

# CONCRETE SIDEWALK SPECIFICATIONS

## **GENERAL**

Concrete sidewalks shall be constructed in accordance with these specifications and the requirements of the State of Wisconsin, Department of Transportation, Standard Specifications for Road and Bridge Construction, Current Edition (hereafter "Standard Specifications"). Concrete sidewalks shall conform to the lines and grades established by the City Engineer. All removal and replacements will be made as ordered by the City Engineer.

The Contractor shall construct one-course sidewalks of a minimum thickness of four (4) inches in accordance with the plans and specifications. Sidewalk through a driveway section shall be a minimum thickness of six (6) inches. Concrete driveway approaches shall be a minimum thickness of six (6) inches.

## **SUBGRADE**

A new sub-base may be required by the Engineer if, in his opinion, the soil in the subgrade is soft or spongy in places and will swell or shrink with changes in its moisture content. If a new sub-base is required, it shall consist of granular material and shall be spread to a depth of at least three (3) inches and thoroughly compacted. While compacting the sub-base the material shall be thoroughly wet and shall be wet when the concrete is deposited but shall not show any pools of water. If the Contractor undercuts the subgrade two (2) inches or more, he shall, at his expense, bring the subgrade to grade by using gravel fill and it shall be thoroughly compacted. Where sidewalk is placed over excavations such as tree roots or sewer laterals, four (4) one-half (1/2) inch reinforcing bars shall be placed to prevent settling or cracking of the sidewalk. In a fill section, the subgrade for the sidewalk shall be extended one (1) foot on each side of the walk before sloping down at a 3:1 slope.

## **FORMS**

Forms shall be of wood or metal and shall be straight and of sufficient strength to resist spring, tipping or other displacement during the process of depositing and consolidating the concrete. If of wood, forms shall be surfaced plank of at least two (2) inch nominal thickness stock except for curved sections; and if of metal they shall be of approved section and shall have a flat surface on top. The forms shall have a depth of at least equal to the depth of the sidewalk. They shall be securely staked and braced to the required line and grade of the City Engineer and shall be sufficiently tight to prevent leakage of mortar. All forms shall be cleaned thoroughly and oiled before the concrete is placed against them. The transverse slope toward the curb shall be one-quarter (1/4) inch per foot unless otherwise directed by the Engineer.

## **CONCRETE**

Concrete used for sidewalks shall be according to pertinent sections of Section 501 of the Standard Specifications for Air-Entrained, Grade A-2 Concrete.

## **PLACING AND FINISHING CONCRETE**

The foundation, forms and reinforcement, when required, shall be checked and approved by the Engineer before the concrete is placed. The concrete shall be placed on a moist foundation, deposited to the required depth and consolidated and spaded sufficiently to bring the mortar to the

surface, after which it shall be struck off and floated with a wooden float. Before the mortar has set, the surface shall be steel troweled and lightly brushed.

## **JOINTS**

Sidewalk shall be divided in sections by means of contraction joints.

Insofar as feasible, sidewalk shall be divided into sections not less than three (3) feet nor more than twelve (12) feet in any dimension.

A contraction joint in sidewalk shall consist of a slot or groove, at least one (1) inch in depth and one-fourth (1/4) inch in width.

One-half (1/2) inch transverse expansion joint filler shall be placed through the sidewalk at uniform intervals of not more than 96 feet.

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

One-half (1/2) inch expansion joint filler shall be placed between the sidewalk and back of abutting parallel curb and gutter and one (1) inch between sidewalk and buildings or other rigid structures.

One-half (1/2) inch expansion joint filler shall be placed between sidewalk approaches and the back of curb and gutter or edge of pavement.

The concrete at the faces of all joints shall be thoroughly spaded and compacted to fill the voids and the surface shall be finished smooth and true to grade. The edges of the sidewalk along forms and joints shall be rounded with an edger of one-fourth (1/4) inch radius.

## **CURING OF CONCRETE**

All concrete work shall be cured by the impervious coating method, the wet fabric method or the paper method.

For the initial curing, while the concrete is fresh, water shall be applied in a fine spray to avoid injury, and the burlap shall be kept wet.

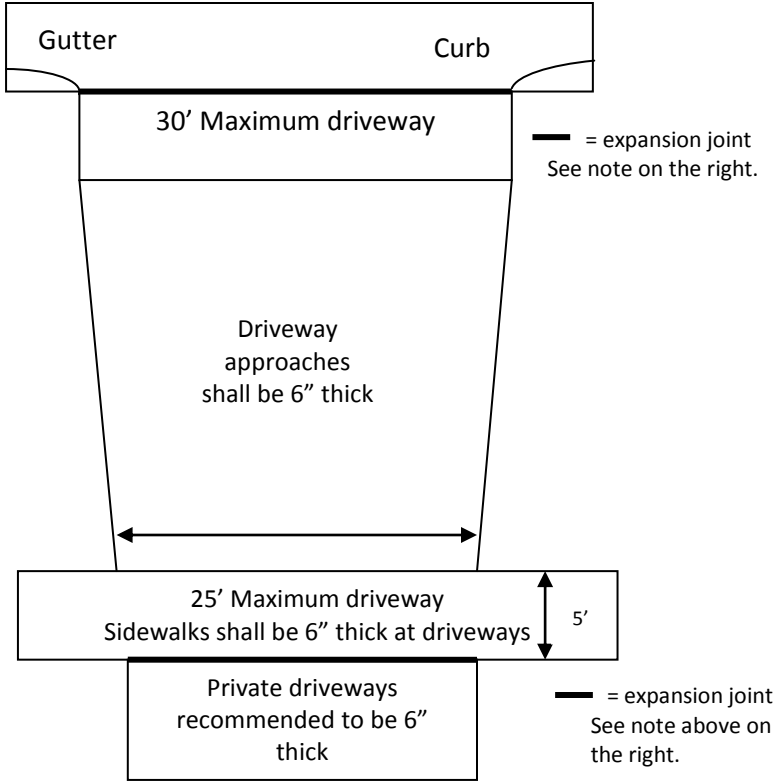
On the day following the placing of concrete, for the wet fabric method or the paper method, and on the final curing the concrete surface shall show the presence of free water under the covering for the following 72 hours.

## **PROTECTION OF WORK**

The Contractor and property owner shall furnish and maintain adequate barriers and lights to protect the work and the public both by day and night. They will be held responsible for any damages caused by themselves, their agents or employees neglecting to take such precautions.

# SPECIFICATIONS AND PLANS FOR CONCRETE DRIVEWAY APPROACHES, SIDEWALKS AND TERRACE WALKS

## DRIVEWAY APPROACHES



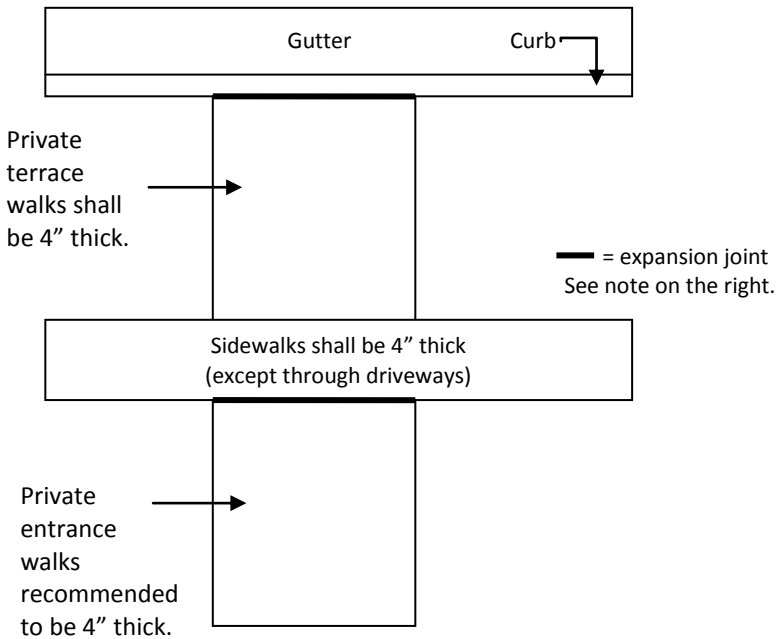
1/2" expansion joints shall be used at these two locations and shall completely separate all concrete in the driveway approach and driveway from the concrete in the sidewalk and in the curb, including the rolled-up portion of the curb and driveway approach.

6 bag mix, air entrained concrete of a relatively dry mix (not over a four-inch slump) shall be used in all sidewalks, driveway approaches and terrace walks and is recommended for driveways and entrance walks.

### Grades

15% recommended maximum  
10% desirable maximum

## TERRACE WALKS AND ENTRANCE WALKS



1/2" expansion joints shall be used at these two locations and shall completely separate all concrete in the terrace walks from the concrete in the curb and shall completely separate all concrete in the entrance walk from the concrete in the sidewalk.

Complete detail specifications for grades, subgrades, reinforcing over service ditches, and depositing, finishing, curing and protecting of the concrete, etc. may be secured from the City Engineering Department.