

SUBDIVISION AND LAND DEVELOPMENT ORDINANCE  
OF  
GREENE TOWNSHIP  
PIKE COUNTY, PENNSYLVANIA

ARTICLE VI  
DESIGN STANDARDS/IMPROVEMENT SPECIFICATIONS

601 General Standards

601.1 Application – The standards and requirements contained in this Article are intended as the minimum for the preservation of the environment and promotion of the public health, safety, and general welfare and shall be applied as such by the Greene Township Planning Commission and by the Greene Township Board of Supervisors in reviewing and evaluating plans for all proposed subdivisions and/or land developments.

A. Additional improvements or improvements of more stringent specifications may be required in specific cases where, in the opinion of the Township, they are necessary to create conditions essential to the health, safety, and general welfare of the citizens of Greene Township and/or to protect the environment of the Township.

B. Those areas which are subject to such hazards of life, health, or property as may arise from fire, flood, or noise, or are considered to be uninhabitable for other reasons, shall not be subdivided for building purposes unless the hazards have been eliminated or the plans show adequate safeguards against the hazards.

C. Sources for determining and evaluating potential hazards may include historical records, soil evaluations, engineering studies, expert opinions, standards used by licensed insurance companies and adopted regional, county, or local municipal policies.

D. All portions of a tract being subdivided shall be taken up in lots, streets, public lands, or other proposed uses, so that remnants and land locked areas shall not be created. The layout of a subdivision shall also be planned with consideration for existing nearby developments or neighborhoods so that they are coordinated in terms of traffic movement, drainage, and other reasonable considerations.

E. Care shall be taken to preserve and maintain natural features such as trees, water courses, views, and historical features, such as buildings and cemeteries, which will add attractiveness and value to the remainder of the land. Damming, filling, relocating, or otherwise interfering with the natural flow of surface water along any surface water drainage channel or natural water course shall not be permitted except with the approval of the Township and, where appropriate, the Pennsylvania Department of Environmental Protection.

F. In all cases where possible, lot lines shall follow municipal and county boundary lines, rather than cross them. (See also Section 602.3,B). Reserve strips controlling access to lots, public rights-of-way, public lands, or adjacent private lands are prohibited.

601.2 Planned Improvements – Physical improvements to the property being subdivided and/or developed shall be provided, constructed, and installed as shown on the record plan.

601.3 Improvements Specifications – All improvements installed by the developer shall be constructed in accordance with the design specifications and construction standards of the Township.

A. Where there are no applicable Township specifications, improvements shall be constructed in accordance with specifications furnished by the Township Engineer, County Engineer, Pennsylvania Department of Environmental Protection, Bureau of Forestry, or such other state or federal agency as may be applicable.

B. If there are no applicable Township or State regulations, the Board of Supervisors may authorize that such specifications be prepared by the Township Engineer or an Engineering Consultant.

601.4 Other Ordinances – Whenever other Township ordinances and/or regulations impose more restrictive standards and requirements than those contained herein, such other ordinances and/or regulations shall be observed, otherwise, the standards and requirements of this Ordinance shall apply.

601.5 Modifications – The standards and requirements of this Ordinance may be modified (pursuant to Section 703), by either increasing or decreasing the said standards and/or requirements or by requiring additional facilities or improvements, by the Township Supervisors where said standards or modifications achieve substantially the objectives of this Ordinance, will not unduly tax Township fiscal service obligations and which are further protected by such covenants or other legal provisions as will assure conformity to and achievement of the subdivision and/or development plan.

601.6 Off-site Improvements – The Board of Supervisors shall, where deemed necessary to provide for the public safety and welfare, have the authority to require the developer to install off-site road, traffic controls and devices, drainage, stormwater management or other improvements or facilities. (See also Section 502)

601.7 Dedication of Improvements – Nothing contained in this Ordinance shall be construed as an intention of the Board of Supervisors to take over or accept dedication of any road, drainage facility or other improvement constructed in accord with this Ordinance.

## 602 Blocks and Lots

602.1 Configuration – The configuration of blocks and lots shall be based upon the lot area requirements, the salient natural features, the existing man-made features, and the proposed type of structure. Lot configurations should provide for flexibility in building locations, while providing safe vehicular and pedestrian circulation.

### 602.2 Blocks

A. If the subdivision proposes a grid pattern of streets, blocks shall have a maximum length of three thousand (3,000) feet.

B. Blocks shall be of sufficient width to permit two (2) tiers of lots except where a public street, stream, other natural barrier, or un-subdivided land prevents the platting of two (2) tiers of lots

### 602.3 Lots

A – Lot sizes and widths shall be as follows:

<u>Lot Area and Dimensions</u>	<u>Lots Served with Both Central Water Supply And Sewage Disposal</u>
Minimum Area	20,000 square feet
Minimum Average Width	100 feet
Minimum Average Depth	150 feet
Minimum Front Yard Set-Back	50 feet*
Minimum Side Yard Set-Back	25 feet

Minimum Rear Yard Set-Back 25 feet

\*Front Yard Set-Back shall be measured from the street right-of-way line

Lot Area and Dimensions

Lots Served with **Either** Central Water Supply or Sewage Disposal

Minimum Area (1)	30,000 square feet
Minimum Average Width	125 feet
Minimum Average Depth	175 feet
Minimum Front Yard Set-Back	50 feet*
Minimum Side Yard Set-Back	25 feet
Minimum Rear Yard Set-Back	25 feet

Lot Area and Dimensions

Lots Having **No** Central Water Supply or Sewage Disposal

Minimum Area (1)	87,120 square feet
Minimum Average Width	200 feet
Minimum Average Depth	300 feet
Minimum Front Yard Set-Back	50 feet*
Minimum Side Yard Set-Back	25 feet
Minimum Rear Yard Set-Back	25 feet

- (1) When sub-surface sewage disposal is proposed, there shall be sufficient area of suitable soil on each lot for the installation of a disposal system, and a replacement area of equivalent size. Suitable soil shall be soil which qualifies for use of on-site sewage disposal systems in accordance with current Pennsylvania Department of Protection standards.
- (2) If lots are laid out to the centerline of streets, the above listed dimensions and areas shall be measured from the street right-of-way line rather than the centerline of the street.

B – Lot Requirements:

1. Lots divided by municipal boundaries shall be avoided. Where a subdivision is divided by a municipal boundary, the Applicant shall so notify the Board of Supervisors of each Township affected so that an administrative agreement for the platting and taxing of lots between the Townships can be executed, if such agreement is necessary.
2. All lots shall front on, or have access to an approved street. If double frontage lots are platted as provided herein, the lot depth shall be increased by twenty (20) feet to provide a planting strip along the public right-of-way line.
3. All side lines of lots shall be near as possible at right angles to straight street lines and radial to curved street lines.
4. Double frontage lots shall not be platted except where provided as reverse frontage lots to minimize driveway intersections along a public road; and lot access is restricted to the interior development street.
5. In order to minimize the number of driveways to a public road, interior streets or a common driveway between two lots may be required whenever five lots of an average of less than 300 feet width at the street line are proposed along one side of any improved primary or secondary road.

6. All lands in a subdivision shall be included in plotted lots, roads, common areas, and other improvements; and no remnants of land or reserve strips controlling access to lots, public rights-of-way, public lands, or adjacent private lands shall be permitted.

#### 602.4 Flag Lots

Flag lots shall be permitted in accord with the following:

- A. The flag lot shall share its driveway with an adjoining standard lot.
- C. Not more than twenty (20) percent of the lots within a subdivision may be approved as flag lots.
- D. The access corridor shall, at a minimum, meet the right-of-way width requirement for private access street.
- E. The lot width measurement shall be made on the main portion of the lot and shall not include the access corridor.
- F. The lot line where the narrow access corridor widens shall be considered the front lot line for applying setback requirements.
- G. A flag lot shall only be approved for a lot that cannot legally be further subdivided or improved with more than one (1) dwelling unit, except in full accord with Township requirements.

#### 603 Streets / Roads

Roads shall be graded, improved, and surfaced to the grades and specifications shown on the plans, profiles, and cross sections as approved by the Township. The Developer shall be responsible for maintenance of roads within the subdivision until such time that a Property Owners Association is established.

603.1 Topography – Roads shall be logically related to topography to produce reasonable grades, minimize stormwater run-off and provide suitable building sites.

603.2 Existing Access – Existing private roads or rights-of-way proposed to provide access to a subdivision and/or land development shall meet all the requirements of this Section (603), including right-of-way width, or shall otherwise be improved to such standards. No subdivision or land development shall be approved where the width of an existing right-of-way is less than that required by Section 603.10 for the class or road proposed unless the developer shall secure such additional right-of-way as may be required to provide such width.

603.3 Street Continuation – Residential streets shall be planned to discourage through traffic; however, the arrangement of streets wherever possible shall provide for continuation of existing or platted streets and for adequate access to adjoining undeveloped tracts suitable for future subdivision by reserving rights-of-way to the adjoining undeveloped tracts.

603.4 Subdivision and Street Names – Streets that are extensions of or obviously in alignment with existing streets shall bear the names of the existing streets. Subdivision and street names shall not be repeated or be similar to those existing within the Township. Four-way street name signs of a design approved by the Township shall be installed by the developer at his expense at each street intersection. Stop signs shall be required at all new intersections within the subdivision or land development. Maintenance of all new stop signs shall be the responsibility of the Developer. The Developer shall also be responsible for the erection and maintenance of traffic lights if deemed necessary for the control of traffic associated with the new subdivision or land development.

603.5 Inadequate Rights-of-Way

A. Where a subdivision and/or land development abuts or contains an existing municipal or private street of inadequate right-of-way width, additional right-of-way width in conformance with Table VI-1 "Design Standards for Streets" shall be provided by the Applicant.

B. Where a subdivision and/or land development abuts or contains an existing State road of inadequate right-of-way width additional setback requirements shall be provided by the Applicant to reflect such additional width required to make the road conform to Table VI-1 "Design Standards for Streets".

TABLE VI-1  
Design Standards for Streets

<u>DESIGN SPECIFICATION</u>	<u>MAJOR</u>	<u>COLLECTOR</u>	<u>MINOR</u>	<u>PRIVATE ACCESS</u>
Right-of-way width (ft)	60(a)	50(a)	50(a)	40
Cartway width (ft)	40	30	26	N/A
Travelway width (ft)	24	20	18	12
Minimum Centerline radii (ft)	500	300	150	75
Minimum Sight Distance (ft)	400	300	200	60
Maximum Grade (%)	10	8 (b) (d)	12 (c) (d)	16
Shoulder width (ft) (cut or fill)	10	5	4	N/A
Minimum Apron Distance (ft)	10	10	10	10

Notes:

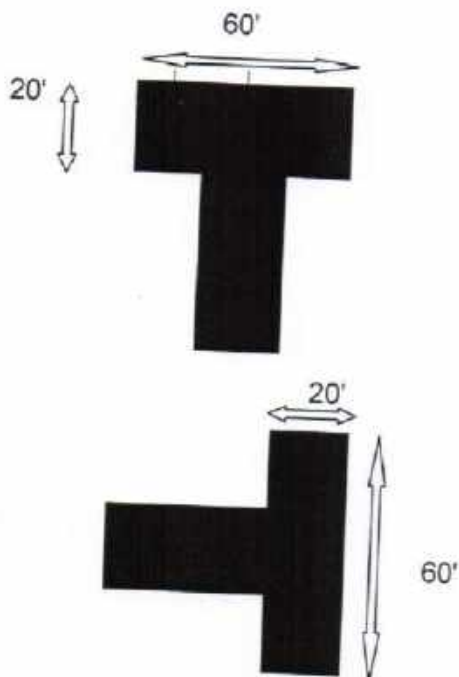
- a. Larger radii may be required as determined by alignment to provide required sight distances.
- b. 10% for up to 500 feet in distance
- c. 14% for up to 500 feet in distance
- d. The maximum grades in b and c above may be repeated if separated by distances of five hundred (500) feet meeting the standard grade requirements for the class of road

603.6 Cul-de-Sac Streets - Cul-de-sac streets shall meet the following design regulations:

- A. Dead-end streets are prohibited unless otherwise designed as Cul-de-sac streets or designed to provide future access to adjoining properties

- B. Any temporary dead-end street shall be provided with a temporary all-weather turn-around, within the subdivision, and the use of such turn-around shall be guaranteed to the users until such times as the street is extended.
  - C. Cul-de-Sac Streets, permanently designed as such, shall not exceed twelve hundred (1,200) feet in length unless a circular turn-around, meeting the requirements of Subsections E and F that follow, is provided at intervals of twelve hundred (1,200) feet.
  - D. Unless future extension is clearly impractical or undesirable, the turn-around right-of-way shall be placed adjacent to the tract boundary line with sufficient additional width provided along the boundary line to permit extension of the street at full width.
  - E. All Cul-de-Sac Streets, whether permanently or temporarily designed as such, shall terminate in a circular right-of-way with a minimum diameter of 100 feet and the outer pavement edge or curb line shall have a minimum diameter of 80 feet.
  - F. The circular right-of-way of the cul-de-sac shall be connected to the approach right-of-way by an arc having a radius of not less than twenty-five (25) feet.
- 603.7 Private Access Streets – Private access streets may be used to provide access to residential and/or non-residential lots (including Cellular Towers) which do not front on a public or approved private road provided:
- A. The private access street serves no more than three (3) lots, including that lot fronting on the abutting street; and shall not exceed eight hundred (800) feet in length.
  - B. The private access street has a minimum right-of-way width of forty (40) feet.
  - C. Private access street entrances or aprons within the adjoining street right-of-way shall be installed by the Applicant as required in Section 603.10. Construction of the remaining length of the private access street shall be the responsibility of the Applicant or the buyer or buyers of the served lot or lots and said private access street shall not under any circumstances be offered to the Township as a municipal road. Construction of the private access street and any associated stormwater facilities must be completed or guaranteed in accord with Article V before the Township will release the approved map for recording. A covenant shall be placed on the final plan clearly assigning responsibility for construction and maintenance of the private access street and establishing its future private ownership status.
  - D. A private access street may be used only to provide access to lots that cannot legally be further subdivided or improved with more than one (1) dwelling unit, except in full accord with Township requirements.
  - E. A leveling area not exceeding four (4) percent in grade and not less than forty (40) feet in length shall be provided where the private access street intersects with the right-of-way of the adjoining road.

- F. The private access street shall be terminated with a T-shaped turnaround as shown on the following diagram.



#### 603.8 Intersections

- A. Centerlines of streets shall intersect as nearly at right angles as possible
1. Any Centerline angle of less than eighty (80) degrees shall be allowed only upon grant of a waiver by the Township based upon a written request by the Developer.
  2. Centerline angles of less than sixty (60) degrees shall not be approved under any condition.
- B. Intersections of more than two streets at one point are not permitted
- C. Where streets intersect other streets, the minimum offset or distance between center-lines of parallel or approximately parallel streets intersecting a cross street from opposite directions shall be as follows:
1. One hundred fifty (150) feet for minor streets
  2. Four hundred (400) feet for collector or major streets
- D. The cartway edge at intersections shall be rounded by a tangential arc with a minimum radius of forty (40) feet for minor streets or streets of lesser classification and fifty (50) feet for major and collector streets. This provision shall apply to all private and public roads; and for the purposes of this Section, public roads shall be considered collector streets.
- E. Driveways for single family residences entering upon any public or private road shall be provided with proper drainage facilities and shall be rounded by a tangential arc with a minimum radius of twenty (20) feet.

603.9 Major Street Frontage – Where a subdivision and/or land development abuts or contains an existing or proposed major street, the Township may require minor streets or reverse frontage lots or such other treatment as will provide protection for abutting properties, reduction in number of intersections with the major street, and separation of local and through traffic.

603.10 Street Right-of-Way, Travelway, Shoulder Widths and Cross Sections – Street right-of-way, travelway, and shoulder widths shall be provided to the minimum standards provided in Table VI-1 and Table VI-2.

- A. Shoulder surfaces shall be graded at a slope one half (1/2) inch per foot away from the pavement edge
- B. The finished travelway surface of tangent sections and curve sections not required to be super-elevated, shall be crowned at one-quarter (1/4) inch per foot away from the centerline.
- C. Properly super-elevated cross-sections shall be required on major and collector streets when the curve radii are less than 1,500 feet. The maximum permissible super-elevation shall be 0.08 feet per foot.

603.11 Easements

- A. Access Easements
  1. Access easements shall be shown and labeled on the plans to indicate the purpose, easement users, and the rights of said users.
  2. Access easements may be a part of any lot, but shall be a separate area designed with the express purpose of access to a particular site or facility. The area of the easement shall not be part of the minimum required lot area pursuant to Section 602.3
  3. Ownership and maintenance responsibility shall be noted on the plan for each easement.
  4. Set back lines shall be measured from the edge of any easements.
- B. Utility and Drainage Easements
  1. Utility and Drainage Easements shall be a minimum of ten (10) feet in width and shall be provided along and in addition to all street rights-of-way; or within the required road right-of-way.
  2. An easement for utilities and drainage of not less than ten (10) feet shall also be provided along all lot lines.
  3. All easements shall be shown and labeled on the plan and shall be established by the restrictive covenants.

603.12 Street Alignment – Street alignment shall be designed as follows:

- A. Whenever street lines are deflected in excess of seven and one half (7 ½) degrees within five hundred (500) feet, connection shall be made by horizontal curves.
- B. Streets shall be designed so that there will be unobstructed sight distances along the centerline thereof as set forth in Table VI-1



1. Sight distances shall be measured from a point 3.75 feet above the road surface to a point of 0.5 feet above the road surface
- C. Between reversed curves the following minimum tangents shall be provided:
1. One hundred (100) feet on major and/or collector streets
  2. Fifty (50) feet on minor streets

603.13 Street Grades – Street grades shall be designed as follows:

- A. Centerline grades shall not exceed the grades set forth in Table VI-1
- B. The maximum grade across the turn-around in a cul-de-sac street shall not exceed four (4) percent
- C. To provide for adequate drainage, the minimum grade of any street gutter shall not be less than one-half (1/2) of one (1%) percent
- D. To provide for adequate drainage, the minimum grade of any parallel ditch along a street shall be not less than one (1%) percent.
- E. A leveling area for all street intersections shall be provided as follows:
1. The tangent grade of the through street at the point of intersection of the center-lines of the two streets shall not exceed eight (8) percent for minor street or private access street intersections, and all other intersections shall comply with the grades as required on Table VI-1.
    - a. Crest and sag vertical curves shall be provided in accordance with Section 603.14
  2. The tangent grade of the connecting street(s) shall not exceed three percent (3%) within twenty-five (25) feet of the right-of-way lines of the through street.
    - a. Crest and sag vertical curves shall be provided in accordance with Section 603.14
    - b. The point of vertical curvature to tangency shall not be within the through street right-of-way

603.14 Vertical Curves – Vertical curves shall be used at changes of grade exceeding four (4) percent and shall be designed as follows:

- A. Crest vertical curves shall be designed in relation to the road classification to provide vertical sight distance consistent with the horizontal sight distances as set forth in Table VI-1.
- B. On minor streets, sag vertical curves shall have a minimum length of fifteen (15) feet for each one percent (1%) algebraic difference in tangent grade with an absolute minimum length of seventy-five (75) feet. (Example: 5% = 75' v.c.; 5.1% to 6% = 90' v.c.; etc.)
- C. Except on minor streets, sag vertical curves shall have a minimum length of twenty-five (25) feet for each one percent (1%) algebraic difference in tangent grade with an absolute

minimum length of one hundred (100) feet. (Example: 4% = 100' v.c.; 4.1% to 5% = 125' v.c.; etc)

D. The following vertical curve information should be shown on the plans: 1) length of vertical curve, 2) elevation and stationing of the VPI, VPC, VPT, and MO.

603.15 Clear Sight Triangles – At all intersections, a triangular area shall be graded and/or other sight obstructions removed in such a manner as not to obscure vision between a height of from two (2) to ten (10) feet above the centerline grades of the intersecting streets.

A. The clear sight triangle shall be guaranteed either by deed restriction, by lease restriction, or by plan referment, whichever method is applicable. Vegetation shall not be planted or allowed to grow in such a manner as to obscure said vision.

B. Such triangular area shall be determined by the intersection street center-lines and a diagonal connecting the two points, one point at each street center-line:

1. One hundred seventy-five (175) feet from the intersection of such street centerlines if either street is a major street

2. One hundred twenty-five (125) feet from the intersection of such street centerlines if either street is a collector street

3. Eighty-five (85) feet from the intersection of such street centerlines if both streets are minor streets

4. Whenever a portion of the line of such triangle occurs behind (from the street) the building setback line, such portion shall be shown on the final plan of the subdivision and shall be considered a building setback line.

603.16 Driveways – Driveways shall be as follows:

A. All new lots must access the subdivision road only, wherever possible. Only one (1) driveway per lot with only one (1) entrance onto the subdivision road, shall be permitted. Driveways shall not be permitted to have direct access to major or collector streets unless authorized by the Township and approved by the Township Engineer and/or the Pennsylvania Department of Transportation via issuance of a highway occupancy permit.

B. Lots shall not be platted which would result in driveways which would exceed fifteen (15) percent in grade or as otherwise required by state or township regulations.

C. Entrances shall be rounded at a minimum radius of five (5) feet or shall have a flare construction that is equivalent to this radius at the point of intersection with the cartway edge.

D. Future driveways which are to be constructed adjacent to a street intersection shall be indicated on the preliminary and final plans.

E. A leveling area not exceeding four (4) percent in grade and not less than forty (40) feet in length shall be provided where a driveway intersects with the right-of-way of the adjoining road.

1. The minimum distance between a driveway or point of access to a street shall be as follows:

Type of Subdivision Or Land Development	Distance between center-lines of driveway and nearest intersecting road by type of intersecting road		
	<u>Major</u>	<u>Collector</u>	<u>Minor</u>
Residential	150 ft	100 ft	50 ft
Non-residential	300 ft	200 ft	150ft

Nearest intersecting street shall be construed as being on the same or the opposite side of the street on which the lot is located

- F. Adequate provision shall be made for parallel drainage facilities.
- G. At all intersections of new driveways with streets, a triangular clear sight area shall be graded and/or other sight obstructions removed in such a manner as not to obscure vision between a height of from two (2) to ten (10) feet above the centerline grades of the intersecting street and driveway.

1. The clear sight triangle shall be guaranteed either by deed restriction, by lease restriction or by plan referment, whichever method is applicable. Vegetation shall not be planted or allowed to grow in such a manner as to obscure said vision.

2. Such triangular area shall be determined by the intersecting street and driveway center-lines and a diagonal connecting the two points, one point at the street center-line and the other point at the driveway center-line such that a minimum distance of seventy-five (75) feet is provided from the intersection of the street centerline with the driveway centerline.

603.17 Bridges and Stream Crossings – Bridges and other stream crossing structures which are part of the proposed street system shall be designed and constructed in accordance with the current Pennsylvania Department of Transportation Standards and Specifications for an H-20 loading. Evidence of compliance with and approval of the Bureau of Dams and Waterways Encroachments, Pennsylvania Department of Environmental Protection, shall be provided. The travelway of the bridge or stream crossing shall be a minimum width of equal to the travelway width of the roadway carried by the bridge or stream crossing.

603.18 Clearing and Grubbing – The right-of-way shall be cleared and grubbed to the extent shown on the approved cross-sections.

- A. All trees, stumps, roots, and other material deemed unsuitable by the Township shall be removed from the grading area.
- B. Voids created by the removal of stumps or roots shall be backfilled and compacted to the satisfaction of the Township.
- C. Rocks and/or boulders shall be removed to a minimum depth of six (6) inches below the finish sub-grade.
- D. All cleared and grubbed areas shall be inspected and approved by the Township prior to placing the embankment.

603.19 Cuts and Fills – All cuts and fills shall be constructed as follows:

- A. The maximum slope of any earth embankment or excavation shall not exceed one foot vertical to three feet horizontal.
- B. The maximum slope of any rock excavation shall not exceed four feet vertical to one foot horizontal.
- C. All excavations and embankments shall have a continuous slope to the point of intersection with the natural grade with a rounding of the top of the slope of excavations to prevent erosion.
- D. All embankments shall be compacted to the satisfaction of the Township.

603.20 Sub Grade Base and Surface

- A. Sub-grade
  - 1. The design and construction of the roadbed shall take into consideration the supporting capacities of the sub-grade, with particular attention to those soils which are subject to frost heave.
  - 2. Sub-grade, parallel, and cross drainage facilities shall be provided when necessary and shall be located, designed and installed to maintain proper drainage.
  - 3. Unsuitable soils shall be removed and replaced, drained or otherwise stabilized to provide adequate support for the roadbed and anticipated loads. If construction of a roadbed in such locations and particularly on soils identified in the Pike County Soil Survey as subject to frost heave is proposed, the Township shall require such drainage facilities and/or underdrains and sub-grade drains as necessary to stabilize the sub-grade. The design of such facilities shall be approved by the Township.
- B. Base Course – Base course aggregate material shall conform in type and be compacted to the depths shown in Table VI-2 of this Ordinance in accordance with the latest specifications of the Pennsylvania Department of Transportation (Form 408) and the requirements of Greene Township.
- C. Surface Course – The bituminous surface course shall conform in type and be compacted to the depths shown in Table VI-2 of this Ordinance in accordance with the latest specifications of the Pennsylvania Department of Transportation (Form 408) and the requirements of Greene Township.
- D. Shoulders – Shoulders shall be constructed of the material and compacted to the width and depth shown in Table VI-2 of this Ordinance.

603.21 Guiderails – Guiderails shall be installed at points determined by the Township Engineer as needed based upon an inspection made at the time of road and parking area construction.

604 Monuments and Markers

Monuments and markers shall be placed so that the center or scored or marked point shall coincide exactly with the intersection of the lines being monumented or marked and shall conform to the following:

604.1 Monuments

- A. Monuments shall consist of either:
  - 1. A two (2) inch (inside diameter) galvanized pipe filled with concrete at least thirty-six (36) inches in length (preferred 42" to 58")
  - 2. A concrete cylinder four (4) inches in diameter and at least thirty-six (36) inches in length (preferred 42" to 58")
  - 3. Such other monuments as the Township may approve
- B. Monuments shall be set flush with the finish grade of the surrounding ground.
- C. All monuments shall be placed under the direction of a Registered Professional Land Surveyor who will take full responsibility for their accuracy and placement.
- D. Monuments shall not be place until road grading has been completed.
- E. Monuments shall be placed as follows:
  - 1. At all exterior property corners where permanent corners do not exist at the time of the perimeter survey. (Existing permanent corners shall not be removed or replaced but shall be noted on the plan as existing and described.)
  - 2. One monument for every ten lots proposed shall be placed at intersections of rear lot lines, the location of which shall be proposed by the developer and approved by the Township. However, an adequate number of monuments shall be provided so that in no case shall the distance between monuments exceed one thousand (1,000) feet.

604.2 Markers

- A. Lot markers shall consist of either:
  - 1. Solid steel rods not less than one-half (1/2) inch in diameter and not less than twenty-four (24) inches in length
  - 2. Steel pipes not less than three-quarters (3/4) inch in diameter and not less than twenty-four (24) inches in length
  - 3. Such other markers as the Township may approve
- B. Markers normally shall be set two (2) inches above the finish grade of the surrounding ground.
- C. All markers shall be placed under the direction of a Registered Professional Land Surveyor who will take full responsibility for their accuracy and placement.
- D. Markers shall not be placed until road grading has been completed.
- E. Lot markers shall be placed as follows:

1. At all points where lot lines intersect street right-of-way lines
2. At all points where lot lines intersect exterior property lines
3. At all interior lot corners
4. At such other lot corners and locations as the Township may direct

#### 605 Stormwater and Drainage Control

605.1 Purpose – The purpose of this section is to provide for the management of the quantity, velocity, and direction of stormwater in order to provide protection to down-gradient property owners, to control soil erosion and sedimentation, and to protect the public general health, safety, and welfare.

605.2 Plan – A stormwater drainage and management plan shall be required for all major subdivisions and all land developments and shall be subject to the approval of the Township. The plan shall show all existing surface drainage features and shall include all appropriate designs, details, and dimensions necessary to clearly explain proposed construction materials, grades, and elevations. The Developer shall submit the plan and all associated engineering calculations to the Planning Commission at the time of preliminary subdivision plan submittal and said plan shall be submitted concurrently by the developer to the Township Engineer. Preliminary subdivision approval shall not be granted until a recommendation for approval has been provided by the Township Engineer.

605.3 Compliance with State Regulations – Said plan shall comply with Commonwealth of Pennsylvania, Title 25, Chapter 102 Department of Environmental Protection regulations for soil erosion and sedimentation control; and said Plan shall meet the intent of Section 13 of the Pennsylvania Stormwater Management Act and other applicable regulations to assure that the maximum rate of stormwater runoff is no greater after development than prior to development activities; and said Plan shall comply with all Pennsylvania Department of Transportation requirements.

#### 605.4 Stormwater Management Ordinance Compliance

Soil erosion and sedimentation control practices and stormwater management planning and facilities for all subdivisions and land developments regulated by this Ordinance shall also comply with the requirements of the Township Stormwater Management Ordinance, Ordinance No. 57 as amended. In addition to the plan reviews by the Township Solicitor, Township Engineer, the County Planning Commission, and the County Conservation District as required by this Ordinance, the Township may submit subdivision and land development plans along with soil erosion and sedimentation control and stormwater management plans to the Lake Wallenpaupack Watershed Management District for review and comment.

#### 605.5 Design Criteria

A. Stormwater management facilities shall be designed for a storm frequency of ten (10) years, using generally accepted engineering principles appropriate for the proposed site and development. In addition to being designed for a ten year storm, detention facilities shall be designed to pass a 100 year storm without facility failure.

B. In cases where detention of stormwater is proposed, the post development, peak rate of stormwater discharge from the parcel being developed shall not exceed the pre-development, peak rate of stormwater discharge from the parcel being developed. The calculation of post development discharge shall, in addition to areas disturbed during development, include the estimated effect of all run-off expected from driveways, buildings, walkways, parking areas, and other impervious areas associated with the ultimate build-out of the subdivision or land development.

C. The Board of Supervisors may in cases where existing drainage problems, flooding, or other factors relating to the public health, safety, and welfare and upon the recommendation of the Township Engineer, require that the proposed stormwater control facilities be designed to a twenty-five (25) year storm frequency and/or other more stringent criteria; or, require the provision of stormwater control facilities in areas where no such facilities are proposed by the developer.

#### 605.6 Additional Requirements

- A. All proposed surface drainage structures shall be indicated on the preliminary drainage plan submitted with the preliminary subdivision plan and shall be considered "improvements" for the purposes of final subdivision approval.
- B. Natural drainage courses and points of natural drainage discharge shall not be altered.
- C. Stormwater or natural drainage water shall not be diverted to overload existing drainage systems, or create flooding or the need for additional stormwater management or drainage facilities on other properties without a drainage easement from the owners of such properties and the provision by the developer of facilities to control the stormwater or drainage.
- D. Where a subdivision is traversed by a natural drainage way or channel there shall be reserved by the developer a drainage easement conforming substantially with the line of such drainage way or channel, and of such width as determined by the Board of Supervisors adequate to preserve the unimpeded flow of natural drainage, or for the purpose of widening, deepening, relocating, maintaining, improving, or protecting such drainage facilities. A drainage easement shall also be provided for all proposed stormwater control facilities.
- E. Where a subdivision is traversed by a watercourse, there shall be provided a drainage easement of not less than twenty-five (25) feet on each side of the stream from each stream bank, or such additional width as will be adequate to preserve the unimpeded flow of the watercourse.
- F. All streets shall be so designed as to provide for discharge of surface water from their right-of-way.
- G. In no case shall any pipe system of less than fifteen (15) inches in diameter be installed underneath a street or driveway.
- H. Drainage structures that are located on State Highway rights-of-way shall be approved by the Pennsylvania Department of Transportation and a letter from that agency indicating such approvals be directed to the Township prior to final plan approval.
- I. Lots shall be laid out and graded to prevent cross lot drainage and to encourage drainage away from proposed building areas.
- J. Drainage easements of a minimum of ten (10) feet in width shall be provided along all side and lot lines; (a total of twenty (20) feet for abutting lots) and adjacent to street rights-of-way as required by the stormwater drainage and management plan.

K. Paved street shoulders, gutters and/or drainage swales and rip-rap of drainage swales may be required to provide for adequate stormwater management.

#### 605.7 Maintenance of Stormwater Control Facilities

A. Maintenance of stormwater control facilities, including easements between lots, shall be the responsibility of the owner of said facilities. A legally binding agreement shall be executed between owner and the Township to provide for such maintenance and providing for inspections by the Township pursuant to Section 507.

B. In cases where a property owners association is created for the ownership, operation, and maintenance of common facilities such property owners association shall be responsible for the maintenance of stormwater control facilities and such maintenance shall be established in the deed covenants and restrictions.

C. When stormwater management control facilities are located on an individual lot, and when such facilities are the responsibility of that landowner to maintain, a description of the facility or system and the terms of the required maintenance shall be incorporated as part of the deed to the property.

D. If the municipality determines at any time that any permanent stormwater management control facility has been eliminated, altered, or improperly maintained, the owner of the stormwater control facility shall be advised of corrective measures required and given a reasonable period of time to take necessary action. If such action is not taken by the property owner, the municipality may cause the work to be done and lien all costs against the property.

#### 606 Soil Erosion and Sedimentation Controls

All soil erosion and sedimentation control plans shall meet the specifications of the Pike County Conservation District and PA DEP, as applicable. Plan approval shall be conditioned on all required approvals and permits from the Pike County Conservation District and/or PA DEP. Erosion and sedimentation controls shall be installed according the approved Plan and shall be maintained by the developer in proper functioning condition until stabilization of the area is completed as determined by the Pike County Conservation District.

#### 607 Water Supply and Sewage Disposal

##### 607.1 General Standards

A. All subdivisions and land developments shall be served by an adequate water supply and sewage disposal system; and the developer shall provide evidence documenting said adequacy.

B. All suppliers of non-municipally owned, central water and/or sewer services shall be organized such a fashion as may be required by the Pennsylvania Public Utility Commission and the Developer shall provide for operation, maintenance, and continuity of services in a manner which is acceptable to the Township.

C. One (1) copy of all correspondence, supporting documentation, applications for permits and certificates for operation submitted to the Pennsylvania Department of Environmental Protection and/or Pennsylvania Public Utilities Commission for the right to provide such services shall be forwarded to the Township as a part of the public record. One (1) copy of the permit and/or certificate of convenience issued by the



Pennsylvania Department of Environmental Protection and/or the Pennsylvania Public Utilities Commission authorizing such services shall be forwarded upon receipt to the Township as a part of the public record.

D. In the case of utilization of a publicly owned or other existing central water supply and/or sewage disposal system the developer shall submit at the preliminary stage a letter from the operator of such utility indicating the utility owner's willingness to supply service to the development and including a verification of the adequacy of the utility system to serve the proposed development. At the final approval stage an executed agreement with the service supplier shall be submitted.

E. Applicants shall present evidence that the subdivision or development is to be supplied by a certificated public utility, a bona fide cooperative association of lot owners, or by a municipal corporation, authority, or utility. A copy of a Certificate of Public Convenience from the Pennsylvania Public Utility Commission or an application for such certificate, a cooperative agreement, or a commitment or an agreement to serve the area in question, whichever is appropriate, shall be acceptable evidence.

F. All water supply and sewage disposal systems shall be designed and certified by a Registered Professional Engineer or other individual otherwise certified for such design work; and all systems shall be designed in accord with all applicable federal, state, and local standards.

**607.2 On-Lot Water Supply** - All on-lot water supply systems shall comply with the requirements of Pennsylvania Department of Environmental Protection and/or applicable Township Ordinances. The installation of on-lot wells shall be required by restrictive covenant, such facilities to be installed by the lot purchaser at the time of construction of the principal structure.

**607.3 Central Water Supply**  
If an approved public water supply is not accessible and a central water supply is proposed, the Applicant shall, upon submission of the subdivision or land development plan, submit written evidence of compliance with all Township and State regulations, and that the proposed system to be installed meets the requirements of the PA PUC, PA DEP, and any other applicable regulations. If the proposed system is not regulated by PA DEP, it shall comply with best engineering practices and be approved by the Township Engineer.

**A. Deep Well Source**

1. Wells shall be sited, drilled and tested under the direct supervision of a Registered Professional Engineer and/or a Professional Ground Water Geologist, and in accord with all applicable Township regulations.
2. Wells shall be located away from potential sources of pollution. A buffer (setback) area of not less than one hundred (100) feet shall be maintained around the well where no earth disturbance activity shall be undertaken except for the well development and the construction of required well house and distribution lines. No sewage system, residential or commercial structure or other improvements or facilities shall be located in the buffer area.
3. The capacity of the well, as certified by a Professional Engineer, shall be sufficient to produce at least one hundred ten (110) gallons per capita per day and/or four hundred (400) gallons per day for each residential dwelling unit to be served. The capacity of service to industrial or commercial establishments shall meet the standards of the American Water Works Association.

4. Wells shall be pump-tested utilizing a controlled step-drawdown test to establish the specific capacity of each well and to establish a long-term pumping rate. The well shall be pumped at the above determined long-term pumping rate for a sufficient period of time for stabilization to occur and the recovery noted. In no case will a pumping rate greater than the recharge rate be allowed.
5. Well construction shall be consistent with generally accepted practice and the guidelines of the Pennsylvania Department of Environmental Protection.
6. Documentation of the effect of the projected area-wide drawdown of the water table may be required by the Township if the anticipated pumping of ground water warrants such documentation.

**B. Water Distribution System**

1. The system design shall follow good engineering practice and the guidelines of the Pennsylvania Department of Environmental Protection and/or the Public Utilities Commission. The distribution system shall be designed and sized to provide the design flows at minimum pressure of twenty-five (25) pounds per square inch at curb stops.
2. Pipe classes shall be consistent with design pressures.
3. Before being placed into service, the system must be tested and treated in accord with procedures established by Department of Environmental Protection.
4. The proposed utility shall provide for adequate flow of water for the subdivision supplied, by interconnecting two or more wells or by providing storage for a minimum of one (1) day's demand.
5. Service connections shall be a minimum of three-fourths (3/4) inch diameter.

**C. Flow Rates**

1. Distribution systems serving residential developments shall provide for a minimum flow rate of at least one and one-fourth (1-1/4) gallons per minute for each lot or proposed dwelling unit for domestic purposes only.
2. Distribution systems serving commercial or industrial developments shall provide for a minimum flow rate of at least twenty-five (25) times the projected average daily flow rate.
3. Distribution systems intended to provide for fire flow shall provide for minimum flow rates in accordance with the standards of the National Fire Protection Association.

**607.4 On-lot Sewage Disposal**

- A. All on-lot sewage disposal systems shall comply with the applicable Pennsylvania Department of Environmental Protection standards and all Township Ordinances.
- B. All lots in developments proposing the use of on-lot sewage disposal shall contain an area for such a disposal system and replacement area, with such areas indicated on the plan.
- C. All sewage disposal areas shall remain undisturbed and this shall be assured via a covenant placed on the plan.

D. Should the Applicant propose the use of individual systems which do not require soil testing, documentation shall be provided that the affected lots are suitable for the proposed system. In addition, a note shall be placed on the Preliminary Plan and Final Plan detailing the type of system(s) proposed and stating that the affected lots have not been tested for a soil-based system.

**607.5 Central Sewage Disposal System**

A. All central sewage disposal systems shall be consistent with the sewage feasibility studies and plans of the Township.

B. All sewage collection and treatment facilities shall be designed and constructed in accordance with regulations and requirements of Pennsylvania Department of Environmental Protection.

C. All central sewage disposal systems shall be designed and constructed to provide adequate capacity for the ultimate flow of the subject development. The Township may also require that any central sewage disposal system be designed and constructed to provide for service to adjacent or nearby properties. In such instances, developers shall be financially responsible solely for those costs associated with their individual development.

D. All central sewage disposal systems using subsurface or land application of sewage effluent shall be designed and constructed in accord with applicable Pennsylvania Department of Environmental Protection standards; and, a suitable replacement area for effluent disposal shall be provided.

**608 Commercial and Industrial Land Developments and Commercial and Industrial Subdivisions**

**608.1 Plans** – Proposed plans shall be submitted by the developer showing all information necessary to demonstrate compliance with this Ordinance, including but not limited to:

A. All information required by this Ordinance for major subdivisions and land developments

B. Location of all project improvements including:

1. Buildings
2. Streets, access ways, and parking areas
3. Landscaping and planting strips
4. Stormwater management facilities
5. Water supply and distribution systems
6. Sewage collection and treatment systems
7. Street lighting and parking area lighting
8. Building setbacks from property lines and other improvements shall be specifically shown

C. Building construction specifications including floor plans and profiles and showing any common use or ownership areas

D. Construction specifications for all other project improvements

E. Designated open space areas

608.2 Access Roads – Access roads serving land developments, commercial and industrial subdivisions shall be designed and constructed to collector street standards.

608.3 Ingress and Egress

A. Driveways shall not be permitted to have direct access to major or collector streets unless approved by the Township and/or the Pennsylvania Department of Transportation through issuance of a highway occupancy permit.

B. In order to provide safe and convenient means of access, grades on driveways shall not exceed eight percent (8%).

C. Ingress and egress shall be restricted to one common access driveway located as follows: (if the tract exceeds four hundred (400) feet in road frontage, two such access points shall be permitted).

1. Centerline of the driveway shall be a minimum of thirty-five (35) feet from any side property line (sixty (60) feet if abutting an existing residential building).

2. Future driveways which are to be constructed adjacent to a street intersection shall be indicated on all preliminary and final plans and shall have the following distances between the centerline of the driveway and the right-of-way line of the nearest intersecting street or road.

a. Major streets – 300 feet

b. Collector streets – 200 feet

c. Minor streets – 150 feet

d. Other driveways – 75 feet

Note: nearest intersection street shall be construed as being on the same or the opposite side of the street on which the tract is located.

3. Curbing or traffic barriers shall be installed along the remainder of the road frontage to restrict ingress and egress to the approved access point.

D. The width and design of all access driveways shall be in accordance with the Pennsylvania Department of Transportation specifications and/or the requirements of Greene Township.

608.4 Lot Size - The following shall establish minimum lot sizes and dimensions:

A. The total areas shall be sufficient to provide adequate space for off-street parking, docking and loading facilities, and landscaping. In no case shall more than twenty percent (20%) of a lot be covered by buildings.

MINIMUM LOT STANDARDS – COMMERCIAL AND INDUSTRIAL SUBDIVISIONS

Area

Five (5) X Building Area, but not less than residential lot sizes according to the availability of water and sewer system