

Part 5

Design Standards and Required Improvements

Section 501. Application and General Standards.

- (a) The design standards and required improvements contained within this Part 5 are intended as the minimum for the promotion of the public health, safety and general welfare, and shall be applied as such by the Township Planning Commission and the Board of Supervisors in reviewing all subdivision and land development plans.
- (b) Whenever other Township regulations impose more restrictive standards, specifications and requirements than those contained herein, such other regulations shall prevail.
- (c) Where, in the opinion of the Planning Commission, the literal application of these design standards and/or required improvements would, in certain cases, cause undue hardship and/or is clearly unreasonable, the Planning Commission may recommend such reasonable exceptions. All such exceptions shall be consistent with the purposes of this Chapter and the established goals, objectives and policies of the Township Comprehensive Plan and the Township Zoning Ordinance (see Chapter XXXII of the Township Code of Ordinances). The Board of Supervisors shall have the power to grant such exceptions, as recommended by the Planning Commission, upon written request by the applicant.
- (d) The design standards and required improvements identified within this Section of this Chapter may be modified by the Township in the case of plans for complete communities, neighborhood units or other large scale developments which, in the judgment of the Planning Commission, achieve substantially the objectives of these regulations and which are further protected by such covenants or other legal provisions as will assure conformity to and achievement of the subdivision or land development plan.
- (e) Land subject to hazards of life, health or property, such as may arise from fire, floods, disease or other causes, shall not be subdivided or developed unless such hazards have been eliminated or unless the subdivision or land development plan shall show adequate safeguards against them, which shall be approved by the appropriate regulatory agencies.
- (f) Subdivision and land development plans shall give due recognition to the Township Comprehensive Plan and the Zoning Ordinance (see Chapter XXXII of the Township Code of Ordinances) or to such parts thereof as may have been adopted pursuant to statute.
- (g) The transportation system of a proposed subdivision or land development shall be planned and designed with consideration to nearby developments or neighborhoods in order to minimize traffic hazards and congestion.
- (h) All proposed subdivisions and land developments shall be reviewed to assure that all such applications are consistent with the need to minimize flood damage. Adequate drainage facilities shall be provided to minimize or reduce exposure to flood hazards.
- (i) Approval of Plans and the specifications provided within this Section shall be of equal force and effect. In the case of any discrepancy between the Plans and these specifications, the decision of

the Township or its authorized representative shall be final and conclusive as to which is preferred.

(j) All required improvements shall be installed by the developer in accordance with Part 5 and Part 6 of this Chapter and with Article V of the Pennsylvania Municipalities Planning Code (Act 247, as amended).

(Ordinance 135, November 18, 1992, Section 501)

Section 502. Street Design.

(a) General Standards.

(1) The location, arrangement, extent, grade and width of all streets shall conform to the Township Comprehensive Plan and/or to all other "official transportation plans", or such parts thereof, as may have been adopted by the Township and/or the County.

(2) All proposed subdivisions or land developments shall have adequate access to the public street system of the Township.

(3) The proposed street system shall extend existing or recorded streets at the same width as the existing or recorded streets, but in no case at less than the required minimum width identified under Subsection 502(b) of this Chapter.

(4) Where, in the opinion of the Planning Commission, it is desirable to provide for street access to an adjoining property, street stubs shall be extended to the boundary of such property. The street stub shall meet the width requirements for a cul-de-sac street. The developer of the tract shall properly grade the street stub and provide an eight inch (8") stone base. The street stub or right-of-way shall be granted as an easement to the Township.

(5) If required by the Planning Commission, new minor streets shall be designed and located to facilitate through traffic. In addition, the applicant shall give consideration to the extension and continuation of collector streets into and from adjoining properties.

(6) Where a proposed subdivision or land development is of sufficient size to warrant an interior circulation system, a clear hierarchy of streets shall be designed and established.

(7) Where subdivision abuts an existing street of improper width, grade or alignment, the Township Planning Commission may require the dedication of land sufficient to widen the existing street or correct the improper grade or alignment.

(8) Proposed streets shall be logically adjusted to the topographic conditions of the site so as to produce reasonable grades, proper drainage, sufficient erosion control and suitable building sites.

(9) Proposed streets shall be laid out to avoid environmentally sensitive areas such as flood plains, wetlands, sinkholes and steep slopes.

(10) Where possible, proposed streets should be oriented in a general east-west direction to provide the opportunity for solar utilization and to maximize south facing slopes.

(11) Whenever a tract to be subdivided or developed encroaches upon the legal right-of-way of a state highway, a Highway Occupancy Permit issued by the Pennsylvania Department of Transportation shall be required.

(12) Whenever a tract to be subdivided or developed abuts or contains an arterial or a major collector street, the Township Planning Commission may require restriction of access to the street by one or more of the following methods:

(i) Provision of reverse frontage lots; or

(ii) Provision of service streets along the rear of the abutting lots, together with prohibition of private driveways intersecting the arterial or major collector streets; or

(iii) Provision of marginal access streets, provided that the reverse strips establishing such marginal access streets shall be definitely placed within the jurisdiction of the Township under an executed agreement meeting the approval of the Township; or

(iv) Provision of an internal street system on which the proposed lots would have proper frontage and access; or

(v) The restriction of ingress and egress involving left-hand turns onto or off of the arterial or major collector street.

(13) Private streets (streets not to be offered for dedication) are prohibited, unless they meet the design standards of these regulations and are constructed to Township specifications.

(14) Dead-end streets are prohibited, unless designed and constructed as cul-de-sac streets.

(15) New half or partial streets shall be prohibited.

(16) Whenever a tract to be subdivided or developed borders on an existing half or partial street, the other part of the street shall be platted within such tract.

(17) Service streets (alleys) are prohibited in developments containing single-family dwelling units, except where required to avoid direct access onto an arterial street.

(18) Service streets (alleys) may be permitted in developments containing multi-family dwelling units (townhouses and apartments) and non-residential land uses, provided that the service street is not the primary access point to the development. Where permitted, the service street shall have a minimum paved width of twenty-four feet (24').

(19) The developer of any residential land development or subdivision involving fifteen (15) or more dwelling units shall contact the Daniel Boone Area School District prior to Preliminary Plan approval to establish an acceptable, safe and convenient location for a school bus stop.

(20) Residential developments containing twenty (20) or more dwelling units shall provide and design an internal street system with a minimum of two (2) separate points for ingress and egress. The proposed points of ingress and egress shall be designed to meet

the standards which are specified for street intersections (Subsection 502(f)) of this Chapter.

(21) Residential developments containing fifty (50) or more dwelling units shall provide a minimum of one (1) internal street designed as a collector street. The proposed street which is to be designed as a collector street shall be subject to the approval by the Township.

(22) The Township may require non-residential developments to provide and design an internal collector street system with two (2) separate points for ingress and egress.

(23) The Township may require restriction of access to a public street by one or more of the following methods:

(i) Provision of reverse frontage lots; or

(ii) Provision of service or marginal access streets along the rear of the abutting lots, together with prohibition of private driveways intersecting the arterial or major collector streets; or

(iii) Provision of service or marginal access streets, provided that the reverse strips establishing such marginal access streets shall be definitely placed under an executed agreement meeting the approval of the Township, in a manner enforceable by or subject to Township control; or

(iv) Provision of an internal street system on which the proposed lots would have proper frontage and access; or

(v) The restriction of ingress and egress involving lefthand turns onto or off of an arterial or collector street.

(b) Street Widths.

(1) Minimum street rights-of-way and cartway widths shall conform to the Township Comprehensive Plan and/or to all other "official transportation plans", or such parts thereof, as may have been adopted by the Township, the County and/or the State. If not shown on such plans, the required right-of-way and cartway widths shall be as follows:

<u>Street Type</u>	<u>Required Widths</u>	
	<u>Right-Of-Way</u>	<u>Cartway</u>
Minor Street	50 Feet	33 Feet
Collector Street	60 Feet	36 Feet
Arterial Street	100 Feet	*
Cul-de-Sac Street	50 Feet	33 Feet
Marginal Access Street	50 Feet	33 Feet

* As required by the Pennsylvania Department of Transportation or the County of Berks.

(2) Additional right-of-way and cartway widths may be required by the Board of Supervisors or the Planning Commission for the purpose of promoting the public safety and convenience, or to provide parking in commercial and industrial areas and in areas of high density residential development.

(3) Where a subdivision or land development abuts or contains an existing street of inadequate right-of-way width and/or cartway width, additional right-of-way and/or cartway width shall be dedicated and/or constructed to conform with the standards of this Chapter.

(4) Where a subdivision or land development abuts or contains an existing street of inadequate horizontal and/or vertical alignment, the Planning Commission may require additional right-of-way width or cartway width in order to improve public safety.

(c) Street Grades.

(1) There shall be a minimum center line grade of one percent (1%).

(2) Center line grades shall not exceed the following:

<u>Street Type</u>	<u>Maximum Grade</u>
Minor Street	10 Percent
Collector Street	8 Percent
Arterial Street	6 Percent
Cul-de-Sac Street	10 Percent
Marginal Access Street	10 Percent

(3) All approaches to an intersection shall have a leveling area not exceeding five percent (5%) in grade for a distance of one hundred feet (100'), as measured from the centerline of the intersecting street.

(d) Horizontal Curves

(1) Whenever street lines are deflected in excess of two degrees (2°), connection shall be made by horizontal curves.

(2) To ensure adequate sight distance, minimum center line radii for horizontal curves shall be as follows:

Minor Street	150 Feet
Collector Street	300 Feet
Arterial Street	500 Feet

(3) A tangent of no less than one hundred feet (100'), as measured along the street centerline, shall be provided between all horizontal curves on all streets.

(4) To the greatest extent possible, combinations of the minimum radius and maximum grade shall be avoided.

(e) Vertical Curves.

(1) At all changes in street grades where the algebraic difference in grade exceeds one percent (1%), vertical curves shall be provided to permit the following minimum sight distances:

Minor Streets	200 Feet
Collector Streets	300 Feet
Arterial Streets	400 Feet

(2) Additional sight distances may be required by the Township Engineer in order to overcome obstacles such as, but not

limited to, street grades, horizontal street alignment, functional speed limit, existing land uses and proposed land development.

(f) Intersections.

(1) The center lines of streets shall intersect at right angles unless existing conditions dictate otherwise. No street shall intersect another street at an angle of less than seventy-five degrees (75°).

(2) No more than two (2) streets shall intersect at the same point.

(3) Minor streets intersecting one another shall either intersect directly opposite to each other or shall be separated by at least one hundred fifty feet (150') between center lines, measured along the center line of the street being intersected.

(4) Intersections with collector or arterial streets shall be located not less than one thousand feet (1,000') apart, measured from center line to center line, along the center line of the collector or arterial street.

(5) Street curb intersections shall be rounded by a tangential arc with a minimum radius of:

Twenty feet (20') for intersections involving only minor streets;

Thirty feet (30') for all intersections involving a collector street;

Forty feet (40') for all intersections involving an arterial street.

(6) Street right-of-way lines shall be parallel to (concentric with) curb arcs at intersections.

(7) Clear sight triangles shall be provided at all street intersections. Within such triangles, nothing, except street signs, traffic lights or signs, utility poles and mailboxes, which impedes vision between a height of three feet (3') and then feet (10') above the centerline grades of the intersecting streets shall be erected, placed, planted or allowed to grow. Such triangles shall be one hundred fifty feet (150') measured in each direction along the through street from the point of the intersection of the street centerlines and from a point forty feet (40') behind the right-of-way of the intersecting street from the stop controlled street. Wherever a portion of the clear sight triangle occurs behind the building setback line, such portion shall be shown on the subdivision plan, and shall be considered a building setback line.

(8) All proposed intersections shall have sufficient horizontal sight distance in order to provide a safe and convenient point of ingress and egress. Horizontal sight distances shall be measured in each direction from a point three and one-half feet (3.5') above the centerline of the road surface to a point three and one-half feet (3.5') above the centerline of the road surface. The minimum horizontal sight distances shall be based on the functional classification, speed limit and grade of the intersecting street, utilizing the latest standards of the American Association of State Highway and Transportation Officials (AASHTO).

(g) Cul-de-Sac Streets.

(1) Cul-de-sac streets may be permitted if the physical development conditions and/or the tract configuration of the site limits the design options for a "through street" or a "loop street".

(2) Dead-end streets are prohibited unless designed as cul-de-sac streets or designed for future access to adjoining properties.

(3) Any street dead-ended for access to an adjoining property or because of authorized stage development shall be provided with a temporary, all-weather turnaround, within the subdivision, and the use of such turnaround shall be guaranteed to the public until such time as the street is extended.

(4) Cul-de-sac streets, permanently designed as such shall not exceed one thousand feet (1,000') in length and shall not furnish access to more than twenty (20) dwelling units.

(5) Cul-de-sac streets, permanently designed as such shall have a minimum length of two hundred fifty feet (250') measured from the edge of the cartway of an intersecting street to the center of the bulb of the cul-de-sac.

(6) Unless future extension is impractical or undesirable, the turnaround right-of-way shall be extended to the adjacent tract with sufficient width provided along the boundary line to permit the extension of the street at full width. The cost for the transition improvements converting from temporary to permanent facilities within and adjacent to the cul-de-sac bulb shall be placed and retained in escrow until such transition is completed and/or constructed. These improvements include, but are not limited to, vertical curbs, sidewalks, drainage facilities, cartway alterations, grading, landscaping and other on-site improvements which are required to make the vertical and horizontal transition between properties.

(7) The center line grade on a cul-de-sac street shall not exceed ten percent (10%), and the grade of the diameter of the turnaround shall not exceed five percent (5%).

(8) All cul-de-sac streets, whether permanently or temporarily designed as such, shall be provided at the closed end with a fully paved turnaround, having a minimum radius of fifty feet (50'). The right-of-way shall have a minimum radius of sixty feet (60').

(9) The Governing Body, upon the recommendation of the Planning Commission and the Township Engineer, may permit acceptable alternative turn-around designs.

(10) Drainage of cul-de-sac streets shall preferably be toward the open end. If drainage is toward the closed end, water shall be conducted away in an underground storm sewer or other means acceptable to the Township.

(Ordinance 135, November 18, 1992, Section 502; as amended by Ordinance 165, April 26, 1999; as further amended by Ordinance 214, July 5, 2005, Section 1)

Section 503. Street Construction and Improvement Standards.

- (a) All proposed streets shall be graded, improved and surfaced to the grades and dimensions on the approved plans, profiles and cross-sections.
- (b) All proposed streets shall be constructed in accordance with all applicable standards that are specified within this Chapter. A summary of the minimum street construction standards has been included as part of Section 803 (Appendix C) of this Chapter.
- (c) Additional right-of-way and cartway widths, beyond what is required within this Chapter, may be required by the Planning Commission in order to control traffic patterns, to lessen traffic congestion, to facilitate the adequate provision for future community or transportation improvements, and/or when clearly in the interest of the public health, safety or general welfare.
- (d) Where a subdivision or land development abuts or contains an existing street of inadequate right-of-way width, additional right-of-way shall be dedicated to conform to the standards of this Chapter. Where a subdivision or land development abuts or contains an existing street of inadequate cartway width, additional cartway width shall be constructed to conform with the standards of this Chapter.
- (e) Where a subdivision or land development abuts or contains an existing street of inadequate horizontal and/or vertical alignment, the Planning Commission may require adjustments in order to improve public safety.
- (f) The ultimate right-of-way of an existing or a proposed street shall be properly graded. Such grading shall be done to a maximum side slope of one foot (1') vertical to three feet (3') horizontal. All trees, stumps and other material deemed unsuitable by the Township Engineer shall be removed. All disturbed areas shall be suitably stabilized for sedimentation control. In no case shall the required grading extend onto an adjoining property, unless the adjoining property owner grants the applicant permission to do so.
- (g) All storm drainage facilities located within the ultimate right-of-way shall be designed and constructed in accordance with Section 511 (Storm Water Management) and Section 512 (Sedimentation and Erosion Control) of this Chapter.
- (h) Where required by the Planning Commission or the Pennsylvania Department of Transportation (PennDOT), guide rails shall be installed by the developer. All materials used shall be in strict conformance with the latest specifications of the Pennsylvania Department of Transportation.
- (i) Section 505 of this Chapter includes additional requirements pertaining to traffic impact studies, fees and improvements. The cost of all required traffic studies and/or improvements shall be incurred by the developer.
- (j) In the event an existing street is excavated for repair and/or improvement to storm water management facilities, sanitary sewer facilities, water supply facilities or any utility, the existing street shall be properly restored in accordance with the requirements specified under the Amity Township Street Cut Ordinance (see Chapter XXVI of the Township Code of Ordinances), as amended. These requirements include, but are not limited to, standard specifications for trenching, backfilling, compacting and paving restoration. Where the Amity Township Street Cut Ordinance (see Chapter XXVI of the Township Code of Ordinances) does not

apply, the Township Engineer shall require a restoration measure as specified under Township Ordinance 94-143 (see Chapter XXIII of the Township Code of Ordinances), as amended. If required by the Township, an escrow shall be established for the cost of the improvements and/or inspection fees.

(Ordinance 135, November 18, 1992, Section 503; as amended by Ordinance 165, April 26, 1999, Section 6)

Section 504. Street Names and Signs.

(a) All proposed street names shall be subject to the approval of the Township and the Postmaster having jurisdiction.

(b) Proposed streets which are obvious extensions of existing streets shall bear the same name as the existing street.

(c) In no case shall the name of a proposed street duplicate an existing street name in the Township and/or in the same postal district(s), irrespective of the use of the suffix street, road, avenue, boulevard, drive, way, place, court or lane.

(d) All street signs, including but not limited to traffic control signs, street signs and directional signs, shall be acquired and installed by the applicant. All signs must be high intensity grade signs fabricated by a PennDOT approved sign manufacturer. Where traffic control signs are required, the applicant shall furnish to the Township all studies, engineering reports and documentation for procuring approval by the Pennsylvania Department of Transportation.

(Ordinance 135, November 18, 1992, Section 504; as amended by Ordinance 165, April 26, 1999, Section 7; as amended by Ordinance 198, August 5, 2003, Section 1; as further amended by Ordinance 208, January 18, 2005, Section 3)

Section 505. Traffic Impact Analysis.

(a) Traffic Impact Studies.

(1) When a proposed subdivision or land development generates five hundred (500) or more trips per day, the applicant shall submit a traffic impact study to the Township for review and comment. The applicant shall utilize the transportation data and criteria that is specified within the Trip Generation Report (current edition, or as amended), published by the Institute of Transportation Engineers (ITE).

(2) The traffic impact study will enable the Township to assess the impact of a proposed development on the transportation system. The purpose of the study is to ensure that the proposed development does not adversely affect the transportation network and to identify any traffic problems associated with access from the site onto the exiting roads. The study shall also identify solutions to potential traffic problems and shall present improvements that are to be incorporated into the proposed development.

(3) The traffic impact study shall contain a complete description of the proposed internal and existing transportation system. The study shall describe the external roadway system within one-half (0.5) mile along the adjacent roadway in both directions from all access points or to a major intersection along these

roadways. Major intersections in the study area shall be identified and delineated. All future transportation improvements which are part of proposed roadway improvements, which are part of proposed surrounding developments shall be identified and included in the calculations.

(4) Existing traffic conditions shall be measured and documented for all roadways and intersections within the study area.

Existing traffic volumes for average daily traffic, peak highway hour(s) traffic, and peak development-generated hours(s) traffic shall be recorded. Manual traffic counts at major intersections in the study area shall be conducted, encompassing the peak highway and development-generated hour(s), and documentation shall be included within the report. A volume-capacity and delay analysis based upon existing volumes shall be performed during the peak highway hour(s) and the peak development-generated hour(s) for all roadways and major intersections within the study area. Levels of service shall be determined for each location.

(5) The analysis will determine the adequacy of the existing roadway system to serve the current and projected traffic demand. Roadways and/or intersections experiencing levels of Service D, E or F, as described in Highway Capacity Manual, Special Report 209, as amended, shall be noted as congested locations.

(6) Calculation of vehicular trips to result from the proposed development shall be completed for the average daily peak highway hour(s). Vehicular trip generation rates to be used for this calculation shall be obtained from the Trip Generation Report (current edition or as amended), published by the Institute of Transportation Engineers (ITE). These development-generated traffic volumes shall be provided for the inbound and outbound traffic movements. These generated volumes shall be distributed to the study area and assigned to the existing roadways and intersections through the study area.

(7) All anticipated turning movements shall be calculated. Documentation of all assumptions used in the distribution and assignment phase shall be provided. Traffic volumes shall be assigned to individual access points. Any characteristics of the site that will cause particular trip generation problems shall be noted.

(8) The total future traffic demand shall be calculated and included within the study. The total traffic demand shall consist of the combination of existing traffic expanded to the completion year, which is estimated to be five percent (5%) per year, the proposed use or development generated traffic, and the traffic generated by other proposed developments in the study area. A second volume/capacity and delay analysis shall be conducted using the total future demand and the future roadway capacity. If staging of the proposed development is anticipated, calculation for each stage of completion shall be made. This analysis shall be performed during the peak highway hour(s) and peak development-generated hour(s) for all roadways and major intersections within the study area. Volume-capacity and delay calculations shall be completed for all major intersections. The procedures described in the Highway Capacity Manual, Special Report 209, as amended, and as outlined in the PennDOT Design Manual, Volume 2, or as amended, shall be followed.

(9) The levels of service for all roadways and intersections shall be listed. All roadways and/or intersections showing a level

of service, D, E or F and volume/capacity ratios equal to or greater than 1.0 shall be considered deficient. The study shall conclude with a list of specific recommendations for the elimination of these traffic problems. This listing of recommended improvements shall include, but not be limited to, internal circulation design, site access location and design, external roadway and intersection design and improvements, traffic signal installation and operation (including timing), and transit design improvements. All physical roadway improvements shall be depicted within the study. Signal timing should be evaluated for any intersection with a level of service D, E or F, but a volume capacity ratio of less than 1.0. Warrants for signalization shall be examined for any unsignalized intersections with levels of service E or F.

(b) Required Impact Fees.

(1) Pursuant to the procedures and requirements of the Pennsylvania Impact Fee Law (Act 209 of 1990, as amended), the Board of Supervisors have prepared and enacted a Roadway Sufficiency Analysis and Capital Improvements Program through Township Ordinance No. 91-132, as amended (see Chapter XVI of the Township Code of Ordinances).

(2) The applicant shall consult the Township regarding impact fees which may be required as a result of the proposed subdivision or land development.

(3) If impact fees are required, the applicant shall comply with the established procedures specified within the Amity Township Impact Fee Ordinance, as amended (see Chapter XVI of the Township Code of Ordinances).

(c) Required On-Site Improvements.

(1) On-site traffic improvements may be required by the Township in order to control traffic patterns, to lessen traffic congestion, to facilitate the adequate provision for future community or transportation improvements, and/or when clearly in the interest of the public health, safety, or general welfare.

(2) On-site traffic improvements may include, but are not limited to, cartway widening, right-of-way dedication, shoulder stabilization, vertical or horizontal curve realignment, grading and/or traffic control devices.

(3) The applicant shall consult the Township regarding on-site traffic improvements which may be required as a result of the proposed subdivision or land development.

(4) The cost of all required traffic studies and/or improvements shall be incurred by the applicant.

(Ordinance 135, November 18, 1992, Section 505)

Section 506. Blocks, Lots and Parcels.

(a) Blocks.

(1) The length, width and shape of blocks shall be determined with due regard to zoning requirements, topographic conditions, environmentally sensitive lands, and requirements for safe and convenient vehicular and pedestrian circulation.

(2) Blocks shall have a maximum length of one thousand six hundred feet (1,600') and a minimum length of five hundred feet (500').

(3) In the design of blocks longer than one thousand feet (1,000') special consideration shall be given to the requirements of satisfactory fire protection.

(4) Residential blocks shall be of sufficient depth to accommodate two (2) tiers of lots, except where reverse frontage lots are required along a major collector or arterial street, or where prevented by physical site conditions.

(5) Blocks in non-residential areas may vary from the design criteria indicated above if the applicant demonstrates that the alternative design is essential to the proposed development. In all cases, however, adequate provisions shall be made for off-street parking, loading areas and traffic circulation.

(b) Lots and Parcels.

(1) The size, shape and orientation of proposed lots shall be appropriate for the type of development and use contemplated.

(2) Lots shall conform to the applicable minimum lot sizes, lot widths and setback requirements as set forth in the Township Zoning Ordinance (see Chapter XXXII of the Township Code of Ordinances).

(3) Side lot lines shall be at right angles to street line tangents or radial to street line curves.

(4) The depth to width ratio of a residential lot shall not be less than one to one (1 to 1) or greater than three to one (3 to 1).

(5) The depth to width ratio of lots designated for non-residential land development shall be adequate for the land use proposed and sufficient to provide satisfactory space for on-site parking, loading and unloading, setbacks, buffer yards and landscaping.

(6) Where feasible, lot lines shall follow municipal boundaries rather than cross them, in order to avoid jurisdictional problems.

(7) Where feasible, lots shall be orientated and sited to take advantage of solar energy.

(8) Double or reverse frontage lots shall be avoided except as needed to avoid direct vehicular access onto an arterial or major collector street by individual driveways, or to overcome physical site conditions. All permitted residential reverse frontage lots shall have frontage onto a minor or minor collector street. The rear yard setback shall be established seventy-five feet (75') from the ultimate right-of-way line of the arterial or major collector street. Between the rear yard setback and the ultimate right-of-way line, a ten feet (10') wide low intensity buffer screen and easement shall be established in order to prohibit vehicular access onto the arterial or major collector street, all in accordance with Section 517 of this Chapter. The easement shall contain evergreen plantings meeting the standards of Section 517 of this Chapter.

(9) Lots which have double or reverse frontages shall provide a four feet (4') high vinyl rail fence to secure and buffer the lots from the adjacent street to which it has reverse frontage. The proposed location of the fence shall be located between the ultimate right-of-way and the seventy-five feet (75') rear yard setback. The fence shall be extended along the entire property line in which double or reverse frontage lots are proposed by the developer. The location and type of fence and landscaping materials to be utilized shall be subject to the approval of the Township.

(10) Lots which have double or reverse frontages may contain accessory buildings and/or structures within the rear yard provided they are in compliance with the setback requirements as measured from the seventy-five feet (75') rear yard setback or from the four feet (4') high fence as required under this Section. The type, location and placement of all such accessory buildings and/or structures shall be subject to the approval of the Township Zoning Officer.

(Ordinance 135, November 18, 1992, Section 506; as amended by Ordinance 165, April 26, 1999, Section 8; as further amended by Ordinance 217, September 6, 2005, Section 5)

Section 507. Curbs, Sidewalks and Pathways.

(a) Curbs.

(1) Vertical curbs shall be installed along both sides of all proposed streets, except where Zoning District regulations require the minimum lot width to be two hundred feet (200') or more.

(2) Where in the interest to control drainage or traffic patterns, the Planning Commission may require the developer to install vertical curbs along an existing or exterior street on which a residential subdivision or land development abuts.

(3) Vertical curbs shall be installed in common parking areas for multi-family developments and non-residential developments.

(4) Vertical curbs shall be constructed and installed by the developer in accordance with the standards specified under Section 804 (Appendix D) of this Chapter.

(5) Where vertical curbs are not required, a graded and stabilized shoulder of at least four feet (4') in width shall be provided on both sides of the street. The stabilized shoulder shall be designed and constructed in accordance with the standards specified under Section 804 (Appendix D) of this Chapter.

(6) Curb cuts for driveways and handicap ramps shall be located and installed in accordance with the standards specified under Section 804 (Appendix D) of this Chapter.

(7) Where required by the Township Engineer, a six inch (6") compacted stone base shall be provided under the vertical curb.

(b) Sidewalks and Pathways.

(1) Sidewalks shall be installed along both sides of the cartway in all proposed residential subdivisions and land developments when the gross residential density is greater than two (2) dwelling units per acre or when Zoning District regulations

permit the gross residential density to exceed two (2) dwelling units per acre.

(2) Sidewalks shall be installed along one side of the cartway in all proposed residential subdivisions and land developments when the gross residential density is greater than one (1) dwelling unit per acre but less than two (2) dwelling units per acre or when Zoning District regulations permit the gross residential density to exceed one (1) dwelling unit per acre.

(3) A concrete or macadam pedestrian pathway shall be installed along one side of the cartway in all proposed residential subdivisions (except where the lot width exceeds two hundred feet (200')) and land developments when the gross residential density is less than one (1) dwelling unit per acre or when Zoning District regulations do not permit the gross residential density to exceed one (1) dwelling unit per acre. The pedestrian pathway shall be at least three feet (3') in width.

(4) Where in the interest of public safety, the Planning Commission may require the developer to install sidewalks or a pedestrian pathway along an existing or exterior street on which a residential subdivision or land development abuts.

(5) Where in the interest of public safety, the Planning Commission may require the developer of a proposed non-residential development to install sidewalks or a pedestrian pathway along the interior and/or exterior streets of the development.

(6) Sidewalks shall be constructed and installed by the developer in accordance with the standards specified under Section 804 (Appendix D) of this Chapter.

(7) Crosswalks may be required whenever necessary to facilitate pedestrian circulation and to give access to community facilities.

(8) Handicap ramps shall be located and installed in accordance with the standards specified by the Americans with Disabilities Act, as amended, and under Section 804 (Appendix D) of this Chapter.

(Ordinance 135, November 18, 1992, Section 507; as amended by Ordinance 165, April 26, 1999, Sections 9-12)

Section 508. Monuments and Markers.

(a) Concrete monuments shall be accurately placed at the ultimate street right-of-way line for all property corners, at all other property corners, at each street intersection, at the beginning and end of all street curves, and at locations deemed necessary by the Township Engineer.

(b) All concrete monuments shall be thirty inches (30") in length and have a flat top at least four inches (4") in diameter or square with the bottom sides being two inches (2") greater. All concrete monuments shall contain a copper or brass dowel (plug).

(c) All concrete monuments shall be placed in the ground after final grading is completed or at a time specified by the Township Engineer. The monuments shall be set on four inches (4") of stone and shall be flush with the surface of the ground.

(d) Markers shall consist of a metal reinforced pin at least thirty-six inches (36") in length and three-fourths inch (3/4") in diameter. All existing markers shall be encased in concrete with four inches (4") of the marker exposed on the surface and painted orange.

(e) All monuments and markers shall be accurately set by a registered professional engineer or land surveyor.

(Ordinance 135, November 18, 1992, Section 508)

Section 509. Driveways.

(a) No driveways shall be located, designed and constructed so as to create a drainage or sedimentation problem on an adjacent property or street. All driveways shall be so constructed and maintained that the materials of which the driveways are made will not wash nor be deposited upon public roads.

(b) Driveways serving single-family residential dwelling units shall have a minimum width of ten feet (10') and a maximum width of thirty-six feet (36'). All such driveways shall not exceed fourteen percent (14%) in grade. Driveways exceeding seven percent (7%) in grade shall be paved.

(c) No residential property shall have more than one (1) vehicular access point to a public road. In order to reduce the number of curb cuts along a given road, the Planning Commission may permit adjoining or common driveways.

(d) Driveways serving multi-family residential dwelling units and non-residential developments shall have a minimum width of twelve feet (12') for one-way traffic and a minimum width of twenty-four feet (24') for two-way traffic. All such driveways shall not exceed ten percent (10%) in grade and shall be paved.

(e) For all driveways, the area between the edge of the cartway and the ultimate right-of-way line shall not exceed five percent (5%) in grade and shall be paved.

(f) All driveways shall be located, designed and constructed as to provide optimum sight distance at their intersection with the street.

(g) Clear sight triangles shall be provided at all proposed driveway intersections. The minimum distance of such triangles shall be fifty feet (50') measured in each direction from the point of the intersection of the center lines and from a point twenty feet (20') behind the edge of the cartway of the intersecting street. Within such triangles, no vision-obstructing object shall be permitted which exceeds a height of thirty inches (30") above the elevation of the intersecting streets.

(h) All proposed driveway intersections shall have sufficient horizontal sight distance in order to provide a safe and convenient point of ingress and egress. Horizontal sight distances shall be measured in each direction from the edge of the cartway at a point three and one-half feet (3.5') above the road surface to a point three and one-half feet (3.5') above the center line of the road surface. The minimum horizontal sight distances shall be based on the functional classification, speed limit and grade of the intersection street, utilizing the latest standards of the Commonwealth of Pennsylvania, Pennsylvania Code 67 Transportation, Chapter 441, as amended.

(i) Driveway entrances shall intersect streets at right angles unless the existing conditions of the site dictate otherwise. No driveway shall intersect a street at an angle less than seventy-five degrees (75°).

(j) Driveways shall not be located within fifty feet (50') from the point of intersection of the nearest street right-of-way lines.

(k) In order to provide a safe and convenient point of ingress and egress, driveway entrances should be rounded with a minimum radius of five feet (5').

(l) All proposed driveways and related improvements shall be located, designed and constructed in order to control storm water run-off, prevent sedimentation of public roads, maintain the structural stability of public roads, maintain the existing drainage patterns of the area and prevent undue traffic hazards.

(m) The intersection of all proposed driveways with the cartway edge shall be designed and constructed by use of either a drainage swale or pipe, as determined by the Township Engineer. If a drainage swale is to be utilized, it shall slope from the cartway at a minimum grade of five percent (5%) for a minimum of eight feet (8') from the cartway edge. If a drainage pipe is to be utilized, the size of the pipe shall be determined by drainage computations using a ten (10) year storm frequency. All drainage pipes shall have a minimum diameter of fifteen inches (15").

(n) If required by the Planning Commission, the developer shall prepare a typical cross-section for each driveway located within the subdivision or land development. The profiles should demonstrate how problems associated with slope and drainage are to be overcome.

(o) The Pennsylvania Department of Transportation shall review all Plans when access is proposed onto a state road or when encroachment is proposed within a state right-of-way. All applicable permits shall be approved by the Pennsylvania Department of Transportation prior to Preliminary Plan approval. The Highway Occupancy Permit number shall be noted on the Plan.

(p) A Township Occupancy Permit is required when access is proposed onto a Township road or when encroachment is proposed within a Township right-of-way.

(q) All driveways shall be maintained by the property owner in such a manner so as not to interfere with the functional design and location of the driveway.

(r) Section 925 of the Township Zoning Ordinance (see Chapter XXXII of the Township Code of Ordinances) provides additional standards and specifications for proposed driveways.

(s) All driveways serving single family residential homes or single family semi-detached dwellings or townhouses must be contained within the four (4) corners of the lot for the residence that it is serving. At no time may a driveway cross over, traverse or encroach upon another lot for purposes of servicing the residential dwelling to which it is attached.

(Ordinance 135, November 18, 1992, Section 509; as amended by Ordinance 235, April 17, 2007, Section 4)

Section 510. Off-Street Parking and Loading Areas.

(a) All proposed off-street parking and loading areas shall be located, designed and constructed so as not to create a drainage or sedimentation problem on an adjacent property or street.

(b) Parking areas accommodating fifty (50) vehicles or more shall be designed with an internal collector road which shall access no parking space directly, but shall shuttle vehicular traffic from the parking lot aisles to the public road.

(c) Where required by the Planning Commission, parking areas shall be designed to include a pedestrian circulation system to enhance safety and minimize conflicts between pedestrians and vehicles.

(d) Parking areas shall be designed such that parked vehicles shall not interfere with pedestrian and emergency access to the buildings.

(e) Developments containing dead-end parking areas shall provide adequate areas into which emergency vehicles (fire and ambulance) can safely maneuver. It shall be the developers responsibility to contact the regional fire company and ambulance association to determine if the proposed design presents an emergency access problem. The developer shall provide a letter of endorsement prior to municipal approval.

(f) If required by the Township and/or Pennsylvania Department of Transportation, the interconnection of parking areas of adjoining properties may be required for access management.

(g) Section 923 of the Township Zoning Ordinance (see Chapter XXXII of the Township Code of Ordinances) provides additional standards and specifications for off-street loading areas.

(h) Section 924 of the Township Zoning Ordinance (see Chapter XXXII of the Township Code of Ordinances) provides additional standards and specifications for off-street parking facilities.

(i) In addition to the requirements specified under this Section, the following design standards shall apply to off-street parking areas in which the number of required spaces exceeds ten (10):

(1) Landscape standards for off-street parking and loading areas are contained at Section 517 of this Chapter.

(2) The edge of the parking area shall not be located closer than fifteen feet (15') to the outside of the nearest building. This area shall be reserved to be utilized for sidewalks and foundation plantings.

(3) Concrete tire bumpers shall be installed so as to prevent vehicle overhang on any sidewalk area and/or planting strip.

(4) The location and number of handicap spaces shall be provided as required by federal, state or local law. All proposed handicap ramps shall be located and installed in accordance with the standards specified by the Americans with Disabilities Act, as amended, and under Section 804 (Appendix D) of this Chapter.

(Ordinance 135, November 18, 1992, Section 510; as amended by Ordinance 165, April 26, 1999, Section 13; as further amended by Ordinance 217, September 6, 2005, Section 6)

Section 511. Stormwater Management. See Chapter XXV entitled "Stormwater Management of the Township of Amity Code of Ordinances. (Ordinance 135, November 18, 1992, Section 511; as amended by Ordinance 165, April 26, 1999, Sections 14-18; as further amended by Ordinance 189, June 3, 2002, Section 1; as further amended by Ordinance 198, August 5, 2003, Section 2; as further amended by Ordinance 214, July 5, 2005, Section 2)

Section 512. Sedimentation and Erosion Control.

(a) General Provisions and Compliance.

(1) No changes shall be made to the contour of the land, and no grading, excavating, removal or destruction of the topsoil, trees or other vegetative cover of the land shall be commenced, until such time as a plan for minimizing erosion and sedimentation has been processed and reviewed by the Planning Commission, the Berks County Conservation District and the Board of Supervisors.

(2) Approval of the Board of Supervisors of all preliminary and/or final plans of subdivision and land development does not relieve the developer's obligation to execute the erosion and sediment control measures as contained in this Chapter.

(3) When required, final approval of plans and specifications by the County Conservation District for the control of erosion and sedimentation shall be concurrent with the approval of subdivision or land development, and become a part thereof. Final plans for minimizing erosion and sedimentation as approved will be incorporated in the agreement and development escrow requirements as required by the Township.

(4) At the time a building permit is applied for, a review shall be conducted by the Township Engineer to insure conformance with the plan as approved. During construction, further consultative technical assistance will be furnished, if necessary, by the Berks County Conservation District. During the development phase, the Township Engineer, the Township Code Enforcement Officer and/or the Soil Conservation Service representative shall inspect the development site and enforce compliance with the approved erosion and sediment control plans.

(5) Topsoil shall not be stripped from any site within the Township unless it is directly affiliated with the subdivision and/or development of land. Unless permitted by the Board of Supervisors, topsoil shall not be removed from any site within the Township.

(b) General Performance Standards.

(1) Measures used to control erosion and reduce sedimentation shall, as a minimum, meet the standards and specifications of the Berks County Conservation District. In cases where the Berks County Conservation District does not have standards and specifications for erosion and sedimentation control, other known and commonly accepted standards and specifications may be used as approved by the Township Engineer.

(2) The following measures to minimize erosion and sedimentation shall be included where applicable in the control plan:

(i) Stripping of vegetation, regrading or other development shall be done in a way that will minimize erosion.

(ii) Development plans shall preserve salient natural features, keep cut and fill operations to a minimum, and ensure conformity with topography so as to create the least erosion potential and adequately control volume and velocity of surface water runoff.

(iii) Whenever feasible, natural vegetation shall be retained, protected and supplemented.

(iv) The disturbed areas and the duration of exposure shall be kept to a practical minimum, but shall not exceed twenty (20) days. Areas disturbed between October 15 and April 15 shall be stabilized by placement of sod or other means acceptable to the Township.

(v) Temporary vegetation and/or mulching shall be used to protect all exposed areas during development.

(vi) The permanent (final) vegetation and mechanical erosion control and drainage system shall be installed as soon as practical in the development.

(vii) Provisions shall be made to accommodate effectively the increased runoff caused by changed soil and surface conditions during and after development within the site. Where necessary, the rate of surface water runoff shall be mechanically retarded.

(viii) Sediment in the runoff water shall be trapped until the disturbed area is stabilized by the use of debris basins, sediment basins, silt traps or similar measures.

(c) Site Grading for Erosion Control. In order to provide more suitable sites for building and other uses, improve surface drainage and control erosion, the following requirements identified below shall be met.

(1) All lots, tracts or parcels shall be graded to provide proper drainage away from buildings and dispose of it without ponding. All land within a development shall be graded to drain and dispose of surface water without ponding, except where ponding (detention basins, etc.) is part of the storm water management plan for the site.

(2) Concentration of surface water runoff shall be permitted only in swales, watercourses or detention basins. Subject to the approval of the Township Engineer, swales shall be sodded, utilize jute matting, or other similar measures to insure establishment of ground cover.

(3) Grading shall in no case be done in such a way as to increase storm water runoff onto the property of another landowner.

(4) During grading operations, necessary measures for dust control must be exercised.

(5) Grading equipment will not be allowed to cross streams. Provisions shall be made for the installation of temporary culverts and bridges.

(6) Tire cleaning areas at least one hundred feet (100') in length shall be provided and maintained at each point of access to the development site. The tires of all vehicles leaving the site

shall be properly cleaned before entering onto any road within the Township.

(d) Excavation and Fills.

(1) No excavations shall be made with a cut face or side slope steeper than three (3) horizontal to one (1) vertical, except under one or both of the following conditions:

(i) The material in which excavation is made is sufficiently stable to sustain a slope of steeper than three (3) horizontal to one (1) vertical. A written statement to that effect from an engineer licensed by the Commonwealth of Pennsylvania and experienced in erosion control shall be submitted to the Township Engineer for review and approval. The statement shall affirm that the site has been inspected and the deviation from the slope will not result in injury to persons or damage to property.

(ii) A concrete, masonry or other approved retaining wall constructed in accordance with appropriate standards is provided to support the face of the excavation.

(2) Edges of slopes shall be a minimum of five feet (5') from property lines or right-of-way lines of streets in order to permit the normal rounding of the edge without encroaching on the abutting property.

(3) Adequate provisions shall be made to prevent surface water from damaging the cut face of excavations and the sloping surfaces of fills.

(4) Cut and fill shall not endanger adjoining property.

(5) Fill shall be placed and compacted so as to minimize sliding or erosion of the soil.

(6) Fills shall not encroach on natural watercourses or constructed channels.

(7) Fills placed adjacent to natural watercourses or constructed channels shall have suitable protection against erosion during periods of flooding.

(e) Maintenance Responsibility.

(1) Whenever sedimentation is caused by stripping of vegetation, regrading or other development, it shall be the responsibility of the person, corporation or other entity causing such sedimentation to remove it from all affected surfaces, drainage systems and watercourses on and off site, and to repair any damage at his expense as quickly as possible.

(2) Maintenance of all drainage facilities and all watercourses, both existing and proposed, within any proposed subdivision or land development shall be the responsibility of the developer until such time as one of the following is accomplished:

(i) An easement for these facilities is offered for dedication by the developer and is accepted by the Township; it shall then be the responsibility of the owner.

(ii) If an easement acceptable to the Township is established, but not dedicated to the Township, the maintenance shall then be the responsibility of the individual lot owners over whose property the easement passes. For land developments, the maintenance shall be the responsibility of the owner.

(iii) A homeowners' association or other approved legal entity, approved by the Township, assumes the responsibility for the maintenance of the development, including the maintenance of the watercourses and/or drainage facilities.

(3) It is the responsibility of any person(s), corporation or other entity doing any work on or across a stream, watercourse or swale, or upon the flood plain or right-of-way during the period of work, to return it to its original or equal condition after such activity is completed.

(4) No person, corporation or other such entity shall block, impede the flow of, alter and/or perform any work which will affect normal or flood flow in any communal stream or watercourse without having obtained prior approval from the Township and/or the Department of Environmental Protection, whichever is applicable.

(5) Each person, corporation or other entity which makes any surface changes shall be required to:

(i) Collect on-site surface runoff and control it to a point of discharge into the natural watercourse of the drainage area.

(ii) Control existing off-site runoff through his development by designing it to adequately control all upstream runoff.

(iii) Provide and install at his expense, in accordance with Township requirements, all drainage and erosion control improvements (temporary and permanent) as required by the approved erosion and sediment control plan.

(Ordinance 135, November 18, 1992, Section 512)

Section 513. Easements and Rights-of-Way.

(a) Where easements or rights-of-way are required to accommodate utility installations, such easements shall have a minimum width of twenty feet (20'). New utility easements and rights-of-way shall be located only upon consultation with the appropriate utility company.

(b) Where feasible, easements and rights-of-way shall be centered or adjacent to rear or side lot lines. No structures, materials and/or trees shall be placed within such easements and rights-of-way.

(c) Where a proposed subdivision or land development is traversed by a watercourse, drainage way, channel or stream, there shall be provided a drainage easement or right-of-way conforming substantially with the line of such watercourse and of such width as will be adequate to preserve the natural drainage channel and provide sufficient width for maintenance. Storm water management and drainage way easements shall be no less than twenty feet (20') in width, or as directed by the Township, the County of Berks and/or the Commonwealth of Pennsylvania. Stream and watercourse easements shall be no less than fifty feet (50') in width, or as directed

by the Township, the County of Berks and/or the Commonwealth of Pennsylvania.

(d) Right-of-way standards and installation procedures for natural gas and petroleum product transmission lines shall conform to all applicable federal and state regulations, including regulations governing the width of the right-of-way, location of pipeline within the right-of-way, the proposed depth of the pipeline, and the pipe wall thickness. There shall be a minimum distance of one hundred feet (100'), measured in the shortest distance, between any proposed or existing dwelling and any petroleum products or natural gas transmission line.

(e) Where feasible, sanitary sewer collection lines and water supply lines shall be located and installed within the right-of-way of a public street.

(f) All easements or rights-of-way shall be properly described by bearings and distances. The area occupied by any required easement or right-of-way shall not be calculated as part of the net lot area.

(g) No easement or right-of-way shall be created, recited and/or described in any deed unless the same has been shown on the approved plan of record.

(h) - Any deed conveying a lot on a plan of record shall make reference to the plan and all easements and encumbrances referenced on the plan. A representative description expressing the references by which easements and encumbrances will appear on all affected deeds shall be presented to the Township Engineer and the Township Solicitor for their review and approval prior to action on the Final Plan.

(Ordinance 135, November 18, 1992, Section 513)

Section 514. Sanitary Sewage Disposal.

(a) General Standards.

(1) This Section along with all other pertinent plans, ordinances and/or resolutions adopted by the Township shall be construed as implementing the provisions of the Pennsylvania Sewage Facilities Act (Act No. 537) and the Clean Streams Law (Act No. 394), or both, as hereafter amended, supplemented, modified or re-enacted by the General Assembly of Pennsylvania.

(2) All sewage disposal systems within the Township shall conform to the standards and requirements of the Pennsylvania Department of Environmental Protection. The installation of all sanitary sewage disposal systems shall be the responsibility of the developer.

(3) The developer shall provide the most desirable method of sanitary sewage disposal. The selected method shall conform with the existing physical site conditions.

(4) Approval of plans and the specifications provided within this Section shall be of equal force and effect. In the case of any discrepancy between the plans and these specifications, the decision of the Township or its authorized representative shall be final and conclusive as to which is preferred.

(b) Public Sanitary Sewage System.

(1) Areas designated for public sewer service within the Township's Official Sewage Facility Plan (Act 537 Plan, as amended) shall utilize the Amity Township Wastewater Treatment System as the method for sanitary sewage disposal.

(2) The developer shall construct a sanitary sewer collection and conveyance system in order to provide adequate sanitary sewer service available to each lot or dwelling unit within the subdivision or land development.

(3) The entire system shall be designed and constructed in accordance with the standards and specifications established by the Township.

(4) The applicant shall comply with all procedural permit requirements established by the Pennsylvania Department of Environmental Protection (PA DEP). The applicant shall complete and submit to the Township the necessary components of the PA DEP's Planning Module(s) for Land Development.

(5) If public sewage service is not accessible to an approved subdivision or land development, but is planned to be accessible within five (5) years of final approval, the developer shall install approved capped sewer collection lines within the limits of the subdivision or land development, in addition to the approved on-lot sewage facilities. Such sewer lines shall be capped at the limits of the subdivision or land development and the lateral shall be capped at the street right-of-way.

(6) The following design requirements and details should be provided on the appropriate plans, profiles or as supplemental information for those applications involving public sanitary sewer service:

(i) Laterals shall be shown for all proposed connections and shall not connect into manholes nor cross property lines.

(ii) First floor elevation shall be shown for all units.

(iii) Basement service shall be provided for all residential dwellings. All plans must demonstrate that basement service can be provided.

(iv) Proposed pump stations, unless otherwise stipulated, shall be the submersible type.

(v) The type and size of proposed pipes shall be indicated on the plans.

(vi) The minimum horizontal angle between incoming and outgoing sewers shall be less than ninety degrees (90°).

(vii) The minimum depth of the sewer shall be four feet (4').

(viii) Unless otherwise permitted by the Township, sanitary sewers shall not be permitted outside of the cartway. If permitted by the Township, the cross-country sewer line shall be backfilled with approved materials and properly

restored in accordance with the standards which are specified by Township ordinances or as required by the Township Engineer. All permitted cross-country sewer line runs shall be provided with brick landscaping pavers to provide and accommodate vehicular access for maintenance crews.

(ix) The sanitary sewer lines shall be located beneath the cartway of the proposed roadways a minimum of five feet (5') away from the curb line.

(x) Any manholes with a potential for surface water infiltrations shall be labeled watertight manhole frame and cover, and those manholes in the open field shall be raised a minimum of eighteen inches (18") above grade. Inserts shall be provided in all manholes.

(xi) Drop manholes shall be labeled on the plan.

(xii) Ductile iron pipe shall be utilized for stream crossings. All stream crossings shall meet the requirements specified by the Department of Environmental Protection.

(xiii) The appropriate vertical and horizontal separation distances required by the Township and by the Pennsylvania Department of Environmental Protection.

(xiv) Sewer lines must be a minimum of fifty feet (50') from private wells and one hundred feet (100') from public wells.

(xv) The applicant shall be responsible for the cost and installation of any necessary revisions, reconstructions or upgrades to the Township wastewater treatment and collection system if the proposed flows from the project exceed the capacity of the system providing service to the proposed project.

(xvi) The plans must indicate complete information concerning the tie into the Township's system.

(xvii) All proposed and existing utilities shall be shown in the plans and profiles.

(xviii) At the discretion of the Township, in situations in which the design standards and requirements do not apply to the site conditions, the Township Engineer shall suggest or provide additional and/or alternative design methods to meet the objectives of this Chapter.

(7) The following general information, permits and details should be provided on the appropriate plans, profiles or as supplemental information for those applications involving public sanitary sewer service:

(i) All information pertaining to the sanitary sewer system must be submitted as of the Preliminary Plan submittal. Plans, profiles and details for all sanitary sewer runs shall be provided with the Preliminary Plan application.

(ii) A note shall be provided on the Plan indicating that the proposed sanitary sewer system shall be designed, located, permitted, constructed and installed in accordance

with all standards specified by the Township and by the Pennsylvania Department of Environmental Protection.

(iii) All proposed sanitary sewage facilities shall be designed in accordance with the "Standard Specifications For Developers", Township Ordinance 94-143, as amended (see Chapter XXIII of the Township Code of Ordinances).

(iv) Easements for municipal sanitary sewer facilities shall be established to provide access for maintenance. All such sanitary sewer easements shall be accurately described by bearings and distances. If required by the Township, a maintenance agreement for the easement shall be submitted to the Township Solicitor and the Township Engineer for review.

(v) If the subdivision is to be phased, the sanitary sewer run must terminate at a manhole if there are laterals which are connected within the run. At the discretion of the Township, capping at the phase line may be permitted if there are no laterals which are connected within the run.

(vi) If the plan and profiles do not terminate at a structure, the appropriate information must be shown on both sheets and the plans must reference the matchline plan number.

(vii) As-built plans must be submitted and the required information regarding the sanitary sewers shall be depicted on the Plans.

(viii) All necessary and appropriate permits issued by the Pennsylvania Department of Environmental Protection shall be submitted to the Township. These permits shall include, but are not limited to, sewer extension permit, Part II permits, stream crossings and wetland encroachments.

(ix) A highway occupancy permit must be obtained from the Pennsylvania Department of Transportation for all proposed sanitary sewer improvements within a state right-of-way.

(c) Private Sanitary Sewage Systems.

(1) Where public sewage services are neither available nor accessible, the developer shall provide a sanitary sewage disposal system on either an individual or community basis in accordance with the standards and provisions established by the Township and/or the Pennsylvania Department of Environmental Protection.

(2) Permits are required for the design, construction, installation, alteration, replacement, repair and/or extension of any community sewage disposal system or individual on-lot sewage disposal system. All such permits for private sewage disposal systems shall be subject to approval by the Pennsylvania Department of Environmental Protection and/or Township Sewage Enforcement Officer. A permit and inspection fee shall be established pursuant to a resolution of the Township and shall be paid at the time the application is filed.

(3) The permit for a community sewage disposal system or an individual sewage disposal system shall not become effective until the installation is completed to the satisfaction of the Sewage Enforcement Officer.

(4) The type, capacities, location and general layout of the proposed community sewage disposal system or individual sewage disposal system shall comply with the recommendations of the Sewage Enforcement Officer, and with the rules and regulations of the Pennsylvania Department of Environmental Protection, and applicable statutes of the Commonwealth of Pennsylvania.

(Ordinance 135, November 18, 1992, Section 514; as amended by Ordinance 165, April 26, 1999, Section 19)

Section 515. Water Supply.

(a) General Standards.

(1) The provision of public, community or individual on-lot water supply in residential subdivisions and land developments shall be consistent with the standards and requirements of the Amity Township Zoning Ordinance (see Chapter XXXII of the Township Code of Ordinances).

(2) Planned residential developments, single-family cluster developments, mobile home parks and developments containing multi-family dwelling units, single-family semi-detached dwelling units or two-family detached dwelling units shall be provided with a public or community water system.

(3) All subdivisions or land developments providing community water supply shall be required to provide fire protection in accordance with Section 515(c) of this Chapter. All distribution systems for community or public water systems shall be equipped with adequately sized mains and the appurtenances required to provide fire protection.

(4) All unused or abandoned well sources shall be properly secured and sealed in accordance with all federal, state and local laws. All well closure and abandonment plans and procedures shall be subject to review, approval and inspection by the Township Engineer. Section 806 (Appendix F) of this Chapter provides the minimum requirements for well abandonment procedures.

(b) Public Water Supply.

(1) Subdivisions and land developments to be served by existing public water supplies shall be provided with water distribution facilities designed in accordance with regulations of the Pennsylvania Department of Environmental Protection (PA DEP) and the standards and specifications of the public water supplier.

(2) The distribution facilities shall be designed to provide fire protection at a minimum flow rate of one thousand (1,000) GPM with a minimum residual pressure at twenty (20) psi.

(3) The subdivider or developer shall provide the Board of Supervisors with a copy of a letter of intent from the public water supplier prior to Preliminary Plan approval and with a copy of an approved Water Service Agreement prior to Final Plan approval.

(c) Community Water Supply.

(1) Community water systems shall be developed and maintained so as to meet the established standards and specifications of the Pennsylvania Department of Environmental Protection, the Environmental Protection Agency, the Delaware River

Basin Commission and/or the Public Utility Commission (P.U.C.). At a minimum the community water supply system shall be designed in accordance with the Pennsylvania Department of Environmental Protection (Division of Water Supplies) Public Water Supply Manual, latest revision. All community water supply systems shall be organized in such a manner as to fall within the jurisdiction of the Pennsylvania Public Water Commission.

(2) Where a community water supply system is proposed to serve a subdivision or land development, a feasible water supply and distribution system shall be proposed before preliminary approval of the subdivision or land development. Detailed plans specifications, supply and demand shall be submitted to and be approved by the Township Engineer before final approval. A permit for the system must be granted by the PA DEP and any other governing body having jurisdiction over the work before final approval.

(3) The water supply shall be drawn from an adequate and reliable source which can supply, in combination with storage facilities, the water demands of the proposed service area, at all times. The water source, in combination with storage facilities, shall be capable of meeting fire flow demand established within this Section as well as average or peak daily consumption, except that in systems not required to provide fire flow the storage facilities shall be sized in accordance with standards of this Section.

(4) The water source shall be capable of supplying one hundred fifty percent (150%) of the average daily demand based on eighty (80) gallons per day per person (GPCD) and/or three hundred (300) GPD per dwelling unit, for the design population of the development or the service area. Testing procedures to determine the reliable capacity of the water source are set forth in this Section.

(5) Water service to non-residential developments shall demonstrate adequacy to meet projected demand from the specific project.

(6) The quality of the source shall conform to the water quality requirements of the PA DEP, Division of Water Supplies as set forth in their Public Water Supply Manual. Treatment of the water supply shall be done in accordance with requirements set forth in the Public Water Supply Manual.

(7) All utilities shall have a standby pump or pumps adequate to insure that the system can operate normally with the largest pump out of service. In addition, the following storage and equipment requirements shall be met by community water supply systems according to the size of the system.

(i) Small utilities servicing less than fifty (50) customers shall have sufficient storage facilities to supply an average daily demand for a seventy-two (72) hour time period or sixty thousand (60,000) gallons, whichever is higher, with the source cut off. Fire hydrants shall be provided for fire service if required by the Township. The hydrants shall be connected or stored as may be required by the Township.

(ii) Utilities serving greater than fifty (50) but less than one hundred (100) customers shall maintain a minimum distribution storage capability of one hundred fifty percent (150%) of the average daily demand for a seventy-two (72) hour

period or one hundred twenty thousand (120,000) gallons, whichever is higher. Fire hydrants shall be provided for fire service.

(iii) Utilities servicing one hundred (100) customers and over shall provide elevated storage facilities of sufficient capacity to meet National Insurance Services Office (NISO) recommendations for fire protection plus the one (1) day peak demand or one hundred twenty thousand (120,000) gallons, whichever is higher, shall provide pressurized fire hydrants, and shall meet design standards of the American Water Works Association.

The NISO minimum requirements for "Needed Fire Flow" as follows:

For one (1) and two (2) family dwellings not exceeding two (2) stories in height, the following Needed Fire Flows shall be used:

Distance	Needed	at	Residual Pressure
<u>Between Buildings</u>	<u>Fire Flow</u>	<u>Duration</u>	<u>Rated Cap.</u>
Over 100 feet	500 gpm	2 hr.	20 psi
31 feet to 100 feet	750 gpm	2 hr.	20 psi
11 feet to 30 feet	1,000 gpm	2 hr.	20 psi
10 feet or less	1,500 gpm	2 hr.	20 psi

Other habitational buildings, up to three thousand five hundred (3,500) gpm maximum depending on land use type.

(8) Pipe selected for distribution systems shall have been manufactured in conformance with the latest standard specifications issued by the American Water Works Association. The acceptable material(s) for water main use shall include ductile iron pipe (cement lined).

(9) Water distribution mains shall be a minimum of eight inches (8") inside diameter laid out in a well-gridded system. Whenever fire protection capability is provided, main sizes shall be adequate so the system can meet the water quantity and pressure standards within this Section. Supply mains not adequate for fire-fighting shall not be connected to fire hydrants and can only be considered for use as special water service lines.

(10) A minimum static pressure during peak hourly flow of fifty (50) pounds per square inch is desirable, but the minimum static pressure during peak hourly flow shall not be less than thirty (30) pounds per square inch. Normal pressure variations in the system shall range between thirty (30) to seventy (70) psi. A minimum of twenty (20) pounds per square inch should exist at any point in the system during periods of fire flow.

(11) The minimum standards for customer connections are established below:

(i) All service connections from the main to a single dwelling unit shall be a minimum of three-quarters inch (3/4") ID. The diameter of service connections to multiple units shall meet the approval of the Township Engineer.

(ii) Customer service connections shall be one of the approved materials for mains or type "K" copper.

(iii) A corporation stop and curb stop shall be furnished for each customer service connection.

(iv) A cross connection is any physical connection, direct or indirect, which provides a potential opportunity for non-potable water to enter a conduit, pipe or receptacle containing potable water. Such cross connections are prohibited.

(12) No water main shall be approved unless subjected to the following test:

All joints in the pipe lines shall remain uncovered until the pipe has been subjected to pressure tests of fifty (50) pounds in excess of the operating pressure at the lowest point of elevation of the system. All pipe shall be tested for a minimum of two (2) hours with a pressure drop not exceeding two (2) pounds per square inch.

(13) Storage for finished water shall be provided as an integral part of each water supply system. Standards set forth in this Chapter and the Public Water Supply Manual shall be used in designing water storage systems. Equipment selected shall have been manufactured in conformance with the latest standards and specifications issued by the American Water Works Association.

(14) Pumping stations within community water systems shall comply with standards and specifications set forth in this Chapter and the PA DEP Public Water Supply Manual.

(15) Well construction shall take place according to the standards set forth in the PA DEP Public Water Supply Manual. There shall be a minimum of two (2) well sources, one to act as a back-up should one source fail or be taken out of service.

(16) The community water system well source shall be centrally located within an open space water protection zone a minimum of one (1) acre in size. No structures other than water system pumping stations, standpipes, etc. shall be located within the protected zone. No on-lot sewage disposal system shall be constructed within four hundred feet (400') of the water source well.

(17) A dynamic recovery rate and draw-down test shall be conducted to determine the capacity and safe daily yield of the well source. The test procedures shall be conducted in conformance with PA DEP Water Supply Manual and the following:

(i) A water pump, capable of variable output, having sufficient capacity to exceed the Dynamic Recovery Rate of the water source, shall be employed for said test. It is recommended that the capacity of the source pump be such that draw-down to within twenty feet (20') of the source pump be achieved in a maximum of three (3) hours.

(ii) A suitable calibrated water meter capable of measuring the water output shall be connected to the water source pump outlet.

(iii) The exact location of the water source pump with respect to the bottom of the well shall be recorded and maintained constant for the duration of the test.

(iv) The water source pump shall be operated at maximum capacity and output for the first six (6) hours of the test or until the water level in the source well reaches a point twenty feet (20') above the water source pump. The elapsed time and rate of pumping shall be recorded at sixty (60) minute intervals on a log data sheet.

(v) Draw-down of the source well in feet shall be recorded at sixty (60) minute intervals as well as the water draw-down of any required peripheral test hole wells* on the log data form.

(vi) Reduce the maximum rate of pumping by ten (10) gallons per minute (GPM) and continue pumping for the next two (2) hours of test or until the water level reaches a point twenty feet (20') above the water source pump. The elapsed time, rate of pumping and draw-down of the source well and, where required, the peripheral test hole wells* shall be recorded on the log data forms at sixty (60) minute intervals.

(vii) Continue the above procedure using the two (2) hour time periods or the criteria of water level above the source pump until the conditions are such that the Dynamic Recovery Rate of the water source equals the pumping rate (dynamic equilibrium). The increment of GPM reduction may be increased where on site pumping data warrants such action. Note: as the Dynamic Recovery Rate is approached, the increment of GPM reduction will need to be reduced from ten (10) GPM to eight (8) GPM to five (5) GPM to n GPM to zero (0) GPM. At this point, no detectable change in draw-down will occur. If any change in draw-down is detected, either plus or minus, dynamic equilibrium has not been achieved.

(viii) When said Dynamic Recovery Rate is reached, record elapsed time, pumping rate and draw-down on log data sheet and continue pumping at this rate for the remainder of the minimum forty-eight (48) hour test time or a minimum of twenty-four (24) hours, whichever is the greater time. Elapsed time, pumping rate and draw-down of the source well, and where required, the peripheral test wells*, shall be recorded hourly.

(ix) Measurements of static water level recovery shall be made on the source well and peripheral test hole wells*, where required. Measurements shall be taken hourly and the data recorded for a minimum time period of twenty-four (24) hours upon cessation of the dynamic recovery rate test.

(x) Calculations of specific capacity and safe daily yield of the source well shall be submitted to the Township Engineer and the PA DEP by the registered professional engineer employed by the utility or developer for review and analysis.

* Peripheral test hole wells, if existing wells are not available in the vicinity, may be required in order to determine the area of influence of the source well and the capacity of the source well aquifer. Peripheral test hole wells will generally be required in geological areas with

slate and shale formations where existing wells are not available. The test hole wells shall have a minimum diameter of six inches (6") and shall be situated one hundred feet (100') from the source well, equally distributed along the periphery.

(18) Where a community water system is to be installed within a proposed subdivision or land development, the improvement procedures and requirements set forth within this Chapter shall be followed. Improvements agreements, guarantees, inspections and guarantee releases shall include consideration of the community water company in carrying out the procedures and requirements of this Chapter.

(19) Final specifications for the design and installation of the centralized water system shall be included as part of the improvements agreement between the developer and the Township. Final approval of the subdivision or land development plan shall not take place until such specifications are finalized within the improvements agreement and until the necessary improvements and maintenance guarantees are posted. Engineering review of the specifications for the water system by the Township Engineer shall take place before signing of the improvements agreement and before approval of the final development plan.

(20) A community water supply system may be permitted on a temporary basis for developments which are to be permanently serviced by a public water supply system. All agreements between the developer and the public water supply company for the temporary to permanent water supply inter-connection should be submitted to the Township for review. All such agreements and required escrows must be consummated prior to municipal approval.

(21) The design standards, specifications and time frame shall be subject to the approval of the Township and the public water supply company.

(d) On-Lot Water Supply.

(1) When no public water supply is either available or accessible, adequate water supply shall be furnished by the landowner on an individual lot basis.

(2) Each lot to be served by individual on-lot water supply shall be of a size and shape to permit the safe location for each well. All proposed wells shall not be located within one hundred feet (100') from any on-lot sewage disposal system and within fifty feet (50') from any watercourse or surface waters. Where feasible, proposed wells shall not be located down gradient from any on-lot sewage disposal system.

(3) The applicant shall provide at least one (1) test well for each five (5) proposed dwelling units. The yield of each test well shall be no less than eight (8) gallons per minute. A sample shall be obtained from each test well and tested to ensure that the well is free of bacteriological contaminants. The Planning Commission shall be provided with documents from a licensed well driller verifying the yield of each test well and from a state certified laboratory verifying that the sample(s) is/are potable.

(4) The applicant may be required to submit a study prepared by a professional hydrogeologist certifying that the proposed individual wells will be able to supply each lot with a dependable water supply and that the proposed wells will not adversely affect

the groundwater table or existing wells near the project site. The study shall examine the possibility of contamination to the proposed wells due to existing environmental factors, such as landfills, underground fuel tanks and septic tanks.

(e) Fire Hydrants.

(1) All subdivisions and land developments that are to be served by a public or community water supply system shall provide fire hydrants.

(2) Fire hydrants shall be located no further than six hundred feet (600') apart, as measured along the centerline of each road. All residential dwelling units and non-residential principal buildings shall be located no farther than four hundred feet (400') from an active fire hydrant.

(3) Fire hydrants shall be located in a manner to provide complete accessibility and so that possibility of damage from vehicles or injury to pedestrians will be minimized. When placed behind the curb, the barrel of the fire hydrant shall be set so that no portion of the pumper or hose nozzle cap will be less than twenty-four inches (24") from the curb line.

(4) The type and location of all required fire hydrants are subject to the review and approval of the Township, the public water supply company and the regional fire company.

(5) The water pressure for each fire hydrant shall be consistent with the standards and specifications established within this Section.

(Ordinance 135, November 18, 1992, Section 515; as amended by Ordinance 165, April 26, 1999, Sections 20 & 21)

Section 516. Utilities.

(a) All other utility lines, including but not limited to electric, natural gas, street light supply, cable television and telephone, shall be placed underground.

(b) Installation of all utilities shall be in strict accordance with the engineering standards and specifications of the municipal authority or public utility company.

(c) Where such underground utilities lie under a proposed cartway, they shall be put in place, connected and approved before the streets are constructed and before any person is permitted to occupy any building to be served by such utilities.

(d) The applicant shall be responsible for contacting all applicable utilities and accurately determining the locations and depth of all underground utilities within the tract proposed for subdivision or land development, prior to excavation. A complete list of the applicable utility companies and their phone numbers shall appear on the Preliminary and Final Plans.

(e) In the event an existing street is excavated for repair and/or improvement to storm water management facilities, sanitary sewer facilities, water supply facilities or any utility, the existing road shall be properly restored in accordance with the requirements specified under the Township Street Cut Ordinance (No. 93-136), as amended (see Chapter XXVI of the Township Code of Ordinances). These requirements

include, but are not limited to, standard specifications for trenching, backfilling, compacting and paving restoration.

If the Township determines that the Township Street Cut Ordinance (No. 93-136), as amended (see Chapter XXVI of the Township Code of Ordinances) does not apply, the Township Engineer shall require a restoration measure as specified under Township Ordinance 94-143, as amended (see Chapter XXIII of the Township Code of Ordinances). If required by the Township, an escrow shall be established for the cost of the improvements and/or inspection fees.

(Ordinance 135, November 18, 1992, Section 516; as amended by Ordinance 165, April 26, 1999, Section 22)

Section 517. Landscaping.

(a) Intent; Exemptions.

(1) Article 1, Section 27, of the Constitution of the Commonwealth of Pennsylvania states that the people of the commonwealth have a right to clean air, pure water and to the preservation of the natural, scenic, historic and aesthetic values of the environment. It is the intent of these landscape planting regulations to protect this right by conserving existing vegetation and/or requiring new plant material in critical areas of land developments and subdivisions.

(2) Specifically, it is the intent of these landscape planting regulations to conserve existing healthy plant communities, such as woodlands, and to require new landscape plantings in critical areas of developments in order to:

(i) Reduce soil erosion and protect surface water quality by minimizing stripping of existing woodlands or tree masses.

(ii) Reduce stormwater runoff velocity and volume by providing planting areas where stormwater can infiltrate

(iii) Improve air quality by conserving existing or creating new plantings which produce oxygen and remove carbon dioxide from the atmosphere.

(iv) Provide animal habitat.

(v) Provide windbreaks, shade and the other microclimate benefits of trees and landscape plantings.

(vi) Conserve historically, culturally or environmentally important landscapes, such as, but not limited to, wooded hillsides, scenic views or aesthetic natural areas, and historic stone fences.

(vii) Preserve and enhance property values through the implementation of good landscape architectural standards and minimize conflicting land uses.

(viii) Provide planted buffers between land developments and subdivisions which act to visually integrate a development into the existing landscape.

(ix) Provide planted and architectural visual screens around visually obtrusive site elements within land

developments and subdivisions.

(x) Enhance the aesthetic appearance of the community and provide privacy and beauty.

(xi) Improve traffic flow in parking lots by requiring planted parking islands and medians to separate traffic.

(xii) Conserve energy by moderating solar radiation and providing shade.

(xiii) Improve the environment for pedestrians along streets, parking lots and other pedestrian areas.

(xiv) Aesthetically improve stormwater management facilities, such as detention basins, without impairing function.

(3) It is the intent of these regulations to protect the health, safety and welfare of the community by requiring planting plans for land developments and subdivisions.

(4) Minor plan submissions, as set forth in Section 306 of this Chapter are exempt from these regulations.

(b) Landscaping Plan. A landscaping plan for the proposed subdivision or land development is required. For residential proposals with more than ten (10) units and nonresidential proposals, the landscaping plan shall consist of a separate plan sheet(s). For residential proposals of ten (10) units or less, the landscaping plan may be included on the grading/utility plan. Landscaping plans shall contain the following:

(1) Plan scale, date, and North arrow.

(2) Location of all existing and proposed buildings and structures.

(3) Location of all existing and proposed roads, parking areas, service areas and other paved areas.

(4) Location of all outside storage and trash receptacle areas.

(5) Sidewalks, berms, fences, walls, freestanding signs and site lighting.

(6) Existing and proposed underground and aboveground utilities, such as site lighting, transformers, hydrants, manholes, valve boxes, etc. (Reference may be made to other submission drawings).

(7) All existing and proposed contours at two-foot intervals to determine the relationship of planting and grading. Areas with steep slopes as defined in the Zoning Ordinance shall be highlighted on the plan.

(8) The location of existing mature trees, woodland and tree masses to remain and demarcated as such.

(9) The location of existing mature trees, woodland and tree masses to be removed and demarcated as such.

(10) The location of all proposed landscaping, including

required street trees, stormwater basin landscaping, parking lot landscaping, property line buffer screens and site element screens.

(11) The location of floodplains, wetlands and other natural features that may affect the location of proposed streets, buildings and landscape plantings.

(12) A planting schedule listing the scientific and common name, size, quantity and root condition of all proposed plant material.

(13) A schedule showing all landscape requirements and plantings proposed for each category.

(14) Planting details, including the method of protecting existing vegetation and landscape planting methods.

(15) For residential developments with fifty (50) or more dwelling units and non-residential developments in which the cumulative gross floor area exceeds forty thousand (40,000) square feet, the landscaping plan must be prepared and certified by a professional landscape architect.

(c) Preservation and protection of existing vegetation.

(1) Preservation of existing vegetation. Each mature tree or tree mass on the site to be developed or subdivided shall be designated "TO REMAIN" or "TO BE REMOVED" in accordance with the following criteria:

(i) Subdivisions and land developments shall be laid out in such a manner as to minimize the removal of healthy trees and shrubs on the site. Special consideration shall be given to major specimen trees.

(ii) It shall be the responsibility of the applicant to prove that vegetation removal is minimized. If required by the township, the applicant shall produce written documents or plans certified by a registered landscape architect or other qualified professional demonstrating that no alternative layouts are possible and that no alternative clearing or grading plan would reduce the loss of mature trees, tree masses and woodlands.

(iii) A mature tree or tree mass shall be considered "TO REMAIN" only if it meets all of the following criteria:

a) The outermost branches of the tree(s) are at least ten feet (10') from any proposed buildings, structures, paving, parking or utilities (overhead or underground).

b) The outermost branches of the tree(s) are at least ten feet (10') from any proposed changes in grade or drainage, such as excavations, mounding or impoundments.

c) The tree(s) are clear of any proposed sight triangles and do not, by their location or apparent health, pose any undue threat to the health, safety and welfare of the community.

(2) For each tree to be preserved, a tree protection zone shall extend a distance from the tree trunk equal to twelve (12)

times the trunk diameter. Thus, a twenty inch (20") DBH tree would have a circular tree protection zone twenty feet (20') in radius. Within the tree protection zone, no disturbance, material stockpiling, foot or vehicle traffic shall be permitted. Prior to the start of construction, the tree protection zone shall be delineated around the trees to be preserved with orange construction fencing or other fencing deemed suitable by the Township.

(3) Hydrology. Alteration of existing drainage patterns and water supply for the protected vegetation shall be minimized.

(d) Parking Lot Landscaping.

(1) Parking lots shall be effectively landscaped with trees and shrubs to reduce the visual impact of glare, headlights, parking lot lights; to delineate driving lanes and define rows of parking; to provide shade in order to reduce the amount of reflected heat; and to improve the aesthetics of parking lots. Parking lot landscaping shall not create sight distance constraints which cause unsafe conditions.

(2) All parking lots with ten (10) or more parking stalls shall be landscaped according to the following regulations:

(i) Off-street parking areas shall be separated from external streets by a twenty feet (20') wide curbed planting strip.

(ii) The ends of all parking rows shall be divided from driving lanes by planting islands.

(iii) In residential developments, parking lots shall be divided by planting strips into smaller parking areas of no more than 20 stalls.

(iv) In nonresidential developments, parking lots shall be divided by planting strips into smaller parking areas of no more than sixty (60) stalls. There shall be no more than two (2) consecutive rows of parking spaces, regardless of the number of spaces in the row, without the installation of a planting strip as herein defined.

(v) Planting islands shall be a minimum of nine feet by 18 feet in area, underlain by soil (not base course material); mounded at no more than a four to one (4 to 1) slope, nor less than a twelve to one (12 to 1) slope, and shall be protected by curbing. Each planting island shall contain one shade tree plus shrubs and/or ground cover (ie. mulch, decorative stone or similar material) to cover the entire area.

(vi) All planting strips shall be a minimum of eight feet wide. Strips shall run the length of the parking row, underlain by soil, mounded at no more than four to one (4 to 1) slope, nor less than a twelve to one (12 to 1) slope, and shall be protected by curbs. Planting strips shall contain plantings of street-type shade trees at intervals of thirty feet (30') to forty feet (40') plus shrubs and/or ground cover (ie. mulch, decorative stone or similar material) to cover the entire area at maturity.

(vii) The placement of light standards shall be coordinated with the landscape plan to avoid a conflict with

the effectiveness of light fixtures.

(e) Street Trees.

(1) Street trees shall be required:

(i) Along all existing streets when they abut or lie within the proposed subdivision or land development.

(ii) Along all proposed streets.

(iii) Along access driveways that serve three or more residential dwelling units.

(iv) Along access driveways that serve nonresidential properties.

(v) Along major walkways through parking lots and between nonresidential buildings as recommended by the Township Planning Commission.

(2) Where streets or roads are within wooded areas, existing healthy trees shall be retained in lieu of street trees.

(3) Street trees shall be located between the ultimate right-of-way line and the building setback line and shall meet the following standards:

(i) Trees shall be planted a minimum distance of six feet and a maximum distance of fifteen feet (15') outside the ultimate right-of-way line. The Board of Supervisors, however, may permit trees to be planted within the ultimate right-of-way under the following circumstances:

a) In areas, such as existing villages, where front yards may be located within the ultimate right-of-way.

b) Where closely spaced rows of street trees may be desirable and future street widening is considered unlikely.

(ii) In nonresidential developments, trees shall be located within a planting bed within the front yard setback, at least ten feet (10') in width, planted in grass or ground cover.

(iii) Trees shall be located so as not to interfere with the installation and maintenance of sidewalks and utilities. Trees shall be planted a minimum distance of six feet (6') from curbs and sidewalks, fifteen feet (15') from overhead utilities and six feet (6') from underground utilities.

(iv) Trees shall be planted at a ratio of at least one (1) tree per thirty (30) linear feet of frontage or fraction thereof. Trees shall be distributed along the entire frontage of the property although they need not be evenly spaced.

(4) New street trees shall:

(i) Have a total height of not less than six feet (6') above the root ball.

(ii) Be hardy species (preferably, but not necessarily, native to the area) with minimal maintenance requirements that

are compatible with other features of the site and its environs.

(f) Stormwater basins and associated facilities. Landscaping shall be required in and around all stormwater management basins as follows:

(1) All areas of stormwater management basins, including basin floors, side slopes, berms, impoundment structures or other earth structures, shall be planted with cover vegetation, such as lawn grass or naturalized plantings specifically suited for stormwater basins. (See the Plant Material List, for recommended plants for stormwater basins.)

(i) Lawn grass areas shall be sodded or hydroseeded to minimize erosion during the establishment period and, once established, these areas shall be maintained at a height of not more than six inches (6").

(ii) Naturalized cover plantings, such as wildflowers, meadows and nonaggressive grasses specifically designed for the permanently wet, intermittently wet and usually dry areas of stormwater basins may be planted as an alternative to lawn grass, provided that:

a) The plantings provide continuous cover to all areas of the basin.

b) The plantings do not interfere in the safe and efficient function of the basin as determined by the Township Engineer.

(iii) Trees and shrubs shall be allowed in and around stormwater basins, provided that they do not interfere with the proper function of the basin and no trees are planted on or within thirty feet (30') of an impoundment structure or dam.

(2) Basin shape shall incorporate curvilinear features to blend with the surrounding topography.

(g) Buffer Screens.

(1) A "buffer screen" is hereby defined as a landscaped barrier of sufficient height and density as to enhance new development with its surroundings, minimize or eliminate certain views within property lines and to separate conflicting land uses. Buffer screen shall also mean "Buffer Yard" as used in the Amity Township Zoning Ordinance.

(2) Subdivisions and land developments shall be landscaped with property line buffer screens in accordance with Table 1.

(3) Property line buffer requirements:

(i) Property line buffer screens shall be required for and continually maintained by the landowner in the following types of development.

a) The perimeter of all nonresidential development.

b) The perimeter of all residential development.

c) Mixed use, planned residential and cluster developments.

d) All mobile home parks.

e) Recreation areas and facilities.

(ii) An on-site investigation by the applicant shall determine the adjacent land uses along each property boundary. In the case of vacant or undeveloped land, the existing zoned uses shall be used. The existing or zoned uses shall be noted on the plan. In the case of several permitted uses on a site, the most restrictive requirements shall apply.

(iii) Upon installation, a buffer screen shall be not less than five feet (5') tall.

(iv) Buffer screens shall have a minimum depth of ten feet (10'), unless otherwise indicated in the Amity Township Zoning Ordinance. No plant trunk shall be closer than ten feet (10') to any property line (except for Buffer Screen Type 2).

(v) No buffer screen shall be permitted where it may impose a threat to the public safety by obstructing the view of motorists to oncoming traffic or pedestrians.

(vi) Buffer screens shall be maintained as long as the use or uses on the screened lot is/are in operation. Any plant material which does not survive shall be replaced within six (6) months.

(vii) Plant materials quantities and types. For every one hundred (100) linear feet of property line to be buffered, the following minimum quantities and types of plant materials shall be required for low-intensity buffer screens:

a) Two (2) canopy trees.

b) One (1) ornamental tree.

c) Two (2) evergreen trees.

(viii) High-intensity buffer screens. The following types of buffer screens shall be used for property lines requiring high-intensity buffer screens:

a) Buffer Screen Type No. 1: Double row of evergreen trees. A double row of evergreen trees shall provide a continuous screen at a minimum height of twelve feet (12') at maturity. The two (2) rows of evergreen trees shall be placed eight feet (8') on center. The second row shall be eight feet (8') from the first with an offset of four feet (4'). Minimum height at planting shall be five feet (5'). Trees species are to be selected from the Plant Material List, evergreen trees section of this Chapter.

b) Buffer Screen Type No. 2: Opaque fence with ornamental trees and shrubs. A continuous six feet (6') opaque fence with additional planting at the minimum rate of three (3) shrubs and two (2) ornamental trees or large shrubs for each ten (10) linear feet of proposed

fence arranged formally or informally between the fence and the adjoining property line. Buffer Screen Type No. 2 plant species are to be selected from the Plant Material List, evergreen shrubs, large deciduous shrubs and ornamental trees sections of this Chapter.

c) Buffer Screen Type No. 3: Evergreen hedge. An evergreen hedge of chamaecyparis, minimum height at planting of five feet (5') plants, three feet (3') on center maximum.

(ix) Existing healthy trees, shrubs or woodland may be substituted for part or all of the required material at the discretion of the Board of Supervisors. The minimum quantities and/or visual effect of the existing vegetation shall be equal to or exceed that of the buffer screen.

TABLE 1 - BUFFER SCREENS

Proposed Use	Existing Use/Zoning Districts								
	LDR	MDR	RC	MHP	HC	SSC	LI	AGR	REC
LDR	L	L	L	H	H	H	H	L	L
MDR	L	L	H	H	H	H	H	H	H
RC	L	H	L	H	H	H	H	L	L
MHP	H	H	H	L	H	H	H	H	H
HC	H	H	H	H	L	L	L	H	H
SSC	H	H	H	H	L	L	L	H	H
LI	H	H	H	H	L	L	L	L	H
AGR	L	H	L	H	H	H	L	L	L
REC	L	H	L	H	H	H	H	L	L
CLUSTER (in any Zone)	H	H	H	H	H	H	H	H	H

Notes: L = Low Intensity Buffer
H = High Intensity Buffer

See text of Section 517(g) of this Chapter for description of buffer screens.

(h) Site Element Screens.

(1) A site element screen shall be required and continually maintained by the landowner in all proposed land developments around the following site elements:

- (i) Dumpsters, trash disposal or recycling areas.
- (ii) Service or loading docks.
- (iii) Pump stations, cellular towers, sewage/water treatment plants.

(2) The existing or zoned used shall be noted on the plan. In the case of several permitted uses on a site, the most restrictive requirements shall apply.

(3) The type of site element screen required shall be

determined by the site element and the adjacent existing land use according to Table 2.

(4) Screen Location. The site element screen shall be placed between the site element and the property line and shall be designed to block views to the maximum extent possible. The screen shall be located as close as possible to the site element and shall surround the element without impeding function or encroaching on sight triangles.

(5) Screen types and criteria: The following types of screens shall be used where specified in Table 2.

(i) Site Element Screen Type No. 1: Double row of evergreen trees. A double row of evergreen trees shall be placed eight feet (8') on center and offset eight feet (8') to provide a continuous screen at a minimum height of twelve feet (12') at maturity.

(ii) Site Element Screen Type No. 2: Opaque fence with ornamental trees and shrubs. A six feet (6') opaque fence surrounding the site element on at least three (3) sides, with additional plantings at a minimum of three (3) shrubs and two (2) ornamental trees or large shrubs for each ten (10) linear feet of proposed fence arranged formally and informally between the fence and the adjoining property line.

(iii) Site Element Screen Type No. 3: Architectural extension of the building. An eight feet (8') minimum height architectural extension of the building (such as a wing wall) shall enclose service or loading docks. The building materials and style of the extension shall be consistent with the main building.

(iv) Site Element Screen Type No. 4: Evergreen hedge. An evergreen hedge of chamaecyparis, minimum height at planting of five feet (5') plants, three feet (3') on center maximum.

(6) Existing healthy trees, shrubs or woodland may be substituted for part or all of the required material at the discretion of the Board of Supervisors. The minimum quantities and/or visual effect of the existing vegetation shall be equal to or exceed that of the site element screen.

TABLE 2 - SITE ELEMENT SCREENS

Proposed Site Element	Nonresidential	Residential	All Roads
Dumpster, trash or recycling area	2 or 4	2 or 4	2 or 4
Service loading docks	1 or 3	1 or 3	1 or 3
Sewage/water treatment plants, pump stations, cellular towers, power generating stations	1	2	4

Notes: 1 = Site Element Screen Type No. 1
 2 = Site Element Screen Type No. 2
 3 = Site Element Screen Type No. 3
 4 = Site Element Screen Type No. 4

See text of Section 517(h) of this Chapter for description of site element screens.

(i) Plant Materials Specifications and Maintenance. The following standards shall apply to all plant materials or transplanted trees as required under this section:

(1) Plant Specifications.

(i) All plants shall meet the minimum standards for health, form and root conditions as outlined in the American Association of Nurserymen (AAN) Standards.

(ii) All plant material shall be hardy and within the USDA Hardiness Zone 5 and 6 applicable to Berks County, Pennsylvania.

(iii) Canopy trees, sometimes called shade trees, shall reach a minimum height and spread of thirty feet (30') at maturity as determined by the AAN Standards and shall be deciduous. New trees shall have a minimum caliper of two and one-half inches (2-1/2") at planting.

(iv) Ornamental trees or large shrubs shall reach a typical minimum height of fifteen feet (15') at maturity based on AAN Standards. Trees and shrubs may be deciduous or evergreen and shall have a distinctive ornamental character, such as showy flowers, fruit, habit, foliage or bark. New ornamental trees shall have a minimum height of six feet (6') or one and one-half inch (1-1/2") caliper. New large shrubs shall have a minimum height of two and one-half feet (2-1/2') to three feet (3') at time of planting.

(v) Evergreen trees shall reach a typical minimum height of twenty feet (20') at maturity based on AAN Standards for that species and shall remain evergreen throughout the year. New evergreens shall have a minimum height at planting of five feet (5').

(2) Maintenance.

(i) Required plant material shall be maintained for the life of the development to achieve the required visual effect of the buffer or screen. It shall be the ultimate responsibility of successive property owners to ensure that the required plantings are properly maintained. Dead or diseased plant material shall be removed or treated promptly by the property owner and replaced as soon as possible, but no later than the next growing season.

(ii) Safety. All sight triangles shall remain open and clear, and any plant material that could endanger safety, such as unstable limbs, shall be removed and the plant material replaced, if necessary. It shall be the responsibility of the property owner to maintain all plantings and architectural elements to ensure a safe environment.

(iii) Maintenance guidelines for the plantings are encouraged to be published by the planting plan designed to be used by grounds maintenance personnel to ensure that the design's buffering and screening concepts are continued.

(iv) All subdivision and land development record plans shall contain the following note: "The Developer is responsible for the plantings of trees, plants, shrubbery, buffer screens and site element screens as shown on said Plan and for the re-planting of any such trees, plants and shrubbery should such planting die or become diseased for a period of eighteen (18) months from the date of planting. During said eighteen (18) month period, the Developer shall be responsible for the maintenance of all trees, plants, shrubbery, buffer screens and site element screens shown on said Plan. The lot owner shall allow and grant an easement to the Developer to enter the lot owner's yard for maintenance and inspection of plantings and for the replacement of plantings to comport with the approved landscape plan. Maintenance of all trees, plants, shrubbery, buffer screens and site element screens shown on said plan shall become the responsibility of each lot owner after the period of eighteen (18) months from the date of planting has passed."

(j) Plant Material List. Unless specifically stipulated within this Chapter, the following is an approved list of selected trees, hedges and/or shrubs which may be utilized to meet the standards and specifications of Subsection 517. Species selection shall be based upon existing physical and natural conditions of the site.

(1) Shade or Canopy Trees: suitable for street trees or parking lots (minimum mature height: thirty feet (30') or more).

<u>Scientific Name</u>	<u>Common Name</u>
Acer rubrum	Red maple (native)
Celtis sp.	Hackberry (native)
Cladrastis lutea	Yellow wood (native)
Corylus colurna	Turkish filbert
Fraxinus pennsylvanica lanceolata	Marshall's seedless
cv. marshall's seedless	ash (native)
Gleditsia triacanthos, inermis	Thornless Honeylocust
Koelreuteria paniculata	Golden rain tree
Quercus alba	White oak (native)
Quercus bicolor	Swamp white oak (native)

<i>Quercus borealis</i>	North red oak (native)
<i>Quercus coccinea</i>	Scarlet oak (native)
<i>Quercus imbricaria</i>	Shingle oak (native)
<i>Quercus palustris</i>	Pin oak (native)
<i>Quercus phellos</i>	Willow oak (native)
<i>Quercus prinus</i>	Chestnut oak (native)
<i>Quercus rubra</i>	Red oak (native)
<i>Robinia pseudoacacia</i>	Black locust (native)
<i>Sophora japonica</i>	Japanese pagodatree
<i>Tilia americana</i>	American linden (native)
<i>Tilia cordata</i>	Littleleaf linden
<i>Tilia tomentosa</i>	Silver linden
<i>Ulmus parvifolia</i>	Chinese lacebark elm
<i>Zelkova serrata</i>	Japanese zelkova

(2) Shade or Canopy Trees: suitable for low-intensity property line buffer screens and nonvehicular use areas only (minimum mature height: thirty feet (30') or more).

<u>Scientific Name</u>	<u>Common Name</u>
<i>Acer saccharum</i>	Sugar maple (native)
<i>Betula lenta</i>	Sweet birch (native)
<i>Betula nigra</i>	River birch (native)
<i>Carya ovata</i>	Shagbark hickory (native)
<i>Carya sp.</i>	Hickory (native)
<i>Fagus grandifolia</i>	American beech (native)
<i>Fraxinus americana</i>	White ash (native)
<i>Liriodendron tulipifera</i>	Tuliptree (native)
<i>Metasequoia glyptostroboides</i>	Dawn redwood
<i>Ostrya virginiana</i>	Hop-hornbeam (native)
<i>Phellodendron amurense</i>	Amur corktree
<i>Prunus virginiana</i>	Chokecherry (native)
<i>Quercus alba</i>	White oak (native)
<i>Quercus coccinea</i>	Scarlet oak (native)
<i>Quercus palustris</i>	Pin oak (native)
<i>Quercus vellutina</i>	Black oak (native)
<i>Sassafras albidum</i>	Sassafras (native)

(3) Ornamental Trees: suitable for low-intensity property line buffer screens (minimum mature height: fifteen feet (15') or more).

<u>Scientific Name</u>	<u>Common Name</u>
<i>Amelanchier canadensis</i>	Serviceberry (native)
<i>Cercis canadensis</i>	Redbud (native)
<i>Chionanthus virginicus</i>	Fringetree (native)
<i>Cornus kousa</i>	Japanese dogwood
<i>Cornus mas</i>	Cornelian cherry
<i>Crataegus cv. Toba</i>	Toba hawthorn
<i>Crataegus mollis</i>	Downy hawthorn
<i>Crataegus oxycantha</i>	English hawthorn
<i>Crataegus phaenopyrum</i>	Washington hawthorn
<i>Halesia carolinia</i>	Silverbells (native)
<i>Hamamelis virginiana</i>	Witch hazel (native)
<i>Koelreuteria paniculata</i>	Golden rain tree
<i>Laburnum vossi</i>	Goldenchain
<i>Magnolia virginiana</i>	Sweetbay magnolia (native)
<i>Malus sp.</i>	Crab apple species (native)
<i>Oxydendrum arboreum</i>	Sourwood (native)
<i>Prunus sargentii</i>	Sargent cherry
<i>Prunus serrulata cv. kwanzan</i>	Kwanzan cherry

<i>Pyrus calleryana</i> cv. redspire	Redspire pear
<i>Sorbus aucuparia</i>	European mountain ash
<i>Styrax japonica</i>	Japanese snowbell
<i>Syringa amurensis japonica</i>	Japanese tree lilac

(4) Evergreen Trees: suitable for high-intensity property line buffer screens (minimum mature height: twenty feet (20')).

<u>Scientific Name</u>	<u>Common Name</u>
<i>Chamaecyparis</i> Sp.	
<i>Ilex opaca</i>	American holly (native)
<i>Picea abies</i>	Norway spruce
<i>Picea pungens</i>	Colorado spruce
<i>Picea glauca</i>	White spruce
<i>Pinus strobus</i>	White pine (native)
<i>Pseudotsuga menziesee</i>	Douglas fir
<i>Taxus</i> Sp.	

(5) Canopy Trees: suitable for stormwater detention basins.

<u>Scientific Name</u>	<u>Common Name</u>
<i>Acer rubrum</i> ²	Red maple (native)
<i>Acer saccharinum</i> ¹	Silver maple(native)
<i>Betula nigra</i> ¹	River birch(native)
<i>Fraxinus americana</i> ¹	White ash(native)
<i>Ilex opaca</i> ¹	American holly(native)
<i>Liquidambar styraciflua</i> ²	Sweet gum(native)
<i>Nyssa sylvatica</i> ¹	Black gum(native)
<i>Quercus phellos</i> ¹	Willow oak(native)
<i>Quercus bicolor</i> ²	Swamp white oak(native)
<i>Quercus palustris</i> ¹	Pin oak(native)
<i>Taxodium distichum</i> ²	Bald cypress

NOTES:

¹Suitable for usually well-drained areas that may be subject to occasional flooding.

²Suitable for permanently wet areas.

(6) Dedicuous Evergreen Ornamental Trees: suitable for stormwater detention basins.

<u>Scientific Name</u>	<u>Common Name</u>
<i>Amelanchier canadensis</i> ¹	Shadblow serviceberry (native)
<i>Carpinus carolinia</i> ¹	Ironwood(native)
<i>Chionanthus virginicus</i> ¹	Fringetree(native)
<i>Magnolia virginiana</i> ¹	Sweetbay(native)
<i>Salix caprea</i> ²	Willow Sp.
<i>Salix discolor</i> ²	Willow Sp. (native)

NOTES:

¹ Suitable for usually well-drained areas that may be subject to occasional flooding.

² Suitable for permanently wet areas.

(7) Deciduous/Evergreen Shrubs: suitable for stormwater detention basins.

<u>Scientific Name</u>	<u>Common Name</u>
Aronia arbutifolia ²	Red chokeberry (native)
Calycanthus floridus ¹	Sweetshrub
Cephalanthus occidentalis ²	Buttonbush (native)
Clethra alnifolia ²	Summersweet (native)
Cornus amomum ²	Silky dogwood (native)
Cornus serica ²	Red-stem dogwood (native)
Hamamelis virginiana ¹	Witch hazel (native)
Ilex glabra ²	Inkberry (native)
Ilex verticillata ²	Winterberry (native)
Lindera benzoin ¹	Spicebush (native)
Myrica cerifera ¹	Southern bayberry (native)
Myrica pennsylvanica ²	Northern bayberry (native)
Rhododendron nudiflorum ²	Pinxterbloom azalea (native)
Rhododendron viscosum ²	Swamp azalea (native)
Sambucus canadensis ¹	Elderberry (native)
Viburnum dentatum ²	Arrowwood (native)
Viburnum acerifolium	Maple Leaf Viburnum (native)
Viburnum lentago ¹	Nannyberry (native)
Viburnum trilobum ¹	American cranberry (native)

NOTES:

¹ Suitable for usually well-drained areas that may be subject to occasional flooding.

² Suitable for permanently wet areas.

(8) Herbaceous Perennials: suitable for stormwater detention basins.

<u>Scientific Name</u>	<u>Common Name</u>
Aster novae angliae ¹	New England aster (native)
Chrysanthemum leucanthemum ¹	Ox-eye daisy
Echinacea purpurea ¹	Purple cornflower
Eupatorium dubium ^{1, 2}	Joe-pye weed (native)
Eupatorium fistulosum ^{1, 2}	Hollow joe-pye weed (native)
Hibiscus moscheutos ²	Rose mallow (native)
Iris versicolor ²	Blue flag (native)
Lobelia cardinalis ^{1, 2}	Cardinal flower (native)
Lobelia siphilitica ^{1, 2}	Blue lobelia (native)
Monarda didyma ¹	Bee balm (native)
Panicum virgatum ^{1, 2}	Switchgrass (native)
Phalaris arundinaceae	Canary reed grass (native)
Rudbeckia sp. ¹	Black-eyed susan (native)
Scirpus acutus ²	Hard stem bulrush (native)
Spartina alternifolia ²	Cordgrass
Typha angustifolia ²	Narrowleaf cattail (native)

Typha latifolia²
Veronica noveboracensis^{1, 2}

Common cattail (native)
New York iron weed(native)

NOTES:

¹ Suitable for usually well-drained areas that may be subject to occasional flooding.

² Suitable for permanently wet areas."

(Ordinance 135, November 18, 1992; as amended by Ordinance 217, September 6, 2005, Section 7; as further amended by Ordinance 235, April 17, 2007, Section 5)

Section 518. Community Facilities.

(a) During the review phase of a subdivision or land development plan, the Township will consider the adequacy of the existing or proposed community facilities to serve the proposed development.

(b) The developer shall give earnest consideration to the desirability of providing or reserving areas for community facilities normally required in residential neighborhoods, including educational facilities, utility services, emergency management facilities and recreational facilities.

(c) Areas provided or reserved for community facilities should be adequate to provide adequate land area for any proposed buildings and off-street parking. Such areas should be located in an area of the development which is accessible to the general public.

(Ordinance 135, November 18, 1992, Section 518.1)

Section 519. Recreation and Open Space.

(a) Park and Recreation Purposes. Pursuant to the procedures and requirements of the Pennsylvania Municipalities Planning Code (Act 247), as amended, the Board of Supervisors have prepared and enacted a Park and Recreation Plan. This particular Plan has been developed for the following purposes:

(1) To guide, control and regulate growth and development into the 21st century.

(2) To examine existing parks, recreational facilities and open space in light of current and projected demands.

(3) To establish the future need for parks, open space and recreation areas and facilities.

(4) To establish priorities for immediate and long-range acquisition, development and improvement of parks and recreation facilities.

(5) To analyze the administration and management of facilities and services to determine the level of efficiency and recommend improvements.

(6) To examine funding options in order to acquire, develop, construct and/or maintain recreation facilities and open space.

(7) To implement the established goals, objectives and policies identified within the Township Comprehensive Plan of 1990, as amended.

(b) General Provisions.

(1) All applicants, excepting only those seeking approval of a subdivision which would consist of three (3) or less single-family residential units, shall, concurrent with the submission of a final plan of subdivision or land development, offer for dedication a portion of the land being subdivided or developed, as hereinafter set forth, as public recreation area.

(2) Such public recreation area shall provide adequate open space and recreation land and facilities accessible to such subdivisions or developments.

(3) Such recreation area shall not be part of any lot, but it shall be dedicated to the Township or, in the sole discretion of the Board of Supervisors, to a public trust or association, which will perpetually maintain the property for the purposes intended for full access and use by the general public constituting the residents, constituents and invitees of the Township, the documentation for which shall be submitted to and be subject to the approval of the Board of Supervisors and, in the case of a public trust or association, if authorized in the sole discretion of the Board of Supervisors, shall provide that said real estate is to be used and occupied exclusively as park and recreation area, is not to be the subject of further subdivision or land development, that the document establishing title to the same shall contain language that said real estate is not subject to further subdivision or land development as a condition running with title to the land and that the public trust or association shall bear all responsibility for ownership and maintenance of said real estate and shall maintain the same in a manner open to the general public constituting the constituents, residents and invitees of the Township.

(4) All areas dedicated under the provisions of this Section shall be consistent with the specific goals, objectives, plans and recommendations of the Township Comprehensive Plan and the Township Parks and Recreation Plan and are to be in accordance with the definite principles and standards contained in this Chapter.

(5) In lieu of land dedicated for recreation purposes, a fee may be paid, as hereinafter set forth.

(6) The amount and location of land to be dedicated or the fees to be paid shall bear a reasonable relationship to the use of the park and recreation facilities by future residents, occupants, employees or visitors to the subdivisions or land developments.

(c) Standards for Land Dedication.

(1) Any land dedicated to the Township shall be used only for park, recreation or open space purposes and shall be available to all residents of the Township, subject to such regulations and rules as may be recommended by the Township Parks and Recreation Board and/or adopted by the Board of Supervisors.

(2) The land to be dedicated shall have size, dimensions, topography, access and general character suitable for its proposed recreational use, as determined by the Board of Supervisors, in conjunction with the Township Park and Recreation Board and the Township Planning Commission. Any land not suitable for active or passive recreation shall not be accepted as dedicated land; this includes areas within storm water basins that could not be used for recreation.

(3) Consideration shall be given to preserving natural features, including rocks and rock outcrops, large trees and tree stands, watercourses, historic structures and areas, and other community assets that would enhance the value and aesthetic qualities of the development.

(4) The land shall be easily and safely accessible from all residential or occupied areas within the development or the general area to be served, and it shall have road frontage or, subject to the discretion of the Board of Supervisors, suitable access, ingress and egress from a public roadway for maintenance purposes.

(5) The land shall be contiguous and regular in shape, where possible and practical.

(6) The Board of Supervisors may, at its discretion, require that land to be dedicated be located along a property boundary so that such land may be combined with dedicated land or other recreation areas that are or will be adjacent to the land to be dedicated.

(7) The land shall be located on soils suitable for use and development as a recreation area.

(8) No more than twenty-five percent (25%) of the land shall have a slope in excess of seven percent (7%).

(9) No more than twenty-five percent (25%) of the land shall be within floodplain, hydric soil overlay or wetland areas.

(10) The land shall be easily accessible to all necessary utilities.

(11) The land shall be designed and developed for its intended park or recreation use in accordance with the recommendations for such as contained in the National Recreation and Park Association's Recreation Park and Open Space Standards and Guidelines, 1983, as amended.

(12) A minimum of thirty-eight thousandths (0.038) acre of land shall be offered for dedication for each residential lot, dwelling unit or combination thereof, excluding only those subdivisions comprised of three (3) or less tracts or parcels of real estate for single-family detached residential development and which have not been the subject of prior subdivisions or land development submissions consisting in total of three (3) or less tracts or parcels of real estate, and a minimum of one hundredth (0.01) acre of land shall be offered for dedication for each one thousand (1,000) square feet of building, structure or improvement proposed for any nonresidential land development plan.

(13) No contiguous area of land shall be considered for dedication if it is less than one-half (0.5) acre, and in no event shall the area proposed for dedication be less than fifty feet (50') in width; and the Board of Supervisors shall have the discretion not to approve or accept any area of land if it determines that the contiguous area of the same is insufficient to adequately serve as or provide park and recreation area.

(14) When land is dedicated, acceptance by the Township shall be by means of a signed resolution and a signed deed of dedication executed by the property owner, to which a property description of

the dedicated area shall be attached. Subject to the submission of documentation to the Board of Supervisors for its approval, a fee simple warranty deed conveying the property shall be delivered to the Township with title free and clear of all liens, encumbrances and conditions, other than public utility easements.

(d) Standards for Fees in Lieu of Land Dedication.

(1) Subject to the discretion of the Board of Supervisors, payment of a fee in lieu of land dedication shall be required (i) where land dedication would result in open space or recreation areas too small to be usable, (ii) if the Township Comprehensive Plan or the Township Parks and Recreation Plan recommends recreation land be provided elsewhere, or (iii) if a suitable site for recreation cannot be located within the development.

(2) The applicant shall tender to the Township prior to or concurrent with final plan approval a fee in lieu of dedication calculated in an amount equal to Seventy-Five Thousand Dollars (\$75,000.00) per acre, or in proportionate rate for any portion thereof, as hereinbefore required to be dedicated with regard to each such subdivision or land development.

(3) All fees paid in lieu of land dedication shall be used only for (i) the acquisition of land for parks, recreation areas and facilities, and open space, (ii) the construction of improvements on such land, and (iii) costs incidental to such purposes, including but not limited to planning, engineering, design, administrative and legal fees, utility relocation or installation, construction of sewage or water facilities, vehicular and pedestrian access, signage and the purchase of park equipment.

(4) All fees paid to the Township shall be deposited in a separate interest-bearing account established for such fees, the records for which shall clearly identify the specific recreational facilities for which such fees have been received. Interest earned on such fees shall become funds of that account and be subject to distribution or expenditure for any and all costs and expenses as hereinbefore identified. Funds from such accounts shall be expended only in properly allocable portions of the costs incurred to acquire, construct or improve the specific recreation facilities for which the funds were collected.

(5) If the Township fails to use the collected fees in accordance with this section within three (3) years of the date such fees were paid, the applicant may submit a written request, on such forms as are established by the Township, for the refund of such fees, plus interest that accumulated thereon from the date of fee payment, which request shall be reviewed and acted upon by the Board of Supervisors within forty-five (45) days of the date of receipt.

(e) Combination of Land Dedication and Fees in Lieu of Land Dedication.

(1) The Township may accept a combination of land dedication and fees in lieu of land in order to meet the requirements and standards of the Township Park and Recreation Plan. Such combination shall be subject to the review and approval of the Board of Supervisors.

(2) The resulting combination of land and fees shall not exceed the total acreage to be developed or the acreage which

constitutes the basis of calculating the fee in lieu of dedication required by this Chapter.

(f) Decision of Land Dedication vs. Fees in Lieu of Land Dedication.

(1) The Board of Supervisors shall determine whether land dedication or fees in lieu of land dedication shall be required. Such decision shall be made as early in the plan review process as possible but not later than concurrent with the preliminary plan approval.

(2) The Board of Supervisors shall, in reaching its decision, consider the following factors, in addition to any other factors that may be applicable to a particular plan:

(i) If the land in that location serves a valid public purpose.

(ii) If there is a need to make a reasonable addition to an existing park or recreation area.

(iii) If the land meets the objectives and requirements of this section.

(iv) If the area surrounding the proposed development has sufficient existing parks, recreation areas or facilities, or open space, and if pedestrians or bicycles can safely reach these areas.

(v) Any relevant policies of the Township regarding parks, recreation areas and facilities, and open space, including those within the Township Comprehensive Plan and the Township Park and Recreation Plan.

(vi) Any recommendations regarding such land that has been received from the Township and/or the County Planning Commission, the Township Parks and Recreation Board, the Township Engineer and/or the Daniel Boone School District.

(Ordinance 135, November 18, 1992, Section 518.2; as amended by Ordinance 153, June 3, 1996, Sections 1-5; as further amended by Ordinance 249, October 1, 2008, Section 1)

Section 520. Lighting Requirements and Design Standards.

(a) Purpose.

(1) To require and set minimum standards for outdoor lighting to:

(i) Provide lighting in outdoor public places where public health, safety and welfare are potential concerns.

(ii) Protect drivers and pedestrian from the glare of non-vehicular light sources that shine into their eyes and thereby impair safe traverse.

(iii) Protect neighbors and the night sky from nuisance glare and stray light from poorly aimed, placed, applied, maintained or shielded light sources.

(b) Applicability.

(1) Outdoor lighting shall be required for safety and personal security in areas of public assembly and traverse; including but not limited to the following: residential developments, commercial, industrial, public-recreational, and institutional uses.

(2) The Board of Supervisors may require lighting be incorporated for other uses or locations, as they deem necessary.

(3) The glare-control requirements herein contained apply to lighting in all above mentioned uses as well as, but not limited to architectural, landscaping, and residential lighting.

(c) Criteria.

(1) Illumination Levels

(i) Lighting, where required by the Ordinance, shall have intensities and uniformity ratios in accordance with the current recommended practices of the Illuminating Engineering Society of North American (IESNA) as contained in the IESNA Lighting Handbook.

(ii) Future amendments to said recommended practices shall become a part of this Ordinance without further action of the Township.

(iii) Examples of intensities for typical outdoor applications, as extracted from the 8th Edition of the Lighting Handbook, are presented below.

Use/Task	Maintained Uniformity Footcandles Ave: Min
(iv) Parking, residential, multi-family	
- Low vehicular/pedestrian activity	0.2Min. 4:1
- Medium vehicular/pedestrian activity	0.6 Min.4:1
(v) Parking industrial/commercial/institutional/municipal	
- High activity, e.g., regional Shopping centers/fast food facilities, major athletic/civic/ cultural recreational events	0.9 Min.4:1
- Medium activity, e.g., community shopping centers, office parks, hospitals, commuter lots, cultural/civic/ recreational events	0.6 Min.4:1
- Low activity, e.g., neighborhood shopping industrial employee parking, schools, church parking	0.2 Min. 4:1
(vi) Walkways and bikeway	0.5 Avg.5:1
(vii) Building entrances	5.0 Avg.---

Notes:

- Illumination levels are maintained horizontal footcandles on the task, e.g., pavement or area surface.
- Uniformity ratios dictate that average illuminance values shall not exceed minimum values by more than the product of the minimum value and the specified ratio. E.g., for commercial parking high activity, the average footcandles shall not be in excess of 3.6 [0.9 x 4].

(d) Lighting Fixture Design.

(1) Fixtures shall be of a type and design appropriate to the lighting application and aesthetically acceptable to the Board of Supervisors

(2) For lighting horizontal tasks such as roadways, pathways and parking areas, fixtures shall meet IESNA "full cutoff" criteria (not have more than two and one-half percent (2.5%) of their light output emitted above ninety degrees (90°) at any lateral angle around the fixture). In the case of public street lights, full cutoff fixtures shall be utilized if available from the applicable utility company.

(3) The use of floodlighting, spotlighting, wall-mounted fixtures, decorative globes and other fixtures not meeting IESNA "full cutoff" criteria shall be permitted only with the approval of the Board of Supervisors, based upon acceptable glare control.

(4) Fixtures shall be equipped with or be capable of being back-fitted with light directing devices such as shields, visors or hoods when necessary to redirect offending light distribution.

(5) Control of Nuisance and Disabling Glare

(i) All outdoor lighting required by this ordinance; on private, residential, commercial, industrial, municipal, recreational or institutional property; shall be aimed, located, designed, fitted and maintained so as not to present a hazard to drivers or pedestrians by impairing their ability to safely traverse, i.e., disabling glare, and so as not to create a nuisance by projecting or reflecting objectionable light onto a neighboring use or property, i.e., nuisance glare.

(ii) Floodlights and spotlights shall be so installed or aimed that they do not project their output into the windows of neighboring residences, adjacent uses, directly skyward or onto a roadway.

(iii) Vegetation screens shall not be employed to serve as the primary means for controlling glare. Rather, glare control shall be achieved primarily through the use of such means as cutoff fixtures, shields and baffles, and appropriate application of fixture mounting height, wattage, aiming angle and fixture placement.

(iv) The intensity of illumination projected onto any property from another property shall not exceed 0.1 vertical footcandle, measured at thirty inches (30") above the ground

at the property line.

(v) Fixtures meeting IESNA "full cutoff" criteria shall not be mounted in excess of twenty feet (20') above grade. Fixtures not meeting IESNA "full cutoff" criteria shall not be mounted in excess of sixteen feet (16') above grade except as specifically approved by the Board of Supervisors.

(vi) Fixtures used for architectural lighting, e.g., facade, fountain, feature and landscape lighting, shall be aimed so as not to project their output beyond the objects intended to be illuminated and shall be extinguished between the hours of 11 p.m. and dawn.

(6) Installation

(i) Electrical feeds for lighting standards shall be run underground, not overhead.

(ii) Lighting standards in parking areas shall be placed a minimum of five feet (5') outside paved area, or on concrete foundations at least thirty inches (30") high above the pavement, or suitably protected by other approved means.

(7) Maintenance

(i) Lighting fixtures and ancillary equipment shall be maintained so as to always meet the requirements of this Chapter.

(e) Residential Development Street Lighting.

(1) Street lights shall be provided at all street intersections within a proposed subdivision or land development. The Township may require additional street lights in order to provide safe and convenient vehicular and/or pedestrian circulation.

(1) Electrical installations for all street lights shall be in accord with prevailing regulations and specifications established by GPU Energy, or its successors or wholly owned subsidiaries. It shall be the responsibility of the contractor or his agent to have final construction inspected by an electrical inspection agency and a written report attesting this fact submitted to GPU Energy, or its successors or wholly owned subsidiaries, thereby allowing the utility to provide pole illumination.

(f) Plan Submission.

(1) Lighting plans shall be submitted to the municipality for review and approval and shall include:

(i) Layout of the proposed fixture locations.

(ii) Isofootcandle plots for individual fixture installations and ten by ten (10 x 10) foot illuminance-grid plots for multi-fixture installations, that demonstrate compliance with the intensities and uniformities set forth in the Ordinance.

(iii) Description of the equipment, including fixture catalog cuts, photometrics, glare reduction devices, lamps, control devices, mounting heights and mounting methods

proposed.

(iv) When requested by the Board of Supervisors, the applicant shall submit a visual impact plan that demonstrates appropriate steps have been taken to mitigate on-site and off-site glare.

(v) Post-approval alterations to lighting plans or intended substitutions for approved lighting equipment shall be submitted to the Township for review and approval.

(g) Post Installation Inspection.

(1) The Township reserves the right to conduct a post-installation nighttime inspection to verify compliance with the requirements of this Ordinance, and if appropriate, to require remedial action at no expense to the Township.

(h) Compliance Monitoring.

(1) Safety Hazards

(i) If Township judges a lighting installation creates a safety or personal-security hazard, the person(s) responsible for the lighting shall be notified and required to take remedial action.

(ii) If appropriate corrective action has not been effected within thirty (30) days of notification, the Township may levy a fine for as long as the hazard continues to exist.

(2) Nuisance Glare and Inadequate Illumination Levels

(i) When the Township judges an installation produces unacceptable levels of nuisance glare, skyward light, excessive or insufficient illumination levels or otherwise varies from this Chapter, the Township may cause notification of the person(s) responsible for the lighting and require appropriate remedial action.

(ii) If the infraction so warrants, the Township may act to have the problem corrected as in (g)(1) above.

(i) Street Lighting Dedication.

(1) When street lighting is to be dedicated to the Township, the applicant shall be responsible for all costs involved in the lighting of streets and street intersections until the street is accepted for dedication.

(2) Prior to dedication and in the event of the formation of a homeowner's association and/or property management declaration, the Township shall require said agency to enter into an agreement guaranteeing payment of all costs associated with dedicated street lighting.

(Ordinance 198, August 2, 2003, Section 3)