Lower Frankford Township

Stormwater Management Ordinance

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LOWER FRANKFORD TOWNSHIP STORMWATER MANAGEMENT ORDINANCE

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ARTICLE I

GENERAL PROVISIONS

Section 101. Short Title

This Ordinance shall be known and may be cited as "Lower Frankford Township Stormwater Management Ordinance."

Section 102. Statement of Findings

The Board of Supervisors of Lower Frankford Township finds that:

A. Inadequate management of accelerated runoff of stormwater resulting from development throughout a watershed increases runoff volumes, flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of streams and storm sewers, greatly increases the cost of public facilities to carry and control stormwater, undermines floodplain management and flood control efforts in downstream communities, reduces groundwater recharge, threatens public health and safety, and increases non-point source pollution of water resources.

B. A comprehensive program of stormwater management, including reasonable regulation of development and activities causing accelerated runoff, is fundamental to the public health, safety and welfare and the protection of people of the Commonwealth, their resources and the environment.

C. Stormwater is an important water resource, which provides groundwater recharge for water supplies and base flow of stream, which also protects and maintains surface water quality.

Section 103. Purpose

The purpose of this Ordinance is to promote health and welfare within Lower Frankford Township and its watershed by minimizing the harms and maximizing the benefits described in Section 102 of this Ordinance, through provisions designed to:

A. Meet legal water quality requirements under state law, including regulations at Title 25 PA Code Chapter 93 to protect, maintain, reclaim and restore the existing and designated uses of the Waters of this Commonwealth.

B. Preserve the natural drainage systems as much as possible.

C. Manage stormwater runoff close to the source, reduce runoff volumes and mimic predevelopment hydrology.

D. Provide procedures and performance standards for stormwater planning and management.

E. Maintain groundwater recharge, to prevent degradation of surface and groundwater quality and

to otherwise protect water resources.

F. Prevent scour and erosion of stream banks and streambeds.

G. Provide proper operation and maintenance of all permanent Stormwater Management (SWM) Best Management Practices (BMPs) that are implemented within the Municipality.

H. Require proof of National Pollution Discharge Elimination System (NPDES) Permit acquisition when applicable.

I. Meet general water quality and soil disturbance goals by implementing measures to:

1. Minimize disturbance to floodplains, wetlands, natural slopes over 15%, and existing native vegetation.

2. Maintain or extend riparian buffers and protect existing forested buffers. Provide trees and woodlands adjacent to impervious areas whenever feasible.

3. Establish and maintain non-erosive flow conditions in natural flow pathways.

4. Minimize soil disturbance and soil compaction. Replace topsoil to a depth equal to or greater than the depth prior to the start of construction. Use tracked equipment for grading when feasible.

5. Disconnect impervious surfaces by directing runoff to pervious areas, wherever possible.

6. Where applicable incorporate the techniques for Low Impact Development Practices described in the most current version of "The Pennsylvania Stormwater Best Management Practices Manual" (SWM Manual)[1].

7. Minimize thermal impacts to Waters of the Commonwealth.

Section 104. Statutory Authority

A. Primary Authority:

Lower Frankford Township and the Board of Supervisors is empowered to regulate these activities by the authority of the Act of October 4, 1978, P.L. 864 (Act 167), 32 P.S. Section 680.1, et seq., as amended, the "Storm Water Management Act" and Lower Frankford Township.

Hereafter, all earthmoving activities and land development within Lower Frankford Township, including without limitation, the location, design and construction within the watershed of storm water management systems, flood control projects, subdivisions and major land developments, highways and transportation facilities, facilities for the provision of public utility services and facilities owned or financed in whole or in part by funds from the Commonwealth, shall be in full compliance with the requirements of the Cumberland County Storm Water Management Plan and shall be conducted in a manner consistent therewith. Any violation the Cumberland County Storm Water Management Plan shall be considered a violation of this ordinance.

B. Secondary Authority:

Lower Frankford Township and the Board of Supervisors are empowered to regulate land use activities that affect runoff by the authority of the Act of July 31, 1968, P.L. 805, No. 247, The Pennsylvania Municipalities Planning Code, as amended.

Section 105. Applicability

All regulated activities and all activities that may affect stormwater runoff, including land development and earth disturbance activity, are subject to regulation by this Ordinance as is reasonably necessary to prevent among other things, injury to health, safety or other property. The following activities are defined as "regulated activities" and shall be subject to the provisions of this Ordinance (unless otherwise exempted by Section 302):

1. Land development and/or redevelopment

2. Subdivision

3. Construction of new or additional impervious or semi-pervious surfaces (driveways, parking lots, etc.)

4. Construction of structures or additions to existing structures, as determined by the municipality

5. Diversion or piping of any natural or man-made stream channel

6. Installation of stormwater management facilities or appurtenances thereto

7. Forest management/timber operations that include logging road construction and timber harvesting

Section 106. Repealer

Any other ordinance provision(s) or regulation of Lower Frankford Township inconsistent with any of the provisions of this Ordinance is hereby repealed to the extent of the inconsistency only.

Section 107. Severability

In the event that a court of competent jurisdiction declares any section or provision of this Ordinance invalid, such decision shall not affect the validity of any of the remaining provisions of this Ordinance.

Section 108. Compatibility with Other Requirements

Approvals issued and actions taken under this Ordinance do not relieve the Applicant of the responsibility to secure required permits or approvals for activities regulated by any other code, law, regulation or ordinance.

Section 109. Waiver Procedure

The provisions of this ordinance are intended as minimum standards for the protection of the public health, safety and welfare. The Board of Supervisors may waive any mandatory provision of these regulations to the benefit of the applicant provided the waiver:

1. Is consistent with the purpose of the Ordinance as described in Section 103;

2. Will remove or reduce an unreasonable standard or undue hardship as it applies to the particular property, which is grossly disproportionate to any benefit derived from the standard, or when an alternative standard provides equal or better results.

3. Is consistent with Section 301.E. when involving water quality requirements.

It shall be the burden of the applicant to demonstrate compliance with the above conditions.

ARTICLE II

DEFINITIONS

For the purposes of this Ordinance, certain terms and words used herein shall be interpreted as follows:

A. Words used in the present tense include the future tense; the singular number includes the plural, and the plural number includes the singular; words of masculine gender include feminine gender; and words of feminine gender include masculine gender.

B. 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.

C. The words "shall" and "must" are mandatory; the words "may" and "should" are permissive.

Agricultural Activity.

The work of producing crops, including tillage, land clearing, plowing, disking, harrowing, planting, harvesting crops, pasturing and raising of livestock, and installation of conservation measures. Construction of new buildings or impervious area is not considered an Agricultural Activity.

Applicant.

A landowner, developer or other person who has filed an application to the Municipality for approval to engage in any Regulated Activity at a project site in the Municipality.

Best Management Practice (BMP).

Activities, facilities, designs, measures or procedures used to manage stormwater impacts from Regulated Activities, to meet State Water Quality Requirements, to promote groundwater recharge and to otherwise meet the purposes of this Ordinance. Stormwater BMPs are commonly grouped into one of two broad categories or measures: "structural" or "non-structural". In this ordinance, non-structural BMPs or measures refer to operational and/or behavior-related practices that attempt to minimize the contact of pollutants with stormwater runoff whereas structural BMPs or measures are those that consist of a physical device or practice that is installed to capture and treat stormwater runoff. Structural BMPs include, but are not limited to, a wide variety of practices and devices, from large-scale retention ponds and constructed wetlands, to small-scale underground treatment systems, infiltration facilities, filter strips, low impact design, bioretention, wet ponds, permeable paving, grassed swales, riparian or forested buffers, sand filters, detention basins, and manufactured devices. Structural Stormwater BMPs are permanent appurtenances to the project site.

BMP Manual.

Pennsylvania Stormwater Best Management Practices Manual, as amended and updated.

Conservation District.

The Cumberland County Conservation District (CCCD). The Cumberland County Conservation District has the authority under a delegation agreement executed with the Department of Environmental Protection to administer and enforce all or a portion of the regulations promulgated under 25 Pa. Code Chapter 102.

Culvert.

A structure which carries surface water through an obstruction.

Dam.

An impoundment structure regulated by the PA DEP Chapter 105 Regulations.

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 stormwater management systems. Also see Return Period.

Detention Basin.

A vegetated pond designed to drain completely after storing runoff only for a given storm event and release it at a predetermined rate and is also known as a dry pond.

Detention Volume.

The volume of runoff that is captured and then infiltrated, evaporated, reused, or released into the Waters of this Commonwealth at a controlled rate.

DEP.

The Pennsylvania Department of Environmental Protection.

Developer.

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

Development Site (Site).

See Project Site.

Disconnected Impervious Area (DIA).

An impervious or impermeable surface which has its stormwater runoff disconnected from any stormwater drainage or conveyance system and is redirected or directed to a pervious area which allows for infiltration, filtration, and increased time of concentration as specified in Appendix A, Disconnected Impervious Area.

Disturbed Area.

An unstabilized land area where an Earth Disturbance Activity is occurring or has occurred.

Drainage.

The flow of water or liquid waste and the removal of surface water or groundwater from land by drains, grading or other means. Drainage includes the control of runoff to minimize erosion and sedimentation during and after development and includes the means necessary for water supply preservation or alleviation of flooding.

Drainage Easement.

An easement required for the installation of storm water management apertures (ponds, pipes, swales, etc.), and/or required for the preservation or maintenance of a natural stream or watercourse or other drainage facility.

Drainage Facility.

Any ditch, gutter, culvert, storm sewer, basin, or other structure designed, intended or constructed for the purpose of diverting surface waters from, or carrying surface waters off streets, public rights-of-way, parks, recreational areas or any part of any subdivision or contiguous land area.

Earth Disturbance Activity.

A construction or other human activity which disturbs or exposes the underlying soil, including, but not limited to, clearing and grubbing; grading; excavations; embankments; road maintenance; building construction; the moving, depositing, stockpiling, or storing of soil, rock or earth materials.

Erosion.

The natural process by which the surface of the land is worn away by water, wind or chemical action.

Erosion and Sediment Control Manual (E&S Manual).

Erosion and Sediment Pollution Control Program Manual, Commonwealth of Pennsylvania, Department of Environmental Protection No. 363-2134-008 (March 2012), as amended and updated

Erosion and Sediment Pollution Control Plan.

A plan that is designed to minimize accelerated erosion and prevent sediment pollution to the Waters of the Commonwealth.

Existing Condition.

The initial condition of a project site prior to the proposed construction.

FEMA.

Federal Emergency Management Agency.

Floodplain.

The lowland and relatively flat areas adjoining inland and coastal waters including, at a minimum, that area subject to a one percent or greater chance of flooding in any given year.

Floodway.

The channel of the watercourse and those portions of the adjoining floodplains that are reasonably required to carry and discharge the 100-year flood. Unless otherwise specified, the boundary of the floodway is as indicated on maps and flood insurance studies provided by FEMA. In an area where no FEMA maps or studies have defined the boundary of the 100-year floodway, it is assumed -- absent evidence to the contrary -- that the floodway extends from the stream to 50 feet from the top of the bank of the stream.

Forest Management/Timber Operations.

Planning and activities necessary for the management of forestland. These include conducting a timber inventory, preparation of forest management plans, silvicultural treatment, cutting budgets, logging road design and construction, timber harvesting, site preparation and reforestation.

Freeboard.

A vertical distance between the elevation of the design high water and the top of a dam, levee, tank, basin, diversion ridge or swale. The space is required as a safety margin.

Hydrologic Soil Group (HSG).

Refers to soils grouped according to their runoff-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. Infiltration rates of soils vary widely and are affected by subsurface permeability as well as surface intake rates. Soils are classified into four HSG's (A, B, C, and D) according to their minimum infiltration rate, which is obtained for bare soil after prolonged wetting. The NRCS defines the four groups and provides a list of most of the soils in the United States and their group classification. The soils in the area of the development site may be identified from a soil survey report that can be obtained from local NRCS offices or conservation district offices. Soils become less pervious as the HSG varies from A to D (NRCS [3,4]).

Impervious Surface (Impervious Area).

A surface that prevents the infiltration of water into the ground. Impervious surfaces (or areas) shall include, but not be limited to, roofs, additional indoor living spaces, patios, garages, storage shed and similar structures, streets, driveways, access drives, parking areas and sidewalks. Any areas designed to be covered by loose surfacing materials such as gravel, stone and/or crushed stone, and intended for storage of and/or travel by motorized or non- motorized vehicles, or travel by pedestrians shall be considered impervious. Pervious Pavement shall be considered as impervious surface for the purposes of lot coverage, rate and volume control. For the purposes of this Chapter, a surface or area shall not be

considered impervious if such surface or area does not diminish the capacity for infiltration of stormwater for storms up to, and including, a two (2)-year 24- hour storm event. Decks, parking areas, and driveway areas are not counted as impervious areas if they allow for infiltration of stormwater for storms up to, and including, a two (2)-year 24-hour storm event.

Infiltration Structure.

A structure designed to direct runoff into the ground (e.g. French drains, seepage pits, seepage trench, etc.)

Karst.

A type of topography or landscape characterized by surface depressions, sinkholes, rock pinnacles/uneven bedrock surface, underground drainage and caves. Karst is formed on carbonate rocks, such as limestone or dolomite.

Land Development (Development).

Any of the following activities:

A. The improvement of one lot or two or more contiguous lots, tracts or parcels of land for any purpose involving (1) 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 (2) 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;

B. A subdivision of land;

C. Excluding (1) the conversion of an existing single-family detached dwelling or single-family semi-detached dwelling into not more than three residential units, unless such units are intended to be a condominium; (2) the addition of an accessory building, including farm buildings, on a lot or lots subordinate to an existing principal building; or (3) the addition or conversion of buildings or rides within the confines of an enterprise which would be considered an amusement park. For purposes of this subclause, an amusement park is defined as a tract or area used principally as a location for permanent amusement structures or rides. This exclusion shall not apply to newly acquired acreage by an amusement park until initial plans for the expanded area have been approved by proper authorities.

Landowner.

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

Municipality.

Lower Frankford Township, Cumberland County, Pennsylvania.

NPDES.

National Pollution Discharge Elimination System.

NRCS.

USDA Natural Resources Conservation Service (previously SCS).

O & M.

Operation and maintenance.

Open Channel.

A drainage element in which stormwater flows with an open space. Open channels include, but shall not be limited to, natural and man-made drainageways, swales, streams, ditches, channels and pipes flowing partly full.

Peak Discharge.

The maximum rate of stormwater runoff from a specific storm event.

Pervious Area.

Any area not defined as impervious.

Pollutant.

Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Project Site.

The specific area of land where any Regulated Activities in Lower Frankford Township are planned, conducted or maintained.

Qualified Professional.

Any person licensed by the Pennsylvania Department of State or otherwise qualified by law to perform

the work required by the Ordinance.

Regulated Activities.

Shall include, but not be limited to any Earth Disturbance Activities or any activities that involve the alteration or development of land in a manner that may affect stormwater runoff as specified in Section 105.

Regulated Earth Disturbance Activity.

Activity involving Earth Disturbance subject to regulation under 25 Pa. Code Chapters 92, Chapter 102, or the Clean Streams Law.

Retention Basin.

A pond containing a permanent pool of water designed to store runoff for a given storm event and release it at a predetermined rate.

Retention Volume/Removed Runoff.

The volume of runoff that is captured and not released directly into the surface Waters of this Commonwealth during or after a storm event.

Return Period.

The average interval, in years, within which a storm event of a given magnitude can be expected to occur one time. For example, the 25-year return period rainfall would be expected to occur on average once every 25 years; or stated in another way, the probability of a 25-year storm occurring in any one year is 0.04 (i.e. a 4% chance).

Riparian Buffer.

Vegetated areas that are adjacent to water resources that protect water resources from nonpoint source pollution, provide bank stabilization, and provide aquatic and wildlife habitat.

Runoff.

The surface water discharge or rate of discharge of a given watershed after a fall of rain or snow that does not enter the soil but runs off the surface of the land.

Sedimentation.

The deposition of soil that has been transported from its site of origin by water, ice, wind, gravity or other natural means as a result of erosion.

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 sediment.

Seepage Pit/Seepage Trench.

An area of excavated earth filled with loose stone or similar materials into which surface water is directed for infiltration into the ground.

Sheet Flow.

Runoff that flows across the land surface with a relatively thin and uniform depth.

Soil-Cover Complex Method.

A method of runoff computation in NRCS publication "Urban Hydrology for Small Watersheds, Technical Release No. 55.

Spillway.

A depression in the embankment of a pond or basin which is used to pass peak discharge greater than the maximum design storm controlled by the pond or basin.

State Water Quality Requirements.

The regulatory requirements to protect, maintain, reclaim, and restore water quality under Pennsylvania Code Title 25 and the Clean Streams Law.

Storm Drain System.

Publicly or privately owned facilities by which stormwater is collected and/or conveyed including, but not limited to, any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

Storm Sewer.

A pipe or conduit, or a system of pipes or conduits, which intercepts and carries surface stormwater runoff, but excludes sewage, industrial wastes and similar discharges.

Stormwater.

Drainage runoff from the surface of the land resulting from precipitation or snow or ice melt.

Stormwater Management.

The control of stormwater runoff on a given site.

Stormwater Management Facility.

Any structure, natural or man-made, that, due to its condition, design, or construction, conveys, stores, or otherwise affects stormwater runoff. Typical stormwater management facilities include, but are not limited to, detention and retention basins, open channels, storm sewers, pipes, and infiltration facilities.

Stormwater Management Plan.

A plan or design for controlling stormwater so that it will preclude erosion or flooding and/or the adverse effects of stormwater from impervious areas. **Stormwater Management Plan** will be designated as **SWM Plan** throughout this Ordinance and will include Stormwater Management Site Plan and Stormwater Management Report.

Stormwater Management Best Management Practices.

See BMPs. This term is abbreviated as **BMPs** or **SWM BMPs** throughout this Ordinance. For all NPDES permitted sites, the Stormwater Management Site Plan shall include, and be consistent with, the Erosion and Sedimentation and Pollution Control Plan as submitted to the Cumberland County Conservation District and/or PADEP.

Stormwater Management Site Plan.

The plan prepared by the developer, municipality, or other entity indicating how stormwater runoff will be managed at the development site in accordance with this Ordinance. **Stormwater Management Site Plan** will be designated as **SWM Site Plan** throughout this Ordinance.

Stormwater Management Site Report.

Report prepared by the applicant or his representative consisting of applicable calculations and maps indicating how stormwater runoff will be managed at the project site in accordance with this chapter. **Stormwater Management Site Report** will be designated as **SWM Site Report** throughout this Ordinance.

Subdivision.

As defined in The Pennsylvania Municipalities Planning Code, Act of July 31, 1968, P.L. 805, No. 247.

Surface Drainage Plan.

A plan showing all present and proposed grades and facilities for stormwater drainage.

Surveyor, Registered or Surveyor, Professional Land Surveyor.

A person duly registered as a professional surveyor by the Commonwealth of Pennsylvania.

Swale.

A low-lying stretch of land, characterized as a depression, used to carry surface water runoff.

Time of Concentration.

The interval of time required for runoff to travel from the hydraulically most distant point of the watershed to a point of interest within the watershed.

Topsoil.

Surface soils and subsurface soils which are presumably fertile, containing material ordinarily rich in organic matter or humus debris. Topsoil is usually found in the uppermost soil layer, or horizon.

Township.

The Township of Lower Frankford, Cumberland County, Pennsylvania, Board of Supervisors, its agents or authorized representatives.

USDA.

United States Department of Agriculture.

Watercourse.

A stream of water, river, brook, creek or a channel or ditch for water, whether natural or man-made, and whether flows are perennial or intermittent.

Waters of the Commonwealth.

Any and all rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs, and all other bodies or channels or conveyance of surface and underground waters, or parts thereof, whether natural or artificial, within or on the boundaries of the Commonwealth of Pennsylvania.

Watershed.

The entire region or area drained by a river or other body of water whether natural or artificial.

Wetland.

Areas that have a predominance of hydric soils and that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

ARTICLE III

STORMWATER MANAGEMENT STANDARDS

Section 301. General Requirements

A. A Stormwater Management (SWM) Plan prepared in accordance with the hereinafter provisions, shall be required for each subdivision or land development plan. As an integral part of the SWM Plan, Erosion and Sedimentation Control measures shall be included. A SWM Plan must be approved prior to the construction of any improvements.

B. All SWM Plans shall be prepared and certified by a Professional Engineer.

C. Township Liability

The degree of stormwater management sought by the provisions of this Article is considered reasonable for regulatory purposes. This Article shall not create liability on the part of the Township, any appointed or elected official of the Township, the Cumberland County Conservation District, or any officer, Engineer or employee thereof for any erosion, sediment pollution or flood damages that result from reliance on this Section or any administrative decision lawfully made thereunder.

D. SWM Site Plans approved by the Township shall be on site throughout the duration of the Regulated Activity.

E. The Township, after consultation with DEP, may approve measures for meeting the State Water Quality Requirements other than those in this Ordinance, provided that they meet the minimum requirements of, and do not conflict with, State law including but not limited to the Clean Streams Law.

F. For all Regulated Earth Disturbance Activities, erosion and sediment control BMPs shall be designed, implemented, operated, and maintained during the Regulated Earth Disturbance Activities (e.g., during construction) to meet the purposes and requirements of this Ordinance and to meet all requirements under the Pennsylvania Code Title 25 and Clean Streams Law. Various BMPS and their design standards are listed in the Erosion and Sediment Pollution Control Program Manual (E&S Manual)[2], Commonwealth of Pennsylvania, Department of Environmental Protection No. 363-2134-008 (March 2012), as amended and updated.

G. For all Regulated Activities not exempted by Section 302, implementation of the Volume Controls in Section 303 below is required.

H. For all new development projects, the measurement of impervious areas shall include all of the impervious areas in the total proposed development even if development is to take place in stages. Similarly, for new development projects taking place in stages, the entire proposed new development plan must be used in determining conformance with this Ordinance.

I. Stormwater flows and/or direct discharges shall not be created, increased, decreased, relocated,

or otherwise altered in a manner which would affect any adjacent, contiguous or nearby properties without demonstrating that the owners of the such affected properties have been made aware of the flow/direct discharge which is in intended to enter upon their property.

J. The design of all facilities over Karst topography shall include an evaluation of measures to minimize adverse effects in accordance with the procedures outlined in Section 7.4 (Special Management Areas – Karst Areas) of the most current version of the SWM Manual[1].

K. For all Regulated Activities, SWM BMPs shall be designed, implemented, operated, and maintained to meet the purposes and requirements of this Ordinance. In addition, the BMP's shall meet all requirements under Title 25 of the Pennsylvania Code, the Clean Streams Law, and the Storm Water Management Act as required and enforced by the governing agencies.

L. All natural drainage ways and existing contouring of pre-development drainage patterns shall be preserved to the maximum extent possible. Post-development drainage patterns shall simulate pre-development patterns.

M. The engineer preparing the calculations shall provide a signed and dated statement indicating that he/she has been to the site for the purpose of conducting a visual inspection in order to determine the existing ground cover. The date of the site inspection shall be included in said statement.

Section 302. Exemptions

A. Regulated Activities resulting in less than or equal to 1,000 square feet of new impervious surface are exempt from Article IV SWM Plan preparation requirements including Sections 303 and 304 of this Ordinance. Regulated Activities greater than 1,000 square feet and less than or equal to 5,000 square feet of new impervious area may be exempt from the SWM Plan preparation requirements including Sections 303 and 304 of this Ordinance when justification is provided with the application that stormwater impact is minimal.*

B. Regulated Activities that create new Disconnected Impervious Areas greater than 1,000 square feet and less than or equal to 5,000 square feet that are proven to meet the 75-foot minimum pervious flow path requirement outlined in Appendix A are exempt from the SWM Plan preparation requirements including Sections 303 and 304 of this Ordinance.*

C. Regulated Activities meeting the following parcel size and square footage requirements are exempt from the peak rate control requirements, but not the volume control or SWM Plan preparation requirements of this Ordinance. These criteria shall apply to the total proposed development even if development is to take place in phases. The date of the municipal ordinance adoption shall be the starting point from which to consider tracts as "parent tracts" in which future subdivisions and respective impervious area computations shall be cumulatively considered.*

New Impervious Area Exemption Criteria for Peak Rate Control

Total Parcel Size (acres)	Total Parcel Size (square feet)	New Impervious Area Exemption (square feet)

<0.25	<10,890	1,500
0.25 – 0.5	10,890 - 21,780	2,500
>0.5	>21,780	5,000

D. Agricultural plowing and tilling are exempt from the SWM Plan requirements including Sections 303 and 304 of this Ordinance provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.

E. Forest management and timber operations are exempt from the rate control and SWM Plan preparation requirements of this ordinance provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.

***The Municipality has, at its discretion, the ability to deny exemption from any requirements of this ordinance. Exemption from any requirements of this ordinance does not convey exemption from any requirements of any other applicable local codes or ordinances (i.e., local building permit requirements).**

Section 303. Volume Controls

A. Water volume controls shall be implemented using the Design Storm Method in Subsection 1 or the Simplified Method in Subsection 2 below for all Regulated Activities not otherwise exempted by Section 302. For Regulated Activity areas equal or less than one (1) acre that do not require hydrologic routing to design the stormwater facilities, this Ordinance establishes no preference for either methodology; therefore, the applicant may select either methodology on the basis of economic considerations, the intrinsic limitations on applicability of the analytical procedures associated with each methodology, and other factors.

1. The Design Storm Method (see Section 8.7 of the most current version of the SWM Manual1) is applicable to any size of Regulated Activity. This method requires detailed modeling based on site conditions.

    a. Do not increase the post-development total runoff volume for all storms equal to or less than the 2-year 24-hour duration precipitation.

    b. For modeling purposes:

        i. Existing (pre-development) non-forested pervious areas must be considered meadow or its equivalent.

        ii. Twenty (20) percent of existing impervious area, when present, shall be considered meadow in the model for existing conditions.

2. The Simplified Method (see Section 8.7 of the most current version of the SWM Manual[1]) provided below is independent of site conditions and should be used if the Design Storm Method is not followed. This method is not applicable to Regulated Activities greater than one (1) acre or for projects that require design of stormwater detention or rate control facilities. For new impervious surfaces:

a. Stormwater facilities shall be sized to capture at least the first two inches (2") of runoff from all new impervious surfaces.

b. At least the first one inch (1.0") of runoff from new impervious surfaces shall be permanently removed from the runoff flow -- i.e. it shall not be released into the surface Waters of this Commonwealth. Removal options include reuse, evaporation, transpiration, and infiltration.

c. Infiltration facilities should be designed to accommodate infiltration of the entire permanently removed runoff; however, in all cases at least the first one-half inch (0.5") of the permanently removed runoff should be infiltrated.

d. The second one inch (1.0") of runoff from new impervious surfaces should be detained using structural and non-structural BMPs (as outlined in the most current version of the SWM Manual) and released at a controlled rate.

e. Regulated Activities eligible under this method are exempt from the requirements of Section 304, Rate Controls.

Section 304. Rate Controls (see Section 8.3 of the most current version of the SWM Manual[1])

A. Areas not covered by a Release Rate Map from an approved Act 167 Stormwater Management Plan:

Post-development discharge rates shall not exceed the predevelopment discharge rates for the 1-, 2-, 5-, 10-, 25-, 50-, and 100-year storms. If it is shown that the peak rates of discharge indicated by the post-development analysis are less than or equal to the peak rates of discharge indicated by the pre-development analysis for 1-, 2-, 5-, 10-, 25-, 50-, and 100-year, 24-hour storms, then the requirements of this section have been met. Otherwise, the applicant shall provide additional controls as necessary to satisfy the peak rate of discharge requirement.

B. Areas covered by a Release Rate Map from an approved Act 167 Stormwater Management Plan (see Appendix B):

For the 1-, 2-, 5-, 10-, 25-, 50-, and 100-year storms, the post-development peak discharge rates will follow the applicable approved release rate maps (see Appendix B). For any areas not shown on the release rate maps, the post-development discharge rates shall not exceed the predevelopment discharge rates.

C. Calculations of the predevelopment peak discharge for nonforested pervious areas shall presume a good condition meadow cover. Twenty percent of existing impervious area, when present, shall be considered meadow, good condition, in the model for existing conditions for redevelopment.

D. Off-site areas that drain through a proposed development site are not subject to release rate criteria when determining allowable peak runoff rate; however, on-site drainage facilities shall be designed to safely convey off-site flows through the development site.

Section 305. Calculation Methodology

A. Stormwater runoff from all development sites shall be calculated using either the Rational Method or the Soil Cover Complex methodology. Methods shall be selected by the qualified professional based on the individual limitations and suitability of each method for a site.

B. Time of concentration shall be computed using the NRCS Segmental Method as described in TR-55 (SCS 1986 or most current update). The length of sheet flow shall not exceed 100 feet. The Manning's "n" roughness coefficient for TR-55 sheet flow can be found in Table D-2 (Appendix D). The length of flow path for shallow concentrated flow shall not exceed 1,000 feet. Time of concentration for channel and pipe flow shall be computed using Manning's equation. Manning's "n" values shall be obtained from Table D-1 (Appendix D).

C. For the SCS soil-cover complex method, Type II 24-hour storm distribution curves shall be used.

D. Runoff curve numbers (CN) for both existing and proposed conditions to be used in the soil-cover complex method shall be obtained from Chapter 3 of Urban Hydrology for Small Watersheds, NRCS, TR-55 (as amended or replaced from time to time by NRCS) or Table C-1 (Appendix C).

E. Runoff coefficients (c) for both existing and proposed conditions for use in the Rational Method shall be obtained from the Erosion and Sediment Pollution Control Program Manual (E&S Manual), Commonwealth of Pennsylvania, Department of Environmental Protection No. 363-2134-008 (March 2012), as amended and updated or Table C-2 (Appendix C).

F. The design storm precipitation depths and intensities to be used in the analysis of peak rates of discharge and runoff volume calculations should be obtained from the Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2, U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Spring, Maryland, 20910. NOAA's Atlas 145 can be accessed at: http://hdsc.nws.noaa.gov/hdsc/pfds/.

Section 306. Additional Design Criteria

A. Any stormwater management facility designed to store runoff and requiring a berm or earthen embankment shall be designed to provide an emergency spillway to handle peak rate of stormwater runoff up to and including the one-hundred-year post-development flow, with a blocked primary outlet structure. Spillways as a minimum shall be set at an elevation to allow discharge from the pond during the 100-year storm. In no case, however, shall the composite outflow from the primary release device(s) and the emergency spillway exceed predevelopment rates. Spillways shall be provided structural stability. As such, locating spillways within the embankment is prohibited unless adequate reinforcing is provided.

B. Any stormwater management facility designed to store runoff and requiring a berm or embankment. The height of the berm or embankment will be set to provide a minimum 1 foot of freeboard above the maximum pool elevation for the 100-year post-development flow.

C. A stormwater management facility berm cross section must be at least five feet wide at the top and eight feet wide through the emergency spillway. For fill embankments, the side slopes shall

be no steeper than 3:1 on the inside and outside of the facility. For cut slopes, the side slopes shall be no steeper than 2:1.

D. A cutoff and key trench of impervious material shall be provided under all embankments four feet or greater in height.

E. Antiseep collars must be provided on all outflow culverts in accordance with the methodology contained in the latest edition of the E&S Manual. An increase in seepage length of 15% must be used in accordance with the requirements for permanent antiseep collars.

F. Subsurface infiltration facilities designed for runoff peak attenuation shall be allowed only after all other alternatives have been explored and found not to be practical for the proposed subdivision or land development. Lack of sufficient area to install other alternatives shall not be an acceptable reason for allowing subsurface infiltration facilities.

G. Storage facilities should completely drain both the volume control and rate control capacities within 72 hours from the end of the design storm subject to site conditions.

H. The invert of all infiltration/storage facilities shall be located a minimum of two feet above the seasonal high groundwater table or other soil limiting zone. The invert of stormwater facilities may be lower if they do not adversely alter the existing water table level.

I. Maximum permitted channel velocities are as follows:

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

2. Four (4) feet per second under normal conditions where vegetation can be established by seeding.

3. Five (5) feet per second where a dense, vigorous sod can be quickly established or where water can be temporarily diverted during establishment of vegetation.

4. Six (6) feet per second where well-established sod is in existence.

5. For lined water carrying channels the following maximum velocities are permitted:

Channel Lining	Maximum Velocity
6-inch rock rip-rap	6 feet per second
9-inch rock rip-rap	8 feet per second
Asphalt	7 feet per second
Durable Bedrock	8 feet per second
12-inch rock rip-rap	9 feet per second
Concrete or steel	12 feet per second

6. The normal maximum velocity of open channel flows shall not exceed ten (10) feet per second.

J. Stormwater runoff channels shall be designed to avoid trapping excess sediment, except if structures are so designed to trap sediment. In all instances, the minimum velocity of stormwater through runoff channels shall be one and one-half (1.5) feet per second.

K. Swales must convey post-development runoff from the design storm with six inches of freeboard to top of the swale.

L. Energy dissipaters/erosion control devices shall be placed at the outlets of all pipes where flow velocities exceed maximum permitted channel velocities.

M. Vertical pipes, inlets and other surface water receiving structures shall be installed with trash racks, or so designed to control trash accumulation.

N. Piping.

1. Culverts, pipes, and storm sewers shall be designed for a ten- (10) year storm with a five (5) minute time of concentration (Tc). Designs based upon calculation of actual Tc will be allowed if pipe size exceeds 36" in diameter based upon said five- (5) minute Tc. Supporting documentation verifying the same is required. In the event, however, that a culvert passes beneath a public roadway, it shall be designed in such a manner to prevent the roadway from inundation during a twenty-five (25) year storm.

2. All pipes shall consist of straight runs. There should be no bends in any pipes.

3. All piping used in the stormwater drainage system shall be CMP galvanized steel, aluminum alloy, reinforced concrete, smooth-lined HDPE or other material approved by the Township Engineer. A minimum pipe size of eighteen (18) inches in diameter shall be used in all roadway systems proposed for dedication to the Township. A minimum pipe size of twelve (12) inches in diameter is permitted on private facilities. Pipes shall be designed to provide a minimum velocity of 2.5 feet per second when flowing full. Arch pipe may be used in lieu of round pipe where cover or utility conflict conditions exist.

4. All storm drainage piping discharging to the ground surface shall be provided with either reinforced concrete head walls or metal pipe end sections compatible with the pipe material and size involved. A riprap apron of adequate length shall be provided at all surface discharge points in order to minimize erosion. The apron shall extend to the crown of the pipe. Riprap size shall be determined by flow velocity leaving the system.

O. Inlets.

1. Storm drainage inlets shall be provided at all low points and hydraulically intermediate points on a system. Location spacing of inlets shall be based on the hydraulic capacity of each inlet related to the flow received and the amount of flow bypass from upstream inlets. Inlets shall be placed so street drainage shall not cross Intersections or 1/2 the width of the adjacent travel lane.

2. All street inlet tops shall be a combination curb/gutter inlet referred to as PennDOT type “C” with a ten (10) inch curb reveal to allow an automatic depressed condition to exist

when used on an eight (8) inch curb. In private parking areas, streets and yard areas with no curbing, type “M” inlet tops shall be used.

3. Inlets shall be constructed in accordance with the specifications as set forth in the Pennsylvania Department of Transportation, Publication 408, current edition, and as detailed on the Roadway Construction Standard Drawings (RC-45M) or other detail approved by the Township Engineer.

4. All inlets in paved areas shall have heavy-duty bicycle-safe grating consistent with PennDOT Publication 72M. A note to this effect shall be added to the SWM site plan or inlet details therein.

P. The stormwater management and drainage system shall be designed to safely convey the post-development one-hundred-year storm event to stormwater detention facilities, for the purpose of meeting peak rate control.

ARTICLE IV

STORMWATER MANAGEMENT (SWM) SITE PLAN AND REPORT REQUIREMENTS

Section 401. General Requirements

A. For any of the activities regulated by the Ordinance, the final approval of subdivision and/or land development plans, the issuance of any building or occupancy permit, or the commencement of any land disturbance activity may not proceed until the Property Owner or Developer or his/her agent has received written approval of a Stormwater Management Plan from Lower Frankford Township.

B. The Stormwater Management (SWM) Site Plan and SWM Site Report shall consist of all applicable calculations, maps, and plans. All Stormwater Management Plan materials shall be submitted to the municipality in a format that is clear, concise, legible, neat, and well organized; otherwise, the Stormwater Management Plan shall be disapproved and returned to the Applicant. Plans shall be no larger than 24" x 36" sheets and in a form that meets the requirements for recording in the Office of the Recorder of Deeds of Cumberland County.

Section 402. Stormwater Management Site Plan Contents

The following items shall be included in the Stormwater Management Site Plan:

A. General description of project.

B. A location map using USGS topographic map or equivalent, at a minimum scale of one-inch equals 1,000 feet, showing the project location with surrounding area for reference.

C. North Arrow, graphic scale, written scale, date of preparation of plan, with revision dates, if any, drawing or file number and sheet number. If the plan requires more than one sheet, each sheet shall be numbered, and a sheet number index shall be provided.

D. The name of the development; name and location address of the property site; name, address and telephone number of the applicant/owner of the property; and the name, address, telephone number and professional engineer seal of the individual preparing the plan.

E. Existing Features

1. All existing buildings, wells, on-lot sewage disposal systems, sewers, water mains, culverts, storm sewers, gas lines, underground cables, and any other significant man-made features, easements and rights-of-way.

2. All existing watercourses and bodies, tree masses, rock outcrops, sinkholes, wetlands and any other significant natural features, including the approximate location of the 100-year floodplain boundaries, if applicable, and the total extent of the upstream area draining through the site.

3. All existing streets, paved areas, driveways, or private rights-of-way within or adjacent to the tract.

4. Existing (from actual field or aerial survey) contours of the site at vertical intervals of two feet for areas with an average slope of 4% or less and at intervals of five feet for areas with an average slope exceeding 4%. Extrapolated USGS contours shall only be accepted where no public improvements are proposed. Where public improvements are proposed, contours must be field verified with a two-foot minimum interval.

5. Soil names and boundaries with identification of the Hydrologic Soil Group.

6. Land use(s)

F. Proposed Features

1. Proposed buildings, wells, on-lot sewage disposal systems, sewers, water mains, culverts, storm sewers, gas lines, underground cables, and any other significant man-made features, easements and rights-of-way.

2. Proposed changes to the land surface and vegetative cover.

3. Proposed streets, paved areas, driveways, or private rights-of-way within or adjacent to the tract.

4. A grading plan for the entire site which will include all off-road areas, including building sites. This grading plan may be general in nature but shall provide enough detail to support post development stormwater drainage facility designs.

5. Proposed contours at vertical intervals of two feet for areas with an average slope of 4% or less and at intervals of five feet for areas with an average slope exceeding 4%.

6. Land use(s)

G. The total number of lots and the total acreage of the site.

H. Tract boundaries.

I. Storm sewer and channel profiles and design cross sections; stormwater management facility profiles and cross sections.

J. Construction details for all drainage and stormwater BMPs.

K. Staging and implementation schedule for constructing the proposed stormwater control system.

L. Operation and Maintenance Plan for all existing and proposed physical stormwater management facilities. This plan shall address long-term ownership and responsibilities for Operation and Maintenance.

M. A minimum twenty-foot-wide access easement around all stormwater management facilities that would provide ingress to and egress from a public right-of-way. In lieu of providing an easement to the public right-of-way, a note may be added to the plan granting the Township or its designees access to all easements via the nearest public right-of-way.

N. For any activities that require a PA DEP Joint Permit Application and regulated under Chapter 105 (Dam Safety and Waterway Management) or Chapter 106 (Floodplain Management) of PA DEP's Rules and Regulations, require a PennDOT Highway Occupancy Permit, or require any other permit under applicable state or federal regulations, the permit(s) shall be part of the plan.

O. A statement signed by the landowner, acknowledging the stormwater management system to be a permanent fixture that can be altered or removed only after approval of a revised plan by the municipality.

Section 403. Stormwater Management Site Report Contents

The following items shall be included in the Stormwater Management Site Report:

A. The name of the development; name and location address of the property site; name, address and telephone number of the applicant/owner of the property; and the name, address, telephone number and professional engineer seal of the individual preparing the report.

B. General description of project, including expected project time schedule.

C. The overall stormwater management concept for the project. This should include, but is not limited to, a detail description of existing site conditions and a description of the proposed changes to the land surface and vegetative cover.

D. A location map using USGS topographic map or equivalent, at a minimum scale of one-inch equals 1,000 feet, showing the project location with surrounding area for reference.

E. Runoff calculations and related design computations of the total drainage basin necessary to substantiate the proposed temporary and permanent stormwater management facilities.

F. Outlines of existing and proposed drainage areas and subareas and the flow paths for calculating the times of concentration.

G. Complete hydrologic, hydraulic and structural computations, calculations, assumptions, and criteria for the design of all stormwater BMPs.

H. Calculations shall be accompanied by the following supporting data:

1. Either singular or composite inflow and outflow hydrographs.

2. Stage-storage data.

3. Stage-discharge data.

4. Storage-routing calculations.

5. Other data as required by the Township Engineer.

I. Description of, justification for, and actual field results for infiltration testing with respect to the type of test and test location for the design of infiltration BMPs.

J. A determination of Site Conditions in accordance with the Site Assessment procedures outlined in Chapter 4 of the most current version of the *Stormwater Management Best Practices Manual.* A site assessment shall be completed for projects proposed in areas of carbonate geology or karst topography.

K. Signature of the licensed professional who performs the work, certifying the accuracy of the plan and all calculations associate therewith.

Section 404. SWM Site Plan and Report Submission

A. The Applicant shall submit the SWM Site Plan and Report for the regulated activity.

B. Two (2) copies of the SWM Site Plan and Report shall be submitted to the Township and may be distributed as follows.

1. One (1) copy for the Township accompanied by the required Township review fee.

2. One (1) copy for the Township Engineer.

C. The SWM Site Plan and Report shall be provided in digital PDF format or other format acceptable to the Township.

D. Additional copies shall be submitted as required by the Cumberland County Planning Department, PennDOT, Cumberland County Conservation District or PA DEP.

Section 405. SWM Plan Review

A. The SWM Plan shall be reviewed by a Qualified Professional for the Township for consistency with the provisions of this ordinance. After review, the Qualified Professional shall provide a written recommendation for the municipality to approve or disapprove the SWM Plan. If it is recommended to disapprove the SWM Plan, the Qualified Professional shall state the reasons for the disapproval in writing. The Qualified Professional also may recommend approval of the SWM Plan with conditions and, if so, shall provide the acceptable conditions for approval in writing. The SWM Plan review and recommendations shall be completed within the time allowed by the Municipalities Planning Code for reviewing subdivision plans.

B. For SWM Plans that do not require subdivision and land development approval, the Township shall notify the applicant in writing within 45 calendar days from the date of submission whether the SWM Plan is approved or disapproved. If the SWM Plan involves a Subdivision and Land Development Plan, the notification period is 90 days. If a longer notification period is provided by other statute, regulation, or ordinance, the applicant will be so notified by the Township. If

the Township disapproves the SWM Plan, the Township shall cite the reasons for disapproval in writing.

Section 406. Modification of Plans

A modification to a submitted SWM Plan that involves a change in SWM BMPs or techniques, or that involves the relocation or redesign of SWM BMPs, or that is necessary because soil or other conditions are not as stated on the SWM Plan as determined by the Township, shall require a resubmission of the modified SWM Plan in accordance with this chapter.

Section 407. Resubmission of Disapproved Storm Water Management Plans

A disapproved SWM Plan may be resubmitted, with the revisions addressing the Township's concerns, in accordance with this Article. The applicable review fee must accompany a resubmission of a disapproved SWM Plan.

Section 408. Authorization to Construct and Term of Validity

The Township's approval of a SWM Plan authorizes the Regulated Activities contained in the SWM Plan for a maximum term of validity of five years following the date of approval. Terms of validity shall commence on the date the Township signs the approval for an SWM Plan. If an approved SWM Plan is not completed according to Section 409 within the term of validity, then the Township may consider the SWM Plan disapproved and may revoke all permits issued by the Township. SWM Plans that are considered disapproved by the Township shall be resubmitted in accordance with Section 407 of this Ordinance.

Section 409. Record Drawings, Completion Certificate and Final Inspection

A. At its discretion, the Township may require record drawings be provided to the Township, and the Applicant shall be responsible for providing record drawings of all SWM BMPs included in the approved SWM Site Plan. The record drawings and an explanation of any discrepancies with the construction plans shall be submitted to the Township.

B. The record drawings shall include a certification signed by a qualified professional verifying that all permanent stormwater BMPs have been constructed according to the approved SWM Plan.

C. After receipt of the record drawings and certification of completion, the Township may conduct a final inspection.

ARTICLE V

OPERATION AND MAINTENANCE

Section 501. Responsibilities of Developers and Landowners

A. The Township shall make the final determination as to the adequacy of Ownership Operation and Maintenance provisions prior to final approval of the SWM Plan.

B. The Operation and Maintenance Plan shall be recorded as a restrictive covenant that runs with the land in perpetuity.

C. Each SWM Plan shall contain provisions, which clearly set forth ownership, operation and maintenance responsibilities for all permanent stormwater management facilities. At a minimum, the provisions shall include:

1. A description of the routine and periodic operation and maintenance activities that are necessary to ensure proper operation and function of the stormwater management facilities such as is required to meet the intent of the approved SWM Plan.

2. Establishment of suitable easement as specified in Section 502. The Township, its agent and employees shall have the right to enter easement areas where stormwater management and erosion and sediment control facilities are located for the purpose of inspecting said facilities.

3. Identification of the responsible party or entity for ownership and maintenance of permanent stormwater management facilities.

D. The Township may take enforcement actions against an owner for any failure to satisfy the provisions of this Article.

E. Should stormwater management facilities fail to be properly maintained, the municipality may perform the services necessary in order to maintain the proper functioning and operation of the Stormwater Management BMP and, thereafter, charge to the owner appropriate fees and/or place a lien against the property until such fees are collected and paid by the owner.

Section 502. Easements

A. Easements shall be established to accommodate the existing drainageways and all on-site and off-site stormwater management or drainage facilities, including but not limited to detention facilities (above or below the ground), infiltration facilities, all stormwater BMPs, drainage swales, and drainage facilities (inlets, manholes, pipes, etc.).

B. Stormwater management facility and BMP-related drainage easements are required for all areas used for off-site stormwater control unless a waiver is granted by the Board of Supervisors.

C. Stormwater management facility and BMP-related easements shall be provided by the property

owner, if necessary, for access for inspections and facility maintenance or preservation of stormwater runoff conveyance, infiltration and detention areas and other BMPs by persons other than the property owner. The purpose of the stormwater management facilities and BMP-related easement shall be specified in an agreement.

D. The applicant must provide an executed easement for newly concentrated flow across adjacent and downstream properties to the point where flow is concentrated in an existing conveyance feature.

E. Where watercourses traverse a development site, 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 stormwater within any portion of the easement. Also, maintenance, including the mowing of vegetation within the easement, may be required, except as approved by the appropriate governing authority.

F. Easement are required for all areas used for off-site stormwater control.

G. All easements shall be a minimum of 20 feet wide. Additional width may be required by the Township.

H. Easements shall provide ingress and egress from a public right-of-way. In lieu of providing an easement to the public right-of-way, a note may be added to the plan granting the Township or its designee access to all easements via the nearest public right-of-way.

I. Where possible, easements shall be centered on side and/or rear lot lines.

J. The following note shall be placed on the recorded plan. "Nothing shall be planted or placed within the easement which would adversely affect the function of the easement, or conflict with any conditions associated with such easement."

K. A note shall be placed on the SWM Site Plan identifying the party responsible for assuring the continued functionality and required maintenance of any easement.

L. Recording of easement/deeds descriptions. The applicant/owner of any land upon which permanent stormwater management facilities or BMP-related facilities will be placed or implemented shall be required to prepare all legal descriptions and record with the Cumberland County Recorder of Deeds office all relevant easements and legal documents required and described in the SWM site plan and report. Easements which are related to a subdivision/land development application shall be recorded within 90 days from the date of final plan approval. If a subdivision/land development is not required, any easements and similar documents shall be described and recorded within 15 days from the date of approval of the SWM site plan and report and prior to the issuance of the SWM permit.

ARTICLE VI

FEE AND EXPENSES

Section 601. General

The Township may include all costs incurred in the review fee charged to an applicant.

The review fee may include but not be limited to costs for the following:

A. Administrative/clerical processing and/or Solicitor fees.

B. Review of the SWM Site Plan.

C. Attendance at meetings.

D. Inspections.

ARTICLE VII

PROHIBITIONS

Section 701. Prohibited Discharges and Connections

A. Any drain or conveyance, whether on the surface or subsurface, which allows any non-stormwater discharge including, but not limited to, sewage, process wastewater, wash water, ammonia, chlorine, petroleum products (gasoline, fuel oil, etc.) pesticides, pollutants and other hazardous materials to enter the Waters of the Commonwealth is prohibited.

Handling and disposal of all materials and wastes shall comply with all Federal and State requirements. Structural and non-structural BMPs, in accordance with Chapters 5 and 6 of the most current version of the SWM Manual, shall be implemented where necessary to preserve the quality of stormwater runoff.

B. Discharges to Waters of the Commonwealth which are not composed entirely of stormwater shall be prohibited, except (1) as provided in subsection C below, and (2) discharges allowed under a state or federal permit.

C. The following discharges are authorized unless they are determined to be significant contributors to pollution to the Waters of this Commonwealth:

- Discharges from firefighting activities	- Flows from riparian habitats and wetlands
- Potable water sources including water line flushing	- Uncontaminated water from foundations or from footing drains
- Irrigation drainage	- Lawn watering
- Air conditioning condensate	- Dechlorinated swimming pool discharges
- Springs	- Uncontaminated groundwater
- Water from crawl space pumps	- Water from individual residential car washing
- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used	- Routine external building wash down (which does not use detergents or other compounds)

D. In the event that the Township or DEP determines that any of the discharges identified in Subsection C, significantly contribute to pollution of the Waters of this Commonwealth, the Township or DEP will notify the responsible person(s) to cease the discharge.

Section 702. Roof Drains and Sump Pumps

Roof drains and sump pumps shall not discharge to any impervious area, if site conditions permit.

Section 703. Alteration of SWM BMPs

No person shall modify, remove, fill, landscape, or alter any SWM BMPs, facilities, areas, grades, or structures, without the written approval of the Township.

ARTICLE VIII

ENFORCEMENT AND PENALTIES

Section 801. Right-of-Entry

Upon presentation of proper credentials, the Township may enter at reasonable times upon any property within the Township to inspect the condition of the stormwater structures and facilities in regard to any aspect regulated by this Ordinance.

Section 802. Inspection

A. The landowner must notify the Township seven (7) days prior to starting construction on improvements proposed by an approved SWM Plan. At that time, a schedule for inspection of the construction activities shall be confirmed by the landowner/contractor and the Township.

B. Any BMPs that will have backfill placed over them will need to be observed by the Township prior to being backfilled.

C. As per Section 601.D, the Applicant will be required to pay all fees for inspections that are associated with constructing the improvements proposed by the approved SWM Plan.

Section 803. Enforcement

A. It shall be unlawful for a person to undertake any Regulated Activity except as provided in an approved SWM Plan, unless specifically exempted in Section 302.

B. Inspections regarding compliance with the SWM Plan during project construction are to be conducted by the Township, or their designee.

Section 804. Suspension and Revocation

A. Any approval or permit issued by the Township may be suspended or revoked for:

1. Non-compliance with or failure to implement any provision of the approved SWM Plan.

2. A violation of any provision of this Ordinance or any other applicable law, Ordinance, rule or regulation relating to the Regulated Activity.

3. The creation of any condition or the commission of any act during the Regulated Activity which constitutes or creates a hazard or nuisance, pollution, or which endangers the life or property of others.

B. A suspended approval may be reinstated by the Township when:

1. The Township has inspected and approved the corrections to the violations that caused the suspension.

2. The Township is satisfied that the violation has been corrected.

C. An approval that has been revoked by the Township cannot be reinstated. The applicant may apply for a new approval under the provisions of this Ordinance.

D. If a violation causes no immediate danger to the health, safety and welfare, life, public health, or loss of property, the Township may, in its sole discretion, provide a limited time period for the owner to correct the violation. In these cases, the Township will provide the owner, or the owner's designee, with a written notice of the violation and the time period allowed for the owner to correct the violation. If the owner does not correct the violation within the allowed time period, the Township may revoke or suspend any, or all, applicable approvals and permits pertaining to any provision of this Ordinance.

Section 805. Penalties

A. Anyone violating the provisions of this Ordinance shall be guilty of a summary offense, and upon conviction shall be subject to a fine of not more than $500.00 for each violation, recoverable with costs. Each day that the violation continues shall be a separate offense and penalties shall be cumulative.

B. In addition, the Township, may institute injunctive, mandamus or any other appropriate action or proceeding at law or in equity for the enforcement of this Ordinance. Any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus or other appropriate forms of remedy or relief.

Section 806. Appeals

A. Any person aggrieved by any action of the Township or its designee, relevant to the provisions of this Ordinance, may appeal to the Township within thirty (30) days of that action.

B. Any person aggrieved by any decision of the Township, relevant to the above appeal of this Ordinance, may appeal to the Cumberland County Court of Common Pleas within thirty (30) days of the Township's decision.

ARTICLE IX

REFERENCES

1. Pennsylvania Department of Environmental Protection (DEP). No. 363-0300-002 (2006), as amended and updated. *Pennsylvania Stormwater Best Management Practices Manual.* Harrisburg, PA.

2. The Pennsylvania Department of Environmental Protection (DEP). 363-2134-008 (2012), as amended and updated. *Erosion and Sediment Pollution Control Program Manual*. Harrisburg, PA.

3. United States Department of Agriculture (USDA), National Resources Conservation Service (NRCS). *National Engineering Handbook*. Part 630: Hydrology, 1969-2001. Originally published as the *National Engineering Handbook*, Section 4: Hydrology. Available online at: http://www.wcc.nrcs.usda.gov/hydro/hydro-techref-neh-630.html.

4. United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 1986. *Technical Release 55: Urban Hydrology for Small Watersheds*, 2nd Edition. Washington, D.C.

5. US Department of Commerce (USDC), National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS), Hydrometeorological Design Studies Center. 2004-2006. *Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2*, Silver Spring, Maryland, 20910. Internet address: http://hdsc.nws.noaa.gov/hdsc/pfds/.

DULY ENACTED AND ORDAINED this 6th day of July 2021 by the Board of Supervisors of Lower Frankford Township, Pennsylvania, in lawful session duly assembled.

LOWER FRANKFORD TOWNSHIP
CUMBERLAND COUNTY, PENNSYLVANIA
BOARD OF SUPERVISORS

By : _____

By : _____

By : _____

ATTEST:

_____

CERTIFICATE

I, THE UNDERSIGNED, Secretary of the Township of Lower Frankford Township, Cumberland County, Pennsylvania (the "Township"), certify that the foregoing is a true and correct copy of an Ordinance of the Board of Supervisors of the Township which was duly enacted by affirmative vote of a majority of the members of the Board at a meeting duly held on July 6, 2021 that said Ordinance has been duly recorded in the Ordinance Book of the Township: that a summary said Ordinance was duly published on June 28, 2021 as required by law in a newspaper of general circulation in the Township; and that copies of the complete text of the Ordinance were distributed to the publishing newspaper, the Lower Frankford Township Municipal Office; and that said Ordinance remains in effect, unaltered and unamended, as of the date of this Certificate.

I further certify that the meeting at which the Board of Supervisors of the Township adopted said Ordinance was a public meeting duly held after giving public notice of the date, time and place of such meeting by posting, publishing and mailing such notice at the time and in the manner required by Act No. 84 of the General Assembly of the Commonwealth of Pennsylvania, approved July 3, 1986, known as the "Sunshine Act".

IN WITNESS WHEREOF, I set my hand and affix the official seal of the Township, this 6th day of July, 2021.

Karen Heishman, Secretary for
Lower Frankford Township

APPENDIX A

DISCONNECTED IMPERVIOUS AREA (DIA)

A.1. Rooftop Disconnection

When rooftop downspouts are directed to a pervious area that allows for infiltration, filtration, and increased time of concentration, the rooftop may qualify as completely or partially Disconnected Impervious Area (DIA) and a portion of the impervious rooftop area may be excluded from the calculation of total impervious area.

A rooftop is considered to be completely or partially disconnected if it meets the requirements listed below:

- The contributing area of rooftop to each disconnected discharge is 500 square feet or less, and
- The soil, in proximity of the roof water discharge area, is not designated as hydrologic soil group "D" or equivalent, and
- The overland flow path from roof water discharge area has a positive slope of 5% or less.

For designs that meet these requirements, the portion of the roof that may be considered disconnected depends on the length of the overland path as designated in Table B.1.

Table B.1: Partial Rooftop Disconnection

Length of Pervious Flow Path *	**Roof Area Treated as Disconnected**
(ft)	(% of contributing area)
0 – 14	0
15 – 29	20
30 – 44	40
45 – 59	60
60 – 74	80
75 or more	100
* Flow path cannot include impervious surfaces and must be at least 15 feet from any impervious surfaces.	

A.2. Pavement Disconnection

When pavement runoff is directed to a pervious area that allows for infiltration, filtration, and increased time of concentration, the contributing pavement area may qualify as a DIA that may be excluded from the calculation of total impervious area. This applies generally only to small or narrow pavement structures such as driveways and narrow pathways through otherwise pervious areas (e.g. a walkway or bike path through a park).

Pavement is disconnected if the pavement, or area adjacent to the pavement, meets the requirements below:

- The contributing flow path over impervious area is not more than 75 feet, and

- The length of overland flow is greater than or equal to the contributing length, and
- The soil is not designated as hydrologic soil group “D” or equivalent, and
- The slope of the contributing impervious area is 5% or less, and
- The slope of the overland flow path is 5% or less.

If the discharge is concentrated at one or more discrete points, no more than 1,000 square feet may discharge to any one point. In addition, a gravel strip or other spreading device is required for concentrated discharges. For non-concentrated discharges along the edge of the pavement, this requirement is waived; however, there must be a provision for the establishment of vegetation along the pavement edge and temporary stabilization of the area until vegetation becomes stabilized.

REFERENCE

Philadelphia Water Department. 2006. *Stormwater Management Guidance Manual.* Section 4.2.2: ***Integrated Site Design.*** Philadelphia, PA.

APPENDIX B

CUMBERLAND COUNTY RELEASE RATE MAPS

Insert Release Rate Map Here
11” x 17”

APPENDIX C

RUNOFF CURVE NUMBERS AND RUNOFF COEFFICIENTS

Stormwater Management Design Criteria
Table C-1, Runoff Curve Numbers [From NRCS (SCS) TR-55]

Runoff Curve Numbers for Urban Areas					
Cover Description		**Curve Numbers for Hydrologic Soil Groups**			
Cover Type and Hydrologic Condition	**Average Percentage Impervious Area**	**A**	**B**	**C**	**D**
Fully Developed Urban Areas (Vegetation Established)					
Open space (lawns, parks, golf courses, etc):					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc.		98	98	98	98
Streets and roads:					
Paved: curbed and storm sewers		98	98	98	98
Paved: open ditches		83	89	92	93
Gravel		76	85	89	91
Dirt		72	82	87	89
Urban districts:					
Commercial and business	85%	89	92	94	95
Industrial	72%	81	88	91	93
Residential districts by average lot size:					
1/8 acres or less	65%	77	85	90	92
1/4 acre	38%	61	75	83	87
1/3 acre	30%	57	72	81	86
1/2 acre	25%	54	70	80	85
1 acre	20%	51	68	79	84
2 acres	12%	46	65	77	82
Developing Urban Areas					
Open space (lawns, parks, golf courses, etc):		77	86	91	94

Runoff Curve Numbers for Cultivated Agricultural Lands						
Cover Description			**Curve Numbers for Hydrologic Soil Groups**			
Cover Type	**Treatment**	**Hydrologic Condition**	**A**	**B**	**C**	**D**
Fallow	Bare Soil	--	77	86	91	94
	Crop Residue Cover (CR)	Poor	76	85	90	93
		Good	74	83	88	90
Row crops	Straight Row (SR)	Poor	72	81	88	91
		Good	67	78	85	89
	SR + CR	Poor	71	80	87	90
		Good	64	75	82	85
	Contoured (C)	Poor	70	79	84	88
		Good	65	75	82	86
	C + CR	Poor	69	78	83	87
		Good	64	74	81	85
	Contoured & Terraced (C & T)	Poor	66	74	80	82
		Good	62	71	78	81
	C & T + CR	Poor	65	73	79	81
		Good	61	70	77	80
Small grain	SR	Poor	65	76	84	88
		Good	63	75	83	87
	SR + CR	Poor	64	75	83	86
		Good	60	72	80	84
	C	Poor	63	74	82	85
		Good	61	73	81	84
	C + CR	Poor	62	73	81	84
		Good	60	72	80	83
	C & T	Poor	61	72	79	82
		Good	59	70	78	81
	C & T + CR	Poor	60	71	78	81
		Good	58	69	77	80
Close seeded or broadcast legumes or rotation meadow	SR	Poor	66	77	85	89
		Good	58	72	81	85
	C	Poor	64	75	83	85
		Good	55	69	78	83
	C & T	Poor	63	73	80	83
		Good	51	67	76	80

Runoff Curve Numbers for Other Agricultural Lands					
Cover Description		**Curve Numbers for Hydrologic Soil Groups**			
Cover Type	**Hydrologic Condition**	**A**	**B**	**C**	**D**
Pasture, grassland, or range: continuous forage for grazing	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow: continuous grass, protected from grazing and generally mowed for hay	--	30	58	71	78
Brush: brush, weed, grass mixture with brush the major element	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30	48	65	73
Woods: grass combination (orchard or tree farm)	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30	55	70	77
Farmsteads: buildings, lanes, driveways and surrounding lots	--	59	74	82	86

Stormwater Management Design Criteria
Table C-2, Runoff Coefficients for the Rational Equation*

LAND USE	A Soils[1]			B Soils[1]			C Soils[1]			D Soils[1]		
	< 2%	**2 - 6%**	**>6%**	**< 2%**	**2 - 6%**	**>6%**	**< 2%**	**2 - 6%**	**>6%**	**< 2%**	**2 - 6%**	**>6%**
Cultivated land	0.08	0.13	0.16	0.11	0.15	0.21	0.14	0.19	0.26	0.18	0.23	0.31
Pasture	0.12	0.20	0.30	0.18	0.28	0.37	0.24	0.34	0.44	0.30	0.40	0.50
Meadow	0.10	0.16	0.25	0.14	0.22	0.30	0.20	0.28	0.36	0.24	0.30	0.40
Forest	0.05	0.08	0.11	0.08	0.11	0.14	0.10	0.13	0.16	0.12	0.16	0.20
Residential lot size 1/8 acre	0.25	0.28	0.31	0.27	0.30	0.35	0.30	0.33	0.38	0.33	0.36	0.42
Residential lot size 1/4 acre	0.22	0.26	0.29	0.24	0.29	0.33	0.27	0.31	0.36	0.30	0.34	0.40
Residential lot size 1/3 acre	0.19	0.23	0.26	0.22	0.26	0.30	0.25	0.29	0.34	0.28	0.32	0.39
Residential lot size 1/2 acre	0.16	0.20	0.24	0.19	0.23	0.28	0.22	0.27	0.32	0.26	0.30	0.37
Residential lot size 1 acre	0.14	0.19	0.22	0.17	0.21	0.26	0.20	0.25	0.31	0.24	0.29	0.35
Industrial	0.67	0.68	0.68	0.68	0.68	0.69	0.68	0.68	0.69	0.69	0.69	0.70
Commercial	0.71	0.71	0.72	0.71	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Streets	0.70	0.71	0.72	0.71	0.72	0.74	0.72	0.73	0.76	0.73	0.75	0.78
Open Space	0.05	0.10	0.14	0.08	0.13	0.19	0.12	0.17	0.24	0.15	0.21	0.28
Parking	0.85	0.86	0.87	0.85	0.86	0.87	0.85	0.86	0.87	0.85	0.86	0.87
Construction Sites - Bare packed soil, smooth	0.30	0.35	.040	0.35	.040	0.45	0.40	0.45	0.50	0.50	0.55	0.60
Construction Sites - Bare packed soil, rough	.020	0.25	0.30	0.25	0.30	0.35	0.30	0.35	0.40	0.40	0.45	0.50

* Runoff Coefficients for storm recurrence intervals less than 25 years

Adapted from McCuen, R.H., Hydrologic Analysis and Design (2004)

1. According to the USDA NRCS Hydrologic Soils Classification System

APPENDIX D

ROUGHNESS COEFFICIENTS

Stormwater Management Design Criteria
Table D-1, Manning's Equation "n" Roughness Coefficients

Description	Manning's "n"
Smooth-wall plastic pipe	0.011
Concrete pipe	0.012
Smooth-lined corrugated metal pipe	0.012
Corrugated plastic pipe	0.024
Annular corrugated steel and aluminum alloy pipe (plain or polymer coated)	
68 mm × 13 mm (2 2/3 in × 1/2 in) corrugations	0.024
75 mm × 25 mm (3 in × 1 in) corrugations	0.027
125 mm × 25 mm (5 in × 1 in) corrugations	0.025
150 mm × 50 mm (6 in × 2 in) corrugations	0.033
Helically corrugated steel and aluminum alloy pipe (plain or polymer coated)	
75 mm × 25 mm (3 in × 1 in), 125 mm × 25 mm (5 in × 1 in), or 150 mm × 50 mm (6 in × 2 in) corrugations	0.024
Helically corrugated steel and aluminum alloy pipe (plain or polymer coated)	
68 mm × 13 mm (2 2/3 in × 1/2 in) corrugations	
a. Lower coefficients[1]	
450 mm (18 in) diameter	0.014
600 mm (24 in) diameter	0.016
900 mm (36 in) diameter	0.019
1200 mm (48 in) diameter	0.020
1500 mm (60 in) diameter or larger	0.021
b. Higher coefficients[2]	0.024
Annular or helically corrugated steel or aluminum alloy pipe arches or other noncircular metal conduit (plain or polymer coated)	0.024
Vitrified clay pipe	0.012
Ductile iron pipe	0.013
Asphalt pavement	0.015
Concrete pavement	0.014
Grass medians	0.050
Grass: residential	0.030
Earth	0.020
Gravel	0.030
Rock	0.035

Description	Manning's "n"
Cultivated areas	0.030 to 0.050
Dense brush	0.070 to 0.140
Heavy timber (little undergrowth)	0.100 to 0.150
Heavy timber (with underbrush)	0.40
Streams:	
Some grass and weeds (little or no brush)	0.030 to 0.035
Dense growth of weeds	0.035 to 0.050
Some weeds (heavy brush on banks)	0.050 to 0.070

Notes:

[1] Use the lower coefficient if any one of the following conditions apply:

a. A storm pipe longer than 20 diameters, which directly or indirectly connects to an inlet or manhole, located in swales adjacent to shoulders in cut areas, shoulders in cut areas or depressed medians.

b. A storm pipe which is specially designed to perform under pressure.

[2] Use the higher coefficient if any one of the following conditions apply:

a. A storm pipe which directly or indirectly connects to an inlet or manhole located in highway pavement sections or adjacent to curb or concrete median barrier.

b. A storm pipe which is shorter than 20 diameters long.

c. A storm pipe which is partly lined helically corrugated metal pipe.

Stormwater Management Design Criteria
TABLE D-2, Manning's Equation "n" Roughness Coefficients for
TR-55 Time of Concentration Calculations (Sheet Flow)

Surface Description	**Manning's "n"[1]**
Smooth surfaces (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.050
Cultivated soils:	
Residue cover less than or equal to 20%	0.060
Residue cover greater than 20%	0.170
Grass:	
Short grass prairie	0.150
Dense grasses[2]	0.240
Bermudagrass	0.410
Range (natural)	0.130
Woods:[3]	
Light underbrush	0.400
Dense underbrush	0.800

NOTES:

[1] The "n" values are a composite of information compiled by Engman (1986).

[2] Includes species such as weeping lovegrass, bluegrass, buffalo grass, blue grama grass, and native grass mixtures.

[3] When selecting "n," consider cover to a height of about 0.1 foot. This is the only part of the plant cover that will obstruct sheet flow.

APPENDIX E

SAMPLE STORMWATER OPERATION AND MAINTENANCE AGREEMENT

OPERATION AND MAINTENANCE AGREEMENT
STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES (SWM BMPs)

THIS AGREEMENT, made and entered into this ____ day of 20____, by and between _____ or its executors, administrators, assigns, and other successors in interests, (hereinafter the "Landowner"), and Lower Frankford Township, Cumberland County, Pennsylvania, (hereinafter "Municipality");

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property as recorded by deed in the land records of Cumberland County, Pennsylvania, in Instrument Number_____, (hereinafter "Property").

WHEREAS, the Landowner is proceeding to build and develop the Property; and

WHEREAS, the SWM BMP Operation and Maintenance Plan approved by Municipality (hereinafter referred to as the "Plan") for the property identified herein, which is attached hereto as and made part hereof, as approved by the Municipality, provides for management of stormwater within the confines of the Property through the use of BMPs; and

WHEREAS, the Municipality, and the Landowner, his successors and assigns, agree that the health, safety, and welfare of the residents of the Municipality and the protection and maintenance of water quality require that on-site SWM BMPs be constructed and maintained on the Property; and

WHEREAS, the Municipality requires, through the implementation of the SWM Site Plan, that SWM BMPs as required by said Plan and the Municipal Subdivision and Land Development Ordinance be constructed and adequately operated and maintained by the Landowner, successors and assigns.

NOW, THEREFORE, in consideration of the foregoing promises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The Landowner shall construct the BMPs in accordance with the plans and specifications identified in the SWM Site Plan.

2. The Landowner shall operate and maintain the BMPs as shown on the Plan in good working order in accordance with the specific maintenance requirements noted on the approved SWM Site Plan.

3. The Landowner hereby grants permission to the Municipality, its authorized agents and employees, to enter upon the property, at reasonable times and upon presentation of proper credentials, to inspect the BMPs whenever necessary. Whenever possible, the Municipality shall notify the Landowner prior to entering the property.

4. In the event the Landowner fails to operate and maintain the BMPs per paragraph 2, the Municipality or its representatives may enter upon the Property and take whatever action is deemed necessary to maintain said BMP(s). It is expressly understood and agreed that the Municipality is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Municipality.

5. In the event the Municipality, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Municipality for all expenses (direct and indirect) incurred within ten (10) days of receipt of invoice from the Municipality.

6. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite BMPs by the Landowner; provided, however, that this Agreement shall not be deemed to create or effect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.

7. The Landowner, its executors, administrators, assigns, and other successors in interests, shall release the Municipality from all damages, accidents, casualties, occurrences or claims which might arise or be asserted against said employees and representatives from the construction, presence, existence, or maintenance of the BMP(s) by the Landowner or Municipality.

8. The Landowner, its executors, administrators, assigns, and other successors in interests, shall inspect the BMPs at a minimum of once every two (2) years to ensure their continued functioning.

This Agreement shall be recorded at the Office of the Recorder of Deeds of Cumberland County, Pennsylvania, and shall constitute a covenant running with the Property and/or equitable servitude, and shall be binding on the Landowner, his administrators, executors, assigns, heirs and any other successors in interests, in perpetuity.

ATTEST:

WITNESS the following signatures and seals:

(SEAL)

For the Municipality:

_____

For the Landowner:

_____

ATTEST:

_____(Township)

County of Cumberland, Pennsylvania

I, _____, a Notary Public in and for the County and State aforesaid, whose commission expires on the _____ day of _____, 20____, do hereby certify that _____ whose name(s) is/are signed to the foregoing Agreement bearing date of the _____ day of _____, 20____, has acknowledged the same before me in my said County and State.

GIVEN UNDER MY HAND THIS _____ day of _____, 20____.

_____ _____

NOTARY PUBLIC **(SEAL)**