

GENERAL NOTES

LAKE COUNTY
LAK-91-(4.23)(4.49)

OHIO
FHWA
REGION 5

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56

ITEM 516-VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS, AS PER PLAN:

THIS ITEM SHALL INCLUDE ALL THE WORK REQUIRED TO REMOVE EXISTING VERTICAL EXTENSION BARS, IF ANY ARE PRESENT, TRIM EXISTING TOP ANGLE IF NECESSARY, AND THE FURNISHING, FABRICATION AND INSTALLATION OF ALL ANCHOR PLATES, STUDS, STEEL PLATE BARS, STEEL RETAINERS AND ELASTOMERIC STRIP SEAL GLANDS, AND PAINT EXPOSED STRUCTURAL STEEL AS PER DETAILS SHOWN ON THE PLANS. WORK SHALL CONFORM TO ITEM 516 AND THE FOLLOWING ADDITIONAL REQUIREMENTS. THE STRIP SEAL GLAND SHALL BE FURNISHED AND INSTALLED IN ONE CONT. PIECE.

THE STEEL RETAINERS SHALL BE FURNISHED IN MAXIMUM LENGTHS POSSIBLE TO ALLOW FOR TRAFFIC MAINTENANCE AND SHALL BE BUTT WELDED TOGETHER TO FORM A WATERTIGHT JOINT.

MATERIALS: THE STEEL RETAINERS, ANCHOR PLATES AND STEEL PLATE BARS SHALL CONFORM TO ASTM A36.

THE PREFORMED STRIP SEAL GLAND SHALL BE EXTRUDED POLYCHLOROPRENE MATERIAL MEETING THE REQUIREMENTS OF ASTM D2628. DUE TO THE CONFIGURATIONS OF THE STRIP SEAL, THE RECOVERY TESTS ARE NOT APPLICABLE. PHYSICAL PROPERTIES SHALL MEET THE REQUIREMENTS SPECIFIED ON THIS SHEET.

EACH LOT STRIP SEAL GLANDS SHALL BE TESTED BY THE MANUFACTURER OR AN ACCREDITED LABORATORY TO ENSURE COMPLIANCE WITH THESE PROVISIONS. TWO CERTIFIED COPIES OF THE QUALIFICATION TEST DATA INDICATING THAT THE TESTED MATERIALS COMPLY WITH THESE PROVISIONS SHALL BE SUBMITTED TO THE TESTING LABORATORY.

EACH STRIP SEAL GLAND DESIGN, SHAPE, WIDTH, DEPTH AND THICKNESS SHALL BE APPROVED BY THE DIRECTOR. MATERIAL ACCEPTANCE WILL BE BASED UPON LABORATORY EVALUATION OF CERTIFIED TEST DATA AND THE TE-30 FIELD INSPECTION REPORT.

LUBRICANT: ADHESIVE USED TO INSTALL THE PREFORMED STRIP SEALS SHALL BE A POLYURETHANE AND HYDROCARBON SOLVENT MIXTURE AS SPECIFIED BY THE SEAL MANUFACTURER (UNLESS OTHERWISE APPROVED BY THE DIRECTOR). IT SHALL HAVE SUITABLE CONSISTENCY AT THE TEMPERATURE AT WHICH THE SEALS ARE INSTALLED AND SHALL BE COMPATIBLE WITH THE SEALS AND THE STEEL RETAINERS.

SPLICE OR JOINT IN SEAL GLAND: SEAL GLANDS FOR BRIDGE NO. LAK-91-0423 DECK JOINTS SHALL BE FURNISHED IN ONE CONTINUOUS PIECE FOR EACH HALF SECTION OF DECK. FOR BRIDGE NO. LAK-91-0449 THE GLAND MAY BE SPLICED AT THE CONSTRUCTION JOINT IN THE MIDDLE OF EACH HALF DECK UNIT.

COMPLETED SPLICES SHALL HAVE NO OFFSETS ON EXTERIOR SURFACES, AND AFTER INSTALLATION, THERE SHALL BE NO EVIDENCE OF BOND FAILURE AT THE SPLICES.

FOR OTHER THAN STRAIGHT SEALS WITHOUT INTERMEDIATE SPLICES, SEAL GLANDS SHALL BE SHOP FABRICATED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS. SHOP DRAWING DIMENSIONS FOR EXISTING JOINTS OR FOR JOINTS WHICH ARE BEING MODIFIED SHALL BE BASED ON FIELD MEASUREMENTS PROVIDED BY THE CONTRACTOR.

PREPARATION FOR INSTALLATION: TO AVOID THE SUBSEQUENT CONTAMINATION OF THE PREPARED SURFACES, ALL SURFACES OF ELASTOMERIC STRIP SEAL GLANDS SHALL BE CLEANED WITH METHYL ETHYL KETONE (MEK), TOLUENE (T) OR OTHER APPROVED SOLVENT USING CLEAN DISPOSABLE CLOTHS.

THE BONDING SURFACES OF THE STEEL RETAINERS (THE INTERIOR OF THE ANCHOR GROOVES) SHALL BE PREPARED TO GRADE Sa 3, ASTM D2200. PREPARATION SHALL BE ACCOMPLISHED NOT MORE THAN 24 HOURS PRIOR TO ADHESIVE BONDING.

INSTALLATION: IMMEDIATELY PRIOR TO APPLICATION OF LUBRICANT-ADHESIVE, BONDING SURFACES SHALL BE CLEAN, DRY AND WARMER THAN 45 DEGREES F, AND THEY SHALL BE MAINTAINED AT OR ABOVE THIS TEMPERATURE UNTIL THE ADHESIVE HAS CURED. LUBRICANT-ADHESIVE SHALL BE APPLIED LIBERALLY TO BOTH STEEL AND ELASTOMERIC BONDING SURFACES USING A STIFF BRUSH IF NECESSARY TO ACHIEVE A COMPLETE AND RELATIVELY UNIFORM COATING. THEN THE BULBED EDGES OF THE ELASTOMERIC SEAL SHALL BE INSERTED INTO THE ANCHOR GROOVES. AFTER INSTALLATION, EXCESS LUBRICANT-ADHESIVE SHALL BE REMOVED FROM THE EXPOSED SEAL SURFACES.

SEAL GLANDS SHALL BE INSTALLED WITH EQUIPMENT DESIGNED OR SPECIFICALLY ADAPTED FOR THE INSTALLATION OF ELASTOMERIC JOINT SEAL GLANDS. THIS EQUIPMENT SHALL NOT ELONGATE THE SEAL GLAND OR CAUSE STRUCTURAL DAMAGE TO THE COMPLETED INSTALLATION.

THE STEEL RETAINERS AND ELASTOMERIC STRIP SEAL GLANDS SHALL BE TYPE SSE WITH SS300 GLANDS AS MANUFACTURED BY THE D.S. BROWN COMPANY, P.O. BOX 158, NORTH BALTIMORE, OHIO 45872 OR TYPE E1 WITH S-300E GLANDS BY THE WATSON-BOWAN AND ACME CORP., 95 PINEVIEW DRIVE, AMHERST, NEW YORK 14120 OR AN APPROVED ALTERNATE.

ALL EXPOSED STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH ITEM 514 AND THE OZEU PAINT SYSTEM PROPOSAL NOTE. EXCEPT THAT PAYMENT SHALL BE INCLUDED UNDER ITEM 516, VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS, AS PER PLAN.

PHYSICAL PROPERTIES OF SEAL ELEMENT

PROPERTY	REQUIREMENT	ASTM METHOD
TENSILE STRENGTH, MIN. PSI	2,000	D412
ELONGATION AT BREAK, MIN. %	250	D412
OVEN AGING, 70 HR. @ 212° F		
TENSILE STRENGTH, LOSS, MAX.	20%	
ELONGATION, LOSS, MAX.	20%	D573
HARDNESS, TYPE A DUROMETER (POINTS CHANGE)	0 TO +10	
OZONE RESISTANCE		
20% STRAIN, 300 PPHM, IN AIR AT 104°F (WIPE WITH TOLUENE TO REMOVE SURFACE CONTAMINATION)	NO CRACKS	D1149

MEASUREMENT FOR PAY PURPOSES SHALL BE BASED ON THE LINEAR FEET OF SEALED JOINT SYSTEM, MEASURED HORIZONTALLY ALONG THE BACK OF THE STEEL RETAINER AND BETWEEN THE OUTER LIMITS OF THE FABRICATED JOINT, FURNISHED AND PLACED, INCLUDING ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE JOINT IN PLACE.

PAYMENT SHALL BE MADE PER LINEAR FOOT FOR ITEM 516-VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS, AS PER PLAN.

ITEM SPECIAL-PARAPET MODIFICATIONS AT EXPANSION JOINTS

THIS ITEM SHALL INCLUDE ALL THE WORK AND MATERIALS NECESSARY TO REMOVE, MODIFY AND RECONSTRUCT THE EXISTING PARAPETS AND EXISTING MEDIAN AT THE EXPANSION JOINTS AS PER DETAILS SHOWN ON THE PLANS.

REMOVAL SHALL BE AS PER 202.03 WITH THE LIMITS CLEANLY SAW CUT TO A DEPTH OF ONE INCH WHERE THE EXISTING REINFORCING STEEL IS INDICATED TO BE PRESERVED. TROWELABLE MORTAR SHALL BE IN ACCORDANCE WITH PROPOSAL NOTE "PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR, AS PER PLAN." EPOXY COATED REINFORCING STEEL SHALL BE AS PER 509. REPLACEMENT CONCRETE SHALL BE CLASS S AS PER 511.

ALL REINFORCING STEEL TO BE PRESERVED SHALL BE CLEANED TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL THE ABOVE SHALL BE AT THE UNIT PRICE BID PER EACH ITEM SPECIAL, PARAPET MODIFICATIONS AT EXPANSION JOINTS, AS PER PLAN WHICH SHALL INCLUDE ALL REMOVALS, REINFORCING STEEL, MECHANICAL REBAR SPLICE CONNECTORS, CONCRETE, TROWELABLE MORTAR, LABOR, EQUIPMENT, OTHER MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK ABOVE.

ITEM 503-UNCLASSIFIED EXCAVATION, AS PER PLAN:

AS A CONTINGENCY, 2 CUBIC YARDS OF UNCLASSIFIED EXCAVATION HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR EXPOSING AND SUBSEQUENTLY BACKFILLING PORTIONS OF EXISTING PIER COLUMNS, WHERE CONCRETE PATCHING MAY EXTEND BELOW GRADE, AS DIRECTED BY THE ENGINEER. ALL APPLICABLE PROVISIONS OF ITEM 503 SHALL APPLY. EXCEPT THAT THE METHOD OF MEASUREMENT SHALL BE TO THE LIMITS SHOWN ON SHEET 19/24. THE COST FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PERFORM THE ABOVE WORK SHALL BE INCLUDED IN THE CUBIC YARD PRICE BID FOR ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN. THIS APPLIES TO BRIDGE NO. LAK-91-0449 ONLY.

ITEM SPECIAL-REFURBISH AND RESET BEARING

THIS WORK SHALL INCLUDE FURNISHING ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO REMOVE ALL OR PORTIONS OF THE EXISTING EXPANSION BEARING DEVICES, AND TO CLEAN, REASSEMBLE (OR REPLACE AT THE CONTRACTOR'S OPTION), AND PAINT THE ENTIRE DEVICE IN THE CORRECT LOCATION ON THE BEAM AND SUPPORTING MASONRY PLATE, AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PERFORM THE WORK IN SUCH A MANNER AS TO NOT ENDANGER THE STABILITY OR INTEGRITY OF THE STRUCTURE DURING THE BEARING RESETTING OPERATIONS. MAJOR RESETTING OPERATIONS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

- JACKING AND BLOCKING BEAMS TO REMOVE BEARING ASSEMBLY.
- CLEANING ALL PARTS BY ABRASIVE BLASTING (LAK-91-0449 BRG) OR SOLVENT CLEANING THEN SANDBLASTING (LAK-91-0423 BRG).
- PAINTING ALL NON-BEARING AREAS.
- GRINDING THE TOP OF THE SOLE PLATE AND THE BOTTOM FLANGE OF THE BEAM TO A BEARING FIT.
- REASSEMBLING THE BEARING.
- REWELDING THE SOLE PLATE TO THE BOTTOM OF THE BEAM IN THE POSITION CENTERED OVER THE MASONRY PLATE AT 60°.
- REPAIR OR REPLACE EXISTING 1/2" KEEPER PLATE AS DIRECTED BY THE ENGINEER. USE 5/16" FILLET WELD.
- REPLACING THE BEARING ASSEMBLY AT THE CONTRACTOR'S OPTION.

RESET EXISTING ROCKER BEARINGS:

THE BEARINGS SHALL BE RESET FOLLOWING THE PROCEDURE OUTLINED BELOW, PRIOR TO THE DECK EXPANSION JOINT MODIFICATIONS AND PLACEMENT OF THE NEW MSMC OVERLAY.

AT EACH BEARING:

- REMOVE ALL WELDS CONNECTING THE SOLE PLATE TO THE BOTTOM OF THE BEAM. WELDS SHALL BE REMOVED BY AIR ARC PROCESS.
- RAISE THE END OF THE BEAM BY JACKING UNTIL THERE IS NO CONTACT BETWEEN THE BOTTOM FLANGE AND THE SOLE PLATE. REMOVE BEARING COMPONENTS.
- CLEAN AND/OR GRIND FLAT THE SURFACE OF THE BOTTOM FLANGE OF THE BEAM WHERE THE SOLE PLATE WILL BE BEARING.
- CLEAN AND ABRASIVE BLAST ALL COMPONENTS IN ACCORDANCE WITH ITEM 514.
- RESET THE BEARING BY SHIFTING THE SOLE PLATE SO THE PLATE IS CENTERED OVER THE MASONRY PLATE AT 60°F. REMOVE JACKS AND BLOCKING.
- CHECK ALL BEARINGS ON A SUBSTRUCTURE UNIT TO INSURE TOTAL CONTACT OF BEARING SURFACES.
- REWELD THE SOLE PLATE TO THE BOTTOM FLANGE OF THE BEAM.
- RECLEAN AND ABRASIVE BLAST AS REQUIRED, AND PAINT BEARINGS.

Burgess & Niple, Limited  2/24
Engineers and Architects

GENERAL STRUCTURE NOTES

BRIDGE NO. LAK - 91 - 0423
BRIDGE NO. LAK - 91 - 0449

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	TPM		WAC	EBB 4/14/92	