**BITUMINOUS CONCRETE PLACEMENT AT ASPHALTIC PLUG JOINTS (APJ)**

1. The requirements of special provision section 4.05 shall be met.
2. Prepare a test section 4.05 shall be meets.
3. Prepare a test section 4.05 shall be meets.
4. Prepare a test section 4.05 shall be meets.
5. Prepare a test section 4.05 shall be meets.

**ASPHALTIC PLUG EXPANSION JOINT SYSTEM NOTES**

1. A bridging plate shall be used to expand the gap between two deck ends or the joint between a deck end and a concrete approach slab.
2. Discontinue the installation of the bridging plate when the approach slab is complete or if it is complete in the roadway specifications.
3. New steel bridging plates shall be a minimum 0.5 inches thick by 2 inches wide. For joint opening which exceed 1.5 inches by 1 inch wide, the joint opening shall be increased by a 1 inch wide plate shall be increased.
4. No bridging plate shall be used at the following locations:
   a. Zone between a deck and a concrete approach slab.
   b. Between a bridge deck and a temporary expansion joint.
5. The number of all existing joint systems, temporary expansion and joint breaks within the limits shown to be included for payment under the item "removal of existing joint as specified in section A.05.
6. Temporary closed cell backing rod diameter shall be determined after measuring the joint opening. The rod shall be 2% larger than the joint opening.
7. Installation of membrane within the limits shown shall be paid under the item "membrane waterproofing (xxxxxxx).
8. The furnishing and placing of HMA S0.375 shall be included for payment under the item "HMA S0.375.
9. Saw-cutting and removal of pavement for joint installation to be included for payment under the item "membrane waterproofing (xxxxxxx)."
10. Installation of membrane supported silicone gland shall be included for payment under the item "membrane waterproofing (xxxxxxx)."
11. Installation of membrane supported silicone gland may be installed only within the temperature range specified in the special provision "asphaltic plug expansion joint system."
12. Temperature range specified in the special provision "asphaltic plug expansion joint system."
13. Exploration of pavement thicknesses and joint location to be included in the general costs of the item "membrane waterproofing (xxxxxxx)."
14. Contractor shall notify the department if the existing pavement is determined to be greater than 2 inches thick within the limits shown in the table below.

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MEASUREMENTS SHALL BE TAKEN IF NEEDED IN ACCORDANCE WITH SPECIAL PROVISION FOR EXPLORATION OF EXISTING WATERPROOFING SUBFACE. CONTRACTOR SHALL ALSO MEASURE THE DECK JOINT GAP OPENING FOR SIZING OF THE FOAM SUPPORTED SILICONE GLAND.

STEP 2: INSTALL EXISTING PAVEMENT MATERIAL AND JOINT MATERIAL TO BRIDGE DECK LEVEL ALONG ENTRANCE OF JOINT MATERIAL TO BRIDGE DECK LEVEL.

STEP 3: INSTALL PROPOSED ASPHALTIC PLUG EXPANSION JOINT SYSTEM.

STEP 4: INSTALL MEMBRANE WATERPROOFING TO THE TOP OF DECK, APPROACH SLAB, BRIDGE DECK.

STEP 5: PLACE ASPHALTIC CONCRETE OVERLAY AS INDICATED ON THE PLANS.

STEP 6: INSTALL CRACK SEAL AT CURB LINE ALONG THE LENGTH OF THE BRIDGE, BOTH SIDES. CRACK SEALING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM “JOINT AND CRACK SEALING OF ASPHALTIC CONCRETE.”

STEP 7: INSTALL TEMPORARY BACKER ROD AT THE TOP SURFACE OF THE JOINT TO PREVENT ASPHALTIC CONCRETE FROM ENTERING THE JOINT.

STEP 8: INSTALL MEMBRANE WATERPROOFING TO THE TOP OF DECK, APPROACH SLAB, BRIDGE DECK.

STEP 9: INSTALL PROPOSED ASPHALTIC PLUG EXPANSION JOINT SYSTEM WITH FOAM SUPPORTED SILICONE GLAND AND BRIDGING PLATE. LOCATING PINS SHALL BE USED TO SECURE THE BRIDGING PLATE.

S-02
SUGGESTED SEQUENCE OF WORK


STEP 2: SAW-CUT THE EXISTING PAVEMENT TO THE LIMITS SHOWN IN DETAIL FOR "JOINT AND CRACK SEALING OF BITUMINOUS CONCRETE PAVEMENT." REMOVE THE EXISTING BITUMINOUS PAVEMENT MATERIAL AND JOINT MATERIAL FULL DEPTH WITHIN THE LIMITS SHOWN TO BE PAID UNDER THE ITEM “REMOVAL OF EXISTING WEARING SURFACE.”

STEP 3: PLACE CRACK SEALANT ON THE HORIZONTAL SURFACE AT PAVEMENT CUT-OUT JOINTS.

STEP 4: PLACE BITUMINOUS CONCRETE OVERLAY AS INDICATED ON THE PLANS.

STEP 5: INSTALL TEMPORARY BACKER ROD FLUSH WITH THE BRIDGE DECK AND APPROACH SLAB.

STEP 6: PLACE TEMPORARY PAVERS IN JOINT CUTOFF AS REQUIRED TO BE PAID UNDER "HMA SX.XX" TO BE PAID UNDER THE ITEM "REMOVAL OF EXISTING WEARING SURFACE."?

STEP 7: INSTALL ASPHALTIC PLUG EXPANSION JOINT SYSTEM WITH FOAM SUPPORTED SILICONE GLAND.

STEP 8: PLACE CRACK SEALANT ON VERTICAL EDGE OF PAVEMENT ALONG SAW-CUT LINES AND STAGE CONSTRUCTION SAW-CUT LINES.

STEP 9: INSTALL MEMBRANE WATERPROOFING TO THE TOP OF THE DECK, BACKWALL, AND APPROACH SLAB.

STEP 10: REMOVE THE EXISTING PAVEMENT MATERIAL AND JOINT MATERIAL FULL DEPTH WITHIN THE LIMITS SHOWN TO BE PAID UNDER "REMOVAL OF EXISTING WEARING SURFACE." IDENTIFY "PARTIAL DEPTH PATCH" OR "FULL DEPTH PATCH (HIGH EARLY STRENGTH)."

STEP 11: INSTALL NEW BINDER WITH AGGREGATE.

STEP 12: SAW-CUT FULL DEPTH AT 1" PAST THE CENTERS OF THE JOINT (MINIMUM HEIGHTS OF JOINT) AND REMOVE ALL PAVEMENT MATERIAL BETWEEN SAW-CUTS INCLUDING THE TEMPORARY BACKER ROD. TO BE PAID UNDER "REMOVAL OF EXISTING WEARING SURFACE." INSTALL PROPOSED ASPHALTIC PLUG EXPANSION JOINT SYSTEM WITH FOAM SUPPORTED SILICONE GLAND.

STEP 13: PLACE CRACK SEAL ALONG THE LENGTH OF THE BRIDGE WITH ASPHALT CRACK SEALING SMALLER TO BE INCLUDED FOR PAYMENT UNDER ITEM "JOINT AND CRACK SEALING OF BITUMINOUS CONCRETE PAVEMENT."
SCHEMATIC OF ASPHALTIC PLUG JOINT
AT PARAPET WITH SIDEWALK

NOT TO SCALE

SCHEMATIC OF ASPHALTIC PLUG JOINT
AT CURB WITH 3-TUBE BRIDGE RAIL

NOT TO SCALE
NOTES:
1. THE REMOVAL OF ALL EXISTING JOINT MATERIAL AND BORDERS SHALL BE MADE WITH THE LIMITS OF THE EXISTING JOINT MATERIAL. THE REMOVAL OF ALL EXISTING JOINT MATERIAL AND BORDERS SHALL BE PAID FOR UNDER THE ITEM "ASPHALTIC PLUG EXPANSION JOINT SYSTEM."
2. WHERE EXISTING BRIDGE DECK JOINTS ARE CONCEALED IT IS RECOMMENDED THAT THE CONTRACTOR VERIFY THE BRIDGE DECK JOINT LOCATION AND HAVE THE LIMITS OF SAW CUTTING APPROVED BY THE ENGINEER.
3. LIMITS OF SAW CUTTING (1" MIN. BEYOND EXISTING JOINT MATERIAL) SHALL BE PAID FOR UNDER THE ITEM "ASPHALTIC PLUG EXPANSION JOINT SYSTEM" (TOP.)
4. NEW STEEL BRIDGING PLATES SHALL HAVE A MINIMUM THICKNESS OF 0.062" (1/16"") FOR JOINT OPENINGS THAT EXCEED 4". NEW STEEL BRIDGING PLATES SHALL HAVE A MINIMUM THICKNESS OF 0.031" (1/32"") FOR JOINT OPENINGS THAT EXCEED 3".

DESIGNER NOTES:
THESE DETAILS ARE ONLY APPLICABLE TO PROJECTS WHERE THE USE OF EMSEAL IS IMPRACTICAL AND APPROACH SLABS ARE NOT TO BE CONSTRUCTED AT BRIDGE DECK ENDS.

DESIGNER NOTES SHALL BE REMOVED FROM THESE GUIDE SHEETS.
NOTE:

PRIOR TO INSTALLING THE NEW BACKER ROD AND SILICONE SEALANT, REMOVE EXISTING JOINT MATERIAL. CLEAR OFF JUNCTIONS OF THE NEW BACKER ROD AND JOINT SEALANT MATERIAL TO 1" DIAMETER AND REPAIR WITH THE METHOD APPROVED BY THE ENGINEER. THIS WORK WILL BE PAID FOR UNDER THE ITEM "ASPHALTIC PLUG EXPANSION JOINT SYSTEM".

DESIGNER NOTE:

THESE DETAILS SHALL ONLY BE USED WHEN THE INSTALLATION OF EMSEAL IS IMPractical (e.g., WITH THE DETAILS ON S-05 OF THESE GUIDE SHEETS)

DESIGNER NOTES SHALL BE REMOVED FROM THESE GUIDE SHEETS