



§ 90.500.6 CURB AND GUTTER.

All curb and gutter shall be Portland cement concrete conforming to ARDOT Standard Drawing CG-1 Type A (Curbing Details) with a minimum width of 24 inches with radius being a minimum of two inches. Modified, or Mountable, Curb shall not be installed in the City of Tontitown without written authorization of the City Engineer. Construction of all concrete curb and gutter shall utilize the following specifications:

(A) Materials.

(1) Concrete shall be Class "S" Portland Cement Concrete in accordance with Section 802 or 501, ARDOT Standard Specifications with a 28-day compressive strength of 3,500 psi. Admixtures shall not be used unless specifically approved by the City Engineer. Maximum slump shall not exceed four inches.

(2) Expansion joints shall be made with preformed expansion joint filler of a Non extruding type conforming to ASTM Designation D1751 or AASHTO M153. Acceptable materials may be found on the current ARDOT Qualified Products List.

(3) Joint sealing compound for contraction joints shall be CRS-2 Asphalt Emulsion meeting the requirements of ASTM Designation D3405 or current products listed on the ARDOT qualified products list.

(4) Curing compound shall be a white pigmented membrane-forming liquid conforming to the requirements of ASTM Designation C309, Type 2.

(B) Forms.

(1) Forms shall be made of metal or wood and shall have a depth equal to or greater than the thickness of the pavement slab. The minimum length of each section of form used shall be ten feet. Each section or form shall be uniform and free from undesirable bends or warps.

(2) The maximum deviation of the top surface of any section shall not exceed 1/8 inch, or the inside face not more than 1/4 inch from planned alignment. The method of connection between sections shall be such that the joint thus formed shall be free from movement in any direction. Forms shall be of such cross-section and strength and so secured as to resist the pressure of the impact and vibration of any equipment which they support, without springing or settlement.

(3) Every ten-foot length of form shall have at least three form braces and pin sockets which shall be spaced at intervals of not more than five feet, having the end brace and socket not more than six inches from the end of the form. Approved flexible forms shall be used for construction where the radius is 150 feet or less.

(4) The subgrade under the forms shall be cut and compacted to a width not less than one foot behind the back of curb and gutter, removing all soft and yielding areas and

replacing with suitable material compacted. Forms shall be joined neatly and in such a manner that the joints are free from play or movement in any direction. The supply of forms shall be sufficient to permit their remaining in place for at least 12 hours after the concrete has been placed. All forms shall be cleaned and oiled prior to use.

(5) The alignment and grade elevations of the forms shall be checked by the contractor and the necessary corrections made immediately before placing the concrete. When any form has been disturbed or any subgrade there under has become unstable, the forms shall be reset and rechecked.

(C) Placing concrete.

(1) The subgrade shall be moist, but not muddy, at the time of placing of the concrete. If required by the city, the prepared subgrade shall be saturated with water the previous night, or not less than six or more than 20 hours prior to placing the concrete. If the subgrade subsequently becomes too dry, it shall be sprinkled again ahead of placing the concrete, in such a manner as not to form mud or puddles of water.

(2) Contractor shall give the City Engineer at least 24 hours advance notice before placing concrete, and the subgrade shall be checked and approved by the City Engineer or his/her designated representative before any concrete is placed.

(3) The concrete shall be mixed in quantities required for immediate use and shall be deposited on the subgrade to the required depth and width of the curb and gutter in successive batches and in a continuous operation without the use of intermediate forms or bulkheads. The concrete shall be placed as uniformly as possible to minimize the amount of additional spreading necessary. While being placed, the concrete shall be vibrated with suitable tools so that the formation of voids or honeycomb pockets is prevented.

(4) The concrete shall be especially well vibrated and tamped against the forms along all joints. Care shall be taken in the distribution of the concrete to deposit a sufficient volume along the outside form lines so that the curb section can be consolidated and finished simultaneously with the slab.

(5) No concrete shall be placed around manholes or other structures until they have been adjusted to the required grade and alignment.

(D) Mechanical placement. Curb and gutter placed by slip-form or extruding equipment will be accepted providing it complies with all the above requirements other than forms.

(E) Finishing. The curb shall be tooled to the required radii as soon as possible after the concrete takes its initial set. The gutter shall be shaped with a wood float at least four feet long. After the face forms and templates are removed, the joints shall be tooled, and the surface shall be finally finished with a hard bristle broom to remove all imperfections without additional mortar or dryer. In all cases, the resulting surface shall be smooth and

of uniform color, free from sags, twists or warps and true to the specified lines and grades shown on the plans.

(F) Expansion joints. Formed with bituminous preformed expansion joints one-half inch thick or as specified on the plans and precut to exact cross section of curb, shall be placed at all driveway radii, intersection radii, stationary structures and at intervals of not more than 195 feet, and at the location shown on the plans or standard drawings, so that they are not moved by depositing and compacting the concrete at these joints. Preformed expansion joint filler shall be of Non extruding type and shall conform to ASTM Designation D1751 or AASHTO M153. Acceptable materials may be found on the current ARDOT "Qualified Products List". Material shall completely separate concrete the full width and depth of the curb and gutter cross-section.

(G) Contraction joints.

(1) Contraction joints shall be sawed or formed with templates at intervals not greater than 15 feet and at the location shown on the plans or standard drawings and shall be sawed to a depth of 1-1/2 inch and a width of 1/4 inch. Asphaltic material used in filling these joints shall be as specified in Section 501 ARDOT Standard Specifications or as approved by the City Engineer. Contraction joints in proposed medians shall match the location of joints in pavement.

(2) Templates shall be 1/4 inch thick, cut to the configuration of the curb section shown on the plans. Templates shall be secured so that depositing and compacting the concrete does not move them. Unless otherwise shown on the plans, and as soon as the concrete has hardened sufficiently, the templates shall be rounded with an edging tool of 1/8 inch radius.

(H) Curing. Immediately after the finishing operation has been completed and as soon as marring of the concrete will not occur, the entire surface of the newly placed concrete shall be cured according to Section 501 of ARDOT Standard Specifications.

(I) Cold weather protection. Cold weather protection shall be as specified in Section 501 ARDOT Standard Specifications.

(J) Backfilling. After curing, the curb shall be immediately backfilled to within four inches of the top curb to eliminate any possibility of washing beneath the curb. The remaining four inch shall be topsoil.

(K) Driveway entrance. At all entrances to residences or commercial buildings the concrete curb shall be removed by saw cutting of either side of the entrance. All driveway entrances shall require a minimum of two foot formed and poured transition that will tie to the saw cut curb. Removal of curb by sledgehammer without first saw cutting shall not be allowed. The practice of excavating behind the curb and gutter and then backfilling with the broken curb section concrete is not acceptable. Any backfill shall be Class 7 crushed limestone.