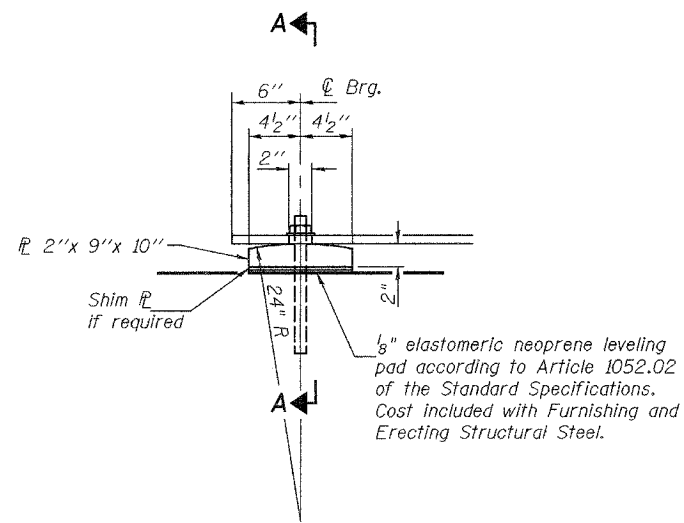


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

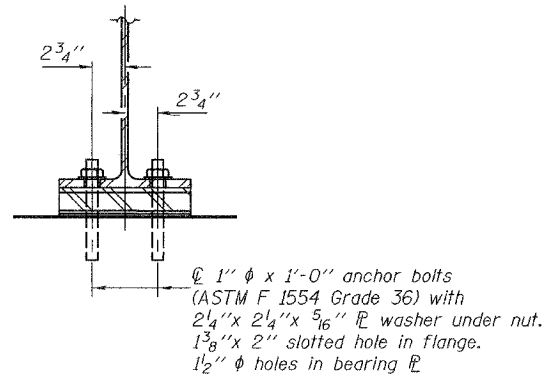
ROUTE NO.	SECTION	COUNTY	STATION	SHEET NO.
FAP 869	(10NB) B-1	FRANKLIN	48	41
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
18 SHEETS

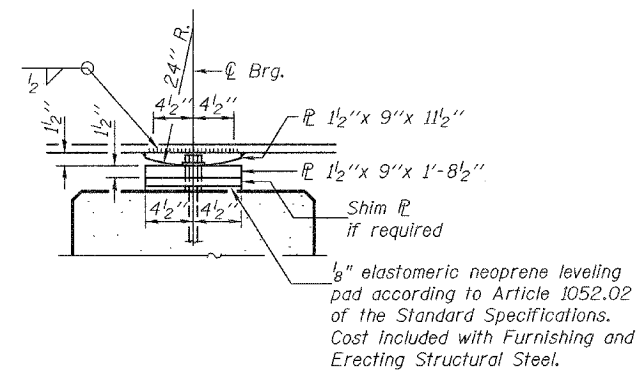
Contract No. 98821



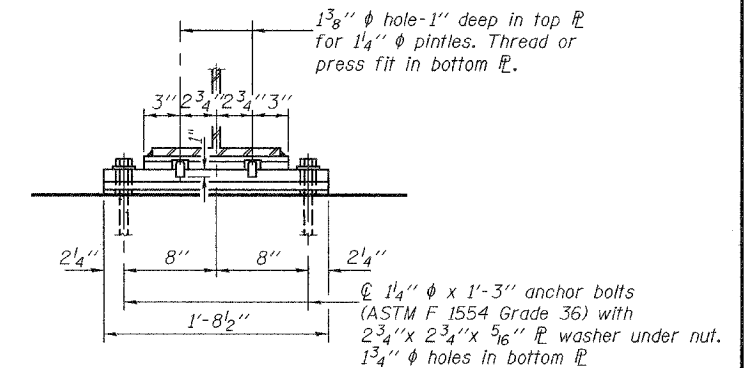
ELEVATION AT ABUTMENTS



SECTION A-A



ELEVATION AT PIERS



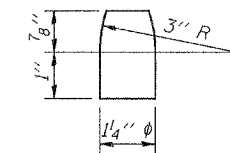
SECTION A-A

FIXED BEARING

FIXED BEARING

INTERIOR BEAM MOMENT TABLE				
		*0.4 Sp. 1 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I_s	(in ⁴)	4080	4080	4080
$I_c(n)$	(in ⁴)			11962
$I_c(3n)$	(in ⁴)			8787
S_s	(in ³)	299	299	299
$S_c(n)$	(in ³)			460
$S_c(3n)$	(in ³)			415
DC1	(k/')	0.809	0.809	0.809
MDC1	(k)	26	289	221
DC2	(k/')	0.150	0.150	0.150
MDC2	(k)	10	41	54
DW	(k/')	0.333	0.333	0.333
MDW	(k)	22	90	120
$M_k + Imp$	(k)	345	324	654
M_u (Strength I)	(k)	682	1115	1668
$\phi_f M_n$	(k)			2264
f_s DC1	(ksi)	1.0	11.6	8.9
f_s DC2	(ksi)	0.4	1.6	1.6
f_s DW	(ksi)	0.9	3.6	3.5
f_s 1.3(k+I)	(ksi)	18.0	16.9	22.2
f_s (Service II)	(ksi)	20.3	33.7	36.2
f_s (Total)(Strength I)	(ksi)	27.3	44.7	
V_r	(k)	21.1		20.0

- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).
- $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads (in⁴ and in³).
- $I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in⁴ and in³).
- DC1: Un-factored non-composite dead load (kips/ft.).
- MDC1: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- $M_k + Imp$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- M_u (Strength I): Factored design moment (kip-ft.).
- $\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
- $\phi_f M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).
- f_s (Service II): Sum of stresses as computed from the moments below (ksi).
- f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
- V_r : Factored shear range in span computed according to Art. 6.10.10.



PINTLE

*TOP OF BEAM ELEVATIONS

Location	⊙ Brg. W. Abut.	⊙ Brg. Pier 1	⊙ Splice 1	⊙ Brg. Pier 2	⊙ Splice 2	⊙ Brg. E. Abut.
Beam 1	442.95	443.55	443.66	444.51	444.70	444.99
Beam 2	443.02	443.63	443.75	444.60	444.80	445.09
Beam 3	443.07	443.70	443.81	444.67	444.87	445.17
Beam 4	443.02	443.65	443.77	444.64	444.85	445.15
Beam 5	442.85	443.50	443.62	444.50	444.70	445.02
Beam 6	442.67	443.32	443.44	444.34	444.55	444.86

*For fabrication use only.

Notes: Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

All bearing plates and pintles shall be AASHTO M 270, Grade 50W.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36 ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

SHIM PLATES, inches

Beam No.	W. Abut.	Pier 1	Pier 2	E. Abut.
1	0	0	0	0
2	0	0	0	0
3	5/8	3/4	7/8	7/8
4	0	1/4	1/2	5/8
5	0	0	0	0
6	0	0	0	0

* Spans 1 & 3 are designed non-composite. Stud shear connectors shown on sheet 11 of 18 are added for fatigue only.

DESIGNED	Dewey H. Coultas
CHECKED	Ray Ahanchi
DRAWN	h.t. duong
CHECKED	DHC/GRA

EXAMINED	Nov. 30, 2007
PASSED	Thomas J. Domingalek ENGINEER OF BRIDGE DESIGN
	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

BEARING DETAILS
F.A.P. RTE. 869 - SEC. (10NB)B-1
FRANKLIN COUNTY
STATION 177+17.38
STRUCTURE NO. 028-0077