Chapter 260

STORMWATER MANAGEMENT

ARTICLE I
General Provisions

§ 260-1. Short title.
§ 260-2. Statement of findings.
§ 260-3. Purpose.
§ 260-4. Statutory authority.
§ 260-5. Applicability.
§ 260-6. Repealer; effect on prior regulations.
§ 260-7. Compatibility with other requirements.
§ 260-8. Erroneous permit.
§ 260-9. Township liability.
§ 260-10. Duty of persons engaged in development of land.

ARTICLE II
Definitions

§ 260-11. Interpretation and word usage.
§ 260-12. Definitions of terms.

ARTICLE III
Stormwater Management Standards

§ 260-13. General requirements.
§ 260-14. Volume controls.
§ 260-15. Rate controls.
§ 260-16. Stormwater management performance standards.
§ 260-17. Calculation methodology.
§ 260-18. Riparian corridors.
§ 260-19. Aboveground storage facility design criteria.
§ 260-20. Subsurface storage facility design criteria.
§ 260-21. Conveyance facility design criteria.
§ 260-22. (Reserved)

ARTICLE IV
Stormwater Management Site Plans

§ 260-23. General plan requirements.
§ 260-24. Drafting standards.
§ 260-25. SWM site plan information.
§ 260-26. Additional information.
§ 260-27. Supplemental information.

ARTICLE V
Plan Processing Procedures

§ 260-28. Exemption from plan submission requirements.
§ 260-29. Alternate plan processing procedures.
§ 260-30. Pre-application meeting.
§ 260-31. Stormwater management site plan.
§ 260-32. Township review.
§ 260-33. Authorization to construct and term of validity.
§ 260-34. As-built plan.
§ 260-35. Certificate of completion.
§ 260-36. Financial security.

ARTICLE VI
Operation and Maintenance (O&M)

§ 260-37. Responsibilities of developers and landowners.

§ 260-38. Operation and maintenance agreements.

§ 260-39. Operation and maintenance (O&M) plan contents.

§ 260-40. Maintenance of facilities accepted by Township.

§ 260-41. Maintenance of existing facilities/BMPs.

§ 260-42. Stormwater Maintenance Fund.

ARTICLE VII
Fees and Expenses

§ 260-43. General.

§ 260-44. Expenses covered by fees.

ARTICLE VIII
Prohibitions

§ 260-45. Prohibited discharges and connections.

§ 260-46. Alteration of SWM BMPs.

ARTICLE IX
Enforcement and Penalties

§ 260-47. Schedule of inspections.

§ 260-48. Right of entry.

§ 260-49. Enforcement.

§ 260-50. Violations and penalties.

§ 260-51. Appeals.

§ 260-52. Modification of provisions.

ARTICLE X
References

§ 260-53. References listed.

[HISTORY: Adopted by the Board of Supervisors of the Township of East Hempfield 5-7-2014 by Ord. No. 2014-04.[1] Amendments noted where applicable.]

GENERAL REFERENCES

Sewers — See Ch. 200.
Streets and sidewalks — See Ch. 222.
Subdivision and land development — See Ch. 265.
Zoning — See Ch. 270.

ARTICLE I
General Provisions

§ 260-1. Short title.

This chapter shall be known and may be cited as the "East Hempfield Township Stormwater Management Ordinance (SWMO)."

§ 260-2. Statement of findings.

The Board of Supervisors of the East Hempfield Township finds that:

1. Editor's Note: This ordinance also superseded former Ch. 260, Stormwater Management, adopted 11-19-2008 by Ord. No. 2008-10. See also § 260-6.

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 here and in downstream communities, reduces groundwater recharge, threatens public health and safety, and increases nonpoint source pollution of water resources.

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

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

D. Federal and state regulations require certain municipalities including East Hempfield Township 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 and wetland areas 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).

§ 260-3. Purpose.

The purpose of this chapter is to promote health, safety, and welfare by minimizing the harms and maximizing the benefits described in § 260-2 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 and groundwater quality and to otherwise protect water resources.

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

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

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.

§ 260-4. Statutory authority.

A. Primary authority: The Township is empowered to regulate these activities by the authority of the Act of October 4, 1978, 32 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 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.[2]

B. Secondary authority: The 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.[3]

§ 260-5. Applicability.

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

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

B. Earth-disturbance activities and associated stormwater management controls are also regulated under existing state law and implementing regulations. This chapter shall operate in coordination with those parallel requirements; the requirements of this chapter shall be no less restrictive in meeting the purposes of this chapter than state law.

C. The provisions, regulations, limitations, and restrictions of this chapter governing maintenance of SWM facilities shall apply to all SWM facilities existing on the date of

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

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

this chapter or installed after the date of this chapter and shall apply to all persons responsible for maintenance of such SWM facilities and all persons who own or occupy the land upon which such SWM facilities are located.

D. The provisions, regulations, limitations and restrictions of this chapter governing grading, erosion and sedimentation control, excavation and other earth-disturbance activities shall apply to all persons performing any such activities within the Township and to all landowners of lots upon which such activities are performed.

E. No person shall use or modify any land or watercourse, and no person shall disturb, move, strip or modify the earth, and no person shall build, install or extend any structure or other impervious surface or semi-impervious surface without full compliance with the terms of this chapter and other applicable regulations.

F. It shall be the responsibility of the developer and, if different, the landowner, to ensure that all contractors, agents or other persons comply with all requirements of the chapter and with any approved SWM site plan or stormwater management permit.

§ 260-6. Repealer; effect on prior regulations.

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

A. 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, this chapter shall be considered a restatement and not a repeal of such regulations. It is the specific intent of the Board of Supervisors 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 East Hempfield 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.

B. Any plan (hereinafter defined) 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.

§ 260-7. Compatibility with other requirements.

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.

§ 260-8. Erroneous permit.

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

§ 260-9. Township liability.

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 Township or any of its officials or employees shall not constitute a representation, guarantee or warranty of any kind by the 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 Township and its officials and employees. The Township, by enacting and amending this chapter, does not waive or limit any immunity granted to the 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.

§ 260-10. Duty of persons engaged in development of land.

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.

ARTICLE II
Definitions

§ 260-11. Interpretation and word usage.

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 shall be construed as defined in standard dictionary usage.

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

§ 260-12. Definitions of terms.

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 the Stormwater Management Act.

AGRICULTURAL ACTIVITY — Activities associated with agriculture such as agricultural cultivation, agricultural operation, and animal heavy use areas. This includes the work of producing crops 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.

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, as hereinafter defined, including his heirs, successors and assigns, who has filed an application to the Township for approval to engage in any regulated activity at a development site located within the Township.

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 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 § 260-53A.) See also "nonstructural BMP" and "structural BMP."

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

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.

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.

CONSERVATION DISTRICT — The Lancaster County Conservation District or any agency successor thereto.

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.

DCNR — The Pennsylvania Department of Conservation and Natural Resources or any agency successor thereto.

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 stormwater officer of East Hempfield Township involved with the administration, review or enforcement of any provisions of this chapter by appointment, 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 SITE (SITE) — The specific area of land where regulated activities in the Township 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.

DRAINAGE CONVEYANCE FACILITY — A SWM facility designed to transmit stormwater runoff, including 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 SWM 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.

E&S — Erosion and sediment.

E&S MANUAL — The Erosion and Sediment Pollution Control Program Manual, Number 363-2134-008, prepared by DEP.

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 § 260-53A.)

ENVIRONMENTALLY SENSITIVE AREA — Slopes greater than 15%, shallow bedrock [located within six feet of ground surface (NOTE: See § 260-53B.)], 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.

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.

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

FEMA — The Federal Emergency Management Agency and any agency successor thereto.

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 § 260-53C.)

FLOODPLAIN — As defined in the East Hempfield Township Zoning Ordinance.[4]

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

FLOODWAY — As defined in the East Hempfield Township Zoning Ordinance.[5]

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.

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4. **Editor's Note: See Ch. 270, Zoning.**

5. **Editor's Note: See Ch. 270, Zoning.**

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

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.

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 inches/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 inches/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 inches/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 inches/hour).

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 STRUCTURES — A structure designed to direct runoff into the ground (e.g., french drains, seepage pits, seepage trench, 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. Invasive 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 activities meeting the definition of "land development" as defined in the Township Subdivision and Land Development Ordinance.[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.

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 § 260-53L.). Seasonal 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.

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 Township'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 § 260-53E.)

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6. **Editor's Note: See Ch. 265, Subdivision and Land Development.**

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

MUNICIPALITY — The Township of East Hempfield, 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 (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 POLLUTION 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 predominant hydrologic soil group found at the site.

NONPOINT 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.

NRCS — 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 — Point where water flows from a conduit, stream, pipe, or drain.

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

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

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

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 East Hempfield Township, Lancaster County, Pennsylvania.

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

PRESENT WORTH — The equivalence of any future amount to any present amount.

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

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

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.

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 East Hempfield Township Subdivision and Land Development Ordinance;[7]

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 SWM facilities and appurtenances thereto;

F. Diversion or piping of any watercourse; and

G. Any other regulated activities where the Township determines that said activities may affect any existing watercourse's SWM facilities, or stormwater drainage patterns.

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.

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

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.

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 § 260-53F.)

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.

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7. **Editor's Note: See Ch. 265, Subdivision and Land Development.**

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

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 — 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 § 260-53A.)

SEDIMENTATION — The action or process of forming or depositing sediment in waters of this commonwealth. (NOTE: See § 260-53A.)

SEDIMENT BASIN — A barrier, dam, 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 the 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/SEMI-PERVIOUS 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 do not create more than 2,500 square feet of impervious area or involve the removal of ground cover, grading, filling, or excavation of more than one acre, and do not require the submission of a subdivision or land development plan.

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."

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 and the Clean Water Act.

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

STORM EVENT — A storm of a specific duration, intensity, and frequency. (NOTE: See § 260-53G.)

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.

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 BMP) — See "BMPs."

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 Article VI 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.

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 § 260-53H.)

SUBDIVISION — A subdivision as defined in the MPC.

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."

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

TOWNSHIP — The Township of East Hempfield, Lancaster County, Pennsylvania.

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

USDA — United States Department of Agriculture or agency thereto.

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 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, ferns, and similar areas.

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.

ARTICLE III
Stormwater Management Standards

§ 260-13. General requirements.

A. Preparation of a SWM site plan is required for all regulated activities, unless preparation and submission of the SWM site plan is specifically exempted according to § 260-28 or the activity qualifies as a small project.

B. No regulated activities shall commence until the Township issues unconditional written approval of a SWM site plan.

C. The Township 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.[8] The Township 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.

D. 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. Various BMPs and their design standards are listed in the Erosion and Sediment Pollution Control Program Manual (E8S Manual), No. 363-2134-008 (March 2012), as amended and updated (NOTE: See § 260-53I.), and the BMP Manual.

E. 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 Township in accordance with § 260-13C. 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.

F. Impervious areas;

(1) 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.

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

(3) Any areas designed to initially be gravel or crushed stone shall be assumed to be impervious.

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

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

(1) Protect health, safety, and property;

(2) Meet the water quality goals of this chapter by implementing measures to:

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

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

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

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

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

(3) To the maximum extent practicable, the techniques for low-impact development (LID) practices described in the BMP Manual shall be incorporated. The proposed LID practices shall be noted on the Stormwater management site plan.

H. The design of all SWM facilities over karst shall include an evaluation of measures to minimize adverse effects.

I. 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.

J. 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:

(1) 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 Township that the selected BMP has design criteria which allow for a smaller separation.

(2) 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.

(a) 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.

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

K. The calculation methodology to be used in the analysis of volume and peak rates of discharge shall be as required in § 260-17, calculation methodology.

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

(1) 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.

(2) Invasive vegetation may not be included in any planting schedule.

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

(4) 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.

M. 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.

N. 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.

O. Stormwater easements.

(1) A minimum ten-foot-wide access easement shall be provided for all stormwater serving multiple properties and not located within a public right-of-way. Easements shall provide for ingress and egress to a public right-of-way.

(2) 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.

(3) Stormwater facilities not located within a public right-of-way shall be contained in and centered within a minimum twenty-foot-wide stormwater management easement. All easements shall have adequate information to be located in the field.

(4) Stormwater management easements are required for all on-site areas used to convey stormwater of two cfs or greater for a one-hundred-year storm. Roof drains do not require stormwater management easements.

(5) Unless a concentrated discharge of stormwater to an adjacent property is within an existing watercourse, an easement burdening the adjacent property shall be required.

(6) Where a development site is traversed by watercourses other than permanent streams, a drainage easement shall be provided conforming substantially to the line of such watercourses. The terms of the easement shall prohibit excavation, the placing of fill or structures, and any alterations that may affect adversely the flow of stormwater within any portion of the easement.

(7) 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.

P. The Township may require additional stormwater control measures for stormwater discharges to special management areas including but not limited to:

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

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

(3) 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.)

Q. Non-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.

R. Unless specifically approved by the Township in light of circumstances unique to the site, roof drains shall not be connected to streets, sanitary or storm sewers or to roadside ditches and instead shall discharge to infiltration areas or vegetative BMPs.

§ 260-14. Volume controls.

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) non-forested previous 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 non-karst 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 Township 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 surface waters of this commonwealth. Removal options include reuse, evaporation, transpiration and infiltration.

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. A report shall be prepared in accordance with § 260-27A of this chapter.

(1) If the developer can prove through analysis that the development site is in an area underlain by carbonate geology, and such geologic conditions may result in sinkhole formations, then the development site is exempt from volume control requirements as described in this chapter. However, the development site shall still be subject to NPDES and E&S requirements.

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 § 260-13.

(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 evapo-transpiration rate.

F. Applicable worksheets from of the BMP Manual shall be used when establishing volume controls.

§ 260-15. Rate controls.

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.

(1) 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 § 260-14 above may be used as part of this option.

B. Where the predevelopment hydrograph cannot be matched, the post-development rates of runoff from any regulated activity shall not exceed 50% of the peak rates of runoff for the new impervious surface area prior to development for the two-, ten-, twenty-five-, fifty-, and one-hundred-year storm events. [NOTE: A twenty-four-hour SCS type II storm or an IDF Curve Rational Method storm. See Table 2 in § 260-17 or (NOAA) Atlas 14 data for the specific project site.]

C. All basins not including groundwater recharge and/or water quality storage shall include an outlet structure to allow for draining the basin to a completely dry position within 24 hours following the end of the design rainfall. All basins that include groundwater recharge and/or water quality storage shall include an outlet structure to allow draining the basin to the level of the groundwater recharge and/or water quality storage within 24 hours following the end of the design rainfall.

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) Bio-retention 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) Amended soils.

(11) Retention basins.

(12) Detention basins.

(13) Other methods as may be found in the BMP Manual.

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

§ 260-16. Stormwater management performance standards.

A. Runoff from impervious areas shall be drained to pervious areas within the development site to the maximum extent practicable.

B. 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.

C. 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.

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

E. Stormwater runoff shall not be transferred from one sub-watershed to another unless they are sub-watersheds 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.

F. Minimum floor elevations 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.

G. All stormwater conveyance facilities (excluding detention, retention, and wetland basin outfall structures) shall be designed to convey a twenty-five-year storm event. NOTE: a twenty-four-hour SCS Type II storm or an IDF Curve Rational Method storm. 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. NOTE: a twenty-four-hour SCS Type II storm or an IDF Curve Rational Method storm. Safe conveyance of the one-hundred-year runoff event NOTE: a twenty-four-hour SCS Type II storm or an IDF Curve Rational Method storm to appropriate peak rate control BMPs and throughout the site must be demonstrated in the design.

H. 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.

§ 260-17. Calculation methodology.

A. 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 with the rainfall depths provided in Table 2, or other method acceptable to the Township Engineer.

B. 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 Township. Table 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 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 full hydrology computer model is desirable or necessary
Win TR-55 (or commercial computer package based on TR-55)	USDA NRCS	Applicable for land development plans within limitations described in TR-55
HEC-1/HEC-HMS	US Army Corps of Engineers	Applicable where use of 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 Township
EFH2	USDA NRCS	Applicable in rural and undeveloped areas subject to the program limits
Other methods	Varies	Other methodologies approved by the Township

C. 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.

Table 2
Twenty-Four-Hour Storm Event

Storm Event (years)	Rainfall (inches)
2	3.1
5	4.1
10	5.0
25	5.5
50	6.2
100	7.0

D. If the Rational Method is used, the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 data (See Subsection B above.) or PennDOT Publication 584 "PennDOT Drainage Manual," 2010 Edition, or latest, or the PDT-IDF chart included in Appendix B[9] 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.

E. 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 (3xTc) and the descending leg shall have a length equal to seven times the time of concentration (7xTc) to approximate an SCS Type II hydrograph. (NOTE: See § 260-53K.)

F. 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 predevelopment and post-development rates for peak discharge of stormwater runoff from all discharge points.

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

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

(1) Runoff coefficients shall be based on the information contained in Appendix C and Appendix D[10] if the actual land use is listed in those appendixes. If the actual land use is not listed in these appendixes runoff coefficients shall be chosen from other published documentation, and a copy of said documentation shall be submitted with the SWM site plan.

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9. **Editor's Note: Said appendix is on file in the Township offices.**

10. **Editor's Note: Said appendixes are on file in the Township offices.**

(2) A sample worksheet for calculating Tc is provided in Appendix H.[11] Times of concentration (Tc) shall be based on the following design parameters:

(a) 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 F,[12] or the Manning's kinematic solution shown in the sheet flow section of Worksheet No. 1 in Appendix H.[13]

(b) 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 G.[14]

(c) 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 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 Township Engineer.

(3) The developer may use stormwater credits for nonstructural BMPs in accordance with the BMP Manual. The allowable reduction will be determined by the Township Engineer.

(4) 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 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.

I. 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.

§ 260-18. Riparian corridors.

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

B. Except as otherwise required by Chapter 102, the riparian corridor easement shall be measured 35 feet from the top of stream bank (on each side).

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11. Editor's Note: Said appendix is on file in the Township offices.

12. Editor's Note: Said appendix is on file in the Township offices.

13. Editor's Note: Said appendix is on file in the Township offices.

14. Editor's Note: Said appendix is on file in the Township offices.

C. Minimum management requirements for riparian corridors.

(1) Existing native vegetation shall be protected and maintained within the riparian corridor easement.

(2) 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.

(3) Any un-vegetated areas within the corridor shall be established with permanent vegetation.

D. The riparian corridor easement shall be enforceable by the Township 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 the continued private ownership and shall not be deemed a public right-of-way nor imply public rights of access.

E. Any permitted use within the riparian corridor easement shall be conducted in a manner that will improve or maintain the stream stability, and preserve and protect the ecological function of the floodplain.

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

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

§ 260-19. Aboveground storage facility design criteria.

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 SWM facilities designed for conveyance or cisterns.

A. All basins shall be structurally sound and shall be constructed of sound and durable materials. The completed structure and the foundation of all basins shall be stable under all probable conditions of operation.

B. 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 6 feet**	**Greater than 6 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
	[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	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	6 inches	12 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

*Pretreatment required for infiltration BMPs unless shown to be unnecessary

N/A = Not applicable

SLHDPE = Smooth lined high density polyethylene pipe

PVC = Polyvinyl chloride

RCP = Reinforced concrete pipe

C. 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 at the bottom of the basin, the bottom elevation of the basin shall be used.

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

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

(4) The maximum depth of water for aboveground storage facilities without restricted access shall not exceed six feet unless approved by modification or waiver by the Board of Supervisors. Access to basins with a maximum depth of water greater than six feet shall be restricted by fencing that will discourage access.

D. 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 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) 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.

(c) 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.

(d) 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.

(e) The area under the embankment shall be cleared, grubbed and stripped of topsoil to a depth of two feet prior to any placement and compaction of earthfill.

(2) Compaction.

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

(b) The core shall be constructed concurrently with the outer shell of the embankment. Core and key trench shall be constructed to a minimum of 95% standard Proctor density.

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

(3) 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.

(4) 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, frozen or other objectionable materials.

(5) 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 is required. Embankment compaction to visible nonmovement is also required.

E. 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 § 260-13N and the BMP Manual which is designed to promote infiltration.

F. 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, the designer must specify a suitable outlet structure.

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

G. 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 rate of runoff which enters the basin after development in a manner which will not damage the integrity of the facility and will not create a downstream hazard.

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

H. 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.

I. 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:

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

(2) 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.

§ 260-20. Subsurface storage facility design criteria.

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 SWM facilities designed for conveyance.

A. 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

*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.

C. Materials.

(1) Pipe material. Distribution system piping may be PVC, SLHDPE, or RCP.

(2) Stone for infiltration beds. The stone used for infiltration beds shall be clean washed, uniformly graded coarse aggregate. The void ratio for design shall be assumed to be 40%.

(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 non-aggregate material should be indigenous to the surrounding soil material for non-vehicular areas. Backfill within vehicular areas shall comply with this section unless otherwise specified in the Township Road Ordinance[15] or by the Township Engineer. 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 claylike 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 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 or as required to establish vegetation.

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

F. Infiltration facilities shall be designed with measures to protect infiltration facilities from compaction and sedimentation during and after construction.

§ 260-21. Conveyance facility design criteria.

Conveyance facilities consist of all stormwater facilities that carry flow, which may be located either above or below the finished grade. Conveyance facilities do not include SWM 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:

15. Editor's Note: See Ch. 222, Streets and Sidewalks.

Conveyance Facility Design Criteria

Location			**Within Public Street Right-of-Way**	**Outside Public Street Right-of-Way**	
Loading			**All**	**Vehicular Loading**	**Non-Vehicular Loading**
(a)	Pipe design				
	[1]	*Material	*SLHDPE, *RCP	PVC, SLHDPE, RCP	PVC, 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	12 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	1/2 to 1 inch	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%
	[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

* Pipes crossing Township Collector Streets shall be RCP.

N/A = Not applicable or no criteria specified

SLHDPE = Smooth lined high density polyethylene pipe

PVC = Polyvinyl chloride

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, as directed by the Township Engineer.

C. Conveyance pipes, culverts, manholes, inlets and endwalls outside the public street right-of-way which are subject to vehicular loading shall be designed for the HS-25 loading condition.

D. All material and workmanship for conveyance facilities shall conform to current PennDOT 408 specifications.

E. 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 non-aggregate material should be indigenous to the surrounding soil material for non-vehicular areas. Backfill within vehicular areas shall comply with this section unless otherwise specified in the Township Road Ordinance[16] or by the Township Engineer.

(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 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 centerline and the street centerline.

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

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16. **Editor's Note: See Ch. 222, Streets and Sidewalks.**

(7) The roughness coefficient (Manning "n" values) used for conveyance pipe capacity calculations should be determined in accordance with Appendix E,[17] or per the manufacturer's specifications.

F. 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.

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

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

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17. **Editor's Note: Said appendix is on file in the Township offices.**

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

(d) 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.

H. Culverts. In addition to the material requirements in this section, culverts designed to convey waters of this commonwealth may be constructed with either a corrugated metal arch or a precast concrete culvert.

I. 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.

J. Energy dissipaters. Energy dissipaters shall be designed in accordance with the requirements in the E&S Manual.

K. 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.

§ 260-22. (Reserved)

ARTICLE IV
Stormwater Management Site Plans

§ 260-23. General plan requirements.

A. 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.

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

C. All SWM site plans and calculations shall be prepared and sealed by a qualified person. All stormwater designs, assumptions, methods and data must be presented in a manner acceptable to the Township Engineer.

D. 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 Township Subdivision and Land Development Ordinance.[18]

E. All stormwater management materials shall be submitted in a format that is clear, concise, legible, neat and well organized.

F. All coordinates as depicted on the plan shall be based on the following:

(1) Horizontal datum shall be referenced to the Pennsylvania South Zone State Plane Coordinate System (NAD83).

(2) Vertical datum shall be referenced to NAVD 88.

§ 260-24. Drafting standards.

A. The plan shall be clearly and legibly drawn.

B. 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.

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

D. 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. The drainage area maps can be submitted at any scale provided the maps are legible.

E. 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.

F. The total development site boundary and size with distances marked to the nearest foot and bearings to the nearest degree shall be clearly indicated on the plan.

§ 260-25. SWM site plan information.

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.

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.

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18. Editor's Note: See Ch. 265, Subdivision and Land Development.

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

D. Certificate for approval by the Township Board of Supervisors or designee. See Appendix A, Certificate for Approval By East Hempfield Township Board of Supervisors or Designee.[19]

E. Certificate, signature and seal of a qualified professional preparing the stormwater management site plan. See Appendix A, Storm Water Management Designer Certification.[20]

F. The following signature block for the landowner, acknowledging that the SWM facilities are fixtures that cannot be altered or removed without prior approval by the Township. "I_____, hereby represent that no person shall modify, remove, fill, landscape, or alter any stormwater management BMPs, facilities, areas, or structures without the written approval of East Hempfield Township."

G. 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 on-site and off-site facilities.

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

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

J. Existing features. The following features shall be shown on all stormwater management site plans and shall be shown on a separate sheet titled "Existing Conditions." No proposed features shall be included on this sheet.

(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 waterlines and associated easements.

(3) An overlay showing soil names and boundaries.

(4) Names of all adjacent landowners, property boundaries and locations and dimensions of easements as indicated by a boundary survey.

(5) Physical features, including railroads, streets, flood hazard boundaries, wetlands, sinkholes, streams, lakes, ponds and other water bodies, existing drainagecourses, 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.

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19. **Editor's Note: Said appendix is on file in the Township offices.**

20. **Editor's Note: Said appendix is on file in the Township offices.**

K. 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. This information shall be of the quality required for the construction of all facilities.

(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 § 260-13L.

L. The type and location of all E&S control facilities.

M. Stormwater management facilities located within or affecting the floodplain of any watercourse shall comply with the requirements of the floodplain regulations provided in the Zoning Ordinance[21] or any future ordinances regulating construction or development within areas of the Township subject to flooding.

N. The minimum habitable floor elevations 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. If basement or underground facilities are proposed, detailed calculations addressing the effects of the stormwater ponding on the structure and waterproofing and/or floodproofing design information shall be provided for review and approval.

O. No outlet structure from a stormwater management facility, or swale, shall discharge directly onto a Township or state roadway.

§ 260-26. Additional information.

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

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21. Editor's Note: See Ch. 270, Zoning.

B. 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.

C. A summary narrative stating the effect of the project (in terms of runoff volumes, water quality and peak flows) on adjacent properties and on any existing Township SWM facilities that may receive runoff from the development site.

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

E. Expected project time schedule.

F. Project inspection schedule for all BMPs.

§ 260-27. Supplemental information.

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

(1) The location of the following karst features;

(a) Sinkholes.

(b) Closed depressions.

(c) Lineaments in carbonate areas.

(d) Fracture traces.

(e) Caverns.

(f) Intermittent lakes.

(g) Ephemeral disappearing streams.

(h) Bedrock pinnacles (surface or subsurface).

(2) A plan for remediation of any identified karst features.

(3) Impacts of SWM facilities on adjacent karst features, and impacts of karst features on adjacent SWM facilities.

B. A NPDES and E&S plan, including all approvals, as required by Chapter 102, shall be provided to the Township prior to unconditional SWM site plan approval.

C. For any activities that require a DEP joint permit application and are regulated under Chapter 105 or Chapter 106, 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.

D. For any activities that require a Penn DOT Highway Occupancy Permit, the permit(s) shall be part of the SWM site plan and must be obtained prior to unconditional SWM site plan approval. If PennDOT requires that the Township be the permittee for such drainage facilities, the applicant shall enter into an agreement, in recordable form, assuming all of the obligations which PennDOT may place upon the Township as permittee, including, but not limited to, long-term maintenance of any such facilities, compliance with all conditions contained in the permit, and indemnification of the Township for any costs or penalties which PennDOT may seek to impose on the Township. The Township shall have no obligation to make any applications to PennDOT.

E. An operation and maintenance (O&M) plan shall be included that addresses the requirements of § 260-39.

F. All SWM facilities must be located on a map and described in detail. The content of the map(s) and computations shall include, but not be limited to:

(1) All calculations, assumptions and criteria used for the design of the SWM facilities must be included for both predevelopment and post-development conditions. If multiple facilities are used in conjunction with each other, such as infiltration BMPs with vegetation-based management practices, a summary narrative shall be included which describes the construction sequence and how the facilities are meant to function with each other to manage stormwater runoff.

(2) When groundwater recharge methods such as seepage pits, beds or trenches are used, the locations of existing and proposed septic tank infiltration areas and wells must be shown. A minimum fifty-foot separation from on-lot disposal system (OLDS) infiltration areas is required. Infiltration rates shall be based upon perk and probe tests conducted at the site of the proposed facility.

(3) A description of how each permanent stormwater BMP will be operated and maintained, and the identity of the person(s) responsible for operations and maintenance.

ARTICLE V
Plan Processing Procedures

§ 260-28. Exemption from plan submission requirements.

A. The following regulated activities are specifically exempt from the SWM site plan preparation and submission requirements articulated in § 260-13A and Articles IV and V of this chapter:

(1) Agricultural activity (See definitions.), provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.

(2) Forest management and timber operations (See definitions.), provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.

(3) Conservation practices being installed as part of the implemention of a conservation plan written by an NRCS certified planner.

(4) The cumulative installation of impervious surface of up to 1,000 square feet or 5% of the gross lot area, whichever is less after June 2, 2014; provided that the activities meet the criteria of § 260-28C below and are conducted in accordance with all requirements of this chapter.

(5) Domestic landscape and/or vegetable gardening.

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

C. An applicant proposing the cumulative installation of impervious surface of up to 1,000 square feet or 5% of the gross lot area, whichever is less of impervious surface coverage, may be exempt from the design, plan submittal, and processing requirements of Articles III, IV, and V of this chapter if the proposal meets the criteria in the § 260-28C. No person or activity is exempted from compliance with § 260-41 and Articles VII, VIII, and IX of this chapter. 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.

(1) Any applicant desiring exemption from design, plan submission, and plan processing requirements shall complete an application for exemption. The application form is on file at the Township office.

(2) The applicant for exemption under this § 260-28C shall provide the Township with all information necessary for the Township to determine that:

(a) There shall be no disturbance of land within floodplains, wetlands, and environmentally sensitive areas.

(b) The applicant shall minimize soil disturbance, take steps to minimize erosion and sedimentation during construction activity, and promptly reclaim all disturbed areas with topsoil and vegetation.

(c) The applicant shall take steps to insure that runoff is directed to pervious areas on the subject property. No runoff shall be directed onto an abutting street or neighboring property.

(d) The proposed impervious surface shall not adversely impact any existing known problem areas or downstream property owners or the quality of runoff entering any municipal separate storm sewer system.

(e) The applicant shall comply with the erosion and sediment control requirements of Chapter 102 and the proposed impervious surface shall not create accelerated erosion and sedimentation.

(3) If the proposed activity does not meet all of the criteria set forth in § 260-28C(2) above, the applicant shall follow the small project processing procedure in § 260-29.

(4) The applicant shall comply with applicable state water quality standards. If the proposed activity is located in a high-quality (HQ) or exceptional-value (EV) watershed, the applicant shall be responsible for compliance with all federal and state requirements applicable to those special protection waters. This exemption does not provide relief from any other applicable state or federal requirements.

(5) No applicant and no activity shall violate or cause to be violated: the Federal Clean Water Act, Clean Streams Law, or any regulation issued thereunder, an NPDES permit, any recorded stormwater management or operations and maintenance agreement, or any requirement applicable to a municipal separate storm sewer system.

D. Installation of additional impervious surface coverage on a lot where all of the following conditions have been met:

(1) The lot has a previously approved SWM site plan which included SWM facilities to handle such future impervious surface coverage.

(2) The SWM facilities on the approved SWM site plan were installed and inspected and approved by the Township Engineer.

(3) The Township approved the SWM site plan no more than five years before the application to add the impervious surface coverage was submitted to the Township or, if the Township approved the SWM site plan more than five years before the application to add the impervious surface coverage was submitted to the Township, there have been no amendments to the design standards of this chapter between the date of approval of the SWM site plan and the submission of the application to add impervious surface coverage.

E. Public road improvement projects initiated and/or sponsored by the Township and/or the Pennsylvania Department of Transportation shall be exempt from these stormwater management criteria under the following circumstances:

(1) The road improvement project is required as part of a safety improvement project.

(2) A general analysis is provided and it can be demonstrated that the proposed improvements will not adversely affect any adjacent property owners, nor will the improvements adversely affect downstream stormwater management facilities. Otherwise, mitigation of these impacts will be required as part of the proposed improvements.

F. Road maintenance projects initiated and/or sponsored by the Township and/or the Pennsylvania Department of Transportation shall be exempt from these stormwater management criteria.

G. Projects exempt from stormwater submission requirements are still required to obtain a zoning permit from the Township which documents the additional impervious surface area being added to the property.

§ 260-29. Alternate plan processing procedures.

A. Small projects.

(1) Anyone proposing a small project shall submit two copies of the small project permit application to the Township.

(2) A complete small project permit application shall include:

(a) Small project permit application form (on file at the Township Office).

(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 from 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] Location of existing SWM facilities if present.

[7] Location and description of proposed SWM facilities.

[8] Direction of proposed stormwater discharge (i.e., with arrows).

[9] Scale and North arrow.

(c) Filing fee (in accordance with the Township's current fee schedule).

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

(4) Small project applications need not demonstrate literal compliance with Articles III, IV and VI of this chapter. However, small project applications must demonstrate they comply with the intent of this chapter as outlined in §§ 260-2 and 260-3. The Township Board of Supervisors or its designee may require additional information or invoke any section of this chapter deemed necessary to adequately demonstrate compliance with the intent of this chapter.

(5) The Township Board of Supervisors or its designee may require an applicant to submit a full SWM site plan if in its opinion a small project application proposes significant risk to the Township or adjoining properties.

(6) Applications for small project permits shall be reviewed and acted upon by the Township Board of Supervisors or its designee within 30 days of filing a complete permit application.

(7) Approval of a small project permit shall be valid for a period not to exceed two years. This two-year time period shall commence on the date that the Township Board of Supervisors or its designee signs the approved small project permit.

(8) Written requests for an extension shall be made at least 30 days prior to the expiration date. If refused, the Township Board of Supervisors or its designee shall cite the reason(s) for such refusal.

B. Development sites containing agricultural activities with conservation plan.

(1) Where a development site is located within the Agricultural Zone (A) and has an implemented conservation plan approved and verified by the Conservation District, the submission of proof of the implemented conservation plan shall be considered compliance with this chapter for installation of impervious surface coverage where all of the following criteria are met.

(2) For a parent tract containing not less than 10.5 acres to 20 acres, cumulative new impervious areas of 10,000 square feet or less if the applicant can provide documentation from a qualified person that the stormwater flows from the parent tract leave the parent tract in the same manner as the predevelopment condition and that there will be no adverse effects to adjacent property or that the flows reach a natural drainageway or existing SWM facility before affecting adjacent property.

(3) For a parent tract containing not less than 20 acres, cumulative new impervious areas of 20,000 square feet or less if the applicant can provide documentation from a qualified person that the stormwater flows from the parent tract leave the parent tract in the same manner as the predevelopment condition and that there will be no adverse effects to adjacent property or that the flows reach a natural drainageway or existing SWM facility before affecting adjacent property.

(4) An applicant for processing under this § 260-29B shall provide the Township with information to demonstrate there shall be no disturbance of land within floodplains, wetlands, environmentally sensitive areas, riparian forest buffers, or slopes greater than 15%.

§ 260-30. Pre-application meeting.

A. Applicants are encouraged to schedule a pre-application meeting to review the overall stormwater management concept with Township staff/engineer. The pre-application meeting is not mandatory and shall not constitute formal filing of a plan with the Township. Topics discussed may include the following;

(1) Available geological maps, plans and other available data.

(2) 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.

(3) Results of infiltration tests.

(4) Applicable Township Subdivision and Land Development and/or Zoning Ordinance provisions.

(5) The conceptual project layout, including proposed structural and nonstructural BMPs.

B. The Township has the right to seek reimbursement for all pre-application professional services incurred.

§ 260-31. Stormwater management site plan.

A. When a SWM site plan is required, the applicant shall submit the following to the Township:

(1) Three copies of the SWM site plan prepared in accordance with the requirements of Article IV of this chapter.

(2) Two copies of all supplemental data.

(3) A filing fee (in accordance with the Township's current fee schedule).

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

C. All submittals including plans and reports shall include an electronic format acceptable to the Township.

D. The applicant is responsible for submitting plans to any other agencies such as the Conservation District, PennDOT, DEP, etc. when permits from these agencies are required. Final approval shall be conditioned upon the applicant obtaining all necessary permits.

E. Incomplete submissions as determined by the Board of Supervisors 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 Township's decision not to accept a particular application in accordance with § 260-51 of this chapter.

F. At its sole discretion and in accordance with this article, when a SWM site plan is found to be deficient, the Township Board of Supervisors or its designee may either disapprove

the submission and require a resubmission, or in the case of minor deficiencies, the Township Board of Supervisors or its designee may accept submission of revisions.

§ 260-32. Township review.

A. When the regulated activity constitutes a subdivision or land development, the SWM site plan and subdivision/land development plan shall be processed concurrently according to the plan processing procedure outlined in the East Hempfield Township Subdivision and Land Development Ordinance.[22]

B. When the regulated activity constitutes a small project, the small project permit application shall be processed according to § 260-29.

C. When the regulated activity does not constitute a subdivision or land development or a small project, the SWM site plan shall be processed according to the plan processing procedure outlined in this chapter.

D. All applications for approval of a SWM site plan shall be acted upon by the Township Board of Supervisors or its designee, who shall render his/her decision and communicate it to the developer not later than 90 days following the date the application is filed.

(1) The decision of the Township Board of Supervisors or its designee shall be in writing and shall be communicated to the developer or its agent personally or mailed to him/her at his/her last known address not later than 15 days following the decision.

(2) When the application is not approved in terms as filed, the decision shall specify the defects found in the application and shall describe the requirements which have not been met and shall, in each case, cite the provisions of the chapter relied upon for the decision.

E. If the Township disapproves the SWM site plan, the Township will state the reasons for the disapproval in writing. The Township 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.

F. Revisions to a SWM site plan after submission but before Township action shall require a resubmission of the modified SWM site plan consistent with § 260-31 of this chapter and be subject to review as specified in § 260-32 of this chapter.

G. For the purposes of review deadlines, each resubmission required under § 260-32F (after submission but before approval) shall constitute a new submission for the purposes of time limits as set forth in the MPC and this chapter.

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

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22. **Editor's Note: See Ch. 265, Subdivision and Land Development.**

§ 260-33. Authorization to construct and term of validity.

A. Approval of a SWM site plan shall be valid for a period not to exceed five years. This five-year time period shall commence on the date that the Township Board of Supervisors or its designee signs the approved SWM site plan.

B. If SWM facilities included in this approved SWM site plan have not been constructed within this five-year time period, then the Township Board of Supervisors or its designee may consider the SWM site plan disapproved and may recommend that the Township revoke any and all permits. SWM site plans that are considered disapproved by the Township or its designee shall be resubmitted in accordance with § 260-31 of this chapter.

C. An extension of an unexpired SWM site plan shall be issued by the Township following the submission of a written request if, in the opinion of the Township Board of Supervisors or its designee, the subject property or affected surrounding area has not been altered in a manner which requires alteration or revision of the stormwater management plan. Written requests shall be made at least 30 days prior to the expiration date.

D. The refusal of an extension of time shall cite the reason(s) for such refusal.

E. A SWM site plan shall not expire while a request for an extension is pending.

§ 260-34. As-built plan.

A. Upon completion of the SWM site 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 SWM facilities and be sealed by a registered qualified person.

B. Review by Township Engineer.

(1) The as-built plan shall be reviewed by the Township Engineer to verify the plan includes all of the SWM facilities on the subject property and that the facilities are shown at the correct location.

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

(3) 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.

C. All coordinates as depicted on the as-built plan shall be based on the following:

(1) Horizontal datum shall be referenced to the Pennsylvania South Zone State Plane Coordinate System (NAD83).

(2) Vertical datum shall be referenced to NAVD 88.

D. The following information should be included with the as-built plan:

(1) Actual location of floodplain by elevation and dimension from property line.

(2) Actual location and cross section of swales and accompanying easements. The plan should demonstrate that the swales intercept and convey stormwater according to the approved subwatershed plan.

(3) Actual horizontal and vertical location of SWM facilities, including type and size of storm drainage pipes, inverts and rims of structures, slopes and accompanying easements.

(4) Actual location and connection point(s) of perforated underdrain(s).

(5) Actual location and connection point(s) of roof leader drain(s).

(6) Detention and infiltration basins.

(a) Actual contours of the basin.

(b) Actual outlet structure details, including type, size and inverts of outlet pipes. Include the orifice plate size and location on the as-built survey, if applicable.

(c) Actual elevation and widths for the embankment and emergency spillway.

(d) Compaction results and soils testing data for embankments structures.

(e) Certification that compaction of the basin bottom did not occur (for infiltration basins).

(f) Actual volume of the basin and post-development flow rates based upon as-built conditions for the basin. Calculations should be signed and sealed by a design professional.

(7) Actual location and dimensions of all BMP facilities.

E. The as-built plan shall be submitted in a format that is clear, concise, legible, neat and well-organized.

F. All submittals, including plans and reports shall include an electronic format acceptable to the Township.

G. Digital inventory.

(1) 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:

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

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

(c) BMPs included on a NPDES permit.

(2) Digital inventory requirements.

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

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

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

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

I. As-built plans are not required for small projects.

§ 260-35. Certificate of completion.

A. At the completion of the project, and as prerequisite for the release of the remaining financial security, the applicant shall provide a certification of completion from a qualified person, verifying that all permanent SWM facilities have been constructed according to the plans and specifications and approved revisions thereto.

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

§ 260-36. Financial security.

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.

B. The applicant shall provide a financial security to the Township for the timely installation and proper construction of all SWM facilities, including E&S controls and other BMPs, as required by the approved SWM site plan and this chapter and, as applicable, in accordance with the provisions of the MPC.

C. As the work of installing the required SWM facilities proceeds, the party posting the financial security may request the Board of Supervisors to release or authorize the release, from time to time, 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.

D. 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 the East Hempfield 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 the East Hempfield 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.

E. Financial security is not required for small projects.

ARTICLE VI
Operation and Maintenance (O&M)

§ 260-37. Responsibilities of developers and landowners.

A. The landowner, successor and assigns shall maintain all SWM facilities in good working order in accordance with the approved O&M plan.

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

C. Enumerate permanent SWM facilities as permanent real estate appurtenances and record as deed restrictions or easements that run with the land.

D. The record owner of the development site shall sign and record an operation and maintenance (O&M) agreement covering all SWM facilities, including riparian buffers and riparian forest buffers, which are to be privately owned. Said agreement, designated as Appendix I,[23] is attached and made part hereto. The O&M plan and agreement shall be recorded as a restrictive covenant agreement that runs with the land.

E. Small projects are not required to provide an O&M agreement.

§ 260-38. Operation and maintenance agreements.

A. The operation and maintenance agreement shall be subject to the review and approval of the Township Solicitor and Board of Supervisors or its designee.

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23. **Editor's Note: Said appendix is on file in the Township offices.**

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

§ 260-39. Operation and maintenance (O&M) plan contents.

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

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

(1) Description of maintenance requirements, including, but not limited to, the following:

(a) 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 Township for dedicated and owned facilities), according to the following minimum frequencies:

[1] Annually for the first five years.

[2] Once every three years thereafter.

[3] As specified in the O&M agreement pursuant to § 260-38.

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

(c) 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.

(d) 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 Township.

(2) Riparian forest buffer management plan prepared in accordance with Chapter 102, § 102-14(b)(4), if required.

(3) Identification of a responsible individual, corporation, association or other entity for ownership and maintenance of both temporary and permanent SWM and erosion and sedimentation control facilities.

(4) Establishment of suitable easements for access to all facilities.

§ 260-40. Maintenance of facilities accepted by Township.

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

B. If SWM facilities are accepted by the Township 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 Township prior to unconditional SWM site plan approval. The amount of the deposit shall be determined as follows subject to the approval of the Township Board of Supervisors:

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

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

(3) If a storage facility is proposed that also serves as a recreation facility (e.g., ballfield, lake), the Township may reduce or waive the amount of the maintenance fund deposit based upon the value of the land for public recreation purpose.

C. 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.

D. Maintenance shall be conducted as necessary to provide for the continued functioning of the SWM facility. Costs of inspections, maintenance and repairs are recoverable from the Township Stormwater Maintenance Fund.

§ 260-41. Maintenance of existing facilities/BMPs.

SWM facilities existing on the effective date of this chapter, which have not been accepted by the Township 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 § 260-39B above. If the Township 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 Township 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 Township 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 Township may file a municipal claim against the property upon which the work was performed in accordance with the applicable laws. The Township shall have the right to choose among the remedies and may use one or more remedies concurrently.

§ 260-42. Stormwater Maintenance Fund.

The Township may charge an ongoing fee in accordance with the Township Fee Schedule, adopted by resolution, to help defray costs of periodic inspections and maintenance expenses for the life of the stormwater facility.

ARTICLE VII
Fees and Expenses

§ 260-43. General.

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

A. The fee required by this chapter is the Township stormwater management review fee and shall be established and may be modified from time to time by resolution and utilized by the Township, and/or its designee, to defray the various administrative costs, all as itemized in § 260-38 of this chapter. All fees as established for the referenced purposes shall be borne by the applicant.

§ 260-44. Expenses covered by fees.

The 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 Township Engineer/Solicitor/staff.

C. Review of the stormwater operation and maintenance plan and stormwater agreement by the Township Engineer/Solicitor/staff.

D. Inspections.

E. Any additional work required to enforce any permit provisions regulated by this chapter, correct violations, and assure proper completion of stipulated remedial actions.

ARTICLE VIII
Prohibitions

§ 260-45. Prohibited discharges and connections.

A. The following connections are prohibited, except as provided in § 260-45D below.

(1) 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; and

(2) 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 Township.

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

(1) As provided in § 260-45D below; and

(2) Discharges allowed under a state or federal permit.

C. No person shall place any structure, fill, landscaping or vegetation into a SWM facility or within a drainage easement that will limit or diminish the functioning of the SWM facility in any manner without the written approval of the Township.

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

(1) Discharges from firefighting activities.

(2) Potable water sources including waterline flushing.

(3) Irrigation drainage.

(4) Air-conditioning condensate.

(5) Springs.

(6) Water from crawl space pumps.

(7) 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.

(8) Flows from riparian habitats and wetlands.

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

(10) Lawn watering.

(11) Dechlorinated swimming pool discharges.

(12) Uncontaminated groundwater.

(13) Water from individual residential car washing.

(14) Routine external building wash down (which does not use detergents or other compounds).

(15) Diverted stream flows.

(16) Rising groundwaters.

(17) Other discharges approved by the Township.

E. In the event that the Township or DEP determines that any of the discharges identified in § 260-45D above significantly contribute to pollution of the waters of this commonwealth, the Township or DEP will notify the responsible person(s) to cease the discharge.

§ 260-46. Alteration of SWM BMPs.

No person shall modify, remove, fill, landscape, or alter any SWM BMPs, facilities, areas, or structures unless it is part of an approved maintenance program, without the written approval of the Township.

ARTICLE IX
Enforcement and Penalties

§ 260-47. Schedule of inspections.

A. The designee may inspect all phases of the construction, operations, maintenance and any other implementation of SWM facilities and BMPs.

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

C. During any stage of the work, if the designee determines that the permanent SWM facilities are not being installed in accordance with the approved stormwater management plan, the Township shall revoke any existing permits until a revised SWM site plan is submitted and approved, as specified in this chapter.

D. During any phase of the work, if the designee determines that the soil or other site conditions are not as stated or shown in the approved SWM site plan or that the developer has provided a false statement or misrepresentation, the designee may refuse to approve further work and revoke existing building permits until a revised plan is submitted and approved, as required under by Article V of this chapter.

§ 260-48. Right of entry.

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

§ 260-49. Enforcement.

A. In the event that a person fails to comply with the requirements of this chapter or fails to conform to the requirements of any permit issued hereunder, the Township shall order compliance by written notice to the responsible person. Such notice may require without limitation:

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

(2) The elimination of prohibited connections or discharges;

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

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

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

(6) The implementation of stormwater BMPs; and

(7) Operation and maintenance of stormwater BMPs.

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

C. Failure to comply within the time specified shall also subject such person to the penalty provisions of this chapter. All such penalties shall be deemed cumulative and shall not prevent the Township from pursuing any and all other remedies available in law or equity. It shall be the responsibility of the owner of the real property on which any regulated activity is proposed to occur, is occurring, or has occurred, to comply with the terms and conditions of this chapter.

D. Any permit or approval issued by the Township pursuant to this chapter may be suspended by the Township 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, or pollution or endangers the life or property of others.

E. A suspended permit may be reinstated by the Township when:

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

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

§ 260-50. Violations and penalties.

A. Any person who has violated any provisions of this chapter shall, upon judicial determination thereof, be subject to fines not exceeding $1,000, plus all court costs,

including reasonable attorney's fees incurred by the Township. Each day that a violation occurs shall constitute a separate offense. All fines shall be paid to East Hempfield Township.

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

§ 260-51. Appeals.

A. Any person aggrieved by any administrative action of the Township may appeal to the Township's Board of Supervisors 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.

B. Any person aggrieved by any decision of the Township's Board of Supervisors 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.

§ 260-52. Modification of provisions.

A. 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 Township 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 that to the satisfaction of the Township 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.

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

ARTICLE X
References

§ 260-53. References listed.

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

B. Minnesota Pollution Control Agency.

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

D. 25 Pa. Code Chapter 105.

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

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

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

H. Lancaster County Model Subdivision and Land Development Ordinance.

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

J. 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.

K. Penn State Urban Hydrology Model User Manual, by Thomas A. Seybert, PE, David F. Kibler, PE, and Elizabeth 1. White, PE, August 1993, Page 70 and VT/PSUHM help screen.

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