Lebanon County
Subdivision
And
Land Development
Ordinance

ORDINANCE # 13 - July 20, 1989
As Amended By
ORDINANCE # 22 – May 27, 1999
ORDINANCE # 27 – October 22, 2002
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CHAPTER 1 - PURPOSE AND AUTHORITY

An ordinance providing for the control of the subdivision and development of land and the
approval of plats and replats of land within the jurisdiction of the Lebanon County
Commissioners, as a part of the master plan for Lebanon County, Pennsylvania.

Now, therefore, be it ordained by the Lebanon County Commissioners, Pennsylvania, under
authority of Article V and VII of the “Pennsylvania Municipalities Planning Code”, of the
(Act 167), the “Storm Water Management Act”.

SECTION 1.01 TITLE

These regulations, rules, and standards for planning, subdividing, and developing land within
the County of Lebanon, Pennsylvania, including procedures for the application and administration,
and penalties for the violation thereof, shall be known, cited and referred to as the SUBDIVISION
AND LAND DEVELOPMENT ORDINANCE for the County of Lebanon (Ord. _______).

SECTION 1.02 PURPOSE

The general purpose of this ordinance shall be to guide and regulate the planning,
subdividing, and development of land in order to promote and protect the public health, safety,
convenience, comfort, prosperity, and general welfare of the residents and municipalities in the
County of Lebanon. Recognizing the problems associated with inadequate management of
accelerated storm water runoff from uncontrolled development, this ordinance also intends to
provide a comprehensive program of storm water management, including reasonable regulation of
development and activities causing accelerated erosion which is deemed fundamental to the public
health, safety, welfare, and the protection of the people of the County of Lebanon, as well as their
resources and environment.

SECTION 1.03 OBJECTIVES

It is intended that the provisions of these regulations shall be applied to achieve the following
objectives:

A. Orderly development of the land to obtain harmonious and stable neighborhoods; and
B. Safe and convenient vehicular and pedestrian circulation; and
C. Adequate and economical provisions for utilities and public services to conserve the
   public funds; and
D. Ample public open space for schools, recreational and other public purposes; and
E. Accurate surveying of land, preparing and recording of plats; and
F. Discouraging of premature, uneconomical, or scattered subdivision; and
G. Maximize conservation of all forms of energy; and
H. Storm water management, by managing accelerated runoff and erosion and sedimentation
   problems at their source and by regulating activities that cause these problems; and
I. Utilize and preserve the existing natural drainage systems; and
J. Encourage recharge of groundwater where appropriate and prevent degradation of
groundwater quality; and
K. Maintain existing flows and quality of streams and watercourses in the municipality and the Commonwealth; and
L. Preserve and restore the flood-carrying capacity of streams; and
M. Provide proper maintenance of all permanent stormwater management facilities that are constructed in the Municipality; and
N. Provide performance standards and design criteria for watershed-wide storm water management and planning; and
O. Coordination of land development in accordance with the Zoning Code, Thoroughfare Plan, Comprehensive Plan, Watershed Plans, and other plans of the Municipality and County.

SECTION 1.04 APPLICATION OR REGULATIONS

No subdivision or land development of any lot, tract or parcel of land located within Lebanon County shall be effected; no street, sanitary sewer, storm sewer, water main, storm water control facilities, or other facilities in connection therewith shall be laid out, constructed, opened, or dedicated for travel or public use, until a subdivision or land development plan has been approved in the manner prescribed herein, and recorded. Furthermore, no property shall be developed, no building shall be erected and no site improvements shall be completed except in strict accordance with the provisions of this Ordinance.

No lot in a subdivision may be sold or transferred; no permit to erect or alter any building upon land in a subdivision or land development may be issued; and no buildings may be erected in a subdivision or land development, unless and until any required final subdivision or land development plat has been approved and recorded, and until construction of any required site improvements in connection therewith has been completed or guaranteed in the manner prescribed herein.

Approvals issued pursuant to this Ordinance do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by other agencies or levels of government.

SECTION 1.05 JURISDICTION

A. Municipalities with Subdivision Regulations: Any township, borough or city within Lebanon County which has a subdivision or land development ordinance in effect shall not be under jurisdiction of this ordinance. However, applications for subdivision and land development located within a township, borough or city which has adopted a subdivision and land development ordinance shall be forwarded, upon receipt by the municipality, to the Planning Department for review and report, together with a fee as established elsewhere herein. Furthermore, such municipalities shall not approve such applications until the county report is received or until the expiration of thirty (30) days from the date the application was forwarded to the County.
B. **Municipalities without Subdivision Regulations:** Any township, borough or city within Lebanon County which does not have a subdivision or land development ordinance in effect shall be under the jurisdiction of this ordinance. Applications for subdivision and land development located within a township, borough or city which has not adopted a subdivision and land development ordinance shall be submitted to the Planning Department for approval or disapproval. The subdivision or land development plan may be forwarded by the Planning Department to the township, borough or city for review and comment prior to formal action by the Planning Department.

C. **Adoption of the County Ordinance by Reference:** Any township, borough or city within Lebanon County may adopt, by reference, the Lebanon County Subdivision and Land Development Ordinance and may, by separate ordinance, designate the Planning Department, with the Planning Department’s concurrence, as its official administrative agency for review and approval of plats.
CHAPTER 2 – DEFINITIONS

SECTION 2.01 GENERAL TERMS

Unless otherwise expressly stated, the following words shall, for the purpose of this Ordinance, have the meaning herein indicated.

Words in the singular include the plural and those in the plural include the singular.

Words in the present tense include the future tense.

The word “shall” is always mandatory; the word “may” is permissive; and the word “should” means a suggested or preferred action.

The words “person” or “subdivider” and “developer” or “owner” include a firm, association, organization, partnership, trust, company, or corporation as well as an individual.

The word “includes” or “including” shall not limit the term to the specific example, but is intended to extend its meaning to all other instances of like kind and character.

The words “used or occupied” include the words “intended, designed, maintained, or arranged to be used, occupied or maintained”.

SECTION 2.02 SPECIFIC TERMS

Unless otherwise expressly stated, the following words shall, for the purpose of this Ordinance, have the meaning herein indicated. Undefined terms or words used herein shall have their ordinarily accepted meanings or such meanings as the context of this Ordinance may imply.

ACCELERATED EROSION – the removal of the surface of the land through the combined action of man’s activities and the natural processes at a rate greater than would occur because of the natural process alone.

AGRICULTURAL ACTIVITIES – the work of producing crops and raising livestock including tillage, plowing, disking, harrowing, pasturing and installation of conservation measures. Construction of new buildings or impervious area is not considered an agricultural activity.

ALTERATION – as applied to land, a change in topography as a result of the moving of soil and rock from one location or position to another; also the changing of surface conditions by causing the surface to be more or less impervious; land disturbance.

APPLICANT – a land owner or developer, as hereinafter defined, who has filed an application for development, including his heirs, successors and assigns.

ACT 247 – see “Pennsylvania Municipalities Planning Code”.

AQUATIC BENCH – a bench which is located around the inside perimeter of a permanent pool and is normally vegetated with aquatic plants; the goal is to provide pollutant removal and enhance safety in areas using storm water pond BMP’s.
BMP (Best Management Practices) – storm water structures, facilities and techniques to control, maintain or improve the water quality of surface runoff.

BAFFLES – guides, grids, grating or similar devices placed in a pond to deflect or regulate flow and create a longer flow path.

BASE FLOOD – the flood, also known as the 100 Year Flood, which has a one percent (1%) chance of being equaled or exceeded in any given year; the flood which has been selected to serve as the basis upon which the flood plain management provisions of this and other ordinances have been prepared.

BASE FLOOD ELEVATION – the determination by the Federal Insurance Administrator of the water surface elevation of the Base Flood, that is, the flood level that has a one percent (1%) or greater chance of occurrence in any given year.

BIORETENTION – a water quality practice that utilizes landscaping and soils to treat storm water runoff by collecting it in shallow depressions before filtering through a fabricated planting soil media.

BUILDING – a structure which has a roof supported by columns, piers, or walls, which is intended for the shelter, housing, or enclosure of persons, animals, or chattel or which is to house a use of a commercial or manufacturing activity.

BUILDING (SETBACK) LINE – a line established by municipal zoning codes or the subdivision regulations which defines the required minimum distance between any building and the adjacent public right-of-way or property line.

CARBONATE GEOLOGY – limestone or dolomite bedrock.

CARTWAY – the portion of the street right-of-way, paved or unpaved, intended for vehicular use. The shoulder is not considered part of the cartway.

CHANNEL EROSION – the widening, deepening, and headward cutting of small channels and waterways, due to erosion caused by moderate to large floods.

CHECK DAM – an earthen, stone or log structure, used in grass swales to reduce water velocities, promote sediment deposition, and enhance infiltration.

CISTERN – an underground reservoir or tank for storing rainwater.

COMMISSIONERS – the governing body of the County of Lebanon.

COMMON OPEN SPACE – a parcel or parcels of land or an area of water, or a combination of land and the water within a development site, designed and intended for the use or enjoyment of residents of the development, not including streets, off-street parking areas, and areas set aside for public facilities.
COMMONWEALTH – the Commonwealth of Pennsylvania.

CONSERVATION DISTRICT – the Lebanon County Conservation District.

CONSTRUCTION – the term “construction” shall include the building, reconstruction, extension, expansion, alteration, substantial improvement, erection or relocation of a building or structure, including manufactured homes, and gas or liquid storage tanks. For flood plain purposes, “new construction” includes structures for which the “start of construction” commenced on or after the effective date of a flood plain management regulation adopted by the municipality.

COUNTY – Lebanon County, Pennsylvania.

CULVERT – a structure with appurtenant works which carries a stream or other surface drainage under or through an embankment or fill.

DAM – an artificial barrier, together with its appurtenant works, constructed for the purpose of impounding or storing water or another fluid or semifluid, or a refuse bank, fill or structure for highway, railroad or other purposes which does or may impound water or another fluid or semifluid.

DESIGN STORM – the magnitude and temporal distribution of precipitation from a storm event measured in probability of occurrence (e.g., a 5-year storm) and duration (e.g., 24-hours), used in the design and evaluation of storm water management systems.

DETENTION STRUCTURE – a vegetated pond, swale, or other structure designed to drain completely after storing runoff only for a given storm event and release it at a predetermined rate. Also known as a dry pond.

DEVELOPER – any landowner, agent of such landowner or tenant with the permission of such landowner, who makes or causes to be made a subdivision of land or a land development.

DEVELOPMENT – any man-made change to improved or unimproved real estate, including but not limited to buildings, manufactured homes, or other structures, mining, dredging, filling, grading, paving, excavation, or drilling operations or the storage of equipment or materials.

DOWNSLOPE PROPERTY LINE – that portion of the property line of the lot, tract, or parcels of land being developed located such that all overland or pipe flow from the site would be directed towards it.

DRAINAGE CONVEYANCE FACILITY – a Storm Water Management Facility designed to transmit storm water runoff and shall include streams, channels, swales, pipes, conduits, culverts, storm sewers, etc.

DRAINAGE EASEMENT – a right granted by a landowner to a grantee, allowing the use of private land for storm water management purposes.

EASEMENT – a right-of-way granted for limited use of land for public or quasi-public purpose.

ENERGY DISSIPATOR – a device used to slow the velocity of storm water particularly at points of concentrated discharge such as pipe outlets.
ENGINEER, COUNTY – a Registered Engineer designated by the Commissioners to perform duties as required by this Ordinance on behalf of the County.

ENGINEER, REGISTERED – an individual licensed and registered as a Professional Engineer by the Commonwealth of Pennsylvania.

EROSION – the movement of soil particles by the action of water, wind, ice, or other natural forces.

EROSION AND SEDIMENT POLLUTION CONTROL PLAN – a plan that is designed to minimize accelerated erosion and sedimentation.

EXTENDED DETENTION – a storm water design feature that provides for the gradual release of a volume of water in order to increase settling of pollutants and protect downstream channels from frequent storm events.

FILTER STRIP – a strip of permanent vegetation above ponds, diversions and other structures to retard the flow of runoff, causing deposition of transported material, thereby reducing sedimentation.

FLOOD – a general and temporary inundation of normally dry land areas by water from waterway overflows or the unusual and rapid accumulation or runoff of surface waters from any source.

FLOOD PLAIN – (1) a relatively flat or low land area adjoining a river, stream, or watercourse, which is subject to partial or complete inundation by water; (2) an area subject to the unusual and rapid accumulation or runoff of surface water from any source. For the purposes of this Ordinance, the flood plain shall be considered to be the One Hundred (100) Year Flood Plain which is a flood plain having a one percent (1%) chance of being subject to the above conditions during any given year.

FLOODWAY – the channel of a river or other watercourse and the adjacent land area that must be reserved to discharge the Base Flood without cumulatively increasing the water surface elevation of that flood more than one (1) foot at any point.

FLOW SPLITTER – an engineered, hydraulic structure designed to divert a percentage of storm flow to a BMP located out of the primary channel, or to direct storm water to a parallel pipe system or to bypass a portion of baseflow around a BMP.

FOREBAY – storm water design feature that uses a small basin to settle out incoming sediment before it is delivered to a storm water BMP.

FREEBOARD – a vertical distance between the elevation of the design high-water and the top of a dam, levee, tank, basin, or diversion ridge. The space is required as a safety margin in a pond, basin, or conveyance swale.
GOVERNING BODY – Lebanon County Commissioners; the council in cities and boroughs; the board of commissioners in townships of the first class; and the board of supervisors in townships of the second class.

GRADE – a slope, usually of a road, channel or natural ground specified in percent and shown on plans as specified herein. (To) Grade – to finish the surface of a roadbed, top of embankment or bottom of excavation.

GRASSED WATERWAY – a natural or constructed waterway, usually broad and shallow, covered with erosion-resistant grasses, used to conduct surface water from cropland.

GROUNDWATER RECHARGE – replenishment of existing natural underground water supplies.

HOLDING POND – a retention or detention pond.

IMPERVIOUS SURFACE – a surface that prevents the percolation of water into the ground.

IMPOUNDMENT – a retention or detention basin designed to retain storm water runoff and release it at a controlled rate.

IMPROVEMENTS – physical additions and changes to the land, necessary to produce usable and desirable lots.

INfiltration Structures – a structure designed to direct runoff into the ground (e.g., french drains, seepage pits, seepage trench).

INLET – a surface connection to a closed drain. A structure at the diversion end of a conduit. The upstream end of any structure through which water may flow.

LAND DEVELOPMENT – (i) the improvement of one lot or two or more contiguous lots, tracts or parcels of land for any purpose involving (a) a group of two or more residential or nonresidential buildings, whether proposed initially or cumulatively, or a single nonresidential building on a lot or lots regardless of the number of occupants or tenure; or (b) the division or allocation of land or space, whether initially or cumulatively, between or among two or more existing or prospective occupants by means of, or for the purpose of streets, common areas, leaseholds, condominiums, building groups or other features; (ii) a subdivision of land; (iii) development in accordance with Section 503(1.1) of the PA Municipalities Planning Code.

LAND/EARTH DISTURBANCE – any activity involving grading, tilling, digging, or filling of ground or stripping of vegetation or any activity that causes an alteration to the natural condition of the land.

LANDOWNER – the legal or beneficial owner or owners of land, including the holder of an option or contract to purchase, 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.

LEVEL SPREADER – a device for distributing storm water uniformly over the ground surface as sheet flow to prevent concentrated, erosive flows and promote infiltration.
LOT – a designated parcel, tract or area of land established by a plat or otherwise as permitted by law and to be used, developed or built upon as a unit.

LOT AREA – the area contained within the property line of a lot or the allocation of land, excluding space within any street right-of-way.

MAIN STEM (MAIN CHANNEL) – any stream segment or other runoff conveyance facility used as a reach in a stream hydrologic model.

MANNING EQUATION IN (MANNING FORMULA) – a method for calculation of velocity of flow (e.g., feet per second) and flow rate (e.g., cubic feet per second) in open channels based upon channel shape, roughness, depth of flow and slope. “Open channels” may include closed conduits so long as the flow is not under pressure.

MANUFACTURED HOME – a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For flood plain management purposes the term “manufactured home” also includes (1) all mobile homes and (2) camping trailers, recreational vehicles, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days.

MANUFACTURED HOME PARK AND/OR SUBDIVISION – a lot or area which is a planned development and designated to contain two or more manufactured homes for rent or for sale. Any lot or area proposed to utilize such design where individual manufactured home sites are proposed for sale shall be known as a manufactured home subdivision.

MICROPOOL – a smaller permanent pool which is incorporated into the design of larger storm water ponds to avoid resuspension of particles and minimize impacts to adjacent natural features.

MOBILEHOME – a transportable, single family dwelling intended for permanent occupancy, contained in one unit, or in two or more 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 unpacking and assembly operations, and constructed so that it may be used without a permanent foundation.

MOBILEHOME LOT – a parcel of land in a mobilehome park, improved with the necessary utility connections and other appurtenances necessary for the erection thereon of a single mobilehome.

MOBILEHOME PARK – a parcel or contiguous parcels of land which has been so designated and improved that it contains two or more mobilehome lots for the placement thereon of mobilehomes.

MUNICIPALITY – City, Borough or Township.

NONPOINT SOURCE POLLUTION – pollution that enters a watery body from diffuse origins in the watershed and does not result from discernible, confined, or discrete conveyances.

NPDES - National Pollutant Discharge Elimination System

NRCS – Natural Resource Conservation Service (previously SCS).
ON-SITE STORM WATER MANAGEMENT – the control of runoff to allow water falling on a given site to be absorbed or retained on site to the extent that after development the peak rate of discharge leaving the site does not exceed the rate prior to development.

ONE HUNDRED (100) YEAR FLOOD (BASE FLOOD) – a flood selected as the Base Flood, that has a one percent (1%) or greater chance of occurring in any given year.

OPEN CHANNEL – a drainage element in which storm water flows with an open surface. Open channels include, but shall not be limited to, natural and man-made drainageways, swales, streams, ditches, canals, and pipes flowing partly full.

OUTFALL – point where water flows from a conduit, stream, or drain.

OUTLET – points of water disposal from a stream, river, lake, tidewater or artificial drain.

PARKING LOT STORAGE – involves the use of impervious or semi-impervious parking areas as temporary impoundments with controlled release rates during rainstorms.

PEAK DISCHARGE – the maximum rate of storm water runoff from a specific storm event.

PENNSYLVANIA MUNICIPALITIES PLANNING CODE – adopted as Act 247 of 1968, this act enables municipalities to plan for, and regulate, community development with subdivision and land development ordinances. The code also contains guidelines for subdivision and land development ordinance content. For the purpose of this Ordinance, the Code is referred to as “Act 247” and is intended to include the current code and any further amendments thereto.

PIPE – a culvert, closed conduit, or similar structure (including appurtenances) that conveys storm water.

PLAN, FINAL – a complete and exact subdivision or land development plan prepared for recording as required by statute, to define property rights, proposed streets and other improvements; a final plat.

PLAN, PRELIMINARY – a tentative subdivision or land development plan showing proposed street and lot layout as a basis for consideration prior to preparation of a final plat. A preliminary plan shall include engineering design for all required site improvements.

PLAN, SKETCH – an informal plan, indicating existing features of a tract and the surrounding area and outlining the general layout of a proposed subdivision or land development.

PLANNED RESIDENTIAL DEVELOPMENT – an area of land, controlled by a landowner, to be developed as a single entity for a number of dwelling units, or combination of residential and nonresidential uses, the development plan for which does not correspond in lot size, bulk, type of dwelling, or use, density, or intensity, lot coverage and required open space to the regulations established in any one district created, from time to time, under the provisions of a municipal zoning ordinance.

PLANNING DEPARTMENT – the Lebanon County Planning Department
PLAT — the map or plan of a subdivision or land development, whether preliminary or final.

RATIONAL FORMULA — a rainfall-runoff relation used to estimate peak flow. Also includes the Modified Rational Method.

RECHARGE VOLUME — the portion of the water quality volume used to maintain groundwater recharge rates at development sites.

REGULATED ACTIVITIES — actions or proposed actions that have an impact on storm water runoff and that are specified in this Ordinance.

RELEASE RATE — the percentage of pre-development peak rate of runoff from a site or subarea to which the post development peak rate of runoff must be reduced to protect downstream areas.

RETENTION STRUCTURE — a pond, swale, or other structure containing a permanent pool of water designed to store runoff for a given storm event.

RETURN PERIOD — the average interval, in years, within which a storm event of a given magnitude can be expected to recur. For example, the 25-year return period rainfall would be expected to recur on the average of once every twenty-five years.

RIGHT-OF-WAY — the total width of any land reserved or dedicated for use as street, alley, or for any public purpose.

RIPARIAN BUFFER — a relatively narrow strip of land along a stream, pond or wetland, including the 100 year floodplain and any setback designated by this Ordinance, which contains or is replanted with native forest, shrubs and herbaceous species to stabilize erodable soils, improve surface and ground water quality, increase stream shading and enhance wildlife habitat.

RISER — a vertical pipe extending from the bottom of a pond that is used to control the discharge rate from the pond for a specified design storm.

ROOFTOP DETENTION — temporary ponding and gradual release of storm water falling directly onto flat roof surfaces by incorporating controlled-flow roof drains into building designs.

RUNOFF — any part of precipitation that flows over the land surface.

SEDIMENT BASIN — a temporary dam or barrier constructed across a waterway or at other suitable locations to intercept the runoff and to trap and retain the sand, gravel, silt and sediment.

SEDIMENT POLLUTION — the placement, discharge or any other introduction of sediment into the waters of the Commonwealth occurring from the failure to design, construct, implement or maintain control measures and control facilities in accordance with the requirements of this Ordinance.

SEDIMENTATION — the process by which mineral or organic matter is accumulated or deposited by the movement of water.

SEEPAGE PIT/SEEPAGE TRENCH — an area of excavated earth filled with loose stone or similar coarse material, into which surface water is directed for infiltration into the ground.
SHALLOW CONCENTRATED FLOW – runoff pattern following sheet flow, prior to open channel flow.

SHEET FLOW – runoff that flows over the ground surface as a thin, even layer, not concentrated in a channel, and limited to a maximum of one hundred (100) feet for analysis purposes for post development calculations.

SITE IMPROVEMENTS – physical additions or changes to the land that may be necessary to provide usable and desirable lots, including but not limited to, utilities, streets, curbing, sidewalks, street lights and storm water facilities.

SOIL-COVER COMPLEX METHOD – a method of runoff computation developed by the NRCS that is based on relating soil type and land use/cover to a runoff parameter called Curve Number (CN).

SOIL GROUP HYDROLOGIC – a classification of soils by the Natural Resources Conservation Service, formerly the Soil Conservation Service, into four runoff potential groups. The groups range from A soils, which are very permeable and produce little runoff, to D soils, which are not very permeable and produce much more runoff.

SPILLWAY – a depression in the embankment of a pond or basin which is used to convey excess water from the impoundment.

STORAGE INDICATION METHOD – a reservoir routing procedure based on solution of the continuity equation (inflow minus outflow equals the change in storage) with outflow defined as a function of storage volume and depth.

STORAGE STRUCTURE – a retention or detention structure.

STORM FREQUENCY – the number of times that a given storm “event” occurs or is exceeded on the average in a stated period of years. See “Return Period”.

STORM SEWER – a system of pipes, and/or open channels that convey intercepted runoff and storm water from other sources, but excludes domestic sewage and industrial wastes.

STORM WATER – the total amount of precipitation reaching the ground surface.

STORM WATER MANAGEMENT – the control of runoff to allow water falling on a given site to be absorbed or retained on site to the extent that after development the peak rate of discharge leaving the site does not exceed the rate prior to development.

STORM WATER MANAGEMENT DISTRICT – a watershed or subwatershed area for which separate storm water management regulations or criteria have been established.

STORM WATER MANAGEMENT FACILITY – any structure, natural or man-made, that, due to its condition, design, or construction, conveys, stores, or otherwise affects storm water runoff. Typical storm water management facilities include, but area not limited to, detention and retention basins, open channels, storm sewers, pipes, and infiltration structures.
STORM WATER MANAGEMENT PLAN – a plan for managing storm water runoff on a watershed-wide basis, in accordance with the guidelines of Act 167 of 1978, the Pennsylvania Storm Water Management Act.

STORM WATER MANAGEMENT SITE PLAN – the plan prepared by the Developer or his representative indicating how storm water runoff will be managed at the particular site or interest according to this Ordinance.

STREAM BANK STABILIZATION – a collection of vegetative and mechanical means for stabilizing stream banks to prevent or abate degradation.

STREAM ENCLOSURE – a bridge, culvert or other structure in excess of 100 feet in length upstream to downstream which encloses a regulated water of this Commonwealth.

STREET – a strip of land including the entire right-of-way used or intended for use as a means of vehicular and pedestrian circulation, whether public or private. The word “street” includes street, thoroughfare, avenue, boulevard, court, expressway, highway, road, lane, and alley.

STREET, PRIVATE – a strip of private land providing access to abutting properties and not offered for dedication or accepted for municipal ownership and maintenance.

STRUCTURE – a walled or roofed building, including a gas or liquid storage tank (principally above ground), a manufactured home, or any other man-made object usually assembled of interdependent parts or components which is designed to have a more or less fixed location, whether or not permanently attached at that location.

SUBDIVIDER – any landowner, agent of such landowner or tenant with the permission of such landowner, who makes or causes to be made a subdivision of land or land development.

SUBDIVISION – the division or redivision of a 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: provided, however, that the subdivision by lease of land for agricultural purposes into parcels of more than ten acres, not involving any new street or easement of access or any residential dwelling, shall be exempted.

SURVEYOR, REGISTERED – an individual licensed and registered as a Professional Land Surveyor by the Commonwealth of Pennsylvania.

SWALE – a low lying stretch of land which gathers or carries surface water runoff.

TIMBER OPERATIONS – see Forest Management.

TIME-OF-CONCENTRATION (Tc) – the time for surface runoff to travel from the hydraulically most distant point of the watershed to a point of interest within the watershed. This time is the combined total of overland flow time and flow time in pipes or channels, if any.

WATER QUALITY VOLUME – the total volume of water runoff that is required to be collected and treated for water quality control by direction to BMP facilities.
WATERCOURSE – a stream of water; river; brook; creek; or a channel or ditch for water, whether natural or manmade.

WATERS OF THE COMMONWEALTH – any and all rivers, streams, creeks, rivulets, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs, and all other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth.

WETLAND – those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, ferns, and similar areas.
CHAPTER 3 – PROCEDURES

SECTION 3.01 INTENT

The procedures established in this Chapter are intended to define the steps by which a developer shall design, make an application, record plats, and construct improvements, and by which the Planning Department may review, make recommendations, approve plans and otherwise administer these regulations and this Ordinance.

For those subdivisions hereinafter classified as minor subdivisions, a sketch plan and abbreviated final plan procedure is established. For all others, which are classified as major subdivisions or land development, a preliminary plan and final plat procedure is established.

SECTION 3.02 PRE-APPLICATION

The Planning Department shall make available to developers copies of this subdivision and land development ordinance, the zoning code, the thoroughfare and other adopted plans, street maps, and other information which may affect the development of the property under consideration. Applications for approval of a subdivision or land development shall be in accord with these regulations, other codes and plans as adopted and information furnished.

Prior to the formal submission of a subdivision or land development plan for review and approval, the subdivider or land developer is urged to submit a sketch plan to the Planning Department for advice on the requirements necessary to achieve conformity to the standards of these regulations as well as to alert the subdivider or land developer as early as possible to factors which must be considered in the design of a subdivision or land development, such as pertinent elements of any County of Municipal land use, thoroughfare or other community plans. Review of a sketch plan is an informal, advisory process to guide the subdivider or land developer in eventual preparation of a formal preliminary or final plan.

Sketch plans and subsequent official minor and major subdivision and land development plans should be accompanied by any letters of transmittal or development details necessary to explain existing or proposed site conditions which are not self-explanatory on the actual sketch, minor or major subdivision or land development plan.

SECTION 3.03 MINOR SUBDIVISION OR LAND DEVELOPMENT

A. Classification – A division of land to facilitate a lot addition or a land exchange or a division of land which adjoins an existing public street and does not involve the opening, widening, extension or improvement of any street or the installation of any public utility outside the frontage road and does not involve more than five (5) lots or dwelling units (except that subdivision of lots from a property after five (5) or more lots have been previously subdivided is a major subdivision).

Dedication or establishment of an unimproved right-of-way or easement shall be a minor subdivision. Replatting, resubdivision or revision of five (5) lots or less shall also be considered a minor subdivision. Multi-family, commercial, industrial and mobilehome park development shall be a major, nor minor, subdivision or land development, regardless of the number of lots or units created.
B. **Application** – A final plan complying with the requirements set forth in this Ordinance shall be prepared for each minor subdivision or land development and approval of said plat shall be requested from the Planning Department.

When filing an application for approval of a minor subdivision or land development, the subdivider shall submit to the Planning Department one (1) mylar or original, one (1) opaque mylar, and nine (9) blue line paper prints of the proposal on 18" x 24" sheets. When the 18" x 24" size plans are prepared by reduction of the larger plan original, four (4) sets of the original size plans shall also be provided.

C. **Review** – Upon receipt of the minor subdivision or land development plan, the Planning Department shall begin to review the final plan for compliance with this ordinance. Where applicable, the plan may be forwarded to the County Engineer, the County Conservation District or other agencies for review and comment. After initial review, the final plan may be forwarded to the municipality in which the development is to occur to provide the municipal planning commission and governing body an opportunity for review and comment. Review comments, conditions and findings of the municipality may be used as substantiation for plan approval or disapproval. After completion of the review process, the final plan shall be approved or disapproved by the Planning Department.

Review and report of plans by the Planning Department for the municipalities that have adopted their own subdivision and land development ordinance shall be forwarded to the said municipalities within thirty (30) days from the date the application was forwarded to the Planning Department.

D. **Approval or Disapproval** – After an application for approval of a plat of a minor subdivision or land development has been filed with the Planning Department, together with all maps, necessary data, and fees, the plan shall be reviewed and processed. The subdivider or developer shall pay required review fees at the time of official submission of the plat and official submission shall not be deemed to have been made until receipt of all the required review fees. The Planning Department shall complete the review and either approve or disapprove the plat not later than ninety (90) days after such application submission is filed. The decision shall be in writing and shall be communicated to the applicant personally or mailed to him at his last known address not later than fifteen (15) days following the decision.

When the application is approved, it shall be appropriately signed and dated and copies shall be distributed according to Section 3.03(E) of this Ordinance. When the application is disapproved, the decision shall specify the defects found in the application and describe the requirements which have not been met and shall, in each case, cite to the provisions of the Ordinance relied upon. A disapproved copy of the subdivision or land development plan shall be retained by the Planning Department, one copy shall be sent to the municipality and the remaining copies shall be returned to the subdivider, developer and/or his agent.
Failure of the Planning Department to render a decision and communicate it to the applicant within the time and in the manner required herein shall be deemed approval of the application in the terms as presented, unless the applicant has agreed in writing to an extension of time or change in the prescribed manner of presentation of communication of the decision in which case, failure to meet the extended time or change in manner of presentation of communication shall have like effect. However, removal or withdrawal of the subdivision or land development plan from the approval process by the subdivider, developer and/or his agent shall be considered withdrawal of plan application, shall not obligate the Planning Department to approve or disapprove the plan within the herein described timetable and shall not result in a deemed approval when ninety (90) days have elapsed. Upon knowledge of plan withdrawal, the Planning Department shall notify, in writing, the subdivider or land developer that plan withdrawal has disrupted the approval process and no approval or disapproval will be rendered unless the subdivision or land development plan is resubmitted as a new application.

E. Recording – After approval of a minor subdivision or land development plat by the Planning Department, the mylar copy shall be placed on record in the Planning Department office. The opaque mylar and one (1) blue line print shall be filed and recorded in the office of the County Recorder of Deeds, said recording to occur within ninety (90) days of the final or deemed approval date of the plan or the approval shall be null and void. Whenever such plat approval is required by this Ordinance, the Recorder of Deeds shall not accept any plat for recording unless such plat officially notes the approval of the Planning Department. Likewise, whenever plan review and comment by the Planning Department is required by municipal ordinance (Sect. 3.03(C)), the Recorder of Deeds shall not accept any plat for recording unless such plat officially notes the review of the Planning Department.

Copies of an approved plat shall be sent to the applicant and the municipality where the development is planned. Additional copies may be distributed to the Pennsylvania Department of Transportation, County Emergency Management Agency, County Assessment Office, Metropolitan Edison Company, Pennsylvania Power and Light Company, Bell of Pennsylvania, Bethel and Mt. Aetna Telephone Company or other utility or related agency making timely request for copies.

SECTION 3.04 MAJOR SUBDIVISION OR LAND DEVELOPMENT – PRELIMINARY PLAN

A. Classification – Any subdivision or land development involving more than five (5) lots or dwelling units; or any subdivision or land development on a property after five (5) or more lots or dwelling units have previously been subdivided from that property; or any subdivision or land development proposing the opening, widening, extension or improvement of a street shall be deemed to be a major subdivision or land development. Multi-family, mobilehome park, commercial and industrial development shall be considered major subdivision or land development, regardless of the number of lots or units created.

B. Application – A preliminary plat complying with the requirements set forth in this Ordinance shall be prepared for each major subdivision or land development and an approval requested from the Planning Department.
When filing an application for preliminary approval of a major subdivision or land development, the subdivider shall submit to the Planning Department six (6) blue line prints of the proposal. As part of the submission, the subdivider shall also submit six (6) paper prints of the improvement plan (if not contained on initial sheet) containing details of the physical site improvements (roadways, utilities, etc.) proposed for the subdivision or land development. All sheets shall be 18” x 24” or 24” x 36”.

C. Review – Upon receipt of the preliminary plan (and improvement plan, if separate), the Planning Department shall begin to review the plan for compliance with this Ordinance. The preliminary plan shall be examined for suitable relationship to adjoining subdivisions or undeveloped land, feasibility of the program for improvements, and provide an opportunity for advice, suggestions, and adjustments to meet ordinance requirements before the plan becomes rigid. The submission of alternate plans is recommended.

Where applicable, the plan may be forwarded to the County Engineer, County Conservation District, or other appropriate agency for review and comment. After initial review, the preliminary plan, plus any applicable improvement plan, may be forwarded to the municipality in which the development is to occur to provide the municipal planning commission and governing body an opportunity for review and comment. Review comments, conditions and findings of the municipalities may be used as substantiation for plan approval or disapproval. After completion of the review process, the preliminary plan and improvement plan shall be approved or disapproved by the Planning Department.

Review and report of plans by the Planning Department for the municipalities that have adopted their own subdivision and land development ordinance shall be forwarded to the said municipalities within thirty (30) days from the date the application was forwarded to the Planning Department.

D. Approval of Disapproval – After an application for preliminary approval of a plat of a major subdivision or land development has been filed with the Planning Department, together with all improvement plans, maps, necessary data and fees, the Planning Department shall complete the review and either approve or disapprove the plan in accordance with the procedure outlines in Section 3.03(D).

E. Recording – After approval of a preliminary plan for a major subdivision or land development plat by the Planning Department, recording of the preliminary plan is not authorized.

Approval of the preliminary plan shall assure the subdivider for a period of five (5) years from the date of approval that:

1. The general layout of streets, lots, and other features are approved and shall be the basis for the preparation of the final plan; and

2. The general terms and any special conditions under which the approval of the plan was granted will not be changed; and

3. The subdivider may install improvements in accordance with the approved preliminary plan and other requirements contained in this Ordinance and those ordinances of local municipalities where the subdivision is located.
Approval of a preliminary plan does not constitute approval of the final plan, and therefore, does not authorize the recording of the subdivision or land development plan or the sale or transfer of lots. After a period of five (5) years, approval of the preliminary plan shall expire.

SECTION 3.05 MAJOR SUBDIVISION OR LAND DEVELOPMENT – FINAL PLAN

A. Classification – Any subdivision or land development involving more than five (5) lots or dwelling units; or any subdivision or land development on a property after five (5) or more lots or dwelling units have previously been subdivided from that property; or any subdivision or land development proposing the opening, widening, extension or improvement of a street shall be deemed to be a major subdivision or land development. Multi-family, mobile home park, commercial and industrial development shall be considered major subdivision or land development, regardless of the number of lots or units created.

B. Application – Within five (5) after the approval of the preliminary plat, a final plat with all necessary supplemental data shall be officially submitted to the Planning Department with a request for approval. Failure to submit a final plan within five (5) years of the date of an approval of the preliminary plat shall void the preliminary approval, unless extended in writing by the Planning Department. Said expired or voided preliminary plan shall not be used as a basis for any development or construction. Any subsequent development shall be preceded by a new preliminary plan.

When filing an application for a final approval of the major subdivision or land development, the subdivider or developer shall submit to the County Planning Department one (1) mylar copy or original, one (1) opaque mylar, and nine (9) blue line paper prints of the proposal on 18” x 24” sheets. When the 18” x 24” size plans are prepared by reduction of the larger plan original, four (4) sets of the original size plans shall also be provided.

The subdivider or developer may apply for final approval of: 1) only a portion, section or phase of the entire subdivision or land development as preliminarily approved; or 2) the entire subdivision or land development.

C. Review – Upon receipt of the final plan, the Planning Department shall begin to review the plan for compliance with this Ordinance. The final plan shall be examined for conformity to the preliminary plan, for design and detail of required site improvements and for adherence to other standards of this Ordinance. The plan shall also be examined to determine if the required site improvements have been installed or, in lieu thereof, a bond or financial security has been submitted. Where applicable, the plan may be forwarded to the County Engineer, the County Conservation District or other agencies for review and comment. After initial review, the final plan may be forwarded to the municipality in which the development is to occur to provide the municipal planning commission and governing body an opportunity for review and comment.

Review comments, conditions and findings of the municipality may be used as substantiation for plan approval or disapproval. After completion of the review process, the final plan shall be approved or disapproved by the Planning Department.
Review and report of plans by the Planning Department for the municipalities that have adopted their own subdivision and land development ordinance shall be forwarded to the said municipalities within thirty (30) days from the date the application was forwarded to the Planning Department.

D. Approval or Disapproval – After an application for final approval of a plat of a major subdivision or land development has been filed with the Planning Department, approval or disapproval shall be granted in accordance with Section 3.30 (D) of this Ordinance.

However, no plat shall be finally approved unless the streets on such plat have been improved as may be required by ordinance, and any walkways, curbs, gutters, street lights, fire hydrants, shade trees, landscaping, water mains, sanitary sewers, storm sewers, storm water management facilities, and other site improvements as may be required by this Ordinance and any applicable municipal requirements have been installed in accordance with such requirements. In lieu of the completion of any site improvements required as a condition for the final approval of a plat, a financial security shall be deposited by the subdivider/developer with the municipality and/or county in an amount to cover the costs of any site improvements which may be required by ordinance. Such financial security shall provide for and secure to the public, the completion of any site improvements which may be required for the subdivision or land development.

Financial improvement guarantees shall further be subject to the requirements of Section 5.14 of this Ordinance and Sections 5.09 – 5.11 of Act 247.

E. Recording – After approval of a final plat for a major subdivision or land development by the Planning Department, the plat shall be recorded and copies distributed in the manner prescribed in Section 3.03 (E) of this Ordinance.

Recording shall entitle the subdivider to sell, transfer or develop the land shown on the plat in accordance with the approved plat, subject to any conditions attached thereto. Where final plans are approved for only a portion, section or phase of the entire subdivision or land development, sale, transfer or development may proceed only on that approved portion, section or phase.

When a final plat has been approved, no subsequent change or amendment in zoning, subdivision or other governing ordinance shall be applied to affect adversely the right of the subdivider or land developer to commence and complete any aspect of the approved development in accordance with the terms of such approval within five (5) years from such approval. Where final approval is preceded by preliminary approval, the aforesaid five-year period shall be counted from the date of the preliminary approval.

When the subdivider or land developer has failed to substantially complete development of the approved plan within five (5) years of the aforesaid approval date and when changes in a zoning, subdivision, or other governing ordinance have occurred which affect the design of the approved plat, the subdivision or land development shall be subject to the changes in the zoning, subdivision, or other governing ordinance. The Planning Department shall notify, in writing, the subdivider or land developer that approval has expired and submission and approval of a revised preliminary and/or final plan (as necessary to detail changes), illustrating compliance with the revised ordinance, is required prior to further development or lot transfer.
CHAPTER 4 – PLANS AND PLATS: REQUIRED INFORMATION

SECTION 4.01 INTENT

Plans, maps, data and plats shall be prepared and furnished by the developer as required herein to assure accurate surveying, to provide adequate information for designing and preparing plans, and to facilitate review, approval and recording of plats. Plans and maps shall be neat, legible, uncluttered and easily readable to provide clear documentation of all data. See the Appendix for examples of sample plans.

SECTION 4.02 MINOR SUBDIVISIONS

The subdivider or land developer shall furnish, as part of an application for approval of a minor subdivision or land development plan, the following information on the required 18” x 24” final plan sheets:

A. Title Block

1. Identification of the plan as a final plan; and
2. Name of the development, if any; and
3. Name, address and phone number of the record owner(s), subdivider(s), developer(s), and authorized agent(s); and
4. Name of the municipality in which the subdivision or land development is located; and
5. Written and graphic scale of plan; and
6. Name, address and phone number of plan preparer; and
7. Date of plan preparation and date of subsequent revisions; and
8. Deed reference or source of title.

B. Signature Blocks

Space for date, signature and type of formal action by each of the following:

1. County Planning Department
2. Municipal governing body
3. Municipal Planning Commission
4. County Engineer, where applicable
5. Other officials, where required elsewhere by this Ordinance or individual municipal ordinance.
C. Maps and Data

1. Location drawing or map section, at a scale of 1” = 800’, showing the location of the proposed subdivision in relation to named streets, boundaries, previous subdivisions, etc.

   The proposed subdivision or land development area shall be identified by a tone or pattern differentiation and residual land of the subdivider shall be outlined.

   The location drawing shall also contain a reference to north and, where possible, be depicted in northerly alignment with the property drawing.

2. Property drawing of the parcel which is to be subdivided. Residual land shall be shown to the extent necessary to assure compliance with all applicable standards. The lot, tract or parcel drawing shall include:

   a. Bearings and dimensions for all property lines; corporation lines; center and right-of-way lines of streets; easements and other rights-of-way; natural and artificial water courses, streams and flood plain boundaries; wetlands; and other boundary lines with distances, radii arcs, chords and tangents of all deflection angles, nearest second and error or closure of not more than one (1) foot in 10,000 feet.

   b. Proposed lot, tract, or parcel lines in prominent, solid lines. Lot, tract, or parcel lines proposed for removal shall be shown in dashed or broken lines.

   c. Location and identification of all control points (iron pins, monuments, etc.) to which all dimensions, angles and bearings are to be referred.

   d. Lot numbers or letters in progressive order to identify each lot or tract. Numbers shall be utilized only for lots, tracts or parcels which are eligible for independent or individual use, whereas letters shall be utilized for lot additions, land exchanges and transfer of lots or parcels which are not eligible for individual use or development. Lot numbers of letters from previous plans shall be encircled by a dashed or broken line circle while currently proposed lot numbers or letters shall be encircled by a solid line circle.

   e. Square footage and acreage of all lots or parcels involved in the subdivision or land development, exclusive of land dedicated for public right-of-way.

   f. The location, size and use of all existing buildings. Proposed buildings shall be shown to the extent necessary to demonstrate compliance with other ordinance criteria.

   g. The building setback line prescribed in the applicable zoning code.

3. Streets, utilities, topography and natural features on the proposed subdivision and within 100 feet of the boundaries, in accordance with the following:

   a. Layout, right-of-way, pavement width and name of all roads and streets.

   b. Size and location of all existing and proposed utilities including easements.
c. Existing and proposed on-lot well and sewage disposal system locations, as well as soil probe and percolation test locations for sewage disposal systems.

d. The existing and proposed topography and drainage of all proposed development sites shall be depicted. Existing and proposed contour intervals shall be a maximum of five (5) feet, except that development areas with a grade of less than 5% shall be depicted utilizing two (2) foot contour intervals. Lot additions and currently developed sites shall be required to stipulate only lot corner elevations or general topographic information.

e. Streams, ponds, waterways, flood plains, quarries, sinkholes and other significant topographical, physical or natural features.

f. Identify and illustrate all soil series and soil boundaries.

4. Storm water management facilities, including ground water recharge and water quality design, where required by Section 5.07 of this Ordinance.

5. North arrow and graphic and written scale. The scale shall not exceed 50’ to the inch. Deed reference and source of title to the land being subdivided shall be included, as shown by the County Recorder of Deeds.

6. Name of all surrounding property owners.

D. Plan Notes and Conditions

All necessary or recommended supplementary subdivision or land development plan notes or conditions shall be prominently lettered on the plan. This shall include, but not be limited to:

1. Total number of lots or dwelling units proposed by the plan.

2. Applicable zoning standards for front, rear and side yard setbacks, minimum lot area, minimum lot width and zoning district.

3. Statement of intended use for all lots except those intended for single family detached dwellings.

4. Statement of deed restrictions or covenants which may be a condition of sale of the property.

5. Other specifics or clarifications necessary to complete the plan.

E. Certifications and Dedications

1. A certification of ownership shall be signed by the property owner(s) verifying ownership and acceptance of the plan.

2. A statement shall be signed by the owner(s) offering land for dedication to public use for all appropriate streets, rights-of-way, easements, parks, etc.
3. A certification statement by the plan preparer (registered surveyor, engineer, or landscape architect) verifying the plan accuracy.

4. Seal of the registered surveyor, engineer or landscape architect responsible for plan preparation. Any plan establishing property boundaries shall be prepared and sealed by a registered surveyor.

SECTION 4.03 MAJOR SUBDIVISION – PRELIMINARY PLAN

The subdivider or land developer shall furnish, as part of an application for preliminary approval of a major subdivision or land development plan, the following information on the required preliminary plan sheets.

A. Title Block

All information required in Section 4.02A of this Ordinance.

B. Signature Blocks

All information required in Section 4.02B of this Ordinance.

C. Maps and Data

All information required in Section 4.02, Subsection C, Paragraphs 1, 4, 5, and 6 of this Ordinance. Information required in Paragraphs 2 and 3 shall also be supplied as specified, except that:

1. Lots shall be depicted, but individual bearings and dimensions are not required. Lot areas may be approximated.

2. Topographic information shall be completed at two (2) foot contour intervals. It shall show approximate direction and gradient of ground slope on immediately adjacent land; indicate subsurface condition of tract if not typical; show water courses, marshes, sinkholes, wetlands, wooded areas, isolated preservable trees and other significant features.

3. Street and utility information shall be detailed. Street profiles, cross sections and grades shall be specified, detailing cartway, curb, and shoulder design where applicable. Location, size, profiles, elevations and cross sections shall be submitted for all sanitary sewers, water lines, storm sewers, sidewalks, street lights, storm water management facilities and other proposed site improvements.

D. Plan Notes and Conditions

All information required in Section 4.02D of this Ordinance.

E. Certifications and Dedications

All information required in Section 4.02E of this Ordinance.
SECTION 4.04 MAJOR SUBDIVISION – FINAL PLAN

The subdivider or land developer shall furnish, as part of an application for final approval of a major subdivision or land development plan, the following information on the required 18" x 24" final plan sheet(s):

A. Title Block

All information required in Section 4.02A of this Ordinance.

B. Signature Blocks

All information required in Section 4.02B of this Ordinance.

C. Maps and Data

The plan shall include only the phase or section of the subdivision or land development proposed for immediate recording and development. All information required in Section 4.02C of this Ordinance shall be supplied.

D. Plan Notes and Conditions

All information required in Section 4.02D of this Ordinance.

E. Certification and Dedications

All information required in Section 4.02E of this Ordinance.
CHAPTER 5
REOUIRED IMPROVEMENTS AND DESIGN STANDARDS

SECTION 5.01 INTENT

The design standards established in this Chapter are intended to be fundamental requirements to be applied with professional skill in the subdividing and planning of land so as to produce attractive and harmonious neighborhoods, convenient and safe streets, and economical layouts of residential and other land development. The design standards are further intended to encourage and promote flexibility and ingenuity in the layout and design of subdivisions and land developments, in accordance with modern and evolving principles of site planning and development.

It is also the intent of this Chapter to require subdividers and developers to follow all applicable codes, regulations, and standards adopted by the municipality or the County relative to improvements to the subdivision or development site. In all cases, the codes, regulations and standards of the municipality shall be followed and the improvements shall be approved by the municipal governing body before the final plan is approved. In cases where development codes, regulations, and standards do not exist at the municipal level, the requirements of this Chapter shall be followed and approved by the Planning Department. All improvements as specified in this Chapter or in applicable municipal ordinances shall be installed before the final plat is approved or, in lieu thereof, a guarantee of installation shall be provided by the subdivider or developer prior to final plat approval. The guarantee shall assure the responsible body (Municipality or County) that the required improvements will be installed in accordance with the subdivision or land development plan.

During the design and approval or subdivision and land development plans the Planning Department, the municipal planning agency and governing body, and the developer shall give primary consideration to all thoroughfare plans, watershed plans, water plans, sewer plans, community facility plans, and official maps as may be in effect in the municipality.

SECTION 5.02 GENERAL STANDARDS

In addition to the standards contained elsewhere in these regulations, the following general standards shall be observed.

A. Existing utilities and improvements shall be utilized wherever possible. New roads and extended utility services shall be discouraged if existing services and facilities may be utilized. Scattered urban development shall be avoided.

B. Development designs shall minimize street lengths necessary to serve developed properties.

C. Side lot lines should be substantially at right angles or radial to street lines, unless the purpose of lot line orientation is to obtain greater solar access.

D. Depth of residential lots should be not less than one (1) nor more than two and a half (2-1/2) times the lot width.
E. Every lot shall abut a street. Lot frontage or access shall be physically accessible by standard vehicle in existing condition or the Planning Department shall require illustration of the site improvements planned and necessary to alter steep banks, flood plains, visibility limitations, etc. to a condition that will facilitate safe and adequate access. The Planning Department may also require that lots be arranged to reserve a right-of-way for street access to future lots.

F. Double or reverse frontage lots may be preferred or required when lot access to an adjoining street is not permitted or separation from the street is desired because of topographic, orientation, aesthetic, congestion, safety or high noise level considerations. Landscaping and buffering should be provided along the adjoining street.

G. Adequate easements or rights-of-way shall be required for drainage and utilities. Easements shall be a minimum of twenty (20) feet in width and, whenever possible, shall be centered on side or rear lot lines. No structure or buildings shall be erected within such easements.

H. Additional lot areas beyond minimum size may be required:

1. On slopes in excess of 15%.
2. To control erosion or storm water runoff.
3. To provide sufficient area for sewage disposal.

I. Lots shall be suitably shaped to encourage and facilitate use and maintenance of all portions of the lot. Accordingly, lots shall be square or generally rectangular in shape. Lot configurations which result in flag lots and L-shaped, T-shaped, triangular or otherwise inappropriately shaped lots shall be avoided.

J. Site design and development shall include reasonable efforts to save existing trees and vegetation.

K. The standards of this Ordinance shall apply to all lots being subdivided or developed and residual land which is created by the subdivision or land development activity.

L. Subdivision of property with existing dwellings or development shall be regulated by the following:

1. Each dwelling or use shall be serviced by separate utility connections. Shared sewage systems are not permitted.

2. Each dwelling or use subdivided shall be on sufficient land area to satisfy minimum lot area and yard setback requirements. Where adequate land area is not available to satisfy minimum standards, subdivision may be permitted when:

   a. Each dwelling or principal building is in good structural condition.
   b. Mobile homes are not involved.
   c. An equitable distribution of land is proposed between the existing uses or buildings.
M. Lot additions, land exchanges, agricultural use only lands, and any other specific or special purpose subdivision or land development shall include prominent plan notes to avoid misinterpretation of the intent of the subdivision or land development plan. Applicable deed restrictions may be required.

N. Deeds filed subsequent to subdivision or land development approval shall accurately and correctly describe the property therein. Deeds and use of the property shall be in complete compliance with all plan notes and conditions.

Recording a deed which omits or contradicts the information on an approved subdivision or land development plan shall be a violation of this Ordinance.

SECTION 5.03 ENERGY CONSERVATION STANDARDS

Conservation of energy shall be an important principle in the design of subdivisions and land developments. Plans shall facilitate the energy efficient placement of homes and buildings on lots. Whenever the following criteria are found to be appropriate to a site, development design be in accordance with the standards contained herein.

A. Orientation

1. Lots shall be designed for energy efficient siting of buildings with respect to slopes and existing trees.

2. Southerly exposures should be utilized for development. North slopes, especially those over 10% slope, should be avoided because the long shadows created severely restrict solar access.

3. New lots and new residences shall be oriented to make maximum effective use of passive solar energy. The long axis (depth) of each lot should run North-South, with a possible East-West variation of 22-1/2 degrees. Lot design should provide for lots of adequate width, depth, and slope for solar orientation. Lot layout should facilitate solar access by at least 75% of the proposed dwellings or buildings within a development.

4. The largest yard setback should be stipulated on the south side of proposed buildings. Buildings should be situated to the North end of the lot to permit maximum on-lot control of solar skylight.

B. Streets

1. Streets should be oriented along an East-West axis, with maximum North-South deviations of 30 degrees. This should be required to the maximum extent possible, although size, configuration or orientation of the property; nature of the surrounding development; circulation patterns; existing physical features such as topography and vegetation (trees); and improved design potential may be considered to determine the feasibility of this requirement for a given site.

2. Street system shall be designed to reduce overall lengths and facilitate traffic flow (minimum number of intersections).
C. Vegetation and Wind

1. Site design shall emphasize the preservation of all beneficial natural features of the site, such as existing slope, naturally wooded areas, and water courses. The site design should also avoid requiring removal of large isolated trees and desirable woods and other vegetation, particularly those existing plant materials which serve as wind barriers and aid in energy conservation.

2. Developments shall be designed to maximize wind buffering and/or breeze channelization capabilities of vegetation, topography and structure layouts. Wind breaks and buffers should utilize evergreens to protect north and northwesterly exposures. Cooling breezes from the southwest should be channeled past buildings. Deciduous trees shall be located in areas which will enable them to shade buildings from the summer sun, but still allow penetration of the winter sun.

SECTION 5.04 TOPOGRAPHY

Subdivisions shall be planned to take advantage of the topography of land in order to utilize the natural contours, economize in the construction of drainage facilities, reduce the amount of grading, and minimize destruction of trees and topsoil. The natural features and other distinctive characteristics of the site shall be integrated into the plan to create functional variations in the neighborhoods.

Additionally, environmental safeguards may be mandated on slopes in excess of 15%. On steep slopes (in excess of 15%), site and lot design shall be adjusted, where necessary, to mitigate the detrimental effects of development on steeper slopes. The following topographic considerations shall be utilized in design of subdivisions and land developments:

A. Streets – Land which is relatively flat or of very gentle slopes should be planned so that the streets follow the natural drainage courses and as many lots as possible shall be above the street grade. On more irregular topography, streets shall be designed to avoid extensive cuts and fills and follow the ridges or be planned approximately parallel to contour lines, and adjusted, however, so that lots on one (1) side of the street will not be excessively below the street grade.

B. Natural Drainage – Subdivisions shall be designed, particularly on land of very gentle slopes, to take every advantage of natural grades so that all the land can be drained without excessive grading. Unless water courses or drainage ways are enclosed, the plan shall be adjusted so that rear lot lines shall be approximately parallel to the natural or straightened course, and only where such plan is not possible, should side lot lines be arranged parallel to an open drainage course. Easements for drainage ways and low-lying land which are subject to flooding may be included as part of a lot but shall not be used as building sites or included in calculating the required lot area or width.

C. Natural Features – Natural features, irregularities, changes in level, brooks, lakes, hilltops, and other focal points within the site, and distant views outside the subdivision shall be integrated in the design to obtain variations and interest in each neighborhood and more attractive building sites. Trees, topsoil, and other natural resources shall be preserved and utilized in the development of the subdivision.
D. **Driveways** – Private driveways shall be designed to furnish safe and convenient access, with reasonable clear sight distance at intersection with the street. Site improvements shall be required to insure adequate site visibility at the point of access and installation of a stable, erosion resistant driveway surface.

Steep slopes shall be traversed diagonally to minimize grades. Driveway grades shall not exceed 15% slope at any point. All driveways shall be designed and improved with a rolled stone or paved surface, sufficient to avoid erosion. When driveway grades exceed 10% slope driveways shall be paved to minimize erosion. Driveway improvements shall be guaranteed in accordance with Section 5.14 of this Ordinance.

**SECTION 5.05 GRADING**

The developer shall grade each subdivision or land development to establish street grades, floor elevations of buildings, and lot grades in proper relation to each other and to existing topography. However, grading shall be kept to a minimum to avoid loss of topsoil and erosion potential. Lots shall be graded to secure drainage away from buildings. The grading shall facilitate collection of storm water in designated areas and avoid concentration of water in the sewage system location.

The grading of the roadway shall extend the full width of the cartway, shoulder and swale area, if applicable. Where possible, grass strips or channels between the curb or shoulder and right-of-way line should be graded at 3:1 slope; however, when unusual topographic conditions exist, good engineering practice shall prevail.

**SECTION 5.06 LOT SIZES AND STANDARDS**

The minimum lot size and lot width requirements established by municipal zoning ordinance shall be utilized as minimum subdivision standards. All lots shall satisfy the municipal zoning standard for lot width and lot size at the time of subdivision. Additionally, the building setback lines established by the municipal zoning ordinance shall be applicable and shall be noted on each subdivision or land development plan. Additionally, each subdivision or land development plan shall satisfy all other applicable zoning standards, unless variance thereto has been granted.

In cases where zoning standards have not been enacted or might otherwise be determined not to be valid, the following uniform standard shall apply for new building lots:

<table>
<thead>
<tr>
<th>Available Utilities*</th>
<th>Minimum Lot size</th>
<th>Minimum Lot Width</th>
<th>Minimum Setbacks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Front</td>
</tr>
<tr>
<td>On-lot Well &amp; Sewage</td>
<td>1 Acre</td>
<td>150'</td>
<td>40'</td>
</tr>
<tr>
<td>Public Water/On-lot Sewage</td>
<td>30,000 sq.ft.</td>
<td>135'</td>
<td>40'</td>
</tr>
<tr>
<td>On-lot Well/Public Sewer</td>
<td>20,000 sq.ft.</td>
<td>120'</td>
<td>35'</td>
</tr>
<tr>
<td>Public Water &amp; Sewer</td>
<td>10,000 sq.ft.</td>
<td>100'</td>
<td>30'</td>
</tr>
</tbody>
</table>

* Public also includes approved community water and sewage systems
A storm water management site plan shall be required for each subdivision, land development and regulated activity, unless exempted by Section 5.07 1.2. and 5.07 1.3. The storm water management site plan shall demonstrate effective control of storm water runoff and compliance with the storm water management requirements, standards and design criteria of this Ordinance. The storm water management site plan shall be an integral part of each subdivision and land development plan at the preliminary and final plan stage. For the purposes of this Section of the Ordinance, the following activities are defined as Regulated Activities and shall be considered as land development (in addition to subdivision and land development) for regulation by this Ordinance:

1. Construction of new or additional impervious or semi-pervious surfaces (driveways, parking lots, etc.); and
2. Construction of new buildings or additions to existing buildings; and
3. Diversion or piping of any natural or man-made stream channel; and
4. Installation of storm water management facilities or appurtenances thereto.

Additionally, subdivisions, land developments and regulated activities shall be in compliance with all Storm Water Management Plans within Lebanon County watersheds, including the Tulpehocken Creek, Cocalico Creek and other adopted watershed plans.

B. General Requirements

1. Storm water management regulations shall apply to the total proposed development, even if development is to take place in stages.
2. Impervious cover shall include, but not be limited to, any roof, parking, driveway, street and sidewalk areas. Any paved, concrete or asphalt surfaces and any areas designed to initially be gravel or crushed stone shall be assumed to be impervious for the purposes of this ordinance.

C. Storm Water Management Districts

Lebanon County is divided into storm water management districts to facilitate control of storm water runoff appropriately for the watershed, instead of individual site-specific design. Therefore, Lebanon County has developed separate standards and design criteria for each studied watershed or subwatershed, as recommended by Act 167, the Pennsylvania Storm Water Management Act and developed within the individual watershed plans. Storm Water management districts are illustrated within the Appendix and are listed as follows:

1. Tulpehocken A
2. Tulpehocken B-1
3. Tulpehocken B-2
4. Cocalico
5. Lebanon County Residual
Implementation of the district provisions shall be subject to the following:

1. Post development rates of runoff from any subdivision, land development or regulated activity shall meet the peak release rates of runoff prior to development that are specified within the Design Criteria and Calculation Methodology.

2. The boundaries of the storm water management districts are shown on the maps within the Appendix. A large scale master map of the districts is on file in the Planning Department. Where the district boundary is in question, a landowner or developer may request a determination from the Planning Department by submitting a request, accompanied by the property owner's name, property size, municipality and assessment map/lot numbers.

3. When a proposed development site is within two (2) or more storm water management districts the design shall be prepared by district so that peak discharge rates for each district shall be satisfied in accordance with item C.1. above. Storm water runoff should not be transferred from one watershed to another. If a transfer can not be avoided, the peak discharge limits of the receiving watershed district shall be satisfied in accordance with item C.1. above.

4. Additional storm water management districts may be established as watershed studies are completed. Upon adoption of those watershed plans by the Lebanon County Commissioners, the applicable design criteria within the watershed plans shall be satisfied by developers of the affected land.

D. Storm Water Management Performance Standards and Design Criteria

Storm water management planning and storm water management facilities shall be designed and constructed in accordance with the following:

1. General Standards

   a. The design of all storm water management facilities shall incorporate sound engineering principles and practices.

   b. All storm water runoff flowing over the development site shall be considered in the design of the storm water management facilities.

   c. Runoff from impervious areas shall be drained to pervious areas of the development site and the storm water management control facilities.

   d. Storm water runoff from a development site shall flow directly into a natural watercourse, into an existing storm sewer system or onto adjacent properties in a manner similar to the runoff characteristics of the pre-development flow.

   e. A concentrated discharge of storm water to an adjacent property shall be within an existing watercourse or storm sewer system and enclosed within an easement. Downstream easements should be established to provide drainage paths for concentrated discharge. Design and construction shall preclude erosion, sedimentation, flooding or similar damage.
f. Where a development site is traversed by watercourses, drainage easements shall be provided conforming to the line of such watercourses. The terms of the easement shall prohibit excavation, the placing of fill or structures, and any alterations that may adversely affect the flow of storm water within any portion of the easement. Also, maintenance, including mowing of vegetation within the easement shall be required, except within BMP areas where mowing is not desired. The drainage easement shall adequately contain the anticipated inundation associated with the identified 100 year floodplain, or be depicted fifty (50) feet from the top of the channel bank for undefined floodplain areas.

g. When it can be shown that, due to topographic conditions, natural drainageways on the site cannot adequately provide for drainage, open channels may be constructed conforming substantially to the line and grade of such natural drainageways. Work within natural drainageways shall be subject to approval by PaDEP through the Chapter 105 Permit process, or, where deemed appropriate by PaDEP, through the General Permit process.

h. Any storm water management facilities regulated by this Ordinance that would be located in or adjacent to waters of the Commonwealth or wetlands shall be subject to approval by PaDEP, through the Joint Permit Application process, or, where deemed appropriate by PaDEP, the General Permit process. When there is a question whether wetlands may be involved, it is the responsibility of the Developer or his agent to show that the land in question cannot be classified as wetlands; otherwise approval to work in the area must be obtained from PaDEP.

i. Any storm water management facilities regulated by this Ordinance that would be located within State highway rights-of-way shall be subject to approval by the Pennsylvania Department of Transportation (PaDOT).

j. Minimization of impervious surfaces and infiltration of runoff through infiltration beds, infiltration trenches, etc. is encouraged, where soil conditions permit, to reduce the size or eliminate the need for detention facilities.

k. Roof drains shall not be connected to streets, sanitary or storm sewers or roadside ditches so as to promote overland flow and infiltration/percolation of storm water where advantageous to do so. When it is more advantageous to connect directly to streets or storm sewers, then it shall be permitted on a case by case basis, based upon adequate justification to be provided by the applicant.

l. Storm water management facilities and discharges shall not be located within sinkhole prone areas of carbonate geology, including areas containing sinkholes, closed depressions, fractured limestone traces and limestone rock outcrops.

m. Storm water facilities that are not located within a street right-of-way shall be centered within an adequate easement of no less than twenty (20) feet in width. Easements shall follow property lines where possible.
n. A variety of methods for storm water detention and retention are available for use. These include surface detention, subsurface detention, use of existing facilities (ponds, etc.) or a combination thereof. Subsurface detention shall be utilized only where the subsurface is stable, the area is not prone to sinkhole formation, and all underground pipes are sealed to prevent leaks.

o. Storage of equivalent storm water runoff for a portion of a property may be considered in lieu of storage of generated runoff provided:

i. The site is located so that it is physically impossible to detain runoff from the proposed facilities or drainage problems exist upgrade that would impact upon the site or downgrade properties.

ii. The impact of generated runoff discharging off site from the subdivision or land development is determined by the County Engineer to be negligible and not detrimental to adjacent properties.

iii. Implementation of equivalent storage shall be determined applicable and feasible by the County Engineer.

p. Storm sewer pipes, culverts, manholes, inlets, endwalls, endsections, and other storm water management facilities shall be designed and constructed in accordance with the requirements of the Pennsylvania Department of Transportation, Design Manual Part 2 Highway Design, Publication 13, including amendments thereto, unless specifications are otherwise provided herein.

2. Retention and Detention Basins

Retention and detention basins shall be designed and constructed according to the following minimum standards:

a. The maximum water depth to the base of the spillway shall not exceed six (6) feet in residential areas. Depths up to eight (8) feet are permitted in non-residential projects, provided minimum six (6) foot high fencing is provided when depths exceed six (6) feet.

b. The minimum top width of dams shall be five (5) feet for impoundments draining five (5) acres or less and eight (8) feet minimum width for impoundments with drainage areas exceeding five (5) acres.

c. The side slopes of earth fill dams shall not be less than three (3) horizontal to one (1) vertical on both sides of the embankment. However, any portion of the inside berm of an unfenced basin above a proposed water depth of three (3) feet shall have a side slope of five (5) horizontal to one (1) vertical or flatter.

d. A cutoff or key trench of impervious material shall be provided under all basin berms.

e. All pipes and culverts through dams shall have properly spaced cutoff collars or anti-seep collars.

f. Minimum floor elevations for all structures that would be affected by a basin or open conveyance system where ponding may occur shall be two (2) feet above the 100-year water surface elevation.
g. An emergency spillway shall be provided to safely pass the one hundred year storm, with one (1) foot of freeboard between the maximum pool elevation and the top of the embankment. The maximum pool elevation shall be established using the weir equation through the spillway while ignoring discharge flows from the principal spillway.

h. Except for retention basins, permanent ponds and wetlands, all basins shall have dewatering features such as low flow channels or tile fields. Concrete low flow channels shall be designed to receive drainage from the side slopes as well as the channel and shall be bordered by parallel erosion control matting (on each side) the length of the channel to prevent erosion at the channel edge. All detention basins shall include an outlet structure designed to completely drain the basin within twenty-four (24) hours following the end of the design rainfall. However, basins containing ground water recharge and/or water quality storage shall include an outlet structure designed to fully drain the recharge and/or water quality volume in no less than twenty-four (24) hours or more than forty-eight (48) hours.

i. Basin discharges to proposed or existing conveyance systems shall require evidence of adequate capacity in the receiving facility.

j. The minimum slope of any basin bottom surface shall be two percent (2%) positive grade toward the outlet, along all flow paths.

k. Detention basin length or basin flow path length shall be at least two (2) times the basin width to facilitate water treatment and infiltration.

l. In areas of carbonate geology, retention and detention basins shall:

   i. Be placed at least one hundred (100) feet from the rim of any sinkhole or closed depression; and

   ii. Be placed a minimum of twenty-five (25) feet from rock outcroppings or pinnacles; and

   iii. Not discharge into a sinkhole; and

   iv. Be designed and located to prevent ground water contamination and sinkhole formation, including the use of impermeable liners where deemed necessary to avoid or abate such problems.

m. Basins shall not be divided by a property line.

n. Vertical pipes, inlets, and other surface water receiving structures shall be installed with trash racks.

3. Pipes and Conveyance Facilities

   Pipes, curbs, gutters, manholes, inlets, headwalls, endwalls, streets, and other storm water conveyance facilities shall be designed and constructed in accordance with the following:
a. Pipes

i. Pipe trenching and backfilling shall be in accordance with the requirements of the Pennsylvania Department of Transportation, Publication 408 and Roadway Construction Drawings, current edition, unless manufacturer’s specifications and the County Engineer authorize alternative procedures.

ii. Pipe sizes and type shall be in accordance with the approved drawings. Minimum pipe size for drainage facilities to be dedicated for municipal ownership shall be fifteen (15) inches in diameter and the type shall be corrugated galvanized metal pipe (CMP), smooth lined high density polyethylene pipe (HDPEP), reinforced concrete pipe (RCP) or approved equivalent.

iii. Pipes shall be constructed and set to line and grade as shown on approved drawings. All pipes shall be laid on straight runs between drainage structures.

iv. Pipes shall be provided with a minimum of six (6) inches of cover between the top of pipe and the bottom of the pavement subgrade elevation. In unpaved areas, one (1) foot of cover is required to the finished grade.

v. Backfilling shall be to four (4) feet above the top of the proposed pipe elevation or to subgrade, whichever is less, before excavating for the pipe. Additionally, hauling shall not be permitted over pipe with less than four (4) feet of cover.

vi. All pipe outlets shall be discharged to natural or manmade waterways and shall be provided with reinforced concrete headwalls or pipe end sections. Pipe outlets shall also be provided with an erosion resistant material or energy dissipators to calm the anticipated velocity and discharge of storm water.

vii. Underdrains, pavement base drains, or combination storm sewer and underdrains shall be provided at low points, cut sections, poorly drained areas and other areas which, in the opinion of the County Engineer, are required to provide adequate subsurface drainage to protect the integrity of the street.

viii. All storm sewers which cross a street shall be perpendicular to the street centerline or within thirty degrees (30°) of perpendicular. Vertical and horizontal isolation conflicts with other utilities shall be avoided. Storm sewers within a street shall not cross underneath a curb, especially at curb radii locations.

b. Inlets and Manholes

i. Inlet tops shall be precast concrete top units conforming to the Commonwealth of Pennsylvania Department of Transportation Standards For Road Construction RC-Series drawings providing an eight (8) inch curb reveal from the gutter grade point. Yard inlets and other non-dedicated inlets may be designed with alternative components, subject to County Engineer approval.

ii. All inlets over four (4) feet in depth shall be provided with steps for accessibility. Inlets shall be placed along the curb line, gutter line, or edge of paving.

iii. All inlets in paved areas shall have bicycle safe grates.
iv. All inlets shall be constructed with concrete flow channels cast in-place in the bottom of each inlet, except in municipalities where inlet sump areas are preferred.

v. Inlets and manholes shall not be spaced more than four hundred (400) feet apart. Manholes are required at all points of horizontal or vertical deflection. Design calculations are required to document the capacity and spacing. Inlets shall be analyzed for collection efficiency and bypass flows from upstream structures shall be accounted for in inlet spacing design.

c. **Channels**

   All channels shall be lined with adequate channel lining material, regardless of the designed velocity or shear stress. Maximum permitted channel velocities are:

   i. Three feet (3’) per second where only sparse vegetation can be established.

   ii. Four feet (4’) per second under normal conditions where vegetation is to be established by seeding or sodding.

   iii. Velocities may not exceed four feet (4) per second for newly constructed grass channels, unless appropriately designed and approved by the Lebanon County Conservation District.

   iv. For lined water carrying channels, the following velocities are permitted:

      1. Minimum Six-inch (6”) rock riprap up to 6 f.p.s.
      2. Minimum Nine-inch (9”) rock riprap up to 8 f.p.s.
      3. Asphalt – up to 7 f.p.s.
      4. Durable bedrock – up to 8 f.p.s.
      5. Twelve-inch (12”) riprap – up to 9 f.p.s.
      6. Concrete or steel – up to 12 f.p.s.
      7. The normal maximum velocity of open channel flows shall not exceed 10 f.p.s.

   d. **Streets**

      i. All streets shall be so designed to provide for the discharge of surface water from their rights-of-way.

      ii. The slope of the crown on proposed streets shall be ¼ of an inch per foot. Slope of the centerline grade shall be at least .75%. On curbed streets, the right-of-way beyond the street shall be sloped toward the street at ¼ of an inch per foot.

      iii. Adequate facilities shall be provided at low points along streets and where necessary to intercept runoff.

      iv. Pipes and basin outlets shall not discharge directly onto or be conveyed onto a public street.

      v. The maximum allowable spread of water on proposed streets shall be one-half (1/2) of a through travel lane or one (1) inch less than the curb depth, whichever is less.
vi. Driveway intersections with streets shall be designed so that street flows are not diverted onto driveways.

vii. Water flows across street intersections shall not exceed one (1) inch in depth.

E. Calculation Methodology

Storm Water runoff calculations for all development sites and regulated activities shall be calculated in accordance with the following computation methodologies:

1. Calculation Methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Applicability</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR-55, USDA</td>
<td>Acceptable for all watersheds</td>
</tr>
<tr>
<td>Soil Conservation Service</td>
<td>Preferred for watersheds &gt; 10 acres</td>
</tr>
<tr>
<td>Modified Rational Method</td>
<td>Acceptable for small watersheds and residential underground absorption systems. Recommended for watersheds &lt; 10 acres</td>
</tr>
<tr>
<td>TR-20, USDA</td>
<td>Acceptable for all watersheds, especially where full hydrologic computer model is desired</td>
</tr>
<tr>
<td>Soil Conservation Service</td>
<td></td>
</tr>
<tr>
<td>HEC-1 U.S. Army</td>
<td>Acceptable for all watersheds, especially where full hydrologic computer model is desired</td>
</tr>
<tr>
<td>Corps of Engineers</td>
<td></td>
</tr>
</tbody>
</table>

Selection of the method of calculation by the design professional shall be based upon the limitations and suitability of each method for the development site. The County Engineer should be consulted for method alternatives and applicability.

2. Storm Event Criteria

All runoff calculations shall be completed in accordance with the standard guidelines for the selected method of calculation. Established twenty-four (24) hour rainfall depths for the various storm events throughout Lebanon County are:
Inches of Rainfall within District

<table>
<thead>
<tr>
<th>Design Storm Frequency in Years</th>
<th>Tulpehocken Creek</th>
<th>Cocalico Creek</th>
<th>Remainder of Lebanon County</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Year</td>
<td>2.40</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>2 Years</td>
<td>3.00</td>
<td>3.1</td>
<td>3.0</td>
</tr>
<tr>
<td>5 Years</td>
<td>3.60</td>
<td>4.1</td>
<td>4.0</td>
</tr>
<tr>
<td>10 Years</td>
<td>4.56</td>
<td>5.0</td>
<td>4.8</td>
</tr>
<tr>
<td>25 Years</td>
<td>5.52</td>
<td>5.5</td>
<td>5.3</td>
</tr>
<tr>
<td>50 Years</td>
<td>6.48</td>
<td>6.2</td>
<td>6.0</td>
</tr>
<tr>
<td>100 Years</td>
<td>7.44</td>
<td>7.0</td>
<td>6.7</td>
</tr>
</tbody>
</table>

Calculations shall be completed in accordance with a rainfall duration of twenty-four (24) hours. Modified Rational Method calculations require use of the applicable PaDot Rainfall Intensity Duration Frequency Chart.

3. Storm Water Runoff Control Criteria

Storm Water Management shall be accomplished by controlling post development runoff rates to pre development runoff rates for the storm events listed as follows:

<table>
<thead>
<tr>
<th>Pre Development Design Storm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Development Design Storm</td>
</tr>
<tr>
<td>2 Year</td>
</tr>
<tr>
<td>5 Year</td>
</tr>
<tr>
<td>10 Year</td>
</tr>
<tr>
<td>25 Year</td>
</tr>
<tr>
<td>100 Year</td>
</tr>
</tbody>
</table>

4. Assumptions and Criteria

a. Runoff calculations shall include a hydrologic and hydraulic analysis indicating volume and velocities of flow and the grades, sizes, and capacities of water carrying structures, sediment basins, retention and detention structures and sufficient design information to construct such facilities. Runoff calculations shall also indicate both pre-development and post-development rates for peak discharge of storm water runoff from the development site.

b. All pre-development calculations, unless in woodland, shall be based upon the assumption of grass or pasture cover in good hydrologic condition. Wooded areas shall utilize forest/woodland cover coefficients. Where the site contains existing impervious surface, up to 50% of the impervious area may be considered as an existing pre-development condition. Runoff coefficients and curve numbers shall be selected from the approved methodology standards.
c. Runoff calculations for the pre- and post-development comparison shall evaluate all storm water events listed within the storm water runoff control criteria (Sect. 5.07E.3)

d. Design of storm water facilities shall be verified by routing the storm event hydrographs through the facilities using the Storage Indication, Modified Puls, or Level Pool Reservoir Routing Modified Att Kin Method as applicable.

e. Times of concentration shall be based upon the following:

   i. The maximum length of overland sheet flow shall be one hundred (100) feet.

   ii. Travel time for shallow concentrated flows shall utilize the SCS Methodology for design.

   iii. Overland flows which are concentrated within field depressions, swales, gutters, curbs or pipe collection systems shall be designed using Manning’s Equation for time of concentration criteria between these design points.

f. Storm sewer pipes, culverts, gutters, inlets, outlets and swales shall be designed and constructed in accordance with the standards of the PADot Design Manual, Part 2, Highway Design (latest edition), including the following requirements:

<table>
<thead>
<tr>
<th>Facility</th>
<th>Minimum Post Development Peak Discharge Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipes, Gutters and Swales</td>
<td>Ten (10) Year Storm</td>
</tr>
<tr>
<td>Culverts and Cross Drains</td>
<td>Twenty-five (25) Year Storm</td>
</tr>
<tr>
<td>Bridges and Stream Crossings</td>
<td>One hundred (100) Year Storm</td>
</tr>
</tbody>
</table>

   Swales shall be designed utilizing Manning’s Equation to insure adequate capacity, control of velocity and swale stability. Calculations shall use maximum swale velocity and full flow capacity for design purposes. Vegetated swales shall have a minimum longitudinal slope of one percent (1%) and maximum side slopes of 3 to 1, unless specifically designed as a BMP structure.

5. Calculation Process

   A general procedure recommended for site evaluation and storm water design is as follows:

   a. Evaluate factors influencing storm water runoff, with a goal of limiting earth disturbance, minimizing grading, and reducing or dispersing impervious surfaces.

   b. Satisfy the groundwater recharge requirements (See Sect. 5.07F).

   c. Meet water quality (BMP) standards, preferably with BMPs near the source of the runoff (See Sect. 5.07G).
d. Calculate and satisfy peak runoff objective, considering all measures other than detention basins.

e. Size detention basins accordingly.

f. Demonstrate compliance with predevelopment hydrograph requirements.

F. Ground Water Recharge

1. General Requirements

   Design for storm water management during subdivision and land development shall include measures to retain and infiltrate rainfall on-site to replenish the ground water. Recharge of the ground water will insure that base stream flow levels are maintained, well water supplies remain available and dependent plants and animals have adequate access to water resources.

   Storm water management design shall provide for ground water recharge to compensate for the reduction in percolation that occurs when the ground surface is covered with buildings, paving and other impervious surfaces. Developed areas shall maintain ground water recharge consistent with pre-development conditions.

   A geological evaluation of the site is required to determine the suitability for ground water recharge facilities. Factors such as carbonate geology, high water table, impermeable soils and bedrock may affect or prevent the design of recharge facilities. Liners and other appropriate design features may be required to avoid sinkholes and ground water contamination. Where it is demonstrated by the developer that ground water recharge design is not feasible for a site, upon agreement by the County Engineer the site may be exempted from recharge requirements.

2. Recharge Volume

   The required volume of water runoff to be retained for ground water recharge shall be determined using the following formula:

   \[
   \text{Re} = \frac{(S)(R)(A)}{12}
   \]

   WHERE:

   \[\text{Re} = \text{Recharge Volume (acre-feet)}\]

   \[S = \text{Soil Specific Recharge Factor (inches) Based upon Hydrologic Soil Group}\]

   \[A = .38\]

   \[B = .25\]

   \[C = .13\]

   \[D = .06\]
R  = Volumetric Runoff Coefficient of .05 + .009 (I) where I = percent impervious area of site

A  = Site area contributing to facilities (acres)

The recharge facilities shall be capable of completely infiltrating the required recharge volume of water within forty-eight (48) hours after the end of the design storm.

3. Recharge Systems

Ground water recharge systems may be a component of, or may be used in conjunction with, other innovative or traditional water quality (BMP) facilities, storm water control facilities and nonstructural storm water management alternatives. The water quality (BMP) systems enumerated within Section 5.07G.4 may be used to provide varying amounts of recharge, except for structural devices such as water quality inlets and sand filter chambers.

The designed ground water recharge systems must infiltrate the minimum water quantity required within the recharge volume calculations. The determination of the volume of recharge that will occur on the site should consider slope, soil type, vegetative cover, precipitation and evapo-transpiration, as well as the design features of the recharge system.

Further design guidance may be obtained within the water quality section of this Ordinance and the list of reference manuals at the end of that Ordinance Section.

G. Water Quality and Best Management Practices

Storm water management design shall address water quality needs, in addition to water quantity control, to minimize the adverse effects of development. An important component of a storm water management site plan is the Best Management Practices (BMP) design which must insure that water quality degradation does not occur as a result of subdivision and land development activity.

1. Goals and Objectives

a. Preserve existing natural features, especially those which store, infiltrate or filter water runoff.

b. Infiltrate rainfall to recharge the ground water table.

c. Use physical (structural) and biological or vegetative (non-structural) filtration of water runoff to reduce pollutants and remove sediment.

d. Moderate water runoff velocities to minimize erosion and damage to downstream aquatic habitat.

e. Integrate BMPs into the site layout to perform a water quality function and compliment the developed use of the site.
f. Enhance site aesthetics through the use of a variety of BMP techniques and components.

g. Maximize collection and treatment of small storm event (first flush) storm water runoff which contains the highest concentration of pollutants.

h. Utilize a system of BMP facilities and ground water recharge devices throughout the site.

2. General Standards

a. Water quality shall be maintained through the requirement for BMP design components for all subdivisions, land developments and regulated activities within Lebanon County, except where other provisions of this Ordinance provide for plan or storm water design exemptions. Also exempted are minor subdivisions such as lot additions, lot revisions, division of existing buildings and other plans where no new construction or development is proposed. Revision or expansion projects requiring land development approval with storm water design shall include measures to retrofit the site with BMPs to maintain or improve the water quality of the storm water discharges.

b. The required water quality volume, specified elsewhere herein, shall be detained and treated within BMPs for each site to be developed.

c. Site designs shall minimize earth disturbance and the generation of storm water runoff while maximizing pervious areas for treatment of storm water.

d. All BMPs shall be sized to capture the required water quality volume, designed according to the BMP criteria within this Ordinance, constructed properly and maintained regularly.

e. Storm water runoff which is directly discharged to wetlands, streams, ponds, High Quality or Exceptional Value Watersheds or which originates from land uses or activities with higher potential for pollutant loadings (such as auto salvage yards, vehicle service areas, loading/unloading areas, truck centers, etc.) may require the use of additional or specific structural BMPs for pollution prevention and maintenance of water temperatures and quality.

f. Place BMPs near the source of storm water runoff and treat runoff from impervious surfaces before mixing with runoff from less contaminated sources.

g. Use native vegetation and water tolerant plants. Trees and shrubs shall not be planted on storm water facility embankments or in other areas where roots may endanger pipes, headwalls, endwalls, spillway structures or other structural facilities.

h. All impervious area runoff shall be directed to BMPs.

i. BMP categories used within these regulations are 1) Ponds 2) Wetlands 3) Infiltration Systems 4) Filtering Systems, and 5) Open Channels. The Design Criteria subsection listed hereafter provides specific descriptions of the BMPs within
these classifications. Where effectiveness can be demonstrated, alternative BMP designs and concepts may be utilized.

j. Site designs shall include measures to reduce storm water velocities and collect sediment near the source of the water runoff so that BMPs can be effective in treating water quality and maintenance can be reduced. Recommended facilities are forebays, energy dissipators, outlet stabilization structures, inlet protection devices, level spreaders, and flow splitters.

k. “A” type soils (very permeable) may require installation of a clay, bentonite or poly liner where water retention is designed, such as with ponds and wetlands.

l. Carbonate geology (limestone) areas require careful evaluation for appropriate BMP design. Facility depths should be minimized and liners may be required.

m. Forebays and micropools are recommended for ponds and required for wetlands. Forebays and micropools should each contain approximately ten (10) percent of the required water volume. Forebays should be at least ten (10) feet long and be baffled from the main basin with a berm of rip rap or similar material, to a depth of one (1) foot below the water quality volume level, to insure an indirect flow path. Additionally, when forebays are used, a minimum of ninety (90) percent of the discharge into the facility shall be directed into the forebays.

n. All ponds and wetlands shall be surrounded by a riparian buffer strip of a minimum twenty-five (25) feet in width. Streams shall be bordered by a riparian buffer strip, a minimum of twenty-five (25) feet or the width of the flood plain, whichever is greater.

o. Planting of wetland plants is required within created wetlands and encouraged in ponds and other applicable BMPs. Fringe wetland plants may be used on aquatic benches or within shallow pools, while emergent wetlands vegetation should be planted along side slopes and facility edges.

p. Infiltration, filtering or other BMP systems which are designed to treat the water quality volume from small storms shall be preceded by a flow splitter or equivalent bypass device to route larger water volumes around the system.

q. All underground stone and sand BMP systems shall be lined with geotextile fabric on the sides, bottom and top, have a level (flat) bottom, be underlain by a minimum of two (2) feet of soil or sand above the seasonal high water table and be placed a minimum of ten (10) feet horizontally from building foundation walls.

r. Infiltration systems with stone shall utilize AASHTO #1 (No. 4) stone and assume a maximum of forty (40) percent voids area.

s. Grass swales should be designed with a flat channel bottom at least two (2) feet in width, with a longitudinal slope of one (1) to two (2) percent. If grass swale slopes exceed four (4) percent, check dams or similar water velocity modifiers should be used.
3. Water Quality Volume

The required volume of water runoff to be treated to maintain water quality shall be calculated using the following formula:

\[ WQ = \frac{(P) (R) (A)}{12} \]

WHERE:

- \( WQ \) = Water Quality Volume (acre-feet)
- \( P \) = 24 hour rainfall amount for 75% of the annual rainfall volume which, for this region, is 1.2 (inches)
- \( R \) = Volumetric Runoff Coefficient of \( .05 + .009 \) (I) where I = percent impervious area of site (whole number)
- \( A \) = Site area contributing to facilities (acres)

The water quality facilities shall be capable of collecting, treating and draining the required water quality volume in no less than twenty-four (24) hours or more than forty-eight (48) hours after the end of the design storm, unless the BMP facility is specifically designed for long term water storage.

The volume of water runoff that is infiltrated into ground water recharge facilities may be subtracted from the volume of water runoff that must be captured and treated within water quality (BMP) facilities.

4. Design Criteria

a. The following site factors should be considered in selecting and designing the appropriate BMPs:

i. Total contributing area.

ii. Permeability and infiltration rate of the site soils.

iii. Slope and depth to bedrock.

iv. Seasonal high water table.

v. Proximity to building foundations and well heads.

vi. Erodibility of soils.

vii. Land availability and configuration of the topography.
b. The following factors should be evaluated when determining the suitability of BMPs for a development site:

i. Peak discharge and required volume control.

ii. Stream bank erosion.

iii. Efficiency of the BMPs to mitigate potential water quality problems.

iv. The volume of runoff that will be effectively treated.

v. The nature of the pollutant being removed.

vi. Maintenance requirements.

vii. Creation/protection of aquatic and wildlife habitat.

viii. Recreational value.

ix. Enhancement of aesthetic and property value.

c. Ponds (Basins) are enhancements to conventional detention basins, usually containing a pool of water to perform the BMP function of capturing pollutants to improve the water quality of the discharge. Specific pond types and guidelines are:

i. **Wet Retention Pond.**

   A permanent pool of standing water, normally containing a perimeter aquatic bench of 6” to 18” in depth, where pollutants are removed through sedimentation and plant absorption.

ii. **Extended Detention Pond**

   A basin designed to temporarily hold storm water for an extended period of time to facilitate physical settling of pollutants. These facilities may be normally dry, contain a shallow marsh, have a small wetpool, and often contain a combination of these features. Extended detention ponds usually include a vegetated forebay that is baffled from the main basin with a rip rap mound, a small sized outlet for the water quality storm discharge, a primary outlet for large storm events and a benched basin for varying water depths. If the extended detention pond is to be utilized for required water quality control volume, the outlet device shall be designed for the 1 year, 24 hour storm to release over a 24 hour period, with complete drawdown between 24 and 48 hours.

iii. **Multiple Pond**

   A pond system containing a series of two (2) or more pools or cells to create a longer pollutant removal pathway.
d. Wetlands may be constructed to contain an environment of shallow marsh where pollutants can be removed through a combination of settling, absorption, retention, plant uptake and biological decomposition. Wetland designs are best suited for larger watersheds and must be accompanied by a landscaping plan which specifies plan species, planting arrangement, bed preparation and operation/maintenance requirements. Additionally, wetlands shall be planted with three (3) or more plant species for diversity and survival, plus at least fifty (50) percent of the wetland area must be planted and maintained in plant cover. Specific wetland types and guidelines are:

i. Shallow Wetlands

These systems are configured with several varying levels of marsh areas, containing a meandering water pathway from the forebay to a micropool at the outlet. Water depths usually range from 6” to 18”.

ii. Pocket Wetlands

Wetlands for small locations where a seasonal high water table is needed to help sustain the water elevations.

e. Infiltration systems are designed to capture storm water runoff and infiltrate it into the ground. These systems are best adapted for small drainage areas and effectively reduce runoff volume, remove many pollutants, recharge the groundwater and contribute to maintaining stream baseflows. Specific infiltration system types and guidelines are:

i. Infiltration Trench

Shallow excavations that are lined with geotextile fabric and filled with stone to create an underground water reservoir which gradually percolates into the surrounding subsoil. Infiltration trenches are especially useful for connection to roof drains. Larger trenches will require an under drain to a storm water conveyance system.

ii. Infiltration Basin

A large, open depression (basin) which collects storm water for percolation. The basin surface should be vegetated with deep rooted plants to enhance infiltration. Soils, slope, geology and hydrogeology may restrict use of these basins.

iii. Porous Pavement

Low traffic or overflow parking areas may be designed with porous pavement, a porous asphalt layer which permits runoff to drain into an underground stone area where it can infiltrate into the subsoil.
iv. Depressed Pervious Area

These facilities are useful for capturing runoff within a parking lot island. They are designed lower than the surrounding areas, contain permeable soils with a filtration system or a beehive drain and often contain an underdrain for excess runoff. Plants, shrubs and trees enhance performance and aesthetics.

Contributing parking areas require curb cuts, curbs with weep holes or similar design to facilitate runoff discharge to the pervious area.

f. Filtering systems are effective for filtering sediment and other pollutants from runoff by passing it through sand, soil, sand/soil mix, vegetation, a structural filter or any combination thereof. Filtered runoff is then infiltrated or drained to other on-site facilities. These systems may be integrated into landscaped areas and parking islands where plantings will add aesthetic enhancements. Specific filtering system types and guidelines are:

i. Sand Filter

An underground chamber or bed with sand designed to filter pollutants as water drains through it, with an underdrain system for discharge of the filtered water to a storm water conveyance system. The design and use of sand filters should incorporate a regularly scheduled maintenance program, including repair and restoration methods.

ii. Bioretention System

These designs utilize a mixture of sand and permeable soil underneath a planted, landscaped depression to collect and treat surface water runoff. Bioretention areas are especially advantageous for parking lot islands and snow storage locations.

iii. Riparian Buffer Strip

Along streams, wetlands and ponds, an area of land which is vegetated with a combination of trees, shrubs and herbaceous plants. This land strip is designed to protect the water resource by filtering pollutants, improving the habitat and cooling the waterways by shading. The riparian buffer strip shall include the 100 year flood plain, or be a minimum of twenty-five (25) feet wide from the edge of the normal water level, whichever is greater.

iv. Vegetated Filter Strip

These BMPs are characterized by grass or low growing vegetation on a uniformly sloped area which is designed to intercept sheet flow water runoff between an impervious surface and the storm water conveyance facilities. Vegetated filter strips reduce water velocities and trap sediment and pollutants. They require good vegetation and soil permeability and should be avoided on steep slopes. They are best used along small parking lots, should be a minimum of twenty (20) feet wide in the direction of water flow, and normally are designed equal in size to the impervious area draining to the filter strip.
v. **Vegetated Swale**

A broad, shallow, low gradient swale with a dense stand of medium height vegetation which is designed to trap pollutants and promote infiltration.

vi. **Water Quality Inlet**

Underground boxlike structure, such as an oil/grit separator, which is used to remove sediment and hydrocarbons from water runoff originating from parking lots and heavy traffic areas with the potential for petroleum discharges. These facilities are used close to the source of the runoff and currently include other products such as Stormceptor and Vortechnics.

g. Open channels convey, filter and percolate storm water runoff. They are often used as an alternative to, or component of, a storm sewer system. Specific open channel types and guidelines are:

i. **Grass Swale**

Grass swales filter pollutants as storm water runoff is drained to other areas. These facilities are best combined with other BMPs and may include check dams or minor depression storage to reduce water velocity and encourage infiltration. An underbedding of mixed sand and soil with a pipe or stone underdrain will improve the use for infiltration and ground water recharge.

ii. **Lined Channel**

Rip rap, concrete or other erosion resistant material may be used to line a channel to prevent scouring and degradation of a water carrying channel.

5. **Additional Information and Requirements**

The information, guidelines and requirements of this Section of this Ordinance are intended to provide guidance in the design, construction, operation, and maintenance of BMPs to protect water quality throughout Lebanon County. It is recognized that BMP technology is relatively new and, therefore subject to continuing modifications and improvements. As such these regulations provide for considerable design flexibility, provided the design is consistent with the standards listed in this Ordinance.

Additionally, it is further intended that comprehensive handbooks and design manuals for BMPs shall be utilized and relied upon for guidance. Recommended sources of information are as follows:


H. Erosion and Sediment Pollution Control Requirements

All subdivision and land development plans which propose earthmoving activity shall include erosion and sediment pollution control design to satisfy the requirements of Chapter 102 Pennsylvania Department of Environmental Protection 25 PA Code Chapter 92 and/or 102 and the PA Clean Streams Law (35 P.S., Sect. 691.1 et seq.) and to prevent soil erosion, sediment and other pollutants from entering streams, lakes and neighboring properties. In order to demonstrate and maintain compliance with erosion and sediment pollution control requirements, subdividers and land developers shall:

1. Prior to earthmoving or subdivision/land development plan approval, obtain Erosion and Sediment Pollution Control design approval from the Lebanon County Conservation District.

2. Obtain applicable NPDES approvals or permits through the Lebanon County Conservation District and the Pennsylvania D.E.P.

3. Install required erosion and sediment pollution control facilities prior to the start of construction and maintain said facilities during the construction period.

4. Preserve and protect natural vegetation where possible.

5. Adhere to approved erosion and sediment pollution control design requirements and NPDES standards.

6. Inspect weekly and after each runoff event and maintain all erosion and sediment pollution control facilities to insure their effectiveness. Accumulated sediment shall be promptly removed and disturbed areas shall be reseeded or stabilized.


8. Include standard erosion and sediment control notes on all plans, as per the list within the Appendix.

9. Be subject to penalties for noncompliance, in accordance with Chapter 8 provisions.

I. Storm Water Management Site Plan Requirements

1. General Requirements

A storm water management site plan is a required component of every subdivision or land development plan for activities regulated by this ordinance, unless plan submission or design exemption is received in accordance with Sections 5.07I.2. and 5.07I.3.

2. Plan Exemptions

Any regulated activity that meets the exemption criteria listed herein is exempt from the plan preparation and processing requirements of this Ordinance. This criteria shall apply to the total parent tract property and development, even if development is to take
place in phases. Parent tracts shall be properties as existing on the effective date of this Ordinance, unless specified otherwise, and shall provide the basis for individual or cumulative impervious area computations. Exemptions relieve the property owner from plan submission, but not from providing adequate storm water management and erosion and sedimentation pollution control to meet the purpose of this Ordinance and protect adjoining properties.

Plan exemptions include the following:

a. Lot additions, land exchanges, subdivision of existing buildings and other minor subdivision activity which does not involve any new building lots.

b. Agricultural activities such as growing crops, plowing fields, gardening, etc.

c. Building expansion, impervious area enlargement, and development of existing lots, provided that no subdivision of new lots or land development for new principal uses is involved and the following criteria are satisfied:

<table>
<thead>
<tr>
<th>Total Parcel Size*</th>
<th>Minimum Impervious Exemption ** ***</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; ½ Acre</td>
<td>10 Feet 2,500 Sq. Ft.</td>
</tr>
<tr>
<td>½ - 1 Acre</td>
<td>20 Feet 5,000 Sq. Ft.</td>
</tr>
<tr>
<td>1.01 – 2 Acres</td>
<td>40 Feet 10,000 Sq. Ft.</td>
</tr>
<tr>
<td>2.01 – 5 Acres</td>
<td>50 Feet 15,000 Sq. Ft.</td>
</tr>
<tr>
<td>&gt;5 Acres</td>
<td>100 Feet 20,000 Sq. Ft.</td>
</tr>
</tbody>
</table>

* Parent tract or original parcel size, prior to any subdivision, as of this Ordinance date.

** Minimum distance between proposed impervious areas and the downslope property line(s).

*** Individual or cumulative total impervious area, after the effective date of this Ordinance.

Any lot which has been exempted from submission of a storm water management site plan, in accordance with the guidelines listed herein, and is subsequently found to be developed contrary to the plan exemption criteria shall be subject to mandatory submission of the required plan. Failure to satisfy these requirements is a violation of this Ordinance, punishable as provided by Section 8.06 of this Ordinance.

3. Design Exemptions

Single family residential lots may be exempted from the mandatory design and installation of certain storm water management facilities when the lot improvements (house, driveway, regrading, etc.) on the proposed subdivision plan document to the satisfaction of the Planning Department and the County Engineer that the lot improvements will not result in detrimental storm water discharges within the lot(s) or upon adjoining lands, roads, waterways or other areas. Exemption may be granted by the Planning Department provided all of the following criteria are satisfied:
a. The subdivision plan shall meet all of the criteria for a minor subdivision; and

b. The minimum lot area shall be two (2) acres; and

c. The slope of the lot shall not exceed 4% in the lot improvement area and slopes in excess of 8% shall not exist within fifty feet (50') of the lot improvement area; and

d. Streams, waterways and ecologically sensitive areas shall not exist within one hundred feet (100') of the lot improvement area; and

e. The proposed lot improvements shall be a minimum of fifty feet (50') from side and rear lot lines, unless site conditions or other requirements necessitate greater setback; and

f. The maximum impervious area shall be 15,000 square feet; and

g. Plan notes shall document that the soils within the lot improvement area are in the hydrologic soil group A, B or C, as published in the current edition of TR-55, Urban Hydrology for Small Watersheds and listed within the Appendix; and

h. Storm water discharges shall not endanger or potentially damage the lot improvements, adjoining lands, roads or otherwise pose a threat to the health, safety or welfare of the public; and

i. No unique or adverse lot conditions shall exist which warrant refusal of the exemption request; and

j. The exemption request shall be submitted in writing with the subdivision application and shall address all the criteria cited herein; and

k. Subdivision application shall be accompanied by standard application and inspection fees to assure evaluation of lot(s) for compliance with the exemption criteria at the design, construction and inspection stages; and

l. Subdivision plans containing any lots which have received storm water management design and installation exemptions in accordance with these provisions shall contain a prominent plan note explaining the exemption and the lot development restrictions applicable thereto; and

m. Any lot receiving a storm water management installation exemption and subsequently found to be developed, or under development, contrary to these exemption provisions or otherwise evidencing a storm water runoff problem shall forthwith be subject to the following:

   i. Corrective action shall be taken in the lot development to eliminate the noncompliance.

   ii. Submission of a revised subdivision or land development plan shall be required, depicting necessary storm water management facilities, in accordance with standard plan processing procedures.
iii. Lot owner(s), developers(s) or other responsible person(s) who fail to take corrective lot development action or fail to submit a required revised plan shall be guilty of a violation of this Ordinance, punishable as provided by Section 8.06 of this Ordinance.

4. Contents

The storm water management site plan shall contain all required plans, maps, calculations, documentation and supportive information necessary to satisfy the requirements of this Ordinance. Storm water management plans and hydrologic reports shall be prepared and certified by licensed professionals registered in Pennsylvania and qualified to perform such duties, based on education, training and experience. Plans shall contain the following:

a. A general description of the proposed project.

b. All plan information required by Sections 4.02 through 4.04, as applicable, for preliminary or final plans.

c. Existing and proposed contours at required intervals, as per Section 4.02.C.

d. Existing and proposed land uses, buildings, structures, roads, paved areas and any changes to the land surface or vegetative cover.

e. Project location on a 7.5 minutes U.S.G.S. map or equivalent.

f. A storm water management report containing:

   i. An introduction which summarizes the development proposal, methodology of calculations, and the main components of the proposal storm water management design.

   ii. Storm water runoff calculations as specified in this Ordinance, including complete hydraulic and structural computations for all storm water management facilities, ground water recharge areas and water quality designs.

   iii. Where multiple storm water management facilities (including water recharge and water quality) are used, an explanation of how these facilities will interrelate is required.

   iv. Pre and post development watershed subareas with time of concentration path delineations.

   v. In carbonate geology areas, a geologic assessment of the impact of the proposed project and associated site improvements and any precautionary or remedial actions recommended.

   g. Design and specifications for all storm water management facilities, ground water recharge areas, water quality features and erosion and sedimentation facilities.
h. Horizontal and vertical profiles of all pipes, swales, open channels and storm water management facilities, showing existing and proposed grades.

i. Evaluation of the project's affect on upstream and downstream adjoining properties.

j. Adequate drainage easements around all storm water management facilities, with a twenty (20) foot minimum width required. All easements require a metes and bounds description for final plan approval.

k. Ownership and maintenance provisions.

l. All designs, calculations and illustrations necessary to demonstrate compliance with the design standards specified within this Ordinance, as determined by the County Engineer.

5. Review

Review of storm water management site plans shall be the responsibility of the County Engineer. Submissions shall supplement standard subdivision and land development plan copies and include at a minimum:

1. Two (2) copies of all plans, reports and calculations for all submissions, re-submissions, revisions or modifications.

2. Two (2) copies of all state, federal or municipal permits required as an approval prerequisite.

Changes to the approved plan shall be authorized only with the written approval of the County Engineer.

Prior to formal plan approval, plans containing storm water management design shall require the approval signature of the County Engineer.

J. Inspections

1. The County Engineer shall be responsible for inspection of all phases of the installation of storm water management facilities, as necessary to determine compliance with approved plans and this Ordinance.

2. The subdivider, land developer or their site construction representative shall provide notice of inspection requests to focus inspections in the area or phase of the development where storm water facilities have been completed.

3. The County Engineer, the County Conservation District office representatives, and duly authorized representatives of the County of Lebanon may enter at reasonable times upon any property within Lebanon County to inspect storm water facilities, structures and related site improvements for compliance with this Ordinance.

4. Construction of storm water management, erosion control and related facilities shall be in accordance with the approved subdivision and land development plans and the
requirements of this Ordinance. Construction or development contrary to, or not in compliance with, the storm water management design on the approved subdivision or land development plan shall be a violation of this Ordinance, punishable as provided by Section 8.06 of this Ordinance.

5. After subdivision and land development has been completed and the site developed, the County Engineer may inspect the site periodically to confirm operation and maintenance of the storm water facilities in accordance with the approved plan and this Ordinance.

6. The cost of inspections shall be paid by the subdivider or land developer, in accordance with a fee schedule adopted as part of this Ordinance or by fee resolution thereafter.

K. Ownership and Maintenance

Each storm water management site plan shall contain provisions which clearly set forth the ownership and maintenance responsibility for all storm water management facilities, erosion and sediment control facilities, ground water recharge areas and water quality improvements. Ownership and maintenance requirements include:

1. A description of responsibilities for maintenance of temporary and permanent facilities.

2. Identification of the responsible individual, corporation, association, organization or municipality for ownership and maintenance.

3. Establishment of adequate drainage easements around all facilities, including metes and bounds descriptions of the easements. Deeds shall contain a specific reference to the drainage easement and recite the property owner's responsibilities thereto.

4. Standard plan notes to summarize ownership and maintenance responsibilities, access rights, municipal enforcement alternatives and other binding plan conditions. Standard plan notes are included within the Ordinance Appendix.

5. No detention basins, retention basins or other storm water management facilities other than pipes and swales shall be divided by a property or lot line.

6. Storm water management facilities, including those for ground water recharge and water quality control and further including pipes, swales and other water conveyances, shall not be modified, removed, filled, landscaped or otherwise altered without approval of the required subdivision or land development plan and/or approval by the County Engineer.

7. Storm water management facilities shall be owned and maintained in accordance with the approved subdivision and land development plan and the requirements of this Ordinance. The party responsible for maintenance of the storm water management facilities shall, in addition to routine maintenance, repair or replace any damaged facilities or areas, including any sinkholes that may occur, to the condition shown on the approved subdivision or land development plan and to conform to the minimum standards and requirements of this Ordinance.

If a landowner or other responsible party fails to properly construct or maintain the storm water management facilities, County or Municipal Officials, or agents thereof, may
enter upon the property to construct and/or maintain the storm water management facilities, with the cost to be assessed to the landowners. In the event the County or Municipality performs construction or maintenance work on account of the landowner's failure to perform such work, the landowner shall reimburse the County or Municipality, upon demand, within thirty (30) days of receipt of invoice thereof, for all costs incurred by the County or Municipality. If not paid within thirty (30) days, the County or Municipality may enter a lien against the property or take other legal action to recover the costs.

8. The intent of these regulations is to provide for private ownership and maintenance of storm water management and erosion and sediment control facilities. Where the Storm Water Management Plan proposes Municipal Ownership and/or maintenance, a description of the methods, procedures, and the extent to which any facilities shall be turned over to the local municipality, including a written approval of responsibilities as proposed, shall be incorporated as an integral part of the plan. Where a Homeowner's Association or other private entity is proposed for ownership and/or maintenance, a recorded Declaration of Covenants shall be required to document maintenance responsibilities and an escrow account may be required to insure maintenance is completed.

9. All BMPs require periodic maintenance to insure their continued effective performance. Maintenance includes regular inspections by the party responsible for maintenance, and corrective action to repair or replace system components when necessary. Maintenance requirements should be included with the BMP design. Guidelines for BMP maintenance are as follows:

   a. Inspect the BMP facilities a minimum of quarterly (four times per year) and after all major storm events.

   b. Remove trash and debris from the BMPs to prevent interference with the BMP design function and performance.

   c. Remove silt and accumulated sedimentation regularly to avoid clogging of facilities.

   d. Mow the vegetation in accordance with the design height and mowing schedule.

   e. Monitor plant and vegetation vigor.

   f. Stabilize any eroded areas immediately.

   g. Dethatch grass or aerate soil where infiltration rates have diminished.

   h. Perform routine maintenance on the outlet structures and other mechanical components of BMPs.

   i. Conduct maintenance required by the County Engineer or the Planning Department in accordance with this Ordinance.
10. Periodic inspection of storm water management facilities will be necessary to confirm effective maintenance and operation of these facilities. It is expected that long term inspection efforts by the County Engineer will be an essential part of insuring water quality and quantity control within Lebanon County watersheds, especially where larger scale developments and storm water management facilities are installed. Where repeated inspections are necessary because of maintenance and operation neglect by the landowner, inspection costs may be assessed to the landowner until the deficiencies are corrected.

SECTION 5.08 SEWAGE DISPOSAL

Sewage disposal facilities shall be designed and constructed to meet the needs of the proposed subdivision or land development. Sewage disposal facilities shall also meet all requirements of the Pennsylvania Department of Environmental Protection, the Municipal Act 537 Sewage Plan and the municipality wherein the subdivision or land development is located. The following requirements specify the design and installation standards for subsurface sewage disposal and public and private sewerage systems.

A. Subsurface Sewage Disposal – All subdivisions and land developments proposing subsurface sewage disposal shall be designed and submitted in compliance with the prevailing requirements of the Pennsylvania Sewage Facilities Act, D.E.P. and, where applicable, the Delegated Local Agency. It is the intent of this section to co-ordinate a simultaneous review of subdivision and land development plans with sewage planning modules at the municipal level, thereby avoiding the approval of lots that are not suitable for sewage disposal. Where required by Municipal Sewage Plans, on-site sewage testing shall be supplemented with a Hydrogeologic Study which may dictate increased lot sizes or reservation of ground water easement areas. In accordance with those standards, application for subdivision or land development approval shall satisfy the following procedural requirements:

1. **Minor Subdivision** – The subdivider shall submit the sewage planning module and required associated information to the sewage enforcement officer at the time of final plat application. The subdivision or land development plan shall not be processed until documentation is provided to verify that the sewage enforcement officer has received the sewage planning module. All newly created lots, whether for immediate or future use, shall be tested and approved for sewage suitability.

2. **Major Subdivision** – The subdivider shall submit a preliminary plan depicting general lot layout and street design, as required elsewhere herein. The subdivider shall submit the required sewage planning module and associated information to the sewage enforcement officer at the time of preliminary plan application. The subdivision or land development plan shall not be processed until documentation is provided to verify that the sewage enforcement officer has received the sewage planning module.

B. **Existing Public Sewers** – When a subdivision or land development has public sewers available on-site or within one thousand (1,000) feet of the site, sewer lines shall be included on the subdivision or land development plan and installation must be approved by the municipal authority responsible for the sewer system. Written documentation is required from the Authority to verify adequate capacity, agreement to provide service, and specific design approval.
C. **Planned Sewer Area** – When a proposed subdivision or land development is located in an area not presently served by public sewers, but which has received design data preparatory to sewer system installation within eighteen (18) months, then the municipality shall determine the necessity of installing house connections and/or capped mains, even though on-site facilities will be required in the interim. Installation of house connections and capped mains shall be in accordance with municipal design data and approved by the municipal engineer prior to approval of a preliminary or final plan.

D. **Private Sewerage System** – When a subdivision or land development is to be provided with a private sewerage system, a statement shall be submitted to the Planning Department from the Pennsylvania Department of Environmental Protection verifying that a permit has been issued and approved the proposed facilities. Additionally, the municipality must be satisfied that adequate provisions have been made to guarantee the construction and maintenance of the proposed private sewerage system.

E. **Plan Notice**

   1. **Subsurface Sewage Disposal** – All subdivision and land development plans shall contain a plan note specifying that approval of the plan does not guarantee permit issuance for sewage disposal.

   2. **Public Sewers** – All subdivision and land development plans shall contain a plan note specifying that connection to public sewer lines is required.

**SECTION 5.09 WATER SUPPLY**

A water supply system shall be designed and constructed by the subdivider or developer as required by the municipality, water company, or water authority in relation to the specific site of the proposed subdivision or land development. The water supply system shall be capable of meeting the domestic and fire protection needs of the site. When possible, the subdivision or land development should be served by a public water supply system approved by municipal water officials or a community water system approved by the Pennsylvania Department of Environmental Protection. If the subdivision or land development is to be supplied by a public or community water system, the subdivider or developer shall submit a written certification, commitment or evidence that the municipal water company or authority or the association of lot owners or private company, as applicable, has adequate water capacity, has agreed to provide water service and has approved the specific water system design.

When a subdivision or land development has public water on-site or within five hundred (500) feet of the site, public water lines shall be extended as necessary to service the lots and uses on the subdivision and land development plan, subject to approval by the municipal authority responsible for the water system. In those cases where a public or community water system is not available or practical, a well shall be provided for each lot. Wells shall be placed uphill from sewage disposal systems. Wells shall not be within one hundred feet (100') of any part of the absorption field of any on-site sewage disposal system and they shall not be placed within fifty feet (50') of lakes, streams, ponds, quarries, etc.

Subdivision or land development proposals which involve the daily use of 10,000 gallons or more of well or surface water shall be accompanied by a Hydrologic Study to document the adequacy of the water supply without endangering water availability for adjoining landowners. Review and, where applicable, approval may be required from D.E.P. and the Delaware or Susquehanna River Basin Commission, as applicable.
Subdivision and land development plans shall contain a plan note specifying the source of water supply. Plans proposing the use of public or community water shall contain a note specifying that connection to the public or community water lines, as applicable, is required. Plans proposing the use of individual wells shall contain a note specifying that the lot(s) has not been tested for the availability of water of adequate quality or quantity and no guarantee of water availability is provided.

SECTION 5.10 STREETS

In addition to relating to topography, natural features and solar orientation, streets shall be designed according to the function served, the use of abutting land, and standards of width, intersections, maximum grades and curvatures. The Planning Department shall require that all developments have adequate access. Where major subdivision is proposed or may occur because of the patterns started by minor subdivision activity, the Planning Department should require reservation for, or installation of, two or more streets to insure safe and convenient access. Elimination or vacation of previously approved streets shall be approved only when the Planning Department determines that 1) alternate access has been provided in another, more suitable location, 2) further development is not possible utilizing the street, and 3) any land owners who purchased property with reliance upon the street agree in writing to its elimination.

The developer shall design and construct streets, including pavements, shoulders, gutters, curbs, etc., as required by municipal ordinance. Where specific municipal regulations do not exist, the following requirements shall apply.

A. Classification and General Design Goals

1. **Major Streets** - function primarily for the movement of fast traffic between points of heavy traffic generation. They are often known as arterial streets or highways. They shall be planned for continuation of existing streets in the system at the same or greater width in accordance with adopted municipal standards. Major streets shall contain as few intersections as possible.

2. **Collector Streets** – function to collect traffic from local streets and distribute it into major streets, and, as such, they will normally contain a relatively large number of intersections with local streets and few with main streets. A collector street system may be required wherever a residential neighborhood near a major street is over 150 acres in area or where the local street pattern is so designed as to converge and serve over 500 one-family dwellings, or 100 multi-family units. Collector streets shall be planned for continuity and to lead more or less directly to one or more focal points or centers of traffic generation, and may become bus routes.

3. **Local Streets** – provide direct access to each lot and function to allow traffic to circulate toward the principal directions of travel, bus routes, schools and playgrounds; however, the design shall discourage through and high speed traffic. The street pattern shall be indirect and yet continuous to prevent through traffic, formed of straight, moderately winding, curved, looped or angular streets. Tee-intersections shall predominate and cross-intersections shall be minimized. There shall be an underlying systematic neighborhood pattern; however, gridiron and other rigid geometrical patterns should be avoided where possible. The street pattern shall include extensions to the boundaries of the development to provide circulation between adjoining neighborhoods.
### B. Minimum Street Standards

<table>
<thead>
<tr>
<th>Street Classification</th>
<th>Right-of-Way Width</th>
<th>Streets w/o Curbs</th>
<th>Paved Cartway Width</th>
<th>Improved Shoulder Width (each)</th>
<th>Street Width w/ Curbs</th>
<th>Grade (Vertical Alignment)</th>
<th>Curvature (Horizontal Alignment)</th>
<th>Reverse Curve Tangent</th>
<th>Sight Distance</th>
<th>Other Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Streets</td>
<td>80'</td>
<td>44'</td>
<td>10'</td>
<td>48'</td>
<td>6%</td>
<td>500'</td>
<td>200'</td>
<td>400'</td>
<td></td>
<td>Subject width subject to PennDOT requirements.</td>
</tr>
<tr>
<td>Collector Streets</td>
<td>60'</td>
<td>34'</td>
<td>8'</td>
<td>34'</td>
<td>8%</td>
<td>300'</td>
<td>100'</td>
<td>200'</td>
<td></td>
<td>Pavement width shall be increased where on-street parking is planned or lots average 80' or less in width.</td>
</tr>
<tr>
<td>Local Streets</td>
<td>50'</td>
<td>26'</td>
<td>4'</td>
<td>30'</td>
<td>10%</td>
<td>150'</td>
<td>50'</td>
<td>125'</td>
<td></td>
<td>Maximum length of 600'. Serve a maximum 12 single family detached residential lots/units, 24 duplex lots/units or 30 townhouse/ multi-family lots or units</td>
</tr>
<tr>
<td>Cul-de-Sac Streets</td>
<td>50' (90' at turnaround)</td>
<td>20'</td>
<td>4'</td>
<td>26'</td>
<td>10%</td>
<td>150'</td>
<td>50'</td>
<td>100'</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>50' (80' at turnaround)</td>
<td>4'</td>
<td>26' (5% at turnaround)</td>
<td>10%</td>
<td>150'</td>
<td>50'</td>
<td>100'</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. **Cul-de-sac Streets** – provide direct access to properties from other streets. Ordinarily, a cul-de-sac is a short street with only one outlet and having an appropriate terminal for safe and convenient reversal traffic movement. Drainage should be towards the open end. If drainage is toward the closed end it shall be conducted away in an underground storm sewer. Other design alternatives such as through or looped streets shall be used where possible.

**B. Minimum Street Standards** – See Chart on next page.

**C. Supplementary Street Standards** – In addition to the specific standards cited in Section B, the following street standards shall apply to design and construction of streets:

1. **Intersections**
   a. Streets shall be designed to intersect at right angles (90 degrees) and should be at right angles for at least 100 feet from the point of cartway intersection.
   b. No more than two (2) streets shall intersect at any one point.
   c. Proposed new intersections along one side of an existing street shall coincide with any existing intersections on the opposite side of the street. Where intersections cannot practically be connected, a minimum of 150 feet shall separate the center lines of offset local streets, and 400 feet minimum shall be provided for collector and major streets.
   d. Street curb intersections shall be rounded with a minimum radius of twenty (20) feet for local streets and thirty (30) feet for collector or major streets. The radius point shall be concentric with that for the property lines.
   e. Intersections shall be designed with a flat grade. In hilly or rolling topography, a leveling area shall be provided for seventy-five (75) feet preceding the intersection, measured from the edge of cartway of the intersecting street. The leveling area shall have a maximum grade of four percent (4%) for local and cul-de-sac streets and a maximum grade of two percent (2%) for collector and major streets.
   f. Clear sight triangles of seventy-five (75) feet measured along the center line from the point of intersection, shall be provided and maintained at all intersections.

2. **Street Names** – shall not duplicate others nearby, and shall be subject to the approval of the municipality. Street signs shall be erected to identify all streets.

3. **Street Expansion** – where a subdivision adjoins unsubdivided land or future development phases sufficient streets shall be planned to extend to the boundary lines so that all parcels may be subdivided and a coordinated street system obtained. Traffic circulation shall be assured by installation of a temporary, stoned cul-de-sac for short term use (less than 2 years) or paved cul-de-sac for longer use until a through street is completed.

4. **Streets for Multi-family Development** – shall be planned to connect with major or collector streets to avoid generating large volumes of traffic on local residential streets.

5. **Reserve Strips** – the creation of reserve strips shall not be permitted adjacent to a proposed street in such a manner as to deny access from adjacent property to such street.
6. **Right-of-way Widths** – land for the right-of-way for the opening or extension of any street within a subdivision shall be dedicated by the developer. Where a property abuts a street which does not conform to the right-of-way width required by this Ordinance or other ordinances of the municipality, the additional width necessary to meet current standards shall be dedicated when such land is subdivided.

7. **Vertical Curves** – The minimum length of crest and sag vertical curves shall be determined by multiplying the following “K” value by the percent change in grade for the curve (expressed as a whole number):

<table>
<thead>
<tr>
<th>Design Speed (in miles per hour)</th>
<th>“K” Crest Vertical Curves</th>
<th>“K” Sag Vertical Curves</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>10</td>
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<td>25</td>
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<td>70</td>
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<tr>
<td>45</td>
<td>100</td>
<td>90</td>
</tr>
<tr>
<td>50</td>
<td>150</td>
<td>110</td>
</tr>
<tr>
<td>55</td>
<td>220</td>
<td>130</td>
</tr>
</tbody>
</table>

Regardless of the vertical curve calculation, no street vertical curves shall be less than seventy-five (75) feet in length.

8. **Auxiliary Street Improvements** – In addition to the required pavement and shoulder widths, streets shall be designed and constructed with curbs, street lights, gutters, culverts, catch basins, sidewalks, traffic control signs and other improvements required by municipal ordinance or determined by the Planning Department to be necessary for a proposed subdivision or land development. Specific improvement guidelines are:

   a. **Curbs** – Vertical, slant and rolled curbs are all permissible designs, where permitted by municipal regulation, functionally co-ordinated with the overall development design, and constructed in accordance with the following:

      i. Curbing shall be plain cement concrete, with a minimum strength of 3500 PSI, placed on a four (4) inch deep base of AASHTO # 57 (2B) stone.

      ii. Curbing shall be saw cut every ten (10) feet and expansion joints installed every fifty (50) feet.

      iii. Curbing shall be free of stress cracks and other deformities.

   b. **Sidewalks** – Sidewalks of a minimum four (4) feet in width shall be required in accordance with municipal regulations and for townhouse or multi-family developments, within residential subdivisions containing public sewer or lots of 12,000 square feet or less, to connect to adjacent or nearby sidewalk systems or when determined by the Planning Department to be necessary for the safety and convenience of the projected pedestrians. Sidewalk specifications are:
i. Sidewalks shall be plain cement concrete four (4) inches thick, with a minimum strength of 3500 PSI, placed on a four (4) inch deep base of AASHTO # 57 (2B) stone.

ii. Expansion joints shall be provided at intervals of twenty (20) feet minimum.

iii. Sidewalks shall have a one-quarter (1/4) inch per foot sloped towards the curb and street.

iv. In residential developments, when a grass (beauty) strip is provided, it shall be a minimum three (3) feet in width and shall be located between the curb line and the sidewalk.

c. Traffic Control Signs – Signage within all subdivisions and land developments shall be designed and installed by the developer in accordance with PA Dot and municipal regulations. Adequate vertical and horizontal area shall be reserved for sign placement at intersections.

d. Street Lights – Street lights shall be designed and installed to illuminate all major subdivisions and land developments, unless waiver is obtained for low density developments or similar subdivisions. Street lights shall be placed at all street intersections and accesses to land developments, within parking lots and along streets at intervals of 250 feet or less, in accordance with an illumination plan approved by the electric service provider.

D. Unimproved Streets or Rights-of-Way – Subdivision on unimproved (unpaved) streets or access rights-of-way is discouraged. However, in municipalities without prohibitive regulations, one lot may access via an unimproved right-of-way provided that the right-of-way is a minimum of 50’ in width and so located and designed that a street could be installed in the event of future subdivision activity.

E. Private Streets – Private streets are to be discouraged. They will be approved only if they are designed and constructed to meet public street standards and maintenance is guaranteed in perpetuity via a bonafide homeowner’s association (or similar organization) agreement and appropriate financial security for repair and maintenance.

Subdivision of new lots for immediate or future development is not permitted along private lanes, alleys or streets which have not been designed, constructed and approved in accordance with these standards and those of this Ordinance.

F. Street Construction Standards – Streets and rights-of-way shall be improved to meet township and borough standards. The requirements contained herein are provided as design standards and shall be used as improvement specifications in municipalities where no municipal standards exist or to supplement standards of the municipalities. It shall be the developer’s responsibility to satisfy all applicable municipal construction requirements and design standards, or in lieu thereof, deposit a security in compliance with Section 5.14 of this Ordinance and established municipal policies. All public and private streets shall meet the following standards for design and construction:

1. Excavation

   a. All topsoil shall be removed from the area from the area to be paved.
2. Embankment

a. Placement of embankment shall be in layers not exceeding eight (8) inches, prior to compaction.

b. Embankment material shall consist of all excavation on the project, except such materials as may be determined to be unsuitable under Penn Dot Publication 408, current edition, and when required will include borrow excavation.

3. Subgrade

a. All required underground utilities and storm drainage shall be installed within the cartway area prior to preparation of the subgrade. Trench backfilling shall be completed in layers no greater than eight (8) inches.

b. Adequate surface and subsurface drainage shall be provided, including underdrains for springs or spongy areas.

c. All large rocks, boulders or ledges shall be broken off six (6) inches below the improved subgrade surface.

d. Completed subgrade shall be maintained and protected in advance of the succeeding operation.

e. Disturbed areas shall be moistened as necessary to minimize dust.

4. Subbase

a. No subbase shall be placed on wet, frozen, or unsuitable material. Unsuitable material such as sod, stumps, tree roots, spongy soil and excess rock shall be removed and replaced. Disturbed areas shall be reshaped and recompacted. Where deemed necessary by the County Engineer, a geotextile material may be required before placement of the subbase.

b. The subbase shall be a stone aggregate material consisting of six (6) inches of compacted 2A or 3A modified stone under the paved surface of the cartway. A minimum of four (4) inches of the same aggregate shall be installed on the shoulder of the road, extending at least four (4) feet on each side of the cartway.

c. The stone aggregate subbase shall be compacted to the required depth with a vibrating tamper or vibrating roller.

5. Base Course

a. The base course shall be applied as soon as possible after subbase preparation to avoid damage to the subbase.

b. The base course shall be a bituminous treated aggregate consisting of a minimum of three (3) inches compacted ID-2 Binder Course (BCBC), in accordance with Penn Dot Manual Form 408 specifications.
6. **Wearing Course**

   a. A bituminous tack coat is required between the base course and wearing course.
   
   b. Paving notches shall conform to Penn Dot RC-28 standards.
   
   c. The wearing course shall be a bituminous mix with fine aggregates consisting of a minimum of one and one-half (1 ½) inches compacted ID-2 Wearing Course, in accordance with Penn Dot Manual Form 408 specifications.
   
   d. All paving seems, including at curbs, inlets and manholes, shall be sealed using AC-20 or equivalent.

7. **Shoulders**

   Shoulders shall be provided where curbing is not utilized. Shoulders shall be a minimum of four (4) feet in width and conform to Penn Dot Type 6 shoulders, as per Penn Dot RC-25.

8. **Inspections**

   Inspections shall be requested from the County Engineer and applicable Municipal Officials after the completion of each of the following phrases of street construction:

   a. Preparation of the subgrade.
   
   b. Placement and compaction of the subbase.
   
   c. Installation of the base course.
   
   d. Completion of the wearing course.

G. **State Approval of Streets and Access** – to insure that street designs comply with all applicable standards, the Planning Department may submit any preliminary and final subdivision or land development plans to the Pennsylvania Department of Transportation for review and comment.

Subdivision and land development plans which will require access to a state highway under the jurisdiction of the Pennsylvania Department of Transportation (PADOT) shall contain a plan note specifying that a highway occupancy permit is required from PADOT before driveway access to the state highway is permitted. The plan note shall also specify that plan approval does not guarantee that a PADOT permit will be issued.

H. **Traffic Impact Studies** – A Traffic Impact Study shall be required in conjunction with each subdivision or land development plan which meets the following criteria:

1. Residential subdivision or development of more than one hundred (100) lots or dwelling units; or

2. Non-Residential development which proposes more than one hundred (100) employees; or

3. Non-Residential development requiring more than one hundred (100) parking spaces; or

4. Non-Residential development which proposes more than twenty-five (25) truck trips per day; or
5. Any other subdivision or land development where the Planning Department determines that the magnitude of the project, or existing traffic problems in the vicinity of the project, warrant a Traffic Impact Study; or

6. Any other subdivision or land development which is required to submit a Traffic Impact Study as a result of Pa Dot or Municipal Regulations.

Traffic Impact Studies shall be prepared in accordance with PA Dot Standards and the Institute of Transportation Engineer’s Trip Generation Manual. Studies shall include:

1. Certification of preparation by a qualified Transportation Engineer.

2. A general description of the study area and project, including vehicle trip generation and distribution. Also, provide an examination of the existing and proposed transportation network within ½ mile of the project.

3. An analysis of the existing and future traffic conditions, with and without development, for a ten (10) year period, including study of the A.M. and P.M. peak traffic periods. Analysis shall examine safety and capacity aspects of the highway network.

4. Study conclusions shall be itemized and levels of service must be listed for all street segments and intersections.

5. Recommendations for site access and transportation improvements necessary to maintain safe and uncongested traffic flows in the vicinity of the project.

Where levels of service “D” or lower are projected, or other traffic improvements are recommended, the subdivider or land developer shall be responsible for the improvements necessary to satisfy the recommendations and assure a level of service of “C” or higher.

SECTION 5.11 MONUMENTS

Sufficient monuments shall be set to ensure that reliable survey points are available for all parts of the subdivision. At least one (1) monument shall be placed for every two (2) lots or every two hundred (200) feet of streets, whichever requirement is less. The monument shall consist of either a cast iron box inside of which shall be placed a ¾ inch steel pin three (3) feet in length, with the top of the pin set to serve as the survey point, or 4” square x 30” in length concrete containing an iron bar for strength and drill hole for line, set level with finished grade. All lot corners and changes in direction shall be identified by steel pins.

The top of the monument box shall be set at the finished grade upon completion of the grading of the street.

SECTION 5.12 UTILITIES AND OTHER IMPROVEMENTS

All subdivisions shall be designed and serviced with adequate utilities, including electricity and telephone service. The developer shall be responsible to cooperate with the utility companies to insure installation of the necessary utilities. All utilities shall be underground, except where developments of five (5) lots or less are exempted by the Pennsylvania Public Utility Commission.
Where required, the developer shall obtain a letter from the utility company confirming that service may be extended to the development.

When required by the municipality, the developer shall provide a street lighting duct system, in accordance with the specifications of the appropriate public utility.

In areas where public water lines are available, fire hydrants shall be installed by the developer. Fire hydrants shall be located no more than 1000 feet apart and within 500 feet of any dwelling or inhabited structure. The nearest fire protection unit may be contacted for input regarding the design and placement of a fire hydrant network.

SECTION 5.13 REQUIRED IMPROVEMENTS

The land improvements required to be completed by the developer of a subdivision or land development, as set forth in this Chapter, shall be designed and installed in accordance with this Ordinance and other codes of the municipality. The improvements shall be of such size and capacities as are required for the development of the proposed subdivision and of extra sizes as may be necessary to serve nearby land which is an integral part of the neighborhood service or drainage areas.

The developer shall be required to extend the improvements to serve adjoining unsubdivided land. If streets or utilities are not available at the boundary of a proposed subdivision, the Planning Department may require the developer to construct off-site extensions of the improvements. Procedures for providing any necessary extra-size and off-site improvements and general standards for pro-rating costs shall be coordinated with the municipality and shall be in accordance with the following:

A. Extra-Size Improvements – The developer shall be required to pay for a part of the materials or construction of streets, sewers or water lines which are determined by the Planning Department and the municipality according to the standards set forth in this Chapter to be in excess of the size required for the development of the subdivision and the integral neighborhood, service, or drainage area.

If a storm sewer in excess of 18 inches, or a sanitary sewer in excess of 8 inches or a water main in excess of 6 inches is required, but each less in size than the sewer trunk lines or water mains which are to be constructed and financed on a regional basis, the municipality shall construct the extra size utility and require a deposit in advance from the developer for the cost of the utility he is required to install and his portion of other costs which the municipality may assess against the benefited property owners of the service or drainage area.

B. Extensions to Boundaries – The developer shall be required to extend the improvements to the boundary of the proposed subdivision to serve adjoining unsubdivided land; however, where the Department and/or the municipality determines that a connecting street is necessary for the future subdividing of adjoining land, but the present construction of pavement and/or utilities therein are not warranted, the Department and/or municipality may require the dedication of land, the pavement intersections constructed, utilities extended at least three (3) feet beyond the pavement, and connections provided and made available for future extensions by other developers.
C. **Off-Site Extensions** – If streets or utilities are not available at the boundary of a proposed subdivision, the Planning Department and/or municipality may require as a precedence to approval of a preliminary or final plan, assurances that such improvement extensions shall be provided as follows:

1. If the Planning Department and/or municipality find the extensions across undeveloped areas would not be warranted as a special assessment to the intervening properties or a municipal expense until some future time, the developer may be required, if he wishes to proceed with the development, to obtain necessary easements or rights-of-way and construct and pay for extensions. Such improvements shall be available for connections by developers of adjoining land, or

2. The municipality may construct and pay for the extensions and assess the costs to the owners benefited and require a deposit from the developer as described in subsection (A) herein. The municipality may establish a rotary fund to pay for such development costs and not collect the assessments on the intervening land until it is developed.

D. **Prorating Costs** – In making determinations for prorating costs for the construction of off-site extensions or extra-size improvements, the Planning Department and the municipality shall consider in addition to the standards set forth in this Chapter and other regulations of the municipality the following conditions:

1. The relative location and size of the proposed subdivision,

2. The traffic estimated to be generated by the development in relation to present streets,

3. The natural drainage area for sewers and the service area for water,

4. The development benefits that will accrue to the subdivision,

5. The sequence of land and utility developments in the vicinity, and

6. Any other condition it may find pertinent.

**SECTION 5.14 COMPLETION OF IMPROVEMENTS OR GUARANTEE THEREOF PREREQUISITE TO FINAL PLAN APPROVAL**

A. **Performance Guarantee in Lieu of Installation** – No plat shall be finally approved unless the streets shown on such plan have been improved to a mud-free or otherwise permanently passable condition, or improved as may be required by the subdivision and land development ordinance and any walkways, curbs, gutters, streets, street lights, fire hydrants, shade trees, water mains, sanitary sewers, storm sewers, storm water management facilities, required plantings, and other improvements as may be required by the subdivision and land development ordinance have been installed in accordance with this Ordinance. In lieu of the completion of any improvement required as a condition for the final approval of a plat, the subdivider or developer shall deposit with the municipality or county (depending upon type of improvement) a fiscal security in an amount sufficient to cover the costs of any improvements or common amenities including, but not limited to roads, storm water detention and/or retention basins and other related drainage facilities, open space improvements, or buffer or screen plantings which may be required.
B. Type Guarantee – Without limitation as to other types of financial security which the municipality or county may approve, which approval shall not be unreasonably withheld, Federal or Commonwealth chartered lending institution irrevocable letters of credit and restrictive escrow accounts in such lending institutions shall be deemed acceptable financial security for the purposes of this Section. Such financial security shall be posted with a bonding company or Federal or Commonwealth chartered lending institution chosen by the party posting the financial security, provided said bonding company or lending institution is authorized to conduct such business within the Commonwealth. Such bond, or other security shall provide for, and secure to the public, the completion of any improvements which may be required on or before the date fixed in the formal action of approval or accompanying agreement for completion of the improvements.

C. Amount of Guarantee – The amount of financial security to be posted for the completion of the required improvements shall be equal to one hundred and ten percent (110%) of the cost of completion estimated as of ninety (90) days following the date scheduled for completion by the developer. Annually the County may adjust the amount of the financial security be 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 (90th) day after either the original date scheduled for completion or a rescheduled date of completion. Subsequent to said adjustment, the County may require the developer to post additional security in order to assure that the financial security equals one hundred and ten percent (110%). Any additional security shall be posted by the developer in accordance with this subsection.

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 County Engineer shall review and approve the cost estimate or, for good cause, refuse to accept the estimate, in which case he shall calculate an accurate cost estimate of the required site improvements.

If the party posting the financial security requires more than one (1) year from the date of posting of the financial security to complete the required improvements, the amount of financial security may be increased by an additional ten (10) percent of each year period beyond the first anniversary date from posting of financial security or to an amount not exceeding one hundred and ten percent (110%) of the cost of completing the required improvements as reestablished on or about the expiration of the preceding one (1) year period by using the above bidding procedure. A developer who fails to complete the improvements within the allotted time specified in the financial guarantee shall, at least thirty (30) days in advance of the guarantee expiration date, renew or resubmit a financial guarantee. Failure to keep a financial guarantee in effect until the completion and approval of all improvements shall be a violation of this Ordinance.

D. Progressive Installation – In the case where development is projected over a period of years, the Planning Department may authorize submission of final plats by sections or stages of development subject to such requirements or guarantees as to improvements in future sections or stages of development as it finds essential for the protection of any finally approved section of the development.
E. Release from Guarantee – As the work of installing the required improvements proceeds, the party posting the financial security may request the release, from time to time, of such portions of the financial security necessary for payment to the contractor or contractors performing the work. Any such requests shall be made in writing to the municipal governing body, or Planning Department where applicable, and within forty-five (45) days of receipt of such request the applicable municipal or county engineer, shall certify, in writing, to his employers whether or not such portion of the work upon the improvements has been completed in accordance with the approved plat. When the improvements are certified to be in accordance with the approved plat, the municipality or county shall authorize release by the bonding company or lending institution of an amount as estimated by the municipal or county engineer fairly representing the value of the improvements completed. If the municipality or county fails to act within said forty-five (45) day period, the release of funds shall be deemed to have been approved as requested. The municipality or county may, prior to final release at the time of completion and certification by its engineer, require retention of ten percent (10%) of the estimated cost of the aforesaid improvement.

The applicant shall assume the necessary expense incurred for the inspection of improvements. Such inspection costs shall be based upon a schedule established and amended from time to time as deemed necessary.

F. Maintenance Guarantee – Where the municipality or county accepts dedication of all or some of the required improvements following completion, the municipality or county may require the posting of financial security to secure structural integrity of said improvements as well as the functioning of said improvements in accordance with the design and specifications depicted on the final plat for a term not to exceed eighteen (18) months from the date of acceptance of dedication. Said financial security shall be of the same type as otherwise required in this Section with regard to installation of such improvements. The amount of financial security shall not exceed fifteen (15) percent of the actual cost of installation of said improvements.

G. Remedies to Effect Completion of Improvements – In the event that any required improvements have not been installed as provided in this Ordinance or in accordance with the approved final plat, the municipality or county is hereby granted the power to enforce any corporate bond, or other security by appropriate legal and equitable remedies. If proceeds of such bond, or other security are insufficient to pay the cost of installing or making repairs or corrections to all the improvements covered by said security, the municipality or county may, at its option, install part of such improvements in all or part of the subdivision or land development and may institute appropriate legal or equitable action to recover the moneys necessary to complete the remainder of the improvements. All of the proceeds, whether resulting from the security or from any legal or equitable action brought against the developer, or both, shall be used solely for the installation of the improvements covered by such security, and not for any other municipal or county purpose. Failure to properly install the required improvements shall also constitute a violation of this Ordinance, punishable as provided by Section 8.06 of this Ordinance.

SECTION 5.15 INSURANCE

The developer agrees to indemnify and save harmless the municipality and county against and from any and all loss, cost, damage, liability, and expense on account of damage to property of, or injury to or death of, the parties thereto or third person, caused by, growing out of, or in any way whatsoever attributable to the construction of said improvements and the use of the street delineated on the subdivision plat during construction. The developer further agrees, but without limiting its liability to indemnify the municipality or county, to carry liability insurance contracts with a reliable
insurance company covering the period of said construction in the sum of $200,000 to $400,000 for injury to or death of person(s), and in the sum of $200,000 for damage to or destruction of property, which insurance contracts shall include the municipality and county as named insured.

SECTION 5.16 BUILDING CONSTRUCTION AND OCCUPANCY

A building or zoning permit may be issued and building construction started after the approval of the final plat. Occupancy shall not be permitted prior to the completion of streets, storm water management facilities and other improvements necessary for the reasonable use of the building, unless written authorization is granted by the Planning Department where improvements have been guaranteed by valid bond or other security.
CHAPTER 6 – PLANNED RESIDENTIAL DEVELOPMENTS

SECTION 6.01 INTENT

It is the intent of the Lebanon County Commissioners and the Planning Department to provide for properly designed, constructed and maintained planned residential developments when they are provided for in local municipal regulations. Flexible subdivision design concepts are encouraged to meet the growing demand for a variety of housing types.

SECTION 6.02 APPLICATION OF REGULATIONS

Planned residential developments are permitted only within municipalities with individual planned residential development ordinances or separate planned residential development chapters within their zoning ordinances, as per the following:

A. When a municipality has an individual planned residential development ordinance or a zoning ordinance with a chapter regulating planned residential developments and they also have a municipal subdivision and land development ordinance, the Planning Department role during review shall be advisory, as identified by Act 247 and the applicable municipal ordinance. A combined subdivision and zoning procedure may be possible to allow comprehensive review and approval.

B. When a municipality has an individual planned residential development ordinance or a zoning ordinance with a chapter regulating planned residential development but does not have a municipal subdivision and land development ordinance, the Planning Department shall review and approve or disapprove the plan based upon its compliance with this Ordinance and the applicable municipal ordinances. Subdivision plan processing and approval shall be in accordance with Chapter 3 of this Ordinance and such additional procedures, hearings or requirements as the municipal ordinances may mandate.

C. When a municipality does not have an individual planned residential development ordinance or a zoning ordinance with a chapter regulating planned residential development, sites may not be subdivided or developed utilizing the planned residential development concept or procedures.

SECTION 6.03 REVIEW AND APPROVAL

Upon receipt of planned residential development plans, the Planning Department shall begin to review the plan for compliance with all applicable ordinance criteria and general planning concepts. Plan review and approval or disapproval shall be subject to plan procedures described within Chapter 3 and supplements thereto, as described within Section 6.02 of this Ordinance. Compliance with all applicable municipal and county ordinances is required.

Furthermore, the following general planning concepts shall be applied during the review and approval process for a planned residential development and may be utilized as criteria in the evaluation of any planned residential development application:
A. Land shall be efficiently used; and

B. The design and layout shall be consistent with the character of the surrounding neighborhood; and

C. Permitted non-residential buildings shall be a minor portion of the development and shall be so located and grouped as to minimize impact on adjacent residential uses; and

D. Ownership, maintenance and management of the development project shall be fully identified on the plan and within separate recorded documents to assure construction and continuation of the project; and

E. Open space and recreation areas shall be well located and adequately serve the diverse needs of the proposed residents; and

F. Although a mixture of housing types and design innovation are encouraged, plans shall not contain extensive departure from standard design patterns unless more conventional layout is determined to be impossible or inappropriate; and

G. The plan shall specify that all proposed buildings, community facilities, site improvements and development amenities are to be constructed in accordance with the approved plan and any development schedule approved therewith.
CHAPTER 7 – FLOOD PLAIN MANAGEMENT

SECTION 7.01 INTENT

The purpose of the regulations set forth in this Chapter is to monitor the subdivision and/or development of flood plain areas in order to promote and protect the general health, welfare, and safety of the community; to require that each subdivision lot in flood plain areas be provided with a safe building site with adequate access; to insure that public facilities which serve such lots or development can be designed and installed to preclude flood damage; and to protect individuals from purchasing lands which are unsuitable for development because of flooding. The subsequent sections shall be considered requirements supplemental to those procedures and standards specified elsewhere in the Subdivision and Land Development Ordinance, municipal zoning ordinances, the Lebanon County Floodproofing Building Code, and any other applicable ordinances and codes.

SECTION 7.02 DEFINITIONS OF TERMS UTILIZED IN THIS CHAPTER

A. **Base Flood** – The flood, also known as the 100 Year Flood, which has a one percent (1%) chance of being equaled or exceeded in any given year, the flood which has been selected to serve as the basis upon which the flood plain management provisions of this and other ordinances have been prepared.

B. **Based Flood Elevation** – The determination by the Federal Insurance Administrator of the water surface elevation of the Base Flood, that is, the flood level that has a one percent (1%) or greater chance of occurrence in any given year.

C. **Building** – A structure which has a roof supported by columns, piers, or walls, which is intended for the shelter, housing, or enclosure of persons, animals, or chattel or which is to house a use of a commercial or manufacturing activity.

D. **Construction** – The term “construction” shall include the building, reconstruction, extension, expansion, alteration, substantial improvement, erection or relocation of a building or structure, including manufactured homes, and gas or liquid storage tanks. For flood plain purposes, “new construction” includes structures for which the “start of construction” commenced on or after the effective date of a flood plain management regulation adopted by the municipality.

E. **Development** – Any man-made change to improved or unimproved real estate, including, but not limited to buildings, manufactured homes, or other structures, mining, dredging, filling, grading, paving, excavation, or drilling operations or the storage of equipment or materials.

F. **Flood** – A general and temporary inundation of normally dry land areas by water from waterway overflows or the unusual and rapid accumulation or runoff of surface waters from any source.

G. **Flood Plain** – (1) a relatively flat or low land area adjoining a river, stream, or watercourse which is subject to partial or complete inundation by water, (2) an area subject to the unusual and rapid accumulation of runoff of surface water from any source. For the purposes of this Ordinance, the flood plain shall be considered to be the One Hundred (100) Year Flood Plain which is a flood plain having a one percent (1%) chance of being subject to the above conditions during any given year.
H. **Floodway** – The channel of a river or other watercourse and adjacent land area that must be reserved to discharge the Base Flood without cumulatively increasing the water surface elevation of that flood more than one (1) foot at any point.

I. **Manufactured Home** – A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For flood plain management purposes the term “manufactured home” also includes (1) all mobile homes and (2) camping trailers, recreational vehicles, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days.

J. **Manufactured Home Park and/or Subdivision** – A lot or area which is a planned development and designated to contain two or more manufactured homes for rent or for sale. Any lot or area proposed to utilize such design where individual manufactured home sites are proposed for sale shall be known as a manufactured home subdivision.

K. **One Hundred (100) Year Flood (Base Flood)** – A flood selected as the Base Flood, that has a one percent (1%) or greater chance of occurring in any given year.

L. **Structure** – A walled or roofed building, including a gas or liquid storage tank (principally above ground), a manufactured home, or any other man-made object usually assembled of interdependent parts or components which is designed to have a more or less fixed location, whether or not permanently attached at that location.

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**SECTION 7.03 APPLICATIONS PROCEDURES AND PLAT REQUIREMENTS**

The following procedures shall be required in addition to those specified otherwise in these regulations.

A. **Pre-Application Procedures**

1. It is suggested that prospective developers consult the Pennsylvania Department of Environmental Protection and the municipal Sewage Enforcement Officer concerning soil suitability when on-site sewage disposal facilities are proposed.

2. Prospective developers shall consult the County Conservation District representative concerning erosion and sediment control and the probable effect of geologic conditions on the proposed development. Concurrently, a determination should be made as to whether or not any flood hazards either exist or will be created as a result of the proposed subdivision or development.

B. **Preliminary Plan Requirements**

The following information shall be required as part of the Preliminary Plan when a subdivision is in a flood plain area and shall be prepared by a registered surveyor:
1. A map illustrating the location of the proposed subdivision or land development with respect to the municipality’s flood plain areas including information on, but not limited to, Base Flood Elevations, boundaries of flood plain areas, proposed lots and sites, fill, and flood or erosion protective facilities.

2. All subdivision proposals and other proposed new developments shall provide base flood delineations; however, subdivision proposals and other proposed new development greater than 50 lots or 5 acres, whichever is lesser, shall include actual base flood elevation data. It shall be the responsibility of the developer to provide the required base flood elevation data, in a form comparable to HEC-2, which will be certified as accurate by a Registered Professional Engineer.

3. Where the subdivision or land development lies partially or completely in the flood plain area or where the subdivision borders on the flood plain area, the preliminary plan map shall include detailed information giving the location and elevation of proposed roads, public utilities, and building lots. All such maps shall also show contours at intervals of two (2) feet and identify accurately the boundaries of the flood plain area.

C. Final Plan Requirements

The following information shall be required as part of the Final Plan and shall be prepared by a registered engineer or surveyor:

1. All information required for submission of the Preliminary Plan plus any changes required by the Planning Department and/or the local municipal governing body.

2. A map showing the exact location and elevation of all proposed buildings, structures, roads, and public utilities to be constructed in flood plain areas. All such maps shall show contours at intervals of two (2) feet and identify accurately the boundaries of the flood plain area.

SECTION 7.04 DESIGN STANDARDS AND IMPROVEMENTS

The design standards and improvements specified herein shall be considered requirements in addition to those of Chapter 5 and otherwise listed in this Ordinance.

A. General

1. Where not prohibited by this or any other laws or ordinances, land located in the flood plain areas may be platted for development with the provision that the developer construct all buildings and structures to preclude flood damage in accordance with this and any other laws and ordinances regulating such development.

2. Building sites for residences or any other type of dwellings or accommodations and building sites for structures or buildings other than residential uses shall be permitted in the flood plain only when in compliance with appropriate municipal zoning ordinances, the Lebanon County Floodproofing Building Code, and any other applicable regulations.
3. If the Planning Department and/or the local municipality determine that only a part of a proposed plat can be safely developed, they shall limit development to that part and shall require that development proceed consistent with this determination.

4. When a developer does not intend to develop the plat himself and the Planning Department and/or the local municipality determine that additional controls are required to insure safe development, they may require the developer to impose appropriate deed restrictions on the land. Such deed restrictions shall be inserted in every deed and noted on every recorded plat.

5. Whenever a developer intends to alter or relocate a watercourse within the designated flood plain, the developer shall notify, in writing by certified mail, all adjacent communities and the Penna. Department of Community & Economic Development (or its successor agency) of all such intended activities prior to any alteration or relocation of the watercourse. Copies of such notification shall be submitted to the Federal Insurance Administrator. The developer shall also assure the local municipal governing body in writing that the flood carrying capacity within the altered or relocated portion of the watercourse in question will be maintained.

6. No new construction or development shall be located within a designated floodway. Where the floodway has not been specifically identified for a stream or waterway, no new construction or development shall be permitted within the stream channel (from top of bank to top of bank). Furthermore, construction or development outside the stream banks but within the flood plain district shall be permitted only when in compliance with this Ordinance and Penna. Department of Environmental Protection permit requirements.

7. Lots which are within the flood plain shall be subject to the following:

   a. Any lots created or revised shall have not more than 50% of their area within the flood plain, except that lots may be exempted provided the minimum lot size established by the applicable zoning district or 1 acre, whichever is less, is provided outside the flood plain.

   b. Lot access to a public road shall not be restricted or prevented by flood plain areas.

B. Excavation, Grading and Use of Fill

Any excavation activities, grading and use of fill shall be in compliance with all applicable terms of the municipal zoning ordinance and the Lebanon County Floodproofing Building Code. Furthermore, where excavation or grading is proposed or where any existing trees, shrubs or other vegetative cover will be removed, the developer shall consult the County Conservation District representative concerning plans for erosion and sediment control and to also obtain a report on the soil characteristics of the site so that determination can be made as to the type and degree of development the site may accommodate. Before undertaking any excavation or grading, the developer shall obtain a Grading and Excavation Permit if such is required by the municipality.
C. Drainage Facilities

Storm drainage facilities shall be designed to convey the flow of surface water without damage to persons or property. The system shall insure drainage at all points along streets, and provide positive drainage away from buildings and on-site disposal sites.

Plans shall be subject to the approval of the Planning Department. The Planning Department may also require a primarily underground system to accommodate frequent floods and a secondary surface system to accommodate larger, less frequent floods. Drainage plans shall be designed to prevent the discharge of excess runoff onto adjacent properties.

D. Streets

The finished excavation of proposed streets shall be no more than two (2) feet below the Base Flood Elevation. The Planning Department may require, where necessary, profiles and elevations of streets to determine compliance with this requirement. Drainage and bridge openings shall be sufficient to discharge flood flows without unduly increasing flood heights.

E. Sewer Facilities

All sanitary sewer systems located in flood plain areas, whether public or private, shall be floodproofed to a point two (2) feet above the Base Flood Elevation.

1. The Planning Department may prohibit installation of sewage disposal facilities requiring soil absorption systems where such systems will not function due to high ground water, flooding, or unsuitable soil characteristics. The Planning Department may require that the developer note on the face of the plat and in any deed of conveyance that soil absorption fields are prohibited in designated areas.

2. The Planning Department may prescribe adequate methods for waste disposal. If a sanitary sewer system is located on or within 1000 feet of the proposed subdivision and/or land development, the Planning Department and/or the local municipality shall require the developer to provide sewage facilities to connect to this system where practical, and shall prescribe the procedures to be followed by the developer in connecting to the system.

F. Water Facilities

All water systems located in flood plain areas, whether public or private, shall be floodproofed to a point two (2) feet above the Base Flood Elevation. If there is an existing public water supply system on or near the subdivision, the Planning Department and/or the local municipality shall require the developer to connect to this system where practical, and shall prescribe the procedures to be followed by the developer in connecting to the system.

G. Other Public and/or Private Utilities and Facilities

All other public and/or private utilities and facilities shall be elevated or floodproofed to a point two (2) feet above the Base Flood Elevation.
SECTION 7.05 PERFORMANCE GUARANTEE

No final plat shall be approved by the Planning Department and the local municipality until the improvements required by this Ordinance are completed in a satisfactory manner and approved by the local municipality and the Planning Department. In lieu of such construction, approval may be granted prior to completion providing:

A. The developer enters into an agreement with the local municipality or county guaranteeing that improvements will be installed in accordance with the plans, specifications, and schedules approved by the municipality prior to plat approval. This agreement shall also guarantee that no lot will be sold or building constructed in any flood plain area prior to completion of all protective works or measures planned for such lot and necessary access to facilities; and

B. The developer provides a fiscal surety to guarantee performance of this agreement and completion of the improvements as planned. The surety may include a certified check, escrow account, irrevocable letter of credit or other bond acceptable to the municipality. The procedural requirements of Section 5.14 of this Ordinance shall apply to any such bonding proposal.

SECTION 7.06 MUNICIPAL LIABILITY

The grant of a permit or approval of a subdivision and/or land development plan in the identified flood plain area shall not constitute a representation, guarantee, or warranty of any kind by the municipality or by any official or employee thereof of the practicability or safety of the proposed use, and shall create no liability upon the municipality, its officials or employees.
CHAPTER 8 – ADMINISTRATION, FEES AND PENALTIES

SECTION 8.01 INTENT

This subdivision and land development ordinance shall be considered to set forth the minimum requirements for the protection of the public health, safety, comfort, property or general welfare, pursuant to the authority of the Pennsylvania Municipalities Planning Code, Act Number 247, 1968 sessions, as amended, or such statutes hereinafter in effect, and shall be construed most favorably to the county as encouraging standards of planning and development exceeding these basic and minimum regulations.

SECTION 8.02 ADMINISTRATION AND ENFORCEMENT

The Lebanon County Planning Department is authorized to administer the provisions of this subdivision and land development ordinance as herein provided, and to enforce the provisions of this Ordinance on behalf of the Lebanon County Commissioners.

In addition to other remedies provided herein, the Planning Department may, on behalf of the Lebanon County Commissioners, 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.

The Planning Department may refuse to issue (or order municipal refusal 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 this ordinance. This authority to deny such a permit or approval shall apply to any of the following applicants:

A. The owner of record at the time of such violation, and

B. 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; and

C. 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; and

D. 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.

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 Planning Department 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.
SECTION 8.03 MODIFICATIONS

The provisions of this Ordinance are intended as minimum standards for the protection of the public health, safety and welfare of the residents and inhabitants of Lebanon County. The Planning Department may grant a modification of the requirements of one or more provisions of this Ordinance if the Planning Department concludes that the literal enforcement will exact undue hardship because of peculiar conditions pertaining to the land in question, provided that such modifications will not be contrary to the public interest and that the purpose and intent of this Ordinance is observed.

All requests for a modification shall be in writing to the Planning Department and shall accompany and be 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, the provision or provisions of the Ordinance involved and the minimum modification necessary.

All such modification requests shall be approved or disapproved by the Planning Department. A written record of the action shall be kept for all modification requests.

SECTION 8.04 APPEALS

A subdivider of developer aggrieved by any action of the Planning Department or the County Commissioners regarding refusal to approve a subdivision or land development plan may, within thirty (30) days of such refusal, appeal to the Common Pleas Court of Lebanon County. Any other appeals by aggrieved parties or other landowners shall be subject to the appeal procedures outlined in Article X of Act 247.

SECTION 8.05 SCHEDULE OF FEES

A. Fee Procedures – Each subdivision or land development plan application shall be accompanied by the required review and recording fees, as established herein. Fees shall be payable at the time of plan submission (unless otherwise noted herein) and plan processing, approval and recording shall not be completed until all required fees are paid.

There shall be no refund or credit of fees or a portion of any fee should the subdivider or developer withdraw the plan during the review process or fail to receive plan approval.

The fee schedule set forth in this section may be amended from time to time by adoption of a resolution by the Lebanon County Commissioners setting forth the new fees.
B. County Fees – Fees for review, processing and approval of subdivision and land development plans shall be payable to the Lebanon County Planning Department at the time of application, in accordance with the following schedule:

1. **Minor Subdivision, Not Involving New Lots**
   (Lot addition, land exchange, division or double home or existing buildings, etc.)

   FINAL PLAN ----------------------------------------$125.00

2. **Minor and Major Subdivision or Land Development With New Lots/Units**
   (See Sections 3.03, 3.04, and 3.05 for explanation of minor and major classifications)

<table>
<thead>
<tr>
<th>Number of Lots/Units</th>
<th>Preliminary Plan Fee</th>
<th>Final Plan Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$300 (where applicable)</td>
<td>$200</td>
</tr>
<tr>
<td>2-5</td>
<td>$500</td>
<td>$400</td>
</tr>
<tr>
<td>6-10</td>
<td>$700</td>
<td>$500</td>
</tr>
<tr>
<td>11-20</td>
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<td>$750</td>
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<tr>
<td>201+</td>
<td>$2400 + $5 per lot/unit over 200</td>
<td>$1750 + $5 per lot/unit over 200</td>
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3. **Land Development Plans**
   (Commercial, Industrial, Institutional, etc. For multi-family, residential, see #2 above)

<table>
<thead>
<tr>
<th>Acres *</th>
<th>Plan Review Fee</th>
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<td>0-2</td>
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<tr>
<td>15.01-25</td>
<td>$2000</td>
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<tr>
<td>25.01 +</td>
<td>$3000</td>
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</table>

   * Acreage of tract for newly developed lot or acreage undergoing review for expansions.

C. Municipal Fees – Where a municipal subdivision or land development ordinance exists, the subdivider shall pay all fees specified in Section B for Lebanon County Planning Department plan review, plus applicable municipal fees (payable to the municipality) for the approval or disapproval of the plan.
D. **Engineer Review Fees** – All applications involving storm water management or engineering review shall be accompanied by fees, payable to the County Engineer (H. Edward Black and Associates), in accordance with the following:

1. For review of subdivision and land development plans and requests for inspections:

<table>
<thead>
<tr>
<th>Lot Range</th>
<th>Preliminary Plans</th>
<th>Final Plans</th>
<th>Inspections</th>
</tr>
</thead>
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<tr>
<td>1 Lot/Unit</td>
<td>$150/lot or unit</td>
<td>$150/lot or unit</td>
<td>$150/lot or unit</td>
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<td>2-5 Lots/Units</td>
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<tr>
<td>100 or more Lots</td>
<td>$40/lot or unit</td>
<td>$30/lot or unit</td>
<td>$30/lot or unit</td>
</tr>
</tbody>
</table>

2. For review of commercial, industrial, or institutional land developments, re-submitted plans, inspections, and other plans which do not qualify for the per lot or unit rate:

   a. A base fee is required for review or inspection. The base fee will be established on site acreage as provided below. Plan reviews or inspections requiring more than covered by the base fee shall be subject to an additional fee based upon the hourly rate established in #2 (b). The base fee is:

<table>
<thead>
<tr>
<th>Acreage Range</th>
<th>Base Fee</th>
</tr>
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<tbody>
<tr>
<td>0-10 acres</td>
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<td>20.01 or more acres</td>
<td>$2,500</td>
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   (up to 4 hours) (up to 10 hours) (up to 20 hours)

   b. An hourly rate of $110.00 per hour of County Engineer review or inspection time.

3. All fees shall be payable at the time of application, except that:

   a. Inspection fees based upon the per lot, per unit or base fee rates shall be paid by separate checks with the final plan, prior to recording the final plan; and

   b. The hourly rate specified in #2 (b) for review or supplemental review fee shall be payable after review, but before plan approval; and

   c. The hourly rate specified in #2 (b) for inspection or supplemental inspection fee shall be payable after inspection but before final inspection approval and release of any applicable financial guarantees.

E. **Recording Fee** – A recording fee shall accompany all final plan applications. The base fee, currently $40.00 for the first eight (8) pages, shall be payable to the Lebanon County Recorder of Deeds and be subject to change as that office may deem necessary. If recorded pages exceed eight (8), there will be an additional charge of $5.00 per page.
SECTION 8.06 PENALTIES

Any person, partnership or corporation who or which has violated the provisions of this subdivision and land development ordinance shall, upon being found liable therefor in a civil enforcement proceeding commenced by the Planning Department on behalf of the County Commissioners, pay a judgement of not more than $500 plus all court costs, including reasonable attorney fees incurred by the County of Lebanon as a result thereof.

District justices shall have initial jurisdiction in proceedings brought by the Planning Department in accordance with this Section. No judgement shall commence or be imposed, levied or be payable until the date of the determination of a violation by the district justice. If the defendant neither pays nor timely appeals the judgement, the Planning Department may enforce the judgement on behalf of the County Commissioners 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 violation, in which event there shall be deemed to have been only one such violation until the fifth day following the date of the determination of a violation by the district justice and thereafter each day that a violation continues shall constitute a separate violation.

SECTION 8.07 AMENDMENTS

Amendments to this Ordinance may be initiated by the Planning Department or the County Commissioners. If the amendments are initiated by the County Commissioners, the proposed amendment or amendments shall be submitted to the Planning Department for review and comment at least thirty (30) days prior to a public hearing. Before enactment of a proposed amendment or amendments the County Commissioners shall hold a public hearing thereon pursuant to public notice.

SECTION 8.08 VALIDITY

Should any section, subsection or provision of this Ordinance be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the validity of this Ordinance as a whole or any other part thereof.

Any ordinance or ordinance provision of Lebanon County that is inconsistent with any of the provisions of this Ordinance is hereby repealed to the extent of the inconsistency only.
SECTION 8.09 EFFECTIVE DATE

This Subdivision and Land Development Ordinance shall become effective on

October 22, 2002

Adopted this 17th day of October, 2002.

ATTEST: SIGNED:

[Signatures]

I hereby certify this to be a true and accurate copy of the Lebanon County Subdivision and Land Development Ordinance.

[Signature]

Jami A. Wolgemuth
County Administrator
APPENDIX

Lebanon County Watersheds Map
Lebanon County Storm Water Management Districts Map
Lebanon County Exceptional Value and High Quality Watersheds Map
Soil Hydrologic Group Classification List
Sample Standard Storm Water Notes
Erosion and Sedimentation Pollution Control Guidelines
## Soil Hydrologic Group Classification

<table>
<thead>
<tr>
<th>Soil Name</th>
<th>Hydrologic Group</th>
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<tbody>
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<tr>
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<td>Berks</td>
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<td>Bowmansville</td>
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APPENDIX

SAMPLE STANDARD STORM WATER NOTES

Use all applicable notes and supplement or revise where necessary for clarification:

1. All storm water management facilities shown on this plan shall be constructed by the developer in accordance with the design, conditions and specifications identified on this plan. Ownership and maintenance shall be the responsibility of the landowner, his successors and assigns, unless specifically identified otherwise herein.

2. Storm water management facilities shall be maintained in good working condition so that they are performing their design function, in a manner acceptable to the county, as required by the Lebanon County Subdivision and Land Development Ordinance. Maintenance shall include performing routine maintenance and repair or replacement of damaged facilities, vegetation or storm water areas to conditions as shown on the approved plan and in accordance with the Lebanon County Subdivision and Land Development Ordinance.

3. Any drainage and utility easements shown on the plan shall be constructed, owned and maintained in accordance with the approved plan and shall be referenced within the property deed.

4. Runoff from the lot improvements shall be directed to the storm water management facilities. Storm water runoff from existing natural swales and/or other existing drainage conveyors shall not be directed towards or intercepted by the storm water management facilities.

5. Municipal and County Officials and their agents or employees have the right of access for inspection and, in cases of construction default, construction of the storm water management facilities.

6. After storm water management facilities installation is completed, contact the Lebanon County Planning Department (274-2801 ext. 2325) for inspection by the County Engineer. No occupancy permitted until storm water management facilities have been installed and approved through inspection by the County Engineer.

Where facilities such as new streets with storm sewers and related structures are intended for ownership and maintenance by the municipality, Homeowner’s Association, or similar organization, detailed additional notes are required to document ownership and maintenance responsibilities.

STORM WATER EXEMPTIONS

Use the following note instead of the 6 standard storm water notes:

Lot(s) #______ has (have) been exempted from the mandatory design and installation of storm water management facilities, based upon satisfaction of the
exemption criteria with Section 5.07 I.3 of the Lebanon County Subdivision and Land Development Ordinance. No occupancy permitted until lot(s) #_____ has (have) been inspected and approved by the County Engineer (274-2801 ext. 2325) to verify that construction and development has been completed in accordance with this plan and Section 5.07 I.3 criteria.
APPENDIX

EROSION AND SEDIMENTATION POLLUTION CONTROL GUIDELINES

INTRODUCTION

Pennsylvania law requires an Erosion and Sedimentation Pollution Control (E & SPC) plan be developed and implemented for all earthmoving activities. The following guidelines are to be incorporated into an E & SPC plan for projects that do not have an existing plan. **The guidelines alone do not constitute a complete plan.** The E & SPC plan must be fully developed and site specific in accordance with Pennsylvania Department of Environmental Protection Chapter 102 rules and regulations. Additional information regarding E & SPC development and Chapter 102 regulations may be obtained from the County Conservation District.

PROCEDURE

The following list of E & SPC guidelines shall be used as standard subdivision and land development plan notes on all plans. **Major subdivision and land development plans also require site specific E & SPC design sheets and details.**

GUIDELINES

1. A logical construction sequence shall be developed that includes the installation of E & SPC facilities, and Best Management Practices (BMP’s), before earthmoving may commence.

2. E & SPC facilities and BMP’s shall be correctly installed and maintained. Maintenance information and construction details may be obtained from the County Conservation District.

3. Earth disturbance shall take place within a defined limit of disturbance and immediately prior to construction.

4. Development plans shall preserve salient natural features, minimize land cuts and fills and conform to the general topography. Plans shall be designed and implemented so as to create the least potential for erosion and to adequately contain the volume and reduce the velocity of surface water runoff.

5. Natural vegetation shall be retained, protected and supplemented prior to and during construction.

6. Topsoil shall be removed from construction areas and stockpiled for final grading and seedbed preparation. Downslope areas of any stockpiles, construction or borrow areas shall be protected with correctly installed and maintained silt fence, straw bales or sediment traps prior to any earth disturbance in order to minimize sediment laden runoff.

7. All cuts and fills shall be brought to final grade early in the construction sequence, and stabilized immediately with seed and mulch.

8. Only driveway excavations that can be stabilized with a crushed stone base the same day shall be completed.
9. Current regulations state: (a) Upon completion of an earth disturbance activity or any stage or phase of an activity, the site shall be immediately seeded, mulched or otherwise protected from accelerated erosion and sedimentation. (b) Erosion and sediment control BMP's shall be implemented and maintained until the permanent stabilization is completed. (c) For an earth disturbance activity or any stage or phase of an activity to be considered permanently stabilized, the disturbed areas shall be covered with one of the following: (1) A minimum uniform 70% perennial vegetative cover, with a density capable of resisting accelerated erosion and sedimentation. (2) An acceptable BMP which permanently minimizes accelerated erosion and sedimentation.

10. The Penn State Erosion Control & Conservation Plantings on Noncropland guide or Agronomy guide shall be consulted for permanent and temporary seeding and mulching types and rates. (Straw mulch shall be applied at a rate of at least 3 tons per acre or 5 bales per 1000 square feet. Slopes steeper than 3:1 shall be correctly lined with appropriate turf reinforcement matting.) Other helpful publications include Turfgrass Establishment (special Circular 163), Turfgrass Seed and Seed Mixtures (extension circular 391), and Principles of Turfgrass Irrigation (special circular 158). The publications referenced are available from the Penn State Extension Office.

11. All recycling and disposal of construction waste shall be in accordance with local and state rules and regulations for waste management. Construction waste includes but is not limited to: Excess soil and rock, building materials, concrete and concrete wash water, sanitary waste and any other materials that could adversely impact surface or ground water quality.