

ROAD COMMISSION FOR OAKLAND COUNTY

SPECIAL PROVISION
FOR
CONCRETE PAVEMENT JOINT LAYOUT

RCOC/DESIGN:JO

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RCOC20SP602A
ORG:04-06-21

a. Description

Provide the design, layout, and field-fitting of concrete pavement contraction, isolation, and stress relief joints, according to the plans, Standard Plans R-39 series, R-41 series, R-42 series, the *Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction* and the published brochure, Concrete Information - Intersection Joint Layout, American Concrete Pavement Association (ACPA), 2007 edition and 2005 for roundabouts. The ACPA brochure will take precedence over any conflicting MDOT specifications.

b. Materials

Materials required to perform this work shall be in accordance with the *MDOT 2020 Standard Specifications for Construction*, unless otherwise directed by the Engineer.

The Engineer, upon request by the Contractor, will furnish blank intersection worksheets (11 × 17 inch) to scale (1 inch = 40 feet) in paper or electronic format, showing all proposed curb lines, longitudinal lane lines and all existing and proposed utility/drainage structure covers within the intersections, tapers and/or mainline paving. These worksheets will be available for the Contractor's use.

c. Construction

The Contractor shall provide a written plan for all proposed concrete pavement joint locations to the Engineer at least two weeks prior to placing concrete pavement and/or performing concrete pavement repairs.

The Engineer will review the Contractor's joint layout detail plan. Any comments or requested revisions to the plans will be returned to the Contractor in a timely manner, so as to produce an approved joint layout detail plan prior to the start of concrete placement. The plan shall include details related to staging of paving operations, locations of longitudinal and transverse construction joints, and any other pertinent elements necessary to prevent random uncontrolled cracking of the concrete pavement. Provide the Engineer with a copy of all technical publications which were used as basis for developing the joint layout detail plan.

Under no circumstance shall concrete pavement be placed without a joint layout plan approved by the Engineer.

Place contraction joints in new concrete pavement and/or in areas of concrete pavement repair or for areas shown in the plans, according to the following methodology:

1. The nominal joint spacing shall be as specified in the plans.

2. Modifications to the mainline transverse joint spacing within the boundaries of an intersection may be necessary so that they coincide with anticipated longitudinal joints for the intersecting roadway.
3. Adjust joint spacing and locations as necessary to place new joints at locations corresponding to existing joints and mid-slab cracks in existing concrete pavement to remain.
4. Follow the referenced ACPA brochure procedures to determine appropriate contraction joint locations at utility structure castings, catch basins, curb and gutter, irregular slabs, tapers and intersection curb returns.
5. Contact the Michigan Concrete Association for assistance with joint layout, if necessary.
6. For concrete intersections, transverse expansion joints (either Symbol E2 or Erg, where applicable) are required at each spring-point. However, transverse expansion joints at the spring-points for the mainline pavement can be eliminated if the mainline is being paved through the intersection in the same operation as the non-intersection mainline.

Contractor shall layout in the field the proposed joints for review and approval by the Engineer prior to sawing joints.

Saw all joints after the concrete has cured enough so that no excessive raveling or spalling occurs, but before random cracks develop. Unless otherwise specified, seal all joints with low modulus hot-poured rubber sealant according to subsection 602.03.S.4 of the *MDOT 2020 Standard Specifications for Construction*.

d. Measurement and Payment

The completed work for layout and construction of joints, as described in this special provision, is included in the respective contract items (pay items) for joints and standard/concrete pavement overlay, base course, and shoulder with no additional compensation permitted.