.018	557.980	557.825
2	557.708	557.967	558.025	558.242	558.289	558.372	558.390	558.338	558.326	558.140	558.102	557.945
3	557.825	558.083	558.140	558.355	558.402	558.481	558.499	558.444	558.432	558.243	558.205	558.045
4	557.929	558.187	558.244	558.455	558.502	558.579	558.595	558.538	558.525	558.334	558.295	558.133
5	557.904	558.160	558.217	558.426	558.471	558.546	558.562	558.501	558.488	558.294	558.254	558.091
6	557.816	558.071	558.127	558.333	558.378	558.450	558.466	558.402	558.389	558.192	558.151	557.986
7	557.704	557.958	558.014	558.218	558.262	558.331	558.346	558.280	558.266	558.066	558.025	557.858

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INTERIOR BEAM REACTION TABLE				
Units	E. & W. Abuts.	Piers 1 & 5	Piers 2 & 4	Pier 3
R ϕ (K)	29.6	96.1	96.4	96.0
R ϕ (K)	37.9	45.1	46.9	47.1
Imp. (K)	9.9	11.0	11.4	11.5
R (Total) (K)	77.4	152.2	154.7	154.6



DIAPHRAGM D
186 Required



END DIAPHRAGM D1
12 Required

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

DESIGNED	J.O.H.
CHECKED	B.R.T.
DRAWN	T.A.C.
CHECKED	J.O.H.

STRUCTURAL STEEL DETAILS
U.S. ROUTE 136 OVER
LAMOINE RIVER
F.A.P. RTE. 315 SECTION 34-4B-1
HANCOCK COUNTY
STATION 1153+07.72
STR. NO. 034-0508 (WBL)

HUTCHISON ENGINEERING, INC.
JACKSONVILLE, ILLINOIS
Date: January 31, 2006