

SECTION 32 13 01

CONCRETE SIDEWALKS, DRIVEWAYS AND GUTTERS

PART 1 GENERAL

1.1 DESCRIPTION

- A. Scope:
 - 1. Contractor shall furnish all labor and materials required to restore and construct concrete sidewalks, driveways and gutters as specified herein.
- B. Related Sections:
 - 1. Section 03 05 00 – Concrete

PART 2 PRODUCTS

2.1 MATERIALS

- A. Sidewalk shall be 3,000 psi concrete, and shall meet the dimensions and thickness indicated in the Drawings.
- B. Replacement of concrete driveways shall be in accordance with NCDOT Standard Specifications as stated by the Engineer.
- C. Curb and curb and gutter shall consist of 3,000 psi/28-day concrete.
- D. Expansion joints shall be installed between the back-of-curb and concrete driveways, and between concrete driveways and sidewalks, where new concrete abuts old concrete.

PART 3 EXECUTION

3.1 CURB AND GUTTER

- A. Curb or curb and gutter removal, where required in the construction of this work, shall be held to a minimum. Curb and gutter material to be removed shall be carefully separated from the trench excavation material and shall be disposed of as directed. The Contractor shall replace all curb or curb and gutter which has been removed. Curb and gutter shall be removed up to the nearest regular joint on each side of the trench.
- B. Curb or curb and gutter shall be replaced as soon as possible after the backfill is placed and compacted and shall duplicate in all respects the original construction. Workmanship shall be in accordance with the best standard practices for this type of work. Curb and curb and gutter shall be the same dimensions, spacing, and number as the section of curb or curb and gutter it replaces.

3.2 SIDEWALKS

- A. Sidewalk removal, where required in the construction of this work, shall be held to a minimum. Sidewalk material removed shall be carefully separated from the trench excavation material and shall be disposed of as directed. Sidewalk shall be cut at the nearest regular joint on each side of the trench.
- B. The Contractor shall replace all sidewalks which are removed. Sidewalks shall be replaced as soon as practicable after the backfill is placed and compacted and shall duplicate, in all respects, the original sidewalk.
- C. The Contractor shall replace all sidewalks which are damaged by the construction operation or by the heavy equipment traveling over them and shall replace them at their own expense.
- D. The top surface of all sidewalks shall be given a light broom finish.

3.3 DRIVEWAYS

- A. Concrete driveways that are crossed or traversed by the trenches shall be restored to the conditions existing prior to the excavation.
- B. Removal shall be held to a minimum, but when necessary removal shall be made in neat sawcut lines or to the nearest joint if approved by the Engineer.
- C. Reinforcement of concrete driveways is not required.

3.4 TESTS

- A. The quality of the concrete as to conformance to the specifications is the entire responsibility of the Contractor until it is accepted in place. When required by NCDOT, City, or the Engineer, the Contractor shall arrange for field testing. Field testing shall include, but may not be limited to, the following:
 - 1. Compressive Strength Test: Perform the 1, 3, 7, 14, and 28-day strengths of the average of two 6" x 6" x 20" beams and the average of two 6" x 12" cylinders for each age made and tested in accordance with AASHTO R 39, T22, and T97. Design the mix to produce an average strength sufficient to indicate that a minimum strength of 650 psi in flexure and 3,000 psi in compression will be achieved in the field within 28 days.
 - 2. Air Entrainment: Entrain air in the concrete by the use of an approved air entraining agent dispensed with the mixing water, unless prohibited. Provide an air content of 5.0% \pm 1.5% in the freshly mixed concrete. The air content will be determined in accordance with AASHTO T 121, T152, or T196.
 - 3. Slump Test: Slump test shall be a maximum of 1.5-inches where placed by a fully mechanized paving train and no more than 3-inches where placed by hand methods. Slump test shall be made on each load of concrete unless directed differently by CFPUA or Engineer.
 - 4. Reports: Proper reports of all tests performed by the laboratory shall be prepared by the laboratory and submitted promptly to CFPUA and Engineer. Such reports shall be properly labeled so as to identify the portions of the Project into which the

materials are being placed, and the results of the test indicating whether or not the test met the requirements of these specifications.

3.5 CAUSE FOR REJECTION

- A. Should the concrete fail to conform to all the requirements of this Section, the Engineer or CFPUA may require the Contractor to remove the defective concrete and reconstruct the work as directed.

END OF SECTION