ELEVATION

A
5"
℄ Brg.
⅞" φ Hole in Bott. Flange
2"
1"
Shim ℄
Bearing Assembly (shims included)
1½"
3½" 3½"

TYPE I ELASTOMERIC EXP. BRG. SOUTH ABUTMENT
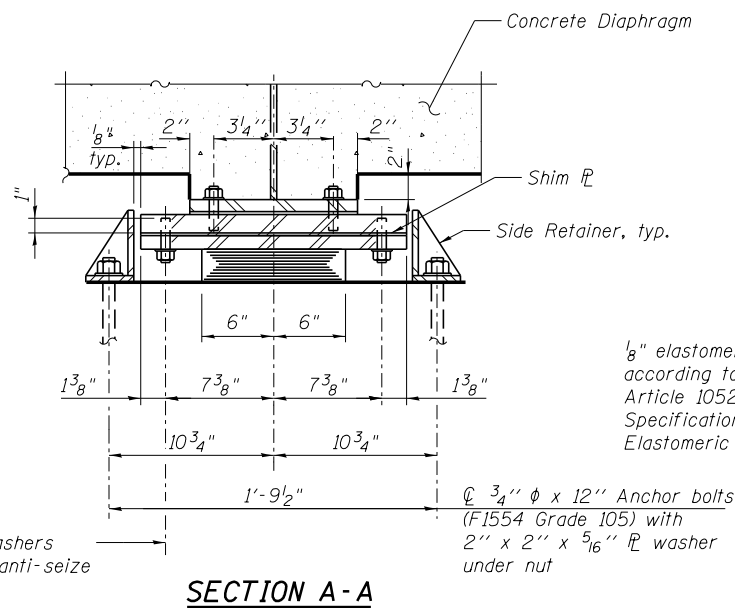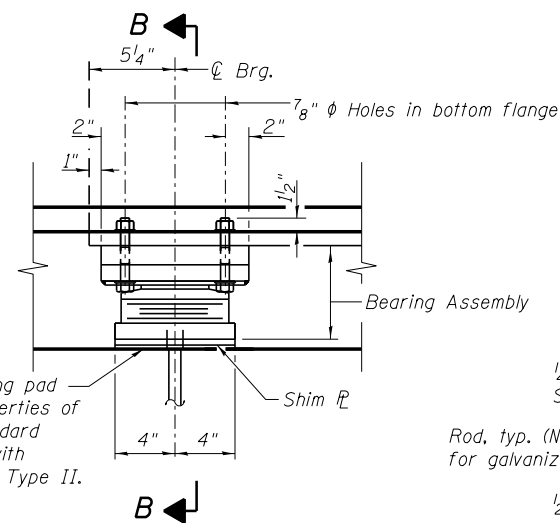
℄ 2-¾" φ H.S. Bolts w/lock washers (Typ. ea. side) (Coat bolts with anti-seize compound) Tapped holes in top ℄: ⅞" φ holes in bearing ℄

Concrete Diaphragm
⅛" typ.
2" 3¼" 3¼" 2"
1"
Shim ℄
Side Retainer, typ.
6" 6"
1⅜" 7⅜" 7⅜" 1⅜"
10¾" 10¾"
1'-9½"

SECTION A-A

℄ ¾" φ x 12" Anchor bolts (F1554 Grade 105) with 2" x 2" x ⁵⁄₁₆" ℄ washer under nut

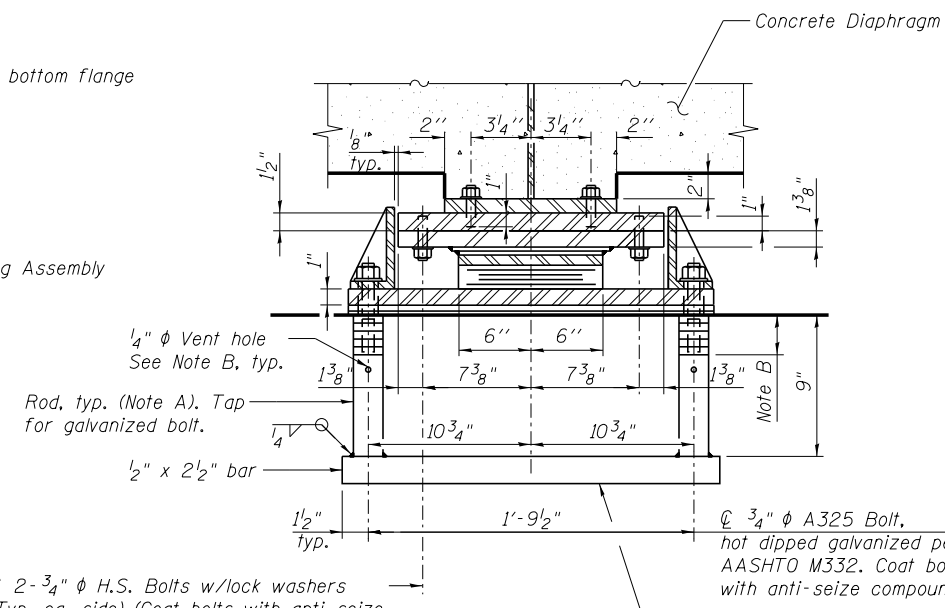⅛" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Elastomeric Bearing Assembly, Type II.

ELEVATION AT ABUT.

B
5¼"
℄ Brg.
⅞" φ Holes in bottom flange
2"
1"
1½"
Bearing Assembly
Shim ℄
4" 4"

Note A:
ASTM A572 Gr. 50, A588 or similar material with Fy ≥ 50 ksi. Rod dia. = 1½".

Note B:
Bolt engagement 1¼" min., 1⅝" max., allowing up to ⅜" adjustment shims. Tap full threads in rod 1¾" deep. Provide ¼" φ galvanized vent hole below full thread.
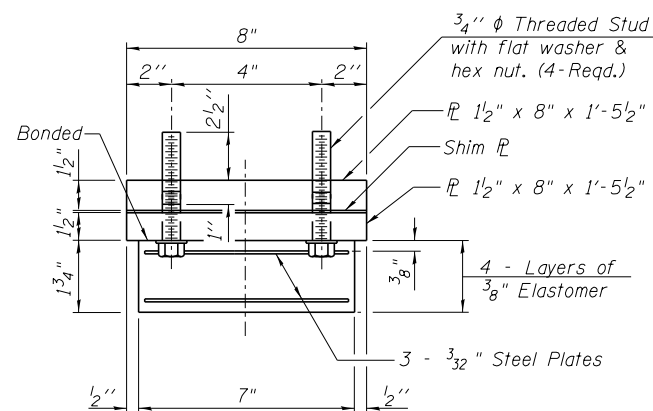
Concrete Diaphragm
⅛" typ.
2" 3¼" 3¼" 2"
1"
1½"
1⅜"
¼" φ Vent hole See Note B, typ.
Rod, typ. (Note A). Tap for galvanized bolt.
½" x 2½" bar
6" 6"
1⅜" 7⅜" 7⅜" 1⅜"
10¾" 10¾"
9"
1½" typ.
1'-9½"

℄ ¾" φ A325 Bolt, hot dipped galvanized per AASHTO M232. Coat bolts with anti-seize compound.

℄ 2-¾" φ H.S. Bolts w/lock washers (Typ. ea. side) (Coat bolts with anti-seize compound) Tapped holes in top ℄: ⅞" φ holes in bearing ℄

Anchorage assembly to be galvanized after fabrication according to AASHTO M 111 or M232 (as applicable). Anchorage assembly shall be paid for as Structural Steel.

SECTION B-B

TYPE II ELASTOMERIC EXP. BRG. NORTH ABUTMENT

BEARING ASSEMBLY

8"
2" 4" 2"
2½"
1½"
¾" φ Threaded Stud with flat washer & hex nut. (4-Reqd.)
℄ 1½" x 8" x 1'-5½"
Shim ℄
℄ 1½" x 8" x 1'-5½"
Bonded
1"
1¾"
⅜"
4 - Layers of ⅜" Elastomer
3 - ³⁄₃₂" Steel Plates
½"
7"
½"

Note:
Shim plates shall not be placed under Bearing Assembly.

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

4¾" (S. Abut.)
5⅝" (N. Abut.)
⅛"
½" min.
⁵⁄₁₆
3⅜"
½"
⁵⁄₁₆
1⅞"
3½" 3½"
8"
℄ 1" φ Hole
3⅜"

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	1
Elastomeric Bearing Assembly, Type II	Each	1
Anchor Bolts, ¾"	Each	2

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for Type I side retainers may be cast in place or installed in holes drilled before or after members are in place.

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete 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 elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I or Type II.

The ⅛" 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 ⅛" PTFE sheet during vulcanizing process will be permitted provided the bonding method and method of adjusting assembly height is approved by the Engineer.

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

Two ⅛" in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
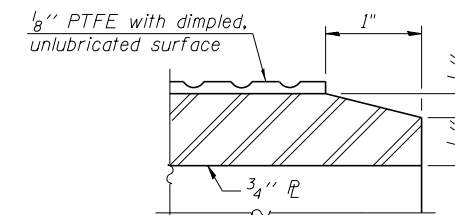
TOP BEARING ASSEMBLY
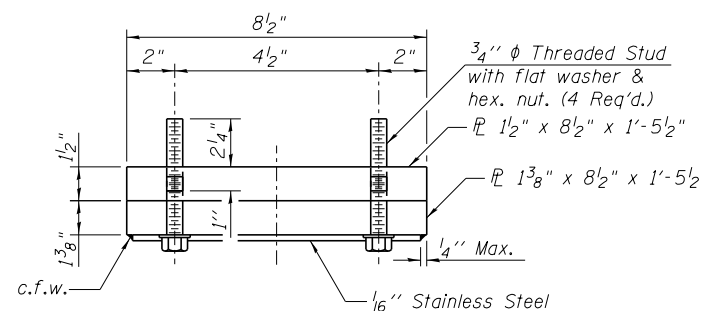
8½"
2" 4½" 2"
1½"
2¼"
1¼"
1⅜"
¾" φ Threaded Stud with flat washer & hex. nut. (4 Req'd.)
℄ 1½" x 8½" x 1'-5½"
℄ 1⅜" x 8½" x 1'-5½"
¼" Max.
c.f.w.
¹⁄₁₆" Stainless Steel

BOTTOM BEARING ASSEMBLY

7"
½" ½"
1" 1"
2⅝"
1"
4" 4"
Bonded
*
¾" ℄
4 - Layers of ⅜" Elastomer
3 - ³⁄₃₂" Steel Plates
℄ 1" x 8" x 1'-11"
℄ 1¼" φ Holes
*⅛" PTFE dimpled, unlubricated

SECTION THRU PTFE

⅛" PTFE with dimpled, unlubricated surface
1"
¼"
½"
¾" ℄
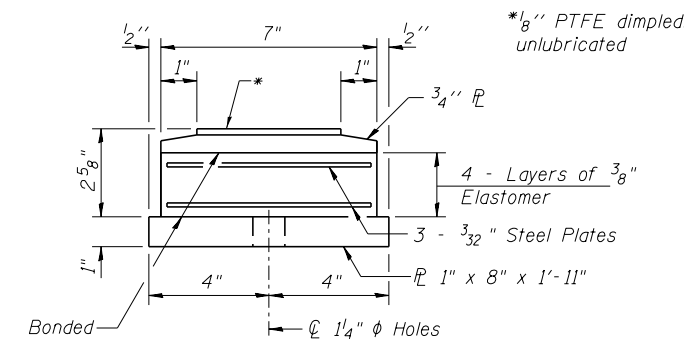
PLAN-PTFE SURFACE

¼" φ Dimples on ½" centers ¹⁄₁₆" deep, or equivalent
PTFE Surface
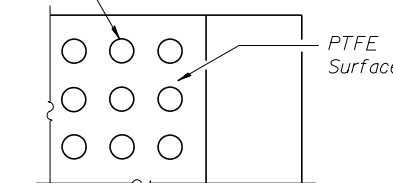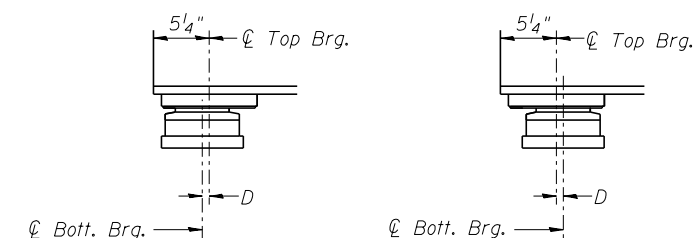
5¼"
℄ Top Brg.
℄ Bott. Brg.
D
BELOW 50°F.
(Move bott. brg. away from fixed brg.)

5¼"
℄ Top Brg.
D
ABOVE 50°F.
(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.
D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

FILE NAME = 016-0488-60J16-021-Bearing Details 1 of 2	USER NAME = jsurber	DESIGNED - CMK	REVISED -
PLOT SCALE =		CHECKED - JAW	REVISED -
		DRAWN - CMK	REVISED -
PLOT DATE = 12/20/2013		CHECKED - JAW	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS (1 OF 2)
STRUCTURE NO. 016-0488
SHEET NO. SH21 OF SH36 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-038B-R	COOK	821	759
	CONTRACT NO. 60J16			

ILLINOIS FED. AID PROJECT

9:07:36 AM   7/9/2014