

BILL OF MATERIAL

ITEM	UNIT	TOTAL
High Load Multi-Rotational Bearings, Guided Expansion, 150K	Ea.	4
High Load Multi-Rotational Bearings, Guided Expansion, 250K	Ea.	4
High Load Multi-Rotational Bearings, Guided Expansion, 300K	Ea.	4
Anchor Bolts, 3/4"	Ea.	48

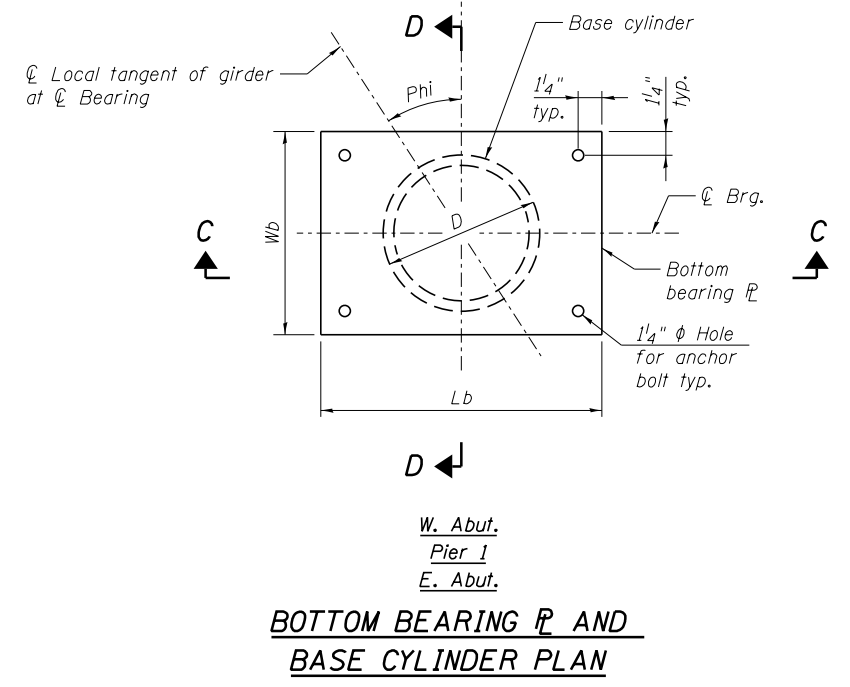
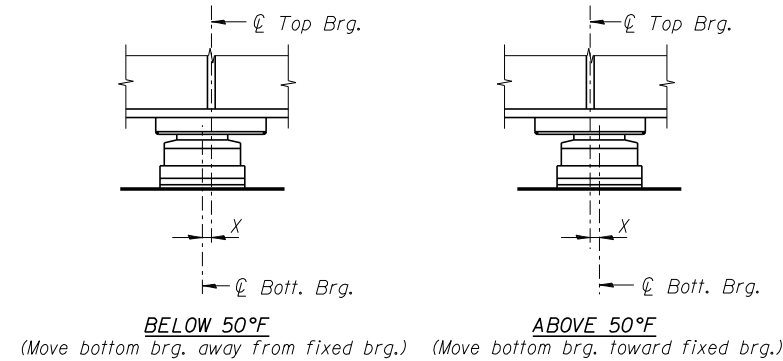
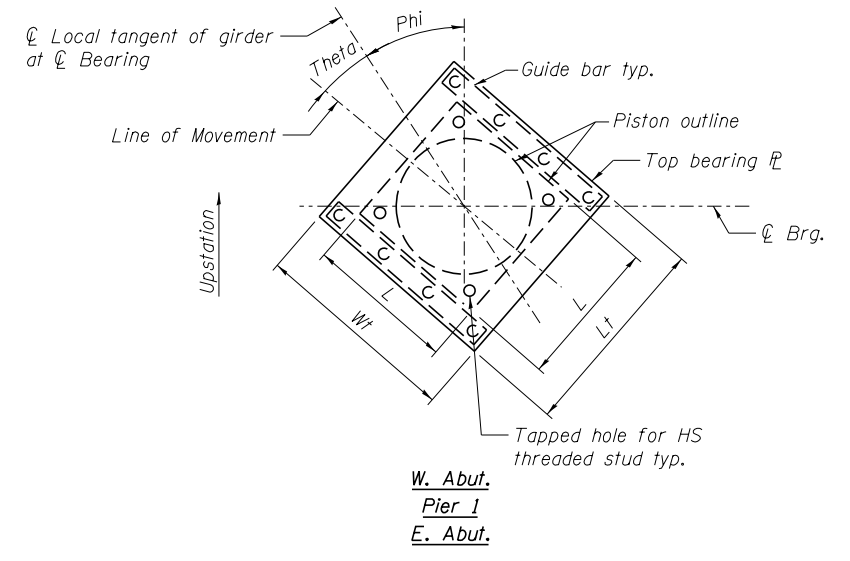
BEARING DIMENSIONS

Location	Pay Item Designation (kips)	Vert. Design Load** (kips)	Hu** (kips)	Ou*** (radians)	Max. Theor. Thermal Mvmt****	Top Plate		Bearing Assembly		Bottom Plate		Total Ht.			
						Wt	Lt	Tt (min.)	Max. Slope	L	D		Wb	Lb	Tb
W. Abut.	150	144	29	0.005	2"	1'-5 1/2"	1'-2 3/8"	1 1/2"	2.25%	1'-0 3/4"	1'-2 3/4"	1'-3 1/2"	2'-3"	1 1/8"	6 3/8"
Pier 1	300	276	55	0.006	1 1/4"	1'-8 1/4"	1'-6"	2"	1.10%	1'-6"	1'-8 7/8"	1'-8 1/2"	2'-8"	1 1/8"	7 7/8"
E. Abut.	250	208	42	0.012	1 1/2"	1'-8 1/4"	1'-4 7/8"	1 5/8"	-2.10%	1'-3 1/2"	1'-5 7/8"	1'-6"	3'-8 1/2"	2"	8"

* As an alternate to the bolted connection shown, the guide bars may be connected to the top bearing plate by groove welds or the guide bars and top bearing plate may be fabricated as a single piece.
 ** 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 the total combined expansion and contraction of the superstructure perpendicular to the line of movement. Bearing movement tolerances are excluded.

LINE OF MOVEMENT & SKEW

Location		Phi	Theta
W. Abut.	Girder 1	18°10'47"	7°59'19"
	Girder 2	17°52'47"	7°49'47"
	Girder 3	17°35'24"	7°40'40"
	Girder 4	17°18'34"	7°31'55"
Pier 1	Girder 1	25°26'11"	4°21'36"
	Girder 2	25°00'10"	4°16'04"
	Girder 3	24°35'02"	4°10'49"
	Girder 4	24°10'47"	4°05'47"
E. Abut.	Girder 1	46°00'37"	-5°55'37"
	Girder 2	45°04'18"	-5°45'59"
	Girder 3	44°10'38"	-5°36'59"
	Girder 4	43°19'23"	-5°28'31"



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 (Th) 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 with approval of Engineer, if required, prior to placing pier concrete. Total bearing height is taken at the centerline of bearing for beveled top plates.
- 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.
- 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.



FILE NAME = 0161512.60W77.028.Exp.Bearing.Details.dgn	USER NAME = ksnyder	DESIGNED - DMS/JHG	REVISOR -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HLMR GUIDED EXPANSION BEARING DETAILS STRUCTURE NO. 016-1512	F.A.P. RTE. = 373	SECTION = (0707-608&611)HB-B	COUNTY = COOK	TOTAL SHEETS = 177	SHEET NO. = 144
PLOT SCALE =	DRAWN - DMS	REVISOR -	CONTRACT NO. 60W77							
PLOT DATE = 6/23/2014	CHECKED - KWS	REVISOR -	ILLINOIS FED. AID PROJECT							
SHEET NO. SB28 OF SB43 SHEETS										