

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	STATION	SHEET	SHEET NO. 17 27 SHEETS
F.A.P. 308	*	ROCK ISLAND	210	192	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	Contract #64814 * (HB, HB-1, VB, HB-2)R		

	0.3 Sp. 1 or 0.7 Sp. 3	Pier 1 or Pier 2	0.5 Span 2
I_s	(in ⁴)	4020	4020
$I_c(n)$	(in ⁴)	-	10008
$I_c(3n)$	(in ⁴)	-	7369
S_s	(in ³)	329	329
$S_c(n)$	(in ³)	-	458
$S_c(3n)$	(in ³)	-	415
Z	(in ³)	370	-
\bar{D}	(k/')	1.33	0.92
$M\bar{D}$	(k)	4	195
$s\bar{D}$	(k/')	-	0.41
$M_s\bar{D}$	(k)	-	99
$M\bar{L}$	(k)	112	300
M_{imp}	(k)	34	81
$\bar{D}_s [M\bar{L} + M_{imp}]$	(k)	24.3	635
M_a	(k)	321	1208
M_u	(k)	1542	2116
$f_s \bar{D} (nc)$	(ksi)	0.1	7.1
$f_s \bar{D} (c)$	(ksi)	-	2.9
$f_s (Overload)$	(ksi)	9.0	26.6
$f_s (Total)$	(ksi)	-	-
VR	(k)	47.0	40.2

	S. Abut.	Pier 1	Pier 2	N. Abut.
$R\bar{D}$	(k)	5.9	71.9	5.9
$R\bar{L}$	(k)	29.0	42.5	29.0
Imp.	(k)	8.7	9.9	8.7
R_{Total}	(k)	43.6	124.3	43.6

- * Compact section
- ** Braced non-compact and partially braced section
- *** Values listed are for critical case interior beam

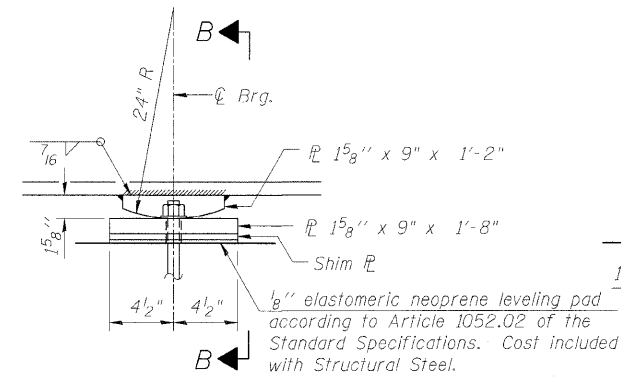
- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).
- $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) 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 and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).
- Z: Plastic Section Modulus of the steel section in non-composite areas (in³).
- \bar{D} : Un-factored non-composite dead load (kips/ft.).
- $M\bar{D}$: Un-factored moment due to non-composite dead load (kip-ft.).
- $s\bar{D}$: Un-factored long-term composite (superimposed) dead load (kips/ft.).
- $M_s\bar{D}$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
- $M\bar{L}$: Un-factored live load moment (kip-ft.).
- M_{imp} : Un-factored moment due to impact (kip-ft.).
- M_a : Factored design moment (kip-ft.).
 $1.3 [M\bar{D} + M_s\bar{D} + \frac{5}{8} (M\bar{L} + M_{imp})]$
- M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
- $f_s (Overload)$: Sum of stresses as computed from the moments below (ksi).
 $M\bar{D} + M_s\bar{D} + \frac{5}{8} (M\bar{L} + M_{imp})$
- $f_s (Total)$: Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M\bar{D} + M_s\bar{D} + \frac{5}{8} (M\bar{L} + M_{imp})]$
- VR: Maximum \bar{L} + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

TOP OF BEAM ELEVATIONS
(For Fabrication only)

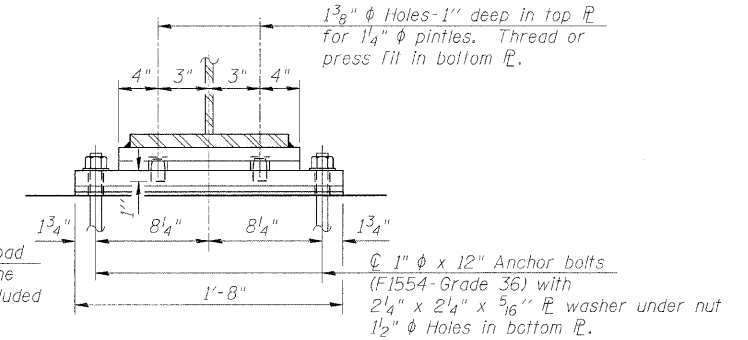
BEAM	☉ S. Abut.	☉ Pier 1	Splice 1	Splice 2	☉ Pier 2	☉ N. Abut.
1	571.73	571.82	571.84	571.87	571.86	571.81
2	571.61	571.70	571.72	571.75	571.74	571.69
3	571.49	571.57	571.60	571.63	571.62	571.57
4	571.37	571.45	571.47	571.51	571.49	571.45
5	571.24	571.33	571.35	571.38	571.37	571.32
6	571.12	571.21	571.23	571.26	571.25	571.20
7	571.00	571.09	571.11	571.14	571.13	571.08
8	570.88	570.96	570.99	571.02	571.01	570.96
9	570.75	570.84	570.87	570.90	570.88	570.83
10	570.63	570.72	570.74	570.78	570.76	570.71
11	570.51	570.60	570.62	570.65	570.64	570.59
12	570.39	570.48	570.50	570.53	570.52	570.47
13	570.26	570.35	570.38	570.41	570.40	570.34

DESIGNED	JSD
CHECKED	AMK
DRAWN	OS
CHECKED	AMK

LOCHNER
H.W. LOCHNER, INC., CHICAGO, ILLINOIS

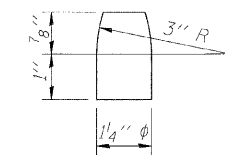


ELEVATION AT PIERS



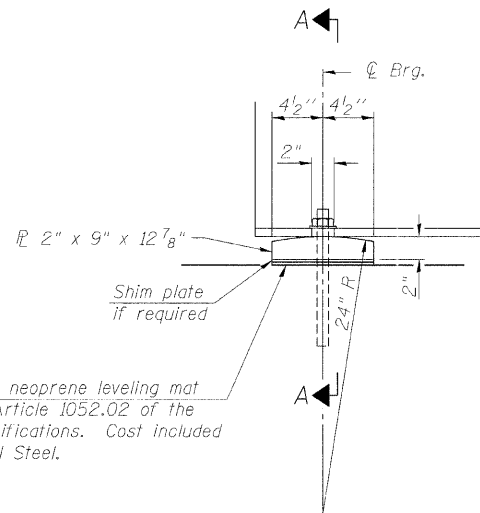
SECTION B-B

FIXED BEARING
(26 Required)

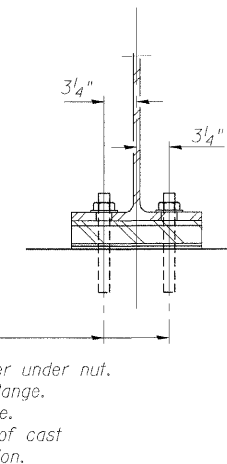


PINTLE

- Notes:
- 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=36ksi). 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.



INTEGRAL ABUTMENT BEARINGS
(26 Required)



SECTION A-A

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	104

NOTES

1. For framing plan and beam elevation see Sheet No. 15
2. All steel for the bearings, except for anchor bolts or as noted otherwise, shall conform to the requirements of AASHTO M270 Grade 36.
3. 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.

STEEL DETAILS 2
IL ROUTE 92 (CENTENNIAL EXPRESSWAY)
OVER 7th AVENUE
FAP ROUTE 308 SEC. 1(HB)R
ROCK ISLAND COUNTY
STATION 1547+22.56
STRUCTURE NO. 081-0170