

CONCRETE CURBS, DRIVE APPROACHES, SIDEWALKS, AND CROSS GUTTERS

DESCRIPTION

- 1401.1 This work shall consist of constructing concrete curbs, sidewalks, gutter depressions, island paving, cross gutters, alley and drive approaches, and handicap ramps, of the form and dimensions shown on the plans and as specified in these specifications and the Special Provisions. They shall be constructed at the locations shown on the plans and to the elevations established by the Engineer.

MATERIALS

- 1402.1 Concrete shall be Class B (5 sacks per cubic yard) Portland Cement Concrete conforming to the requirements of Section 90 *Portland Cement Concrete*,” of the Standard Specifications.

Portland Cement shall be Type II and shall conform to Section 90-2.01, *Portland Cement*,” of the Standard Specifications, and A.S.T.M. Designation C150.

The consistency shall be such that the slump is three inches (3”).

CONSTRUCTION PROCEDURE

- 1403.1 Subgrade Preparation: The subgrade shall be constructed true to grade and cross-section as shown on the plans or directed by the Engineer. It shall be moistened and thoroughly compacted before placing the concrete. All soft and spongy material shall be removed to a depth of not less than six inches (6”) below subgrade elevation with the exception of sidewalks which shall be removed to a depth of not less than three inches (3”) below subgrade elevation. Fills necessary to bring the subgrade to required elevation shall consist of earth, sand or gravel of a quality that when moistened and compacted will form a stable foundation. The completed subgrade shall be tested for grade and cross-section by means of a template supported on the side forms. The subgrade and forms shall be wet immediately in advance of placing concrete.
- 1403.2 Existing Curb and Gutter, and Sidewalks: Where the work consists of the reconstruction of a portion of an existing curb and gutter and sidewalk, the existing section shall be cut to a minimum depth of one and one-half inches (1-1/2”) with an abrasive type saw at the first scoring line at or beyond the proposed cut line and the entire section to be reconstructed shall be removed. The new curb and gutter and sidewalk shall match the old work at this line.
- 1403.3 Forms: Forms shall be carefully set to alignment, grade and dimension and shall be staked and braced to insure rigidity. The width of forms shall be equal to the full dimension of the surface they are forming. All forms shall be thoroughly cleaned and coated with form oil to prevent concrete from adhering to them. Timber forms shall be

surfaced on the side placed next to the concrete and shall not be less than 1-5/8 inches thick after being surfaced. Benders or thin plank forms rigidly placed may be used for curb returns and sidewalk curves. Back forms for curb returns may be made of 1/2-inch thick benders cleaved together for the full depth of the curb.

The form on the front of curbs shall not be removed in less than one hour nor more than 6 hours after the concrete has been placed. In no event shall forms be removed while the concrete is sufficiently in a plastic state to slump.

- 1403.4 Curb Construction: Curbs shall be of the dimensions shown on the plans or designated by the Engineer. Entrances shall be provided for drive approaches where necessary.

Concrete curbs to be constructed over an existing pavement shall be anchored to the pavement by means of steel dowels firmly grouted with 1 : 1 Portland cement and sand grout in holes drilled in the pavement. Dowels shall be spaced and shall be of the same size shown on the plans.

Expansion joints quarter inch (1/4") wide shall be constructed in curb and gutters at 60-foot intervals, at each side of structures, and at the ends of curb returns, except that expansion joints shall not be constructed within twenty feet (20') of an island nose. Joints shall be made at right angles to the curb face.

- 1403.5 Sidewalk Construction: Sidewalks shall be constructed to the dimensions shown on the plans or as designated by the Engineer. Fresh concrete shall be struck off and compacted until a layer of mortar has been brought to the surface. The surface shall be finished to grade and cross-section with a float, troweled smooth and finished with a fine broom.

Expansion joints quarter inch (1/4") wide shall be constructed at all returns and opposite expansion joints in adjacent curb. Where curb is not adjacent, expansion joints shall be constructed at 60-foot intervals. Joints shall be made at right angles to the sidewalk line.

- 1403.6 Expansion Joint Material: Expansion joints shall be filled with premolded joint filler conforming to the provisions in Section 51-1.12C, "**Premolded Expansions Joint Fillers**," of the Standard Specifications. Expansion joint filler shall be shaped to the cross-section of the curb, gutter or sidewalk. The top edge of expansion joint filler shall be placed one quarter inch (1/4") below all concrete surfaces.

- 1403.7 Placing and Finishing: Concrete shall be placed and compacted in the forms without segregation. Holes or pockets appearing on concrete surfaces, after removing forms, shall be filled with mortar composed of one part Portland cement to two parts sand. Surfaces of drive approaches, island paving and alley and drive approaches, sidewalks, and cross gutters shall be finished to grade and cross-section with a float, troweled smooth and finished with a broom.

Faces of curbs shall be smoothed and finished with a steel trowel and given a final fine brush finish with brush strokes parallel to the line of the curb. The face of the curb

shall be true and straight and the top surface of curbs and gutters shall be of uniform width free from humps, sags or other irregularities. When a straight edge ten foot (10') long is laid on top or face of the curb or on surface of the gutters, the surface shall not vary more than 0.01 foot from the grade of the straight edge, except at grade changes or curves. Sidewalk surfaces shall not vary more than 0.02 foot from a 10-foot straight edge.

1403.8 Protection and Curing:

- a) Concrete shall be cured with a pigmented curing compound as provided in Section 90-7.01B "***Curing Compound Method***," of the Standard Specifications, for a period of 72 hours.
- b) Exposed surfaces shall be sprayed uniformly with the pigmented curing compound at the rate of approximately one gallon per 200 square feet of area.
- c) The Contractor shall maintain suitable barriers to protect the concrete from traffic, and any part of the work damaged by traffic, or other causes, prior to its acceptance shall be repaired or replaced by the Contractor, at Contractor's expense, in a manner satisfactory to the Engineer.

1403.9 Final Clean-Up: The area adjacent to the new concrete shall be cleared of any debris, filled as necessary with soil suitable for planting and raked smooth and neat. It shall be the Contractor's responsibility to dispose of all excess material.

MEASUREMENT AND PAYMENT

1404.1 Measurement:

- a) Concrete curb and gutter will be measured by the linear foot; such measurement will be made along the face of curb.
- b) Concrete sidewalk, island paving and drive approaches will be measured by the square foot.
- c) Concrete drive approach will be measured by the square foot.
- d) Cross-gutters and alley approaches shall be measured by the square foot.

1404.2 Payment: Payment will be made at the contract unit price for each item as specified herein, the Special Provisions and in accordance with Section 90-11, "***Measurement and Payment***," of the Standard Specifications.