MS-4

NOTICE OF INTENT

POLLUTANT REDUCTION PLAN

For

Upper Providence Township

Permit #PAG130108

Prepared for

Upper Providence Township
1286 Black Rock Road
P.O. Box 406
Oaks, PA 19456

Prepared by

Gilmore & Associates, Inc.
184 West Main Street
Suite 300
Trappe, PA 19426

September, 2017

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

PAG-13
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS NOTICE OF INTENT (NOI)

Before completing this form, read the step-by-step instructions provided in this NOI package.

Related ID#s (If Known)				DEP USE ONLY
Client ID#		APS ID#		Date Received
Site ID#		Auth ID#		
Facility ID#				PAG_____ PDG?

GENERAL INFORMATION

Type of Permit: ☐ New Coverage ☐ Renewal of Coverage Permit No.: PAG13018

Is a waiver of coverage being requested and is a waiver application attached to this NOI? ☐ Yes ☒ No

Is PAG-13 General Permit coverage requested for more than one MS4 applicant? ☐ Yes ☒ No

If Yes, submit this NOI for each co-applicant and complete the information below (see instructions):

Joint Client Name: _____ Joint Client Phone: _____

Joint Client Address: _____ Joint Client Contact: _____

Joint Client City, State, Zip: _____

MS4 CLIENT/OPERATOR INFORMATION

DEP Client ID#	Client Type/Code		
Organization Name or Registered Fictitious Name		Employer ID# (EIN)	Dun & Bradstreet ID#
Upper Providence Township			
Mailing Address Line 1	Mailing Address Line 2		
1286 Black Rock Road			
Address Last Line – City	State	ZIP+4	Country
Oaks	**PA**	**19456**	**US**
Client Contact Last Name	First Name	MI	Suffix
Tieperman	**Timothy**		
Client Contact Title	Phone	Ext	
Township Manager	**610-933-9179**		
Email Address	FAX		
ttieperman@uprov-montco.org	**610-983-0355**		

MS4 SITE INFORMATION

DEP Site ID#	Site Name					
Urbanized Area (UA) Name(s)			UA Area (specify acres or mi^2)			
County Name	Municipality Name		City	Boro	Twp	State
Montgomery	**Upper Providence**		☐	☐	☒	
County Name	Municipality Name		City	Boro	Twp	State
			☐	☐	☐	
Site Location Address Line 1	Site Location Address Line 2					

Site Location City | State | ZIP+4

Detailed Written Directions to Site

Site Contact Last Name | First Name | MI | Suffix

Site Contact Title | Site Contact Firm

Mailing Address Line 1 | Mailing Address Line 2

Address Last Line – City | State | ZIP+4

Phone | Ext | FAX | Email Address

SIC Code(s) (List All That Apply) | NAICS Code(s)

Site-to-Client Relationship

STORMWATER DISCHARGE INFORMATION

Map(s). Attach a map(s) to the NOI that identifies all stormwater discharge points (outfalls) from the MS4 to surface waters. For MS4s with existing permit coverage (that did not receive a waiver from DEP during the latest permit term), the map must include all elements required by MCM #3 in the NPDES permit. See instructions.

Surface Water Information. For each surface water body that receives stormwater discharges from the MS4, list the surface water, the furthest downstream outfall ID number, and the surface water's existing use, impairment and TMDL/WLA information in the table below. See instructions. **NOTE** – If the MS4 discharges to any surface water whose existing use is HQ or EV, the MS4 must apply for an individual permit.

Surface Water Name	Outfall No.	Ch. 93 Existing Use	Impaired?	Approved TMDL?	WLA?
Schoolhouse Run	FOF-416	TSF, MF	Yes	No	No
Donny Brook	FOF-347	TSF, MF	Yes	No	No
Doe Run	FOF-4852	TSF, MF	Yes	No	No
Perkiomen Creek	FOF-138	WWF, MF	Yes	No	No
Schuylkill River	FOF-072	WWF, MF	Yes	No	No

Outfall Locations. For each outfall identified in the table above, list the latitude and longitude coordinates. Identify the Horizontal Reference Datum used to determine the coordinates.

Outfall No.	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
FOF-416	40	12	58	75	28	39
FOF-347	40	10	42	75	28	02
FOF-4852	40	09	14	75	27	29
FOF-138	40	08	45	75	26	45
FOF-072	40	07	41	75	29	37
Horizontal Reference Datum: ☐ NAD of 1927 ☐ NAD of 1983 ☐ WGS of 1984 ☒ Unknown						

TMDL Details. For any surface water with an approved TMDL in which a WLA is applicable to the MS4, provide the WLAs below.

Surface Water Name	TMDL Name	Pollutant Name	TMDL WLA (lbs/yr)	Specific or General

MS4 Requirements. Are requirement(s) specified in DEP's MS4 Requirements Table for the MS4? ☒ Yes ☐ No

If Yes, summarize the requirements below by checking all boxes that apply:

☐ Appendix A (AMD Metals and pH)

☐ Appendix B (Pathogens)

☐ Appendix C (Priority Organic Compounds)

☐ Appendix D (Chesapeake Bay Nutrients/Sediment) ☐ Pollutant Reduction Plan attached to NOI

☒ Appendix E (Impaired Waters Nutrients/Sediment) ☒ Pollutant Reduction Plan attached to NOI

Appendices D and E require the applicant to submit documentation of a public involvement and participation process. See the Pollutant Reduction Plan Instructions (3800-PM-BCW0100k).

NOTE – If the MS4 Requirements Table specifies submission of a TMDL Plan, the MS4 must apply for an individual permit.

STORMWATER MANAGEMENT PROGRAM

Minimum Control Measure (MCM)	BMP #	BMP Summary	Responsible Party	Contact Name	Contact Phone No.	MOU or Agreement?
#1 – Public Education and Outreach	1	Develop, implement and maintain a written Public Education and Outreach Program.	UPT	Tim Tieperman	610-933-9179	☒
	2	Develop and maintain lists of target audience groups that are present within the areas served by the permittee's regulated small MS4.	UPT	Tim Tieperman	610-933-9179	☒
	3	The permittee shall annually publish at least one issue of a newsletter, a pamphlet, a flyer, or a website that includes general stormwater educational information, a general description of the permittee's SWMP, and/or information about the permittee's stormwater management activities.	UPT	Tim Tieperman	610-933-9179	☒
	4	Distribute stormwater educational materials and/or information to the target audiences using two methods annually.	UPT	Tim Tieperman	610-933-9179	☒
#2 – Public Participation and Involvement	1	Develop, implement and maintain a written Public Involvement and Participation Program (PIPP).	UPT	Tim Tieperman	610-933-9179	☒
	2	Provide adequate public notice and opportunities for public review, input, and feedback prior to adoption of any ordinance, SOP or plan required by the General Permit.	UPT	Tim Tieperman	610-933-9179	☒
	3	Regularly solicit public involvement and participation from the target audience groups using available distribution and outreach methods.	UPT	Tim Tieperman	610-933-9179	☒
#3 – Illicit Discharge Detection and Elimination	1	Develop and implement a written program for the detection, elimination, and prevention of illicit discharges into the regulated MS4.	Gilmore & Assoc.	Michael Coyne	610-489-4949	☒
	2	Develop and maintain a map of the regulated small MS4's outfalls and surface waters.	Gilmore & Assoc.	Michael Coyne	610-489-4949	☒
	3	In conjunction with the map(s) created under BMP #2 (either on the same map or on a different map), new permittees shall show, and existing permittees shall update, the entire storm sewer collection system, including roads, inlets, piping, swales, catch basins, channels, basins, and any other features of the permittee's storm sewer system including municipal boundaries and/or watershed boundaries.	Gilmore & Assoc.	Michael Coyne	610-489-4949	☒
	4	The permittee shall conduct outfall field screening, identify the source of any illicit discharges, and remove or correct any illicit discharges.	UPT	Tom Broadbelt	610-933-9179	☒

Minimum Control Measure (MCM)	BMP #	BMP Summary	Responsible Party	Contact Name	Contact Phone No.	MOU or Agreement?
#3 – Illicit Discharge Detection and Elimination (continued)	5	Enact a Stormwater Management Ordinance (municipal permittees) or SOP (non-municipal permittees) to implement and enforce a stormwater management program that includes prohibition of non-stormwater discharges to the regulated small MS4.	UPT	Tim Tieperman	610-933-9179	☒
	6	Provide educational outreach to public employees, business owners and employees, property owners, the general public and elected officials (i.e., target audiences) about the program to detect and eliminate illicit discharges.	UPT	Tim Tieperman	610-933-9179	☒
#4 – Construction Site Stormwater Runoff Control	1	If an NPDES permit is required for earth disturbance activities, do not issue a building permit or approval until confirmation that a valid NPDES permit is obtained.	UPT	Bryan Bortnichak	610-933-9179	☒
	2	Notify DEP or CCD within 5 days of the receipt of an application for a permit involving an earth disturbance activity consisting of one acre or more.	UPT	Bryan Bortnichak	610-933-9179	☒
	3	Enact, implement, and enforce an ordinance to require the implementation of erosion and sediment control BMPs, as well as sanctions to ensure compliance.	UPT	Bryan Bortnichak	610-933-9179	☒
#5, Post-Construction Stormwater Management in New Development and Redevelopment	1	Enact, implement, and enforce an ordinance or other regulatory mechanism to address post-construction stormwater runoff from new development and redevelopment projects, as well as sanctions and penalties associated with non-compliance.	UPT	Bryan Bortnichak	610-933-9179	☒
	2	Develop and implement measures to encourage and expand the use of Low Impact Development (LID) in new development and redevelopment.	UPT	Bryan Bortnichak	610-933-9179	☒
	3	Ensure adequate operation and maintenance of all post-construction stormwater management BMPs installed at all development or redevelopment projects that disturb greater than or equal to one acre.	Gilmore & Assoc.	Michael Coyne	610-489-4949	☒
#6 – Pollution Prevention / Good Housekeeping	1	Identify and document all operations that are owned or operated by the permittee and have the potential for generating stormwater runoff to the regulated small MS4.	UPT	Tom Broadbelt	610-933-9179	☒
	2	Develop, implement and maintain a written O&M program for all operations that could contribute to the discharge of pollutants from the regulated small MS4.	UPT	Tom Broadbelt	610-933-9179	☒
	3	Develop and implement an employee training program that addresses appropriate topics to further the goal of preventing or reducing the discharge of pollutants from operations to the regulated small MS4.	UPT	Tom Broadbelt	610-933-9179	☒

STORMWATER MANAGEMENT PROGRAM

MOU or Agreement. Attach any Memorandum of Understanding (MOU) or other written agreement that describes the BMP(s) identified above as being the responsibility of another party or a shared responsibility with another party.

Stormwater Management Ordinance. For municipal applicants that are renewing permit coverage, complete the information below and attach the applicant's Stormwater Management Ordinance to the NOI. The box for "Yes" must be checked for one of the three options below. Applicants that lack the authority to enact ordinances and are renewing permit coverage must attach their stormwater management SOP(s).

1.	Has a Stormwater Management Ordinance been enacted that is consistent with either the 2013 or 2022 DEP Model Ordinances?	☒ Yes	Date: **2004**	☐ No
2.	Has a Stormwater Management Ordinance been enacted that is consistent with an Act 167 Plan approved by DEP in 2005 or later?	☒ Yes	Date:	☐ No
3.	Has a Stormwater Management Ordinance been enacted that meets the requirements of the Stormwater Management Ordinance Checklist (for either 2013 or 2022)? If Yes, attach Checklist (3800-PM-BCW0100g).	☐ Yes	Date:	☐ No

COMPLIANCE HISTORY

Existing Permits – Identify all existing environmental permits issued by DEP or EPA to the applicant in the past five years.

Type of Permit	Permit No.	Date Issued	Issued By
NPDES	PAG02004614024	7/2/2014	MCCD

Was/Is the facility owner or operator in violation of any DEP regulation, permit, order or schedule of compliance at this or any other facility? ☐ Yes ☒ No

If "Yes," list each permit, order or schedule of compliance and provide current compliance status. Use additional sheets to provide information on all permits.

Permit Program: Permit No.:

Brief Description of Non-Compliance:

Steps Taken to Achieve Compliance	Date(s) Compliance Achieved

Current Compliance Status: ☐ In Compliance ☐ In Non-Compliance

CERTIFICATION

I certify under penalty of law and subject to the penalties of 18 Pa. C.S.A. Section 4904 (relating to unsworn falsification to authorities) that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further acknowledge that the MS4 and operator described herein is eligible for coverage under DEP's PAG-13 General Permit, and will operate in compliance with the General Permit. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Timothy Tieperman	Manager, Upper Providence Township
Name (type or print legibly)	**Official Title**
Signature	**Date Signed**

3800-PM-BCW0100c 5/2016
NOI Checklist

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

PAG-13
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS NOTICE OF INTENT (NOI) CHECKLIST

APPLICANT'S ✓ CHECKLIST

Applicant Name	Upper Providence Township

Check the following list to make sure you have included all the required information. Place a checkmark in the box provided for all items completed and/or provided. Failure to provide all of the requested information will delay the processing of the NOI.

ENCLOSE THIS CHECKLIST WITH YOUR COMPLETED NOI.

	REQUIREMENTS FOR ALL DISCHARGES	Check ✓ If Included	DEP Use Only
1.	One original and two copies of the completed NOI (3800-PM-BCW0100b).	☒	
2.	NOI filing fee ($500).	☒	
3.	One original and two copies of the completed Waiver Application (3800-PM-BCW0100e), if applicable.	☐	
4.	Stormwater map(s) (existing permittees) or topographic map(s) (MS4s with previous waivers and new applicants).	☒	
5.	Memorandum of Understanding (MOU) or other written agreement with parties that will implement one or more BMPs, if applicable.	☐	
6.	Chesapeake Bay Pollutant Reduction Plan (PRP), if applicable. (In addition, submit an electronic version or hard copy to DEP's Bureau of Clean Water).	☐	
7.	PRP for Impaired Waters, if applicable. (In addition, submit an electronic version or hard copy to DEP's Bureau of Clean Water).	☒	
8.	Stormwater Management Ordinance (municipal applicants seeking renewed coverage only).	☒	
9.	Stormwater Management Ordinance Checklist (3800-PM-BCW0100g), if applicable.	☐	
10.	Standard Operating Procedure(s) (non-municipal applicants seeking renewed coverage only).	☐	
11.	Complete NOI packages for each co-applicant (joint NOIs only).	☐	

Chapter 150

STORMWATER MANAGEMENT

[HISTORY: Adopted by the Board of Supervisors of the Township of Upper Providence 2-17-2004 by Ord. No. 433. Amendments noted where applicable.]

GENERAL REFERENCES

Uniform construction codes — See Ch. 60.
Grading, excavating and filling — See Ch. 99.
Sewers and sewage disposal — See Ch. 143.
Subdivision and land development — See Ch. 154.
Wastewater management — See Ch. 174.
Zoning — See Ch. 182.

ARTICLE I
General Provisions

§ 150-1. Short title.

This chapter shall be known and may be cited as the "Upper Providence Township Stormwater Management Ordinance."

§ 150-2. Purpose.

The purpose of this chapter is to promote health, safety and welfare within the Township and its watershed by minimizing the harms and maximizing the benefits described in this section of this chapter, through provisions designed to:

A. Provide review procedures and performance standards for stormwater planning and management.

B. Utilize and preserve the existing natural drainage systems as much as possible.

C. Manage stormwater impacts close to the runoff source, in a manner which requires a minimum of structures and relies on natural processes.

D. Focus on infiltration of stormwater, to maintain groundwater recharge and to prevent degradation of surface and groundwater quality and to otherwise protect water resources.

E. Maintain existing flows and quality of streams and watercourses.

F. Meet legal water quality requirements under state law, including regulations at 25 Pa. Code Chapter 93.4a to protect and maintain existing uses and maintain the level of water quality to support those uses in all streams, and to protect and maintain water quality in special protection streams.

G. Prevent scour and erosion of streambanks and streambeds.

H. Provide for proper operations and maintenance of all permanent stormwater management BMPs that are implemented in the Township.

I. Provide a mechanism to identify controls necessary to meet the NPDES permit requirements.

J. Implement an illegal discharge detection and elimination program to address nonstormwater discharges into the Township's separate storm sewer system.

§ 150-3. Statutory authority. [Amended 1-5-2009 by Ord. No. 499]

The Township is empowered to regulate land use activities that affect stormwater impacts by the authority of the Pennsylvania Municipalities Planning Code (53 P.S. § 10101 et seq.) and the Pennsylvania Stormwater Management Act (32 P.S. § 680.1 et seq.).

§ 150-4. Applicability.

A. This chapter applies to any regulated earth disturbance activities within the Township and all stormwater runoff entering into the Township's separate storm sewer system from lands within the boundaries of the Township.

§ 150-5. Compatibility with other requirements.

A. Approvals issued and actions taken under this chapter 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. To the extent that this chapter imposes more rigorous or stringent requirements for stormwater management, the specific requirements contained in this chapter shall be followed.

B. Nothing in this chapter shall be construed to affect any of the Township's requirements regarding stormwater matters which do not conflict with the provisions of this chapter, such as local stormwater management design criteria (e.g., inlet spacing, inlet type, collection system design and details, outlet structure design, etc.).

ARTICLE II
Definitions

§ 150-6. Definitions and word usage.

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

(1) 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.

(2) 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.

(3) The words "shall" and "must" are mandatory; the words "may" and "should" are permissive.

B. As used in this chapter, the following terms shall have the meanings indicated:

ACCELERATED EROSION — The removal of the surface of the land through the combined action of human activities and the natural processes at a rate greater than would occur because of the natural process alone.

APPLICANT — A landowner, developer or other person who has filed an application for approval to engage in any regulated earth disturbance activity at a project site in the Township.

BMP (BEST MANAGEMENT PRACTICE) — Activities, facilities, designs, measures or procedures used to manage stormwater impacts from regulated earth disturbance activities, to meet State Water Quality Requirements, to promote groundwater recharge and to otherwise meet the purposes of this chapter.

CONSERVATION DISTRICT — The Montgomery County Conservation District.

DEP — The Pennsylvania Department of Environmental Protection.

DEVELOPER — A person that seeks to undertake any regulated earth disturbance activities at a project site in the Township.

DEVELOPMENT — See "earth disturbance activity." The term includes redevelopment.

DEVELOPMENT SITE — The specific tact of land where any earth disturbance activities in the Township are planned, conducted or maintained.

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

EROSION AND SEDIMENT CONTROL PLAN — A plan for a project site, which identifies BMPs to minimize accelerated erosion and sedimentation.

GROUNDWATER RECHARGE — Replenishment of existing natural underground water supplies.

IMPERVIOUS SURFACE — A surface that prevents the infiltration of water into the ground. Impervious surface includes, but is not limited to, any roof, parking or driveway areas and any new streets and sidewalks. Any surface areas designed to initially be gravel or crushed stone shall be assumed to be impervious surfaces.

NPDES — National Pollutant Discharge Elimination System, the federal government's system for issuance of permits under the Clean Water Act, which is delegated to DEP in Pennsylvania.

OUTFALL — Point source, as described in 40 CFR § 122.2, at the point where the Township's storm sewer system discharges to surface waters of the commonwealth.

PERSON — An individual, partnership, public or private association, company or corporation or a governmental unit, public utility or any other legal entity whatsoever which is recognized by law as the subject of rights and duties.

POINT SOURCE — Any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel or conduit from which stormwater is or may be discharged, as defined in state regulations at 25 Pa. Code § 92.1.

PROJECT SITE — The specific area of land where any regulated earth disturbance activities in the Township are planned, conducted or maintained.

REDEVELOPMENT — Earth disturbance activities on land which has previously been disturbed or developed.

REGULATED EARTH DISTURBANCE ACTIVITY — Earth disturbance activity one acre or more with a point source discharge to surface waters or the Township's storm sewer system or five acres or more regardless of the planned runoff. This includes earth disturbance on any portion of, part or during any stage of a larger common plan of development. This only includes road maintenance activities involving 25 acres or more or earth disturbance.

ROAD MAINTENANCE — Earth disturbance activities within the existing road cross-section, such as grading and repairing existing unpaved road surfaces, cutting road banks, cleaning or clearing drainage ditches and other similar activities.

SEPARATE STORM SEWER SYSTEM — A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) primarily used for collecting and conveying stormwater runoff.

STATE WATER QUALITY REQUIREMENTS — As defined under state regulations, protection of designated and existing uses (See 25 Pa. Code Chapters 93 and 96), including:

(1) Each stream segment in Pennsylvania has a "designated use," such as "cold water fishery" or "potable water supply," which are listed in Chapter 93. These uses must be protected and maintained, under state regulations.

(2) "Existing uses" are those attained as of November 1975, regardless whether they have been designated in Chapter 93. Regulated earth disturbance activities must be designed to protect and maintain existing uses 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.

(3) Water quality involves the chemical, biological and physical characteristics of surface water bodies. After regulated earth disturbance activities are complete, these characteristics can be impacted by addition of pollutants such as sediment and changes in habitat through increased flow volumes and/or rates as a result of changes in land surface area from those activities. Therefore, permanent discharges to surface waters must be managed to protect the streambank, streambed and structural integrity of the waterway to prevent these impacts.

STORMWATER — The surface runoff generated by precipitation reaching the ground surface.

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

TOWNSHIP — Township of Upper Providence, Montgomery County, Pennsylvania.

WATERCOURSE — A channel or conveyance of surface water, such as a steam or creek, having defined bed and banks, whether natural or artificial, with perennial or intermittent flow.

WATERSHED — Region or area drained by a river, watercourse or other body of water, whether natural or artificial.

ARTICLE III
Stormwater Management for Water Quality

§ 150-7. General requirements for stormwater management.

A. All regulated earth disturbance activities within the Township shall be designed, implemented, operated and maintained to meet the purposes of this chapter, through these two elements:

(1) Erosion and sediment control during the earth disturbance activities (e.g., during construction), and

(2) Water quality protection measures after completion of earth disturbance activities (e.g., after construction), including operations and maintenance.

B. No regulated earth disturbance activities within the Township shall commence until the requirements of this chapter are met.

C. Erosion and sediment control during regulated earth disturbance activities shall be addressed as required by § 150-8.

D. Postconstruction water quality protection shall be addressed as required by § 150-9. Operations and maintenance of permanent stormwater BMPs shall be addressed as required by Article V.

§ 150-8. Erosion and sediment control during regulated earth disturbance activities.

A. No regulated earth disturbance activities within the Township shall commence until approval by the Township of an erosion and sediment control plan for construction activities.

B. Evidence of any necessary permit(s) for regulated earth disturbance activities from the appropriate DEP regional office or County Conservation District must be provided to the Township.

C. A copy of the erosion and sediment control plan and any required permit, as required by DEP regulations, shall be available at the project site at all times.

§ 150-9. Water quality requirements after regulated earth disturbance activities are complete.

A. No regulated earth disturbance activities within the Township shall commence until approval by the Township of a plan which demonstrates compliance with this chapter after construction is complete.

B. To control postconstruction stormwater impacts from regulated earth disturbance activities, State Water Quality Requirements can be met by BMPs, including site design, which provide for replication of preconstruction stormwater infiltration and runoff condition, so that postconstruction stormwater discharges do not degrade the physical, chemical or biological characteristics of the receiving waters. This may be achieved by the following:

(1) Infiltration: replication of preconstruction stormwater infiltration conditions;

(2) Treatment: use of water quality treatment BMPs to ensure filtering out of the chemical and physical pollutants from the stormwater runoff: and

(3) Streambank and streambed protection: management of volume and rate of postconstruction stormwater discharges to prevent physical degradation of receiving waters (e.g., from scouring).

ARTICLE IV
Stormwater Management for Runoff Control

§ 150-10. General requirements.

Measures used to collect and carry stormwater on any site shall be designed to meet the following minimum performance standards:

A. Prevent erosion damage and satisfactorily carry off or detain and control the rate of release of surface waters.

B. When subsurface soil conditions are suitable, require runoff control measures to percolate the stormwater into the ground to aid in the recharge of ground waters, and the preservation of baseflow.

C. Carry surface water to the nearest adequate street, storm drain, detention basin, natural watercourse or drainage facility.

D. Take surface water from the bottom of vertical grades, to lead water away from springs and collect water upgrade of all street intersections at the earliest or most efficient point.

E. Control/accommodate not only the anticipated peak discharge from the on-site disturbed ares, but also the existing runoff being contributed from all land at a higher elevation in the same watershed.

F. Maintain the adequacy of the natural stream channels. Accelerated bank erosion shall be prevented by controlling the rate and velocity of runoff discharged to these watercourses so as to avoid increasing the occurrence of stream bank overflow.

G. Preserve the adequacy of existing culverts and bridges by suppressing the new flood peaks created by the new earth disturbances.

H. If in the course of preparing or reviewing the stormwater management plan the Township Engineer determines that off-site improvements are necessary to satisfactorily control the stormwater from the site, the applicant shall be responsible for such off-site improvements.

I. All stormwater detention and retention facilities shall be in place and functioning prior to the creation of any impervious surface.

J. Whenever a watercourse, stream or intermittent stream is located within a grading site, it shall remain open in its natural state and location and shall not be piped unless permitted by Pennsylvania Department of Environmental Protection (DEP) and the Upper Providence Township Board of Supervisors.

K. The existing points of natural drainage discharge onto adjacent property shall not be altered without the written approval and a drainage easement from the affected land owners.

L. No stormwater runoff or natural drainage shall be so diverted as to overload existing drainage systems or create flooding or the need for additional drainage structures on other private properties or public lands.

§ 150-11. Detention facility design.

A. Stormwater detention facilities. Stormwater detention facilities include all structural measures, which can reliably and predictably achieve the peak discharge requirements. Stormwater detention facilities include, but are not necessarily limited to, detention basins, retention basins, bioretention areas, open (at-grade) sand filters, closed (belowgrade) sand filters, water quality inlets, dry wells, below-grade detention chambers and rooftop detention.

B. Peak discharge design storms. The design storm criteria to be used in calculations for the watershed is to limit the post-development runoff for the fifty-year storm to the two-year storm pre-development rates. Any stormwater detention facilities required by this chapter and subject to the water quality requirements and stormwater runoff peak rate requirements herein shall meet the applicable water quality and peak rate requirement for the two-, ten-, 50- and one-hundred-year return period runoff events (design storms) consistent with the standard and accepted calculation methodology and engineering standards and be satisfactory to the Township engineer.

C. Runoff calculation methodology.

(1) Any stormwater runoff calculation involving drainage areas greater than 20 acres, including on- and off-site areas, shall use a generally accepted calculation technique that is based on the NRCS soil cover complex method. It is assumed that all methods will be selected by the design professional based on the individual limitations and suitability of each method for a particular site.

(2) All calculations consistent with this chapter using the soil cover complex method shall use the appropriate design rainfall depths for the various return period storms.

(3) For purposes of pre-development flow rate determination, undeveloped land shall be considered as "meadow, in good condition", unless the natural ground cover generates a lower curve number or rational "c" value.

(4) All calculations using the rational method shall use rainfall intensities consistent with appropriate times of concentration for overland flow and return periods from NRCS methodology. Time of concentration for overland flow (maximum 300 feet) and concentrated flow shall both be calculated using NRCS methodology. Times of concentration for channel and pipe flow shall be computed using Manning's equation or NRCS methodology.

(5) The design of any stormwater detention facilities intended to meet the performance standards of this chapter shall be verified by routing the design storm hydrograph

through these facilities using accepted methods of practice. The Township Engineer may approve the use of any generally accepted reservoir routing technique, which shall use a total runoff volume that is consistent with the volume from a method that produces a full hydrograph. The computer routing program used must take into account the tailwater effect of the discharge pipe on the orifice design as well as the submergence of the discharge pipe outlet.

(6) Outlet structures for stormwater BMPs shall be designed to meet the performance standards of this chapter using any generally accepted hydraulic analysis technique or method approved by the Township Engineer.

D. Stormwater detention and retention facilities. Stormwater detention and retention facilities shall meet the following minimum design/construction standards:

(1) Detention basin shall be designed to facilitate regular maintenance, mowing and periodic silt removal and reseeding. Shallow broad basins are preferred to steep sided basins.

(2) The maximum slope of the earth and detention basin embankment shall be three to one (3:1) with the exception that any slope to be maintained by the Township shall be 4:1. The top or toe of any slope shall be located a minimum of five feet from a property line. Whenever possible, the side slope and basin shape shall conform to the natural topography.

(3) Unless permitted by the conditions of § 182-28.1B, detention basins shall not be located within floodplains nor within areas of floodplain or alluvial soils.

(4) Detention basins shall be designed so they return to normal conditions within approximately 24 hours after termination of the storm, unless the Township Engineer finds that downstream conditions may warrant other design criteria for stormwater release.

(5) If retention basins are used, the applicant shall demonstrate that such ponds are designed to protect public health, safety and welfare.

(6) Fences may be required for any detention or retention basins where there is a permanent water surface or conditions warrant.

(7) The minimum top width of the detention basin berm shall be 10 feet. A cutoff trench (keyway) of relative impervious material shall be provided beneath all embankments requiring fill material. The keyway shall be a minimum eight feet wide, minimum three feet deep and have 1:1 side slopes.

(8) In order to insure proper drainage on the basin bottom, a minimum grade of 2% shall be maintained for sheet flow. Where a 2% slope cannot be maintained, low flow channels at a minimum grade of 1% constructed of concrete or other materials approved by the Township Engineer, shall be constructed between all basin inlets and the basin outlet.

(9) All detention and retention basin embankments shall be placed in eight-inch maximum lifts to a minimum ninety-five-percent dry density. Prior to proceeding

to the next lift, compaction shall be checked by the Township Engineer or an approved soils engineer who shall provide the Township Engineer with a written report. Compaction tests shall be performed using the modified proctor method in accordance with ASTM D-1577. Compaction tests shall be run on the leading and trailing edge as well as the top of the berm.

(10) Emergency overflow facilities shall be provided for detention facilities to accommodate runoff in excess of design flows. Whenever possible, emergency spillway for the detention basins shall be constructed on undisturbed ground. Emergency spillways shall be constructed of concrete pavers, gabions or other similar materials approved by the Township Engineer. All emergency spillways shall be constructed so that the detention basin berm is protected against erosion. The minimum capacity of all emergency spillway shall be the flow rate of the one-hundred-year design storm after development. The construction material of the emergency spillway shall extend along the upstream and downstream berm embankment slopes. The upstream edge of the emergency spillway shall be a minimum of three feet below the spillway crest elevation. The downstream slope of the spillway shall, as a minimum, extend to the top of the berm embankment. The emergency spillway shall not discharge over earthen fill or easily erodible material.

(11) The minimum freeboard shall be one foot.

(12) Antiseep collars shall be installed around the pipe barrel within the normal saturation zone of the detention basin berms. The antiseep collars and their connections to the pipe barrels shall be watertight. The antiseep collars shall extend a minimum of two feet beyond the outside of the principle pipe barrel. The maximum spacing between collars shall be 14 times the minimum projection of the collar measured perpendicular to the pipe. A minimum of two antiseep collar shall be installed on each outlet pipe.

(13) All outlet pipes through the basin berm shall be reinforced concrete pipe, designed to withstand the loading caused by a fully saturated berm and shall be watertight joints using O-ring joint pipe. Outlet pipe shall be backfilled with material similar to the core material (semiimpervious).

(14) The invert of the inlet pipe(s) into a basin shall be six inches above the basin floor or lining so that it can adequately drain after rainstorms. Inlet pipe(s) shall discharge to areas of the basin that slope toward the outlet structure.

(15) Energy dissipaters and/or level spreaders shall be installed at points where pipes or drainageways drain to or from the basin. Energy dissipaters shall comply with criteria in Hydraulic Engineering Circular No. 15 - Design of Stable Channels with Flexible Linings published by the Federal Highway Administration of the United States Department of Transportation of the Engineering Field Manual for Conservation Practices. NCRS energy dissipating device calculations shall be submitted for Township review and approval.

(16) Inlet and outlet structures shall be located at a maximum distance from one another in order to promote water quality benefits. The Township Engineer may require a

rock filter or rock-filled gabion for entrapping sediments carried in stormwater if sufficient separation of inlet and outlet structures cannot be achieved.

(17) A perforated riser, or similar sediment control device, shall be provided at each outlet of all detention basins during construction for sediment control. The riser shall be constructed of metal or concrete. The riser shall extend to a maximum elevation of two feet below the crest elevation of the emergency spillway. The perforated riser shall be designed so that the rate of outflow is controlled by the pipe barrel through the basin berm, when the depth of water within the basin exceeds the height of the riser. Circular perforations with a maximum diameter of one inch shall be spaced 12 inches vertically. The horizontal spacing shall be in accordance to DEP soil erosion and sedimentation control manual specifications. The perforations shall be cleanly cut and shall not be susceptible to enlargement. All metal risers shall be suitably coated to prevent corrosion. A trash rack or similar appurtenance shall be provided to prevent debris from entering the pipe. All risers shall have concrete base attached with a watertight connect. The base shall be of sufficient weight to prevent flotation of the riser. An antivortex device consisting of a thin vertical plate normal to the base and berm shall be provided at the top of the riser. Unless this structure is part of the permanent outlet control, it shall be removed from the site when it has been adequately stabilized as determined by the Township Engineer.

(18) All drainage channels shall be designed to prevent erosion of the bed and banks. The maximum permissible flow velocity shall not exceed the design requirements outlined in the current Soil Erosion and Sedimentation Control Manual, published by the Pennsylvania Depart of Environmental Protection. Suitable stabilization shall be provided where required to prevent erosion of the drainage channels.

(19) Any vegetated drainage channel requiring mowing of the vegetation shall have a maximum of three horizontal to one vertical on those areas to be mowed.

(20) Because of the critical nature of vegetated drainage channels, the design of all vegetated channels shall, as a minimum, conform to the design requirements outlined in the current Soil Erosion and Sedimentation Control Manual, published by the Department of Environmental Protection.

§ 150-12. Stormwater conveyance system.

A. General.

(1) Storm sewers, culverts, bridges and related installations shall be provided:

(a) To permit unimpeded flow of natural watercourses and in such a manner as to protect the natural character of the watercourses and to provide regulated discharge;

(b) To insure adequate drainage of all low points along the line of streets; and

(c) To intercept stormwater runoff along streets at intervals reasonably related to the extent and grade of the area drained and to prevent substantial flow of water across intersections.

(2) All storm sewer system components shall conform to current PennDOT standards.

(3) Drainage structures, which drain watershed areas in excess of one-half square mile (320 acres) or which have a span of eight feet or more, shall be designed for a maximum expected runoff as calculated using the Soil Conservation Service Technical release 55 Urban Hydrology for Small Watersheds (less than 2,000 acres).

(4) The design storm for the above structures shall be a one-hundred-year storm. A water obstruction permit shall be obtained from the Pennsylvania Department of Environmental Protection for the waterway opening before final design is undertaken.

(5) The cartway over the culvert or bridge shall be as wide as the ultimate width of the roadway approaches. Additional width may be required to provide sidewalk on one or both sides of the cartway.

B. Storm sewer design and construction requirements. **[Amended 6-2-2008 by Ord. No. 490]**

(1) Minimum pipe size shall be 18 inches in diameter. All storm sewer piping shall be reinforced concrete pipe unless otherwise approved by the Township Engineer. **[Amended 1-5-2009 by Ord. No. 499]**

(2) Minimum pipe slope shall be 0.005 ft./ft.

(3) Minimum drop across junctions shall be two inches. At changes in pipe diameter, pipe crowns shall be matched at junctions (manhole, inlet or junction box).

(4) Maximum distance between junctions shall be 300 feet.

(5) Runoff to proposed storm sewers and inlets shall be calculated using the rational method.

(6) Runoff coefficients.

Character of Land	Runoff Coefficient
Woods	0.18
Meadow	0.22
Pasture	0.30
Cultivated ground	0.35
Roofs and paving	0.95
Steep grass slopes (15% and ≥)	0.35
Gravel paving	0.85

Character of Land	Runoff Coefficient
Lawns (mowed)	0.26

These values should be weighted for actual design conditions by combining the various land use components, when approved by the Township

(7) The time of concentration shall be assumed five minutes for pipes under 30 inches. For pipes 30 inches or greater, the calculated time of concentration can be utilized.

(8) The time of concentration to inlets for grate capacity calculations shall be assumed five minutes.

(9) All storm sewer pipes shall be designed at a minimum to accommodate a minimum of a ten-year storm. Twenty-five-year storms shall be used as required by the Township Engineer.

(10) All storm sewer pipes at inlets in sump condition shall be designed to accommodate the fifty-year storm; floodplain and other critical areas shall be designed to accommodate the one-hundred-year storm.

(11) The rainfall intensity shall be obtained from the Storm Intensity-Duration-Frequency Curves for Region 5 in the Pennsylvania Department of Transportation Design Manual-Part 2.

(12) All storm sewer pipes and inlets intended to drain to detention facilities shall be designed to accommodate the one-hundred-year storm if the bypass or overflow runoff will not reach the basin by overland flow. In cases where the bypass or overflow runoff will flow over land, a stable Swale shall be constructed to accommodate the excess runoff.

(13) All inlets in sump condition shall be six-foot inlets or dual four-foot inlets, as needed.

(14) All storm sewer systems shall be analyzed for both inlet and outlet control (including tailwater effects) by using the equations and nomographs as shown in the ERA's Hydraulic Design Services No. 5. In lieu of this, computer programs that calculate the actual hydraulic grade line for the storm sewer system can be used, provided that all losses (friction, bend, junction, etc.) are taken into account. Documentation for the program must be submitted for approval.

(15) Minimum cover over pipes is two feet from finished grade to outside of pipe bell.

(16) Inlet capacities shall be calculated using PennDOT or manufacturer's nomographs. Documentation for manufacturer's nomograph must be provided to the Township Engineer.

(17) A minimum of one foot of freeboard must be provided between the inlet grate elevation or stormwater manhole rim and the hydraulic grade line elevation.

C. Shoulders in cut areas (without swales).

(1) Water flowing in the shoulder shall not encroach more than two-thirds the shoulder width during a twenty-five-year frequency storm of five-minute duration.

(2) The maximum velocity as determined by Manning's equation shall not exceed the allowable velocities for the specific type of shoulder material.

(3) Inlets shall be provided to control the shoulder encroachment and water velocity.

D. Swales adjacent to shoulders.

(1) Swales in cut areas shall be designed to prevent the passage of water on the cartway during a twenty-five-year frequency storm of five-minute duration.

(2) The maximum velocity as determined by Manning's equation shall not exceed the allowable velocities for the specific type of shoulder material.

E. Curb sections.

(1) The maximum encroachment of water on the roadway pavement shall not exceed three inches in depth at the curb during a twenty-five-year frequency storm of five minute duration.

(2) Inlets shall be provided to control the encroachment of water on the pavement.

F. Inlets - general.

(1) At street intersections, inlets shall be placed in the tangent portion, rather than the curved portion, of the curbing.

(2) If the capacity of the shoulder, swale, curb section, or depressed median section exceeds the assumed inlet capacities, the inlet capacities shall govern the spacing of inlets.

(3) If the capacity of the shoulder, swale, curb section, or depressed median section is less than the inlet capacities, then the shoulder, swale, curb section or depressed section capacity shall govern the spacing of inlets.

§ 150-13. Water quality and groundwater recharge BMPs.

All stormwater BMPs shall be designed to satisfy the following requirements:

A. All facilities shall be provided with the capability to withstand the discharge associated with the one-hundred-year return rainfall event, without failing or resulting in damage to downstream areas. Some nondetention BMPs may be designed to bypass stormwater discharges, which are in excess of the appropriate design storm. In this case, conveyance must be provided to transport the one-hundred-year surcharge flow to a downstream facility, natural watercourse or storm drainage system inlet.

B. All groundwater recharge devices shall be protected from sedimentation. Areas designated for recharge shall not receive runoff until the contributory drainage areas have achieved final stabilization.

ARTICLE V
Stormwater BMP Operations and Maintenance Plan Requirements

§ 150-14. General requirements.

A. No regulated earth disturbance activities within the Township shall commence until approval by the Township of BMP operations and maintenance plan which describes how the permanent (e.g., postconstruction) stormwater BMPs will be properly operated and maintained.

B. . The following items shall be included in the BMP operations and maintenance plan:

(1) Map(s) of the project area, in a form that meets the requirements for recording at the offices of the Recorder of Deeds of Montgomery County, and shall be submitted on twenty-four-inch by thirty-six-inch or thirty-inch by forty-two-inch sheets. The contents of the maps(s) shall include, but not be limited to:

(a) Clear identification of the location and nature of permanent stormwater BMPs;

(b) The location of the project site relative to highways, municipal boundaries or other identifiable landmarks;

(c) Existing and final contours at intervals of two feet, or others as appropriate;

(d) Existing streams, lakes, ponds or other bodies of water within the project site area;

(e) Other physical features, including flood hazard boundaries, sinkholes, streams, existing drainage courses and areas of natural vegetation to be preserved;

(f) The locations of all existing and proposed utilities, sanitary sewers and water lines within 50 feet of property lines of the project site;

(g) Proposed final changes to the land surface and vegetative cover, including the type and amount of impervious area that would be added;

(h) Proposed final structures, roads, paved areas and buildings; and

(i) A fifteen-foot wide access easement around all stormwater BMPs that would provide ingress to and egress from a public right-of-way.

(2) A description of how each permanent stormwater BMPs will be operated and maintained and the identity of the person(s) responsible for operations and maintenance;

(3) The name of the project site, the name and address of the owner of the property, and the name of the individual or firm preparing the plan; and

(4) A statement, signed by the landowner, acknowledging that the stormwater BMPs are fixtures that can be altered or removed only after approval by the Township.

§ 150-15. Responsibilities for operations and maintenance of stormwater BMPs.

A. The BMP operations and maintenance plan for the project site shall establish responsibilities for the continuing operation and maintenance of all permanent BMPs, as follows:

(1) If a plan includes structures or lots which are to be separately owned and in which streets, sewers and other public improvements are to be dedicated to the Township, stormwater BMPs may also be dedicated to and maintained by the Township;

(2) If a plan includes operations and maintenance by a single ownership or if sewers and other public improvements are to be privately owned and maintained, then the operation and maintenance of stormwater BMPs shall be the responsibility of the owner or private management entity.

B. The Township shall make the final determination on the continuing operations and maintenance responsibilities. The Township reserves the right to accept or reject the operations and maintenance responsibility for any or all of the stormwater BMPs.

§ 150-16. Township review of BMP operations and maintenance plan.

A. The Township shall review the BMP operations and maintenance plan for consistency with the purposes and requirements of this chapter and any permits issued by DEP.

B. The Township shall notify the applicant in writing whether the BMP operations and maintenance plan is approved.

C. The Township may require an as-built survey of all stormwater BMPs and an explanation of any discrepancies with the operations and maintenance plan.

§ 150-17. Adherence to approved stormwater BMP operations and maintenance plan.

It shall be unlawful to alter or remove any permanent stormwater BMP required by an approved BMP operations and maintenance plan, or to allow the property to remain in a condition which does not conform to an approved BMP operations and maintenance plan, unless an exception is granted in writing by the Township.

§ 150-18. Operations and maintenance agreement for privately owned stormwater BMPs.

A. The property owner shall sign an operations and maintenance agreement with the Township covering all BMP that are to be privately owned. The agreement shall be substantially the same as the agreement in Appendix B of this chapter.[1]

B. Other items may be included in the agreement where determined necessary to guarantee the satisfactory operation and maintenance of all permanent BMPs. The agreement shall be subject to the review and approval of the Township.

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1. **Editor's Note: Appendix B is included at the end of this chapter.**

§ 150-19. Stormwater management easements.

A. Stormwater management easements are required for all areas used for off-site stormwater control unless a waiver is granted by the Municipal Engineer. All such easements shall be in a form satisfactory to the Township Solicitor.

B. Stormwater management easements shall be provided by the property owner if necessary for access for inspections and maintenance or preservation of stormwater runoff conveyance, infiltration and detention areas and other BMPs by persons other than the property owner. The purpose of the easement shall be specified in any agreement under § 150-18.

§ 150-20. Recording of approved BMP operations and maintenance plan and related agreements.

A. The owner of any land upon which permanent BMPs will be placed, constructed or implemented, as described in the BMP operations and maintenance plan, shall record the following documents in the office of the Recorder of Deeds for Montgomery County within 15 days of approval of the BMP operations plan by the Township:

(1) The operations and maintenance plan or a summary thereof;

(2) Operations and maintenance agreements under § 150-18; and

(3) Easements under § 151-19.

B. The Township may suspend or revoke any approvals granted for the project site upon discovery of the failure of the owner to comply with this section.

§ 150-21. Municipal stormwater BMP Operation and Maintenance Fund.

If stormwater BMPs are accepted by the Township for dedication, the Township may require persons installing stormwater BMPs to pay a specified amount to the Municipal BMP Operation and Maintenance Fund to help defray costs of operations and maintenance activities. The amount may be determined as follows:

A. If the stormwater BMP is to be owned and maintained by the Township, the amount shall cover the estimated costs for operations and maintenance for 10 years, as determined by the Township.

B. The amount shall then be converted to present worth of the annual series values.

ARTICLE VI
Inspections and Right of Entry

§ 150-22. Inspections.

A. The Township or its designee may inspect all phases of the construction, operations, maintenance and any other implementation of stormwater BMPs.

B. During any stage of the regulated earth disturbance activities, if the Township or its designee determines that any BMPs are not being implemented in accordance with this chapter, the Township may suspend or revoke any existing permits or other approvals until the deficiencies are corrected.

§ 150-23. Right of entry.

A. Upon presentation of proper credentials, duly authorized representatives of the Township may enter at reasonable times upon any property within the Township to inspect the implementation, condition or operation and maintenance of the BMPs in regard to any aspect governed by this chapter.

B. Stormwater BMP owners and operators shall allow persons working on behalf of the Township ready access to all parts of the premises for the purposes of determining compliance with this chapter.

C. Persons working on behalf of the Township shall have the right to temporarily locate on any BMP in the Township such devices as are necessary to conduct monitoring and/or sampling of the discharges from such BMP.

ARTICLE VII
Fees and Expenses

§ 150-24. General.

The Township may charge a reasonable fee for review of erosion and sedimentation control plans, design of BMPs and operations and maintenance plans to defray review costs incurred by the Township. The applicant shall pay all such fees.

§ 150-25. Expenses covered by fees.

The fees required by this chapter may cover:

A. Administrative/clerical costs.

B. The review of all above-mentioned plans and designs by the Township Engineer.

C. The site inspections, including, but not limited to, preconstruction meetings, inspections during construction of BMPs, and final inspection upon completion of the stormwater BMPs.

D. Any additional work required to monitor and enforce sny provisions of this chapter, correct violations and assure proper completion of stipulated remedial actions.

ARTICLE VIII
Prohibitions

§ 150-26. Prohibited discharges.

A. No person in the Township shall allow, or cause to allow, stormwater discharges into the Township's separate storm sewer system which are not composed entirely of stormwater, except as provided in Subsection B below.

B. Discharges which may be allowed, based on a finding by the Township that the discharge(s) do not significantly contribute to pollution to surface waters of the commonwealth, are:

(1) Discharges from fire-fighting activities.

(2) Potable water sources, including dechlorinated water line and fire hydrant flushings.

(3) Irrigation drainage.

(4) Routine external building washdown (which does not use detergents or other compounds).

(5) Air-conditioning condensate.

(6) Water from individual residential car washing.

(7) Springs.

(8) Water from crawl space pumps.

(9) Uncontaminated water from foundation or from footing drains.

(10) Flows from riparian habitats and wetlands.

(11) Lawn watering.

(12) Pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used.

(13) Dechlorinated swimming pool discharges.

(14) Uncontaminated groundwater.

C. In the event that the Township determines that any of the discharges identified in Subsection B significantly contribute to pollution of waters of the commonwealth, or is so notified by DEP, the Township will notify the responsible person to cease the discharge.

§ 150-27. Prohibited connections.

A. The following connections are prohibited, except as provided in § 150-26B above:

(1) Any drain or conveyance, whether on the surface or subsurface, which allows any nonstormwater discharge, including sewage, process wastewater and washwater, to enter the separate storm sewer system and any connections to the storm drain system from indoor drains and sinks; and

(2) Any drain or conveyance connected from a commercial or industrial land use to the separate storm sewer system which has not been documented in plans, maps or equivalent records and approved by the Township.

§ 150-28. Roof drains.

A. Roof drains shall not be connected to streets, sanitary or storm sewers or roadside ditches except as provided in § 150-26B.

B. When it is more advantageous to connect directly to streets or storm sewers, connections of roof drains to streets or roadside ditches may be permitted by the Township.

C. Roof drains shall discharge to infiltration areas or vegetative BMPs to the maximum extent practicable.

§ 150-29. Alteration of stormwater BMPs.

A. No person shall modify, remove, fill, landscape or alter any existing BMP, unless it is part of an approved maintenance program, without the written approval of the Township.

B. No person shall place any structure, fill, landscaping or vegetation into a BMP or within a drainage easement, which would limit or alter the functioning of the BMP, without the written approval of the Township.

ARTICLE IX
Enforcement and penalties

§ 150-30. Public nuisance.

A. The violation of any provision of this chapter is hereby deemed a public nuisance.

§ 150-31. Enforcement generally.

A. Whenever the Township finds that a person has violated a prohibition or failed to meet a requirement of this chapter, the Township may order compliance by written notice to the responsible person. Such notice may require without limitation:

(1) The performance of monitoring, analyses and reporting;

(2) The elimination of prohibited connections or discharges;

(3) Cessation of any violating discharges, practices or operations;

(4) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;

(5) Payment of a fine to cover administrative and remediation costs;

(6) The implementation of stormwater BMPs and

(7) Operation and maintenance of stormwater BMPs.

B. Such notification shall set forth the nature of the violation(s) and establish a time limit for correction of these violations(s). Said notice may further advise that, if applicable, should the violator fail to take the required action within the established deadline, the work will be done by the Township or designee and the expense thereof shall be charged to the violator.

C. Failure to comply within the time specified shall also subject such person to the penalty provisions of this chapter. All such penalties shall be deemed cumulative and shall not prevent the Township from pursuing any and all other remedies available in law or equity.

D. Each day that a violation continues shall constitute a separate violation.

§ 150-32. Suspension and revocation of permits and approvals.

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

(1) Noncompliance with or failure to implement any provision of the permit;

(2) A violation of any provision of this chapter; or

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

B. A suspended permit or approval shall be reinstated by the Township when:

(1) The Township Engineer or designee has inspected and approved the corrections to the stormwater BMPs or the elimination of the hazard or nuisance; and/or

(2) The Township is satisfied that the violation of this chapter, law or rule and regulation has been corrected.

§ 150-33. Violations and penalties.

A. Any person violating the provisions of this chapter shall be guilty of a misdemeanor, and upon conviction shall be subject to a fine of not more than $1,000 for each violation, recoverable with costs or imprisonment of not more than two days, or both. Each day that the violation continues shall be a separate offense.

B. In addition, the Township, through its Solicitor, may institute injunctive, mandamus or any other appropriate action or proceeding at law or in equity for the enforcement of this chapter. 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.

§ 150-34. Appeals.

Any person aggrieved by any action of the Township or its designee relevant the provisions of this chapter may appeal to the relevant judicial or administrative body according to law within the time period allowed.

150 Attachment 1

APPENDIX A

LOW IMPACT DEVELOPMENT PRACTICES

ALTERNATIVE APPROACH FOR MANAGING STORMWATER RUNOFF

Natural hydrologic conditions may be altered radically by poorly planned development practices, such as introducing unneeded impervious surfaces, destroying existing drainage swales, constructing unnecessary storm sewers, and changing local topography. A traditional drainage approach of development has been to remove runoff from a site as quickly as possible and capture it in a detention basin. This approach leads ultimately to the degradation of water quality as well as expenditure of additional resources for detaining and managing concentrated runoff at some downstream location.

The recommended alternative approach is to promote practices that will minimize development runoff rates and volumes, which will minimize needs for artificial conveyance and storage facilities. To simulate pee-development hydrologic conditions, forced infiltration is often necessary to offset the loss of infiltration by creation of impervious surfaces. The ability of the ground to infiltrate depends upon the soil types and its conditions.

Preserving natural hydrologic conditions requires careful alternative site design considerations. Site design practices include preserving natural drainage features, minimizing impervious surface area, reducing the hydraulic connectivity of impervious surfaces, and protecting natural depression storage. A well-designed site will contain a mix of all those features. The following describes various techniques to achieve the alternative approach:

- **Preserving Natural Drainage Features.** Protecting natural drainage features, particularly vegetated drainage swales and channels, is desirable because of their ability to infiltrate and attenuate flows and to filter pollutants. However, this objective is often not accomplished in land development. In fact, commonly held drainage philosophy encourages just the opposite pattern - streets and adjacent storm sewers typically are located in the natural headwater valleys and swales, thereby replacing natural drainage functions with a completely impervious system As a result, runoff and pollutants generated from impervious surfaces flow directly into storm sewers with no opportunity for attenuation, infiltration, or filtration. Developments designed to fit site topography also minimizes the amount of grading on site.

- **Protecting Natural Depression Storage Areas.** Depressional storage areas have no surface outlet, or drain very slowly following a storm event They can be commonly seen as ponded areas in farm fields during the wet season or after large runoff events. Traditional development practices eliminate these depressions by filling or draining, thereby obliterating their ability to reduce surface runoff volumes and trap pollutants. The volume and release-rate characteristics of depressions should be protected in the design of the development site. The depressions can be protected by simply avoiding

the depression or by incorporating its storage as additional capacity in required detention facilities.

- **Avoiding introduction of impervious areas.** Careful site planning should consider reducing impervious coverage to the maximum extent possible. Building footprints, sidewalks, driveways and other features producing impervious surfaces should be evaluated to minimize impacts on runoff.

- **Reducing the Hydraulic Connectivity of Impervious Surfaces.** Impervious surfaces are significantly less of a problem if they are not directly connected to an impervious conveyance system (such as storm sewer). Two basic ways to reduce hydraulic connectivity are routing of roof runoff over lawns and reducing the use of storm sewers. Site grading should promote increasing travel time of stormwater runoff, and should help reduce concentration of runoff to a single point in the development

- **Routing Roof Runoff Over Lawns.** Roof runoff can be easily routed over lawns in most site designs. The practice discourages direct connections of downspouts to storm sewers or parking lots. The practice also discourages sloping driveways and parking lots to the street by routing roof drains and crowning the driveway to run off to the lawn, the lawn is essentially used as a filter strip.

- **Reducing the Use of Storm Sewers.** By reducing use of storm sewers for draining streets, parking lots, and back yards, the potential for accelerating runoff from the development can be greatly reduced. The practice requires greater use of swales and may not be practical for some development sites, especially if there are concerns for areas that do not drain in a "reasonable" time. The practice requires educating local citizens and public works officials, who expect runoff to disappear shortly after a rainfall event.

- **Using Permeable Paving Materials.** These materials include permeable interlocking concrete paving blocks or porous bituminous concrete. Such materials should be considered as alternatives to conventional pavement surfaces, especially for low use surfaces such as driveways, overflow parking lots, and emergency access roads.

- **Reducing Building Setbacks.** Reducing building setbacks reduces driveway and entry walks and is most readily accomplished along low-traffic streets where traffic noise is not a problem.

- **Constructing Outer Developments.** Cluster developments can also reduce the amount of impervious area for a given number of lots. The biggest savings is in street length, which also will reduce costs of the development. Cluster development clusters the construction activity onto less-sensitive areas without substantially affecting the gross density of development.

In summary, a careful consideration of the existing topography and implementation of a combination of the above mentioned techniques may avoid construction of costly stormwater control measures. Other benefits include reduced potential of downstream flooding, water quality degradation of receiving streams/water bodies and enhancement of aesthetics and reduction of development costs. Beneficial results include more stable baseflows in receiving streams, improved groundwater recharge, reduced flood flows, reduced pollutant loads, and reduced costs for conveyance and storage.

150 Attachment 2

APPENDIX B

STORMWATER BEST MANAGEMENT PRACTICES OPERATIONS AND MAINTENANCE AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of_____, 200___, by and between _____, (hereinafter the "Landowner"), and _____, _____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 _____, (herein "Property").

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

WHEREAS, the stormwater BMP Operations and Maintenance Plan approved by the Township (hereinafter referred to as the "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 Best Management Practices (BMP's); 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 stormwater Best Management Practices be constructed and maintained on the Property and

WHEREAS, for the purposes of this agreement, the following definitions shall apply:

- BMP – "Best Management Practice;" activities, facilities, designs, measures or procedures used to manage stormwater impacts from land development, to protect and maintain water quality and groundwater recharge and to otherwise meet the purposes of the Municipal Stormwater Management Ordinance, including but not limited to infiltration trenches, seepage pits, filter strips, bioretention, wet ponds, permeable paving, rain gardens, grassed swales, forested buffers, sand filters and detention basins.

- Infiltration Trench – A BMP surface structure designed, constructed, and maintained for the purpose of providing infiltration or recharge of stormwater into the soil and/or groundwater aquifer,

- Seepage Pit – An underground BMP structure designed, constructed, and maintained for the purpose of providing infiltration or recharge of stormwater into the soil and/or groundwater aquifer,

- Rain Garden – A BMP overlain with appropriate mulch and suitable vegetation designed, constructed, and maintained for the purpose of providing infiltration or recharge of stormwater into the soil and/or underground aquifer, and

WHEREAS, the Township requires, through the implementation of the Plan, that stormwater management BMP'a as required by said Plan and the Municipal Stormwater Management Ordinance be constructed and adequately operated and maintained by the Landowner, his successors and assigns and

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 BMPs shall be constructed by the Landowner in accordance with the plans and specifications identified in the Plan.

2. The Landowner shall operate and maintain the BMP(s) as shown on the Plan in good working order acceptable to the Township and in accordance with the specific maintenance requirements noted on the 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 identification, to inspect the BMP(s) whenever it deems 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 BMP(s) as shown on the Plan in working order acceptable to the Township, the Township or its representatives may enter upon the Property and take whatever action is deemed necessary to maintain said BMP(s). This provision shall not be construed to allow the Township to erect any permanent structure on the land of the Landowner. 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 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 BMP(s) 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's employees and designated representatives 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 Township. In the event that a claim is asserted against the Township, its designated representatives or employees, the Township shall promptly notify the Landowner and the Landowner shall defend, at his own expense, any suit based on the claim. If any judgment or claims against the Township's employees or designated representatives shall be allowed, the Landowner shall pay all costs and expenses regarding said judgment or claim.

8. The Township shall inspect the BMP(s) at a minimum of once every three years to ensure their continued functioning.

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

ATTEST:

WITNESS the following signatures and seals:

(SEAL) For the Township:

_____

(SEAL) For the Landowner:

_____

ATTEST:

_____ (City, Borough, Township)

County of _____, Pennsylvania

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

GIVEN UNDER MY HAND THIS _____ day of _____, 200____

NOTARY PUBLIC (SEAL)