

SECTION 2520

CONCRETE CURB AND GUTTER, SIDEWALK, CURBWALK AND DRIVEWAY

1.00 GENERAL

1.01 Scope. This Work shall include furnishing all materials, labor, equipment and miscellaneous items necessary for the construction of concrete curb, gutter, sidewalk, handicap ramps, driveway or any combination thereof, all in accordance with these Specifications and in close conformity with the lines, grades, and typical sections as shown on the plans or established in the field.

1.02 Related Work Specified Elsewhere.

Section 2140 - Embedment and Base Course Aggregate
Section 3100 - Cast-in-Place Concrete

1.03 Reference Standards.

- A. American Concrete Institute(ACI)
- B. All work in this section must meet requirements of Section 3100 "Cast-in-Place Concrete" of this manual.

2.00 MATERIALS

The materials shall conform to the requirements specified in the following:

Section 2140 - Embedment and Base Course Aggregate
Section 3100 - Structural Concrete

2.01 Joint Filler. Pre-molded, preformed conforming to AASHTO M213 to the full depth of the section.

2.02 Structural Concrete. 28-day compressive strength of 3,750 psi. See Section 3100 for complete Specification.

2.03 Fibermesh. Fibermesh additive at the rate of 1½ pounds/cubic yard shall be used with all concrete. Use shall be in accordance with manufacturer's recommendations.

3.00 METHODS AND PROCEDURES

3.01 Excavation. Excavation shall be made to the required depth and width to permit the installation and bracing of the forms. The foundations shall be shaped and compacted to a firm even surface conforming to the section shown on the plan. Material determined to be unsuitable or non-compact by the Engineer will be removed and replaced.

3.02 Forms. Forms shall be wood or metal and shall extend for the full depth of the concrete. All forms shall be straight, free from warp and of sufficient strength to resist the pressure of the concrete without springing. Bracing and staking of forms shall be such that the forms remain in alignment both horizontally and vertically until removal. Satisfactory slip forms may be used when approved. Use of curbing machine will be permitted providing line and grade tolerances can be met.

Steel plates that can be shaped to the desired radius shall be used on all short radii. Open joints shall be formed with a steel separator plate conforming to the section being installed.

Oil and clean all forms prior to placement of concrete.

3.03 Mixing and Placing. The foundations shall be thoroughly moistened immediately prior to the placing of the concrete. Compaction of the concrete shall have thorough consolidation achieved by tamping, spading, vibrating or other acceptable methods. Forms shall be left in place until the concrete has set sufficiently to prevent deformation due to removal. Upon removal of the forms, the curb face shall be immediately finished to a uniform surface. In the case of matching existing concrete finishes, an approved method shall be used.

3.04 Finishing. The surface shall be floated with a wood or magnesium float and given a broom finish. No plastering of the surface will be permitted. All outside edges of slabs and joints shall be rounded to a ¼ inch radius. Broom marks to be perpendicular to traffic or pedestrian flow for installation of sidewalk or concrete flatwork. Broom marks to be parallel to traffic flow for installation of curb and gutter.

3.05 Joints. Expansion joints shall be made using ½" pre-molded expansion joint. Construction joints, using ½" pre-molded joint filler, shall be placed at the end of a day's run or during a day's work if there is more than a 30 minute delay in concrete delivery.

Construction joints shall be formed around all appurtenances such as manholes, utility poles, adjacent structures, etc., extending into or abutting the Work. Pre-molded expansion joint filler ¼" thick shall be installed in these joints. Expansion joint filler shall be installed between concrete sidewalks and any fixed structure.

Dummy joints (contraction joints) shall be made by a forming tool to a depth of ¼" of the section with a width of 1/8" to ¼". Open joints shall be made with a separator plate, 1/8" to ¼" in width. Dummy joints in lieu of open joints will be permitted with use of curbing machine.

Joint spacing shall be located as follows:

- A. Expansion joints: Every 100' on center; at end of corner radius; at driveway sections; as shown on Drawings.
- B. Construction joints: As required during construction; at appurtenances and structures through or abutting Work.
- C. Dummy or open joints: Every 10' on center for curb and gutter and curbside; equal to width of sidewalk for sidewalk; as shown on Drawings.

3.06 Curing. Immediately upon completion of the finishing, concrete shall be moistened and kept moist for a minimum of five(5) days. In lieu of wetting, use of a membrane curing compound, at the direction of the Town, will be permitted.

3.07 Backfilling. After the concrete has set sufficiently, the areas behind the curb shall be backfilled to the required elevations and shall be thoroughly compacted in accordance with Section 2120 Excavation and Backfill For Structures.

4.00 FIELD QUALITY CONTROL

4.01 Tolerances. All vertical surfaces shall not vary more than $\frac{1}{4}$ " in 10' in the horizontal direction. Surface deviation shall not exceed $\frac{1}{4}$ " when measured with a 16' straight edge.

4.02 Concrete Strength. Compression strength tests shall be taken in accordance with section 3100 4.01 of this manual. The results shall be submitted to the Town. All substandard strength concrete shall be removed and replaced at the contractor's expense. All testing shall be at the contractor's expense.

End of Section