

Article 5: Design Standards and Specifications

Section 501: Statement of Intent

- (A) Article 5 of this Subdivision and Land Development Ordinance provides the design standards and specifications of the improvements for all proposed subdivision plans or land development plans within Lower Alsace Township.
- (B) The provisions established for design standards and specifications, as established under this Subdivision and Land Development Ordinance shall be subject to the interpretation of Lower Alsace Township. Should a dispute arise concerning the interpretation of these regulations, the person aggrieved by the interpretation may file an appeal with Lower Alsace Township. In all cases, the burden of proof and submission of technical evidence shall be the responsibility of the applicant or person appealing the interpretation of Lower Alsace Township.
- (C) The design standards and specifications contained within Article 5 are intended as the minimum for the promotion of the public health, safety and general welfare, and shall be applied as such by Lower Alsace Township in reviewing all subdivision plans and land development plans.
- (D) Whenever other regulations established by Lower Alsace Township impose more restrictive standards, specifications and requirements than those contained herein, such other regulations shall prevail.
- (E) Where, in the opinion of Lower Alsace Township after consulting with their appointed engineer, planning consultant, zoning officer and solicitor that the literal application of these design standards and/or required improvements would, in certain cases, cause undue hardship and/or is clearly unreasonable, Lower Alsace Township may consider reasonable exceptions. All such exceptions shall be consistent with the purpose statements and community development objectives of this Subdivision and Land Development Ordinance and shall be the minimum relief necessary to achieve the desired results. Lower Alsace Township shall have the power to grant such exceptions, as recommended by the Planning Commission, upon written request by the applicant. The written request submitted by the applicant shall include the section number, requirement, relief being requested, and justification for the request.
- (F) The design standards and specifications identified within this Subdivision and Land Development Ordinance may be modified in the case of plans for complete communities, neighborhood units or other large scale developments which, in the opinion of Lower Alsace Township, 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.
- (G) 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.
- (H) Subdivision and land development plans shall give due recognition to the Joint Comprehensive Plan, the Joint Zoning Ordinance, and other planning or land use document that has been adopted by Lower Alsace Township.
- (I) All proposed improvements that are to be considered as part of the subdivision or land development shall be planned and designed with consideration to nearby developments or neighborhoods. Lower Alsace Township may advise the applicant to include special notes or design criteria that should be added to the plan.
- (J) All required improvements that are required to support a subdivision or land development shall be installed by the applicant or developer in accordance with the provisions of this Subdivision and Land Development Ordinance and the Pennsylvania Municipalities Planning Code.

Section 502: Street Design Standards

- (A) **General Standards:** The following general design standards shall be applied to the proposed streets and transportation system providing service to a subdivision or land development:
- (1) The location, arrangement, extent, grade and width of all streets shall conform to the Joint Comprehensive Plan, Official Map and/or to all other "transportation plans", or such parts thereof, as may have been adopted by Lower Alsace Township.
 - (2) All proposed subdivisions or land developments applications shall have adequate access to the public street system of Lower Alsace 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 within this Subdivision and Land Development Ordinance.
 - (4) Where, in the opinion of Lower Alsace Township, 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 minor street or cul-de-sac street. The developer of the tract shall properly grade the street stub and provide an eight (8) inch stone base. The street stub or right-of-way shall be granted as an easement to Lower Alsace Township.
 - (5) If required by Lower Alsace Township, 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 and noted on the plan.
 - (7) Where a subdivision abuts an existing street of improper width, grade or alignment, Lower Alsace Township 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 floodplains, wetlands, riparian buffers, wellhead protection zones, sinkholes and steep slopes.
 - (10) Whenever a subdivision or land development encroaches upon the legal right-of-way of a state highway, a Highway Occupancy Permit shall be required from the Pennsylvania Department of Transportation for the encroachment and related site improvements.
 - (11) Whenever a tract to be subdivided or developed abuts or contains an arterial or a major collector street, Lower Alsace Township may require restriction of access to the street by one or more of the following methods:
 - (a) Provision of reverse frontage lots;
 - (b) Provision of service streets along the rear of the abutting lots, together with prohibition of private driveways intersecting the arterial or major collector streets;
 - (c) Provision of marginal access streets, provided that the reverse strips establishing such marginal access streets shall be placed within the jurisdiction of Lower Alsace Township;
 - (d) Provision of an internal street system on which the proposed lots would have frontage and access; or
 - (e) The restriction of ingress and egress involving left-hand turns onto or off of the arterial or major collector street.

- (12) Private streets (streets not to be offered for dedication) are prohibited, unless they meet the design standards of these regulations and are constructed to the specifications of Lower Alsace Township.
- (13) Dead-end streets are prohibited, unless designed and constructed as cul-de-sac streets.
- (14) New half or partial streets shall be prohibited.
- (15) 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.
- (16) Service streets (alleys) are prohibited in developments containing single family dwelling units, except where required to avoid direct access onto an arterial street.
- (17) 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 sixteen (16) feet.
- (18) The developer of any residential land development or subdivision involving fifteen (15) or more dwelling units shall contact the Antietam School District prior to municipal approval to establish an acceptable safe and convenient location for a school bus stop.
- (19) A matrix chart summarizing the design standards and specifications for proposed streets servicing a subdivision or land development has been included within Appendix C of this Subdivision and Land Development Ordinance. The provisions specified within this matrix chart shall be subject to the interpretation of Lower Alsace Township.

(B) **Street Widths:** The width or profile view of all proposed streets shall be designed in accordance with the following requirements:

- (1) Minimum streets right-of-way and cartway widths shall conform to all transportation plans, or such parts thereof, as may have been adopted by Lower Alsace Township or the Commonwealth of Pennsylvania. If not shown on such plans, the required right-of-way and cartway widths shall be as follows:

Street Width Requirements				
Functional Street Classification	Right-Of-Way	Cartway	Parking Lane	Shoulder
Minor/ Local Access Street ⁽¹⁾	50 feet	18 feet	8 feet per side	0 feet
	50 feet	24 feet	No Parking	8 feet per side
Cul-De-Sac Street ⁽¹⁾	50 feet	18 feet	8 feet per side	0 feet
	50 feet	24 feet	No Parking	8 feet per side
Collector Street ⁽²⁾	60 feet	24 feet	No Parking	8 feet per side
Arterial Street ⁽²⁾	80 feet	12 feet per lane	No Parking	10 feet per side
Marginal Access Street ⁽²⁾	33 feet	24 feet	No Parking	0 feet

- (1) Denotes that the design criteria shall be subject to the approval of Lower Alsace Township.
- (2) Denotes that the design criteria shall be subject to the approval of Lower Alsace Township and/or the Pennsylvania Department of Transportation.

- (2) Additional right-of-way and cartway widths may be required by Lower Alsace Township for the purpose of promoting the public safety and convenience, or to provide on-street parking for certain developments.
- (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 width and/or cartway width shall be dedicated and/or constructed to conform with the standards of this Subdivision and Land Development Ordinance.
- (4) Where a subdivision or land development abuts or contains an existing street of inadequate horizontal and/or vertical alignment, Lower Alsace Township may require additional right-of-way width or cartway width in order to improve public safety.

(C) **Centerline Road Grades:** The centerline road grades shall be designed in accordance with the following requirements:

- (1) With the exception of approaches at or through any street intersection, the minimum and maximum centerline road grade shall comply with the following design requirements:

Centerline Road Grade Requirements		
Functional Street Classification	Minimum Requirement	Maximum Requirement
Minor or Local Access Street	1 percent	10 percent
Cul-De-Sac Street	1 percent	10 percent
Collector Street	1 percent	8 percent
Arterial Street	1 percent	8 percent
Marginal Access or Service Street	1 percent	10 percent

- (2) All approaches to a controlled intersection shall have a leveling area not exceeding five (5) percent in grade for a distance of one hundred (100) feet, as measured from the centerline of the intersecting street. The approaches to an uncontrolled intersection shall be subject to the approval of Lower Alsace Township.
- (3) A crown or cross-slope shall be maintained with a minimum slope of 2.08 percent or ¼ inch per foot, as designed from the centerline to the curb or edge of the cartway. The crown or cross-slope shall be increased if required by Lower Alsace Township.

(D) **Horizontal and Vertical Curves:** The horizontal and vertical street curves shall be designed in accordance with the following requirements:

- (1) Whenever street lines are deflected in excess of two (2) degrees, the connection of such street lines shall be made by horizontal curve.
- (2) Whenever the algebraic difference of the centerline street grade exceeds one (1) percent, a vertical curve shall be designed to provide sufficient sight distance.
- (3) All proposed horizontal and vertical street curves shall be designed in accordance with the following minimum requirements:

Horizontal and Vertical Street Curve Requirements			
Design Speed (Miles/Hour)	Minimum Sight Distance	Minimum centerline radii for horizontal curves	Minimum sight distance for vertical curves
20 MPH	125 feet	100 feet	125 feet
25 MPH	150 feet	125 feet	150 feet
30 MPH	200 feet	200 feet	200 feet
35 MPH	250 feet	390 feet	250 feet
40 MPH	325 feet	400 feet	325 feet
45 MPH	400 feet	500 feet	400 feet
50 MPH	475 feet	600 feet	475 feet
55 MPH	550 feet	700 feet	550 feet

- (4) A tangent of no less than one hundred (100) feet, as measured along the street centerline, shall be provided between all horizontal street curves.
- (5) To the greatest extent possible, combinations of the minimum horizontal and vertical street curves shall be avoided.
- (6) Where in the best interest of the health, safety or general welfare of the community, Lower Alsace Township may require greater horizontal or vertical curve lengths in order to overcome obstacles such as, but not limited to, centerline street grades, street alignments, functional speed limits, existing land uses and proposed land development activities.

(E) **Street Intersections and Curb Radii:** The proposed street intersections shall be designed in accordance with the following requirements:

- (1) The centerlines of streets shall intersect at right angles unless existing conditions dictate otherwise. No street shall intersect another street at an angle of less than 70 degrees or more than 120 degrees.
- (2) Street intersections should be designed in a manner so the intersecting roads are directly opposite from each other. No more than two (2) streets shall intersect at the same point.
- (3) The minimum separation distance between street intersections shall be based upon the functional classification of the road to which the proposed street intersection is planned. The following design requirements shall apply to the minimum separation distance between the centerlines of all proposed street intersections and the minimum curb radii at all proposed street intersections.

Street Intersection and Curb Radius Requirements		
Functional Street Classification	Minimum separation distance between street intersections	Minimum tangential arc for each curb radius
Minor or Local Access Street	200 feet	20 feet
Cul-De-Sac Street	200 feet	20 feet
Collector Street	500 feet	30 feet
Arterial Street	1,000 feet	40 feet
Marginal Access or Service Street	100 feet	15 feet

- (4) All proposed street right-of-way lines shall be parallel to (concentric with) curb arcs at intersections.
 - (5) Where in the best interest of the health, safety or general welfare of the community, Lower Alsace Township may require greater isolation distances and curb radii in order to overcome obstacles such as, but not limited to, centerline street grades, street alignments, functional speed limits, existing land uses and proposed land development activities.
- (F) **Street Intersection Capacity:** In order to provide safe and efficient modes of transportation, all subdivision and land development plans shall be designed in accordance with the following design criteria:
- (1) Developments containing (20) residential units or less in complete build-out of all phases shall be designed to provide at least one (1) point of vehicular ingress and egress along an existing public road in order to accommodate the anticipated traffic volumes. If required by Lower Alsace Township, a boulevard entrance or emergency access lane shall be designed for the development.
 - (2) Developments containing between twenty-one (21) residential units and forty (40) residential units in complete build-out of all phases shall be designed to provide at least two (2) points of vehicular ingress and egress along an existing public road in order to accommodate the anticipated traffic volumes. The points of ingress and egress shall be separated by at least five hundred (500) linear feet of road frontage.
 - (3) Developments containing between forty-one (41) residential units and one hundred (100) residential units in complete build-out of all phases shall be designed to provide at least two (2) points of vehicular ingress and egress along an existing public road in order to accommodate the anticipated traffic volumes. The points of ingress and egress shall be separated by at least five hundred (500) linear feet of road frontage and shall be capable of serving all of the residential units within the development. At least one (1) point of ingress and egress shall be located within one thousand (1,000) feet a collector or arterial road, which shall be capable of providing safe and convenient vehicular access to the collector or arterial road.
 - (4) Developments containing more than one hundred (100) residential units in complete build-out of all phases shall be designed to provide at least three (3) points of vehicular ingress and egress along an existing public road in order to accommodate the anticipated traffic volumes. The points of ingress and egress shall be separated by at least five hundred (500) linear feet of road frontage and shall be capable of serving all of the residential units within the development. At least one (1) point of ingress and egress shall be safely designed to provide direct access onto a collector or arterial road.
 - (5) If required by Lower Alsace Township, the use of a boulevard entrance or emergency access lane shall be designed for the development. The boulevard entrance or emergency access lane shall not be used to replace the design requirements specified by the Subdivision and Land Development Ordinance.
 - (6) The intersection capacity for non-residential developments shall be based upon volume of traffic and level of service, which shall be accounted for in the Traffic Impact Study.
- (G) **Clear Sight Triangles:** Clear sight triangles shall be provided at all street intersections in order to improve and maintain sight distance and visibility at the intersection. Within such triangles, nothing, except permitted street signs, traffic lights or signs, utility poles and mail boxes, which impedes vision between a height of two and one-half (2-1/2) feet and ten (10) feet above the center line grades of the intersecting streets shall be erected, placed, planted or allowed to grow. Such triangles shall be established as follows:
- (1) For intersections involving a minor street, the dimension of the clear sight triangle shall be established for a distance of seventy-five (75) feet, as measured from the middle of the intersection or where the centerlines of the intersecting streets cross.
 - (2) For intersections involving a collector street, the dimension of the clear sight triangle shall be established for a distance of one hundred (100) feet, as measured from the middle of the intersection or where the centerlines of the intersecting streets cross.

- (3) For intersections involving an arterial street, the dimension of the clear sight triangle shall be established for a distance of one hundred and fifty (150) feet, as measured from the middle of the intersection or where the centerlines of the intersecting streets cross.

(H) **Sight Distance:** All proposed intersections shall have sufficient horizontal and vertical sight distance in order to provide a safe and convenient point of ingress and egress. The following provisions shall apply:

- (1) Sight distance measurements shall be made in each direction from a point 10 feet from the edge of the cartway and 3.5 feet above the road surface to a point 3.5 feet above the centerline of the road.
- (2) The minimum sight distance requirements 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) and the Pennsylvania Department of Transportation.
- (3) A summary chart of the minimum sight distance requirements has been included within Appendix C of this Subdivision and Land Development Ordinance. Lower Alsace Township and/or the Pennsylvania Department of Transportation may require additional sight distance than those referenced on the summary chart by considering the functional classification of the road, traffic volumes, vehicular speed, pedestrian movements, land use and other relevant site conditions.

(I) **Cul-De-Sac Streets:** The following provisions shall apply to the design of 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 limit 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 (1,000) feet 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 and fifty (250) feet 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 clearly impractical or undesirable, the turnaround right-of-way shall be placed adjacent to the tract boundary with sufficient additional width provided along the boundary line to permit extension of the street at full width. Alternative designs may be considered by Lower Alsace Township, provided that such design does not limit accessibility to other parcels of land
- (7) The center line grade on a cul-de-sac street shall not exceed ten (10) percent, and the grade of the diameter of the turnaround shall not exceed five (5) percent.
- (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 (50) feet. The right-of-way shall have a minimum radius of sixty (60) feet.
- (9) Drainage of cul-de-sac streets shall preferably be towards 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 Lower Alsace Township.

Section 503: Street Construction and Improvement Specifications

- (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 and improved in accordance with the standards and specifications adopted by Lower Alsace Township and/or as specified by the Lower Alsace Township Engineer.
- (C) Additional right-of-way and cartway widths, beyond what is required within this Subdivision and Land Development Ordinance, may be required by Lower Alsace Township in order to control traffic patterns, to lesson 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 horizontal and/or vertical alignment, Lower Alsace Township may require adjustments in order to improve public safety.
- (E) All storm drainage facilities located within the ultimate right-of-way shall be designed and constructed in accordance with the provisions established by Lower Alsace Township.

Section 504: Street Names and Addresses

- (A) All proposed street names shall be subject to the approval of Lower Alsace Township, the Berks County Emergency Management Coordinator 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 street be duplicated within Lower Alsace 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) Prior to municipal approval, street addresses should be assigned to all proposed lots and/or uses identified on the subdivision plan or land development plan.

Section 505: Street Signs and Lighting

- (A) 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 such street signs shall meet the minimum requirements of Lower Alsace Township, the Pennsylvania Department of Transportation and the American Disabilities Act.
- (B) Where traffic control signs are required, the applicant shall prepare and submit the required documentation for procuring approval by Lower Alsace Township and/or the Pennsylvania Department of Transportation.
- (C) Streetlights shall be required for all proposed developments where public or private roads are to be constructed. The following chart depicts the lighting intensity requirements:

Streetlight Intensity Requirements by Type of Development and Zoning District				
Type of Development	Zoning District	Lighting Intensity Measurement in Footcandles		
		Minimum	Average	Maximum
Residential Developments ⁽¹⁾	RC, R-1 and R-2	0.2	0.4	2.4
Residential Developments	R-3, R-4 and R-5	0.2	0.4	2.4
Non-Residential Developments	C-1, C-2 and I-1	0.2	0.9	5.4

(1) Denotes that the provision may be waived if the density for the development is less than or equal to one (1) dwelling unit per acre and/or if the site conditions do not warrant street lighting throughout the development.

- (D) Streetlights shall be provided at all street intersections and along road segments to comply with the streetlight intensity requirements specified by Section 505(C) of this Subdivision and Land Development Ordinance.
- (E) Lower Alsace Township may require additional streetlights in order to provide safe and convenient vehicular and/or pedestrian circulation.
- (F) The applicant shall submit a visual impact photometric plan that demonstrates both light coverage and light spillage resulting from the proposed streetlights within the development and the provision for adequate measures to mitigate nuisance from light pollution and disabling glare, both on the use or development site and on adjacent properties.
- (G) The type, quantity, positioning and illumination of the selected streetlight shall be subject to the review of Lower Alsace Township.
- (H) Electrical installations for all streetlights shall be in accord with prevailing regulations and specifications by the local utility company providing service. It shall be the responsibility of the contractor or his agent to have final construction by an electrical inspection agency and a written report attesting this fact shall be submitted to Lower Alsace Township and the local utility company providing service.

Section 506: Blocks, Lots and Parcels

- (A) 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. Unless otherwise permitted by Lower Alsace Township the following provisions shall apply:
 - (1) Blocks shall have a maximum length of two thousand (2,000) feet and a minimum length of five hundred (500) feet.
 - (2) In the design of blocks longer than one thousand (1,000) feet special consideration shall be given to the requirements of satisfactory fire protection and pedestrian accessibility.
 - (3) 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.
 - (4) 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) The size, shape and orientation of proposed lots shall be appropriate for the type of development and use contemplated. Unless otherwise permitted by Lower Alsace Township, the following provisions shall apply:
 - (1) Lots shall conform to the applicable minimum lot sizes, lot widths and setback requirements as set forth within the Joint Zoning Ordinance.
 - (2) Side lot lines shall be at right angles to street line tangents or radial to street line curves.
 - (3) The depth to width ratio of a residential lot shall not be less than 1 to 1 or greater than 3 to 1. Lot width shall be measured at the minimum building setback line and lot depth shall be the mean depth of irregularly shaped lots. Lots with an area more than three (3) times greater than the minimum lot area, as designated within the Joint Zoning Ordinance for the zoning district in which the lot is located, may exceed the 3 to 1 depth to width requirement.
 - (4) 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.

- (5) Where feasible, lot lines shall follow municipal boundaries rather than cross them, in order to avoid jurisdictional problems.
- (6) Where feasible, lots shall be orientated and sited to take advantage of solar energy.
- (7) 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 fifty (50) feet 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 (10) foot wide planting screen easement shall be established in order to prohibit vehicular access onto the arterial or major collector street. The easement shall contain evergreen plantings meeting the standards of the Joint Zoning Ordinance and this Subdivision and Land Development Ordinance.
- (8) The minimum lot width and front yard setback requirements shall be applied to each street on which the lot has frontage.
- (9) In cases in which a pre-existing lot of record is changed or converted into a corner lot, as the result of an adjacent subdivision or land development, the front yard of the pre-existing lot shall be established along the public street to which it originally had frontage as well as along the proposed or new road to which it will have frontage. The new road shall not create a non-conforming front yard on the existing lot of record. All other setback requirements shall conform with the appropriate side and rear yard setback requirements for the zoning district to which the pre-existing lot is located.

Section 507: Curbs, Sidewalks, Trails and Greenways

- (A) Vertical concrete curbs shall be required for all subdivision plans and land development plans in accordance with the following provisions:
 - (1) Vertical concrete curbs shall be installed along both sides of all proposed streets.
 - (2) Where in the interest to control drainage or traffic patterns, curbs shall be installed along an existing or exterior street on which a subdivision or land development abuts.
 - (3) Vertical curbs shall be installed within common parking areas for developments containing townhouses, apartments or non-residential uses.
 - (4) Vertical curbs shall be constructed and improved in accordance with the standards and specifications adopted by Lower Alsace Township or as specified by the Lower Alsace Township Engineer.
- (B) Sidewalks shall be required for all subdivision plans and land development plans in accordance with the following provisions:
 - (1) Sidewalks shall be installed along both sides of the cartway for all 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 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) At the discretion of Lower Alsace Township, a concrete or macadam pedestrian trail shall be installed along one side of the cartway in all subdivisions (except where the lot width exceeds 200 feet) 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 trail or pathway shall be at least five (5) feet in width.

- (4) A greenway or natural trail shall be required for all subdivisions and land development that are not required to provide sidewalks or impervious trails. The greenway or natural trail should be designed along the cartway or within areas designated as common open space. The location, width, composition and design specifications for all proposed greenways and natural trails shall be subject to the approval of Lower Alsace Township.
 - (5) Sidewalks shall be integrated as part of the design for all non-residential subdivision and land development plans. If required, the sidewalks shall be located as follows: along the street to which the subdivision or land development has access; within the off-street parking areas; and to the main entrance(s) of the principal building(s).
 - (6) Where in the interest of public safety, sidewalks or a pedestrian pathway shall be installed along an existing or exterior street on which a residential subdivision or land development abuts.
 - (7) Sidewalks, trails and greenways shall be constructed and improved in accordance with the standards and specifications adopted by Lower Alsace Township or as specified by the Lower Alsace Township Engineer. All such improvements shall Uniform Construction Code, the Americans with Disabilities Act and all other pertinent state or federal laws.
- (C) Handicapped ramps shall be provided at all street intersection and crosswalks. All such handicapped ramps shall comply with the standards specified by Lower Alsace Township, the Uniform Construction Code, the Americans with Disabilities Act and all other pertinent state and federal laws.
 - (D) Crosswalks shall be required whenever necessary to facilitate pedestrian circulation and to provide access to community facilities. All such crosswalks shall have a minimum width of ten (10) feet, which shall include a delineated pedestrian lane with a minimum width of five (5) feet. All such crosswalks shall comply with the standards specified by Lower Alsace Township, the Uniform Construction Code, the Americans with Disabilities Act and all other pertinent state and federal laws.

Section 508: Monuments and Markers

- (A) Monuments, as defined under Article 2 of this Subdivision and Land Development Ordinance, shall be accurately placed at the following locations within a development:
 - (1) At all external property corners forming the perimeter of the development;
 - (2) At the front corners of each lot at the required or ultimate right-of-way line.
 - (3) At each proposed street intersection;
 - (4) At the beginning and end of all horizontal street curves;
 - (5) At such places where topographical or other site conditions make impossible to establish a line of sight between two (2) otherwise required monuments; and
 - (6) At locations deemed necessary by Lower Alsace Township Engineer and Planning Consultant.
- (B) Property markers, as defined under Article 2 of this Subdivision and Land Development Ordinance, shall be accurately set at the following locations within a development:
 - (1) At all property corners and at all changes in course direction along a deed line;
 - (2) At all changes in course direction along the legal or ultimate right-of-way of an existing street; and.
 - (3) At locations deemed necessary by Lower Alsace Township Engineer and Planning Consultant.

- (C) All required monuments and markers shall be accurately set by a professional engineer or land surveyor, who shall be registered within the Commonwealth of Pennsylvania.
- (D) Tract monuments existing prior to subdivision or land development shall not be removed or replaced unless damaged.

Section 509: Driveways and Access Lanes

- (A) All driveways and access lanes shall be located, designed and constructed in accordance with the applicable standards specified by Lower Alsace Township. Unless otherwise specified, the following specific provisions shall apply:
 - (1) All proposed driveways and access lanes serving a residential use located within the RC, R-1 and R-2 Zoning Districts shall be paved a minimum distance of forty (40) feet from the edge of the cartway to a designated off-street parking area for the residential use.
 - (2) All proposed driveways and access lanes serving a residential use located within the R-3, R-4, R-5, C-1, C-2 and I-1 Zoning Districts shall be paved a minimum distance of twenty (20) feet from the edge of the cartway to a designated off-street parking area for the residential use
 - (3) All proposed driveways, access lanes, parking areas and loading areas serving a non-residential use shall be paved.
 - (4) All driveways and access lanes serving agricultural or conservation uses within the RC, R-1 and R-2 Zoning Districts shall be maintained in a mud-free condition.
 - (5) The maximum centerline grade of any residential driveway or access lane shall not exceed twelve (12) percent.
 - (6) All driveways and access lanes shall be designed and constructed with a leveling area not to exceed a centerline grade of five (5) percent, as measured twenty (20) feet from the edge of the cartway of the public road to which the driveway or access land has access.
 - (7) Where a lot within an approved subdivision or land development plan fronts on either the arc of the curve of a public road or on a cul-de-sac bulb, the required driveway or part thereof, including any turnaround area, shall be located a minimum of five (5) feet from a property boundary line.
 - (8) Driveways serving residential uses shall have a minimum width of ten (10) feet and a maximum width of twenty-four (24) feet.
 - (9) Driveways serving non-residential uses shall have a minimum width of twelve (12) feet per travel lane and a maximum width of thirty-six (36) feet.
 - (10) Driveways or access lanes entrances shall not intersect the existing or proposed streets to which they intersect at angles of less than 60 degrees nor more than 120 degrees.
 - (11) In order to provide a safe and convenient point of ingress and egress, driveway entrances should be rounded with a minimum radius of five (5) feet.
- (B) All proposed driveways and related improvements shall be located, designed and constructed in order to control stormwater 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.
- (C) Where required by Lower Alsace Township, a driveway pipe shall be installed under the driveway or access lane. The following minimum requirements shall apply:
 - (1) The applicant shall be responsible for the design, permitting, purchase and installation of the pipe.
 - (2) The design shall be submitted to Lower Alsace Township review and consideration. Where required, permits should be issued as part of the subdivision or land development plan.

- (3) If required, the design shall be submitted to the Pennsylvania Department of Environmental Protection and the Berks County Conservation District for their review and approval.
 - (4) The pipe material should be either reinforced concrete or smooth bore polyethylene meeting pipe, which shall be installed in accordance with the manufactures specifications. Unless otherwise permitted by Lower Alsace Township Engineer, the minimum diameter of the pipe should be fifteen (15) inches or an equivalent capacity and shall be installed with a minimum grade of one-half (0.5) percent.
- (E) No residential use 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, Lower Alsace Township may permit adjoining or common driveways.
- (F) A common or shared driveway may provide access to not more than three (3) residential lots within the RC, R-1 and R-2 Zoning Districts. If permitted, the following provisions shall apply:
- (1) The common driveway shall only be established if the property has frontage along a public road.
 - (2) The common driveway shall be located within a fifty (50) foot wide access easement or right-of-way
 - (3) The common driveway shall be paved at least sixteen (16) feet in width for the entire length that it is serves more than (1) residential use
 - (4) The common driveway shall terminate in a turnaround area with a paved radius of not less than forty (40) feet, which shall be located wholly within the required access easement or right-of-way, which shall be designed with a minimum radius of fifty (50) feet.
 - (5) A common off-street parking area shall be established within one hundred (100) feet of the public road and adjacent to the driveway to which the residential lots have access. The common off-street parking area shall be designed to accommodate one (1) vehicle per lot, which may be utilized by the lot owners.
 - (6) An ownership and maintenance agreement shall be prepared and recorded as a condition of municipal approval for the subdivision plan. The agreement shall be referenced on the proposed deeds for each residential lot. The contents of the ownership and maintenance agreement shall be subject to the approval of Lower Alsace Township.
 - (7) A release of responsibility holding Lower Alsace Township harmless for the provision of all municipal services shall be included on the subdivision plan and referenced on the proposed deeds for each residential lot. The notes on the plan and the references contained within the deed shall be subject to the review and approval of Lower Alsace Township.
 - (8) A fourth dwelling with access to a common driveway shall not be created unless the driveway is reconstructed (if necessary) to comply with the standards and specifications of a public street..
 - (9) Common driveways shall be constructed in accordance with the standards and specifications of Lower Alsace Township.
- (G) All driveways and access lanes shall be located, designed and constructed as to provide optimum sight distance and visibility at the intersection with the existing or proposed street. The following provisions shall apply:
- (1) Sight distance measurements shall be made in each direction from a point 10 feet from the edge of the cartway and 3.5 feet above the road surface to a point 3.5 feet above the centerline of the road.
 - (2) The minimum sight distance and safe stopping distance requirements specified by Lower Alsace Township and/or the Pennsylvania Department of Transportation shall be utilized to determine the optimum location for all driveways and access lanes. A summary chart of the minimum sight distance requirements has been included within Appendix C of this Subdivision and Land Development Ordinance.

- (3) Lower Alsace Township and/or the Pennsylvania Department of Transportation may require additional sight distance than those referenced on the summary chart by considering the functional classification of the road, traffic volumes, vehicular speed, pedestrian movements, land use and other relevant site conditions.
- (4) The sight distance triangles shall be depicted on the Plan and sight distance easements provided whenever the triangle crosses a portion of a lot or property outside of the street right-of-way lines. The easement shall prohibit the grading, re-grading, landscaping, construction of buildings or structures that would reduce the required sight distance.
- (H) Clear sight triangles shall be provided for all driveways and access lanes at all street intersections. Within such triangles, nothing, except permitted street signs, traffic control signs, traffic lights, street lights, mail boxes or utility poles, which impedes vision between a height of two and one-half (2-1/2) feet and ten (10) feet above the center line grades of the intersecting streets shall be erected, placed, planted or allowed to grow. The dimension of the clear sight triangle shall be established for a distance of fifty (50) feet, as measured from the middle of the intersection or where the centerlines of the driveways or access roads intersect with the intersecting street.
- (I) If required by Lower Alsace Township, 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 will be overcome.
- (J) A Driveway Occupancy Permit, issued by Lower Alsace Township shall be required for all proposed driveways entering onto a road, which is currently either owned by or to be dedicated to Lower Alsace Township.
- (K) A Highway Occupancy Permit, issued by the Pennsylvania Department of Transportation, shall be required for all proposed driveways entering onto a state road.
- (L) Fire lanes and/or fire apparatus access roads shall be located, designed and constructed as per the specifications provided by Lower Alsace Township.

Section 510: Off-Street Parking and Loading

- (A) All proposed off-street loading areas and access drives shall be located, designed and constructed in accordance with the provisions of Lower Alsace Township and the Joint Zoning Ordinance.
- (B) All proposed off-street parking areas and access drives shall be located, designed and constructed in accordance with the provisions of Lower Alsace Township and the Joint Zoning Ordinance.

Section 511: 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 (20) feet. 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.
 - (1) Stormwater management and drainage easements shall be no less than twenty (20) feet in width, or as directed by Lower Alsace Township, the County of Berks and/or the Commonwealth of Pennsylvania.
 - (2) Stream and watercourse easements shall be no less than fifty (50) feet in width, as measured from the edge of the stream bank, or as specifically required by Lower Alsace 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 setback distance of fifty (50) feet, as measured in the shortest distance, between any proposed or existing dwelling and any right-of-way designated for 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 subdivision plan or land development plan.
- (H) Any deed conveying a lot from an approved plan shall make reference to the approved plan including all easements and encumbrances referenced on the approved plan. Where required by Lower Alsace Township, a representative description expressing the references by which easements and encumbrances will appear on all affected deeds shall be presented to Lower Alsace Township for review and consideration.

Section 512: Stormwater Management

- (A) As part of all subdivision and land development plan applications, the applicant shall prepare and submit a stormwater management plan considering the following criteria:
 - (1) The stormwater management plan shall be prepared considering all pertinent provisions relating to drainage, runoff, infiltration, erosion and discharge, as adopted by Lower Alsace Township.
 - (2) The stormwater management plan shall be prepared to comply with the Stormwater Management Ordinance and Plan for the Schuylkill River, as adopted by Lower Alsace Township.
 - (3) The stormwater management plan shall be prepared to consider the recommendations pertaining to natural resources, floodplains, wetlands, stormwater management and hydrological resource planning, as contained within the Joint Comprehensive Plan.
 - (4) The stormwater management plan shall be prepared to comply with the National Pollution Discharge Elimination System (NPDES) Phase II Stormwater Permitting Regulations.
 - (5) The stormwater management plan shall consider the implementation of “best management practices”, as endorsed by Lower Alsace Township, the Joint Comprehensive Plan and/or as recommended by the engineer appointed by Lower Alsace Township.
 - (6) The stormwater management plan shall be prepared to consider all pertinent local, regional, state and federal permitting requirements.
- (B) The stormwater management plan shall contain the following:
 - (1) Mapping of the watershed area or areas in which the proposed subdivision or land development is located.
 - (2) A study shall be performed of the watershed in which the subdivision or land development is located to assess the impact the proposal will have on downstream conditions. The stormwater management plan shall address all identified impacts to the satisfaction of Lower Alsace Township.
 - (3) Computations of the stormwater runoff for all points of runoff concentration before and after development, including all supporting data.
 - (4) Complete drainage systems for the subdivision or land development. All existing drainage features, which are to be incorporated as part of the design shall be identified with a detailed explanation of the operations of the facilities.

- (5) Plans showing all existing and proposed drainage facilities affecting the subject property, including plan views, profile views and/or detail sheets.
 - (6) Computations for all existing and proposed drainage structures that are associated with the development.
 - (7) Plans showing proposed grading; including typical structure footprint(s) with first floor elevation(s).
 - (8) Construction details for all proposed facilities.
 - (9) If, in the course of preparing or reviewing the stormwater management plan Lower Alsace Township Engineer determines that off-site improvements are necessary to satisfactorily control the stormwater from the proposed development, the applicant or developer shall be responsible for the design, permitting and construction of the off-site improvements, which may also include obtaining any required easements or rights-of-way.
 - (10) A detailed plan of all required off-site drainage improvements.
 - (11) All other documentation that may be required to satisfy and address the compliance criteria specified under Section 512(A) of this Subdivision and Land Development Ordinance.
- (C) All stormwater management basins, ponds, pipes, structures and related site improvements shall be located, designed, constructed and installed in accordance with all requirements specified by Lower Alsace Township.
 - (D) All permits that are required to satisfy the provisions of this Subdivision and Land Development Ordinance shall be obtained prior to municipal approval of the subdivision or land development plan.
 - (E) Where certain stormwater management improvements are inadvertently omitted from the approved plan or if any inconsistencies arise between the approved plan and the adopted requirements specified by Lower Alsace Township, the applicant shall be responsible for the design, construction and installation of those site improvements, as directed by Lower Alsace Township.
 - (F) The engineer appointed by Lower Alsace Township may advise the applicant to include special notes or design criteria that should be added to the plan.
 - (G) All stormwater management improvements shall be inspected and approved by the authorized representative of Lower Alsace Township prior to the release of funds held in escrow and/or the issuance of permits

Section 513: Riparian Buffers

- (A) The Riparian Buffer Overlay District is a conservation overlay to the underlying zoning districts established by the Joint Zoning Ordinance. The purpose and objective of the Riparian Buffer Overlay District is further outlined within the Joint Zoning Ordinance.
- (B) The Riparian Buffer Overlay District shall apply to all perennial stream corridors within Lower Alsace Township and Mount Penn Borough. The following provisions shall apply:
 - (1) The limits of the Riparian Buffer Overlay District shall be recognized as a conservation overlay as part of Joint Zoning Ordinance. The design standards and specifications for the Riparian Buffer Overlay District are referenced under this Subdivision and Land Development Ordinance.
 - (2) Properties located along or adjacent to a perennial stream corridor, which are not subject to subdivision and land development activity shall be subject to an education and volunteer effort, whereas, the landowner may implement the design standards contained within this Subdivision and Land Development Ordinance. All such efforts may be coordinated with local, county, state or federal agencies, provided that such efforts enhances, restores, stabilizes and/or maintains the woodland and vegetation of the Riparian Buffer Overlay.

- (3) Properties located along or adjacent to a perennial stream corridor, which are subject to subdivision and land development activity shall be subject to a mandatory effort, whereas, the landowner or developer shall be required to implement the design standards contained within this Subdivision and Land Development Ordinance. All such efforts may be coordinated with other agencies, provided that such efforts enhances, restores, stabilizes and/or maintains the integrity woodland and vegetation within the Riparian Buffer Overlay.
 - (4) All land uses and site improvements should be located, design and conducted in a manner that meets the design standards contained within this Subdivision and Land Development Ordinance. Where appropriate, Lower Alsace Township may consider design waivers or modifications in accordance with the provisions of this Subdivision and Land Development Ordinance.
 - (5) All land uses and site improvements should be located, design and conducted in a manner that meets the design standards contained within the Stormwater Management Ordinance and Plan for the Schuylkill River. Where appropriate, Lower Alsace Township may consider design waivers or modifications in accordance with the provisions of the Stormwater Management Ordinance and Plan for the Schuylkill River.
 - (6) Volunteer and mandatory efforts should be reviewed by the Berks County Conservation District to determine if the selected landscape materials will implement the overall purpose and objective of the Riparian Buffer Overlay District.
- (C) The Riparian Buffer Overlay District shall be delineated in accordance with the following zones:
- (1) Zone 1 shall include the landward area located between the stream bank edge under typical flow conditions, as measured twenty (20) feet upland or perpendicular to the stream bank.
 - (2) Zone 2 shall include the area beginning at the inland edge of Zone 1, extending a minimum of fifty (50) feet inland from Zone 1, which shall include the 100-year floodplain and all areas delineated as wetlands.
 - (3) Zone 3 shall include the area beginning at the inland edge of Zone 2, extending a minimum of twenty (20) feet inland from Zone 2.
- (D) Unless otherwise permitted by Lower Alsace Township, the following uses and activities shall be permitted within the Riparian Buffer Overlay District:
- (1) Accessory uses and accessory buildings to a permitted land use provided that they are not located within Zone 1 or Zone 2.
 - (2) General agricultural uses provided that they are not located within Zone 1. Corridor crossings for farm vehicles and livestock and livestock watering facilities, all of which are approved by the Berks County Conservation District and have been completed considering best management practices.
 - (3) Conservation uses provided that they are not located within Zone 1.
 - (4) Municipal site improvements, including streets, curbs, sidewalks, sanitary sewer facilities, water supply facilities, stormwater management facilities, public utilities, and other similar improvement, provided they are located in a manner to minimize impacts on Zones 1, 2 and 3, and provided that they are designed and constructed in accordance with this Subdivision and Land Development Ordinance.
 - (5) Stormwater detention or retention facilities, provided they are not located within Zone 1 or Zone 2. All such improvements shall comply with the Stormwater Management Ordinance and Plan for the Schuylkill River.
 - (6) Passive recreation uses, provided they are not located within Zone 1 or Zone 2.
 - (7) Municipal uses.

- (E) The Riparian Buffer Overlay District shall be designed to include native vegetation that may exist prior to any earth disturbance activities. The following plantings for each zone are recommended and should be utilized as a guide to establish the desired riparian buffer:
- (1) Zone 1 should include mature canopy trees and a ground cover of native grasses. New tree plantings shall be selected, arranged and managed to accelerate canopy growth, and offer native species habitat and food supply. New grass plantings shall be selected and managed to filter out pollutants and offer habitat. All vegetation selected for Zone 1 should thrive in wet conditions.
 - (2) Zone 2 should include mature canopy trees and natural undercover. New tree plantings shall be selected, arranged and managed to accelerate canopy growth, and offer native species habitat and food supply. The undercover plants shall be allowed to “evolve” with the canopy of Zone 2. All vegetation selected for planting within the 100 year floodplain should thrive in wet conditions.
 - (3) Zone 3 should be planted with natural ground cover that could mature naturally without maintenance, mowing or harvesting activities. The selected species shall accommodate overland stormwater flows and act as an upland filter to Zone 2.
- (F) Riparian buffers shall be maintained in a natural condition with minimal disturbance. Mature trees and native grasses and ground cover have the capacities to absorb more nutrients. As a result, best management practices are established, erosion is limited, hydrological resources are balanced, and biodiversity corridors are preserved. Unless otherwise permitted by Lower Alsace Township, the following maintenance activities and disturbance limitations shall apply to the Riparian Buffer Overlay District:
- (1) Zone 1 should require minimal maintenance. As trees mature, die and decay, the natural debris should be allowed to decompose within the stream. This will provide important food sources and habitats for beneficial microorganisms, fish and amphibious animals. However, any debris that may cause a rise in the floodplain due to obstruction or displacement shall be removed. Streamside grasses shall be allowed to seasonally flourish and recede.
 - (2) Zone 2 should receive significant attention since the objective is to develop a stable and broad canopy of tree cover. The trees within Zone 2 should be pruned and trimmed on an as-needed basis, but should not jeopardize the overhead canopy of shade. The natural undercover should be undisturbed.
 - (3) Zone 3 requires minimal maintenance. Native grasses and ground cover should flourish and recede with the seasons. Grazing and haying are permitted provided that the residual grass length is sufficient to disperse overland stormwater flows.
 - (4) Trees that have been damaged, contracted with disease, or create an unsafe situation may be removed within the Riparian Buffer Overlay Zone, provided that the tree is replaced with another tree that could survive and flourish within the Riparian Buffer Overlay District.
 - (5) Replacement trees shall be deciduous, noninvasive and native to Lower Alsace Township, which are nursery stock grown within a locale with similar climatic conditions as Lower Alsace Township. The replacement trees shall be balled and burlapped and not less than two (2) inches in diameter, as measured at breast height. The trees shall be at least ten (10) feet tall after planting and trimming. Branching shall start not less than six (6) feet from the top of the root ball.
 - (6) Replacement trees should not be used as credits to meet other planting requirements relative to street tree plantings, landscape buffers, unless the original trees would have satisfied such requirements.
 - (7) Replacement trees shall be planted within one hundred and twenty (120) days of the existing tree being removed from the Riparian Buffer Overlay District.

Section 514: Erosion and Sedimentation Control

- (A) 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 appropriate local, county, state and/or federal agencies.
- (B) All permits required to implement the erosion and sedimentation control plan shall be obtained from the appropriate agencies prior to municipal approval of the subdivision plan or land development plan.
- (C) The approval of a plan does not relieve the developer's obligation to execute the erosion and sediment control measures, as specified on the approved plans or as otherwise required by local, state and federal laws.
- (D) When erosion and sedimentation control measures are required, the improvements shall be either: incorporated within the municipal improvements agreement; completed by the applicant prior to plan approval; or deferred to the building permit phase. All such options shall be subject to the approval of Lower Alsace Township, the Berks County Conservation District and/or the Pennsylvania Department of Environmental Protection.
- (E) During the development phase, Lower Alsace Township shall be provided with the opportunity to inspect the site improvements and enforce compliance with the approved subdivision plan or land development plan.
- (F) Prior to the issuance of an occupancy permit, Lower Alsace Township shall conduct a site inspection to determine compliance with the approved subdivision plan or land development plan. The occupancy permit shall not be issued until all site improvements have been completed to the satisfaction of Lower Alsace Township.

Section 515: Sanitary Sewage Disposal

- (A) As part of all subdivision and land development plan applications, the applicant shall develop a plan for the collection, conveyance and treatment of wastewater considering the following criteria:
 - (1) The plan for sewage disposal shall be consistent with the most recent plans and ordinances that have been adopted by Lower Alsace Township and with the provisions of the Pennsylvania Sewage Facilities Act (PA Act 537, as amended).
 - (2) The plan for sewage disposal shall consider the recommendations pertaining to land use, sewage disposal and water supply, as contained within the Joint Comprehensive Plan.
 - (3) The plan for sewage disposal shall be consistent with all provisions specified and adopted by the Antietam Valley Municipal Authority or other sanitary sewer service authority with jurisdiction.
 - (4) The plan for sewage disposal shall be consistent with all pertinent design requirements specified by the Pennsylvania Department of Environmental Protection.
 - (5) The plan for sewage disposal shall be prepared to consider all pertinent local, regional, state and federal permitting requirements.
- (B) All proposed land uses that are located within a designated sewer service district or planned growth area shall be required to connect to the municipal sanitary sewage disposal system subject to the following provisions:
 - (1) Lower Alsace Township shall review all such subdivision or land development plan applications, which shall review the adequacy of the proposed sanitary sewer improvements. Lower Alsace Township shall not approve a proposed subdivision or land development plan until a favorable recommendation appointed consultants for Lower Alsace Township and the permits have been for the sanitary sewer improvements have been issued by the agencies with jurisdiction.
 - (2) Unless otherwise permitted or required by Lower Alsace Township, all proposed sanitary sewer improvements shall be located, designed, constructed and installed in accordance with the sanitary sewer design standards and specifications that have been adopted by Lower Alsace Township. Where certain standards and specifications do not exist, the engineer appointed by Lower Alsace Township shall provide a designated requirement or alternative for the proposed sanitary sewer improvements.

- (3) The applicant shall be responsible for any required off-site sanitary sewage disposal improvements that may be necessary to accommodate the wastewater flow from the development. All such off-site improvements shall be coordinated with Lower Alsace Township.
 - (4) Where required, the appropriate planning modules or exemption requests shall be submitted to Lower Alsace Township and the Pennsylvania Department of Environmental Protection for review and consideration.
 - (5) All uses connected to the municipal sanitary sewer system shall be subject to the sanitary sewer use and maintenance provisions of Lower Alsace Township and the Antietam Valley Municipal Authority.
- (C) All proposed land uses that are located outside of a designated sanitary sewer service district or planned growth area shall be required to utilize on-lot sewage disposal technology, as the method for sewage disposal. All such on-lot sewage disposal systems shall be subject to the following provisions:
- (1) The sewage enforcement officer appointed by Lower Alsace Township shall review all subdivision or land development plans in which the proposed uses will utilize on-lot sewage disposal systems. All field testing procedures and applications requirements shall be subject to the approval of the sewage enforcement officer and the Pennsylvania Department of Environmental Protection. Lower Alsace Township shall not approve a proposed subdivision or land development plan until the sewage enforcement officer has received a favorable recommendation for the on-lot sewage disposal system.
 - (2) All proposed on-lot sewage disposal facilities shall be located, designed, constructed and installed in accordance with the standards and specifications of the Pennsylvania Department of Environmental Protection and by Lower Alsace Township.
 - (3) All proposed uses connected to an on-lot sewage disposal system shall be subject to all land use and maintenance provisions adopted by Lower Alsace Township.
 - (4) All proposed uses connected to a holding tank shall be subject to the provisions of Lower Alsace Township and the Pennsylvania Department of Environmental Protection.
- (D) If municipal sewage disposal 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 applicant shall install approved capped collection system within the limits of the subdivision or land development, in addition to the approved on-lot sewage facilities. The collection and conveyance system shall be capped at the limits of the subdivision or land development and the laterals shall be capped at the street right-of-way.
- (E) The required Sewage Facilities Planning Modules shall be approved by Pennsylvania Department of Environmental Protection prior to final plan approval.

Section 516: Water Supply

- (A) As part of all subdivision and land development plan applications, the applicant shall develop a plan for water supply considering the following criteria:
- (1) The plan for water supply shall be consistent with the most recent plans and ordinance adopted by Lower Alsace Township.
 - (2) The plan for water supply shall consider the recommendations pertaining to land use, sewage disposal and water supply, as contained within the Joint Comprehensive Plan.
 - (3) The plan for water supply shall be consistent with all pertinent design requirements specified by Lower Alsace Township, the municipal water authority with jurisdiction and the Pennsylvania Department of Environmental Protection.
 - (4) The plan for water supply shall be prepared to consider all pertinent local, regional, state and federal permitting requirements.

- (5) If water is to be provided by means other than by private wells owned and maintained by the individual owners of lots within the subdivision or land development, the developer shall present evidence to Lower Alsace Township that the subdivision or development is to be supplied by a certified public utility, a bona fide cooperative association of lot owners, or by a municipal corporation, authority or utility. A copy of a Certificate of Public Convenience from the Pennsylvania Public Utility Commission or an application for such certificate, a cooperative agreement or a commitment or agreement to serve the area in question, whichever is appropriate, shall be submitted to Lower Alsace Township.
 - (6) If required, the applicant shall submit evidence to Lower Alsace Township that the proposed water supply source and service is capable of providing sufficient fire protection for the proposed use and/or development. Such evidence may include current pressure and flow data for existing fire hydrant(s) in the water main(s) that will service the project together with calculated pressures and flows within the development at the proposed fire hydrant(s) location(s). The required flow and pressures will be determined by Lower Alsace Township and local fire departments.
 - (7) The applicant shall consult with Lower Alsace Township, municipal water authority with jurisdiction and/or the local fire department to determine if any existing fire hydrants or water supply sources should be evaluated in order to determine if the sufficient water supply and pressure are available.
- (B) All proposed land uses that are located within a designated water supply service district or planned growth area shall be required to connect to the municipal water supply system subject to the following provisions:
- (1) Lower Alsace Township shall review all such subdivision or land development plan applications, which shall review the adequacy of the proposed water supply improvements. Lower Alsace Township shall not approve a proposed subdivision or land development plan until the engineer appointed by Lower Alsace Township or water authority with jurisdiction have issued a favorable recommendation for the water supply improvements.
 - (2) All proposed water supply facilities shall be located, designed, constructed and installed in accordance with the standards and specifications of Lower Alsace Township and/or the municipal water authority with jurisdiction. Where certain standards and specifications do not exist, Lower Alsace Township and/or municipal water authority with jurisdiction shall provide a designated requirement or alternative for the proposed water supply improvements.
 - (3) The applicant shall be responsible for any required off-site municipal water supply improvements that may be necessary to provide a reliable supply of water to the development. All such off-site improvements shall be coordinated with Lower Alsace Township and water authority with jurisdiction.
- (C) All proposed land uses that are located outside of a designated water supply service district or planned growth area shall be required to utilize on-lot water supply facilities through individual well(s). All such water supply wells shall be subject to the following provisions:
- (1) All proposed individual on-lot wells shall be located, designed, drilled, constructed and installed in accordance with the standards and specifications of Lower Alsace Township and the Pennsylvania Department of Environmental Protection.
 - (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 be located, designed, constructed and maintained in accordance with the provisions established by Lower Alsace Township.
 - (3) A hydrogeological study shall be required for subdivision plans involving twenty (20) or more lots or for land development plans in which the estimated water usage shall exceed 5,000 gallons per day. The hydrogeological study shall be prepared by a professional hydrogeologist, who shall provide documentation to conclude that the proposed individual well(s) will be capable of supplying each lot or use(s) with a dependable supply of safe potable water and that the proposed well(s) will not adversely affect the groundwater table or existing wells near the project site.

- (D) All proposed land uses that are located outside of a designated water supply service district or planned growth area may utilize a community water supply system through individual well(s). All such community water supply systems shall be subject to the following provisions:
- (1) All proposed community water supply wells shall be located, designed, drilled, constructed and installed in accordance with the standards and specifications of the Pennsylvania Department of Environmental Protection and Lower Alsace Township.
 - (2) All proposed community water supply wells shall be located at least two hundred (200) feet from any sewage disposal system, one hundred (100) feet from any external property line, and one hundred (100) feet from any watercourse or surface waters.
 - (3) A detailed hydrogeological study shall be prepared by a professional hydrogeologist, who shall provide documentation to conclude that the following:
 - (a) That the proposed community water supply well(s) will be capable of supplying each lot or use(s) with a dependable supply of water. At a minimum, the water source should be capable of supplying one hundred-fifty (150) percent of the average daily demand based on one hundred (100) gallons per day per person and/or four hundred (400) gallons per day per dwelling unit, for the design population of the development or the service area.
 - (b) That the water supply shall be drawn from an adequate and reliable source, which can supply the proposed storage facilities plus the water demands of the proposed service area at all times, including the fire flow demand during the average or peak daily consumption. A dynamic recovery rate and draw-down test shall be conducted prior to preliminary plan approval to demonstrate the capacity and safe daily yield of the community well sources.
 - (c) That the proposed community water supply well(s) will not adversely affect the groundwater table or existing wells near the project site.
 - (d) That the quality of the source shall conform to the minimum water quality requirements of the Pennsylvania Department of Environmental Protection.
 - (e) That a minimum static pressure shall exceed twenty (20) pounds per square inch at any point within the community water supply system during the average or peak daily consumption.
 - (4) All community water supply facilities shall be designed with a minimum of two (2) well sources.
 - (5) The community water supply wells shall be located within an open space water protection zone with a minimum area of one (1) acre in size. No structures other than community water facilities and accessory components shall be located within the protected zone.
- (E) All proposed subdivisions and land developments that are to be served by a public or community water supply system shall provide fire hydrants. The proposed fire hydrants shall comply with the following provisions:
- (1) Fire hydrants shall be located no further than one thousand (1,000) feet apart, as measured along the centerline of each road. All residential dwelling units and non-residential principal buildings shall be located no farther than six hundred (600) feet from an active fire hydrant.
 - (2) 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. Unless otherwise directed by Lower Alsace Township, the barrel of the fire hydrant shall be set so that no portion of the pumper or hose nozzle cap will be less than eighteen (18) inches from the curb line.
 - (3) The type and location of all required fire hydrants are subject to the review and approval of Lower Alsace Township and the local fire departments.

Section 517: Well Head Protection

- (A) Lower Alsace Township and/or municipal water authority with jurisdiction has the authority to establish well head protection zones in accordance with the provisions established by the Commonwealth of Pennsylvania as well as the Pennsylvania Municipalities Planning Code.
- (B) All subdivision and land development applications shall be consistent with any well head protection plans that have been adopted by Lower Alsace Township and/or municipal water authority with jurisdiction.

Section 518: Utilities

- (A) All basic utility service lines for electric, natural gas, cable television, and telephone shall be placed underground.
- (B) The installation of all utilities shall be in strict accordance with the engineering standards and specifications of the public utility company.
- (C) Where underground utilities are located under the 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) Prior to municipal approval, the applicant shall be responsible for contacting all utility companies to determine the locations and depths of all underground utilities within the tract of land being subdivided or development.
- (E) A complete list of the applicable utility companies and their phone numbers shall appear on the approved subdivision plan or land development plan.

Section 519: Exterior Lighting

- (A) This section sets forth minimum criteria for the installation, use and maintenance of exterior lighting, the purposes of which are to require lighting in outdoor public places where safety and security are concerns; protect drivers and pedestrians on nearby streets from glare from non-vehicular light sources that shine directly into their eyes and thereby impair safe travel; shield neighboring properties from glare resulting from excessive light sources and from nonexistent or improperly directed or shielded light sources; limit the height of light standards to preclude or lessen light pollution; and promote efficient design and operation with regard to energy conservation.
- (B) Lighting facilities shall be required for all off-street parking areas and off-street loading areas and for all driveways providing ingress and egress thereto and for all subdivisions and/or land developments for business, commercial, retail, personal service, industrial, multi-family, recreational, institutional and public uses, and for all construction or reconstruction or improvement of any such use for which land development approval is not required. In the approval of any subdivision or land development plan, Lower Alsace Township shall have the authority to require lighting to be incorporated for other uses or locations where in their reasonable discretion such lighting is warranted. In addition, the provisions of this section shall apply to signs, architectural lighting, and landscape lighting.
- (C) Where required by Lower Alsace Township to demonstrate compliance with the provisions of the Joint Zoning Ordinance and the Subdivision and Land Development Ordinance, a lighting plan shall be prepared to comply with the following criteria:
 - (1) A lighting plan shall be submitted for review and approval for all applications and uses, which require exterior lighting.
 - (2) The lighting plan shall include a schematic layout of all proposed exterior fixture locations, footcandle data, and a plat demonstrating intensities and uniformities within the limitations established within the Joint Zoning Ordinance and this Subdivision and Land Development Ordinance, as well as the manufacturer's description of the equipment (catalog cuts), glare control devices, lamps, mounting heights and means, proposed hours of operation of the lighting, and maintenance schedule. Illumination intensities shall be plotted on a ten-foot by ten-foot grid.

(3) The applicant shall submit a visual impact photometric plan that demonstrates both light coverage and light spillage resulting from the exterior lighting and the provision for adequate measures to mitigate nuisance from light pollution and disabling glare, both on the use or development site and on adjacent properties.

(D) The lighting plan shall be prepared to comply with the provisions specified within the Joint Zoning Ordinance.

Section 520: Landscaping

(A) Pursuant to the provisions of Lower Alsace Township Zoning Ordinance, certain subdivision and/or land development applications may require specific landscaping criteria to be incorporated as part of the subdivision plan and/or land development plan. The following chart provides a summary of these requirements:

Landscaping Requirements for Subdivision and Land Development Activity			
Type of Development	Minimum Landscaping Requirements	Buffer Yard	Landscape Plan
Conventional single-family residential developments containing less than 10 dwelling units	1 tree per residential lot or unit plus 1 tree per acre to a maximum of 3 trees per residential lot or unit	No	Yes
Conventional single-family residential developments containing 10 or more dwelling units	1 tree per residential lot or unit plus 1 tree per acre to a maximum of 3 trees per residential lot or unit	No	Yes
Townhouse developments and multi-family apartment developments	1 trees per townhouse unit or apartment unit	Yes	Yes
Cluster Design for the RC, R-1 and R-2 Zoning Districts	2 trees per residential lot or unit	Yes	Yes
Age-qualified retirement communities and transitional age developments	1 tree per residential lot or unit	Yes	Yes
Personal care, assisted living care facilities, convalescent homes and nursing homes	1 tree per residential unit	Yes	Yes
Non-residential uses and developments with less than 5,000 cumulative square feet of gross floor area	2 trees per acre	Optional	Yes
Non-residential uses and developments with 5,000 cumulative square feet of gross floor area or more	2 trees per acre	Optional	Yes

General notes concerning this chart:

Note 1: The provisions specified on this chart are intended to be the basic landscaping requirements. Additional provisions for landscaping, buffer yards and other general requirements may apply.

Note 2: Lower Alsace Township may consider alternative design requirements as part of the subdivision plan application or land development plan application

Note 3: The landscaping materials and trees shall be selected from the approved list of landscaping material, as referenced under Section 520.C of this Subdivision and Land Development Ordinance.

Note 4: All subdivision and land development applications shall be subject to the provisions of woodland extraction and replacement, as specified under Section 521 of this Subdivision and Land Development Ordinance.

Note 5: All subdivision and land development applications shall be subject to the provisions of tree protection and replacement, as specified under Section 522 of this Subdivision and Land Development Ordinance.

- (B) Where zoning district or development regulations require trees, buffer yards, screening and/or planting strips, the applicant shall prepare and submit a landscaping plan to comply with the following provisions:
- (1) The landscaping plan shall show the following information: the location and arrangement of each buffer yard; the species, placement and size of all plant material selected; the type, placement and size of all fences to be placed in such buffer yards; and the type and density of planting, which shall adequately provide the screening effect required.
 - (2) The plant materials utilized shall be selected from the approved list, as contained under Section 520.C of this Subdivision and Land Development Ordinance.
 - (3) All plant materials shall be permanently maintained and any plant material, which does not survive, shall be replaced within six (6) months.
 - (4) Any portion of a site which is not utilized for buildings, accessory structures, loading or parking spaces, aisles, sidewalks and designated storage areas shall be planted with an all-season ground cover and shall be landscaped according to an overall plan.
 - (5) Unless otherwise specified, a twenty (20) foot wide buffer yard shall be established between residential and non-residential uses. The landscaping screen contained within the buffer yard shall be subject to the review and approval of Lower Alsace Township as part of the subdivision plan and/or land development plan. The use of existing healthy mature trees (12 inches or more in diameter at breast height) should be utilized as part of the required buffer yard.
 - (6) Unless otherwise specified, a twenty (20) foot wide buffer yard shall be established between residential and non-residential uses. The landscaping screen contained within the buffer yard shall be subject to the review and approval of Lower Alsace Township as part of the subdivision plan and/or land development plan. The use of existing healthy mature trees (12 inches or more in diameter at breast height) should be utilized as part of the required buffer yard.
 - (7) All buffer yards shall be maintained and kept clean of debris, rubbish, weeds and tall grass.
 - (8) If permitted by Lower Alsace Township, natural berms may be provided as a buffer yard. The applicant shall demonstrate that the soil type, hydrology, topography and selected landscaping material are appropriate for the area in which the buffer yard is to be located. All such natural berms shall be properly graded to a maximum side slope ratio of 4:1. The natural berms shall be properly stabilized by the developer in accordance with the standards specified by Lower Alsace Township and the Berks County Conservation District.
 - (9) Buffer yard or screening requirements between commercial and industrial uses shall be subject to the review of Lower Alsace Township as part of the subdivision plan or land development plan.
 - (10) As part of the application phase for a subdivision plan or land development plan, Lower Alsace Township shall have the right to modify or consider alternatives to any of the above specifications if the applicant can demonstrate that the existing conditions of the site exceeds all applicable requirements listed under this Subdivision and Land Development Ordinance.
 - (11) All selected trees shall be planted a minimum of ten (10) feet outside of the legal right-of-way of all existing and proposed streets.
 - (12) All selected plant or tree materials shall be located so as not to interfere with the installation and maintenance of sidewalks, drainage facilities and/or utilities.
 - (13) The strategic placement of trees throughout the development to serve as a buffer against the wind and sun is encouraged for energy conservation purposes.
 - (14) All plant materials shall be located so as not to create a potential traffic hazard.
 - (15) All selected trees and/or all other plant materials exceeding two (2) feet in height above average ground elevation at maturity shall not be located within the limits of the clear sight triangle, as further defined and regulated under the Joint Zoning Ordinance and this Subdivision and Land Development Ordinance.

(16) As part of the application for a subdivision plan or land development plan, Lower Alsace Township shall have the right to modify or consider alternatives to any of the above specifications if the applicant can demonstrate that the existing conditions of the site exceeds all applicable requirements listed under the Joint Zoning Ordinance and this Subdivision and Land Development Ordinance.

(17) Landscaping plans shall be prepared by a professional landscape architect or qualified professional with landscaping experience.

(C) The following chart contains an approved list of selected trees, hedges and/or shrubs, which may be utilized to meet the standards and specifications for buffer yards and landscaping. Species selection shall be based upon the existing physical and natural conditions of the site:

(1) Street trees are permitted provided they are a minimum of three (3) inches in diameter. The following is an approved list of street trees:

- Acer rubrum - Red Maple
- Acer saccharum - Sugar Maple
- Crataegus crusgalli - Cockspur Hawthorne
- Fraxinus Americana - White Ash
- Fraxinus pennsylvanica - Green Ash
- Juniperous virginiana - Eastern Red Cedar
- Liquidambar styraciflua - American Sweetgum
- Nyssa silvatica - Blackgum
- Ostrya virginiana - American Hophornbeam
- Oxydendrum arboreum - Sourwood, Sorrel Tree
- Quercus alba - White Oak
- Quercus coccinea - Scarlet Oak
- Quercus palustris - Pin Oak
- Sassafras albidum - Common Sassafras

(2) Canopy trees are permitted provided they are a minimum of three (3) inches in diameter. The following is an approved list of canopy trees:

- Acer rubrum - red maple
- Acer saccharum - sugar maple
- Betula alba - European white birch
- Betula lenta – Black Birch
- Betula nigra – River Birch
- Carya ovata – Shagbark Hickory
- Fagus grandifolia - American beech
- Fagus sylvatica - European beech
- Fraxinus americana - white ash
- Fraxinus pennsylvania lanceolata - gen ash
- Ginkgo Biloba - Ginkgo (male only)
- Gleditsia triacanthos inermis - thornless honey locust
- Liquidambar styraciflua - sweet gum
- Liriodendron tulipifera - tulip tree
- Nyssa sylvatica – Black Gum, Sourgum
- Ostra virginiana – American Hophornbeam
- Phellondendron amurense - Amur cork tree
- Platanus acerifolia - London plane tree
- Quercus alba - White Oak
- Quercus borealis - Red Oak
- Quercus coccinea - Scarlet Oak
- Quercus palustris - Pin Oak
- Quercus phellos - Willow Oak
- Robina psuedoacaia inermis - thornless black locust
- Sassafras albidum - Sassafras

Sophora japonica - Japanese zelkova

- (3) Flowering trees are permitted provided they are a minimum of ten (10) feet in height. The following is an approved list of flowering trees:

Amelanchier canadensis - shadblow serviceberry
Cercis canadensis – Eastern Redbud
Chionanthus virginicus - Fringetree
Cornus florida - flowering dogwood
Cornus kousa - Kousa dogwood
Cornus mas - Cornelian cherry
Crataegus Phaenopyrum - Washington hawthorn
Koelreuteria paniculata - golden rain tree
Laburnum vossii - goldenchain
Magnolia soulangeana - saucer magnolia
Malus baccata - Siberian crab
Malus floribunda - Japanese flowering crab
Malus hopy - Hopy red-flowering shrub
Prunus calleryana - Kwanzan cherry
Prunus yedoensis - Yoshino cherry
Pyrus cultivars - Hybrid Ornamental Pear
Viburnum prunifolium - Blackhaw Viburnum

- (4) Evergreen trees are permitted provided they are a minimum of six (6) feet in height. The following is an approved list of evergreen trees:

Ilex opaca - American holly
Juniperus virginiana – Eastern Red Cedar
Picea abies - Norway spruce
Picea omorika - Serbian spruce
Picea pungens - Colorado spruce
Pinus nigra - Austrian pine
Pinus strobus - Eastern white pine
Pinus sylvestris - Scotch pine
Pinus thunbergii - Japanese black pine
Pseudotsuga menziesli - Douglas fir
Tbuja occidentlis - arborvitae
Tsuga caroliniana - Carolina hemlock
Tsuga canadensis - Canada hemlock

- (5) Hedges or hedgerows are permitted for buffer and screening purposes provided they are a minimum of four (4) feet in height. The following is an approved list:

Crataegus crus-galli - cockspur thorn
Crataegus intricata - thicket hawthorn
Crataegus phaenopyrum - Washington hawthorn
Juniperus virginiana - Eastern Red Cedar
Forsythia intermedia - border forsythia
Rhododendron maxima – Great Rhododendron
Syringa chinensis - Chinese lilac
Syringa vulgaris - common lilac
Tbuja occidentlis - arborvitae
Viburnum alatus - viburnum
Viburnum sieboldii - Siebold viburnum
Viburnum tomentosum - doublefile viburnum

- (6) Shrubs are permitted for buffer and screening purposes provided they are a minimum of three (3) feet in height. The following is an approved list of shrubs:

Hamamelis vernalis - vernal witch hazel
 Hamamelis virginiana - common witch hazel
 Ilex glabra – Inkberry
 Ilex verticillata – winterberry
 Juniper virginiana - upright juniper
 Kalmia latifolia – Mountain Laurel
 Myrica pennsylvanica - Bayberry
 Juniper virginiana - upright juniper
 Taxus capitata - upright yew
 Taxus hicksi - Hicks yew
 Viburnum dentatum - arrowwood viburnum
 Viburnum lantana - Wayfaring tree viburnum
 Viburnum trilobum – Highbrush Cranberry

- (D) As part of the application phase for a subdivision plan or land development plan, Lower Alsace Township may permit alternative trees, hedges and/or shrubs from those specified under Section 520.C provided the applicant or developer provides sufficient evidence from a landscape architect to demonstrate that the alternative tree, hedge and/or shrub will be more effective to meet the standards and specifications for buffer yards and landscaping. Species selection shall be based upon the existing physical and natural conditions of the site.
- (E) Where compliance with the landscaping provisions of this Subdivision and Land Development Ordinance cannot be achieved, Lower Alsace Township may permit the required trees or landscaping materials to be planted at an off-site location designated and approved by Lower Alsace Township. As an alternative to this provision, Lower Alsace Township may accept a contribution in lieu of the landscaping requirements, which shall be established by resolution
- (F) Any tree, plant, shrub, flower, vine or grass species, which has been classified as invasive, noxious or destructive by any local, county, state or federal agency, including the Pennsylvania Department of Agriculture, shall be specifically prohibited for use in landscaping and ground cover.
- (G) The following provisions shall be considered as a guarantee concerning the survival of all buffer yards and landscaping, which are required as part of the subdivision and/or land development plan application:
 - (1) Any tree or shrub, which does not survive within eighteen (18) months of planting shall be replaced within a six (6) month time period.
 - (2) Substitutions for certain species may be permitted only when approved by Lower Alsace Township.
 - (3) Where appropriate, a landscape architect or other competent landscaping professional may provide a recommendation for the substitutions of species that may not survive or thrive.

Section 521: Woodland Extraction for Subdivision and Land Development

- (A) Woodland extraction shall be permitted within all underlying zoning districts, provided it is conducted in a manner to facilitate all necessary site improvements, as identified on an approved subdivision plan, land development plan, erosion and sedimentation control plan, and/or building permit. For the purposes of this Subdivision and Land Development Ordinance, “woodland extraction” is hereby defined as the clear cutting or removal of healthy mature trees (12 inches or more in diameter at breast height), to provide sufficient area for site improvements on an individual lot or parcel of land, as the mature trees exist in pre-development conditions.
- (B) All proposed subdivision and land development activity shall comply with the following criteria for woodland extraction:
 - (1) Woodland extraction may be permitted in order to facilitate municipal site improvements including: areas within the street right-of-way; areas for stormwater management facilities; areas for public utilities; areas for active park and recreation uses; and other areas that may be required to complete the municipal site improvements in accordance with the approved subdivision or land development plan.
 - (2) Woodland extraction shall be limited to 125 percent of the total area designated as the building envelope, which shall be identified on the approved subdivision or land development plan in order to facilitate internal

lot improvements including: the area of the building(s); the area for the driveway; the area for the sanitary sewage facilities, water supply facilities and other public utilities; areas for stormwater management facilities; and other areas considered necessary by the landowner, provided that the total cumulative area does not exceed 125 percent of the designated building envelope.

- (3) If additional trees (other than those designated on the approved subdivision or land development plan) are removed or extracted for the purposes of grading or municipal improvements during the construction sequence, the applicant shall replace all such trees at a ratio of three (3) replacement trees (3 inches or more in diameter) for each healthy mature tree (12 inches or more in diameter at breast height) that has been incidentally timbered and/or cleared. The type and location of all such replacement trees shall be subject to the approval of Lower Alsace Township.
- (C) The approved subdivision and land development plan shall be utilized to regulate and control woodland extraction during the following phases: the initial construction activities required for the municipal site improvements; the building permit; and all other future site improvements that may be initiated by the prospective landowner. If a violation of the woodland extraction requirements should occur during any phase, the developer and/or landowner may be subject to fines, penalties and/or other enforcement remedies.
- (D) Compliance with the provisions for woodland extraction does not relieve the applicant or the prospective lot owners representing a subdivision or land development plan of the requirements specified for landscaping, woodland protection and tree replacement, which are specified under Joint Zoning Ordinance and the Subdivision and Land Development Ordinance.

Section 522: Tree Protection and Replacement

- (A) The Woodlands Overlay District has been designated as a conservation overlay district as part of the Joint Zoning Ordinance. The Woodlands Overlay District shall include the following planning and zoning initiatives:
 - (1) Forestry, timber harvesting, tree harvesting and logging regulations, which apply to all operations involved with the cutting down of trees and removal of logs from woodlands or forests for the primary purpose of sale and commercial processing into wood products shall be subject to subject to the provisions of the Joint Zoning Ordinance and the Subdivision and Land Development Ordinance.
 - (2) Woodland extraction and tree replacement provisions, which apply to all subdivision and land development activities shall be subject to provisions of the Joint Zoning Ordinance and the Subdivision and Land Development Ordinance.
 - (3) Tree protection and replacement regulations, which apply to all earth disturbance activities including subdivision and land development activities, shall be subject to the provisions of the Joint Zoning Ordinance and the Subdivision and Land Development Ordinance.
- (B) The provisions for tree protection and replacement are intended to complement and not replace the provisions established by Woodlands Overlay District.
- (C) Where tree protection and replacement requirements apply to a subdivision or land development plan, the applicant shall submit a landscaping plan to Lower Alsace Township for review and consideration. The landscaping plan shall be prepared in accordance with the provisions established by Lower Alsace Township.
- (D) Lower Alsace Township may consider optional tree protection and replacement alternatives if the standard requirements are determined to be unwarranted or inappropriate.

Section 523: Community Facilities

- (A) During the review phase of any subdivision or land development plan, Lower Alsace Township shall consider the adequacy of existing or proposed community facilities to serve the proposed development. Lower Alsace Township shall utilize the applicable components of the Joint Comprehensive Plan to provide background support and guidance.
- (B) The applicant 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) Land or water areas provided or reserved for community facilities should provide sufficient area to accommodate any proposed buildings, structures and off-street parking areas. All such areas should be located in an area of the development, which is accessible to the general public.

Section 524: Parks, Recreation and Open Space

- (A) Pursuant to the provisions of the Pennsylvania Municipalities Planning Code, Lower Alsace Township may require land and/or water areas be designated as parks, recreation and open space in order to accommodate the community needs for a subdivision plan and/or land development plan. The following general guidelines shall apply:
 - (1) The provisions and requirements for parks, recreation and open space should be consistent with the Joint Comprehensive Plan as well as all other relevant plans or studies that have been adopted by Berks County and Lower Alsace Township.
 - (2) During the review phase of a subdivision or land development plan, Lower Alsace Township shall determine if the parks, recreation and open space areas to be designated as common open space areas are sufficient to serve the proposed development and benefit the community.
 - (3) Lower Alsace Township shall determine if land within the proposed development should be devoted for recreation and open space or if a fee in lieu of recreation land shall be required from the applicant, as permitted under the authority of the Pennsylvania Municipalities Planning Code and Lower Alsace Township.
 - (4) The guidelines, standards and formulas for land dedication and/or fees in lieu of land dedication shall be established by Lower Alsace Township, which may be amended from time to time.
 - (5) If land or water areas are to be dedicated as parks, recreation areas and/or open space, the applicant shall make arrangements for the perpetual ownership and maintenance of such land.
- (B) The National Recreation and Park Association (NRPA) have developed specific standards for improved park and recreation areas to serve the basic needs of a community. The following table provides a summary of the park, recreation and open pace standards that have been endorsed and recommended by the NRPA.

NRPA Park, Recreation and Open Space Standards					
Type of Facility	Acres Per 1,000 People		Total Population Served		Service Area
	Minimum	Maximum	Minimum	Maximum	
Mini-Park	0.25 acres	0.50 acres	500	1,000	0.25 miles
Neighborhood Park	1.00 acres	2.00 acres	500	5,000	0.50 miles
Community Park	5.00 acres	8.00 acres	500	10,000	2.00 miles

- (C) The NRPA does recommend that a twenty (20) percent contingency should be applied to these standards in order to plan for projected recreational demands over a given time period. For the purposes of this Subdivision and Land

Development Ordinance, a minimum of ten (10) acres of land shall be devoted as improved municipal parks and recreational areas for every 1,000 persons served by that facility.

- (D) As part of the subdivision plan or land development plan, Lower Alsace Township and the applicant shall consider the needs of the development and regional impacts. A minimum of ten (10) acres of land and/or water areas within the development shall be designated as “common open space” for every 1,000 persons served by that facility considering the following design criteria:
- (1) The permitted uses contained within the areas designated as parks, recreation and open space shall be limited to those uses specified within the Joint Zoning Ordinance. As part of the subdivision or land development plan application, Lower Alsace Township may permit other accessory uses to the principal use provided that such use is not calculated as part of the required common open space area.
 - (2) At least seventy-five (75) percent of the common open space shall be improved to accommodate active and passive recreation uses.
 - (3) No more than fifty (50) percent of the common open space shall be located on lands that are located within the 100-year floodplain, areas delineated as wetlands and/or areas designated as Category 3 Slope.
 - (4) No more than fifty (50) percent of the common open space shall include land areas that are burdened by or are proposed to contain utilities easements and/or stormwater management facilities, as further described and identified by Lower Alsace Township.
 - (5) The common open space shall be planned and located as a contiguous accessible area within the development. Existing and/or proposed roads may bisect the areas designated as common open space, provided a cross walk at grade is safely designed to link the common open space areas. Planned linkages to other common open space areas, preserved lands, recreation areas and/or natural features shall be encouraged and considered as part of any subdivision or land development application.
 - (6) Significant natural features shall be incorporated into the overall schematic of the design as common open space areas whenever possible.
 - (7) A system for pedestrian circulation throughout the development shall be provided by utilizing sidewalks and trails.
 - (8) The total land area designated to comply with the minimum open space requirements shall be comprised of areas not less than fifty (50) feet in width and shall not contain less than one (1) contiguous acre of land. In addition, there shall be at least one (1) designated common area that is contiguous within the development containing no less than twenty-five (25) percent of the required common open space.
- (E) The following provisions shall apply to the ownership and maintenance of areas designated as common open space:
- (1) Satisfactory written agreements that have been reviewed and approved by the Board of Supervisors shall be executed as a declaration of easements, covenants and restrictions in perpetuity for the preservation of the common open spaces, and shall be recorded with the Berks County Recorder of Deeds.
 - (2) The applicant or developer shall make arrangements, provisions and/or agreements to insure that the common open space shall continue to be adequately managed and maintained. The applicant or developer shall have the following options for ownership, management and maintenance of the common open space:
 - (a) Dedicate the land encompassing the common open space to a homeowners association which is comprised of all the residents of the development;
 - (b) Dedicate the land encompassing the common open space to Lower Alsace Township, who shall have the option to accept or refuse the land offered for dedication;
 - (c) Dedicate the land encompassing the common open space to a conservation organization, as determined acceptable by the Board of Supervisors; or

- (d) Retain the ownership, management and maintenance responsibilities
- (3) The selected options for the ownership, management and maintenance of the land and water areas, which are designated as common open space, shall be subject to the review and approval by Lower Alsace Township Solicitor.
- (F) In lieu of provisions for designating land and/or water areas as common open space, Lower Alsace Township may require a recreation impact fee as part of the subdivision or land development plan application. The required impact fee or the fee in lieu of mandatory land dedication for parks and recreation facilities shall be specified on the fee schedule adopted by Lower Alsace Township, which may be amended from time to time by resolution. The fees shall be utilized to implement the park, recreation and open space plans that have been adopted by Lower Alsace Township in accordance with the provisions of the Pennsylvania Municipalities Planning Code.
- (G) The provisions specified for common open space, as may be required to satisfy specific design criteria for the development shall not relieve the applicant of other requirements for open space and recreation as well as all requirements for recreation impact fees associated with the proposed development.

Section 525: Solid Waste Management

- (A) Provision shall be made in developments containing apartments and townhouses and in nonresidential developments to adequately store within containers all solid waste generated between collections.
- (B) All storage containers shall be located to permit efficient depositing of wastes in the containers and efficient collection from the containers.
- (C) Debris, rubbish, or other waste material resulting from grading or construction activities on the lot shall be removed from the lot prior to the issuance of a certificate of use and occupancy for the lot.
- (D) The provisions for land use, setback, fencing and buffering requirements are further specified under Section 729 of the Joint Zoning Ordinance.
- (E) All solid waste management, recycling and disposal methods shall comply with the provisions adopted by Lower Alsace Township.