GENERAL NOTES

1. THIS STANDARD PLAN DOES NOT APPLY TO THIN CONCRETE OVERLAYS (WHITE TOPPING).

2. TRANSVERSE CONSTRUCTION JOINTS SHALL BE LOCATED AT a © JOINT.

3. THIS JOINT LAYOUT SHALL BE USED AS A STANDARD OF THE JOINT LAYOUT FOR THE PROJECT. IF THE CONTRACTOR PROPOSES VARIATIONS FROM THIS STANDARD OR THE PROJECT HAS UNUSUAL OR IRREGULAR CONDITIONS NOT COVERED HEREIN, THE CONTRACTOR SHALL PREPARE A PAVEMENT JOINT LAYOUT FOR APPROVAL BY THE ENGINEER. SLABS 13 FT. IN WIDTH SHALL BE CONSTRUCTED ONLY WHERE DESIGNATED ON THE PLANS.

4. ON MULTILANE DIVIDED HIGHWAYS, THE MULTILANE DIRECTIONAL PAVEMENT AND BOTH SHOULDERS SHALL BE PLACED WITH (I) LONGITUDINAL CONTRACT JOINTS.

5. ON MULTILANE DIVIDED HIGHWAYS SEPARATED BY A CONCRETE BARRIER, A © JOINT SHALL BE CONSTRUCTED AT ONE OF THE BARRIER FACES.

6. © JOINTS SHALL BE CONSTRUCTED BETWEEN THE TWO OPPOSING DIRECTIONS OF TRAVEL ON A MULTILANE UNDIVIDED HIGHWAY WHEN ALL OF THE FOLLOWING APPLY:

   A. PAVEMENT IS CONTINUOUS ACROSS BOTH DIRECTIONS OF TRAVEL.

   B. THERE IS NO MEDIAN BARRIER.

   C. THE WIDTH OF THE PAVEMENT IN ONE DIRECTION IS GREATER THAN 80 FEET.

7. ON VARIABLE WIDTH SLABS, THE 2 FT. OR 4 FT. END OF SLAB WIDTH DIMENSION MAY VARY ±6 INCHES.

8. © JOINTS ARE TO BE USED WHEN A TRAFFIC LANE IS ADDED SEPARATELY, OR FOR TAPERS, OR FOR SPEED CHANGE LANES. ALTERNATIVE LONGITUDINAL JOINT LOCATIONS AT SPEED CHANGE LANES MAY BE USED IF APPROVED.

9. WHERE © JOINTS ARE SHOWN IN THE SHOULDER, THE DOWEL BARS WILL BE PLACED ON 12" CENTERS STARTING 6" FROM THE ROADWAY © JOINT.

DOWEL BAR DETAIL
FOR © JOINT WITH 13 FT. AND 12 FT. WIDE SLABS

ALTERNATIVE DIMENSIONS (SEE NOTE 3)

RURAL TWO-LANE

MULTI-LANE WITH SPEED CHANGE LANE AND CONCRETE SHOULDCERS

OPTIONAL LONGITUDINAL JOINT IN CENTER FOR SINGLE LANE SPEED CHANGE LANE
RAMP "A" DOWEL BAR DETAIL FOR C JOINT WITH A 12 FT. LANE

RAMP "B" DOWEL BAR DETAIL FOR C JOINT WITH CENTER LONGITUDINAL SPLIT LANE

MULTI-LANE WITH ACCELERATION AND DECELERATION LANES AND CONCRETE SHOULDERS

OPTIONAL LONGITUDINAL JOINT IN CENTER FOR SINGLE LANE ACCELERATION AND DECELERATION LANE
1. Longitudinal joints shall be placed adjacent to lane markings when possible and have a maximum spacing of 13 ft (15 ft is permitted with monolithic curb and gutter).
2. Construct transverse joints perpendicular to the centerline of pavement and extend through the curb or curb and gutter.
3. Place Y2 in non-expansion joint filler in top 6 in. of curb joint at intersection return radius points.
4. The contractor shall, unless otherwise shown on the plans, select and use a bond breaker at inlets, manholes and similar size structures. Smaller structures such as valve and monument boxes shall not require a bond breaker.
5. Where a longitudinal joint passes less than 1 ft from a cast-in-pavement manhole or similar size structure, a typical 2 ft radial joint, as shown in the details, shall be used.
6. Transverse joints shall either intersect the center of circular manholes and inlets or be at least 4 ft away from the edge of circular manholes. See curb joint detail on detail C.
7. Transverse construction joints shall be located at a joint.
8. The Engineer shall have an option to use individual dowels in the joint on short run (2'± 6"") to curb radius returns.

Notes

- JOINT LEGEND
- EXPANSION
- TRANSVERSE CONTRACTION
- LONGITUDINAL CONSTRUCTION
- JOINTS ARE PLACED ADJACENT TO LANE MARKINGS WHEN POSSIBLE, AND HAVE A MAXIMUM SPACING OF 13 FT (15 FT IS PERMITTED WITH MONOLITHIC CURB AND GUTTER).
1. Longitudinal joints shall be placed adjacent to lane markings when possible, and have a maximum spacing of 12 ft. (13 ft. is permitted with monolithic curb and gutter).

2. Construct Transverse joints perpendicular to the centerline of pavement and extend through the curb or curb and gutter.

3. Place 3. In an expansion joint filler in the 6 in. of curb joint at intersection return radius points.

4. The contractor shall place segmental joint filler on the plans select and use a bond breaker at inlets, manholes and similar size structures. Smaller structures such as valve and monument boxes do not require a bond breaker.

5. Place a longitudinal joint more than 3 ft. from a cast-in-pavement manhole or similar size structure. A typical 2 ft. radial joint, as shown in the details, shall be used.

6. Transverse joints shall either intersect the center of circular manholes and inlets or be at least 4 ft. away from the edge of circular manholes. See curb inlet block detail on Sheet 5.

NOTES

MULTI-LANE INTERSECTION WITH SPEED CHANGE LANE AND CONCRETE SHOULDERS

CONCRETE PAVEMENT JOINTS

STANDARD PLAN NO. M-412-1

Standard Sheet No. 4 of 5

Issued by the Project Development Branch: July 31, 2019

Project Sheet Number:
A. 114°
BELOW SURF ACE
SILICONE SEALANT

EXPANSION JOINT
DOWELED TRANSVERSE CONSTRUCTION OR CONTRACTION JOINT (TRANSVERSE WEAKENED PLANE JOINT)
LONGITUDINAL CONTRACTION JOINT (LONGITUDINAL WEAKENED PLANE JOINT)
LONGITUDINAL CONSTRUCTION JOINT

NOTE
PAVEMENT THICKNESS (T), SHALL BE AS SHOWN ON THE PLANS.

<table>
<thead>
<tr>
<th>PAVEMENT THICKNESS (T)</th>
<th>DOWEL BAR DIAMETER</th>
</tr>
</thead>
<tbody>
<tr>
<td>T &lt; 8 IN.</td>
<td>1 IN.</td>
</tr>
<tr>
<td>8 IN. &lt; T &lt; 10 IN.</td>
<td>1.25 IN.</td>
</tr>
<tr>
<td>T &gt; 10 IN.</td>
<td>1.50 IN.</td>
</tr>
</tbody>
</table>

REINFORCING SIZE TABLE

dowel bar size is NO. 5 when pavement is placed on unbound bases.
dowel bar is NO. 6 when pavement is placed on lime treated soil, asphalt or cement treated, milled asphalt, or recycled asphalt bases.

CONCRETE PAVEMENT JOINTS

Issued by the Project Development Branch: July 31, 2019

SECTION A-A
STANDARD PLAN NO. M-412-1
Standard Sheet No. 5 of 5

SECTION B-B
BOND BREAKER SHALL BE COMPOSED OF PLASTIC SHEET BUILDING PAPER OR OTHER APPROVED MATERIAL THAT PREVENTS BONDING.