NOTES:
1. For joint seal dimensions see Sheet 2.
2. For slabs poured simultaneously, tie bars may be inserted in the plastic concrete by means approved by the Engineer.
3. For Longitudinal Joints:
   A. Tie bars are deformed #4 or #5 reinforcing steel bars meeting the requirements of Specifications, Section 931.
   B. Provide a standard load transfer tied joint with #4 bars 23" in length at 24" spacing or #5 bars 30" in length at 30" spacing.
4. Transverse joints are to be spaced at a maximum of 15'. Dowels are required at all transverse joints unless otherwise noted in the plans.
5. Expansion joints to be placed on approaches to bridges, at street intersections and other locations indicated in the plans.
6. Punch clean holes in preformed joint filler greater than bar diameter.
7. Coat and lubricate plain steel dowel bars in accordance with Specifications, Section 360.
8. Sheet metal bottom strips in accordance with Specifications, Section 931.

METAL

PLASTIC

DOWEL BARS CAPS

DOWEL BAR LAYOUT

LONGITUDINAL JOINTS

TRANSVERSE JOINTS

DOWELS (LENGTH 18"

<table>
<thead>
<tr>
<th>Pavement Thickness</th>
<th>Diameter</th>
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</thead>
<tbody>
<tr>
<td>6'-6&quot;</td>
<td>1&quot;</td>
</tr>
<tr>
<td>7'-0&quot;</td>
<td>1 1/4&quot;</td>
</tr>
<tr>
<td>≥11&quot;</td>
<td>1 1/2&quot;</td>
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</tbody>
</table>

BUTT CONSTRUCTION JOINT

CONTRACTION JOINT (Sawed Method)

CONSTRUCTION JOINT (Vibro Case Method)

TRANSITION JOINT

CONTRIBUTION JOINT

BUTT CONSTRUCTION JOINT (Used At Discontinuance Of Work)
CONCRETE-CONCRETE JOINTS

FOR NEW PROJECTS
PREFORMED ELASTOMERIC COMPRESSION SEAL

FOR NEW AND REHABILITATION PROJECTS
BACKER ROD BOND BREAKER

CONCRETE-ASPHALT SHOULDER JOINTS

JOINT SEAL DIMENSIONS

FOR NEW AND REHABILITATION PROJECTS:
EITHER TAPE OR BACKER ROD BOND BREAKER REQUIRED;
SHOULDER MUST BE REPAIRED IF PROPER JOINT SHAPE
CAN NOT BE ATTAINED.

Table: BACKER ROD BOND BREAKER

<table>
<thead>
<tr>
<th>JOINT WIDTH</th>
<th>SEALANT BEAD THICKNESS</th>
<th>BACKER ROD DIA.</th>
<th>MINIMUM JOINT DEPTH</th>
<th>BACKER ROD PLACEMENT DEPTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/2</td>
<td>1/4</td>
<td>1/4</td>
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</tr>
<tr>
<td>2 1/2</td>
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<td>1/4</td>
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</tr>
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<tr>
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<td>1/4</td>
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<tr>
<td>≥8</td>
<td>1/4</td>
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</tr>
</tbody>
</table>

Unless otherwise indicated on the plans the joint width for new construction will be 1 1/2" for construction joints, 3/4" for all other joints.

For rehabilitation projects the joint width will be shown on the plans or established by the Engineer based on field conditions.

Note: Dimension w will be shown in the plans or established by the Engineer based on field conditions. Dimension d will be constructed so that the shape factor w/d has a maximum value of 2.0 and a minimum value of 1.6.

(field conditions. Dimension d will be constructed so that the shape factor w/d has a maximum value of 2.0 and a minimum value of 1.6.)
ALTERNATE KEYWAY AND HOOK BOLT

STEEL HOOK BOLT ASSEMBLY

Anchor bolts shall be Grade C in accordance with ASTM A 307. Threaded sleeves shall develop the full strength of the bolt and meet the material and thread requirements of ASTM A 563.

NOTES
1. Longitudinal joints will not be required for single lane pavement 14' or less in width. For entrance and exit ramp joint details, see Sheet 4.
2. Arrangement of longitudinal joints are to be as directed by the Engineer.
3. All manholes, meter boxes and other projections into the pavement shall be boxed-in with ½" preformed expansion joint material.

Note: After the concrete has set to the extent that the keyway will retain its shape, the hex bolt and plastic insert shall be removed. The remaining portion of the hook bolt assembly shall be installed immediately prior to placing of concrete in the adjacent lane.
* 13' with tied Concrete Shoulders or 14' with Asphalt Shoulders.

* 12' Wide Over 3 Slabs

Transition From * to 12' Wide Over 3 Slabs

ENTRANCE TAPER WITH AUXILIARY LANE

ENTRANCE RAMP WITH ADDED LANE

EXIT TAPER WITH AUXILIARY LANE

2-THRU LANES WITH SINGLE LANE ENTRANCE RAMP

2-THRU LANES WITH SINGLE LANE EXIT RAMP

3-THRU LANES WITH AUXILIARY LANE AND 2-LANE EXIT RAMP

Note: On single lane ramps, longitudinal joint to be constructed along centerline of ramp.