CHAPTER 17
STORMWATER MANAGEMENT

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PART 1
GENERAL PROVISIONS

§ 17-101. Short Title. [Ord. 2014-02, 5/5/2014]

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

§ 17-102. Statement of Findings. [Ord. 2014-02, 5/5/2014]

The Board of Supervisors of Earl Township finds that:

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

B. A comprehensive program of SWM, including reasonable regulation of development and activities causing accelerated runoff and based on the concept of low-impact development (LID), is fundamental to the public health, safety, welfare, and the protection of the people of the municipality and all the people of the commonwealth, their resources, and the environment. **[Amended by Ord. No. 2022-02, 9/6/2022]**

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 municipal separate storm sewer systems (MS4) under the National Pollutant Discharge Elimination System (NPDES).

E. Riparian forest buffers enhance water quality by filtering pollutants in runoff, providing light control and temperature moderation, processing pollutants, increasing infiltration and providing channel and shoreline stability, thus decreasing erosion (DEP Riparian Forest Buffer Guidance, November 27, 2010).

§ 17-103. Purpose. [Ord. 2014-02, 5/5/2014]

The purpose of this chapter is to promote health, safety, and welfare by minimizing the harms and maximizing the benefits described in § 17-102 of this chapter through provisions designed to:

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

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

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 water and groundwater quality and to otherwise protect water resources.

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

G. Provide proper operation and maintenance of all stormwater management best management practices (SWM BMPs) that are implemented within the municipality.

H. Provide standards to meet NPDES permit requirements.

I. Promote stormwater runoff prevention through the use of nonstructural best management practices (BMPs).

J. Provide a regulatory environment that supports the proportion, density and intensity of development called for in the Comprehensive Plan; allow for creative methods of improving water quality and managing stormwater runoff; and promote a regional approach to water resource management.

K. Help preserve and protect exceptional natural resources and conserve and restore natural resource systems.

L. Promote stormwater management practices that emphasize infiltration, evaporation, and transpiration.

§ 17-104. Statutory Authority. [Ord. 2014-02, 5/5/2014]

1. Primary Authority. The Board of Supervisors of Earl Township is empowered to regulate these activities by the authority of the Act of October 4, 1978, P.L. 864 (Act 167), 32 P.S. § 680.1 et seq., as amended, the Storm Water Management Act; and Act 394 of 1937, as amended, 35 P.S. § 691.1 et seq., the Pennsylvania Clean Streams Law. The Board of Supervisors of Earl Township also is empowered to regulate land use activities that affect

stormwater impacts by the authority of the Second Class Township Code, Act of May 1, 1933, P.L. 103, No. 69, as reenacted and amended by the Act of November 9, 1995, P.L. 350, No. 60, as amended.[1]

2. Secondary Authority. The Board of Supervisors of Earl Township also is empowered to regulate land use activities that affect runoff by the authority of the Act of July 31, 1968, P.L. 805, No. 247, the Pennsylvania Municipalities Planning Code, as amended.[2]

§ 17-105. Applicability. [Ord. 2014-02, 5/5/2014]

The provisions, regulations, limitations, and restrictions of this chapter shall apply to regulated activities, as defined in this chapter.

§ 17-106. Repealer and Continuation of Prior Regulations. [Ord. 2014-02, 5/5/2014]

1. Except as otherwise required by law, this chapter is intended as a continuation of, and not a repeal of, existing regulations governing the subject matter. To the extent that this chapter restates regulations contained in ordinances previously enacted by the Board of Supervisors of Earl Township, this chapter shall be considered a restatement and not a repeal of such regulations. It is the specific intent of the Board of Supervisors of Earl Township that all provisions of this chapter shall be considered in full force and effect as of the date such regulations were initially enacted. All ordinances or parts of ordinances inconsistent with the provisions of this chapter are hereby repealed. It is expressly provided that the provisions of this chapter shall not affect any act done, contract executed or liability incurred prior to its effective date, or affect any suit or prosecution pending or to be instituted to enforce any rights, rule, regulation or ordinance, or part thereof, or to punish any violation which occurred under any prior stormwater regulation or ordinance. In the event any violation has occurred under any prior stormwater regulation or ordinance of Earl Township, prosecution may be initiated against the alleged offender pursuant to the provisions of said prior stormwater regulation or ordinance, and the provisions and penalties provided in said prior stormwater regulation or ordinance shall remain effective as to said violation.

2. Any plan pending at the time of the effective date of this chapter shall be allowed to proceed with revisions, finalization and implementation in accordance with any ordinance in effect prior hereto. Any subdivision and land development plan filed pursuant to the provisions of the Pennsylvania Municipalities Planning Code where there isn't a prior stormwater management ordinance in effect may proceed with development in accordance with the filing at the time of the effective date of this chapter.

[1]**Editor's Note: See 53 P.S. § 65101 et seq.**
[2]**Editor's Note: See 53 P.S. § 10101 et seq.**

§ 17-107. Severability. [Ord. 2014-02, 5/5/2014]

Should any section, provision or part thereof of this chapter be declared invalid by a court of competent jurisdiction, such decision shall not affect the validity of any of the remaining provisions of this chapter.

§ 17-108. Compatibility With Other Requirements. [Ord. 2014-02, 5/5/2014]

Approvals issued pursuant to this chapter 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.

§ 17-109. Erroneous Permit. [Ord. 2014-02, 5/5/2014]

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

§ 17-110. Municipal Liability. [Ord. 2014-02, 5/5/2014]

Except as specifically provided by the Pennsylvania Storm Water Management Act, Act of October 4, 1978, P.L. 864, No. 167, as amended, 32 P.S. § 680.1 et seq., the making of any administrative decision by the Board of Supervisors of Earl Township or any of its officials or employees shall not constitute a representation, guaranty or warranty of any kind by the Board of Supervisors of Earl Township of the practicability or safety of any proposed structure or use with respect to damage from erosion, sedimentation, stormwater runoff, flood, or any other matter and shall create no liability upon or give rise to any cause of action against the Board of Supervisors of Earl Township and its officials and employees. The Board of Supervisors of Earl Township, by enacting and amending this chapter, does not waive or limit any immunity granted to the Board of Supervisors of Earl Township and its officials and employees by the Governmental Immunity Act, 42 Pa.C.S.A. § 8541 et seq., and does not assume any liabilities or obligations.

§ 17-111. Duty of Persons Engaged in Development of Land. [Ord. 2014-02, 5/5/2014]

Notwithstanding any provision(s) of this chapter, 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.

§ 17-112. Financial Security. [Ord. 2014-02, 5/5/2014]

1. A financial security (bond, restricted account or letter of credit) for stormwater-related improvements shall be supplied by the developer in

conjunction with the subdivision/land development approval, or in conjunction with the SWM site plan approval if no subdivision/land development plan is required.

2. The applicant shall provide a financial security to the Township for the timely installation and proper construction of all SWM facilities, including E&S BMPs, as required by the approved SWM site plan and this chapter and, as applicable, in accordance with the provisions of Sections 509, 510, and 511 of the MPC.[3]

3. Where required, the developer shall file with the Board of Supervisors financial security in an amount sufficient to cover the costs of all stormwater management facilities required by this chapter. Without limitation as to other types of financial security which the Township may approve, which approval shall not be unreasonably withheld, federal or commonwealth chartered lending institution irrevocable letters of credit and restrictive or escrow accounts in such lending institutions shall be deemed acceptable financial security. Such financial security shall be posted with a bonding company or federal or commonwealth chartered lending institution chosen by the developer, provided said bonding company or lending institution is authorized to conduct such business within the commonwealth. Such bond, or other security, shall provide for, and secure to the public, completion of all stormwater management facilities within one year of the date fixed on the final approved plan for such facilities. The amount of financial security shall be equal to 110% of the cost of the required facilities for which financial security is to be posted. The cost of the facilities shall be established by submission to the Board of Supervisors of a bona fide bid or bids from the contractor or contractors chosen, the developer to complete the facilities; or in the absence of such bona fide bids, the cost shall be established by estimate and approved by the Township. If the developer requires more than one year from the date of posting of the financial security to complete the required facilities, the amount of financial security may be increased by an additional 10% for each one-year period beyond the first anniversary date from posting of financial security, or to an amount not exceeding 110% of the cost of completing the required facilities, as reestablished on or about the expiration of the preceding one-year period by using the above bidding procedure.

4. In the case where development is projected over a period of years, the Board of Supervisors may authorize submission of stormwater management plan applications by sections or stages of development, subject to such requirements or guarantees as to stormwater management facilities in future sections or stages of development as it finds essential for the protection of any finally approved section of the development.

5. As the work of installing the required SWM facilities proceeds, the party posting the financial security may request the Board of Supervisors to

[3]**Editor's Note: See 53 P.S. §§ 10509, 10510 and 10511.**

release or authorize the release, from time to time, of such portions of the financial security necessary for payment to the contractor or contractors performing the work. Any such requests shall be in writing addressed to the Board of Supervisors, and the Board of Supervisors shall have 45 days from receipt of such request within which to allow the Township Engineer to certify, in writing, to the Board of Supervisors that such portion of the work upon the SWM facilities has been completed in accordance with the approved SWM site plan. Upon such certification, the Board of Supervisors shall authorize release by the bonding company or lending institution of an amount as estimated by the Township Engineer fairly representing the value of the SWM facilities completed. The Board of Supervisors may, prior to final release at the time of completion and certification by its Engineer, require retention of 10% of the estimated cost of the aforesaid SWM facilities.

6. Schedule of Inspections.

   A. During the construction of the development, the Township Engineer or other authorized Township official may inspect the premises to determine that the work is progressing in compliance with the information provided on the approved stormwater management plan and with all applicable Township laws and ordinances.

   B. The cost for the conducting of inspections by the Township Engineer or other authorized Township official shall be borne by the developer in accordance with the inspection fee adopted by resolution of the Board of Supervisors.

   C. In the event the Township Engineer or authorized official discovers that the work does not comply with the approved plan or any applicable laws and ordinances, the Township shall suspend any existing zoning permits related to the development until the required corrections have been made. Any portion of the work that does not comply with the approved plan must be corrected by the developer within 10 days. No work may proceed on any subsequent phase of the stormwater management, the subdivision or land development, or the building construction until the related zoning permits have been reinstated.

   D. If, at any stage of the work, the Township Engineer or authorized official determines that the soil or other conditions are not as stated or shown in the approved application, or that there has been a false statement or misrepresentation by the developer, the Township Engineer or authorized official may refuse to approve further work and the Township may revoke existing zoning permits until a revised plan is submitted and approved, as required by § 17-401 of this chapter.

7. Final Inspection.

A. When the developer has completed all the required facilities, he shall notify the Township, in writing, by certified or registered mail, and shall send a copy of such notice to the Township Engineer. The Township shall, within 10 days after receipt of such notice, authorize the Township Engineer to inspect the required facilities. The Township Engineer shall promptly file a report, in writing, with the Township and shall mail a copy of the report to the developer by certified or registered mail. The report shall be made and mailed within 30 days after receipt by the Township Engineer of the aforesaid authorization by the Township.

B. Based on the report of the Township Engineer, the Township shall indicate approval or rejection of the stormwater management facilities, either in whole or in part, and if not approved, state reasons for the rejection. The Township shall immediately notify the developer, in writing, by certified or registered mail, of its actions.

C. If the Board of Supervisors or the Township Engineer fails to comply with the time limitation provisions contained herein, all stormwater management facilities will be deemed to have been approved, and the developer shall be released from all liability pursuant to its performance guaranty bond or other security agreement.

D. If any portion of said improvements is not approved or is rejected by the Township, the developer shall proceed to complete the same, and, upon completion, the same procedure of notification outlined herein shall be followed.

8. In the event that any SWM facilities which may be required have not been installed as provided in the approved SWM site plan, the Board of Supervisors of Earl Township is hereby granted the power to enforce any corporate bond or other security by appropriate legal and equitable remedies. If proceeds of such bond or other security are insufficient to pay the cost of installing or making repairs or corrections to all the SWM facilities covered by said security, the Board of Supervisors of Earl Township may, at its option, install part of such SWM facilities and may institute appropriate legal or equitable action to recover the monies necessary to complete the remainder of the SWM facilities. All of the proceeds, whether resulting from the security or from any legal or equitable action brought against the developer, or both, shall be used solely for the installation of the SWM facilities covered by such security and not for any other Township purpose.

§ 17-113. MS4 Protection. [Added by Ord. No. 2022-02, 9/6/2022]

Any person or entity owning or occupying a premises through which the MS4 passes, or conducts activities subject to this chapter in which the MS4 passes or

receives drainage from the site in which the activities are subject to the chapter shall:

A. Keep and maintain that part of the premises reasonably free of trash, debris, sediment, and other obstacles which may pollute, contaminate, or retard the flow of water to or through the MS4.

B. Maintain existing structures within or adjacent to the MS4 so that those structures will not become a hazard to the use, function, or physical integrity of the MS4.

C. Protect inlets or other entry points to the MS4 to the maximum extent practicable in which activities, equipment, or materials could result in the discharge of a pollutant or a nonstormwater discharge.

§ 17-114. Reduction of Pollutants in Stormwater. [Added by Ord. No. 2022-02, 9/6/2022]

Any person or entity engaged in activities which may result in discharges to the MS4 shall, to the maximum extent practicable, undertake all measures to reduce the risk of nonstormwater discharges and polluted discharges. The following requirements shall apply:

A. Every person or entity undertaking an activity or use of a premises that may cause or contribute to stormwater pollution or contamination, illicit discharges, or nonstormwater discharges to the MS4 shall implement structural and/or nonstructural BMPs to reduce or prevent a polluted discharge. BMPS shall be maintained routinely throughout the life of the activity.

§ 17-115. Waivers. [Added by Ord. No. 2022-02, 9/6/2022]

If Earl Township determines that any requirement under this chapter cannot be achieved for a particular regulated activity, the Earl Township Board of Supervisors may, after an evaluation of alternatives, approve measures other than those in this chapter, subject to the following:

A. Waivers or modifications of the requirements of this chapter may be approved by Earl Township if enforcement will exact undue hardship because of peculiar conditions pertaining to the land in question, provided that the modifications will not be contrary to the public interest and that the purpose of the chapter is preserved. Cost or financial burden shall not be considered a hardship. Modification may be considered if an alternative standard or approach will provide equal or better achievement to the maximum extent practicable of the purpose of the chapter. A request for modifications shall be in writing and accompany the stormwater management site plan submission. The request shall provide the facts on which the request is based, the provision(s) of the chapter involved and the proposed modification.

B. No waiver or modification of any regulated stormwater activity involving earth disturbance greater than or equal to one acre may be granted by the Board of Supervisors unless that action is approved in advance by the Department of Environmental Protection (DEP) or the delegated county conservation district.

PART 2

TERMINOLOGY

§ 17-201. Interpretation and Word Usage. [Ord. 2014-02, 5/5/2014]

The language set forth in the text of this chapter shall be interpreted in accordance with the following rules of construction:

A. Words used or defined in one tense or form shall include other tenses or derivative forms.

B. Words in the singular number shall include the plural number, and words in the plural number shall include the singular number.

C. The masculine gender shall include the feminine and neuter. The feminine gender shall include the masculine and neuter. The neuter gender shall include the masculine and feminine.

D. The word "person" includes individuals, firms, partnerships, joint ventures, trusts, trustees, estates, corporations, associations and any other similar entities.

E. The word "lot" includes the words "plot," "tract," and "parcel."

F. The words "shall," "must" and "will" are mandatory in nature and establish an obligation or duty to comply with the particular provision. The words "may" and "should" are permissive.

G. The time within which any act required by this chapter is to be performed shall be computed by excluding the first day and including the last day. However, if the last day is a Saturday or Sunday or a holiday declared by the United States Congress or the Pennsylvania General Assembly, it shall also be excluded. The word "day" shall mean a calendar day, unless otherwise indicated.

H. Any words not defined in this chapter or in Section 107 of the MPC[4] shall be construed as defined in standard dictionary usage.

I. References to officially adopted regulations, standards, or publications of the DEP or other governmental agencies shall include the regulation, publication, or standard in effect on the date when an SWM site plan is first filed. It is the intent of the Board of Supervisors of Earl Township in enacting this section to incorporate such changes to statutes, regulations, and publications to the extent authorized by 1 Pa.C.S.A. § 1937.

[4]**Editor's Note: See 53 P.S. § 10107.**

§ 17-202. Definitions. [Ord. 2014-02, 5/5/2014]

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 man's activity and the natural processes at a rate greater than would occur because of the natural process alone.

ACCESS EASEMENT — A right granted by a landowner to a grantee, allowing entry for the purpose of inspecting, maintaining and repairing SWM facilities.

ACT 167 PLAN — A plan prepared under the authority of Pennsylvania's Storm Water Management Act of October 4, 1978.[5]

AGRICULTURAL ACTIVITY — Activities associated with agriculture, such as agricultural cultivation, agricultural operation, and animal heavy-use areas. This includes the work of producing crops and raising livestock, including tillage, land clearing, plowing, disking, harrowing, planting, harvesting crops, or pasturing and raising of livestock and installation of conservation practices. Construction of new buildings or impervious areas is not considered an agricultural activity.

AGRICULTURE — The cultivation of the soil and the raising and harvesting of the products of the soil, including but not limited to nursery, horticulture, forestry and animal husbandry activities.

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

ANIMAL HEAVY-USE AREAS — A barnyard, feedlot, loafing area, exercise lot, or other similar area on an agricultural operation where, due to the concentration of animals, it is not possible to establish and maintain vegetative cover of a density capable of minimizing accelerated erosion and sedimentation by usual planting methods. The term does not include entrances, pathways and walkways between areas where animals are housed or kept in concentration.

APPLICANT — A landowner and/or developer, including his heirs, successors and assigns, who has filed an application to the municipality for approval to engage in any regulated activity at a development site located within the municipality.

BMP (BEST MANAGEMENT PRACTICE) — Activities, facilities, control measures, planning or procedures used to minimize accelerated erosion and sedimentation and manage stormwater to protect, maintain, reclaim, and

[5]**Editor's Note: See 32 P.S. § 680.1 et seq.**

restore the quality of waters and the existing and designated uses of waters within this commonwealth before, during and after earth disturbance activities. [NOTE: See § 17-1001.1.] See also "nonstructural BMP" and "structural BMP."

BMP MANUAL — The Pennsylvania Stormwater Best Management Practices Manual of December 2006, or most recent version thereof.

BOARD OF SUPERVISORS — The Board of Supervisors of Earl Township, Lancaster County, Pennsylvania.

BUILDING — Any enclosed or open structure, other than a boundary wall or fence, occupying more than four square feet of area and/or having a roof supported by columns, piers, or walls.

CARBONATE GEOLOGY — Limestone or dolomite bedrock. Carbonate geology is often associated with karst topography.

CERTIFICATE OF COMPLETION — Documentation verifying that all permanent SWM facilities have been constructed according to the plans and specifications and approved revisions thereto.

CHANNEL — A natural or artificial watercourse with a definite bed and banks that confine and conduct continuously or periodically flowing water.

CHAPTER 102 — 25 Pa. Code, Chapter 102, Erosion and Sediment Control.

CHAPTER 105 — 25 Pa. Code, Chapter 105, Dam Safety and Waterway Management.

CHAPTER 106 — 25 Pa. Code, Chapter 106, Floodplain Management.

CISTERN — A reservoir or tank for storing rainwater.

CLEAN WATER ACT — The 1972 Amendments to the Federal Water Pollution Control Act, P.L. 92-500 of 1972, 33 U.S.C. § 1251 et seq.

CONESTOGA RIVER ACT 167 PLAN — The Conestoga River Watershed Storm Water Management Plan as approved by the PADEP.

CONSERVATION DISTRICT — The Lancaster County Conservation District.

CONSERVATION PLAN — A plan written by an NRCS-certified planner that identifies conservation practices and includes site-specific BMPs for agricultural plowing or tilling activities and animal heavy-use areas.

CONSERVATION PRACTICES — Practices installed on agricultural lands to improve farmland, soil and/or water quality which have been identified in a current conservation plan.

CONVEYANCE — (n) Any structure that carries a flow. (v) The ability of a pipe, culvert, swale or similar facility to carry the peak flow from the design storm.

CULVERT — A structure with appurtenant works which can convey a stream under or through an embankment or fill.

DAM — An artificial barrier, together with its appurtenant works, constructed for the purpose of impounding or storing water or another fluid or semifluid, or a refuse bank, fill or structure for highway, railroad or other purposes which does or may impound water or another fluid or semifluid. The dam falls under the requirements of Chapter 105, Dam Safety and Waterway Management, if the following is true:

A. The contributory drainage area exceeds 100 acres.

B. The greatest depth of water measured by upstream toe of the dam at maximum storage elevation exceeds 15 feet.

C. The impounding capacity at maximum storage elevation exceeds 50 acre-feet.

DEP (also PA DEP or PADEP) — The Pennsylvania Department of Environmental Protection or any agency successor to the Pennsylvania Department of Environmental Protection.

DESIGNEE — The agent of a municipal governing body involved with the administration, review or enforcement of any provisions of this chapter by contract or memorandum of understanding.

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

DETENTION BASIN — An impoundment structure designed to manage stormwater runoff by temporarily storing the runoff and releasing it at a controlled rate.

DEVELOPER — A person who undertakes any regulated activity of this chapter.

DEVELOPMENT — Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation, or drilling operations.

DEVELOPMENT SITE (SITE) — The specific area of land where regulated activities in the municipality are planned, conducted or maintained.

DISAPPEARING STREAM — A stream in an area underlain by limestone or dolomite that flows underground for a portion of its length.

DISTURBED AREA — A land area where an earth disturbance activity is occurring or has occurred.

DOWNSLOPE PROPERTY LINE — That portion of a property line of a parent tract located at the topographically lowest point of the parent tract such that some or all overland, swale, or pipe flow from a development site would be directed toward it.

DRAINAGE CONVEYANCE FACILITY — A stormwater management facility designed to transmit stormwater runoff, and shall include streams, channels, swales, pipes, conduits, storm sewers, etc.

DRAINAGE EASEMENT — Rights to occupy and use another person's real property for the installation and operation of stormwater management facilities, or for the maintenance of natural drainageways to preserve and maintain a channel for the flow of stormwater therein, or to safeguard health, safety, property, and facilities.

DRAINAGE PERMIT — A permit issued by the Township governing body after the stormwater management site plan has been approved. Said permit is issued prior to or with the final Township approval.

E&S — Erosion and sediment.

E&S PLAN (also EROSION AND SEDIMENT CONTROL PLAN) — A site-specific plan consisting of both drawings and a narrative that identifies BMPs to minimize accelerated erosion and sedimentation before, during and after earth disturbance activities.

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; land development; agricultural plowing or tilling; operation of animal heavy-use areas; timber harvesting activities; road maintenance activities; oil and gas activities; well drilling; mineral extraction; building construction; and the moving, depositing, stockpiling, or storing of soil, rock, or earth materials. [NOTE: See § 17-1001.1.]

ENGINEER — A professional engineer licensed by the Commonwealth of Pennsylvania.

ENVIRONMENTALLY SENSITIVE AREA — Slopes greater than 15%, shallow bedrock (located within six feet of ground surface [NOTE: See § 17-1001.2.]), wetlands, natural heritage areas and other areas designated as "conservation" or "preservation" in Greenscapes, the Green infrastructure Element of the County Comprehensive Plan, where encroachment by land development or land disturbance results in degradation of the natural resource.

EPHEMERAL STREAM — A transient stream, one that flows for a relatively short time.

EROSION — The natural process by which the surface of the land is worn away by water, wind, or chemical action. See also "accelerated erosion" as defined above.

EROSION AND SEDIMENT POLLUTION CONTROL PLAN — A plan which is designed to minimize accelerated erosion and sedimentation.

EXISTING CONDITIONS — The dominant land cover during the five-year period immediately preceding a proposed regulated activity.

FEMA — The Federal Emergency Management Agency.

FLOOD — A general but temporary condition of partial or complete inundation of normally dry land areas from the overflow of streams, rivers, and other waters of this commonwealth.

FLOOD FRINGE — That portion of the floodplain outside of the floodway. [NOTE: See § 17-1001.3.]

FLOODPLAIN AREA — A relatively flat or low land area which is subject to partial or complete inundation from an adjoining or nearby stream, river or watercourse; and/or any area subject to the unusual and rapid accumulation of surface waters from any source. **[Amended by Ord. 2016-05, 3/17/2016]**

FLOODPLAIN MANAGEMENT ACT — Act of October 4, 1978, P.L. 851, No. 166, as amended, 32 P.S. § 679.101 et seq.

FLOODWAY — That portion of the floodplain which is effective in carrying flow, within which this carrying capacity must be preserved and where the flood hazard is generally highest, i.e., where water depths and velocities are the greatest. It is that area which provides for the discharge of the base flood

so the cumulative increase in water surface elevation is no more than one foot. [NOTE: See § 17-1001.3.]

FLOOR ELEVATION — The elevation of the lowest level of a particular building, including the basement.

FOREST MANAGEMENT/TIMBER OPERATIONS — Planning and activities necessary for the management of forest land. These include conducting a timber inventory and preparation of forest management plans, silvicultural treatment, cutting budgets, logging road design and construction, timber harvesting, site preparation and reforestation.

FREEBOARD — A vertical distance between the maximum design high-water elevation and the top of a dam, levee, tank, basin, or diversion ridge.

FREQUENCY — The probability or chance that a given storm event/flood will be equaled or exceeded in a given year.

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

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

GROUNDWATER RECHARGE — The process by which water from above the ground surface is added to the saturated zone of an aquifer, either directly or indirectly.

HYDROLOGIC SOIL GROUP (HSG) — Refers to soils grouped according to their runoff-producing characteristics by NRCS. There are four runoff potential groups ranging from A to D.

A. (Low runoff potential) Soils having high infiltration rates even when thoroughly wetted and consisting chiefly of deep, well to excessively drained sands or gravels. These soils have a high rate of water transmission (greater than 0.30 inch per hour).

B. Soils having moderate infiltration rates when thoroughly wetted and consisting chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission (from 0.15 to 0.30 inch per hour).

C. Soils having slow infiltration rates when thoroughly wetted and consisting chiefly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These

soils have a slow rate of water transmission (from 0.05 to 0.15 inch per hour).

D. (High runoff potential) Soils having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high-water table, soils with a clay pan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission (from 0 to 0.05 inch per hour).

ILLICIT CONNECTION — Any man-made physical connection or profhibited connection to the MS4 that conveys an illicit discharge. **[Added by Ord. No. 2022-02, 9/6/2022]**

ILLICIT DISCHARGE — Any discharge to the MS4 that is not composed entirely of stormwater or polluted stormwater, except for discharges allowed under an NPDES permit, discharges conditionally allowed under the MS4 permit and discharges authorized by the chapter as set forth in § 17-801, Subsection 5. **[Added by Ord. No. 2022-02, 9/6/2022]**

IMPERVIOUS SURFACE (IMPERVIOUS AREA) — Surfaces which prevent the infiltration of water into the ground. All structures, buildings, parking areas, driveways, roads, streets, sidewalks, decks, and any areas of concrete, asphalt, packed stone, and compacted soil shall be considered impervious surface if they prevent infiltration.

IMPOUNDMENT — A retention or detention facility designed to retain stormwater runoff and infiltrate it into the ground (in the case of a retention basin) or release it at a controlled rate (in the case of a detention basin).

INFILTRATION STRUCTURE — A structure designed to direct runoff into the ground (e.g., french drains, seepage pits, seepage trenches, rain gardens, vegetated swales, pervious paving, infiltration basins, etc.).

INLET — A surface connection to a closed drain; the upstream end of any structure through which water may flow.

INTERMITTENT — A natural, transient body or conveyance of water that exists for a relatively long time, but for weeks or months of the year is below the local water table, and obtains its flow from both surface runoff and groundwater discharges.

INVASIVE VEGETATION (INVASIVES) — Plants which grow quickly and aggressively, spreading, and displacing other plants. Invasives typically are introduced into a region far from their native habitat. See "Invasive Plants in Pennsylvania" by the Department of Conservation and Natural Resources.

KARST — A type of topography or landscape characterized by features including but not limited to surface depressions, sinkholes, rock pinnacles/ uneven bedrock surface, underground drainage, and caves. Karst is formed on carbonate rocks, such as limestone or dolomite.

LAND DEVELOPMENT — Any of the following activities:

A. The improvement of one lot or two or more contiguous lots, tracts or parcels of land for any purpose involving:

(1) A group of two or more residential or nonresidential buildings, whether proposed initially or cumulatively, or a single

nonresidential building on a lot or lots regardless of the number of occupants or tenure; or

(2) The division or allocation of land or space, whether initially or cumulatively, between or among two or more existing or prospective occupants by means of, or for the purpose of, streets, common areas, leaseholds, condominiums, building groups or other features.

B. Any subdivision of land.

C. Development in accordance with Section 503(1.1) of the Pennsylvania Municipalities Planning Code.[6]

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

LAND DISTURBANCE ACTIVITY — The use of land for activities in the following categories:

A. MAJOR LAND DISTURBANCE ACTIVITY — The use of land for any purpose involving:

(1) Installation of new impervious or semi-impervious surface that is either in excess of 5,000 square feet or 2/3 of the total lot area; or

(2) Diversion of piping of any natural or man-made watercourse; or

(3) Removal of ground cover, grading, filling, or excavation in excess of one acre, except for the agricultural use of land when operated in accordance with a farm conservation plan approved by the Lancaster County Conservation District.

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

LIMITING ZONE — A rock formation, other stratum, or soil condition which is so slowly permeable that it effectively limits downward passage of effluent. [NOTE: See § 17-1001.12.] Season high-water tables, whether perched or regional, also constitute a limiting zone.

LINEAMENT — A linear feature in a landscape which is an expression of an underlying geological structure such as a fault.

[6]**Editor's Note: See 53 P.S. § 10503(1.1).**

MAIN STEM (MAIN CHANNEL) — Any stream segment or other runoff conveyance facility used as a reach in the Conestoga River hydrologic model.

MANNING'S EQUATION — An equation for calculation of velocity of flow (e.g., feet per second) and flow rate (e.g., cubic feet per second) in open channels based upon channel shape, roughness, depth of flow and slope. Manning's Equation assumes steady, gradually varied flow.

MAXIMUM EXTENT PRACTICABLE (MEP) — Applies when the applicant demonstrates to the municipality's satisfaction that the performance standard is not achievable. The applicant shall take into account the best available technology, cost effectiveness, geographic features, and other competing interests, such as protection of human safety and welfare, protection of endangered and threatened resources, and preservation of historic properties, in making the assertion that the performance standard cannot be met and that a different means of control is appropriate. [NOTE: See § 17-1001.5.]

MEMORANDUM OF UNDERSTANDING — An agreement between Earl Township and the Lancaster County Conservation District to provide for cooperation between the Lancaster County Conservation District and the Earl Township officials, Lancaster County, to include within its ordinances, and to jointly promote conservation of natural resources within Earl Township on lands both public and private, for the purposes of preventing accelerated soil erosion and sedimentation of streams, reducing stormwater damage, and promoting the health, safety and general welfare of the residents of Earl Township.

MILL CREEK ACT 167 PLAN — The Mill Creek Watershed Storm Water Management Plan as approved by the PADEP.

MPC — The Pennsylvania Municipalities Planning Code, Act of July 31, 1968, P.L. 805, No. 247, as reenacted and amended, 53 P.S. § 10101 et seq.

MUNICIPALITY — Earl Township, Lancaster County, Pennsylvania.

MUNICIPAL SEPARATE STORM SEWER — A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) which is all of the following:

A. Owned or operated by a state, city, town, borough, township, county, district, association or other public body (created under state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater or other wastes;

B. Designed or used for collecting or conveying stormwater;

C. Not a combined sewer; and

D. Not part of a publicly owned treatment works as defined at 40 CFR 122.2.

MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT (MS4 PERMIT) — The NPDES permit regulating discharges from the MS4 issued to Earl Township by PADEP. **[Added by Ord. No. 2022-02, 9/6/2022]**

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) — All separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems pursuant to 40 CFR 122.26(b)(18), or designated as regulated under 40 CFR 122.26(a)(1)(v).

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) — A permit issued under 25 Pa. Code, Chapter 92a (relating to National Pollutant Discharge Elimination System permitting, monitoring and compliance), for the discharge or potential discharge of pollutants from a point source to surface waters.

NATIVE VEGETATION — Plant species that have evolved or are indigenous to a specific geographical area. These plants are adapted to local soil and weather conditions as well as pests and diseases.

NATURAL DRAINAGEWAY — An existing channel for water runoff that was formed by natural processes.

NATURAL GROUND COVER — Ground cover which mimics the infiltration characteristics of the predominant hydrologic soil group found at the site.

NON-POINT-SOURCE POLLUTION — Any source of water pollution that does not meet the legal definition of "point source" in Section 502(14) of the Clean Water Act.

NONSTRUCTURAL BMPs — Planning and design approaches, operational and/or behavior-related practices which minimize stormwater runoff generation resulting from an alteration of the land surface or limit contact of pollutants with stormwater runoff.

NPDES — The United States EPA's National Pollutant Discharge Elimination System, which regulates point discharges (discrete conveyances such as pipes or man-made ditches).

NRCS — The Natural Resources Conservation Service (previously Soil Conservation Service, or SCS).

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

partly full. Open channels may include closed conduits so long as the flow is not under pressure.

OUTFALL — The point where water flows from a conduit, stream, pipe, or drain.

OUTLET — Points of water disposal from a stream, river, lake, tidewater or artificial drain.

PADEP — The Pennsylvania Department of Environmental Protection, formerly the Pennsylvania Department of Environmental Resources, or any agency successor to the Pennsylvania Department of Environmental Protection. [NOTE: The Department of Environmental Resources was abolished by Act 18 of 1995.]

PARENT TRACT — All contiguous land held in single and separate ownership, regardless of whether:

A. Such land is divided into one or more lots, parcels, purparts or tracts;

B. Such land was acquired by the landowner at different times or by different deeds, devise, partition or otherwise; or

C. Such land is bisected by public or private streets or rights-of-way, which were held by the landowner or his predecessor in title on the effective date of this chapter.

PARKING LOT STORAGE — Involves the use of impervious parking areas as temporary impoundments with controlled release rates during rainstorms.

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

PENNDOT — The Pennsylvania Department of Transportation or any agency successor thereto.

PERVIOUS AREA — Any material/surface that allows water to pass through at a rate equal to or greater than natural ground cover.

PIPE — A culvert, closed conduit, or similar structure (including appurtenances) that conveys stormwater.

PLANNING COMMISSION — The Planning Commission of Earl Township, Lancaster County, Pennsylvania.

PLANS — The SWM and erosion and sediment control plans and narratives.

PMF (PROBABLE MAXIMUM FLOOD) — The flood that may be expected from the most severe combination of critical meteorologic and hydrologic

conditions that are reasonably possible in any area. The PMF is derived from the probable maximum precipitation (PMP) as determined on the basis of data obtained from the National Oceanographic and Atmospheric Administration (NOAA).

PROCESS WASTEWATER — Water that comes in contact with any raw material, product, by-product, or waste during any production or industrial process.

PROJECT SITE — An area of land under development and within the jurisdiction of this chapter.

QUALIFIED PERSON — Any person licensed by the Pennsylvania Department of State or otherwise qualified by law to perform the work required by this chapter.

RATE CONTROL — SWM controls used to manage the peak flows for the purposes of channel protection and flood mitigation.

RATIONAL FORMULA (RATIONAL METHOD) — A rainfall-runoff relation used to estimate peak flow.

RECORD PLAN — Where a regulated activity constitutes a subdivision or land development, the final subdivision or land development plan which contains the information the ordinance requires. Where a regulated activity does not constitute a subdivision or land development, a stormwater management site plan containing all required information and prepared in a form acceptable to the office of the Recorder of Deeds for recording.

REDEVELOPMENT — Any physical improvement to a previously developed lot that involves earthmoving, removal, or addition of impervious surfaces.

REGIONAL STORMWATER MANAGEMENT PLAN — A plan to manage stormwater runoff from an area larger than a single development site. A regional stormwater management plan could include two adjacent parcels, an entire watershed, or some defined area in between. Regional stormwater management plans can be prepared for new development or as a retrofit to manage runoff from already developed areas.

REGULATED ACTIVITIES — Activities, including earth disturbance activities, that involve the alteration or development of land in a manner that may affect stormwater runoff. Regulated activities shall include but not be limited to:

A. Land development subject to the requirements of the Earl Township Subdivision and Land Development Ordinance;[7]

7. **Editor's Note: See Ch. 22, Subdivision and Land Development.**

B. Removal of ground cover, grading, filling or excavation;

C. Construction of new or additional impervious or semi-impervious surfaces (driveways, parking lots, etc.), and associated improvements;

D. Construction of new buildings or additions to existing buildings;

E. Installation or alteration of stormwater management facilities and appurtenances thereto;

F. Diversion or piping of any watercourse;

G. Any other regulated activities where the municipality determines that said activities may affect any existing watercourse's stormwater management facilities or stormwater drainage patterns; and

H. Any activities where the municipality determines that said activities may affect the water quality of stormwater discharges or generate nonstormwater discharges to the MS4 and/or receiving water bodies. **[Added by Ord. No. 2022-02, 9/6/2022]**

RELEASE RATE — For a specific design storm or list of design storms, the percentage of peak flow rate for existing conditions which may not be exceeded for the proposed conditions.

RELEASE RATE MAP — A graphical representation of the release rates for a specific area.

RETENTION BASIN — A stormwater management facility that includes a permanent pool for water quality treatment and additional capacity above the permanent pool for temporary runoff storage.

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

RIPARIAN — Pertaining to a stream, river or other watercourse; also, plant communities occurring in association with any spring, lake, river, stream or creek through which waters flow at least periodically. [NOTE: See § 17-1001.6.]

RIPARIAN BUFFER — A BMP that is an area of permanent vegetation along a watercourse.

RIPARIAN CORRIDOR — A narrow strip of land, centered on a stream or river, that includes the floodplain as well as related riparian habitats adjacent to the floodplain. [NOTE: See § 17-1001.6.]

RIPARIAN CORRIDOR EASEMENT — An easement created for the purpose of protecting and preserving a riparian corridor.

RIPARIAN FOREST BUFFER — A type of riparian buffer that consists of permanent vegetation that is predominantly native trees, shrubs and forbs along a watercourse that is maintained in a natural state or sustainably

managed to protect and enhance water quality, stabilize stream channels and banks, and separate land use activities from surface waters.

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

ROOFTOP DETENTION — Temporary ponding and gradual release of stormwater falling directly onto roof surfaces by incorporating controlled-flow roof drains into building designs.

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

SCS — The United States Department of Agriculture, Soil Conservation Service (now known as "NRCS").

SEDIMENT — Soils or other materials transported by stormwater as a product of erosion. [NOTE: See § 17-1001.1.]

SEDIMENTATION — The action or process of forming or depositing sediment in waters of this commonwealth. [NOTE: See § 17-1001.1.]

SEDIMENT BASIN — A barrier, dam, or retention or detention basin located and designed to retain rock, sand, gravel, silt, or other material transported by water.

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

SEEPAGE PIT/SEEPAGE TRENCH — An area of excavated earth filled with loose stone or similar coarse material, into which surface water is directed for infiltration into the ground.

SEMI-IMPERVIOUS/SEMIPERVIOUS SURFACE — A surface which prevents some infiltration of water into the ground.

SHEET FLOW — Runoff which flows over the ground surface as a thin, even layer, not concentrated in a channel.

SMALL PROJECT — Regulated activities that, measured on a cumulative basis from the date of enactment of this chapter, create additional impervious areas of 1,000 square feet and less than 5,000 square feet or involve earth disturbance activity of an area less than 5,000 square feet and do not involve the alteration of stormwater facilities or watercourses.

SMALL STORM EVENT — A storm having a frequency of recurrence of once every two years or smaller.

SOIL-COVER-COMPLEX METHOD — A method of runoff computation developed by the SCS (now NRCS) that is based on relating soil type and land use/cover to a runoff parameter called "Curve Number (CN)." For more information, see "Urban Hydrology for Small Watersheds," Second Edition, Technical Release No. 55, SCS, June 1986 (or most current edition).

SOIL GROUP, HYDROLOGIC — See "hydrologic soil group."

SPILLWAY — A depression in the embankment of a pond or basin which is used to pass a post-development one-hundred-year storm peak flow rate.

STATE WATER QUALITY REQUIREMENTS — The regulatory requirements to protect, maintain, reclaim, and restore water quality under Title 25 of the Pennsylvania Code, the Clean Streams Law,[8] and the Clean Water Act.[9]

STORAGE — A volume above or below ground that is available to hold stormwater.

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

STORM EVENT — A storm of a specific duration, intensity, and frequency. [NOTE: See § 17-1001.1.]

STORM FREQUENCY — The number of times that a given storm event occurs or is exceeded on the average in a stated period of years. See "return period."

STORM SEWER — A system of pipes and/or open channels designed to convey stormwater.

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

STORMWATER MANAGEMENT — A program of controls and measures designed to regulate the quantity and quality of stormwater runoff from a development while promoting the protection and conservation of groundwaters and groundwater recharge.

[8]**Editor's Note: See 35 P.S. § 691.1 et seq.**
[9]**Editor's Note: See 33 U.S.C. § 1251 et seq.**

STORM WATER MANAGEMENT ACT — Act of October 4, 1978, P.L. 864, No. 167, as amended, 32 P.S. § 680.1 et seq.

STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES (SWM BMPs) — See "BMP."

STORMWATER MANAGEMENT FACILITY (SWM FACILITY) — Any structure, natural or man-made, that, due to its condition, design, or construction, conveys, stores, infiltrates/evaporates/transpires, cleans or otherwise affects stormwater runoff. Typical SWM facilities include, but are not limited to, detention and retention basins, open channels, watercourses, road gutters, swales, storm sewers, pipes, BMPs, and infiltration structures.

STORMWATER MANAGEMENT OPERATION AND MAINTENANCE PLAN (O&M PLAN) — A plan, including a narrative, to ensure proper functioning of the SWM facilities in accordance with Part 6 of this chapter.

STORMWATER MANAGEMENT SITE PLAN (SWM SITE PLAN) — The plan prepared by the developer or his representative indicating how stormwater runoff will be managed at a particular development site according to this chapter.

STREAM — A watercourse.

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

STRUCTURAL BMPs — Physical devices and practices that capture and treat stormwater runoff. Structural stormwater BMPs are permanent appurtenances to the development site.

STRUCTURE — Any man-made object having an ascertainable stationary location on or in land or water, whether or not affixed to the land. [NOTE: See § 17-1001.8.]

SUBDIVISION — The division or redivision of a single lot, tract or parcel of land by any means into two or more lots, tracts, parcels or other divisions of land, including changes in existing lot lines, for the purpose, whether immediate or future, of lease, partition by the court for distribution to heirs or devisees, transfer of ownership, or building or lot development, or as defined in the MPC.[10]

SUBWATERSHED — The smallest drainage unit of a watershed for which stormwater management criteria have been established.

[10]**Editor's Note: See 53 P.S. § 10101 et seq.**

SUBWATERSHED AREA — The smallest drainage unit of a watershed for which stormwater management criteria have been established in the Act 167 Plan.

SWALE — A low-lying stretch of land which gathers or carries surface water runoff.

SWM — Stormwater management.

SWM SITE PLAN — A stormwater management site plan.

TIMBER OPERATIONS — See "forest management/timber operations."

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

TOP OF STREAM BANK — The first substantial break in slope between the edge of the bed of the stream and the surrounding terrain. The top of stream bank can either be a natural or constructed (that is, road or railroad grade) feature, lying generally parallel to the watercourse.

TOWNSHIP — Earl Township, Lancaster County, Pennsylvania.

TR-20 (CALIBRATED) — The computer-based hydrologic modeling technique adapted to the applicable watershed for an approved Act 167 Plan. The model has been "calibrated" to reflect published and observed flow values by adjusting key model input parameters.

TREATMENT TRAIN — The sequencing of structural best management practices to achieve optimal flow management and pollutant removal from urban stormwater.

USDA — The United States Department of Agriculture.

VOLUME CONTROL — SWM controls, or BMPs, used to remove a predetermined amount of runoff or the increase in volume between the pre- and post-development design storm.

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

WATERSHED — The entire region or area drained by a watercourse.

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

WETLAND — Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, fens, and similar areas.

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

WOODLAND — Land predominantly covered with trees and shrubs. Without limiting the foregoing, woodlands include all land areas of 10,000 square feet or greater, supporting at least 100 trees per acre, so that either:

A. At least 50 trees are two inches or greater in diameter at breast height (DBH); or

B. Fifty trees are at least 12 feet in height.

PART 3

STORMWATER MANAGEMENT STANDARDS

§ 17-301. General Requirements. [Ord. 2014-02, 5/5/2014]

1. Preparation of an SWM site plan is required for all regulated activities, unless preparation and submission of the SWM site plan is specifically exempted according to § 17-502 or the activity qualifies as a small project.

2. No regulated activities shall commence until the municipality issues unconditional written approval of an SWM site plan or stormwater permit.

3. SWM site plans approved by the municipality, in accordance with § 17-505, shall be on site throughout the duration of the regulated activity.

4. The municipality may, after consultation with DEP, approve measures for meeting the state water quality requirements other than those in this chapter, provided that they meet the minimum requirements of, and do not conflict with, state law, including, but not limited to, the Clean Streams Law.[11] The municipality shall maintain a record of consultations with DEP pursuant to this subsection. Where an NPDES permit for stormwater discharges associated with construction activities is required, issuance of an NPDES permit shall constitute satisfaction of consultation with DEP.

5. For all regulated activities, erosion and sediment control and stormwater management BMPs shall be designed, implemented, operated, and maintained to meet the purposes and requirements of this chapter and to meet all requirements under Title 25 of the Pennsylvania Code and the Clean Streams Law.[12] Various BMPs and their design standards are listed in the Erosion and Sediment Pollution Control Program Manual (E&S Manual), [NOTE: See § 17-1001.9.] No. 363-2134-008 (March 2012), as amended and updated, and the BMP Manual.

6. Developers have the option to propose a regional stormwater management plan or participate in a regional stormwater management plan developed by others. A regional stormwater management plan may include off-site volume and rate control, as appropriate and supported by a detailed design approved by the municipality in accordance with § 17-301, Subsection 4. A regional stormwater management plan must meet all of the volume and rate control standards required by this chapter for the area defined by the regional stormwater management plan, but not necessarily for each individual development site. Appropriate agreements must be established to ensure the requirements of this chapter and the requirements of the regional stormwater management plan are met.

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11. **Editor's Note: See 35 P.S. § 691.1 et seq.**

12. **Editor's Note: See 35 P.S. § 691.1 et seq.**

7. Unless prohibited by the Earl Township Floodplain Management Ordinance,[13] the Zoning Ordinance[14] or any ordinance which regulates construction and development within the areas of Earl Township subject to flooding, and any other applicable requirements of the Floodplain Management Act,[15] stormwater management facilities located in the floodplain are permitted when designed and constructed in accordance with the provisions of the BMP Manual, regulatory requirements and the requirements of this chapter. **[Amended by Ord. 2016-05, 3/17/2016]**

8. Impervious Areas.

   A. The measurement of impervious area shall include all of the impervious areas in the total proposed development even if development is to take place in stages or phases.

   B. For development taking place in stages or phases, the entire development plan must be used in determining conformance with this chapter.

   C. Any areas designed to initially be gravel or crushed stone shall be assumed to be impervious.

9. All regulated activities shall include such measures as necessary to:

   A. Protect health, safety, and property.

   B. Meet the water quality goals of this chapter by implementing measures to:

      (1) Protect and/or improve the function of floodplains, wetlands, and wooded areas.

      (2) Protect and/or improve native plant communities, including those within the riparian corridor.

      (3) Protect and/or improve natural drainageways from erosion.

      (4) Minimize thermal impacts to waters of this commonwealth.

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

      (6) Reduce or prevent to the maximum extent practicable the discharge of a pollutant, polluted stormwater, or an illicit discharge to the MS4. **[Added by Ord. No. 2022-02, 9/6/2022]**

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13. Editor's Note: See Ch. 8, Floodplain Management.

14. Editor's Note: See Ch. 27, Zoning.

15. Editor's Note: See 32 P.S. § 679.101 et seq.

10. Incorporate methods described in the Pennsylvania Stormwater Best Management Practices Manual (BMP Manual). If methods other than green infrastructure and low-impact development (LID) methods are proposed to achieve the volume and rate controls required under this chapter, the SWM site plan must include a detailed justification demonstrating that the use of LID green infrastructure is not practicable. **[Added by Ord. No. 2022-02, 9/6/2022[16]]**

11. The design of all stormwater management facilities over karst shall include an evaluation of measures to minimize adverse effects.

12. 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 chapter. Infiltration BMPs shall include pretreatment BMPs, unless shown to be unnecessary.

13. Infiltration BMPs intended to receive runoff from developed areas shall be selected based on suitability of soils and development site conditions and shall be constructed on soils that have the following characteristics:

    A. A minimum depth of 24 inches between the bottom of the facility and the limiting zone, unless it is demonstrated to the satisfaction of the municipality that the selected BMP has design criteria which allow for a smaller separation.

    B. A stabilized infiltration rate sufficient to accept the additional stormwater load and drain completely, as determined by field tests conducted by the applicant's professional designer.

        (1) The stabilized infiltration rate is to be determined in the same location and within the same soil horizon as the bottom of the infiltration facility.

        (2) The stabilized infiltration rate is to be determined as specified in the BMP Manual.

14. The calculation methodology to be used in the analysis of volume and peak rates of discharge shall be as required in § 17-305.

15. A planting plan is required for all vegetated stormwater BMPs.

    A. Native or naturalized/noninvasive vegetation suitable to the soil and hydrologic conditions of the development site shall be used unless otherwise specified in the BMP Manual.

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16. Editor's Note: This ordinance also redesignated former Subsections 10 through 21 as Subsections 11 through 22, respectively.

B. Invasive vegetation may not be included in any planting schedule. [See Invasive Plants in Pennsylvania by the Department of Conservation and Natural Resources (DCNR).]

C. The limit of existing, native vegetation to remain shall be delineated on the plan along with proposed construction protection measures.

D. Prior to construction, a tree protection zone shall be delineated at the dripline of the tree canopy. All trees scheduled to remain during construction shall be marked; however, where groups of trees exist, only the trees on the outside edge need to be marked. A forty-eight-inch-high snow fence or forty-eight-inch-high construction fence mounted on steel posts located eight feet on center shall be placed along the tree protection boundary. No construction, storage of material, temporary parking, pollution of soil, or regrading shall occur within the tree protection zone.

E. All planting shall be performed in conformance with good nursery and landscape practice. Plant materials shall conform to the standards recommended by the American Association of Nurseryman, Inc., in the American Standard of Nursery Stock.

(1) Planting designs are encouraged to share planting space for optimal root growth whenever possible.

(2) No staking or wiring of trees shall be allowed without a maintenance note for the stake and/or wire removal within one year of planting.

16. Areas proposed for infiltration BMPs shall be protected from sedimentation and compaction during the construction phase to maintain maximum infiltration capacity. Staging of earthmoving activities and selection of construction equipment should consider this protection.

17. Infiltration BMPs shall not be constructed nor receive runoff from disturbed areas until the entire contributory drainage area to the infiltration BMP has achieved final stabilization.

18. A minimum ten-foot-wide access easement shall be provided for all stormwater facilities with tributary areas equal to or greater than 1,000 square feet and not located within a public right-of-way. Easements shall provide for ingress and egress to a public right-of-way.

19. Drainage easements shall be provided where the conveyance, treatment, or storage of stormwater, either existing or proposed, is identified on the SWM site plan. Drainage easements shall be provided to contain and convey the one-hundred-year frequency flood.

20. The municipality may require additional stormwater control measures for stormwater discharges to special management areas, including but not limited to:

    A. Water bodies listed as "impaired" on Pennsylvania's Clean Water Act 303(d)/305(b) integrated list.

    B. Any water body or watershed with an approved total maximum daily load (TMDL).

    C. Critical areas with sensitive resources (e.g., state-designated special protection waters, cold-water fisheries, carbonate or other groundwater recharge areas highly vulnerable to contamination, drainage areas to water supply reservoirs, source water protection zones, etc.).

21. Roof drains and sump pumps shall be tributary to infiltration or vegetative BMPs. Use of catchment facilities for the purpose of reuse is also permitted.

22. Nonstructural BMPs shall be utilized for all regulated activities unless proven to be impractical.

23. Stormwater flows onto adjacent property shall not be created, increased, decreased, relocated, or otherwise altered without written notification to the adjacent property owner(s). Such stormwater flows shall be subject to the requirements of this chapter. **[Added by Ord. No. 2022-02, 9/6/2022]**

24. Stormwater management facilities such as permanent basins that are to be dedicated to a homeowners' association shall not be officially dedicated to the homeowners' association until such time that the stormwater facilities have been inspected and approved by the Township and the PADEP NPDES notice of termination has been officially received. **[Added by Ord. No. 2022-02, 9/6/2022]**

§ 17-302. Volume Controls. [Ord. 2014-02, 5/5/2014]

Volume control BMPs are intended to maintain existing hydrologic conditions for small storm events by promoting groundwater recharge and/or evapotranspiration as described in this section. Runoff volume controls shall be implemented using the Design Storm Method described in Subsection A below, or through continuous modeling approaches or other means as described in the BMP Manual. Small projects may use the method described in Subsection B to design volume control BMPs.

A. The Design Storm Method is applicable to any size of regulated activity. This method requires detailed modeling based on site conditions.

(1) Do not increase the post-development total runoff volume for all storms equal to or less than the two-year, twenty-four-hour storm event.

(2) For modeling purposes:

(a) Existing (predevelopment) nonforested pervious areas must be considered meadow in good condition.

(b) When the existing project site contains impervious area, 20% of existing impervious area to be disturbed shall be considered meadow in good condition in the model for existing conditions.

(c) The maximum loading ratio for volume control facilities in karst areas shall be 3:1 impervious drainage area to infiltration area and 5:1 total drainage area to infiltration area. The maximum loading ratio for volume control facilities in nonkarst areas shall be 5:1 impervious drainage area to infiltration area and 8:1 total drainage area to infiltration area. A higher ratio may be approved by the municipality if justification is provided. Hydraulic depth may be used as an alternative to an area-based loading ratio if the design hydraulic depth is shown to be less than the depth that could result from the maximum area loading ratio.

B. Volume Control for Small Projects.

(1) At least the first one inch of runoff from new impervious surfaces, or an equivalent volume, shall be permanently removed from the runoff flow, i.e., it shall not be released into the waters of this commonwealth. Removal options include reuse, evaporation, transpiration and infiltration.

(2) Wherever possible, infiltration facilities should be designed to accommodate infiltration of the entire permanently removed runoff; however, in all cases at least the first 1/2 inch of the permanently removed runoff should be infiltrated.

C. A detailed geologic evaluation of the development site shall be performed in areas of carbonate geology to determine the design parameters of recharge facilities. The evaluation shall be performed by a registered professional geologist and shall at a minimum address soil permeability, depth to bedrock, susceptibility to sinkhole formation, and subgrade stability. A report shall be prepared in accordance with § 17-405, Subsection 1, of this chapter.

D. Storage facilities, including normally dry, open-top facilities, shall completely drain the volume control storage over a period of time not less than 24 hours and not more than 72 hours from the end of the design storm. Any designed infiltration at such facilities is exempt from the minimum twenty-four-hour standard, i.e., may infiltrate in a shorter period of time, provided that none of this water will be discharged into waters of this commonwealth.

E. Any portion of the volume control storage that meets the following criteria may also be used as rate control storage:

(1) Volume control storage that depends on infiltration is designed according to the infiltration standards in § 17-301.

(2) The volume control storage which will be used for rate control is that storage which is available within 24 hours from the end of the design storm based on the stabilized infiltration rate and/or the evapotranspiration rate.

F. Volume control storage facilities designed to infiltrate shall avoid, to the greatest extent practicable, the least-permeable hydrologic soil group(s) at the development site.

§ 17-303. Rate Controls. [Ord. 2014-02, 5/5/2014]

Rate control for large storms, up to the one-hundred-year event, is essential to protect against immediate downstream erosion and flooding.

A. Match Predevelopment Hydrograph. Applicants shall provide infiltration facilities or utilize other techniques which will allow the post-development one-hundred-year hydrograph to match the predevelopment one-hundred-year hydrograph, along all parts of the hydrograph, for the development site. To match the predevelopment hydrograph, the post-development peak rate must be less than or equal to the predevelopment peak rate, and the post-development runoff volume must be less than or equal to the predevelopment volume for the same storm event. A shift in hydrograph peak time of up to five minutes and a rate variation of up to 5% at a given time may be allowable to account for the timing affect of BMPs used to manage the peak rate and runoff volume. "Volume control" volumes as given in § 17-302 above may be used as part of this option.

B. Where the predevelopment hydrograph cannot be matched, one of the following shall apply:

(1) For areas not covered by a release rate map from an approved Act 167 Plan: Postdevelopment discharge rates shall not exceed the predevelopment discharge rates for the two-, ten-, twenty-five-, fifty-, and one-hundred-year, twenty-four-hour storm events.* If it is shown that the peak rates of discharge indicated by the postdevelopment analysis are less than or equal to the peak rates of discharge indicated by the predevelopment analysis for two-, ten-, twenty-five-, fifty-, and one-hundred-year, twenty-four-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.

*A twenty-four-hour SCS Type II storm or an IDF Curve Rational Method storm. See Table III-1 in § 17-305.

(2) For areas covered by a release rate map from an approved Act 167 Plan: For the two-, ten-, twenty-five-, fifty-, and one-hundred-year storm events,* the postdevelopment peak discharge rates will follow the applicable approved release rate maps.

*A twenty-four-hour SCS Type II storm or an IDF Curve Rational Method storm. See Table III-1 in § 17-305.

C. Normally dry, open-top storage facilities shall completely drain the rate control storage over a period of time less than or equal to 24 hours from the peak one-hundred-year water surface design elevation.

D. A variety of BMPs should be employed and tailored to suit the development site. The following is a partial listing of BMPs which can be utilized in SWM systems for rate control where appropriate:

(1) Decreased impervious surface coverage.

(2) Routed flow over grass.

(3) Grassed channels and vegetated strips.

(4) Bioretention areas (rain gardens).

(5) Concrete lattice block or permeable surfaces.

(6) Seepage pits, seepage trenches or other infiltration structures.

(7) Rooftop detention.

(8) Parking lot detention.

(9) Cisterns and underground reservoirs.

(10) Retention basins.

(11) Detention basins.

(12) Other methods as may be found in the BMP Manual, as approved by the Township.

E. Small projects are not required to provide for rate control.

§ 17-304. Stormwater Management Performance Standards. [Ord. 2014-02, 5/5/2014]

1. Runoff from impervious areas shall be drained to pervious areas within the development site, unless the site has 85% or more impervious cover and is a redevelopment, [NOTE: See § 17-1001.10.] in which case the portion of the site that discharges to pervious areas shall be maximized.

2. Stormwater runoff from a development site to an adjacent property shall flow directly into a natural drainageway, watercourse, or into an existing storm sewer system, or onto adjacent properties in a manner similar to the runoff characteristics of the predevelopment flow.

3. Maximum use shall be made of the existing on-site natural and man-made stormwater management facilities. The applicant must provide proof to the Township Engineer that he or his agent has informed the immediate downstream property owner of the effects of the stormwater discharge from the proposed development.

4. 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. Such stormwater flows shall be subject to the requirements of this chapter, including the establishment of a drainage easement. Copies of all such notifications shall be included in SWM site plan submissions.

5. Existing on-site natural and man-made SWM facilities shall be used to the maximum extent practicable.

6. Stormwater runoff shall not be transferred from one subwatershed to another unless they are subwatersheds of a common watershed that join together within the perimeter of the development site and the effect of the transfer does not alter the peak discharge onto adjacent lands.

7. Minimum floor elevations and/or any wall penetrations for all structures that would be affected by a basin, other temporary impoundments, or open conveyance systems where ponding may occur shall be two feet above the one-hundred-year water surface elevation. If basement or underground facilities are proposed, detailed calculations addressing the effects of

stormwater ponding on the structure and waterproofing and/or floodproofing design information shall be submitted for approval.

8. All stormwater conveyance facilities (excluding detention, retention, and wetland basin outfall structures) shall be designed to convey a twenty-five-year storm event.* All stormwater conveyance facilities (excluding detention, retention, and wetland basin outfall structures) conveying water originating from off site shall be designed to convey a fifty-year storm event.* Safe conveyance of the one-hundred-year runoff event* to appropriate peak rate control BMPs must be demonstrated in the design. Easements shall begin at the furthest upstream property line of the proposed development site in a watershed.

   *A twenty-four-hour SCS Type II storm or an IDF Curve Rational Method storm.

9. Erosion protection shall be provided along all open channels and at all points of discharge. Flow velocities from any storm sewer may not result in erosion of the receiving channel.

§ 17-305. Calculation Methodology. [Ord. 2014-02, 5/5/2014]

1. Any stormwater runoff calculations involving drainage areas greater than 200 acres and time of concentration (Tc) greater than 60 minutes, including on- and off-site areas, shall use generally accepted calculation techniques based on the NRCS Soil-Cover-Complex Method.

2. Stormwater runoff from all development sites shall be calculated using either the Modified Rational Method, a Soil-Cover-Complex Methodology, or other method acceptable to the municipality. Table III-1 summarizes acceptable computation methods. 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 development site.

Table III-1
Acceptable Computation Methodologies for Stormwater Management Plans

Method	Method Developed By	Applicability
TR-20 (or commercial computer package based on TR-20)	USDA NRCS	Applicable where use of a full hydrology computer model is desirable or necessary
WinTR-55 (or commercial computer package based on TR-55)	USDA NRCS	Applicable for land development plans within limitations described in TR-55

Table III-1
Acceptable Computation Methodologies for Stormwater Management Plans

Method	Method Developed By	Applicability
HEC-1/HEC-HMS	U.S. Army Corps of Engineers	Applicable where use of a full hydrologic computer model is desirable or necessary
Rational Method (or commercial computer package based on Rational Method)	Emil Kuichling (1889)	For development sites less than 200 acres, Tc<60 min., or as approved by the municipality
EFH2	USDA NRCS	Applicable in rural and undeveloped areas subject to the program limits
Other methods	Varies	Other methodologies approved by the municipality

3. If the SCS Method is used, Antecedent Moisture Condition 1 is to be used in areas of carbonate geology, and Antecedent Moisture Condition 2 is to be used in all other areas. A Type II distribution shall be used in all areas.

4. If the Rational Method is used, the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 data (See Subsection 2 above.) or PennDOT Publication 584, "PennDOT Drainage Manual," 2008 Edition, or latest, shall be used to determine the rainfall intensity in inches per hour based on the information for the five- through sixty-minute-duration storm events.

5. Hydrographs may be obtained from NRCS methods such as TR-55, TR20, or from use of the "modified" or "unit hydrograph" rational methods. If "modified" or "unit hydrograph" rational methods are used, the ascending leg of the hydrograph shall have a length equal to three times the time of concentration (3 x Tc), and the descending leg shall have a length equal to seven times the time of concentration (7 x Tc) to approximate an SCS Type II hydrograph. [NOTE: See § 17-1001.11.]

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

7. For the purpose of calculating predevelopment peak discharges, all runoff coefficients, both on-site and off-site, shall be based on actual land use assuming summer or good land conditions. Postdevelopment runoff

coefficients for on-site discharges used to design conveyance facilities shall be based on actual land use assuming winter or poor land conditions.

8. Criteria and assumptions to be used in the determination of stormwater runoff and design of management facilities are as follows:

A. Runoff coefficients shall be based on the information contained in Appendixes B-1 and B-2[15] if the actual land use is listed in those appendixes. If the actual land use is not listed in those appendixes, runoff coefficients shall be chosen from other published documentation, and a copy of said documentation shall be submitted with the SWM site plan.

B. A sample worksheet for calculating Tc is provided in Appendix B-4.[16] Times of concentration (Tc) shall be based on the following design parameters:

(1) Sheet Flow: The maximum length for each reach of sheet or overland flow before shallow concentrated or open channel flow develops is 150 feet. Flow lengths greater than 100 feet shall be justified based on the actual conditions at each development site. Sheet flow may be determined using the nomograph in Appendix B-3,[17] or Manning's kinematic solution shown in the Sheet Flow section of Worksheet No. 1 in Appendix B-4.

(2) Shallow Concentrated Flow. Travel time for shallow concentrated flow shall be determined using Figure 3-1 from TR-55, Urban Hydrology for Small Watersheds, as shown in Appendix B-5.[18]

(3) Open Channel Flows: At points where sheet and shallow concentrated flows concentrate in field depressions, swales, gutters, curbs, or pipe collection systems, the travel times to the downstream end of the development site between these design points shall be based upon Manning's Equation and/or acceptable engineering design standards as determined by the Municipal Engineer.

C. The developer may use stormwater credits for nonstructural BMPs in accordance with the BMP Manual. The allowable reduction will be determined by the municipality.

D. Peak rate control is not required for off-site runoff. Off-site runoff may be bypassed around the site, provided all other discharge requirements are met. If off-site runoff is routed through rate control

[15]**Editor's Note: Appendixes B-1 and B-2 are included as attachments to this chapter.**
[16]**Editor's Note: Appendix B-4 is included as an attachment to this chapter.**
[17]**Editor's Note: Appendix B-3 is included as an attachment to this chapter.**
[18]**Editor's Note: Appendix B-5 is included as an attachment to of this chapter.**

facilities, runoff coefficients for off-site discharges used to design those rate control facilities shall be based on actual land use assuming winter or poor land conditions.

E. Times of concentration shall be calculated based on the methodology recommended in the respective model used. Times of concentration for channel and pipe flow shall be computed using Manning's Equation. Supporting documentation and calculations must be submitted for review and approval.

9. The sizing of stormwater management facilities for residential subdivisions shall be based on the maximum impervious coverage permitted by the Township Zoning Ordinance for those lots that are 15,000 square feet or less in size. Within residential subdivisions where lots are greater than 15,000 square feet in size, the design for the stormwater management facilities must specifically identify the square footage of impervious coverage assumed for each lot, and a note must be provided on the plan to be recorded that indicates the amount used for the design of the stormwater management facilities within the subdivision.

§ 17-306. Riparian Corridors. [Ord. 2014-02, 5/5/2014]

1. In order to protect and improve water quality, a riparian corridor easement shall be created and recorded as part of any subdivision or land development that encompasses a riparian corridor.

2. Except as otherwise required by Chapter 102, the riparian corridor easement shall be measured to be the greater of the limit of the one-hundred-year floodplain or 35 feet from the top of stream bank (on each side).

3. Minimum Management Requirements for Riparian Corridors.

   A. Existing native vegetation shall be protected and maintained within the riparian corridor easement.

   B. Whenever practicable, invasive vegetation shall be actively removed and the riparian corridor easement shall be planted with native trees, shrubs and other vegetation to create a diverse native plant community appropriate to the intended ecological context of the site.

4. The riparian corridor easement shall be enforceable by the municipality and shall be recorded in the Lancaster County Recorder of Deeds' office, so that it shall run with the land and shall limit the use of the property located therein. The easement shall allow for continued private ownership and shall count toward the minimum lot area as required by zoning, unless otherwise specified in the Municipal Zoning Ordinance.[19]

[19]**Editor's Note: See Ch. 27, Zoning.**

5. Any permitted use within the riparian corridor easement shall be conducted in a manner that will maintain the extent of the existing one-hundred-year floodplain, improve or maintain the stream stability, and preserve and protect the ecological function of the floodplain.

6. The following conditions shall apply when public and/or private recreation trails are permitted within riparian corridors:

   A. Trails shall be for nonmotorized use only.

   B. Trails shall be designed to have the least impact on native plant species and other sensitive environmental features.

7. Septic drainfields and sewage disposal systems shall not be permitted within the riparian corridor easement and shall comply with setback requirements established under 25 Pa. Code Chapter 73.

8. Required riparian buffers, upon being planted and permanently established with the required vegetation, shall be professionally inspected, and certified by a qualified professional that the established vegetation meets the requirements of the approved planting plan including required native vegetation, permanent establishment, free from invasives, and other such requirements. **[Added by Ord. No. 2022-02, 9/6/2022]**

§ 17-307. Stormwater Management Facility Design Requirements. [Ord. 2014-02, 5/5/2014]

1. Aboveground Storage Facilities. Aboveground storage facilities consist of all stormwater facilities which store, infiltrate/evaporate/transpire, clean or otherwise affect stormwater runoff and the top of which is exposed to the natural environment. Aboveground storage facilities are located above the finished ground elevation. Aboveground storage facilities do not include stormwater management facilities designed for conveyance or cisterns.

   A. Design Criteria. Aboveground storage facilities shall comply with the design criteria in the following table:

Aboveground Storage Facility Design Criteria

		Facility Depth		
		Less Than 2 Feet	2 Feet to 8 Feet	Greater Than 8 Feet
(a)	**Embankment Geometry**			
[1]	Top width (minimum)	2 feet	5 feet	8 feet
[2]	Interior side slope (maximum)	2:1	3:1	5:1

Aboveground Storage Facility Design Criteria

			Facility Depth		
			Less Than 2 Feet	2 Feet to 8 Feet	Greater Than 8 Feet
	[3]	Exterior side slope (maximum)	2:1	3:1	3:1
(b)	**Embankment Construction**				
	[1]	Key trench	Not required	Required	Required
	[2]	Pipe collar	Not required	Required	Required
	[3]	Compaction density	Not required	Required	Required
(c)	**Internal Construction**				
	[1]	Dewatering feature	N/A	Required	Required
	[2]	Pretreatment elements	Not required*	Required	Required
(d)	**Outlet Structure**				
	[1]	Pipe size (minimum)	6 inches	12 inches	15 inches
	[2]	Pipe material	SLHDPE, PVC, RCP	SLHDPE, RCP	RCP
	[3]	Anticlogging devices	Required	Required	Required
	[4]	Antivortex design	Not required	Required	Required
	[5]	Watertight joints in piping?	No	Yes	Yes
(e)	**Spillway Requirements**				
	[1]	Spillway freeboard (minimum)	Not required	3 inches	6 inches
	[2]	Width (minimum)	Not required	10 feet	20 feet
	[3]	Width (maximum)	Not required	50 feet	50 feet
	[4]	Spillway channel design	Not required	Required	Required
	[5]	Routing of 100-year storm	Permitted	Permitted	Permitted

NOTES:

* Pretreatment required for infiltration BMPs unless shown to be unnecessary.

N/A = Not applicable.

NOTES:
SLHDPE = Smooth-lined high-density polyethylene pipe.
PVC = Polyvinyl chloride.

NOTES:

RCP = Reinforced concrete pipe.

B. Facility Depth.

(1) For the purposes of the design criteria, the "facility depth" is defined to be the depth between the bottom invert of the lowest orifice and the invert of the spillway. If there is no spillway, the top of the berm shall be used. For basins with no orifices or outlet structure, the bottom elevation of the basin shall be used.

(2) Facilities with a facility depth greater than eight feet shall not be permitted in residential areas.

(3) Facilities with a facility depth greater than 15 feet require a dam permit from DEP.

C. Embankment Construction.

(1) Impervious Core/Key Trench. An impervious core/key trench, when required, shall consist of a cutoff trench (below existing grade) and a core trench (above existing grade). A key trench may not be required wherever it can be shown that another design feature, such as the use of an impermeable liner, accomplishes the same purpose.

(a) Materials. Materials used for the core shall conform to the Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the No. 200 sieve.

(b) Dimensions.

1) The dimensions of the core shall provide a minimum trench depth of two feet below existing grade, minimum width of four feet and side slope of 1H:1V or flatter.

2) The core should extend up both abutments to the ten-year water surface elevation or six inches below the emergency spillway elevation, whichever is lower.

3) The core shall extend four feet below any pipe penetrations through the impervious core. The core shall be installed along or parallel to the center line of the embankment.

(c) Compaction.

1) Compaction requirements shall be the same as those for the embankment to assure maximum density and minimum permeability.

2) The core shall be constructed concurrently with the outer shell of the embankment.

3) The trench shall be dewatered during backfilling and compaction operations.

(2) Pipe Collars. All pipe collars, when required, shall be designed in accordance with Chapter 7 of the E&S Manual. The material shall consist of concrete or otherwise nondegradable material around the outfall barrel and shall be watertight.

(3) Embankment Fill Material. The embankment fill material shall be taken from an appropriate borrow area which shall be free of roots, stumps, wood, rubbish, stones greater than six inches, and frozen or other objectionable materials.

(4) Embankment Compaction. When required, embankments shall be compacted by sheepsfoot or pad roller. The loose lift thickness shall be nine inches or less, depending on roller size, and the maximum particle size is six inches or less (2/3 of the lift thickness). Five passes of the compaction equipment over the entire surface of each lift are required. Embankment compaction to visible nonmovement is also required.

D. Internal Construction.

(1) Bottom Slope. The minimum bottom slope of facilities not designed for infiltration shall be 1%. A flatter slope may be used if an equivalent dewatering mechanism is provided.

(2) Dewatering Features. When required, dewatering shall be provided through the use of underdrain, surface device, or alternate approved by the Township Engineer. If the facility is to be used for infiltration, the dewatering device should be capable of being disconnected and only be made operational if the basin is not dewatering within the required time frame.

(3) Pretreatment Elements. When required, pretreatment elements shall consist of forebays, or alternate approved by the Township Engineer, to keep silt to a smaller portion of the facility for ease of maintenance.

(4) Infiltration Basins. Within basins designed for infiltration, existing native vegetation shall be preserved, if possible. For existing unvegetated areas or for infiltration basins that require excavation, a planting plan shall be prepared in

accordance with § 17-301, Subsection 14, and the BMP Manual which is designed to promote infiltration.

E. Outlet Configuration.

(1) For facilities with a depth of two feet or greater, a Type D-W endwall or riser box outlet structure shall be provided.

(2) For facilities with a depth less than two feet, no outlet structure is required.

(3) All discharge control devices with appurtenances shall be made of reinforced concrete and stainless steel. Bolts/fasteners shall be stainless steel.

F. Spillway.

(1) Material. The spillway shall be designed to provide a nonerosive, stable condition when the project is completed.

(2) Nonemergency Use. Use of the spillway to convey flows greater than the fifty-year design storm is permitted.

(3) Emergency Use. The spillway shall be designed to convey the one-hundred-year peak inflow into the basin when routed through the basin with all primary outlet facilities clogged.

(4) When required, freeboard shall be measured from the top of the water surface elevation for emergency use.

G. Breach Analysis. The Township may require a breach analysis based on site-specific conditions and concern of threat for downstream property. When required, the breach analysis shall be conducted in accordance with the NRCS methodology, the United States Army Corps of Engineers methodology (HEC-1) or other methodologies as approved by the Township.

2. Subsurface Storage Facilities. Subsurface storage facilities consist of all stormwater facilities which store, infiltrate/evaporate/transpire, clean or otherwise affect stormwater runoff and the top of which is not exposed to the natural environment. Subsurface facilities are located below the finished ground elevation. Subsurface facilities do not include stormwater management facilities designed for conveyance.

A. Design Criteria. Subsurface storage facilities shall comply with the design criteria in the following table:

Subsurface Storage Facility Design Criteria

		Facility Type	
		Infiltration and Storage	**Storage without Infiltration**
(a)	**Facility Geometry**		
[1]	Depth from surface (maximum)	2 feet less than limiting zone	N/A
[2]	Loading ratio (maximum)	Per BMP Manual*	N/A
(b)	**Distribution System Requirements**		
[1]	Pipe size (minimum)	4 inches	4 inches
[2]	Pretreatment	Required	Required
[3]	Loading/balancing	Required	Not required
[4]	Observation/access ports	Required	Required

NOTES:

* Unless otherwise determined by professional geologic evaluation.

B. Distribution System Requirements.

(1) Pretreatment Requirements. The facility shall be designed to provide a method to eliminate solids, sediment, and other debris from entering the subsurface facility.

(2) Loading/Balancing. The facility shall be designed to provide a means of evenly balancing the flow across the surface of the facility to be used for infiltration.

(3) Observation/Access Ports.

(a) For facilities with the bottom less than five feet below the average grade of the ground surface, a cleanout shall be an acceptable observation port.

(b) For facilities with the bottom five feet or more below the average grade of the ground surface, a manhole or other means acceptable to the Township shall be provided for access to and monitoring of the facility.

(c) The number of access points shall be sufficient to flush or otherwise clean out the system.

(4) Dewatering Features. When required, dewatering shall be provided through the use of underdrain, surface device, or alternate approved by the Township Engineer. If the facility is to be used for infiltration, the dewatering device should be capable of being disconnected and only be made operational if

the basin is not dewatering within the required time frame. **[Added by Ord. No. 2022-02, 9/6/2022]**

C. Materials.

(1) Pipe Material. Distribution system piping may be SLHDPE or RCP.

(2) Stone for Infiltration Beds. The stone used for infiltration beds shall be clean washed, uniformly graded, coarse aggregate (AASHTO No. 3 or equivalent approved by the Township). The void ratio for design shall be assumed to be 0.4.

(3) Backfill Material. Material consistency and placement depths for backfill shall be (at a minimum) per all applicable pipe manufacturer's recommendations, further providing it should be free of large (not exceeding six inches in any dimension), objectionable or detritus material. Select nonaggregate material should be indigenous to the surrounding soil material for nonvehicular areas. Backfill within vehicular areas shall comply with this section unless otherwise specified in the Township Subdivision and Land Development Ordinance. Furthermore, if the design concept includes the migration of runoff through the backfill to reach the infiltration facility, the material shall be well drained, free of excess clay or clay-like materials and generally uniform in gradation.

(4) Lining Material. Nonwoven geotextiles shall be placed on the sides and top of subsurface infiltration facilities. No geotextiles shall be placed on the bottom of subsurface infiltration facilities.

D. Cover.

(1) When located under pavement, the top of the subsurface facility shall be a minimum of three inches below the bottom of the pavement subbase.

(2) Where located under vegetative cover, the top of the subsurface facility shall be a minimum of 12 inches below the surface elevation.

E. Subsurface facilities shall be designed to safely convey and/or bypass flows from storms exceeding the design storm.

F. Location.

(1) Infiltration systems greater than three feet deep shall be located no less than 30 feet from basement walls.

(2) Infiltration systems designed to handle runoff from commercial or industrial impervious parking areas shall be no closer than 100 feet from any water supply well.

G. Overflow. The stormwater management facility design shall provide an emergency overflow system with measures to provide nonerosive velocity along its length at the outfall.

3. Conveyance Facilities. Conveyance facilities consist of all stormwater facilities which carry flow, which may be located either above or below the finished grade. Conveyance facilities do not include stormwater management facilities which store, infiltrate/evaporate/transpire, or clean stormwater runoff.

A. Design Criteria. Conveyance facilities shall comply with the design criteria in the following table:

Conveyance Facility Design Criteria

Location			Within Public Street Right-of-Way	Outside Public Street Right-of-Way	
Loading			All	Vehicular Loading	Nonvehicular Loading
(a)	**Pipe Design**				
	[1]	Material	SLHDPE, RCP	SLHDPE, RCP	SLHDPE, RCP
	[2]	Slope (minimum)	0.5%	0.5%	0.5%
	[3]	Cover	1 foot to stone subgrade	1 foot to stone subgrade	1 foot to surface
	[4]	Diameter (minimum)	15 inches	15 inches	8 inches
	[5]	Street crossing angle	75° to 90°	N/A	N/A
	[6]	Access/ maintenance port frequency (maximum)	400 feet	400 feet	600 feet
(b)	**Inlet Design**				
	[1]	Material	Concrete	Concrete	N/A
	[2]	Grate depression	2 inches	2 inches	1 inch minimum
(c)	**Manhole Design**				
	[1]	Material	Concrete	Concrete	Concrete
(d)	**Swale Design**				
	[1]	Freeboard (minimum)	6 inches	N/A	6 inches
	[2]	Velocity (maximum)	Stability check	N/A	Stability check
	[3]	Slope (minimum)	1%	N/A	1%

Conveyance Facility Design Criteria

Location		Within Public Street Right-of-Way	Outside Public Street Right-of-Way	
Loading		All	Vehicular Loading	Nonvehicular Loading
[4]	Side slopes (residential area)	4:1 max	N/A	4:1 max
[5]	Side slopes (nonresidential area)	4:1 max	N/A	3:1 max
[6]	Bottom width to flow depth ratio	12:1	N/A	12:1
(e) Outlet Design				
[1]	End treatment	Headwall/ endwall	N/A	Headwall/ endwall or flared end section
[2]	Energy dissipater	Required	N/A	Required

NOTES:

N/A = Not applicable or no criteria specified.

SLHDPE = Smooth-lined high-density polyethylene pipe.

RCP = Reinforced concrete pipe.

B. Conveyance pipes, culverts, manholes, inlets and endwalls within the public street right-of-way or proposed for dedication shall conform to the requirements of PennDOT Standards for Roadway Construction, Publication No. 72M. Conveyance pipes, culverts, manholes, inlets and endwalls which are otherwise subject to vehicular loading shall be designed for the HS-25 loading condition.

C. Conveyance Pipes.

(1) Backfill Requirements; Backfill Material. Material consistency and placement depths for backfill shall be (at a minimum) per all applicable pipe manufacturer's recommendations, further providing it should be free of large (not exceeding six inches in any dimension), objectionable or detritus material. Select nonaggregate material should be indigenous to the surrounding soil material for nonvehicular areas. Backfill within vehicular areas shall comply with this section unless otherwise specified in the Earl Township Subdivision and Land Development Ordinance.[20]

[20]**Editor's Note: See Ch. 22, Subdivision and Land Development.**

(2) Inlets or manholes shall be placed at all points of changes in the horizontal or vertical directions of conveyance pipes. Curved pipe sections are prohibited.

(3) Access/Maintenance Ports. An access/maintenance port is required and may either be an inlet or manhole.

(4) Watertight joints shall be provided where pipe sections are joined, except for perforated pipe installed as pavement base drain.

(5) The street crossing angle shall be measured between the pipe center line and the street center line.

(6) Elliptical pipe of an equivalent cross-sectional area may be substituted in lieu of circular pipe where cover or utility conflict conditions exist.

(7) The roughness coefficient (Manning "n" values) used for conveyance pipe capacity calculations should be determined in accordance with PennDOT Publication 584, PennDOT Drainage Manual, or per the manufacturer's specifications.

(8) No double piping shall be permitted.

D. Inlets.

(1) All pipes must enter inlets completely through one of the sides. No corner entry of pipes is permitted.

(2) Within the public street right-of-way, the gutter spread based on the twenty-five-year storm shall be no greater than 1/2 of the travel lane and have a maximum depth of three inches at the curbline. A parking lane shall not be considered as part of the travel lane. In the absence of pavement markings separating a travel lane from the parking lane, the parking lane shall be assumed to be seven feet wide if parking is permitted on the street.

(3) Flow Depth Within Intersections. Within intersections of streets, the maximum depth of flow shall be 1 1/2 inches based on the twenty-five-year storm.

(4) Curbed Streets.

(a) Inlets in streets shall be located along the curbline.

(b) Top units shall be PennDOT Type C. The hood shall be aligned with the adjacent curb height.

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

(6) Inlets, junction boxes, or manholes greater than five feet in depth shall be equipped with ladder rungs and shall be detailed on the SWM site plan.

(7) Where slant curbing is used, Type S inlet tops may be provided; however, Type C inlet tops must be provided in all low spots within the roadway.

E. Swales.

(1) A swale shall be considered as any man-made ditch designed to convey stormwater directly to another stormwater management facility or surface waters.

(2) Inlets within swales shall have PennDOT Type M top units or equivalent approved by the Township Engineer.

(3) Swale capacities and velocities shall be computed using the Manning Equation using the following design parameters:

(a) Vegetated Swales.

1) The first condition shall consider swale stability based upon a low degree of retardance ("n" = 0.03);

2) The second condition shall consider swale capacity based upon a higher degree of retardance ("n" = 0.05); and

3) All vegetated swales shall have a minimum slope of 1% unless otherwise approved by the Township Engineer.

(b) The "n" factors to be used for paved or riprap swales or gutters shall be based upon accepted engineering design practices, as approved by the Township Engineer.

(4) All swales shall be designed to maximize infiltration and concentrate low flows to minimize siltation and meandering, unless geotechnical conditions do not permit infiltration.

F. Culverts. In addition to the material requirements in this section, culverts designed to convey waters of this commonwealth may be

constructed with either a smooth lined high-density polyethylene, precast concrete or poured-in-place concrete culvert.

G. Level Spreaders:

(1) Shall discharge at existing grade onto undisturbed vegetation.

(2) Discharge at a depth not exceeding 3.0 inches for a fifty-year, twenty-four-hour design storm.

H. Energy Dissipaters. Energy dissipaters shall be designed in accordance with the requirements in the DEP E&S Manual.

I. End Treatments.

(1) Where the connecting pipe has a diameter 18 inches or greater, headwalls and endwalls shall be provided with a protective barrier device to prevent entry of the storm sewer pipe by unauthorized persons. Such protection devices shall be designed to be removable for cleaning.

(2) Headwalls and endwalls shall be constructed of concrete.

(3) Flared end sections shall be of the same material as the connecting pipe and be designed for the size of the connecting pipe. (See Appendix for detail.)

4. SWM facilities which qualify as a dam per DEP regulations or facilities deemed a potential threat to the life, safety or welfare of the general public shall be subject to the following requirements:

A. Facilities which qualify as a dam per DEP regulation shall obtain the required permit through the DEP and design the facility in accordance with DEP standards.

B. Additional requirements and analysis may be required by the Township to prove that the proposed facility has been designed to limit the potential risk to the life, safety or welfare of the general public.

§ 17-308. Capture and Reuse Facilities. [Ord. 2014-02, 5/5/2014]

1. Capture and reuse facilities include those SWM facilities which capture stormwater within a site and store the water for reuse through rainwater harvesting, which includes, but is not limited to, irrigation reuse, potable water reuse, and toilet flushing reuse. Water storage facilities for use with capture and reuse facilities include, but are not limited to, cisterns and rain barrels.

2. Design Requirements. Capture and reuse facilities shall meet all of the following design standards.

A. Calculations shall be provided for all of the following;

(1) Reuse of water to ensure adequate capacity is available for storage of follow-up rainfall events.

(2) Verification of conveyance pipe capacity for water to enter the facility, including roof leaders.

(3) The water storage facility shall be designed to store the runoff volume of a one-hundred-year storm event for the area which it serves.

B. The reuse of water shall require not less than 5% of the total storage volume to be drawn out of the tank on a daily basis. The applicant shall specifically identify the use and/or method for withdrawal of the stored volume and shall provide the estimated volume of water which will be used by the proposed method.

C. The water storage container shall be protected from direct sunlight to minimize algae growth.

D. Water storage containers shall be watertight with smooth interior surfaces.

E. Every water storage facility shall be provided with an overflow or emergency spillway. The overflow shall be designed to discharge away from buildings and other structures and toward existing natural or man-made channels, other stormwater facilities or vegetated slopes.

F. Plans proposing a water storage facility shall include the following;

(1) All calculations and assumptions used in the design;

(2) Sufficient detail showing the proposed method of dewatering (i.e., pump); and

(3) Structural details.

G. Maintenance responsibilities for water storage and reuse facilities shall include flushing the storage units to remove any accumulated sediment, and the inside surfaces shall be brushed and thoroughly disinfected.

H. Water shall not be allowed to freeze in the devices.

§ 17-309. Other Design Requirements. [Ord. 2014-02, 5/5/2014]

1. Amended Soils. Areas with amended soils shall be restricted for use within the bottom of rain gardens and stormwater management basins that are within a stormwater or drainage easement identified on a recorded plan to ensure that the future owners of such facilities are aware of the restrictions associated with the amended soil areas.

2. All amended soils specified within BMP basins shall be required to be certified for use to meet water quality and water recharge provisions. If on-site soils are utilized as part of the amended soils, the topsoil shall be certified including acceptable permeability, pH, clay content, etc. **[Added by Ord. No. 2022-02, 9/6/2022]**

§ 17-310. Wetlands. [Added by Ord. No. 2022-02, 9/6/2022]

1. No development or earthmoving activities shall involve uses, activities or improvements which would entail encroachment into, the regrading of, or the placement of fill in wetlands in violation of state or federal regulations.

§ 17-311. Easements. [Added by Ord. No. 2022-02, 9/6/2022]

1. The developer shall reserve easements where stormwater management facilities, floodplains or wetlands are existing or proposed, whether located within or beyond the boundaries of the project site. If stormwater management facilities, floodplains or wetlands are to be installed or created beyond the boundary of the property, the developer shall provide the Township with all necessary easements, in a form acceptable to the Township Solicitor, clearly demonstrating that the developer has the right to install stormwater management facilities on such adjoining property and/or create floodplains or wetlands upon such adjoining property.

2. Easements shall have a minimum width of 20 feet and shall be adequately designed to provide area for: a) the collection and discharge of water; b) the maintenance, repair and reconstruction of all stormwater management facilities; c) the passage of machinery for such work; and d) the preservation of floodplains and wetlands. The easements shall clearly identify who has the right of access and the responsibility of maintenance.

3. Stormwater management facilities shall be centered within the easement.

4. To the fullest extent possible, easements shall be centered on or be adjacent to lot lines.

5. Nothing shall be placed, planted, set, or put within the area of an easement that would adversely affect the function of the easement or conflict with the easement agreement.

PART 4

STORMWATER MANAGEMENT SITE PLAN REQUIREMENTS[21]

§ 17-401. General Plan Requirements. [Ord. 2014-02, 5/5/2014]

1. The SWM site plan shall consist of a narrative and all applicable calculations, maps, plans and supplemental information necessary to demonstrate compliance with this chapter.

2. All landowners of land included in the SWM site plan shall be required to execute all applications and final documents.

3. All SWM site plans shall be prepared by a qualified person.

4. Where the regulated activity constitutes subdivision or land development, as hereinabove defined, the SWM site plan shall be submitted with and form an integral part of the plans required under the Municipal Subdivision and Land Development Ordinance.[22]

§ 17-402. Drafting Standards. [Ord. 2014-02, 5/5/2014]

1. The plan should be clearly and legibly drawn.

2. If the plan is prepared in two or more drawing sheets, a key map showing the location of the sheets and a match line shall be placed on each sheet.

3. Each sheet shall be numbered to show the relationship to the total number of sheets in the plan (e.g., Sheet 1 of 5).

4. Drawings or maps of the project area shall be drawn at one inch equals 50 feet or larger scale (i.e., one inch equals 40 feet, one inch equals 30 feet, etc.) and shall be submitted on twenty-four-inch by thirty-six-inch sheets.

5. SWM site plans shall be prepared in a form that meets the requirements for recording for the Office of the Recorder of Deeds of Lancaster County.

6. The plan shall show the total development site boundary and size with distances marked to the nearest foot and bearings to the nearest degree.

§ 17-403. SWM Site Plan Information. [Ord. 2014-02, 5/5/2014]

The following items shall be included in the SWM site plan:

A. The date of the SWM site plan and latest revision, graphic scale, written scale and North arrow.

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[21]Editor's Note: The information provided in §§ 17-401 through 17-405 shall be provided for all major land development activity stormwater management plan submittals.

[22]Editor's Note: See Ch. 22, Subdivision and Land Development.

B. The name of the development, the name and address of the owner of the property, and the name of the individual or firm preparing the plan.

C. The file or project number assigned by the firm that prepared the plan.

D. A statement, signed by the landowner, acknowledging the SWM facilities to be permanent fixtures that cannot be altered or removed unless a revised plan is approved by the municipality.

E. The following signature block for the municipality:

Earl Township SWM Site Plan Approval Certification

At a meeting on _____, 20____, the Earl Township Board of Supervisors approved this project, and all conditions have been met. This approval includes the complete set of plans and information that is filed with the municipality in File No. _____, based upon its conformity with the standards of the Earl Township Stormwater Management Ordinance.

_____

Chairman of the Board of Supervisors' Signature

F. For SWM facilities located off site:

(1) A note on the plan referencing a recorded stormwater operation and maintenance (O&M) agreement that indicates the location and responsibility for maintenance of the off-site facilities.

(2) All off-site SWM facilities shall meet the performance standards specified in this chapter.

G. A note informing the owner that the municipality shall have the right of entry for the purposes of inspecting all stormwater conveyance, treatment, or storage facilities.

H. A location map, drawn to a scale of a minimum of one inch equals 2,000 feet, relating the plan to municipal boundaries, at least two intersections of road center line or other identifiable landmarks.

I. Existing Features.

(1) In areas of disturbance, contours at intervals of one or two feet. In areas of steep slopes (greater than 15%) and areas undisturbed, five-foot contour intervals may be used.

(2) The locations of all existing utilities (including on-lot disposal systems and wells), sanitary sewers, and water lines and associated easements.

(3) Physical features, including flood hazard boundaries, wetlands, sinkholes, streams, lakes, ponds and other water bodies, existing drainage courses, karst features, areas of native vegetation, including trees greater than six inches' diameter at breast height, woodlands, other environmentally sensitive areas and the total extent of the upstream area draining through the development site.

(4) An overlay showing soil names and boundaries.

(5) All existing man-made features within 200 feet of the development site boundary.

J. Proposed Features.

(1) Changes to the land surface and vegetative cover, including final proposed contours at intervals of one or two feet in areas of disturbance. In areas of steep slopes (greater than 15%) and areas undisturbed, five-foot contour intervals may be used.

(2) Proposed structures, roads, paved areas, buildings and other impervious and semi-impervious areas.

(3) The location of any proposed on-lot disposal systems, replacement drainfield easements, and water supply wells.

(4) A note indicating existing and proposed land use(s).

(5) Plan and profile drawings of all proposed SWM facilities, including BMPs, drainage structures, pipes, open channels, and swales.

(6) Where pervious pavement is to be installed, pavement material and construction specifications shall be included.

(7) The location of all existing and proposed easements, including drainage easements, access easements and riparian corridor easements.

(8) A planting plan shall be provided for all vegetated BMPs in accordance with § 17-301, Subsection 14.

K. The location of all E&S control facilities.

L. The plans should clearly indicate the need for a preconstruction meeting to be held prior to earthmoving activities and recordation of the plan and include personnel from the following: **[Added by Ord. No. 2022-02, 9/6/2022]**

(1) Earl Township.

(2) Earl Township Municipal Authority.

(3) Earl Township Engineer.

(4) The Lancaster County Conservation District.

(5) The equitable owner.

(6) The consulting firm that prepared the plan.

(7) Site operator (entity with day-to-day control of the site).

(8) The excavator.

(9) Anyone else deemed necessary.

M. A note indicating that all items needing inspection shall be coordinated by the owner and/or site operator (contractor). All requests for required inspections by the contractor are to be deemed as approved requests on behalf of the owner. **[Added by Ord. No. 2022-02, 9/6/2022]**

N. The actual existing and proposed lot coverage in square feet, in addition to the percentages, should clearly be shown on the data provided on the plan. This should correlate to the design information in the required postconstruction stormwater management report to be used as a benchmark for all future impervious surface changes. **[Added by Ord. No. 2022-02, 9/6/2022]**

O. When applicable, notation should be added to the plan stating that "all impervious surfaces to be removed are to be removed full depth, including any stone base" so as to receive credit as a postdevelopment condition pervious surface in the stormwater management design. A statement, signed by the owner and any successor, acknowledging that the impervious surfaces to be removed full depth function as the SWM facilities for this project and cannot be added back or altered or increased unless a revised plan is approved by the municipality must be provided. **[Added by Ord. No. 2022-02, 9/6/2022]**

P. A note indicating construction site operators are required to control waste at the construction site that may cause adverse impacts to water quality. These wastes can include discarded building materials, concrete washout, chemicals, litter, and sanitary waste. **[Added by Ord. No. 2022-02, 9/6/2022]**

Q. PCSM title blocks outlining each individual postconstruction stormwater management BMP and/or facility per Appendix E.[25] **[Added by Ord. No. 2022-02, 9/6/2022]**

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25. Editor's Note: Said appendix is included as an attachment to this chapter.

§ 17-404. Additional Information. [Ord. 2014-02, 5/5/2014]

The following additional information shall be provided:

1. A general description of the development site, including a description of existing natural and hydrologic features and any environmentally sensitive areas.

2. A general description of the overall SWM concept for the project, including a description of permanent SWM techniques, nonstructural BMPs to be employed and construction specifications of the materials to be used for structural SWM facilities. The narrative shall include a description of any treatment trains and how the facilities are meant to function with each other to manage stormwater runoff.

3. Where an NPDES construction permit is required, a general description of the overall approach, techniques, controls, BMPs, and methods for managing nonstormwater generating activities (including, but not limited to, concrete washouts and saw-cutting operations), waste (including, but not limited to, solid waste and sanitary/septic waste), materials (including, but not limited to, fertilizers/herbicides), and related inspection and maintenance activities. **[Added by Ord. No. 2022-02, 9/6/2022[26]]**

4. The effect of the project (in terms of runoff volumes, water quality and peak flows) on adjacent properties and on any existing municipal stormwater management facilities that may receive runoff from the development site.

5. Complete hydrologic, hydraulic, and structural computations for all SWM facilities.

6. Expected project time schedule.

7. Verification of an approved and proven to be implemented agricultural erosion and sediment control plan or conservation plan and a manure management plan or nutrient management plan for agricultural uses. **[Added by Ord. No. 2022-02, 9/6/2022]**

§ 17-405. Supplemental Information. [Ord. 2014-02, 5/5/2014]

1. In areas of carbonate geology, a detailed geologic evaluation prepared by a registered professional geologist (PG) must be submitted as part of the SWM site plan. The report shall include, but not limited to, the following:

   A. The location of the following karst features:

      (1) Sinkholes.

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26. **Editor's Note: This ordinance also redesignated former Subsections 3 through 5 as Subsections 4 through 6, respectively.**

(2) Closed depressions.

(3) Lineaments in carbonate areas.

(4) Fracture traces.

(5) Caverns.

(6) Intermittent lakes.

(7) Ephemeral disappearing streams.

(8) Bedrock pinnacles (surface or subsurface).

B. A plan for remediation of any identified karst features.

C. Impacts of stormwater management facilities on adjacent karst features and impacts of karst features on adjacent stormwater management facilities.

2. An E&S plan, including all approvals, as required by 25 Pa. Code Chapter 102, shall be provided to the municipality prior to unconditional SWM site plan approval.

3. For any activities that require a DEP joint permit application and are regulated under Chapter 105 or Chapter 106, require a PennDOT highway occupancy permit, or require any other permit under applicable state or federal regulations, the permit(s) shall be part of the SWM site plan and must be obtained prior to unconditional SWM site plan approval.

4. An operation and maintenance (O&M) plan that addresses the requirements of § 17-603.

PART 5

PLAN PROCESSING PROCEDURES

§ 17-501. Small Projects. [Ord. 2014-02, 5/5/2014]

1. Anyone proposing a small project shall submit four copies of the small project application to the municipality.

2. A complete small project application shall include:

   A. Small project application form (Appendix A-2).[23]

   B. Small project sketch plan, including the following:

      (1) Name and address of landowner and/or developer.

      (2) Date of small project application submission.

      (3) Name of individual and/or firm that prepared the sketch if different than the landowner and/or developer.

      (4) Location and square footage of proposed impervious area or land disturbance.

      (5) Approximate footprint and location of all structures on adjacent properties if located within 50 feet of the proposed impervious area or land disturbance.

      (6) Approximate location of existing stormwater management facilities, if present.

      (7) Location and description of proposed stormwater management facilities.

      (8) Direction of proposed stormwater discharge (e.g., with arrows).

      (9) Scale and North arrow.

   C. Filing fee (in accordance with the municipality's current fee schedule).

3. The small project application shall be submitted in a format that is clear, concise, legible, neat and well organized.

[23]**Editor's Note: Appendix A-2 is included as an attachment to this chapter.**

§ 17-502. Exemption From Plan Submission Requirements. [Ord. 2014-02, 5/5/2014]

1. The following regulated activities are specifically exempt from the SWM site plan preparation and submission requirements articulated in § 17-301, Subsection 1, and Parts 4 and 5 of this chapter:

   A. Agricultural activity (See § 17-202, Definitions.), provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.

   B. Forest management and timber operations (See § 17-202, Definitions.), provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.

   C. Conservation practices being installed as part of the implementation of a conservation plan written by an NRCS certified planner.

   D. The installation of 1,000 or fewer square feet of impervious surface coverage proposed after the effective date of this chapter, provided that the activities meet the criteria of § 17-502, Subsection 3, below and are conducted in accordance with all requirements of this chapter.

   E. Domestic landscape and/or vegetable gardening.

2. The municipality may deny or revoke any exemption pursuant to this section at any time for any project that the municipality believes may pose a threat to public health, safety, property or the environment.

3. An applicant proposing the cumulative installation of 1,000 square feet or less of impervious surface coverage maybe exempt from the design, plan submittal, and processing requirements of Parts 3, 4 and 5 of this chapter. No person or activity is exempted from compliance with § 17-605 and Parts 7, 8 and 9 of this chapter. The applicant shall comply with the erosion and sediment control requirements of 25 Pa. Code Chapter 102. Exemptions 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. Exemption shall not relieve an applicant from implementing such measures as necessary to meet compliance with any NPDES permit requirements. Any exemption 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.

4. Any applicant desiring exemption from the design, plan submission, and plan processing requirements shall complete an application for exemption in the form set forth in Appendix A-1[24] and pay any applicable filing fee.

[24]**Editor's Note: Appendix A-1 is included as an attachment to this chapter.**

§ 17-503. Preapplication Meeting. [Ord. 2014-02, 5/5/2014]

Applicants are encouraged to schedule a preapplication meeting to review the overall stormwater management concept with municipal staff/engineer. The preapplication meeting is not mandatory and shall not constitute formal filing of a plan with the municipality. Topics discussed may include the following:

A. Available geological maps, plans and other available data.

B. Findings of the site analysis, including identification of any environmentally sensitive areas, wellhead protection areas, riparian corridors, hydrologic soil groups, existing natural drainageways, karst features, areas conducive to infiltration to be utilized for volume control, etc.

C. Results of infiltration tests.

D. Applicable Municipal Subdivision and Land Development and/or Zoning Ordinance provisions.[29]

E. The conceptual project layout, including proposed structural and nonstructural BMPs.

F. Potential impacts to the MS4 (including inlets to the MS4 off site but may receive drainage from the site) and possible protection measures and BMPs. **[Added by Ord. No. 2022-02, 9/6/2022]**

§ 17-504. Stormwater Management Site Plan Submission. [Ord. 2014-02, 5/5/2014]

1. When an SWM site plan is required, the applicant shall submit the following to the municipality:

    A. Six copies of the SWM site plan prepared in accordance with the requirements of Part 4 of this chapter.

    B. Two copies of all supplemental data.

    C. A filing fee (in accordance with the municipality's current fee schedule).

    D. An electronic copy of the SWM site plan and supplemental data in a PDF format.

2. The SWM site plan shall be submitted in a format that is clear, concise, legible, neat and well organized.

3. The applicant is responsible for submitting plans to any other agencies, such as the Lancaster County Conservation District, PennDOT, DEP, etc., when

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29. Editor's Note: See Ch. 22, Subdivision and Land Development, and Ch. 27, Zoning.

permits from these agencies are required. Final approval shall be conditioned upon the applicant obtaining all necessary permits.

4. Incomplete submissions, as determined by the governing body or its designee, shall be returned to the applicant within seven days, along with a statement that the submission is incomplete and stating the deficiencies found. Otherwise, the application shall be deemed accepted for filing as of the date of submission. Acceptance of the application shall not, however, constitute an approval of the plan or a waiver of any deficiencies or irregularities. The applicant may appeal the municipality's decision not to accept a particular application in accordance with § 17-904 of this chapter.

5. At its sole discretion and in accordance with this Part, when an SWM site plan is found to be deficient, Earl Township may either disapprove the submission and require a resubmission, or, in the case of minor deficiencies, Earl Township may accept submission of revisions.

§ 17-505. Municipal Review. [Ord. 2014-02, 5/5/2014]

1. When the regulated activity constitutes a subdivision or land development as defined in the Earl Township Subdivision and Land Development Ordinance, the SWM site plan and subdivision/land development plan shall be processed concurrently according to the plan processing procedure outlined in Chapter 22, Subdivision and Land Development.

2. When the regulated activity constitutes a small project, the municipality shall review and take action on the small project application within 45 days of filing.

3. When the regulated activity does not constitute a subdivision or land development or small project, the Municipal Engineer shall review the SWM site plan for conformance with the provisions of this chapter.

4. Following receipt of the Municipal Engineer's report and within 90 days following the date of the first regular meeting of the Board of Supervisors of Earl Township after the date the application is filed, the Board of Supervisors of Earl Township will schedule the SWM site plan application for action at a regularly scheduled public meeting.

5. Within 15 days of the meeting at which the SWM site plan application is acted upon by the Board of Supervisors of Earl Township, written notice of the Board of Supervisors of Earl Township's action shall be sent to the following individuals:

   A. Landowner or his agent.

   B. Applicant.

   C. Firm that prepared the plan.

D. Lancaster County Planning Commission.

E. Lancaster County Conservation District.

6. If the municipality disapproves the SWM site plan, the municipality will state the reasons for the disapproval in writing. The municipality also may approve the SWM site plan with conditions and, if so, shall provide the acceptable conditions for approval in writing. Such conditional approval shall be contingent upon the applicant's written acceptance of the conditions.

§ 17-506. Revision of Plans. [Ord. 2014-02, 5/5/2014]

1. Revisions to an SWM site plan after submission but before municipal action shall require a resubmission of the modified SWM site plan consistent with § 17-504 of this chapter and be subject to review as specified in § 17-505 of this chapter.

2. For the purposes of review deadlines, each resubmission required under § 17-506, Subsection 1 (after submission but before approval), shall constitute a new submission for the purposes of time limits as set forth in the MPC[30] and this chapter.

3. Any substantial revisions to an SWM site plan after approval shall be submitted as a new plan to the municipality, accompanied by the applicable review fee.

§ 17-507. Preconstruction Meeting and Plan Recordation. [Added by Ord. No. 2022-02, 9/6/2022[31]]

1. The plans should clearly indicate the need for a preconstruction meeting to be held prior to earthmoving activities and include personnel from the following:

A. Earl Township.

B. Earl Township Municipal Authority.

C. Earl Township Engineer.

D. The Lancaster County Conservation District.

E. The equitable owner.

F. The consulting firm that prepared the plan.

G. The excavator.

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30. **Editor's Note: See 53 P.S. § 10101 et seq.**

31. **Editor's Note: This ordinance also renumbered former §§ 17-507 through 17-509 as §§ 17-508 through 17-510, respectively.**

H. Anyone else deemed necessary.

2. Upon approval by the Township, stormwater management plans must be recorded at the Lancaster County Recorder of Deeds office. Proof of recordation must be provided to the Township. Plans will not be released for recording until the above-mentioned preconstruction meeting has been conducted with all required parties.

§ 17-508. Authorization to Construct and Term of Validity. [Ord. 2014-02, 5/5/2014]

Approval of an SWM site plan shall be valid for a period not to exceed five years. This time period shall commence on the date that the municipality approves the SWM site plan. If a certificate of completion as required by § 17-508 of this chapter has not been submitted within the specified time period, then the municipality may consider the SWM site plan disapproved and may revoke any and all permits issued by the municipality. SWM site plans that are considered disapproved by the municipality may be resubmitted in accordance with § 17-504 of this chapter.

§ 17-509. Certificate of Completion. [Ord. 2014-02, 5/5/2014; as amended by Ord. No. 2022-02, 9/6/2022]

1. At the completion of the project, and as a prerequisite for the release of the financial security, the applicant shall provide certification of completion from an engineer, landscape architect, surveyor or other qualified person verifying that all permanent SWM facilities have been constructed according to the plans and specifications and approved revisions thereto.

   A. All stormwater facilities designed as planted facilities (such as BMP basins, bio retention facilities, rain gardens, etc.), upon being planted and permanently established with the required vegetation, shall be professionally inspected, and certified by a qualified professional that the established vegetation meets the requirements of the approved planting plan, including required native vegetation, permanent establishment, free from invasives, and other such requirements.

   B. All stormwater facilities basins, unless otherwise approved by the Township, shall be provided with a backup underdrain or approved system that will allow appropriate dewatering of the basin as required. The underdrain shall be controlled by a valve, orifice cap, or other such approved regulation device.

   C. During construction, stormwater management infiltration systems shall have the subgrade tested and approved by a geotechnical professional, including performing infiltration testing.

2. Upon receipt of the certificate of completion and prior to release of the remaining financial security, the municipality shall conduct a final inspection to certify compliance with this chapter.

§ 17-510. Plan Recordation and As-Built Plan Requirements. [Ord. 2014-02, 5/5/2014]

1. Upon completion of the plan improvements and prior to the release of financial security, the applicant shall submit an as-built plan to the Township. The as-built plan must show the final design specifications for all stormwater management facilities and be sealed by a registered professional engineer.

2. Review by Township Engineer.

   A. The as-built plan shall be reviewed by the Township Engineer to verify the plan includes all of the stormwater management facilities on the subject property and the facilities are shown at the correct location.

   B. The Township Engineer shall either approve the as-built plan or identify corrections required.

   C. If the Township Engineer identifies corrections required to the as-built plan, the applicant shall submit a revised as-built plan to the Township addressing the corrections.

3. Following approval of the as-built plan by the Township Engineer, the applicant shall submit the SWM site plan for recordation in the office of the Recorder of Deeds.

4. Digital Inventory.

   A. When Required. A digital inventory shall be submitted following approval of the as-built plan by the Township Engineer if the project includes any of the following:

      (1) SWM facilities which are offered for dedication to the Township.

      (2) SWM facilities which connect to or alter any portion of the Township's MS4.

      (3) BMPs included on an NPDES permit for which the Township is required to keep an inventory under the Township's MS4 permit.

   B. Digital Inventory Requirements.

      (1) The digital inventory shall be in an electronic format acceptable to the Township Engineer.

      (2) The digital inventory shall include all information included and shown on the approved as-built plan.

(3) All coordinates as depicted on the plan shall be based on the PA South Zone State Plan Coordinate System (NAD83 for horizontal and NAVD88 for vertical).

PART 6

OPERATION AND MAINTENANCE (O&M)

§ 17-601. Responsibilities of Developers and Landowners. [Ord. 2014-02, 5/5/2014]

1. The landowner and his/her successor and assigns shall maintain all stormwater management facilities in good working order in accordance with the approved O&M plan.

2. The landowner shall convey to the municipality easements to assure access for inspections and maintenance, if required.

3. The landowner shall keep on file with the municipality the name, address and telephone number of the person or company responsible for maintenance activities; in the event of a change, new information will be submitted to the municipality within 10 days of the change.

4. The landowner shall enumerate permanent SWM facilities as permanent real estate appurtenances and record them as deed restrictions or easements that run with the land.

5. The record owner of the development site shall sign and record an operation and maintenance (O&M) agreement covering all stormwater management facilities, including riparian buffers and riparian forest buffers, which are to be privately owned. Said agreement, designated as Appendix D,[32] is attached and made part hereof. The O&M plan and agreement shall be recorded as a restrictive covenant agreement that runs with the land.

6. The municipality may take enforcement actions against a landowner for any failure to satisfy the provisions of this Part. **[Added by Ord. No. 2022-02, 9/6/2022]**

§ 17-602. Operation and Maintenance Agreements. [Ord. 2014-02, 5/5/2014]

1. The operation and maintenance agreement shall be subject to the review and approval of the Municipal Solicitor and governing body.

2. The municipality is exempt from the requirement to sign and record an O&M agreement.

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32. **Editor's Note: Appendix D is included as an attachment to this chapter.**

§ 17-603. Operation and Maintenance (O&M) Plan Contents. [Ord. 2014-02, 5/5/2014]

1. The O&M plan shall clearly establish the operation and maintenance necessary to ensure the proper functioning of all temporary and permanent stormwater management facilities and erosion and sedimentation control facilities.

2. The following shall be addressed in the O&M plan:

   A. Description of maintenance requirements, including, but not limited to, the following:

      (1) Regular inspection of the SWM facilities. To assure proper implementation of BMPs, maintenance and care SWM BMPs should be inspected by a qualified person, which may include the landowner, or the owner's designee (including the municipality for dedicated and owned facilities), according to the following minimum frequencies:

         (a) Annually for the first five years.

         (b) Once every three years thereafter.

         (c) During or immediately after the cessation of a ten-year or greater storm.

         (d) As specified in the O&M agreement pursuant to § 17-602.

      (2) All pipes, swales and detention facilities shall be kept free of any debris or other obstruction and in original design condition.

      (3) Removal of silt from all permanent structures which trap silt or sediment in order to keep the material from building up in grass waterways, pipes, detention or retention basins, infiltration structures, or BMPs, and thus reducing their capacity to convey or store water.

      (4) Reestablishment of vegetation of scoured areas or areas where vegetation has not been successfully established. Selection of seed mixtures shall be subject to approval by the municipality.

   B. Riparian forest buffer management plan prepared in accordance with 25 Pa. Code Chapter 102, § 102.14(b)(4), if required.

   C. Identification of a responsible individual, corporation, association or other entity for ownership and maintenance of both temporary and permanent stormwater management and erosion and sedimentation control facilities.

D. Establishment of suitable easements for access to all facilities.

E. Two copies of the inspection report required in § 17-603, Subsection 2A(1), shall be provided to the Township within 60 days of completion of the inspection.

§ 17-604. Maintenance of Facilities Accepted by Municipality. [Ord. 2014-02, 5/5/2014]

1. The municipality reserves the right to accept or reject any proposal to dedicate ownership and operating responsibility of any SWM facilities to the municipality.

2. If SWM facilities are accepted by the municipality for dedication, the landowner/developer shall be required to pay a specified amount to the Municipal Stormwater Maintenance Fund to defray costs of periodic inspections and maintenance expenses. This fee shall be provided to the municipality prior to unconditional plan approval. The amount of the deposit shall be determined as follows, subject to the approval of the Board of Supervisors of Earl Township:

   A. The deposit shall cover the estimated costs for maintenance and inspections for 25 years. The municipality will establish the estimated costs according to the O&M requirements outlined in the approved O&M plan.

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

   C. If a storage facility is proposed that also serves as a recreation facility (e.g., ball field, lake), the municipality may reduce or waive the amount of the maintenance fund deposit based upon the value of the land for public recreation purposes.

3. If at any time a dedicated storage facility is eliminated due to the installation of storm sewers or other storage facility such as a regional detention facility, the unused portion of the maintenance fund deposit will be applied to the cost of abandoning the facility and connecting to the storm sewer system or other facility. Any amount of the deposit remaining after the costs of abandonment are paid will be returned to the depositor.

4. All dedicated facilities shall be inspected by the municipality according to the following minimum frequencies:

   A. Annually for the first five years.

   B. Once every three years thereafter.

   C. During or immediately after the cessation of a ten-year or greater storm.

D. As specified in the O&M agreement pursuant to § 17-602.

5. Inspection and maintenance shall be conducted as necessary to provide for the continued functioning of the facility. Costs of inspections, maintenance and repairs are recoverable from the Municipal Stormwater Maintenance Fund. **[Amended by Ord. No. 2022-02, 9/6/2022]**

§ 17-605. Maintenance of Existing Facilities/BMPs. [Ord. 2014-02, 5/5/2014]

1. SWM facilities existing on the effective date of this chapter, which have not been accepted by the municipality or for which maintenance responsibility has not been assumed by a private entity such as a homeowners' association, shall be maintained by the individual landowners. Such maintenance shall include, at a minimum, those items set forth in § 17-603, Subsection 2A, above. If the municipality determines at any time that any permanent SWM facility has been eliminated, altered, blocked through the erection of structures or the deposit of materials, or improperly maintained, the condition constitutes a nuisance, and the municipality shall notify the landowner of corrective measures that are required and provide for a reasonable period of time, not to exceed 30 days, within which the property owner shall take such corrective action. If the landowner does not take the required corrective action, the municipality may either perform the work or contract for the performance of the work and bill the landowner for the cost of the work plus a penalty of 10% of the cost of the work. If such bill is not paid by the property owner within 30 days, the municipality may file a municipal claim against the property upon which the work was performed in accordance with the applicable laws. The municipality shall have the right to choose among the remedies and may use one or more remedies concurrently.

§ 17-606. O&M Verification Forms. [Added by Ord. No. 2022-02, 9/6/2022]

1. The municipality is subject to the terms and conditions of an issued MS4 permit. One condition included in the permit requires the Township to ensure stormwater management facilities and BMPs are operating as intended/designed and maintained as required. To meet this condition, the Township requires the completion and return of an O&M verification form from stormwater management facility and BMP owners annually verifying inspections and maintenance is occurring.

PART 7

FEES AND EXPENSES

§ 17-701. General Provisions. [Ord. 2014-02, 5/5/2014]

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

§ 17-702. Expenses Covered by Fees. [Ord. 2014-02, 5/5/2014]

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

A. Administrative and clerical costs.

B. Review of the SWM site plan by the Municipal Engineer and municipal staff.

C. Review of the stormwater operation and maintenance plan and stormwater agreement by the Municipal Solicitor and municipal staff.

D. Inspections by the Municipal Engineer and municipal staff.

E. Any additional work required by the Municipal Solicitor, Municipal Engineer or municipal staff to enforce any permit provisions regulated by this chapter, correct violations, and assure proper completion of stipulated remedial actions.

PART 8

PROHIBITIONS

§ 17-801. Prohibited Discharges and Connections. [Ord. 2014-02, 5/5/2014; as amended by Ord. No. 2022-02, 9/6/2022]

1. The following connections are prohibited, except as provided in § 17-801, Subsection 5, below:

   A. Any drain or conveyance, whether on the surface or subsurface, that allows any nonstormwater discharge, including sewage, process wastewater, and wash water, to enter a municipal separate storm sewer (if applicable), or waters of this commonwealth and any connections to the storm sewer from indoor drains and sinks.

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

   C. Chlorinated pool or fountain discharge.

   D. Commercial and industrial air-conditioner condensate.

2. Illicit Discharges.

   A. Except as provided in § 17-801, Subsection 5, it is unlawful for any person or entity to cause a nonstormwater discharge to the MS4.

   B. It is unlawful for any person or entity to cause either individually or jointly any discharge into or from the MS4 that results in or contributes to a violation of the MS4 permit, including the discharge of a pollutant.

   C. Any person or entity that causes a nonstormwater discharge or a discharge into or from the MS4 that results in or contributes to a violation of the MS4 permit, including the discharge of a pollutant, is subject to the enforcement provisions of § 17-902.

3. No person shall allow, or cause to allow, discharges into waters of this commonwealth which are not composed entirely of stormwater, except:

   A. As provided in § 17-801, Subsection 5, below; and

   B. Discharges allowed under a state or federal permit.

4. No person shall place any structure, fill, landscaping or vegetation into an SWM facility or within a drainage easement that will limit or diminish the functioning of the facility in any manner.

5. The following discharges are authorized unless they are determined to be significant contributors to pollution to the waters of this commonwealth:

   A. Discharges from firefighting activities.

   B. Potable water sources, including waterline flushing and fire hydrant flushing, if such discharges do not contain detectable concentrations of total residual chlorine (TRC).

   C. Noncontaminated irrigation drainage.

   D. Noncontaminated air-conditioning condensate and water from geothermal systems.

   E. Springs.

   F. Water from crawl space pumps.

   G. 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.

   H. Flows from riparian habitats and wetlands.

   I. Uncontaminated water from foundations or from footing drains.

   J. Lawn watering.

   K. Dechlorinated swimming pool discharges.

   L. Uncontaminated groundwater.

   M. Water from individual residential car washing where only environmentally friendly cleaning agents are utilized.

   N. Routine external building washdown (which uses environmentally friendly detergents or other compounds).

   O. Diverted stream flows.

   P. Rising groundwaters.

   Q. Noncontaminated hydrostatic test water discharges, if such discharges do not contain detectable concentrations of TRC.

6. In the event that the municipality or DEP determines that any of the discharges identified in § 17-801, Subsection 5, above significantly contribute to pollution of the waters of this commonwealth, the municipality or DEP will notify the responsible person(s) to cease the discharge.

7. Roof drains and sump pumps shall discharge to infiltration or vegetative BMPs wherever feasible.

§ 17-802. Alteration of SWM BMPs. [Ord. 2014-02, 5/5/2014]

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

§ 17-803. Containment and Notification of Spills. [Added by Ord. No. 2022-02, 9/6/2022]

Any person owning or occupying a premises who has knowledge of any significant release of pollutants or nonstormwater discharges from those premises that may enter the MS4 shall immediately take all reasonable action to contain the release and minimize any nonstormwater discharge. The person shall notify the Township within four hours of the nonstormwater discharge.

PART 9

ENFORCEMENT AND PENALTIES

§ 17-901. Right of Entry. [Ord. 2014-02, 5/5/2014]

Upon presentation of proper credentials, duly authorized representatives of the municipality may enter at reasonable times upon any property within the municipality to investigate or ascertain the condition of the subject property in regard to any aspect regulated by this chapter.

§ 17-902. Enforcement. [Ord. 2014-02, 5/5/2014]

The municipal governing body is hereby authorized and directed to enforce all of the provisions of this chapter.

A. Any permit or approval issued by the municipality pursuant to this chapter may be suspended by the municipality for:

(1) Noncompliance with or failure to implement any provision of the approved SWM site plan or O&M agreement.

(2) A violation of any provisions of this chapter 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 construction or development that constitutes or creates a hazard, nuisance, pollution or endangers the life or property of others.

B. A suspended permit may be reinstated by the municipality when:

(1) The municipality has inspected and approved the corrections to the violation that caused the suspension; and

(2) The municipality is satisfied that the violation has been corrected.

§ 17-903. Violations and Penalties; Remedies. [Ord. 2014-02, 5/5/2014]

1. It shall be a violation of this chapter to commit or permit any other person to commit any of the following acts:

A. To commence regulated activities prior to obtaining unconditional approval of an SWM site plan or in violation of the terms or conditions of an SWM site plan approved under this chapter.

B. To install, repair, modify or alter SWM facilities prior to obtaining approvals under this chapter or in a manner which violates the terms and conditions of any approval issued under this chapter.

C. To misuse or fail to maintain any SWM facility installed upon a property.

D. To construct any improvements upon, grade, fill or take any other action which will impair the proper functioning of any SWM facility.

E. To place false information on or omit relevant information from an application for approval under this chapter.

F. To fail to comply with any other provisions of this chapter.

2. For each violation of the provisions of this chapter, the owner, agent, lessee, or contractor or any other person who commits, takes part in, or assists in any such violation shall be liable, upon conviction thereof in a summary proceeding, to pay a fine of not less than $200 nor more than $1,000 for each offense, together with the costs of prosecution. Each day or portion thereof in which a violation exists shall be considered a separate violation of this chapter, and each section of this chapter which is violated shall be considered a separate violation.

3. The Township may also institute suits to restrain, prevent, or abate a violation of this chapter in equity or at law. Such proceedings in equity or at law may be initiated before any court of competent jurisdiction. In cases of emergency where, in the opinion of the court, the circumstances of the case require immediate abatement of the unlawful conduct, the court may, in its decree, fix a reasonable time during which the person responsible for the unlawful conduct shall correct or abate the same. The expense of such proceedings shall be recoverable from the violator in such manner as may now or hereafter be provided by law.

4. The Board of Supervisors may also take actions relating to suspension or revocation of permits set forth in § 17-902.

5. The Board of Supervisors may, by resolution, appoint a code enforcement officer to enforce this chapter and may authorize such code enforcement officer to institute summary criminal proceedings without prior action by the Board of Supervisors.

§ 17-904. Appeals. [Ord. 2014-02, 5/5/2014]

1. Any person aggrieved by any administrative action of Earl Township may appeal to the Board of Supervisors of Earl Township within 30 days of that action. Any such appeal shall be governed by the procedures of Article V of the Local Agency Law, 2 Pa.C.S.A. § 401 et seq.

2. Any person aggrieved by any decision of the Board of Supervisors of Earl Township may appeal to the Lancaster County Court of Common Pleas, in accordance with Article VII of Local Agency Law, 2 Pa.C.S.A. § 701 et seq., within 30 days of that decision.

§ 17-905. Modification of Provisions. [Ord. 2014-02, 5/5/2014]

1. The provisions of this chapter not relating to water quality are intended as minimum standards for the protection of the public health, safety, and welfare. The municipality reserves the right to modify or to extend them conditionally in individual cases as may be necessary in the public interest; provided, however, that such variation shall not have the effect of nullifying the intent and purpose of this chapter and that the applicant shows, to the satisfaction of the municipality, that the applicable regulation is unreasonable, or will cause undue hardship, or that an alternative proposal will allow for equal or better results. The list of such modifications, along with an explanation of and justification for each modification, shall be included on the plan. This section does not apply during an enforcement action.

2. In granting waivers/modifications for provisions of this chapter not relating to water quality, the municipality may impose such conditions as will, in its judgment, secure substantially the objectives of the standards and requirements of this chapter.

PART 10

REFERENCES

§ 17-1001. References Listed. [Ord. 2014-02, 5/5/2014]

1. 25 Pa. Code Chapter 102, Erosion and Sediment Control.

2. Minnesota Pollution Control Agency.

3. Code of Federal Regulations, Title 44: Emergency Management and Assistance, § 9.4, Definitions.

4. 25 Pa. Code Chapter 105.

5. Based on definition in Wisconsin Department of Natural Resources Administrative Rule NR 151.006.

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

7. City of Jacksonville website, http://www3.coj.net/Departments/CityFees/Glossary.aspx.

8. Lancaster County Model Subdivision and Land Development Ordinance.

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

10. CSN Technical Bulletin No. 5, Stormwater Design for High Intensity Redevelopment Projects in the Chesapeake Bay Watershed, Version 2.0. Chesapeake Stormwater Network, January 5, 2011, page 43.

11. "Penn State Urban Hydrology Model User Manual," by Thomas A. Seybert, PE, David F. Kibler, PE, and Elizabeth I. White, PE, August 1993, page 70, and VT/PSUHM help screen.

12. 25 Pa. Code Chapter 71, Administration of Sewage Facilities Planning Program, § 71.1.

17 Attachment 1

Township of Earl

APPENDIX A-1
EXEMPTION APPLICATION

Date Received _____ File Number _____ Property Act # _____
Submitted Fees $_____ Approval of Application Date _____

_____
_____

Project Street Address: _____
Owner's Name: _____
Signature: _____
Phone # /Fax # / E-mail: _____
Person/Firm to be completing work: _____
Phone # / Fax # / E-mail: _____

_____
_____

Proposed Activity:
Are you removing existing impervious as part of this project?

[ ] No
[ ] Yes, Total area of existing Impervious to be removed _____sq. ft.

[ ] Removal of ground cover, grading, filling, or excavation of an area (1,000 square feet or less)
- Total area of land disturbance: _____ sq. ft.

Type of Regulated Activity (check all that apply): [ ] Removal of ground cover,
[ ] Grading, [ ] Filling, [ ] Excavation, [ ] Other earth disturbance activity (please describe)
_____

[ ] Addition of Impervious Surface (1,000 square feet or less)
- Total new impervious surface proposed sq. ft.

Type of new impervious surface: [ ] driveway, [ ] shed, [ ] garage, [ ] deck, [ ] walkway,
[ ] other (please describe) _____
_____

Check all items below that will be Impacted by the project:
[ ] Floodplain
[ ] Wetlands
[ ] Slopes greater than 15%
[ ] Known bedrock within 6 feet of the ground surface
[ ] Riparian forest buffer
[ ] Natural water flow paths (creeks, streams, ponds, swales, etc.)
[ ] Existing known stormwater problem areas
[ ] Downstream property owners

Sketch
Provide a sketch of the proposed additional impervious area or land disturbance.

17 Attachment 2

Township of Earl

APPENDIX A-2
SMALL PROJECT APPLICATION

File Number _____ Date Received _____
Submitted Fees $ _____ Approval of Application Date _____

Project Street Address: _____

Project Name: _____

Owner's Name and Address: _____
Phone# / Fax# / Email: _____
Please list the date of any previous Minor Land Disturbance or Small Project Applications for the subject property:

_____

Proposed Activity:

[ ] Removal of ground cover, grading, filling or excavation of an area less than 5,000 square feet

Total area of land disturbance: _____ sq. ft.
Type of Regulated Activity (check all that apply):
- [ ] Removal of ground cover
- [ ] Grading
- [ ] Filling
- [ ] Excavation
- [ ] Other earth disturbance activity (please describe)

_____

[ ] Addition of Impervious Surface (more than 1,000 SF but less than 5,000 SF)
Type of new impervious surface: [ ] driveway, [ ] shed, [ ] garage, [ ] deck, [ ] walkway, [ ] other (describe) _____
Total new impervious surface proposed for construction: _____ sq. ft.
Are you removing existing impervious as part of this project?
- [ ] No
- [ ] Yes – Total area of existing Impervious to be removed _____ sq. ft.

Check all items below that will be impacted by the project:
- _____Mature trees
- _____Sinkholes
- _____Water wells
- _____Septic drainfields
- _____Alternate septic drainfields
- _____Creeks, streams, wetlands, or ponds
- _____Existing stormwater management facility (basin, swale, etc.)
- _____Easements

Total runoff volume to be permanently removed/managed on site from attached calculation worksheet:_____ gallons or _____ cubic feet

Proposed Stormwater Management Controls (Best Management Practice):
_____ Rain Garden
_____ Infiltration Trench
_____ Cistern
_____ Rain Barrel
_____ Other (describe) _____

Sketch

Provide a sketch of the proposed additional impervious area or land disturbance. Include the following on the sketch:

- Property boundary
- Location and approximate footprint of existing structures (buildings, patios, driveways, etc.)
- Approximate location of any of the following features which will be impacted by the project:
  - Mature trees
  - Sinkholes
  - Water wells
  - Septic drainfields
  - Alternate septic drainfields
  - Creeks, streams, wetlands, ponds
  - Existing stormwater management facilities (basins, swales, etc.)
- Location and approximate footprint of proposed impervious area or land disturbance.
- Approximate footprint and location of all structures on adjacent properties if located within fifty feet (50') of the proposed impervious area or land disturbance
- Location and description of proposed stormwater management facilities (e.g. rain gardens, swales, rain barrels, etc.)
- Direction of proposed stormwater discharge (e.g. with arrows)
- Scale and north arrow

Person/Firm to be completing work: _____
Phone# / Fax# / Email: _____

Name of Person Submitting this Application: _____
Signature: _____
Date: _____

Small Project Application Calculation Worksheet

The applicant may use the following to calculate the amount of runoff which must be managed in accordance with Section 302.B of this Ordinance.

Project Name: _____
Owner Name: _____

Proposed Additional Impervious Area: _____ square feet

Impervious Area Calculations

Calculate the amount of runoff to be permanently removed (managed on site through reuse, evaporation, transpiration or infiltration):

Additional impervious area ÷ 12 = Permanently Removed Runoff Volume (PRV)

_____ square feet of additional impervious ÷ 12 = _____cubic feet PRV
_____ cubic feet x 7.48 gallons per cubic feet = _____ gallons PRV

EXAMPLE
Small Project Application Calculation Worksheet

Landowner Name: Jane Doe (20 x 45' garage)

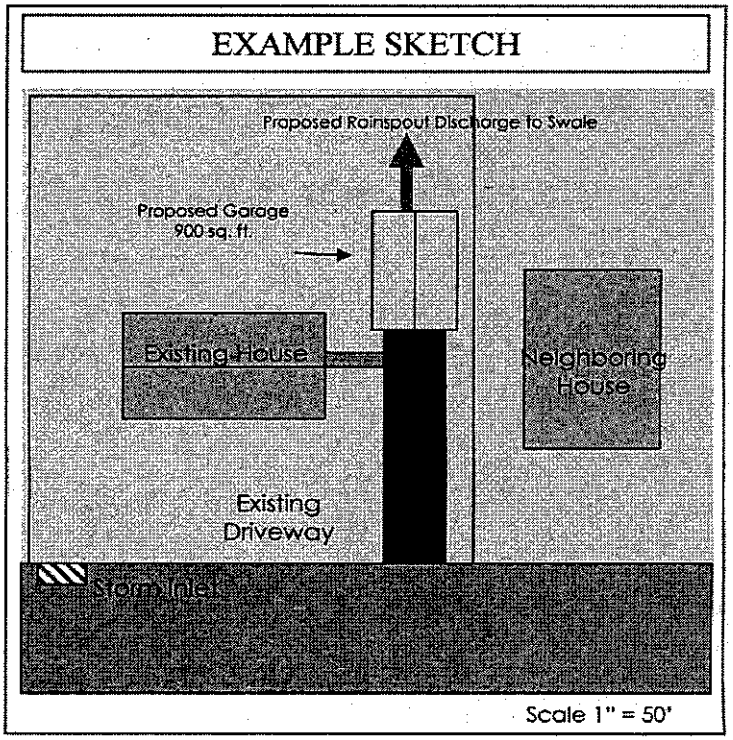
Owner Name: Jane Doe
Proposed Additional Impervious Area: 900 square feet

Impervious Area Calculations

Calculate the amount of runoff to be permanently removed (managed on site through reuse, evaporation, transpiration or infiltration) using the following formula:

Additional impervious area ÷ 12 = Permanently Removed Runoff Volume (PRV)

900 square feet of additional impervious ÷ 12 = 75 cubic feet PRV
75 cubic feet x 7.48 gallons per cubic feet = 561 gallons PRV



17 Attachment 3

Township of Earl

APPENDIX NO. B-1

RUNOFF COEFFICIENTS "C"
FOR RATIONAL FORMULA

Runoff Coefficients "C" for Rational Formula												
Soil Group	**A**			**B**			**C**			**D**		
Slope	**0-2%**	**2-6%**	**6%+**	**0-2%**	**2-6%**	**6%+**	**0-2%**	**2-6%**	**6%+**	**0-2%**	**2-6%**	**6%+**
Land Use												
Cultivated Land												
winter conditions	.14	.23	.34	.21	.32	.41	.27	.37	.48	.34	.45	.56
summer conditions	.10	.16	.22	.14	.20	.28	.19	.26	.33	.23	.29	.38
Fallowed Fields												
poor conditions	.12	.19	.28	.17	.25	.34	.23	.33	.40	.27	.35	.45
good conditions	.08	.13	.16	.11	.15	.21	.14	.19	.26	.18	.23	.31
Forest/Woodland	.08	.11	.14	.10	.14	.18	.12	.16	.20	.15	.20	.25
Grass Areas												
good conditions	.10	.16	.20	.14	.19	.26	.18	.22	.30	.21	.25	.35
average conditions	.12	.18	.22	.16	.21	.28	.20	.25	.34	.24	.29	.41
poor conditions	.14	.21	.30	.18	.28	.37	.25	.35	.44	.30	.40	.50
Impervious Areas	.90	.91	.92	.91	.92	.93	.92	.93	.94	.93	.94	.95
Weighted Residential												
lot size c acre	.29	.33	.36	.31	.35	.40	.34	.38	.44	.36	.41	.48
lot size 1/4 acre	.26	.30	.34	.29	.33	.38	.32	.36	.42	.34	.38	.46
lot size a acre	.24	.28	.31	.26	.32	.35	.29	.35	.40	.32	.36	.45
lot size 1/2 acre	.21	.25	.28	.24	.27	.32	.27	.31	.37	.30	.34	.43
lot size 1 acre	.18	.23	.26	.21	.24	.30	.24	.29	.36	.28	.32	.41

Township of Earl

APPENDIX B-2

RUNOFF CURVE NUMBERS "CN"
FOR SCS METHOD

Runoff Curve Numbers "CN" for SCS Method												
Soil Group	**A**			**B**			**C**			**D**		
Slope	**0-2%**	**2-6%**	**6%+**	**0-2%**	**2-6%**	**6%+**	**0-2%**	**2-6%**	**6%+**	**0-2%**	**2-6%**	**6%+**
Land Use												
Cultivated Land												
Winter conditions	48	60	65	62	73	73	68	78	79	77	81	88
Summer conditions	35	51	61	48	55	70	57	65	77	64	69	80
Fallowed Fields												
Poor conditions	45	54	76	56	63	85	64	74	90	69	77	93
Good conditions	30	44	74	43	48	83	48	54	88	56	60	90
Forest/Woodland	30	30	40	42	46	55	45	50	70	50	56	77
Grass Areas												
Good conditions	35	39	51	48	54	61	56	59	74	62	63	80
Average conditions	45	49	53	52	55	69	60	63	79	65	69	84
Poor conditions	48	55	68	56	67	79	66	74	86	73	81	89
Impervious Areas	96	97	98	96	97	98	96	97	98	96	97	98
Weighted Residential												
Lot size 1/6 acre	71	75	77	74	76	85	78	80	90	81	83	92
Lot size 1/4 acre	61	62	67	66	69	75	67	69	83	75	78	87
Lot size 1/3 acre	57	59	65	64	66	72	65	66	81	74	77	86
Lot size 1/2 acre	54	57	63	62	64	70	63	65	80	72	76	85
Lot size 1 acre	51	55	62	61	63	68	61	64	79	71	75	84

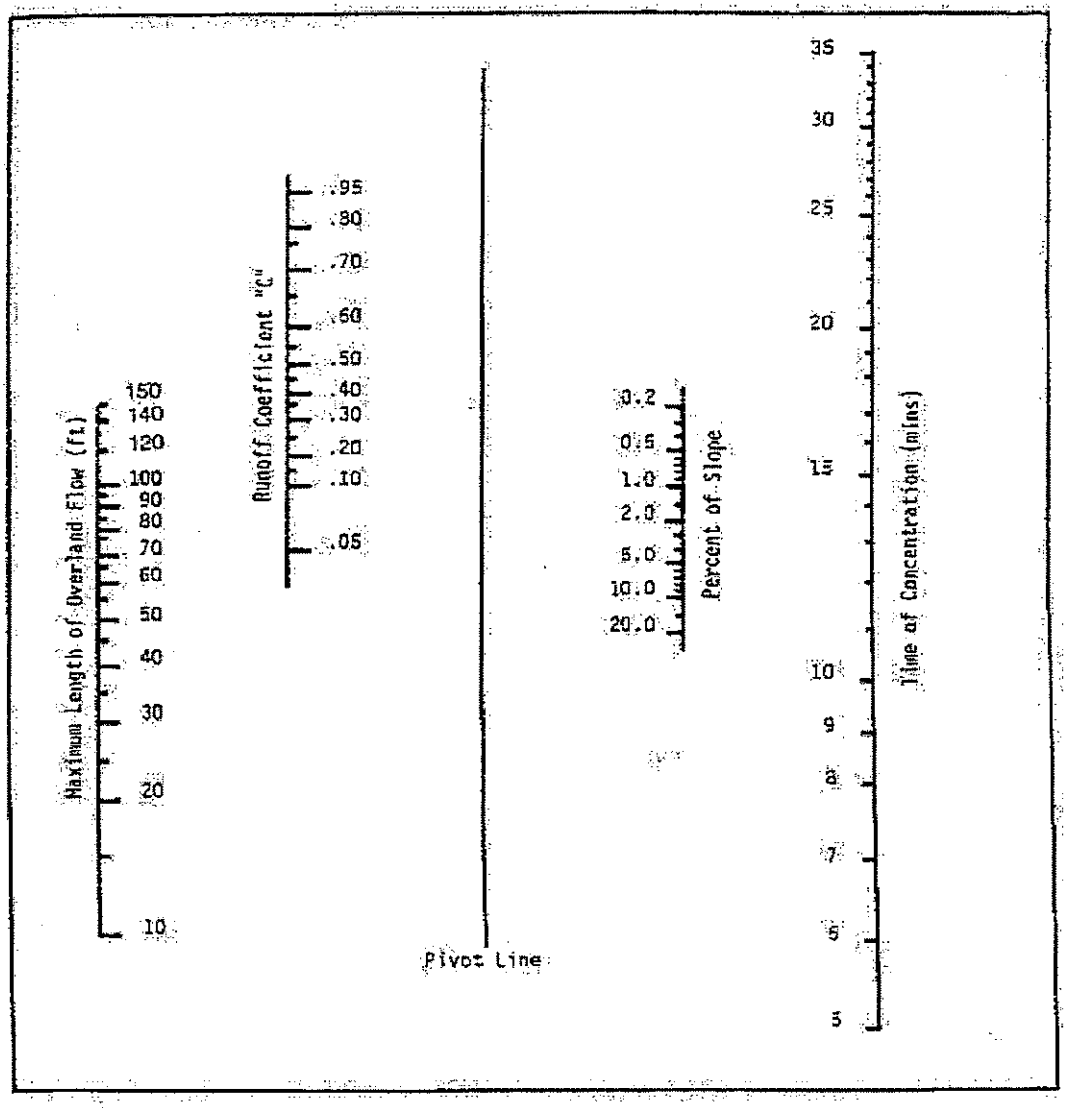
17 Attachment 5

Township of Earl

APPENDIX NO. B-3

NOMOGRAPH FOR DETERMINING SHEET FLOW

(for use with the Rational Method)



17 Attachment 6

Township of Earl

Appendix B-4
Worksheet No. 1: Time of Concentration (T_c) or Travel Time (T_t)

Project _____ By _____ Date _____
Location _____ Checked _____ Date _____
Circle One: Present Developed _____
Circle One: Tc Tt through subarea _____

NOTES: Space for as many as two segments per flow type can be used for each worksheet. Include a map, schematic or description of flow segments.

Sheet Flow (Applicable to T_c Only)	**Segment ID**				
1. Surface description (table 3-1)					
2. Manning's roughness coefficient, n (table 3-1)					
3. Flow length, L (total L ≤** 150 feet) ft					
4. Two-year 24-Hour rainfall, P_2 In					
5. Land slope, s ft/ft					
6. $T_t = \frac{0.007\ (nL)^{0.8}}{P_2^{0.5} \times S^{0.4}}$ Compute T_t hr		+		=	

Shallow Concentrated Flow	**Segment ID**				
7.Surface description (paved or unpaved)					
8. Flow Length, L ft					
9. Watercourse slope, s ft/ft					
10. Average velocity, V (Figure 3-1) ft/s					
11 $Tt = \frac{L}{3600\ V}$ Compute T_t hr		+		=	

Channel Flow	**Segment ID**				
12. Cross sectional flow area, a ft^2					
13. Wetted perimeter, P_w ft					
14. Hydraulic radius, $r = \frac{a}{P_w}$ Compute r ft					
15. Channel slope, s ft/ft					
16.Manning's roughness coefficient, n					
17 $V = \frac{1.49 \times r^{\frac{2}{3}} \times s^{\frac{1}{2}}}{n}$ Compute V ft/s					
18. Flow Length, L ft					
19 $Tt = \frac{L}{3600V}$ Compute T_t hr		+		=	
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11 and 19) hr					

* Table 3-1 per latest TR-55, Urban Hydrology for Small Watershed
** 150 feet sheet flow length per latest TR-55 revision

17 Attachment 7

Township of Earl

APPENDIX B-5

AVERAGE VELOCITIES FOR ESTIMATING TRAVEL TIME FOR SHALLOW CONCENTRATED FLOW

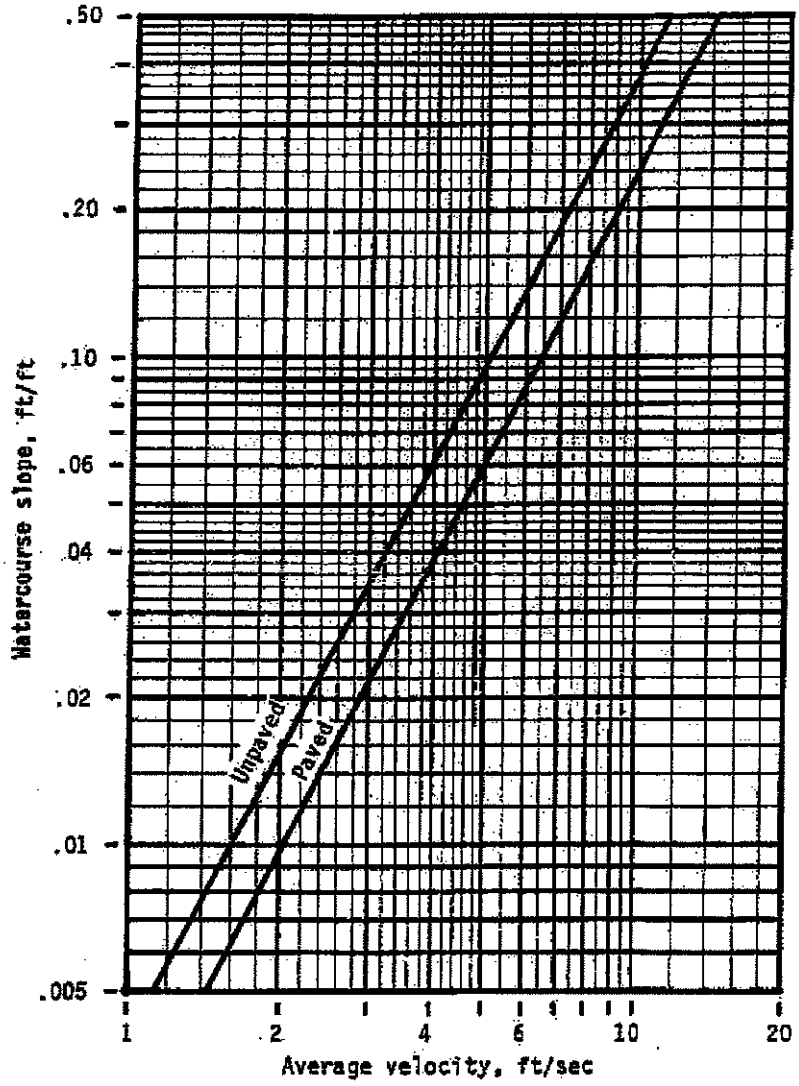


Figure 3.1-Average velocities for estimating travel time for shallow concentrated flow.

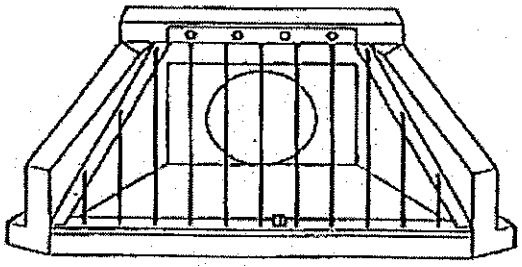
3-2 **(210, VI-TR-55, Second Ed., June 1986)**

Township of Earl

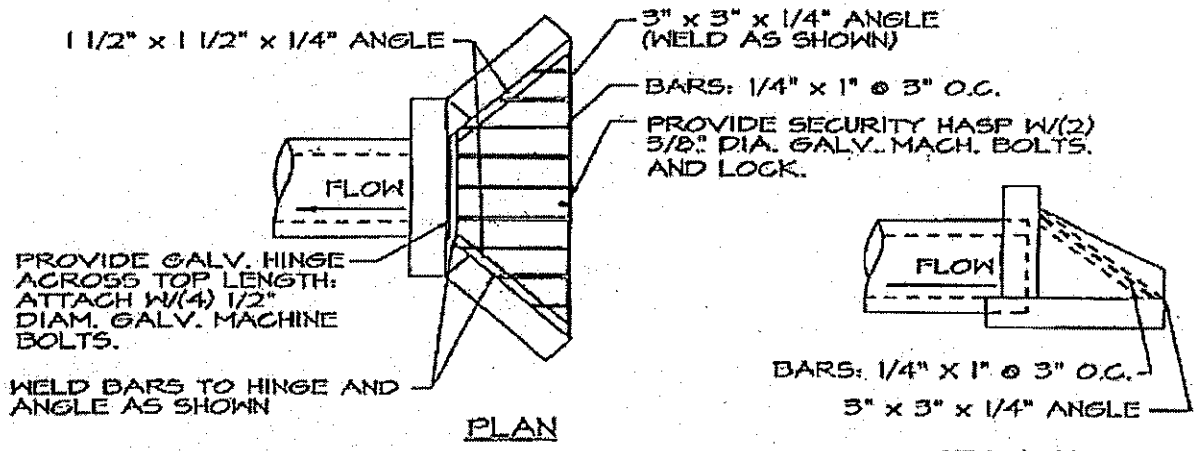
APPENDIX C
Trash Rack Detail

NOTES:

1. MATERIAL TO BE: GALVANIZED STEEL W/RUST INHIBITOR OR ALUMINUM.
2. IF STEEL IS UTILIZED, THE UNIT SHALL BE FABRICATED, CLEANED AND THEN HOT DIP GALVANIZED AFTER FABRICATION.
3. DIMENSION APPROPRIATELY FOR HEADWALL UTILIZED.



ISOMETRIC



TRASH RACK DETAIL (TYPE DW HEADWALLS ONLY)

NO SCALE

17 Attachment 9

Township of Earl

APPENDIX D
STORMWATER MANAGEMENT AGREEMENT AND DECLARATION OF EASEMENT

THIS AGREEMENT AND DECLARATION OF EASEMENT made this _____ day of _____, 201__, by and between EARL TOWNSHIP, Lancaster County, Pennsylvania, a municipal corporation duly organized under the laws of the Commonwealth of Pennsylvania, with a municipal office located at 517 North Railroad Avenue, New Holland, PA 17557 (hereinafter referred to as the "Township") and _____, a _____ with a mailing address of _____ (hereinafter, whether singular or plural, referred to as the "Grantor").

BACKGROUND

Grantor is the owner of the premises located at _____ in the Township of Earl, Lancaster County, Pennsylvania, as more specifically described in a deed recorded in Record Book _____, Volume _____, Page _____, in the office of the Recorder of Deeds in and for Lancaster County, Pennsylvania, and as shown on the final subdivision plan, prepared by _____, Subdivision Plan Book _____, Page _____ (hereafter referred to as the "Premises").

Prior to beginning construction on any subdivision or land development, Grantor is required, under the Earl Township Subdivision and Land Development Ordinance of 1998 and the Earl Township Stormwater Management Ordinance, as amended (collectively referred to as the "Ordinance"), to file a final plan with the Township Supervisors and obtain approval of the final plan from the Township Board of Supervisors. Pursuant to the Ordinance, Grantor must include stormwater management data in its subdivision and/or land development application. The Ordinance requires that Grantor's final plan reflect and/or be accompanied with supporting documentation which identifies the ownership of, and the method of administering and maintaining, all permanent stormwater management facilities. Drainage courses, swales, grassed waterways, stormwater inlets, pipes, conduits, detention basins, retention basins, infiltration structures, and other stormwater management facilities, including best management practices facilities ("BMPs") shall be included under the term "stormwater management facilities" in this Agreement and Declaration of Easement. Prior to final approval of any subdivision and land development plan, the issuance of any permit or the commencement of any development, a developer must submit a stormwater management plan to the Township for approval. The Earl Township Stormwater Management Ordinance provides that no approval of any subdivision, land development plan, the issuance of any permit, or the commencement of any development shall be granted prior to the approval of a stormwater management plan.

The purpose of this Agreement and the Declaration of Easement is to describe the ownership and maintenance responsibilities for the stormwater facilities and the erosion and sedimentation control facilities which will be installed on the Premises and to impose the ownership and maintenance responsibilities upon Grantor, his heirs, personal representatives, successors and assigns, and upon successor owners of the Premises, and to set forth the rights of the Township.

NOW, THEREFORE, intending to be legally bound hereby and in consideration of receiving approval of its subdivision and/or land development plan and/or its stormwater management site plan (hereinafter referred to as the "Final Plan") from the Board of Supervisors of Earl Township, and in consideration of receiving permits from the Township to develop the Premises, Grantor, for Grantor and his heirs, personal representatives, successors and assigns, covenants and declares as follows:

1. The stormwater facilities will be owned by the Grantor, his heirs, personal representatives, successors and assigns.

2. All drainage courses, swales, stormwater inlets, pipes, conduits, detention basins, BMPs and other stormwater facilities shall be installed, constructed and maintained by Grantor, his heirs, personal representatives, successors and assigns, in a first-class condition in conformance with the Final Plan, as approved by the Board of Supervisors, including any accompanying stormwater management plans and information, and as recorded in the office of the Recorder of Deeds in and for Lancaster County and in a manner sufficient to meet or exceed the performance standards and specifications set forth on the plan as approved by the Township. These responsibilities shall include, but not be limited to, the following:

(a) Liming, fertilizing, seeding and mulching of vegetated channels and all other unstabilized soils or areas according to the specifications in the "Erosion and Sedimentation Pollution Control Manual" published by the Pennsylvania Department of Environmental Protection, the Penn State Agronomy Guide, or such similar accepted standard.

(b) Reestablishment of vegetation by seeding and mulching or sodding of scoured areas or areas where vegetation has not been successfully established.

(c) Mowing as necessary to maintain adequate strands of grass and to control weeds. Chemical weed control may be used if federal, state and local laws and regulations are met. Selection of seed mixtures shall be subject to approval by the Township.

(d) Removal of silt from all permanent structures which trap silt or sediment in order to keep the material from building up in grass waterways, pipes, detention or retention basins, infiltration structures, BMPs, and/or other facilities and thus reducing their capacity.

(e) Removal of silt from all permanent structures, in particular, BMPs, in order to maintain the design storage volumes. Regular programs shall be established and maintained.

(f) Regular inspection of the areas in question to assure proper maintenance and care, including but not limited to proper implementation of BMPs.

(g) Regular maintenance to ensure that all pipes, swales, and detention facilities shall be kept free of any debris or other obstruction.

(h) Regular maintenance of the drainage facilities shall consist of weekly inspections of each facility to determine how well the slope stabilization measures are working. All facilities will be inspected after each storm to determine their durability to driving rain and erosion. Sediment cleaned from silt control fences shall be disposed of in an approved disposal area. Any seeded or sodded areas that have become stripped of vegetation shall be reestablished with appropriate stabilization materials. This procedure shall be repeated after every sizable storm until no more signs of erosion are evident. At monthly intervals thereafter, inspections and necessary cleaning will be performed.

(i) Regular maintenance of all facilities designed to improve water quality to ensure that such facilities function in accordance with their design. Maintenance of the infiltration bed and infiltration system by mowing grass regularly over the infiltration bed; keeping the yard drains and roof drains free of debris in good repair at all times; flushing the infiltration system using a water hose at the cleanouts once every 90 days to ensure the infiltration system is clear of debris; keeping the sumps in the yard inlets and downspout sumps free of debris; and inspecting the infiltration bed four times per year or after each rain event exceeding one inch.

(j) Removal of any subsidence from all permanent structures which trap silt or sediment in order to keep the material from building up in grass waterways, pipes, detention or retention basins, infiltration structures, BMPs and/or other facilities and thus reducing their capacity.

(k) Repair of any subsidence, including subsidence caused by sinkholes. Grantor, his heirs, personal representatives, successors and assigns, shall be responsible for performing the foregoing maintenance.

3. Grantor, his heirs, personal representatives, successors and assigns, shall be responsible for maintaining records of all inspections of and maintenance to BMPs and other stormwater management facilities. Grantor, his heirs, personal representatives, successors and assigns, shall be responsible to prepare all annual BMP and post-construction stormwater management facility reports detailing the annual inspection and maintenance activities performed which are required by the terms of any NPDES permit or other state or federal regulation or requirement and submit such reports to the Township on or before _____ of each calendar year, together with any fee which the Township may impose for the review and processing of such report. It is the responsibility of Grantor to inform successor owners of the Premises or any lot created from the Premises of this reporting requirement. The failure to submit an annual report is a violation of this Agreement. The Township may prepare any required report and recover all costs required to prepare such report from the then owner of the Premises or any lot

created from the Premises, plus a penalty of 10% of such costs, and may file a municipal claim to secure payment of such costs.

4. Grantor, his heirs, personal representatives, successors and essigns, agree that the failure to maintain all drainage courses, swales, stormwater inlets, pipes, conduits, detention basins, BMPs and other stormwater management facilities in a first-class condition in conformance with this Agreement and approved Final Plan, including any accompanying stormwater management plans and information, and as recorded in the Office of the Recorder of Deeds in and for Lancaster County, shall constitute a nuisance and shall be abatable by the Township as such.

5. Grantor, for himself, his hairs, personal representatives, successors and assigns, authorizes the Township, at any time and from time to time, by its authorized representatives, to enter upon the Premises to inspect the stormwater facilities.

6. The Township may require that Grantor, and assigns or any future owner or occupier of the Premises or any part thereof, take such corrective measures as the Township may deem reasonably necessary to bring the Premises into compliance with this Agreement and with the approved Final Plan, including any accompanying stormwater management plans and information, and as recorded in the office of the Recorder of Deeds in and for Lancaster County.

7. Upon the failure of the owner or occupier of the Premises or any part thereof to comply with the terms of this Stormwater Management Agreement or to take corrective measures following reasonable written notice from the Township, the Township, through its authorized representatives, may take such corrective measures as it deems reasonably necessary to bring the Premises into compliance with this Agreement and with the approved Final Plan, including any accompanying stormwater management plans and information and as recorded in the office of the Recorder of Deeds in and for Lancaster County, including, but not limited to, the removal of any blockage or obstruction from drainage pipes and swales, detention basins and BMPs, and may charge the cost thereof to Grantor, his heirs, personal representatives, successors and assigns, or any owner of the Premises or any part thereof and, in default of such payment, may cause a municipal lien to be imposed upon the Premises or any part thereof. Any municipal lien filed pursuant to this Agreement shall be in the amount of all costs incurred by the Township, plus a penalty of 10% of such costs, plus the Township's reasonable attorneys' fees.

8. Grantor hereby imposes upon the Premises for the benefit of all present and future owners of the Premises or part of the Premises, the Township, and all other property owners affected by the stormwater facilities, the perpetual right, privilege and easement for the draining of stormwater in and through the drainage courses, swales, stormwater inlets, pipes, conduits, detention basins, BMPs and other stormwater facilities depicted on the plan or plans submitted to the Township or hereafter made of record and now or hereafter installed on or constructed upon the Premises, and, in addition, easements of access to the stormwater facilities.

9. Grantor agrees to indemnify the Township and all of its elected and appointed officials, agents and employees (hereafter collectively referred to as the "indemnitees") against and hold indemnitees harmless from any and all liability, loss or damage, including attorneys' fees and cost of investigation and defense, as a result of claims, demands, costs or judgments against indemnitees which arise as a result of the design, installation, construction or maintenance of the stormwater facilities.

10. It is the intent of the parties to this Agreement that personal liability and maintenance obligations shall pass to subsequent title owners upon change in ownership of the Premises or any lot created from the Premises and such subsequent owners shall assume all personal liability and maintenance obligations for the time period during which they hold title. Personal liability shall remain for any violations of this Agreement and Declaration of Easement which occurred during the period in which an owner held title.

11. The Township may, in addition to the remedies prescribed herein, proceed with any action at law or in equity to bring about compliance with the Earl Township Stormwater Management Ordinance and/or this Agreement.

12. Grantor shall, upon completion and approval by the Township of the installation of the stormwater management facilities, and prior to the release of the improvement security, deposit financial security with the Township to secure the structural integrity of the stormwater management facilities as well as the functioning of the stormwater management facilities in accordance with the design and specifications of the approved plans. The financial security shall be in the amount of 15% of the actual cost of installation of the stormwater management facilities and shall have a term of not less than 18 months.

13. If ownership or maintenance responsibility of the stormwater management facilities is assigned to a homeowners' association, condominium unit owners' association, or similar entity, the Township shall be notified. If such association fails to properly maintain the stormwater management facilities, the Township shall have the same rights granted to municipalities under Section 705 of the Pennsylvania Municipalities Planning Code, Act of July 31, 1968, P.L. 805. No. 247, with reference to maintenance of common open space, to maintain the stormwater management facilities. Any association so formed shall enter into an agreement with the Township recognizing its duties and the Township's rights under this Agreement.

14. Grantor's personal liability under this Agreement shall cease at such time as: (a) all stormwater management facilities have been constructed in accordance with the specifications of the Ordinance and with any applicable subdivision and land development ordinance and the approved plans; (b) the stormwater management facilities have been inspected and approved by the Township Engineer; (c) all financial security, including any maintenance security, posted by Grantor has been released by the Township; and (d) Grantor has transferred all lots to be created from the Premises to third parties. Notwithstanding the foregoing, Grantor's personal liability shall continue for any violations of this Agreement and Declaration of Easement which occurred during the time that Grantor owned the Premises or any lot created from the Premises, or in

the event the stormwater management facilities were not completed, inspected or approved as set forth in (a) through (c) herein.

15. This Agreement and Declaration of Easement shall be binding upon the Grantor, his heirs, personal representatives, successors and assigns, and all present and future owners of the Premises or any part thereof, and is intended to be recorded in order to give notice to future owners of the Premises of their duties and responsibilities with respect to the stormwater facilities. Grantor shall include a specific reference to this Stormwater Management Agreement and Declaration of Easement in any deed of conveyance for the Premises or any part thereof. Owner shall record this Agreement in the office of the Lancaster County Recorder of Deeds.

16. This Agreement and Declaration of Easement may be amended only by written instrument signed on behalf of all owners of the Premises and the Township.

17. When the sense so requires, words of any gender used in this Agreement and Declaration of Easement shall be held to include any other gender, and the words in the singular number shall be held to include the plural, and vice versa.

IN WITNESS WHEREOF, the undersigned have caused this Agreement and Declaration to be executed on the day and year first above written.

TOWNSHIP OF EARL

_____ By: _____
Secretary (Vice) Chairman Supervisor

_____ _____(SEAL)
Witness Owner

_____ _____(SEAL)
Witness Owner

ATTEST: (CORPORATION)

_____ By: _____
Secretary Title

(TOWNSHIP ACKNOWLEDGMENT)

COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF LANCASTER)

On this _____ day of _____, 20_____, before me, the undersigned officer, a notary public in and for the aforesaid Commonwealth and County, personally appeared _____, who acknowledged _____self to be (Vice) Chairman of the Board of Supervisors of Earl Township, Lancaster County, Pennsylvania, and that he/she, as such officer, being authorized to do so, executed the foregoing Stormwater Management Agreement and Declaration of Easement for the purposes therein contained, by signing the name of such Township by _____self as such officer.

IN WITNESS WHEREOF, I set my hand and official seal.

_____
Notary Public

(CORPORATE ACKNOWLEDGMENT)

STATE OF)
) SS:
COUNTY OF)

On this _____ day of _____, 201___, before me, the undersigned officer, a notary public in and for the aforesaid State and County, personally appeared _____, who acknowledged himself to be the _____ of _____, and that being duly authorized to do so as such corporate officer, executed the foregoing Stormwater Management Agreement and Declaration of Easement for the purposes therein contained on behalf of the corporation.

IN WITNESS WHEREOF, I set my hand and official seal.

_____
Notary Public

COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF LANCASTER)

On this _____ day of _____, 20_____, before me, the undersigned officer, a notary public in and for the aforesaid Commonwealth and County, personally appeared _____, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he/she executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I set my hand and official seal.

_____
Notary Public

17 Attachment 10

Appendix E
PCSM Title Block Information
[Added by Ord. No. 2022-02, 9/6/2022]

INDIVIDUAL BMP INFORMATION			
BMP Name:		BMP #:	
BMP Description/Type:		Acres treated:	
BMP Length (ft) (if applicable):		Imp. acres treated:	
BMP Area (ac):		Lifecycle (yrs):	
BMP Depth (ft):		Other:	
Vol. of stormwater treated (cf):			
Vol. reduction (cf) (if applicable):			

Other Information that should already be somewhere else on the title page, or should be added:

NPDES Permit # (if applicable)
Site Location (Address)
Owner Name
Owner Address
Owner Phone #
Watershed
Receiving Waterbody
Borough Outfall #