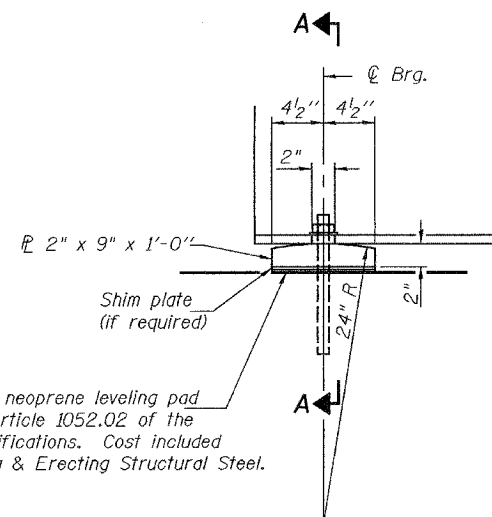


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 821	13B-1	JEFFERSON	39	23
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract #98957

SHEET NO. 10
17 SHEETS

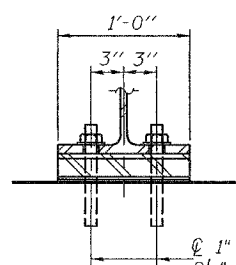


1/8" elastomeric neoprene leveling pad according to Article 1052.02 of the Standard Specifications. Cost included with Furnishing & Erecting Structural Steel.

ELEVATION AT ABUTMENTS

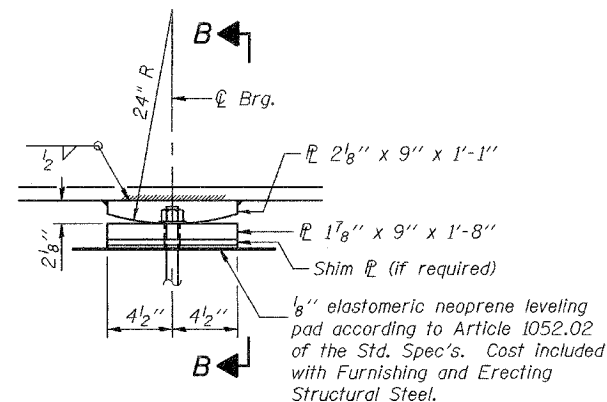
ABUTMENT BEARING

(12 required)



1" ϕ x 1'-0" anchor bolts with 2 1/4" x 2 1/4" x 5/16" PL washer under nut. 1 3/8" x 2" slotted hole in bott. flange. 1/2" ϕ holes in bearing plate. Cost included with Furnishing and Erecting Structural Steel.

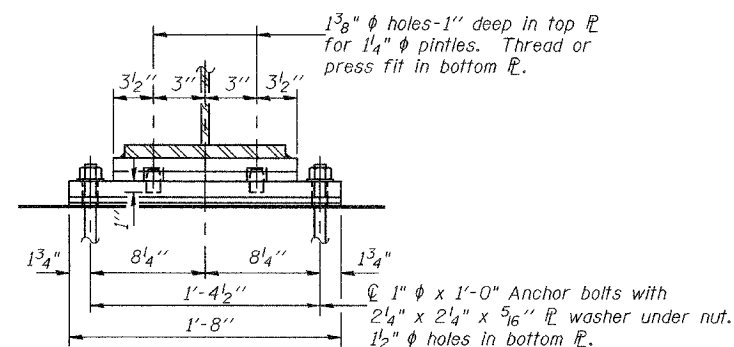
SECTION A-A



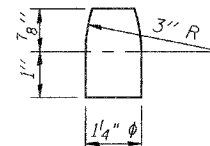
ELEVATION AT PIER

FIXED BEARING

(6 Required)



SECTION B-B

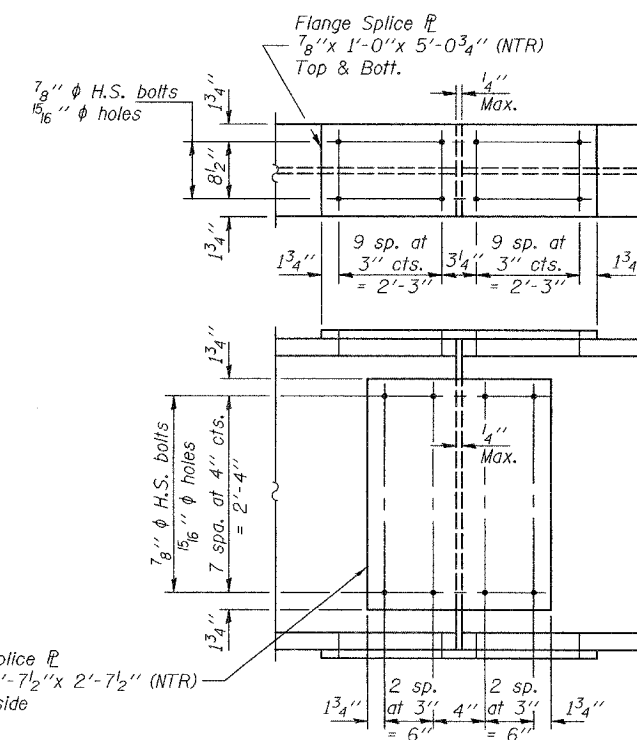


PINTLE

*TOP OF BEAM ELEVATIONS

Location	ϕ Brg. W. Abut.	ϕ Splice	ϕ Brg. Pier	ϕ Brg. E. Abut.
Beams 1 & 6	439.87	439.88	439.88	439.87
Beams 2 & 4	440.02	440.03	440.03	440.02
Beams 3 & 5	440.13	440.15	440.15	440.13

*For fabrication use only.



SPLICE

(6 Required)

INTERIOR BEAM MOMENT TABLE - 2 SPAN				
		0.4 Sp. 1	Pier	0.6 Sp. 2
I_s	(in ⁴)	9040	9040	9040
I_c (n)	(in ⁴)	22975		22975
I_c (3n)	(in ⁴)	16912		16912
S_s	(in ³)	504	504	504
S_c (n)	(in ³)	722		722
S_c (3n)	(in ³)	654		654
DC1	(k/ft.)	0.873	0.873	0.873
M DC1	(k)	191	505	360
DC2	(k/ft.)	0.150	0.150	0.150
M DC2	(k)	42	64	71
DW	(k/ft.)	0.367	0.367	0.367
M DW	(k)	103	156	174
M \pm +Imp	(k)	745	552	919
M a (Strength I)	(k)	1749	1911	2408
ϕ f M n	(k)	3610		3610
f_s DC1	(k.s.i.)	4.5	12.0	8.6
f_s DC2	(k.s.i.)	0.8	1.5	1.3
f_s DW	(k.s.i.)	1.9	3.7	3.2
f_s 1.3 ($\frac{1}{4}$ +I)	(k.s.i.)	16.1	17.1	19.9
f_s (Service II)	(k.s.i.)	23.3	34.3	33.0
f_s (Total)(Strength I)	(k.s.i.)		45.5	
V s_r	(k)	24.8		25.6

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s due to non-composite loads.
 I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_s due to short-term composite loads.
 $I_{c(3n)}$ and $S_{c(3n)}$ are the moment of inertia and section modulus of the composite section used in computing f_s due to long-term composite loads.
 DC1 is the dead load acting on the non-composite section.
 DC2 is the dead load acting on the long-term composite section.
 DW is the dead load acting on the long-term composite section due to wearing surface.
 M_a (Strength I) = 1.25 MDC1 + DC2 + 1.5M (DW) + 1.75 M($\frac{1}{4}$ +Imp).
 ϕ f M n is the full plastic moment capacity computed in accordance with Appendix D6.1 and 6.10.7.
 f_s (Service II) is the sum of the stresses due to DC1 + DC2 + DW + 1.3($\frac{1}{4}$ +Imp).
 f_s (Total) (Strength I) (Non-compact section) is the sum of the stresses due to 1.25(DC1 + DC2) + 1.5DW + 1.75($\frac{1}{4}$ +Imp).
 V_{s_r} is the maximum shear range in the span (0.75 $\frac{1}{4}$ +Imp).

INTERIOR BEAM REACTION TABLE - HL 93 LOADING			
	W. Abut.	Pier	E. Abut.
R DC1 (k)	18.5	73.9	25.1
R DC2+DW (k)	12.3	41.4	15.9
R $\frac{1}{4}$ (k)	59.2	92.6	63.4
R Imp. (k)	15.0	17.6	15.5
R (Total) (k)	105.0	225.5	119.9

Notes: See sheet 11 of 17 for anchor bolt installation. NTR denotes members to which Notch Toughness Requirements are applicable. Contractor has the option of cast in place or drilled installation of anchor bolts.

DESIGNED	R.L. Tharp
CHECKED	P.R. Litchfield
DRAWN	h.f. duong
CHECKED	RLT/PRL

EXAMINED	Thomas D. Romagosa	Aug. 31, 2006
PASSED	Ralph E. Anderson	

STRUCTURAL STEEL DETAILS
F.A.P. RT. 821 - SECTION 13B-1
JEFFERSON COUNTY
STATION 1200+35.00
STRUCTURE NO. 041-0106