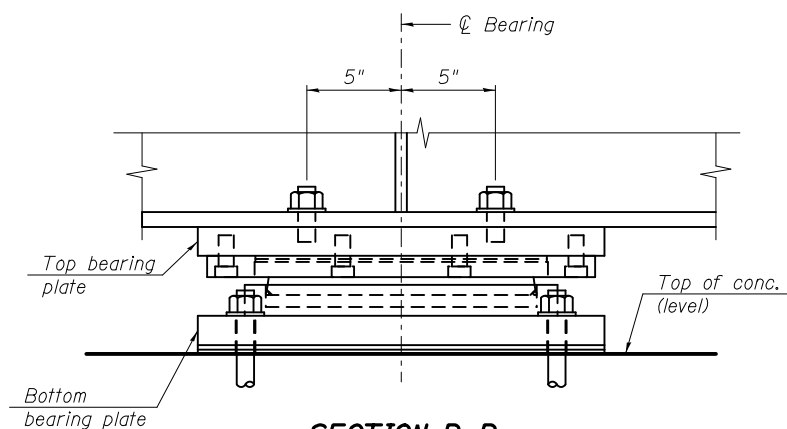


SECTION A-A

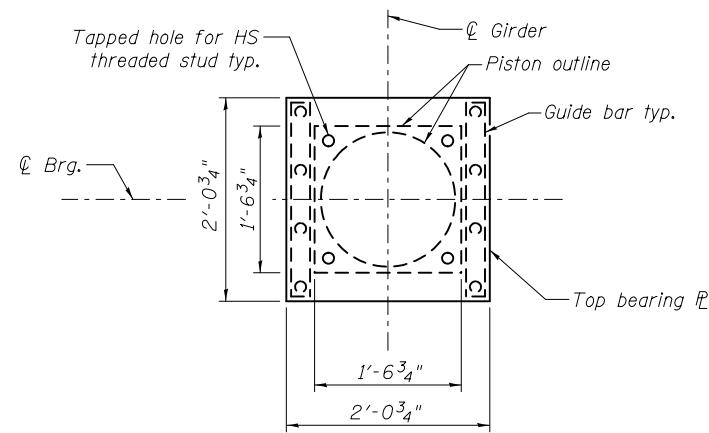


SECTION B-B

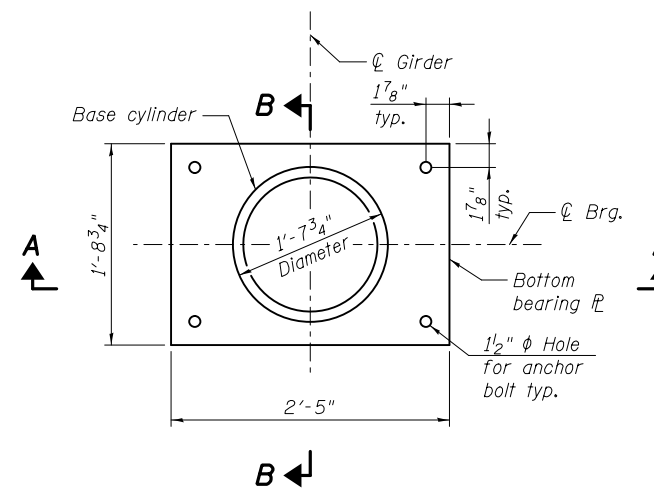
BEARING DESIGN DATA

Location	Vert. Design Load** (kips)	Horiz. Design Load** (kips)	Required Rotation Range*** (radians)	Max. Theor. Thermal Mvmt**** from 50 °F
Pier 1 and 3	510	70	0.01	1/4"

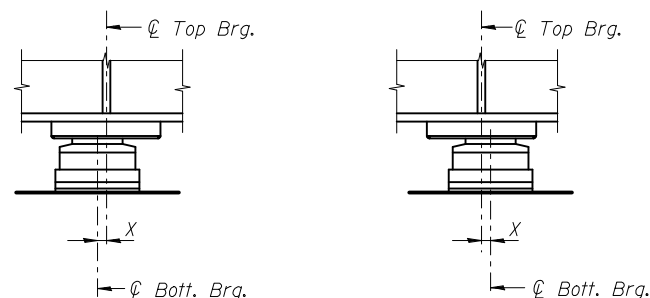
** Design Loads are the governing service loads with no dynamic load allowance.
 *** Rotation allowances for fabrication tolerances (0.005 radians), installation uncertainties (0.005 radians) are excluded.
 **** Total required movement is based on one way expansion (or contraction) of the superstructure along the centerline of girder when bearings are set at 50°F. Bearing movement tolerances are excluded.



TOP BEARING PLATE AND PISTON PLAN



BOTTOM BEARING PLATE AND BASE CYLINDER PLAN



BELOW 50°F (Move bottom brg. away from fixed brg.) **ABOVE 50°F** (Move bottom brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT HLMR EXP. BRG.

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

Notes:
 All steel for bearings shall conform to the requirements of AASHTO M270 Grade 50, unless otherwise noted.
 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 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.
 Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pier concrete. Total bearing height is taken at the centerline of bearing for bevelled top plates.
 Bearing assemblies shall be designed and assembled to allow for replacement by jacking the superstructure.
 Two 1/8 inch adjusting shims shall be provided for each bearing in addition to all other plates.
 The anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.

BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotational Bearings, Guided Expansion, 550k	Each	12
Anchor Bolts, 1"	Each	48



USER NAME =	DESIGNED - JTH	REVISED
	CHECKED - MJP	REVISED
PLOT SCALE =	DRAWN - PRC	REVISED
PLOT DATE = 2/1/2013	CHECKED - JTH	REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**HLMR GUIDED EXPANSION BEARING DETAILS
 STRUCTURE NO. 014-0033**

SHEET NO. 36 OF 61 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	1-1BR-2	CLINTON	159	105
CONTRACT NO. 76479				
ILLINOIS FED. AID PROJECT				