

ARTICLE VI

IMPROVEMENT SPECIFICATIONS AND IMPROVEMENT CONSTRUCTION ASSURANCES

SECTION 601 GENERAL REQUIREMENTS

Physical improvements to the property being subdivided or developed shall be provided, constructed, and installed as shown on the Record Plan, in accordance with the requirements of this Ordinance, or other Municipal Ordinances or Regulations, whichever is more restrictive.

- A. As a condition to the review of a Final Plan by the Township Planning Commission and Board of Supervisors, the subdivider shall install all improvements shown on the Plan and required by this Ordinance or other Township Ordinances or Regulations or provide acceptable financial security for the installation of said improvements. Before the Record Plan is endorsed by the Township Planning Commission and Board of Supervisors, the subdivider shall submit a complete original copy of the Subdivision/Land Development Improvements Agreement, or any additional documents required by the Township Solicitor (see Appendices Nos.13, 14 and 15).

- B. All improvements installed by the subdivider/developer shall be constructed in accordance with the design specifications of the Township. Where there are no applicable Township specifications, improvements shall be constructed in accordance with specifications furnished by the Township Engineer, County Engineer, PennDOT, DEP or such other State agency as applicable. If there are no applicable Township or State regulations, the Board of Supervisors may authorize that specifications be prepared by the Township Engineer and/or Engineering Consultant.

SECTION 602 REQUIRED IMPROVEMENTS

The following improvements, as shown on the Record Plan, shall be provided by the subdivider in all subdivisions.

- A. Street Grading: All streets shall be graded (includes swale if needed) to the full right-of-way width with the exception of rural residential streets which shall be graded a distance of twenty (20) feet from the centerline for a total of forty (40) feet of right-of-way.

- B. Cartway Paving:
 - 1. All proposed public streets shall be paved to full cartway width (as shown on the Final Plan) and as required by Section 502.C. of this Ordinance.

 - 2. All proposed public streets shall be constructed in accordance with Section 502.K. of this Ordinance. Alternative street construction is subject to approval by the Board of Supervisors.

C. Curbs:

Curbs, where required by the Board of Supervisors, shall be constructed in accordance with the PennDOT Form 408 Specifications, and the Department's Standards of Roadway Construction. The curbs shall have an expansion joint every 20 feet.

D. Sidewalks:

1. Where required by the Board of Supervisors, sidewalks with a minimum width of four (4) feet shall be installed on both sides of all streets except that no sidewalks shall be required along service streets, and where required, sidewalks shall be installed on only one (1) side of marginal access streets.
2. All sidewalks shall be placed within the right-of-way, parallel to the right-of-way lines. Gradient and paving of all sidewalks shall be continuous across all private driveways.
3. The sidewalks should be located four (4) feet from the face of the curb. Concrete sidewalks should be four (4) inches in depth with a bed of four (4) inch crushed stone. Also, driveway approach aprons and sidewalk in the drive area should be six (6) inches in depth with four (4) inches of crushed stone. The concrete shall be Class A cement concrete.

E. Sewers

1. Storm Sewers: Storm sewers and related facilities shall be installed consistent with the design principles and requirements contained in the District Township Stormwater Management and Earth Disturbance Ordinance.
2. Sanitary Sewer Disposal System(s):

Sanitary sewage disposal systems shall be provided consistent with the design standards and requirements contained in Articles IV and V of this Ordinance and with the requirements of the DEP.

F. Water Supply

1. Water supply system(s) shall be indicated consistent with design principles and requirements contained in Articles IV and V of this Ordinance and DEP Standards.
2. Where the subdivider/developer proposes that individual on-site water supply systems shall be utilized within the subdivision, the subdivider/developer shall install such facilities prior to the sale of each lot or parcel within the subdivision.

G. Fire Hydrants: Wherever a community water system is provided, fire hydrants suitable for the coupling of equipment serving the Township shall be installed, maintained and operated as specified by the Insurance Services Offices of Pennsylvania or its successor. Any compliance issues shall be determined by the Township only. Locations of hydrants shall be approved by the Township Engineer and local Fire Marshall.

H. Monuments and Lot Pins

1. Permanent concrete reference monuments (4"x4"x36"(minimum)) shall be located along street right-of-way lines at the following locations:
 - a. At least one (1) monument at each street intersection;
 - b. At changes in direction of street lines, excluding arcs at intersections;
 - c. At each end of each curved street line, excluding arcs at intersections;
 - d. An intermediate monument whenever topographical or other conditions make it impossible to sight between two (2) otherwise required monuments;
 - e. At such other places along the line of streets as may be determined by the Township Engineer to be necessary so that any street may be readily defined in the future.
 2. With the approval of the Board of Supervisors, the subdivider may install monuments on only one side of the street provided that enough monuments are set to permit a surveyor to stakeout accurately any building lot shown on the plan.
 3. For all subdivisions of five (5) lots or less, at least two (2) monuments shall be required. For all subdivisions greater than five (5) lots, an additional one (1) monument shall be required for each two (2) additional lots.
 4. All monuments shall be placed by a Professional Land Surveyor so that the center of the monument shall coincide exactly with the point of intersection of the lines being monumented.
 5. Reference monuments shall be placed so that the top of the monument is flush with the surrounding grade.
 6. Steel pins at least $\frac{3}{4}$ " in diameter and 24" (minimum) long shall be accurately placed at the intersection of all lines forming angles and at changes in direction of lines in the boundary (perimeter) of the property being subdivided.
 7. All lot corners shall be permanently located by steel pins, located in the ground to existing grade.
 8. All concrete referenced monuments and steel pins shall be placed prior to Final Plan approval, unless an appropriate escrow amount is established with the Township.
- I. Street Signs: Street name signs shall be furnished and installed at all street intersections. In addition to a street name sign, a standard "no outlet" sign shall be furnished and installed at the intersection of a street with a cul-de-sac street. Street signs shall also include stop signs when required by the Township. The design and placement of all street signs shall be subject to approval by the Township. All street signs shall be furnished and installed by the subdivider/developer.
- J. Street Lights: In accordance with the conditions to be agreed upon by the subdivider/developer, the Township, and appropriate public utility, street lights when required shall be installed.

Improvements shall be located in the street right-of-way, approved by the Township and appropriate public utility, space not more than five hundred (500) feet apart and shall be provided with approved screens.

K. Street Trees: Deciduous hardwood street trees shall be planted by the developer. In no event shall trees be planted closer than five (5) feet to the street right-of-way line. Trees shall be spaced not less than forty (40) feet or more than sixty (60) feet apart, staggered along both sides of all streets. Street trees shall conform to all of the following:

1. Two (2) inch or greater caliper measured six (6) inches above the root flair;
2. Eight (8) feet or greater in total height above finish grade;
3. Clear trunk height of at least five (5) feet;
4. A single straight trunk of at least seven (7) feet; and
5. When planted, the top of the root ball will be slightly above finish grade.
6. The following is a recommended list of street trees for use in the Township. However, the Township may permit other planting types if they are hardy to the area, are not subject to blight or disease and are of the same general character and growth habit as those listed below.

Acer rubrum cultivars	Red Maple
Aesculus x cornea	Red Horsechestnut
Cladrastus lutea	American Yellowwood
Fraxinus pennsylvania cultivars	Green Ash
Ginkgo biloba (males only)	Ginkgo
Gleditsia triacanthos inermis cultivars	Thornless Honey Locust
Liquidambar styraciflua	Sweet Gum
Nyssa sylvatica	Black Tupelo
Pyrus calleryana Redspire	Redspire Pear
Quercus acutissima	Sawtooth Oak
Quercus phellos	Willow Oak
Quercus rubra	Red Oak
Sophora japonica	Japanese Pagoda Tree
Tilia cordata	Littleleaf Linden
Tilia x euchlora	Crimean Linden
Tilia tomentosa	Silver Linden
Zelkova serrata cultivar	Japanese Zelkova

7. In no circumstances should any of the following trees be permitted to be planted as street trees:

Poplars	All varieties
Willows	All varieties
White or Silver Maple	Acer saccharinum
Aspen	All varieties
Common Black Locust	

**SECTION 603 COMPLETION OF IMPROVEMENTS OR GUARANTEE THEREOF
PREREQUISITE TO FINAL PLAN APPROVAL.**

The completion of improvements or guarantee thereof prerequisite to final plan approval shall be subject to the requirements of Section 509 of the MPC, with the following additions:

- A. Only Federal or Commonwealth chartered lending institution irrevocable letters of credit and escrow accounts shall be deemed acceptable financial security if acceptable to the Township Solicitor in an amount approved by the Township Engineer. Letters of credit shall be posted with a Federal or Commonwealth chartered lending institution chosen by the developer, provided said lending institution is authorized to conduct such business within the Commonwealth. Escrow accounts shall be established in such financial institutions as may be designated by the Board of Supervisors.
- B. At such time as ninety (90) percent of the lots in the subdivision have been improved as set forth above, or if at the expiration of two (2) years from the date all of the improvements excepting the surface course has been completed, less than ninety (90) percent of the lots have been so improved, the Township may notify the developer to complete the surface course within sixty (60) days from the date of such notice. In computing the sixty (60) day requirement, the period from October 1 to March 15 shall not be counted.
- C. If at the time the surface course is completed, ninety (90) percent of the lots are not improved as set forth above, the developer must:
 - 1. Post with the Township financial security in an amount equal to fifteen (15) percent of the reasonable cost of the surface course, curbs and utility lines as security to guarantee that damages to the street, curbs or utility lines would not occur during the completion of the improvements on the unimproved lots in such developer's subdivision or land development. The financial security shall be in a form acceptable to the Township. The Township shall hold such financial security and utilize it to pay for the repair of any damage occurring to the streets, curbs or utility lines during the period between the commencement of improvements on any particular unimproved lot and the completion of such improvements irrespective of whether or not it can be established that the damage to the streets, curbs or utility lines was caused by contractors or other persons working in and about the construction of such improvements; and
 - 2. Present to the Township agreements signed by the owners of all of such unimproved lots pursuant to which they will agree to pay to the Township the cost of repairing any damage occurring to streets, curbs or utility lines in such subdivision during the period between the commencement of work on the improvements to their lot and the completion of such improvements irrespective of whether or not it can be established that such damage was

caused by contractors or other persons involved in the improvement of their respective lot. This language shall be added in the form of a note on the plan.

SECTION 604 RELEASE FROM FINANCIAL SECURITY.

The release from financial security shall be subject to the requirements of Section 510 of the MPC, with the following exception(s):

- A. Improvements shall not be considered completed unless the developer can demonstrate compliance with the requirements of this Ordinance, the Township Storm Water Management and Earth Disturbance Ordinance, and all other applicable ordinances, statutes and regulations. Improvements shall also not be considered complete until as-built plans of all improvements to be dedicated to the Township and of all streets, whether or not such streets shall be dedicated, have been submitted to the Township.

SECTION 605 REMEDIES TO EFFECT COMPLETION OF IMPROVEMENTS.

In the event that any improvements that may be required have not been installed as provided in this Ordinance or in accordance with the approved final plan, the Board may enforce any letter of credit or other financial security, subject to the requirements of Section 511 of the MPC.

SECTION 606 INSPECTION DURING CONSTRUCTION.

The Township shall inspect the improvements during construction. The developer shall pay the cost of any such inspection in accordance with the provisions of Article V of the Municipalities Planning Code. The developer shall provide at least twenty-four (24) hours notice to the Township Engineer prior to the start of construction of any improvements that are subject to inspection. All inspections of completed items shall be requested, in writing, at least forty-eight (48) hours in advance of the inspection time and date.

It is generally required that the following phases of site construction have mandatory inspection. This general list of phases may be amended by mutual agreement of the Township and developer when the site requires special construction procedures. The inspection schedule must be recorded with the final plan or shown on the approved improvement construction plan.

- A. General Site Construction.
 - 1. Upon completion of preliminary site preparation including stripping of vegetation, stockpiling of topsoil and construction of temporary erosion and sedimentation control devices.
 - 2. Upon completion of rough grading, but prior to placing topsoil, permanent drainage, or other site development improvements and ground covers.
 - 3. During the construction of permanent storm water management and BMP facilities.
 - 4. Upon the final completion of permanent storm water management and BMP facilities, including the establishment of ground covers and plantings.
 - 5. After review of the as-built drawings, required by Section 610, but prior to final release of the financial guarantee for completion of final grading, vegetative controls required by the BMP standards, or other site restoration work.

B. Street Construction.

1. Preparation of Road Subgrade. At the time of this observation, the subgrade should be proof rolled and the proposed crown and grade should be checked. It is recommended that a developer's/contractor's representative accompanies the observer when the crown and grade are checked. Proof rolling should be performed with a fully loaded, tandem-axle dump truck. This observation must occur prior to any stone subbase being placed.
2. Placement and Compaction of Road Subbase. At the time of this observation, the depth of subbase should be checked after compaction, the subbase should be proof rolled in the same manner as the subgrade and the crown and grade should be checked again. This observation must occur prior to any binder or base course being placed.
3. Placement and Compaction of the Binder/Base Course. At the time of this observation, the depth of the binder/base course should be checked, ambient temperature should be monitored (this is important in early spring and late fall days when the temperature can go below acceptable limits), the temperature of the bituminous material should be checked (if possible), and it is recommended that copies of the weight slips for each truckload are obtained. The crown and grade should also be checked again. This observation must occur prior to the wearing course being placed.
4. Placement and Compaction of the Wearing Course. At the time of this observation, the guidelines for the placement and compaction of the binder/base course should be followed.

- C. In addition to the above outlined observations, additional observations will be made at the request of the developer for reduction of financial securities. Random observations should be made at the frequency desired by the municipality. At the time of any of the above listed observations, all ongoing construction (i.e. storm drainage, sanitary sewer, water, erosion control, etc.) should also be checked for compliance with the approved plans and the findings reported. Since the above inspections are mandatory, it is recommended that requests for reduction of financial guarantee to be submitted to coincide with the above inspections.

SECTION 607 OFFERS OF DEDICATION.

- A. The offer to dedicate streets, parks or other areas or portions of them does not impose any duty upon the Township concerning maintenance or improvement until the proper authorities of the Township have made actual acceptance of the dedication by ordinance or resolution or by entry or improvement.
- B. Where the Township accepts dedication of all or some of the required improvements following completion, the Township may require the posting of financial security to secure structural integrity of said improvements as well as the functioning of said improvements in accordance with the design and specifications as depicted on the final plan for a term of eighteen (18) months from the date of acceptance of dedication. Said financial security shall be of the same type as otherwise required in Section 603 of this Ordinance with regard to installation of such improvements and the amount of such financial security shall not exceed fifteen (15) percent of the actual cost of the installation of the said improvements.

SECTION 608 MAINTENANCE OF STREETS.

The developer shall maintain all streets in the subdivision or development in travelable condition, including the prompt removal of snow therefrom, until such time as the streets are accepted by the Township as part of the Township highway system or until a homeowners' association or other entity responsible for the maintenance of the streets has been formed.

SECTION 609 EFFECT OF PLAN RECORDING ON DEDICATION AND RESERVATIONS.

Recording of the final plan after approval of the Board of Supervisors has the effect of an irrevocable offer to:

- A. Dedicate all streets and other public ways to public use, unless such streets are indicated on said plan as private streets.
- B. Dedicate all neighborhood parks and all areas shown on the plan as being local recreation sites to public use.

SECTION 610 AS-BUILT PLAN.

Prior to the release of the final escrow estimate, the developer shall provide the Township with one (1) mylar and two (2) prints of the as-built plan showing the following:

- A. Actual location of all concrete monuments which were set at all angle breaks, points of curvature and tangents around the perimeter of the total tract. When the outside perimeter of a tract falls within or along an existing road right-of-way, then the right-of-way of that roadway shall be monumented at the above referenced points.
- B. Actual location of all iron pins or drill holes in curbs for all individual lot lines.
- C. Actual cul-de-sac radius.
- D. Actual location of cartway centerline versus right-of-way centerline.
- E. Actual location of floodplain by elevation and dimension from property line.
- F. Actual location and cross section of swales and accompanying easements.
- G. Actual horizontal and vertical location of storm water management facilities including type and size of storm drainage pipes.

H. Detention/retention basins:

1. Actual contours of the basin.
2. Actual outlet structure details including type, size and inverts of outlet pipes.
3. Actual elevation of the embankment and emergency spillway.
4. A table showing the stage/storage/discharge curve for the constructed conditions.