

## CHAPTER 156: SUBDIVISION REGULATIONS

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### **GENERAL PROVISIONS**

#### **§ 156.01 ADOPTION BY REFERENCE.**

(A) The subdivision regulations of the city, and all amendments thereto, are adopted by reference and incorporated into this code of ordinances as if fully set forth herein.

(B) Copies of these subdivision regulations are a part of the public records of the city and shall be available for public inspection during normal hours at the office of the City Clerk.

(Ord. passed 8-18-69; Am. Ord. passed 6-20-78; Am. Ord. passed 7-17-84; Am. Ord. passed 10-16-84; Am. Ord. 10-04-02, passed 4-19-10; Am. Ord. 17-07-02, passed 7-17-17)

***STREET SPECIFICATIONS*****§ 156.15 CONCRETE SUBDIVISION STREETS; IN GENERAL.**

Concrete subdivision streets shall be plain concrete, no mesh. Pavement thickness may be either:

(A) A minimum of five inches of concrete placed on a minimum of three inches of aggregate base;  
or

(B) A minimum of six inches of concrete placed directly on a well compacted soil upgrade.  
(Ord. passed 6-21-93)

**§ 156.16 CONCRETE QUALITY.**

Concrete shall be mixed and delivered according to the requirements of ASTM C 94 "Specification for Ready Mixed Concrete." Concrete shall meet the following requirements:

(A) *Strength.* Concrete shall have a minimum design compressive strength of 4,000 psi in 28 days, with cylinders made in accordance with ASTM C 31 and cured as specified for checking the adequacy of mixture proportions for strength.

(B) *Air content.* The concrete shall be air-entrained with a target air content of 5.5% individual batches may test between 4% and 8% and be considered acceptable.

(C) *Slump.*

(1) If concrete is placed with slip form equipment the slump shall be two inches maximum.

(2) If concrete is placed with equipment other than slip-form equipment the slump shall be five inches maximum, unless a superplasticized concrete is used, in which case the slump may be a maximum of eight inches. When a superplasticized concrete is used, the concrete slump shall be no greater than two inches before the addition of the superplasticizer.

(D) *Material ingredients.*

(1) Cement, aggregates, and chemical admixtures. Cement and aggregates shall meet the appropriate ASTM requirements or be from sources approved by the Kentucky Transportation Cabinet, Department of Highways.

(2) Fly ash.

(a) Fly ash may be used at the discretion of the contractor and ready mix producer within the following limits:

1. If class "F" fly ash is used, the maximum quantity shall be 20% by weight of the total cementitious content (cement plus fly ash).

2. If class "C" fly ash is used, the maximum quantity shall be 30% by weight of the total cementitious content (cement plus fly ash).

(b) All fly ash used shall be supplied from a source currently approved by the Kentucky Transportation Cabinet, Department of Highways.  
(Ord. passed 6-21-93)

**§ 156.17 SUBGRADE AND BASE REQUIREMENTS.**

(A) The subgrade shall be brought to a firm and unyielding condition by compacting it to a uniform density. The minimum in place subgrade density shall be 95% of AASHTO T 99 density. Soil should be compacted at or slightly above optimum moisture (as determined by AASHTO T 99).

(B) All soft and unyielding material and portions of the subgrade that will not compact readily when rolled or tamped shall be removed and replaced with suitable material.

(C) Concrete shall not be placed on a soft, spongy, frozen, or otherwise unsuitable subgrade. The subgrade shall be moist when concrete is placed directly upon it.

(D) All utility trenches and structure excavations under the pavement shall be backfilled in a manner to prevent subsequent detrimental settlement. Well compacted granular materials, or controlled low strength material (flowable fill) should be used to within six to 12 inches of final subgrade elevation. The top 6 to 12 inches should be constructed with the same material as adjacent subgrade.

(E) When an aggregate base design is used, the aggregate may be either a crushed limestone or bank gravel product. The minimum three-inch thickness should be compacted to an unyielding condition and uniform density. The base should be moistened just ahead of the concrete placement.  
(Ord. passed 6-21-93)

**§ 156.18 CONCRETE PLACEMENT AND FINISHING.**

(A) Before placing concrete, freestanding water, snow, ice or other foreign materials shall be removed from the subgrade, or base. All forms shall be clean and secured in position.

(B) Concrete shall be placed, struck off, consolidated and finished to plan grade with a mechanical finishing machine, vibrating screed, or by handfinishing methods when proposed by the contractor in advance of the project and approved by the Inspector.

(C) In lieu of fixed forms (including curb and gutter sections when placed separately in advance of the mainline pavement), the contractor may place concrete with a slip form paver designed to spread, consolidate and screed the freshly placed concrete in one complete pass of the machine.

Construction may be half width (with a longitudinal construction joint) or full width at the contractor's option.

(D) Pavement shall be properly sloped to provide for adequate drainage.

(E) After concrete has been struck off and consolidated, a bull float may be used to remove any high or low spots.

(F) A final skid resistant surface shall be provided by means of a burlap drag, broom, or tining operation.

(Ord. passed 6-21-93)

### § 156.19 CURB OR CURB AND GUTTER CONSTRUCTION.

When pavements include a curb section, the construction may be accomplished in any of a variety of ways at the contractor's option. Construction provisions include the following:

(A) *Integral curb construction with pavement.* Pavement in this case may be constructed half width or full width.

(B) *Separate construction of curb and gutter either prior to or after construction of the mainline pavement.* When placed prior to mainline pavement construction, these sections may be used as forms for pavement.

(C) *Separate construction of header curb.* When this type construction is used the pavement must be tied to the curb (due to cold joint construction) by use of deformed steel bars. Contractor must obtain approval of this procedure from the Inspector with details provided.

(D) Details for permissible curb or curb and gutter design are shown in the drawing attached to the ordinance upon which this chapter is based, which is available for public examination at the office of the City Clerk. A roll or header curb design is permitted except where the curb is constructed as a separate operation (cold joint design). In that case, a header curb is required. Other designs, when submitted by the contractor, may be allowed, when approved by the Inspector.

(Ord. passed 6-21-93)

### § 156.20 CURING OF CONCRETE.

(A) Concrete shall be cured by application of a curing compound meeting appropriate ASTM requirements. It shall be applied uniformly at a rate of not less than one gallon per 200 square feet as soon as possible after the water sheen has disappeared from the surface of the concrete.

(B) In cold weather, when the ambient temperature during the first 48 hours after placement is expected to fall below 35° F., plastic sheeting, burlene, or insulated blankets should be used as

coverings in lieu of, or in combination with, the curing compound.  
(Ord. passed 6-21-93)

### § 156.21 JOINTS.

#### (A) *General.*

(1) Concrete pavement shall include expansion, contraction and longitudinal joints. Transverse joints are expansion and contraction joints which shall be continuous across the pavement lane including the curb. Longitudinal joints are parallel to the pavement lanes. Construction joints are necessary when the placement of concrete is delayed. The location of transverse construction joints may be either planned (coincidental with a contraction joint) or emergency (not coincidental with a contraction joint). Longitudinal joints shall be centered between pavement lanes.

(2) The construction of pavements shall comply with joint details provided as a part of these specifications. Any deviation must be proposed by the contractor for exception approval by the Inspector.

(B) *Expansion joints.* Expansion joints shall be Type 1 as shown in joint details. The filler shall be held accurately in place during the placing and finishing operation by a bulkhead or other approved method. Expansion joints shall be installed at all street intersections at the point of curvature of the turning radii entering the intersection and at cul-de-sacs or turnarounds at the point of curvature of the first turning radii approaching the turnaround. No concrete shall be left above the expansion material or across the joint at any point. Before the pavement is opened to traffic, the groove above the filler shall be cleaned and sealed with an approved joint sealing material, hot poured or cold applied, manufactured for this purpose.

#### (C) *Contraction joints.*

(1) Transverse contraction joints shall be Type 2. They may be sawed or grooved with a metal jointing tool, equal to a depth of 1/4 of the pavement thickness. If the soff-cut saw or equal is used, saw cut depth shall be in accordance with manufacturer's recommendation.

(2) The spacing of contraction joints shall be no greater than 12 feet on centers for five-inch pavements and 15 feet for six-inch pavements.

(3) If sawed joints are specified, they shall be sawed early enough to control cracking, but late enough to prevent ravelling. These joints shall be cleaned and sealed with a hot poured or cold applied sealer manufactured for this purpose.

(D) *Construction joints.* Transverse construction joints shall be used wherever the placing of concrete is suspended for such time as to potentially cause a cold joint. A transverse construction joint shall be Type 3, with smooth bars if the joint occurs at any other locations formed in the plastic concrete by a grooving tool manufactured for this purpose.

(E) *Longitudinal joints.*

(1) When half width paving is used and the longitudinal joint becomes a cold joint, the contractor may elect to use one of several types of construction. These include a keyway design with no steel (see joint detail for keyway details); deformed bars 1/2-inch or 5/8-inch diameter, 24 inches long at three-foot centers with or without keyway; or smooth bars 3/4-inch diameter, 12 inches long and 24 inches on center.

(2) When full-width paving is used, or when curb and gutter sections are used as forms and concrete is placed full-width between them in one operation, the centerline of the pavement shall be sawed as for transverse contraction joints. Longitudinal joints shall be cleaned and sealed as required for transverse joints.

(F) *Isolation joints.* These joints are required to adequately separate the pavement at drainage inlets, manholes, and the like. Details are shown in the attachment to the ordinance upon which this chapter is based, which is available for public inspection at the office of the City Clerk.  
(Ord. passed 6-21-93)

**§ 156.22 PROTECTION FROM USE OF TRAFFIC.**

The pavement shall be protected from use of traffic for a period of seven days, or until the concrete has reached a minimum compression strength of 3,000 psi based on cylinder test results where specimens have been cured and handled in accordance with provisions of ASTM C 31 for putting a structure into service, or based on in-place core results.  
(Ord. passed 6-21-93)

**§ 156.23 TESTING.**

(A) Acceptability of concrete for strength shall be based upon cylinder tests where specimens have been prepared, handled, cured, and the like, in accordance with current provisions of ASTM C 31 for a check on the adequacy of the mix design.

(B) Tests for slump and air content are to be made in accordance with current ASTM procedures C 143, C 231 or C 173.  
(Ord. passed 6-21-93)

**§ 156.24 WARRANTY.**

Any developer electing to install concrete streets must warrant and agree to maintain same for a period of five years from the date of the installation or the date of the acceptance of same by the city, whichever shall first occur.  
(Ord. passed 6-21-93)

**§ 156.25 STREET EXTENSIONS.**

The proposed street layout shall provide for the continuation or projection of existing streets in the surrounding area unless the Planning Commission:

(A) Deems any extension to be undesirable for specific reasons of topography or design; or

(B) The developer agrees to retain ownership of a lot or lots within the subdivision that includes sufficient right-of-way for the required projections and provides on the plat that same shall be dedicated to the city in the event of any transfer of ownership of that property or upon the developer's sale of all the other lots within the subdivision, whichever shall first occur.

(Ord. 98-10-01, passed 10-19-98)

