

CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS
SECTION 02775 PORTLAND CEMENT CONCRETE SIDEWALKS AND DRIVEWAYS

PART 1 – SCOPE

1.01 This work shall consist of constructing sidewalks, wheelchair ramps, and driveways of portland cement concrete on a prepared subgrade, in accordance with these Specifications and in conformity with the lines, grades, and typical cross-sections shown on the Plans or directed by the Owner. Wheelchair ramps and commercial and residential driveways shall be constructed in accordance with the Design Standards.

PART 2 – MATERIALS AND EQUIPMENT

2.01 MATERIALS

A. Concrete Materials: Concrete materials shall meet the requirements of Specification Section 03050, Portland Cement Concrete for Class A concrete.

B. Curing Materials: Curing materials shall conform to the applicable provisions of Specification Section 02750 Paragraph 2.01 C.

C. Preformed Joint Fillers: Preformed joint fillers shall be of the bituminous type and shall conform to the requirements of AASHTO M 213 and shall not be more than 1 inch or less than 1/2 inch in thickness. Their width shall be at least equal to the full thickness of the slab, and their length shall be sufficient to eliminate any splicing.

2.02 EQUIPMENT

A. Forms shall be of wood, metal, or other suitable material and shall be true to line, free from warp, and of sufficient strength to resist springing out of shape during placing, consolidating, and finishing the concrete. Curved forms of proper radius or flexible forms acceptable to the Owner shall be used on all radial sections.

B. Satisfactory floats, templates, straightedges, edgers, spades, tamps, and all other equipment necessary for the satisfactory performance of this construction shall be on the Project and approved before work will be permitted to begin.

PART 3 – CONSTRUCTION REQUIREMENTS

3.01 SUBGRADE PREPARATION

Subgrade preparation for sidewalks and driveways shall be made to the required configuration to conform to the slab thicknesses shown on the Plans. The subgrade shall be shaped and compacted in conformance with Specification Section 02335 Paragraph 3.03 and to a width that will permit satisfactory installation and bracing of forms. Density requirements may be waived if approved by the Owner.

3.02 FORMS

Forms shall be well staked or otherwise held to the established lines and grades, and their grade shall be such that finished sidewalks shall have one-quarter of an inch per foot fall toward the curb for drainage unless shown otherwise on the Plans or directed by the Owner. Driveway forms shall be of such width and slope that the finished driveway will conform to the slope of the adjacent sidewalk, grass plot, parking lot, or drive.

3.03 JOINTS

A. Unless otherwise indicated on the Plans or directed by the Owner, preformed expansion joint filler, 1/2 inch in thickness, shall be placed in sidewalks at the locations of and in line with expansion joints in the adjoining pavement, curb, or curb and gutter, but at spacings not to exceed 25 feet. When expansion joints have not been installed in the adjoining pavement or

CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS
SECTION 02775 PORTLAND CEMENT CONCRETE SIDEWALKS AND DRIVEWAYS

gutter, a 1/2 inch preformed expansion joint filler shall be placed transversely at intervals of not over 25 feet. Preformed expansion joint filler shall be placed at all abutting concrete such as driveways, buildings, or walls. Transverse expansion joints with 1/2 inch preformed expansion joint filler shall be placed to match existing joints in abutting facilities but not to exceed 25 feet between joints. Preformed expansion joint filler shall be placed at each intersection of sidewalk and street curb, longitudinally between sidewalks and street curb, and at such other points as may be shown on the Plans or directed by the Owner. Preformed expansion joint filler, 1 inch in thickness, shall be placed around all appurtenances such as manholes, valve, utility poles, fire hydrants, and signs extending into or through the sidewalk or driveway area, forming an isolated square or rectangular slab around the appurtenance with a minimum of 4 inches clearance of the appurtenance.

B. The surface of sidewalks shall be divided into blocks by use of a grooving tool. The grooves shall be spaced approximately 5 feet apart and the blocks shall be rectangular unless otherwise ordered by the Owner. The grooves shall be cut to a depth of 1/2 inch. The edges of the grooves shall be edged with an edging tool having a radius of 1/4 inch.

C. Expansion joint filler material shall not be placed at sidewalk drains. Driveway joints shall be placed as shown on the Design Standards.

3.04 PLACING AND FINISHING CONCRETE

A. Concrete shall be placed only on a moist subgrade and shall not be placed unless the ambient temperature is 35° F and rising. In no case shall concrete be placed on a frozen or frosty subgrade. After the concrete is placed in the forms, it shall be spaded along the forms (including cross forms for joints), tamped, and struck off in an approved manner to required section and grade and shall be finished with floats and straightedges until the surface requirements have been obtained. When the surface of the concrete is free from water and just before the concrete obtains its initial set, it shall be finished with a wooden float and swept lightly at right angles to the street centerline to produce a sandy texture. The longitudinal surface variations shall not be more than 1/4 inch under a 12 foot straightedge nor more than 1/8 inch on a 5 foot transverse section, or as approved by the Owner.

B. The edges of sidewalks and driveways shall be carefully finished and rounded with an edging tool have a 1/2 inch radius. An edge having a 1/4 inch radius shall be placed adjacent to and on both sides of all intermediate transverse expansion joints in sidewalks, and all marks caused by the edging tool shall be removed with a wetted brush or wooden float. The top of all expansion joint material shall be cleaned of all concrete, and the expansion joint material shall be trimmed if necessary as to be left slightly below the surface of the concrete.

3.05 TESTING CONCRETE

Concrete for sidewalks and driveways shall be tested by test specimens made and cured in accordance with AASHTO Designation T 23. The frequency and specific test method will be determined by the Owner. The Contractor shall furnish the concrete necessary for casting test specimens in the field. The City will supply all molds and labor necessary to cast and test the specimens.

3.06 CURING AND PROTECTION

A. Curing and cold weather protection shall be performed as provided for under Specification Section 02750 Paragraph 3.11 "Curing".

B. Forms may be removed and the slab backfilled at any time that removal will not damage the concrete. Pedestrians will not be allowed upon sidewalks or driveways until 72 hours after finishing the concrete, and no vehicles or loads shall be permitted on any sidewalk or driveway until the Owner has determined that the concrete has attained sufficient strength for such loads. The Contractor shall construct and place such barricades and protection devices as are

CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS
SECTION 02775 PORTLAND CEMENT CONCRETE SIDEWALKS AND DRIVEWAYS

necessary to protect the concrete. Any sidewalk or driveway damaged prior to final acceptance of the work shall be removed within joint or groove limits and replaced with concrete of the type and finish of the original construction.

3.07 WHEELCHAIR RAMPS

Wheelchair ramps shall be installed at each intersection at locations as reflected in the Design Standards or as directed by the Owner. For purposes of payment, wheelchair ramps shall be considered as sidewalk area in new construction areas. Where wheelchair ramps are to be installed at locations where curb and gutter is in place, wheelchair ramps will be paid as a unit in place, including removal of curb.

3.08 THICKNESS

Thickness of sidewalks and driveways shall be as shown on the Plans and Design Standards. Where a washed surface is specified for the concrete surface, and additional 1/2 inch thickness is required over that for the above specified finish.

PART 4 – MEASUREMENT

4.01 CONCRETE SIDEWALK

Concrete sidewalks will be measured for payment by the square foot at specified thickness, complete in place.

4.02 CONCRETE DRIVEWAY

Concrete driveways will be measured for payment by the square foot at specified thickness, complete in place.

4.03 WHEELCHAIR RAMP, EXISTING CONDITIONS

Wheel ramps placed in areas where curb and gutters exist will be measured by the unit, per each, complete in place.

PART 5 – PAYMENT

5.01 CONCRETE SIDEWALK

The accepted quantities of concrete sidewalk, including area of wheelchair ramps in new construction areas, will be paid for at the contract unit price per square foot of each specified thickness, which price will be full compensation for excavating and preparing the subgrade; forming; furnishing, placing, finishing, and curing the concrete; providing all joints; and protecting the concrete until final acceptance, complete in place.

5.02 CONCRETE DRIVEWAY

The accepted quantities of concrete driveway will be paid for at the contract unit price per square foot of each specified thickness, which price will be full compensation for excavating and preparing the subgrade; forming; furnishing, placing, finishing, and curing the concrete; providing all joints; and protection of concrete until final acceptance, complete in place.

5.03 WHEELCHAIR RAMP, EXISTING CONDITIONS

The accepted quantities of wheelchair ramps placed in areas where curb and gutter exist will be paid for at the contract unit price per each, which price will be full compensation for removing existing curb and, if required, gutter and sidewalk; excavating and preparing the subgrade; furnishing, placing, and finishing the concrete; and protecting the concrete until final acceptance, complete in place.

5.04 PAYMENT WILL BE MADE UNDER:

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02775-01	Concrete Sidewalk	Square Foot
02775-01.____	_____ " Thickness	Square Foot

CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS
SECTION 02775 PORTLAND CEMENT CONCRETE SIDEWALKS AND DRIVEWAYS

02775-02	Concrete Driveway	Square Foot
02775-02._____	_____ “ Thickness	Square Foot
02775-03	Wheelchair Ramp (Existing Conditions)	Each

END OF SECTION 02775