

**CONCRETE SIDEWALK AND DRIVE APPROACH REQUIREMENTS**

---

<b>SPECIFICATIONS</b>
-----------------------

I. Work Included

- 1.) Concrete sidewalk construction shall include the following items of work:
  - a. Placement of all barricades, cones, and other protective devices necessary to ensure the protection of pedestrians, vehicles, and other traffic during day and night hours.
  - b. Fine grading and preparation of the subgrade. This work shall include removal of unsuitable base and other materials from beneath the proposed sidewalk area and placement of sand subbase material free from rocks or other debris where necessary to ensure a stable grade.
  - c. Compaction of subbase to 95% modified proctor density.
  - d. Placement of forms and other incidental items necessary to facilitate placement of new concrete.
  - e. Placement of new concrete.
  - f. Curing protection as required by the Department of Public Services.
  - g. Removal of forms and other incidental items.
  - h. Rough grading of areas damaged during concrete sidewalk construction.

II. Construction Methods

- 1.) Preparation of Base.
  - a. Excavation shall be made to the required depth and to a width that will permit forming. All unsound material shall be removed and replaced with sound earth.
- 2.) Forms.
  - a. Only fixed-forms or slip-forms may be used (***wooden forms do not meet the City's Standard Construction Specifications and are not allowed for use***). Forms shall be straight and free from warp, and of sufficient strength to resist deformation during the construction process. Fixed forms shall be firmly staked to the required line and grade.
- 3.) Placing and finishing concrete.
  - a. The base shall be moist and the concrete shall be deposited thereon to the depth specified. The concrete shall be thoroughly spaded along the along the faces of the forms before the finishing operations are started.
  - b. Sidewalk ramps shall be smooth and uniform and in conformance with all

applicable regulatory guidelines including the placement of warning plates.

c. The surface shall be floated just enough to produce a smooth surface free from irregularities. The surface of the sidewalk shall be broomed to roughen the surface.

d. Sidewalk thickness shall be a minimum of 4 inches thick. All sidewalk through a drive approach shall be a minimum of 6 inches thick.

#### 4.) Sidewalk Joints.

a. Transverse and longitudinal expansion and plane-of-weakness joints shall be constructed at the intervals and locations shown on the plans. Joints shall be constructed true to line with their faces perpendicular to the surface of the sidewalk. Joints shall not vary more than 1/4 inch from their designated position. Transverse joints shall be constructed at right angles to the centerline of the sidewalk and longitudinal joints shall be constructed parallel to the centerline of the sidewalk.

b. The concrete at the faces of joints shall be thoroughly spaded or vibrated and compacted to fill all voids. Expansion joint filler shall extend the full depth of the joint and the top shall be just below the finished grade of the sidewalk.

c. Plane-of-weakness (crack control) joints shall be 1/4 the depth of the sidewalk and between 1/8 and 1/4 inch in width.

#### 5.) Curing.

a. Concrete shall be cured in accordance with the latest American Concrete Institute (ACI) specifications.

#### 6.) Restoration Work.

a. All restoration work to be in compliance with City of Hastings Standard Construction Specifications.

### III.) Materials.

#### 1.) Concrete Mix.

a. The concrete shall be a limestone aggregate air entrained portland cement mix with a 28 day compressive strength of 3500 p.s.i.

b. No admixtures are allowed unless approved by the Director of Public Services.

c. Slump to be 2 to 4 inch.

d. Mix to conform to the latest ACI standards.

#### 2.) Fiber Joint Filler

a. Fiber joint filler shall conform to the requirements of ASTM D 1751.

### IV.) Time of Performance

1.) All work to be completed as approved by the Department of Public Services representative.