ASPHALTIC PLUG EXPANSION JOINT SYSTEM NOTES

1. A BRIDGING PLATE SHALL BE USED TO SPAN THE GAP BETWEEN TWO DECK ENDS OR THE JOINT BETWEEN A DECK END AND A CONCRETE APPROACH SLAB.

2. CONCRETE EXPANSION JOINTS USED WHEN THE APPROACH SLAB IS CONCRETE (Typically in the roadway shoulder) OR THE "ASPHALTIC PLUG EXPANSION JOINT SYSTEM" SPECIAL PROVISION.

3. NEW STEEL BRIDGING PLACES SHALL BE A MINIMUM OF 1/2" THICK BY 8" WIDE, FOR JOINT OPENINGS WHICH EXCEED 3" A 1 1/2" THICK BY 4 1/2" WIDE PLATE WILL BE REQUIRED.

4. NO BRIDGING PLATE SHALL BE USED AT THE FOLLOWING LOCATIONS:
   a. JOINT BETWEEN A DECK END AND A CONCRETE APPROACH PLANT.
   b. WHERE A BRIDGE DECK AND A BRIDGE DECK JOINT SYSTEM.
   c. WHERE THE REMOVAL OF ALL EXISTING JOINTS, ASPHALTIC CONCRETE, DECK JOINTS, CONCRETE LEVELING MATERIAL INCLUDED FOR PAYMENT UNDER THE ITEM "REMOVAL OF EXISTING WEARING SURFACE".

5. TEMPORARY CLOSED BARRIER DGA Diameter shall be determined after measuring the joint opening. The road shall be 25% larger than the joint opening.

6. INSTALLATION OF MEMBRANE WITHIN THE LIMITS SHOWN TO BE PAID UNDER THE ITEM, "MEMBRANE WATERPROOFING XXXXXXXXXXXXXX".

7. THE FURNISHING AND PLACING OF PAVEMENT IN THE JOINT CUT-OUT TO BE INCLUDED FOR PAYMENT UNDER THE ITEM "HMA S0.375".

8. THE FURNISHING AND PLACING OF TEMPORARY PAVEMENT IN THE JOINT CUT-OUT TO BE INCLUDED FOR PAYMENT UNDER THE ITEM "HMA S0.375".

9. THE INSTALLATION OF FOAM SUPPORTED SILICONE GASKET TO BE PAID UNDER THE ITEM "FOAM SUPPORTED SILICONE GASKET".

10. THE INSTALLATION OF FOAM SUPPORTED SILICONE GASKET TO BE PAID UNDER THE ITEM "FOAM SUPPORTED SILICONE GASKET".

11. THE INSTALLATION OF FOAM SUPPORTED SILICONE GASKET TO BE PAID UNDER THE ITEM "FOAM SUPPORTED SILICONE GASKET".

12. THE COST OF "REMOVAL OF EXISTING WEARING SURFACE".

13. THE REMOVAL OF ALL EXISTING JOINTS, ASPHALTIC CONCRETE OVERLAY, EXISTING JOINT COMPONENTS AND SEALING ELEMENTS, SHALL BE INCLUDED IN THE GENERAL COST OF THE ITEM "REMOVAL OF EXISTING WEARING SURFACE".

14. CONTRACTOR SHALL NOTIFY THE DEPARTMENT IF THE EXISTING PAVEMENT IS DETERMINED TO BE LESS THAN 2" OR GREATER THAN 6" WITHIN THE BRIDGE LIMITS.

15. CONTRACTOR SHALL NOTIFY THE DEPARTMENT IF THE EXISTING PAVEMENT IS DETERMINED TO BE LESS THAN 2" OR GREATER THAN 6" WITHIN THE BRIDGE LIMITS.
SUGGESTED SEQUENCE OF WORK


STEP 2: REMOVE EXISTING PAVEMENT MATERIAL AND JOINT MATERIAL TO BRIDGE DECK LEVEL ALONG ENTIRE LENGTH OF BRIDGE. REMOVE BRIDGING PLATES PRIOR TO MILLING THE BRIDGE DECK.

STEP 3: INSTALL TEMPORARY BACKER ROD AT THE TOP SURFACE OF THE JOINT TO PREVENT BITUMINOUS CONCRETE FROM ENTERING THE JOINT.

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

STEP 5: INSTALL MEMBRANE WATERPROOFING TO THE TOP OF DECK AND APPROACH SLAB WITHIN THE LIMITS SHOWN.

STEP 6: INSTALL MEMBRANE ALONG LENGTH OF BRIDGE DECK.

STEP 7: INSTALL PROPOSED ASPHALTIC PLUG EXPANSION JOINT SYSTEM WITH FOAM SUPPORTED SILICONE GLAND AND BRIDGING PLATE LOCATIONS PINS SHALL BE USED TO SECURE THE BRIDGING PLATE.

STEP 8: INSTALL JOINT SEAL AT CURB LINE ALONG THE LENGTH OF THE BRIDGE WITH SIDE CRACK SEALING SHALL BE INCLUDED FOR PAYMENT UNDER ITEM “REMOVAL OF EXISTING WEARING SURFACE.” CONTRACTOR SHALL ALSO MEASURE THE DECK JOINT GAP OPENING FOR SIZING OF THE FOAM SUPPORTED SILICONE GLAND.
**Installation of Asphaltic Plug Expansion Joint System**

- **Step 1:** Contractor shall perform an exploration at the gutterline (at the four corners of the bridge deck) to determine the depth of pavement. Measurements shall be taken to locate the deck ends (centerline of the bridge deck or the centerline of the approach slab). The depth of pavement shall be recorded as shown in the Plans.
- **Step 2:** Installing temporary backer rod flush with the bridge deck and approach slab.
- **Step 3:** Saw-cut the existing pavement to the limits shown in detail for joint and crack sealing. Saw cut shall not damage the bridge deck or approach slab. To be paid under the item "Removal of Existing Pavement Material to Provide a Smooth and Level Surface As Necessary".
- **Step 4:** Remove the existing pavement material and joint material full depth within the limits shown to be paid under the step "Removal of Existing Pavement Material to Provide a Smooth and Level Surface As Necessary".
- **Step 5:** Place crack sealant on the horizontal surface at pavement cut-out joints.
- **Step 6:** Saw-cut joint at cut-out as required to be paid under "Joint and Crack Sealing of Bituminous Concrete Pavement" and remove all pavement material between saw-cuts including the temporary backer rod.
- **Step 7:** Place crack sealant in the horizontal surface at pavement cut-out joints.
- **Step 8:** Saw-cut joint at cut-out as required to be paid under "Joint and Crack Sealing of Bituminous Concrete Pavement" and remove all pavement material between saw-cuts including the temporary backer rod.
- **Step 9:** Saw-cut joint at cut-out as required to be paid under "Joint and Crack Sealing of Bituminous Concrete Pavement" and remove all pavement material between saw-cuts including the temporary backer rod.
- **Step 10:** Place bituminous concrete overlay as indicated on the Plans.
- **Step 11:** Saw-cut joint at cut-out as required to be paid under "Joint and Crack Sealing of Bituminous Concrete Pavement" and remove all pavement material between saw-cuts including the temporary backer rod.
- **Step 12:** Saw-cut joint at cut-out as required to be paid under "Joint and Crack Sealing of Bituminous Concrete Pavement" and remove all pavement material between saw-cuts including the temporary backer rod.
- **Step 13:** Install proposed asphaltic plug expansion joint system with foam supported silicone gland and bridging plates. Location of foam shall be used to secure the bridging plates.
- **Step 14:** Saw-cut joint at curb line along the length of the bridge, joint and crack sealing shall be included for payment under step "Joint and Crack Sealing of Bituminous Concrete Pavement".

**Suggested Sequence of Work**

1. Contractor shall perform an exploration at the gutterline (at the four corners of the bridge deck) to determine the depth of pavement. Measurements shall be taken to locate the deck ends (centerline of the bridge deck or the centerline of the approach slab). The depth of pavement shall be recorded as shown in the Plans.
2. Install temporary backer rod flush with the bridge deck and approach slab.
3. Saw-cut the existing pavement to the limits shown in detail for joint and crack sealing. Saw cut shall not damage the bridge deck or approach slab. To be paid under the step "Removal of Existing Pavement Material to Provide a Smooth and Level Surface As Necessary".
4. Remove the existing pavement material and joint material full depth within the limits shown to be paid under the step "Removal of Existing Pavement Material to Provide a Smooth and Level Surface As Necessary".
5. Place crack sealant on the horizontal surface at pavement cut-out joints.
6. Saw-cut joint at cut-out as required to be paid under "Joint and Crack Sealing of Bituminous Concrete Pavement" and remove all pavement material between saw-cuts including the temporary backer rod.
7. Place crack sealant in the horizontal surface at pavement cut-out joints.
8. Saw-cut joint at cut-out as required to be paid under "Joint and Crack Sealing of Bituminous Concrete Pavement" and remove all pavement material between saw-cuts including the temporary backer rod.
9. Place crack sealant on the horizontal surface at pavement cut-out joints.
10. Saw-cut joint at cut-out as required to be paid under "Joint and Crack Sealing of Bituminous Concrete Pavement" and remove all pavement material between saw-cuts including the temporary backer rod.
11. Saw-cut joint at cut-out as required to be paid under "Joint and Crack Sealing of Bituminous Concrete Pavement" and remove all pavement material between saw-cuts including the temporary backer rod.
12. Saw-cut joint at cut-out as required to be paid under "Joint and Crack Sealing of Bituminous Concrete Pavement" and remove all pavement material between saw-cuts including the temporary backer rod.
13. Install proposed asphaltic plug expansion joint system with foam supported silicone gland and bridging plates. Location of foam shall be used to secure the bridging plates.
14. Saw-cut joint at curb line along the length of the bridge, joint and crack sealing shall be included for payment under step "Joint and Crack Sealing of Bituminous Concrete Pavement".

**Placement of Pavement in Joint Cutout**

- **Existing Condition**
- **Joint and Pavement Removal**
- **Suggested Sequence of Work**
- **Installation of Asphaltic Plug Joint with Bridging Plate**

**Drawings:**

- **S-03** - APJ Sequence Joint Replacement
**REMOVAL - EXISTING ASPHALTIC PLUG JOINT AT THE SHOULDER**

Scale: 1\' = 1'-0"

- **Limits of Joint Removal**
- **Dimensions Are for Information Only**
- **Remove Existing Plug Joint**
- **Set Concrete Over Subbase**
- **Remove Bridging Plate**
- **Remove Locating Pin**
- **Abutment Backwall**

**INSTALLATION OF ASPHALTIC PLUG EXPANSION JOINT SYSTEM**

Scale: 1\' = 1'-0"

- **Install New Binder with Aggregate**
- **Vases**
- **Roadway Subbase**

**REMOVAL OF EXISTING ASPHALTIC PLUG JOINTS AT PIERS WITH FINGER JOINT PLATES**

Scale: 1\' = 1'-0"

- **Limits of Joint Removal**
- **Dimensions Are for Information Only**
- **Remove Existing Plug Joint**
- **Existing Finger Expansion Joint**
- **Bridges Deck**

**INSTALLATION OF ASPHALTIC PLUG JOINTS AT PIERS WITH FINGER JOINT PLATES**

Scale: 1\' = 1'-0"

- **Limits of Joint Removal**
- **Dimensions Are for Information Only**
- **Install New Bridging Plate**
- **Set Concrete Over Subbase**
- **Vases**
- **Bridges Deck**

**NOTES:**

1. The removal of all existing joint material and individual components within the limits of the bridge deck expansion joint system ("Asphaltic Plug Expansion Joint System") shall be paid for under the item "Asphaltic Plug Expansion Joint System" (Typ.).
2. The limits of saw cutting shall be approved by the engineer. The contractor shall verify the bridge deck joint location and has the limits of saw cutting approved by the engineer.
3. Limits of saw cutting (1" min. beyond existing joint) shall be directed by the engineer. Small asphalt plug expansion joints shall be paid for under the item "Asphaltic Plug Expansion Joint System" (Typ.).
4. New steel bridging plates shall have a minimum thickness of 0.375" (1/4") and shall be required. 3/8" x 3/8 x 36" of 1/2" wide shall be required.
5. The removal of all existing joint material and individual components within the limits of the bridge deck expansion joint system ("Asphaltic Plug Expansion Joint System") shall be paid for under the item "Asphaltic Plug Expansion Joint System" (Typ.).

**REFERENCES:**

- Consultants and Engineers: I.R. & A.G. Engineers Ltd.
- Drawn by: C. C. & R. Engineers Ltd.
- Plotted by: C. C. & R. Engineers Ltd.
- Checked by: C. C. & R. Engineers Ltd.
- Approved by: C. C. & R. Engineers Ltd.
NOTE:

Prior to installing the new Backer Rod and Silicone Joint Sealant, remove existing joint material. Clean joints to the face of the barrier. This work will be performed using the method approved by the Engineer. This work will be paid for under the item "Asphaltic Plug Expansion Joint System".

JOINT TREATMENT AT PARAPET

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