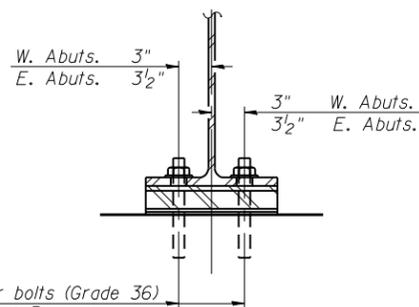


ELEVATION AT ABUTMENTS

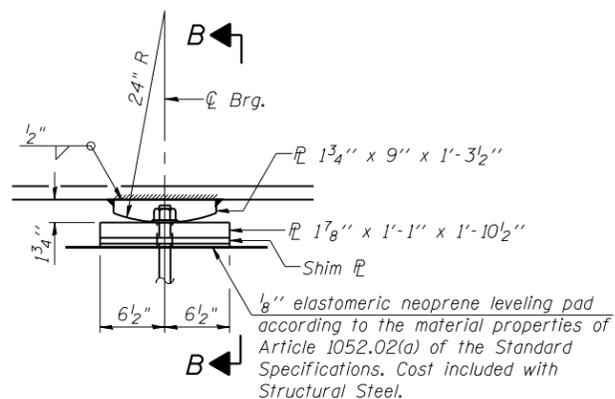
$\frac{1}{8}$ " elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Structural Steel.

\varnothing 1" ϕ x 12" anchor bolts (Grade 36) with 2 1/4" x 2 1/4" x 5/16" \varnothing washer under nut. 1 3/8" x 2" slotted hole in flange. 1/2" ϕ holes in bearing plate.

SECTION A-A

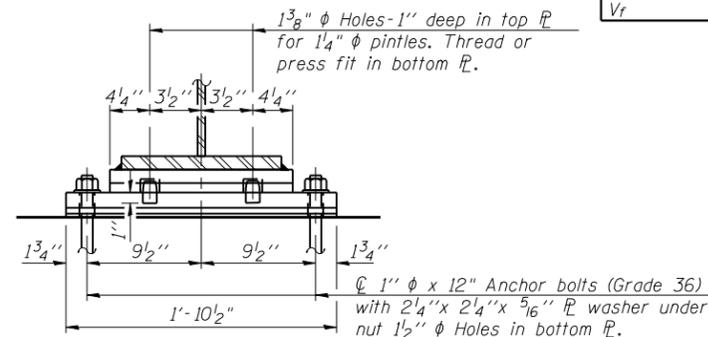


FIXED BEARING

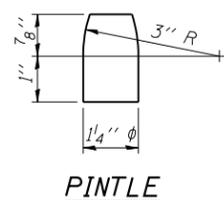


ELEVATION AT PIER 1

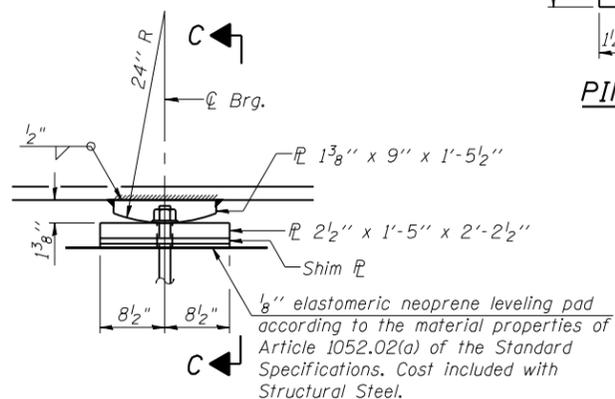
FIXED BEARING



SECTION B-B

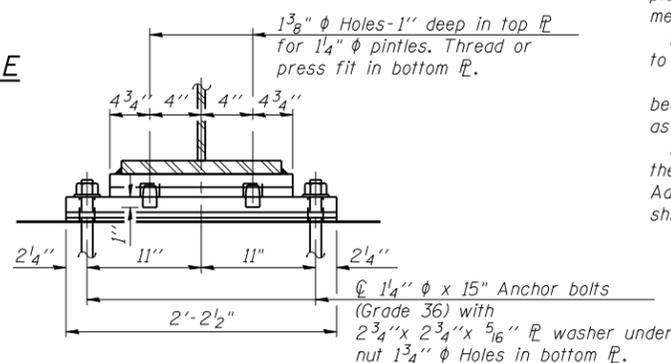


PINTLE



ELEVATION AT PIER 2

FIXED BEARING



SECTION C-C

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.4 Sp. 2	Pier 2	0.6 Sp. 3
I_s	(in ⁴)	11,312	16,032	16,032	42,734	19,068
$I_c(n)$	(in ⁴)	28,843	36,625	36,625	---	46,250
$I_c(3n)$	(in ⁴)	21,667	27,501	27,501	---	33,710
$I_c(cr)$	(in ⁴)	---	20,591	---	48,203	---
S_s	(in ³)	520	729	729	1818	967
$S_c(n)$	(in ³)	743	968	968	---	1273
$S_c(3n)$	(in ³)	679	890	890	---	1174
$S_c(cr)$	(in ³)	---	778	---	1894	---
DC1	(k/')	0.89	0.93	0.93	1.14	0.96
M _{DC1}	(k)	470	552	81	1994	1213
DC2	(k/')	0.15	0.15	0.15	0.15	0.15
M _{DC2}	(k)	75	89	18	269	188
DW	(k/')	0.36	0.36	0.36	0.36	0.36
M _{DW}	(k)	183	217	43	655	459
$M_{\xi} + IM$	(k)	997	1003	975	1811	1674
M_u (Strength I)	(k)	2701	2882	1895	6981	5369
$\phi_r M_n$	(k)	3653	---	4712	---	6159
f_s DC1	(ksi)	10.8	9.1	1.3	13.2	15.1
f_s DC2	(ksi)	1.3	1.2	0.2	1.7	1.9
f_s DW	(ksi)	3.2	2.9	0.6	4.1	4.7
f_s ($\xi + IM$)	(ksi)	16.1	12.4	12.1	11.5	15.8
f_s (Service II)	(ksi)	36.3	29.4	17.9	33.9	42.2
$0.95R_n F_y f$	(ksi)	47.5	47.5	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	---	38.9	---	44.9	---
$\phi_r F_n$	(ksi)	---	50.0	---	50	---
V _r	(k)	54	---	68	---	63

INTERIOR GIRDER REACTION TABLE					
	W. Abut.	Pier 1	Pier 2	E. Abut.	
R _{DC1}	(k)	29.6	79.6	145.5	49.6
R _{DC2}	(k)	4.7	12.6	20.8	7.4
R _{DW}	(k)	11.5	30.7	51.0	18.2
R $\xi + IM$	(k)	77.9	152.4	199.4	91.0
R _{Total}	(k)	123.7	275.3	416.7	166.2

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 (F_y=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.

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.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

- 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) in uncracked sections 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) in uncracked sections, due to long-term composite (superimposed) dead loads (in⁴ and in³).
- $I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in⁴ and in³).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M_{DC1}: 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.).
- M_{DC2}: 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.).
- M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- $M_{\xi} + IM$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- M_u (Strength I): Factored design moment (kip-ft.).
1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 $M_{\xi} + IM$
- $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
- f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_{nc}
- f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
M_{DC2} / S_{c(3n)} or M_{DC2} / S_{c(cr)} as applicable.
- f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
M_{DW} / S_{c(3n)} or M_{DW} / S_{c(cr)} as applicable.
- f_s ($\xi + IM$): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
 $M_{\xi} + IM$ / S_{c(n)} or M_{DW} / S_{c(cr)} as applicable.
- f_s (Service II): Sum of stresses as computed below (ksi).
 $f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s (\xi + IM)$
- 0.95R_nF_yf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
- f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_s ($\xi + IM$)
- $\phi_r F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).
- V_r: Maximum factored shear range in span computed according to Article 6.10.10.

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts 1"	Each	72
Anchor Bolts 1 1/4"	Each	24

FILE NAME = 0363-78134-029-bearing.dgn
CB PROJECT NO. 04065

Coombe-Bloxdorf P.C.
CIVIL ENGINEERS-
STRUCTURAL ENGINEERS-
LAND SURVEYORS
Design Firm License No. 184-002703

USER NAME = .MML.	DESIGNED - CME	REVISED -
PLOT SCALE = @2' = 1" IN.	CHECKED - MCB	REVISED -
PLOT DATE = 10/16/2012	DRAWN - MML	REVISED -
	CHECKED - MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 036-0062 (E.B.) & 036-0063 (W.B.)

SHEET NO. 29 OF 45 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
313	7-2, 6-1	HENDERSON	976	482
CONTRACT NO. 68409				

ILLINOIS FED. AID PROJECT