

SECTION 676—CEMENT CONCRETE SIDEWALKS

676.1 DESCRIPTION—This work is construction of cement concrete sidewalks and curb ramps on an aggregate bed.

676.2 MATERIAL—

- Class A Cement Concrete—Section 704
- Aggregate —Section 350.2
- Reinforcement Steel—Section 709.3
- Premolded Expansion Joint Filler—Section 705.1
- Concrete Curing Compound—Section 711.2(a)
- Curing and Protecting Covers—Section 711.1
- Mortar—Section 1001.2(d)
- Joint Sealing Material—Section 705.4 (a), (b), or (c)
- Boiled Linseed Oil—Section 1019.3(a)

676.3 CONSTRUCTION—As shown on the Standard Drawings and as follows:

(a) Preparation of Foundation. Saw cut as necessary, excavate existing concrete sidewalk as specified in Section 203.1(c), and form the foundation at a depth 10 inches parallel with the finished surface of the sidewalk. If directed, remove unsuitable material as specified in Section 203.1(b). Thoroughly compact the foundation; finish to a firm, even surface; moisten if required.

(b) Placing Aggregate for Bed. Spread aggregate on the prepared foundation to form a thoroughly compacted bed 6 inches deep. The area to be compacted is defined as the area directly under the sidewalk and 6 inches beyond each side of the sidewalk if right of way allows.

(c) Forms. Use acceptable wood or metal forms that extend the full depth of the concrete.

(d) Concrete. As specified in Section 1001.3.

Place concrete 4 inches deep. Strike off, finish, and test, as specified in Sections 501.3(k) and (p), except the contractor may use manual placement operations and apply a light broom finish to the cement concrete surface.

Form outside edges and joints with a 1/4-inch radius-edging tool.

Form transverse dummy joints at 5-foot intervals, approximately 1/8 inch wide, and at least 1 inch deep.

(e) Expansion Joints. Place 3/4 inch premolded, expansion joint material for the full depth of the sidewalk, opposite expansion joints in adjacent curb, between the sidewalk and curb, and between the sidewalk and rigid structures. Install dummy joint and eliminate premolded expansion joint material between depressed curb, curb ramp, and flares if placed monolithically.

1. Seal Joints. Clean joints of all scale, dirt, curing compound, and other foreign material with a mechanized wire brush.

Do not place poured joint-sealing material if the air temperature is less than 40F, unless allowed. Use heating equipment of an indirect heating type constructed as a double boiler. Provide positive temperature control and

mechanical agitation. Obtain the safe heating temperature and recommended pouring temperature from the manufacturer's shipping container. Place the material within this temperature range, but as close as possible to the recommended pouring temperature. Maintain a safe heating temperature. Maintain a single material batch at the pouring temperature for no more than 4 hours. Heat the material only once.

Fill the joint reservoir, created by the cleaning operation, with sealing material to a depth 1/8 inch below the top of sidewalk. Do not allow sealing material to spread over concrete surfaces.

(f) Removal of Forms. Do not remove side forms until at least 12 hours after placing concrete. After removal of forms, fill minor honeycombed areas with mortar. As directed, remove and replace defective major honeycombed areas. Apply boiled linseed oil to the entire surface of the concrete as specified in Section 1019.3(a). If curing was performed with a membrane-forming curing compound, remove the curing compound before placing the boiled linseed oil.

(g) Backfilling. After the concrete has cured for at least 72 hours, backfill spaces adjacent to the sidewalk, using acceptable embankment material, as specified in Section 206.3(b)4.

Repair or replace existing pavement, curb, and sidewalk damaged due to construction. Satisfactorily dispose of unsuitable and surplus materials.

(h) Curb Ramps. As required and indicated, construct cement concrete sidewalk for curb ramp configurations as shown on the Standard Drawings except for the detectable warning surface located at the bottom of each ramp. Construct the detectable warning surface as specified in Section 695.

Create a slip-resistant, textured surface for the full width and length of the curb ramp and side-flares excluding the detectable warning surface. Use a coarse, stiff-toothed broom to create a textured pattern worked perpendicular to the slopes of the curb ramp.

Shape rounded edges instead of sharp angled edges while the concrete is still plastic for all slope changes of the curb ramp especially where the top of the curb ramp meets adjacent sidewalk surfaces.

Embed detectable warning surface in fresh, plastic concrete at the proper location for the curb ramp before the plastic concrete has set.

The contractor may place cement concrete for depressed curb monolithically with curb ramps, side flares, or both. Do not place cement concrete curb monolithically with other cement concrete sidewalk.

(i) Sidewalks and driveway aprons through driveways.

1.Preparation of Foundation. Saw cut as necessary and excavate existing concrete sidewalk and driveway apron as specified in Section 203.1(c)and form the foundation at a depth 12 inches parallel with the finished surface of the sidewalk and driveway apron. If directed, remove unsuitable material as specified in Section 203.1(b). Thoroughly compact the foundation; finish to a firm, even surface; moisten if required.

2. Placing Aggregate for bed. Spread aggregate on the prepared foundation to form a thoroughly compacted bed 6 inches deep. The area to be compacted is defined as the area directly under the sidewalk, driveway apron, and 6 inches beyond each side of the sidewalk and driveway apron if right of way allows.

3. Forms. Use acceptable wood or metal forms that extend the full depth of the concrete.

4. Reinforcement Steel. Provide welded wire fabric reinforcement made of W4 or W4.5 wire at 6 inch centers transversely and longitudinally conforming to ASTM A 1064 Steel Wire and Welded Wire Reinforcement. Secure fabric reinforcement at half-depth of cement concrete.

5. Concrete. As specified in Section 1001.3. Place concrete 6 inches deep. Strike off, finish, and test, as specified in Sections 501.3(k) and (p), except the contractor may use manual placement operations and apply a light broom finish to the cement concrete surface. Form outside edges and joints with a 1/4-inch radius-edging tool. Form transverse dummy joints at 5-foot intervals, approximately 1/8 inch wide, and at least 1 inch deep.

676.4 MEASUREMENT AND PAYMENT—

(a) Cement Concrete Sidewalks. Square Yard. Boiled Linseed Oil is incidental.

(b) **Class 1A Excavation.** Cubic Yard

(c) **Class 1B Excavation.** Cubic Yard

(d) **Sidewalks and driveway aprons through driveways.** Square Yard.

Depressed curb and curb ramp are paid separately according to their unit of measurement.

If depressed curb is placed monolithically with curb ramps, side-flairs, or both, the depressed curb will be measured and paid separately from the curb ramps and side flairs.