

City of Morristown Concrete Roadway General Specifications & Guidelines:

GENERAL:

These specifications shall supplement existing City of Morristown Street Standards except where specifically referencing Asphalt street construction.

These specifications must accompany any contract documents between the Developer and Contractor. The Contractor must specifically agree to perform all work detailed in these guidelines and specifications if concrete is to be used for street construction.

Min Stone Base Thickness 6" (TDOT mineral aggregate gradations)

Min Concrete Surface Thickness 6" (TDOT Design Concrete)

Polymer Fiber Reinforcement shall be used for all Concrete Slab and Curbing. Fiber should be 3/4" long polypropylene fibers at a rate of 1 pound per cubic yard minimum.

All concrete placement and finishing activities must be scheduled and performed during daylight hours.

No concrete installation activities shall occur during temperatures below 40 degrees.

Concrete installation must be unloaded into a TDOT approved spreading device or deposited on the base, and mechanically spread in such manner as to prevent segregation of the materials. As deposited, the mixture shall be placed where it will require as little rehandling as possible.

Placing shall be continuous between transverse joints without the use of intermediate bulkheads.

No concrete shall be placed on frozen grades.

Necessary hand spreading shall be done with shovels, or other approved tools. Workmen shall not be allowed to walk in the freshly mixed concrete with boots or shoes coated with earth or other foreign substances.

Concrete shall be thoroughly consolidated against and along the faces of all forms by means of vibrators inserted into the concrete. Vibrators shall not be permitted to come into contact with the grade or side forms. In no case, shall the vibrator be operated longer than 5 seconds in any one location.

Concrete shall be placed as close to expansion / contraction joints as possible without disturbing them.

Concrete Testing shall be performed in accordance with TDOT standards and policies for sampling and testing procedures. During the process of the work if either the slump or air consistency tests give results outside the allowable specification range, no additional concrete will be placed until the slump and/or air content is brought within specification limits.

Slump Tests shall be done in accordance with ASTM C143

Fresh Concrete Sampling shall be done in accordance with ASTM C172

Making and Protecting test cylinders ASTM C31

The method of making and curing test specimens will be in accordance with AASHTO T 23. The contractor shall furnish the concrete necessary for the materials testing firm to conduct the field tests and shall provide a storage facility with watertight tanks of satisfactory size and number to accommodate the cylinder specimens.

Transverse and longitudinal contraction joints shall be spaced on 15 foot on center in both directions for slabs greater than 6" thick.

Contraction Joints shall be placed at any 90 degree form or structure ("re-entrant corners") to relieve stress at the corner of slab form. If slabs have sharp corners, then contraction joint shall be located no further than 3 foot from the sharp end point.

Contraction joints shall be saw cut as soon as concrete is hard enough that it does not ravel. The depth of all contraction joints shall be 1/4 " in depth.

Concrete surfaces shall be cured by covering with a plastic film of at least 4 mils thick (0.004 inches) and can be clear, white, or black. Black is preferred during the winter or when temperatures are below 45 degrees and White is preferred during the summer or when temperatures are above 45 degrees. During winter or cold weather, plastic shall be covered by 6" of straw. The Contractor may use an approved concrete curing blanket as an alternate to plastic.

City Inspections of the work must be performed before concrete is placed so that inspection of subgrade can be performed. The Contractor must provide the City a construction schedule for all concrete work to be performed 48 hours before any work begins.