

Section 803. CONCRETE SIDEWALK, SIDEWALK RAMPS, AND STEPS

803.01 Description. This work consists of constructing concrete sidewalks, sidewalk ramps, and steps.

803.02 Materials. Materials shall meet the following requirements.

Sound Earth	205
Concrete, Grade P2, P1	601
Concrete, Grade S3, S2	701
Granular Material Class II	902
Curing Compound	903
Steel Reinforcement	905
Joint Fillers	914

- A. **Pipe Railing.** The pipe used for the railing and sockets shall meet the requirements for standard weight, schedule 40 pipe of ASTM A 53. After fabrication, the railing and sockets shall be blast cleaned to remove all mill scale and welding slag. The railing and socket shall be hot-dip galvanized according to ASTM A 123.
- B. **Steps.** Grade P1 or S2 concrete shall be used for steps. Precast steps meeting the plans and specifications for cast-in-place steps may be used as an alternate.

803.03 Construction.

- A. **Preparation of Base.** Excavation shall be made to the required depth and to a width that will permit forming. All unsuitable material shall be removed below the required depth and replaced with sound earth. The prepared base shall be shaped and compacted to conform to the section shown on the plans.
- B. **Forms.** Fixed-forms or slip-forms may be used. Full depth forms shall be straight and free from warp, and of sufficient strength to resist springing during concrete placement.
- Fixed forms shall be firmly staked to the required line and grade.
- C. **Placing and Finishing Concrete.** The base shall be moistened before placing the concrete. The concrete shall be placed to the required depth and consolidated, including along the faces of the forms, before finishing operations are started. Placing and finishing concrete shall be continuous.

When replacing gutters in conjunction with sidewalk ramps, the gutter shall be constructed to the same dimensions and profile and contain the same reinforcement as the existing gutter.

The railing sockets for concrete steps shall be placed in the plastic concrete or drilled in the hardened concrete.

The surface shall be floated just enough to produce a smooth surface free from irregularities. All edges and joints shall be rounded to the specified radius with an approved finishing tool.

The surface of sidewalks, driveways and steps shall be broomed to slightly roughen the surface.

The surface of sidewalk ramps shall be textured with a coarse broom transverse to the ramp slope.

- D. **Sidewalk Joints.** Transverse and longitudinal expansion and plane-of-weakness joints shall be constructed at intervals and locations shown on the plans. When the sidewalk is constructed adjacent to a previously placed slab, transverse joints in the succeeding slab shall be aligned with the like joints in the adjacent slab. Joints shall be constructed true to line with their faces perpendicular to the surface of the sidewalk and shall not vary more than ¼ inch from their designated position. Transverse joints shall be constructed at right angles to the centerline of the sidewalk and longitudinal joints parallel to the centerline, unless otherwise required.

The concrete at the faces of all joints shall be thoroughly spaded or vibrated and compacted to fill all voids, and the surface shall be finished smooth and to grade.

Expansion joint filler shall extend to the full depth of the joint with the top slightly below the finished surface of the sidewalk.

The plane-of-weakness joints shall be constructed by cutting joints in the concrete, after floating. The joints shall be cut to a depth of at least ¼ the thickness of the sidewalk and to a width of ⅛ inch to ¼ inch. The cut joint shall be finished smooth and true to line.

Sealing of joints will not be required.

- E. **Curing and Protection.** Concrete shall be cured and protected according to subsections 602.03.M and 602.03.T. Pedestrian traffic may be permitted after 48 hours.
- F. **Railing for Steps.** The railing shall be placed in the sockets and the space between the pipe and the socket filled with a non-shrink mortar or grout selected from the Qualified Products List.
- G. **Backfilling.** After the concrete has gained sufficient strength, the fixed forms, if used, shall be removed, and the remaining voids backfilled with sound earth. The backfill shall be compacted and leveled to a grade one inch below the surface of the concrete and left in a neat condition.

803.04 Measurement and Payment.

Contract Item (Pay Item)	Pay Unit
Sidewalk, Conc, __ inch	Square Foot
Sidewalk Ramp	Square Foot
Steps, Conc	Cubic Yard
Railing for Steps	Foot

- A. Area of **Sidewalk, Conc** of the thickness specified will be measured in place.
- B. **Sidewalk Ramp** includes the monolithic rolled curb. Replacement of all sidewalk, curb, or curb and gutter outside of the area measured for **Sidewalk Ramp** will be paid for separately for the respective item involved. The curb and gutter opening will be paid for as curb, or curb and gutter.
- C. **Steps, Concrete** will be based on plan quantity. The contract price for the item of **Steps, Concrete** includes preparation of foundation; constructing forms; furnishing and placing

steel reinforcement; furnishing, placing, finishing, and curing concrete; furnishing and placing backfill; and cleanup.

Railing for Steps will be measured in place by length of top rail, for each railing required. Payment for **Railing for Steps** includes furnishing, fabricating, galvanizing, installing, and grouting the railing.

- D. Unless otherwise provided for, backfilling will be included in the payment for the item.