

# **STORMWATER MANAGEMENT ORDINANCE**

**ORDINANCE NO. 1806**

**BOROUGH OF CORAOPOLIS**

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**ALLEGHENY COUNTY, PENNSYLVANIA**

Adopted at a Public Meeting Held on

November 14, 2018

# TABLE OF CONTENTS

## Article I – General Provisions

Section 101.	Short Title
Section 102.	Statement of Findings
Section 103.	Purpose
Section 104.	Statutory Authority
Section 105.	Applicability
Section 106.	Repealer
Section 107.	Severability
Section 108.	Compatibility with Other Requirements
Section 109.	Erroneous Permit
Section 110	Waivers
Section 111	Version of Regulations and Standards
Section 112	Disclaimer of Liability

## Article II – Definitions

## Article III – Stormwater Management Standards

Section 301.	General Requirements
Section 302.	Exemptions
Section 303.	Volume Controls
Section 304.	Rate Controls
Section 305	Riparian Buffers

## Article IV – Stormwater Management Site Plan Requirements

Section 401.	Plan Requirements
Section 402.	Plan Submission
Section 403.	Plan Review
Section 404.	Modification of Plans
Section 405.	Resubmission of Disapproved SWM Site Plans
Section 406.	Authorization to Construct and Term of Validity
Section 407.	Record Drawings, Completion Certificate and Final Inspection

## Article V – Design Criteria

Section 501.	Calculation Methodology
Section 502.	Design and Construction Standards – Collection and Conveyance Facilities
Section 503	Design and Construction Standards – Stormwater Detention Facilities

## Article VI – Operation and Maintenance

Section 601.	Responsibilities of Developers and Landowners
Section 602.	Operation and Maintenance Agreements
Section 603.	Performance Guarantee

Article VII – Fees and Expenses

Section 701. General

Article VIII – Prohibitions

Section 801. Prohibited Discharges and Connections

Section 802. Roof Drains and Sump Pumps

Section 803. Alteration of SWM BMPs

Article IX – Enforcement and Penalties

Section 901. Right of Entry

Section 902. Inspection

Section 903. Enforcement

Section 904. Suspension and Revocation

Section 905. Penalties

Section 906. Appeals

Article X – References

Appendix A –Release Rate Management Districts (Maps)

Appendix B – Operation and Maintenance Agreement

Appendix C – Small Project Stormwater Management Site Plan

## ARTICLE I - GENERAL PROVISIONS

### Section 101. Short Title

This Ordinance shall be known and may be cited as the "Borough of Coraopolis Stormwater Management Ordinance."

### Section 102. Statement of Findings

The governing body of the Municipality 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 flood plain management and flood control efforts in downstream communities, reduces groundwater recharge, threatens public health and safety, and increases nonpoint source pollution of water resources.
- B. A comprehensive program of stormwater management (SWM), including 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 that provides groundwater recharge for water supplies and supports the base flow of streams.
- D. The use of green infrastructure (GI) and low impact development (LID) are intended to address the root cause of water quality impairment by using systems and practices which use or mimic natural processes to: 1) infiltrate and recharge, 2) evapotranspire, and/or 3) harvest and use precipitation near where it falls to earth. Green infrastructure practices and LID contribute to the restoration or maintenance of pre-development hydrology.
- E. Federal and state regulations require certain municipalities to implement a program of stormwater controls. These municipalities are required to obtain a permit for stormwater discharges from their separate storm sewer systems under the National Pollutant Discharge Elimination System (NPDES) program.

### Section 103. Purpose

The purpose of this Ordinance is to promote health, safety, and welfare within the Municipality 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 25 Pa. Code 93 to protect, maintain, reclaim, and restore the existing and designated uses of the waters of this Commonwealth.
- B. Preserve natural drainage systems.
- 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 stormwater best management practices (BMPs) that are implemented within the Municipality.
- H. Provide standards to meet NPDES permit requirements.

#### **Section 104. Statutory Authority**

The Municipality is 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, and/or the Act of October 4, 1978, P.L. 864 (Act 167), 32 P.S. Section 680.1, et seq., as amended, The Stormwater Management Act.

#### **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.

#### **Section 106. Repealer**

Any other ordinance provision(s) or regulation of the Municipality inconsistent with any of the provisions of this Ordinance is hereby repealed to the extent of the inconsistency only and in particular, Ordinance No. 1789 and MS4 Prohibited Discharge Ordinance No. 1790.

#### **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. Erroneous Permit**

Any permit or authorization issued or approved based on false, misleading or erroneous information provided by an applicant is void without the necessity of any proceedings for revocation. Any work undertaken or use established pursuant to such permit or other authorization is unlawful. No action may be taken by a board, agency or employee of the Municipality purporting to validate such a violation.

#### **Section 110. Waivers**

- A. If the Municipality determines that any requirement under this Ordinance cannot be achieved for a particular regulated activity the Municipality may, after an evaluation of alternatives, approve measures other than those in this Ordinance, subject to Section 110, paragraph B. **The proposed area of disturbance shall be less than one (1) acre.** The request for a modification or waiver shall originate with the Landowner, shall be in writing, and shall accompany the Stormwater Management Site Plan submitted to the Municipality. The request shall provide the facts on which the request is based, the provisions of the Ordinance involved, and the proposed modification. The Designated Plan Reviewer shall review the request to determine if it meets the requirements of the Ordinance, including paragraph B below. If acceptable to the Municipality, the Municipality may grant the waiver or modification.
- B. Waivers or modifications of the requirements of this Ordinance may be approved by the Municipality if enforcement will exact undue hardship because of unique physical circumstances or conditions peculiar to the land in question, provided that the modifications will not be contrary or detrimental to the public interest and will achieve the intended outcome, and that the purpose of the Ordinance is preserved. Hardship must be due to such unique physical circumstances or conditions and not to circumstances or conditions generally created by the provisions of the Stormwater Management Ordinance. Cost or financial burden shall not be considered a hardship. Modifications shall not substantially or permanently impair the appropriate use or development of adjacent property. A request for modifications shall be in writing and accompany the Stormwater Management Site Plan submission, as directed in Section 110, paragraph A above.
- C. No waiver or modification of any regulated stormwater activity involving earth disturbance greater than or equal to one (1) acre may be granted by the Municipality.

- D. This Section shall not apply to requests for waiver or modification to the provisions of Section V – Design Criteria. All requests for waivers or modifications from Section V shall be reviewed by the Municipality for applications of any size earth disturbance.

### **Section 111. Version of Regulations and Standards**

Any reference to a statute, regulation or standard, shall be interpreted to refer to the latest or most current version of that document.

### **Section 112. Disclaimer of Liability**

- A. For regulatory purposes, the degree of stormwater management sought by the provisions of this Chapter is considered reasonable. This Chapter shall not impose upon the Municipality any legal duty in addition to those duties otherwise imposed under the Stormwater Management Act upon the Municipality, any appointed or elected official, employee or representative of the Municipality. It is not the intention of the Municipality to guarantee the elimination of harm resulting from stream flow, floods, rain, snow, or stormwater runoff; or erosion resulting therefrom. It is the intention of the Municipality to create reasonable stormwater management regulations which balance several competing interests in an appropriate fashion with the emphasis on public safety.
- B. This Chapter does not imply that areas within or outside any identified flood-prone area will be free from flooding or flood damages.
- C. Neither the granting of any approval under this Ordinance, nor the compliance with the provisions of this Ordinance, or with any condition imposed by the Municipality or a Municipality official hereunder, shall relieve any person from any responsibility for damage to persons or property resulting therefrom, or as otherwise imposed by law, nor impose any liability upon the Municipality for damages to person or property.
- D. The granting of a permit which includes any stormwater management facilities shall not constitute a representation, guarantee, or warranty of any kind by the Municipality, or by an official, employee, or consultant thereof, of the practicability or safety of any structure, use, or other plan proposed, and shall create no liability upon or cause of action against the Municipality, or an official, employee, or consultant thereof, for any damage that may result pursuant thereto.

## 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.

These definitions do not necessarily reflect the definitions contained in pertinent regulations or statutes and are intended for this Ordinance only.

**Act 167** - The Municipality is empowered to regulate land use activities that affect runoff and surface and groundwater quality and quantity 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.”

**Agricultural Activity** – Activities associated with agriculture such as agricultural cultivation, agricultural operation, and animal heavy use areas. This includes the work of producing crops including tillage, land clearing, plowing, disking, harrowing, planting, harvesting crops or 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.

**Conservation District** – A conservation district, as defined in Section 3(c) of the Conservation District Law (3 P. S. § 851(c)) that has the authority under a delegation agreement executed with DEP to administer and enforce all or a portion of the regulations promulgated under 25 Pa. Code 102.

**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.

**Designated Plan Reviewer** – A Qualified Professional as defined herein, or organization such as the Allegheny County Conservation District, that has been designated by the Municipality to be the reviewer of SWM Site Plans for the Municipality, and shall be understood to be the reviewer where indicated as the Municipality within this ordinance.

**Detention Basin** – An impoundment designed to collect and retard stormwater runoff by temporarily storing the runoff and releasing it at a predetermined rate. Detention basins are designed to drain completely in a designed period after a rainfall event, and to become dry until the next rainfall event.

**Detention Volume** – The volume of runoff that is captured and released into the waters of the Commonwealth at a controlled rate.

**DEP** – The Pennsylvania Department of Environmental Protection.

**Development Site (Site)** – See Project Site.

**Disturbed Area** – An unstabilized land area where an earth disturbance activity is occurring or has occurred.

**Earth Disturbance Activity** – A construction or other human activity which disturbs the surface of the land, including, but not limited to: clearing and grubbing; grading; excavations; embankments; road maintenance; building construction; and 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.

**Existing Condition** – The dominant land cover during the 5-year period immediately preceding a proposed regulated activity.

**FEMA** – Federal Emergency Management Agency.

**Floodplain** – Any land area susceptible to inundation by water from any natural source or delineated by applicable FEMA maps and studies as being a special flood hazard area. Also includes areas that comprise Group 13 Soils, as listed in Appendix A of the Pennsylvania DEP Technical Manual for Sewage Enforcement Officers (as amended or replaced from time to time by DEP).

**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.

**Green Infrastructure** – Systems and practices that use or mimic natural processes to infiltrate, evapotranspire, or reuse stormwater on the site where it is generated.

**Groundwater** – Water beneath the earth's surface that supplies wells and springs and is within the saturated zone of soil and rock.

**Groundwater Recharge** – The replenishment of existing natural underground water supplies from precipitation or overland flow.

**Hydrologic Soil Group (HSG)** – Infiltration rates of soils vary widely and are affected by subsurface permeability as well as surface intake rates. Soils are classified into four HSGs (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<sup>1,2</sup>).

**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 sheds and similar structures; and any new streets or sidewalks. Decks, parking areas, and driveway areas are counted as impervious areas if they directly prevent infiltration. Any surface areas designed to initially be gravel or crushed stone shall be assumed to be impervious surfaces. In addition, any surface designed to be constructed of permeable, pervious or porous concrete, asphalt, or pavers shall be considered an impervious surface.

**Invasive Species** – DCNR defines invasive plants as those species that are not native to the state, grow aggressively, and spread and displace native vegetation. (see [http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr\\_010314.pdf](http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_010314.pdf) for a list of invasive species.

**Infiltration** – Movement of surface water into the soil, where it is absorbed by plant roots, evaporated into the atmosphere, or percolated downward to recharge groundwater.



**Land Development (Development)** – Inclusive of any or all of the following meanings: (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 buildings or (b) the division or allocation of land or space 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) any subdivision of land; (iii) development in accordance with Section 503(1.1) of the PA Municipalities Planning Code.

**Low Impact Development (LID)** – Site design approaches and small-scale stormwater management practices that promote the use of natural systems for infiltration, evapotranspiration, and reuse of rainwater. LID can be applied to new development, urban retrofits, and revitalization projects. LID utilizes design techniques that infiltrate, filter, evaporate, and store runoff close to its source. Rather than rely on costly large-scale conveyance and treatment systems, LID addresses stormwater through a variety of small, cost-effective landscape features located on-site.

**Municipality** – Borough of Coraopolis, Allegheny County, Pennsylvania.

**Native Vegetation** – Plant species that have historically grown in Pennsylvania and are not invasive species as defined herein.

**NRCS** – USDA Natural Resources Conservation Service (previously SCS).

**Peak Discharge** – The maximum rate of stormwater runoff from a specific storm event.

**Pervious Area** – Any area not defined as impervious.

**Project Site** – The specific area of land where any regulated activities in the Municipality are planned, conducted, or maintained.

**Qualified Professional** – Any person licensed by the Pennsylvania Department of State or otherwise qualified under Pennsylvania law to perform the work required by this Ordinance.

**Regulated Activities** – Any earth disturbance activities or any activities that involve the alteration or development of land in a manner that may affect stormwater runoff.

**Regulated Earth Disturbance Activity** – Activity involving earth disturbance subject to regulation under 25 Pa. Code 92, 25 Pa. Code 102, or the Clean Streams Law.

**Release Rate** – The percentage of existing conditions peak rate of runoff from a site or subarea to which the proposed conditions peak rate of runoff must be reduced to protect downstream areas.

**Release Rate District** – A watershed or portion of a watershed for which a release rate has been established by an adopted Act 167 Stormwater Management Plan.

**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** – A permanent vegetated area of trees and shrubs located adjacent to streams, lakes, ponds and wetlands.

**Runoff** – Any part of precipitation that flows over the land.

**Sediment** – Soils or other materials transported by surface water as a product of erosion.

**State Water Quality Requirements** – The regulatory requirements to protect, maintain, reclaim, and restore water quality under Title 25 of the Pennsylvania Code and the Clean Streams Law.

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

**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 Site Plan** – The plan prepared by the developer or the developer's representative 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.

**Stream** - A channel or conveyance of surface water having a defined bed and banks, whether natural or artificial, with perennial or intermittent flow.

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

**USDA** – United States Department of Agriculture.

**Waters of this 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 of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth.

**Watercourse** – See Stream.

**Watershed** – Region or land area drained by a river, watercourse, or other surface water of this Commonwealth to a downstream point.

**Wetland** – Areas that are inundated or saturated by surface or groundwater 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, and similar areas.

## ARTICLE III – STORMWATER MANAGEMENT STANDARDS

### Section 301. General Requirements

- A. For all regulated activities, unless preparation of an SWM Site Plan is specifically exempted in Section 302:
1. Preparation and implementation of an approved SWM Site Plan is required.
  2. No regulated activities shall commence until the Municipality issues written approval of an SWM Site Plan, which demonstrates compliance with the requirements of this Ordinance.
- B. SWM Site Plans approved by the Municipality, in accordance with Section 406, shall be on site throughout the duration of the regulated activity.
- C. These standards apply to the landowner and any person engaged in regulated activities.
- D. 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 Title 25 of the Pennsylvania Code and the Clean Streams Law. Various BMPs and their design standards are listed in the *Erosion and Sediment Pollution Control Program Manual* (E&S Manual<sup>4</sup>), No. 363-2134-008, as amended and updated. Comment on the adequacy of the Erosion and Sedimentation Controls may be provided by the Municipality per the requirements of Allegheny County Conservation District.
- E. Impervious areas:
1. 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.
  2. For development taking place in stages, the entire development plan must be used in determining conformance with this Ordinance.
  3. For projects that add impervious area to a parcel, the total impervious area on the parcel is subject to the requirements of this Ordinance; except that the volume controls in Section 303 and the peak rate controls of Section 304 do not need to be retrofitted to existing impervious areas that are not being altered by the proposed regulated activity.
- F. Stormwater flows onto adjacent or downstream property shall not be created, increased, decreased, relocated, impeded, or otherwise altered without written notification of the affected property owner(s). Notification shall include a description of the proposed development and the stormwater flows that are being created, increased, decreased, relocated, impeded, or otherwise altered. Adjacent property shall at a minimum include any property having a shared boundary with the subject property of the SWM Site Plan, however, if in the judgement of the Designated Plan Reviewer additional properties are being affected, additional notifications may be required. Proof of notification (signed postal receipt for example) shall be included as part of the SWM Plan submission to the Municipality. Such stormwater flows shall be subject to the requirements of this Ordinance.
- G. All regulated activities shall include such measures as necessary to:
1. Protect health, safety, and property.
  2. Meet the water quality goals of this Ordinance by implementing measures to:
    - a. Minimize disturbance to floodplains, wetlands, and wooded areas.
    - b. Maintain or extend riparian buffers.
    - c. Avoid erosive flow conditions in natural flow pathways.
    - d. Minimize thermal impacts to waters of this Commonwealth.

- e. Disconnect impervious surfaces by directing runoff to pervious areas, wherever possible.
3. Incorporate methods described in the *Pennsylvania Stormwater Best Management Practices Manual* (BMP Manual<sup>9</sup>). If methods other than green infrastructure and LID methods are proposed to achieve the volume and rate controls required under this Ordinance, the SWM Site Plan must include a detailed justification, acceptable to the Designated Plan Reviewer, demonstrating that the use of LID and green infrastructure is not practicable.
- H. Infiltration BMPs should be dispersed throughout the project site at strategic locations, made as shallow as practicable, and located to maximize use of natural on-site infiltration features while still meeting the other requirements of this Ordinance.
  - I. Normally dry, open top, storage facilities should completely drain both the volume control and rate control capacities over a period of time not less than 24 and not more than 72 hours from the end of the design storm. Infiltration tests performed at the facility locations and proposed basin bottom depths, in accordance with the BMP Manual, must support time-to-empty calculations if infiltration is a factor.
  - J. The design storm precipitation depths to be used in the analysis of peak rates of discharge shall be as obtained in PennDOT's Drainage Manual, Publication 584, Appendix 7A; or obtained from the latest version of the Precipitation-Frequency Atlas of the United States, National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Spring, Maryland. NOAA's Atlas 14<sup>5</sup> can be accessed at: <http://hdsc.nws.noaa.gov/hdsc/pfds/>.
  - K. For all regulated activities, SWM BMPs shall be designed, implemented, operated, and maintained to meet the purposes and requirements of this Ordinance and to meet all requirements under Title 25 of the Pennsylvania Code, the Clean Streams Law, and the Storm Water Management Act.
  - L. Various BMPs and their design standards are listed in the BMP Manual<sup>9</sup>.
  - M. The municipality may, after consultation with DEP, 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.

### **Section 302. Exemptions**

- A. Regulated activities that result in cumulative earth disturbances less than one-quarter (0.25) acre and propose an increase in impervious area of less than 5,000 square feet are exempt from the requirements in Section 401 of this ordinance except as provided in paragraph B below.
- B. Earth disturbances between one-twentieth (0.05) acre (2,178 square feet) and one-quarter (0.25) acre (10,890 square feet) of earth disturbance must submit a SWM Site Plan to the Municipality which shall consist of the following items and related supportive material needed to determine compliance with Sections 303 through 305. The applicant can use the protocols in the Small Project Stormwater Management Site Plan (Appendix C).
  - a. General description of proposed stormwater management techniques, including construction specifications of the materials to be used for stormwater management facilities.
  - b. An erosion and sediment control plan, including all reviews and letters of adequacy from the Conservation District where appropriate.
  - c. Limits of earth disturbance, including the type and amount of impervious area that is proposed; proposed structures, roads, paved areas, and buildings; and a statement, signed by the Applicant, acknowledging that any revision to the approved drainage plan must be approved by the Municipality, and that a revised erosion and sediment control plan must be submitted to the Municipality or Conservation District for approval.
  - d. All stormwater management facilities must be located on a plan and described in detail; and all calculations, assumptions, and criteria used in the design of the stormwater management facilities must be shown.
- C. Agricultural activity is exempt from the SWM Site Plan preparation requirements of this Ordinance provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.

- D. Forest management and timber operations are exempt from the SWM Site Plan preparation requirements of this Ordinance provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.
- E. Roadway resurfacing and maintenance projects, which do not increase impervious area, and underground infrastructure projects are exempt from the provisions of this Ordinance, provided the activities meet the requirements of all other Municipal, State and Federal requirements. Exemptions from any provisions of this Ordinance shall not relieve the applicant from the requirements in Sections 301.D. through J.
- F. The Municipality may deny or revoke any exemption pursuant to this Section at any time for any project that the Municipality believes may pose a threat to public health and safety or the environment.
- G. Voluntary Green Stormwater Infrastructure (GSI) retrofit projects that are solely intended to better manage runoff from existing development and are not part of new development or redevelopment, are exempt from the stormwater management provisions of this Ordinance. This does not exempt such projects from any other municipal, state, or federal regulation.

### Section 303. Volume Controls

The green infrastructure and low impact development practices provided in the BMP Manual<sup>3</sup> shall be utilized for all regulated activities wherever possible. Water volume controls shall be implemented using the *Design Storm Method* in Subsection A or the *Simplified Method* in Subsection B below. Water volume controls shall be implemented using the Design Storm Method in Subsection A or the Simplified Method in Subsection B below, or alternative design criteria as allowed by PA Code Title 25, Chapter 102.

- A. The *Design Storm Method* (CG-1 in the BMP Manual<sup>3</sup>) is applicable as a method to any size of regulated activity. This method requires detailed modeling based on site conditions. The following shall be incorporated into the CG-1 method:
  - 1. Do not increase the post-development total runoff volume for all storms equal to or less than the 2-year 24-hour duration precipitation.
  - 2. At least the first one inch of runoff from the net increase in 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. If the developer provides justification that the listed removal options are not feasible, and the Designated Plan Reviewer agrees, runoff shall be detained in a facility designed for a 48 to 72 hour dewatering time in an area with a dedicated stormwater system (not contributory to a combined sewer system) and shall be detained in a facility designed for a 72 hour dewatering time in an area contributory to a combined sewer system before discharge to local stormwater systems or the environment. Justification, as prepared and sealed by a qualified professional, for assertion that permanent removal is not feasible must be provided, at a minimum, in the form of field measured infiltration rate testing and geotechnical evaluation of the existing site soils with regard to the impact of proposed infiltration. Applications omitting this justification, including infiltration rate testing will be considered incomplete. BMPs proposing use of extended detention in lieu of permanent reduction through the listed methods shall include a valve to adjust or regulate dewatering time to achieve the performance standards noted herein. The valve system shall include an inspection/monitoring port for review of dewatering.
  - 3. For modeling purposes:
    - a. Existing (predevelopment) non-forested pervious areas must be considered meadow in good condition.
    - b. 20% of existing impervious area, when present, shall be considered meadow in good condition in the model for existing conditions.
- B. The *Simplified Method* (CG-2 in the BMP Manual<sup>3</sup>) 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 acre or for projects that require design of stormwater storage facilities. For new impervious surfaces:
  - 1. Stormwater facilities shall capture at least the first two (2) inches of runoff from the net increase in impervious surfaces.

2. At least the first one inch of runoff from the net increase in 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. If the developer provides justification that the listed removal options are not feasible, and the Designated Plan Reviewer agrees, runoff shall be detained in a facility designed for a 24 hour dewatering time in an area with a dedicated stormwater system (not contributory to a combined sewer system) and shall be detained in a facility designed for a 72 hour dewatering time in an area contributory to a combined sewer system before discharge to local stormwater systems or the environment.
3. Wherever possible, infiltration facilities should be designed to accommodate infiltration of the entire permanently removed runoff; however, in all cases at least the first 0.5 inch of the permanently removed runoff should be infiltrated.
4. This method is exempt from the requirements of Section 304, Rate Controls, if the project qualifies for exemption by the provisions of Section 302.A.

### **Section 304. Rate Controls**

- A. For areas not covered by a release rate map from an approved Act 167 Stormwater Management Plan:

Post-development discharge rates shall not exceed the pre-development discharge rates for the 1-, 2-, 5-, 10-, 25-, 50-, and 100-year, 24-hour storm events. This is the equivalent to a 100% release rate area when compared to those rates shown in the maps contained in Appendix A (Release Rate Management Districts). This Pre-development to Post-development control is not to be misconstrued as the same as the "Conditional Direct Discharge" areas on the Release Rate maps. For comparison of peak flow rates, flows shall be rounded to a tenth of a cubic foot per second (cfs). 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. Peak flows should be computed using the methods included in the Chapter titled "Stormwater Calculations and Methodology" of the PADEP Stormwater Management BMP Manual. Except, however, where documented downstream flooding problems exist, the Municipality may impose a 50% reduced release rate criteria.

- B. For areas covered by a release rate map from an approved Act 167 Stormwater Management Plan:

For the 1-, 2-, 5-, 10-, 25-, 50-, and 100-year, 24-hour storm events, the post-development peak discharge rates will follow the applicable approved release rate maps. These maps are contained in Appendix A (Release Rate Management Districts) of this Ordinance. For comparison of peak flow rates, flows shall be rounded to a tenth of a cubic foot per second (cfs). For any areas not shown on the release rate maps, the post-development discharge rates shall not exceed the pre-development discharge rates for the specified design events. Peak flows should be computed using the methods included in Chapter 8 of the PADEP Stormwater Management BMP Manual.

### **Section 305. Riparian Buffers**

- A. In order to protect and improve water quality, a Riparian Buffer Easement shall be created and recorded as part of any subdivision or land development that encompasses a Riparian Buffer. The intent of this ordinance in establishing a Riparian Buffer is to protect and improve stream water quality. The Riparian Buffer is intended to slow overland flow to the stream through the presence of native grasses, trees and shrubs, allowing infiltration/groundwater recharge; causing deposition of sediment, nutrients, pesticides, and other pollutants in the buffer rather than in the stream; and reducing erosion by providing stream bank stabilization. The trees provide shade for streams; keeping waters cooler and reducing evaporation.
- B. Except as required by PA Code Title 25 Chapter 102, the Riparian Buffer Easement shall be required for all streams (as defined in Article II) with a contributing watershed area of greater than 10 acres. The Riparian Buffer Easement shall be measured to be a minimum of 35 feet from the top of the streambank (on each side).
- C. Minimum Management Requirements for Riparian Buffers.
1. No use or construction within the Riparian Buffer shall be permitted that is inconsistent with the intent of the

Riparian Buffer as described in Section 305.A.

2. Existing native vegetation shall be protected and maintained within the Riparian Buffer Easement.
  3. Whenever practicable, invasive vegetation shall be actively removed and the Riparian Buffer Easement shall be planted with native trees, shrubs and other vegetation to create a diverse native plant community appropriate to the intended ecological context of the site.
- D. The Riparian Buffer Easement shall be enforceable by the Municipality and shall be recorded in the appropriate County Recorder of Deeds Office, so that it shall run with the land and shall limit the use of the property located therein. The easement shall allow for the continued private ownership and shall count toward the minimum lot area required by Zoning, unless otherwise specified in the municipal Zoning Ordinance.
- E. Any permitted use within the Riparian Buffer Easement shall be conducted in a manner that will maintain the extent of the existing 100-year floodplain, improve or maintain the stream stability, and preserve and protect the ecological function of the floodplain.
- F. Stormwater drainage pipes shall be permitted within the Riparian Buffer Easement, but they shall cross the Easement in the shortest practical distance. Other structural stormwater management facilities are not permitted within the Riparian Buffer Easement.
- G. The following conditions shall apply when public and/or private recreation trails are permitted by the Municipality within Riparian Buffers:
1. It is preferred that trails be designed to be permeable and for non-motorized use only; however, impermeable trails are permitted provided they have adequate drainage
  2. Trails shall be designed to have the least impact on native plant species and other sensitive environmental features.
- H. Septic drainfields and sewage disposal systems shall not be permitted within the Riparian Buffer Easement and shall comply with setback requirements established under 25 Pa. Code Chapter 73.
- I. Underground utilities shall be permitted within the Riparian Buffer Easement; however, work shall be performed to minimize disturbance area and removal of trees. Restoration within the Riparian Buffer Easement shall be with native species of trees, grasses, and other plantings. One tree shall be planted for each tree removed and the restoration shall be designed by a Registered Professional with the requisite experience. Aboveground utilities shall only be permitted to cross the Easement perpendicular to the Easement or in the shortest practical distance. Existing utilities may remain and be maintained as required.

## ARTICLE IV – STORMWATER MANAGEMENT (SWM) SITE PLAN REQUIREMENTS

### Section 401. Plan Requirements

Appropriate sections from the Allegheny County Subdivision and Land Development Ordinance, and other applicable local ordinances, shall be followed in preparing the SWM Site Plans.

The Municipality shall not approve any SWM Site Plan that is deficient in meeting the requirements of this Ordinance. At its sole discretion and in accordance with this Article, when a SWM Site Plan is found to be deficient, the Municipality may either disapprove the submission and require a resubmission, or in the case of minor deficiencies, the Municipality may accept submission of modifications.

The following items shall be included in the SWM Site Plan:

- A. Provisions for permanent access or maintenance easements for all physical SWM BMPs, such as ponds and infiltration structures, as necessary to implement the Operation and Maintenance (O&M) Plan discussed in paragraph C.9 below.
- B. The following signature block for the Municipality:

“(Municipal official or Designated Plan Reviewer (Section 403.A)), on this date (Signature date), has reviewed and hereby certifies that the SWM Site Plan meets all design standards and criteria of the Municipal Ordinance No. \_\_\_\_\_), except where waivers have been granted as noted on the Plan. The review is based on a survey and plan prepared by others and assumes that all information is correct and valid as submitted.”
- C. The SWM Site Plan shall provide the following information:
  - 1. The overall stormwater management concept for the project.
  - 2. A determination of site conditions in accordance with the BMP Manual<sup>3</sup>. A detailed site evaluation shall be completed for projects proposed in environmentally sensitive areas, such as brownfields.
  - 3. A key map showing the development site's location within the Municipality's stormwater management districts, watersheds and subareas. On all site drawings, show the boundaries of the district(s), watershed(s) and subarea(s) as they are located on the development site and identify their district and watershed names and applicable subarea numbers.
  - 4. Location of the one hundred year floodplain on the development site based on the current municipal Flood Insurance Rate Maps.
  - 5. Stormwater runoff design computations and documentation as specified in this Ordinance, or as otherwise necessary to demonstrate that the maximum practicable measures have been taken to meet the requirements of this Ordinance, including the recommendations and general requirements in Section 301.
  - 6. Expected project time schedule.
  - 7. A soil erosion and sediment control plan, where applicable, as prepared for and submitted to the approval authority.
  - 8. The effect of the project (in terms of runoff volumes, water quality, and peak flows) on surrounding properties and aquatic features and on any existing stormwater conveyance system that may be affected by the project.
  - 9. Plan and profile drawings and details of all SWM BMPs, including drainage structures, pipes, open channels, and swales.
  - 10. SWM Site Plan shall show the property lines, dimensions of the site and the locations of existing and proposed on-lot wastewater facilities and water supply wells, property boundaries, existing and proposed



topography, point(s) of interest, utilities, and potential utility conflicts.

11. The SWM Site Plan shall include an O&M Plan for all existing and proposed physical stormwater management facilities. This plan shall address long-term ownership and responsibilities for O&M including type and schedule/frequency of maintenance activities, personnel and equipment requirements, estimated annual maintenance costs, and method of financing continuing O&M.
12. A justification, acceptable to the Designated Plan Reviewer, must be included in the SWM Site Plan if BMPs other than green infrastructure methods and LID practices are proposed to achieve the volume, rate and water quality controls under this Ordinance.
13. Certification and seal of the qualified professional responsible for the preparation of the plans and report.
14. Watershed maps delineating pre-development and post-development watershed boundaries and land cover conditions, as well as the flow path and segments used to determine time of concentrations for each watershed
15. Storm sewer calculations and watershed maps delineating all sub-areas used to size and compute flow for storm sewer system.
16. Existing contours at intervals of two (2) feet except in areas with slopes greater than fifteen percent (15%), in which case five (5) foot contour intervals may be used.
17. Contours of the finished project site at intervals of two (2) feet, except in areas with slopes greater than fifteen percent (15%), in which case, five (5) foot contour intervals may be used.

#### **Section 402. Plan Submission**

Up to five copies of the SWM Site Plan shall be submitted as follows:

1. Two copies to the Municipality.
2. One copy to the municipal engineer (when applicable).
3. One copy to the Allegheny County Conservation District (when requested by the District).
4. One copy to the Allegheny County Sanitary Authority (in areas with combined sewer systems).

#### **Section 403. Plan Review**

- A. The Municipality has designated Municipal Engineer as the Designated Plan Reviewer of SWM Site Plans for the Municipality, and shall be understood to be the reviewer where indicated as the Municipality within this ordinance.
- B. SWM Site Plans shall be reviewed by the Municipality for consistency with the provisions of this Ordinance.
- C. The Municipality shall notify the applicant in writing within 45 days whether the SWM Site Plan is approved or disapproved or requires additional documentation. If the SWM Site Plan involves a Subdivision and Land Development Plan, the notification shall occur within the time period allowed by the Municipalities Planning Code (90 days). If a longer notification period is provided by other statute, regulation, or ordinance, the applicant will be so notified by the Municipality.
- D. For any SWM Site Plan that proposes to use any BMPs other than green infrastructure and LID practices to achieve the volume and rate controls required under this Ordinance, the Municipality will not approve the SWM Site Plan unless it determines that green infrastructure and LID practices are not practicable.
- E. If the Municipality disapproves the SWM Site Plan, the Municipality will state the reasons for the disapproval in writing. The Municipality also may approve the SWM Site Plan with conditions and, if so, shall provide the acceptable conditions for approval in writing.

- F. The applicable review fee, in accord with Article VII, must accompany a resubmission of a disapproved SWM site plan.

#### **Section 404. Modification of Plans**

A modification to a submitted SWM Site 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 Site Plan, as determined by the Designated Plan Reviewer, shall require a resubmission of the modified SWM Site Plan in accordance with this Article.

#### **Section 405. Resubmission of Disapproved SWM Site Plans**

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

#### **Section 406. Authorization to Construct and Term of Validity**

The Municipality's approval of an SWM Site Plan authorizes the regulated activities contained in the SWM Site Plan for a maximum term of validity of 5 years following the date of approval. The Municipality may specify a term of validity shorter than 5 years in the approval for any specific SWM Site Plan. Terms of validity shall commence on the date the Municipality signs the approval for an SWM Site Plan. If an approved SWM Site Plan is not completed according to Section 407 within the term of validity, then the Municipality may consider the SWM Site Plan disapproved and may revoke any and all permits. SWM Site Plans that are considered disapproved by the Municipality shall be resubmitted in accordance with Section 405 of this Ordinance.

#### **Section 407. Record Drawings, Completion Certificate, and Final Inspection**

- A. The developer shall be responsible for providing record drawings of all SWM BMPs included in the approved SWM Site Plan, including, but not limited to BMP grading, outlet structure configuration and emergency spillway configuration. The record drawings and an explanation of any discrepancies with the construction plans shall be submitted to the Municipality.
- B. The record drawing submission shall include a certification of completion signed by a qualified professional verifying that all permanent SWM BMPs have been constructed according to the approved plans and specifications. The latitude and longitude coordinates for all permanent SWM BMPs must also be submitted, at the central location of the BMPs. If any licensed qualified professionals contributed to the construction plans, then a licensed qualified professional must sign the completion certificate. The certification shall include documentation confirming field reviewed dewatering times for rate and volume control BMPs. Record Drawings shall be provided in both hard copy and electronic (AutoCAD, latest edition) format.
- C. The Municipality may conduct inspections during construction as it deems appropriate. If inspections performed by the Municipality reveal deficiencies from the submitted and approved SWM Site Plan, the Municipality may request corrective actions. Any corrective action shall be at the cost of the stormwater facility owner.
- D. After receipt of the completion certification by the Municipality, the Municipality may conduct a final inspection.

## ARTICLE V – DESIGN CRITERIA

### Section 501. Calculation Methodology

- A. All computations used in conjunction with the analysis and design of stormwater management facilities shall be based on one (1) or more of the following methods, or as otherwise approved in advance by the Municipality:
1. TR-55-Soil Conservation Service (SCS) Technical Release No. 55
  2. TR-20-Soil Conservation Service (SCS) Technical Release No. 20
  3. Modified Rational Method
  4. Penn State Runoff Model
  5. Virginia Tech / Penn State Runoff Model
- B. These methods for determining peak discharge shall be used to:
1. Determine pre-development runoff conditions;
  2. Analyze the impact of development; and
  3. Perform calculations in the design of any detention/retention facilities used in controlling runoff.
- C. The SCS, Type II Rainfall Distribution shall be used for all analyses. The design storm frequencies for the watershed are:

Design Storm	24 Hour Rainfall Depth
1-Year	1.97
2-Year	2.35
5-Year	2.88
10-Year	3.30
25-Year	3.90
50-Year	4.40
100-Year	4.92

- D. Pre-Development Conditions: The cover type for all sites will be considered to be the dominant land cover during the 5-year period immediately preceding a proposed regulated activity:
1. For the purposes of pre-development peak flow rate and volume determination, existing non-forested pervious areas conditions shall be considered as meadow (good condition). Forested land areas shall be considered in good condition.
  2. For the purposes of pre-development peak flow rate and volume determination, 20 percent of existing disturbed impervious area, when present, shall be considered meadow (good condition).
- E. Post-Development Conditions: The hydrologic parameters used to develop peak flow rates shall be reflective of anticipated soil runoff characteristics following grading and development of the site.
- F. Time of Concentration: The minimum time of concentration for any watershed shall be 6 minutes. A minimum 6-minute time of concentration may be assumed for any post development watershed. Calculations must be provided for all pre-development times of concentrations. A minimum time of concentration cannot be assumed for predevelopment conditions.
- G. The use of the Basic Rational Method in estimating runoff may be employed in the design of the storm

sewer conveyance system within the development. The storm sewer system shall be interpreted as the conduits, culverts, inlets and appurtenant features for the conveying of stormwater to, through or from a development site to the point of final discharge or control facility. The Rational Method shall not be used in the analysis of stormwater runoff from the development in its entirety or in conjunction with the design of any retention/detention facilities or other runoff control measures.

- H. Points of interest for analysis of pre- and post-development runoff must be selected to demonstrate compliance with the requirements of Sections 303 and 304 is achieved at all points where runoff exits the perimeter of the property.
- I. Stormwater runoff shall not be transferred from one watershed to another unless the watersheds are sub-areas of a larger watershed that are tributary to a common point of interest within or near the perimeter of the property. Transfer of runoff from one watershed to another under any other circumstances shall only be approved at the discretion of the Municipality. Documentation shall be provided that peak flow rates are not increased following development and there will be no detrimental impact in downstream areas.
- J. The Stormwater Management Plan shall consider all of the stormwater runoff flowing over the project site. Runoff calculations shall be made to ensure that runoff from the upstream watershed area can be accommodated by the pipes, drainage easements and watercourses, etc. on the site.

### **Section 502. Design and Construction Standards – Collection and Conveyance Facilities**

- A. All stormwater collection and conveyance facilities (pipes, swales, and structures) shall be designed for a 100-year design storm event, unless the runoff would naturally drain overland to a stormwater detention facility, in which case a 25-year design storm event may be used. The hydraulic gradeline must be a minimum of two (2) feet below the surface elevation within the pipe. Swales and channels shall provide at least one foot of freeboard above the energy gradeline. Backwater effects of pipes discharging under surcharge conditions shall be included.
- B. Runoff calculations shall include complete hydrology and hydraulic analysis of all downstream swales and pipe facilities to permanent stream discharge point, to the municipal boundary or connection to a State or County owned conveyance system.
- C. Manholes shall not be spaced more than three hundred (350) feet apart for pipe sizes up to twenty-four (24) inches in diameter and not more than four hundred fifty (450) feet apart for larger pipe sizes.
- D. No public stormwater pipe shall be less than 15-inches in diameter that conveys surface runoff. The minimum pipe slope shall be 1.0% grade or maintain velocity of 2 ft/s. For public storm sewer systems, only pipes related to construction of stormwater BMPs may be less than 15 inches in diameter. All stormwater pipes shall be concrete unless otherwise approved by the Municipality.
- E. All workmanship and materials shall conform to the Municipality's Construction Standards. In addition, all workmanship and materials shall conform to the latest edition of PennDOT Form 408 and be supplied by manufacturers or suppliers listed in PennDOT's Bulletin 15.
- F. Manhole and inlet castings shall conform to the Pennsylvania Department of Transportation Form 408 and PennDOT Standards for Roadway Construction. Inlet grates shall be bicycle safe. Frames and grates shall be cast iron or structural steel. Concrete frames shall not be permitted.
- G. All connections to existing storm sewer pipes shall be made by construction of a suitable junction box (inlet or manhole) to provide access for cleanout. No blind connections shall be permitted.
- H. The discharge of stormwater runoff shall be to a well-defined drainage course, which has a defined bed and bank. If stormwater runoff cannot be discharged to a defined drainage course, documentation of written permission from each downstream property owner shall be provided for all properties between the source of discharge and the defined drainage course. The use of level spreaders or similar BMPs that promote sheet flow may be permitted if the applicant provides documentation that the peak post-development 100-year discharge is no greater than pre-development 2-year discharge and a letter from the Geotechnical Engineer of Record regarding slope stability of the downstream area is provided. Use of a level spreader requires a waiver to be granted by the Municipality.

## Section 503. Design and Construction Standards – Stormwater Detention Facilities

- A. All retention/detention facilities shall be equipped with multistage outlet structures to provide discharge control for each designated storm frequency. Provisions shall also be made to safely pass the post-development one-hundred year storm runoff in the event of an outlet structure failure without damaging or impairing the continued function of the facilities (i.e., impairing the continued function of) the facilities. The facility(ies) must have an emergency outlet which is able to discharge the post-development one-hundred year peak flow. Should any stormwater management facilities qualify as a dam under PaDEP Chapter 105 criteria, the facility shall be designed in accordance with those regulations and meet the regulations concerning dam safety.
- B. Any stormwater management facility designed to store runoff shall provide an emergency spillway designed to convey the unattenuated 100-year post-development peak rate flow with a blocked primary outlet structure and an inundation stormwater to the invert elevation of the spillway, with a minimum one-foot freeboard to the crest of the embankment.
- C. Woody vegetation shall not be permitted on the embankments or within 25 feet of the emergency spillway.
- D. The water depth of a storage facility which is not fenced shall be limited to 2 feet unless approved by the Municipality. Otherwise, appropriate fencing at least 4 feet in height shall be required.
- E. Side slopes of storage facilities shall not exceed a ratio of three to one (3:1) horizontal to vertical dimension. The crest of the embankment shall have a minimum width of not less than 10 feet.
- F. The facility shall be equipped with an access road at least ten (10) feet wide and with a maximum of grade of 15 percent. Access roads greater than 12% grade must be paved. Access roads 12% or less shall have a minimum 6" depth non-eroding aggregate surface. A gate with a minimum opening of 10 feet shall be provided for maintenance access. An access easement with a minimum width of 20 feet to all stormwater detention facilities shall be provided. The access easement shall include a statement on the recorded plan from the owner/operator of the facility granting access to the Municipality.
- G. All stormwater facility outlet structures shall have suitable gaskets to prevent leakage and piping of water through the facility embankment. All storm pipe installed through the facility embankment must be constructed of reinforced concrete pipe. Use of high-performance polypropylene pipe may be permitted with documentation of pipe manufacturer's backfill requirements.
- H. A geotechnical investigation report for the construction of the stormwater detention/retention and infiltration facilities must be provided including design recommendation for embankment construction, interior and exterior slopes, drainage swales and infiltration areas.
- I. Basin outlet structures shall have non-clogging trash racks over all design openings. Periodic cleaning of debris from trash racks shall be included in the operation and maintenance plan.
- J. Inlet structures and outlet structures shall be separated to the greatest extent possible in order to maximize the flow path through the basin.
- K. BMPs must be designed to protect and maintain existing uses (e.g., drinking water use; cold water fishery use) and maintain the level of water quality necessary to protect those uses in all streams, and to protect and maintain water quality in "Special Protection" streams, as required by statewide regulations at 25 Pa.Code, Chapter 93 (collectively referred to herein as "State Water Quality Requirements").

## ARTICLE VI – OPERATION AND MAINTENANCE

### Section 601. Responsibilities of Developers and Landowners

- A. The Municipality shall make the final determination on the continuing maintenance responsibilities prior to final approval of the SWM Site Plan. The Municipality may require a dedication of such facilities as part of the requirements for approval of the SWM Site Plan. Such a requirement is not an indication that the Municipality will accept the facilities. The Municipality reserves the right to reject or accept the ownership and operating responsibility for any portion of the stormwater management controls.
- B. Facilities, areas, or structures used as SWM BMPs shall be enumerated as permanent real estate appurtenances and recorded as deed restrictions or conservation easements that run with the land.
- C. The O&M Plan shall be recorded as a restrictive deed covenant that runs with the land.
- D. The Municipality may take enforcement actions against an owner for any failure to satisfy the provisions of this Article.

### Section 602. Operation and Maintenance Agreements

- A. Prior to final approval of the SWM Site Plan, the property owner shall sign and record an Operation and Maintenance (O&M) Agreement (see Appendix B) covering all stormwater control facilities which are to be privately owned.
  - 1. The owner, successor and assigns shall maintain all facilities in accordance with the approved maintenance schedule in the O&M Agreement.
  - 2. The owner shall convey to the Municipality conservation easements to assure access for periodic inspections by the Municipality and maintenance, as necessary.
  - 3. The owner shall keep on file with the Municipality the name, address, and telephone number of the person or company responsible for maintenance activities; in the event of a change, new information shall be submitted by the owner to the Municipality within ten (10) working days of the change.
- B. The owner is responsible for operation and maintenance (O&M) of the SWM BMPs. If the owner fails to adhere to the O&M Agreement, the Municipality may perform the services required and charge the owner appropriate fees. Nonpayment of fees may result in a lien against the property.

### Section 603. Performance Guarantee

For SWM Site Plans that involve subdivision and land development, the applicant shall provide a financial guarantee to the Municipality for the timely installation and proper construction of all stormwater management controls as required by the approved SWM Site Plan and this Ordinance in accordance with the provisions of Sections 509, 510, and 511 of the Pennsylvania Municipalities Planning Code.

### Section 604. Special Stormwater Facility Maintenance Fund

- A. If stormwater BMPs are accepted by the municipality for dedication, the Municipality may require persons installing stormwater BMPs to pay a specified amount to the Municipal Stormwater BMP Operation and Maintenance Fund, to help defray costs of operations and maintenance activities. The amount may be determined as follows:
  - 1. If the storage facility is to be Owned and maintained by the Municipality, the deposit shall cover the estimated annual costs for maintenance and inspections for ten (10) years, as estimated by the Municipality.
  - 2. The amount shall then be converted to present worth of the annual series values.
- B. If a BMP is proposed that also serves as a recreation facility (e.g. ball field, lake), the Municipality may adjust the amount due accordingly.

## ARTICLE VII – FEES AND EXPENSES

### Section 701. General

The Municipality may include all costs incurred into 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.
- B. Review of the SWM Site Plan.
- C. Review of a SWM Site Plan resubmission.
- D. Attendance at meetings.
- E. Inspections.

## ARTICLE VIII – PROHIBITIONS

### Section 801. Prohibited Discharges and Connections

- A. Any drain or conveyance, whether on the surface or subsurface, that allows any non-stormwater discharge including sewage, process wastewater, and wash water to enter a regulated small MS4 or to enter the surface waters of this Commonwealth is prohibited.
- B. No person shall allow, or cause to allow, discharges into a regulated small MS4, or discharges into waters of this Commonwealth, which are not composed entirely of stormwater, except (1) as provided in paragraph C below and (2) discharges authorized under a state or federal permit.
- C. The following discharges are authorized unless they are determined to be significant contributors to pollution of a regulated small MS4 or to the waters of this Commonwealth:
  - 1. Discharges or flows from firefighting activities.
  - 2. Discharges from potable water sources including water line flushing and fire hydrant flushing, if such discharges do not contain detectable concentrations of Total Residual Chlorine (TRC).
  - 3. Non-contaminated irrigation water, water from lawn maintenance, landscape drainage and flows from riparian habitats and wetlands.
  - 4. Diverted stream flows and springs.
  - 5. Non-contaminated pumped ground water and water from foundation and footing drains and crawl space pumps.
  - 6. Non-contaminated HVAC condensation and water from geothermal systems.
  - 7. Residential (i.e., not commercial) vehicle wash water where cleaning agents are not utilized.
  - 8. Non-contaminated hydrostatic test water discharges, if such discharges do not contain detectable concentrations of TRC.
  - 9. Dechlorinated swimming pool and hot tub discharges, as long as the PADEP guidelines for swimming pool water discharge are followed.
- D. In the event that the Municipality or DEP determines that any of the discharges identified in Subsection C significantly contribute pollutants to a regulated small MS4 or to the waters of this Commonwealth, the Municipality or DEP will notify the responsible person(s) to cease the discharge.

### Section 802. Roof Drains and Sump Pumps

- A. Roof drains and sump pumps shall discharge to infiltration or vegetative BMPs wherever feasible.
- B. Unless otherwise approved by the Municipality, no stormwater from roofs or driveway drains shall be discharged to the street surface or curb.

### Section 803. Alteration of SWM BMPs

No person shall modify, remove, fill, landscape, or alter any SWM BMPs, facilities, areas, drainage easements, or structures that were installed as a requirement of this Ordinance without the written approval of the Municipality.



## ARTICLE IX – ENFORCEMENT AND PENALTIES

### Section 901. Right of Entry

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

### Section 902. Inspection

The landowner or the owner's designee (including the Municipality for dedicated and owned facilities) shall inspect SWM BMPs, facilities and/or structures installed under this Ordinance according to the following frequencies, at a minimum, to ensure the BMPs, facilities and/or structures continue to function as intended:

- a. Annually for the first 5 years.
- b. Once every 3 years thereafter.
- c. During or immediately after the cessation of a 10-year or greater storm.

Inspections should be conducted during or immediately following precipitation events. A written inspection report shall be created to document each inspection. The inspection report shall contain the date and time of the inspection, the individual(s) who completed the inspection, the location of the BMP, facility or structure inspected, observations on performance, and recommendations for improving performance, if applicable. Inspection reports shall be submitted to the Municipality within 30 days following completion of the inspection.

### Section 903. Enforcement

- A. It shall be unlawful for a person to undertake any regulated activity except as provided in an approved SWM Site Plan, unless specifically exempted in Section 302.
- B. It shall be unlawful to violate Section 803 of this Ordinance.
- C. Inspections regarding compliance with the SWM Site Plan are a responsibility of the Municipality.

### Section 904. Suspension and Revocation

- A. Any approval or permit issued by the Municipality pursuant to this Ordinance may be suspended or revoked for:
  1. Non-compliance with or failure to implement any provision of the approved SWM Site Plan or O&M Agreement.
  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, nuisance, pollution, or endangers the life or property of others.
- B. A suspended approval may be reinstated by the Municipality when:
  1. The Municipality has inspected and approved the corrections to the violations that caused the suspension.
  2. The Municipality is satisfied that the violation has been corrected.
- C. An approval that has been revoked by the Municipality 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 life, public health, or property, at its sole discretion, the Municipality may provide a limited time period for the owner to correct the violation. In these cases, the Municipality 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 Municipality may revoke or suspend any, or all, applicable approvals and permits pertaining to any provision of this Ordinance.

**Section 905. 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 Municipality 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 906. Appeals**

- A. Any person aggrieved by any action of the Municipality or its designee, relevant to the provisions of this Ordinance, may appeal to the Municipality within 30 days of that action.
- B. Any person aggrieved by any decision of the Municipality, relevant to the provisions of this Ordinance, may appeal to the County Court of Common Pleas in the county where the activity has taken place within 30 days of the Municipality's decision.

## ARTICLE X – REFERENCES

1. U.S. Department of Agriculture, National Resources Conservation Service (NRCS). *National Engineering Handbook*. Part 630: Hydrology, 1969-2001. Originally published as the *National Engineering Handbook*, Section 4: Hydrology. Available from the NRCS online at: <http://www.nrcs.usda.gov/>.
2. U.S. Department of Agriculture, Natural Resources Conservation Service. 1986. *Technical Release 55: Urban Hydrology for Small Watersheds*, 2nd Edition. Washington, D.C.
3. Pennsylvania Department of Environmental Protection. No. 363-0300-002 (December 2006), as amended and updated. *Pennsylvania Stormwater Best Management Practices Manual*. Harrisburg, PA.
4. Pennsylvania Department of Environmental Protection. No. 363-2134-008 (March 31, 2012), as amended and updated. *Erosion and Sediment Pollution Control Program Manual*. Harrisburg, PA.
5. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, Hydrometeorological Design Studies Center. 2004-2006. *Precipitation-Frequency Atlas of the United States, Atlas 14*, Volume 2, Version 3.0, Silver Spring, Maryland. Internet address: <http://hdsc.nws.noaa.gov/hdsc/pfds/>.


Borough of Coraopolis Stormwater Management Ordinance

Ordinance Number


**ENACTED and ORDAINED** at a regular meeting of the  
Borough of Coraopolis Borough Council

on this 14<sup>th</sup> day of November, 2018.


This Ordinance shall take effect immediately.

  
\_\_\_\_\_  
(Name)

*Mayor*  
\_\_\_\_\_  
(Title)

  
\_\_\_\_\_  
(Name)

*Council President*  
\_\_\_\_\_  
(Title)

  
\_\_\_\_\_  
(Name)

*Councilman President Pro-Tem*  
\_\_\_\_\_  
(Title)

ATTEST:

  
\_\_\_\_\_  
Secretary