

ORDINANCE NO. 728

**STORMWATER MANAGEMENT ORDINANCE
OF 2011**

**PENN TOWNSHIP BOARD OF COMMISSIONERS
YORK COUNTY, PENNSYLVANIA**

Adopted

November 21, 2011

Table of Contents

	<u>Page</u>
ARTICLE I - GENERAL PROVISIONS	
Section 101. Short Title	1
Section 102. Statement of Findings	1
Section 103. Purpose.....	1
Section 104. Statutory Authority	2
Section 105. Applicability	2
Section 106. Repealer	2
Section 107. Severability	2
Section 108. Compatibility with Other Requirements.....	2
Section 109. Duty of Persons Engaged in the Development of Land.....	3
Section 110. Interpretation.....	3
Section 111. Erroneous Permit	3
ARTICLE II - DEFINITIONS.....	3
ARTICLE III - STORMWATER MANAGEMENT STANDARDS	
Section 301. General Requirements.....	4
Section 302. Exemptions	6
Section 303. Volume Controls.....	7
Section 304. Rate Controls	8
Section 305. Stormwater Management Facilities for Pennsylvania Department of Transportation (PennDOT) and Pennsylvania Turnpike Commission (PTC) Roadways and Associated Facilities.....	8
Section 306. Additional Stormwater Management Design Standards.....	9
ARTICLE IV - STORMWATER MANAGEMENT (SWM) SITE PLAN REQUIREMENTS	
Section 401. Plan Requirements	10
Section 402. Plan Submission.....	13
Section 403. Plan Review and Approval Procedure	13
Section 404. Revision of Plans	14
Section 405. Re-submission of Disapproved SWM Site Plans.....	15
Section 406. Authorization to Construct and Term of Validity	15
Section 407. As-Built Plans, Completion Certificate, and Final Inspection.....	15
ARTICLE V - OPERATION AND MAINTENANCE	
Section 501. Responsibilities of Developers and Landowners.....	16
Section 502. Operation and Maintenance Agreements.....	16
Section 503. Performance Guarantee.....	17
ARTICLE VI - FEES AND EXPENSES	
Section 601. General.....	17
ARTICLE VII - PROHIBITIONS	
Section 701. Prohibited Discharges and Connections	17
Section 702. Roof Drains.....	18
Section 703. Alteration of SWM BMPs	18

Table of Contents

	<u>Page</u>
ARTICLE VIII - ENFORCEMENT AND PENALTIES	
Section 801. Right-of-Entry	18
Section 802. Inspection	18
Section 803. Notification	19
Section 804. Enforcement	19
Section 805. Suspension and Revocation	19
Section 806. Penalties	20
Section 807. Appeals	20
ARTICLE IX - REFERENCES	20
ARTICLE X - ENACTMENT	21
APPENDIX A - Operation and Maintenance (O&M) Agreement Stormwater Management Best Management Practices (SWM BMPs)	22
APPENDIX B - Disconnected Impervious Area (DIA)	25

ARTICLE I - GENERAL PROVISIONS

Section 101 Short Title

This Ordinance shall be known and may be cited as the “Penn Township Stormwater Management Ordinance.”

Section 102 Statement of Findings

The Board of Commissioners of Penn Township, York County (hereinafter referred to as “Township”) finds that:

- A. Inadequate management of accelerated runoff of stormwater resulting from development throughout a watershed increases 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 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 streams, which also protects and maintains surface water quality.
- D. 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).

Section 103 Purpose

The purpose of this Ordinance is to promote health, safety, and welfare within the Township and its watershed(s) by minimizing the harm 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 the natural drainage systems as much as possible.
- C. Manage stormwater runoff close to the source.
- 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 SWM BMPs that are implemented within the Township.
- H. Provide standards to meet NPDES permit requirements.

Section 104 Statutory Authority

A. Primary Authority:

The Township is empowered to regulate land use activities that affect stormwater impacts by the authority vested in the First Class Township Code, 53 P.S. §§ 55101 et seq., and 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.”

B. Secondary Authority:

The Township is also 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.

Section 106 Repealer

Any other ordinance provision or regulation of the Township inconsistent with any of the provisions of this Ordinance is hereby repealed to give this Ordinance full force and effect to the extent of the inconsistency only.

Section 107 Severability

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

Section 108 Compatibility with Other Requirements

Permits and approvals issued pursuant to this Ordinance do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act or ordinance. If more stringent requirements concerning regulation of stormwater or erosion and sedimentation control are contained in another code, rule, act or ordinance, the more stringent regulations shall apply.

Section 109 Duty of Persons Engaged in the Development of Land

Notwithstanding any provision(s) of this Ordinance, including exemptions, any landowner or any person engaged in the alteration or development of land which may affect stormwater runoff characteristics shall implement such measures as are reasonably necessary to prevent injury to health, safety, or other property. Such measures also shall include actions as are required to manage the rate, volume, direction, and quality of resulting stormwater runoff in a manner which otherwise adequately protects health, property, and water quality.

Section 110 Interpretation

Unless otherwise expressly stated, the succeeding shall, for the purposes of this Ordinance, be interpreted in the following manner:

- A. Words used in the present tense also imply the future tense.
- B. Words used in the singular imply the plural, and vice versa.
- C. Words of masculine gender include feminine gender, and vice versa.
- D. The words and abbreviation “includes,” “including,” “shall include,” “such as”, and “e.g.” are not limited to the specific example(s) given but are intended to extend the words or words’ meaning(s) to all other instances of like kind and character.
- E. The words “person”, “applicant”, or “developer” include, a partnership, corporation, or other legal entity, as well as an individual.
- F. The words “shall”, “required”, or “must” are mandatory; the words “may” and “should” are permissive.
- G. “Township Engineer” shall be the Township Engineer employed or appointed by the Board of Commissioners and any person designated by the Township Engineer or the Board of Commissioners to act on behalf of the Township Engineer.

Section 111 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 Township purporting to validate such a violation.

ARTICLE II - DEFINITIONS

Refer to Penn Township Ordinance of Definitions

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 Township issues written approval of an SWM Site Plan, which demonstrates compliance with the requirements of this Ordinance.
- B. SWM Site Plans approved by the Township, in accordance with Section 406, shall be on site throughout the duration of the regulated activity.
- C. The Township may, after consultation with PADEP, 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. The Township shall maintain a record of consultations with PADEP pursuant to this paragraph.
- 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, i.e., 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)², No. 363-2134-008 (April 15, 2000), as amended and updated.
- E. For all regulated activities, implementation of the volume controls in Section 303 is required, unless specifically exempted under Section 301.C., or exempted by an approved modification request as specified in Section 403.B. of this Ordinance.
- F. 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 phases.
 - 2. For development taking place in phases, 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.

- G. Stormwater flows onto adjacent property shall not be created, increased, decreased, relocated, or otherwise altered without written notification of the adjacent property owner(s) by the developer or applicant. Such stormwater flows shall be subject to the requirements of this Ordinance.
- H. 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, as stated in Section 103 Purpose, by implementing measures to:
 - a. Minimize disturbance to floodplains, wetlands, wooded areas, and existing vegetation.
 - 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.
 - f. Minimize soil disturbance and compaction. If removed, topsoil shall be replaced to a minimum depth equal to its depth prior to removal or four (4) inches, whichever is greater. (Additional topsoil may be needed for vegetation other than sod.)
 3. To the maximum extent practicable, incorporate the techniques for Low Impact Development Practices described in the *Pennsylvania Stormwater Best Management Practices Manual* (BMP Manual).
- I. The design of all facilities in areas of karst topography and/or carbonate geology shall include an evaluation of measures to minimize adverse effects, including hydro-geologic studies if required by the Township.
- J. Infiltration BMPs shall be spread out, 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. In addition, infiltration BMPs shall include pre-treatment BMPs where appropriate.
- K. All natural streams, channels, swales, drainage systems and/or areas of surface water concentration shall be maintained in their existing condition unless the Township approves an alteration. All encroachment activities shall comply with the requirements of PADEP 25 Code Chapter 105 (Water Obstructions and Encroachments), Rules and Regulations of PADEP. Any approvals or permits issued do not relieve compliance as referenced in Section 108, Compatibility with Other Permit and Ordinance Requirements.

- L. Normally dry, open-top storage facilities, designed as such, shall completely drain both the volume control and rate control capacities over a period of time not less than 24 hours and not more than 72 hours from the end of the design storm. However, any designed infiltration at such facilities is exempt from the minimum 24-hour standard, i.e., may infiltrate in a shorter period of time, so long as none of the stormwater flowing into the infiltration facility is discharged directly into the surface waters of this Commonwealth. (Inordinately rapid infiltration rates may indicate the presence of large fractures or other conditions for which an additional soil buffer may be required.)
- M. The design storm volumes and precipitation intensities to be used in the analysis of discharge or runoff shall be obtained from the Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2, Version 3.0, U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Spring, Maryland. NOAA's Atlas 14 can be accessed at: <http://hdsc.nws.noaa.gov/hdsc/pfds/>.
- N. 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.
- O. Various BMPs and their design standards are listed in the BMP Manual.
- P. All work shall be in accordance with the Township's Standard Construction Details and PennDOT Publications 408 & 72M.

Section 302 Exemptions

Any Regulated Activity that meets the following exemption criteria is exempt from the part(s) of this Ordinance as specified herein. However, the requirements of the Ordinance shall otherwise remain in effect. The criteria for exemption in this Section apply to the total development proposed, including instances in which the development is proposed to take place in phases. The date of enactment of this Ordinance shall be the starting point from which future development and the respective proposed impervious surface computations shall be cumulatively considered and regulated. Exemption shall not relieve an applicant from implementing such measures as necessary to meet the intent of this Ordinance, or compliance with any NPDES Permit requirements.

- A. Regulated activities that create DIAs equal to or less than 1,000 square feet are exempt from the peak rate control and the SWM Site Plan preparation requirements of this Ordinance.
- B. Regulated activities that create DIAs greater than 1,000 square feet and equal to or less than 5,000 square feet are exempt only from the peak rate control requirement of this Ordinance.
- C. Agricultural activity is exempt from the rate control and SWM Site Plan preparation requirements of this Ordinance provided the activities are performed according to the requirements of 25 Pa. Code 102.

- D. Forest management and timber operations are exempt from the rate control and SWM Site Plan preparation requirements of this Ordinance provided the activities are performed according to the requirements of 25 PA Code 102.
- E. The use of land for domestic (i.e., for a single individual dwelling unit) gardening and landscaping is exempt from specific approval and permitting under this Ordinance so long as such activities comply with all other applicable ordinances and statutes.
- F. Exemptions from certain provisions of this Ordinance shall not relieve the applicant from the requirements in Sections 301.D. through L. of this Ordinance.
- G. The Township may deny or revoke any exemption pursuant to this Section at any time for any project that the Township determines poses a threat to public health, safety, property or the environment.

Section 303 Volume Controls

The low impact development practices provided in the BMP Manual shall be utilized for all regulated activities to the maximum extent practicable. Water volume controls shall be implemented using the *Design Storm Method* in Subsection A or the *Simplified Method* in Subsection B below. 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.

- A. The *Design Storm Method* (CG-1 in the BMP Manual) is applicable to any size of regulated activity. This method requires detailed modeling based on site conditions.
 - 1. There shall be no increase in the post-development total runoff volume for all storms equal to or less than the two (2)-year 24-hour duration precipitation.
 - 2. For modeling purposes:
 - a. Existing (pre-development) non-forested pervious areas must be considered meadow.
 - b. Twenty percent (20%) of the existing impervious area of a project site, when present, shall be considered meadow in the model for existing conditions.
- B. The *Simplified Method* (CG-2 in the BMP Manual) 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 storage facilities.

For new impervious surfaces:

- 1. Stormwater facilities shall capture at least the first two (2) inches of runoff from all new impervious surfaces.

2. At least the first one (1) inch 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 the Commonwealth. Removal options include reuse, evaporation, transpiration, and infiltration.
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 shall be infiltrated.
4. This method is exempt from the requirements of Section 304. Rate Controls.

Section 304 Rate Controls

- A. For computation of pre-development peak discharge rates, twenty percent (20%) of the existing impervious area of a project site, when present, shall be considered meadow.
- B. 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 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.

Section 305 Stormwater Management Facilities for Pennsylvania Department of Transportation and Pennsylvania Turnpike Commission Roadways and Associated Facilities

For the purposes of the Act 167 Stormwater Management (Plan) elements, contained within the York County Integrated Water Resources Plan, and this Ordinance, design policy pertaining to stormwater management facilities for Pennsylvania Department of Transportation (PennDOT) and Pennsylvania Turnpike Commission (PTC) roadways and associated facilities is provided in Section 13.7 (Antidegradation and Post Construction Stormwater Management Policy) of PennDOT Publication No. 13M, Design Manual Part 2 (August 2009), as developed, updated, and amended in consultation with the Pennsylvania Department of Environmental Resources (PADEP). As stated in DM-2.13.7.D (Act 167 and Municipal Ordinances), PennDOT and PTC roadways and associated facilities shall be consistent with Act 167 Plans. Dm-2.13.7.B (Policy on Antidegradation and Post Construction Stormwater Management) was developed as a cooperative effort between PennDOT and DEP. DM-2.13.7.C (Project Categories) discusses the anticipated impact on the quality, volume, and rate of stormwater runoff.

Where standards in the Act 167 elements of the IWRP and this Ordinance are impractical, PennDOT or the PTC may request assistance from PADEP, in consultation with the County, to develop an alternative strategy for meeting State water quality requirements and the goals and objectives of the Act 167 elements within the IWRP.

For the purposes of the Act 167 elements in the IWRP and this Ordinance, road maintenance activities are regulated under 25 PA Code Chapter 102.

Section 306 Additional Stormwater Management Design Standards

A. General SWM Site Plans Requirements and Standards

1. SWM site plan requirements shall comply with the guidance, procedures and policies provided in the latest version of the BMP Manual and PennDOT Publication No. 13M Part 2, Chapter 10.

B. Detention and Retention Basins

1. Basin maximum water depth shall be less than eight (8) feet for a one (1) through one-hundred (100) year twenty-four (24) hour post development storm event.
2. Embankment top widths shall be at least eight (8) feet.
3. The maximum permitted side slopes shall be 4.0 horizontal to 1.0 vertical. In order to obtain a waiver for slopes steeper than 4:1, the plan must include a planting schedule to stabilize the embankments. The proposed vegetation shall be of the low maintenance variety.
4. Any open-top facility shall be subject to the following fencing requirements:
 - a. The facility must be completely surrounded by a chain link fence of not less than four (4) feet in height. Alternative fences and barriers may be permitted upon request to and approval by the Township.
 - b. The fence shall not be installed on earth fill embankment tops, on fill embankment downstream face slopes, across emergency spillway weirs, or across emergency spillway downstream face channel sections (above the toe of embankment slopes.)
 - c. All gate or door openings through such enclosure shall be equipped with a self-closing and self-latching device for keeping the gate or door securely closed at all times, when not in actual use.

C. Stormwater Collection and Conveyance Facilities and/or Systems

1. All stormwater pipes, other than those for existing channels, which discharge from residential lots to a street or from a street to residential lots, shall extend from the street right-of-way a minimum distance of sixth-seven (67%) percent of the length of the longest adjacent lot dimension.
2. SWM collection and conveyance facilities not located within a public right-of-way shall be centered in an easement.

D. Miscellaneous SWM Site Plans and SWM BMP Requirements and Standards

1. Roof drain(s) and sump pump(s) connections shall not discharge into sanitary sewers, streets, gutters, roadside channels, or into the legal street or road right-of-way.
2. Every person owning or leasing property through which a watercourse passes shall maintain that part of the watercourse within the property and keep it free from trash or debris; substances that could contaminate or pollute the waters of this commonwealth; any obstacles that could alter the bed slope, cross section, or path of the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse so that those structures will not become a hazard to the use, function, or physical integrity of the watercourse.

ARTICLE IV - STORMWATER MANAGEMENT (SWM) SITE PLAN REQUIREMENTS

Section 401 Plan Requirements

Although not a requirement of this Ordinance, prior to proceeding with SWM Site Plan preparation and submission, the applicant is encouraged to request a pre-application meeting with the Township Engineer and staff members of the York County Conservation District to discuss the plan concept and responsibility for submission of required documents and information.

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

- A. Appropriate sections of the Township's Subdivision and Land Development Ordinance, and other applicable ordinances of the Township regarding subdivision and land development plan preparation and applicable plan requirements shall be followed in preparing all SWM Site Plans, regardless of whether or not a SWM Site Plan involves a subdivision and/or land development plan.
- B. The Township Engineer 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 Township Engineer may either disapprove the submission, or, in the case of minor deficiencies, may accept the submission of a revised SWM Site Plan as noted in Section 404 of this Ordinance.
- C. 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 Item E.9 below.
- D. The following signature block shall be required by the Township:

“(Township Engineer), on this date (*date of signature*), has reviewed and hereby certifies that the SWM Site Plan meets all design standards and criteria of the Penn Township Stormwater Management Ordinance, as amended.

- E. If not required by the Township Subdivision and Land Development Ordinance, as specified in Section 401.A of this Ordinance, the SWM Site Plan shall also provide the following information where applicable:
1. The overall stormwater management concept for the project, including any additional information required for a Post-Construction Stormwater Management Plan (PCSWMP) as applicable.
 2. A determination of site conditions in accordance with the BMP Manual. A detailed site evaluation shall be completed for projects proposed in areas of carbonate geology or karst topography, as well as for other environmentally sensitive areas, whether natural or manmade, including floodplains, streams, lakes, ponds, hydric soils, wetlands, brownfields and wellhead protection zones.
 3. 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.
 4. Expected project time schedule.
 5. A soil erosion and sediment control plan, where applicable, as prepared for, reviewed, and approved by the York County Conservation District.
 6. 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.
 7. Plan and profile drawings of all SWM BMPs, including drainage structures, pipes, open channels, and swales.
 8. A SWM Site Plan showing the locations of existing and proposed on-lot wastewater facilities and water supply wells.
 9. A SWM Site Plan, which shall include an Operation and Maintenance (O&M) Plan for all existing and proposed physical stormwater management facilities. This plan shall address long-term ownership and responsibilities for O&M as well as schedules and costs for O&M activities.
 10. A description of permanent stormwater management techniques, including the construction specifications of the materials to be used for stormwater management facilities.
 11. A notarized signature of the owner of the parcel for which the SWM Site Plan is proposed indicating that they are aware of and will be responsible for operation and maintenance of the facilities.
 12. Existing and proposed land uses.

13. The location of the proposed regulated activity relative to streets, municipal boundaries, and other significant manmade features.
14. Significant physical features and associated boundary limits including flood hazard areas, sinkholes, existing drainage courses, and areas of natural vegetation.
15. The location, within 50 feet of property lines, of existing and proposed utilities, stormwater facilities, sanitary sewers, and water lines on the parcel.
16. Proposed changes to the land surface and vegetative cover, and the type and amount of existing and proposed impervious area.
17. Existing and proposed structures, buildings, streets, driveways, access drives, and parking areas.
18. Contour intervals of two (2) feet in moderately sloped areas, and contours at intervals of five (5) feet for slopes in excess of 15 %. Dependent upon site conditions, the Township may accept alternative contour intervals proposed by an applicant or his designee.
19. The name of the development, the name and address of the owner of the property, and the name and address of the individual or firm preparing the Plan. Also to be included are the name, address, signature and seal of any registered surveyor (attesting the accuracy of the boundary survey), professional engineer, landscape architect, or professional geologist (for geomorphological assessments) contributing to and/or with a responsibility for any aspect of the Plan where applicable.
20. A graphic and written scale of one (1) inch equals no more than 50 feet. For parcels of 20 acres or more, the scale shall be one (1) inch equals no more than 100 feet. Dependent upon site conditions, the Township may accept an alternative scale proposed by the applicant or his designee.
21. North point (arrow).
22. A map showing all existing manmade features beyond the subject parcel's boundary lines that will be affected by the proposed regulated activities.
23. Horizontal and vertical profiles of all open channels, including hydraulic capacity.
24. A note on the plan indicating the location and responsibility for maintenance of SWM facilities and/or easements that would be located on adjoining properties as a result of proposed regulated activities, and the location of such facilities and/or easements.
25. A hydrogeologic assessment of the effects of stormwater runoff on sinkholes where present.
26. The effect of the proposed regulated activity in terms of runoff volumes and peak flows on adjacent properties and/or any existing municipal stormwater collection system that may receive runoff from the project site.

27. Drainage flow pathways.

Section 402 Plan Submission

A. Four (4) copies of the SWM Site Plan shall be submitted as follows:

1. Two (2) copies to the Township Engineer.
2. One (1) copy to the York County Planning Commission when a Regulated Activity is part of a Subdivision or Land Development.
3. One (1) copy to the York County Conservation District (if required).

B. Additional copies shall be submitted as requested by the Township.

Section 403 Plan Review and Approval Procedure

A. SWM Site Plans shall be reviewed by the Township Engineer for consistency with the provisions of this Ordinance.

B. Modification Requests

1. When reviewing a SWM Site Plan, whether or not the SWM Site Plan is included in a subdivision and/or land development plan application, the Township Board of Commissioners may, after considering the comments of PADEP as noted in Section 301.C of this Ordinance, grant a modification of the requirements of one or more provisions of this Ordinance if the literal enforcement will enact undue hardship because of peculiar conditions pertaining to the land in question, provided that such modification will not be contrary to the public interest and that the purpose and intent of the Ordinance is observed.
2. All requests for modifications from an applicant shall be in writing and shall accompany and be a part of the application for approval of a SWM Site Plan and/or a subdivision or land development plan as applicable. The request shall state in full the grounds and facts of unreasonableness or hardship on which the request is based, the provision or provisions of the Ordinance involved and the minimum modification necessary.
3. The Township shall keep a written record of all action on requests for modifications. The response of any consultation and/or review by PADEP shall be included as an original report if available or otherwise documented in the required written record.

C. SWM Site Plan Review and Approval Procedure

1. If a SWM Site Plan does not involve a subdivision and/or land development, the review of the SWM Site, recommendations, approval, approval with conditions, or disapproval, i.e., the review and decision period, shall occur within forty five (45) days of submission to the Township. However, the Township Engineer or the Board of Commissioners, may extend the review and decision period another forty five (45) days due to the nature of the application and/or site conditions. If a forty five (45) day extension is imposed or granted

by the Township beyond the first forty five (45) day review and decision period designated by this paragraph, the Township shall notify the applicant in writing and deliver such notice to said applicant within fifteen (15) days of the decision to extend the review and decision period. If no extension is imposed or granted beyond the first forty-five (45) day review and decision period, and no decision has been rendered by the Township within that period, the SWM Site Plan shall be deemed approved. Similarly, if after a forty-five (45) day extension of the review and decision period has been imposed or granted by the Township, and no decision has been rendered within that period, the SWM Site Plan shall be deemed approved.

2. If a SWM Site Plan involves a subdivision and/or land development plan, the period of time from the submission to the Township of the subdivision and/or land development plan application which includes the SWM Plan and the approval, approval with conditions, or disapproval shall not exceed 90 days, in accordance with the procedure for approval of plats in Section 508 of the Pennsylvania Municipalities Planning Code. If the applicant requests an extension of the initial ninety day (90 day) review period regarding the subdivision/land development, the approval period for the SWM Site Plan shall correspond with the approved adjusted review schedule for the subdivision/land development plan.
3. From the time an application for approval of a plat involving a subdivision and/or land development plan, whether preliminary or final, which includes a SWM Site Plan, is duly filed with the Township, no change or amendment of this Ordinance or other governing ordinance or plan shall affect the decision on such application in accordance with the provisions of the governing ordinances or plans as they stood at the time the application was duly filed, as specified in Section 508. (4) (I) of the Pennsylvania Municipalities Planning Code.

D. Decision Notification Procedure

The decision of the Township to approve or disapprove a SWM Site Plan shall be in writing and shall be delivered to the applicant no later than 15 days following the decision. If the SWM Site Plan is disapproved, the written decision by the Township shall specify the defects in the application, describe the requirements that were not met, and shall cite the provisions of the Ordinance relied upon. If the SWM Site Plan is approved with conditions, the notification to the applicant shall state the acceptable conditions for approval and the time limit for satisfying such conditions. The time limit for satisfying conditions of approval shall be the time limit prescribed for conditional approval of subdivision and/or land development plans as stated in the Township's Subdivision and Land Development Ordinance.

Section 404 Revision of Plans

A revision to a previously submitted SWM Site Plan that involves a change in SWM BMPs, stormwater management facilities, or changes in analytical 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 Township Engineer, shall require a re-submission of the revised SWM Site Plan in accordance with this Article, including applicable fees. For NPDES permitted sites, any revised SWM Site Plan shall also be re-submitted to the York County Conservation District for review. In the case of a SWM Site Plan which contains

minor deficiencies, such as a missing label, omission of a required note or minor construction detail, as determined by the Township Engineer, the Township may accept a re-submission of such SWM Site Plan without the requirement of a review fee, or for a lesser fee as provided for in the Township's permit and fee schedule.

Section 405 Re-submission of Disapproved SWM Site Plans

A disapproved SWM Site Plan may be resubmitted with the revisions addressing the Township's concerns, in accordance with this Article. The applicable review fee must accompany the submission of a revised SWM Site Plan, unless the Township waives such fee. (See Section 404)

Section 406 Authorization to Construct and Term of Validity

A. SWM Site Plans Independent of Subdivision and/or Land Development Plans

The Township's approval of a SWM Site Plan, when such Plan is submitted independent of a subdivision and/or land development plan, authorizes the regulated activities contained in the SWM Site Plan for a maximum term of validity of five (5) years following the date of approval. The Township may specify a term of validity shorter than five (5) years in the approval for any specific SWM Site Plan, particularly if the nature of the proposed SWM facilities requires more frequent maintenance and/or short-term replacement of certain components. Terms of validity shall commence on the date the Township 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 Township may consider the SWM Site Plan disapproved and may revoke any and all permits. SWM Site Plans that are considered disapproved by the Township may be resubmitted in accordance with Section 405 of this Ordinance.

B. SWM Site Plans Included in a Subdivision and/or Land Development Plan

The Township's approval of a SWM Site Plan, which is a part of a subdivision and/or land development plan, authorizes that plan and the regulated activities therein so that no subsequent change or amendment in this Ordinance or other governing ordinances or plans shall be applied to affect adversely the right of the applicant to commence and to complete any aspect of the approved development in accordance with the terms of such approval within five years from such approval, as specified in Section 508. (4) (ii) - (vii) of the Pennsylvania Municipalities Planning Code.

Section 407 As-Built Plans, Completion Certificate, and Final Inspection

- A. The applicant shall be responsible for providing as-built plans of all SWM BMPs included in the approved SWM Site Plan. The as-built plans and an explanation of any discrepancies with the construction plans shall be submitted to the Township.
- B. The as-built submission shall include a certification of completion signed by a qualified person licensed by the Commonwealth of Pennsylvania as qualified to perform and to be responsible for such duties verifying that all permanent SWM BMPs have been constructed according to the approved plans and specifications. If any licensed qualified designers

contributed to the construction plans, then a licensed qualified designer must sign the completion certificate.

- C. After receipt of the completion certification by the Township, the Township Engineer may conduct a final inspection. The Township Engineer shall determine, by final inspection, that all SWM BMP construction is consistent with the as-built plans and in compliance with this chapter, prior to issuing a certificate of use.

ARTICLE V - OPERATION AND MAINTENANCE

Section 501 Responsibilities of Developers and Landowners

- A. The Township shall make the final determination on the continuing maintenance responsibilities prior to final approval of the SWM Site Plan. The Township 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 Township will accept the facilities. The Township reserves the right to accept or reject the ownership and operating responsibility for any portion of the stormwater management facilities and controls.
- B. Facilities, areas, or structures used as Stormwater Management BMPs shall be enumerated as permanent real estate appurtenances and recorded in the York County Recorder of Deeds Office as deed restrictions or easements that run with the land.
- C. The Operation and Maintenance (O&M) Plan shall be recorded as a restrictive deed covenant that runs with the land.
- D. The Township may take enforcement actions against an owner for any failure to satisfy the provisions of this Article.

Section 502 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 A) 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 Plan.
 - 2. The owner shall convey to the Township easements to assure access for periodic inspections by the Township and maintenance, as necessary.
 - 3. The owner shall keep on file with the Township 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 Township 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 Township may perform the services

required and charge the owner appropriate fees. Nonpayment of fees may result in a lien against the property.

- C. The Township is exempt from the requirement to sign and record an Operation and Maintenance Agreement.

Section 503 Performance Guarantee

For SWM Site Plans that involve subdivision and/or land development, the applicant shall provide a financial guarantee to the Township 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.

ARTICLE VI - FEES AND EXPENSES

Section 601 General

The Township may charge an applicant a review fee. 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. 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, that allows any non-stormwater discharge including sewage, process wastewater, and wash water to enter the waters of the Commonwealth is prohibited.
- B. No person shall allow, or cause to allow, discharges into surface waters of the Commonwealth which are not composed entirely of stormwater, except (1) as provided in Subsection C below and (2) discharges allowed under a state or federal permit.
- C. 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 the Commonwealth, the Township Engineer or DEP will notify the responsible person(s) to cease the discharge.
- D. 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	- De-chlorinated 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)
- Diverted stream flows	- Water discharged in well testing for potable water supplies

Section 702 Roof Drains

Roof drains and sump pumps shall discharge to infiltration or vegetative BMPs and to the maximum extent practicable satisfy the criteria for DIAs.

Section 703 Alteration of SWM BMPs

No person shall modify, remove, fill, landscape, or alter any SWM BMPs, facilities, areas, or structures in a manner without the written approval of the Township, with the exception of necessary maintenance activities such as mowing.

ARTICLE VIII - ENFORCEMENT AND PENALTIES

Section 801 Right-of-Entry

Upon presentation of proper credentials, the Township Engineer 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 Township Engineer shall inspect phases of the installation of the permanent stormwater management facilities as deemed appropriate by the Township Engineer. It is the responsibility of the permittee to notify the Township Engineer forty-eight (48) hours in advance of the beginning of construction of stormwater management facilities.
- B. During any stage of the work, if the Township Engineer determines that the permanent stormwater management facilities are not being installed in accordance with the approved Stormwater Management Site Plan, the Township shall revoke any existing approvals issued under this Ordinance until a revised Stormwater Management Site Plan is submitted and approved, as specified in this Ordinance.

- C. SWM BMPs shall be inspected by the landowner, or the owner's designee (including the Township for dedicated and owned facilities), according to the following list of minimum frequencies:
1. Annually for the first five (5) years.
 2. Once every three (3) years thereafter.
 3. During or immediately after the cessation of a ten (10) year or greater storm, i.e., a storm of an estimated frequency of recurrence of ten (10) years or greater interval of time.

Section 803 Notification

In the event that a person fails to comply with the requirements of this Ordinance, or fails to conform to the requirements of any permit issued hereunder, the Township shall provide written notification of the violation. Such notification shall set forth the nature of the violations and establish a time limit for the correction of these violation(s). Failure to comply within the time specified shall subject such person to the penalty provisions of this Ordinance. All such penalties shall be deemed cumulative and does not prevent the Township from pursuing any and all remedies. It shall be the responsibility of the Owner of the real property on which any Regulated Activity is proposed to occur, is occurring, or has occurred, to comply with the terms and conditions of this Ordinance.

Section 804 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 any Section of this Ordinance.
- C. Inspections regarding compliance with the SWM Site Plan are a responsibility of the Township.

Section 805 Suspension and Revocation

- A. Any approval or permit issued by the Township 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 shall be reinstated by the Township when:
 - 1. The Township Engineer has inspected and approved the corrections to the violations that caused the suspension.
 - 2. The Township Engineer 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 life, public health, or property, The Township may provide a limited time period for the owner to correct the violation. In these cases, the Township Engineer 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 806 Penalties

- A. Any person, partnership or corporation who or which has violated the provisions of this Ordinance shall be subject to the penalties as prescribed in Chapter 101 of the Penn Township Code.

Section 807 Appeals

- A. Any person aggrieved by any action of the Township Engineer under this Ordinance, may appeal to the Penn Township Board of Commissioners within 30 days of that action by filing a written notice of appeal with the Township Manager.
- B. Any person aggrieved by any decision of the Penn Township Board of Commissioners, relevant to the provisions of this Ordinance, may appeal to the York County Court of Common Pleas within 30 days of the Board's decision.

ARTICLE IX - REFERENCES

- 1. Pennsylvania Department of Environmental Protection. No. 363-0300-002 (December 2006), as amended and updated. Pennsylvania Stormwater Best Management Practices Manual. Harrisburg, PA.
- 2. Pennsylvania Department of Environmental Protection. No. 363-2134-008 (April 15, 2000), as amended and updated. Erosion and Sediment Pollution Control Program Manual. Harrisburg, PA.
- 3. 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/>.

4. U.S. Department of Agriculture, Natural Resources Conservation Service. 1986. Technical Release 55: Urban Hydrology for Small Watersheds, 2nd Edition. Washington, D.C.
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/>.
6. Act of July 31, 1968, P.L. 85, No.247, The Pennsylvania Municipalities Planning Code, as amended.
7. Pennsylvania Department Of Transportation Publication 408/2011 (October 7, 2011) as amended and updated: Specifications for Highways, Harrisburg, PA
8. Pennsylvania Department Of Transportation Publication 72M (June 2010) as amended and updated: Standards for Roadway Construction, Harrisburg, PA.
9. Pennsylvania Department Of Transportation Publication 13M, Chapter 10 (August 2009) as amended and updated: Design Manual Part 2: Highway Design, Drainage Design and Related Procedures, Harrisburg, PA.

ARTICLE X - EFFECTIVE AND ENACTMENT

This ordinance shall become effective five (5) days after adoption by the Board of Commissioners.

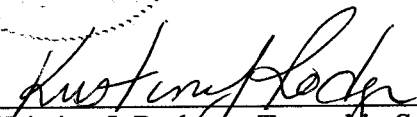
ENACTED and **ORDAINED** this 21st day of November 2011.

PENN TOWNSHIP BOARD OF COMMISSIONERS

By: _____

Craig Prieber, President

Attest:



 Kristina J. Rodgers, Township Secretary

APPENDIX A

OPERATION AND MAINTENANCE (O&M) AGREEMENT

STORMWATER MANAGEMENT BEST MANAGEMENT

PRACTICES (SWM BMPs)

THIS AGREEMENT, made and entered into this _____ day of _____, 20____, by and between _____, (hereinafter the “Landowner”), and Penn Township, York County, Pennsylvania, (hereinafter “Township”);

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property as recorded by deed in the land records of _____ County, Pennsylvania, Deed Book _____ at page _____, (hereinafter “Property”).

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

WHEREAS, the SWM BMP Operation and Maintenance (O&M) Plan approved by the Township (hereinafter referred to as the “O&M Plan”) for the property identified herein, which is attached hereto as Appendix A and made part hereof, as approved by the Township, provides for management of stormwater within the confines of the Property through the use of BMPs; and

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

WHEREAS, the Township requires, through the implementation of the SWM Site Plan, that SWM BMPs as required by said SWM Site Plan and the Municipal Stormwater Management 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 SWM Plan in good working order in accordance with the specific operation and maintenance requirements noted on the approved O&M Plan.

3. The Landowner hereby grants permission to the Township, 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 Township 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 Township 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 Township 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 Township.
5. In the event the Township, 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 Township for all expenses (direct and indirect) incurred within ten (10) days of receipt of invoice from the Township.
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 Township 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 the Township.
8. Inspection of the BMPs shall be in compliance with the Penn Township Stormwater Management Ordinance, as amended.

This Agreement shall be recorded at the Office of the Recorder of Deeds of York 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.

IN WITNESS WHEREOF, this instrument is executed this _____ day of _____, 20__.

WITNESS:

By: _____
Property Owner

By: _____
Property Owner

COMMONWEALTH OF PENNSYLVANIA

SS:

COUNTY OF YORK

On this _____ day of _____, 20____, before me a Notary Public, the undersigned officer personally appeared, _____, an individual, known to me to be the person whose name is subscribed to the within instrument, and acknowledged that he/she executed the same for the purpose contained herein

Notary Public

COMMONWEALTH OF PENNSYLVANIA

SS:

COUNTY OF YORK

On this _____ day of _____, 20____, before me a Notary Public, the undersigned officer personally appeared, _____, an individual, known to me to be the person whose name is subscribed to the within instrument, and acknowledged that he/she executed the same for the purpose contained herein

Notary Public

Attest:

Penn Township

Secretary

Manager (Seal)

COMMONWEALTH OF PENNSYLVANIA

SS:

COUNTY OF YORK

On this _____ day of _____, 20____, before me a Notary Public, the undersigned officer personally appeared, _____, an individual, known to me to be the person whose name is subscribed to the within instrument, and acknowledged that he/she executed the same for the purpose contained herein

APPENDIX B

DISCONNECTED IMPERVIOUS AREA (DIA)

B.1. Rooftop Disconnection

When rooftop down spouts are directed to a pervious area that allows for infiltration, filtration, and increased time of concentration, the rooftop may qualify as completely or partially 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 five percent (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.

B.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 five percent (5%) or less, and
- The slope of the overland flow path is five percent (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.