Chapter 22

Subdivision and Land Development

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Part 1

Preamble

§22-101. Short Title.
This Chapter shall be known and may be cited as the “East Vincent Township Subdivision and Land Development Ordinance of 1995.”

(Ord. 138, 7/17/1996, §100)

§22-102. Purpose.
The Chapter is designed:
A. To accomplish a coordinated development of the Township, thereby creating conditions favorable to the health, safety and general welfare of the citizens in conformance with the East Vincent Township Comprehensive Plan.
B. To secure sites suitable for building purposes and human habitation while protecting the soils, vegetation, quality of the waters and other elements of the ecology; protect the environmental, scenic, historical, and cultural features of the Township.
C. To provide for the general welfare by guiding and protecting amenity, convenience, future governmental, economic, practical, and social and cultural facilities, development and growth, as well as the improvement of governmental processes and functions.
D. To guide uses of land and structures; type, location and layout of streets; park, recreation and open space; public grounds and other facilities.
E. To allow innovative, quality subdivision design.
F. To encourage desirable development of the Township in a manner consistent with the goals and objectives of the Comprehensive Plan, Open Space, Recreation, and Environmental Resources Plan of 1992; and other ordinances of East Vincent Township.

(Ord. 138, 7/17/1996, §101)

§22-103. Interpretation.
The provisions of this Chapter shall be held to be the minimum requirements for the promotion and protection of the above stated purposes. Where the provisions of this Chapter impose greater restrictions than those of any other applicable statute, ordinance, or regulation, the provisions of this Chapter and its standards and specifications shall prevail. Where the provisions of any statute, other ordinance or regulation impose greater restrictions than this Chapter, the provisions of such statute, ordinance or regulation shall prevail. Where the provisions of this Chapter impose time limitations on actions by the Township, its Board of Supervisors, its Planning Commission, the Township Engineer or any other agencies, which time limitations are not required by the Pennsylvania Municipalities Planning Code, 53 P.S. §10101 et seq., or other applicable statute, or which are shorter than required by the Pennsylvania Municipalities Planning Code or other applicable statute, the time limitations set forth
in this Chapter shall be deemed directory and not mandatory, and any longer time
periods provided by the Pennsylvania Municipalities Planning Code or other applicable
statute shall prevail.

(Ord. 138, 7/17/1996, §102)

§22-104. Control.

All subdivision and land development within East Vincent Township is subject to
the provisions of this Chapter and all plats of land intended for subdivision or land
development must first be submitted to the Board of Supervisors of East Vincent
Township for approval.

A. Subdivision and Land Development Control. No land development,
subdivision or resubdivision of a lot, tract or parcel of land shall be effected, and no
street, sanitary sewer, storm drain, water main or other facility in connection
therewith shall be laid out, constructed, opened or dedicated for public use or
travel, or for the common use of occupants of buildings abutting hereon, except in
strict accordance with the provisions of this Chapter.

B. Sale of Lots, Issuance of Building Permits, Erection of Buildings or On-Site
Improvements. In a subdivision or land development, no lot may be used, or sold,
no building permit may be issued, and no building or other structure may be
erected, unless and until a final plan for such subdivision or land development shall
have been approved and duly recorded, and a grading plan, including a complete
conservation plan for erosion and sediment control, has been duly approved, and
until either the required on site and/or public improvements in connection
therewith from the lot or building to an existing improved street, or otherwise,
shall have been constructed or the Township has been assured, by means of a
proper performance guarantee in the form of an acceptable bond, letter of credit or
deposit of funds or securities in escrow sufficient to cover the cost of all required
public and on-site improvements, as certified by the developer's engineer and
reviewed and approved by the Township Engineer, that such public and on-site
improvements will subsequently be installed by the subdivider or owner of the
property. Where, owing to unusual and specific conditions, a literal enforcement of
any of the provisions of this Section would result in unnecessary hardship, such
reasonable exceptions thereto may be made by the Township Supervisors in
accordance with §22-704, “Modifications,” of this Chapter, as will not be contrary
to the interests of the public or property owner involved or adjacent thereto, in
which case the issuance of a permit, or erection of a building, or other structure
may be permitted subject to such conditions and safeguards as may be imposed to
assure adequate streets and other public improvements, and adequate conservation
and other on-site improvements.

(Ord. 138, 7/17/1996, §103)
§22-201. General Interpretation.

Unless otherwise expressly stated, the following words and phrases listed in this Part shall be construed throughout this Chapter to have the meanings indicated herein. The present tense includes the future; the singular number includes the plural, and the plural includes the singular; the masculine gender includes the feminine and the neuter; the word "used" includes the words "designed, arranged or intended to be used"; the word "person," "applicant," "owner," "subdivider," or "developer" includes any individual, partnership, firm, association, corporation, or organization; the word "occupied" includes the words "designed, or intended to be occupied"; the word "may" is permissive; and the words "shall," "will," or "must" are always mandatory. The words "State" and "Commonwealth" shall mean the Commonwealth of Pennsylvania, the word "Township" means East Vincent Township, Chester County, Pennsylvania; the term "Supervisors" means the Board of Supervisors of said Township; the term "Planning Commission" means the Planning Commission of said Township; the term "Zoning Ordinance" means the Zoning Ordinance of said Township [Chapter 27]; the term "Township Engineer" shall mean the Township Engineer of said Township. When terms, phrases, or words are not defined, they shall have their ordinarily accepted meanings or such as the context may apply.


Abut - to border upon, or lie next to, but not necessarily "contiguous" or "adjoining," which see.

Accelerated erosion - the removal of the surface of the land through the combined actions of man and natural processes at a rate which is greater than would occur from the natural process upon undisturbed land.


Adjoining - touching at some point or along a line.

Agriculture - the cultivation of the soil and the raising and harvesting of the products of the soil including, but not limited to, nursurying, horticulture, and the breeding and raising of livestock, and poultry, excluding pets such as dogs, cats, rabbits and the like and excluding horses for the personal recreational use of the occupant of the principal house.

Agricultural lot - existing lot of record intended for continued agricultural use and from which a new lot or lots is/are created for the purposes of very low density, rural residential development. See §27-403.2.E(1) of the East Vincent Township Zoning Ordinance [Chapter 27] for applicability.

Alley - a strip of land over which there is a right of way, serving as a secondary
means of access to two or more properties.

*Alluvial soils* - soils generally found in floodplains and formed by the deposit of sediments or alluvium washed from uplands. Alluvial soils in East Vincent Township are identified as Bowmansville, Chewacla, Congaree, and Rowland Series soils.

*Applicant* - a landowner or developer, as herein defined, who has filed an application for development including his heirs, successors and assigns.

*Application for development* - any application, whether preliminary or final, required to be filed and approved prior to the start of construction or development including, but not limited to, an application for a grading permit, building permit, for the approval of a subdivision plat or plan, or for the approval of a land development plan.

*Berm* - a raised earthen structure generally level and formed of compacted soils used for (A) the control of stormwater or other liquids, either by impoundment or diversion, or (B) for screening or landscaping purposes.

*Best management practices* - a listing of stormwater management techniques recommended for use to limit the discharge of stormwater runoff from development of the land, in order of preference as to their use.

*Bikeway* - a type of trail corridor designed primarily for bicycle traffic as part of the East Vincent Township Comprehensive Trail System or as otherwise authorized by the Township. Bikeways may serve transportation and/or recreational functions. Except where a designated bikeway route is contained within a road cartway or road shoulder, bikeways shall exclude all motorized vehicles except motorized wheel chairs or as authorized by the Township for maintenance, management, and emergency purposes.

*Block* - property bounded on one side by a street, and on the other three sides by a street, right of way, public park, waterway, or other environmental limitation, Township line, or any combination thereof, or any similar limitations.

*Board* - for the purpose of this Chapter, the term refers to the East Vincent Township Board of Supervisors. This term is not intended to include the Zoning Hearing Board.

*Buffer area* - an area to be used as a visual and/or auditory barrier, consisting of a mound, berm or strip of land planted and maintained as an effective barrier separating parcels or uses of land in which no building is permitted.

*Builder* - the person responsible for the erection of the building, whether such person be the subdivider or otherwise.

*Building* - a combination of materials to form a permanent structure having walls and a roof. Included shall be all manufactured homes and trailers to be used for human habitation. A structure or appendage to a structure which is permanently affixed to the land, and is used for human, animal or chattel enclosure, or in the case of a mobile home, connected in any fashion to any source of electricity, gas, heating fuel, telephone, or to a sewage disposal or water system of any type. [Ord. 142]

*Building coverage* - the ratio of the total ground floor area of all buildings, plus the total surface area of any roof overhangs and decks, on a lot to the total lot size of the lot on which they are located, expressed as a percentage.

*Building inspector* - the Code Enforcement Officer or other designated authority charged with the administration and enforcement of the Township Building Code.
Building line - a line passing through the point of a building nearest to the front lot line, parallel to such line and at a distance therefrom established by the actual location of the building; the building line may be the same as the "building setback line" or may be farther from the front lot line, but cannot be closer to the front lot line than the building setback line.

Building permit - a statement issued and signed by the Building Inspector/Code Enforcement Officer authorizing the erection, alteration, or enlargement of a building or structure. The statement should indicate that the proposed activity complies with the applicable Township codes and ordinances.

Building setback line - a line established within a lot, measured from the street right-of-way line and parallel thereto, defining the minimum distance in which no building may be constructed. In the case of a corner lot, the building setback line shall be established parallel to all streets. In the case of an interior lot not fronting a street for its entire width, the building setback line shall be a line parallel to the street right-of-way measured from the property line nearest the street, for the entire width of the lot, defining the minimum distance in which no building may be constructed.

Cartway - the area of the street available for use by vehicular traffic, including travel lanes, but not including shoulders, curbs, gutters, sidewalks, or drainage swales.

Channel stabilization - any means of maintaining the lining of an outlet channel impervious to stormwater flow in consideration of the volume and velocity of the flow, including, but not limited to sodding, plastic or jute mesh, glass fiber matting, asphalt, concrete, stone rip rap, etc.

Clear sight triangle - an area of unobstructed vision at street intersections defined as lines of sight between points at a given distance from the intersection of the street rights of way, cartways, or centerlines.

Clear sight distance - the required line of unobstructed vision for a driver at the intersection of a new driveway or road with an existing pavement edge.

A. For all proposed streets and driveways, the longest required line of unobstructed vision along a street cartway measured from a point 3 ½ feet above the centerline to an object 3½ feet above the proposed new intersecting pavement and as measured 10 feet back of the existing pavement edge.

B. AASHTO's "A Policy on Geometric Design of Highways and Streets," latest edition, at the time of any application, shall govern all sight distance situations, unless the Township requires more stringent control to improve known or potentially hazardous conditions.

Code Enforcement Officer - the Code Enforcement Officer, charged with enforcing the literal terms of this Chapter or the representative agent of the Zoning Hearing Board. The Code Enforcement Officer is the Zoning Officer as described in Municipalities Planning Code, §614, 53 P.S. §10614.

Commercial - a use of land or improvements thereto for the purpose of engaging in retail, wholesale or service activities.

Common open space - restricted open space within a development designed and intended for the use or enjoyment of residents of the development, and conforming to all applicable provisions of Part 9 of the East Vincent Township Zoning Ordinance.
Completely dry space - a space which will remain totally dry during flooding; the structure is designed and constructed to prevent the passage of water and water vapor. [Ord. 142]

Comprehensive Plan - the Comprehensive Plan of East Vincent Township, as adopted and amended from time to time.

Comprehensive trail system - a system of interlinking trails throughout East Vincent Township, designated for transportation and recreation purposes. The East Vincent Township Comprehensive Trail System Plan delineates existing and proposed trails and is available from the Township.

Conditional use - a use which is not necessarily appropriate to a particular zoning district, but which may be suitable when specific conditions and factors prescribed for such cases within the East Vincent Township Zoning Ordinance [Chapter 27] are present. Conditional uses are approved or denied by the Board of Supervisors after a public hearing and review and comments from the Planning Commission as set forth in Part 19 of the East Vincent Township Zoning Ordinance [Chapter 27].

Condominium - a form of ownership of real property including an undivided interest in a portion of a parcel, together with a separate interest in a space within a structure, subject to the provisions of the Pennsylvania Uniform Condominium Act of 1980, 68 Pa.C.S.A. §3101 et seq., as may be amended from time to time.

Conservation plan - a plan for the conservation of precipitation and soils meeting the standards established and revised from time to time by the Pennsylvania Department of Environmental Protection, the Chester County Soil and Water Conservation District, and by the Natural Resources Conservation Service of the U.S. Department of Agriculture.

Construction - the erection or alteration of any structure and/or any disturbance of the existing surface of the land or any disturbance to existing vegetation related to the erection or alteration of structures thereon, including the cutting of trees or clearing of brush, provided that limited disturbance to soil or vegetation associated with the entering upon the premises for purposes of surveying, staking, or to obtain necessary data on existing conditions shall not be deemed "construction."

Contiguous - touching along all or most of one side. Not the same as "abut," which see.

Contributing resource - a building, structure or site adding to the historical significance of an individual property or an historic district. Contributing resources included in the East Vincent Township Historic Resource Inventory shall be regulated as Class I or Class II resources with the same classification as the principal resource(s) to which they contribute.

Critical environmental areas - areas consisting of floodplain conservation, high water table soils, wetlands, steep slopes, prime woodlands, visually sensitive areas, and historic resources as defined in the Township's Open Space, Recreation, and Environmental Resource Plan.

Crosswalk - a right of way exclusively for pedestrian or nonmotorized vehicle travel across a street.

Cul-de-sac - a single access local street intersecting another street at one end and
terminated at the other end by a permanent or temporary vehicular turnaround.

Comprehensive trail system - a system of interlinking trails throughout the Township, designated for transportation and recreation purposes, as conceptually delineated on the East Vincent Township Trail System Map, including subsequent additions or amendments thereto.

Date of submission - date on which a completed application for subdivision and land development together with all required information, fees, etc., is received by the East Vincent Township municipal offices.

DBH (dbh) - the diameter of a tree at breast height, more specifically measured 4.5 feet from the ground surface at the point of highest elevation in contact with the trunk of such tree.

Design standards - minimum standards for the layout by which a subdivision or land development is developed.

Detention basin - a structure designed to retard surface water runoff for a period of time sufficient to provide for a reduced rate of discharge through a controlled outlet, and to retard the velocity as a means of preventing erosion.

Developer - any landowner, agent of such landowner or tenant with the permission from a landowner, who makes or causes to be made an application for subdivision and/or land development.

Development - any man-made change to improved or unimproved real estate including, but not limited to, buildings or other structures, the placement of mobile homes, streets, and other paving, utilities, filling, grading, excavation, mining, dredging, or drilling operations, and the subdivision of land.

Development agreement - a written contract between an applicant and the Township specifying the conditions of final approval by the Township and other provisions required by the Township to effectuate the purposes of this Chapter.

Diversions - a channel or ditch and embankment constructed across a sloping land surface, either on the contour or at predetermined gradient, to intercept and divert stormwater before it gains sufficient volume or velocity to scour or cause harmful erosion.

Drainage - the flow of water or other liquid and the means or structures for directing such flow, whether surface or subsurface, and whether natural or artificial.

Drainage area - the upstream watershed area of a drainage basin measured from a point of discharge in the watercourse.

Drainage facility - any structure or improvement designed, intended or constructed for the purpose of diverting surface waters from or carrying surface water off streets, public rights of way, or any part of any subdivision or land development.

Driveway, common- a means of private access when approved by the Board of Supervisors, serving two or more lots, the use and maintenance of which is shared by the property owners.

Driveway, private - that portion of a lot which is intended for vehicular use and which is privately owned, and serves one lot, whether paved or unpaved.

Drip line - a generally circular line, the circumference of which is determined by the outer reaches of a tree's widest branching points. [Ord. 163]
**Earth moving activity** - man-made activities resulting in the movement of soil or the stripping of vegetative cover from the earth.

**Easement** - an interest in land owned by another that entitles the holder of the easement to a specific use or enjoyment of the land.

**Easement, conservation** - a legal agreement between a property owner and an appropriate conservation organization or governmental entity, through which the property owner establishes certain use restrictions over all or portions of the property for conservation purposes.

**Effective screen** - any arrangement of structural or vegetative materials capable of diverting or interrupting a clear view of an object or activity, but not necessarily 100 percent opaque during all seasons of the year.

**Engineer, Township** - a registered professional engineer, licensed by the Commonwealth of Pennsylvania, duly designated by the Board to perform the duties of engineer as herein specified.

**Essentially dry space** - a space which will remain dry during flooding, except for the passage of some water vapor or minor seepage; the structure is substantially impermeable to the passage of water. [Ord. 142]

**Erosion** - the process by which soils, vegetation and man-made materials on the earth's surface are worn away by action of water, wind, frost, or a combination of such action by natural forces.

**Fill** - any earth, sand, gravel, rock, or any other material, except landscape plantings or other customary landscape materials, which is deposited, placed, pushed, dumped, pulled, transported, or moved to a new location, including conditions resulting therefrom.

**Flood Hazard District or Area** - those areas of East Vincent Township which are identified as being a Flood Hazard District or Area as described in §27-1501 of the Township Zoning Ordinance [Chapter 27], as amended. [Ord. 185]

**Floodproofing** - any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents. [Ord. 142]

**Floodway** - the designated area of a floodplain required to carry and discharge flood waters of a given magnitude. For the purposes of this Chapter, the floodway shall be capable of accommodating a flood of the 100-year magnitude. [Ord. 142]

**Foot-candle** - a unit of light intensity stated in lumens per square foot and measurable with an illuminant meter, a.k.a., foot-candle or light meter.

**Forb** - a broad-leaved flowering plant, as distinguished from the grasses, sedges, etc.

**Forestry** - The management of forests and timberlands when practiced in accordance with accepted silvicultural principals and where otherwise in conformance with the provisions of this Chapter and/or Zoning Ordinance [Chapter 27], as applicable, and including development, cultivation, harvesting, transporting and selling of trees for commercial purposes, but excluding any land development. [Ord. 163]

**Front lot line** - front lot line shall mean the line separating such lot from any street.
or public right-of-way, whether or not it is the recorded boundary of the lot.

*Free-board* - the distance between the highest desired level of water and the top or flow-line of the structure impounding it.

*Grade, existing* - the elevation, relative to a given datum, of the ground surface prior to any excavation or fill.

*Grade, finished* - the elevation, relative to a given datum, of the ground surface after completion of any excavation or fill.

*Grade, proposed* - the elevation, relative to a given datum, of the ground surface proposed to be achieved by excavation or fill.

*Grading* - the changing of the surface of the ground by excavation or filling, or combination of the two; the act of moving earth.

*Grading plan* - a plan to scale showing existing and proposed buildings and other structures, as well as existing and proposed contours at sufficient intervals to define location, depth and gradient, and general slope of the ground.

*Guarantee, maintenance* - any approved security which may be required of the applicant by the Township upon final acceptance by the Township of installed improvements.

*Guarantee, performance* - any approved security which may be required of the applicant by the Township as a condition of final plan approval to guarantee public improvements are installed in accordance with the final plan and the applicable provisions of this Chapter.

*Hedgerow* - a linear plant community dominated by trees and/or shrubs. Hedgerows often occur along roads, fencelines, property lines, or between fields, and may occur naturally or be specially planted (e.g. as a windbreak). [Ord. 163]

*Historic resource* - any building, wall, bridge, structure, road, trail, quarry, archeological site or cultural artifact identified in the Chester County Historic Sites Survey and/or meeting the definition of either Class I or Class II Historic Resources in accordance with §27-1403.2 of the East Vincent Township Zoning Ordinance [Chapter 27].

*Historic structure* - any structure that is:

A. Listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register.

B. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district.

C. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior.

D. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

   (1) By an approved state program as determined by the Secretary of the
Interior.

(2) Directly by the Secretary of the Interior in states without approved programs.

[Ord. 142]

Homeowners association - a non-profit organization comprised of homeowners or property owners, planned and operated under approved rules and regulations, for the purpose of administering the needs of residents through the maintenance of community-owned or controlled property, subject to the provisions of the Pennsylvania Uniform Planned Community Act of 1996, 68 Pa.C.S.A. §5101 et seq.

Hydric soils - for purposes of determining compliance with the provisions of this Chapter, those soil types identified as hydric soils or soils with hydric inclusions by the U.S. Soil Conservation Service, as mapped for the Soil Survey of Chester and Delaware Counties, shall be considered hydric soils in the Township of East Vincent including, but not limited to:

- Bo Bowmansville Silt Loam
- Ch Chewacla Silt Loam
- Cn Congaree Silt Loam
- CrA Croton Silt Loam (0 to 3 percent slopes)
- CrB Croton Silt Loam (3 to 8 percent slopes)
- GnB Glenville Silt Loam (3 to 8 percent slopes)
- RdA Readington Silt Loam (0 to 3 percent slopes)
- RdB Readington Silt Loam (3 to 8 percent slopes)
- RdB2 Readington Silt Loam (3 to 8 percent slopes, moderately eroded)
- Ro Rowland Silt Loam
- Rp Rowland Silt Loam, dark surface
- WoA Worsham Silt Loam (0 to 3 percent slopes)
- WoB Worsham Silt Loam (3 to 8 percent slopes)
- WoB2 Worsham Silt Loam (3 to 8 percent slopes, moderately eroded)
- WoC2 Worsham Silt Loam (8 to 15 percent slopes, moderately eroded)
- WsB Worsham Very Stony Silt Loam (0 to 8 percent slopes)
- W Water

Where site conditions indicate differing location of hydric soils or hydric inclusions, the burden shall be on the applicant to verify such location(s) to the satisfaction of the Township Board. Where tile drainage has been introduced to drain soils defined herein as hydric soils, such areas shall be considered hydric for the purpose of this Chapter.

Appendix C lists all hydric soils in Chester and Delaware Counties, including those listed above.

Hydrologic soil classification - the classification of soils into groups by their potential for creating stormwater runoff. The hydrologic classification of soils is shown in Appendix D.
§22-202 Subdivision and Land Development

Illuminance - the quantity of light measured in foot-candles or lux.

Impervious cover - any surface which does not absorb precipitation or runoff. All buildings, including roof overhangs, parking areas, driveways, roads, sidewalks, decks, and other such areas in concrete or asphalt shall be considered components of impervious cover. In addition, other areas determined by the Township Engineer to be impervious within the meaning of this definition shall also be considered as contributing to total impervious cover. For purposes of determining compliance with maximum impervious cover limitations on any lot or tract, impervious cover shall be measured as a percentage of net tract area, defined herein. In no event shall the calculation of impervious cover for any lot exceed the maximum impervious coverage percentages set forth under the area and bulk regulations of each Zoning District established within the East Vincent Township Zoning Ordinance [Chapter 27]. The term "impervious area" as used in this Chapter shall have the same meaning as “impervious cover.”

Improvements - grading, paving, curbing, street lights and signs, fire hydrants, water mains, sanitary sewer mains, including laterals to the street right of way line, storm drains, including all necessary structures, sidewalks, crosswalks, street trees and monuments and other manmade facilities that may be necessary, desirable or proposed in a subdivision or land development in order to render the land suitable for the use or uses intended.

Improvements, public - improvements including, but not limited to, grading, paving, curbing, fire hydrants, water mains, sanitary sewers, stormwater detention and/or retention basins and other surface drainage facilities, recreational facilities, open space improvements, buffer or screen plantings, retaining walls, street signs, monuments or the like, which may be required and may be intended for dedication to the Township.

Improvement specifications - minimum standards for the construction of the required improvements such as streets, curbs, sidewalks, water mains, sewer, drainage, public utilities and other items required to render the land suitable for the use proposed.

Land development - according to usage:

A. The improvement of one or more contiguous lots, or tracts or parcels of land for any purpose permitted in this Chapter involving a group of two or more buildings, whether proposed individually or cumulatively, or one nonresidential building on a lot or lots regardless of the number of occupants or tenure; or the division or allocation of land between or among two or more existing or prospective occupants by means of, or for the purpose of, streets, common areas, leaseholds, building groups or other features.

B. A division of land into lots for the purpose of conveying or leasing such lots singly or in groups to any person, partnership or corporation for the purpose of erection of buildings by such person, partnership or corporation.

C. The conversion of an existing single-family detached dwelling into not more than three residential units, unless such units are intended to be a condominium, and the addition of an accessory building, including farm buildings, on a lot or lots subordinate to an existing principal building, shall not be considered a land development, pursuant to the Commonwealth's Municipalities Planning Code, as amended, 53 P.S. §10101 et seq.

Land disturbance - any activity that exposes soils, alters topography and/or alters
vegetation, except for removal of hazardous or invasive alien vegetation (see definition of “woodland disturbance”). Customary agricultural practices such as tilling, plowing, mowing and harvesting are excluded from the definition of land disturbance. [Ord. 163]

Landowner - the legal or beneficial owner or owners of land including the holder of an option or contract to purchase (whether or not such option or contract is subject to any condition), a lessee if he is authorized under the lease to exercise the rights of the landowner, or other person having a proprietary interest in land.

Landscape plan - see "plan, landscape." [Ord. 163]

Landscaping - the planting of turf or other appropriate ground cover or the planting of deciduous and evergreen trees and shrubbery, other than for agricultural purposes, and including the maintenance and replacement thereof, for control of erosion, retention of precipitation, protection against elements or promotion of human comfort and welfare.

Land disturbance - any activity that exposes soils, alters topography and/or alters vegetation, except for removal of hazardous or invasive alien vegetation. (See definition of “woodland disturbance”.) Customary agricultural practices such as tilling, plowing, mowing and harvesting are excluded from the definition of “land disturbance.”

Level of service - a description of traffic conditions along a given roadway or at a particular intersection according to the Highway Capacity Manual, Transportation Research Board, 1994, and as amended thereafter.

Light trespass - light emitted by a lighting installation which extends beyond the boundaries of the property on which the installation is sited.

Local/collector trail - a type of trail that is part of the East Vincent Township Comprehensive Trail System and that is designed as an on-site recreation resource and as a means of connection to one or more multi-use arterial trails. Such trail may, but need not, serve multi-use functions.

Lot - a tract, plot or parcel of land occupied or capable of being occupied by a building or permitted structure and its accessory buildings, in compliance with the terms of this Chapter, together with such open spaces as are arranged and designed to be used in connection with such buildings, held in single or joint ownership. The term "lot" shall also mean parcel, plot, site, or any similar term, but shall not be confused with "outlot," which see. For purposes of determining compliance with maximum impervious cover limitations, a "lot" shall be considered a "tract" and the definition of “net tract area” shall apply.

Lot area, gross - the total land surface contained within the limits of the property lines bounding the lot.

Lot area net - the total land surface contained within the limits of the property lines bounding the lot, exclusive of any streets; rights-of-way; easements for purposes of access, stormwater management, sewer or water service or other infrastructure; any area within the Flood Hazard District as established in §27-1501 of the Zoning Ordinance [Chapter 27]; and any area comprising wetlands under the jurisdiction of the U.S. Army Corps of Engineers or the Pennsylvania Department of Environmental Protection. For purposes of determining compliance with maximum impervious cover limitations, the definition of “net tract area” shall apply. [Ord. 185]

Lot, corner - a lot at the junction of, and abutting on two or more intersecting
streets, or at the point of abrupt change in direction of a single street, where the interior angle of intersection does not exceed 135 degrees.

Lot depth - the distance along a straight line drawn from the midpoint of the front lot line to the midpoint of the rear lot line.

Lot, double frontage - a lot extending between and having frontage on two generally parallel streets.

Lot, interior - any lot which only has access to a street by either an easement or right-of-way and may be characterized as "landlocked"; or any lot which has limited frontage to a street by virtue of being "flag-shaped." Interior lots are prohibited by §22-403.4 of this Chapter.

Lot line - a property boundary line of any lot held in single and separate ownership, except that, in the case of any lot abutting a street, the lot line for such portion of the lot as abuts such street shall be deemed to be the same as the street line, and shall not be the centerline of the street or any other line within the street lines even though such may be the property boundary.

Lot line, front - see "front lot line."

Lot, reverse frontage - a lot extending between and having frontage on two generally parallel streets with vehicular access only from the minor street.

Lot width - the distance between side lot lines at the building setback line, measured parallel to the street line. Where the street line is curved or angled, the lot may be measured as an arc distance instead of a straight line. In the case of a corner lot, the horizontal distance between the side lot line and the opposite front lot line of the lot measured at and along the building setback line.

Lowest floor - the lowest floor of the lowest fully enclosed area (including basement). An unfinished, flood resistant partially enclosed area, used solely for parking of vehicles, building access, and incidental storage, in an area other than a basement area is not considered the lowest floor of a building, provided that such space is not designed and built so that the structure is in violation of the applicable nonelevation design requirements of this Chapter. [Ord. 142]

Luminance - the physical and measurable quantity corresponding to the brightness of a surface (e.g., a lamp, luminaries, reflecting material) in a specific area, and measurable with a luminance meter.

Lux - a unit of light intensity stated in lumens per square meter. There are approximately 10.7 lux per foot-candle.

Manufactured home - (see definition of “mobile home”). [Ord. 142]

Map, Official - a map, legally adopted by the Board of Supervisors, showing officially dedicated, ordained, opened, or planned streets, existing parks and other properties, or those proposed for acquisition by the Township by condemnation, purchase, dedication or otherwise.

Marker - an iron pipe or pin of at least 3/4-inch diameter, and at least 30 inches in length.

Meadow - an open grassland devoid of woody plants. In the eastern U.S., an old field in a successional stage within a mature plant community; an interruption of the ongoing process of establishing the climax deciduous forest. A meadow can be
mainained in a stable condition by the selective removal of invading woody plants.

Minimize - to reduce to the smallest amount or extent possible. "Minimize" shall not mean complete elimination but shall require that the most substantial efforts possible under the circumstances have been taken to reduce the adverse effect(s) of the action required to be minimized. "Minimize" shall include, but not be limited to, the requirement that the placement of dwellings and other structures and the locations of roads, stormwater management facilities, and other land disturbance shall be planned and designed to reduce the adverse effect(s) of the activity in question to the smallest amount possible under the circumstances consistent with otherwise permitted development. [Ord. 163]

Mitigation -

A. An action undertaken to accomplish one or more of the following:

(1) Avoid and minimize impacts by limiting the degree or magnitude of the action and its implementation.

(2) Rectify the impact by repairing, rehabilitating or restoring the impacted environment.

(3) Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action.

B. If the impact cannot be eliminated by following paragraphs A.1 through A.3, above, compensation for the impact by replacing the environment impacted by the project or by providing substitute resources or environments. [Ord. 163]

Mobile home - a transportable, single-family dwelling intended for permanent occupancy contained in one unit, in two units, or in three units designed to be joined into one integral unit capable of again being separated for repeated towing, which arrives at a site complete and ready for occupancy except for minor and incidental packing and assembly operations; and constructed so that it may be used without a permanent foundation, but with the same, or equivalent, electrical, plumbing and sanitary facilities as for a conventional dwelling. A mobile home shall include any addition or accessory structure, such as porches, sheds, decks or additional rooms. For floodplain management purposes, the term "mobile home" includes "manufactured home" and also includes park trailers, travel trailers, recreational and similar vehicles which are placed on a site for more than 180 consecutive days. For flood insurance purposes, the term "manufactured home" does not include "park trailer," "travel trailer," or other similar vehicles.

Mobile home/manufactured home lot - a parcel of land in a mobile home park or subdivision, improved with the necessary utility connections and other appurtenances necessary for the erection thereon of a single mobile home either leased or held in private ownership.

Mobile home pad - a concrete pad at least 6 inches in thickness with at least six tie-down rings to which the mobile home shall be secured, and equal in length and width to the dimensions of the mobile home to be placed thereon.

Mobile home park - a parcel of land under single ownership which has been planned and improved for placement of mobile homes for non-transient use, consisting of two or more mobile home lots.

Monument - a stone or concrete monument with a flat top at least 4 inches in
diameter or square, and at least 24 inches in length, to the top of which is permanently affixed a reference mark. The monument shall be tapered so that the dimensions at the bottom are at least 2 inches greater than the top, to minimize movement caused by frost.

Multi-use arterial trail - a type of trail that is part of the East Vincent Township Comprehensive Trail System and that offers low-speed transportation and recreation opportunities to pedestrian, bicycle, and equestrian users. Such trail segments provide the principal connecting routes between destinations within the Township and to multi-municipal and regional trail systems beyond the Township.

New construction - structures for which the start of construction commenced on or after August 20, 1969, and includes any subsequent improvements thereto.

One-hundred year flood - a flood that, on the average, is likely to occur once every 100 years (i.e., that has 1 percent chance of occurring each year, although the flood may occur in any year). [Ord. 142]

Open space - a parcel or parcels of land or an area of water, or a combination of land and water which, regardless of ownership, is restricted from further subdivision or development other than open space purposes permitted in accordance with this Chapter and the East Vincent Township Zoning Ordinance [Chapter 27]. Open space shall exclude public or private rights-of-way and shall be substantially free of structures and impervious surfaces but may contain such improvements as are in a development plan as finally approved, or an open space management plan, and as are necessary or appropriate for permitted open space use. Open space may include recreational facilities such as tennis courts, squash courts, playgrounds, golf courses, swimming pools or other like uses. Open space may include stormwater management facilities where approved by the Board of Supervisors subject to applicable provisions of this Chapter and the Zoning Ordinance [Chapter 27]. [Ord. 163]

Open space, common - see "common open space."

Open space, restricted - see "restricted open space."

Open space management plan - see "plan, open space management." [Ord. 163]

Operator - the owner of a mobile home park, or his authorized agent, who is duly licensed for maintaining a mobile home park in the Township.

Outlot - a tract, plot or parcel of land precluded from occupancy, or incapable of being occupied by a building or permitted structure and its accessory buildings, as a result of subdivision or severance from a larger tract, plot or parcel conducted in accordance with this Chapter.

Pasture - a plant community or area of vegetation dominated by grasses which is actively or periodically grazed by livestock or which is managed through mowing to maintain the appearance and vegetative characteristics of pasture.

PennDOT - for the purpose of this Chapter, the Commonwealth of Pennsylvania Department of Transportation.

Perimeter buffers - an area to be used as a visual and/or auditory barrier, consisting of a mound, berm, or strip of land planted and maintained as an effective barrier separating parcels or uses of land.

Person - any individual, partnership, firm, association, corporation, or organization.
Plan, "as-built" - a finally revised working drawing corrected to show all changes in design; sizes or location which may have been made during actual construction and represents the actual location of improvements.

Plan, existing features - a plan depicting natural and cultural features of a site intended to promote design sensitive to the unique natural and cultural features of the landscape. The plan shall accompany sketch, preliminary and final plan submission, and shall include all information required under §22-307.1 of this Chapter.

Plan, final - a complete and exact land development or subdivision plan prepared by a registered engineer, land surveyor, landscape architect or architect for official recording as required by Act 247 to define property rights and proposed streets and other improvements in accordance with the requirements of §22-306 of this Chapter.

Plan, improvement construction - a plan prepared by a registered engineer showing the construction details of streets, drains, sewers, bridges, culverts and other improvements as required by this Chapter.

Plan, landscape - a plan prepared by a registered engineer or landscape architect, showing all proposed landscaping, screening, buffering and plantings, which shall conform to the requirements of §22-422 of this Chapter, and shall accompany subdivision and/or land development plans, or as otherwise required pursuant to the provisions of the East Vincent Township Zoning Ordinance [Chapter 27]. [Ord. 163]

Plan, land development - a plan prepared by a licensed civil engineer depicting all aspects of a particular land development as required herein, including all exhibits, drawings, cross-sections, profiles and descriptive text to the degree of detail specified herein and sufficient to portray the full intent of a developer.

Plan, open space management - a plan which provides for the long term management over time of private, public, or common open space, in accordance with Part 9 of the East Vincent Township Zoning Ordinance [Chapter 27]. [Ord. 163]

Plan, preliminary - a land development or subdivision plan prepared by a registered engineer, land surveyor, landscape architect or architect in lesser detail than a final plan, showing proposed street, drainage, lot layout and other improvements in accordance with the requirements of §22-305 of this Chapter as a basis for consideration prior to preparation of a final plan.

Plan, profile - a plan prepared by an engineer or surveyor registered in the Commonwealth of Pennsylvania showing the vertical section of the existing and proposed grade along the centerline and right of way lines of any proposed street and public improvement.

Plan, record - the copy of the final plan which contains the original endorsements of the County Planning Commission and the Township which is intended to be recorded with the County Recorder of Deeds and may be appended by the inclusion of an as-built plan.

Plan, sketch - an informal plan, approximately to scale, indicating topographic and other salient existing features of a tract and its surroundings and general layout of the proposed subdivision or land development.

Plan, utilities - a plan prepared by a registered engineer or surveyor, showing location, sizes and types of all water, gas and electric lines, all sanitary sewer mains, profiles and laterals, all storm sewers and gradients, all street lights, fire hydrants, all
service connections, and all data pertaining to existing or proposed utilities.

Planning Commission - for the purpose of this Chapter, the Planning Commission of East Vincent Township.

Plat, record - the final plat, or engineering layout of streets and lot easements, common open spaces and public grounds, which has been duly approved by all necessary officials and recorded in the Office of the Recorder of Deeds of Chester County, West Chester, Pennsylvania.

Professional forester - a person who has a minimum of a bachelor of science degree in forestry from a 4-year college accredited by the Society of American Foresters and acceptable to the Board of Supervisors. [Ord. 163]

Public hearing - a formal meeting held pursuant to public notice by the Board of Supervisors, the Planning Commission or the Zoning Hearing Board, intended to inform and obtain public comment, prior to taking action in accordance with this Chapter.


Public notice - notice published once each week for 2 successive weeks in a newspaper of general circulation in the Township. Such public notice shall, at a minimum, state the time and place of the hearing and the particular nature of the matter to be considered at the hearing. The first publication shall be not more than 30 days and the second publication shall be not less than 7 days from the date of the hearing.

Recreation, active - those recreational pursuits which require physical alteration to the area in which they are performed. Such areas are intensively used and include, but are not limited to, playgrounds, ball courts and swimming pools.

Recreation, passive - recreational pursuits which can be carried out with little alteration or disruption in the area in which they are performed. Such uses include, but are not limited to, hiking, biking and picnicking.

Registered landscape architect - a professional that is registered as a Landscape Architect with the Harrisburg Chapter of the American Society of Landscape Architects (ASLA).

Regulatory flood elevation - the 100-year flood elevation plus a freeboard safety factor of 1½ feet. [Ord. 142]

Restricted open space - a parcel or parcels of land or an area of water, or a combination of land and water which, regardless of ownership, is restricted from further subdivision or development other than open space purposes permitted in accordance with this Chapter. Restricted open space shall exclude public or private rights-of-way and shall be substantially free of structures and impervious surfaces but may contain such improvements as are in a development plan as finally approved, or an open space management plan, and as are necessary or appropriate for permitted open space use. Restricted open space may include stormwater management facilities where approved by the Board of Supervisors subject to applicable provisions of this Chapter and the East Vincent Township Zoning Ordinance [Chapter 27].

Resubdivision - any replatting or resubdivision of land, limited to changes in lot lines on approved final plan or recorded plan as specified in this Chapter. Other replattings shall be considered as constituting a new subdivision of land. See also
"Subdivision."

Review - an examination of the sketch plan, preliminary plan, and/or final plan by the Planning Commission, Board of Supervisors, Township Engineer, Township Planner other Township officials, representatives and bodies, the Chester County Planning Commission, and any other applicable agencies to determine compliance with this Chapter, the Zoning Ordinance [Chapter 27], and all other applicable Township Ordinances, and the administrative regulations, design standards and improvement specifications enacted pursuant thereto.

Right-of-way - the total width of any land acquired by any means and reserved, dedicated, or intended for use as a street, alley, crosswalk, utility or for any other public or private purpose, as reflected on a recorded easement, deed, subdivision plat, boundary plat, or dedication plat. Where additional right(s)-of-way may be required for future occupation by a road or street, including for purposes of ultimate widening, or for a crosswalk, trail, railroad, electric transmission lines, oil or gas pipelines, water lines, sewer mains, storm sewers, or other similar uses, the Township may require that the ultimate right(s)-of-way for such purpose(s) be indicated in any appropriate documentation. Any provisions herein requiring measurement from the right-of-way, including but not limited to yard area setback regulations, shall be measured from the ultimate right-of-way wherever applicable.

Riparian buffer areas - any area comprised of one or more of the following:
   A. Any area within 75 feet of the bank, of any stream, lake or pond.
   B. Any wetlands and any area within 25 feet of any wetland.
   C. Any area of hydric soil.

[Ord. 163]

Screening - the use of plant materials, fencing and/or earthen berms to aid in the concealment of such features as parking areas and vehicles within them, and to provide privacy between two or more different land uses which abut one another.

Sediment - the silt or small soil particles held or carried in suspension by water, including that which is thus deposited at a lower level.

Septic tank - a covered watertight settling tank in which raw sewage is changed into solid, liquid, and gaseous states to facilitate further treatment and final disposal.

Service area - this term refers to the area anticipated to be served by existing or proposed urban, neighborhood or community parks as provided in the Township Park, Recreation and Open Space component of the Comprehensive Plan, and more specifically addressed in §22-428 of this Chapter.

Sewer authority or municipal authority - the East Vincent Municipal Authority.

Sewage facilities or systems -
   A. Individual on-site - an individual sewage disposal system as defined and regulated by the Chester County Health Department and/or the Pennsylvania Department of Environmental Protection.
   B. Central/community collection and treatment - a sanitary sewage system which carries sewage from individual dischargers by a system of pipes to one or more common treatment and disposal facilities, either on-site or offsite, and approved by the Pennsylvania Department of Environmental Protection.
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C.  **Public sewage system** - an off-site system for treatment and disposal of sewage in which sewage is conveyed to a publicly operated treatment plant and disposed of through means approved by the Pennsylvania Department of Environmental Protection.

**Sewer connection** - the sewer connection consists of all pipes, fittings and appurtenances from the drain outlet of a building to the inlet of the corresponding sewer riser pipe.

**Sewer riser pipe** - the sewer riser pipe is that portion of the sewer lateral which extends vertically to the ground elevation and terminates at each building.

**Sight distance** - the length of street visible to the driver of a vehicle, essentially unobstructed.

**Single access street** - an interior residential street including, but not limited to, cul-de-sac and loop designs, which is designed to provide only one point of intersection with an existing through road.

**Single and separate ownership** - the ownership of a lot by one or more persons, partnerships, or corporations, which ownership is separate and distinct from that of any abutting or adjoining lot.

**Site** - a lot, tract or parcel of land on which grading, construction or land development is taking place, or is proposed to take place; the location of the work.

**Site restoration** - measures taken following completion of land disturbance activities which will stabilize the land surface and minimize exposure to possible erosion or sedimentation.

**Soil percolation test** - a field test conducted to determine the suitability of the soil for on-site sanitary sewage disposal facilities by measuring the absorptive capacity of the soil at a given location and depth.

**Slope** - the ratio of the change in elevation (rise) over the horizontal distance (run) as measured between consecutive contour lines, expressed as a percentage.

A.  **Steep slope areas** - any area where the slope exceeds 15 percent.

B.  **Very steep slope areas** - any area where the slope exceeds 25 percent.

**Specimen vegetation** - individual trees or other vegetation determined to be of specimen quality as determined by a registered landscape architect or which generally fall within the parameters of the following table shall be protected in accordance with these standards. The examples of specimen trees included in the following table are intended to provide general guidelines and examples of what constitutes a specimen tree and is not considered an all-inclusive list. Any tree equal to or exceeding 24 inches dbh shall be considered a specimen tree. [Ord. 163]

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<td>32&quot;</td>
<td>Sassafras</td>
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<td>32&quot;</td>
<td>Locust</td>
<td>30&quot;</td>
<td>Spruce</td>
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<tr>
<td>Beech</td>
<td>32&quot;</td>
<td>Maple</td>
<td>32&quot;</td>
<td>Sycamore</td>
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Examples of Potential Specimen Trees

22-23
### Examples of Potential Specimen Trees

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<tbody>
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<td>32&quot;</td>
<td>Tulip Poplar</td>
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<td>Osage Orange</td>
<td>20&quot;</td>
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<td>Pine</td>
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*Stabilization, critical environmental area* - the establishment and maintenance of a suitable vegetative cover, the application of mulches, such as wood-fiber blanket or erosion control netting, the erection of dikes or other structures or barricades to prevent erosion, usually in areas of excavation or fill, or of severe erosion, where there is a critical environmental area, and a hazard to properties downstream, or a danger of undermining of nearby structures, as determined by the Township Engineer and/or Planning Commission.

*Stormwater* - any precipitation, but usually rainfall, which is sufficient to flow on any natural or impervious surface; frequently termed "runoff."

*Stream* - any natural watercourse flowing on the surface of the earth. [Ord. 163]

*Street* - a strip of land, including the entire right-of-way, devoted or intended for public (dedicated) or private (undedicated) use primarily as a means of vehicular circulation to provide access to more than one lot. Streets also may accommodate pedestrian circulation. The term "street" shall be construed as synonymous with thoroughfare, avenue, boulevard, court, drive, expressway, highway, lane, alley, way, service street, and road or similar terms. Streets are further classified within the East Vincent Township Comprehensive Plan.

*Street line* - the dividing line between a lot and the outside boundary or ultimate right-of-way line of a public street, road, or highway legally open or officially platted; or between a lot and a privately owned street, road, or way over which the owners or tenants of two or more lots each held in single and separate ownership have the right-of-way.

*Street center line* - the center line of a proposed street is a line which is an equal distance from both street lines.

*Street, commercial or industrial* - a street used primarily as the means of access to abutting commercial or industrial properties which, in no case, shall be less than the requirements for a collector street.

*Street, private* - a street not offered or not required to be offered for dedication.

*Structure* - an assembly of material having an ascertainable stationary location on or in land or water, whether or not affixed to the land, including among other things, buildings, signs, fences, or walls, aerials, and antennae, porches, platforms, piers, pipelines, paddle tennis courts, shelters, swimming pools, tents, towers, tanks, tennis courts, and telephone poles. "Structure” includes, but is not limited to, buildings, manufactured homes, open sheds and similar enclosures with less than four walls and/or a roof. [Ord. 142]

*Stub* - any street laid out in a subdivision or land development, intended for connection to a future street on adjoining property.

*Subdivision* - the division or redivision of a single lot, tract or parcel of land by any
means, into two or more lots, tracts, parcels or other divisions of land, including changes in existing lot lines, for the purpose, whether immediate or future, of lease, partition by the court for distribution to heirs or devisees, transfer of ownership or building or lot development. The subdivision by lease of land for agricultural purposes into parcels of more than 10 acres, not involving any new street or easement of access or any residential dwellings shall be exempted.

*Subgrade* - any finished surface or elevation of compacted fill or natural earth upon which materials of construction are placed.

*Substantial damage* - damage from any cause sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent or more of the market value of the structure before the damage occurred. [Ord. 142]

*Substantial Improvement* - any construction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. This term does not, however, include either:

A. Any project for improvement of a structure to correct existing violations of state or local health, sanitary or safety code specifications which have been identified by the Code Enforcement Officer and which are the minimum necessary to assure safe living conditions.

B. Any alteration of a "historic structure" provided that the alteration will not preclude the structure's continued designation as a "historic structure." [Ord. 142]

*Surveyor* - a licensed surveyor registered by the Commonwealth of Pennsylvania.

*Theme lighting* - exterior fixtures and posts which are manufactured to a high level of design and craftsmanship from material such as (but not limited to) wrought iron, cast aluminum, brass or copper, and installed to be consistently used throughout designated areas of East Vincent Township including, for example, locations where promotion of a particular village character or historical theme is desired.

*Topsoil* - natural and friable loam containing sufficient organic nitrogen, phosphorus and potassium to support plant growth and extending in depth to the extent of penetration of feeder roots of the prevailing native grasses.

*Township* - the Township of East Vincent, Chester County, Pennsylvania.

*Tract* - one or more lots assembled and presented as a single property for purposes of subdivision or land development.

*Tract area, gross* - for purposes of establishing the minimum open space required or, where applicable, the maximum number of dwelling units permitted, the gross tract area shall include all areas within the titled lines of a tract.

*Tract area, net* - for purposes of establishing the maximum permissible number of lots or dwelling units on any tract, or for determining compliance with maximum impervious cover limitations, the net tract area shall include all areas within the titled lines of a tract, excluding the following:

A. Any existing area that has been set aside as a permanent right-of-way or easement for a public or private street or for aboveground or underground utilities
other than for local service.

B. Any existing area comprising permanent drainage or stormwater management easements.

C. Any existing area comprising sewage disposal facilities serving any property not part of the subject tract.

D. An area equivalent to 75 percent of any area comprised of one or more of the following areas and excluding any area already excluded by paragraphs .A, .B, and .C, above:

1. Any area within the Floodplain District as established in §27-1501 of the Zoning Ordinance [Chapter 27].

2. Any area comprising wetlands under the jurisdiction of the United States Army Corps of Engineers and/or the Pennsylvania Department of Environmental Protection; the Township reserves the right to retain a wetlands scientist or other qualified consultant to ascertain the extent of jurisdictional wetlands, reasonable and necessary charges therefore to be borne by the applicant.

3. Any area of steep slope, as defined herein and where the ratio of the change in elevation over the horizontal distance as measured between consecutive 2-foot contour intervals exceeds 15/100.

Trail - a corridor through which passes, or will pass, a pedestrian or equestrian accessway or a bikeway as part of the East Vincent Township Comprehensive Trail System or as otherwise authorized or designated by the Township. A trail is to serve transportation, commuting, and/or recreational functions as part of an inter-modal transportation system. Trails shall exclude all motorized vehicles except motorized wheel chairs or as authorized by the Township for maintenance, management and emergency purposes.

Trail cartpath - the area within a trail right-of-way that is designed and constructed for regular use by the intended trail users and provided with an appropriate surface for that purpose.

Trail shoulder - the areas within a trail right-of-way that are immediately adjacent to the trail cartpath and designed in accordance with the standards of this Chapter.

Turnaround - a paved or partially paved, partially unpaved and open circle, terminating a cul-de-sac or street.

Use - any purpose for which a building or other structure or a tract or lot of land may be designed, arranged, intended, maintained or occupied, or any activity, occupation, business, or operation carried on in a building or other structure on a tract of land.

Utilities - sanitary sewer lines, water lines, fire hydrants, street lights, storm sewer lines, manholes, inlets, catch basins, gas lines, electric lines, and other facilities of the same general character.

Vegetation, permanent - perennial grasses, legumes or other long lived indigenous or native plant materials, depending upon the degree of refinement desired.

Vegetation, temporary - fast growing grasses, usually annuals, such as rye, oats, sudan, or other appropriate non-invasive cover to prevent erosion until permanent
vegetation can be installed.

Viewshed - extent of land encompassed within a view of the surrounding landscape available to be seen from any particular point or location in the Township as represented in the Township’s Open Space, Recreation, and Environmental Resource Plan.

Watercourse - a permanent stream, intermittent stream, river, brook, creek, or a channel or ditch for water, whether natural or man-made, and having defined bed and banks.

Water supply systems -

A. Individual system - a safe and healthful supply of water, to a single user from a private well located on the lot in which the use is located.

B. Central water supply system - a system for supplying water from a common source or sources to all dwellings and other buildings within a development. The water supply source may be located on-site and/or off-site and may be publicly or privately owned.

Water table - the upper surface of a zone of saturation except where that surface is formed by an impermeable body.

Waters of the Commonwealth - any and all rivers, streams, creeks, lakes, rivulets, dammed water, ponds, springs, and all other bodies of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of the Commonwealth of Pennsylvania.

Wetlands - areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas. Wetlands include all lands regulated as wetlands by the Pennsylvania Department of Environmental Protection and/or the U.S. Army Corps of Engineers.

Wetland delineation - the on-site method or process for identifying jurisdictional wetlands which is currently or hereafter be adopted by the Pennsylvania Department of Environmental Protection (Note: the Commonwealth currently requires the methodology outlined in the Corps of Engineers Wetlands Manual Technical Report Y-87-1, January 1987).

Wetland delineation report - a document that describes the investigation procedures and findings of a wetland delineation.

Wild crops - indigenous vegetation such as berries, mushrooms and other vegetation used as forage by wild animals in the area.

Woodland - a tree mass or plant community in which tree species are dominant or co-dominant, the branches of the trees form a complete, or nearly complete, aerial canopy. Any area, grove, or stand of mature or largely mature trees (i.e., larger than 6 inches dbh) covering an area of ¼ of an acre or more, or consisting of more than ten individual trees larger than 6 inches dbh, shall be considered a woodland. For the purposes of this Chapter, the extent of any woodland plant community or any part thereof shall be measured from the outer-most drip line of all the trees in the community. Woodland shall include any area where timber has been harvested within the previous 3 years and/or woodland disturbance has occurred within the previous 3 years which would have met the definition of woodland prior to timbering or
disturbance. Woodlands do not include orchards or old fields (former agricultural fields or pastures where natural succession has been allowed to occur, but where most trees are smaller than 6 inches dbh). [Ord. 163]

**Woodland disturbance** -

A. Any activity which alters the existing structure of a woodland or hedgerow. Alterations include the cutting or removal of canopy trees, sub canopy trees, understory shrubs and vines, woody and herbaceous woodland floor species.

B. Any activity which constitutes a land disturbance (exposes soils, alters topography) within a woodland or hedgerow.

C. Woodland disturbance does not include the selective cutting or removal of invasive alien trees, shrubs, vines or herbaceous species including but not limited to: *Rosa multiflora* (Multiflora Rose), *Eleagnus unibellate* (Autumn Olive), *Lonicera japonica* (Japanese Honeysuckle), *Celastrus orbiculatus* (Oriental Bittersweet), *Acer platanoides* (Norway Maple) and *Polygonum perfoliatum* (Mile-a-Minute Weed). [Ord. 163]

**Yard or setback** - an open area around the inner periphery of each lot extending along the lot lines and street lines in which no buildings or structures shall be erected. The size of the yard shall be measured as the shortest distance between the structure and a lot line or street line.

A. **Yard, front** -

   (1) A yard between a structure and a street line, extending the entire length of the street line. The minimum front yard setback shall be measured from the street line to the building setback line and shall be the same for all principal and accessory structures.

   (2) In the case of a corner lot, the yards extending along all streets shall be considered front yards and the remaining yards shall include a rear yard, opposite the street to which the principal structure is generally faced, and a side yard, opposite the other street.

B. **Yard, rear** - a yard between a structure and a rear lot line. The rear yard may be less for an accessory structure per provisions of this Chapter.

C. **Yard side** - a yard between a structure and a side lot line, which extends from the front yard to the rear yard. The side yard may be less for an accessory structure per provisions of this Chapter.

**Zoning Ordinance** - the East Vincent Township Zoning Ordinance, as amended [Chapter 27].

§22-301. General.

1. It is the intention of the Board in enacting these procedures to provide the Applicant with a timely and comprehensive review of plans submitted for subdivision and/or land development. To this end, the following classifications of plans are established as hereinafter provided:
   A. Sketch plans.
   B. Preliminary plans.
   C. Final plans.

2. For purposes of procedure, all applications filed pursuant to this Chapter shall be further classified as either major or minor as defined below:
   A. Minor. Any subdivision application in which:
      (1) No public or private street is constructed or is required to be widened.
      (2) No other completion of public improvement or guarantee thereof is required other than individual on-lot stormwater management systems.
      (3) No earthmoving activities will take place except those incidental to construction of a single-family dwelling on each lot.
      (4) No more than three lots are created.
   B. Major. Any land development, or subdivision application, not in compliance with subsection 2.A. or any part thereof, or for any use other than single-family residential.

3. Township Review.
   A. Major applications shall be subject to all submission, review, and content procedures specified in this Part.
   B. Minor applications shall follow final plan submission, review, and comment procedures beginning with §22-306, although Applicants are strongly encouraged to file a sketch plan pursuant to §22-303, to obtain Township comments prior to final plan submittal.
   C. All preliminary and final subdivision or land development plans shall be referred to and reviewed by the Planning Commission and shall be approved or disapproved by the Board of Supervisors in accordance with the procedures specified in this Part and in other Sections of this Chapter. Any application not processed as required herein shall be null and void unless it was made prior to the adoption of these regulations.
   D. When an application includes only a portion of a landowner's entire tract, or when such portion is contiguous to an adjoining tract of the landowner, and where requested by the Township upon recommendation of the Township Engineer or Township Planner, a sketch layout shall be included showing future potential subdivision of all the contiguous lands belonging to the landowner to ensure that subdivision may be accomplished in accordance with current codes and with
appropriate access. Submission and review of the sketch plan described in this Section shall not constitute approval of the future subdivision shown thereon.

E. When less than the maximum number of lots is proposed for subdivision from an agricultural lot, according to the formula established in §27-403.2.A of the East Vincent Township Zoning Ordinance [Chapter 27], the applicant for subdivision shall demonstrate via a sketch plan or other means satisfactory to the Township that the remaining permitted parcels may be efficiently created in a manner compatible with continued agricultural use on remaining nonresidential lands. The Township may require deed restriction of the remaining lands stating the number of remaining residential lots that may be created.


§22-302. [Reserved].

§22-303. Sketch Plan Submission, Review and Content.

1. Applicability.

A. A diagrammatic sketch plan is strongly encouraged, but optional, for all proposed minor or major subdivisions, conditional use requests utilizing the open space design option of the Township Zoning Ordinance [Chapter 27], and land development plans. The sketch plan is viewed by the Township as an important, valuable, and highly recommended submittal that can speed the review process and may result in lower costs for the project. Where a sketch plan has been filed by an applicant pursuant to the open space design option of the Zoning Ordinance [Chapter 27], no further sketch plan submittals are necessary for subdivision applications pursued in accordance with the conditional use approval.

B. Sketch plans shall be submitted to the Township for review by the Planning Commission and Board of Supervisors. The Township may seek input from its consultants and other committees on the plans. Such plans are for informal discussion only. Submission of a sketch plan does not constitute formal filing of a plan with the Township, and shall not commence the statutory review period as required by the Municipalities Planning Code, 53 P.S. §10101 et seq. The procedures for submission and review of a diagrammatic sketch plan are described in subsections .2 through .5. below, and may be altered only at the discretion of the Township.

2. Sketch Plan Submission.

A. A minimum of 15 copies of a diagrammatic sketch plan, the existing features plan (see §22-307.1), and the site analysis and impact narrative (See §22-307.2) shall be submitted to the Township Manager to allow for their full distribution to the Board of Supervisors, the Planning Commission, the Township Planner, and the Township Engineer, plus additional copies as requested to cover applicable Township advisory boards (such as the Parks and Recreation Committee, the Environmental Advisory Council, applicable fire company, and the Historic Commission) as determined appropriate by the Township Manager. Such plans and supporting materials must be filed with the Township at least 30 calendar days prior to the Planning Commission meeting at which the sketch plan and accompanying materials are to be discussed.
B. Where feasible, the sketch plan also shall be submitted to the Township electronically in a mutually agreed upon format; preferably AutoCAD (.dwg or .dxf) format, and consistent with Township and Chester County GIS data standards including coordinates referenced to NAD83 Pennsylvania State Plane feet.


A. At its regularly scheduled meeting, the Planning Commission will review the sketch plan, existing features plan, and site analysis and impact narrative in general accordance with the criteria contained in this Chapter, with the open space design option provisions, if the sketch plan is being filed as a prerequisite to conditional use application pursuant to the Township's Zoning Ordinance [Chapter 27], and with other applicable ordinances of Township. The applicant or designated representative should be present at this meeting to provide informal dialogue with the Planning Commission. The Commission's review may include, but shall not be limited to, informally advising the sketch plan applicant of the extent to which the proposed subdivision or land development conforms to the relevant standards of this Chapter and the Township Zoning Ordinance [Chapter 27], and may suggest possible plan modifications that would increase its degree of conformance. The Commission's review may also include, but is not limited to:

1. The location of all areas proposed for land disturbance (streets, foundations, yards, septic disposal systems, storm water management areas, etc.) with respect to notable features of natural or cultural significance as identified on the applicant's existing features plan, any impacts associated with that disturbance, and possible plan modifications to avoid, minimize, or mitigate such impacts.

2. The plan for traffic circulation and potential for street connections with existing streets, other proposed streets, or potential developments on adjoining parcels.

3. The location of proposed vehicular access points along the existing road network.

4. The proposed building density or intensity, stormwater management and groundwater recharge objectives, and impervious coverage considerations.

5. The open space and recreational needs of the additional residents and/or employees proposed by the development, both active and passive.

6. The need for pedestrian, bicycle, or equestrian trails and trail connections.

7. The compatibility of the proposal with respect to the objectives and policy recommendations of the adopted Comprehensive Plan and the adopted Open Space, Recreation and Environmental Resources Plan.

8. Consistency with the Township Zoning Ordinance [Chapter 27], and if applicable, the open space design option and the four-step design process of §22-304 of this Chapter.

Prior to making recommendations on the proposed sketch plan, the Commission may request the preliminary input of the Township's planning and engineering consultants as described in subsection .3.B below; it may hear comments from surrounding or affected landowners present at its public meeting(s); and it may
also conduct a site visit(s) in accordance with the procedures of subsection .3.C below. Notwithstanding, the Planning Commission shall submit its written comments to the Board of Supervisors within 45 days after receipt of the sketch plan submittal, except where an extension of time is formally granted by an applicant.

B. Sketch plan review by the Township's Engineer and Planner shall occur when requested by the Planning Commission as follows:

(1) The Township Engineer will review the sketch plan submittal with particular emphasis on site feasibility, including consideration of on-site sewage disposal where indicated, slopes and other physical site constraints, street dedication needs, on and off-site drainage, public infrastructure needs, stormwater management, Zoning Ordinance compliance issues, and Subdivision and Land Development Ordinance Compliance issues or need for waivers or modifications. The Township Engineer shall submit his or her written comments to the Planning Commission and copy the Board of Supervisors and Township Manager. All engineering review fees shall be the responsibility of the applicant, and in no event will the Township Engineer be requested to review the sketch plan unless the applicant has posted an escrow for review fees.

(2) The Township Planner will review the sketch plan submittal with particular emphasis on the subdivision or land development design, including consideration of the internal layout of lots, streets, and open space areas, protection of the site's natural and cultural resources, internal and interlinking trails, proposed points of access to a public street or streets, potential parkland dedication requirements, stormwater management, and general conformance to the Township's Zoning Ordinance [Chapter 27], the four step design process, and other requirements of this Chapter. The Township Planner shall submit his or her written comments to the Planning Commission, which may include illustrative drawings or other exhibits, and copy the Board of Supervisors and Township Manager. All planning review fees shall be the responsibility of the applicant, and in no event will the Township Planner be requested to review the sketch plan unless the applicant has posted an escrow for review fees.

C. If requested by the Planning Commission at the initial or subsequent public meetings on the sketch plan, applicants shall arrange for a daytime site visit of the subject property by members of the Planning Commission. Other municipal officials, appointed Township Committee members and Township consultants may also attend, as requested by the Planning Commission. The purpose of the visit is to familiarize Township officials with the property's existing conditions and special features, to identify potential site design issues, and to provide an informal opportunity to discuss site design concepts, including the general layout of restricted open space areas (if applicable), and potential locations for proposed buildings, street alignments and access points, and trails.

Applicants shall have available for review at the site a large copy of the sketch plan, a current aerial photograph of the site and immediate surroundings, and an existing features plan. If the site visit is scheduled prior to the Planning Commission's first meeting, the Commission members shall receive from the applicant copies of the sketch plan and existing features plan at least 5 days in advance of
the site visit. Applicants and their site designers are encouraged to accompany the Planning Commission and other attendees. Comments made by Township officials or their staff and consultants shall be interpreted as being only suggestive. All parties shall understand that no formal recommendations can be offered, and no official decisions can be made, at the site visit.

4. **Board of Supervisors Review.** At its regularly scheduled meeting, the Board of Supervisors will consider the written comments of the Planning Commission, Township Engineer, Township Planner, Municipal Authority, and any other agencies and Township committees deemed to have an interest, and shall, as far as may be practical on the basis of a sketch plan, advise the applicant of the extent to which the proposed subdivision or land development conforms to the requirements of existing ordinances and Township policies. The Board will discuss with the sketch applicant possible plan modifications necessary to secure conformance.

5. **Sketch Plan Content.** The sketch plan diagrammatically illustrates initial thoughts about a conceptual layout for restricted open space areas, house sites, and infrastructure, and shall be based closely upon the information contained in the existing features plan (see §22-307.1). The sketch plan shall also be designed in accordance with the four step design process described in §22-304, and with the open space design standards listed in §27-902.1.C of the Township’s Zoning Ordinance [Chapter 27] if proposed pursuant to the open space design option.

To provide a full understanding of the site's potential and to facilitate the most effective exchange with the Planning Commission, the sketch plan should include the information listed below. Many of these items can be taken from the existing features plan or the diagrammatic sketch plan may be prepared as a simple overlay sheet (mylar) placed on top of the existing features plan.

A. Name and address of the legal owner, the equitable owner, and/or the applicant.

B. Name and address of the professional engineer, surveyor, planner, architect, landscape architect, or site designer responsible for preparing the plan.

C. Graphic scale (not greater than 1" = 200'; however, dimensions on the plan need not be exact at this stage) and north arrow.

D. Approximate tract boundaries, sufficient to locate the tract on a map of the municipality.

E. Location map.

F. Zoning district(s), including any overlays.

G. Streets on and adjacent to the tract (both existing and proposed).

H. 100-year floodplain limits, and approximate location of wetlands, if any.

I. Topographic, physical, and cultural features including fields, pastures, meadows, wooded areas, trees with a diameter of 15 inches or more, hedgerows and other significant vegetation, steep slopes (15 percent to 25 percent, and over 25 percent), rock outcrops, soil types, ponds, ditches, drains, dumps, storage tanks, streams within 200 feet of the tract, and existing rights-of-way and easements, and cultural features such as all structures, foundations, walls, wells, trails, and abandoned roads.

J. Schematic layout indicating a general concept for land conservation and
development ("bubble" format is acceptable for this delineation of Step 1 of the four step design process described in §22-304 of this Chapter).

K. Proposed general street and lot layout.

L. In the case of land development plans, proposed location of buildings and major structures, parking areas, proposed stormwater management locations, and other improvements.

M. General description of proposed method of water supply, sewage disposal, and stormwater management/best management practices, including use of natural areas for capturing stormwater runoff.

N. In the case of a major residential subdivision, general statement regarding the applicant’s plans for complying with the Township’s parkland dedication or fee-in-lieu of requirements of §22-428 of this Chapter.

O. Trails, including but not limited to existing trails and/or new trails providing linkage within the development to other existing trails or planned trails as reflected on the Township’s Comprehensive Trail System Plan.

6. Existing Features Plan and Site Analysis and Impact Narrative. Along with the diagrammatic sketch plan, applicants shall submit an existing features plan, in its context, prepared in accordance with the requirements contained in §22-307.1 of this Chapter, and a site analysis and impact narrative, prepared in accordance with the requirements contained in §22-307.2 of this Chapter. The purposes of these supporting plans and documents are to familiarize Township officials with existing conditions on the applicant’s tract and within its immediate vicinity, to provide a complete and factual reference for them in making a site visit, and to provide an initial understanding of the potential environmental and land use impacts of the proposed development. The existing features plan shall also form the basis for the development design as shown on the diagrammatic sketch plan (or on the preliminary plan, if the optional sketch plan is not submitted).


1. Applicability. Applicants for residential development proposed in accordance with the open space design option of the East Vincent Township Zoning Ordinance [Chapter 27], shall at the time of sketch plan for the open space design option demonstrate compliance with the four step design process to the maximum extent that pertinent information is available. Applicants at the time of preliminary plan approval for the same shall fully demonstrate compliance with the four step design process. Applicants for any other subdivision or land development where formal designation of open space is not required, shall nevertheless be required to demonstrate general compliance with this process, treating land to be left undisturbed and/or land in excess of maximum impervious coverage limitations as if open space.

2. Where applicable, the four step design process shall be undertaken as provided below and as illustrated in Appendix G of this Chapter. Although the four steps are described sequentially, the design process is intended to be iterative, requiring reassessment of initial steps and possible adjustments as later steps are undertaken. The applicant will be asked by the Planning Commission and Board of Supervisors to describe how his or her design complies with this Section at the time of sketch plan or
preliminary plan submittal. The applicant shall use a plan sheet or sheets (ex. overlay of sketch plan and existing features plan) and may also include a written narrative in his or her presentation.

A. Step 1: Delineation of Restricted Open Space Areas.

   (1) Base Mapping. Proposed open space lands shall be designated using the base mapping prepared for the required existing features plan.

   (2) Delineation of Open Space Resources. The applicant shall delineate the locations of open space resources as defined and mapped in the 1992 East Vincent Township Open Space, Recreation and Environmental Resources Plan (OSRERP).

   (3) Establishment of Open Space Resource Protection Priorities. The applicant shall prioritize natural and cultural resources on the tract in terms of their highest to least suitability for inclusion in proposed open space areas, based on the recommendations of the OSRERP, and in consultation with the Planning Commission and/or the Township Planner.

   (4) Preliminary Designation of Restricted Open Space and/or Nondevelopment Areas. In the case of a development utilizing the open space design option (OSDO), restricted open space and any open space utilized for purposes of calculating bonus density, as provided in Part 9 of the Zoning Ordinance [Chapter 27], shall generally be configured so as to maximize the degree to which resource protection priorities, determined as above, can be achieved. Where the OSDO is not utilized, non-development areas, inversely related to applicable impervious coverage limitations, shall similarly be delineated. In the case of use of the OSDO only, delineation of open space areas also shall consider the ultimate need to comply with the provisions of §27-905.4 and §27-906 of the East Vincent Township Zoning Ordinance [Chapter 27], in regard to resource protection standards and open space designation standards.

   (5) Using base mapping prepared for the existing features plan, the applicant shall delineate the boundaries of all proposed open spaces and shall indicate the extent and types of resources included within them. Where the OSDO is utilized, calculations shall be provided indicating the applicant’s compliance with the acreage requirements for restricted open space areas on the tract.

B. Step 2: Location of Building Sites. Potential building sites shall be tentatively located, using the proposed restricted open space areas as shown on the base map as well as other relevant data included in the required existing features plan, such as topography and soils. Building sites should generally be located not closer than 50 feet from the boundary of any designated open space lands, taking into consideration the potential negative impacts of development on such areas as well as the potential positive benefits of locations which provide attractive views and visual settings for buildings. Building sites proposed near surface water features or wetlands may require greater setbacks from these features as specified in §22-429.3 of this Chapter, and §27-1504 of the Zoning Ordinance [Chapter 27].

C. Step 3: Alignment of Streets, Trails, and Stormwater Management Facilities. Upon designating the building sites, a street plan shall be designed to provide vehicular access to each building, complying with all applicable design
standards herein and bearing a logical relationship to topographic conditions. Impacts of the street plan on proposed open space shall be minimized, particularly with respect to crossing environmentally sensitive areas such as wetlands and traversing steep slopes. Street connections shall generally be encouraged to minimize the number of new cul-de-sacs to be maintained by the Township and to facilitate access to and from development in different parts of the tract and, where appropriate, on adjoining parcels. Preliminary definition of locations for stormwater management facilities also shall be provided. Such locations shall avoid impact to priority open space resources, and shall consider aesthetic impacts as well as Township objectives to maximize groundwater infiltration. Trails, both internal to the development, and those providing linkage within the development to the Comprehensive Trail System or connecting existing or proposed sections of the system, shall also be incorporated into the overall design.

D. **Step 4: Establishing the Lot Lines.** Upon completion of the preceding three steps, lot lines shall be drawn, as applicable, to delineate the boundaries of individual lots, public and private rights-of-way, and open space areas. Preliminary delineation of open space areas per Step 1 above shall be fine-tuned to reflect actual locations of buildings, streets, stormwater management facilities and other infrastructure. Where applicable, adjusted delineation of open space areas shall fully comply with the provisions of §§27-904 through 27-906 of the East Vincent Township Zoning Ordinance [Chapter 27]. Where permanently restricted from development, and where approved by the Board of Supervisors, open space areas may be included within the bounds of private lots.


§22-305. **Preliminary Plan Submission, Resubmission, Review and Content.**

1. **Concurrent Submission with a Conditional Use Application.** Applicants filing a major application for preliminary plan approval concurrently with a conditional use application for use of the open space design option as provided for by the Township Zoning Ordinance [Chapter 27] may do so only after obtaining Township approval of a sketch plan for the proposed subdivision reflected by the preliminary plan. In such cases, no further sketch plan submittals are necessary under the provisions of this Chapter.

2. **Complete Preliminary Plan Submission.**

   A. All preliminary plans submitted pursuant to this Chapter shall conform to the requirements of this Section. Notwithstanding, preliminary plans filed concurrently with a conditional use request shall be processed concurrently with the conditional use application, the procedures for which are defined by the Township's Zoning Ordinance [Chapter 27].

   B. A preliminary plan application and required supporting materials, as listed and in the numbers specified in subparagraphs (1) through (5) below, shall be submitted to the Township Manager. Applications and materials constituting the preliminary packet shall be submitted in complete form 30 days prior to the next meeting of the Planning Commission in order to be acted upon by the Commission.

   (1) Three copies of the official Township application for preliminary
review form, all being signed by the owner or accompanied by other legal
documents showing ownership approval and also stating the intended use of
the land.

(2) A minimum of 21 prints of the preliminary plan.

(3) A minimum of 16 copies of all required accompanying data (see §22-307).

(4) A minimum of five copies of the completed planning module for land
development.

(5) Except as qualified by the provisions of §22-305.3.B, a complete listing
of landowners abutting the application property by current Chester County tax
parcel number, including name and mailing address for each abutting owner.
Lands immediately adjacent to, but separated from the Application property
by a public or private road or other right-of-way, shall be considered "abutting"
for the notification purposes of this requirement.

(6) Payment of required application fees and escrow deposits as
determined by resolution of the Board of Supervisors.

C. The Township Manager shall review the application for completeness, and
if complete, shall note the date of the receipt of the complete application, fees and
any escrow deposits, deeming the application "filed." The application shall not be
deemed to be filed until a complete application (i.e., filed in conformance with the
requirements of this Section) and the required fees have been submitted. The
applicant shall be notified in writing by the Township as promptly as practicable
of any defects in the application or materials preventing a determination of
completeness.

D. Filed preliminary plan applications will be transmitted by the Township
Manager to the following parties:

(1) Three copies of the preliminary plan packet for the Township
administrative staff.

(2) Seven copies of the preliminary plan packet to the Township Planning
Commission.

(3) Three copies of the preliminary plan packet to the Township Board of
Supervisors.

(4) Two copies of the preliminary plan packet to the Township Engineer.

(5) One copy of the preliminary plan packet to the Township Planner.

(6) One copy of the preliminary plan application, County referral form
and accompanying fee from the applicant to the Chester County Planning
Commission.

(7) One copy of the preliminary plan application to the East Vincent
Township Municipal Authority where public sewer or water service under the
jurisdiction of the Township or Municipal Authority is desired, or where a
community sewage treatment plant is being proposed or considered to service
the development’s sewage disposal needs.

(8) One copy of the preliminary plan, two module forms, and appropriate
fee to the Chester County Health Department.
(9) One copy of the preliminary plan, accompanying conservation plan, and accompanying stormwater management plan to the Chester County Conservation District offices.

(10) One additional copy of the preliminary plan to any adjacent municipality or other governmental agency either affected by the proposed development or having permit authority, when requested by the Township Manager.

E. The preliminary plan also shall be submitted to the Township electronically in a mutually agreed upon format; preferably AutoCAD (.dwg or .dxf) format, and consistent with Township and Chester County GIS data standards including coordinates referenced to NAD83 Pennsylvania State Plane feet.

3. Notice to Abutting Property Owners.

A. Based on the complete list of abutting property owners provided by the applicant, the Township shall notify these property owners in writing of the first scheduled Planning Commission meeting date, time, and location, where the application will be discussed. The purpose of this notice is merely to inform landowners that a subdivision or land development is being proposed on abutting lands, and a public meeting by the Planning Commission is being held where the development proposal will be presented by the applicant and discussed. The Township will also make available by request a copy of the subdivision application and accompanying materials for review by the public at the Township Municipal Building offices.

B. No notice to abutting property owners shall be required for any subdivision or land development that was the subject of a conditional use or special exception hearing within 6 months before the date that a preliminary plan was filed for which notice was given to abutting property owners. Notice is only required of the initial meeting.

C. By sending out these landowner notices, the Township is not obligated to provide these or other landowners with written notice of subsequent meetings held on the application except as required by other provisions of this Chapter or other Township ordinances. The failure of any person or entity to receive notice given pursuant to this Section shall not constitute grounds for any court to invalidate the actions of the Township for which the notice was given.

4. Review of the Preliminary Plan.

A. Official Review Period. The Board of Supervisors shall act on the application for preliminary plan approval not later than 90 days following the date of the next regular meeting of the Township Planning Commission following the date the application is deemed filed (the date stamped on the plan), provided that, should the said next regular meeting occur more than 30 days beyond that date, said 90-day period shall be measured from the thirtieth day following the date that the application has been deemed filed. The decision of the Board shall be in writing and shall be communicated to the applicant personally or mailed to him at his last known address not later than 15 days following the decision. The 90-day limitation on the Board to act upon an application shall not apply where the applicant has agreed in writing to an extension of time or change in the prescribed manner of presentation of communication of the decision.
B. Township Engineer, Township Planner, and Municipal Authority.

(1) The review by the Township Engineer shall include an examination of the content of the plans to be certain that all information required by this Chapter is presented in the plans submitted, an investigation of the plan to be certain that all other Township ordinances are complied with, an examination (within the authority of the Township Engineer) of the engineering feasibility of the various schemes presented for the location, alignment and grade of streets, stormwater management/best management practices, erosion and sedimentation control, physical site constraints, site grading, sanitary sewers and water supply. The Township Engineer shall submit his or her written comments to the Planning Commission and copy the Board of Supervisors and Township Manager. All engineering review fees shall be the responsibility of the applicant.

(2) The review by the Township Planner shall include an investigation of the plan to be certain that the Township's Zoning and Subdivision and Land Development Ordinances are complied with, including the four step design process, that the plan is generally consistent with the reviewed sketch plan and comments of the Township, if applicable, and also if applicable, that any order of conditions as part of a previously approved conditional use are reflected on the applicant's preliminary subdivision plan, open space management plan, and other supplementary data or materials submitted. The Township Planner shall submit his or her written comments to the Planning Commission, which may include illustrative drawings or other exhibits, and copy the Board of Supervisors and Township Manager. All planning review fees shall be the responsibility of the applicant.

(3) The Municipal Authority shall review the design of public sewer connections or extensions to determine compliance with standards established for acceptance of such systems and where not previously done, determine the feasibility of connection to existing or proposed sewer systems. Where a community sewage treatment is proposed as an alternative to public sewer, the Municipal Authority is encouraged to review the system and advise the applicant and Township of any long-term operation or maintenance needs to be addressed with preliminary plan approval. The Municipal Authority shall submit its written comments to the Planning Commission within 45 days of receipt. All Municipal Authority fees shall be paid by the applicant directly to the Municipal Authority.

C. Review by Chester County and Other Agencies.

(1) Chester County Planning Commission. The Chester County Planning Commission will be provided the opportunity as required by law to review and comment on the preliminary subdivision plan.

(2) Chester County Health Department. The Chester County Health Department will be provided the opportunity to review and comment on matters relating to requirements for public water and sewer systems and/or to the adequacy of the site to sustain on-site water and/or sewage disposal systems as required by §22-305.2.D.8.

(3) Chester County Conservation District. The Chester County Conserva-
tion District will be provided the opportunity to review and comment on matters relating to site drainage, abatement of soil erosion and sedimentation, stormwater management/best management practices, open space management in the case of continued agricultural use of these areas, and compliance with NPDES and NPDES Phase II requirements. Input from the Chester County Conservation District may be waived by the Planning Commission on recommendation of the Township Engineer, where warranted.

(4) Other Agencies. County, State, Federal, or other reviewing or regulatory agencies having jurisdiction over all or a portion of the application property will be provided the opportunity to review and comment on permit or other agency-specific matters.

D. Township Planning Commission.

(1) The Township Planning Commission may, at its regularly scheduled public meeting, review the preliminary plan application in accordance with the criteria contained in this Chapter, with the open space design option provisions and conditions contained within the order of approval, if the preliminary plan is being filed subject to an approved conditional use, and with other applicable ordinances of Township. The applicant or designated representative must be present at this meeting to provide dialogue with the Planning Commission. The Commission's review shall advise the applicant of the extent to which the proposed subdivision or land development conforms to the relevant standards of this Chapter, and if applicable, the standards of the open space design option of the Township Zoning Ordinance [Chapter 27] and any conditions contained within the conditional use order of approval, the need for or acceptability of any waivers or modifications of design standards contained herein, and may include suggested plan modifications that would increase the subdivision's or land development's degree of conformance in order to obtain a Planning Commission recommendation of approval. Their review shall include, but is not limited to, those items listed within §22-303.3.A(1) through (8) of this Chapter.

(2) Prior to making a formal recommendation to the Board of Supervisors regarding the preliminary plan, the Commission may request the input of the Township's planning and engineering consultants in a manner described in §22-303.3.B of this Chapter; it may hear comments from surrounding or affected landowners present at its public meeting(s); it may review the written comments and/or testimony of other agencies on relevant matters to the application; and it may also conduct a site visit(s) in accordance with the procedures of §22-303.3.C of this Chapter. Notwithstanding, the Planning Commission shall submit its written comments to the Board of Supervisors within 45 days after receipt of the preliminary plan packet, except where an extension of time is formally granted by an applicant.

(3) Where an applicant has not previously filed and obtained Planning Commission comments on a sketch plan, and if requested by the Planning Commission at the initial or subsequent public meetings on the Preliminary Plan, the applicant shall arrange for a day-time site visit of the property by Planning Commission members. Other municipal officials, appointed Township Committee members, and Township consultants may also attend, as deter-
mined by the Township Planning Commission. The purpose of the visit is to familiarize Township officials with the property’s existing conditions and special features, to identify potential site design issues, and to provide an informal opportunity to discuss site design concepts, including the general layout of open space areas (if applicable), and potential locations for proposed buildings, stormwater management and sewage treatment/recharge areas, and street alignments. Applicants shall have available for review at the site a copy of the preliminary plan, a current aerial photograph of the site and immediate surroundings, and an existing features plan. Applicants and their site designers are encouraged to accompany the Planning Commission and other attendees. Comments made by Township officials or their staff and consultants shall be interpreted as being only suggestive. All parties shall understand that no formal recommendations can be offered, and no official decisions can be made, at the site visit.

(4) After such review, the Secretary of the Planning Commission should send written notice of the action of the Planning Commission, including any recommended conditions of approval.

E. Board of Supervisors.

(1) In acting on the preliminary subdivision or land development plan, the Board shall consider the recommendations of the Planning Commission, if applicable, and any other written comments from requested County, State, and Federal agencies, Township Committees, and Township consultants, and may specify conditions, changes, modifications, or additions to the application which the Board deems necessary.

(2) Upon approval of the application, the Board of Supervisors shall designate a copy of the preliminary plan as the official copy. This copy shall include all necessary corrections as required by the Board of Supervisors. It shall be retained in the Township files.

(3) The decision of the Board shall be made and communicated to the applicant within the time periods set forth in subsection .4.A above.

(4) The Township may elect to grant approval of a preliminary plan subject to conditions acceptable to the applicant. If such conditional approval is given by the Township, the applicant shall be required to accept the conditions by giving written notice of applicant’s acceptance within 10 days after notice of the Township’s conditional approval has been communicated to the applicant or mailed to the applicant at applicant’s last known address. Any such conditional approval shall be rescinded automatically upon the applicant’s failure to accept the conditions within such 10-day period.

5. Content. A preliminary plan shall consist of and be prepared in accordance with the following minimum standards:

A. Drafting Standards:

(1) The plan shall be drawn on a scale equal to or larger than 1" = 50’.

(2) Dimensions shall be set in feet, bearing in degrees, minutes, and seconds, with errors of closure not to exceed one part per 10,000.

(3) Each sheet shall be numbered and shall show its relationship to the
total number of sheets.

(4) The plan shall bear an adequate legend to indicate clearly which features are existing and which are proposed.

(5) The original drawing, and all submitted prints thereof, shall be made on sheets no larger than 30 inches by 42 inches and no smaller than 24 inches by 36 inches.

(6) If the preliminary plan requires more than one sheet, a master sheet at a scale not smaller than 1 "= 400' showing the location of each section shall accompany the plan.

If more than one scale is used in the plan, a key must be provided that indicates the difference in scale.

B. Site Design and Layout Standards.

(1) A location map and north arrow for the purpose of locating the site to be subdivided or developed, at a scale of not less than 2,000 feet to the inch, showing the relation of the tract to adjoining property and to all streets and municipal boundaries existing within 1,000 feet of any part of the property proposed to be subdivided or developed.

(2) A series of maps, prepared in accordance with subsection .5.A., with the accompanying narrative as needed, showing the following existing conditions:

(a) Proposed subdivision or land development name or other identifying title.

(b) Name, address and telephone number of the applicant and the owner of record or of his authorized agent, if any.

(c) Name, address and telephone number of the registered engineer or surveyor responsible for the plan. If a registered engineer, architect or landscape architect collaborated in the preparation of the plan, his name and address and seal shall also appear. All plans showing the subdivision of land must be signed and sealed by a registered surveyor.

(d) Zoning information, including applicable district, lot size and yard requirements, proof of any variance which may have been granted, and any zoning boundaries that traverse or are within 200 feet of the tract.

(e) All waivers or modifications being requested by the applicant as well as all waivers or modifications granted to the applicant by the Board, shall be clearly stated on the first sheet of the preliminary plan submission, and also filed simultaneously in letter form to the Board.

(f) Original date of preparation, revision dates, with concise descriptions of each revision, north point, and scale, both written and graphic.

(g) Total acreage of the tract to the nearest square foot, and the acreage of the tract for both total and net lot area.

(h) Total tract boundaries showing bearings and distances and along all existing rights of way within and adjacent to the tract prepared by a registered professional land surveyor.
(i) The applicable front, side, and rear setbacks shall be shown on each lot, including the required setbacks from pipeline rights of way indicated in §22-424, and any required riparian buffer area setbacks (as specified in §22-429.3 of this Chapter, and §27-1504 of the Zoning Ordinance [Chapter 27]). The result is an indication of the building envelope, or that area where building is permitted.

(j) The names of all current owners of all adjacent lands, the names of all proposed and existing subdivisions adjacent, and the locations and dimensions of any streets or right of way easements.

(k) The locations and dimensions of all existing streets, railroads, sewers and sewage systems, aqueducts, water mains and feeder lines, fire hydrants, gas, electric, and oil transmission lines, water courses, sources of water supply, easements, and other significant features within the property, or such driveways, intersections and utilities; within 100 feet of any part of the property proposed to be developed or subdivided if the project area is 10 acres or less; the Township can require the aforementioned features be shown within a distance of 400 feet if conditions warrant.

(l) All features noted in §22-307.1, “Existing Features Plan.” A separate drawing showing these features is required for all subdivisions and for land developments.

(m) The applicant shall obtain a wetlands survey performed by a firm competent to complete such surveys, prepared in accordance with Pennsylvania Department of Environmental Protection criteria and delineated according to the procedures contained in the Corps of Engineers Wetlands Manual (Technical Report Y-87-1), January 1987, and as amended thereafter. If no such lands exist on the tract for which the subdivision or land development is proposed, the plan must include a statement indicating so. Whenever the Township Planning Commission and/or the Township Engineer have reasonable evidence that wetlands may be present or may extend beyond the boundaries shown, the Township may engage an independent wetlands consultant who shall conduct a survey and resolve the location of wetlands boundaries. If the Township's consultant finds wetlands present, not indicated by the plan, the applicant shall reimburse the Township for the cost of the Township’s consultant's fees in accordance with §22-602.7 of this Chapter. If no wetlands are found or if the area is found to be equal to or smaller than that shown on the plan, the Township will pay the consultant's fee.

(n) Any proposed improvements or land disturbances requiring a permit from the U.S. Army Corps of Engineers, the Pennsylvania Department of Environmental Protection, or the Chester County Conservation District shall be so indicated.

(o) In the case where individual on-lot sewage disposal systems are proposed, percolation test holes and deep probe test pits shall be performed according to §22-423.10 as prescribed herein, and the exact locations of the successful and failed percolation and deep holes for the
primary and replacement disposal areas shall be shown. Minimum horizontal isolation distances shall be maintained for the sewage disposal system as required by Pennsylvania Code, 25 Pa.Code, Chapter 73, “Standards for Sewage Disposal Facilities,” and shall be indicated on the plan.

(p) In the case where an individual or community well is proposed to serve the subdivision or land development, the proposed location of the well shall be indicated on the plan.

(q) The locations and widths of any streets or other public ways or places as shown upon an adopted local or County plan, if such plan exists for the area to be subdivided or developed.

(r) Locations of all existing structures on the tract, and distance thereof from lot lines.

(s) A contour line at vertical intervals of not more than 2 feet. Actual field surveying or aerial photo interpretation shall be required.

(t) Location and elevation of the datum to which contour elevations refer; datum used shall be a known established local bench mark.

(u) A boundary survey and certification as to the accuracy of the survey shall be provided for all subdivisions and/or developments except those which divide large farms into two or more parcels for continued agricultural use.

(v) All notations on the plan must be readable. Illegible notations will be considered incomplete data on the plan.

(3) Major subdivision applications filed in accordance with the open space design option, as provided in the East Vincent Township Zoning Ordinance [Chapter 27], shall demonstrate compliance with the four step design process in accordance with §22-304 of this Chapter. Applicants for any other subdivision or land development where formal designation of open space is not required, shall nevertheless be required to demonstrate general compliance with this process, treating land to be left undisturbed and/or land in excess of maximum impervious coverage limitations as if open space.

(4) A full plan of the proposed subdivision or land development, prepared in accordance with subsection .5.A., including at a minimum:

(a) Location and width of all streets and rights of way with a statement of any conditions governing their use, including distance to the nearest intersection; proposed dedicated rights-of-way and reserved ultimate rights-of-way; road names and state or township numbers.

(b) Existing and proposed street and utility easement locations with approximate dimensions.

(c) All proposed lot lines with approximate dimensions and lot areas, both gross and net, indicating those limitations excluded in the lot area definition; impervious and vegetative coverage calculations.

(d) Building setback lines along each street, minimum side and rear yard limits; building setback lines from riparian buffer area features and
existing historic structures.

(e) A statement of the intended use of all nonresidential lots and parcels.

(f) Lot numbers, and a statement of the total number of lots and parcels; Addresses of each lot as provided by the.

(g) Sanitary and storm sewers, groundwater recharge areas, bioretention areas, and other drainage improvement measures with the size and material of each indicated, and any proposed connections with existing utilities or outfalls.

(h) Location of existing and/or proposed trails throughout the property, especially those linking with trails on adjacent properties or providing potential links to the Township's Comprehensive Trails System. Where no such trails exist, the applicant shall, after consulting with the Township's Comprehensive Trail System Map, propose a trail corridor that would link the applicant's property with the Comprehensive Trail System.

(i) Proposed parks, playgrounds, and other open space areas to be dedicated or reserved for public use, with any conditions governing such use, ownership and maintenance, consistent with the conceptual open space management plan, if applicable under an OSDO development.

(j) A note stating the requirement that private driveways shall be placed for the first 20 feet from the edge of the street as per §22-417 of this Chapter.

(k) A construction sequencing plan.

(l) The Pennsylvania One-Call Number and a table showing all affected utilities.

(5) The preliminary plan shall be accompanied by the following supplementary data:

(a) An existing features plan, prepared in accordance with §22-307.1., and a site analysis and impact narrative, prepared in accordance with §22-307.2.

(b) A conservation plan, prepared in accordance with §22-307.3.

(c) A stormwater management plan, prepared in accordance with §22-307.4.

(d) An improvements and construction plan, prepared in accordance with §22-307.5.

(e) A landscaping plan, prepared in accordance with §22-422.

(f) All impact studies as required by §22-307.6.

(g) If the preliminary plan or land development application is filed in accordance with an existing conditional use, special exception, or variance, then the applicant’s supplementary data shall include the conditional use, special exception, or variance order, any conditions of approval, and all plans submitted and approved as part of the order.

(h) Open space management plan, prepared in accordance with the approved conceptual open space management plan, if the preliminary plan
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reflects a residential subdivision pursued under the open space design option of the Township Zoning Ordinance [Chapter 27].


§22-306. Final Plan Submission, Review and Content.

1. Submission.

   A. Within 12 months after approval of the preliminary plan, or in the case of a minor subdivision application, a final plan and all necessary supplementary data shall be officially submitted to the Township Manager. Where the final plan is being submitted subsequent to the preliminary plan approval, an extension of time may be granted by the Board where the applicant has successfully demonstrated every effort has been made to comply with this requirement. A plan showing all the information required for a final plan, which has been submitted as a preliminary plan, and for which no changes have been required by the Board of Supervisors, may be approved as a final plan.

   B. For major subdivision applications, the final plan shall conform to the terms of approval of the preliminary plan, as well as any conditions as part of an order of approval for an OSDO development, and to the most recent administrative regulations adopted by the Board of Supervisors for such purposes.

   C. For major subdivision applications, the Board of Supervisors may permit submission of the final plan in sections, each covering a reasonable portion of the entire proposed subdivision as shown on the approved preliminary plan, but in no case shall include less than 25 percent of the total lots or units as depicted on the approved preliminary plan.

   D. All final plan applications, along with the criteria listed below, shall be submitted to the Township office 15 days prior to the next meeting of the Planning Commission. The Township Manager shall determine whether the applicant presents a complete submission. The official filing date will be established by the terms of §22-306.2.A.

      1) One copy of the official Township application for final review form; being notarized by an affidavit of ownership and intended use of the land; a letter requesting final plan review.

      2) A minimum of six prints of the final plans and three copies of all required supporting information and plans to be distributed as stipulated in §22-305.2.D, except that no final plans are required to be submitted to the Chester County Health Department, Chester County Conservation District, the Sewer Authority, or adjacent municipalities. Interim plans may be submitted to the Chester County Health Department, Chester County Conservation District, and the Municipal Authority in order to obtain their approval. Final plans should be in conformity with the requirements of those agencies and be accompanied by approvals from the respective agencies.

      3) Payment of required application fees and escrow deposits as determined by resolution of the Board.

      4) The final plan also shall be submitted to the Township electronically in a mutually agreed upon format; preferably AutoCAD (.dwg or .dx) format,
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and consistent with Township and Chester County GIS data standards including coordinates referenced to NAD83 Pennsylvania State Plane feet.

E. The Township Manager shall note the date of the receipt of the letter, application and escrow deposits are in order. The application shall not be deemed to be filed until a complete application and required fees have been submitted.

2. Review.

A. Official Review Period. The Board of Supervisors shall act on the application for final approval not later than 90 days following the date of the regular meeting of the Township Planning Commission next following the date the application is filed (the date stamped on the plan), provided that, should the said next regular meeting occur more than 30 days following the filing of the application, said 90-day period shall be measured from the thirtieth day following the date that the application has been filed. The decision of the Board shall be in writing and shall be communicated to the applicant personally or mailed to him at his last known address not later than 15 days following the decision.

B. Township Engineer and Municipal Authority.

(1) The review by the Township Engineer shall include an examination of the content of the plans to be certain that all information and changes required by this Chapter and by the Board in its review of the preliminary plan are presented in the plans submitted; an investigation of the plan to be certain that all other Township ordinances are complied with, and an examination of the engineering feasibility of the final designs presented for the location, alignment and grade of streets, stormwater drainage, and water supply. The Township Engineer shall forward his written comments on the plan to the Planning Commission.

(2) The Municipal Authority shall review the final design of sewerage facilities to determine compliance with standards established for acceptance of such systems by the Board. They shall authorize the application for such permits as are required by Federal, State or local authorities. Final approval of plans by the East Vincent Municipal Authority shall be a condition precedent to the Board's final action on the application.

C. Township Planning Commission.

(1) The Planning Commission shall review the final plan submitted and shall consider any recommendations of the Township Engineer, and any other reviewing agency submitting comments.

(2) After such review, the Secretary of the Planning Commission shall send written notice of the action of the Planning Commission and the reasons therefore, citing specific sections of statutes or ordinances relied upon, along with the written comments of the Township Engineer, other agencies and the Sewer Authority to the Board within 5 days of completion of the Planning Commission's review.

D. Board of Supervisors.

(1) In acting on the final subdivision or land development plan, the Board may specify conditions, changes, modifications, or additions to the application which the Board deems necessary.
(2) Upon the Planning Commission's recommendation for approval of the final plan, the Board may request the applicant's engineer to prepare a written estimate of the cost of all improvements and forward a copy of such cost estimate to the Board within 10 days. The Township Engineer will review all estimates for adequacy.

(3) The Board of Supervisors shall designate one print of the final plan as the official copy. This copy shall include all corrections required by the Board of Supervisors. It shall be retained in the Township files.

(4) The decision of the Board shall be made and communicated to the applicant within the time periods set forth in subsection .2.A above.

(5) The Township may elect to grant approval of a final plan subject to conditions acceptable to the applicant. If such conditional approval is given by the Township, the applicant shall be required to accept the conditions by giving written notice of applicant's acceptance within 10 days after notice of the Township's conditional approval has been communicated to the applicant or mailed to the applicant at his or her last known address. Any such conditional approval shall be rescinded automatically upon the applicant's failure to accept the conditions within such 10 day period.

(6) A minimum of nine copies of the final plan as finally approved, certified by the applicant's appropriate professional, with the appropriate endorsement of the applicant, Board of Supervisors and the Township Engineer, shall be distributed by the applicant as follows:

   (a) Nine copies to the Chester County Planning Commission for signing. The County Planning Commission keeps one copy. Eight copies must be recorded within 90 days as per §513(a) of the Municipalities Planning Code, 53 P.S. §10513(a).

   (b) The County Courthouse retains three signed and recorded copies. One recorded copy is mailed back to the applicant.

   (c) Two signed and recorded copies are to be retained in the Township files, together with one copy of all supporting materials.

   (d) One signed and recorded copy to the County Health Department.

   (e) The applicant keeps two signed and recorded copies.

   (f) The approved final plan also shall be submitted to the Township electronically in a mutually agreed upon format; preferably AutoCAD (.dwg or.dxf) format, and consistent with Township and Chester County GIS data standards including coordinates referenced to NAD83 Pennsylvania State Plane feet.

E. Every final plan approval shall be subject to the following conditions:

   (1) The applicant shall execute a subdivision and land development agreement in accordance with §22-310, agreeing with the Township to install all the improvements as required by this Chapter and all regulations adopted pursuant thereto.

   (2) The applicant shall provide a performance guarantee in accordance with §22-311.
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(3) The applicant agrees, if requested, to tender a deed of dedication to the Township for such streets, any and all easements for sanitary sewers, water lines, or storm sewers, and public improvements including stormwater basins, street paving, sidewalks, trails, shade trees, water mains, any fire hydrants, sanitary and storm sewers, as are required for the promotion of public welfare, after all said improvements are completed and such completion is certified as satisfactory by the Township Engineer. The Board may require that the applicant supply a title insurance certificate or policy (in such amount as the Township shall reasonably require) from a reputable company before any property is accepted for the Township.

(4) Whenever the applicant is providing open space as part of the development, an easement and covenant in perpetuity restricting such open space against further subdivision or development shall be executed between the applicant and the Township or an organization acceptable to the Township, and shall run to the benefit of the Township and lot purchasers in the subdivision or land development.

(5) The applicant shall have applied for all required permits from agencies having jurisdiction over ancillary development, such as Pennsylvania Departments of Transportation and Environmental Protection, Public Utility Commission, and County Health Department.

F. Before acting upon any subdivision or land development plan, the Board of Supervisors may hold a public hearing thereon pursuant to public notice.

G. No plan which will require access onto a road under the jurisdiction of PennDOT shall be finally approved unless the plan contains a notice that a highway access permit is required pursuant to §420 of Act 428, known as the "State Highway Law," 36 P.S. §670-101 et seq., before access to a State road is permitted.

3. Content. Final plans shall conform in all important details to preliminary plans, including any conditions specified by the Board. A final plan shall consist of and be prepared in accordance with the following:

A. Drafting Standards.

(1) The plan shall be drawn to a scale equal to or larger than 1" = 50'.

(2) Final plans shall be made on sheets no larger than 30 inches by 42 inches and no smaller than 24 inches by 34 inches. Where necessary to avoid sheets larger than the maximum size prescribed above, final plans shall be drawn in two or more sections, accompanied by a key diagram showing relative location of the sections. The scale shall not be less than 100 feet to the inch. All dimensions shall be shown in feet and hundredths of a foot.

B. Site Design and Layout Standards.

(1) All information required in §22-305.5, and the following minimum data:

(a) The total tract boundary lines of the area being subdivided with accurate distances to 1/100th of a foot and bearings in degrees, minutes and seconds. These boundaries shall be balanced and closed with an error of closure not to exceed 1 foot in 10,000 feet; provided, however, that the boundary(s) adjoining additional unplatted land of the applicant are not
required to be based upon field survey, and may be calculated. The
monuments and markers shall be indicated, along with a statement of the
total area of the property being subdivided on the plan of record. In
addition, the applicant's engineer or surveyor shall certify to the accuracy
of the survey and the drawn plan.

(b) All straight lot lines and chords and radii of curved lot lines,
derived in feet and hundredths of a foot by distances, and in degrees,
minutes and seconds either by magnetic bearings or by angles of deflection
from other lot and street lines.

(c) Lot numbers, lot areas both total and net area indicating that the
portion of the lot containing limitations excluded by the lot area definition,
and a statement of the local number of lots and parcels, together with post
office address for each lot.

(d) A statement of the intended use of all nonresidential lots. A
statement of restrictions of any type which exist as covenants in the
deed(s) for all lots contained wholly or in part in the subdivision and, if
covenants are recorded, including the deed book and page number.

(e) All proposed building (setback) and yard line requirements for
each lot, or the proposed placement of each building, and the proposed
location of on-site water and sewer facilities.

(f) The location of all existing and proposed monuments.

(g) All easements or rights of way where provided for or owned by
public services and any limitations on such easements or rights of way.
Easements or rights of way shall be specifically described on the plans.
Easements should be located in cooperation with the appropriate public
utilities.

(h) Location, size, material used, invert elevation, and percent of
grade of all sanitary and storm sewers and location of all manholes, inlets
and culverts. This data may be submitted as a separate plan.

(i) If the subdivision proposes a new street intersection with a state
legislative route, the intersection permit number(s) shall be indicated for
all such intersections.

(j) A certification of ownership, acknowledgment of plan and offer of
dedication shall be affixed on the plan, and shall be duly acknowledged
and signed by the owner(s) of the property and notarized.

(k) All waivers being requested by the applicant, as well as all
waivers granted to the applicant by the Board, shall be clearly stated on
the first sheet of the final plan submission.

(l) Certificate for approval of the plan by the Township Supervisors
and by the Township Planning Commission shall be presented; as well as
other certificates required by the Township.

(m) The name (or number) and cartway width and lines of all existing
public streets and the name and location of all other roads within the
property.

(n) Any fees, whether required or agreed to by the developer, shall be
clearly noted on the plan.

(o) The following data for the centerline of the cartway and both right of way lines of all recorded, and proposed streets, within and adjacent to the property:

1) Courses and distances with length in feet and hundredths of a foot of all straight lines and of the radius and the arc (or chord) of all curved lines with delta angles including curved lot lines, and bearings in degrees, minutes and seconds for all straight lines.

2) The width in feet of the cartway, right of way and of the ultimate right of way, and (in degrees, minutes and seconds) of the delta angle of all curved lines, including curved lot lines.

(p) A boundary survey and certification as to the accuracy of the survey shall be provided for all subdivisions and/or land developments except those which divide large farms into two or more parcels for continued agricultural use.

(q) Plans shall provide for a sequencing of construction satisfactory to the Township Engineer.

(r) All notations on the plan must be readable. Illegible notations will be considered incomplete data on the plan.

(s) In addition to the above plan requirements, written legal descriptions shall be provided to the Township for all easements, rights-of-way being offered for dedication and, the entire tract being subdivided.

(2) The final plan shall be accompanied by the following supplementary data:

(a) A final conservation plan, prepared in accordance with §22-307.3.

(b) A final stormwater management plan, prepared in accordance with §22-307.4.

(c) A final improvements and construction plan, in accordance with §22-307.5.


1. Existing Features Plan.

A. On the existing features plan, the applicant shall identify all the following site features, as applicable, on a single plan map, or maps, and/or narrative format, depending on the tract size, proposed project, and scale of drawing. The existing features plan shall be labeled such and shall be placed on a sheet separate from all other required plan information. The existing features plan shall not substitute for the individual plan requirements of §§22-303.5 (sketch plan content), 22-305.5 (preliminary plan content), 22-306.3 (final plan content), and 22-307.4 (stormwater management plan), which identify features and proposed disturbance. Township officials and staff reserve the right to conduct a site visit, with or without its consultants, to verify the information provided by the applicant pursuant to this Section. The existing features plan shall include the following:
(1) Degree of slope, at contour intervals of not more than 2 feet for land sloping 15 percent or less, and at intervals of not more than 5 feet for land sloping greater than 15 percent.

(2) Areas within the Floodplain District, including floodway fringe, and approximated floodplain areas as delineated by the November 29, 1996, Flood Insurance Studies and Map prepared for the Township of East Vincent by the Federal Insurance Administration, or as updated.

(3) Alluvial soils, wherever they extend beyond the limits of the Floodplain District.

(4) Water bodies and watercourses, both perennial and seasonal.

(5) Drainage basins and sub-basins.

(6) Wetlands, as delineated by the criteria of the U.S. Army Corps of Engineers and as required pursuant to §22-305.5.B.2 (m) of this Chapter.

(7) High groundwater areas, as identified by the location of soils with seasonal or perennial high water table, as mapped in the Soil Survey of Chester and Delaware Counties.

(8) Generalized soil type names as mapped in most recent edition of the Soil Survey of Chester and Delaware Counties, including indication of the location of all soils classified as agricultural capability Class I, Class II, or Class III, as listed in §27-401.A of the East Vincent Township Zoning Ordinance [Chapter 27]. [Ord. 163]

(9) Generalized geological characteristics, including rock formation type(s) and locations of fault zones.

(10) Existing vegetation denoted as to type, including woodlands, specimen vegetation, and hedgerows; individual trees of 6 inch caliper or greater dbh; wetland vegetation; old field; meadow, pasture, or cropland; orchard; cultivated and ornamental garden areas; etc.

(11) Existing structures and other improvements.

(12) Historic resources pursuant to this Chapter and the Zoning Ordinance [Chapter 27]; including structures, ruins, sites, traces, archeological or potential archeological sites and relationship to the bounds of any National Register historic district, or historic districts determined eligible for the National Register.

(13) Existing paths and trails.

(14) Viewsheds, as defined by ridgelines, and including a delineation of all areas and site features, including, but not limited to, historic resources and other significant assets such as visual features that represent the Township's unique character, are found within the French Creek Scenic Corridor Overlay District, or that are visible from nearby or any other public roads.

(15) Any other natural and historic features in accordance with §22-429 of this Chapter, including plans for required protection, replacement, or management in accordance with that Section.

(16) Any natural area(s) listed in the Chester County Natural Areas Inventory. [Ord. 163]
B. The site features identified as per subsection .1.A, above, shall be shown on plan map(s) or a transparent overlay at the same scale as the plan map(s) submitted, in order to determine the locational relationship of identified site features to development as proposed, including proposed structures, roads, driveways, parking areas; utilities (e.g., stormwater management facilities, sewer or water), recreation facilities, change to natural grade, and vegetation removal.

C. Subdivisions which propose average lot sizes greater than 10 acres and utilize conservation easements to protect and preserve natural and environmental resources are not required to show items specified in paragraphs .A(1) and .A(10) on the existing features plan.

2. Site Analysis and Impact Narrative.

A. A written site analysis and impact narrative shall serve as the initial environmental impact assessment for a proposed project subject to this Chapter, or for a conditional use application subject to the Zoning Ordinance (see Chapter 27, Part 19), and shall be submitted with the sketch plan (to the fullest extent the required information is available at the time of submission), Conditional Use application, and the preliminary plan except as provided in paragraph .D below. Minor subdivision applications are not required to include this narrative. The written narrative shall identify and evaluate the proposed development's potential adverse impacts on sensitive receptors in proximity to proposed action. Receptors include, but are not limited to, adjacent and nearby land uses such as, schools; churches; existing residential neighborhoods and other types of development; or natural, cultural, or historic resources which are identified in the East Vincent Township Comprehensive Plan or the East Vincent Township Open Space, Recreation, or Environmental Resources Plan and of which some are protected by this Chapter and the Zoning Ordinance [Chapter 27].

B. The site analysis and impact narrative shall further identify how the applicant proposes to avoid impacts to identified sensitive receptors and protected natural, cultural, or historic resources. Where impacts are unavoidable and allowed by applicable regulations, the applicant shall document how the impacts have been avoided to the extent practicable by the proposed project and how the impacts will be mitigated in accordance with this and other Township ordinances.

C. The narrative may include graphics, maps, photos, and other illustrative materials to support the text, and can be of a length necessary to adequately convey the information required in paragraphs .A and .B above.

D. At the time of preliminary plan submittal, a required environmental impact statement prepared pursuant to subsection .6.C shall substitute for the site analysis and impact narrative. The site analysis and impact narrative shall not substitute for an EIS, if required pursuant to subsection .6.C, unless otherwise approved by the Board of Supervisors.

3. Conservation Plan. A conservation plan is required to accompany the preliminary and the final subdivision or land development plan. It shall be clearly and legibly drawn to the same scale as that of the preliminary and final plans.

A. Purpose. The purpose of the conservation plan is to identify plans and techniques to be incorporated into the development proposal that regulate the modification of natural terrain during the site development process to ensure that:
§22-307 Township of East Vincent §22-307

(1) The disturbance of the site does not result in damaging erosion and sedimentation control problems in order to protect the health, safety and welfare of the Township residents. These objectives will be pursued at the Township level in conjunction with and according to State requirements for erosion and sedimentation control, as defined in the Department of Environmental Protection (PADEP) Chapter 102 regulations, as amended, and defined in the Erosion and Sediment Pollution Control Program Manual of PADEP as amended, and the Special Protection Waters Implementation Handbook of PADEP as amended.

(2) The site design and preparation incorporates necessary steps to ensure the successful installation and long-term operation of erosion and sedimentation control and stormwater management facilities as defined in this subsection.

(3) The goals and objectives for the implementation of the Township Open Space, Recreation, and Environmental Resource Plan and the Township Comprehensive Plan as amended, and regulated in §22-428 of this Chapter, are linked with other land development concerns.

(4) The disturbance and removal of topsoil is reduced and avoided as required by §22-427 of this Chapter.

(5) The natural and historic features protection objectives of §22-429 of this Chapter are maintained.

B. Plan Content. The conservation plan shall be prepared on the base plan for preliminary and final plans showing all of the existing conditions and those elements of a preliminary or final plan relating to grading, storm drainage, building and paving coverage proposed, and perimeter boundaries and the like which may affect the design of erosion control and stormwater management facilities. In addition the conservation plan will show:

(1) Locations of all soil classifications with special notation of seasonally high water table soils. Soils present on site shall be tabulated by hydrologic soil group.

(2) Location and results of soil percolation tests whenever on-site disposal of sewage is planned.

(3) Notations indicating all trees or portions of tree masses proposed to be cleared as part of the proposed subdivision or land development plan, together with reasons for such clearing; all proposed alterations of the natural grade, whether by cut or by fill, together with reasons for such alteration; compliance with all applicable erosion and sedimentation control standards.

C. A required element of any conservation plan shall be a plan for the control of erosion and sedimentation and for stormwater management. Any conservation plan for subdivision or land development must be accompanied by a stormwater management plan as provided in subsection .4. The minimum components of the conservation plan are as follows:

(1) A narrative summary of the project, including:
   (a) General description of the project.
   (b) General description of accelerated erosion control.
(c) General description of sedimentation control.
(d) General description of stormwater management, both during and after construction.
(e) Date project is to begin and expected date final stabilization will be completed.

(2) Proposed alterations to the project area, including:
(a) Structures, roads, paved areas, and buildings.
(b) Proposed stormwater control facilities.
(c) Finished contours including areas of cuts and fills.
(d) Changes to vegetative cover.

(3) Calculations and description of the amount of runoff from the project area to swales, pipe discharge points, temporary and permanent basins, sediment traps, etc. Calculations shall be performed for pre-development, during development, and post development conditions. Such calculations shall demonstrate that the capacity of the system to control erosion and to prevent sediment discharges is sufficient to control velocity and quantity of discharge to acceptable limits.

(4) The staging of earthmoving activities, described in the narrative, including:
(a) Cover removal, including all cuts and fills.
(b) Installation of erosion and sediment control facilities and practices.
(c) Installation of improvements, including streets, storm sewers, underground utilities, sewer and water lines, buildings, driveways, parking areas, recreational facilities, and other structures.
(d) Program of operations to convert erosion and sedimentation controls to permanent stormwater management facilities, including a chart of the relative time sequence of activities.

(5) Temporary control measures and facilities for use during earthmoving, in both map and narrative form, including:
(a) Purpose.
(b) Temporary facilities or other soil stabilization measures to protect existing trees and shrubs from earthmoving activities.
(c) Types, locations, and dimensioned details of erosion and sedimentation control measures and facilities.
(d) Design considerations and calculations of measures and facilities to control excess stormwater created by runoff from graded areas.
(e) Facilities to prevent tracking of mud by construction vehicles onto existing roadways.

(6) A narrative description of the maintenance procedures for both temporary and permanent control facilities, and of ownership arrangements, including:
(a) The methods and frequency for removal of, and ultimate disposal site for, sediment and other materials removed from control facilities, both during and upon completion of the project.

(b) The proposed ownership and financial responsibility for maintenance of the permanent control facilities.

4. **Stormwater Management Plan.**

   A. **Applicability.** A stormwater management plan demonstrating compliance with the standards and requirements of §22-426 of this Chapter shall be submitted to the Township for review and approval in any situation where the provisions of said §22-426 or §27-1507 of the East Vincent Township Zoning Ordinance [Chapter 27] apply.

   B. **Submission Requirement.**

      (1) Submission of the stormwater management plan shall accompany preliminary and final subdivision or land development submission, or any building or zoning permit application, as applicable pursuant to paragraph A above.

      (2) Upon submission to the Township, the stormwater management plan also shall be submitted to the Chester County Conservation District for review and approval.

   C. **Stormwater Management Plan Contents.** Submission of any stormwater management plan shall include narrative, maps, plans and data adequate to demonstrate compliance with §22-426 including, but not limited to, the following. Plan sheets utilized shall be the same plan sheets as used for the conservation plan except as may be necessary to show additional details. Details on separate sheets shall be carefully cross referenced.

      (1) General description of the project and relationship to the purposes of §22-426.

      (2) A suitable map of the total watershed (a USGS Quadrangle map is sufficient).

      (3) Plan requirements of Federal, Commonwealth and County agencies with regard to stormwater management shall be listed and described in terms of proposed plan compliance.

      (4) Acknowledgment of applicability of the East Vincent Township Grading Ordinance, Ord. 93 [Chapter 9, Part 1], including listing of any requirements applicable to stormwater management and description of proposed means of compliance.

      (5) Date project is to begin and expected date of completion of stormwater management facility installation.

      (6) Soil permeability test results as set forth in §22-426, prepared and submitted by a licensed professional engineer with experience and education in soil mechanics.

      (7) An analysis of existing on and off-site drainage problems.

      (8) Mapping of proposed alterations to the project area, including:

         (a) Changes to land surface and vegetative cover, including zones of
disturbance, zones of nondisturbance.

(b) Areas of cuts.

c) Areas of fill.

d) Structures, roads, paved areas, and buildings.

e) Proposed stormwater control provisions, both nonstructural and structural facilities.

(f) Finished contours at intervals as described elsewhere in this Chapter.

(9) Calculations and description of the amount of runoff from the project area and the upstream watershed area, in accordance with the provisions of §22-426, including:

(a) Separate calculations representing conditions pre-, during, and post-development.

(b) Method of calculation and figures used (including square footages for impervious surfaces of buildings, driveways, parking areas, etc.).

c) Factors considered.

(10) The time schedule for land disturbance activities including:

(a) Cover removal, including all cuts and fills.

(b) Installation of erosion and sediment control facilities and practices as relevant to permanent stormwater management.

(c) Installation of improvements, including streets, storm sewers, underground utilities, sewer and water lines, buildings, driveways, parking areas, recreational facilities, and other structures.

(d) Program of operations to convert erosion and sedimentation controls to permanent stormwater management facilities, where applicable, including a chart of the relative time sequence of activities.

(11) Plans, drawings, and cross-sectional diagrams, as necessary to indicate design of the permanent stormwater management program indicating locations, descriptions, and design details for all stormwater management system components, including, as appropriate, measures for groundwater recharge and facilities for site restoration and long-term protection, including but not limited to:

(a) Installation of infiltration facilities, roof-top storage, cisterns, seepage pits, french drains, etc., to serve individual buildings.

(b) Use of semi-pervious materials for driveways, parking areas, etc.

(c) Types, locations, and dimensioned details of all facilities for stormwater detention, retention, infiltration, and conveyance, including detailed design of all basins, berms, trenches and swales, and all structures for conveyance and regulation of stormwater flow, including as applicable, but not limited to:

1) Design specifications for infiltration devices and energy dissipating and sediment removal devices.
2) Infiltration bed lining.

3) Indication of top and bottom elevation of all embankments, degree of side slopes.

4) Permanent pool elevation(s) and stage storage data (cubic feet and elevations).

5) Spillway elevations, widths and lining.

6) Pipe barrel, riser, outlet structure and outfall structure dimensions.

7) Dimensions and spacing of anti-seep collars, and plans for trash rack(s) and anti-vortex device(s).

(d) Specifications for soil preparation.

(e) Detailed design considerations and calculations supporting the overall stormwater management program, selection of best management practices (BMPs) and all structural components.

(f) Location of drainage easements.

(g) Scaled plans of any fencing or landscaping to be used to control or prevent access to stormwater management facilities.

(h) Proposed establishment of permanent vegetation or other soil stabilization measures.

(12) An analysis of all stormwater flows to and from the project area as calculated for pre-, during and post-development conditions, including flows to all inlets, head walls, swales, channels, recharge components, basins, and other system facilities as applicable, and including all supporting material.

(13) Description and proposed documentation of ownership, operation, and maintenance provisions for all stormwater related facilities. Where the maintenance of stormwater management facilities and systems is the responsibility of an individual lot owner, the terms of appropriate maintenance agreements) and a description of the facilities and systems on the lot shall be set forth in perpetual covenants or deed restrictions binding on the landowner's successors in interest and shall be recorded.

5. Improvement Construction Plan. An improvement construction plan shall be required to accompany preliminary and final plans whenever an improvement is to be constructed or installed.

A. Scale. The improvement construction plan shall have the same scale as required for a preliminary and final plan.

B. Data. The improvement construction plan shall contain sufficient information to provide working plans for the layout and construction of proposed streets, utilities, stormwater retention structures, and other improvements. Such a plan shall include, but not be limited to, the following:

(1) A horizontal plan showing layout of proposed improvements, including stations corresponding to those shown on the profiles, horizontal curves, location and size of inlets and manholes, horizontal location of proposed utilities, and existing contours.

(2) A profile plan indicating the final grades of streets and sewers and the
extent of cut and fill operations.

(a) The profile plan shall show the vertical section of the existing grade and proposed grade along the centerline and rights of way of the proposed street. Where storm drainage and/or sanitary sewer lines are to be installed, they shall also be indicated on the profile plan.

(b) The horizontal scale of the profile plan shall be not less than 1\"=50\' and the vertical scale shall be not less than 1\"=5\'.

(c) A typical cross-section street construction shall be shown on the Profile Plan and shall indicate the following:

(1) Right-of-way width and the location and width of paving within the right-of-way.

(2) Type, thickness and crown of paving.

(3) The location, width, type, and thickness of curbs and sidewalks to be installed, if any.

(4) Typical location, size and depth of any underground utilities that are to be installed in the right of way where such information is available.

(d) All storm sewer, sanitary sewer, public water, gas line, and other existing utility crossings shall be shown by profile.


A. Applicability. The traffic impact study detailed in subsection .6.E(1) shall be required for all preliminary plan applications for subdivision or land development when any of the following are proposed for a property:

(1) Residential development which can be expected to generate more than 50 trips during any peak hour, based on the most current trip version of the Trip Generation Manual prepared by the Institute of Transportation Engineers (ITE), as amended.

(2) Institution or retirement facility with a trip generation rate of 100 AADT, as established in the Trip Generation Manual prepared by the Institute of Transportation Engineers, as amended.

(3) Industrial, commercial and/or office development having a trip generation rate of 100 AADT or more, as established in the Trip Generation Manual prepared by the Institute of Transportation Engineers, as amended.

(4) Any project which will affect roads with a level of service at "D," "E," or "F," as determined by the Township at the time of submission. (Levels of service are defined in the 1985 Highway Capacity Manual, Highway Research Board, National Academy of Science, Special Report 209, as updated.)

(5) Any project which will affect roads as determined by the Township to have safety or design deficiency.

(6) Any project which will be developed in phases with a cumulative effect of falling within the required categories outlined above.

(7) No traffic impact study is required for those development projects that were the subject of a conditional use approval where a traffic analysis was submitted within 2 years before the date that a preliminary plan was filed,
except upon request of the Township, when in the opinion of the Township Engineer, traffic conditions have significantly changed to warrant a new study.

B. **Applicability.** Utility and recreational impact statements shall be required for all preliminary applications for development when any of the following are proposed for a property:

1. Residential development of 10 or more dwelling units.
2. Institution or retirement facility of 100 or more bedrooms or residential units.
3. Industrial, commercial and/or office development in excess of 20,000 square feet of building area, and limited to utility impact statement only.
4. Any use resulting in spring or surface water collection for off-site consumption or any bottling operation, or any nonresidential use which requires or potentially requires use of water in excess of 2,500 gallons per day (gpd).

C. **Applicability.** Environmental impact studies shall be required for all preliminary plan applications for subdivision or land development when any of the following uses are proposed, or circumstances apply:

1. Where required as a condition of conditional use, special exception, or variance approval.
2. Uses subject to subdivision, land development, or zoning permit approval which involve land disturbance of an area or areas either singularly or cumulatively greater than the maximum impervious coverage limitation (or increase obtained through use of TDR) of the underlying zoning district.
3. Free-standing antennae and telecommunication facilities greater than 35 feet in height.
4. Junkyards; trash transfer stations, incinerators, crematories, other solid waste disposal facilities; sanitary landfill; commercial mulching operations; resource extraction uses; intensive agricultural uses such as feedlots and mushroom substrate operations.

D. The historic resources impact study shall only be required as provided in subsection .6.E(4).

E. The Board shall consider the impact of the proposed use on the Township and on the facilities and systems as listed hereafter. When required by the Board, the applicant shall provide all of the information data and studies needed to allow the Board to reach conclusive evaluation of the areas set forth hereafter, which are applicable to the use proposed. The impact statement should be one written document. Necessary maps, charts, etc., should be labeled as consecutively numbered exhibits and properly referenced throughout the text of the written document. The statement should be written in a manner and style that clearly focuses on the information, data and analysis on the issues and objectives requested by the Board. The source of all data should be appropriately documented.

1. **Traffic Impact Study.**

   (a) **Purpose.** A traffic impact study shall be required for any development proposed pursuant to this Section. Such study shall enable
the Board of Supervisors to assess the likely impact of a proposed development in the various components of the transportation system in the Township.

(b) Professional Input. The applicant shall retain a qualified professional traffic engineer to prepare the traffic impact study. For purposes of this provision, a qualified traffic engineer shall be deemed any individual holding a degree from an accredited university in traffic engineering specialty, or any individual holding a university degree who also possesses membership in the Institute of Transportation Engineers, or any individual who conforms to the definition for a municipal traffic engineer preferred in 67 Pa.Code, Chapter 612, as amended, entitled "Municipal Traffic Engineering Certification."

(c) Study Area. A study area shall be defined by the traffic engineer which represents the area that is likely to be affected (from a traffic impact standpoint) by the development. Prior to identifying the study area, the traffic engineer shall discuss possible study area boundaries with the applicant and the Township. Specific intersections to be included in the study shall be mutually agreed upon prior to initiating work.

(d) Contents of Impact Study. A traffic impact study shall contain the following information:

1) General Site Description. The site description shall include the size, location, proposed land uses, construction staging and completion date of the proposed development. A brief description of other major existing uses and approved recorded development plans shall be included as source data where agreed by the Township and the traffic engineer, that they may have a bearing on the development's likely traffic impact. The Township may, in addition, require consideration of development proposals not yet approved and recorded, but with sufficient status and probable impact to warrant inclusion.

2) Transportation Facilities Description.

a) This description shall contain a full documentation of the proposed internal and external circulation system within the proposed study area. The description shall include: circulation; all proposed ingress and egress locations; all internal roadway widths and rights of way; existing and proposed parking conditions; traffic channelizations; any traffic signals or other intersection control devices at all intersections on the site boundaries.

b) The description shall include all major elements of the existing roadway system within the study area. All major existing and proposed public transportation services and facilities within the study area shall also be documented. Future highway improvements, including proposed construction and traffic signalization, shall be noted.

3) Existing Traffic Conditions.

a) Existing traffic conditions shall be documented for all
major roadways and intersections established as part of the study area under subsection 6.E(1)(c). Existing traffic volumes for average daily traffic, peak hour(s) traffic shall be recorded. Manual traffic counts at major intersections in the study area shall be conducted encompassing the peak highway and development generated hour(s), and documentation regarding said traffic counts shall be included in the traffic engineer’s report. Mechanical traffic counts may be allowed at the discretion of the Township Engineer. A volume capacity analysis based on existing volumes shall be performed during the peak highway hour(s) for all roadways and major intersections within the study area.

b) The capacity analysis shall be conducted according to methods of analysis accepted by the Pennsylvania Department of Transportation. The existing level of service associated with each major roadway and intersection evaluated shall be recorded. Data about the most recent available accident levels within the study area shall be included.

4) Impact of Development on Area Circulation. Estimates of vehicle trips to result from the proposed development shall be completed for the design day peak highway hour(s) and peak development generated hour(s). In order to obtain vehicle trip generation base data, the traffic engineer shall consult either his firm’s data bank, or the most current edition of the Institute of Transportation Engineers Trip Generation Report, or local data from the Township or, if available, more current or comprehensive sources. All turning movements associated with the proposed improvement generated hour(s) shall be computed and contained in the study. Traffic volumes generated by the proposed use shall be distributed and assigned to existing roadways and intersections throughout the study area for which existing conditions were recorded. Documentation of all assumptions used in the distribution and assignment of traffic shall be provided. Any characteristics of the site that are likely to cause particular traffic management problems shall be noted.

5) Analysis of Traffic Impact.

a) The traffic engineer shall identify the relationship of the site-generated traffic associated with the proposed development and overall demand. This demand shall consist of a combination of the existing traffic expanded to the completion year (using the annual traffic rate available from the Delaware Valley Regional Planning Commission), the development generated traffic, and the traffic generated by other proposed developments in the study area. When considering the proposed development, all future phases must be included to evaluate the total traffic impact of the development.

b) He shall further identify the development’s proportional relationship to the traffic system improvements that are likely to be required, in part, due to the development. The volume/capacity
analysis performed in accordance with subsection 6.E(1)(d)(3), above, shall be updated to include a volume/capacity analysis using the total future demand and future roadway capacity. The analysis shall be conducted on a design day during the peak highway hours(s) and on major intersections in the study area which are projected to be affected by the proposed development.

c) All access points and pedestrian crossings shall be examined as to the need for and feasibility of installing traffic signals or other traffic control devices. To do this, the traffic engineer shall evaluate access points and pedestrian crossings pursuant to the Pennsylvania Department of Transportation specifications for traffic signal warrants.

6) **Conclusions and Recommended Improvements.**

a) All roadways and/or intersections showing a level of service which is deemed deficient by the traffic engineer during peak hours of the day (peak hour defined to include peak hour of the day on the particular roadway and peak hour of traffic of development generated traffic) shall be identified. Specific recommendations for the elimination of traffic problems associated with the proposed development shall be identified. (Levels of service are defined in the *1985 Highway Capacity Manual*, Highway Research Board, National Academy of Sciences, Special Report 209, as updated.) A listing of recommended improvements shall include the following elements: internal circulation design; site access locations and design; improvements and widenings; traffic signal installation and operation, including signal timing; transit design improvements; and reduced intensities of uses. All physical roadway improvements shall be shown as a part of the report.

b) All traffic signals shall contain emergency preemption equipment which is compatible with existing equipment of local fire departments or other emergency vehicles.

c) The listing recommending improvements for vehicular, pedestrian/non-vehicular, and transit modes shall include, for each improvement, the party proposed to be responsible for the improvement, the cost and funding of the improvement (to the extent possible) and the completion date for the improvement (to the extent possible).

d) In considering improvements related to phased development, the improvements related to each phase of development shall be at a minimum those required to eliminate traffic problems associated with that phase and no improvements shall be deferred which would have the effect of not eliminating identified traffic problems if the development were not completed.

e) The Township, with the assistance of its own traffic engineer, shall review the methodology, assumptions, findings,
and recommendations of the applicant's traffic engineer. The Board may impose upon the applicant additional improvements deemed necessary to accommodate impacts of the development.

(e) **Impact of Industrial Development.** No industrial development shall be permitted which shall result in a Level of service at any intersection within 1 mile of the subject development of less than a target level of service “C” or “D” traffic condition. The specific determination of the target level of service, as either “C” or “D,” shall be made in accordance with the regulations of the Pennsylvania Department of Transportation (PennDOT) at the time of when any such development is proposed. If the pre-development level of service is either “E” or “F,” a level of service “D” shall be the target. The level of service analysis shall be included as part of the traffic study. [Ord. 163]

(2) **Utilities Impact Study.**

(a) A study shall be prepared by a registered professional engineer and a professional registered geologist, as applicable, indicating the likely impact of the proposed development on the existing sewer, water, groundwater, solid waste and drainage systems serving East Vincent Township. Said impact analysis shall identify the existing capacity of facilities which would serve the development, the prospects of those facilities being able to provide service to it, and any improvements that might be required as a direct result of the proposed development.

(b) Additionally, the study should identify the likely ability of sewer, water, solid waste, and drainage systems to continue to provide efficient and economic service to existing residents and business within the Township considering added service requirements of proposed development. The study shall indicate what alternative have been considered for sewage treatment and disposal, as well measures to be initiated toward waste recycling and water conservation.

(c) A hydrogeology study is required to accompany the utilities impact study.

1) **Purpose.** To enable the Planning Commission and Board of Supervisors to assess the likely impact of a proposed development on the ground water resources in the Township. To ensure that new wells constructed within the Township are able to provide a reliable, safe, and adequate water supply to support the intended use. To assess the potential for new development to adversely impact adjacent property owners.

2) **Professional Input.** The applicant shall retain a registered professional hydrogeologist/geologist to prepare the hydrogeology study. The qualifications and experience the professional hydrogeologist shall be included as part of the study. The Township Engineer may reject any study due to lack of suitable experience by the preparer.

3) **Study Area.** A study area shall be defined by the hydrogeologist who represents the area that is likely to be affected by the
development. Prior to identifying the area, the hydrogeologist shall discuss possible study boundaries with the Township and Township Engineer.

4) **Contents of Impact Study.** A hydrogeology study shall contain the following information:

   a) **General Site Description.** The site description include the size, location, proposed land use construction staging and completion date of proposed development. A brief description existing uses and approved recorded development plans. The Township may require considering development proposals not yet approved recorded, but with sufficient status and probable impact to warrant inclusion. Reference shall be made to two studies prepared by the Federal Northern Chester County Municipalities: *Surface Water Runoff Study* (9/91), and *Water Resources Management Study* (10/88). Hydrogeological data contained in these studies shall be included in the site description.

   b) The study shall contain documentation of the following elements:

      i) Rainfall and recharge characteristics of the groundwater area in which the proposal is located.

      ii) Intended quantity and quality of withdrawal of groundwater to support the project.

      iii) Impact of the proposed sewage disposal system upon groundwater recharge. Description of proposed water import and export quantities.

      iv) A survey of existing wells utilizing groundwater resources.

      v) Maps showing well locations, both existing and proposed within the area designated by the Township and Township Engineer, but no less than 2,500 feet from the boundary of the tract.

      vi) Projection of estimated effects of new withdrawals on existing water supplies and streamflow.

   c) **Pump Testing.** In order to determine if suitable capacity exists as well as assess potential impacts on adjacent groundwater users, appropriate aquifer testing is required. This testing will comply with the requirements of the DEP public water supply regulations, as amended, and the appropriate river basin commission, i.e., DRBC, requirements. At a minimum, one well will be tested for every 10 proposed residential dwelling units which use on lot wells as the means for water supply. One test well shall be drilled for every proposed non-residential use.

      A well log shall be provided showing pumping well depth, diameter, casing length, static and pumping water levels, pumping rate, geologic formations, depth at which groundwater
was encountered, draw down test plot of pumping well, etc.

In order to determine its capacity, the well shall be tested for yield, drawdown, and specific capacity. The well shall be evaluated through a two-part pump test, comprised of "peak demand" and "constant head," or approved equal, at flow rates calculated on the basis of the projected household population, assuming a water use of 75 gallons per capita per day and a peak use of 1½ times the average. Nonresidential flow rates shall be based upon data from similar type uses.

d) *Impact of Development on Hydrogeologic Resources.* The projected impacts of the proposed development shall be stated. Impacts shall be based upon, but not limited to, the aforementioned background information, proposed development, and test wells.

e) *Conclusions and Recommendations.* All development which has the potential to cause adverse affects to the groundwater resources or existing groundwater users shall be identified. Specific recommendations for the mitigation or elimination of adverse impacts shall be identified.

5) The Township, with the assistance of its own Township Engineer or designated consultant, shall review the methodology, assumptions, findings, and recommendations of the applicant's professional hydrogeologist. The Board may impose upon the applicant additional improvements deemed necessary to accommodate impacts of the development.

(3) *Recreation Impact Study.* A study shall be prepared to analyze the demand for recreational facilities that the proposed development will generate, and determine whether adequate facilities exist or are planned or proposed. The recreation impact study is relevant to the requirement for parkland dedication or fee-in-lieu as required pursuant to §22-428 of this Chapter. As a minimum, the study should include the following:

(a) A description of the projected age breakdown of the residents of the proposed development.

(b) A description of any recreational facilities to be provided by the applicant.

(c) A description of who the responsible party or parties will be for maintenance (public and private) of any recreational facilities to be provided by the applicant.

(d) A description of existing municipal recreational facilities and the impact of the proposed development on these facilities. Accepted standards required for recreation are established in the East Vincent Township Open Space, Recreation and Environmental Resources Plan.

(e) Discussion of potential for any recreational facilities to be provided by the applicant to compensate for any anticipated deficiencies of the Township's recreation facilities.
(f) A description of accessibility of proposed facilities to general Township residents.

(g) A description of any contributions the applicant plans to make to Township recreation to mitigate for expected impacts, either pursuant to §22-428 of this Chapter or otherwise.

(4) Historic Resources Impact Study.

(a) Applicability. A historic resources impact study, or any applicable portions thereof, may be required, unless waived or modified by the Board, when any of the following are proposed:

1) Any subdivision or land development application which proposes new construction of buildings, structures, roads, driveways, parking areas, or other land disturbance within 250 feet of the exterior walls of any Class I or II Historic Resource, as established by §27-1403 of the East Vincent Township Zoning Ordinance [Chapter 27]. [Ord. 163]

2) Any Subdivision or Land Development application which proposes adaptive re-use or demolition of any such Class I or Class II Historic Resource.

3) Any general bridge or road construction or substantial repair which is proposed within 250 feet of the exterior walls of any such Class I or II Historic Resource. [Ord. 163]

(b) The Board may require the applicant to submit the historic resource impact study as a subsection of an impact study required in this Section, or as a separate document.

(c) The historic resource impact statement shall be prepared by a qualified professional in historic preservation, historical architecture, planning, or related disciplines, and presented by the applicant or his agent for discussion at a meeting of the East Vincent Historical Commission.

(d) Contents. The study shall contain the following information, as required by the Board of Supervisors:

1) Background Information:

   a) If not otherwise provided by the applicant, a general site description, including topography, watercourses, vegetation, landscaping, existing drives, etc.

   b) General description and classification of all historic resources located on the subject tract, on tracts immediately adjacent to the subject tract or road, or within 250 feet of the subject tract or road.

   c) Physical description of all resources identified in subparagraph (4)(a)2), above.

   d) Statement of the significance of each historic resource, both relative to the Township and region in general.

   e) Sufficient number of black and white 8" x 10" photo-
graphs to show every historic resource identified in subparagraph (4)(a)2), above, in its setting.

f) Narrative description of the historical development of the subject tract or road.

2) Proposed Change.

a) General description of project, including timetable of phases.

b) Description of impact on each historic resource identified in subparagraph (4)(a)2), above, with regard to architectural integrity, historic setting, and future use.

c) General description of effect of noise and traffic and any other impacts generated by the proposed change on each historic resource.

3) Mitigation Measures. Recommendations for mitigating the project's impacts on historic resources, including design alternatives, screening, landscaping and any other appropriate measures permitted under the terms of this and other Township ordinances.

(e) East Vincent Historical Commission. The historic resource impact study will be reviewed by the East Vincent Historical Commission. The Commission shall set forth its evaluation and recommendations in a written report to be submitted to the East Vincent Township Planning Commission and Board of Supervisors.

(5) Environmental Impact Study.

(a) The applicant shall be required at the time of preliminary Plan submittal to disclose the environmental consequences or effects of subdivision or land development proposals through the submission of an environmental impact study in order to enable the Township Board of Supervisors and/or the Planning Commission to more effectively evaluate an application. This environmental impact study shall substitute for the site impact and analysis narrative required pursuant to §22-307.2.

(b) Eighteen copies of the EIS shall be submitted in accordance with the format and content specified below. Within the EIS, specific emphasis shall be directed toward the proposed project's effects on and relationship to applicable site, neighborhood (including areas in adjacent townships where applicable) and township-wide resources, conditions or characteristics. The EIS shall include text, tables, maps and analyses for the purpose of describing the project site, proposed use(s), environmental characteristics and the environmental effects of the proposal in accordance with the required disclosures below. One or more plans or maps may be used to display the required information.

1) An identification of the site location and area through the use of a location map drawn at a scale of not more than 2,000 feet to the inch. The location map shall depict all streets, adjoining properties, zoning district boundaries and municipal boundaries within 1,000 feet of any part of the tract. In the case of development of a section of the

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entire tract, the location map shall also show the relationship of the section to the entire tract.

2) An identification of the site character and appearance through the presentation of color photographs (black and white acceptable) or copies thereof. Such photographs shall provide a representation of what the site looks like from the ground. Photographs should be properly identified or captioned and shall be keyed to a map of the site.

3) An identification of the nature of the proposal(s) through the presentation of the following:
   a) A site development plan including notes pertaining to the number and type of lots or units, gross square footage of new nonresidential structures, the square footage and/or acreage of the tract and a depiction of the features which are proposed such as streets, roads, driveways, parking areas, buildings and other structures, outdoor storage areas, and all impervious surfaces (including those which may become compacted and therefore impervious over time). The plan shall be drawn at a scale of 1" = 50' and may be submitted as an attachment to the report.
   b) Plans and elevations depicting the proposed size, square footage, height, number of rooms (where applicable) of buildings and/or other structures.
   c) A statement indicating the existing and proposed ownership of the tract and where applicable, the type of ownership, operation and maintenance proposed for areas devoted to open space and or otherwise not under the control of a single lot owner.
   d) A statement indicating the proposed staging or phasing of the project and a map depicting the boundaries of each stage or phase of the project. Such boundaries shall be superimposed on a version of the site development plan.

4) A written narrative description of the qualitative and quantitative aspects of each of the natural, scenic, and historic resources depicted on the applicant's existing features plan prepared in accordance with §22-307.1.A of this Chapter. A copy of the existing features plan shall be included in, or attached to, the EIS document.

5) An identification of the land use conditions and characteristics associated with the tract such as current and past use, land cover, and encumbrances; and the relationship of these to adjacent tracts. The identification of land use conditions and characteristics shall include a narrative description of the above.

6) An identification of characteristics and conditions associated with existing, construction related, and future air and water quality and noise levels, vibration, toxic materials, electrical interference, odor, glare and heat, fire and explosion, smoke, dust, fumes, vapors
7) The implications of the proposed subdivision or land development in terms of the type of beneficial or adverse effects which may result from it; and, the duration of these effects in terms of their short-term or long-term nature. To indicate such effects, there shall be a discussion of the implications of the proposed subdivision or land development to the resources, conditions, and characteristics described in the preceding sections. In addition to a narrative presentation of implications, the applicant shall display where the subdivision or land development adversely affects the tract’s resources, conditions or characteristics through the use of a map drawn at a scale to match the existing features plan as an overlay, wherein the areas adversely affected from proposed development or use are highlighted. Such map may be either incorporated into the EIS or submitted as an attachment to the study. Further, the applicant shall demonstrate and specify in the EIS how and where the findings in the EIS and its attachments are reflected in the subdivision or land development plan.

8) Alternatives to the proposed subdivision or land development. To indicate such alternatives, the applicant shall submit exhibits or diagrams which will depict the type of alternatives described in narrative form. The applicant shall comment on how alternatives such as: revised location, redesign, layout or siting of buildings, roads and other structures, alternate methods for sewage disposal, water supply, stormwater management, reduction in the size of proposed structures or number of structures, and the like would preclude, reduce or lessen potential adverse impacts or produce beneficial effects.

9) Probable adverse effects which cannot be precluded. In indicating such effects a discussion shall be presented regarding whether they will have primary or secondary implications, that is, whether the adverse effects will have direct or indirect influence on a particular resource, condition or characteristic.

10) Measures to mitigate adverse effects. To indicate such measures, the applicant shall submit exhibits or diagrams which will depict the type of remedial, protective and mitigative measures described in narrative form. These resources shall include those required through existing procedures and standards, and those unique to a specific project, as follows:

   a) Mitigation measures which pertain to existing procedures and standards are those related to current requirements of the Commonwealth, County or Township for remedial or protective action such as: sedimentation and soil erosion control, stormwater runoff control, water quality control, air quality control, and the like.

   b) Mitigation measures related to impacts which may be unique to a specific subdivision or land development are those
§22-307 Subdivision and Land Development §22-307

related to efforts such as revegetation, screening, fencing, emission control, traffic control, noise control, land or easement acquisition, and the like.

11) Any irreversible environmental changes which would occur due to the proposed subdivision or land development should it be implemented. Further, the loss of environmental resources shall be indicated through a presentation of the quantity of loss and related qualitative effects.

12) List and qualifications of preparers. The names, addresses, telephone numbers and qualifications of persons directly responsible for preparing the EIS shall be provided. The EIS shall be prepared by a registered Civil Engineer, Landscape Architect, Land Planner, or Environmental Scientist.

(c) The 18 required copies of the applicant’s EIS shall be submitted to and received by the Township no later than 20 days prior to the initial public meeting (or hearing) of the Planning Commission or Board of Supervisors, whichever comes first. The Township may seek the input of its consultants on the EIS who shall in turn submit their findings in a memorandum to the Board and/or Planning Commission. The Township shall forward a copy of these memoranda to the applicant.

(d) In making its evaluation, the Board of Supervisors and/or the Planning Commission may request any additional information it deems necessary to adequately assess potential environmental impacts. The Board and/or the Planning Commission should also consider at the same time of its review of an EIS any other required impact studies (traffic, utility, historic, recreational) or plans (conservation, stormwater management, open space management) that the applicant has submitted along with the preliminary plan or land development application.

(e) **Board Approval Required.**

1) Following the report of the Township consultant(s) on any submission of an EIS, if requested, the Board shall either accept the findings and recommendations of the EIS, accept it with conditions, or reject it, and shall do so within any applicable time period unless a request to extend the time period is mutually agreed upon in writing.

2) Where compliance with this Section is required as part of an application for subdivision or land development approval, the Board’s decision on whether compliance has been achieved shall be made as part of its decision on the subdivision or land development application.

3) Where the application is part of a request for a zoning permit, the Zoning Officer shall issue no such permit until the terms of this Section, and any conditions imposed upon the use of the property at the time of subdivision or land development approval, are satisfied.

§22-308. Recording of Final Plan.

1. Upon completion of the procedures outlined under this Part, all endorsements shall be indicated on the record plan and on as many other copies of the final plan as may be desired.

2. Upon endorsement by the Township, the applicant shall record the record plan with the County Recorder of Deeds within 90 days of the date of the final approval by the Township. If the applicant fails to record the final plan within such period, the action of the Township shall be null and void, unless an extension of time is granted in writing by the Township prior to the expiration of the 90 day period upon written request by the applicant.

3. Where a major proposal, as defined by this Chapter, is involved, the documentation outlined under §22-310.D. shall also be recorded with the plan.


1. All applications for resubdivision shall be classified as preliminary/final plan subdivision proposals, and shall follow the final plan review procedures outlined under §22-306.2.

2. All resubdivision plan applications shall be submitted to the Township. The Township shall determine whether the application represents a complete and official submission using the following criteria:
   A. Three copies of the official Township application for resubdivision review form; one being notarized by an affidavit of ownership and intended use of the land.
   B. Five prints of the resubdivision plan.
   C. Payment of required application fees as determined by resolution of the Board.

3. In making any alterations, the following shall be observed:
   A. Small parcels of land may be divided so long as they are made a part of adjoining land and no lot or tract of land results that is smaller than the minimum dimensions required by the Township Zoning Ordinance [Chapter 27].
   B. Easements reserved for drainage shall not be changed.
   C. No lot shall be created which does not abut a street.
   D. The character of the area shall be maintained.


§22-310. Subdivision and Land Development Improvements Agreement.

The applicant shall execute a development agreement to be approved by the Township, and the Township Solicitor, before the final plan is released by the Board of Supervisors and filed on record. Said agreement shall, as a minimum, specify the following, where applicable:

A. The applicant agrees that he will lay out and construct all streets and other public improvements, including grading, paving, sidewalks, trails, fire hydrants, water mains, street signs, shade trees, storm and sanitary sewers,
landscaping, traffic control devices, open space areas, and erosion and sediment control measures in accordance with the final plan as approved, where any or all of these improvements are required as conditions of approval.

B. The applicant guarantees completion and maintenance of all improvements by means of a type of financial security acceptable to the Township, as specified in §22-311.3 of this Chapter.

C. The applicant agrees to have prepared a deed(s) of such dedication to the Township for such streets and for such easements for sanitary and storm sewers, sidewalks, and other public improvements, provided that the Township shall not accept dedication of such improvements until their completion is certified as satisfactory by the Township Engineer.

D. Whenever an applicant proposes to establish or continue a street which is not offered for dedication to public use, the Board of Supervisors shall require the applicant to submit, and also to record with the plan, a copy of an agreement made with the Board on behalf of himself and his heirs and assigns, and signed by him, and which shall establish the conditions under which the street may later be offered for dedication, and shall stipulate, among other things:

(1) That an offer to dedicate the street shall be made only for the street as a whole.

(2) That the Township shall not be responsible for repairing or maintaining any undedicated streets.

(3) That the method of assessing repair and maintenance costs of the undedicated streets be stipulated and be set forth in recorded deed restrictions so as to be binding on all successors or assigns.

(4) That, if dedication is to be sought, the street shall conform to Township specifications or that the owners of the abutting lots shall, at their own expense, improve the streets to conformance with Township specifications.


§22-311. Performance Guarantees.

1. The applicant shall deposit with the Township, financial security in an amount described in subsection .5 below sufficient to cover the cost of all improvements, both public and private, and common amenities, including but not limited to streets, walkways, trails, street trees, stormwater management facilities, recreation facilities, open space improvements, buffer or screen plantings, water mains and other water supply facilities, fire hydrants, sanitary sewage disposal facilities.

2. When requested by the developer, in order to facilitate financing, the Board of Supervisors shall furnish the developer with a signed copy of a resolution indicating approval of the final plan contingent upon the developer obtaining a satisfactory financial security. The final plan or record plan shall not be signed nor recorded until the financial improvements agreement is executed. The resolution or letter of contingent approval shall expire and be deemed to be revoked if the financial security agreement is not executed within 90 days, unless a written extension is granted by the Board; such extension shall not be unreasonably withheld and shall be placed in writing at the written request of the developer.
3. Financial security required herein shall be in the form of a Federal or Commonwealth chartered lending institution irrevocable letter of credit, a restrictive or escrow account in such institution, or with a financially responsible bonding company, or such other type of financial security which the Township may, in its reasonable discretion, approve. The bonding company may be chosen by the party posting the financial security, provided that the said bonding company or lending institution is authorized to conduct business within the Commonwealth and stipulates that it will submit to Pennsylvania jurisdiction and Chester County venue in the event of legal action.

4. Financial security shall provide for, and secure to the public, the completion of any improvements on or before the date fixed in the development agreement.

5. The amount of financial security to be posted for the completion of the required improvements shall be equal to 110 percent of the cost of completion estimated as of 90 days following the date scheduled for completion by the developer. Annually, the Township may adjust the amount of the financial security by comparing the actual cost of the improvements which have been completed and the estimated cost for the completion of the remaining improvements as of the expiration of the ninetieth day after either the original date scheduled for completion or a rescheduled date of completion. Subsequent to said adjustment, the Township may require the developer to post additional security in order to assure that the financial security equals the said 110 percent. Any additional security shall be posted by the developer in accordance with this Section.

6. The amount of financial security required shall be based upon an estimate of the cost of completion of the required improvements, submitted by an applicant or developer and prepared by a professional engineer licensed as such in this Commonwealth and certified by such engineer to be a fair and reasonable estimate of such cost. The Township, upon the recommendation of the Township Engineer, may refuse to accept such estimate based upon good cause shown. If the applicant or developer and the Township are unable to agree upon an estimate, then the estimate shall be recalculated and recertified by another professional engineer licensed as such in this Commonwealth and chosen mutually by the Township and the applicant or developer. The estimate certified by the third engineer shall be presumed fair and reasonable, and shall be the final estimate. In the event that a third engineer is so chosen, fees for the services of such engineer shall be paid equally by the Township and the applicant or developer.

7. If the party posting the financial security requires more than 1 year from the date of posting the financial security to complete the required improvements, the amount of financial security shall be increased by an additional 10 percent for each 1 year period beyond the first anniversary date from posting of financial security or to an amount not exceeding 110 percent of the cost of completing the required improvements as reestablished on or about the expiration of the preceding 1-year period by using the above procedure.

8. In the case where development is projected over a period of years, the Board of Supervisors may authorize submission of final plans by section or stage of development, subject to such requirements or guarantees as to improvements in the future sections or stages of development as it finds essential for the protection of any
finally approved section of the development.

9. As the work of installing the required improvements proceeds, the party posting the financial security may request the Board of Supervisors to release, or authorize to be released, from time to time, such portions of the financial security necessary for payment to the contractor or contractors performing the work. Any such requests shall be in writing addressed to the Board of Supervisors, and the Board shall have 45 days from receipt of such request within which to allow the Township Engineer to certify, in writing, that such portion of the work upon the improvements has been completed in accordance with the approved plans. Upon such certification, the Board shall authorize release by the bonding company or lending institution of an amount as estimated by the Township Engineer fairly representing the value of the improvements completed. The Township Engineer, in certifying the completion of work for a partial release, shall not be bound to the amount requested by the applicant, but shall certify to the Board his independent evaluation of the proper amount of partial releases. The Board may, prior to final release at the time of completion and certification by the Township Engineer, require retention of 10 percent of the estimated cost of the aforesaid improvements.


§22-312. Commencement of Development.

1. No construction or land disturbance activities, with the exception of soil or percolation testing, well drillings, or similar engineering or surveying activities, shall be commenced until the applicant submits to the Township Zoning Officer/Building Inspector, a copy of the Recorder of Deeds' receipt for recording of the final plan.

2. No application for a building permit under the Township Zoning Ordinance [Chapter 27] shall be submitted and no building permit under the Township Zoning Ordinance [Chapter 27] shall be issued for any building in any subdivision or land development until the final plans for such subdivision or land development has been approved and recorded as provided for and until the terms of subsection .1, have been satisfied. Further, where final subdivision or land development approval has been conditioned upon the submission and approval of individual lot grading plans for some or all of the lots, no building permit shall be issued for construction on any such lot until this condition has been complied with. Further, where an approved subdivision or land development plan features new streets, multi-use arterial trails, and/or bikeways, no building permit shall be issued until all elements of such streets, multi-use arterial trails, and/or bikeways within the subdivision or land development (or phase thereof where construction has been approved in phases) have been completed.

3. No water system or sewer system, including extensions to existing or proposed Township systems or new systems employing sewage treatment plants, shall be constructed prior to the issuance of appropriate permits from the Pennsylvania Department of Environmental Protection or from Federal or local agencies, as required.


§22-313. Plan Amendments.

Modification of the approved plan, (other than resubdivisions) as determined by the Township, shall be resubmitted and reprocessed in the same manner as the original
plan. All site disturbance activities shall cease pending approval of modified plans.

§22-401. General.

1. The following standards shall be complied with in all subdivision and land development, and are intended as the minimum for the promotion of the public health, safety and welfare. If an applicant/developer, however, can clearly demonstrate to the satisfaction of the Board that because of peculiar physical conditions pertaining to his land, the literal enforcement of these standards would cause undue hardship, such variations from their literal interpretation may be permitted as may be reasonable and consistent with the purpose and intent of this Chapter subject to §22-704, “Modifications,” of this Chapter. Such variations shall represent the least change from the standard.

2. All proposed subdivisions shall comply fully with the existing zoning regulations applicable to the land, and no parcel of land shall be created, either by inclusion or exclusion from a proposed subdivision, which cannot be properly utilized for a permitted use under the existing zoning regulations.

3. Physical improvements to the property being subdivided shall be provided, constructed, and installed as shown on the plan of record, in accordance with the requirements of the Township.

4. All improvements installed by the applicant shall be constructed in accordance with the design specifications of the Township. Where there are no applicable Township specifications, all such specifications are subject to the approval of the Township Engineer.

(Ord. 138, 7/17/1996, §400; as amended by Ord. 178, 12/1/2004)

§22-402. Land Requirements.

1. Proposed land developments shall be coordinated with existing nearby neighborhoods so that the community as a whole may develop harmoniously.

2. No land shall be developed for residential purposes unless all hazards to life, health, or property from flood, fire, and disease shall have been eliminated or unless the plans for the development shall provide adequate safeguard against such hazards.


§22-403. Lot Design.

1. General Lot Design Standards.

   A. Lot dimensions, areas and orientation shall be appropriate for the type of development and use contemplated, and sufficient to provide satisfactory space for off-street parking and other accessory uses.

   B. Insofar as practical, side lot lines shall be at right angles to straight street lines, and radial to curved street lines and cul-de-sac turnarounds.

   C. Lot lines shall follow municipal boundaries rather than cross them, in order to avoid jurisdictional problems.
§22-403 Township of East Vincent

D. The depth of residential lots shall be not less than one nor more than two and one-half percent times their width.

2. Lot Frontage Standards.
   
   A. All lots shall have direct access to a public street, or to an approved private street and shall have a frontage in accordance with zoning standards.
   
   B. Any proposed lots abutting an existing or proposed arterial or collector street in the Township shall be designed as reverse frontage lots having access to the street with a lower function. This requirement may be waived by the Board of Supervisors if, in its judgment: (1) the advantages to the Township of compliance with this standard are outweighed by the applicant's resulting inability to meet other requirements of this Chapter or the Zoning Ordinance [Chapter 27]; or (2) compliance would be unreasonable or impractical due to the size of the proposed development or configuration of the site.
   
   C. All residential lots using reverse frontage shall have a side or rear yard with a minimum depth of 75 feet, measured in the shortest distance from the proposed dwelling unit to the proposed or existing ultimate right of way, and shall, within such rear yard and immediately adjacent to the right of way, have a minimum planting screen easement of at least 10 feet in width, across which there shall be no right of vehicular access.

3. Building Setback Lines. The minimum building setback line shall be in accordance with the East Vincent Township Zoning Ordinance [Chapter 27] but may be placed deeper on a cul-de-sac lot in order to satisfy minimum lot width requirements where the side lot lines are not parallel to each other.

4. Interior Lots.

   A. No flag or interior lots are permitted.

5. Crosswalks.

   A. Crosswalks may be required by the Board of Supervisors to facilitate pedestrian circulation and to give access to community facilities such as schools, shopping centers, bus stops, open space, public parks or other similar facilities, where situations warrant concern for the safety and welfare of Township residents.
   
   B. Such crosswalks shall have a width of not less than 10 feet and a paved walk of not less than 4 feet.


§22-404. Monuments and Markers.

1. Monument Standards.

   A. Permanent stone or concrete monuments shall be accurately placed at the intersection of all lines forming angles and at changes in direction of lines in the boundary (perimeter) of the property being subdivided.
   
   B. All monuments shall be placed by a registered professional engineer or surveyor so that the scored point created by an indented cross or drill hole in the top of the monument shall coincide exactly with the point of intersection of the lines being monumented.
   
   C. Monuments shall be set with their top level with the finished grade of the
§22-404 Subdivision and Land Development

surrounding ground.

D. All streets shall be monumented on the right of way line at the following locations:

(1) At least one monument at each intersection.

(2) At changes in direction of street lines.

(3) At each end of each curved street line, (e.g., points of curvature and tangency); only one side of each street need be monumented.

(4) An intermediate monument wherever topographical or other conditions make it impossible to sight between two otherwise required monuments.

(5) At such other places along the line of streets as may be determined by the Township Engineer to be necessary so that any street may be readily defined in the future.

E. Utility pipeline rights of way shall be monumented at all property lines.

F. Common open space and community sewage disposal areas shall be monumented.

G. All monuments shall be shown on the plan of record and final plans.

2. Marker Standards.

A. Markers shall be accurately placed at all lot corners within a subdivision and shall be placed flush with the ground surface.

B. Markers shall consist of solid iron pipe or pins, with a minimum diameter of ¾ inch and shall have a minimum length of 30 inches.

(Ord. 138, 7/17/1996, §403; as amended by Ord. 178, 12/1/2004)

§22-405. General Street Standards.

1. The proposed pattern of streets shall be related to existing streets, to the Township plan of streets and to such Chester County and PennDOT road and highway plans as have been duly adopted in order to accomplish a smooth flow of traffic, to avoid poor sight distance, to avoid traffic congestion and to promote public convenience and safety.

2. Proposed street improvements shall also be designed to minimize negative impacts on the Township's natural, historic, and scenic resources consistent with its adopted Open Space, Recreation, and Environmental Resources Plan, or other community values consistent with its adopted Comprehensive Plan, while also providing reasonable roadway widths, grades, sight distances, adequate drainage, and usable lots.

3. Subdivision and land development applicants are strongly encouraged to employ innovative street design practices that help to reduce vehicle speeds in residential and commercial areas, prevent cut-through traffic within residential neighborhoods, promote safe pedestrian and bicycle traffic, and support a more walkable community, especially within the Township's LR, MR, and HR residential zoning districts, and its NC and GC commercial zoning districts.

4. Local streets shall be laid out so as to discourage through traffic, but provisions
for street connections into and from adjacent areas may be required.

5. Where a subdivision abuts or contains an existing or proposed major thoroughfare, the Board of Supervisors may require dedication of additional right of way specified hereinafter and marginal access streets, rear service alleys, reverse frontage lots, or such other treatment as will provide protection for abutting properties, reduction in the number of intersections with the major thoroughfare and separation of local and through traffic.

6. New half or partial streets shall not be permitted except where the street right of way proposed for dedication falls within more than one municipality, is oriented in such a manner to coincide with the municipal boundary, and is essential to reasonable subdivision of a tract in conformance with the other requirements and standards of this Chapter. Where such occurs, dedication of the remaining part of the street shall be secured by the applicant. Wherever a tract to be subdivided borders an existing half or partial street, the other part of the street shall be plotted within such tract. Where half or partial streets are proposed, the acceptance of final plans shall be conditioned upon the provision of guarantees providing for the construction or completion of such streets to Township standards. As an interim measure, a temporary turnaround must be provided for half or partial streets.

7. Dead-end streets shall be prohibited, except as stubs to permit future street extension into adjoining tracts, or when designed as cul-de-sacs and shall be dedicated in accordance with §22-606 of this Chapter.

8. Where streets and other public improvements continue into adjoining municipalities, evidence of compatibility of design, particularly with regard to street widths, shall be submitted to the Township. The applicant shall coordinate such design with overlapping municipalities to avoid abrupt changes in cartway width or in improvements provided.

9. Where a proposed subdivision abuts an existing subdivision having a dedicated residential street dead-ending at a common property line, the proposed subdivision shall make provision for extension of such dedicated residential street within the proposed subdivision for a distance of not less than one lot depth and connection with another street. In the design of a proposed subdivision, provision shall be made for continuation of the width, gradient, general alignment and direction of traffic flow of a collector street which dead-ends at a common property line or is proposed in the Township Comprehensive Plan whenever such proposal has been adopted by resolution of the Board of Supervisors.

10. Where lots are proposed to abut an existing street, additional right of way, paving and other street improvements shall be required for such an existing street to the extent deemed by the Board of Supervisors to be in the public interest.

11. If lots resulting from an original subdivision are large enough to permit resubdivision, or if a portion of the tract is not subdivided, adequate street rights of way to permit further subdivision shall be provided as necessary, to be no less than the rights of way then required for minor collector or local streets.

12. Unless clearly impractical, all lots on a residential subdivision shall have direct access only to a local street.

13. Any subdivisions involving five or more lots shall be required to provide for more than one public street connection, unless the specific circumstances of that
§22-405 Subdivision and Land Development

subdivision show that public safety concerns have been adequately addressed and that a modification or waiver is otherwise justified under §22-704 of this Chapter.


§22-406. Street Right of Way Widths.

1. The minimum right of way and cartway widths for all new streets in the Township shall be as follows:

<table>
<thead>
<tr>
<th>Street Function</th>
<th>Right of Way Width</th>
<th>Cartway Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial</td>
<td>100'</td>
<td>40'</td>
</tr>
<tr>
<td>Collector</td>
<td>80'</td>
<td>36'</td>
</tr>
<tr>
<td>Local</td>
<td>50'</td>
<td>20'</td>
</tr>
<tr>
<td>Private</td>
<td>50'</td>
<td>18'</td>
</tr>
<tr>
<td>Common Driveway</td>
<td>35'</td>
<td>25'</td>
</tr>
<tr>
<td>Private Driveway</td>
<td>14'</td>
<td>10'</td>
</tr>
</tbody>
</table>

2. Additional right-of-way and cartway widths may be required by the Township for the following purposes:
   A. To promote public safety and convenience.
   B. To provide parking space in commercial zoning districts and in areas of high-density residential development.
   C. To accommodate special topographic circumstances which may result in cut/fill slopes extending beyond the standard right of way in all circumstances to assure accessibility for maintenance operations.
   D. For collector and arterial streets, ultimate right of way in addition to dedicated right of way may be required to help implement long range circulation planning policies as adopted by the Township within its Comprehensive Plan.

3. Right of way of lesser width than prescribed in this Section shall not be permitted.

4. Vertical curbing in accordance with §22-419 of this Chapter shall be required for all streets, except for cul-de-sacs designed in accordance with §22-411 where mountable curb is permitted.

5. Applicants of subdivisions proposed to abut existing streets shall provide at least the minimum right-of-way widths for dedication to the Township or PennDOT, as applicable, for those streets in accordance with the provisions of this Section.

6. Where a proposed subdivision will abut an existing street of improper cartway or right-of-way width or alignment, the Township Supervisors shall require the dedication of land sufficient to widen the street or correct the alignment, and require the escrow of money where deemed necessary in order to improve said cartway.

7. The Township has the right to determine the location of the cartway within the public or private street right of way.

8. Cul-de-sac pavement width of a cartway (edge of curb to edge of curb) shall be
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a minimum of 16 feet (See §22-411).


In the case where lots created within a subdivision are large enough to accommodate either further subdivision, or a higher intensity of development, and thus may result in higher traffic levels, the Township may require that additional right of way be provided to permit the future development of a higher order street.


§22-408. Street Grades.

1. There shall be a minimum centerline grade of 1 percent. Centerline grades shall not exceed the following:

<table>
<thead>
<tr>
<th>Street Function</th>
<th>Maximum Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial</td>
<td>6 percent</td>
</tr>
<tr>
<td>Collector</td>
<td>8 percent</td>
</tr>
<tr>
<td>Local</td>
<td>10 percent</td>
</tr>
</tbody>
</table>

2. In the approach to an intersection, the street grade shall not exceed the following percentage for the classification of street indicated below. These approach grades shall extend for a minimum of 50 feet from the nearest right of way of the intersection street:

<table>
<thead>
<tr>
<th>Street Function</th>
<th>Maximum Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial</td>
<td>3 percent</td>
</tr>
<tr>
<td>Collector</td>
<td>4 percent</td>
</tr>
<tr>
<td>Local</td>
<td>4 percent</td>
</tr>
</tbody>
</table>

3. A minimum grade for cul-de-sac bulb areas shall be established so that curb grading shall not be less than 1 percent. The cul-de-sac turn-around, whether temporary or permanent, shall have a centerline grade that does not exceed 4 percent.

4. At all changes of street grades where the algebraic difference exceeds 1 percent, vertical curves shall be provided to permit the following minimum sight distances measured utilizing PennDOT methods:

<table>
<thead>
<tr>
<th>Street Function</th>
<th>Minimum Sight Distances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial Street</td>
<td>500 feet*</td>
</tr>
<tr>
<td>Collector Street</td>
<td>400 feet</td>
</tr>
<tr>
<td>Local Street</td>
<td>250 feet</td>
</tr>
</tbody>
</table>

* Shall be in accordance with minimum standards of the PennDOT but in no case less than 500 feet.

5. Under no circumstances shall maximum grades be permitted using the minimum curve radii.
§22-409. Street Alignment.

1. Whenever street lines are deflected in excess of 5 degrees, connection shall be made by horizontal curves.

2. To ensure adequate sight distance, minimum centerline radii for horizontal curves shall be as follows:
   A. Arterial Street. In accordance with minimum standards of PennDOT.
   B. Collector Street. 300 feet.
   C. Local Street. 150 feet.

3. For local streets proposed with a posted speed limit of 20 miles per hour or less, the minimum centerline radii may be reduced to 90 feet as a traffic calming measure, subject to Township Engineer approval.

4. A tangent of at least 100 feet shall be introduced between all horizontal curves on collector and arterial streets and between reverse curves on local streets. Sweeping curves of comparatively long radii are preferable to tangents connecting curves leading in the same direction.

5. Super elevation in accordance with PennDOT standards shall be required when curve radii are less than 600 feet on arterial and collector streets and less than 300 feet on local streets with a posted speed limit greater than 20 miles per hour.

§22-410. Street Intersections.

1. Right angle intersections shall be used whenever practicable, especially when minor residential streets empty into collector or arterial streets. There shall be no intersection angle of less than 60 degrees, or more than 120 degrees measured at the centerline.

2. No more than two streets shall cross at the same point.

3. Intersection spacing shall be based upon the types of roads involved and shall meet the standards contained in the Circulation Handbook, Chapter 4, “Design Element 33,” of the Chester County Planning Commission, as amended.

4. Streets entering from opposite sides of another street shall either be directly across from each other or offset by at least 200 feet on local and collector and 300 feet on arterial streets, measured from centerline to centerline.

5. Street intersections shall be rounded with tangential arcs at pavement edge (curb line) and right-of-way lines. Where two streets of different right-of-way widths intersect, the radii of curvature for the widest street shall apply.

<table>
<thead>
<tr>
<th>Type of Street</th>
<th>Minimum Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial</td>
<td>40'</td>
</tr>
<tr>
<td>Collector</td>
<td>30'</td>
</tr>
<tr>
<td>Local</td>
<td>20'</td>
</tr>
</tbody>
</table>
6. Clear sight triangles shall be provided at all public street intersections. Within such triangles, no vision obstructing object shall be permitted which obscures vision above the height of 30 inches and below 10 feet measured from the centerline grade of intersecting public streets. Such triangles shall be established from a distance of:

A. Seventy-five feet from the point of intersection of the centerlines, except that clear sight triangles shall be provided for all intersections with collector and arterial streets in accordance with PennDOT standards.

B. Where an intersection is controlled by a stop sign or traffic signal, the sight triangle shall be measured from a point in the center of the controlled or lesser street 25 feet back from the curb line of the uncontrolled or through street to the distance required above.

Such triangles shall be shown on the final subdivision plan to be recorded and the area within the triangle shall be deed restricted consistent with this provision. A draft copy of such deed restriction shall be supplied to the Township and forwarded to the Township's Solicitor for acceptance prior to final subdivision plan approval, and shall be recorded in final form with other required documents. Evidence of such recordation shall be provided to the Township with other final plan records, and placed in the Township's recorded subdivision file.

7. In designing street intersections, the following clear sight distance dimensions shall be used:

<table>
<thead>
<tr>
<th>Posted Speed of Intersected Street</th>
<th>Sight Distance*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop condition (all streets)</td>
<td>75'</td>
</tr>
<tr>
<td>25 mph</td>
<td>250'</td>
</tr>
<tr>
<td>35 mph</td>
<td>440'</td>
</tr>
<tr>
<td>45 mph</td>
<td>635'</td>
</tr>
<tr>
<td>55 mph</td>
<td>845'</td>
</tr>
</tbody>
</table>

*Measured from a point set back 15 feet from the intersected pavement edge on the street controlled by a stop sign or signal. The Board of Supervisors may allow modifications to the above standards upon recommendation of the Township Engineer, provided the applicant demonstrates the standards cannot be achieved and agrees to install traffic control devices to mitigate the lack of adequate sight distance.

8. Greater clear sight distance dimensions imposed by PennDOT for intersections with the Commonwealth's highway system shall supersede the above.

9. Whenever a subdivision is proposed to abut or contain an existing or proposed street with an ultimate right of way of 60 feet or more, the Township Planning Commission may recommend and the Board may require restriction of lot access to the arterial street by:

A. Provision of reverse frontage lots.

B. Provision of alleys along the rear of the abutting lots, together with
prohibition of private driveways intersecting the arterial streets.

C. Provision of marginal access streets, provided that the reserve strips establishing such marginal access streets shall be definitely placed within the jurisdiction of the Township under an agreement meeting the approval of the Township.

10. Except as specified above, reserve strips shall be prohibited.
11. Right-of-way lines shall approach an intersection 90 degrees from each other whenever practical and meet using a minimum radius of 30 feet.
12. Proposed street intersections shall follow a straight horizontal course for 100 feet.


1. A single access street shall not be approved wherever a through street is practical.
2. Unless future extension is clearly impractical and undesirable, the cul-de-sac turnaround right of way shall be placed adjacent to a property line, and right-of-way of the same width as the street shall be carried to the property line in such a way as to permit future extension of the street into the adjoining tract. The applicant shall have the burden of showing the impracticality of extending a street to a property line in order to justify a shorter street.
3. Any dead-end street for access to an adjoining property or because of authorized stage development shall be provided with a temporary, paved 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. Single access streets, permanently designed as such, shall not serve more than 20 lots or exceed 1,000 feet in length.
5. Single access streets, permanently designed as such, shall have a minimum length of 250 feet.
6. The length of cul-de-sac or single access street shall be measured from the edge of paving of the nearest through street to which the cul-de-sac street is connected, and to the center point of the cul-de-sac radii or centroid.
7. All cul-de-sac or single access streets, whether permanently or temporarily designed as such, shall be provided at the closed end with a paved turnaround. Permanent cul-de-sac streets shall be provided with a paved turn-around having a minimum outside diameter of 167 feet and a minimum inside diameter of 135 feet to each curb line and a minimum interior circular right-of-way diameter of 100 feet and having an outside minimum right-of-way diameter of 200 feet. The shape of the cul-de-sac turn-around may be oval or irregular in shape instead of circular with the following conditions:
   A. The minimum cul-de-sac island area within the road right-of-way center island is equal to that of a cul-de-sac turn-around having the minimum required diameter specified above.
   B. The minimum centerline radius of the cul-de-sac is not less than 75 feet.
Each side of the paved turn-around shall be provided with mountable cul-de-sac island curb. (See Appendix A-4 for cul-de-sac turn-around and rolled and special rolled cul-de-sac curb details.)

8. The maximum number of lots permitted to have frontage on a cul-de-sac turnaround that contains the minimum dimensions specified in subsection .6 is six. The number of lots permitted on a cul-de-sac turn-around can be increased by one lot for every additional 92 feet of property street line circumference that is in addition to the circumference resulting from a 20 foot diameter right of way. Each lot referred to above shall have the required minimum lot width at the required minimum front yard setback line.

9. An open center open space area shall be provided that is concentric with the cul-de-sac turn-around and shall have a 50 foot radius and may be modified as indicated in subsection .6.

10. PennDOT "One Way" directional signs shall be placed at the beginning and end of the cul-de-sac circle.

11. Cul-de-sac turn-arounds are exempt from the following provisions of this Chapter:
   A. Section 22-409.2 regarding minimum road centerline radius of 150 feet.
   B. Section 22-409.4 regarding the requirement for 100 feet tangent between reverse curves.
   C. Appendix A-1, "Curb Details," except for those required within the East Vincent Township cul-de-sac turn-around requirements.

12. The cul-de-sac turn-around center island shall be owned and maintained by a homeowners association. Snowplowing easements within the island shall be granted to the Township where the cul-de-sac is part of a public street system. A continuing offer of dedication shall be provided for dedication of the cul-de-sac turn-around center island to East Vincent Township. In the absence of a homeowners association, the cul-de-sac turn-around center island may be owned and maintained by East Vincent Township at the discretion of the Board of Supervisors.

13. Cul-de-sac turn-around islands shall be graded to have a mound or a depression with appropriate drainage, except where wooded and left in a natural condition. The mound shall be graded such that its highest elevation will be a minimum of 3 feet above the average elevation of the cul-de-sac turn-around cartway elevations as indicated in the Appendix, or as recommended by the Planning Commission and/or approved by the Board of Supervisors.

14. Where the turnaround right of way of a cul-de-sac street is placed adjacent to the tract boundary, a 50 foot right-of-way width shall be provided along the boundary line to permit dedication and extension of a street at full width in accordance with §22-606 of this Chapter, unless future expansion of a cul-de-sac street is clearly impractical or undesirable. The small triangles of land beyond the cul-de-sac to the boundary shall be so deeded that maintenance of these corners of land will be the responsibilities of the adjoining owners until the roadway is continued.


§22-412 Subdivision and Land Development

1. Deceleration or turning lanes may be required by the Township along existing and proposed streets whenever the Board determines such lanes are required to meet reasonable safety needs or as determined by a traffic impact study as outlined in §22-307.6.

2. Deceleration lanes shall be designed to the following standards:
   A. The lane shall have a minimum width of 12 feet, or in the case of intersections with State highways, such width as is required by the applicable regulations and standards of PennDOT.
   B. The lane shall provide the full required lane width for the entire length which shall be measured from the centerline of the intersecting road. In addition, there shall be a 75-foot taper provided at the beginning of the lane so that traffic can leave the main travel lane smoothly.
   C. The minimum lane length shall be as follows:

<table>
<thead>
<tr>
<th>Design Speed of Road</th>
<th>Taper</th>
<th>Minimum Deceleration Lane Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 mph</td>
<td>75'</td>
<td>165'</td>
</tr>
<tr>
<td>40 mph</td>
<td>75'</td>
<td>175'</td>
</tr>
<tr>
<td>50 mph</td>
<td>75'</td>
<td>300'</td>
</tr>
</tbody>
</table>

3. Acceleration lanes are required only when the need is indicated by a traffic impact study. The design shall be as per the recommendation of the Township Engineer. As necessary, a paved taper shall be provided for right hand turns.


§22-413 Innovative Street Design and Construction.

1. The Board of Supervisors, at its sole discretion, may modify the street design and construction standards and requirements of this Part under the following circumstances and so long as the safety of the Township's residents is not compromised:
   A. Where it can be demonstrated to the satisfaction of the Board that the resulting design and layout will more substantially protect critical environmental areas identified in the Township's Open Space, Recreation, and Environmental Resources Plan.
   B. For proposed neo-traditional development, or Traditional neighborhood developments (TNDs) as authorized by §706 of the Commonwealth's Municipalities Planning Code, 53 P.S. §10706, and as may be permitted by the Board in the future under the conditional use provisions of the East Vincent Township Zoning Ordinance [Chapter 27], that are human scale, walkable, and with moderate to high residential densities and a mixed use core. Applicants shall demonstrate that the proposed development minimizes traffic congestion and reduces the need for extensive road construction by reducing the number and length of automobile trips required to access everyday needs. Applicants seeking modifications pursuant to this subsection may be required to provide an initial draft of appropriate alternate street design and construction standards and conditions for consideration by the Board of Supervisors and its consultants.
C. Where the application of appropriate traffic calming principles is proposed to reduce vehicular speeds or prevent cut-through traffic for local residential streets, collector streets with predominately residential uses, and arterial roads within villages, TNDs, or commercial areas. Examples of traffic calming devices include:

   (1) Traffic circle or roundabout.
   (2) Speed hump.
   (3) Raised crosswalk.
   (4) Raised intersection.
   (5) Choker/neckdown.
   (6) Curb extension/bulb-out.
   (7) Chicane.
   (8) Traffic diverter.
   (9) Raised median island/pedestrian refuge.
   (10) Forced turn channelization.
   (11) Parking bay.
   (12) Pavement surface modification.
   (13) Speed activated signing.

Pennsylvania's Traffic Calming Handbook and ITE's Traffic Calming - State of the Practice, among other sources, shall be used for guidance in designing and proposing such measures for Township and PennDOT consideration.

2. The applicant shall be required to demonstrate to the Planning Commission and Board of Supervisors that the above development planning circumstances cannot be reasonably accommodated without the requested modifications, and that the modifications will minimize traffic congestion, infrastructure costs, and environmental degradation and/or for subsections .1.B, and .1.C, above, contribute to the continued viability of the Township's villages and other urbanizing lands.

3. In deciding to modify the requested ordinance provisions, the Board may consider the recommendations of its Township Engineer, Township Planner, Director of Roads, Parks, and Grounds, and Transportation Consultant. The applicant shall be responsible for obtaining PennDOT acceptance of any street design or construction variation requested under this Section where applicable.


§22-414. Lighting.

1. Purposes:

   A. To require and set minimum standards for outdoor lighting to provide lighting in outdoor places where public health, safety and welfare are potential concerns.

   B. To protect drivers and pedestrians from the glare of nonvehicular light sources which may impair safe traverse.

   C. To protect neighbors and the night sky from nuisance glare and stray light.
from poorly aimed, placed, applied, maintained, or shielded light sources.

D. Do provide for outdoor lighting in a manner consistent with Township objectives to protect and retain rural and rural-suburban community character.

2. Applicability. Outdoor lighting shall be required wherever necessary to provide for public safety and personal security during hours of darkness where people assemble and traverse, including but not limited to the following land development situations: multi-family residential, commercial, industrial, public-recreational and institutional.

3. Lighting Criteria.

A. Illumination Levels. All lighting shall have intensities and uniformity ratios in accordance with the current recommended practices of the Illuminating Engineering Society of North America (IESNA) as contained in the “IESNA Lighting Handbook,” as amended from time to time, including but not limited to the following examples:

<table>
<thead>
<tr>
<th>Use/Task</th>
<th>Maintained Footcandles</th>
<th>Uniformity, Average: Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streets:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Commercial</td>
<td>0.9 Avg.</td>
<td>6:1</td>
</tr>
<tr>
<td>Residential</td>
<td>0.4 Avg.</td>
<td>6:1</td>
</tr>
<tr>
<td>Parking: Multifamily Residential</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low vehicular/pedestrian activity</td>
<td>0.2 Min.</td>
<td>4:1</td>
</tr>
<tr>
<td>Medium vehicular/pedestrian activity</td>
<td>0.6 Min.</td>
<td>4:1</td>
</tr>
<tr>
<td>Parking: Industrial/Commercial/Institutional/Municipal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High activity, e.g., regional shopping, fast food, major event venues</td>
<td>0.9 Min.</td>
<td>4:1</td>
</tr>
<tr>
<td>Medium activity, e.g. community shopping, office parks, hospitals, commuter lots, cultural/civic/recreational events</td>
<td>0.6 Min.</td>
<td>4:1</td>
</tr>
<tr>
<td>Low activity, e.g., neighborhood shopping, industrial employment, schools, churches</td>
<td>0.2 Min.</td>
<td>4:1</td>
</tr>
<tr>
<td>Sidewalks</td>
<td>0.5 Avg.</td>
<td>5:1</td>
</tr>
<tr>
<td>Building Entrances, commercial, industrial, institutional</td>
<td>5.0 Avg.</td>
<td>NA</td>
</tr>
</tbody>
</table>

Notes: 1) Illumination levels are maintained horizontal footcandles on the task, e.g., pavement or area surface; 2) Uniformity ratios dictate that average luminance values shall not exceed minimum values by more than the product of the minimum value and the specified ratio, e.g., for commercial parking high activity, the average footcandles shall not be in excess of 3.6 (0.9 x 4).

B. Lighting Fixture Design.

(1) Fixtures shall be of a type and design appropriate to the specific lighting application.
(2) For lighting horizontal tasks such as roadways, sidewalks, entrances and parking areas, fixtures shall meet IESNA "full-cutoff" criteria (no light output emitted above 90 degrees at any lateral angle around the fixture).

(3) The use of floodlighting, spotlighting, wall-mounted fixtures, decorative globes and spheres and other fixtures not meeting IESNA "full-cutoff" criteria, shall be permitted only with the approval of the Township, in consideration of the retention of surrounding neighborhood character and achievement of acceptable glare control.

(4) Where requested by the Township, all fixtures shall be equipped with or be modified to incorporate light directing and/or shielding devices such as shields, visors, starts or hoods to redirect offending light distribution and/or reduce direct or reflected glare.

(5) For residential applications, omni-directional fixtures, e.g., post top, wall bracket, wallpack, globe and sphere shall have a cumulative lamp output per fixture not to exceed 1700 lumens.

(6) NEMA-head fixtures, a.k.a. "barn lights" or "dusk-to-dawn lights," shall not be permitted where they intrude into other uses, unless fitted with a reflector to render them full cutoff.

(7) Theme lighting, as a supplement to regular site lighting, shall be permitted subject to approval by the Township. Theme lights shall have acceptable shielding and lamp-hiding qualities to be of low brightness, or lamped with the lowest possible wattage bulb so as not to produce distracting and potentially hazardous glare at night.

C. Control of Glare.

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

(2) All outdoor lighting fixtures shall be shielded in such a manner that the edge of the shield shall be level with or below the light source, so that direct light emitted above the horizontal is eliminated.

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

(4) Unless otherwise permitted or limited by the Township, (e.g., for safety or security or all-night operations) lighting for commercial, industrial, public recreational, and institutional applications shall be controlled by automatic switching devices such as time clocks or combination motion detectors and photocells, to permit extinguishing outdoor lighting fixtures between 11 p.m. and dawn, to mitigate glare and sky-lighting consequences.

(5) Lighting proposed for use after 11 p.m., or after the normal hours of operation for commercial, industrial, or institutional applications shall be reduced by 75 percent from such time until sunrise, unless supporting a
specific purpose or safety requirement and approved by the Township.

(6) All illumination for advertising signs, buildings and/or surrounding landscapes for decorative, advertising, or aesthetic purposes between 11 p.m. and sunrise shall be by permit, except that such lighting situated on the premises of a commercial establishment may remain illuminated while the establishment is actually open for business, and until 1 hour after closing. All signs shall meet the standards of §27-1717 of the East Vincent Township Zoning Ordinance [Chapter 27].

(7) Light output for flagpole lighting may not cumulatively exceed 10,000 lumens.

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

(9) The intensity of illumination projected onto a residential use from another property shall not exceed 0.1 vertical foot-candle measured from line-of-sight at the property line.

(10) Externally illuminated signs and billboards, where permitted, shall be lighted by fixtures mounted at the top of the sign and aimed downward. Such fixtures shall be automatically extinguished between the hours of 11 p.m. and sunrise except as specifically approved by the Township to illuminate necessary directional information.

(11) Directional fixtures for such applications as facade, fountain feature and landscape illumination shall be aimed so as not to project their output beyond the objects intended to be illuminated, and shall be extinguished between the hours of 11 p.m. and sunrise, unless permitted by the Township.

(12) Canopy lighting, e.g., for service stations, fuel dispensing facilities, and bank drive-ups, shall be accomplished using flat-lens full-cutoff down lighting fixtures, shielded in such a manner that the edge of the fixture shield shall be level with or below the light source envelope.

(13) The use of white strobe lighting for tall structures such as smokestacks, chimneys and radio/communications/television towers is prohibited, except as otherwise required under Federal Aviation Administration regulations.

D. Installation.

(1) For new and replacement installations, electrical feeds for fixtures mounted on poles shall be run underground, not overhead.

(2) Poles supporting lighting fixtures for the illumination of parking areas and located directly behind parking spaces, shall be placed a minimum of 5 feet outside paved area, or on concrete pedestals at least 30 inches high above the pavement, or suitably protected from potential vehicular impact by other means approved by the Township.

(3) Except as specifically approved by the Township, fixtures meeting IESNA "cutoff" criteria shall not be mounted in excess of 20 feet above finished
grade at the location being illuminated by the fixture. Fixtures not meeting IESNA "cutoff" criteria shall not be mounted in excess of 16 feet above finished grade at the location being illuminated by the fixture. Artificial elevation of the grade at the base of the light fixture shall be prohibited.

4. **Plan Submission.**

   A. Lighting plans shall be submitted by the applicant to the Township for review and approval with any preliminary or final subdivision or land development plan submission and shall include:

   (1) A site plan, complete with all structures, parking spaces, building entrances, traffic areas (both vehicular and pedestrian), vegetation that might interfere with lighting, and adjacent use that might be adversely impacted by the lighting, containing a layout of all proposed fixtures by location and type.

   (2) Isofootcandle plots for individual fixture installations, or 10 foot x 10 foot illuminance-grid plots for multi-fixture installations, which demonstrate compliance with the intensity and uniformity requirements as set forth in this Chapter.

   (3) Description of the proposed equipment including, but not limited to, fixture catalog cuts, photometrics, glare reduction devices, lamps, on/off control devices, mounting heights, pole foundation details, and mounting methods.

   B. When requested by the Township, the applicant shall also submit a visual impact plan that demonstrates appropriate steps have been taken to mitigate on-site and off-site glare and to provide for lighting in a manner consistent with Township objectives to retain rural and rural-suburban community character.

   C. The Township may seek the review of the applicant’s lighting plan from a qualified engineering or lighting consultant, including the preparation of a written report, with all review and/or meeting fees to be the responsibility of the applicant.

   D. The following note shall be placed on all lighting plans: “Post-approval alterations to lighting plans or intended substitutions for approved lighting equipment shall be submitted to the Township for review and approval prior to installation.”

5. **Post-Installation Inspection And Compliance.**

   A. The following note shall be placed on all approved lighting plans: “The Township reserves the right to conduct post-installation nighttime inspections to verify compliance with the commitments made on the approved lighting plan, and if appropriate, to require remedial action at no expense to the Township.”

   B. The Township may enforce compliance with approved lighting plans as provided in §27-1715 of the East Vincent Township Zoning Ordinance [Chapter 27].

6. **Street Lighting.** Street lighting fixtures in conformance with the requirements and standards of this Section shall be installed and placed at the discretion of the Township at the following locations, but not limited thereto:

   A. At the intersection of public roads with entrance roads to the proposed development.

   B. At intersections involving proposed public or non-public major thoroughfare
road within the proposed development.

7. Modifications.

A. For any use or activity subject to subdivision or land development review, modification(s) to the provisions of this Section may be requested, which modification(s) may be granted at the discretion of the Board of Supervisors pursuant to the provisions of this Chapter.


§22-415. Street Construction.

All materials entering into the construction of streets and the methods of construction and drainage shall be in accordance with the applicable requirements of Pennsylvania Department of Transportation Specifications, Publication 408, latest revision thereof, and shall be supplied by vendors approved by the Pennsylvania Department of Transportation for the supply of such materials. Cross-sections shall be as described in Table A and detailed in Appendix A, Sheet SD-1. Inspection of materials and construction methods shall be as approved in §22-602 of this Chapter.

A. Street Design.

(1) Thickness of base and paving for new Township streets shall meet the minimum requirements outlined in Table A.

<table>
<thead>
<tr>
<th>TABLE A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base Course</strong></td>
</tr>
<tr>
<td>• 12 inches compacted, crushed, aggregate base course (installed in two layers each being six inches thick after compaction)</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>• BCBC (bituminous concrete base course) 7 inches compacted depth</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>• 6 inches of 2A stone overlaid by 5 inches of BCBC</td>
</tr>
<tr>
<td><strong>Bituminous Binder Course</strong></td>
</tr>
<tr>
<td>• 2 inches 1D-2</td>
</tr>
<tr>
<td><strong>Bituminous Wearing Course</strong></td>
</tr>
<tr>
<td>• 1 percent inches ID-2, SRL-H</td>
</tr>
</tbody>
</table>

Base Course Notes: The base course shall consist of stone and screenings application meeting with the requirements of PennDOT Publication 408, as amended. Every attempt shall be made to completely fill voids with fines, and to expose ½ inch to ¾ inch of the uppermost layer of stone over a minimum of 75 percent of the road surface. No large areas of solid screenings or loose stone areas shall be permitted.

The application of bituminous concrete base course materials shall be in accordance with PennDOT Publication 70 and Publication 408, both as amended.

Due to field conditions, as determined by the Township Engineer during construction, it may be
necessary to place 4 inches of special subgrade underneath the base course.

2. Paving design is based on overall soil conditions in the Township. The Board may require additional paving, base or subbase materials where soil types are inferior, wet or otherwise unsuitable as indicated by the Soil Survey of Chester and Delaware Counties, Pennsylvania prepared by the U.S. Soil Conservation Service or where, in the opinion of the Board, such conditions exist.

B. Subgrade.

1. The area within the limits of the proposed road surface shall be shaped to conform to the line, grade and cross-section of the proposed road.

2. Remove or stabilize all unsuitable subgrade materials.

3. Wet or swampy areas shall be permanently drained and stabilized.

4. Fills shall be made with suitable materials approved by the Township Engineer and thoroughly compacted for full width in uniform layers of not more than 8 inches thick. No more than two 8-inch layers of fill shall be laid or placed between inspections by the Township Engineer.

5. The subgrade shall be thoroughly compacted by rolling with a minimum 10-ton three-wheel roller. Equivalent vibratory, sheep's foot or rubber tired rollers may be used at the discretion of the Township Engineer. Subgrade shall be compacted tight and dry, to 95 percent compaction at optimum moisture, and shall not be soft and spongy under the roller. Compaction of the subgrade shall extend the full width of the cartway, including the width to be occupied by shoulders.

6. In fill areas over 3 feet thick, compaction tests are required in each 8-inch layer at 150-foot intervals. The tests must be performed by a certified testing laboratory and results submitted to the Township Engineer. All compaction must be 95 percent compaction at optimum moisture. Any layer not coming up to standard will be removed or rerolled until suitable compaction is obtained.

C. Paving.

1. Paving and base thickness and materials shall be as specified in paragraph A of this Section.

2. The subbase course where required shall be installed and compacted in accordance with Pennsylvania Department of Transportation specifications and shall extend a distance of 7 inches for BCBC base course and 12 inches for crushed aggregate base course on all streets beyond the paving line when curbs are not to be installed.

3. Bituminous base, binder and surface courses shall be laid to the specified thickness measured, after compaction. All bituminous courses shall be laid with a mechanical bituminous paver in accordance with specifications of the Pennsylvania Department of Transportation Specifications, Publication 408, latest edition thereof.

4. Crown board and straight edge shall be used for checking street construction. Maximum tolerance shall not exceed ¼ inch in the finished
§22-415 Subdivision and Land Development §22-417

(5) Delivery slips for all material deliveries shall be furnished to the Board.

(6) Failure to adhere to the above specifications shall give the Board cause to refuse to accept streets for dedication.

(7) All wearing courses shall be sealed to the concrete curb with a solid 1-foot wide Class BM-1 bituminous gutter seal.

D. Grading and Shoulders.

(1) Roadways shall be graded for the full width of the right of way on each side, unless modified by the Board of Supervisors to permit less grading to avoid disturbance of significant trees, historic structures, or other significant natural or cultural resources. Shoulders or berm areas, including planting strips behind curbs, shall be graded with a minimum slope of ½ inch per foot and a maximum slope of 1 inch per foot. Beyond the limits of this grading, banks shall be sloped to prevent erosion but this slope shall conform to details included in Appendix A. All unpaved areas between the street line and the curb or shoulders (as the case may be) shall be covered with not less than 4 inches of topsoil, fertilized and seeded in manner and with materials approved by the Board of Supervisors.

(2) Seeding. All unpaved areas between the street line and the curb or shoulders (as the case may be) shall be covered with not less than 4 inches of topsoil, fertilized, seeded, and mulched in a manner and materials approved by the Board of Supervisors.

E. Underdrain. Underdrains may be required by the Board of Supervisors or Township Engineer to mitigate wet road conditions.


§22-416. Alleys.

1. Alleys are recommended for residential developments with lots less than 50 feet wide and shall have a minimum cartway width of 12 feet and a minimum right-of-way width of 20 feet.

2. In commercial developments without expressly designed loading areas, the Board of Supervisors may require alleys with minimum cartway widths of 20 feet and minimum right-of-way widths of 30 feet, and which otherwise conform to the standards for public streets provided in this Chapter.


§22-417. Private Streets.

The following standards shall apply to private streets:

A. No more than five residential lots shall be served by a private street. Private streets are prohibited on non-residential lots. In the case where lots served by a private street are capable of further subdivision, and therefore, having the potential to exceed the five lot limit, the private street shall be designed in accordance with public street standards for a local street.
All private streets shall be constructed with a 20-foot wide base course consisting of a minimum of 8 inches of crushed aggregate base course (PennDOT Publication 408 specifications) placed on a prepared and compacted dry subgrade. The base course shall be shaped and rolled to provide a 2 inch crown or sloped laterally to facilitate drainage and shall be covered with 1 1/2 inches of ID-2 compacted binder course followed by 1 inch of ID-2 compacted wearing course, a minimum of 18 feet wide. A 50-foot right-of-way is required. A shoulder area, 10 feet in width, shall be constructed along both sides of the paved cartway. Drainage swales as approved by the Township Engineer may be required on each side of the street.

C. The requirements of §22-310.D regarding a street agreement shall be met. As a condition to final plan approval, an agreement providing for the maintenance, repair, construction and reconstruction, including drainage facility maintenance and snowplowing of private streets, shall be submitted to and approved by the Township. The agreement shall also contain conditions under which the street may later be offered for dedication to the Township. The conditions shall state that the street must conform to the Township public street specifications or that the owners of the abutting lots shall include with the offer of dedication sufficient money, as estimated by the Township Engineer, to bring the street into conformance with Township specifications. The deed for each new or existing property fronting on the private street shall reference the agreement.

D. Any subdivision or land development application proposing six or more single family home lots served by an internal street shall be designed in accordance with Township public street standards. In planned residential developments and commercial and industrial developments, the Board shall designate those streets to be designed and constructed as Township streets.

E. The turnaround shall be provided with an all-weather surface to be approved by the Board of Supervisors and Planning Commission and shall be constructed in accordance with §22-411.

§22-418. Private Driveways.

1. General.

A. Private driveways shall be provided for all residences and the construction shall be in accordance with the regulations of this Section in order to provide safe access to Township and State roads, to eliminate problems of stormwater runoff, and to assure sufficient area for and access to off-street parking.

B. Any person, partnership or corporation wishing to construct or alter a driveway onto a public right of way shall first make application to the Code Enforcement Officer or other designated official of the Township, present plans and obtain a permit for said construction.

C. No building permit will be issued without first obtaining a permit to construct such driveway.

D. No more than two lots shall be served by a private driveway in cases of common ownership or shared use of a private driveway. As a condition to final plan approval, an agreement providing for the maintenance, repair, construction and
reconstruction, including drainage facility maintenance and snowplowing of the common driveway, shall be submitted to and approved by the Township, and shall be recorded against the lots in question.

E. A common driveway, as defined by this Chapter, shall be of sufficient width, in the opinion of the Township Engineer, to provide safe passage of two vehicles or shall have a sufficient number of pullover areas to provide safe passage of two vehicles.

F. Private driveways, whether individual or common, on corner lots shall be located at least 50 feet for local roads and 100 feet for collector and arterial roads from the point of a four-way intersection of the nearest street right of way lines. These limitations shall not apply to private driveways on corner lots proposed near "T" or three-way intersections. For any lots other than corner lots, driveways shall be located at least 100 feet from the point of intersection of the nearest street right of way lines, except as otherwise recommended to the Board of Supervisors by the Township Engineer.

G. No driveway shall be situated within 5 feet of a side or rear property line, except where common driveways are utilized or where otherwise approved as a condition of approval for development utilizing the open space design option in accordance with the East Vincent Township Zoning Ordinance [Chapter 27]. [Ord. 163]

H. Private driveways, accessways and other means of interior circulation serving multi-family residential, institutional, commercial or industrial properties shall conform to the provisions of §22-430. To the extent application of the provisions of §22-430 is inconsistent with the provisions of this Section, the provisions of §22-430 shall apply. [Ord. 163]

2. Plans. A plan shall be submitted to the Township with each driveway application which shall include at least the following:

   A. Site plan of that portion of the proposed driveway within 25 feet of public right of way and 25 feet to each side of centerline of the driveway.
   
   B. Adjacent driveways or streets within 100 feet.
   
   C. Profile of driveway with existing and proposed grading within the area of the site plan and existing or proposed public road.

3. Construction.

   A. Grade. The driveway within the legal right of way of the public road, or for a distance of at least 20 feet from the edge of the cartway, whichever is greater, shall not have a grade in excess of 4 percent. That portion of the driveway that extends from the legal right of way for a distance of 50 feet shall not have a grade exceeding 10 percent.

   B. Material. The driveway shall be constructed with a base of stone compacted to 8 inches and a surface of a minimum of 1½ inch ID-2 bituminous wearing course or a 5 inch bituminous concrete base course (BCBC) with a 1½ inch bituminous surface course ID-2. Driveway material standards shall apply to driveways for a minimum of 20 feet from the edge of cartway or curb.

   C. Width. No driveway shall be less than 10 feet wide within the limits of the legal right of way.
D. **Clear Sight Distance.** No permit shall be issued for any driveway, nor shall any driveway be constructed whereby the sight distance does not meet the requirements of PennDOT Regulations, 67 Pa.Code, Chapter 441, "Access to and Occupancy of Highways by Driveways and Local Roads,” as amended.

E. A minimum of one parking space within the street right of way, but off the paved cartway, shall be provided where the grade of the driveway at any point exceeds 8 percent. Such off street parking space shall be a minimum of 9 feet by 18 feet and shall be on a grade not exceeding 8 percent.

4. **Drainage.**

A. The gutterline, wherever possible, shall be maintained as a paved swale. It shall have a maximum depth of 4 inches and a minimum width of 24 inches.

B. A pipe may only be placed under the drive entrances when approved by the Township. The condition where a pipe will be accepted will be governed by the gutter depth on each side of the drive. The minimum pipe allowed for a driveway is 15 inches in diameter.

C. Driveways shall be graded so that, wherever possible, surface drainage will be discharged to the owner's property; otherwise, adequately sized pipes, inlets, and/or headwalls shall be installed and gutter improvements shall be made to direct surface drainage into the road drainage system and not onto the paving of the intersecting road.

5. **Escrow Prior to Building Permit and Withholding of Use and Occupancy Permit.**

A. In order to assure compliance with the requirements of subsections .3 and .4 above, it shall be a condition precedent to issuance of a building permit for the premises that the applicant or property owner shall have deposited with the Township financial security (in cash or as otherwise permitted by the Pennsylvania Municipalities Planning Code, 53 P.S. §10101 et seq., for completion of public improvements and in an amount equal to 110 percent of the cost of completion) to assure completion of paving of the first 20 feet of driveway either before the building or structure is occupied, or when weather permits. If the property owner fails to complete such paving before the building or structure is occupied, or if weather does not permit completion at that time, when weather conditions are satisfactory to allow completion, the Township shall have the right (but not the obligation) to complete the required work using the financial security for such purpose. If the applicant for building permit or property owner completes the paving work as required above, the financial security shall be released to him without interest upon such completion.

B. In addition to any other remedies provided herein, the Township may withhold an occupancy permit for any new residence, building or other structure on a property which is not in compliance with the requirements of subsections .3 and .4 above (subject to the Township's right to defer compliance until weather conditions permit the required paving, provided that the financial security described in the above paragraph has been deposited with Township).

§22-419  Curbs.

1. Curbs shall be installed along both sides of all proposed public streets and shall be the vertical type, except as provided in §22-411 for cul-de-sacs or single-ended streets. No curb is required for private streets.

2. Curbs shall be provided on all new parking areas located within a land development.

3. All curbs shall conform to specifications for Class A concrete, as specified by PennDOT, with a minimum compressive strength of 3,000 psi after 28 days.

4. Curbs and drainage swales shall be constructed to the dimensions shown in Appendix A.

5. Curb constructing methods shall be in accordance with PennDOT Publication 408.

6. When curved curb joins with tangent curb at curb returns on sharp curves where a curb is jointed to an inlet and elsewhere as directed, there shall be embedded in the concrete two #4 reinforcing bars 24 inches long. These bars shall extend 12 inches into the curb on each side of the joint. The portion of the bar extending into the tangent curb shall be rendered bondless by a coating of approved material and enclosed in part in approved tubes or caps which will provide a ½-inch minimum positive clearance pocket. The top surface of the curb shall be finished true to line and grade in a smooth, neat and even manner by means of wood floats, and the edge of the faces and back shall be rounded to a radius of not more than ¾ inch.

7. The depressed curb at driveways shall be no higher than 1½ inch above the street surface. The length of this depressed curb shall not exceed 35 feet without a safety island. This safety island shall not be less than 15 feet in length.

8. Excavations shall be made to the required depth, and the material upon which the curb is to be constructed shall be compacted to a firm, even surface. Where the subgrade is soft or spongy, as determined by the Township Engineer, a layer of crushed stone not less than 4 inches thick shall be placed under the curb, and the use of "U" drains or sub-drains may also be required by the Township Engineer.

9. Where it is necessary to replace existing vertical curbs with depressed curbing, two 10-foot long sections of existing curb shall be removed down to the subgrade without disturbing the adjacent cartway paving. Any portions of the cartway disturbed during curbing removal or installation will be repaired to new condition.

10. Any depressed curb sections that are unused when a development or phase of a development is completed, shall be completely removed and replaced with full section upright curbing to line and grade of adjacent curbing. Forming and pouring vertical curbing on top of an existing curb depression will not be permitted.


§22-420  Street and Traffic Control Signs.

1. Proposed streets which are obviously in alignment with already existing and named streets shall bear the names of the existing streets.

2. In no case shall the name of a proposed street duplicate, or be similar to an existing street name in the Township and in the postal district, irrespective of the use
of the suffix street, road, avenue, boulevard, driveway, place, court, lane, etc.

3. All street names shall be subject to the recommendation of the Township Planning Commission, coordinated with the Office of the County Emergency Services, and the approval of the Board of Supervisors.

4. Street name signs shall be installed at all street intersections, and shall include cross-street names. The design and placement of such signs shall be subject to approval by the Township Engineer.

5. Applicants shall be responsible for the installation of traffic control and street signs for any new subdivision, or any land development where frontage or other public street improvements are proposed, including any related traffic study, and any related Township ordinance development, advertising, and publication costs, prior to the Township's acceptance of any public street dedication, or release of any improvement bond.

6. Traffic control signs shall be shown on final plans for all streets. Signs shall meet PennDOT standards. The Township may require additional signs prior to accepting dedication of a street, such as “No Parking during Snow Emergencies” signs.

7. Traffic signals shall contain emergency pre-emption equipment which is compatible with local fire department and emergency vehicle equipment.

(Ord. 138, 7/17/1996, §419; as amended by Ord. 178, 12/1/2004)

§22-421. Sidewalks.

1. Paved sidewalks shall be provided on all collector streets within a subdivision, on all streets within 1,000 feet of and leading to a school, on all commercial streets, and at such other locations deemed by the Board to be necessary for the safety and convenience of the public.

2. Sidewalks shall be required on both sides of new streets in residential subdivisions or land developments. Sidewalks shall be required on only one side of the street in subdivisions or land developments if there are residential lots on only one side of the street.

3. Sidewalks shall be provided along all new streets and parking areas located in non-residential subdivisions or land developments unless it can be shown, to the satisfaction of the Board, that pedestrian traffic does not follow or mix with vehicular traffic, in which case, both sidewalks and curbs may not be required.

4. Sidewalks shall be located within the street right of way a minimum of one foot from the right of way line. Generally, a grass planting strip should be provided between the curb and sidewalk. Handicap ramps shall be provided at all intersections.

5. Maintenance of sidewalks is the responsibility of the owner of the property directly adjacent to the sidewalk. Sidewalks which are damaged or deteriorating and present a hazard to public safety as determined by the Township Code Enforcement Officer shall be repaired at the owner's expense.

6. All sidewalks shall conform to specifications for Class A concrete, as specified by PennDOT, with a minimum compression strength of 3,500 psi after 28 days.

7. Sidewalks shall be a minimum of 4 feet wide except along collector and arterial streets and adjacent to shopping centers, schools, recreational areas and other community facilities, where they shall be a minimum of 5 feet wide. Sidewalks which
§22-421 Subdivision and Land Development

directly abut a curb shall be a minimum of 6 feet wide. Sidewalks may need up to an additional 2 feet in width if they directly abut fences, walls, and buildings.

8. Where sidewalks abut the curb and building, wall or other permanent structure, a premolded expansion joint ¼ inch in thickness shall be placed between curb and the sidewalk for the full length of such structure. Sidewalks shall be constructed in separate slabs 30 feet in length except for closures. The slabs between expansion joints shall be divided into blocks 5 feet in length by scoring transversely.

9. Sidewalks shall have a minimum thickness of 4 inches when used solely for pedestrian traffic and a minimum thickness of 6 inches at all residential driveways; 7 inches for commercial driveways, and 8 inches for industrial driveways. Welded wire fabric (6/6-10/10) shall be provided in all sidewalks constructed at driveways.

10. Excavation shall be made to the required depth and a layer of 4-inch base of 2A aggregate shall be placed and thoroughly compacted prior to laying the sidewalks when used solely for pedestrian traffic and a minimum thickness of a 6-inch base at all driveways.


§22-422. Landscape Design, Installation, and Maintenance Standards.

1. All required landscaping and screening shall be installed and maintained in accordance with a landscape plan, prepared by a registered landscape architect, and approved by the Township. The landscape plan shall depict all proposed plantings required to compliment, screen or accentuate buildings, roads, parking areas, sidewalks, walkways, sitting areas, service or maintenance structures, courtyards, and other site features and/or structures. Plant sizes, spacing, and types shall be in accordance with this Section.

2. All required landscape plans shall be submitted at the time when all other required applications and/or plans are submitted (i.e., preliminary subdivision or land development plan submission, conditional use approval application where applicable, etc.). Landscape plans shall be based on and reflect the following objectives:

   A. A design which is responsive to the functional and aesthetic characteristics of the tract or lot, and existing and proposed principal and accessory buildings and other structures.

   B. A design which respects/incorporates existing topography, landscape, and other natural features such as hedgerows and woodlands.

   C. A design which demonstrates an effective proposal for screening the proposed use or activity from the adjoining properties.

   D. A design which creates visual interest for the users and/or residents of the proposed project, and enhances views.

   E. A design which promotes effective management of stormwater to minimize soil erosion and sedimentation and creates opportunities for infiltration to the groundwater system.

   F. The use of plant material which is acclimated to local conditions; located and spaced to achieve required screening, compatible groupings and other effective purposes; and not injurious of persons or pedestrians and vehicular circulation.

3. Applicability. The requirements of this Section shall apply to the following
situations:

A. **Screening.** Any activities for which a landscape buffer or screening is required by this Chapter or the East Vincent Township Zoning Ordinance [Chapter 27] or would be imposed by the Zoning Hearing Board or by the Board of Supervisors as a condition of approval. The Board of Supervisors may require screening or buffering for the purpose of providing privacy for dwellings, separating incompatible land uses, shielding unattractive structures from view, noise abatement or reduction in light or glare.

B. **Perimeter Buffer.**

1. The entire perimeter of any tract undergoing subdivision or land development for other than agricultural or open space purposes shall be provided with a planting strip a minimum of 20 feet in width which will act as an effective screen separating uses. The planting strip may be included in private yard space or common open space or a combination thereof, and shall be designed and installed in compliance with the requirements of this Section. The Board of Supervisors may reduce the perimeter buffer requirement where any tract abuts similar uses such that the Board agrees that screening is not necessary or where applicant can demonstrate to the satisfaction of the Board that existing vegetation, structural and/or topographic conditions will conceal, on a year-round basis, development from view from adjacent tracts.

2. Any development within the GI or PO Zoning Districts, as established by the East Vincent Township Zoning Ordinance [Chapter 27], shall further establish a continuous landscaped buffer a minimum of 50 feet in width measured from the lot or right-of-way line for the full length of any public street frontage. Landscaping within this buffer shall be designed and installed in compliance with the requirements of this Section.

3. Required perimeter buffer areas may include stormwater management facilities when the Township is satisfied that alternative locations for such facilities are not practicable and when such facilities are landscaped in a manner compatible with adjoining buffer areas.

4. Required perimeter buffer areas shall be restricted from future development by an easement, and maintenance of the buffer and any improvements therein shall be the obligation of the property owner.

5. Any part or portion of a lot or tract which is not occupied by buildings nor used for loading and parking spaces and aisles, sidewalks and designated storage areas shall be left in its natural state or shall be landscaped according to the landscape plan, prepared and approved as part of applicable subdivision/land development plan(s). A replacement program for non-surviving plants shall be included as part of any required landscape plan(s).

4. **Minimum Planting Standards.** All required landscaping shall meet the minimum planting standards, criteria for selection of plant material, and design standards of this Section.

A. The total number of plantings required shall be no less than the total calculated from all columns in the following table and shall be in addition to any required replacement plantings due to woodland disturbance. The total number of required plantings may be dispersed throughout the tract to meet the objectives of
this Section subject to the approval of the Township Engineer. Additional plantings may be provided.

<table>
<thead>
<tr>
<th>Improvement/Conditions</th>
<th>Deciduous Trees</th>
<th>Evergreen Trees</th>
<th>Shrubs</th>
</tr>
</thead>
<tbody>
<tr>
<td>per 1,000 sq. ft. gross building area, ground floor only</td>
<td>2</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>(building &quot;footprint&quot;)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>per 2,000 sq. ft., off street parking or loading area,</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>excluding driveways less than 18 ft. wide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>per 100 linear ft. of new and existing public or private</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>road frontage, measured on both sides where applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>per 100 linear ft. of existing tract boundary, where not</td>
<td>1</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>coincident with existing or proposed road frontage</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. Where applicant can demonstrate to the satisfaction of the Board of Supervisors that existing vegetation, structural and/or topographic conditions located within 100 feet of existing tract boundaries or within 100 feet of the cartway of existing or new roadway segments will conceal, on a year-round basis, adjacent development from view from such tract boundary or roadway segments, the linear footage of such tract boundary or roadway segments may be excluded from calculation of required plantings as above.

C. Where calculation of the minimum number of plantings required as above results in fractions of plants required, the minimum number of plants required shall be rounded up to the nearest whole number.

D. Plantings used to comply with the minimum number of plantings required as above shall be:

   (1) Deciduous trees - 2½ inch caliper, minimum.

   (2) Evergreen trees - 8 feet in height, minimum.

   (3) Shrubs - 24-30 inches in height, minimum.

Plantings and their measurement shall conform to the standards of the publication "American or U.S.A. Standard for Nursery Stock," ANSI or U.S.A.S. Z60.1 of the American Association of Nurserymen, as amended. All plant material used on the site shall have been grown within the same USDA hardiness zone as the site, shall be free of disease, and shall be nursery grown, unless it is determined by the Township that the transplanting of trees partially fulfills the requirements of this Section. At the discretion of the Board of Supervisors, plantings required as above, may be waived or reduced if applicant can demonstrate to the satisfaction of the Board that retaining existing plant material or other means of landscaping substantially achieves the objectives of this Section.

5. Landscape Design Standards.

   A. The minimum number of plantings shall be determined in accordance with subsection 4.A. above. Additional plantings may be provided to further the purposes of this Section. Plantings provided in excess of the minimum required need not comply with the dimensional standards herein. Use of linear measurements for purposes of calculation is not intended to specify linear arrangement of

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plantings. Groupings of plantings are encouraged in lieu of linear arrangement, consistent with the provisions of this Section.

B. Consistent with the terms of this Section, applicant shall plant trees and shrubs and make other landscape improvements (e.g., berms, fencing) as necessary to mitigate any adverse impacts, including visual impacts, which applicant’s proposed subdivision or land development will have on his property, adjoining properties, and the Township in general, and otherwise address landscape issues identified through review of the required plans.

C. Plantings and other landscape improvements shall be provided in arrangements and locations in response to specific site conditions and which best mitigate impacts of the applicant’s proposed land disturbance actions. The amount, density, and types of plantings in any given location shall be based upon physiographic features, feasibility of using native species, proximity to existing dwellings, compatibility of adjacent uses, nature of views into and across the subject site, and in consideration of privacy of neighboring residential development.

D. Plantings and other landscape improvements shall generally conform in design to that established or planned on adjoining lots or tracts where such has been approved by the Township, although unique elements may be introduced when determined by the Township to have an overall benefit to the landscape.

E. Except for post and rail or board fences 4 feet in height or less and stone landscape walls, no fences or walls shall be located within any required perimeter buffer along any public street or road. Fences and walls provided for security or access control purposes, and constructed of chain link or any solid material and/or exceeding four feet in height, may be located behind the perimeter buffer and shall be screened from view in accordance with the provisions of this Section.

F. Where specific need(s) for visual screening or privacy have been identified, evergreen plantings shall be provided at least 8 feet in height, or combined with berms as provided below to achieve an effective height of 8 feet, and planted at intervals no less than 8 feet on center. Where the Township agrees that an eventual screen (in 3-5 years) is acceptable in lieu of an immediate screen (to buffer future development, for example), evergreen plantings shall be at least four feet in height, substituted at a ratio of three to one as provided in subsection 4.A, above, and planted at intervals of 3-5 feet on center.

G. Where earthen berms are to be used, they shall be designed to be low-profile, and supplemented with plantings so that an effective visual barrier of at least 8 feet in height measured from the crown of the adjoining public street is created in appropriate locations to screen from public view outdoor storage, truck or heavy equipment parking, storage and loading areas, trash dumpsters, or other activities permitted in accordance with this Chapter or the East Vincent Township Zoning Ordinance [Chapter 27], and conducted outside of residential, commercial, institutional, or industrial buildings. If berms are used as a landscape or screening feature, plantings are to be installed on both sides of the berm, not solely at the ridgeline or top of the berm, and shall be subject to the review and approval of the Township. Side slopes shall not exceed a 4:1 ratio, and berms shall be designed to blend with adjoining property topographic conditions or similarly landscaped buffered areas rather than end abruptly at the property line.
H. Shade trees of varying species shall be planted as street trees along all streets, located 5 feet outside of the ultimate right-of-way line, spaced not less than 40 feet nor more than 50 feet apart, staggered where appropriate, along both sides of all existing streets adjoining the subject property and all proposed streets.

I. Planting areas shall be selected and designed to reflect natural landscape characteristics existing prior to land disturbance, as well as those environmental conditions to be created following land disturbance by the applicant.

J. The locations, dimensions, and spacing of required plantings shall be adequate for their proper growth and maintenance, taking into account the sizes of such plantings at maturity and their present and future environmental requirements, such as moisture and sunlight. In selecting locations for shade trees, consideration also shall be given to aesthetic qualities of the site and to the protection of solar access. In selecting the layout for landscape buffers or the location and mix of required plantings, consideration shall be given to the natural topography of the setting and the texture, coloration, and compatibility of different plant species; it is strongly encouraged that improved landscapes be designed in such a manner as to be creative and attractive while maintaining the integrity of the natural landscape within which such work is proposed.

K. Plantings shall be limited or carefully selected for locations where they may be disturbed or contribute to conditions hazardous to public safety. Examples of such locations include but shall not be limited to the edges of parking areas; public street rights-of-way; underground and above-ground utilities; and sight triangle areas required for unobstructed views at street intersections. No trees shall be planted closer than 15 feet from fire hydrants, street lights, or stop signs.

L. All off street parking areas, except those intended solely for use by individual single family residences, shall be landscaped with trees and shrubs of varying species, in accordance with the following:

(1) Off-street parking areas shall be landscaped to reduce wind and air turbulence, heat and noise, and the glare of automobile lights; to reduce the level of carbon dioxide; to provide shade; to ameliorate storm water drainage problems; to replenish the groundwater table using bioretention islands; to provide for a more attractive setting; to protect the character and stability of residential, business, institutional, and industrial areas; and to conserve the value of land and buildings on surrounding properties and neighborhoods.

(2) Planting areas shall be placed so as to facilitate snow removal and to provide for safe movement of traffic without interference of proper surface water drainage. Planting areas shall be bordered appropriately to prevent erosion or damage from automobiles. Bollards may be used to afford protection of trees from vehicular movement.

(3) The landscaping and planting areas shall be reasonably dispersed throughout the parking lot, except where there are more than 20 spaces in which the following shall apply.

(a) Landscaped areas at least 10 feet wide shall be provided around the periphery of parking areas. Such areas shall, at a minimum, extend the full length and width of the parking areas, except for necessary access ways, to prevent the encroachment of moving vehicles into parking areas.
(b) Landscaped islands at least 10 feet wide shall be provided between each set of two parking bays.

(c) Landscaped islands at the end of each parking bay shall be provided and shall be the length of two parking spaces and at least 10 feet in width.

(d) Two feet of each parking stall adjacent to planting strips required in subparagraphs (1) and (2) above shall be of a permeable surface (e.g., concrete blocks filled with stone) to allow water to percolate into the ground.

(4) Permitted parking lots not conforming to the criteria listed above shall be planted with the same ratio of trees to parking spaces as conventional parking lots but these may be planted in more varied configurations.

(5) All parking lots shall be designed to provide for safe, reasonable pedestrian access. Parking lots with more than 50 spaces shall include paved pedestrian walkways. Pedestrian walkways may be located along or through landscaped islands or other landscaped areas adjacent to the parking lot.

6. **Criteria for Selection of Plant Material.**

A. Species selected by the applicant shall reflect careful evaluation of the required existing features plan and in particular the following considerations:

(1) Existing and proposed site conditions and their suitabilities for the plant materials, based upon the site's geology, hydrology, soils, and microclimate.

(2) Specific functional and design objectives of the plantings, which may include but not necessarily be limited to provision for landscape buffer, visual screening, noise abatement, energy conservation, wildlife habitats, and aesthetic values.

(3) Maintenance considerations such as hardiness, resistance to insects and disease, longevity, and availability.

B. Because of the many benefits of native plants (ease of maintenance, longevity, wildlife habitat, etc.), applicant is urged to conform to the requirements of this Section through the use of nursery grown native trees and shrubs. A suggested plant list is included in subsection .9.

C. Species for shade trees, including street trees, shall be selected with particular emphasis on hardiness, growing habit for pedestrian and vehicle passage, minimal need for maintenance, and compatibility with other features of the site and surrounding environs.

D. For the purposes of promoting disease protection, minimum maintenance, diverse natural plant associations, and long-term stability of plantings, the applicant is encouraged to choose those combinations of species which may be expected to be found together under more-or-less natural conditions on sites comparable to those where the trees and shrubs are to be planted.

7. **Conservation of Existing Vegetation and Natural Features.** All landscape plans shall be designed in conformance with the provisions of §22-429 regarding conservation of woodlands and riparian buffer areas. Applicants shall make all reasonable efforts to harmonize their plans with the conservation of existing vegetation and natural
features. Care shall be exercised to protect remaining vegetation from damage during construction, in accordance with the procedures set forth in §22-429.

8. **Site Maintenance and Guarantee.**

   A. All landscape improvements to be provided in accordance with this Section, shall be installed and maintained by accepted practices as recognized by the American Association of Nurserymen. Planting and maintenance of vegetation shall include, as appropriate, but not necessarily be limited to, provisions for: surface mulch, guy-wires and stakes, irrigation, fertilization, insect and disease control, pruning, mulching, weeding, and watering.

   B. Applicant shall make arrangements acceptable to the Township that all landscape improvements installed in accordance with this Chapter shall be guaranteed and maintained in a healthy and/or sound condition, or otherwise be replaced with equivalent improvements, for a period of at least 18 months. After installation and prior to Township acceptance of the site improvements, representatives of the Township shall perform an inspection of the finished site for compliance with approved landscape plan(s).

   C. Installation of landscape improvements shall be guaranteed along with all other site improvements in accordance with §22-311. The costs of landscape material and installation shall be considered in determining the amount of any performance guarantee required. At the Township's discretion, the applicant may be required to provide a letter of credit, escrow sufficient additional funds, or provide a bond with surety, for the maintenance and/or replacement of landscape improvements during the 18-month replacement period. In addition, a letter of credit or escrow may be required for the removal and replacement of specimen vegetation damaged during construction. At its sole discretion, the Township may remedy failure to complete installation or to maintain required landscape improvements in accordance with the provisions of this Chapter.

9. **Suggested Plant List (not an exclusive list).**

    **Evergreen Trees and Shrubs**
    
    | Juniperus virginiana | Eastern Red Cedar |
    | Pious strobus        | White Pine        |
    | Rhododendron maximum | Rhododendron      |

    **Shade Trees**
    
    | Acer rubrum          | Red Maple         |
    | Acer saccharom       | Sugar Maple       |
    | Carya ovata          | Shagbark Hickory  |
    | Catalpa speciosa     | Northern Catalpa  |
    | Fagus grandifolia    | American Beech    |
    | Fraxinus americana   | White Ash         |
    | Fraxinus pennsylvanica | Green Ash    |
    | Gleditsia triacanthos | Thorn less Honey Locust |
Liquidambar styraciflua  Sweet Gum
Liriodendron tulipifera  Tulip Poplar
Platanus acerifolia  London Plane Tree
Platanus occidentalis  American Sycamore
Prunus serotina  Black Cherry
Quercus alba  White Oak
Quercus rubra  Northern Red Oak
Quercus coccinea  Scarlet Oak
Quercus palustris  Pin Oak
Tilia americana  American Basswood

Small Trees and Shrubs
Amelanchier arborea  Shadbush/Serviceberry
Cercis canadensis  Redbud
Comus florida  Flowering Dogwood
Crataegus phaenopyrum  Washington Hawthorn
Ginkgo biloba  Gingko (male only)
Ilex montana  Winterberry
Ostrya virginiana  Ironwood
Oxydendrum arboreum  Sourwood
Vaccinium corymbosum  Highbush blueberry
Viburnum dentatum  Arrowwood
Viburnum obovatum  Blackhaw


§22-423. Sewage Treatment and Disposal.

1. Each lot shall have approved sewage facilities in accordance with the provisions of the Pennsylvania Department of Environmental Protection and the Chester County Health Department. All sanitary sewer facilities shall be subject to the requirements of the Pennsylvania Sewage Facilities Act and the rules and regulations there under of the Pennsylvania Department of Environmental Protection including without limitation, those at 25 Pa.Code, Chapters 71 and 73, and the rules and regulations of the Chester County Health Department. The applicant shall provide sewage treatment and disposal consistent with existing physical, geographical, and geological conditions of the site and consistent with the Township's officially adopted
Act 537 Sewage Facilities Plan. This sewage treatment and disposal should provide adequate protection against pollution of the environment over the lifetime of the development. This sewage treatment and disposal should also be consistent with the goals of the Green Valleys Association's Sustainable Watershed Management Program to the maximum extent possible, utilizing technologies which are land-based and decentralized, and which recycle maximum quantities of treated wastewater effluent back into the ground, in contrast to centralized stream discharge of effluent.

2. Public sanitary sewers shall be designed and constructed in strict accordance with Pennsylvania Department of Environmental Protection, East Vincent Township and the East Vincent Municipal Authority standards. A copy of the approval by the East Vincent Municipal Authority of such systems shall be submitted with the final plan. Permits, where required, shall be obtained before construction of a sanitary sewer system is started.

3. Sanitary sewers shall not be used to carry stormwater.

4. All lots which cannot be connected to a public or community sanitary sewage disposal system in operation at the time of construction of a principal building shall be provided with an individual on-site sanitary sewage disposal system meeting the design standards of the Pennsylvania Department of Environmental Protection and the Chester County Health Department.

5. If individual on-site sanitary sewage disposal facilities are to be utilized, the applicant shall prepare a feasibility report to be incorporated in the Land Planning Modules to be submitted. Such report shall compare the cost of providing on-site facilities with alternate sewage disposal methods. Based on the analysis of this report, the Township may require the installation of a public sanitary sewer system or capped sewer constructed in accordance with East Vincent Municipal Authority regulations.

6. Where individual on-site sanitary sewage facilities are to be utilized, each lot so served shall be of a size and shape to accommodate the required primary and alternative disposal areas and the required horizontal isolation or setback distances and other requirements under the rules and regulations of the PADEP. Final plans shall clearly indicate these areas. Lots created through use of the open space design option [Part 9] of the East Vincent Township Zoning Ordinance [Chapter 27] do not need to be of a size and shape to accommodate the required primary and alternative disposal areas, provided, sanitary sewage facilities are to be located within restricted open space areas subject to Board of Supervisors approval pursuant to §27-906.1.B(4) of the Zoning Ordinance [Chapter 27].

7. Where community on-lot sewage disposal systems are proposed, requiring a building or structure to be located above ground, the building or structure shall be completely screened from the view of any adjacent properties, according to the screening provisions of the Township Zoning Ordinance [Chapter 27].

8. The proposed method of sanitary sewage disposal shall be in accordance with the East Vincent Township's officially adopted Act 537 Sewage Facilities Plan, as amended.

9. **Sanitary Sewage Disposal System(s).**

   A. Sanitary sewage disposal systems shall be provided consistent with the design standards and requirements contained in this Chapter.
B. Whenever an applicant proposes that individual on-site sanitary sewage disposal systems shall be utilized within the subdivision, before the issuance of a building permit, an on-site system shall be designed and a permit obtained from the Chester County Health Department.

C. In all other cases, the applicant shall provide a complete community or public sanitary sewage disposal system. The design, installation, ownership and maintenance of such systems shall be subject to the approval of the Township Engineer, the Township Planning Commission and Board of Supervisors, and to the approval of the Pennsylvania Department of Environmental Protection. As a minimum, the design of each community on-lot sanitary sewage disposal system shall provide a reserve area in the event the primary subsurface disposal area should fail. The reserve area shall be located within soils suitable to support such a system, and shall not be located within the required open space, except as may be proposed subject to Board of Supervisors approval pursuant to §27-906.1.B(4) of the East Vincent Township Zoning Ordinance [Chapter 27]. Both the primary and reserve area shall be tested, preserved from structures, and noted on the final plan.

10. **Soil Percolation Test Requirements.**
   
   A. Soil percolation tests shall be performed for all subdivisions wherein building(s) at the time of construction will not be connected to a public or community sanitary sewage disposal system in operation. Deep hole test pits are recommended as a further means of guaranteeing suitability of a site.
   
   B. Soil percolation tests shall be made in accordance with the procedure required by the Pennsylvania Department of Environmental Protection and the Chester County Health Department.
   
   C. Soil percolation tests shall be performed on each lot within the site of the proposed on-site sanitary sewage disposal facilities for both the primary and backup disposal area and noted on the final plan.
   
   D. The results of the soil percolation tests shall be analyzed in relation to the physical characteristics of the tract being subdivided and of the general area surrounding the tract being subdivided. The final plan lot layout shall be based on this analysis.

*(Ord. 138, 7/17/1996, §422; as amended by Ord. 178, 12/1/2004)*

§22-424. **Water Supply.**

1. Adequate and potable water supply system(s) shall be installed consistent with design principles and requirements contained in this Chapter, the Department of Environmental Protection regulation, and the Chester County Health Department.

2. Where the applicant proposes that individual on-site water supply systems shall be utilized within the subdivision, before the issuance of a building permit, a permit shall be obtained subject to the standards provided for within subsection 502, Chapter 501, Rules and Regulations of the Chester County Health Department.

3. The design and installation of a public water system or extension shall be subject to the approval of the Township and the water company holding the franchise for East Vincent Township.
4. Wherever a public water system is provided, fire hydrants shall be installed for fire protection as approved by the Fire Marshall and Township Engineer. Where fire hydrants are installed, they shall meet the specifications of the Insurance Services Office of Pennsylvania. Location of hydrants shall be approved by the Township.

   A. Generally, all fire hydrants will be located on a minimum looped 6-inch line.

   B. Fire hydrants shall be spaced in a development so that all proposed building(s) will be no more than 600 feet from the hydrant measured along traveled ways and shall provide a minimum of 500 gallons per minute (GPM) at a residual pressure of 20 pounds per square inch (psi) for a 2 hour period.

   C. For additional fire protection, a dry hydrant may be required to be incorporated into existing and proposed ponds or reservoirs and an access easement provided for emergency use.


   A. In all subdivisions and land developments served by public water, the following water pressure and volume requirements shall apply:

      (1) Residential Use. A minimum domestic pressure of 20 psi shall be provided at each house to be connected to the water main. The system to which the residential unit is connected shall have sufficient capacity to supply a minimum of 300 gallons of water per residential unit per day within the subdivision or land development.

      (2) Commercial or Industrial Use. A minimum pressure of 30 psi shall be provided at each commercial or industrial building connected to the water supply main. When a builder wishes to connect to a public water system, a study will be made to determine if there is adequate water to supply system to supply the building and use.

         (a) For purposes of fire protection in commercial and industrial district, 1,000 GPM at 20 psi residual pressure is required or as required for ISO certification.


   A. No subdivision or land development application proposing a public water supply system shall be granted preliminary or final approval unless the applicant demonstrates, by written documentation satisfactory to the Board, full compliance with the provisions of this Section.


§22-425. Other Utilities.

1. All other utility lines including, but not limited to electric, gas, street light supply, cable television, and telephone shall be placed underground. Installation of all utilities shall be in strict accordance with the engineering standards and specifications of the public utility concerned. Utilities shall be installed before the base course is placed within the cartway.

2. In accordance with the provisions of Act 178, all developers, contractors, etc., will contact all applicable utilities and accurately determine the locations and depth of all underground utilities within the boundaries of the tract proposed for development,
prior to excavation. A list of the applicable utilities and their phone numbers shall appear on the plans submitted for review and proof shall be presented to the Township prior to final plan approval. Any existing or proposed utility easements shall be shown on final plans.

3. **Gas, Electric, and Petroleum Product Pipelines.** There shall be a minimum distance of 50 feet, measured at the shortest distance, between any proposed dwelling and any existing natural gas, electric, or petroleum product transmission right of way line.

4. Top soil may not be stripped from any portion of a Flood Hazard District. If any grading operation including cuts or fills are approved as part of a Special Exception or by Variance from the Township Zoning Hearing Board, such grading operation shall be in total compliance with the National Flood Insurance Program requirements, the requirements of the Pennsylvania Floodplain Management Act of 1978, and all other flood protection regulations contained in this Chapter, the Township Zoning Ordinance [Chapter 27], and the Township Building Code [Chapter 5, Part 1].

§22-426. **Stormwater Management.**

1. **Purpose.** In view of the findings set forth in paragraph .A below, specific purposes of East Vincent Township in regulating the management of stormwater are set forth herein:

   A. **Findings.**

      (1) Stormwater runoff from lands modified by human activities threatens public health and safety by causing decreased infiltration of rainwater and increased runoff flows and velocities, which overtax the carrying capacity of existing streams and storm sewers, and greatly increases the cost to the public to manage stormwater.

      (2) Inadequate planning and management of stormwater runoff resulting from land development and redevelopment throughout a watershed can also harm surface water resources by changing the natural hydrologic patterns, accelerating stream flows (which increase scour and erosion of streambeds and stream-banks thereby elevating sedimentation), destroying aquatic habitat and elevating aquatic pollutant concentrations and loadings such as sediments, nutrients, heavy metals and pathogens. Groundwater resources are also impacted through loss of recharge.

      (3) A program of stormwater management, including reasonable regulation of land development and redevelopment causing loss of natural infiltration, is fundamental to the public health, safety, welfare, and the protection of the people of the Township and all the people of the Commonwealth, their resources, and the environment.

      (4) Stormwater is an important water resource by providing groundwater recharge for water supplies and base flow of streams, which also protects and maintains surface water quality.

      (5) Public education regarding the control and prevention of pollutants...
entering stormwater is an essential component in successfully addressing stormwater.

(6) Federal regulations and those of the Commonwealth require certain urbanized or partially urbanized municipalities to implement a program of stormwater controls. These municipalities are required to obtain a permit for stormwater discharges from their separate storm sewer systems under the National Pollutant Discharge Elimination System (NPDES).

(7) Non-stormwater discharges to municipal separate storm sewer systems contribute to pollution of waters of the Commonwealth within the Township.

B. Specific Purposes. The specific purposes of this Chapter are to promote health, safety, and welfare within the Township and its watersheds by minimizing the harms and maximizing the benefits described in subsection .1.A of this Chapter, through provisions designed to:

(1) Meet legal water quality requirements under the laws of the Commonwealth, including regulations at 25 Pa.Code, Chapter 93.4a to protect and maintain "existing uses" of streams and maintain the level of water quality to support those uses in all streams, and to protect and maintain water quality in "special protection waters."

(2) Maintain the pre-development water balance in watersheds and subwatersheds containing first-order and other especially sensitive streams in East Vincent Township, and to work to restore natural hydrologic regimes wherever possible throughout the stream system, during and after construction.

(3) Focus on infiltration of stormwater by maintaining pre-development volumes of groundwater recharge, to prevent degradation of surface and groundwater quality and quantity, and to otherwise protect water resources.

(4) Minimize increase in surface runoff volumes, pre-development to postdevelopment and to work to reduce runoff volumes to natural levels, during and after construction.

(5) Maintain pre-development peak rates of discharge, site-by-site, so as not to worsen flooding on adjacent downstream sites, and to work to restore peak runoff rates to natural levels, during and after construction.

(6) Minimize nonpoint source pollutant loadings to ground and surface waters generally throughout East Vincent Township.

(7) Minimize impacts on stream temperatures during and after construction.

(8) Minimize aesthetic impacts of stormwater management.

(9) Manage stormwater through approaches and practices which require a minimum of structures and which rely on natural processes to the maximum extent practicable.

(10) Manage stormwater runoff impacts at their source by regulating activities that cause identified stormwater management problems.

(11) Provide review procedures and performance standards for stormwater
planning and management.

(12) Utilize and preserve the existing natural drainage systems as much as possible.

(13) Manage stormwater impacts close to the runoff source, which requires a minimum of structures and relies on natural processes.

(14) Maintain existing flow regimes and quality of streams and water-courses.

(15) Prevent scour and erosion of streambanks and downcutting of streambeds and protect instream habitat for aquatic biota.

(16) Provide for proper operations and maintenance of all permanent stormwater management BMPs that are implemented in the Township.

(17) Provide a mechanism to identify controls necessary to meet the Township's NPDES permit requirements.

(18) Implement an illegal discharge detection and elimination program to address non-stormwater discharges into the Township's separate storm sewer system.

2. Applicability.

A. Except where exempted or modified subject to the approval of the Township, the provisions of this Section shall apply to:

(1) Any subdivision or land development or any activity as set forth in §27-1507.1.A of the East Vincent Township Zoning Ordinance [Chapter 27], where such subdivision, land development or activity involves any permanent or temporary addition or storage of impervious or semi-pervious cover or materials exceeding 1,500 square feet or involves total land disturbance exceeding 5,000 square feet.

(2) Any installation of stormwater management facilities or appurtenances thereto or any diversion or piping of any natural or man-made stream channel.

(3) Any situation where the Township Engineer determines that surface or subsurface drainage could impair public safety or cause physical damage to adjacent lands or public property.

(4) Any stormwater runoff entering into the Township's separate storm sewer system from lands within the boundaries of the Township.

B. Exemptions. Subject to the approval of the Township, the following activities may be exempted from on-site stormwater runoff control. An exemption under this Section shall apply only to the requirement for on-site stormwater facilities and the preparation of a stormwater management plan. All other stormwater management design elements such as a storm sewer system, road culverts, erosion and sedimentation control, and runoff quality, shall be required.

(1) Emergency Exemption. Emergency maintenance work performed for the protection of public health, safety and welfare. A written description of the scope and extent of any emergency work performed shall be submitted to the Township within 2 calendar days of the commencement of the activity. If the Township finds that the work is not an emergency, then the work shall cease.
immediately and the requirements of this Chapter shall be addressed as applicable.

(2) **Maintenance Exemption.** Any maintenance to an existing stormwater management system made in accordance with plans and specifications approved by the Township.

(3) Gardening. Use of land for gardening for home consumption.

(4) **Agricultural Activities.** Agriculture when operated in accordance with a conservation plan or erosion and sedimentation control plan approved by the Chester County Conservation District, including activities such as growing crops, rotating crops, tilling of soil and grazing animals. Installation of new or expansion of existing farmsteads, animal housing, waste storage and production areas or other facilities having impervious surfaces that result in a new increase in impervious cover shall be subject to the provisions of this Chapter based on the applicability criteria set forth in subsection .2.A above.

(5) **Forest Management.** Forest management operations, which are consistent with a sound forest management plan, as filed with the Township and which follow the Pennsylvania Department of Environmental Protection’s management practices contained in its publication *Soil Erosion and Sedimentation Control Guidelines for Forestry*. Such operations are further required to have an approved erosion and sedimentation control plan.

C. **Compatibility with other Requirements.** Approvals issued and actions taken in accordance with this Section do not relieve any applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, law, regulation or ordinance, specifically including but not limited to the East Vincent Township Grading Ordinance, *Ord. 93*, 12/20/1989 [Chapter 9, Part 1]. To the extent that the requirements set forth herein are in conflict with or otherwise differ from any other applicable regulation, the more stringent provision(s) shall apply.

D. **Comprehensive Stormwater Management Procedure.** Applicants should refer to Appendix F, “The Comprehensive Stormwater Management Procedure,” for implementing the stormwater management requirements of East Vincent Township, and may be asked by the Township Engineer, Township Planner, Planning Commission, or Board of Supervisors to demonstrate how their stormwater management approach is consistent with the site design and stormwater management planning principles stated therein.

3. **Permanent Stormwater Management Requirements.**

   A. **Stormwater management requirement.** Permanent management of all stormwater runoff shall be accomplished in accordance with the provisions of this Section. A stormwater management system including a storm sewer system and all appurtenances and retention or detention facilities as necessary shall be required to be constructed by the owner or applicant in conformance with all applicable design standards herein, and in full compliance, with 25 Pa.Code, Chapters 102 and 105, as amended.

   B. **Rate and Volume Control Standards for Stormwater Runoff.** After completion of any activity subject to the regulation of this Section, the following
standards shall be met:

(1) There shall be no increase in the total volume of stormwater runoff being discharged from the site for up to the 2-year, 24-hour storm event, over that which was discharged prior to development as a result of such storm event. In determining compliance with this provision, pre- and postdevelopment volumes shall be calculated as provided in subsection .7, below. To the greatest extent practicable, retained stormwater shall be treated and infiltrated into the groundwater system.

(2) The peak rate of stormwater discharges from the site resulting from a 10-year storm (5 inches of precipitation within 24 hours) shall not exceed the pre-development peak discharge rate resulting from the 2-year storm (3.2 inches within 24 hours).

(3) For each of the following design storms and precipitation values, the peak rate of post-development discharge from the site shall not exceed the predevelopment peak discharge rate resulting from the same storm:

<table>
<thead>
<tr>
<th>Storm Precipitation</th>
<th>Precipitation</th>
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<tbody>
<tr>
<td>25 yr. 5.6&quot;/24 hrs.</td>
<td>5.6&quot;/24 hrs.</td>
</tr>
<tr>
<td>50 yr. 6.3&quot;/24 hrs.</td>
<td>6.3&quot;/24 hrs.</td>
</tr>
<tr>
<td>100 yr. 8.4&quot;/24 hrs.</td>
<td>8.4&quot;/24 hrs.</td>
</tr>
</tbody>
</table>

C. Water Quality Requirements.

(1) Water quality enhancement and best management practices (BMPs) shall be employed to capture and treat all post-development site runoff comprising the "first flush," defined as the first ½ inch of stormwater runoff. Examples of acceptable BMPs are listed in subsection .3.E below.

(2) Certain industrial sites may be required to prepare and implement a stormwater pollution prevention plan and file notice of intent as required under the provision of the EPA Industrial Stormwater NPDES Permit Requirements. Other industrial sites storing significant quantities of chemicals/wastes should also prepare a prevention plan. Sites that are required by EPA to prepare a plan include, but are not limited to:

(a) Vehicle salvage yards and recycling facilities.
(b) Vehicle and equipment cleaning facilities.
(c) Fleet storage areas for buses, trucks etc.
(d) Facilities that generate or store hazardous materials.

(3) For all activities considered to be potentially high pollutant producers or "hotspots," including, in addition to those set forth in subsection .3.C(2) above, vehicle service and maintenance facilities, industrial sites, fast food establishments, convenience stores, any activity involving chemical mixing or loading/unloading, outdoor liquid container storage, public works storage areas, commercial container nurseries, and hightraffic retail uses characterized by frequent vehicle turnover, additional water quality pre-treatment requirements may be imposed as recommended by the Township Engineer.

(4) Water quality management shall be provided through the use of
structural and/or non-structural stormwater management practices. Water quality stormwater management practices shall be designed to reduce or eliminate solids, sediment, nutrients, and other potential pollutants from the site. It is presumed that a stormwater management practice complies with this requirement if it is:

(a) Sized to capture the prescribed water quality volume as set forth in subsection .3.B(1) above.

(b) Designed according to the specific performance criteria outlined in the Pennsylvania Handbook of Best Management Practices for Developing Areas (PACD, 1998) or the 2000 Maryland Stormwater Design Manual (MDE, 2000), or other handbooks or manuals approved by the Township Engineer.

(c) Constructed properly.

(d) Maintained regularly.

D. Additional Requirements. Under certain conditions, where deemed appropriate by the Township at its sole discretion and upon recommendation by the Township Engineer, the following additional requirements for stormwater management may be imposed:

(1) Peak discharge(s) may be further restricted when it can be shown that a probable risk to downstream structures or unique natural areas exists or that existing severe flooding problems could be further aggravated.

(2) Additional measures may be imposed to protect against ground or surface water pollution where the type of land use activity may result in significant non-point source pollution or the nature of the soils or bedrock underlying a stormwater management structure constitutes substantial risk of contamination. Special provisions to be followed in such cases will be provided by the Township Engineer and may include required filtration or pretreatment of stormwater prior to discharge or other imposition of water quality BMPs.

(3) In headwaters watersheds and in areas where groundwater yields are very low or where a groundwater supply already is heavily used, the Township may require that the entire volume of the 2-year frequency rainfall (3.2 inches within 24 hours) be retained and infiltrated where it can be demonstrated that soil conditions are appropriate for such infiltration. If substantial irrigation needs are anticipated, a portion of stored stormwater may be re-used for irrigation purposes in lieu of direct infiltration.

E. Potential Modifications to Stormwater Management Requirements. At the sole discretion of the Township, and upon recommendation by the Township Engineer, criteria for volume control and/or control of peak rate discharge, as provided above, may be reduced where such reduction shall result in a significant reduction in land disturbance due to implementation of stormwater management controls, or a significant reduction in utilization of structural stormwater management facilities, and where use of BMPs demonstrably results in significant increases in groundwater recharge, significant reduction in adverse water quality
impacts, and/or significant enhancement of water quality, beyond that which would normally be anticipated or acceptable in connection with compliance with the standards set forth above. In consideration of such modification, the Township shall be satisfied that the benefits associated with the proposed stormwater management system clearly outweigh and/or mitigate any potentially negative impacts of reduction in total volume control and/or peak rate control as an acceptable stormwater management practice.

(1) Acceptable use of BMPs may include, but are not limited to:
   (a) Infiltration devices.
   (b) Constructed wetlands.
   (c) Wetland forebays.
   (d) Sediment forebays.
   (e) Extended duration water quality basins.
   (f) Filters, where approved by the Township Engineer.
   (g) Wet swales.
   (h) Grass channels.
   (i) Dry swales.
   (j) Retention ponds/extended detention ponds.
   (k) Filter strips.
   (l) Other bioretention BMPs.

(2) BMP selection, design, implementation, operation and maintenance shall be based upon appropriate reference materials such as the Pennsylvania Handbook of Best Management Practices for Developing Areas, Design of Stormwater Filtering Systems, and other manuals, and as further set forth herein.

F. Stormwater management design shall be consistent with all other environmental regulation set forth in this Chapter and the East Vincent Township Zoning Ordinance [Chapter 27], including, but not limited to, conservation of flood prone areas, steep slopes, wetlands, woodlands and other natural features. Riparian buffers shall be established along all streams and shall be re-vegetated where required by the Township.

4. Regulation of Stormwater Discharges.

   A. No person shall allow, or cause to allow, stormwater discharges into any storm sewer system which are not composed entirely of stormwater, except for discharges allowed under a Federal permit, a permit obtained from the Commonwealth, or as provided in paragraph .B below.

   B. Discharges which may be allowed, based on a finding by the Township that the discharge(s) do not significantly contribute to pollution to surface waters of the Commonwealth, are:
      (1) Discharges from firefighting activities.
      (2) Uncontaminated water from foundation or from footing drains.
      (3) Potable water sources including dechlorinated water line and fire
hydrant flushings.

(4) Flows from riparian habitats and wetlands.

(5) Lawn watering.

(6) Irrigation drainage.

(7) Pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used.

(8) Routine external building washdown (which does not use detergents or other compounds).

(9) Air conditioning condensate.

(10) Water from individual residential car washing.

(11) Dechlorinated swimming pool discharges.

(12) Springs.

(13) Uncontaminated groundwater.

(14) Water from crawl space pumps.

C. In the event that the Township determines that any of the discharges identified in paragraph .B significantly contribute to pollution of waters of the Commonwealth, or is so notified by DEP, the Township will notify the responsible person to cease the discharge. Upon such notice provided by the Township, the person responsible for the discharge will have a reasonable time, as determined by the Township, to cease the discharge consistent with the degree of pollution caused by the discharge. Nothing herein shall affect a discharger's responsibilities under the laws of the Commonwealth.

D. Prohibited Connections. The following connections are prohibited, except as provided in paragraph .B above:

(1) Any drain or conveyance, whether on the surface or subsurface, which allows any non-storm water discharge including sewage, process wastewater, and wash water, to enter any storm sewer system, and any connections to the storm drain system from indoor drains and sinks.

(2) Any drain or conveyance connected from a commercial or industrial land use to any storm sewer system which has not been documented in plans, maps, or equivalent records, and approved by the Township.

(3) Any roof drains connected to streets, sanitary or storm sewers or roadside ditches, except where specifically approved by the Township upon the recommendation of the Township Engineer.

5. State Water Quality Requirements.

A. No activity subject to the provisions of this Section, as set forth in subsection .2, shall commence until approval by the Township of a plan which demonstrates that, after completion of any activity subject to the regulation of this Section, no stormwater discharge shall degrade the physical, chemical or biological characteristics of any receiving waters. Where applicable, the issuance and provision to the Township of copy of an NPDES construction permit (or permit coverage under the Statewide General Permit (PAG-2)) shall satisfy this
B. Stormwater management BMPs shall be designed, implemented, operated and maintained to meet State Water Quality Requirements, as defined in 25 Pa.Code, Chapter 93, and in accordance with all applicable standards set forth herein, and may include, but are not limited to, the following:

(1) **Infiltration.** Replication of pre-construction stormwater infiltration conditions.

(2) **Treatment.** Use of water quality treatment BMPs as referenced in subsection 3.E to ensure filtering out of the chemical and physical pollutants from the stormwater runoff.

(3) **Streambank and Streambed Protection.** Management of volume and rate of post-construction stormwater discharges to prevent physical degradation of receiving waters (e.g., from scouring).

C. Evidence of any necessary permit(s) from the appropriate DEP regional office for any earth disturbance activities regulated by the Commonwealth shall be provided to the Township.

6. **Stormwater Management and Erosion and Sedimentation Control During Land Disturbance.**

A. No activity subject to the provisions of this Section, as set forth in subsection 2, shall commence until approval by the Township of an erosion and sediment control plan for any construction activities.

B. The Township shall be provided copy or appropriate evidence of any necessary permit(s) from the appropriate DEP regional office or County Conservation District, as applicable, including any required DEP "NPDES construction activities" permit under 25 Pa.Code §102.4(b), as well as documentation of approval of any erosion and sediment control plan required by DEP for earth disturbance activities regulated by the Commonwealth.

C. Copy(ies) of all permits required by DEP regulations, shall be available at the affected project site at all times.

D. During the period of land disturbance, peak rates of discharge and discharge volumes from the site shall comply with the standards set forth in subsection 3.B above, with the following additional stipulations:

(1) For purposes of calculating required detention storage during land disturbance, peak discharges and discharge volumes shall be calculated based upon the runoff coefficients for bare soils during the maximum period and extent of disturbance. Controls shall insure that the difference in volumes and rates of peak discharge before disturbance and during shall not exceed those peak discharges and discharge volumes noted above. It should be understood that detention storage during the period of land disturbance and prior to establishment of permanent cover may require additional facilities on a temporary basis. Such measures shall be located so as to preserve the natural soil infiltration capacities of the planned infiltration bed areas.

(2) Wherever soils, topography, cut and fill or grading requirements, or other conditions suggest substantial erosion potential during land disturbance, the Township, as recommended by the Township Engineer, may require that
the entire volume of all storms up to a 2-year storm from the disturbed areas be retained on site and that special sediment trapping facilities (such as check dams, etc.) be installed.

(3) Sediment in runoff water shall be trapped in accordance with criteria of the Chester County Conservation District and PADEP and removed through means approved by the Township Engineer to assure proper functioning and adequate capacity in the basins or traps.

(4) Procedures shall be established for protecting soils or geologic structures with water supply potential from contamination by surface water or other disruption by construction activity.

(5) Development activity and implementation of temporary erosion and sedimentation controls shall be carried out in accordance with the following principles, which shall be satisfactorily demonstrated by submission of sufficient data and other information as part of the approved erosion and sediment control plan:

(a) The smallest practicable land area shall be disturbed and exposed at any one time during construction.

(b) Land exposure shall occur for the shortest practicable time period.

(c) Temporary ditches, dikes, vegetation, mulching and/or one of the new erosion control products subject to the approval of the Township Engineer and Chester County Conservation District should be used to protect critical areas exposed during development or construction.

(d) Sedimentation basins (debris basins, desilting basins or sediment traps) shall be installed and maintained to remove sediment from runoff from disturbed areas prior to any earth disturbance.

(e) All areas designated for recharge shall not receive runoff until the contributory drainage area has achieved final stabilization. Runoff shall be controlled so as to trap sediment prior to entering any infiltration area or proposed infiltration area.

(f) Where feasible, natural vegetation should be retained and protected, natural grade alterations minimized, and total site disturbance minimized.

(g) Permanent vegetation and erosion control structures should be installed as soon as practicable during construction activities.

(6) Design and implementation of temporary erosion and sedimentation control measures (intended to control the impacts of stormwater runoff during the period of land development and/or construction and associated land disturbance) shall NOT be accomplished in a manner which causes overdesign or redundancy of permanent stormwater management facilities, nor favor the use of detention basins in lieu of maximum feasible use of BMPs for permanent stormwater management. The design of permanent stormwater management facilities shall reflect the most appropriate means to achieve the purposes and management criteria of this and other applicable Sections of this Chapter, which purposes shall not be constrained by any desire to double the function of permanent stormwater management facilities as temporary erosion and
sedimentation control facilities. Construction of separate erosion and sedimentation control facilities may be unavoidable.

(7) During site construction all recharge system components shall be protected from compaction due to heavy equipment operation or storage of fill or construction material.


A. Runoff Calculation. Runoff determination shall be computed using the Soil Cover Complex Method and the procedures developed by the U.S. Department of Agriculture, Soil Conservation Service, as outlined in the Technical Release No. 55, Urban Hydrology for Small Watersheds, with specific attention given to antecedent soil moisture conditions, infiltration rate, flood routing, land use, topography, presence of streams or other forms of water conveyance and peak discharge, and Hydrology National Engineering Handbook, §4. However, for development less than 5 acres, the rational method or other methods of runoff calculation may be used to compute the standards for facilities upon approval by the Township Engineer.

B. The following criteria shall be utilized in determining the amount of runoff to be considered:

(1) A careful analysis of the existing land uses on the property shall be made and the criteria cited above applied except that where agricultural use of the land is considered the existing use, meadow conditions shall be used as the basis for establishing pre-development runoff values.

(2) Average antecedent moisture conditions (for the Soil Cover Complex Method only for example, TR-55, TR-20).

(3) A type II distribution storm (for the Soil Cover Complex Method only for example, TR-55, TR-20).

(4) All those areas of Hydrologic Soil Group (HSG) A, B, and C soils disturbed during construction shall be assumed to have a postdevelopment runoff based on a HSG one category lower (that is, HSG B is reduced to HSG C and so forth).

C. "Credit" for Runoff from Natural Areas. Total runoff shall be calculated as set forth above. For purposes of measuring conformance with volume control and peak rate control standards and water quality standards (i.e., "first flush" requirements) set forth herein, upon the recommendation of the Township Engineer, all or portions of the runoff from area(s) to be left in a natural state post-development may be subtracted from total calculated runoff, subject to the following:

(1) Such natural areas shall not be disturbed during construction.

(2) Specific limits of disturbance shall be delineated on approved development plans and flagged in the field.

(3) Such natural areas shall be protected in perpetuity by establishment of conservation easement(s) or other enforceable restriction recorded in the office of the Chester County Recorder of Deeds and in a form acceptable to the Township.

(4) Provisions for appropriate management of such natural areas and
inspection thereof shall be incorporated into recorded restriction(s).

D. "Credit" for Disconnection of Runoff. Total runoff shall be calculated as set forth above. For purposes of measuring conformance with volume control and peak rate control standards and water quality standards (i.e., "first flush" requirements) set forth herein, upon the recommendation of the Township Engineer, all or portions of the runoff from area(s) separately controlled and disconnected from contribution of runoff to the overall stormwater management system may be subtracted from total calculated runoff for such system, subject to the following:

(1) For purposes of this Section, disconnection of runoff shall be limited to situations where the maximum contributing flow length is not more than 100 feet.

(2) Disconnected flows shall drain broadly and evenly into vegetated areas or into infiltration BMPs and shall not result in any channelization of runoff.

A. General Stormwater Management Design Standards.

(1) The landowner or developer shall construct and/or install drainage facilities as are required by this Chapter or any other applicable requirements of the Township, Chester County or the Commonwealth, to prevent soil erosion, damage, siltation, and to satisfactorily manage stormwater to prevent the impairment of public safety or physical damage due to the concentration of stormwater runoff onto adjacent properties. All land areas shall be graded to secure proper drainage away from buildings, on-site sewage disposal systems, and to prevent the uncontrolled collection of stormwater in pools. The system shall be designed to, as much as possible, collect and recharge water.

(2) The stormwater management plan for each subdivision or land development proposal shall take into account both preventive and mitigative stormwater management practices, providing for management of runoff volume, of peak rate, and of water quality and temperature to ensure that cumulative problems downstream in respective watersheds are not increased as a result of flows from the proposed project. It is the intent of this Chapter to achieve compliance with the Standards of this Chapter as simply and cost effectively as possible. Infiltration BMPs shall be utilized wherever feasible. Site topography, soil conditions, and proposed land use(s) may dictate that a combination of BMPs and conventional detention or retention facilities be utilized to satisfy the volume control, peak rate control, and water quality requirements of this Section. Where direct discharge of stormwater runoff is permitted, infiltration BMPs shall be designed to provide adequate storage to accommodate the post-development "first flush" storm volume with outlet and overflow controls to convey runoff from larger storms safely to a natural outfall.

(3) Recharge facilities, detention facilities, storm sewers, culverts, bridges and related stormwater management systems shall be provided:

(a) To permit unimpeded flow of natural watercourses. Such flow may be redirected as a measure of last resort, subject to the approval of
(b) To intercept stormwater runoff at the bottom of all vertical grades and to insure adequate drainage of all low points as may be related to streets.

(c) To intercept stormwater runoff immediately upgrade from all street intersections and along streets at intervals reasonably related to the extent and grade of the area drained to prevent flow of stormwater across intersections, and to prevent the flooding of intersections during the design storm.

(d) To insure adequate flow of stormwater under driveways in, near, or across natural watercourses or drainage swales. Properly sized pipes or other conduits shall be provided, as necessary.

(e) To prevent excessive stormwater flow on or across streets, sidewalks, drives, parking areas, and any other paved surface or accessway, which in turn creates hazardous conditions.

(f) To direct stormwater away from springs.

(g) To this end, the specific stormwater management system serving a street shall be designed to collect water in accordance with design standards cited in this Chapter at the bottom of all vertical grades; and immediately upgrade of all street intersections; and where runoff encroaches onto one-half of the lane width of the street. The system shall discharge any collected water which is not recharged, into the nearest practical natural drainage channel or storm system.

(4) All natural streams, channels, swales, drainage systems, and/or areas of concentration of surface water shall be maintained in their existing, preferably natural condition unless alteration is approved by the Township and PADEP. Alteration of natural streams, channels, swales, drainage systems, and/or areas of concentration of surface water should occur only as a measure of last resort. In any event, all encroachment activities shall comply with 25 Pa.Code, Chapter 105, Dam Safety and Waterway Management Rules and Regulations.

(5) Man-made structures shall be kept to a minimum but if necessary, bridges, culverts, or rip-rap shall be constructed to maintain natural characteristics of the stream and shall be approved by the Township Engineer.

(6) For the purpose of this Chapter, streams and intermittent streams are defined as those watercourses depicted on the East Vincent Township Zoning Map, the USGS Quadrangle maps of the area, and/or determined as such pursuant to an on-site survey by the Township or its representatives, in conformance with current definitions as set forth by PADEP or the U.S. Army Corps of Engineers, as applicable.

(7) All areas containing lakes, ponds, wetlands, and watercourses shall be considered to be reserved for permanent open space. Any alteration, development, filling, piping or diverting of such water resources shall be in strict compliance with the provisions of the Zoning Ordinance [Chapter 27], especially those pertaining to the Flood Hazard District, and all prevailing
rules and regulations of the Commonwealth and Federal agencies. The Township recognizes the use of existing or created wetlands as potential components of stormwater management facilities and encourages such innovative use if assurances are met that conservation measures are adequate and that all Federal and Commonwealth requirements are satisfied.

(8) The Board of Supervisors may require that a landowner or developer provide reasonable corrective measures to alleviate an existing on-site and/or off-site drainage problem which may be affected by the proposed subdivision and/or land development. It shall be the responsibility of the landowner or developer to obtain all drainage easements on, over, or through other properties, and the Township, its agents, workmen, servants and employees shall be indemnified and held harmless from any liability.

(9) Any water originating from non-natural sources, such as swimming pools, air conditioning units, sump pumps, roof drains, or other similar flow, shall be properly discharged into a recharge facility or connected to an existing or proposed stormwater management system as approved by the Township. Pollutants from such sources may not be deposited into natural watercourses or storm drains.

(10) Any water originating from non-natural sources, as referenced above, shall not be discharged onto any street or other public right of way used for pedestrian or vehicular access.

(11) All building foundations, grade slabs, and cellar floors located in soils that have a community development limitation degree of moderate to severe for seasonal high water table (as defined in the Chester County Soil Survey) shall be provided with an underdrain system. This system shall provide for drainage of the enclosed volume above the slab, and relief of subsurface water to a depth of not less than 18 inches below the slab or foundation bottom. The system shall consist of a perforated pipe field of the herringbone or gridiron configuration in course, gravel-filled trenches that are in direct contact with the slab or foundation subbase. The excavation shall provide a minimum of 0.05 foot/foot slope to the gravel-filled trenches.

B. Specific Design Requirements for Infiltration/Recharge Facilities.

(1) Infiltration devices shall be selected based on design infiltration volume(s) and suitability of soils and site conditions, including depth to limiting zone(s). Measures may include porous pavement with underground infiltration beds, vegetated infiltration beds, swales and trenches, or other seepage structures as proposed in the Pennsylvania Handbook of Best Management Practices for Developing Areas (1998) and related references prepared by the USEPA, the Washington Metropolitan Council of Governments, the Soil Conservation Service, the Pennsylvania Department of Environmental Protection (PADEP), or other guidance documents.

(2) Soil permeability tests shall be performed for all proposed infiltration areas; these tests shall include evaluation of selected soil horizons by test pits with percolation/infiltration measurements (taken at the base elevation of the proposed infiltration system). Care must be taken to avoid compaction in the testing process. Testing procedures are set forth in Appendix H and should be
reviewed and approved by the Township Engineer in advance. The soil infiltration rate of discharge from the infiltration area being used in the proposed design shall be based on these measurements. Minimum permeability of 0.5 inches per hour is customary, although under certain circumstances a rate as low as 0.25 inches per hour is acceptable.

(3) The lowest elevation of the infiltration area shall be at least 2 feet above the seasonal high water table (SHWT) and bedrock, except in the case of limestone formations, in which case the distance shall be 4 feet.

(4) All roof drains shall discharge to infiltration systems, unless specifically approved by the Township Engineer, with appropriate measures such as leaf traps and cleanouts taken to prevent clogging by vegetation.

(5) All infiltration systems shall have appropriate positive overflow controls to prevent storage within 1 foot of the finished surface or grade.

(6) All infiltration systems shall have a setback of 15 feet and shall be located hydrologically down-gradient from all residential structures. Care should be taken to prevent any seepage into sub-grade structures. Recharge systems greater than 3 feet deep shall be located at least 50 feet from any basement wall, wastewater treatment or wastewater treatment system replacement area. Any recharge system designed to handle runoff from any commercial or industrial impervious parking or outside storage areas shall be a minimum of 100 feet from any water supply well and 50 feet from any wastewater treatment or wastewater treatment system replacement area.

(7) All infiltration systems shall be designed to infiltrate the stored volume within 24 hours except where an extended limit is specifically approved by the Township Engineer.

(8) All surface inflows shall be designed to prevent the discharge of sediment into the infiltration system as accumulated sediment reduces stormwater storage capacity and ultimately clogs the infiltration mechanism. Where sediment is reasonably expected to be generated, mechanism(s) to prevent sediment from entering into infiltration system(s) shall be provided (e.g., sump inlet(s)).

(9) **System Overflow Design.** All recharge facility designs shall incorporate measures to provide for the overflow of runoff which exceeds the capacity of the system without increasing erosion or creating damage to any other stormwater management system components.

(10) **Construction Requirements.** The following procedures and materials shall be required for all subsurface facilities:

(a) Excavation for the infiltration facility shall be performed with equipment which will not compact the bottom of the infiltration bed/trench, or like facility.

(b) The bottom of the bed and/or trench shall be scarified prior to the placement of filter fabric and aggregate.

(c) Only clean aggregate, free of fines, shall be allowed.

(d) The top, bottom, and sides of all infiltration beds, trenches, or like facilities shall be covered with drainage filtration fabric in order to prevent
sediment and soil from migrating into the infiltration system and causing clogging.

(e) Perforated distribution pipes connected to centralized catch basins and/or manholes with provisions for the collection of debris shall be provided in all facilities. The perforated pipes shall distribute stormwater throughout the entire infiltration bed/trench, or like facility.

(f) A positive outlet drain pipe placed at the top of the infiltration bed and/or trench or like facility shall be provided to safely convey larger storms events, as needed. Provision for positive outlet drains also may be made at lower elevations in the infiltration facility in those cases where permeability of the soil is near the lower acceptable limit and/or where concern exists that water remaining in the infiltration facility for extended periods may foster the growth of pathogens.

C. Specific Design Requirements for Detention and Retention Facilities.

(1) Basin Design Criteria. The following design criteria shall be used in the design of all detention or retention basins in the Township. All basins shall be designed to detain/retain the appropriate quantities of water necessary to meet the volume control and discharge rate standards set forth in subsection .3 and as approved by the Township Engineer. All flows in excess design rates shall flow over an emergency spillway.

(2) Riser. A riser or other acceptable outfall shall be provided at the outlet of all detention basins. The riser shall be constructed of precast or poured in place concrete with controlled orifices. The riser shall extend to an elevation 1 foot below the crest elevation of the emergency spillway. The riser shall be designed so that the rate of outflow is controlled by the pipe barrel through the basin berm when the depth of water within the basin exceeds the height of the riser. A trash rack or similar appurtenance shall be provided to prevent debris from entering the riser. All risers shall have a concrete base attached with a watertight connection. The base shall be of sufficient weight to prevent flotation of the riser. An anti-vortex device shall be provided on the top of the riser.

(3) Maximum Depth of Detention Basins. The maximum depth of water in a detention basin shall be 3 feet unless a greater depth is approved by the Township Engineer. The minimum depth of permanent water in any wet pond retention basin shall be 4 feet.

(4) Emergency Spillway. Whenever possible, the emergency spillway for detention/retention basins shall be constructed on undisturbed ground. Emergency spillways shall be designed according to the USDA-NRCS/SCS Engineering Field Manual. All emergency spillways shall be constructed so that the detention/retention basin berm is protected against erosion. The minimum capacity of all emergency spillways shall be such that the combined capacity of the emergency spillway and the principal pipe barrel equal the peak flow rate from the 100-year design storm. Emergency spillways shall extend along the upstream and downstream berm embankment slopes. The upstream edge of the emergency spillway shall be a minimum of 2 feet below the spillway crest evaluation. The downstream edge of the spillway shall, as a minimum,
extend to the toe of the berm embankment. The emergency spillway shall not discharge over earthen fill and/or easily erodible material.

(5) **Anti-Seep Collars.** Anti-seep collars shall be installed around the principal pipe barrel within the normal saturation zone of the detention/retention basin berms. The anti-seep collars and their connections to the pipe barrel shall be watertight. The anti-seep collars shall extend a minimum of 2 feet beyond the outside of the principal pipe barrel. The maximum spacing between collars shall be 14 times the minimum projection of the collar measured perpendicular to the pipe.

(6) **Freeboard.** Freeboard is the difference between the design flow elevations in the emergency spillway and the top of the settled detention/retention basin embankment. The minimum freeboard shall be 1 foot.

(7) **Slope of Detention Basin Embankment.** Retention/detention basins shall be designed to utilize the natural contours of the land. When such design is impracticable, the construction of the basin shall utilize slopes as shallow as possible to blend the structures into the existing terrain. The maximum slope of earthen detention/retention basin embankments shall meet the requirements set forth below. Whenever possible, the side slopes and basin shape shall blend with the natural topography. Straight side slopes and rectangular basins shall be avoided whenever possible. The use of multiple retention/detention facilities, which are smaller and less intrusive on the site, is encouraged to meet these requirements.

(8) **Width of Berm.** The minimum top width of detention/retention basin berms shall be 10 feet.

(9) **Slope of Basin Bottom.** In order to insure proper drainage of the detention/retention basin, a minimum grade of 2 percent shall be maintained for all sheet flow. A minimum grade of 1 percent shall be maintained for all channel flow.

(10) **Energy Dissipaters.** Energy dissipating devices (rip-rap, end sills, etc.) shall be placed at all basin outlets. Any pipe or other component which discharges directly into the basin shall be equipped with energy dissipating devices and shall outlet into the bottom of the basin.

(11) **Landscaping and Grading of Basins and Drainage Channels.** All landscaping and grading standards shall be as follows:

   a) Stormwater management facilities shall not be constructed in wooded areas if alternative locations exist which will not require disturbance of wooded areas.

   b) Facilities which are constructed in wooded areas shall have side slopes of 3 horizontal to 1 vertical. These slopes shall be seeded with natural native seed mix which shall be mowed once annually to prevent tree growth.

   c) Facilities which are constructed in non-wooded areas shall have the following slope requirements:

   1) Slopes ranging from 3 horizontal to 1 vertical to, but not including, 5 horizontal to 1 vertical are permitted if seeded with a
non-mowable ground cover such as crown vetch.

2) Slopes of 5 horizontal to 1 vertical or less are permitted and may be seeded with a mowable lawn or grass cover.

(d) The top of any fill or toe of the slope of any fill shall be located 25 feet from any property line with the exception of a downstream property line where the toe of the embankment shall be placed a sufficient distance to allow for energy dissipating devices, but in no case less than 40 feet unless approved otherwise by the Township.

(e) All storm drainage channels and retention areas, whether existing or proposed, shall be graded and planted to effectively naturalize areas so as to become an integral and harmonious part of the landscape by contour and type of plant material employed.

(f) All earthen basins shall be hydroseeded with temporary and permanent grasses or other approved ground covers immediately after final grading.

(g) Fence or vegetative screening shall be provided if required by the Planning Commission and/or Board of Supervisors.

D. Additional Design Requirements for Wet Pond and Created Wetland BMPs.

(1) Wet pond BMPs shall meet the following requirements:

(a) Wet ponds shall be constructed on hydric or poorly drained soils, that are not wetlands, and/or soils, which have an infiltration rate of less than 0.2 inches/hour.

(b) A minimum drainage area of 5 acres shall be directed to the pond unless a secondary source of recharge is utilized to maintain an appropriate surface water level as determined by the Township Engineer.

(c) The distance between the inflow and outlet points of the wet pond shall be maximized. In addition, an irregular shoreline shall be provided. By maximizing the flow length and providing an irregular shoreline, the greatest water quality benefits will be achieved thereby minimizing potential "short circuiting" of water flowing through the wet pond.

(d) A shallow forebay shall be provided at all inflow areas/points. The forebay shall be planted with emergent and submerged aquatic wetland vegetation. The forebay serves to enhance sediment trapping and pollutant removal, as well as concentrating accumulated sediment in an area where it can be easily removed when necessary.

(e) All wet ponds shall be designed with public safety as a primary concern. An aquatic safety bench shall be provided around the perimeter of the permanent pool. The depth of the water overlying the bench shall be a maximum of 1 foot for a minimum width of 10 feet. A 3 horizontal to 1 vertical slope shall be provided from the edge of the safety bench toward the deep-water portion of the pond for a distance of at least 15 linear feet. Slopes in the remainder of the pond below the permanent pool elevation shall not be greater than 2 horizontal to 1 vertical.

(f) The perimeter slope above the permanent pool, extending outward from the upper limit of the bench shall have a slope not to exceed 4
horizontal to 1 vertical for a minimum distance of 20 feet. The areas beyond the perimeter slope shall have a slope not to exceed 3 horizontal to 1 vertical.

(g) Wet ponds shall have a deep-water zone to encourage gravity settling of suspended fines, and to dissuade stagnation and possible eutrophication.

(h) Wet ponds shall be capable of being substantially drained by gravity flow. Where possible, wet ponds shall be equipped with a manually operated drain that can be secured against unauthorized operation.

(i) A planting plan shall be developed for the wet pond, showing all proposed submerged aquatic, emergent, and upland plantings. The planting plan must list both the common name and species name of all proposed plants.

(j) All proposed vegetation must be native to the region and noninvasive.

(2) Created wetland BMPs shall meet the following requirements:

(a) Created wetlands shall be constructed on hydric or poorly drained soils, that are not wetlands, and/or soils, which have an infiltration rate of less than 0.2 inches/hour.

(b) A minimum drainage area of 5 acres shall be directed to the created wetland unless a secondary source of recharge is utilized to maintain an appropriate surface water level as determined by the Township Engineer.

(c) Runoff entering created wetlands shall be filtered through a sediment removal device before entering the wetland.

(d) A planting plan shall be developed for the created wetland showing all proposed submerged aquatic, emergent, and upland plantings. The planting plan shall be developed to provide a diversity of species resulting in a dense stand of wetland vegetation. The planting plan must list both the common name and species name of all proposed plants.

(e) At least 75 percent of the surface area of the created wetland shall be developed as a shallow water emergent wetland, with sustained inundation of 12 inches or less during the growing season. The remainder may be constructed as open water with depths up to a maximum of 4 feet.

(f) All proposed vegetation must be native to the region and noninvasive.

E. Stormwater Drainage System Design Requirements.

(1) Design Flow Rate. The storm drain system shall be designed to carry a 25-year peak flow rate, and a 50-year peak flow rate at the sump area. The design 25-year peak flow rate into each inlet shall be indicated on the stormwater management plan. The 25-year flow rate shall be determined by the rational formula, $Q = CIA$. Where:

\[ Q = \text{Peak runoff rate, cubic feet per second (CFS)} \]
\[ C = \text{Runoff coefficient equal to the ratio of the runoff rate to the} \]
\[ A = \text{Drainage area, acres} \]
average rate of rainfall over a time period equal to the time of concentration.

\[ I = \text{Average rainfall intensity to inches per hour for a time equivalent to the time of concentration.} \]

\[ A = \text{Drainage area in acres.} \]

Approximate values for the runoff coefficient and rainfall intensity can be found in the following source:

Commonwealth of Pennsylvania
Department of Transportation
Design Manual, Part 2
Highway Design Chapter 12

(2) **Overflow System.** An overflow system shall be provided to carry flow to the detention basin when the capacity of the storm drain pipe system is exceeded. The overflow system shall be of sufficient capacity to carry the difference between the 100-year and the 25-year peak flow rates.

(3) **Inlet Capacity.** All inlets must be designed to accommodate the 25-year peak flow rate. The capacity of all C, M or S type inlets shall be determined from the following source:

Commonwealth of Pennsylvania
Department of Transportation
Design Manual, Part 2
Highway Design

The capacity of each inlet shall be indicated in the design calculations, and inlet design shall prevent unauthorized or accidental human access to the manhole.

(4) **Straight Pipe Sections.** Wherever possible, all storm drain pipes shall be designed to follow straight courses. No angular deflections of storm sewer pipe sections in excess of 5 degrees shall be permitted. No vertical curves shall be permitted in the storm drain pipe system.

(5) **Minimum Grade and Size.** All storm drain pipes shall be designed to maintain a minimum grade of \( \frac{1}{2} \) percent. All storm pipes shall have a minimum inside diameter of 15 inches, except that pipes under a 25 or greater fill shall not be less than 24 inches, or a cross-sectional area of 453 square inches.

(6) **Pipe Material and Thickness.** All storm sewers shall be reinforced concrete of the proper thickness to support the loads and fill material and meet the life expectancy requirements of PennDOT for local roads. The use of smooth-lined corrugated polyethylene pipe shall be reviewed and approved by the Township Engineer on a case-by-case basis.

(7) **Pipe Capacity.** The capacity of all pipe culverts shall, as a minimum, provide the required carrying capacity as determined by the following sources:

United States Department of Commerce
Bureau of Public Roads
Hydraulic Engineering Circular No. 5
Hydraulic Charts for the Selection of Highway
Culverts
United States Department of Commerce
Bureau of Public Roads
Hydraulic Engineering Circular No. 10
Capacity Charts for the Hydraulic Design of Highway
Charts

(8) Pipe Arches. Where headroom is restricted, equivalent pipe arches may be used in lieu of circular pipes.

(9) Allowable Headwater Depth. At all inlets or manholes, the maximum allowable headwater depth shall be 1 foot below the top of the inlet grate or the manhole cover.

(10) Horizontal Pipe Deflections. A manhole or inlet shall be provided at all horizontal deflections in the storm pipe system exceeding 5 degrees.

(11) Minimum and Maximum Cover. A minimum of 18 inches of cover shall be maintained over all storm drain pipes. The top of storm drain pipes shall be at least ½ foot below subgrade elevation.

(12) Diversion or Runoff. All storm drain pipes shall be designed to carry the runoff into a detention basin or similar facility utilized to control the rate of runoff. No discharge at the top or side of basins embankments will be permitted.

(13) Culverts and Drainage Channels.

(a) Design Flow Standard. All culverts and drainage channels, except those utilized for conveying existing stream flow, shall be designed to carry a flow rate equal to a 50-year, 24-hour storm. All culverts and drainage channels utilized for conveying existing stream flow shall be designed to carry a flow rate equal to a 100-year, 24-hour storm (USDA-NRCS/SCS, Technical Release No. 55).

(b) Erosion Prevention. All drainage channels shall be designed to prevent the erosion of the bed and bank areas. The flow velocity in all vegetated drainage channels shall not exceed 3 feet per second to prevent erosion unless special provisions are made to protect banks and channel bottoms against erosion. Water course erosion protection measures such as jute matting, wood excelsior blanket, or nylon erosion control mat are required to prevent erosion of the drainage channels. Where storm sewers discharge into existing drainage channels at an angle greater than 30 degrees from parallel with the downstream channel flow, the far side bank shall be stabilized by the use of rip-rap or masonry, and/or concrete walls. The stabilization shall be designed to prevent erosion and frost heave under and behind the stabilizing media.

(c) Maximum Side Slope. Any vegetated drainage channel requiring mowing of the vegetation shall have a maximum grade of 5 horizontal to 1 vertical on those areas to be mowed.

(d) Design Standard. Because of the critical nature of the vegetated drainage channels, the design of all vegetated channels shall, as a minimum, conform to the design procedures outlined in the PADEP, Erosion and
Sediment Pollution Control Program Manual. Several acceptable sources outline procedures for non-vegetated drainage channels, including the following:

United States Department of Commerce
Bureau of Public Roads
Hydraulic Engineering Circular No. 5
Hydraulic Charts for the Selection of Highway Culverts

Federal Highway Administration
Hydraulic Engineering Circular No. 13
Hydraulic Design of Improved Inlets for Culverts

(f) Reference to publications and source documents in this Chapter shall be deemed to include any amendments and revisions thereof.


A. General Requirements.

(1) No activity subject to the provisions of this Section, as set forth in subsection .2, shall commence until approval by the Township of BMP operations and maintenance plan which describes how the permanent (e.g., post-construction) stormwater BMPs shall be properly operated and maintained. The approved BMP operations and maintenance plan shall be signed and sealed by a registered engineer or landscape architect in good standing in the Commonwealth of Pennsylvania.

(2) The following items shall be included in the BMP Operations and maintenance plan:

(a) Map(s) of the project area, in a form that meets the requirements for recording at the offices of the Recorder of Deeds of Chester County, and shall be submitted on 24-inch x 36-inch or 30-inch x 42-inch sheets. The contents of the maps(s) shall include, but not be limited to:

1) Clear identification of the location and nature of permanent stormwater BMPs.

2) The location of the project site relative to highways, municipal boundaries or other identifiable landmarks.

3) Existing and final contours at intervals of 2 feet, or others as appropriate.

4) Existing streams, lakes, ponds, wetlands, or other bodies of water within the project site area.

5) Other physical features including flood hazard boundaries, sinkholes, streams, existing drainage courses, and areas of natural vegetation to be preserved.

6) The locations of all existing and proposed utilities, sanitary sewers, and water lines within 50 feet of property lines of the project site.

7) Proposed final changes to the land surface and vegetative cover, including the type and amount of impervious area that would
be added.

8) Proposed final structures, roads, paved areas, and buildings.

9) A 15-foot wide access easement around all stormwater BMPs that would provide ingress to and egress from a public right-of-way.

(b) A description of how each permanent stormwater BMP will be operated and maintained, and the identity of the person(s) responsible for operations and maintenance.

(c) The name of the project site, the name and address of the owner of the property, and the name of the individual or firm preparing the plan.

(d) A statement, signed by the landowner, acknowledging that the stormwater BMPs are fixtures that can be altered or removed only after approval by the Township.

B. Responsibilities for Operations and Maintenance of BMPs.

(1) The BMP operations and maintenance plan for the project site shall establish responsibilities for the continuing operation and maintenance of all permanent stormwater BMPs, as follows:

(a) If a plan includes structures or lots which are to be separately owned and in which streets, sewers and other public improvements are to be dedicated to the Township, stormwater BMPs may also be dedicated to and maintained by the Township.

(b) If a plan includes operations and maintenance by a single ownership, or if sewers and other public improvements are to be privately owned and maintained, then the operation and maintenance of stormwater BMPs shall be the responsibility of the owner or private management entity.

(2) The Township shall make the final determination on the continuing operations and maintenance responsibilities. The Township reserves the right to accept or reject the operations and maintenance responsibility for any or all of the stormwater BMPs.


(1) The Township shall review the BMP operations and maintenance plan for consistency with the purposes and requirements of this Chapter, and any permits issued by DEP.

(2) The Township shall notify the applicant in writing whether the BMP operations and maintenance plan is approved.

(3) The Township shall require an "as-built survey" of all stormwater BMPs, including sub-surface systems, and an explanation of any discrepancies with the operations and maintenance plan.

D. Adherence to Approved BMP Operations and Maintenance Plan. It shall be unlawful to alter or remove any permanent stormwater BMP required by an approved BMP operations and maintenance plan, or to allow the property to remain in a condition which does not conform to an approved BMP operations and maintenance plan, unless an exception is granted in writing by the Township.

E. Operations and Maintenance Agreement for Privately Owned Stormwater
BMPs.

(1) The property owner shall sign an operations and maintenance agreement with the Township covering all stormwater BMPs that are to be privately owned. The agreement shall be substantially the same as the agreement in Appendix B of this Chapter.

(2) Other items may be included in the agreement where determined necessary to guarantee the satisfactory operation and maintenance of all permanent stormwater BMPs. The agreement shall be subject to the review and approval of the Township.

F. Stormwater Management Easements.

(1) Stormwater management easements are required for all areas used for offsite stormwater control, unless a waiver is granted by the Township Engineer.

(2) Stormwater management easements shall be provided by the property owner if necessary for (a) access for inspections and maintenance, or (b) preservation of stormwater runoff conveyance, infiltration, and detention areas and other BMPs, by persons other than the property owner. The purpose of the easement shall be specified in any agreement under §22-406.

G. Recording of Approved BMP Operations and Maintenance Plan and Related Agreements.

(1) The owner of any land upon which permanent BMPs will be placed, constructed or implemented, as described in the BMP operations and maintenance plan, shall record the following documents in the Office of the Recorder of Deeds for Chester County, within 15 days of approval of the BMP operations plan by the Township:

(a) The operations and maintenance plan, or a summary thereof.
(b) Operations and maintenance agreements under this Section.
(c) Easements under §22-407.

(2) The Township may suspend or revoke any approvals granted for the project site upon discovery of the failure of the owner to comply with this Section.

H. Municipal Stormwater BMP Operation and Maintenance Fund.

(1) If stormwater BMPs are accepted by the Township for dedication, the Township may require persons installing stormwater BMPs to pay a specified amount to the municipal stormwater BMP operation and maintenance fund, to help defray costs of operations and maintenance activities. The amount may be determined as follows:

(a) If the BMP is to be owned and maintained by the Township, the amount shall cover the estimated costs for operations and maintenance for 10 years and also may be required to include provision for ultimate replacement costs of all system components, as determined by the Township.
(b) The amount shall then be converted to present worth of the annual series values.
(2) If a BMP is proposed that also serves as a recreation facility (e.g., ball field, lake), the Township may adjust the amount due accordingly.

I. Alteration of BMPs.

(1) No person shall modify, remove, fill, landscape or alter any existing stormwater BMP, unless it is part of an approved maintenance program, without the prior written approval of the Township.

(2) No person shall place any structure, fill, landscaping or vegetation into a stormwater BMP or within a drainage easement, which would limit or alter the functioning of the BMP.


§22-427. Stripping, Piling, Replacement or Removal of Topsoil.

Initial construction of any site shall consist of stripping and piling of topsoil from all areas planned to be disturbed. The area stripped shall be kept to a minimum. Upon completion of other construction, the entire amount of topsoil stripped shall be replaced on the site. No topsoil shall be disposed of, by sale or otherwise, off the site of the construction. See also §27-1505, “Excavation of Clay, Sand, Gravel, and Rock,” of the East Vincent Township Zoning Ordinance [Chapter 27].


§22-428. Dedication of Land, or Payment of Fees in Lieu Thereof, for Parks, Recreation, and Open Space Use.

1. Purpose. The purpose of this Section is to implement the East Vincent Township Open Space, Recreation and Environmental Resources Plan of 1992 as specifically authorized by §503(11) of the Pennsylvania Municipalities Planning Code, 53 P.S. §10503(11), including:

   A. Providing a variety of active and passive open space lands to serve the varied recreational needs of the Township's residents, businesses and industry.
   
   B. Preserving open space and protecting the natural, scenic, and historic resources of East Vincent Township.
   
   C. Developing a system of public parklands and other open space areas that can effectively and efficiently offer recreational opportunities and experiences.
   
   D. Providing equitable and convenient accessibility to recreation facilities and open space areas within the Township's urbanizing areas.
   
   E. Supporting community development and stability through a balance of developed areas, locally and regionally valued open space resources, and neighborhood, community, and regional recreational opportunities.

2. Applicability. The requirements of this Section shall apply to all minor and major residential subdivision and land development applications as defined in §22-301.2.


   A. The applicant shall make an irrevocable offer of dedication of park and recreation lands to the Township per the requirements of this Section. The Township Supervisors may authorize the transfer of the land to a homeowners
association or other appropriate third party when such reservation is consistent with the East Vincent Open Space, Recreation, and Environmental Resources Plan. In lieu of dedicating park, recreation, and open space land to the Township, the applicant may elect to pay a fee to the Township.

B. All dedications of land for park, recreation, and open space purposes shall be consistent with any standards contained in the East Vincent Township Open Space, Recreation, and Environmental Resources Plan, any recommendations contained within the applicant’s recreation impact study filed pursuant to §22-307.6.E(3) where applicable, and all provisions of this Section. Such dedications shall be at locations deemed appropriate by the Township Board of Supervisors. If a specific site has been designated in the East Vincent Township Open Space, Recreation, and Environmental Resources Plan for future park purposes, any preliminary or final plan shall show the dedications of land in a location that corresponds to the Plan designation. Title to land to be dedicated shall be good and marketable, free of all liens or other defects and acceptable to the Township Solicitor.

4. **Amount of Land Required.**

   A. Consistent with the East Vincent Township Open Space, Recreation, and Environmental Resources Plan, the amount of park and recreation land required to be dedicated shall equal at least 0.125 acres per proposed residential dwelling unit.

   B. The Board may, at its sole discretion and upon recommendation of the Township Planning Commission and the Park and Recreation Board, agree to accept a lesser amount of land than the minimum acreage otherwise required, where the applicant agrees to provide a fully developed active recreation facility within the open space that addresses a recreational need of particular importance to the Township in that location and that is particularly appropriate to the prospective residents of the development.

   C. Required restricted open space for subdivisions filed in accordance with the open space design option of the Zoning Ordinance [Chapter 27] may be utilized to meet the land dedication requirements where such land fully meets the land characteristics and design standards of subsection .6 this Chapter, and is determined suitable by the Board of Supervisors as provided for in this Section.

   D. The land dedicated to the Township for park and recreation purposes need not be part of the land development or subdivision. It may be located on a separate parcel of land, provided that in the sole discretion of the Board of Supervisors, it is convenient to the subdivision or land development. In addition, the developer, with the approval of the Township, may construct park and recreation facilities at the Township facilities, Owen J. Roberts School District properties, or the facilities of another development to satisfy the requirements of this Section.

5. **Fee-in-Lieu of Dedication.**

   A. If the Board of Supervisors determines in its discretion that no land within a particular subdivision or land development proposal is suitable for dedication as park land or open space, or determines in its discretion that dedication would not be practical in a particular case, or if the applicant demonstrates to the satisfaction of the Board of Supervisors that the reservation of park or open space is not
practical or not in the best interest of the residents of the proposed development and of the Township in general, a fee in lieu of parkland dedication shall be required.

B. The amount of any fee in-lieu of land dedication shall be a minimum of $3,000 per proposed residential unit.

C. A note shall be placed on the final subdivision plan prepared for recording, stipulating the total amount of the fee to be paid, as established through subsection .5.B, and the means and timing of payment.

D. All funds collected in lieu of land dedication shall be deposited by the Township in an interest-bearing account which identifies the specific park and recreation facilities the funds will be used to acquire and construct. All interest earned on this account shall become funds of the account. Upon request of any person who paid any fee, the Township shall refund such fee, plus any interest accumulated thereon from the date of payment, if the Township has not used the funds to meet the purposes set forth in this Section within 3 years from the date such fee was paid.

6. Land Characteristics and Design Standards. The Planning Commission and the Board of Supervisors in exercising their duties regarding the review of subdivision or land development plans shall consider the recommendations of the Park and Recreation Board as well as the following criteria in determining whether to accept the applicant's offer to dedicate land:

A. The area or areas shall be consistent with the plan for open space and plan for recreation components of the Township's Open Space, Recreation, and Environmental Resources Plan and any other open space, park or recreational facilities existing or subsequently adopted by the Township.

B. The area or areas shall be suitable for active recreational uses in their entirety without interfering with adjacent dwelling units, parking, driveways, and roads. Consistent with the primary objective of providing active recreation areas, the proposed open space shall be free of wetlands and surface water, and not characterized by floodplain, hydric soils, or slopes exceeding 6 percent.

C. The area or areas and their use shall be consistent with natural, scenic, and historic features protection provisions, as and to the extent contained elsewhere in this Chapter or in the Township Zoning Ordinance [Chapter 27].

D. The area(s) shall be comprised of areas not less than ¼ acre of contiguous areas and not less than 75 feet in width, except where a narrower area of linear open space is serving solely as a connecting access strip between larger open space parcels or as a portion of a trail system or pathway network. The configuration of the recreation area must be able to accommodate the proposed recreation activities.

E. The area(s) shall be interconnected with common open space areas on adjoining parcels where ever possible, including provision for pedestrian pathways for general public use to create linked pathway systems within the Township consistent with §22-434 of this Chapter.

F. The area(s) and uses shall be coordinated with applicable open space and recreation plans of any federal, state, county, regional, adjacent municipal or private organization to compliment various programs increasing the utility of the
open space and recreation network.

G. The area(s) and uses shall be provided with sufficient perimeter parking when necessary, and with safe and convenient access by adjoining street frontage or other right of way easements capable of accommodating pedestrian, bicycle, maintenance and vehicle traffic and containing appropriate access movements.

H. The area(s) shall be undivided by any public or private streets, except where necessary for proper traffic circulation, and then only upon the recommendation of the Township Engineer and Planning Commission.

I. The area(s) shall be free of all structures and utility easements, except those structures related to outdoor recreational uses. Subject to the approval of the Board of Supervisors, supportive equipment for the use of such lands in the disposal of treated wastewater through land application or community subsurface methods may be permitted. Furthermore, other utility easements (cable, gas, oil, phone, fiber optic, or electric) where utilities are placed underground and no part of them or their supportive equipment protrudes above the ground-level are permitted within the area(s) free of woodlands and other sensitive natural or cultural resources.

J. The area(s) shall be subject to approval of a landscape plan and, if applicable, an open space management plan. The landscaping plan submitted in accordance with §22-422 shall include provisions for full invasives removal by the applicant and/or developer prior to dedication of any natural area to the Township.

K. The linkage of erosion and sediment control or stormwater control facilities with recreation facilities may be permitted and is encouraged by the Township if the presence of such facilities does not conflict with proposed activities or detract from the aesthetic values associated with the recreational facility. Plans for combining these facilities should be submitted to the Township for review and approval.

L. Where part of a phased development, areas shall be in amount and at locations, as deemed acceptable by the Board of Supervisors, sufficient to meet the minimum open space needs generated by each phase of the development. The applicant shall provide, as part of the application for approval of the first phase of development, a schedule to the amount of open space land or of fees-in-lieu thereof to be provided in each of the subsequent phases.

7. Effect of Dedication of Land on Allowed Density of Remaining Development. Land dedicated for park and recreational use shall not be included in lot size calculations for the purpose of determining the number and character of units allowed to be developed.


§22-429. Natural and Historic Features Protection.

1. Consideration shall be shown for all natural features, such as large trees, watercourses, historic areas and structures, and similar community assets which, if preserved, will add attractiveness and value to the remainder of the subdivision or land development. Alteration or removal of such features shall only be permitted in accordance with an approved final subdivision or land development plan or, where applicable, an order of conditional use approval issued by the Board of Supervisors or
any applicable approval of the Zoning Hearing Board or the Code Enforcement Officer. Site alterations, regrading, filling, clearing of vegetation or other alteration or removal of natural or historic features prior to the submission of application(s) for zoning, building, or grading permits or the submission of plans for subdivision or land development, as applicable, shall be a violation of this Chapter.

2. **Conservation of Woodlands, Hedgerows and Specimen Vegetation.**

   A. **Purpose.** This Section is intended to promote conservation of woodland, hedgerow and specimen vegetation throughout the Township through establishment of specific limitations to land development activities, replacement requirements, and management planning provisions.

   B. **Applicability.** Application of these provisions is intended to modify the location of development in relation to existing woodlands, hedgerows and specimen vegetation but not to modify its overall intensity. The provisions of this Section shall apply to any land disturbance resulting from or in connection with any subdivision or land development or any other applicable activity as set forth in the East Vincent Township Zoning Ordinance [Chapter 27]. Where any applicant for subdivision or land development demonstrates to the satisfaction of the Board of Supervisors that strict adherence to these provisions will render the lot or tract subject to application unusable or unsuitable for development in accordance with applicable zoning district regulations, or demonstrates that alternative design provisions shall achieve similar conservation objectives, the Board may waive or modify compliance as appropriate. Any such modification to the applicability of these provisions shall not require independent approval of zoning variance, special exception or conditional use in accordance with the provisions of §27-1503 of the East Vincent Township Zoning Ordinance [Chapter 27].

   C. **Limitations to Woodland Disturbance.**

      (1) Applicants shall make all reasonable efforts to harmonize their plans with the preservation of existing trees. Woodland disturbance, including alteration or removal of any hedgerows shall be minimized. No portions of tree masses, treeline, hedgerow, or individual freestanding trees with 6-inch or greater DBH shall be removed unless clearly necessary to effectuate the proposed development. In no case, shall more than 50 percent of any existing tree masses, treelines, hedgerows, or individual freestanding trees with 6 inch or greater DBH be removed.

      (2) No specimen vegetation shall be removed from any lot or tract except where applicant demonstrates to the satisfaction of the Board of Supervisors that such removal is essential to eliminate hazardous condition(s) or otherwise permit lawful use of the lot or tract; where permitted, removal of specimen vegetation shall be minimized. Specimen trees to be retained shall be credited toward any tree replacement required under subsection .2.D, below.

      (3) Woodland replacement in accordance with subsection .2.D below shall be required wherever permitted woodland disturbance on any lot or tract involves more than 20,000 square feet of woodland area for each principal use permitted or disturbance to more than 25 percent of any woodland area, whichever is less. For purposes of this Section, the extent of any area of woodland disturbance shall be measured to include the entire area within the
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(4) When proposed land disturbance necessitates woodland disturbance, the applicant shall be guided by the following criteria in selecting vegetation for retention or clearing:

(a) The location(s) and benefit of conservation of healthy mature woodland stands.

(b) The impacts, in terms of functions and values to wildlife, of separating, dividing and/or encroaching on wildlife travel corridors and/or extensive habitat areas, especially woodlands exceeding 10 acres in area.

(c) The impact(s) upon scenic views and aesthetic values (such as but not limited to autumn coloration, types of flower and fruit, bark and crown characteristics, amount of dieback present).

(d) Susceptibility to insect attack and/or disease.

(e) Species longevity.

(f) Wind firmness and capability of soil to hold trees.

(g) Existence of disease, rot, or other damage to the tree (trees in poor physical condition should be removed).

(h) Protection of buildings (e.g., dead and large limbs hanging over buildings should be removed).

(5) In areas of permitted woodland disturbance and areas adjacent to permitted woodland disturbance, care shall be exercised to protect remaining trees from damage. To the maximum extent practicable, the following procedures shall be utilized in order to protect remaining trees:

(a) Where existing trees are to remain, no change in existing grade shall be permitted within the drip line of the trees. Appropriate fencing or other means of demarcation acceptable to the Township shall be placed at the drip line of trees to remain, wherever adjacent to proposed construction. Such fencing shall be maintained in place throughout the duration of construction activity. Roots shall not be cut within the drip line of any trees to remain.

(b) Trees within 25 feet of a building, or bordering entrances or exits to building sites, shall be protected by a temporary barrier to be maintained in place throughout the duration of construction activity.

(c) No boards or other material shall be nailed or otherwise attached to trees during construction.

(d) Construction materials, equipment, soil and/or debris shall not be stored nor disposed of within the drip lines of trees to remain, except for mulched vegetative matter used to prevent soil compaction.

(e) Tree trunks, limbs, and exposed roots damaged during construction shall be protected from further damage by being treated immediately in accordance with accepted professional landscape procedures.

D. **Required Vegetation Replacement.**

(1) Where woodland disturbance involves more than the maximum area
permitted under subsection .2.C.(3) above (i.e., 20,000 square feet per principal use or 25 percent of woodland area, as applicable), one tree and two shrubs shall be planted for each 300 square feet of woodland disturbance area, or fraction thereof, in excess of the maximum permitted area of disturbance. All specimen trees to be retained shall be credited toward any tree replacement requirement, at a ratio of three trees credited for each individual specimen tree retained.

(2) Plantings used to comply with the minimum number of replacement plantings required as above shall be:
   
   (a) Trees - 3 inch caliper, minimum.
   (b) Shrubs - 24-30 inches in height, minimum.

Plantings and their measurement shall conform to the standards of the publications "American or U.S.A. Standard for Nursery Stock," ANSI or U.S.A.S. Z60.1 of the American Association of Nurserymen, as amended. All plant material used on the site shall have been grown within the same USDA hardiness zone as the site and shall be nursery grown, unless it is determined by the Township that the transplanting of trees partially fulfills the requirements of this Section. At the discretion of the Township, replacement trees required as above, may be substituted by trees of at least 1½ inch caliper at a ratio of three trees for each one tree otherwise required.

(3) Species of replacement plantings selected and planting locations shall reflect careful site evaluation and in particular the following considerations:
   
   (a) Existing and proposed site conditions and their suitabilities for the plant materials, based upon the site's geology, hydrology, soils, and microclimate.
   
   (b) Specific functional and design objectives of the plantings, which may include, but not necessarily be limited to, replacement of woodland area removed, enhancement of existing woodland or oldfield area(s), reforestation of riparian buffer areas, provision for landscape buffer, visual screening, noise abatement, energy conservation, wildlife habitats, and aesthetic values.
   
   (c) Maintenance considerations such as hardiness, resistance to insects and disease, longevity, and availability.
   
   (d) Because of the many benefits of native plants (ease of maintenance, longevity, wildlife habitat, etc.), the use of nursery-grown free-fruiting native trees and shrubs is strongly encouraged. Species selection should reflect species diversity characteristic of the native deciduous woodland.

(4) The species, sizes, and locations of required replacement plantings shall be subject to the approval of the Township. The Township may approve the location of replacement plantings on lots or tracts other than that under application, where such placement furthers the objectives of this Chapter.

E. Woodland Management Planning.

(1) Applicant shall submit to the Township, as part of any application for approval, a plan specifying the long-term management provisions which will
be established for any woodland area not subject to woodland disturbance and any area selected for introduction of replacement plantings in accordance with subsection .2.D above. Such plan shall indicate management provisions in narrative and/or graphic form of sufficient detail to satisfy the Township that the following issues can be adequately addressed:

(a) The manner in which any retained woodland area will be owned and by whom it will be managed and maintained.

(b) The conservation and/or land management techniques and practices which will be used to conserve and protect such areas, as applicable.

(c) The professional and personnel resources that are expected to be necessary in order to maintain and manage the property.

(2) The plan specifying woodland management provisions also shall include a statement of woodland management objectives and shall demonstrate to the satisfaction of the Township the feasibility of intended management practices, aiming to ensure the success of stated objectives, including the viability of introduced plantings, deterrence of invasive species, and means to minimize any future woodland disturbance. Applicants are strongly encouraged to seek woodland management assistance through the Pennsylvania "Forest Stewardship Program" administered by the Pennsylvania Bureau of Forestry or other similar program.

(3) In order to ensure implementation of specified woodland management provisions on an on-going basis, the Township may, as a condition of any applicable approval, require the establishment of conservation easement(s) or deed restriction(s) in a form acceptable to the Township.

F. Replacement Guarantee. All replacement plantings shall be guaranteed and maintained in a healthy and/or sound condition for at least 18 months. Any replacement plantings found not to be in a healthy and/or sound condition during such time period shall be replaced with the same type and amount of plantings. Installation of replacement plantings and any other required landscape improvements shall be guaranteed along with all other site improvements in accordance with this Chapter. The costs of landscape material and installation shall be considered in determining the amount of any performance guarantee required. At the Township's discretion, the applicant may be required to provide sufficient additional financial security for the maintenance and/or replacement of landscape improvements during the 18-month replacement period, the total amount of such financial security not to exceed 15 percent of the cost of the landscape improvements. In addition, such financial security shall include the cost of the removal and replacement of specimen vegetation damaged during construction.


A. Purpose. This Section is intended to address the multiple water resource protection benefits provided by riparian buffer areas, including the following:

(1) Reduction of the amount of nutrients, sediment, organic matter, pesticides, and other harmful substances that reach watercourses through subsurface and surface flow pathways through scientifically proven natural processes including filtration, deposition, absorption, adsorption, plant uptake,
and denitrification, and by improving infiltration, sheet flow, and stabilizing concentrated flows. The consumption of nitrogen and denitrification in surface and groundwater and the trapping of phosphorus-laden sediment and other pollutants resulting from adjacent land uses, thereby protecting water quality are critical.

(2) Provision of shade that moderates stream temperature and protects fish habitat by retaining more dissolved oxygen and encouraging the growth of diatoms, beneficial algae and aquatic insects.

(3) Provision for stream bank stability that protects fish habitat and controls sediment and erosion. Tree roots consolidate the soils of floodplain and stream banks, reducing the potential for severe bank erosion.

(4) Provision of organic matter through leaves which fall into the stream and are trapped on woody debris (fallen trees and limbs) and rocks where they provide food and habitat for small bottom dwelling creatures (such as insects, amphibians, crustaceans and small fish) which are critical to the aquatic food chain.

(5) Conserves the natural features important to land or water resource (e.g. headwater areas, groundwater recharge zones, floodway, floodplain, springs, streams, woodlands, prime wildlife habitats) which exist on developed and undeveloped land.

B. **Applicability.** Application of these provisions is intended to modify the location of development in relation to riparian buffer areas but not to modify its overall intensity. The provisions of this Section shall apply to any land disturbance resulting from or in connection with any subdivision or land development or any other applicable activity as set forth in the East Vincent Township Zoning Ordinance [Chapter 27]. Where any applicant for subdivision or land development demonstrates to the satisfaction of the Board of Supervisors that strict adherence to these provisions will render the subject lot or tract unusable or unsuitable for development in accordance with applicable zoning district regulations, or demonstrates that alternative design provisions shall achieve similar conservation objectives, the Board may waive or modify compliance as appropriate. Any such modification to the applicability of these provisions shall not require independent approval of zoning variance, special exception or conditional use in accordance with the provisions of §27-1504 of the East Vincent Township Zoning Ordinance [Chapter 27].

C. **Required Riparian Buffer.** No structures shall be placed within any riparian buffer area as defined in §22-202, and no land disturbance shall be permitted within any riparian buffer area, except for the following, subject to further limitation within Zone One: Inner Riparian Buffer, as set forth in subsection .3.D below:

(1) Timber harvesting in accordance with a woodland management plan prepared by a professional forester and approved by the Township.

(2) Vegetation management in accordance with an approved landscape plan or open space management plan approved by the Township.

(3) Customary agricultural practices in accordance with a soil conserva-
tion plan approved by the Chester County Conservation District.

(4) Regulated activities permitted by the Commonwealth (e.g., permitted stream or wetland crossing or other encroachment).

D. **Limitation to Disturbance Within Zone One: Inner Riparian Buffer Area.** No woodland disturbance or other land disturbance, shall be permitted within any Zone One: Inner Riparian Buffer, except for the following:

1. Regulated activities permitted by the Commonwealth.
2. Provision for unpaved trail access.
3. Selective removal of hazardous or invasive alien vegetative species.

E. **Riparian Management Planning.** All applicants shall specify the long-term management provisions that will be established for any riparian buffer area, aiming to minimize land disturbance within the buffer area. Such management provisions shall be indicated in narrative and/or graphic form of sufficient detail to satisfy the Township that the following issues are adequately addressed:

1. The manner in which any riparian buffer area will be owned and by whom it will be managed and maintained.
2. The conservation and/or land management techniques and practices which will be used to conserve and protect such areas, as applicable.
3. The professional and personnel resources that are expected to be necessary in order to maintain and manage the property.
4. Where applicable, applicants are strongly encouraged to seek woodland management assistance through the Pennsylvania "Forest Stewardship Program" administered by the Pennsylvania Bureau of Forestry.

F. **Conservation Restriction.** In order to ensure implementation of specified management provisions for riparian buffer areas on an on-going basis, the Township may, as a condition of any applicable approval, require the establishment of a conservation casement(s) or deed restriction(s) in a form acceptable to the Township.

4. **Historic Resources.** Historic features and other points of interest shall be identified and preserved in accordance with the terms of the East Vincent Township Zoning Ordinance [Chapter 27] and may be credited toward open space requirements under the following conditions:

A. The feature being preserved shall be listed upon a Township, County, State, and/or National roster or inventory of features, monuments, or places of historic or general interest, or the applicant shall by some other means demonstrate to the satisfaction of the Board of Supervisors that the said feature is of sufficient public interest to warrant preservation. Features may include, but shall not necessarily be limited to, historically, culturally, or architecturally significant buildings, monuments, or sites; unique or historic landscape elements, such as historic gardens or Penn oaks; archaeologic sites; and any other feature which shall be deemed by the Board of Supervisors to be of historic or cultural value to the Township.

B. The feature shall be situated on a tract of land of sufficient size to preserve an impression, although not necessarily the exact condition, of the environs of the
said feature prior to construction of the proposed development. The amount of 
credit toward open space requirements shall be equivalent to the size of this tract.

C. The feature shall not be moved.

D. The developer may be required to provide interpretive signage explaining 
the significance of the feature.

E. The feature and the tract upon which it is located shall be maintained by 
the owner of the tract, a community association, a public agency, or a private 
conservation group which shall be responsible for the maintenance of the feature 
and its grounds.

F. The developer shall be responsible for improvements to the site deemed 
necessary by the Board of Supervisors to protect public safety.

G. The Township shall maintain a permanent record of all historic features 
which have been credited to open space requirements, as well as the amount of 
land per feature so credited.

(Ord. 138, 7/17/1996, §428; as amended by Ord. 163, 6/12/2002, §15; and by Ord. 178, 
12/1/2004)

§22-430. Access and Interior Circulation.

The following shall apply to private driveways, accessways and other means of 
interior circulation serving multi-family residential, institutional, commercial or 
industrial properties:

A. All driveways, aisles, maneuvering spaces, vehicular service areas, or 
spaces between or about buildings, shall be adequately illuminated according to 
§22-418 of this Chapter.

B. All parking, loading or service areas, used by motor vehicles shall be 
located entirely within the lot line of the property.

C. Except where clearly impractical, no parking, loading, or service area shall 
be located within front yard setback areas.

D. Vehicular access shall be designed to limit the number of new access points 
to public roads and to limit potential for turning movement conflict, as set forth in 
this Section. For the purposes of this Section, any land development subject to a 
unified land development plan (e.g., a planned commercial or planned industrial 
development) shall be considered as a single parcel.

(1) All accessways onto State roads shall be designed to conform to 
PennDOT specifications and shall otherwise conform to the requirements of 
this Section.

(2) Direct access to any arterial or collector street or highway shall be 
limited to no more than one point of ingress and one point of egress, or a single 
point of ingress and egress for any lot, tract, or parcel with frontage on such 
road. Any parcel with frontage on more than one arterial or collector street or 
highway may provide for access to each of such streets or highways.

(3) Direct access to any public street or road other than an arterial or 
collector street or highway shall be limited to no more than one point of ingress 
and one point of egress, or a single point of ingress and egress for each 500 feet
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of frontage on any such road. For the purposes of this Section, fractional increments of 500 feet may be rounded up (for example, if a parcel has 600 feet of frontage along a given road, it may be permitted to have access on the basis of the first 500 feet and then additional access based on the additional 100 feet as a fraction of the next 500-foot increment).

(4) Where practicable, access to adjoining parcels shall be combined and inter-parcel access provided, so as to reduce the number of individual points of access that may otherwise be required.

E. The developer shall be responsible for the design, construction and installation, and the cost thereof, for any necessary traffic control devices and/or highway modifications required by the Township and/or PennDOT.

F. Interior drives shall be designed to prevent blockage of vehicles entering or leaving the site. Drives may be one-way or two-way. Areas designed for loading and unloading, refuse collection, fuel delivery, and other service vehicles shall be arranged as to prevent blocking or interfering with accessways, the use of automobile parking facilities or pedestrian ways, and shall have adequate turnaround surface so egress to the street is in a forward direction.

G. Fire Lanes.

(1) No multi-family residential, institutional, commercial, or industrial building shall be located more than 150 feet from a duly dedicated, improved, and accessible fire lane easement as defined herein nor more than 600 feet from a duly dedicated, accessible, and improved public street.

(2) Fire lane easements shall have a minimum unobstructed right-of-way width of 40 feet, and there shall be constructed within this right of way an all-weather and well-drained surfaced cartway with a minimum width of 20 feet. The extension of fire lane easements shall begin from one or more existing and improved public streets.

(3) Fire lane easements which curve, turn or change direction shall have a minimum radius of 55 feet of cartway. Fire lane easements containing reverse curves shall have a minimum centerline tangent length of 50 feet between curves.

(4) Dead-end fire lane easements shall be terminated with an unobstructed vehicular turnaround or cul-de-sac with a minimum right-of-way radius of 45 feet and shall have a minimum surfaced radius of 35 feet. Dead-end fire lane easements shall have a maximum length of 500 feet. The location of fire lane easements shall conform to plans for extension of streets, sanitary sewers, water mains, storm sewers, and other drainage facilities and public utilities as contained in this and other ordinances of the Township and shall provide adequate access to buildings by firemen or other emergency services.

H. Pedestrian and Non-Motorized Circulation.

(1) Pedestrian access shall be designed to provide convenient, safe, and direct access between individual uses within a development and/or neighboring and nearby concentrations of development, as applicable.

(2) An asphalt perimeter trail or trails shall be established within the required perimeter buffer area on any development in the GI or PO Zoning
Districts as established by the East Vincent Township Zoning Ordinance [Chapter 27]. Such trail(s) shall serve the development and provide for inter-parcel connection to existing, planned or potential trails on adjoining properties. Such trail(s), which shall be established at the time of site development to run from one side of the lot or tract to the other, may replace requirements for sidewalk(s), subject to the approval of the Board of Supervisors at the time of subdivision or land development plan approval, but shall remain the maintenance responsibility of the property owner or its assigns or a business owners association approved by the Township or its assigns. The Board of Supervisors may approve an alternative trail alignment within a lot or tract where existing development on an adjoining property requires flexibility to achieve a continuous trail network.

3) Trails shall be designed and constructed in accordance with design specifications provided by the Township Engineer. Trails intended for pedestrian and non-motorized bicycle use shall be 10 feet in width. Trails intended for pedestrian use only shall be at least 5 feet in width.

4) The development of pedestrian or non-motorized trails, paths, or sidewalks shall also include accessory features such as benches, trash receptacles, and lighting, appropriately located to provide for safety and convenience.


§22-431. Parking.

Parking shall be required as provided in §27-1709 of the East Vincent Township Zoning Ordinance [Chapter 27]. All required parking shall conform to the provisions of this Section:

A. Parking Spaces.

1) Parking spaces for each vehicle shall be at least 9 feet by 19 feet in size, except as provided for handicapped parking spaces in paragraph C(5), below. Parking spaces shall have an approved all-weather surface and shall have convenient access in all seasons.

2) The required parking area shall be measured exclusive of interior drives or maneuvering areas.

B. Access and Interior Drives.

1) Access aisles which separate rows of parking spaces within parking lots shall have a minimum width of 24 feet.

2) Interior drives shall be clearly marked by adequate painting, marking, curbing, and signs so that operators of vehicles shall not impede traffic as a result of any confusion as to location of entrances and exits and manner of reaching them.

3) Parking lots for over 20 vehicles shall be designed so as to appear broken in mass, in proportion to the scale of structural development, and shall be so divided by permanent raised curbing and/or planting strips so that access lanes are clearly defined, and that moving traffic will be confined to designated
access lanes.

(4) Driveways shall be so constructed as to permit vehicles to turn around on the lot, so as to eliminate the necessity of backing either on or off the lot.

C. Design.

(1) Outdoor parking or service areas for uses open to the public and the approaches thereto shall be paved according to Township specifications, and shall be graded, properly drained, and maintained in a good condition. Where appropriate, the use of porous pavement and/or specially designed brick or block should be considered to increase on-site water retention for plant material and groundwater supplies and to reduce problems associated with runoff.

(2) Any parking for five or more vehicles on a lot which abuts a residential district or a lot for residential purposes, whether single-family or multifamily, shall be screened from the adjacent property by an effective screen the entire length of the parking lot, and shall meet the requirements of §22-422.

(3) All parking areas shall be landscaped in accordance with the provisions of §22-422.

(4) Parking spaces shall be clearly delineated by suitable markings. Shortterm visitors parking spaces shall be differentiated from long-term employee spaces by suitable markings.

(5) Handicapped Parking. The following provisions shall apply to handicapped parking, subject to the Americans with Disabilities Act, Title III Regulations promulgated by the U.S. Department of Justice (28 CFR, Part 36, revised July 1, 1994).

(a) A minimum of one handicapped accessible parking space shall be provided for each 20 parking spaces or fraction of 20 spaces. Such spaces shall be a minimum of 12.5 feet wide by 19.0 feet long, and shall be located so as to provide the safest and most efficient access to the principal building served by the parking lot. For every eight handicapped accessible parking spaces or fraction of eight handicapped accessible spaces, there shall be at least one such space that is van accessible per East Vincent Township Building Code [Chapter 5, Part 1].

(b) Each handicapped space or group of spaces shall be identified with a clearly visible sign or signs and surface-painted handicapped logo(s) displaying acceptable international symbols of handicapped access.

(c) Where possible, handicapped spaces shall be located so that persons in wheelchairs or using braces or crutches are not compelled to wheel or walk behind parked cars.

(d) Where applicable, curb ramps shall be provided to permit handicapped people access from the parking lot to the sidewalk or building entrance.


§22-432. Special Building Design Standards for Commercial Development.
In addition to all applicable area and bulk criteria set forth in the East Vincent Township Zoning Ordinance [Chapter 27], the design standards of this Section shall apply to any land development containing or intended to contain commercial uses. For purposes of this Section, an individual building shall be considered as a space or contiguous spaces under one roof fully separated from any abutting building by permanent walls and with no direct access to any abutting building:

A. Where any individual building larger than 20,000 square feet of total floor area directly abuts any other building, there shall be a clear dimensional differentiation of roofline (i.e., an obvious difference in height) and/or an offset in facade of at least 10 feet.

B. Where any individual building facade (or adjoining facades which abut flush to the same building line) is visible from any public right-of-way or public space (including internal public spaces within a development) and exceeds 80 feet in length, there shall be a clear dimensional differentiation of roofline (i.e., an obvious difference in height) and/or an offset in facade of at least 10 feet, effectively breaking the single facade into two or more facades each no more than 80 feet in length. The Board of Supervisors may approve single facades greater than 80 feet in length, where applicant demonstrates to the satisfaction of the Board that the design of the building and its relationship(s) to surrounding buildings and landscaped areas mitigates any negative impacts of long continuous building facade(s). Mitigating factors may include design which emulates characteristic historical building forms which typically included relatively long individual facade lengths such as barns, stables, churches, meeting houses, or other public buildings. Building arrangements shall not rely on repeated use of the same long facade element.


§22-433. Unified Development Plan Requirements for Planned Industrial Development.

1. All proposed planned industrial development, as permitted in accordance with the provisions of the East Vincent Township Zoning Ordinance [Chapter 27], shall be depicted on a unified development plan at a minimum scale of 1"=50'. The unified development plan shall serve as a master site development plan for the subdivision and/or land development of any property for purposes of planned industrial development. This plan shall express a unified design for phasing of lots, streets, and other improvements throughout the tract proposed for planned industrial development. The unified development plan may satisfy preliminary and/or final plan submission requirements where all other applicable standards of this Chapter and the East Vincent Township Zoning Ordinance [Chapter 27] are complied with.

2. The unified development plan shall include all information required in accordance with §22-307., “Existing Features Plan,” shall indicate the location(s) of all proposed development relative to identified existing features, and shall incorporate means to protect or minimize disturbance to existing features.

3. The unified development plan also shall depict and incorporate the following:

   A. A unified design of streets, service drives, and other accessways, and the
§22-433 Subdivision and Land Development

overall integration of internal access with external access, traffic control, and traffic safety.

B. A unified design of sidewalks, pathways, crosswalks, perimeter and internal trails, and other pedestrian and non-motorized accessways as may be proposed.

C. A unified design for perimeter screening and buffering, screening and buffering at the 300 foot elevation and above, and other landscaping, berms, fences, and/or walls whenever such features are proposed.

D. A unified design for street lights and other lighting.

E. A unified design for grading, drainage, stormwater management, and soil erosion and sedimentation control.

F. A unified design for the proposed sewer and water service.

G. A declaration of covenants, easements and restrictions to govern the development and construction of buildings and structures within the district.


§22-434. Trails.

1. **Purpose.** The purpose of this Section is to implement the Trail Corridor and Passive Recreation Recommendations of the East Vincent Township Open Space, Recreation and Environmental Resources Plan of 1992, including:

   A. Establishing a community trail network for East Vincent Township, as reflected on a Comprehensive Trail System Map.

   B. Linking the Township's residential neighborhoods, developments, and rural residences with passive and active recreation facilities and public and private school facilities and grounds through alternative methods of travel.

   C. Encouraging convenient non-motorized access within and between village commercial areas of the Township and nearby residential areas and uses, and that may also lead to a reduction in vehicle trips within and between those areas.

   D. Promoting reasonable opportunities for the public to access the Township's natural and historic features including, but not limited to, scenic areas, water recreation areas, and passive nature study areas, as identified in the Township's adopted Open Space, Recreation, and Environmental Resources Plan.

   E. Creating a trail hierarchy and providing minimum, uniform design standards and maintenance requirements for the construction and long-term integrity of constructed trails and supporting infrastructure.

2. **Existing Trails.**

   A. On any tract containing an existing trail, as shown on the Comprehensive Trail System Map or as otherwise identified by the applicant or the Township, the plan for development of the tract shall incorporate and protect the continuing viability of the trail.

   B. The applicant may request the relocation of the existing trail corridor elsewhere within the tract, where the applicant alleges the existing location impedes the appropriate development of the tract in accordance with other
applicable standards of this Chapter. Any such proposed relocation must be reviewed by the Parks and Recreation Board, approved by the Board of Supervisors, and accomplished in a manner consistent with the terms of this Section and other applicable standards of this Chapter.

C. By means of the existing and/or relocated trail, the plan for the tract shall provide and maintain connections to the Township's Comprehensive Trail System and to any other existing trails on contiguous properties.

D. Where a proposed subdivision or land development abuts or contains an existing trail that is designated as an arterial trail by the Comprehensive Trail System Map, the Board of Supervisors may require creation and, as it deems necessary, dedication of additional trail cartpaths and/or shoulders to provide the minimum cartpaths and shoulders specified for an arterial trail by this Section, or such other treatment as will provide protection for abutting properties, reduce the length and/or width of trail essentially serving the same purpose, and assure compatibility with other segments of the comprehensive trail system.

E. Where a proposed subdivision or land development contains an existing trail that is proposed to function as a local/collector trail but does not fully comply with the standards in this Section for such a trail, the Board of Supervisors may require that the trail be improved to meet such minimum standards.


A. Where the tract proposed for subdivision or land development does not contain an existing trail, new local/collector and, as applicable, multi-use arterial trails shall be created that enable pedestrian, bicycle, and/or equestrian connections to existing or potential trail corridors off the site and provide internal circulation and/or recreation opportunities. Trail routes and functions shall be established in consultation with the Township Parks and Recreation Board shall be consistent with trail locations designated in the Township's Comprehensive Trail System Map, and shall be coordinated with trails, or recorded plans for trails, on adjacent tracts. The applicant shall propose at the earliest possible stage in the Township's subdivision and land development review process (i.e., sketch plan where applicable, or preliminary plan, if not applicable), the location of the new trail and point(s) at which linkages will be made offsite. Linkages off-site shall correspond to major planned site entrances, contiguous open space areas, or to other identified linkages indicated on the Comprehensive Trail System Map, unless waived by the Board of Supervisors in consultation with the Parks and Recreation Board.

B. Where no trail has been indicated on the Comprehensive Trail System Map, the applicant shall provide for local/collector trails as a means of access to the trails indicated on said map. Provisions for trail connections into and from adjacent areas shall be required unless waived by the Board of Supervisors in consultation with the Parks and Recreation Board.

C. Any newly-created trail shall be available for public use, and generally shall be unrelated to and separate from streets within the tract. A trail route may utilize a sidewalk only where site design or open space alternatives do not exist, or where such location best facilitates an off site connection with an existing trail. Approval of any such trail routing on sidewalks shall be at the sole discretion of the
Board of Supervisors. At the option of the applicant, and consistent with Township plans, the trail may be located adjacent to existing or proposed lot lines and/or within common open space.

D. **Trail Design Criteria.**

(1) Thoughtful and imaginative design of trails and their relationship to the arrangement and shape of lots and open space areas is required.

(2) Trails shall be logically related to environmental features so as to minimize disturbance to such features while permitting observation of such features.

(3) Trails shall be curvilinear in design, constructed on reasonable grades, and have proper drainage.

(4) Trails shall provide for adequate vision and sight distances, and shall include design features, as determined appropriate by the Township, to notify trail users of road crossings or other potentially hazardous locations. Such required features may include signage, bollards, fencing, gates, striping or other trail surface treatment, or other measures deemed necessary by the Township.

(5) Adequate separation shall be provided for proposed trail rights-of-way where generally paralleling the rear or side lot lines of proposed residential lots. Use of existing or new landscaping, berming, and fencing to provide future lot owners adjoining proposed trails with privacy, or to prevent trespass, may also be required by the Board of Supervisors.

E. **Ownership and Trail Easement Terms.**

(1) Trail corridors traversing areas of common open space shall be owned and maintained by a homeowners association or similar entity, or by means of dedication to an organization capable of carrying out ownership and maintenance responsibilities that is specifically approved by the Board of Supervisors. Where a trail corridor traverses an individual lot, the lot owner shall be responsible for ownership and maintenance of the trail.

(2) Regardless of trail ownership, the applicant or developer shall, as a condition of final plan approval, prepare and submit a continuing offer of dedication of a trail easement to the Township. Such easement shall, at minimum, cover the full width of the trail corridor right-of-way, as required by this Section. Terms of the easement shall, at minimum:

   (a) Assure that the trail is accessible to the public.

   (b) Stipulate that there is no cost to the Township of easement acquisition (other than any costs incidental to the transfer).

   (c) Establish a maintenance agreement acceptable to the Township.

   (d) Guarantee to the Township the right of entry for inspection, emergency, and maintenance purposes.

F. Trail design and construction shall be consistent with the standards contained herein and with other segments of the Township trail network.

G. The applicant or developer shall obtain any applicable permits, approvals, of waivers from other regulatory agencies with jurisdiction over proposed trail
§22-434 Township of East Vincent §22-434

location, materials, construction, or road crossing, or where the identified trail corridor will impact natural resources for which disturbance permits are required, including but not limited to stream crossing or wetland disturbance. Compliance with the concurrent submission requirements of §27-1506 of the Zoning Ordinance [Chapter 27] is required.

H. Dead-end trails shall be avoided, except as logical termini or as stubs to permit future trail extension into or from adjoining tracts.

I. Continuations of existing trails shall be known by the same name, but names for other trails shall not duplicate or closely resemble names for existing trails in the Township or adjacent municipalities. Where trails continue into adjacent municipalities, evidence of compatibility of design, particularly with regard to trail surfacing, width, and right-of-way, shall be submitted. The applicant shall coordinate such designs with both municipalities to avoid abrupt changes in width or improvements.

J. With the exception of motorized wheel chairs and maintenance vehicles, motor vehicles may not be used on trails.

K. *Hierarchy of trail components.* Within the Township's comprehensive trail system, each trail shall be designated as one of the following components, as defined in Part 2 of this Chapter:

(1) Multi-Use Arterial.

(2) Bikeway.

(3) Local/Collector.

L. *Trail widths.*

(1) The minimum right-of-way, cartpath, and shoulder widths for all new trails in the Township shall be as follows:

<table>
<thead>
<tr>
<th>Type of Trail</th>
<th>Right-of-way</th>
<th>Cartpath</th>
<th>Shoulders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-Use Arterial</td>
<td>12'</td>
<td>8' (5' min. for one way)</td>
<td>2' (per shoulder)</td>
</tr>
<tr>
<td>Bikeway</td>
<td>12'</td>
<td>8' (5' min. for one way)</td>
<td>2' (per shoulder)</td>
</tr>
<tr>
<td>Local/Collector</td>
<td>12'</td>
<td>6' (4' min. for one way)</td>
<td>1-2' (per shoulder)</td>
</tr>
</tbody>
</table>

(2) Any trail within a public park shall have a minimum cartpath of 8 feet and minimum shoulders of 2 feet.

(3) Additional right-of-way and/or cartpath widths may be required by the Board of Supervisors for the following purposes:

(a) To promote public safety and convenience.

(b) To assure proper management of stormwater runoff.

(c) To accommodate special topographical circumstances which may result in cut/fill slopes extending beyond the standard trail width. These should in all circumstances be included within the trail width to assure accessibility for maintenance operations.

(4) Trail widths less than prescribed in this Section shall not be permitted.
M. **Trail Alignment.**

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

(a) *Multi-Use Arterial Trails*: 35 feet.

(b) *Bikeways*: 65 feet.

(c) *Local/Collector Trails*: 15 feet.

(2) Curves shall not produce excessive flatness in grade. There shall be no dips, cross-gutter bumps, or humps in the surfacing.

(3) Sight lines and stopping sight lines for all new trails in the Township shall be as follows:

<table>
<thead>
<tr>
<th>Type of Trail</th>
<th>Sight Lines</th>
<th>Stopping Sight Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-Use Arterial</td>
<td>60'</td>
<td>50'</td>
</tr>
<tr>
<td>Bikeway</td>
<td>130'</td>
<td>150'- 175'</td>
</tr>
<tr>
<td>Local/Collector</td>
<td>30'</td>
<td>25'</td>
</tr>
</tbody>
</table>

N. **Trail Grades.**

(1) Grades for any trail shall not exceed 5 percent, except that steeper grades may be permitted for short lengths, in no event exceeding 200 feet, where natural contours provide conditions for minimal grading at the steeper grade.

(2) Under no conditions will maximum grades be permitted with minimum curve radii.

(3) Applicants shall only propose locating a trail on a slope steeper than permitted above if it can be demonstrated that all other options for trail location have been exhausted. Under such circumstances, the Board of Supervisors may require the use of switchbacks as an effective technique for traversing steep slopes. Under certain circumstances, the Board of Supervisors may require the construction of stairs for safe climbing. When stairs are used, documentation of their design and construction shall be required. In particular, methods used to prevent erosion, safeguard the public, and provide long-term maintenance shall be documented.

O. **Trail Construction.**

(1) All materials entering into the construction of trails and the methods of construction and drainage shall be in accordance with the terms of this Section and the applicable standards of the American Association of State Highway and Transportation Officials (AASHTO). Multi-use arterial trails shall not be designed and constructed for speeds in excess of 15 mph. Bikeways shall not be designed and constructed for speeds in excess of 30 mph. Local/collector trails shall not be designed and constructed for speeds in excess of 10 mph.

(2) **Surfacing.**

(a) Multi-use/arterial trails and bikeways shall consist of a 6-inch base surface of crushed stone with a 2-inch asphalt top coat. The asphalt
top coat shall consist of a wearing course containing no more than ½-inch crushed stone.

(b) Local/collector trails shall consist of:

1) A minimum of 5 inches of %-inch crusher stone, compacted with fine particles.

2) A 4-foot wide concrete sidewalk when proposed as part of a larger trail system serving a new residential or non-residential development.

3) A mowed path when proposed for a sensitive environmental area limited to pedestrian and equestrian use of a low-frequency nature.

(3) All crushed stone trails shall be underlined with Class 4 geotextile fabric.

(4) Overhead clearance for all trails shall be no less than 10 feet.

(5) Crushed stone or concrete trail shoulders shall be free of woody vegetation, graded to provide adequate drainage and smooth transition from the trail cartpath surface, planted and maintained with appropriate ground cover, and underlined with geotextile fabric.

P. Trail Lighting.

(1) Trail lighting is generally not required unless the Board of Supervisors determines that parking areas, trailheads, or major road crossings warrant such.

(2) In the event lights are used, the style, type and manufacturer of trail lights shall be subject to the approval of the Township.

Q. Trail Signage.

(1) All aspects of trail signage, including design, number, and location, shall be reviewed by the Parks and Recreation Board and subject to the discretion and approval of the Board of Supervisors.

(2) Trail signage shall conform to the standards of the Federal Highway Administration’s (FHWA) Manual on Uniform Traffic Control Devices regarding sign shape and color (i.e., white lettering on brown background). FHWA standards regarding sign size shall not apply to trails, except as specifically required for bicycle facilities. Signs shall be clearly readable, easily understood, and sized according to the scale of the trail. Signs shall be constructed of Carsonite unless a similar plastic and/or fiberglass material is specifically approved by the Board of Supervisors, and shall not detract from the scenic quality of the trail.

(3) Where applicable, signs shall conform to the requirements of the Pennsylvania Department of Transportation (PennDOT) Handbook of Approved Signs or as otherwise approved by PennDOT.

(4) Unless specifically waived by the Board of Supervisors, the following types of signs shall be required at applicable points along trails and shall be provided by the applicant:

(a) Regulatory/Guidance Signs. Such signs shall serve two purposes:
1) For traffic control or to give operational requirements (examples include stop and yield signs, speed-limit signs, and right-of-way signs).

2) For trail information or directions (examples include signs which point out local points of interest or nearby service facilities).

These types of signs should be accompanied by a trail map indicating the local trail segment, “you are here” location, and regional trail interconnections. Guidance signs, in the form of kiosks, shall be provided at any intersection of an arterial trail with another arterial trail, with a collector trail, or with a bikeway.

(b) **Warning Signs.** Such signs shall be used to point out existing or potentially dangerous conditions; examples include signs which warn of grade changes or changes in surface conditions and signs which warn of upcoming bridges, intersections or tunnels. Traffic signs intended to be placed at road crossings or traffic signals must be designed to provide for proper safety, site distances, and warning to trail users. Designs, including sketches, must be submitted for review and approved by the agency having jurisdiction over the road being crossed. Provisions for adequate long-term maintenance must accompany such submissions.

(5) Excessive signage shall be prohibited. For example, signage shall not be permitted to detract from the natural or scenic qualities of trails.

R. **Trail Maintenance.**

(1) Where maintenance of trails is to be the responsibility of individual lot owners, a homeowners association or similar entity, or an organization capable of carrying out maintenance responsibilities, maintenance responsibilities shall be established in accordance with the terms of §22-603.2. of this Chapter. Clearing of snow and similar winter maintenance shall not be required except where otherwise specifically mandated, e.g., as part of a sidewalk system.

(2) While it is anticipated that trail usage will contribute significantly to trail maintenance, responsible parties shall inspect trails on a periodic basis and provide needed maintenance. The Township shall have the right, but not the obligation, to keep trails passable. Maintenance undertaken by responsible individuals or entities shall not infringe upon passage by trail users.

S. **Timing of Trail Installation.** The trail system approved as part of the final plan for a tract shall be fully constructed and installed in accordance with the following:

(1) As required in §22-312.2. of this Chapter, all portions of multi-use arterial trails and bikeways located on the tract shall be installed prior to the issuance of any building permit.

(2) Building permits shall be issued for not more than 25 percent of the dwelling units approved for a site, or any phase thereof, until installation of any local/collector trail is completed for the site or phase, respectively.

*(Ord. 138, 7/17/1996, §433; as amended by Ord. 178, 12/1/2004)*
§22-435. Special Development Standards for Neighborhood Mixed Use Development

1. The following definitions shall apply for any neighborhood mixed use development:

Green - a public open space for passive or unstructured recreation, landscaped mostly with grassy areas and trees.

Pocket park - a public open space for passive or active recreation that is less than one half acre in size. Pocket parks may include paved walks, seating, play structures, and landscaped areas consisting of trees, lawn, and other plant material.

Plaza - a public open space for passive recreation that is surrounded by buildings and/or streets. Plazas may be 100 percent hardscaped, but must also include amenities for use by pedestrians, such as seating, drinking and ornamental fountains, art, trees, and landscaped areas or planters.

Square - a public open space for passive recreation that is bounded by streets on at least three sides, with residential and nonresidential uses fronting on such streets for at least 60 percent of their length. Squares shall include paved walks, seating, and landscaped areas consisting of trees, lawn, and other plant material.

2. Neighborhood Mixed Use Development Design Standards. In order to achieve the compact development patterns characteristic of traditional neighborhood developments, special standards are needed for the design of lots, streets, alleys, private driveways, sidewalks, stormwater management, natural features preservation, and other design requirements. The following provisions apply to all NMU communities. In the event of a conflict with other Sections of the East Vincent Zoning Ordinance [Chapter 27] or this Chapter, the provisions of this Section shall apply.

A. Dwelling units and lots in an NMU community may front on public rights-of-way, private streets, and public greens and plazas where access is provided to the rear of units via alleys, lots and dwelling units are not required to have direct vehicular access to a public or private street.

B. The NMU development shall provide a system of interconnected public rights-of-way and private streets and alleys that accommodate future connections on adjacent parcels. Where public and private streets and alleys are intended to connect to future streets and alleys on adjacent parcels, a right-of-way strip shall be reserved. Alleys may dead-end when adequate turnaround space is provided.

C. In an NMU community, where single access public or private streets are longer than 1,000 feet and/or serve more than 20 lots or dwelling units, an emergency access drive shall be provided.

D. Proposed two-way public streets shall have a minimum right-of-way width of 50 feet. Proposed one-way public streets shall have a minimum right-of-way width of 40 feet. Minimum right-of-way shall not be required for private streets and alleys.

E. Minimum centerline radius for public and private streets in an NMU community may be 100 feet, provided the posted speed limit is 25 miles per hour. Minimum centerline radius requirements do not apply to alleys and private driveways.
F. The radii of tangential arcs at intersecting curb lines of public and private streets and public and the curb lines of intersecting streets and alleys shall be a minimum of 15 feet; the radii of intersecting right-of-way lines may be 0 feet. Other street intersection requirements do not apply to alleys and private driveways.

G. Intersections with existing streets shall have a paved cartway radius of 20 feet.

H. In an NMU community, dwelling units and lots proposed along existing arterial, collector, and minor streets may front on the existing streets, but vehicular access shall be provided from interior public and private streets, alleys, and parking areas.

I. The minimum paved cartway width public or private streets in an NMU community shall be provided as follows. The paved cartway for alleys shall be at least 18 feet wide.

(1) Two-way public or private street: 22 feet.
(2) Two-way public or private streets with parking one side: 30 feet.
(3) Two-way public or private streets with parking both sides: 38 feet.
(4) One-way public or private street: 18 feet.
(5) Parking on both sides of one-way public or private streets shall not be permitted.

J. For an NMU community, private driveways may be located 3 feet from interior lot lines and 8 feet from the edge of paving of intersecting public and private streets and alleys interior to the development. Private driveways shall be 95 feet from the edge of paving of intersections with existing streets.

K. Driveway ramps for underground parking that exceed 8 percent grade may be permitted by the Board of Supervisors with the recommendation of the Township Engineer.

L. Intersections of public and private streets in an NMU community shall have a clear sight distance dimension of 50 feet. Intersections involving alleys and private driveways shall have a sight distance of 45 feet.

3. Special Landscape Requirements for NMU Development. The following landscape standards are required in order to accommodate the special characteristics of NMU development. The screening and minimum planting standards of §22-422 of this Chapter shall not apply. Where there is a conflict with the landscape design standards of §22-422 and the provisions below, the requirements of this Section shall apply. The requirements of this Section may be waived or reduced at the discretion of the Board of Supervisors.

A. Street Trees. Street trees shall be required along all public and private streets and may be located within public rights-of-way. Street trees shall be spaced an average of 45 feet on center; however, spacing may vary to accommodate utilities and access drives. Trees that cannot be located along the street shall be located elsewhere on site. Street trees are not required along alleys.

B. Buffers. Two types of buffers shall be provided: property softening buffers for the development perimeter and property screening buffers for internal land use separation and site elements, such as parking lots, retention basins, on-grade

22-158.1 Supp. VI; corrected 1/3/2012
mechanical equipment, trash dumpsters, service yards, and similar uses. Buffer areas shall be used for no purpose other than the planting of trees, shrubs, and lawn to meet planting requirements and may include a wall or fence, providing such structures do not conflict with required sight lines and distances and are designed to be compatible with the character of the surrounding neighborhood. The applicant shall not be required to provide buffers if existing planting, topography, or man-made structures are acceptable to the Board of Supervisors.

(1) **Softening Buffers.**

(a) **Definition.** A “softening buffer” is a mixed perimeter landscape planting intended to provide an informal separation between neighboring developments. It is not intended to form a complete visual barrier.

(b) **Location.** A softening buffer shall be required as follows:

1) Along all property lines forming the overall development perimeter.

2) To screen and naturalize surface stormwater management facilities.

(c) **Design.** Softening buffers, when required, shall be generally aligned with property lines and adjacent rights-of-way, but planting material may be positioned and grouped informally to create a naturalized appearance. The softening buffer shall not be less than 3 feet nor more than 15 feet in width and shall be designed to accommodate future maintenance.

(d) **Planting Options.** The following planting options per 100 feet of property line and/or right-of-way may be used to create a softening buffer. The use of a mix of these options is encouraged.

1) Option A (10-15 feet wide).

   2 shade trees
   1 flowering tree
   1 evergreen tree
   8 deciduous, evergreen, or semi-evergreen shrubs

2) Option B (10-15 feet wide).

   2 shade trees
   3 evergreen trees
   5 deciduous, evergreen, or semi-evergreen shrubs

3) Option C (3-5 feet wide).

   Fence with climbing vines every 12 inches on center

(e) **Plant Material Requirements.**

1) A mix of evergreen and deciduous plants is encouraged to provide color and an interesting natural effect.

2) Not more than 20 percent of plants shall be evergreen.

3) All plant material used shall meet minimum caliper and height requirements as stated in §22-422 of this Chapter.

(f) Installation and guarantee of landscape improvements shall meet
the requirements of §22-422.

(g) Where there is a dimensional nonconformity, the applicant shall attempt to comply with these standards. However, alternate compliance may be accepted by the Board of Supervisors provided it meets the spirit and intent of this Section.

(2) **Screening Buffers.**

(a) **Definition.** A “screening buffer” is a predominantly evergreen landscape planting or opaque structure intended to provide a formal visual separation between incompatible land uses and neighboring developments. A screening buffer is intended to form a complete visual barrier; however, it is not intended to be a mono-culture planting, but one that utilizes numerous evergreen species.

(b) **Location.** A screening buffer shall be required to provide a visual barrier between changes in land use, such as between single-family dwelling units and freestanding retail uses, for example, and to screen parking areas, truck loading facilities, outside storage areas, mechanical equipment, trash receptacles, and similar site elements from view. A screening buffer may also be required along front yard lines and streets if the incompatible land use is residential. Within the NMU community, screening between dwelling types is not required.

(c) **Design.** Screening buffers, when required, shall be generally aligned with internal land use boundaries, site elements, property lines, and adjacent rights-of-way, but planting material may be positioned and grouped informally to create a more naturalized appearance. The screening buffer shall not be less than 3 feet nor more than 10 feet in width. Screening buffers shall be continuous and shall be broken only at points of vehicular or pedestrian access.

(d) **Planting Options.** The following planting options per 100 feet of land use boundary, site element, property line, and/or right-of-way may be used to create a screening buffer. The use of a mix of these options is encouraged.

1) **Option A—Evergreen Hedge (5-10 feet wide).**
   a) Evergreen shrubs shall be placed 3 feet on center in a minimum 5-foot wide bed along the land use, site element, property line, or right-of-way. Shrubs shall be arranged to provide a continuous hedge-like screen up to a maximum height of 6 feet at maturity. Shrubs may be clipped to create a more formal hedge or left in their natural habit.

2) **Option B—Opaque Fence or Wall (3-5 feet wide).**
   a) A 6-foot opaque fence or wall shall be provided along the land use, site element, property line, or right-of-way with vines planted 8 inches on center.
   b) Screen fences and walls shall be located within 5 feet of the land use boundary or site element, and as close as possible, but not on a property line or right-of-way.
c) Where needed in front yards to screen residential uses, screen fences and walls shall be a maximum of 4 feet.

d) Screen fences and walls shall be constructed in accordance with approved standards.

3) Option C–Berm with Evergreen Shrubs (5-10 feet wide).

   a) A 3- to 4-foot continuous curvilinear berm with evergreen shrubs shall be planted 3 feet on center in a formal or informal arrangement at a rate of one shrub for every 5 linear feet of berm.

   b) No plantings shall be located on top of the berm.

   (e) Plant Material Requirements. All plant material used shall meet minimum caliper and height requirements as stated in §22-422 of this Chapter.

   (f) Installation and guarantee of landscape improvements shall meet the requirements of §22-422.

   (g) Where there is a dimensional nonconformity, the applicant shall attempt to comply with these standards. However, alternate compliance may be accepted by the Board of Supervisors provided it meets the spirit and intent of the ordinance.

C. Open Space. Open space in a NMU community shall include squares, plazas, greens, informal parks, and preserved natural areas, providing space for passive and unstructured active recreation. Other than preserved natural areas, open spaces shall be appropriately landscaped to provide shade, grassy areas, and visual interest. Improvements may consist of paths, benches, picnic tables, gazebos, public art and other amenities.

D. Recreation Land. Recreation improvements that count toward allowable fees-in-lieu of land for parks, recreation, and open space may be provided by applicants of an NMU community when approved by the Board of Supervisors.

E. Parking Areas. Common parking lots shall meet the following standards:

   (1) Surface parking lots shall be located to the rear of principal buildings or to the side. Surface parking shall not be located between a building's primary facade and a public or private street.

   (2) Parking lots that have frontage on a public or private street shall have a 5-foot wide landscaped area with a screening buffer in compliance with subsection .3.B above. Parking lots adjacent to a residential use shall have a 6-foot wide landscaped area with a screening buffer in compliance with subsection .2.B above. The landscaped areas shall include any required street trees and a mix of groundcovers and shrubs.

   (3) At least 10 percent of the interior of any surface parking area shall be landscaped, measured to the inside curb line. The landscaped areas shall include a mix of groundcover, shrubs, and shade trees, so that at least 20 percent of the paved surface area shall be shaded by trees within 5 years.

   (4) Surface parking areas shall be landscaped and screened according to an overall landscape plan prepared for the development by a registered landscape architect.
(5) Stormwater run-off from surface parking should be managed locally in landscape islands and perimeter planting areas.

(Ord. 138, 7/17/1996; as added by Ord. 206, 5/19/2010, §1)
Part 5

Mobile Home Parks


This Part contains provisions setting forth minimum standards for the design, construction, alteration, extension and maintenance of mobile home parks and related utilities and facilities. Provisions are also included authorizing the issuance of permits for such construction, alteration and extension of mobile home parks, the licensing of those who operate mobile home parks, the inspection of mobile home parks by authorized Township officials; and the fixing of penalties for the violation of any of these provisions. The construction of a new mobile home park, as permitted by the Township Zoning Ordinance [Chapter 27], or the alteration of an existing park shall be made only after the plans have been submitted in accordance with this Chapter. The plans shall be prepared and processed in accordance with Part 3, “Plan Processing and Content,” and applicable standards incorporated in Part 4, “Design Standards,” of this Chapter and shall be in sufficient detail so that the following items can be properly examined:

A. Complete park layout showing lot sizes and dimensions, open space areas, and all improvements including streets, vehicular parking areas, water supply location, sewer and water lines, service buildings, sewage disposal system, lighting facilities, walkways, refuse storage areas and disposal methods, and recreation facilities.

B. Plans for providing adequate management of surface drainage.

C. Details of the construction of the sewage disposal system, including soil percolation tests, if soil absorption type system is to be used.

D. Details of the construction of the sewerage system, including size, slope, material, manhole and cleanout construction and location.

E. Water supply by connection to Citizens Utilities Home Water Company.

F. Construction of service buildings showing plumbing, heating, ventilation and other sanitary systems which are to be included.

G. Lighting facilities and electrical power line installation.

H. Anticipated number of parking spaces as would be permitted under available land area.

I. A copy of approved plans that will be kept on file by the reviewing health agency.

(Ord. 138, 7/17/1996, §500)


1. Permits Required.

A. It shall be unlawful for any person to construct, alter, extend, or operate a mobile home park within East Vincent Township unless and until he obtains:

(1) A permit issued by the Chester County Health Department in the
name of the operator in accordance with County regulations.

(2) A mobile home park permit issued by the Township Code Enforcement Officer in the name of the operator, which shall not be issued until a copy of the Health Department permit has been furnished, all permits for water supply and sewage systems shall have been obtained, and all other requirements contained herein have been complied with and final approval of the plan has been granted by the Board of Supervisors.

(3) A building permit is issued by the Township Code Enforcement Office after having paid a fee for each unit to be placed within the mobile home park.

(4) A valid license issued by the Township Code Enforcement Officer in the name of the operator, which shall not be issued until a copy of the Health Department permit has been furnished, and all other requirements contained herein have been complied with.

(5) Inspection and issuance, or refusal, of license. Upon receipt of the application for license, the Code Enforcement Officer shall:

   (a) Verify the validity of the Department of Health Permit.

   (b) Verify the terms of special exception approval by the Zoning Hearing Board; verify the Planning Commission's recommendations and the Supervisors' approval of the development plan; and, upon finding that all requirements of this Chapter have been met, shall thereupon issue a license in the name of the operator; the license shall be valid for 1 year from the date of issue.

   (c) For yearly renewal of license, there shall be a fee, payable to the Township of East Vincent and submitted to the Code Enforcement Officer with the application for renewal. The Board of Supervisors may choose to waive the requirement for a yearly inspection and associated fee if another government agency is performing inspections which adequately review public health, safety and welfare conditions.

B. Fees.

(1) Fees for the initial application and preliminary and final approvals shall be prescribed by resolution of the Board of Supervisors.

(2) The fee for the annual license shall be prescribed by resolution of the Board of Supervisors and shall be submitted to the Code Enforcement Officer with the application for the annual license.

(3) Fees for the inspection of a mobile home park during and following construction shall be as specified in §22-703 of this Chapter.

C. Inspections.

(1) A mobile home park shall be subject to inspection during any stage of construction and at any time during its operation by an authorized representative of the Township of East Vincent or other agency having jurisdiction, and such representative shall make known his presence and authorization to the operator at the time of each inspection.

(2) The Code Enforcement Officer is hereby authorized to stop all work or other activity which he finds to be in violation of the provisions of this or
other applicable ordinances.

(3) Upon receipt of the application for annual license and before issuing such annual license, the Code Enforcement Officer or other designated representative of the Township shall make an inspection of the mobile home park to determine compliance with this Chapter. The Code Enforcement Officer or other representative shall thereafter notify the licensee of any instances of noncompliance with the Ordinance and shall not issue the annual license until the licensee has corrected all such violations.

D. Where the applicant or licensee feels that the Code Enforcement Officer has failed to follow procedures or has misinterpreted or misapplied any provision of this Chapter in the review of an application for a mobile home park permit or an annual license renewal, he may appeal the Code Enforcement Officer's determination to the Board of Supervisors.

E. No permit issued under this Chapter shall be transferable to a different location. No person, holding a permit under this Chapter, shall extend or reduce the area of any mobile home park, add any new facility or structure, until notice of such proposed changes shall have been given to the Code Enforcement Officer and/or Inspector who shall have ascertained, after investigation as in the case of an original application for a permit, that such proposed changes are in accordance with all the requirements of this Chapter, and shall have signified that fact by his approval.

(Ord. 138, 7/17/1996, §501)

§22-503. Discontinuation of Use.

In the event a mobile home park operator intends to discontinue operation of the park, the operator shall notify park residents 1 year in advance of the intended closing date.

(Ord. 138, 7/17/1996, §502)

§22-504. Density, Dimensional and General Layout Regulations.

Regulations governing the density of dwelling units in any mobile home park and the dimensions of any mobile home park or mobile home lot therein shall be as specified in the East Vincent Township Zoning Ordinance [Chapter 27].

(Ord. 138, 7/17/1996, §503)

§22-505. Access Requirements.

A safe and convenient vehicular access shall be provided from abutting public streets or roads to each mobile home park. To ensure safe access, the following standards shall apply:

A. With the exception of those street standards specified in this Part, the standards in Part 4, “Design Standards,” of this Chapter shall govern the design and construction of streets in a mobile home park.

B. Access. The entrance road, or area, connecting the park with a public street or road shall have a minimum pavement width of 36 feet. At least 500 feet must separate roads connecting the park with a public street or road if more than one
exit and/or entrance is provided. No entrance to a mobile home park shall be beyond 500 feet from an arterial road as defined in §22-202, “Definitions.”

C. **Interior Streets.** All interior streets shall be designed and constructed to the same specifications as required for subdivisions, and shall be paved to the below listed widths. All interior streets shall be provided with vertical concrete curbs to subdivision standards herein. The curb along the public street frontage shall be as specified by the Supervisors.

1. A minimum pavement width of 25 feet will be required and no on-street parking is allowed.
2. Dead-end streets shall be provided at the closed end with a paved turnaround having an outside diameter of at least 60 feet.

D. **Required Illumination of Park Street Systems.** All parks shall be furnished with lighting units so spaced, and equipped with luminaries placed at such mounting heights as will provide average levels of illumination for the safe movement of pedestrians and vehicles at night.

E. **Parking Areas.**
1. Off-street parking areas shall be provided in all mobile home parks for the use of park occupants and guests.
2. The requirements of the Township Zoning Ordinance [Chapter 27] shall be applicable to all mobile home parks.
3. Required car parking spaces shall be so located as to provide convenient access to the mobile home, but shall not exceed a distance of 200 feet from the mobile home that it is intended to serve.
4. Common parking areas may be provided in lieu of the required two parking spaces on each mobile home lot, in which case parking shall be provided at the rate of two spaces for each mobile home lot not equipped with two parking spaces.
5. Additional parking spaces for vehicles of non-residents shall be provided as off-street common parking at the rate of one-half space for each mobile home lot.

F. **Walkways.**
1. All mobile home parks shall provide safe, durable, convenient, all-season pedestrian walkways of adequate width for their intended uses, between the park streets and all community facilities provided for park residents.
2. Where pedestrian traffic is concentrated, each walk shall have a minimum width of 4 feet.
3. All mobile home parks shall be provided with sidewalks on both sides of streets. Such walks shall be 4 feet wide.
4. All mobile home lots shall be connected to a sidewalk with an individual sidewalk at least 3 feet wide.

(Ord. 138, 7/17/1996, §504)

§22-506. **Sewage Disposal.**
§22-506 Subdivision and Land Development §22-507

1. **General.** All mobile home parks shall connect to and be served by public sewer. All public sewer connections shall be approved by the East Vincent Municipal Authority.

2. **Individual Sewer Connections.** Subject to Authority regulations, the following represents minimum standards for sewer system connections:
   
   A. Each mobile home lot shall be provided with at least a 4-inch diameter sewer riser pipe. The sewer riser pipe shall be so located on each stand that the sewer connection to the mobile home drain outlet has approximately a vertical position and shall be concrete aproned at ground level.
   
   B. The sewer connection shall have a nominal inside diameter of not less than 3 inches, and the slope of any portion thereof shall be at least \( \frac{1}{4} \) inch per foot. All joints shall be watertight.
   
   C. All materials used for sewer connection shall be semi-rigid, corrosive resistant, non-absorbent, and durable. The inner surface shall be smooth.
   
   D. Provision shall be made for plugging the sewer riser pipe when a mobile home does not occupy the lot. Surface drainage shall be diverted away from the riser. The rim of the riser pipe shall extend at least 6 inches above ground elevation.

(Ord. 138, 7/17/1996, §505)

§22-507. **Water Supply.**

1. **General.** All mobile home parks shall be connected to Citizens Utilities Home Water Company (Citizens), the public water purveyor in East Vincent Township. Construction shall be in accordance with Citizens’ standards.

2. **Individual Water Riser Pipes and Connections.** Subject to Citizens’ standards, the following represents minimum standards for public water connections:
   
   A. Individual water riser pipes shall be located within the confined area of the mobile home stand at a point where the water connection will approximate a vertical position, thereby insuring the shortest water connection possible and decreasing susceptibility to water pipe freezing.
   
   B. The water riser pipe shall have a minimum inside diameter of \( \frac{1}{2} \) inch and terminate at least 4 inches above the ground surface. The water outlet shall be provided with a cap when a mobile home does not occupy the lot.
   
   C. Adequate provisions shall be made to prevent freezing of service lines, valves and riser pipes and to protect risers from heaving and thawing actions of ground during freezing weather. Surface drainage shall be diverted from the location of the riser pipe.
   
   D. A shutoff valve below the frost line shall be provided near the water riser pipe on each mobile home lot. Underground stop-and-waste valves are prohibited unless their type of manufacture and their method of installation are approved.

3. **Fire Protection.** Fire protection facilities meeting the requirements of the Insurance Services Office shall be provided and shall otherwise meet the requirements of §§22-424, “Water Supply” and 22-515, “Fire Protection.”

(Ord. 138, 7/17/1996, §506)
§22-508. **Lighting Standards.**
Standards for lighting shall conform to the provisions set forth in the East Vincent Township Zoning Ordinance [Chapter 27].
(Ord. 138, 7/17/1996, §507)

§22-509. **Electrical Distribution System.**
1. *General Requirements.* Every park shall contain an electrical wiring system consisting of wiring, fixtures, equipment and appurtenances which shall be installed and maintained in accordance with local electric power company's specifications regulating such systems and other local codes, and all utility lines shall be underground.
2. *Power Distribution Lines.* All direct burial conductors or cable shall be buried at least 18 inches below the ground surface and shall be insulated and specifically designed for the purpose. Such conductors shall be located not less than 18 inches radial distance from water, sewer, gas or communications lines.
3. *Individual Electric Connections.* All exposed non-current carrying metal parts of mobile homes and all other equipment shall be grounded by means of an approved grounding conductor run with branch circuit conductors or other approved method of grounded metallic wiring. The neutral conductor shall not be used as an equipment ground for mobile homes or other equipment.
(Ord. 138, 7/17/1996, §508)

§22-510. **Refuse Disposal.**
1. *General Requirements.* The mobile home operator shall be responsible for the proper storage, collection and disposal of refuse.
2. The storage, collection and disposal of refuse in the mobile home park shall be so conducted as to create no health hazard, rodent harborage, insect breeding areas, accident or fire hazard, or air pollution and shall comply with the Pennsylvania Department of Health regulations or other applicable agencies, governing mobile home parks.
3. All refuse shall be stored in flytight, watertight, rodent-proof containers, which shall be located not more than 200 feet from any mobile home space and no less than 50 feet from the mobile home park boundary. Containers shall be provided in sufficient number and capacity to properly store all refuse.
4. Community refuse disposal containers shall be screened according to the Township Zoning Ordinance [Chapter 27]. The screen shall consist of plantings and fencing.
5. Racks or holders shall be provided for all refuse containers. Such container racks or holders shall be so designed as to prevent containers from being tipped, to minimize spillage and container deterioration, and to facilitate cleaning around them.
6. All refuse shall be collected at least once weekly. Where suitable collection service is not available from private agencies, the mobile home park operator shall provide this service. All refuse shall be collected and transported in covered vehicles or covered containers.
(Ord. 138, 7/17/1996, §509)
§22-511. **Fuel Supply and Storage.**

1. **Natural Gas System.**
   
   A. Natural gas piping system, when installed in mobile home parks, shall be maintained in conformity with accepted engineering practices and shall meet the standards of the company serving the area.
   
   B. Each mobile home lot provided with piped gas shall have an approved shut-off valve, installed upstream of the gas outlet. The outlet shall be equipped with an approved cap to prevent accidental discharge of gas when the outlet is not in use.

2. **Liquefied Petroleum Gas Systems (LPG).**
   
   A. Systems shall be provided with safety devices to relieve excess pressures and shall be arranged so that the discharge terminates at a safe location.
   
   B. Systems shall have at least one accessible means for shutting off gas. Such means shall be located outside the mobile home and shall be maintained in effective operating conditions.
   
   C. All LPG piping outside of the mobile homes shall be well supported and protected against mechanical injury. Undiluted liquefied petroleum gas in liquid form shall not be conveyed through piping equipment and systems in mobile homes.
   
   D. Vessels of more than 12 and less than 60 U.S. gallons gross capacity may be installed on a mobile home lot and shall be securely, but not permanently, fastened to prevent accidental overturning.
   
   E. No LPG vessel shall be stored or located inside or beneath any storage cabinet, carport, mobile home, or any other structures unless such installations are specially approved by the authority having jurisdiction.
   
   F. No cylinder containing liquefied petroleum gas, bottled gas or fuel oil shall be located in a mobile home; nor within 10 feet of a door thereof.

3. **Fuel Oil Supply Systems.**
   
   A. All fuel oil supply systems provided for mobile homes, service buildings and other structures shall be installed and maintained in conformity with the rules and regulations of the authority having jurisdiction when provided.
   
   B. All piping from outside fuel storage tanks or cylinders to mobile homes shall be securely, but not permanently, fastened in place.
   
   C. All fuel oil supply systems provided for mobile homes, service buildings and other structures shall have shut-off valves located within 5 inches of storage tanks.
   
   D. No fuel combustion unit shall be used in any mobile home without being vented to the outside of the trailer.
   
   E. Storage tanks located in areas subject to traffic shall be protected against physical damage.

(Ord. 138, 7/17/1996, §510)

§22-512. **Stormwater Management.**
The provisions of §22-426, “Stormwater Management,” of this Chapter shall be applicable to all mobile home park development.

(Ord. 138, 7/17/1996, §511)

§22-513. Open Space, Screening, and Landscaping Treatment.

1. Open space and recreation criteria of §22-428 of this Chapter shall apply to all mobile home parks.

2. Landscaping and screening criteria of §22-422 of this Chapter shall apply to all mobile home parks.

3. Landscaping requirements in addition to those set forth in the Zoning Ordinance [Chapter 27] shall include the following:
   A. Screen planting shall be provided along the periphery of the mobile home park subject to the following:
      (1) The screen planting area shall be a minimum of 10 feet in width.
      (2) At the time of planting, a continuous visual buffer shall be erected which shall be at least 5 feet in height.
      (3) The plantings shall be maintained permanently and replaced within 1 year in the event of death of any plant material.
      (4) The type and spacing of plant material to be used shall be subject to review and approval by the Board of Supervisors upon the recommendations of the Planning Commission.
   B. Deciduous trees of varying species shall be planted within the mobile home park at the ratio of at least two per mobile home. If a substantial portion of the tract is wooded and a substantial number of trees remain after development, the Board of Supervisors may modify this requirement.
   C. Deciduous and/or evergreen shrubs of varying species shall also be planted within the mobile home park at a ratio of at least four per mobile home.
   D. Planting shall be in accordance with a plan prepared by a registered landscape architect, and shall be completed within six months of initial occupancy of any of the dwelling units. Failure to complete the landscaping plan within such time shall be grounds for the Board of Supervisors' denial of the park's annual license hereunder.

(Ord. 138, 7/17/1996, §512)

§22-514. Community and Service Buildings.

1. Where a community building is provided, it must contain a toilet and lavatory for each sex. In addition, the mobile home park may provide laundry facilities, storage facilities for use of occupants, management office, repair shop, and indoor recreation facilities for park residents and guests only.

2. Construction of all community buildings shall be in compliance with all applicable codes and shall be maintained in a clean, sanitary and structurally safe condition.

3. Ownership and maintenance of all community buildings shall be defined in the
application for a mobile home park.

4. All community buildings shall be equipped to provide accessibility for the handicapped.

(Ord. 138, 7/17/1996, §513)


1. The mobile home park area shall be subject to the rules and regulations of the applicable fire prevention authority where provided.

2. Mobile home park areas shall be kept free of litter, rubbish and other flammable materials.

3. Portable fire extinguishers of a type approved by the fire prevention authority shall be kept in public service buildings under park control.

4. Fire extinguishers of a type approved by the Fire Underwriter Laboratories (a BC Classification type) bearing the Underwriters label, shall be readily accessible within 300 feet of each mobile home. It is recommended that mobile home park owners or operators require each mobile home unit to be equipped with a fire extinguisher.

5. Fire Hydrants.

A. Fire hydrants shall be installed if their water supply source is capable to serve them in accordance with the following requirements:

   (1) The water supply source shall permit the operation of a minimum of two 1½ inch hose streams.

   (2) Each of two nozzles, held 4 feet above the ground, shall deliver at least 75 gallons of water per minute at a flowing pressure of at least 30 pounds per square inch at the highest point of the park.

B. Fire hydrants, if provided, shall be located within 600 feet of any mobile home, service building or other structure in the park, and shall be installed in accordance with all applicable Township specifications.

C. The park management shall give the Township Code Enforcement Officer free access to all mobile homes lots, service buildings and other community service facilities for inspection purposes.

(Ord. 138, 7/17/1996, §514)

§22-516. Maintenance of Common Areas and Facilities.

1. The operator/licensee of a mobile home park shall be responsible for the proper repair and maintenance of all common facilities, including, but not limited to, roads, parking areas, sidewalks or pathways, common open space, water supply and sewage disposal systems, and community buildings. If upon inspection by the Code Enforcement Officer it is determined that the mobile home park is not in compliance with this standard of maintenance, the license shall be in violation of this Chapter.

2. The operator/licensee of a mobile home park shall, prior to issuance of any certificate of occupancy pursuant to final approval of an application for a new development or expansion, post with the Township a maintenance bond in a form acceptable to the Township Solicitor in an amount sufficient to cover for a period of 2 years, the costs of maintenance of all common areas and facilities described in §22-311,
“Performance Guarantees,” and subject to performance guarantees during their construction, said costs to be estimated by the Township Engineer or other representative.

3. The operator/licensee shall thereafter have 30 days from receipt of notice from the Code Enforcement Officer in which to correct any such violations; however, if the violation is determined by the Code Enforcement Officer to constitute a hazard to the health or safety of the community, he shall order that the violation be corrected forthwith, and corrections shall be undertaken immediately and in no event more than 24 hours after notice is given.

(Ord. 138, 7/17/1996, §515)

§22-517. Register of Occupants.

The management shall maintain a register containing the names of all park occupants. Such register shall be available to the Township Code Enforcement Officer. The management shall notify the Township Code Enforcement Officer in accordance with state and local taxation laws of the arrival and departure of each mobile home.

(Ord. 138, 7/17/1996, §516)


No mobile home, whether installed on a single lot or in a mobile home park, shall be removed from the Township without first obtaining a removal permit from the Township Tax Collector as required by §407(e) of the General County Assessment Law, 72 P.S. §5020-407(e). Such permit shall be issued upon payment of a fee, as established by resolution, and real estate taxes assessed against the home and unpaid at time the permit is requested.

(Ord. 138, 7/17/1996, §517)

§22-519. Flood Hazard Restrictions.

No mobile home may be installed on a single lot or in a mobile home park which extends into any Flood Hazard District. Each mobile home, whether installed on a single lot or in a mobile home park, shall be elevated to the regulatory flood elevation if the site is adjacent to a Flood Hazard District. If approved by the Township Zoning Hearing Board as a special exception or variance, any such mobile home structure shall, as a condition of such variance, be elevated to the regulatory flood elevation, shall be built on pilings, and shall comply with all National Flood Insurance Program requirements and the requirements of the Pennsylvania Floodplain Management Act of 1978, 32 P.S. §679.101 et seq.

(Ord. 138, 7/17/1996; as added by Ord. 142, 11/20/1996, §IV)
Part 6

Construction and Acceptance of Public Improvements

§22-601. Construction Required.

1. The applicant shall construct all roads, streets, lanes or alleys, together with all other improvements, including grading, paving, curbs, gutters, sidewalks, street lights, fire hydrants, water mains, street signs, shade trees, storm drainage facilities, sanitary sewers, landscaping, traffic control devices, open space and restricted areas, trails, and erosion and sediment control measures in conformance with the final plan as approved, and applicable provisions of the Pennsylvania Department of Transportation Specifications, Publication 408, dated 1994, or the latest revision thereto, or other applicable regulations.

2. No plan shall be finally approved for recording, and no building permits shall be issued until the developer has completed all required improvements or has provided a performance guarantee in accordance with §22-311, hereof.

3. All trenches or other excavations in existing or proposed Township streets shall be backfilled in accordance with the following:
   A. Backfilling shall be done as promptly as possible.
   B. As reviewed and approved by the Township Engineer, the trench shall be backfilled with hand-placed screenings or #57 aggregate (2B) to a height of at least 1 foot above the top of the conduit, pipe or pipe bell. These screenings shall be thoroughly hand-tamped around the side of the pipe. These screenings shall be placed with the hand shovels and not from trucks or with the use of power equipment and shall be free from refuse, boulders, rocks, unsuitable organic material or other material which, in the opinion of the Township Engineer, is unsuitable.
   C. When the pipe is located in a dedicated street or any place where paving (including driveways) may be placed, the remainder of the trench shall be backfilled with 2RC or other approved materials and promptly compacted. The backfill material shall be mechanically tamped in approximately 6-inch layers.
   D. Where openings have been made in existing Township roads, paving shall be restored in accordance with the paving standards contained in this Chapter. Openings made in State roads shall be restored in accordance with the Pennsylvania Department of Transportation specifications. Permits shall be required before paving is opened in any existing State or Township road.
   E. Where openings are made behind the curb line the opening shall be covered with good topsoil to a depth of 6 inches and seeded or sodded to the satisfaction of the Township Engineer.
   F. Whenever the trenches have not been properly filled or if settlement occurs, they shall be refilled, compacted, smoothed off and finally made to conform to the surface of the ground.
   G. Frozen earth shall not be used for backfilling, nor shall any backfilling be done when materials already in the trench are frozen.
H. Where excavated material, or any portion thereof, is deemed by the Township Engineer to be unsuitable for backfilling, the developer shall procure and place backfill material approved by the Township, and the unsuitable material disposed of properly.

4. At all times during the construction of the project, stone construction entrances shall be positioned at all points exiting the site to facilitate the cleaning of mud and debris from all vehicles leaving the site.

5. No burning or burying of trash or debris shall be permitted on the construction site. To ensure that all trash and debris is removed, a trash container of adequate capacity shall be placed at various locations on the work site.

6. It shall be the developer’s responsibility to notify all emergency service agencies serving East Vincent Township when construction will begin and where the site is located.

(Ord. 138, 7/17/1996, §600; as amended by Ord. 178, 12/1/2004)

§22-602. Inspections.

1. All land disturbance work shall be performed in accordance with an inspection and construction control schedule approved by the Township Engineer. No work shall proceed to a subsequent phase until inspected and approved by the Township Engineer or his designee, who shall then file a report thereon with the Township. The construction or installation of all improvements shall at all times be subject to inspections by representatives of the Township. If such inspection reveals that work is not in accordance with approved plans and specifications, that construction is not being done in a workmanlike manner, or that erosion or sediment controls are failing to prevent accelerated erosion or waterborne sediment from leaving the site construction, the said representative is empowered to require corrections to be made, and upon approval by the Board of Supervisors issue a cease and desist order, which shall provide that no further construction shall take place on the site including construction on buildings for which permits are held by the developer except that construction necessary to remedy the defects cited.

2. The said cease and desist order shall be terminated upon the determination by Township representatives that the said defects or deviations from plan requirements have been corrected.

3. After commencement of initial earthmoving operations, the Township Engineer or his designee shall inspect at the following points in the development of the site, or of each stage thereof:

   A. Upon completion of stripping, the stockpiling of topsoil, the construction of temporary stormwater management and erosion control facilities, disposal of all unsuitable materials, and preparations of the ground.

   B. Upon completion of rough grading, but prior to placing topsoil, installing permanent drainage or other site improvements, or establishing covers.

   C. During construction of the permanent facilities, at such time(s) as specified by the Township Engineer.

   D. Upon completion of permanent stormwater management facilities, including established ground covers and plantings for that purpose.
E. Upon completion of final grading, vegetative control measures, and all other site restoration work undertaken in accordance with the approved plan and permit.

F. The Township Engineer may make random inspections as he deems necessary and appropriate.

4. No underground pipes, structures, sub grades or base course shall be covered until inspected and approved by the Township. A minimum of six inspections by the designated representative shall be required. These inspections shall be effected as follows:
   A. Excavation and completion of grade.
   B. Excavation, installation and completion of drainage, structures, community sewage systems or water supply systems.
   C. Before placing first base course and between such base course.
   D. Before binder course.
   E. Before wearing course.
   F. Final inspection in accordance with §22-604.1.

5. The developer shall notify the designated representative of the Township (usually the Township Engineer) at least 24 hours in advance of commencement of any construction operations requiring an inspection.

6. In the review of any stormwater management plan, the Township Engineer shall have discretion to modify or waive the otherwise applicable inspection schedule called for in this Section.

7. The applicant shall reimburse the Township for the reasonable and necessary expenses incurred for the inspection of improvements. Such reimbursement shall be based upon a schedule established by resolution. Such expenses shall be reasonable and in accordance with the ordinary and customary fees charged by the Township Engineer or other designated inspection consultant for work performed for similar services in the Township, but in no event shall the fees exceed the rate or cost charged by the engineer or consultant to the Township when fees are not reimbursed or otherwise imposed on applicants.
   A. In the event the applicant disputes the amount of any such expense in connection with the inspection of improvements, the applicant shall, within 10 working days of the date of billing, notify the Township in writing that such expenses are disputed as unreasonable or unnecessary, in which case the Township shall not delay or disapprove a subdivision or land development application or any approval or permit related to development due to the applicant’s written request over disputed engineer or consultant expenses.
   B. If, within 20 days from the date of billing, the Township and the applicant cannot agree on the amount of expenses which are reasonable and necessary, then the applicant and Township shall jointly, by mutual agreement, appoint another professional engineer licensed as such in the Commonwealth of Pennsylvania to review the said expenses and make a determination as to the amount thereof which is reasonable and necessary.
   C. The professional engineer so appointed shall hear such evidence and
review such documentation as the professional engineer in his or her sole opinion
deems necessary and render a decision within 50 days of the billing date. The
applicant shall be required to pay the entire amount determined in the decision
immediately.

D. In the event that the Township and applicant cannot agree upon the
professional engineer to be appointed within 20 days of the billing date, then upon
application of either party, the President Judge of the Court of Common Pleas of
Chester County (or if at the time there be no President Judge, then the senior
active judge then sitting) shall appoint such engineer, who, in that case, shall be
neither the Township Engineer nor any professional engineer who has been
retained by, or performed services for, the Township or the applicant within the
preceding 5 years.

E. The fee of the appointed professional engineer for determining the
reasonable and necessary expense shall be paid by the applicant if the amount of
payment required in the decision is equal to or greater than the original bill. If the
amount of payment required in the decision is less than the original bill by $1,000
or more, the Township shall pay the fee of the professional engineer, but otherwise
the Township and the applicant shall each pay one-half of the fee of the appointed
professional engineer.


§22-603. Maintenance Responsibilities.

1. Erosion and Sedimentation Control.
   A. Whenever sedimentation is caused by stripping vegetation, regrading or
      other development, it shall be the responsibility of the person causing such
      sedimentation to remove the accumulated sediment from all adjoining or
downstream properties, surfaces, drainage systems and watercourses and to repair
      any damage at his expense as quickly as possible.
   B. All necessary soil erosion and sedimentation control measures installed
      under this Chapter shall be adequately maintained by the landowner or developer
      after completion of the approved plan or until such measures are permanently
      stabilized as determined by the Township.

2. Stormwater Management Facilities.
   A. All stormwater management facilities, including detention and retention
      basins designed and constructed for the purposes specified under this Chapter,
      shall be maintained in proper working order in accordance with the plans filed with
      and approved by the Township; the responsibility of the property owner(s) upon
      whose property the facilities are located; and in accordance with any deed
      restrictions or notes on the plans. The landowner or developer may establish a
      homeowner's association that, with Township approval, shall be considered the
      responsible owner of all stormwater management facilities located in the area of
development.
   B. Where maintenance of subdivision and land development improvements
      is to be the responsibility of individual lot owners, homeowners association or
      similar entity, or an organization capable of carrying maintenance responsibilities,
      the Board shall require that such responsibilities be set forth in perpetual
covenants or deed restrictions binding on the landowner's successors in interest, and may further require that maintenance funds be established.

C. If at any time, the Township, or their representative, discovers any violation or condition not conforming with those designs and plans filed with the Township in regard to the operation of a stormwater management facility, they shall notify the responsible owners of the violation, informing them of the nature of such violation and the manner in which it can be corrected.

D. Under no conditions shall any person be allowed to remove any previously approved stormwater management facility unless an approved alternate facility is approved by the Township.

E. Under no conditions shall any person be allowed to modify, alter or change a previously approved stormwater management facility unless approved by the Township.

F. In the event the landowner, developer, or homeowners association, as the case may be, shall refuse or neglect to comply with the provisions of this Section as interpreted by the Township, the Township may direct the work to correct any violation or noncompliance with the terms of this Chapter, and all other ordinances of East Vincent Township, and institute action for payment of costs incurred.


A. Maintenance of all drainage facilities and watercourses within any subdivision and/or land development is the responsibility of the landowner or developer until and unless they are accepted by the Township in accordance with this Part.

B. It is the responsibility of any landowner or developer doing any act on or across a watercourse or swale, or upon the floodplain or right of way thereof, to maintain as nearly as possible in its present state, the stream, watercourse, swale, floodplain, wetlands, way for the duration of the construction activity and to return it to its original or equal condition after such activity is completed.

C. Maintenance of drainage facilities or watercourses originating on private property is the responsibility of the owner to their point of open discharge at the property line or at a watercourse within the property.

D. No landowner or developer shall block, impede the flow of, alter, construct any structure, or deposit any material, or commit any act which will affect normal or flood flow in any watercourse without having obtained prior approval from the Township and the Pennsylvania Department of Environmental Resources.

4. Irrespective of the provisions of the Zoning Ordinance [Chapter 27], any recreation or open space areas created under the terms of this Chapter shall be owned and maintained as provided for on final plans approved by the Board of Supervisors.


1. When the developer has completed all of the necessary and appropriate improvements, he shall notify the Board of Supervisors, in writing, by certified or registered mail, of the completion of the aforesaid improvements and shall send a copy thereof to the Township Engineer. The Township Engineer shall inspect all of the
§22-604 Township of East Vincent §22-606

aforesaid improvements and file a report, in writing, with the Board, and shall promptly mail a copy of the same to the developer by certified mail. The report shall be made and mailed within 30 days after receipt by the Township Engineer of the aforesaid authorization from the Board. Said report shall be detailed and shall indicate approval or rejection of said improvements, either in whole or in part. If said improvements, or any portion thereof, shall not be approved or shall be rejected by the Township Engineer, said report shall contain a statement of reason for such nonapproval or rejection.

2. The Board of Supervisors shall notify the developer, within 15 days of receipt of the Engineer's report, in writing, by certified mail, of the action of the Board with regard to approval, nonapproval, or rejection of improvements.

3. If any portion of the said improvements shall not be approved or shall be rejected by the Board of Supervisors, the developer shall proceed to complete those improvements and, upon completion, the same procedure of notification as outlined herein shall be followed.

4. The developer shall be responsible for maintenance of all subdivision or land development improvements until such improvements are offered for dedication and are accepted by the Township. In addition, 10 percent of the performance guarantee shall be held back by the Township until the developer has posted a maintenance guarantee, and as-built plans are verified and accepted by the Township. The maintenance guarantee shall total 15 percent of the total costs of the public improvements and shall be binding for a period of 18 months following dedication.

5. Partial releases of the performance guarantee during the period of construction shall be authorized as per §22-311.1.

(Ord. 138, 7/17/1996, §603; as amended by Ord. 178, 12/1/2004)

§22-605. As-Built Plans.

Within 30 days after completion and Township approval of subdivision or land development improvements as shown on final plans, and before Township acceptance of such improvements, the developer shall submit to the Board a plan showing actual locations, elevations, dimensions and conditions of streets and all other public improvements, including easements showing geometry and monument locations certified by a registered engineer or registered surveyor to be in accordance with actual construction. As-built plans shall show elevations and inverts to all manholes, pipes and roads.


§22-606. Dedication and Acceptance of Public Improvements.

1. Upon completion of any public improvements shown on an approved subdivision plan and within 90 days after approval of such public improvements as herein provided, the developer shall submit written offer of such public improvements for dedication to the Township. Said offer shall include a deed of dedication covering said public improvements together with satisfactory proof establishing the developer's clear title to said property. The Township has the right to request executed and acknowledged deeds of dedication at the time of signing of the development agreement. Such documents are to be filed with the Township Secretary for review of the Township
Solicitor. Deeds of dedication for public improvements may be accepted by resolution of the Board at a regular meeting thereof. The Supervisors may require that at least 50 percent of the lots in any approved subdivision or land development (or phase thereof, if final plan approval has been in phases) have certificates of occupancy issued for buildings thereon prior to acceptance of dedication. Should the streets, even though constructed according to the specifications of this Chapter, deteriorate before the said 50 percent of the lots have certificates of occupancy issued, such streets shall be repaired in a manner acceptable to the Board before being accepted by the Township.

2. If financial security has been provided in lieu of the completion of improvements required as a condition for the final approval of a plat as set forth in this Section, the Township shall not condition the issuance of building, grading or other permits relating to the erection or placement of improvements, including buildings, upon the lots or land as depicted upon the final plat upon actual completion of the improvements depicted upon the approved final plat. The developer is required to follow the construction sequence specified by the Chester County Conservation District and/or the Township Engineer. Moreover, if said financial security has been provided, occupancy permits for any building or buildings to be erected shall not be withheld following: the improvement of the streets providing access to and from existing public roads to such building or buildings to a mud-free or otherwise permanently passable condition, as well as the completion of all other improvements as depicted upon the approved plat, either upon the lot or lots or beyond the lot or lots in question if such improvements are necessary for the reasonable use of or occupancy of the building or buildings.

3. If the developer fails to offer dedication of said improvements, then the Board may, in addition to any other remedies provided by law, require the developer, or his heirs, successors, executors, or assigns, to make an offer at any time in the future that the best interests of the Township are served by the dedication and acceptance of the public improvements.

4. The Township shall have no obligation to take over and make public any street, other improvement or park, however, unless:

A. The required improvements, utility mains and laterals, monuments, markers, etc., shown on the approved final plans, have been certified by the Township Engineer as having been constructed in accordance with the provisions of this Chapter.

B. It be established to the satisfaction of the Board that there exists a need for the improvements to be taken over and made public.

5. The Township shall have no responsibility with respect to any park, street or other improvement, notwithstanding the use of same by the public, unless the park, street, or other improvement has been accepted by ordinance or resolution by the Board.

6. The Board may require that certain subdivision and land development improvements remain undedicated, with maintenance to be the responsibility of individual lot owners, a homeowners association or similar entity, or an organization capable of carrying out maintenance responsibilities.


1. Where the Board of Supervisors accepts dedication of all or some of the
required improvements following completion (whether such dedication is of the fee or of an easement), the Board shall require the posting of financial security to secure the structural integrity of the improvements and the functioning of the improvements in accordance with the design and specifications as depicted on the final plan. The security shall be in the form authorized for the deposit of the performance guarantee, as described in §22-311, hereof, and shall be for a term of 18 months from the date of the acceptance of dedication and shall be in an amount equal to 15 percent of the actual cost of installation of the improvements so dedicated.

2. On or before the completion of subdivision or land development improvements, the permanent stormwater management system for a tract shall be installed or constructed in accordance with the approved stormwater management plan. All such work shall be as specified in the approved plan. Continued functioning of these facilities shall be guaranteed and maintained, as necessary, and performed in accordance with §22-311, “Performance Guarantees,” (for the maintenance bond period required by §§22-607.1), 22-307.4, “Stormwater Management Plan,” and 22-603, “Maintenance Responsibilities,” of this Chapter.

(Ord. 138, 7/17/1996, §606; as amended by Ord. 178, 12/1/2004)
§22-701. Enforcement.

1. Inspection revealing noncompliance with plans submitted under the provisions of this Chapter, including all supplementary data required, shall be sufficient grounds for withdrawal of building permits by the Township until correction thereof, or other penalties or remedies, including injunctive relief, as may be provided by law.

2. Preventive Remedies.

A. In addition to other remedies, the Township may institute and maintain appropriate actions by law or in equity to restrain, correct or abate violations, to prevent unlawful construction, to recover damages and to prevent illegal occupancy of a building, structure or premises. The description by metes and bounds in the instrument of transfer or other documents used in the process of selling or transferring shall not exempt the seller or transferor from such penalties or from the remedies herein provided.

B. The Township may refuse to issue any permit or grant any approval necessary to further improve or develop any real property which has been developed or which has resulted from a subdivision of real property in violation of any ordinance adopted pursuant to this Part. This authority to deny such a permit or approval shall apply to any of the following applicants:

   (1) The owner of record at the time of such violation.

   (2) The vendee or lessee of the owner of record at the time of such violation without regard as to whether such vendee or lessee had actual or constructive knowledge of the violation.

   (3) The current owner of record who acquired the property subsequent to the time of violation without regard as to whether such current owner had actual or constructive knowledge of the violation.

   (4) The vendee or lessee of the current owner of record who acquired the property subsequent to the time of violation without regard as to whether such vendee or lessee had actual or constructive knowledge of the violation.

C. As an additional condition for issuance of a permit or the granting of an approval to any such owner, current owner, vendee or lessee for the development of any such real property, the Township may require compliance with the conditions that would have been applicable to the property at the time the applicant acquired an interest in such real property.

3. Enforcement Remedies.

A. Any person, partnership or corporation who or which has violated the provisions of any subdivision or land development ordinance enacted under this act or prior enabling laws shall, upon being found liable therefore in a civil enforcement proceeding commenced by the Township, pay a judgment of not less than $100 or more than $500 plus all court costs, including reasonable attorney fees incurred by the municipality as a result thereof. No judgment shall commence or
be imposed, levied or be payable until the date of determination of a violation by
the district justice. If the defendant neither pays nor timely appeals the judgment,
the municipality may enforce the judgment pursuant to the applicable rules of civil
procedure. Each day that a violation continues shall constitute a separate violation,
unless the district justice determining that there has been a violation further
determines that there was a good faith basis for the person, partnership or
corporation violating the ordinance to have believed that there was no such
violation, in which event there shall be deemed to have been only one such violation
until the 15th day following the date of the determination of a violation by the
magisterial district judge and thereafter each day that a violation continues shall
constitute a separate violation. [Ord. 185]

B. The court of common pleas, upon petition, may grant an order of stay, upon
cause shown, tolling the per diem judgment pending a final adjudication of the
violation and judgment.

C. Nothing contained in this Section shall be construed or interpreted to
grant to any person or entity other than the Township the right to commence any
action for enforcement pursuant to this Section.

(Ord. 138, 7/17/1996, §700; as amended by Ord. 185, 8/2/2006)

§22-702. Records.

1. The Township shall assign a subdivision application number to all subdivision
and land development applications, and all matters referring to an application should
be filed in accordance with the subdivision case number. The Township shall keep a
record of its findings, decisions, and recommendations relative to all plans filed with it
for review.

2. All such records shall be public records.

(Ord. 138, 7/17/1996, §701)

§22-703. Fees and Costs.

1. No application for preliminary or final approval shall be deemed to have been
filed until the fee and escrow deposit, as set forth below, shall have been paid.

2. A subdivision or land development application fee (nonrefundable) and an
escrow deposit shall be submitted with any application for preliminary or final plan
approval to cover the costs of plan review and processing. Amounts of the application
fee and escrow deposit shall be fixed by the Board of Supervisors by resolution. The
escrowed funds shall be used to reimburse the Township for actual expenditures
incidental to these processes including, but not limited to, fees of the Township
Engineer, fees of other professional consultants, (including but limited to a traffic
engineer, land planner, hydro geologist, etc), legal fees, and Township administrative
fees. Any costs incurred by the Township in excess of the amount held in escrow shall
be fully reimbursed by the applicant within 30 days of written notification by the
Township or the applicant will be subject to a late charge of 10 percent of the deficient
balance. Any unexpended balance in the escrow deposit shall become part of the second
deposit required in subsection .3.

3. Following final plan approval and recording and the establishment of any
required performance guarantee, the Board has the option of requiring a second escrow
§22-703 Subdivision and Land Development

deposit be established to cover the engineering, legal, or other professional consultants, and administrative costs of inspections of improvements construction; materials or site testing; or maintenance costs prior to the acceptance of improvements by the Township. Any costs incurred by the Township in excess of the amount held in escrow shall be fully reimbursed by the applicant. The amount of the escrow deposit shall be fixed by the Board of Supervisors by resolution. As an alternative to a second escrow deposit, the Board also has the option of including additional financial security with the improvement escrow.

(Ord. 138, 7/17/1996, §702)

§22-704. Modifications.

1. In any case in which an applicant demonstrates to the satisfaction of the Board of Supervisors that strict application of any provisions of this Chapter would be unreasonable and would cause unnecessary hardship as applied to the proposed subdivision or land development, the Board may grant a modification from the mandatory provision to grant relief from the unnecessary hardship; provided, however, that such modifications shall not be granted if they would be contrary to the public interest and have the effect of nullifying the intent and purpose of this Chapter.

2. In granting modifications, the Board of Supervisors may impose such conditions as will, in its judgment, secure substantially the objectives of the standards and requirements so modified.

3. All requests for a modification shall be in writing and shall accompany and be a part of the application for development. The request shall state, in full, the grounds and facts of unreasonableness or hardship on which the request is based, provision or provisions of this Chapter involved, and the minimum modification necessary.

4. The request for modification may be referred by the Board of Supervisors to the Planning Commission for advisory comments. The Board shall keep a written record of all action on all requests for modification.

(Ord. 138, 7/17/1996, §703)

§22-705. Appeals.

Appeals from the actions of the Board of Supervisors with respect to any application for subdivision or land development approval shall be governed by the provisions of Act 247 as they may be amended from time to time, or any successor legislation thereto.

(Ord. 138, 7/17/1996, §704)

§22-706. Amendments.

The regulations set forth in this Chapter may from time to time be amended in accordance with the then applicable procedures set forth in Act 247.

(Ord. 138, 7/17/1996, §705)

§22-707. Liability Insurance.

If, in the opinion of the Township Engineer, the nature of any land disturbance work is such that it may create a hazard to human life or endanger adjoining property or property at a higher or lower elevation, or any street or street improvement, or any
other public property, then the Township Engineer may require that such an applicant file a certificate of insurance showing that he is insured against claims for damages for personal injury and property damage (including damage to East Vincent Township by deposit or washing of material onto municipal streets or other public improvements), which may arise from or out of the performance of the work, whether such performance be by himself, his subcontractor, or any person directly or indirectly employed by him. The amount of such insurance shall be prescribed by the Township in accordance with its determination of the risks involved in an amount not less than $25,000 per occurrence. Such insurance shall be written by a company licensed to do business in Pennsylvania and approved by the Township. Neither issuance of a permit nor compliance with the provisions thereto or any condition imposed by the Township shall relieve any person from any responsibility for damage to persons or property otherwise imposed by law, nor shall it impose any liability upon the Township for damages to persons or property.

(Ord. 138, 7/17/1996, §706)
Appendix A

Construction Standards

Diagram to be scanned to 11 X 17 size for final publication of East Vincent Township Code of Ordinances.
* Parallel swales must have easement beyond R.O.W.

EAST VINCENT TOWNSHIP
CHESTER COUNTY, PA.

SHOULDER TREATMENT

SMC ENVIRONMENTAL SERVICES GROUP
Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA.

SCALE: N.T.S.  DATE: ________

22-182
N.B.

- Trees to be planted 5' outside of R.O.W.
- All shoulders 4" topsoil, seeded, fertilized, & mulched
- Mat protection grades over 3%

EAST VINCENT TOWNSHIP
CHESTER COUNTY, PA.

SHOULDER TREATMENT

SMC ENVIRONMENTAL SERVICES GROUP
Engineers, Monographers, Scientists & Planners
VALLEY FORGE, PA.

SCALE: N.T.S. DATE: ———
(22, App. A)

SECTION VIEW

PLAN VIEW

EAST VINCENT TOWNSHIP CUL-DE-SAC
TURNAROUND REQUIREMENTS
NOT TO SCALE

Supp. I; revised 2/7/2007 22-184
Appendix B

Typical Signature Plates

COMMONWEALTH OF PENNSYLVANIA

SS

COUNTY OF CHESTER

On the ________ day of ________, 19______, before me, the Subscriber, a Notary Public for the Commonwealth of Pennsylvania, residing in ________, personally appeared to me, the undersigned, who acknowledged (himself/herself) to be ______________ (name of Corporation), a corporation and that such (president or secretary), being authorized to do so, (he/she) executed the foregoing plan by signing that the said corporation is the registered owner of the designated land, that the said plan truly represents the land, roads, and other monuments and related information, and that all streets and ultimate rights-of-way shown and not heretofore dedicated, are hereby dedicated to the public use, and that necessary approval of the plan has been obtained and is endorsed thereon, and that the said corporation desires that the foregoing plan be recorded according to law.

My commission expires: ______________

(I/We) do hereby certify that (I/We) are officer(s) of the said Corporation, the registered owner of the land herein subdivided and that (my/our) consent to the approval of this plan has been granted and that (I/We) desire the same to be recorded.

(CORPORATE SEAL)

________________________
Officer

________________________
Officer

REVIEWED BY THE CHESTER COUNTY PLANNING COMMISSION

Executive Director ___________________________ Date ______________

REVIEWED BY THE EAST VINCENT TOWNSHIP PLANNING COMMISSION

Chairman (Vice) ___________________________ Date ______________

APPROVED BY THE EAST VINCENT TOWNSHIP BOARD OF SUPERVISORS

Chairman ___________________________ Date ______________

Vice-Chairman ___________________________ Date ______________

Supervisor ___________________________ Date ______________

Township Secretary

[TOWNSHIP SEAL]

Township Engineer ___________________________ Date ______________

Zoning Officer ___________________________ Date ______________

I hereby declare this plan represents a survey made by me; that all monuments show exist, or will be placed, and that all dimensional and geodetic details are correct, to the best of my knowledge.

________________________
Professional Land Surveyor

Date ______________
[Non-Corporate Signature Plate]
COMMONWEALTH OF PENNSYLVANIA
SS
COUNTY OF CHESTER

being duly sworn according to Law, deposes and says that they are the owners of the land designated on this plan, that the said plan truly represents the land, roads, and other monuments and related information, and that they desire the plan be recorded according to Law, and that all streets and Ultimate Rights-of-Way shown and not heretofore dedicated, are hereby dedicated to the public use.

Owner

Owner

SWORN TO AND SUBSCRIBED BEFORE ME THIS _____DAY OF __________, 19_.

____________________________ My commission expires:______________________

I HEREBY ADOPT THIS SUBDIVISION/LAND DEVELOPMENT PLAN

Owner

Owner

REVIEWED BY THE CHESTER COUNTY PLANNING COMMISSION

Executive Director
Date

REVIEWED BY THE EAST VINCENT TOWNSHIP PLANNING COMMISSION

Chairman (Vice)
Date

APPROVED BY THE EAST VINCENT TOWNSHIP BOARD OF SUPERVISORS

Chairman
Date

Vice-Chairman

Supervisor

Township Secretary

[Township Seal]

Township Engineer

Zoning Officer

I hereby declare this plan represents a survey made by me; that all monuments show exist, or will be placed, and that all dimensional and geodetic details are correct, to the best of my knowledge.

Professional Land Surveyor
Date
Appendix C

Hydric Soils
CHESTER AND DELAWARE COUNTIES, PENNSYLVANIA
(Interim List)

MAP UNITS WITH MAJOR COMPONENTS CONSISTING OF HYDRIC SOILS:

Bo       Bowmansville silt loam
CaA      Calvert silt loam, 0 to 3 percent slopes
CaB      Calvert silt loam, 3 to 8 percent slopes
CaB2     Calvert silt loam, 3 to 8 percent slopes, moderately eroded
CrA      Croton silt loam, 0 to 3 percent slopes
CrB      Croton silt loam, 3 to 8 percent slopes
Gu       Outline silt loam
Mn       Melvin silt loam
OtA      Othello silt loam
Tm       Tidal marsh
WaA      Watchung silt loam, 0 to 3 percent slopes
WaB2     Watchung silt loam, 3 to 8 percent slopes, moderately eroded
WcB      Watchung very stony silt loam, 0 to 8 percent slopes
We       Wehadkee silt loam
WoA      Worsham silt loam, 0 to 3 percent slopes
WoB      Worsham silt loam, 3 to 8 percent slopes
WoB2     Worsham silt loam, 3 to 8 percent slopes, moderately eroded
WoC2     Worsham silt loam, 8 to 15 percent slopes, moderately eroded
WsB      Worsham very stony silt loam, 0 to 8 percent slopes

MAP UNITS WITH INCLUSIONS OF HYDRIC SOILS:

AgA      Aldino silt loam, 0 to 3 percent slopes
AgB2     Aldino silt loam, 3 to 8 percent slopes, moderately eroded
AsB2     Aldino very stony silt loam, 0 to 8 percent slopes, moderately eroded
BdA      Bedford silt loam, 0 to 3 percent slopes
BdB      Bedford silt loam, 3 to 8 percent slopes
BdB2     Bedford silt loam, 3 to 8 percent slopes, moderately eroded
BeA      Beltsville silt loam, 0 to 3 percent slopes
BeB2     Beltsville silt loam, 3 to 8 percent slopes, moderately eroded
ByA      Butlertown silt loam, 0 to 3 percent slopes
ByB2     Butlertown silt loam, 3 to 8 percent slopes, moderately eroded
Ch  Chewacla silt loam
Cn  Congaree silt loam
CoA Conowingo silt loam, 0 to 3 percent slopes
CoB2 Conowingo silt loam, 3 to 8 percent slopes, moderately eroded
GnA Glenville silt loam, 0 to 3 percent slopes
GnB Glenville silt loam, 3 to 8 percent slopes
GnB2 Glenville silt loam, 3 to 8 percent slopes, moderately eroded
GnC2 Glenville silt loam, 8 to 15 percent slopes, moderately eroded
GsB Glenville very stony silt loam, 0 to 8 percent slopes
LaA Lawrence silt loam, 0 to 3 percent slopes
LaB Lawrence silt loam, 3 to 8 percent slopes
LeB Lehigh silt loam, 3 to 8 percent slopes
LeB2 Lehigh silt loam, 3 to 8 percent slopes, moderately eroded
LeC3 Lehigh silt loam, 8 to 15 percent slopes, severely eroded
LhB Lehigh very stony silt loam, 0 to 8 percent slopes
LhD Lehigh very stony silt loam, 8 to 25 percent slopes
Ls  Lindside silt loam
MoB2 Montalto channery silt loam, 3 to 8 percent slopes, moderately eroded
MoC2 Montalto channery silt loam, 8 to 15 percent slopes, moderately eroded
MoC3 Montalto channery silt loam, 8 to 15 percent slopes, severely eroded
MrB Montalto very stony silt loam, 0 to 8 percent slopes
MrD Montalto very stony silt loam, 8 to 15 percent slopes
MsB Mount Lucas very stony silt loam, 0 to 8 percent slopes
RdA Readington silt loam, 0 to 3 percent slopes
RdB Readington silt loam, 3 to 8 percent slopes
RdB2 Readington silt loam, 3 to 8 percent slopes, moderately eroded
Ro  Rowland silt loam
Rp  Rowland silt loam, dark surface
WnA Woodstown loam, 0 to 3 percent slopes
WoC2 Worsham silt loam, 8 to 15 percent slopes, moderately eroded
W  Water

According to the Soil Conservation Service, the list has not undergone thorough edits.

Map units with major components consisting of hydric soils are a good indication that an area is a wetlands. Map units with inclusions of hydric soils are a possible indication that an area is a wetlands.

Note: This is an interim list compiled under interim regulations and is subject to change after final regulations are published. According to the Soil Conservation Service, the list has not undergone thorough edits.
Appendix D

Soils Listed in the USDA-SCS Soil Survey for Chester and Delaware Counties

Soils occurring in both Chester and Delaware Counties have been cross listed for their Hydrologic Soil Group rating, as appears in the USDA-SCS Engineering Field Manual. This rating provides an evaluation of the runoff potential for each soil series in the nation as follows:

**Group A:** Lowest runoff potential with high infiltration rates, even when thoroughly wetted; usually moderately deep to deep, well to excessively well drained sands and gravels.

**Group B:** Low to moderate runoff potential, with moderate infiltration rates when wetted; usually moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse texture.

**Group C:** Moderate to high runoff potential, with slow infiltration rates when wetted; usually soils with a layer that hinders downward water movement or soils with moderately fine to fine textures.

**Group D:** High runoff potential, with very slow infiltration rates when wetted; usually clay with high swelling potential or soils with permanent high water table or with claypan or clay layer near the surface or shallow soils over rock or other impervious material.
<table>
<thead>
<tr>
<th>Soil Group</th>
<th>Hydrologic Soil Group</th>
<th>Soil Group</th>
<th>Hydrologic Soil Group</th>
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<td>Aldino</td>
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<td>Lehigh</td>
<td>C</td>
</tr>
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<td>Lindside</td>
<td>C</td>
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<tr>
<td>Brandywine</td>
<td>C</td>
<td>Made Land</td>
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<td>B</td>
<td>Manor</td>
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<td>Bucks</td>
<td>B</td>
<td>Melvin</td>
<td>D</td>
</tr>
<tr>
<td>Butlertown</td>
<td>C</td>
<td>Montalto</td>
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<td>B</td>
<td>Readington</td>
<td>C</td>
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<td>Congaree</td>
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<td>Rowland</td>
<td>C</td>
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<td>C</td>
<td>Sassafras</td>
<td>B</td>
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<td>Croton</td>
<td>D</td>
<td>Tidal Marsh</td>
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<td>B</td>
<td>Watchung</td>
<td>D</td>
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<td>B</td>
<td>Wehadkee</td>
<td>D</td>
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<td>C</td>
<td>Woodstown</td>
<td>D</td>
</tr>
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<td>Guthrie</td>
<td>D</td>
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</tr>
<tr>
<td>Hagerstown</td>
<td>C</td>
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* Groups in the Drained/Undrained condition.
Appendix E

Important Farmlands of Chester County, Pennsylvania

The Department of Agriculture and the Soil Conservation Service are concerned about any action that tends to impair the productive capacity of American agriculture. The Nation needs to know the extent and location of the best land for producing food, feed, fiber, forage and oilseed crops, the land that has special qualities for growing specific high value crops, and other important lands for producing crops.

It is SCS policy to make and keep current an inventory of prime farmland and unique farmland of the Nation. This inventory is being carried out in cooperation with other interested agencies at the national, state and local levels of government. The objective of the inventory is to identify the extent and location of the important rural lands needed to produce food, fiber, forage and oilseed crops.

The Important Farmlands Map of Chester County, Pennsylvania, has been published by the SCS. This map displays three of the categories recognized in the national inventory. Definition of types of important farmlands are as follows.

Definitions

PRIME FARMLAND

Prime farmland is land best suited for producing food, feed, storage, fiber and oilseed crops, and also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land but not built-up land or water). It has the soil quality, growing season and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern farming methods.

Prime farmland meets the following criteria:

1. The soils have an adequate moisture supply.
2. The soils have a suitable soil temperature regime. These are soils that, at a depth of 20 inches (50 cm), have a mean annual temperature higher than 32¾ F (0¾C).
3. The soils have a pH between 4.5 and 8.4 in all horizons within a depth of 40 inches (1 meter) or in the root zone if the root zone is less than 40 inches deep. This range of pH is favorable for growing a wide variety of crops without adding large amounts of amendments.
4. The soils have no water table or a water table that is maintained at a sufficient depth during the cropping season to allow food, feed, fiber, forage and oilseed crops common to the area to be grown.
5. The soils lack excessive soluble salts that inhibit plant growth.
6. The soils are not flooded frequently during the growing season (less often than once in 2 years).
7. The soils do not have a serious erosion hazard.
8. The soils have a permeability rate of at least 0.06 inches (0.15 cm) per hour in the upper 20 inches (50 cm).
9. Less than 10 percent of the surface layer in these soils consists of rock
fragments coarser than 3 inches (7.6 cm). These soils present no particular difficulty in cultivating with large equipment.

A list of soils that qualify as a prime farmland in Chester County is attached to this report.

**UNIQUE FARMLAND**

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops. It has the special combination of soil quality, location, growing season and moisture supply needed to produce sustained high quality and/or high yields of a specific crop when treated and managed according to modern farming methods. Examples of such crops are citrus, olives, cranberries, fruit and vegetables.

Unique farmland has the following characteristics:

1. It is used for a specific high-value food or fiber crop.
2. It has a moisture supply that is adequate for the specific crop. The supply is from stored moisture, precipitation or a developed irrigation system.
3. It combines favorable factors of soil quality, growing season, temperature, humidity, air damage, elevation, aspect or other conditions such as nearness to market that favor the growth of a specific food or fiber crop.

Chester County chose not to recognize any land in this category.

**ADDITIONAL FARMLAND OF STATEWIDE IMPORTANCE**

This is land, in addition to prime and unique farmlands, that is of Statewide importance for the production of food, feed, fiber, forage and oilseed crops. Criteria for defining and delineating this land is determined by the appropriate State agency or agencies. In Pennsylvania, Capability Class II land and Capability Class III land that does not qualify as prime farmland has been designated as additional farmland of Statewide importance.


A list of soils that qualify as additional farmland of statewide importance in Chester County is attached to this report.

**ADDITIONAL FARMLAND OF LOCAL IMPORTANCE**

In some local areas, there is concern for certain additional farmlands for the production of food, feed, fiber, forage and oilseed crops, even though these lands are not identified as having National or Statewide importance. Where appropriate, these lands are to be identified by the local agency or agencies concerned.

Additional farmland that qualifies as Agricultural Land Capability Class IV has been identified on the Chester County Important Farmlands Map.

**General**

A legend on the front of the Important Farmlands Map identifies different kinds of land and their acreage in the county. Areas not colored are other land. These areas do not fit any of the categories listed in the definitions and are not water or urban areas more than 10 acres in size.
The criteria for identification of prime farmland and additional farmland of Statewide importance are entirely related to soil characteristics. They were set up to facilitate the identification and inventory of the State's most productive farmland in a reasonable time by using existing soil surveys.

Most of the prime farmland and much of the additional farmland of statewide importance is now used for crops; however, it could be in pasture, range, forest or other land uses and still qualify as prime farmland. Urban built-up land and water are excluded. The rationale for this approach is that land not committed to irreversible uses may be available for cropping. Decision makers must be aware of the long-term implications of various land use options for the production of food, feed, etc., and the trade-offs involved. Actions that put high quality farmland in irreversible uses should be initiated only if these actions are clearly in the public interest.

This inventory does not constitute a designation of any land area to a specific land use. Such designations are the prerogative of responsible State and local officials.

Finally, it is important to emphasize that prime farmland is one of the most important resources of the Nation. This exceptional land can be fanned continuously or nearly continuously without degrading the environment. It will produce the most food, feed, etc., with the least amount of energy used. It responds exceptionally well to fertilizer and other chemical applications with limited loss of residues by leaching or erosion. This land has the highest percentage of soils that can be minimum tilled. It is the most responsive to management and requires the least investment for maintaining productivity.

The inventories of prime and unique farmlands and other important farmlands are dynamic. New areas may be developed and others will be converted to irreversible uses. Thus, the inventories must be updated periodically to reflect any significant changes.
<table>
<thead>
<tr>
<th>Manuscript Symbol</th>
<th>Mapping Unit Name</th>
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<tr>
<td>BdA</td>
<td>Bedford silt loam, 0 to 3 percent slopes</td>
</tr>
<tr>
<td>BdB</td>
<td>Bedford silt loam, 3 to 8 percent slopes</td>
</tr>
<tr>
<td>BdB2</td>
<td>Bedford silt loam, 3 to 8 percent slopes, moderately eroded</td>
</tr>
<tr>
<td>BrB2</td>
<td>Brandywine loam, 3 to 8 percent slopes, moderately eroded</td>
</tr>
<tr>
<td>BtB2</td>
<td>Brecknock channery silt loam, 3 to 8 percent slopes, moderately eroded</td>
</tr>
<tr>
<td>BxB2</td>
<td>Bucks silt loam, 0 to 3 percent slopes</td>
</tr>
<tr>
<td>CdA</td>
<td>Chester silt loam, 0 to 3 percent slopes</td>
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<tr>
<td>CdA2</td>
<td>Chester silt loam, 0 to 3 percent slopes, moderately eroded</td>
</tr>
<tr>
<td>CdB</td>
<td>Chester silt loam, 3 to 8 percent slopes</td>
</tr>
<tr>
<td>CdB2</td>
<td>Chester silt loam; 3 to 8 percent slopes, moderately eroded</td>
</tr>
<tr>
<td>CdB3</td>
<td>Chester silt loam, 3 to 8 percent slopes, severely eroded</td>
</tr>
<tr>
<td>Ch</td>
<td>Chewacla silt loam</td>
</tr>
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<td>CkB2</td>
<td>Chrome gravelly silty clay loam, 3 to 8 percent slopes, moderately eroded</td>
</tr>
<tr>
<td>CmA</td>
<td>Conestoga silt loam, 0 to 3 percent slopes</td>
</tr>
<tr>
<td>CmA2</td>
<td>Conestoga silt loam, 0 to 3 percent slopes, moderately eroded</td>
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<td>CniB2</td>
<td>Conestoga silt loam, 3 to 8 percent slopes, moderately eroded</td>
</tr>
<tr>
<td>CnB3</td>
<td>Conestoga silt loam, 3 to 8 percent slopes, severely eroded</td>
</tr>
<tr>
<td>Cn</td>
<td>Congaree silt loam</td>
</tr>
<tr>
<td>CoA</td>
<td>Conowingo silt loam, 0 to 3 percent slopes</td>
</tr>
<tr>
<td>EcB</td>
<td>Edgemont channery loam, 3 to 8 slopes</td>
</tr>
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<td>EcB2</td>
<td>Edgemont channery loam, 3 to 8 percent slopes, moderately eroded</td>
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<td>Glenelg channery silt loam, 0 to 3 percent slopes</td>
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<td>GeA2</td>
<td>Glenelg channery silt loam, 0 to 3 percent, moderately eroded</td>
</tr>
<tr>
<td>GeB</td>
<td>Glenelg channery silt loam, 3 to 8 percent slopes</td>
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<tr>
<td>GeB2</td>
<td>Glenelg channery silt loam, 3 to 8 percent slopes, moderately eroded</td>
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<td>Glenelg channery silt loam, 3 to 8 percent slopes, severely eroded</td>
</tr>
<tr>
<td>GnA</td>
<td>Glenville silt loam, 0 to 3 percent slopes</td>
</tr>
</tbody>
</table>
GnB  Glenville silt loam, 3 to 8 percent slopes
GnB2  Glenville silt loam, 3 to 8 percent slopes, moderately eroded
HaA2  Hagerstown silt loam, 0 to 3 percent slopes, moderately eroded
HaB2  Hagerstown silt loam, 3 to 8 percent slopes, moderately eroded
HoB2  Hollinger silt loam, 3 to 8 percent slopes, moderately eroded
LeB   Lehigh silt loam, 3 to 8 percent slopes
LeB2  Lehigh silt loam, 3 to 8 percent slopes, moderately eroded
Ls    Lindside silt loam
MgA2  Manor loam, 0 to 3 percent slopes, moderately eroded
MgB2  Manor loam, 3 to 8 percent slopes, moderately eroded
MgB3  Manor loam, 3 to 8 percent slopes, severely eroded
MoB2  Montalto channery silt loam, 3 to 8 percent slopes, moderately eroded
NaA   Neshaminy gravelly silt loam, 0 to 3 percent slopes
NaB2  Neshaminy gravelly silt loam, 3 to 8 percent slopes, moderately eroded
PmB2  Penn silt loam, 3 to 8 percent slopes, moderately eroded
PtB2  Penn and Lansdale sandy loams, 3 to 8 percent slopes, moderately eroded
RdA   Readington silt loam, 0 to 3 percent slopes
Ro    Rowland silt loam
Rp    Rowland silt loam, dark surface

1/ This soil is presently inactive but fits concept of Clarksburg series which has a K value of .37. Some nonprime farmland areas are included in this mapping unit; however, it is our best judgment that in this County, over 50 percent of this unit have slopes of less than 5.4 percent and this soil qualifies for prime farmland in Chester County.

2/ Soil is minor in extent. Field checks indicate it fits concept of Manor series. Average slopes in most areas are less than 5.4 percent.

3/ Soils are being re correlated as moderately eroded. Field observations indicate that most areas are cultivated and degrees of erosion are obliterated and impossible to separate in mapping.

4/ Field observations indicate that this soil is deeper than described in the soil survey report. It has an available water holding capacity of 4 inches or more and it qualifies for prime farmland.
LISTING OF SOILS MAPPING UNITS THAT QUALIFY AS ADDITIONAL FARMLAND OF STATEWIDE IMPORTANCE
Chester County, Pennsylvania

<table>
<thead>
<tr>
<th>Manuscript Symbol</th>
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<tr>
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<td>Bo</td>
<td>Bowmansville silt loam</td>
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<td>Brecknock channery silt loam, 8 to 15 percent slopes, moderately eroded</td>
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<td>Readington silt loam, 3 to 8 percent slopes, moderately eroded</td>
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</table>
Appendix F

The Comprehensive Stormwater Management Procedure

Introduction
This Appendix F describes a procedure for implementing the stormwater management requirements of East Vincent Township. This procedure is intended to produce stormwater management "solutions" which achieve the standards set forth in a cost effective manner. The procedure will not be fully applicable in all land development cases, especially in those cases where higher densities/intensities are proposed on the smallest of sites. In such cases, more highly engineered structural solutions may be necessary.

The Comprehensive Stormwater Management Procedure is designed to integrate the following underlying principles into the site design and stormwater management planning process:

- Stormwater is a resource to be valued, not a waste for disposal.
- Prevent first, mitigate second.
- Integrate stormwater management early on into the site design process.
- Manage stormwater as close to the source as possible.
- Use natural systems, including the undisturbed soil mantle and natural/existing vegetation, for quality and quantity control.
- Disconnect and increase time of concentration, rather than pipe and accelerate.
- Achieve multiple stormwater objectives as simply as possible.

This Comprehensive Stormwater Management Procedure consists of a series of questions, structured to provide an analysis of the site's natural features together with stormwater management needs of various development concepts. The initial questions in the procedure focus on the more preventive aspects of stormwater management. Answers are to be recorded and compiled in the Comprehensive Stormwater Management Procedure Report, as stipulated in the Ordinance. If these procedure questions are addressed thoroughly, the critical objective of managing stormwater comprehensively—both quantity and quality—will be achieved in a reasonably cost effective manner. The procedure is largely common sense, but nevertheless approaches the engineering of stormwater solutions in ways which depart significantly from the conventional engineering approach.

Prevention must be maximized. Then, natural system-based mitigative practices, together with more conventional structural practices, should be arrayed and evaluated, given that some amount of stormwater peaking and volume control will remain to be mitigated even with successful prevention. These corrective or mitigative stormwater management needs should be met with an array of natural-system based best management practices (vegetated swales, vegetated filter strips, berming/terraforming), with the remaining stormwater management needs met with structural best management practices (infiltration basins/trenches/wells, porous pavement, wet basins/retention ponds, constructed wetlands, multi-chamber catch basins, sand/peat filters).
The following checklist offers a summary of the Comprehensive Stormwater Management Procedure.

**CHECKLIST SUMMARY FOR COMPREHENSIVE STORMWATER MANAGEMENT**

(Use with Site Planning and Design Procedure)

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<th>SITE ANALYSIS</th>
<th>BACKGROUND SITE CONSIDERATIONS</th>
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</thead>
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<td>Special Protection waters (EV, HQ)?</td>
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<tr>
<td>Fishery / Aquatic Life Use (WWF, CWF, TSF)?</td>
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</tr>
<tr>
<td>Any Chapter 3CD impaired stream listing classifications?</td>
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<tr>
<td>Aquatic biota sampling?</td>
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<td>Existing water quality sensitivities downstream (water supply source)?</td>
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<tr>
<td>Location of any known downstream flooding?</td>
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<td><strong>2. Site Factors Inventory</strong></td>
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<td><em>Describe the size and shape of the site</em></td>
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<td>Special constraints/opportunities?</td>
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<td>Special site border conditions?</td>
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<td><em>Describe the existing developed features of the site, if any</em></td>
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<td>Existing structures/improvements, structures to be preserved?</td>
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<td>Existing cover/lenses?</td>
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<td>Existing impervious areas?</td>
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<td>Existing pervious maintained areas?</td>
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<td>Existing public sewer and water?</td>
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<td>Existing storm drainage system?</td>
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<tr>
<td>Existing wastewater system?</td>
<td></td>
</tr>
<tr>
<td><em>Describe important natural features of site</em></td>
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<tr>
<td>Existing hydrology (drainage swales, intermittent, perennial)?</td>
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<td>Existing topography, contours, subbasins?</td>
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<tr>
<td>Soil series found on site and their Hydrologic Soil Group ratings?</td>
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<tr>
<td>Areas of vegetation (trees, scrub, shrub)?</td>
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<tr>
<td>Special Value Areas?</td>
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<td>Wetlands?</td>
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<td>Floodplains?</td>
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<td>High quality woodlands, other woodlands and vegetation?</td>
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<td>Riparian buffers?</td>
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<tr>
<td>Naturally vegetated swales/drainageways?</td>
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<td>Sensitive Areas?</td>
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<td>Steep slopes?</td>
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<td>Special geologic conditions (limestone)?</td>
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<td>Shallow bedrock?</td>
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<td>High water table?</td>
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<td>PNDI areas or species?</td>
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**3. Site Factors Analysis**

*Characterize the constraint-zones at site*

Avoid development on or near special and sensitive natural features

*Characterize the opportunity-zones at site*

Location of well-draining soils
Location and quality of existing vegetation

(22, App. F)
BUILDING PROGRAM

Township Comprehensive Plan and Zoning guidance?
  Guidance in Comprehensive Plan?
  Existing Zoning District?
    Total number of units
    Type of units
    Density of units
  Any allowable options?

Township SLDO guidance and options?
  Performance standards for neo-traditional, village, hamlet planning?
  Reduce building setbacks?
  Curbs required?
  Street width, parking requirements, other impervious requirements?
  Cut requirements?

Grading requirements?

Township SLDO/stormwater requirements?
  Peak rate and design storms?
  Total runoff volume?
  Water quality provisions?
  Methodological requirements?
  Maintenance requirements?

Tailor building program to fit the constraints and opportunities of the natural features?
  Is applicant submission complete or fully responsive to municipal zoning/SLDO requirements?
  Are municipal zoning/SLDO requirements themselves inadequate?
  Is useful interaction at sketch plan or even pre-sketch plan phases occurring?

SITE DESIGN

1. Lot Configuration and Clustering
   Reduce individual lot size?
   Concentrate/cluster uses and lots?
   Configure lots to avoid critical natural areas?
   Orient built structures to fit natural topography?
   Minimize site disturbance (excavation / grading) at site?
   Minimize site disturbance (excavation / grading) for each lot?

2. Impervious Coverage
   Reduce road width?
   Utilize cul-de-sacs and turnarounds at reduced road width?
   Reduce driveway length and width?
   Reduce parking ratios?
   Reduce parking sizes?
   Examine potential for shared parking?
   Utilize porous surfaces for applicable parking features (overflow)?
   Design sidewalks for single-side street movement?
   Disconnect stormwater flows from roofleaders?
   Utilize rain barrels and/or catchments for lot irrigation?

3. Minimum Disturbance/Maintenance
   Define disturbance zones for site?
   Protect maximum total site area from development disturbance
   Protect naturally sensitive and special areas from disturbance
   Minimize total site compaction?
   Maximize zones of open space and greenways?
   Consider re-forestation and re-vegetation opportunities?

4. Preliminary Calculations for SW Management for Mitigation
   Address management objectives of applicant?
     runoff volume
     recharge volume
     runoff rate
     non-point source pollutant loading
VEGETATED/NON-STRUCTURAL BMPs

Use of vegetative BMPs for stormwater management
Swales?
Filter Strips?
Raingardens/Recharge Gardens/Bioretention Beds?
Berms, Level Spreaders, other grading techniques?
Consider short- and long-term maintenance

STRUCTURAL BMPs

Use structural, infiltration BMPs
Infiltration Basin?
Infiltration Trench?
Porous pavement with recharge bed?
Where infiltration is infeasible, use pollution control practices
Water quality devices?
  Wet pond/retention basin?
  Constructed wetland?
  Extended detention pond?
  Multi-chamber catch basin and inlets?
  Sand and sand-peat filter?
Where infiltration is infeasible, use other volume control practices
  Roof garden or vegetated roof?
Consider short- and long-term maintenance

STORMWATER METHODOLOGY AND CALCULATIONS

1. Iterative process occurring throughout planning and design processes
   Soil Cover Complex Method (TR-55) is industry standard for calculations
2. Strive to achieve two basic goals
   Minimize the pre to post development increase for Curve Numbers
   Maximize predevelopment Time of Concentration
   Assume "conservative" pre-development conditions
   Respect natural sub-areas in the design and engineering calculations
3. Strive to achieve 4 standards of Comprehensive Stormwater Management
   No increase in total volume of runoff from pre to post development, for up to the 2-yr storm
   No reduction in total volume of recharge, for up to the 2-yr storm
   No increase in peak rate of runoff
   No increase in pollutant loading

STORMWATER PLAN
1.0 Site Assessment

Comprehensive Stormwater Management begins with site assessment—understanding the site. Site assessment includes inventorying and evaluating the various "systems" which define each site and which pose both problems as well as opportunities for site development. These systems include the full range of natural systems--water, soil, geology, vegetation, habitat, air quality--as well as cultural resources and even relevant socioeconomic factors. These systems range in scale from the very macro-resources of area wide importance-down to more micro-scale sitespecific factors such as steep slopes, floodplains, wetlands, special geological/aquifer conditions, and so forth.

1.1 Background Site Factors:

Various site background factors are of interest due to their water quality importance.

--Does the site drain to special water bodies with special water quality needs?

Determine State stream classification.

Determine if the site ultimately flows into a reservoir or other type of impoundment where special water quality sensitivities exist, such as use as a water supply source.

Determine if other special fishery issues exist?

Determine if the site is linked to a special habitat system, such as delineated in the Pennsylvania Natural Diversity Inventory. For both water quality and temperature reasons, approaches and practices which achieve a higher order of protection may become especially important.

--Are there known downstream flooding problems?

Determine if stream system to which the site discharges is characterized already by flooding problems, especially important where urbanization already has occurred and where hydrology already has been impacted. Unfortunately the existing FEMA mapping and related studies don't adequately assess this issue. County agencies and possibly other sources may be able to indicate anecdotally the extent to which downstream flooding is already a problem or has potential to become a problem if substantial additional development is projected, in which case a cautionary flag should go up. If so, greater care should be taken in both floodplain management as well as stormwater management.

--Does the site discharge to 1st, 2nd, 3rd order streams?

Another important question relates to a site's location within its watershed. All else being equal, sites located near the base of watersheds have a lesser degree of potential hydrologic impact in the watershed system (i.e., the longer the route or routing of whatever additional stormwater is generated, the greater the potential problem this stormwater may cause). Sites located farther up in watersheds closer to headwaters are potentially more problematic when additional stormwater is generated. Conversely, and perhaps even more critical, sites located within headwaters must be managed most carefully in terms of stormwater so as to maintain predevelopment infiltration and groundwater recharge rates. In so doing, critical stream base flow will be maintained and the aquatic community supported.
1.2 Site Factors Inventory:

Site physical factors powerfully influence comprehensive stormwater management.

--How does site size and shape affect stormwater management?

Analyze how site size and shape influence comprehensive stormwater management. As site size increases, ability to use different comprehensive stormwater management approaches and practices increases. As size decreases, some aspects of approaches and practices may become more challenging to implement, although comprehensive stormwater management can reduce site space requirements and therefore offers greater flexibility than the conventional site design approach (examples range from the clustering of dwellings in concentrated areas to elimination of conventional stormwater structural measures such as basins). Oddly shaped sites also usually can be better adapted with the approaches and practices set forth here.

--What are the important natural features characterizing the site?

Determine basic site hydrology, including perennial streams as well as intermittent swales.

Determine site soils.

Determine site vegetation. At the heart of the comprehensive stormwater management procedure is an understanding of the natural areas (systems) characterizing each site. Existing vegetation and soil have tremendous importance and are key in so many different ways to understanding land development impacts on natural systems.

Careful accounting of existing vegetation is an important prerequisite for comprehensive stormwater management, followed closely by soils mapping, including classification by permeability rating into hydrologic soil group categories, followed closely by basic site hydrology in order to understand natural predevelopment surface flow patterns.

Determine critical site features--wetlands, floodplains, riparian areas, natural drainage ways (see above), special habitat areas, special geological formations (e.g., carbonate), steep slopes, shallow depth to water table, shallow depth to bedrock, other limitations? Understanding critical natural areas is essential. Critical areas include: special value areas and sensitive areas. Special value areas include wetlands, floodplains, riparian buffers and naturally vegetated swales and drainage ways, for example--all areas distinguished by special positive functions which can be translated into real economic value or benefit. Elimination or reduction in these functions through the land development process creates real economic losses. These special value areas--including wetlands and floodplains and riparian areas--must be conserved and protected during land development.

Critical natural areas also include sensitive areas, such as steep slopes, shallow bedrock, high water table areas, and other constraining features, where encroachment by land development typically creates increased negative impacts of one sort or another. Both types of impacts should be avoided.

1.3 Site Factors Analysis:
Given all of the above, what site factors constrain comprehensive stormwater management and in what ways? What site factors can be viewed as opportunities?

-- How is the site constrained?

Determine where buildings, roads, and other disturbance should be avoided, in terms of natural factors.

– Where are the zones of site "opportunity," in terms of stormwater management?

– Determine where most recharge or infiltration occurs in terms of vegetation, in terms of soils. Both constraints and opportunities are grounded in the natural systems present at the site. Constraints and opportunities are not necessarily simple converses of one another, although these relationships often do hold. For example, certain types of critical natural areas should be viewed as constraints in terms of direct land disturbance and building construction, yet also provide significant opportunity in terms of stormwater management, quantity and quality. Woodlands, which should be protected from direct land development, provide excellent opportunity for stormwater management, provided that the correct approaches and practices are used. Vegetated riparian buffers should not be disturbed by building and road construction, yet can be used carefully with level spreading devices to receive diffuse stormwater runoff.

Similarly, soils with maximum permeabilities at the site should not be paved over with buildings and roads, but used for stormwater management where feasible. Conversely, buildings and other impervious areas should be located on those portions of a site with least permeable soils.

The rate and volume control standards set forth in §22-426.3.B, if properly applied and enforced, are designed to achieve effective balance in the water cycle, pre-development to post-development. On-site opportunities for recharge or infiltration can be defined in terms of best vegetation types which minimize runoff as well as soil types with maximum permeabilities.

2.0 Use of Preventive Planning Approaches

With site analysis completed, the next step in the comprehensive stormwater management procedure is to address a series of questions, all of which focus on our ability to prevent the generation of stormwater from the outset.

2.1 Building Program:

--Can the proposed building program be reduced in terms of total number of units? What is existing site zoning? Are zoning options allowed?

Determine if the development or building program itself can be modified. And if so, how, given current market realities? Pivotal here are existing zoning requirements, particularly those related to maximum permissible density or intensity of development. Not all sites can feasibly be developed at the maximum densities theoretically permitted under applicable zoning provisions. At the outset of the site planning and design process and as a part of this comprehensive stormwater management procedure, it is vital to address the issue of adjusting the building program, particularly if the site is characterized by numerous critical features which are being impacted by conventional development concepts. In some cases, reducing the building program even
moderately, may enable significant comprehensive stormwater management approaches to be implemented and may result in cost reductions which balance the reduction in profit.

--Can the type of units be modified (e.g., from single-family to townhouse)? Are innovative development concepts (neo-traditional-, village-, hamlet-type?) been considered? Have building setbacks been reduced?

An alternative to reducing a site's building program can be a change in the type of development being proposed, such as substituting townhouses for single-family development. Moving from single-family dwellings to townhouses, holding the total number of dwelling units constant or even increasing total count of units, may enable more comprehensive stormwater management concepts to be implemented. Achieving this same level of conservation of natural site features together with stormwater management needs might otherwise require a significant reduction in the total number of dwellings being proposed, assuming construction of single-family dwellings on approximately the same size of lot.

2.2 Lot Configuration/Clustering Design:

--Have lots been reduced in size to the maximum degree? Have lots/uses been clustered/concentrated to the maximum degree?

Lot configuration, relating to both the sizing of lots and their arrangement, has more potential benefits than any other single comprehensive stormwater management technique. Lot size reduction relates to the zoning requirements, to be satisfied by straightforward compliance or by successfully obtaining a waiver of some sort or special exception to these existing requirements. It should be kept in mind that the important question of gross density should not be confused with minimum lot size. In other words, reduction in lot size is allowed to decrease does not mean that densities should be allowed to increase.

Lot size also is related physically to structural type (i.e., there are minimum lot sizes which "fit" different types of structures and different sizes of structures). As lot size decreases, certain types of conventional structure types may be difficult to accommodate on the reduced size lot. With the proliferation of "village" and other clustered designs, there is ample documentation which demonstrates different designs for accommodating remarkably large homes on remarkably small lots. If properly designed, clustered configurations can take advantage of open space vistas and be far more successful in achieving a low density rural atmosphere--and even enhancing property values--than conventional large-lot design.

--Have lots been configured to avoid critical areas? Have lots been configured to take advantage of effective mitigative practices?

Careful configuring--clustering--of these reduced size lots also is critical, not only to minimize the total amount of site disturbance which is required, but also to avoid critical areas such as wetlands, steep slopes, and riparian and floodplain zones. This clustering further means that total road building and creation of other types of impervious cover can be minimized. Total site disturbance can be minimized.

Furthermore, clustering can also be designed to take advantage of
stormwater opportunities, such as areas with the most permeable soils and with the best vegetation for stormwater management purposes. If these areas are retained in open space adjacent to proposed development, such areas can provide excellent opportunities for receiving stormwater which is generated.

2.3 Impervious Coverage:

Although many of the impervious coverage issues addressed here relate directly to the lot configuration/clustering step above, the questions listed in this Step also stand alone. These questions relating to how and why imperviousness is created (roads, cul-de-sacs and turnarounds, parking lots, driveways, sidewalks, and even the structures themselves) are vital. We can do it just as well, just as safely and effectively, with much less imperviousness in many cases. Reducing imperviousness in all ways possible translates into a direct reduction in volume of stormwater runoff generated, in peak rate reduction, and in reduction of pollutants generated.

--Have road widths been reduced to the maximum? Have cul-de-sacs and turnarounds been designed to minimize imperviousness?

Questions are tiered, based typically on the potential imperviousness reduction which can be achieved. In other words, in most residential development cases, the first issue to be addressed ought to be road width. All else being equal, a reduction in road width from 30 feet to 20 feet (if feasible) means an immediate 33.3 percent imperviousness reduction in roadway imperviousness, which typically comprises a large fraction of total site imperviousness. Note that road length is not specifically dealt with here, simply because the building program and lot configuration/clustering steps will serve to minimize lengths of roads in most cases. Both cul-de-sacs and turnarounds can be designed to minimize imperviousness as well.

--Have driveway widths and lengths been minimized to the maximum?

Next comes driveways length and width. Length typically is dealt with under clustering and setback provisions. Reduction achieved here may or may not be substantial, depending upon the lots being created, their size, and building setback requirements (i.e., large-lot developments with substantial setbacks mean that total driveway length added up across the development will be great. If driveway width in such situation can be reduced by 20 percent, imperviousness reduction can be expected to be substantial.)

--Have parking ratios and parking sizes been reduced to the maximum? Has potential for shared parking been examined fully? Can porous surfaces be used for overflow parking, low impact shoulders, other applications?

Parking also is important, although the most interesting reduction in imperviousness to be achieved through parking strategies is with nonresidential development, where the sizes of parking stalls themselves can be reduced, where ratios of parking stalls per size of structure being built possibly can be reduced, where sharing of parking spaces may be possible. In residential applications, overflow or guest parking may be appropriately provided through use of porous pavement techniques.

--Have sidewalks been designed for single-side movement?
Sidewalk construction may afford opportunity to reduce imperviousness, though not in all cases. Sidewalks should be provided for any number of reasons, though usually provided only on one side of the street (for example, sidewalks are essential to the concentrated village development concepts which are advocated here). At the same time these sidewalks should be reasonably wide, oftentimes up to 5 feet in width. Of course the width and hoped for use of sidewalks will vary according to each development, its characteristics, nature of development in adjacent areas, and so forth.

2.4 Minimum Disturbance/Maintenance:

Has Disturbance of Site Vegetation and Soils Been Minimized?

Undisturbed soil mantle and undisturbed vegetation offer tremendous stormwater potential, quantitatively and qualitatively. Minimum disturbance/maintenance offers double-sided benefits in that a negative impact is avoided and a positive opportunity is created. Even if a disturbed area remains pervious and is converted to lawn or some other form of artificial landscape, soils have been manipulated and compacted and all of the stormwater opportunity benefits of existing vegetation have been eliminated as well (i.e., post-development lawns can be expected to generate significantly more stormwater runoff than pre-development vegetation of most types, including meadow or scrub vegetation and certainly forests). At the same time, protected zones of vegetation and soil can be used actively for stormwater management purposes, offering areas where stormwater can be distributed and infiltrated, when used in conjunction with level spreading devices, berms, and other techniques.

--Has maximum total site area, including both soil and vegetation, been protected from clearing and any other type of development disturbance? Are zones of open space maximized? Do these open space zones make sense internally, externally? Minimum disturbance can be applied on several different levels. The approach is most effective when applied on the total site or development basis, when lots are concentrated into the most compact areas and the maximum proportion of site area can be protected, free of disturbance of any sort. The minimum disturbance concept in such cases becomes comparable to open space provisions in clustering designs, assuming that clustering provisions do not allow for disturbance of any type to occur in this open space. Furthermore, the minimum disturbance concept can and should be extended beyond the site level to take into account adjoining sites with their open space areas, ideally all integrated to create even larger blocks of open space, all of which has greater and greater positive ecological effect. If possible, these open space areas can ultimately form open space systems designed to protect stream valleys, important habitat, and other critical features.

--Have specially valuable and sensitive areas within the site been kept undisturbed? such as riparian corridors? such as the natural swales and drainage ways system?

Even if a comprehensive approach to minimum disturbance cannot be undertaken, keeping special areas within the site undisturbed can have particular benefits. Of the utmost importance is making sure those areas buffering and bordering streams are kept undisturbed, the so-called riparian
buffer. These riparian areas are critical to water quality protection.

Similarly, the natural drainage system, including intermittent streams and swales, also is critical. If allowed to remain naturally vegetated, channelizing sheet flow is slowed and filtered. Some even is infiltrated. Careful addition of check dams and other devices can enhance performance significantly.

--In terms of individual lots, has maximum lot area, including both soil and vegetation, been protected from clearing and other development-related disturbance?

Unfortunately, such a macro-scale, total site perspective for the application of the minimum disturbance approach, however preferable, is not always achievable. In such cases, the minimum disturbance concept can be applied on the individual lot level, where, for example, larger lots of half-acre or more may be created and where through careful placement of structures, significant zones of existing vegetation can be preserved lot-by-lot, with undisturbed areas of adjoining lots forming larger open space massings. Zones of clearing—the required building footprint plus some modest apron needed for construction—can be designated and then flagged/fenced onsite, not unlike a wetlands mapping process. Conceptually, the real difference here is that the basic approach to the site is “flipped,” moving from the conventional approach which assumes that whole scale clearance/disturbance will automatically occur with some special critical areas flagged and protected. Conversely, the minimum disturbance/maintenance design approach considers the entire site area as important and carefully defines disturbance zones.

Minimum disturbance/maintenance can be used most effectively when applied in conjunction with critical features identified during the site analysis step. For example, although the general minimum disturbance principle is to protect as much natural vegetation as possible, protection of existing vegetation which happens to be in riparian zones, which happens to be adjacent to existing wetlands, which happens to be on steep slopes, which happens to be in and along the natural system of drainage ways will maximize the positive functions which minimum disturbance provides. In other words, if minimum disturbance cannot be thoroughly and completely applied at a site, apply it with protection of these special value areas in mind. Special focus should be placed on mapping not only perennial streams at a site in question, but also the full drainage system, including all intermittent streams and swales which offer tremendous opportunity if kept undisturbed.

--Do structures correspond to site features such as slope, both in terms of type of structure, placement on lot, elevation, and so forth?

Minimum disturbance/maintenance also means that, if applied thoroughly and completely, types of structures themselves should be re-evaluated and may have to be modified (i.e., more vertical with less building footprint). The conventional sprawling colonial with 2- or 3-stall garage at grade set well back on the lot to provide a formal front yard should be re-evaluated.

Types of building practices may need to be modified in order to effectively reduce needed site disturbance. Standard modes of excavation and top soil
stockpiling result in large-scale if not total site clearing and disturbance, which is simply not necessary in order to provide 2,500 square feet of dwelling space, for example. The design of the structure, placement on the site in terms of elevation, all should reflect existing topography. Can the elevation of the dwelling be changed so that less excavation is required (i.e., less excavation means less site disturbance)? In sloping topography, can the dwelling design itself be modified to fit the slope, with driveways/garages properly fitted to minimize excavation and grading?

--Have re-vegetation opportunities been maximized throughout the site? Have revegetation opportunities been maximized in critical areas such as riparian buffer zones?

The most ambitious, but possibly most important aspect of comprehensive stormwater management and minimum disturbance/maintenance involves proactive re-forestation/re-vegetation as part of the stormwater management concept. Re-forestation can be cost-effective. It typically includes distributing (via level spreaders, swales, and so forth) stormwater onto areas where saplings with appropriate vegetative cover have been planted. Perhaps the most exciting aspect of re-forestation is that although the short-term stormwater performance must be assumed to be that of a modestly vegetated land cover (i.e., whatever cover crop has been included along with the sapling trees); nevertheless the long-term stormwater performance will improve year by year. For areas already cleared (though not necessarily developed as yet) and which are no longer naturally vegetated, incorporating re-forestation techniques into the land development process actually offers the potential to return watersheds to a more natural condition—even as development occurs! Related environmental benefits are very significant and, although rarely quantified as such, serve to make cost benefit ratios overwhelmingly positive.

Re-forestation done in conjunction with critical features such as riparian areas and natural swales is most important. If total zones cannot be reforested, at minimum re-forestation of these most important zones should be undertaken.

3.0 Use of Mitigative "Nonstructural" Natural System-Based Practices

Having applied preventive approaches to the maximum, nevertheless, stormwater still will be generated and must be managed or mitigated most effectively through a variety of mitigative "nonstructural natural system-based best management practices, selection of which is part of this next step. These Practices have been assigned to several groupings, although in many cases the lines of distinction are blurred. One technique blends into another. Although such Practices may be thought of as "nonstructural," virtually all of these techniques are actually structural in nature—they involve some building or construction of some type. At the same time, they also make use of vegetation and soil natural systems functions to a greater extent than the more conventional "structural" BMPs discussed below.

Terminology can be misleading. Vegetated swales and vegetated filter strips both can be considered to be bioretention/biofiltration devices, the increasingly popular name given to just about any type of device which utilizes vegetation and soil—existing natural areas—to manage stormwater flows. In most cases, the inspiration for bioretention/biofiltration has been water quality-using vegetation to
remove nonpoint source pollutants in different ways. At the same time, however, quantity objectives such as reduction in stormwater volumes through infiltration can also be very important here, given the right applications and given reasonable permeabilities in the existing soils and avoidance of compaction problems during development. Furthermore, there are also variations on the bioretention biofiltration theme itself, such as the "rain garden" concept. These variations, although not exact fits of either the swale or filter strip concept, nevertheless are quite similar in their overall functioning. With imagination the number of variations is almost limitless!

Also, it should be noted that although these practices are defined and singled out, there is substantial overlap with the minimum disturbance/maintenance approach. Obviously, the use of existing naturally vegetated areas at a site with a vegetated filter strip of some sort is in fact predicated on not disturbing these particular vegetated zones. So in a sense any vegetated filter strip concept is linked to minimum disturbance/maintenance.

3.1 **Vegetated Swales**:  
-- Are vegetated swales with check dams being used?

In contrast to the tier of questions which has emerged for preventive approaches and which unfolds in a kind of sequence, the questions which relate to these mitigative practices are less given to a particular sequence or order and must be addressed together in order to determine what to apply and where. Determine where vegetated swales can be incorporated into site design. What are the opportunities for existing vegetated swales? Can they be utilized for stormwater that will be generated? Can existing swales be enhanced in their performance with the addition of check dams and additional vegetation in order to effectively manage additional volumes of stormwater? Can new swales be created which will collect and convey increased stormwater? Can these new swales be constructed in a broad and shallow configuration and then planted with vegetation that has maximum stem density in order to slow stormwater to the maximum and promote infiltration into the soil. Can check dams be used also to further slow flow rates and to maximize infiltration even as increased stormwater flows are conveyed?

Vegetated swales do not perform well on steeply sloping sites, unless special provisions are made. Nor will swales perform well in most cases if volumes of stormwater flow are large (i.e., swales can work nicely for residential applications, but are limited for higher density developments such as shopping centers where stormwater volumes are quite large). Specific engineering guidance is available for proper design of swales.

3.2 **Vegetated Filter Strips**:  
-- Are vegetated filter strips with level spreading devices being used?

Determine where vegetated filter strips can be used. Vegetated filter Strips involve the collection of stormwater and direction into a level spreading device for distribution of collected stormwater onto some area of existing vegetation (level spreaders may not be necessary if topography is quite gentle and even). This vegetated area may take the form of a strip (such as the grassed filter strips which farmers use to separate cultivated fields). Or the
vegetated area may be an irregularly shaped zone of existing woods or some other vegetation. The concept is probably most easily implemented in areas adjacent to group parking facilities, where runoff from a large relatively flat parking area drains to a level spreading device along the edge of the lot and then overflows evenly across some expanse of vegetation, ideally an existing wooded area (although a meadow or scrub vegetation can work as well). Or the concept can take the form of stormwater collected and even conveyed some distance to a riparian buffer area, distributed into a lineal level spreading device constructed parallel to the spine of the riparian corridor which then overflows evenly across the vegetated riparian buffer of some fixed width. Again the objective is certainly water quality protection, removal of nonpoint source pollutants accomplished through the physical and chemical and biological processes provided by the vegetation and soil. At the same time, vegetated filter strips probably make infiltration and quantity reduction easier, than vegetated swales, for example. Filter strips at least in theory should have more potential for infiltration than a swale, quite possibly serving to accommodate all required stormwater volumes, depending upon the proposed development.

3.3 Berms/Terraforming:

--Are berms and other terraforming techniques being used in conjunction with zones of natural vegetation?

Terraforming is a term loosely applied to any of several techniques such as use of berms, use of subtle depressions/negative drainage, and other practices to intercept and store stormwater. In these cases, both water quality and quantity are direct stormwater management objectives, with stormwater volume reduction actually able to be calculated. Important here is that site soils be reasonably permeable and not heavily compacted during the construction process. Site slopes especially with berms should be moderate, with berms typically being placed along or parallel to the contour.

On the surface, terraforming would appear to require soil clearing and disturbance and sometimes that is the case. At the same time this practice can be used with other approaches and practices where disturbance is controlled carefully. The practice of berming can and should be used in conjunction with protecting existing vegetated zones such as wooded areas, where carefully developed berms of subtle height (2 feet) are threaded through wooded areas to provide the needed quantity control for the larger storm events. Here the objective is to minimize disruption of any type in the area behind the berm, so that infiltration rates are kept as high as possible.

On a small or micro scale, check dams placed in swales, as discussed above, can be thought of as a type of terraforming. Along hilly roads, berms placed along the contours and integrated with fill placed for driveways may offer a mechanism whereby roadway runoff can be intercepted as driveways intersect the roadway lot by lot.

If lots are sufficiently large, lots also can be graded in subtle "saucer" fashion so as not to promote positive drainage and so as to retain stormwater volumes created lot by lot. Important here is to make sure that these depressions can be integrated into the overall site landscaping plan. As with
any infiltration system, soil permeability must be sufficient. Also important here is to make sure that infiltrated stormwater is kept away from building foundations. If volumes provided by these depressions are basically reserved for the largest 100-year storm, then these depressions should not be frequently filled and should not interfere with lot usage. This approach should only be used where widespread clearance and disturbance is going to occur (i.e., if there is the chance that minimum disturbance/maintenance can be employed, then a terraforming practice which involves extensive grading probably should be re-evaluated).

4.0 Use of Mitigative Best Management Practices That Are More Structural

If after all opportunities for use of the above approaches and practices have been investigated, stormwater quantities remain to be mitigated, then the following structural techniques can be used effectively. These different BMPs have different levels of success for different land uses as well as for different site conditions.

4.1 Recharge/Infiltration Devices:

--Are recharge-oriented structural devices, including infiltration trenches, basins, dutch drains, appropriate for the site?

Use infiltration devices if soil permeability is adequate. All types of infiltration devices, including porous pavement with recharge beds (below), rely on soil permeability. To make infiltration devices work, soils typically should be rated as Hydrologic Soil Group C or better with drainage of at least 0.5 inches per hour (marginal soils with good undisturbed vegetation will infiltrate adequately). Devices should be designed to drain in 24 hours, lest anaerobic conditions develop.

Use infiltration devices if you can prevent soil compaction. Another critical factor is degree of soil disturbance, manipulation, and compaction occurring. Even reasonably good B soils, if heavily compacted during the construction process, will experience a tremendous loss in permeability which can last for extended periods (conversely, borderline C soils if covered with natural vegetation and reasonably well-developed root systems can perform quite well in terms of permeability). Consequently care must be taken in order to prevent such compaction from occurring. A critical issue here relates to the soil layer which occurs at the base of the infiltration device. If exposing this base layer requires excavation, then the excavation process must be accomplished carefully, minimizing, if not preventing, heavy construction equipment from passing across the area. Related to this, detailed construction specifications should include necessary phasing/sequencing specifications, flagging, and any other requirements needed to enforce such provisions against compaction.

Use infiltration devices if you can maximize soil interface. Because infiltration occurs at the base of any particular device (it is true that in an infiltration trench or dutch drain, trench sides can also infiltrate). Infiltration will be facilitated if devices can be designed with broad and level infiltration bed bottoms, especially as the building program and extent of impervious area increases. It is critical that bed bottoms be level so that concentrated flows and channelization does not occur within the device. It is important to note that level bed bottoms do not mean that the site itself cannot be sloping, given the
obvious ability to terrace properly constructed infiltration beds on slopes.

Use infiltration devices if pollutant loads are not expected to be great. Infiltration devices for proposed land uses which are pollutant intensive should be directed into an adequately designed filtration device prior to entering infiltration devices. Filtration devices include sand-peat filters, sand filters, multi-chamber catch basins, and so forth.

Design all infiltration devices so that general runoff from disturbed areas where sediment loads are great is not directed into the infiltration device or add adequate filtering devices. Infiltration devices should receive runoff only from impervious areas. Sediment-laden runoff is apt to quickly clog the soil interface and prevent the infiltration device from functioning properly, if at all.

--Has the porous pavement over infiltration beds technique been used where appropriate?

An excellent stormwater solution ideally suited for group (congregate) parking areas is the combination of porous pavement placed on top of a stone-filled infiltration basin, all of which is paved over and then used for parking (i.e., cost effective multiple use). Note that the crushed stone can be replaced by prefabricated infiltrators of different types; selection is really a function of what seems to be most cost effective. Note that the paved surface doesn't have to be porous pavement, but can be conventionally paved with inlets into the infiltration bed below, although porous pavement is a more elegant solution. Use this approach where large parking areas are being created, such as office parks, institutional uses, possibly multi-family developments. Commercial uses and other more pollutant producing uses also can be adapted provided that filters of some sort are provided. All provisions defined for infiltration devices above should be respected. If porous pavement is used, use conventional pavement for service roads/ring roads, with roads draining into the infiltration beds. Roof drainage also should be directed into the infiltration beds. Infiltration beds can consist either of graded crushed stone, prefabricated infiltrators, other devices. Also, provide overflow inlets around parking area perimeter in order to provide an engineering redundancy in the case that the porous surface were ever to become clogged. Site design must be accomplished carefully so that runoff from non-impervious areas (i.e., general site runoff) is intercepted and kept from entering onto the porous pavement and/or infiltration bed in order to prevent clogging. This usually can be accomplished through careful attention to elevation of the porous surface/infiltration bed area together with use of intercepting swales and other techniques.

4.2 Water Quality Devices:

--If infiltration has been deemed to be infeasible, has maximum reliance on water quality devices been made?

In those cases where infiltration is not practical (i.e., where soils have extremely poor permeability, where water table is high, and so forth), various practices are available to remove nonpoint source pollutants. Keep in mind that these practices are designed to discharge stormwater quantities generated to receiving streams or other water bodies. The BMPs are extremely variable in terms of their pollutant removal effectiveness.
Water quality devices consist of BMPs which function primarily to remove nonpoint source pollutants entrained in stormwater before this stormwater is discharged into a receiving water body. Practices include wet ponds (retention basins) where a permanent pool of water is maintained even in nonstorm periods. A variation on the wet pond practice is the constructed wetland, where wetland vegetation is added to the permanent pond in order to achieve greater pollutant removal potential. Extended detention basins also are sometimes offered as a water quality BMP, although their pollutant removal performance is questionable.

Note that site conditions are an important factor in determining if wet ponds and constructed wetlands can be workable solutions. Critical here is that the wet pond be able to function as a healthy wet pond system—as a viable ecosystem if its pollutant removal potential is to be achieved. All those factors relevant to successful pond development must be present. There must be, for example, an adequate water feed to maintain the permanent pool even in non-storm periods.

Constructed wetlands are even more challenging to make happen. Again, presence of the proper hydrologic conditions is essential. In most cases constructed wetlands, like natural wetlands, must be located in low and wet places, so that the wetland species being planted will be able to exist throughout the year. Design of the constructed wetlands must take into account species needs.

Multi-chamber catch basins and inlets of various designs are another option, particularly in high intensity developments such as malls and retail uses where pollutant loadings are expected to be high. Similarly, filters of different types, including sand filters and sand-peat filters, are gaining popularity, typically receiving parking lot runoff as well. These latter types of BMPs are costly to construct and maintain, yet they do offer the advantage that they can be periodically cleaned out and maintained. They are effective in removing particulate-form pollutants, though are far less successful if the pollutants are solubilized. Oftentimes percent removal is not as high as other BMPs; on the other hand, given the types of developments in which they are applied, there are not many alternatives.

Also, extended detention basins are a third variation, where stormwater is stored in the basin for longer periods of time in order to promote settling out of pollutants; extended detention basins are, however, considerably less effective in terms of pollutant removal than the wet pond and constructed wetland practices.

Different types of water quality inlets and catch basins have been used for some time, although these practices tend to be rated as having mediocre performance. Furthermore they are expensive to construct and expensive to maintain.

4.3 Peak Rate Devices:

There are situations where, after applying appropriate approaches and practices as discussed above, additional management for peak rate control is required. In these cases devices provided detention volume are necessary.
5.0 The Conceptual Stormwater Management Plan:
Comprehensive stormwater management should be the very beginning of the site analysis process and then continues to evolve with constant iterations--back-and-forth testing of different approaches and practices in order to develop the concepts which fit the site and fit the proposed development to the maximum extent.

--Can all preventive approaches and mitigative practices be integrated into an optimal comprehensive stormwater management plan, maximizing both prevention and mitigation?

A conceptual stormwater management plan emerges (see beginning figure) as the result of this process. If the process of questioning has been honestly and rigorously followed and if the design engineers are familiar with comprehensive stormwater management concepts, then a successful, hopefully close-to-optimal comprehensive stormwater management plan should result, reflecting iterative testing of different approaches and practices. In many cases, different designers and engineers will produce different plans, which is to say that no one combination of approaches and practices is necessarily going to result.

--What other benefits are achieved through comprehensive stormwater management (i.e., open space, enhanced marketability, cost reduction, habitat protection, stream water temperature, biota impacts, and other stream impacts)? Comprehensive stormwater management produces multiple benefits, including in many cases substantial reduction in costs. Nevertheless, the procedure is difficult to legislate directly and so must be reinforced with as many incentives as possible. From the developer's perspective, the comprehensive stormwater management plan must be perceived to be favorable market-wise--more "green," more open space, better aesthetics-all translate into value for the developer. Additionally, of course there are a host of positive environmental features related to comprehensive stormwater management which are important, although developers tend to be less motivated by such intangibles. To the extent that comprehensive stormwater management actually saves developers money, that's undoubtedly the greatest incentive for its use. Additionally, this Chapter provides incentives to promote comprehensive stormwater management use.

6.0 Stormwater Calculations:
How does comprehensive stormwater management affect stormwater calculations?

--How has impervious cover been reduced? What are the implications for curve numbers? How have total runoff volumes been affected? Has time of concentration been maximized? How has peak discharge rate been affected? How has recharge volume been affected?

Comprehensive stormwater management strives to achieve two basic goals:

\begin{itemize}
  \item minimize the curve number increase, pre to post development
  \item maintain and/or extend the predevelopment time of concentration within a site
\end{itemize}

When these goals are achieved, comprehensive stormwater management--when contrasted with conventional design--typically produces significantly reduced impervious cover with significantly lowered curve numbers and reduced total runoff volumes. Furthermore, because time of concentration of stormwater flow is
extended (i.e., not reduced to the extent that it is with conventional design), peak discharge rates are not increased to the same extent as with conventional development. All of these results are benefits to the developer and translate into a lesser degree of management requirement at a lesser cost for the developer. In this sense, the use of comprehensive stormwater management is self-perpetuating or rewarding.

In some instances, the application of the curve number method and TR55 runoff calculations is straightforward and resembles the steps used for a conventional site plan. However, in many other cases, the application is not as standard. Comprehensive stormwater management advocates alternative methods for the prevention and mitigation of stormwater runoff which often do not easily fit into the standard formulas and calculations. For example, comprehensive stormwater management advocates treating stormwater as close to the source as possible. As a result, stormwater is managed in many smaller areas rather than concentrated in large areas such as detention basins. Evaluating these designs using TR-55 requires that the site be divided into numerous sub areas -- a separate sub area for each retention area. This often increases the complexity and number of computations. However, the money potentially saved by using the methods of comprehensive stormwater management can outweigh the increased time and money spent during the computation phase.

Another problem is that many of these alternatives are designed to infiltrate stormwater. Because TR-55 does not fully account for this infiltration, the calculations performed for the case studies using these techniques are conservative. The actual amount of stormwater generated on a site and the peak rates at the discharge point may be below the given figures. For example, stormwater level spread into a bermed area on good soils will significantly infiltrate. The current methodology has no way of accounting for this. TR-55 is more easily applied to sites with detention basins than it is to sites utilizing the approaches and practices advocated by this manual. However, until more accurate and flexible runoff models are designed and/or incorporated into regulations, the NRCS TR-55 runoff method will be used.

---Curve Number:

The curve number (NRCS method) is critical in determining how much runoff will occur from any given site. By minimizing the curve number (CN), runoff will be minimized. Curve numbers are affected by both the Hydrologic Soil Group (A, B, C, or D) and the land cover type and condition (e.g., straight row crops with little residue, forest in good condition, open space/lawn). Development increases the CN by changing site conditions (i.e., compacting the soil and clearing the land) and most importantly by adding impervious surfaces. Many of the comprehensive stormwater management approaches and practices discussed have the specific aim of reducing the curve number, and keeping it as close to the predevelopment number as possible. This is accomplished by reducing site imperviousness and site disturbance. These measures can considerably reduce the amount of runoff generated and thus reduce the mitigative/storage/detention need.

Techniques such as clustering and reduction in setbacks, road widths and driveway lengths can significantly reduce the amount of site imperviousness.
Impervious surfaces have a very high CN (98) and generate a significant amount of runoff. Minimizing these areas helps: keep the overall site curve number closer to the predevelopment condition. To take advantage of the reduction in imperviousness that occurs as a result of comprehensive stormwater management, it is necessary to separate these surfaces when calculating the weighted curve number for a site. The assumptions used by NRCS in generating curve numbers and impervious percentages for developed areas may no longer hold true. For example, NRCS assumes 25 percent impervious coverage for ½ acre residential districts. If the building plan is altered or the setback and driveway length reduced, the impervious coverage may be less than 25 percent. For this reason, new categories (and new weighted curve numbers) must be generated based on the new conditions, or the amount of impervious surface for a site must be measured separately to get the most TR-55 benefit from comprehensive stormwater management.

Site disturbance affects stormwater runoff as well. Some experts recommend that the Hydrologic Soil Group for all soils in disturbed areas should be lowered one category to reflect the compaction that occurs during disturbance (e.g., an A soil becomes a B soil when disturbed). This practice would increase the curve number even if the land cover does not change (which it usually does in disturbed areas). Comprehensive stormwater management advocates minimizing these disturbed areas by setting strict limits of disturbance both for the entire site and on individual lots. Clustering lots, providing as much open space as possible, and retaining as much of the original site vegetation as possible, especially if woodlands and meadows are present, all significantly help reduce the impact of disturbance on any given site. When areas are left undisturbed with the original vegetation in place, curve numbers will invariably more closely approach the predevelopment condition.

Curve numbers can also be reduced by re-forestation/re-vegetation. Open space areas and even portions of individual lots may be re-forested or revegetated as part of the site landscaping plan to both reduce the amount of stormwater generated and help mitigate the runoff that is created. Although it may take considerable time for re-forested areas to actually become forests, they will still provide stormwater reduction especially if care is taken to plant a hearty ground cover. In the case studies, any areas that were reforested were assigned the curve number associated with a poor woodland cover condition for all calculations. In some cases this may be a conservative approach depending on the size of the trees planted and the ground cover condition. If a thick ground cover exists or is allowed to develop quickly (such as a meadow condition), the actual Curve Number can be expected to be lower than that for poor woods.

Comprehensive stormwater management approaches have the most significant impact on curve numbers. This is one of the main reasons stormwater calculations must be considered throughout the entire planning process. Decisions made early in the site planning process have significant effects on the final site curve number and thus the amount of stormwater generated.
Time of Concentration:

The time of concentration relates directly to the peak stormflow rate. Many factors affect the time it takes water to move through a site to a point of discharge including the initial amount of water (determined by the curve number), routing of the stormwater, and the surface the water passes over (grass, meadow, woods, concrete). All of these factors are important considerations in the Procedure.

As discussed above, keeping the curve number as close to the predevelopment value as possible significantly aids in reducing the amount of stormwater generated. The less stormwater generated, the less need for mitigation.

The stormwater that is generated, however, must be routed through the site to avoid flooding roads, houses and other important features. The longer the route, the longer the time it takes water to reach a discharge point. Conventional development plans often shorten the water routes through a site with piping and curb and gutter systems. Shortening the route increases the peak discharge. In comprehensive stormwater management these routes are kept as long as possible attempting to reflect the predevelopment flow paths. A longer path often will lower the peak rate of discharge.

Just as important as the route the water takes is the surface over which it flows. Vegetated surfaces slow water and may also infiltrate water and have water quality benefits, if designed properly. This is especially true during the smaller, most frequently occurring storms (such as the one year or less storms). The use of vegetated swales rather than paved channels can significantly increase the time of concentration, by both elongating the route and increasing the resistance of the surface (in channel flow this equates to increasing Manning's "n" value). Comprehensive stormwater management practices such as swales, berms and filter strips can be used to increase the time of concentration for particular flow paths and thus reduce the overall site peak rates of discharge for given design storms.

Curve numbers and time of concentration are the two major factors in determining the peak rate of discharge from a site and thus compliance of a site plan with current regulation. The above discussion addresses the ways in which comprehensive stormwater management approaches and practices can be used to meet the criteria. However, these calculations do not fully reflect all the environmental and ecological benefits provided by comprehensive stormwater management. These benefits need to be considered in the greater context of regional planning and the effects of development on the watershed and the ecosystem. To fully understand and fully quantify all the benefits achieved in using comprehensive stormwater management, better methods of stormwater runoff calculation are needed.

7.0 Selection of Additional Stormwater Controls:

If comprehensive stormwater management has not fully met all stormwater requirements, what additional requirements must be provided to manage any residual stormwater needs such as peak rate for larger storms not mitigated by comprehensive stormwater management?

This final step in the comprehensive stormwater management procedure
in the ideal should not be necessary. In most cases, the goal is to make any sort of conventional structure unnecessary, although this might not be feasible in all cases. In most cases, the unmet management need will focus on satisfying peak rate control requirements for the storms up to the 100-year, such that some sort of detention facility would be necessary. However, these facilities will most likely be significantly smaller than with a conventional design and thus require less maintenance and land area. Certainly an option would be to go back and make infiltration devices larger, whatever they might be.
Appendix G. Four Step Design Process (Section 303)

Step 1: Identify Open Space

Step 2: Locate House Sites

Step 3: Locate Infrastructure

Step 4: Delineate Lot Lines
Appendix H

Stormwater Infiltration Soil Testing Procedures

A. Background Materials/Actions Needed for Soils Tests

1. PA OneCall
   • 1-800-242-1776 or www.paonecall.org
   • Soil investigators are required to contact PA-OneCall to have the existing utilities marked in proposed infiltration location.
   • You must call at least 3 BUSINESS days prior to digging.
   • Below is a list of questions you will be asked when you call (blue = required questions).
   • The location of existing underground utilities will directly affect the proposed test pits locations. Prior to field-testing, have alternative test pit sites marked on the plan in the event that underground utilities occur in your test pit location.

   What is your telephone number with the area code first?

   Your name?

   If you have not called in before, you will be asked for company information.

   Who is the contact person at the dig site? Their phone number?

   What is the best time to call the contact person?

   In what county will the work be done?

   In what city, township or borough will the work be done?

   In Erie, Pittsburgh, Allentown or Philadelphia, What is the ward no.

   What is the starting address number?

   What is the ending address number?

   What is the street name for the work site?

   What is the nearest intersecting street name?

   Do you have any other site-specific location information?

   Will the proposed dig site be marked in white?

   If a State road, do you have a PennDOT permit number?

   Latitude?

   Longitude?
What type of work will be done?
Approximately how deep will you be digging?
What type of equipment will be used?
What are the dimensions (width, length, diameter)?
Will the work take place in the street?
Will the work take place on the sidewalk?
Will the work take place on public property?
Will the work take place on private property?
Where on private property? (use drop down box)
Private property owner or company name working for?
Work date? (utilities need 3 working days notice)
What is the time you will begin the work?
Is there anything else you would like to add?

2. **Existing Soil Maps**
   - Soils technician should research existing soil conditions at project site, including soil formation, series associations, descriptions, hydrologic group classification and provide summary to Design Engineer prior to field testing.
   - County Conservation District can provide book in hard copy format, or geographic data can be downloaded for use in GIS.

3. **Test Pit ("Deep Hole") Depth and Location**
   - The location of the test shall correspond to the BMP location.
   - Hole depth is determined by the Infiltration BMP being implemented at the site. Hole depth depends on a number of variables (see B.1., below) including soil type, top of bedrock elevation, and most importantly existing surface grade as related to proposed bed bottom grade.

4. **Supplies**
   - Backhoe
   - Post hole digger or auger, if required
   - Water source (on site)
   - 5-gallon container
   - Hard-hat, caution tape, cones, etc., any other required safety elements
   - Test Log (attached)
   - Measuring tape
   - Knife blade or sharp-pointed instrument
   - Object for fixed-reference point during measurement
• Stopwatch for time measurement

B. Methodology

Percolation tests are to be conducted in accordance with the Pennsylvania Department of Environmental Protection (PADEP) criteria for on-site sewage investigation of soils (as described in Chapter 73 of the Pennsylvania Code) with the following significant changes:

• For each test pit excavated as part of the site investigation, a minimum of two infiltration tests shall be done. At least one test shall be located within the expected horizon of the bottom of the proposed infiltration BMP. The tester should conduct infiltration tests at alternate depths if the test pits/auger holes indicate that the soils are more suitable at a different depth (i.e., if a clay horizon is identified and more suitable soils are located beneath the horizon, an infiltration test should be performed in the suitable horizon).

• The "Initial presoak" should not be performed.

1. Deep Hole Investigation

• Locations for deep hole investigations shall be determined by the design engineer based on site conditions and the proposed development plan.

• The deep hole shall consist of a backhoe-excavated trench, 2½ feet to 3 feet wide, to a depth of between 72 inches and 90 inches.

• The trench should be benched at 2-3 feet depth for access and/or multiple percolation tests.

• Soil horizons are to be identified and described in depth in inches from the surface.

• Depth to water table or perched water table shall be noted, as well as any indications of high water table (i.e., mottled soils).

• Depth to bedrock or weathered bedrock shall be noted if encountered.

• The approximate elevation of the surface shall be recorded.

• The deep hole is not to be accessed if soil conditions are unsuitable for safe entry, or if site constraints preclude entry.

• Deep holes should also be located more frequently if site investigation indicates changes in soil types, geology, water table levels, bedrock bedding, etc. At no time shall an open deep hole be left unattended.

• Holes are to be refilled following percolation tests, using original soil and replacing surface with original topsoil.

• If it is necessary to leave the deep hole unfilled and unattended for any reason, plywood sheets of ¼ inch thickness shall be secured over the opening, and the hole shall be clearly marked and secured with caution tape all sides.

• At the Engineer's discretion, soil samples may be collected at various horizons for additional analysis.

2. Infiltration Test

• Infiltration tests are to be conducted in accordance with the PADEP criteria for onsite sewage investigation of soils with the exception that a 24-hour pre-soak is not required.
For each deep hole, a minimum of two perc tests shall be done.

At least one test shall be located within the horizon of the bottom of the proposed bed.

The soils technician should conduct perc tests at alternate locations if the deep hole investigation indicates that the soils are more suitable at a different depth (i.e., if a clay horizon is identified and more suitable soils are located beneath the horizon, the soils technician shall conduct an infiltration test in the suitable horizon.)

3. Soil Borings

- Holes having a uniform diameter of 6 to 10 inches shall be bored or dug as follows:
  - To the depth of the bottom of the proposed infiltration BMP.
  - Alternate depths if the test pits/auger holes indicate that the soils are more suitable at a different depth (i.e., if a clay horizon is identified and more suitable soils are located beneath the horizon, an infiltration test should be performed in the suitable horizon).

- Preparation:
  - The bottom and sides of the hole shall be scarified with a knife blade or sharp-pointed instrument to completely remove any smeared soil surfaces and to provide a natural soil interface into which water may percolate.
  - Loose material shall be removed from the hole.
  - Upon the tester's discretion, two inches of coarse sand or fine gravel may be placed in the bottom of the hole to protect the soil from scouring and clogging of the pores.

- Procedure for presoaking: Holes shall be presoaked, according to the following procedure, to approximate normal wet weather or in-use conditions in the soil:
  - Final presoak. Immediately before the percolation test, water shall be placed in the hole to a minimum depth of 6 inches over the gravel and readjusted every 30 minutes for 1 hour.

4. Measurement

- Determination of measurement interval: The drop in the water level during the last 30 minutes of the final presoaking period shall be applied to the following standard to determine the time interval between readings for each percolation hole:
  - If water remains in the hole, the interval for readings during the percolation test shall be 30 minutes.
  - If no water remains in the hole, the interval for readings during the percolation test may be reduced to 10 minutes.

- Measurement: After the final presoaking period, water in the hole shall again be adjusted to approximately 6 inches over the gravel and readjusted when necessary after each reading.
  - Measurement to the water level in the individual percolation holes shall be made from a fixed reference point and shall continue at the interval...
determined from previous step for each individual percolation hole until a minimum of eight readings are completed or until a stabilized rate of drop is obtained, whichever occurs first. A stabilized rate of drop means a difference of ¼ inch or less of drop between the highest and lowest readings of four consecutive readings.

- The drop that occurs in the final period in percolation test holes, expressed as inches per hour, shall be used to calculate the average percolation rate.
- When the rate of drop in a percolation test is too slow to obtain a measurable rate, the rate of 0.25 inches per hour shall be assigned to that hole for use in calculating the average percolation rate. The infiltration area may be placed over holes with no measurable rate when the average percolation rate for the proposed infiltration area is within the acceptable range.
- If one-third or more of the percolation test holes result in an infiltration rate that exceeds 36"/hour, design engineer must consider the pollutant removal capacity of the soil in the infiltration design.
CAHILL ASSOCIATES
Environmental Consultants

Name: ___________________________ Date: ___________________________ Time: ___________________________ Weather: ___________________________

Test Pit: ___________________________ Location: ___________________________

<table>
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<tr>
<th>Bench:</th>
<th>Depth:</th>
<th>Time (min)</th>
<th>Dist. from datum (in)</th>
<th>Infiltration (in)</th>
</tr>
</thead>
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Resultant Rate (in/hr): ___________________________

Comments: ___________________________

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<th>Bench:</th>
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Resultant Rate (in/hr): ___________________________

Comments: ___________________________

Soil Description:
0 to _____ in: ___________________________
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