**Standard Plan for joint details.**

**Concrete Pavement Joints**

**General Requirements**

- End tapered paving sections at a transverse joint.
- The plans will specify which ramps require transverse doweled joints. When specified, begin the use of type "D" joints in lieu of type "A" joints at the gore area where the ramp separates from mainline and gore area pavement slabs as shown. Extend type "D" joints across the entire width of the ramp.
- Where the ramp pavement is longitudinally tied to the mainline pavement and where the transverse joints are at an angle to the mainline transverse joints, do not dowel the transverse ramp joints.

**Transverse Dowel Jointed Concrete Pavement Notes**

See **Concrete Pavement Joints** Standard Plan for joint details.

**Continued**

Adjacent to every approach slab, a reinforced concrete slab 16 ft. (4.8 m) in length extending the entire width of the pavement is required with #4 (#13) rebar placed at 12 in. (300) centers in each direction with 3 in. (75) minimum cover from any surface. A type "E" joint is required between this slab and the conventional pavement.

**Longitudinal Joints**

Substitute type "Y" joints for type "X" joints when a construction joint is required. Do not space longitudinal joints greater than 14 ft. (4.2 m).

**Transverse Joints**

Details are for transverse dowel jointed Concrete Pavement. Use type "A" joints for type "D" joints when transverse doweled joints are not specified. Space transverse joints on ramps at 14 ft. (4.2 m) and perpendicular to centerline. Use type "D" transverse joints perpendicular to the roadway. Use type "D" transverse joints in climbing lanes. Do not place transverse joint at less than 6 ft. (1.8 m) spacing. Use type "D" joints full width of the pavement at construction joint locations for transverse dowel jointed concrete.
Use type "Y" joints when a construction joint is required. Use the following curb and gutter joints:

1. Type "Y" joint - no lateral restraint exists behind the curb.
2. Type "B" joint - full lateral constraint exists behind the curb.
   a. Full lateral constraint exists when sidewalk or curb is placed against a foundation or other immovable object. Soil does not comprise full lateral constraint. When curb and gutter is placed monolithically with concrete pavement, match curb and gutter depth with the pavement. Delete longitudinal curb joint if overall slab width does not exceed 14 ft. [4.2 m]. Place type "B" joint at or near the centerline of roadways 40 ft. [12.0 m] or more in width.

Transverse Joint Notes

Use type "D" joints when transverse dowel jointed concrete pavement is specified. Do not restrict longitudinal movement of transverse dowel jointed pavement slabs at intersections. Extend transverse joint sawing through the curb when curb and gutter is placed monolithically with pavement. Do not saw intermittent joints. When design speeds exceed 45 mph [70 km/h], skew transverse joints 1L:6W counter clockwise. Do not skew doweled transverse joints. Do not exceed 16 ft. [4.8 m] spacing. Do not terminate transverse joints at the centerline. Span transverse joints the full width of pavement.

Longitudinal Joint Notes

Do not exceed 14 ft. [4.2 m] spacing. Whenever possible, place to coincide with lane markings.

1. Intersecting joint angles at 90 degrees or greater.
2. Minimum joint length is 2 ft. [610].
3. Minimum slab length is 6 ft. [1.8 m].
4. T = Slab thickness.
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

General Notes

* See urban pavement details.

Construct a type "B" joint at or near the centerline of urban roadways 40 ft. [12.0 m] or more in width.

Site conditions may require joint modification as approved by the engineer.