

## SECTION 60

### CONCRETE CURB AND GUTTER

#### 60.1 DESCRIPTION

**A. General:** This work consists of constructing concrete curb and gutter on a prepared subgrade.

**B. Related Work:**

Section 12	Roadway and Drainage Excavation and Embankment
Section 55	Cast in Place Concrete Structures
Section 56	Class M6 Concrete for Curb & Gutter and Flatwork
Section 57	Reinforcing Steel
Section 61	Concrete Sidewalk, Curb Ramps, and Detectable Warning Surfaces
Section 62	Drop Inlets
Section 100	Portland Cement
Section 101	Air-Entraining Admixtures
Section 102	Chemical Admixtures for Concrete
Section 104	Water for Use in Portland Cement Concrete
Section 105	Fine Aggregate for Use in Portland Cement Concrete
Section 107	Coarse Aggregate for Use in Portland Cement Concrete
Section 108	Concrete Curing Materials
Section 113	Preformed Expansion Joint Filler for Concrete
Section 114	Concrete Joint Sealer
Section 117	Aggregates for Granular Bases and Surfacing
Section 123	Concrete Reinforcement
Section 203	Submittals

#### 60.2 MATERIALS

**A. Concrete:** Shall conform to the requirements of Class M6, Section 56.

**B. Preformed Expansion Joint Filler:** Shall conform to the requirements of Section 113.

**C. Curing Compound:** Shall conform to the requirements of Section 108, Linseed Oil Base Emulsion Compound, white pigmented.

**D. Reinforcing Steel:** Shall conform to the requirements of Section 123.

#### 60.3 CONSTRUCTION REQUIREMENTS

**A. General:** The foundation shall be excavated, shaped, and compacted to a firm, uniform bearing surface. Unsuitable foundation material shall be removed and

replaced as directed. The foundation shall be thoroughly moistened immediately prior to placing concrete. Moisture shall be applied without forming pools of water.

Granular material, shall be furnished, placed and compacted to the required Contract depth and density. Minimum depth of granular material placed under fillets, pans, curb and gutter, type "P" gutter, and driveway approach pavement shall be four (4) inches.

Forms shall be full depth, rigid, unyielding and mortar tight. They shall be securely staked, braced and tied to the required line and grade.

In lieu of construction using fixed side forms, concrete may be placed and formed to the required shape by using an approved type of extrusion machine. When machine placement is used, the Engineer may permit modification of consistency requirements.

The exposed surfaces of the fillets and pan and curb and gutter shall be finished smooth and even.

Edges of gutter and the top face edges of the curb shall be finished with an approved finishing tool.

The top surface of the concrete shall be brushed or broomed transversely to the direction of gutter flow to slightly roughen the surface and remove the finishing tool marks.

All honeycombed surfaces shall be corrected to the satisfaction of the Engineer by using a grout composed of one part cement and two parts sand. Severely honeycombed areas shall be removed and replaced at the Contractor's expense.

Transverse contraction joints shall be constructed at 10 foot intervals in the curb and gutter except where adjacent to PCC pavement, or as otherwise specified by plans or the Engineer. When PCC pavement is adjacent to the curb and gutter, the transverse contraction joints shall match the spacing of the PCC pavement. Joint depth shall be minimum 25 percent of the total depth of concrete. Joint sealant shall be per standard detail.

The exposed surfaces of the curb and gutter shall be protected and cured in accordance with Section 55, except the minimum curing time shall be 72 hours.

After the curing period, the area behind the curb and gutter and fillets shall be filled to the required elevations with suitable material and the material shall be satisfactorily compacted.

- B. Testing:** The Contractor shall be responsible for providing a minimum of a slump, air content, seven (7) day and twenty-eight (28) day compressive strength quality test set for each days pour. Additional or fewer test sets and testing may be required by

the Engineer or as called for in the Detailed Specifications. Results from concrete testing shall be provided to the Engineer within 3 days of the test being performed.

#### **60.4 METHOD OF MEASUREMENT**

Concrete curb, gutter and combined curb and gutter will be measured to the nearest one half (0.5) linear foot. Measurement for concrete curb will be on the inside bottom face of the curb. Measurement for separate gutters and combined curb and gutter will be on the inside edge next to the pavement.

Measurement of curb and combined curb and gutter will include tapers for approaches and or entrances. Measurement for approach gutter or "P" gutter will not include tapers.

Measurement for curb and gutter shall not include the "gutter throat" of a Type "E" Inlet or the fillet curb. Refer to standard detail.

Concrete fillets, pans, approach pavement and similar items shall be measured to the nearest whole square foot or square yard consistent with the appropriate bid item in the Bidder's Proposal.

Measurement for granular materials placed under the concrete shall be in accordance with Section 117, Aggregates for Granular Bases and Surfacing.

When called for in detailed plans and specifications concrete test sets shall be measured per each. If concrete test sets are not called out as a bid item in the detailed plans and specifications they shall be considered incidental to various associated bid items.

#### **60.5 BASIS OF PAYMENT**

Concrete curb, gutter and combined curb and gutter will be paid for at the contract unit prices per linear foot for the types constructed.

Concrete fillets, pans, approach pavement and similar items will be paid for at the contract unit prices per square foot or per square yard for the types constructed.

Payment for granular materials placed under the concrete shall be in accordance with Section 117, Aggregates for Granular Bases and Surfacing.

Payment for these items will be full compensation for furnishing materials, the expansion joints, steel reinforcement, forms, bracing, excavation, backfill, labor, equipment, and incidentals necessary.

When called for in detailed plans and specifications concrete test sets shall be paid per each. If concrete test sets are not called out as a bid item in the detailed plans and specifications they shall be considered incidental to various associated bid items.

**END OF SECTION**