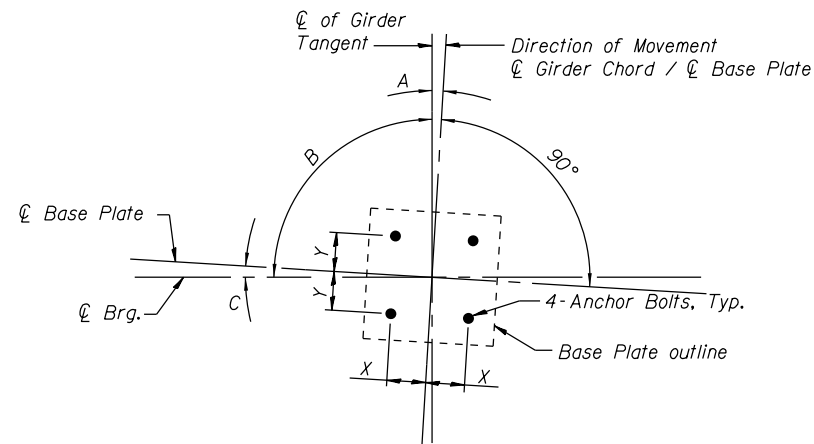


GUIDED EXPANSION BEARING DIMENSIONS TABLE

Brg. Location	Vertical Design Load (kips)	Lateral Design Load (kips)	Total Required Movement (inches)	Bottom Bearing Plate			Top Bearing Plate						Th1	Th2	L	D	Anchor Bolt Dia.	Anchor Bolt Specification Grade
				Tb	Lb	Wb	Tt1	Tt2	Lt	Wt	N	S						
Unit II, Pier 2-N	250	43	2 1/4"	1 1/2"	2'- 2"	2'- 2"	1 1/2"	2 3/8"	1'- 8"	1'- 8"	7"	5"	8 1/2"	9 3/8"	12"	1'- 1"	1"	F1554, Grade 36
Unit II, Pier 4-S	250	48	2 1/4"	1 1/2"	2'- 8"	2'- 2"	1 5/8"	2 5/8"	1'- 10"	1'- 8"	7"	5"	8 5/8"	9 5/8"	12"	1'- 1"	1"	F1554, Grade 36
Unit III, Pier 4-N	250	44	2"	1 1/2"	2'- 8"	2'- 2"	1 1/2"	2 1/8"	1'- 10"	1'- 8"	7"	5"	8 1/2"	9 1/8"	12"	1'- 1"	1"	F1554, Grade 36
Unit III, Pier 6-S	200	31	1 5/8"	1 1/2"	2'- 8"	2'- 1"	1 1/2"	2"	1'- 10"	1'- 7"	7"	5"	8"	8 1/2"	11"	12"	0 3/4"	F1554, Grade 36
Unit IV, Pier 6-N	300	50	2 3/8"	1 1/2"	2'- 10"	2'- 3"	1 5/8"	2 1/4"	2'- 0"	1'- 9"	8"	5"	9 1/8"	9 3/4"	1'- 1"	1'- 2 1/4"	1"	F1554, Grade 36
Unit IV, Pier 8-E	300	50	2 3/8"	1 1/2"	2'- 10"	2'- 3"	2 1/4"	1 5/8"	2'- 0"	1'- 9"	8"	5"	9 3/4"	9 1/8"	1'- 1"	1'- 2 1/4"	1"	F1554, Grade 36
Unit V, Pier 8-W	200	31	1 5/8"	1 1/2"	2'- 8"	2'- 1"	2"	1 1/2"	1'- 10"	1'- 7"	7"	5"	8 1/2"	8"	11"	12"	0 3/4"	F1554, Grade 36
Unit V, Pier 10-E	200	35	1 3/4"	1 1/2"	3'- 0"	2'- 1"	3"	1 1/2"	2'- 2"	1'- 7"	9"	5"	9 1/2"	8"	11"	12"	0 3/4"	F1554, Grade 36
Unit VI, Pier 11	400	71	1 5/8"	1 1/2"	2'- 10"	2'- 4"	3 1/2"	2"	2'- 0"	1'- 10"	8"	6"	11"	9 1/2"	1'- 2"	1'- 5 1/2"	1 1/4"	F1554, Grade 55



ANCHOR BOLT LOCATION DETAIL

Location	X	Y	A	B	C
Unit II, Pier 2-N	11"	11"	0°00'00"	90°00'00"	0°00'00"
Unit II, Pier 4-S	14"	11"	0°00'00"	86°20'27"	3°39'33"
Unit III, Pier 4-N	14"	11"	4°2'35"	93°39'33"	7°42'8"
Unit III, Pier 6-S	14"	10 1/2"	6°53'50"	89°50'31"	7°3'19"
Unit IV, Pier 6-N	15"	11 1/2"	10°1'39"	90°9'29"	10°11'8"
Unit IV, Pier 8-E	15"	11 1/2"	10°1'38"	89°50'31"	10°11'7"
Unit V, Pier 8-W	14"	10 1/2"	6°25'11"	90°9'29"	6°34'40"
Unit V, Pier 10-E	16"	10 1/2"	3°10'26"	90°00'00"	3°10'26"
Unit VI, Pier 11	15"	12"	0°00'00"	90°00'00"	0°00'00"

BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotation Bearings, Guided Expansion 200K.	Each	18
High Load Multi-Rotation Bearings, Guided Expansion 250K.	Each	21
High Load Multi-Rotation Bearings, Guided Expansion 300K.	Each	12
High Load Multi-Rotation Bearings, Guided Expansion 400K.	Each	6
Anchor Bolts, 3/4"	Each	72
Anchor Bolts, 1"	Each	132
Anchor Bolts, 1 1/4"	Each	24

Notes:

- All HLMR bearings shall be designed to carry minimum Factored Ultimate (Strength) Design Rotation of 0.02 radians. See Special Provision.
- 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.
- Work this sheet with sheet S-108.
- See Sheets S-103 thru S-105 for bearing layout & orientation.

0161705-60W28-5109-Bearing.dgn



USER NAME = floresg	DESIGNED - ATB	REVISED
	CHECKED - EJO	REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXPANSION POT BEARING DETAILS II
STRUCTURE NO. 016-1705**

SHEET NO. S-109 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	425
CONTRACT NO.			60W28	
ILLINOIS FED. AID PROJECT				