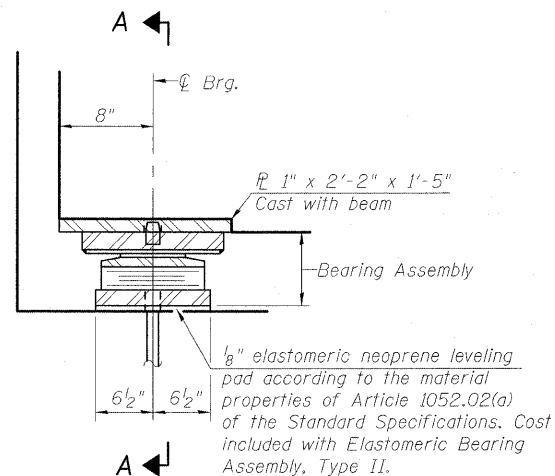
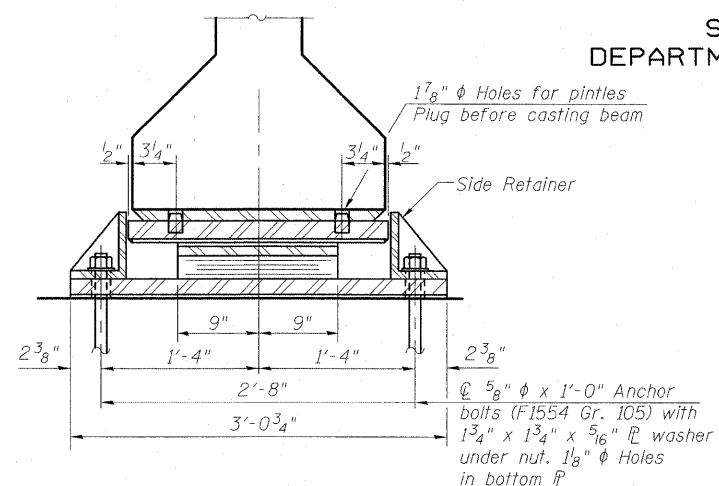


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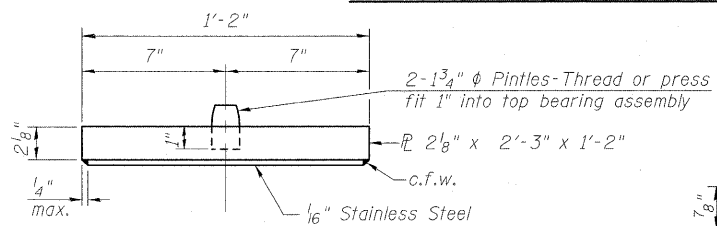


SECTION AT ABUT.

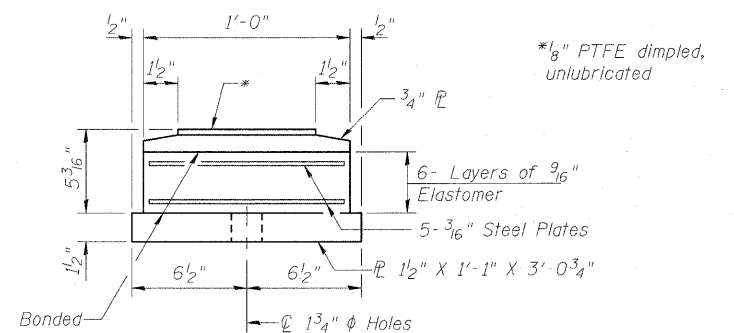


SECTION A-A

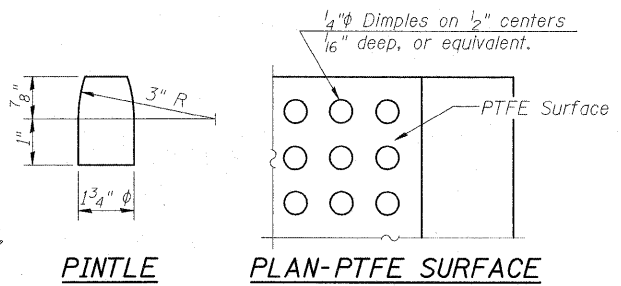
TYPE II ELASTOMERIC EXP. BRG.



TOP BEARING ASSEMBLY

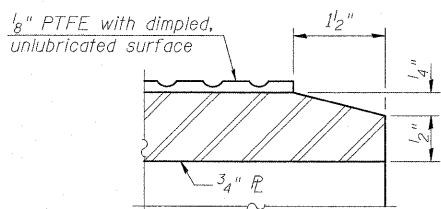


BOTTOM BEARING ASSEMBLY

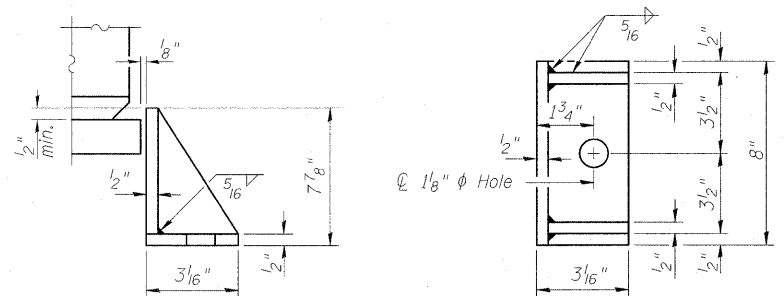


PINTLE

PLAN-PTFE SURFACE

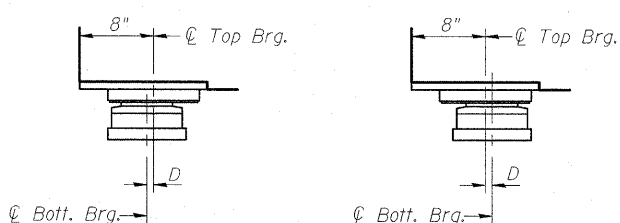


SECTION THRU PTFE



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BELOW 50°F.

ABOVE 50°F.

(Move bott. brg. away from fixed brg.) (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

	0.4 Sp. 1 or 0.6 Sp. 5	Pier 1 or 4	0.5 Sp. 2 or 0.5 Sp. 4	Pier 2 or 3	0.5 Sp. 3
I	(in ⁴) 545894		545894		545894
I'	(in ⁴) 1015506		1015506		1015506
S _b	(in ³) 14915		14915		14915
S _b '	(in ³) 19510		19510		19510
S _t	(in ³) 15421		15421		15421
S _t '	(in ³) 50903		50903		50903
DC1	(k/ft.) 1.56		1.56		1.56
M _{DC1}	(k) 1248.2		1272.8		2964.6
DC2	(k/ft.) 0.15	0.15	0.15	0.15	0.15
M _{DC2}	(k) 88.2	79.3	3.0	152.8	130.6
DW	(k/ft.) 0.31	0.31	0.31	0.31	0.31
M _{DW}	(k) 189.5	170.5	6.4	328.3	280.6
M _{L + IM}	(k) 1143.5	1068.3	934.8	1367.9	1366.7

	Abut.	Pier 1 Span 1 Pier 4 Span 5	Pier 1 Span 2 Pier 4 Span 4	Pier 2 Span 2 Pier 3 Span 4	Pier 2 Span 3 Pier 3 Span 3
R _{DC1}	(k) 63.3	63.3	62.7	62.7	95.6
* R _{DC2}	(k) 5.1	6.2	6.2	8.1	8.1
* R _{DW}	(k) 10.9	13.4	13.4	17.4	17.4
* R _{L + IM}	(k) 84.0	71.4	71.4	82.5	82.5
R _{Total}	(k) 163.3	154.3	154.3	170.7	170.7

* The total R_{DC2}, R_{DW} and R_{L + IM} are assumed to be distributed evenly to each bearing line at a pier regardless of the span ratios. The bearing design at a pier is based on the maximum reactions of either span. The Reactions and Moments for R_{DC1} do not include the additional deck concrete required in the Diamond Grinding and Surface Testing Bridge Sections Special Provisions.

- I: Non-composite moment of inertia of beam section (in⁴).
- I': Composite moment of inertia of beam section (in⁴).
- S_b: Non-composite section modulus for the bottom fiber of the prestressed beam (in³).
- S_b': Composite section modulus for the bottom fiber of the prestressed beam (in³).
- S_t: Non-composite section modulus for the top fiber of the prestressed beam (in³).
- S_t': Composite section modulus for the top fiber of the prestressed beam (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_{L + IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

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 for Type II bearings shall be placed in holes in the concrete drilled through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

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

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

See sheet 38 of 58 for additional details of plate cast with beam.

All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

The Anchor Bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of a higher diameter and/or grade Anchor Bolt will not be allowed.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	28
Anchor Bolts, 1 1/4"	Each	56

BEARING DETAILS
S.N. 025-0107 & 025-0108

DESIGNED	B.B.
CHECKED	A.C.S.
DRAWN	W.J.S.
CHECKED	C.J.F. & B.B.



BERNARDIN
LOCHMUELLER &
ASSOCIATES, INC.

3 Oak Drive
Mayville, IL 62662-5835
Local (618) 288-4955
Fax (618) 288-4956

SHEET NO. 39 58 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	70	(25-3)B	EFFINGHAM	1416	71
SN 025-017 & 025-0108		CONTRACT NO. 74296			
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT 70					