

**BEARING NOTES**

- 1) BEARINGS FOR ABUTMENT 1 AND ABUTMENT 2 SHALL BE PAID FOR UNDER ITEM 531.17 "BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD". BEARING DEVICES SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTIONS 531 AND 731.
- 2) ALL MATERIALS SHALL CONFORM TO SECTION 14 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND SECTION 18 OF AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS AND ALL AASHTO OR ASTM SPECIFICATIONS REFERENCED IN THE CONTRACT DOCUMENTS.
- 3) THE ELASTOMERIC COMPOUND SHALL BE VIRGIN CRYSTALLIZATION RESISTANT POLYCHLOROPRENE (NEOPRENE) OR VIRGIN NATURAL POLYISOPRENE (NATURAL RUBBER) AS THE RAW POLYMER, EXCEPT WHEN USING A DISC THE COMPOUND SHALL BE BASED ON POLYETHER URETHANE, USING ONLY VIRGIN MATERIALS. THE RESULTING PRODUCT SHALL BE FREE OF POROUS AREAS, WEAK SECTIONS, BUBBLES, FOREIGN MATTER, OR OTHER DEFECTS AFFECTING SERVICEABILITY. IT SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 251.
- 4) ELASTOMER WAS DESIGNED USING METHOD A, WITH A NOMINAL HARDNESS OF 50 +/- 5 ON THE SHORE A SCALE, EXCEPT FOR DISCS WHICH SHALL HAVE A HARDNESS OF 50 +/- 5 ON THE SHORE D SCALE. IT IS ACCEPTABLE TO TEST PER AASHTO M 251 APPENDIX X1. ELASTOMER SHALL MEET THE REQUIREMENTS FOR LOW-TEMPERATURE ZONE D, GRADE 4.
- 5) ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET. THE ALTERNATE SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN AND SHALL BE DESIGNED PER THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATIVE CONFIGURATION.
- 6) STEEL REINFORCED ELASTOMERIC PADS SHALL BE WITHIN THE TOLERANCES LISTED IN TABLE 2 IN AASHTO M251. EXTERNAL LOAD PLATES SHALL BE WITHIN THE TOLERANCES GIVEN IN SECTION 18 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS.
- 7) BEARING SHALL BE SET LEVEL AND PARALLEL. THE CONCRETE UNDER THE BEARING DEVICE SHALL BE LEVEL.
- 8) DURING ANY WELDING, SURFACES IN CONTACT WITH THE ELASTOMER SHALL BE RESTRICTED TO 200 DEGREES FAHRENHEIT, AND SURFACES IN CONTACT WITH PTFE SHALL BE RESTRICTED TO 300 DEGREES FAHRENHEIT. TEMPERATURE SHALL BE DETERMINED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS.
- 9) PRIOR TO ORDERING MATERIALS AND STARTING THE WORK, THE CONTRACTOR SHALL SUBMIT A DRILLING AND MORTARING PROPOSAL TO THE ENGINEER FOR APPROVAL, INCLUDING A PREMIXED MORTAR MATERIAL BRAND NAME.
- 10) THE DRILLED HOLES TO BE MORTARED SHALL BE THOROUGHLY CLEANED, WETTED, AND FREE OF STANDING WATER.
- 11) THE MORTAR SHALL BE MIXED IN A MECHANICAL MIXER ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE READILY POURABLE SO THAT WHEN POURED IT COMPLETELY FILLS THE REMAINING HOLE CAVITIES. THE PLACEMENT OF MORTAR FOR EACH BEARING SHALL BE CONTINUOUS AND COMPLETE AT ALL HOLE LOCATIONS.
- 12) ALL EXPOSED MORTAR SHALL BE CURED FOR A PERIOD OF NOT LESS THAN THREE (3) DAYS BY THE WETTED BURLAP METHOD IN ACCORDANCE WITH SECTION 501. CURING SHALL COMMENCE AS SOON AS PRACTICAL AFTER MORTAR PLACEMENT. THE CONTRACTOR SHALL NOT APPLY ANY FORCES TO THE ANCHOR BOLTS DURING THE CURING PERIOD.
- 13) ANCHOR BOLTS TO BE DOUBLE NUTTED SHALL USE THE FOLLOWING PROCEDURE: INSTALL THE LOWER NUT IN CONTACT WITH TOP OF SOLE PLATE, AND THEN BACK OFF 1/2 TURN. INSTALL UPPER NUT SNUG TIGHT TO PREVENT LOWER NUTS FROM LOOSENING.
- 14) THE BEARING MANUFACTURER SHALL INCLUDE A TEMPERATURE SETTING TABLE ON THE FABRICATION DRAWINGS.
- 15) BRIDGE SEAT ELEVATIONS ARE BASED ON THE BEARING HEIGHTS SHOWN. PRIOR TO CASTING SUBSTRUCTURE UNITS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE PROPOSED BEARING HEIGHT AS PROVIDED BY THE MANUFACTURER AND ANY ELEVATION MODIFICATIONS REQUIRED BEFORE CONSTRUCTING SUBSTRUCTURE UNITS.

- 16) BOLTS FURNISHED FOR BEARINGS SHALL CONFORM TO SUBSECTION 714.08. THE BOLTS, NUTS, AND WASHERS FURNISHED SHALL BE TESTED AND CERTIFIED AS MEETING THE REQUIREMENTS OF THE ZINC THICKNESS TEST AS SPECIFIED IN SUBSECTION 714.05, IN ADDITION TO ANY OTHER TEST AND CERTIFICATION REQUIREMENTS.
- 17) THE WELDS FOR THE SOLE PLATE CONNECTION SHOULD ONLY BE ALONG THE LONGITUDINAL GIRDER AXIS. TRANSVERSE JOINTS SHOULD BE SEALED WITH AN ACCEPTABLE CAULKING MATERIAL.
- 18) PRIOR TO WELDING BEAMS/GIRDERS TO SOLE PLATES AT THE PIERS, THE CONCRETE DECK SHALL BE PLACED AND CURED, AND THE BEAMS/GIRDERS SHALL BE RAISED TO ALLOW RELEASE OF INITIAL BEARING DEFORMATION DUE TO BEAM/GIRDER CAMBER RELAXATION.
- 19) METALIZING OR GALVANIZING THAT HAS BEEN DAMAGED SHALL BE REPAIRED USING THE METHODS DESCRIBED IN SUBSECTION 726.08.
- 20) DESIGN CRITERIA:
  - A) HORIZONTAL CAPACITY SHALL BE MINIMUM OF 20% VERTICAL LOAD IN ANY UNRESTRAINED DIRECTION.
  - B) NO FABRIC REINFORCEMENT WILL BE ALLOWED IN ELASTOMERIC PADS

LOCATION		ABUTMENT 1	ABUTMENT 2		
FIXED (F) or EXPANSION (EXP)		EXP	EXP		
QUANTITY REQUIRED		5	5		
DL+SDL (kips) [UNFACTORED]		117.2	60.2		
LL W/O IMP. (kips) [UNFACTORED]		113.6	0		
TOTAL DESIGN REACTION (kips) [UNFACTORED]		230.8	60.2		
DESIGN ROTATION (radians)		0.005	0.002		
SKEW/ASKEW ANGLE	A	75	75		
	L	18	8		
ELASTOMERIC PAD	W	18	18		
	Ns	8	5		
	Ts	1/16	1/16		
	Ne	7	4		
	Te	3/8	3/8		
	Tc	1/8	1/8		
	Hp	3 3/8	2 1/16		
ANCHOR BOLTS	PER BRG.	4	N/A		
	DIA.a	1 1/2	N/A		
	Ha	22	N/A		
ANCHOR BOLTS HOLES	DIA.h	1 7/8	N/A		
	Ez	3 1/4	N/A		
	Ex	4	N/A		
WELD SIZE	F	5/16	N/A		
SOLE PLATE	Ws	19	N/A		
	Ls	19	N/A		
	T1	1 1/2	N/A		
	T2	1 5/8	N/A		
MASONRY PLATE	Wm	32	N/A		
	Lm	20	N/A		
	Tm	1	N/A		
RETAINER	Lr	19 1/2	N/A		
BEARING HEIGHT	Ht	6	2 1/16		

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FILE NAME: s94j092brg.dgn	PLOT DATE: 03-JUL-2014
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