

**PUBLIC NOTICE
PUBLIC HEARING**

The East Stroudsburg Borough Council will hold a Public Hearing on **Tuesday, February 17, 2026 at 7:15 PM**, in the Borough of East Stroudsburg Municipal Building, located at 24 Analomink St., East Stroudsburg, PA, during a Regular Meeting of the Borough Council for **Ordinance No. 1416**, creating a new **Chapter 141 – Stormwater Management** and removing and replacing in its entirety Appendices A, B, D, E, F, G, H, I, and J to existing Chapter 140 Subdivision and Land Development Ordinance of the East Stroudsburg Codes of Ordinances.

After the hearing and during the continuance of the meeting, the Borough Council will, if in order, consider and vote upon **Ordinance No. 1416**, as well as conduct any other business that may come before the Borough Council. In lieu of setting forth **Ordinance No. 1416** in its entirety, a summary of the proposed **Ordinance** is as follows:

AN ORDINANCE OF THE COUNCIL OF THE BOROUGH OF EAST STROUDSBURG, MONROE COUNTY, PENNSYLVANIA (“BOROUGH”) ESTABLISHING A NEW CHAPTER IN THE BOROUGH’S CODE OF ORDINANCES BEING CHAPTER 141 STORMWATER MANAGEMENT ORDINANCE REPLACING THE ATTACHMENTS 1 (APPENDIX A – BRODHEAD CREEK STORMWATER MANAGEMENT ORDINANCE); 2 (APPENDIX B – STORMWATER MANAGEMENT DESIGN CRITERIA); 4 (APPENDIX D – STORMWATER MANAGEMENT DISTRICT WATERSHED MAP); 5 (APPENDIX E – WEST NILE VIRUS GUIDANCE); 6 (APPENDIX F – CONSUMPTIVE USE TRACKING REPORT); 7 (APPENDIX G – FLORY POND DRAINAGE AREA SPECIAL DISTRICT REGULATIONS); 8 (APPENDIX H – STANDARD STORMWATER FACILITIES MAINTENANCE AND MONITORING AGREEMENT); 9 (APPENDIX I – STORMWATER DRAINAGE PLAN APPLICATION AND FEE SCHEDULE); AND 10 (APPENDIX J – BUFFER ZONE MAP) TO EXISTING CHAPTER 140 SUBDIVISION AND LAND DEVELOPMENT ORDINANCE BY CREATING A NEW CHAPTER 141 ENTITLED “STORMWATER MANAGEMENT” TO INCLUDE: 1) ARTICLE I – GENERAL PROVISIONS (SECTIONS 141-101 THROUGH 141-110: SHORT TITLE; STATEMENT OF FINDINGS; PURPOSE; STATUTORY AUTHORITY; APPLICABILITY; REPEALER; SEVERABILITY; COMPATIBILITY WITH OTHER REQUIREMENTS); 2) ARTICLE II – DEFINITIONS (SECTION 141-201); 3) ARTICLE III – STORMWATER MANAGEMENT STANDARDS (SECTIONS 141-301 THROUGH 141-309: GENERAL REQUIREMENTS; EXEMPTIONS; VOLUME CONTROLS; RATE CONTROLS; BUFFERS; WATER QUALITY; CALCULATION METHODOLOGY; EROSION AND SEDIMENT CONTROL REQUIREMENTS; STREAMBANK EROSION REQUIREMENTS); 4) ARTICLE IV – STORMWATER MANAGEMENT SITE PLAN REQUIREMENTS (SECTIONS 141-401 THROUGH 141-408: PLAN REQUIREMENTS; PLAN SUBMISSION; PLAN REVIEW; MODIFICATION OF PLANS; RESUBMISSION OF DISAPPROVED STORMWATER PLANS; AUTHORIZATION TO CONSTRUCT AND TERM OF VALIDITY; SCHEDULE OF INSPECTIONS; AS-BUILT PLANS, COMPLETION CERTIFICATE, AND FINAL INSPECTION); 5) ARTICLE V – OPERATION AND MAINTENANCE (SECTIONS 141-501 THROUGH 141-504: RESPONSIBILITIES OF APPLICANT/OWNERS AND LANDOWNERS; STORMWATER MANAGEMENT AGREEMENTS; PERFORMANCE GUARANTEE; SEPARATE MUNICIPAL STORMWATER SYSTEM COMPLIANCE); 6) ARTICLE

VI – FEES AND EXPENSES (SECTION 141-601: GENERAL); 7) ARTICLE VII – PROHIBITIONS (SECTIONS 141-701 THROUGH 141-703: PROHIBITED DISCHARGES AND CONNECTIONS; ROOF DRAINS AND SUMP PUMPS; ALTERATION OF STORMWATER BMPS); 8) ARTICLE VIII – ENFORCEMENT AND PENALTIES (SECTIONS 141-801 THROUGH 141-806: RIGHT-OF-ENTRY; INSPECTION; ENFORCEMENT; SUSPENSION AND REVOCATION; PENALTIES; APPEALS); 9) ARTICLE IX – REFERENCES (SECTION 141-901); AND SHALL INCLUDE APPENDIX A – STORMWATER FACILITIES MAINTENANCE AND MONITORING AGREEMENT; APPENDIX B – STORMWATER MANAGEMENT DESIGN CRITERIA; APPENDIX C – STORMWATER MANAGEMENT (SWM) PLAN APPLICATION; APPENDIX D – STORMWATER MANAGEMENT ACT 167 DISTRICT WATERSHED MAP; APPENDIX E – WEST NILE VIRUS GUIDANCE; APPENDIX F – FLORY POND DRAINAGE AREA SPECIAL DISTRICT REGULATIONS; APPENDIX G – MS4 PERMIT; 10) AUTHORIZING PROVISIONS FOR REPEALER (SECTION 141-106); SEVERABILITY (SECTION 141-107); AND ESTABLISHING AN EFFECTIVE DATE.

The hearing is open to the public. All interested parties are welcome to attend and will have an opportunity to be heard. The proposed Ordinance can be examined without charge or obtained for a charge not greater than the actual cost of reproduction thereof at the East Stroudsburg Municipal Building at the address set forth above during normal business hours (8 AM to 5 PM, Monday-Friday) and online at the East Stroudsburg Borough Website www.eaststroudsburgboro.org during regular business hours.

A copy of the proposed Ordinance is also available at the Pocono Record and Monroe County Law Library. If you are a person with a disability and require auxiliary aid, service, or other accommodation to participate in the proceedings, contact the Borough at 570-421-8300 to discuss how your needs may be accommodated. The public hearing can be viewed virtually via the East Stroudsburg Borough's Facebook page.

Kelly Lewis,
Borough Manager
Borough Of East Stroudsburg



COMMONWEALTH OF PENNSYLVANIA
BOROUGH OF EAST STROUDSBURG
MONROE COUNTY

ORDINANCE NO. 1416

AN ORDINANCE OF THE COUNCIL OF THE BOROUGH OF EAST STROUDSBURG, MONROE COUNTY, PENNSYLVANIA (“BOROUGH”) ESTABLISHING A NEW CHAPTER IN THE BOROUGH’S CODE OF ORDINANCES BEING CHAPTER 141 STORMWATER MANAGEMENT ORDINANCE REPLACING THE ATTACHMENTS 1 (APPENDIX A – BRODHEAD CREEK STORMWATER MANAGEMENT ORDINANCE); 2 (APPENDIX B – STORMWATER MANAGEMENT DESIGN CRITERIA); 4 (APPENDIX D – STORMWATER MANAGEMENT DISTRICT WATERSHED MAP); 5 (APPENDIX E – WEST NILE VIRUS GUIDANCE); 6 (APPENDIX F – CONSUMPTIVE USE TRACKING REPORT); 7 (APPENDIX G – FLORY POND DRAINAGE AREA SPECIAL DISTRICT REGULATIONS); 8 (APPENDIX H – STANDARD STORMWATER FACILITIES MAINTENANCE AND MONITORING AGREEMENT); 9 (APPENDIX I – STORMWATER DRAINAGE PLAN APPLICATION AND FEE SCHEDULE); AND 10 (APPENDIX J – BUFFER ZONE MAP) TO EXISTING CHAPTER 140 SUBDIVISION AND LAND DEVELOPMENT ORDINANCE BY CREATING A NEW CHAPTER 141 ENTITLED “STORMWATER MANAGEMENT” TO INCLUDE: 1) ARTICLE I – GENERAL PROVISIONS (SECTIONS 141-101 THROUGH 141-110: SHORT TITLE; STATEMENT OF FINDINGS; PURPOSE; STATUTORY AUTHORITY; APPLICABILITY; REPEALER; SEVERABILITY; COMPATIBILITY WITH OTHER REQUIREMENTS); 2) ARTICLE II – DEFINITIONS (SECTION 141-201); 3) ARTICLE III – STORMWATER MANAGEMENT STANDARDS (SECTIONS 141-301 THROUGH 141-309: GENERAL REQUIREMENTS; EXEMPTIONS; VOLUME CONTROLS; RATE CONTROLS; BUFFERS; WATER QUALITY; CALCULATION METHODOLOGY; EROSION AND SEDIMENT CONTROL REQUIREMENTS; STREAMBANK EROSION REQUIREMENTS); 4) ARTICLE IV – STORMWATER MANAGEMENT SITE PLAN REQUIREMENTS (SECTIONS 141-401 THROUGH 141-408: PLAN REQUIREMENTS; PLAN SUBMISSION; PLAN REVIEW; MODIFICATION OF PLANS; RESUBMISSION OF DISAPPROVED STORMWATER PLANS; AUTHORIZATION TO CONSTRUCT AND TERM OF VALIDITY; SCHEDULE OF INSPECTIONS; AS-BUILT PLANS, COMPLETION CERTIFICATE, AND FINAL INSPECTION); 5) ARTICLE V –

OPERATION AND MAINTENANCE (SECTIONS 141-501 THROUGH 141-504; RESPONSIBILITIES OF APPLICANT/OWNERS AND LANDOWNERS; STORMWATER MANAGEMENT AGREEMENTS; PERFORMANCE GUARANTEE; SEPARATE MUNICIPAL STORMWATER SYSTEM COMPLIANCE); 6) ARTICLE VI – FEES AND EXPENSES (SECTION 141-601: GENERAL); 7) ARTICLE VII – PROHIBITIONS (SECTIONS 141-701 THROUGH 141-703: PROHIBITED DISCHARGES AND CONNECTIONS; ROOF DRAINS AND SUMP PUMPS; ALTERATION OF STORMWATER BMPS); 8) ARTICLE VIII – ENFORCEMENT AND PENALTIES (SECTIONS 141-801 THROUGH 141-806: RIGHT-OF-ENTRY; INSPECTION; ENFORCEMENT; SUSPENSION AND REVOCATION; PENALTIES; APPEALS); 9) ARTICLE IX – REFERENCES (SECTION 141-901); AND SHALL INCLUDE APPENDIX A – STORMWATER FACILITIES MAINTENANCE AND MONITORING AGREEMENT; APPENDIX B – STORMWATER MANAGEMENT DESIGN CRITERIA; APPENDIX C – STORMWATER MANAGEMENT (SWM) PLAN APPLICATION; APPENDIX D – STORMWATER MANAGEMENT ACT 167 DISTRICT WATERSHED MAP; APPENDIX E – WEST NILE VIRUS GUIDANCE; APPENDIX F – FLORY POND DRAINAGE AREA SPECIAL DISTRICT REGULATIONS; APPENDIX G – MS4 PERMIT; 10) AUTHORIZING PROVISIONS FOR REPEALER (SECTION 141-106); SEVERABILITY (SECTION 141-107); AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, the Borough is a municipal corporation of the Commonwealth of Pennsylvania, organized and existing under the Pennsylvania Borough Code, as amended, 8 Pa.C.S. §101, *et seq.* (“Pennsylvania Borough Code”); and

WHEREAS, the East Stroudsburg Borough Council of the Borough of East Stroudsburg, pursuant to §1202 (Specific powers) (1) (authority to prescribe reasonable fees); (2) (authority to operate and regulate utilities); (3) (authority to impose fines and penalties); (4) (make regulations for health, welfare, and safety of the Borough); §1203 (Reserved powers) authority to make and adopt ordinances, bylaws, rules and regulations for proper management and control of the Borough; and

WHEREAS, the Borough is empowered to regulate land use activities that affect runoff by the authority of the Act of July 31, 1968, P.L. 805, No. 247, the Pennsylvania Municipalities Planning Code, as amended, and/or the Act of October 4, 1978, P.L. 864 (Act 167), 32 P.S. §680.1, *et seq.*, as amended, the Stormwater Management Act; and

WHEREAS, the Borough specifically finds that it is in the best interest of the Borough, its citizens, and the public at large to enact this Ordinance for the reasons set forth in Section 141-103 set forth below; and

WHEREAS, the Borough, through Borough Council, believes it is in the best interest of the Borough’s residents, businesses, industrial users, and institutional customers to develop and

maintain a strong Stormwater Management Ordinance designed to regulate and control stormwater runoff affecting portions of the Borough and the properties located therein.

NOW, THEREFORE, BE IT ORDAINED by the Council of the Borough of East Stroudsburg, Monroe County, Pennsylvania, that new Chapter 141 with **Appendices A through G**, be adopted as the Stormwater Management Ordinance of the East Stroudsburg Code of Ordinances, as follows:

CHAPTER 141
ARTICLE I – GENERAL PROVISIONS

Section 141-101. Short Title

This Ordinance shall be known and may be cited as the “Borough of East Stroudsburg Stormwater Management Ordinance.”

Section 141-102. Statement of Findings

The Borough of East Stroudsburg finds that:

- A. Inadequate management of accelerated Runoff of stormwater resulting from development throughout a watershed increases Runoff volumes, flows and velocities, contributes to Erosion and sedimentation, overtaxes the carrying capacity of streams and storm sewers, greatly increases the cost of public facilities to carry and control stormwater, undermines flood plain management and flood control efforts in downstream communities, reduces groundwater recharge, threatens public health and safety, and increases nonpoint source pollution of water resources.
- B. A comprehensive program of stormwater management (SWM), including reasonable regulation of development and activities causing accelerated Runoff, is fundamental to the public health, safety, and welfare and the protection of people of the Commonwealth, their resources, and the environment.
- C. Stormwater is an important water resource that provides groundwater recharge for water supplies and supports the base flow of streams.
- D. The use of Green Infrastructure and Low Impact Development (LID) are intended to address the root cause of water quality impairment by using systems and practices which use or mimic natural processes to: 1) infiltrate and recharge, 2) evapotranspire, and/or 3) harvest and use precipitation near where it falls to earth. Green Infrastructure practices and LID contribute to the restoration or maintenance of pre-development hydrology.
- E. Federal and state regulations require certain municipalities to implement a program of stormwater controls. These municipalities are required to obtain a permit for stormwater

discharges from their separate storm sewer systems under the National Pollutant Discharge Elimination System (NPDES) program.

Section 141-103. Purpose

The purpose of this Ordinance is to promote health, safety, and welfare within the Borough of East Stroudsburg and its watershed by minimizing the harms and maximizing the benefits described in Section 141-102 of this Ordinance, through provisions designed to:

- A. Meet legal water quality requirements under state law, including regulations at 25 Pa. Code 93 to protect, maintain, reclaim, and restore the existing and designated uses of the waters of this Commonwealth.
- B. Preserve natural drainage systems.
- C. Manage stormwater Runoff close to the source, reduce Runoff volumes and mimic predevelopment hydrology.
- D. Provide procedures and performance standards for stormwater planning and management.
- E. Maintain groundwater recharge to prevent degradation of surface and groundwater quality and to otherwise protect water resources.
- F. Prevent scour and Erosion of stream banks and streambeds.
- G. Provide proper operation and maintenance of all stormwater Best Management Practices (BMPs) that are implemented within the Borough of East Stroudsburg.
- H. Provide standards consistent with NPDES permit requirements.
- I. Promote alternative project designs and layout that minimizes impacts to surface and ground water. Promote nonstructural BMPs.
- J. Minimize increases in stormwater volume.
- K. Minimize Impervious surfaces.
- L. Manage accelerated Runoff and Erosion and sedimentation problems at their source by regulating activities that cause these problems during construction.
- M. Utilize and preserve the existing natural drainage systems.
- N. Encourage recharge of groundwater where appropriate and prevent degradation of groundwater quality.

- O. Address the quality and quantity of stormwater discharges from the Development Site.
- P. Maintain existing baseflow and quality of streams and watercourses within the Borough of East Stroudsburg and the Commonwealth.
- Q. Preserve and restore the flood carrying capacity of streams.
- R. Provide proper maintenance of all permanent stormwater management facilities that are constructed within the Borough of East Stroudsburg.

Section 141-104. Statutory Authority

The Borough of East Stroudsburg is empowered to regulate land use activities that affect Runoff by the authority of the Act of July 31, 1968, P.L. 805, No. 247, The Pennsylvania Municipalities Planning Code, as amended, and/or the Act of October 4, 1978, P.L. 864 (Act 167), 32 P.S. §680.1, *et seq.*, as amended, The Stormwater Management Act.

Section 141-105. Applicability

All Regulated Activities and all activities that may affect stormwater Runoff, including Land Development, the construction of Impervious Areas and Earth Disturbance Activity, are subject to regulation by this Ordinance.

Section 141-106. Repealer

Any other ordinance provision(s) or regulation of the Borough of East Stroudsburg inconsistent with any of the provisions of this Ordinance is hereby repealed to the extent of the inconsistency only except that any pending unapproved building permits, land development applications and/or Drainage Permit Applications as of September 17, 2025 the date of the enactment of this Ordinance may continue to utilize Chapter 140 Subdivision and Land Development Ordinance, Appendices A, B, D, E, F, G, H, I, and J for a period of one hundred eight (180) days in order to complete the approval process for the applicant's pending application or permit at the expiration of one hundred eighty (180) days at which time Appendices A, B, D, E, F, G, H, I, and J shall be repealed. Nothing herein shall repeal or supersede the permit requirements established by the Pennsylvania Department of Environmental Resources for National Pollutant Discharge Elimination System (NPDES) permits unless the requirements set forth herein more protective.

Section 141-107. Severability

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

Section 141-108. Compatibility with Other Requirements

Approvals issued and actions taken under this Ordinance do not relieve the Applicant of the responsibility to secure required permits or approvals for activities regulated by any other code, law, regulation, or ordinance.

Section 141-109. Erroneous Permit

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

Section 141-110. Waivers

- A. If the Borough of East Stroudsburg determines that any requirement under this Ordinance cannot be achieved for a particular regulated activity, the Municipal Governing Body may, after an evaluation of alternatives, approve measures other than those in this Ordinance, subject to Section 110, paragraphs B and C.
- B. Waivers or modifications of the requirements of this Ordinance may be approved by the Borough of East Stroudsburg if implementation will exact undue hardship because of peculiar conditions pertaining to the land in question, provided that the modifications will not be contrary to the public interest and that the purpose of the Ordinance is preserved. Cost or financial burden shall not be considered a hardship. Modification may be considered if an alternative standard or approach will provide equal or better achievement of the purpose of the Ordinance. A request for modifications shall be in writing and accompany the Stormwater Management Site Plan submission. The request shall provide the facts on which the request is based, the provision(s) of the Ordinance involved and the proposed modification.
- C. No waiver or modification of any regulated stormwater activity, subject to this Ordinance, which involves a NPDES permit requirement, may be granted by the Borough of East Stroudsburg unless that action is approved in advance by the Department of Environmental Protection (DEP) or the delegated county conservation district. For projects that do not require DEP or the delegated county conservation district review, the Borough reserves the right to require a review of the waiver request by the MCCD and/or DEP.

ARTICLE II – DEFINITIONS

Section 141-201. Definitions

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

- A. Words used in the present tense include the future tense; the singular number includes the plural, and the plural number includes the singular; words of masculine gender include feminine gender; and words of feminine gender include masculine gender.
- B. The word “includes” or “including” shall not limit the term to the specific example but is intended to extend its meaning to all other instances of like kind and character.
- C. The words “shall” and “must” are mandatory; the words “may” and “should” are permissive.
- D. Definitions contained herein are to be applied to this Ordinance and the East Stroudsburg Code of Ordinances when referring to this Ordinance. The definitions do not necessarily reflect definitions contained in applicable regulations or statutes.

Accelerated Erosion – The removal of the surface of the land through the combined action of man's activity and the natural processes of a rate greater than would occur because of the natural process alone.

Agricultural Activity – Activities associated with agriculture such as agricultural cultivation, agricultural operation, and animal heavy use areas. This includes the work of producing crops including tillage, land clearing, plowing, disking, harrowing, planting, harvesting crops or pasturing and raising of livestock and installation of conservation measures. Construction of new buildings or Impervious Area is not considered an agricultural activity.

Applicant – The Owner, legal or equitable, sole or partial, of a property subject to this Ordinance and their authorized agent(s) who has legal authority to bind a property and has filed an application to the Borough of East Stroudsburg for approval to engage in any regulated activity at a Project Site in the Borough of East Stroudsburg.

Best Management Practice (BMP) – Activities, facilities, designs, measures, or procedures used to manage stormwater impacts from Regulated Activities, to meet state water quality requirements, to promote groundwater recharge, and to otherwise meet the purposes of this Ordinance. Stormwater BMPs are commonly grouped into one of two broad categories or measures: “structural” or “non-structural.” In this Ordinance, non-structural BMPs or measures refer to operational and/or behavior-related practices that attempt to minimize the contact of pollutants with stormwater Runoff, whereas structural BMPs or measures are those that consist of a physical device or practice that is installed to capture and treat stormwater Runoff. Structural BMPs include, but are not limited to, a wide variety of practices and devices, from large-scale retention ponds and constructed wetlands, to small-scale underground treatment systems, infiltration

facilities, filter strips, Low Impact design, bioretention, wet ponds, permeable paving, grassed swales, riparian or forested buffers, sand filters, detention basins, and manufactured devices. Structural stormwater BMPs are permanent appurtenances to the Project Site.

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

DEP – The Pennsylvania Department of Environmental Protection.

Department – The Pennsylvania Department of Environmental Protection.

Design Storm – The magnitude and temporal distribution of precipitation from a storm event measured in probability of occurrence (e.g., a five [5] year storm) and duration (e.g., twenty-four [24] hours) used in the design and evaluation of stormwater management systems. Also see Return Period.

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

Development Site (Site) – See Project Site.

Disturbed Area – An un-stabilized land area where an Earth Disturbance Activity is occurring or has occurred.

Downslope Property Line – That portion of the property line of the lot, tract, or parcels of land being developed located such that overland or pipe flow from the site would be directed towards it.

Drainage Conveyance Facility – A Stormwater Management facility designed to transmit stormwater Runoff and shall include channels, swales, pipes, conduits, culverts, storm sewers, etc.

Earth Disturbance Activity – A construction or other human activity which disturbs the surface of the land, including, but not limited to clearing and grubbing; grading; excavations; embankments; road maintenance; building construction; and the moving, depositing, stockpiling, or storing of soil, rock, or earth materials.

Earth Disturbance, Cumulative – All earth disturbance that has occurred since of the date of municipal adoption of the original Brodhead and McMichaels Creek Ordinance. East Stroudsburg Stormwater Management Ordinance 9-2-2008).

Erosion – The natural process by which the surface of the land is worn away by water, wind, or chemical action.

Erosion and Sediment Control Plan (ESC 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 and required information as defined in PA DEP Chapter 102.

Exceptional Value Waters – Surface waters of high quality which satisfy Pennsylvania Code Title 25 Environmental Protection, Chapter 93, Water Quality Standards, §93.4b(b) (relating to anti-degradation).

Existing Condition – The Site Conditions existing as of the date of municipal adoption of the original Brodhead and McMichaels Creek Ordinance. East Stroudsburg Stormwater Management Ordinance 9-2-2008)

FEMA – Federal Emergency Management Agency.

Floodplain – Any land area susceptible to inundation by water from any natural source or delineated by applicable FEMA maps and studies as being a special flood hazard area. Also includes areas that comprise Group 13 Soils, as listed in *Appendix A of the Pennsylvania DEP Technical Manual for Sewage Enforcement Officers* (as amended or replaced from time to time by DEP). A Floodplain limit may be determined by analysis by a Licensed Professional Engineer for streams with no FEMA delineation. (See also Chapter 82 -Flood Damage Prevention)

Floodway – The channel of the watercourse and those portions of the adjoining Floodplains that are reasonably required to carry and discharge the one hundred (100) year flood. Unless otherwise specified, the boundary of the Floodway is as indicated on maps and flood insurance studies provided by FEMA. In an area where no FEMA maps or studies have defined the boundary of the one hundred (100) year Floodway, it is assumed—absent evidence to the contrary—that the Floodway extends from the stream to fifty (50') feet from the top of the bank of the stream, or as determined by analysis by PA Licensed Professional Engineer.

Forest Management/Timber Operations – Planning and activities necessary for the management of forestland. These include conducting a timber inventory, preparation of Forest Management plans, silvicultural treatment, cutting budgets, logging road design and construction, timber harvesting, site preparation, and reforestation.

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

HEC-HMS – The U.S. Army Corps of Engineers, Hydrologic Engineering Center (HEC) – Hydrologic Modeling System (HMS) computer program.

High Tunnel – A structure which meets the following:

(i) Is used for the production, processing, keeping, storing, sale or shelter of an agricultural commodity as defined in Section 2 of the Act of December 19, 1974 (P.L. 973, No. 319), known as the “Pennsylvania Farmland and Forest Land Assessment Act of 1974” or for the storage of agricultural equipment and supplies.

(ii) Is constructed consistent with all of the following:

- a. Has a metal, wood or plastic frame.
- b. When covered, has a plastic, woven textile, or other flexible covering.
- c. Has a floor made of soil, crushed stone, matting, pavers or a floating concrete slab.

High Quality Waters – Surface waters having quality which exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water by satisfying Pennsylvania Code Title 25 Environmental Protection, Chapter 93 Water Quality Standards, §93.4b(a).

Hydrologic Soil Group (HSG) – Infiltration rates of soils vary widely and are affected by subsurface permeability as well as surface intake rates. Soils are classified into four HSGs (A, B, C, and D) according to their minimum infiltration rate, which is obtained for bare soil after prolonged wetting. The NRCS defines the four groups and provides a list of most of the soils in the United States and their group classification. The soils in the area of the Development Site may be identified from a soil survey report that can be obtained from local NRCS offices or Conservation District offices. Soils become less pervious as the HSG varies from A to D (NRCS^{1,2}).

Impervious Surface (Impervious Area) – A surface that prevents the infiltration of water into the ground. Impervious surfaces (or areas) shall include, but not be limited to: roofs; additional indoor living spaces, patios, garages, storage sheds, and similar structures; and any new streets or sidewalks. Decks, parking areas, and driveway areas are not counted as Impervious Areas if they do not prevent infiltration.

Impervious Area, Cumulative – The total Impervious Area added to Existing Conditions Impervious Area.

Karst – A type of topography or landscape characterized by 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 (Development) – Inclusive of any or all of the following meanings: (i) the improvement of one lot or two or more contiguous lots, tracts, or parcels of land for any purpose involving (a) a group of two or more buildings or (b) the division or allocation of land or space between or among two or more existing or prospective occupants by means of, or for the purpose

of streets, common areas, leaseholds, condominiums, building groups, or other features; (ii) any subdivision of land; (iii) development in accordance with Section 503(1.1) of the PA Municipalities Planning Code. (See also East Stroudsburg Chapter 157-Zoning)

Limiting Zone – A soil horizon or condition in the soil profile or underlying strata which includes one of the following: (i) a seasonal high-water table, whether perched or regional, determined by direct observation of the water table or indicated by soil mottling; (ii) a rock with open joints, fracture or solution channels, or masses of loose rock fragments, including gravel, with insufficient fine soil to fill the voids between the fragments; (iii) a rock formation, other stratum or soil condition which is so slowly permeable that it effectively limits downward passage of water. *See requirements in the PA DEP BMP Manual³ Appendix C.*

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

Management District – Those subareas in which some type of detention is required to meet the plan requirements and the goals of Act 167.

Municipal Separate Stormwater Sewer Systems (MS4) – A municipally owned stormwater collection or conveyance system regulated by DEP.

Municipality – The Borough of East Stroudsburg, Monroe County, Pennsylvania.

NPDES Permit – A National Pollutant Discharge Elimination System Permit for Discharges of Stormwater Associated with Construction Activities.

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

(O&M) – Operation and Maintenance.

Owner/Landowner – The Owner, legal or equitable, sole or partial, of a property subject to this Ordinance and their authorized agent(s) to act as an Applicants.

Parent Tract – The Parcel of land from which a Land Development or subdivision originates, existing as of the date of municipal adoption of the original Brodhead and McMichaels Creek Ordinance. East Stroudsburg Stormwater Management Ordinance 9-2-2008) .

Parcel – A plot of land with limits approximately defined by the Monroe County Tax Parcel number and more specifically described by the property deed, subject to the requirements related to the Parent Tract as defined herein.

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

Pervious Area – Any area not defined as Impervious.

Pollution Reduction Plan (PRP) – The plan approved for the Borough’s MS4 permit outlining methods to improve water quality in impaired waters.

Project Site – The specific area of land where any Regulated Activities in the Borough of East Stroudsburg are planned, conducted, or maintained.

Post Construction Stormwater Management (PCSM) Plan – A site specific plan consisting of both drawings and a narrative that identifies BMP’s to manage changes in stormwater runoff volume, rate and water quality after Earth Disturbance Activities have ended and the project is permanently stabilized and required information as defined in PA DEP Chapter 102.

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

Regulated Activities – Any Earth Disturbance Activities or any activities that involve the alteration or development of land in a manner that may affect stormwater Runoff.

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

Retention Volume/Removed Runoff – The volume of Runoff that is captured and not released directly into the surface waters of this Commonwealth during or after a storm event.

Return Period – The average interval, in years, within which a storm event of a given magnitude can be expected to occur one time. For example, the twenty-five (25) year Return Period rainfall would be expected to occur on average once every twenty five (25) years; or stated in another way, the probability of a twenty-five (25) year storm occurring in any one year is 0.04 (i.e., a four [4%] percent chance).

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

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

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

Site Conditions – All conditions on a Parcel that effect the characteristics of stormwater Runoff as regulated by this ordinance.

Soil-Cover Complex Method - A method of Runoff computation developed by the NRCS that is based on relating soil type and land use/cover to a Runoff parameter called Curve Number (CN).

Special Protection Watersheds – Watersheds for which the receiving waters are Exceptional Value (EV) or High Quality (HQ) waters.

Spillway – A conveyance that is used to pass the Peak Discharge of the maximum Design Storm controlled by the stormwater facility.

Storage Indication Method – A reservoir routing procedure based on solution of the continuity equation (inflow minus outflow equals the change in storage) with outflow defined as a function of storage volume and depth.

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

Stream – A watercourse Under Pennsylvania law, a stream is any channel with defined bed and bank that conveys water – all or even part of the year. Streams can be natural, man-made, perennial, or intermittent.

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

Stormwater Management Facility – Any structure, natural or man-made, that, due to its condition, design, or construction, conveys, stores, or otherwise affects stormwater Runoff. Typical stormwater management facilities include but are not limited to: detention and retention basins; open channels; storm sewers; pipes; and infiltration facilities.

Stormwater Management Plan (SWM Plan)– The application prepared and submitted by the Applicant or his representative indicating how stormwater Runoff will be managed at the Development Site in accordance with this Ordinance. This term includes the PCSM Plan, ESC Plan, existing features plan and other information required by the Ordinance.

Stormwater Management Agreement (SMA) – An agreement between the Landowner and the Borough delineating the Landowners responsibilities for installation, maintenance and operation of stormwater management facilities. A sample Stormwater Management Agreement is included in the **Appendix A** of this Ordinance.

Subdivision – As defined in The Pennsylvania Municipalities Planning Code, Act of July 31, 1968, P.L. 805, No. 247. (See also East Stroudsburg Chapter 140 – Subdivision and Land Development).

USDA – United States Department of Agriculture.

Watercourse – A channel or conveyance of surface water having defined bed and banks, whether natural or artificial, whether perennial or intermittent flow.

Waters of this Commonwealth – Any and all rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs, and all other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth.

Watershed – Region or area drained by a river, watercourse, or other surface water of this Commonwealth.

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

ARTICLE III – STORMWATER MANAGEMENT STANDARDS

Section 141-301. General Requirements

- A. For all Regulated Activities, unless preparation of an SWM Plan is specifically exempted in Section 141-302:
 - 1. Preparation and implementation of an approved SWM Plan is required. The SWM Plan shall be designed in accordance with this Section, Section 141-307, and Appendix B.
 - 2. No Regulated Activities shall commence until the Borough of East Stroudsburg issues written approval of an SWM Plan, which demonstrates compliance with the requirements of this Ordinance.
- B. SWM Plans approved by the Borough of East Stroudsburg, in accordance with Section 406, shall be on site throughout the duration of the regulated activity.
- C. The Borough of East Stroudsburg may, after consultation with DEP, approve measures for meeting the state water quality requirements other than those in this Ordinance, provided that they meet the minimum requirements of, and do not conflict with, state law including, but not limited to, the Clean Streams Law, subject to approval by Council.
- D. For all Regulated Earth Disturbance Activities, Erosion and Sediment Control BMPs shall be designed, implemented, operated, and maintained during the regulated Earth Disturbance Activities (e.g., during construction) to meet the purposes and requirements of this Ordinance and to meet all requirements under Title 25 of the Pennsylvania Code and the Clean Streams Law. Various BMPs and their design standards are listed in the *Erosion and Sediment Pollution Control Program Manual* (ESCMannual⁴), No. 363-2134-008.

E. Impervious Areas:

1. The measurement of Impervious Areas for the purpose of determining exemption qualifications of this Ordinance shall include the following:
 - a. Existing Conditions
 - b. Cumulative Impervious Areas
 - c. All proposed Impervious Areas even if development is to take place in stages
 2. For development taking place in stages, the entire development plan must be used in determining conformance with this Ordinance.
 3. For projects that add Impervious Area to a Parcel, the total Impervious Area on the parcel is subject to the requirements of this Ordinance; except that the volume controls in Section 141-303 and the peak rate controls of Section 141-304 do not need to be retrofitted to existing Impervious Areas that are not being altered by the proposed regulated activity.
 4. Cumulative Impervious Area and Parent Tracts – Ordinance criteria shall apply to the total development even if development is to take place in phases. The date of the Municipal Ordinance adoption from the original Brodhead and McMichaels Creek Act 167 Plans shall be the starting point from which to consider tracts as “parent tracts” in which future subdivisions and respective Impervious Area computations shall be cumulatively considered. Impervious Areas existing on the "parent tract" prior to adoption of this Ordinance (East Stroudsburg Stormwater Management Ordinance 9-2-2008) shall not be considered in cumulative Impervious Area calculations for exemption purposes. 2008 aerial photographs are available on the Pennsylvania Spatial Data Access (PASDA) website for comparison of impervious area at that time with the current limits of impervious area. Other methods of verification of 2008 impervious areas to be approved by the Borough Engineer.”
- F. Increase or changes in stormwater flows onto adjacent property from a Development Site shall not be allowed without written notification, prepared by a qualified licensed professional, via certified mail, with executed return receipt, or hand delivery with affidavit, to the adjacent property owner(s) describing in detail the project and stormwater impacts on the adjacent properties. The notification shall contain a provision that the recipient of the notice may wish to have a qualified professional review and provide comments to the Borough Codes Office on the proposed project. A copy of the notification and project description shall be provided to the Borough at the time of the SWM Plan Application. Such stormwater flows shall be subject to the requirements of this Ordinance.

G. All Regulated Activities shall include such measures as necessary to:

1. Protect health, safety, and property. An exemption shall not relieve the Applicant from implementing such measures as are necessary to protect the public health, safety, and property. An exemption shall not relieve the Applicant from providing adequate stormwater management for Regulated Activities to meet the purpose of this Ordinance.
2. Drainage Problems. If a drainage problem is documented or known to exist downstream of, or expected from the proposed activity, then the Borough of East Stroudsburg may require a SWM Plan Submittal. The Flory Pond Drainage area has been identified to require special regulations as provided in this Ordinance included in the **Appendix F** of this Ordinance. Areas of drainage problems may be designated by the Borough based on recorded flooding events.
3. Meet the water quality goals of this Ordinance by implementing measures to:
 - a. Minimize disturbance to Floodplains, wetlands, and wooded areas.
 - b. Provide buffers as required by this Ordinance.
 - c. Avoid erosive flow conditions in natural flow pathways.
 - d. Minimize thermal impacts to waters of this Commonwealth.
 - e. Disconnect Impervious surfaces by directing Runoff to pervious areas, wherever possible.
 - f. Address MS4 program requirements (refer to Section 141-504) for the reduction of sedimentation to the Sambo Creek watershed and the reduction of Pathogens to the Brodhead Creek Watershed.
 - g. Meet the requirements of the Aquifer Protection Zone. (See Zoning Map, Chapter 157, Attachment 3.)
4. Incorporate methods described in the *Pennsylvania Stormwater Best Management Practices Manual* (BMP Manual³). If methods other than Green Infrastructure and LID methods are proposed to achieve the volume and rate controls required under this Ordinance, the PCSM Plan must include a detailed justification demonstrating that the use of LID and Green Infrastructure is not practicable.

H. Infiltration BMPs should be spread out, made as shallow as practicable, and located to maximize use of natural on-site infiltration features while still meeting the other requirements of this Ordinance.

- I. Normally dry, open top, storage facilities should completely drain both the volume control and rate control capacities over a period of time not less than twenty-four (24) (when possible) and not more than ninety-six (96) hours from the end of the Design Storm. The Design Professional shall include a statement in the Storm Water Management Calculations describing attempts to achieve the goal of a minimum twenty-four (24) hour drain time.
- J. The Design Storm volumes to be used in the analysis of peak rates of discharge should be obtained from the latest version of the Precipitation-Frequency Atlas of the United States, National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Spring, Maryland.

NOAA's Atlas 14⁵ can be accessed at: <http://hdsc.nws.noaa.gov/hdsc/pfds/>.

- K. For all Regulated Activities, SWM BMPs shall be designed, implemented, operated, and maintained to meet the purposes and requirements of this Ordinance and to meet all requirements under Title 25 of the Pennsylvania Code, the Clean Streams Law, and the Storm Water Management Act.
- L. Various BMPs and their design standards are listed in the BMP Manual.³
- M. Applicants proposing Regulated Activities in the Brodhead Creek Watershed which do not fall under the exemption criteria shown in Section 141-302 shall submit a SWM Plan consistent with the Brodhead and McMichaels Creek Watershed Stormwater Management Plan to the Borough of East Stroudsburg for review. These criteria shall apply to the total proposed development even if development is to take place in stages.
- N. Where a Development Site is traversed by existing watercourses, drainage easements shall be provided conforming to the line of such watercourses. The terms of the easement shall conform to the stream buffer requirements contained in Section 141-305 of this Ordinance.
- O. Any stormwater management facilities regulated by this Ordinance that would be located in or adjacent to waters of the Commonwealth or wetlands shall be subject to approval by PA DEP through the Joint Permit Application process, or, where deemed appropriate by PA DEP, the General Permit process. When there is a question whether wetlands may be involved, it is the responsibility of the Applicant or his agent to show that the land in question cannot be classified as wetlands, otherwise approval to work in the area must be obtained from PA DEP.
- P. Any stormwater management facilities regulated by this Ordinance that would be located on State highway rights-of-way shall be subject to approval by the Pennsylvania Department of Transportation (PennDOT). Any stormwater facility located on State highway rights-of-way shall be subject to approval by the Pennsylvania Department of Transportation (PennDOT). Any facility located within a PennDOT right-of-way must meet PennDOT minimum design standards and permit submission requirements.

- Q. All stormwater Runoff for proposed Impervious Areas, other than roof top Runoff, shall be treated for water quality prior to discharge to the surface or below grade stormwater management facility including infiltration systems.
- R. Any stormwater management facility (i.e., BMP, detention basin) designed to store Runoff and requiring a berm or earthen embankment required or regulated by this Ordinance shall be designed to provide an emergency Spillway to handle the discharge of flows up to and including the inflow to the facility from the one hundred (100) year proposed conditions, considering the primary outlet control structure(s) are blocked. The height of embankment must provide a minimum one (1.0') foot of freeboard above the maximum pool elevation computed when the facility functions for the one hundred (100) year proposed conditions inflow for facilities ponding over two (2.0') feet deep. Should any stormwater management facility require a dam safety permit under PA DEP Chapter 105, the facility shall be designed in accordance with Chapter 105 and meet the regulations of Chapter 105 concerning dam safety which may be required to pass storms larger than the one hundred (100) year event.
- S. Any facilities that constitute water obstructions (e.g., culverts, bridges, outfalls, or stream enclosures), and any work involving wetlands governed by PA DEP Chapter 105 regulations then in effect, shall be designed in accordance with Chapter 105 and will require a permit from PA DEP.
- T. Any other Drainage Conveyance Facility and/or channel that does not fall under Chapter 105 regulations must be able to convey, without damage to the drainage structure or roadway, Runoff from the twenty-five (25) year Design Storm with a minimum one (1.0') foot of freeboard measured below the lowest point along the top of the roadway for all roadways. Private roads serving two (2) dwellings or less may be designed to a ten (10) year storm. Both cases will require the Professional to document in the narrative that the overflow path will be safely conveyed to required BMPs and not negatively affect the safety of the public.
- U. Conveyance facilities to or exiting from stormwater management facilities (i.e., detention basins) shall be designed to convey the design flow to or from that structure. Roadway crossings located within designated Floodplain areas must be able to convey Runoff from a one hundred (100) year Design Storm.
- V. Storm sewers must be able to convey proposed conditions Runoff from a twenty-five (25) year Design Storm for all roadways or PennDOT standards for PennDOT roadways whichever is more stringent, without surcharging inlets, or as necessary to convey the Design Storm to stormwater management facilities for the required stormwater management facility Design Storm.
- W. Adequate Erosion protection shall be provided along all open channels, and at all points of discharge.

- X. The design of all stormwater management facilities shall incorporate sound engineering principles and practices. The Borough of East Stroudsburg reserves the right to disapprove any design that would result in the construction of or continuation of a stormwater problem area.
- Y. Protect the public from stormwater basin ponding by providing fence for ponding depths over two (2.0') feet of depth between the bottom of the basin and the emergency Spillway.

Section 141-302. Exemptions

- A. Regulated Activities that meet all the following criteria are exempt from the SWM Plan submission requirements. Projects exempt from SWM Plan submissions shall comply with Section 141-302.D. The Owner shall submit an application form and provide information confirming the exemption requirements have been met for review by the Borough.
 - 1. No exemption shall be granted where the proposed Impervious Areas shall cause the total Cumulative Impervious Area to exceed two thousand (2,000') square feet over Existing Conditions from the date of the Original East Stroudsburg Brodhead Creek Ordinance adoption of September 2, 2008.
 - 2. No exemption shall be granted if a project exceeds five thousand (5,000') square feet of Earth Disturbance Activity or more than one acre of Cumulative Earth Disturbance. The Applicant shall submit proof of qualification for the exemption.
 - 3. If the project proposes less than two hundred (200') square feet of Impervious Area and does not increase the Cumulative Impervious Area more than two hundred (200') square feet, an application through the Borough Codes office will make the initial determination as to the applicability of the exemption. If the requested Exemption would increase Cumulative Impervious area over the threshold set forth in Section 141-302.A.(1) or stormwater impacts on the adjoining properties are determined likely, then the Exemption will be determined pursuant to the process in Sections 141-302.A.4-7 below. Exemption, if granted, can be revoked if it is determined that the project as constructed violates the provisions of Section 141-302.D.b.1.
 - 4. If the project does not add more than two thousand (2,000') square feet of Impervious Area and does not increase the Cumulative Impervious Area more than two thousand (2,000') square feet. The Applicant shall submit proof of qualification for all exemption requirements.
 - 5. The project is not located in the drainage areas tributary areas to Flory Pond or any FEMA designated Floodplain Area
 - 6. The project shall not change or concentrate flow paths to adjoining properties. An Applicant for exemption shall submit a letter from a PA licensed professional to provide written confirmation of qualification for the exemption. The grant of this exemption does not relieve the Applicant of liability under the law for damages created by increases in concentration or change in flow path onto adjoining properties.

7. An exemption of the SWM Plans submission shall not relieve compliance with stormwater management requirements other Borough Ordinances including the SALDO and Zoning Ordinance.
- B. Agricultural Activity and gardening are exempt from the SWM Plan preparation requirements of this Ordinance provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.
 - C. Forest Management and Timber Operations are exempt from the SWM Plan preparation requirements of this Ordinance provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.
 - D. Exemptions from any provisions of this Ordinance shall not relieve the Applicant from the following requirements:
 - a. For all regulated Earth Disturbance Activities, Erosion and Sediment control BMPs shall be designed, implemented, operated, and maintained during the Regulated Earth Disturbance Activities (e.g., during construction) to meet the purposes and requirements of this Ordinance and to meet all requirements under Title 25 of the Pennsylvania Code and the Clean Streams Law. Various BMPs and their design standards are listed in the *Erosion and Sediment Pollution Control Program Manual (E&S Manual³)*, No. 363-2134-008.
 - b. All Regulated Activities shall include such measures as necessary to:
 1. Protect health, safety, and property. An exemption shall not relieve the Applicant from implementing such measures as are necessary to protect the public health, safety, and property. An exemption shall not relieve the Applicant from providing adequate stormwater management for Regulated Activities to meet the purpose of this Ordinance. A SWM Plan exemption may be revoked for violation of the provisions of this ordinance.
 2. Meet the water quality goals of this Ordinance by implementing measures to:
 - a) Provide stream, pond and wetland buffers required by this ordinance. The Applicant shall provide a report prepared by a qualified professional in field of wetland delineation confirming there are not wetlands on the site or within the required buffer area.
 - b) Avoid erosive flow conditions in natural flow pathways.
 - c) Disconnect Impervious surfaces by directing Runoff to pervious areas, where feasible.

- d) The Owner shall meet MS4 program requirements (refer to Section 141-504) for the ten (10%) percent reduction of sedimentation to the Sambo Creek watershed and the reduction of Pathogens to the Brodhead Creek Watershed as outlined in Article IX – References and Chapter 67 Animals.
 - e) Meet the requirements for Aquifer Protection for properties in the Aquifer Protection Zone. (See Chapter 157 Zoning, Section 157-101, *et seq.*).
- c. If SWM Plan submission is not required by this ordinance, this shall not relieve the Owner from the requirement to manage stormwater flows to adjoining properties as required by law. Stormwater flows onto adjacent property from the developed property shall not be allowed without written notification, via certified mail or hand delivery with affidavit, to the adjacent property owner(s) describing the project and stormwater impacts. A copy of the notification and project description shall be provided to the Borough at the time of the SWM Plan Application. Such stormwater flows shall be subject to the requirements of this Ordinance.
- E. The Borough of East Stroudsburg may deny or revoke any exemption pursuant to this Section at any time for any project that the Borough of East Stroudsburg believes may pose a threat to public health and safety or the environment.
- F. High Tunnels shall be exempt from the provisions of this Ordinance if:
- 1. The High Tunnel or its flooring does not result in an Impervious Area exceeding twenty-five (25%) percent of all structures located on the owners' total contiguous land area; and
 - 2. The High Tunnel meets one of the following:
 - i. The High Tunnel is located at least one hundred (100') feet from any perennial stream or watercourse, public road or neighboring property line.
 - ii. The High Tunnel is located at least thirty-five (35') feet from any perennial stream or watercourse, public road or neighboring property line and located on land with a slope not greater than seven (7%) percent.
 - iii. The High Tunnel is supported with a buffer or diversion system that does not directly drain into a stream or other watercourse managing storm water Runoff in a manner consistent with requirements of this Ordinance and The Stormwater Management Act of April 18, 2018 P.L. 91, No. 15, and the Act of October 4, 1978 (P.L. 864, No 167).

Section 141-303. Volume Controls

The Green Infrastructure and Low Impact Development practices provided in the BMP Manual³ shall be utilized for all Regulated Activities wherever possible. Water volume controls shall be

implemented using the *Design Storm Method* in Subsection A or the *Simplified Method* in Subsection B below. For regulated activity areas equal or less than one acre that do not require hydrologic routing to design the stormwater facilities, this Ordinance establishes no preference for either methodology; therefore, the Applicant may select either methodology on the basis of economic considerations, the intrinsic limitations on applicability of the analytical procedures associated with each methodology and other factors. When a project requires a NPDES, the DEP permit requirements shall be met.

A. The *Design Storm Method* (CG-1 in the BMP Manual³) 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 (2) year, twenty-four (24) hour duration precipitation.
2. For modeling purposes:
 - a. Existing (predevelopment) non-forested pervious areas must be considered meadow in good condition.
 - b. Twenty percent of the Existing Impervious Area, when present, shall be considered meadow in good condition in the model for existing conditions. A twenty (20%) percent reduction in Impervious requirement is considered to be adequate to meet the MS4 requirement for Sediment reduction requirements, as required in the Sambo Creek Watershed.

B. The *Simplified Method* (CG-2 in the BMP Manual³) provided below is independent of site conditions and should be used if the *Design Storm Method* is not followed. This method is not applicable to Regulated Activities greater than one acre or for projects that require design of stormwater storage facilities. For new Impervious surfaces:

1. Stormwater facilities shall capture at least the first two (2") inches of Runoff from all new Impervious surfaces.
2. At least the first one (1") inch of Runoff from new Impervious surfaces shall be permanently removed from the Runoff flow, i.e., it shall not be released into the surface waters of this Commonwealth. Removal options include reuse, evaporation, transpiration, and infiltration.
3. Wherever possible, infiltration facilities should be designed to accommodate infiltration of the entire permanently removed Runoff; however, in all cases at least the first one-half (0.5") inch of the permanently removed Runoff should be infiltrated.
4. This method is exempt from the requirements of Section 304, Rate Controls subject to the requirements of Section 141-302.A.4

Section 141-304. Rate Controls

For the 1-, 2-, 5-, 10-, 25-, 50-, and 100-year, 24-hour storm events, the post-development Peak Discharge rates will follow the applicable approved release rate maps. For any areas not shown on the release rate maps, the post-development discharge rates shall not exceed the predevelopment discharge rates.

- A. The Brodhead Creek Watershed has been divided into stormwater Management Districts. The Management District Map is available on the Monroe County Conservation District’s website.

Standards for managing Runoff from each subarea in the Brodhead Watershed for the various design storms are shown in Table 304.1. Development sites located in each of the A and B Districts must control proposed conditions peak Runoff rates to Existing Conditions peak Runoff rates for the Design Storms in accord with

Table 304.1. District C may allow increases in post development flows where adequate downstream conveyances exist.

TABLE 304.1 – Peak Runoff Rate Requirements

District	Proposed conditions	(reduce to)	Existing Conditions
A	2-year		1-year
	5-year		5-year
	10-year		10-year
	25-year		25-year
	50-year		50-year
	100-year		100-year
C	Provisional Direct Discharge District – Development sites which can discharge directly to the main channel or major tributaries or indirectly to the main channel through an existing stormwater drainage system (i.e., storm sewer or tributary) which meets the “Downstream Hydraulic Capacity Analysis” in Section 141-304.H and is shown by the design professional to not cause a downstream problem, may allow an increase in flow as long as no downstream harm is demonstrated. However, sites in District C shall comply with the criteria for Water Quality and Streambank Erosion (Ordinance Sections 141-306 & 141-309); and Volume (Ordinance Section 141-303). If the proposed conditions Runoff is intended to be conveyed by an existing stormwater drainage system to the main channel, assurance must be provided that such system has adequate capacity to convey the increased peak flows or will be provided with improvements to furnish the required capacity. When adequate capacity of the downstream system does not exist and will		

	not be provided through improvements, the proposed conditions peak rate of Runoff must be controlled to the existing conditions peak rate to the capacity of the downstream system for all storms including the 100 year storm or as required in District A provisions (i.e., 10-year proposed conditions flows to 10-year Existing Conditions flows) for the specified Design Storms.
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- B. General – Proposed conditions peak rates of Runoff from any Regulated Activity shall not exceed the peak release rates of Runoff prior to development for the Design Storms specified for the Stormwater Management District Watershed Map and Section 141-304, of this Ordinance.
- C. District Boundaries – The boundaries of the Stormwater Management District are shown on the map titled Appendix D – Stormwater Management Act 167 District Watershed Map. The exact location of the Stormwater Management District boundaries as they apply to a given Development Site shall be determined by mapping the boundaries using the two-foot topographic contours (or most accurate data required) provided as part of the SWM Plan.
- D. Sites Located in More Than One District – For a proposed Development site located within two or more stormwater management district category subareas, the Peak Discharge rate from any subarea shall meet the requirements of Table 304.1 for each discharge point from the site. The calculated peak discharges shall apply regardless of whether the grading plan changes the drainage area by subarea.
- E. Off-Site Areas – Off-site areas that drain through a proposed development site are not subject to release rate criteria when determining allowable peak Runoff rates. However, on-site drainage facilities shall be designed to safely convey off-site flows through the Development Site.
- F. Site Areas – Where the site area to be impacted by a proposed development activity differs significantly from the total site area, only the proposed impact area utilizing stormwater management measures shall be subject to the Management District Criteria. In other words, undisturbed areas bypassing the stormwater management facilities would not be subject to the Management District Criteria.
- G. “No Harm” Option – For any proposed Development Site not located in a provisional direct discharge district, the Applicant has the option of using a less restrictive Runoff control (including no detention) if the Applicant can prove that "no harm" would be caused by discharging at a higher Runoff rate than that specified by the Stormwater Management Plan. The "no harm" option is used when an Applicant can prove that the proposed hydrographs can match existing hydrographs, or if it can be proved that the proposed conditions will not cause increases in peaks at all points downstream. Proof of "no harm" must be shown based upon the following "Downstream Impact Evaluation" which shall include a “downstream hydraulic capacity analysis" consistent with Section 141-304.H to determine if adequate hydraulic

capacity exists. The Applicant shall submit to the Borough of East Stroudsburg this evaluation of the impacts due to increased downstream stormwater flows in the watershed.

1. The Hydrologic Regime of the site must be maintained.
 2. The "Downstream Impact Evaluation" shall include hydrologic and hydraulic calculations necessary to determine the impact of hydrograph timing modifications due to the proposed development upon a dam, highway, structure, natural point of restricted streamflow or any stream channel section, established with the concurrence of the Borough of East Stroudsburg.
 3. The evaluation shall continue downstream until the increase in flow diminishes due to additional flow from tributaries and/or stream attenuation.
 4. The peak flow values to be used for downstream areas for the design Return Period storms (2, 5, 10, 25, 50, and 100-year) shall be the values from the calibrated model for the Brodhead and McMichaels Creek Watershed. These flow values can be obtained from the original Act 167 watershed storm water management plans.
 5. Applicant-proposed Runoff controls which would generate increased peak flow rates at storm drainage problem areas, by definition, are precluded from successful attempts to prove "no-harm", except in conjunction with proposed capacity improvements for the problem areas consistent with Section 141-304.H.
 6. A financial distress shall not constitute grounds for the Borough of East Stroudsburg to approve the use of the "no-harm" option.
 7. Downstream capacity improvements may be provided as necessary to achieve the "no harm" option.
 8. Any "no harm" justifications shall be submitted by the Applicant as part of the SWM Plan Requirements per Article IV of this Ordinance.
- H. "Downstream Hydraulic Capacity Analysis" – Any downstream hydraulic capacity analysis conducted in accordance with this Ordinance shall use the following criteria for determining adequacy for accepting increased peak flow rates:
1. Existing natural or man-made channels or swales must be able to convey the increased Runoff associated with a two (2) year Return Period event within their banks at velocities consistent with protection of the channels from Erosion. Acceptable velocities shall be based upon criteria included in the DEP Erosion and Sediment Pollution Control Program Manual. ⁴

2. Existing natural or man-made channels or swales must be able to convey increased one hundred (100) year Return Period Runoff without creating any hazard to persons or property.
 3. Culverts, bridges, storm sewers or any other facilities which must pass or convey flows from the tributary area must be designed in accordance with DEP Chapter 105 regulations (if applicable) and, at minimum, pass the increased one hundred (100) year Return Period Runoff.
- I. Hardship Option – The Stormwater Management Plan and its standards and criteria are designed to maintain Existing Conditions peak flows and volumes throughout the Brodhead and McMichaels Creek watershed as the watershed becomes developed. The standards and criteria established may be too restrictive for a particular Applicant in certain instances. The existing drainage network in some areas may be capable of safely transporting slight increases in flows without causing a problem or increasing flows elsewhere. If an Applicant cannot meet the stormwater standards due to lot conditions or if conformance would become a hardship to an Applicant, the hardship option may be applied. A financial distress shall not constitute grounds for the Borough of East Stroudsburg to approve the use of the hardship option. The Applicant would have to plead Applicant’s case to the Governing Body with the final determination made by the Borough of East Stroudsburg. Any Applicant’s pleading the "hardship option" will assume all liabilities that may arise due to exercising this option. A financial distress shall not constitute grounds for the Borough of East Stroudsburg to approve the use of the “no-harm” option.

Section 141-305. Buffers

- A. In order to protect and improve water quality, a Riparian Buffer easement shall be created and recorded as part of any subdivision or Land Development that encompasses a Riparian Buffer. Riparian Buffers do not apply to streams conveyed in existing pipes.
- B. **Brodhead Creek and Sambo Creek:** Fifty (50') foot inner buffer and one hundred (100') foot outer buffer, for a total distance of one hundred fifty (150') feet.
- C. **Little Sambo Creek and other streams:** Twenty-five (25') foot inner buffer and a fifty (50') foot outer buffer, for a total distance of seventy-five (75') feet.
 1. Inner Buffer – Stormwater conveyance and BMP’s required by the Borough of East Stroudsburg, buffer maintenance and restoration of both existing Impervious and restoration to native vegetation, the correction of hazardous conditions, stream crossings permitted by DEP, fish hatcheries, wildlife sanctuaries, and boat launch sites constructed so as not to alter the flood plain cross section, and unpaved trails shall be permitted providing no buildings are involved. No other earth disturbance, grading, filling, buildings, structures, new construction, or development shall be permitted. The area of the inner buffer altered by activities shall be minimized to the greatest extent practicable except to

remove existing Impervious and establish native vegetation. No more than twenty (20%) percent of the cumulative inner buffer on the subject parcel shall be altered except to remove existing Impervious and establish native vegetation.

2. Outer Buffer – Stormwater conveyance and BMP's required by the Borough of East Stroudsburg, buffer maintenance and restoration of both existing Impervious and restoration to native vegetation, the correction of hazardous conditions, agricultural activities, plant nurseries, parking lots constructed to existing grade, temporary fairs and carnivals, accessory uses for residential purposes, private sportsmen's club activities, athletic facilities, orchards, wildlife sanctuaries, boat launch sites, roads constructed to existing grade, stream crossings permitted by DEP and unpaved trails and limited forestry activities that do not clear cut the buffer (e.g. selective regeneration harvest) in accord with a forestry management plan shall be permitted provided no buildings are involved.
3. In areas of the outer buffer which are not wetlands, vernal ponds or slopes of more than fifteen (15%) percent, stormwater management facilities which improve water quality of stormwater discharge shall be permitted unless prohibited by other Borough or state requirements. No other earth disturbance, grading, filling buildings, structures, new construction, or development shall be permitted. No more than twenty (20%) percent of the cumulative outer buffer on the subject parcel shall be altered except to remove existing Impervious and establish native vegetation.

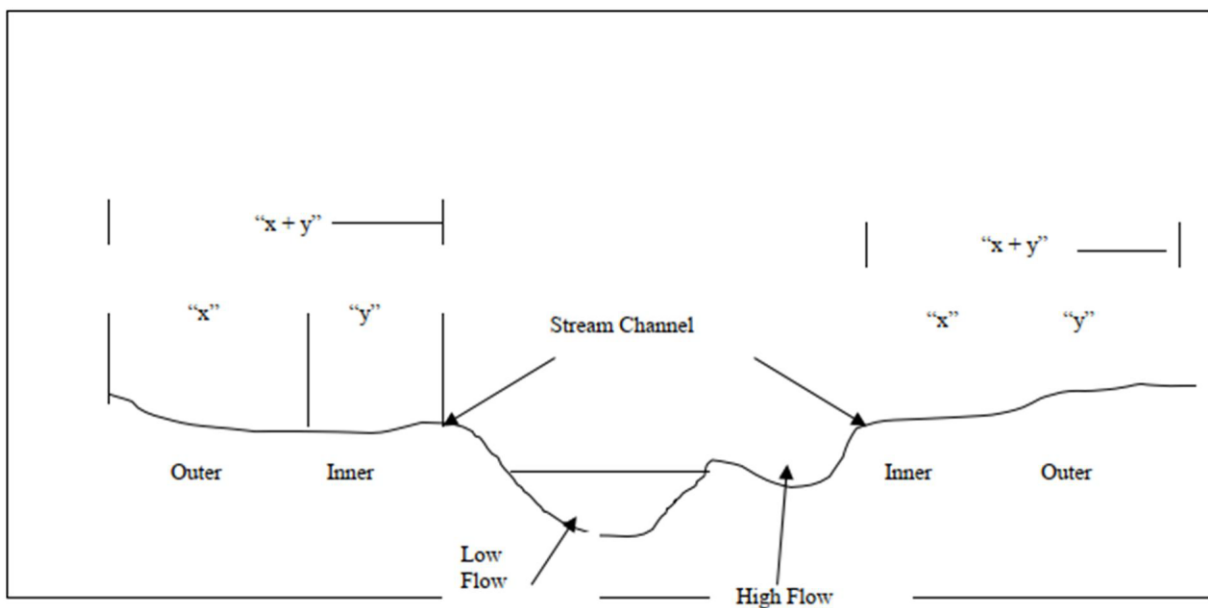
D. Minimum Management Requirements for Riparian Buffers.

1. Existing native vegetation shall be protected and maintained within the Riparian Buffer easement.
 2. Whenever practicable invasive vegetation shall be actively removed and the Riparian Buffer easement shall be planted with native trees, shrubs, and other vegetation to create a diverse native plant community appropriate to the intended ecological context of the site.
 3. Existing Impervious surfaces may be removed and replaced with stable grading and native vegetation subject to 25 Pa. Code Chapter 102 and 25 Pa. Code Chapter 105 requirements.
- E. The Riparian Buffer easement shall be enforceable by the Borough of East Stroudsburg and shall be recorded in the appropriate County Recorder of Deeds Office, so that it shall run with the land and shall limit the use of the property located therein. The easement shall allow for continued private ownership and shall count toward the minimum lot area required by Zoning, unless otherwise specified in the municipal Zoning Ordinance
- F. Any permitted use within the Riparian Buffer easement shall be conducted in a manner that will maintain the extent of the existing one hundred (100) year Floodplain, improve or maintain the stream stability, and preserve and protect the ecological function of the Floodplain.

G. The following conditions shall apply when public and/or private recreation trails are permitted within Riparian Buffers:

1. Trails shall be for non-motorized use only.
2. Trails shall be designed to have the least impact on native plant species and other sensitive environmental features.

H. Septic drain fields and sewage disposal systems shall not be permitted within the Riparian Buffer easement and shall comply with setback requirements established under 25 Pa. Code Chapter 73.



Riparian Buffer

- I. Where resource buffers overlap, the more restrictive requirements shall apply.
- J. Outer buffers are not required for any portion of the required buffer area that does not drain to the resource requiring the buffer.
- K. Pre-existing Lots or Parcels/Development in Outer Buffers - In the case of legally pre-existing lots or parcels (approved prior to the effective date of this Ordinance) where the useable area of a lot or parcel lies within an outer buffer area, rendering the lot or Parcel unable to be developed in accordance with the allowable use per municipal zoning, the development may only be permitted by modification as provided in Chapter 140, Article VII of the Borough of East Stroudsburg's Subdivision and Land Development Ordinance (SALDO).

L. Improvements to Existing Structures in Outer Buffers – The provisions of this Section 141-303.1 do not require any changes or improvements to be made to lawfully existing structures in buffers. However, when any substantial improvement to a structure is proposed which results in a horizontal expansion of that structure, the improvement may only be permitted by a modification approved by Council.

M. Wetlands

1. Wetland Identification – wetlands shall be identified in accord with the most current U.S. Army Corps of Engineers Manual for Identifying and Delineating Wetlands, properly flagged and surveyed on site to ensure they are protected.
 - i. Wetlands in an artificial watercourse – wetlands contained within the banks of an artificial watercourse shall not be considered for buffer delineation purposes.
 - ii. Wetlands in a natural watercourse – where wetlands are contained within the banks of a natural watercourse, only the stream buffer shall apply.
2. Wetland Buffer Delineation – A fifty (50) foot buffer, measured perpendicular to and horizontally from the edge of the delineated wetland or vernal pond shall be maintained for all wetlands and vernal ponds.
3. Permitted Activities/Development- Stormwater conveyance and BMP'S required by the Borough of East Stroudsburg, buffer maintenance and restoration, the correction of hazardous conditions, stream crossings permitted by DEP and passive unpaved stable trails shall be permitted. No other earth disturbance, grading, filling, buildings, structures, new construction, or development shall be permitted. The area of the buffer altered shall be minimized to the greatest extent practicable.

N. Lakes and Ponds

1. Lake and Pond Buffer Delineation – A fifty (50') foot buffer measured perpendicular to and horizontally from the edge of any water body, shall be maintained around any water body.
2. Permitted Activities/Development – Stormwater conveyance and BMP's required by the Borough of East Stroudsburg, buffer maintenance and restoration, the correction of hazardous conditions, lake front views, boat docks and unpaved trails shall be permitted provided no buildings are involved.
3. The area of the buffer impacted shall not exceed thirty-five (35%) percent of the buffer on the subject Parcel.

Section 141-306. Water Quality

- A. Biology shall be incorporated into the design of all wet basins in accordance with the West Nile Virus Guidance found in **Appendix E**.
- B. Soils - A detailed soils evaluation of the Project Site shall be required where practicable to determine the suitability of recharge facilities. The evaluation shall be performed by a qualified design professional, and at a minimum, address soil permeability, depth to bedrock and subgrade stability. The general process for designing the infiltration BMP shall be:
1. Analyze hydrologic soil groups as well as natural and man-made features within the watershed to determine general areas of suitability for infiltration practices.
 2. Provide site-specific infiltration test results (at the level of the proposed infiltration surface) in accord with ASTM Guide No. D5126 or other method as described in the PA DEP Stormwater BMP Manual³.
 3. Design the infiltration structure for the required storm volume based on field determined capacity at the level of the proposed infiltration surface.
 4. If on-lot infiltration structures are proposed by the Applicant's design professional, it must be demonstrated to the Borough of East Stroudsburg that the soils are conducive to infiltrate on the lots identified.
- C. Stormwater Hotspots – A stormwater hotspot is defined as a land use activity that generates higher concentrations of hydrocarbons, trace metals or toxicants than are found in typical stormwater Runoff, based on monitoring studies. Table 306.1 provides samples of designated hotspots. If a site is designated as a hotspot, it has important implications for how stormwater is managed. First and foremost, untreated stormwater Runoff from hotspots cannot be allowed to infiltrate into groundwater where it may contaminate water supplies. Therefore, the Rev requirement is NOT applied to Development Sites that fit into the hotspot category, but the requirements of Section 304.A should be met. Second, a greater level of stormwater treatment may be needed at hotspot sites to prevent pollutant discharge after construction. EPA's NPDES stormwater program requires some industrial sites to prepare and implement a stormwater pollution prevention plan.

The following land uses and activities are samples of stormwater hotspots:

- Vehicle salvage yards and recycling facilities
- Fleet storage areas (bus, truck, etc.)
- Public works storage areas
- Facilities that generate or store hazardous materials

Extreme caution shall be exercised where salt or chloride would be a pollutant since soil does little to filter this pollutant and it may contaminate the groundwater. The Qualified Design Professional shall evaluate the possibility of groundwater contamination from the proposed

infiltration/recharge facility and perform a hydrogeologic justification study if necessary. The infiltration requirement in High Quality/Exceptional Value Waters shall be subject to the Department's Chapter 93 Antidegradation Regulations. The Borough of East Stroudsburg may require the installation of an impermeable liner in detention basins where the possibility of groundwater contamination exists. A detailed hydrogeologic investigation may be required by the Borough of East Stroudsburg.

The Borough of East Stroudsburg shall require the Applicant to provide safeguards against groundwater contamination for uses which may cause groundwater contamination, should there be a mishap or spill.

- D. Extreme caution shall be exercised where infiltration is proposed in Source Water Protection Areas or that may affect a wellhead or surface water intake. Requirements of the Borough Aquifer Protection Zone must be met.
- E. The design shall meet legal water quality requirements under state law, including regulations at 25 PA Code 93 to protect, maintain, reclaim and restore the existing and designated uses of the waters of this commonwealth." Pollutants required to be mitigated under Chapter 102 are Total Suspended Solids (TSS), Nitrates, and Phosphates. The designer shall submit proof that the pollutant loads shall not increase for at least these three listed pollutants. Acceptable means of calculating pollutant loads are:
 - 1. The PA DEP Spreadsheet.
 - 2. Worksheets 12 and 13 of the BMP Manual.
 - 3. Detaining the two (2) year, twenty-four (24) hour Design Storm to the Existing Conditions one (1) year storm flow rate using the SCS method with a Type II distribution and preserving the buffers as required under Section 141-305.
 - 4. Reducing the existing impervious area by twenty (20%) percent
 - 5. Other alternate methods upon approval of the Municipal Engineer."
- F. Where an NPDES permit for stormwater discharges associated with construction activities is required, the water quality requirements of that permit should be used; however, the minimum buffer provisions listed above in 141-305 should be applied to all applications.
- G. The temperature and quality of water and streams shall be maintained through the use of temperature sensitive BMPs and stormwater conveyance systems.
- H. In selecting the appropriate BMPs or combinations thereof, the Applicant SHALL consider the following:
 - a. Total contributing area.
 - b. Permeability and infiltration rate of the site soils.
 - c. Slope and depth to bedrock.

- d. Depth to seasonal high water table. Basins with bottoms within a high-water table will not be approved.
 - e. Proximity to building foundations and well heads. *See Appendix C of the PADEP BMP Manual for separation distances.*
 - f. Erodibility of soils.
 - g. Land availability and configuration of the topography
 - h. Peak Discharge and required volume control.
 - i. Stream bank Erosion.
 - j. Efficiency of the BMPs to mitigate potential water quality problems.
 - k. The volume of Runoff that will be effectively treated.
 - l. The nature of the pollutant being removed.
 - m. Maintenance requirements.
 - n. Creation/protection of aquatic and wildlife habitat.
 - o. Recreational value.
- I. Aquifer Protection Zones – Development in the Aquifer Protection Areas will require the protection restrictions to be noted on the plan and for the Owner to have a PPC plan to ensure rapid cleanup of spills and notification of appropriate authorities.

Section 141-307. Calculation Methodology

- A. The design of any stormwater detention facilities intended to meet the performance standards of this Ordinance shall be verified by routing the Design Storm hydrograph through these facilities using the Storage-Indication Method for facilities that are not impacted by tailwater conditions. Facilities with tailwater conditions should be routed using the Dynamic Storage Indication Method unless the Engineer can provide justification for another method. Facilities with the potential for reverse flow should be routed using Simultaneous Routing.
- B. Orifices smaller than three (3") inches diameter are not recommended. However, if the Design Professional can provide proof that the smaller orifices are protected from clogging by use of trash racks, etc. smaller orifices may be permitted. Openings in trash racks should be no larger than fifty (50%) percent of the orifice size.
- C. Stormwater Runoff from all Development Sites with a drainage area of greater than two hundred (200) acres shall be calculated using a generally accepted calculation technique that is based on the NRCS Soil Cover Complex method. Table 307-1 summarizes acceptable computation methods and the method selected by the design professional shall be based on the individual limitations and suitability of each method for a particular site. The Borough of East Stroudsburg may allow the use of the Modified Rational Method to estimate peak discharges from drainage areas that contain less than one (1) acre. The Soil Cover Complex Method shall be used for drainage areas greater than one (1) acre.
- D. All calculations consistent with this Ordinance using the Soil Cover Complex method shall use the appropriate design rainfall depths for the various Return Period storms consistent with current NOAA Atlas 14⁵ Point Precipitation Frequency Estimates. If a hydrologic computer model such as PSRM or HEC-1 is used for stormwater Runoff calculations, then the duration

of rainfall shall be twenty-four (24) hours. The SCS Type II Rainfall Distribution shall be utilized for the rainfall distribution.

- E. For the purposes of Existing Conditions flow rate determination, undeveloped land shall be considered as "meadow" in good condition, unless the natural ground cover generates a lower Curve Number (CN) or Rational 'C' value, as listed in Tables B-1 or B-32 in **Appendix B** of this Ordinance.
- F. All calculations using the Modified Rational Method shall use rainfall intensities consistent with appropriate times-of-concentration for overland flow and Return Periods from the current NOAA Atlas 14 Point Precipitation Frequency Estimates.⁵ Times-of-concentration for overland flow shall be calculated using the methodology presented in Chapter 3 of Urban Hydrology for Small Watersheds, NRCS, TR-55² (as amended or replaced from time to time by NRCS). Times-of-concentration for channel and pipe flow shall be computed using Manning's equation.
- G. Calculations using the Modified Rational Method shall be based on a common time of concentration for all contributing areas to a discharge point in both the predevelopment and post development Runoff conditions.
- H. Hydrograph volumes generated by the Modified Rational Method for routing through control (detention and infiltration) facilities should be comparable to hydrograph volumes generated by the TR-55 methodology. The ascending and descending limbs of the hydrograph generated by the Modified Rational method should be adjusted in order to provide a comparable hydrograph volume.
- I. Runoff Curve Numbers (CN) for both existing and proposed conditions to be used in the Soil Cover Complex method shall be obtained from Table B-1 in **Appendix B** of this Ordinance or from DEP references. Due to limitations of the TR-55 methodology, a minimum weighted Curve Number of forty (40) shall be utilized for the calculations.
- J. Runoff coefficients (C) for both existing and proposed conditions for use in the Modified Rational method shall be obtained from Table B-2 in **Appendix B** of this Ordinance.
- K. The Qualified Design Professional shall consider that the Runoff from proposed sites graded to the subsoil will not have the same Runoff conditions as the site under Existing Conditions, even after placement of topsoil and/or seeding. The Qualified Design Professional may increase his proposed condition "CN" or "C" to better reflect proposed soil conditions.
- L. Where uniform flow is anticipated, the Manning equation shall be used for hydraulic computations, and to determine the capacity of open channels, pipes, and storm sewers. Values for Manning's roughness coefficient (n) shall be consistent with Table B-3 in **Appendix B** of the Ordinance.
- M. Outlet structures for stormwater management facilities shall be designed to meet the performance standards of this Ordinance using any generally accepted hydraulic analysis technique or method.

- N. The Borough of East Stroudsburg may approve the use of any generally accepted full hydrograph approximation technique that shall use a total Runoff volume that is consistent with the volume from a method that produces a full hydrograph.

TABLE 307-1

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.
TR-55 (or commercial computer package based on TR-55)	USDA NRCS	Applicable for Land Development plans within limitations described in TR-55. ²
HEC-1/HEC-HMS	US Army Corps of Engineers	Applicable where use of full hydrologic computer model is desirable or necessary.
PSRM	Penn State University	Applicable where use of a hydrologic computer model is desirable or necessary; simpler than TR-20 or HEC-1.
Modified Rational Method commercial computer package based on Rational Method)	Emil Kuichling (1889)	For sites less than 1 acre, or (or as approved by the Borough of East Stroudsburg and/or Municipal Engineer).
Other Methods	Varies	Other computation methodologies approved by the Borough of East Stroudsburg and/or Municipal Engineer.

Section 141-308 Erosion and Sediment Control Requirements

- A. Any Earth Disturbance must be conducted in conformance with 25 Pa. Code, Chapter 102, “Erosion and Sediment Control.”
- B. Additional Erosion and Sediment control design standards and criteria that must be or are recommended to be applied where infiltration BMPs are proposed shall include the following:
 - 1. Areas proposed for infiltration BMPs shall be protected from sedimentation and compaction during the construction phase to maintain maximum infiltration capacity.
 - 2. Infiltration BMPs shall not be constructed nor receive Runoff until the entire contributory drainage area to the infiltration BMP has achieved final stabilization.

Section 141-309 Streambank Erosion Requirements

Streambank restoration projects shall include the following:

- 1. No restoration or stabilization projects may be undertaken without examining the fluvial geomorphology of stable reaches above and below the unstable reach.
- 2. Restoration project design must consider maintenance of stability in the adjacent stable reaches of the stream channel.
- 3. An Erosion and Sediment Control Plan approved by the Conservation District must be provided by the Applicant.
- 4. All applicable State and Federal permits must be obtained.

ARTICLE IV – STORMWATER MANAGEMENT (SWM) SITE PLAN REQUIREMENTS

Section 141-401. Plan Requirements

For any of the activities regulated by this Ordinance, the application for preliminary or final approval of subdivision and/or Land Development plans, the issuance of any building or occupancy permit, or the commencement of any Earth Disturbance may not proceed until the Applicant or his/her agent has received written approval of a SWM Plan from the Borough of East Stroudsburg and an adequate Erosion and Sediment Control Plan review by the Conservation District, where required.

The following items shall be included in the SWM Plan:

- A. Appropriate sections from the municipal Subdivision and Land Development Ordinance, and other applicable local ordinances, shall be followed in preparing the SWM Plans.
- B. The Borough of East Stroudsburg shall not approve any SWM Plan that is deficient in meeting the requirements of this Ordinance. At its sole discretion and in accordance with this Article,

when a SWM Plan is found to be deficient, the Borough of East Stroudsburg may either disapprove the submission and require a resubmission, or in the case of minor deficiencies, the Borough of East Stroudsburg may accept submission of modifications.

- C. Provisions for permanent access or maintenance easements for all physical SWM BMPs, such as ponds and infiltration structures, as necessary to implement the Operation and Maintenance as described in the SWM Plan and discussed in paragraph D.9 below.
- D. The SWM Plan shall provide the following information:
 - 1. The overall stormwater management concept for the project including sequencing items, calculations, maps, and plan. A note on the maps shall refer to the associated computations and Erosion and Sediment control plan by title and date. The cover sheet of the computations and Erosion and Sediment control plan shall refer to the associated maps by title and date. All SWM Plan materials shall be submitted to the Borough of East Stroudsburg in a format that is clear, concise, legible, neat, and well organized; otherwise, the SWM Plan shall not be accepted for review and shall be returned to the Applicant.
 - 2. A determination of site conditions in accordance with the BMP Manual³. A detailed site evaluation shall be completed for projects proposed in areas of carbonate geology or Karst topography and other environmentally sensitive areas, such as brownfields.
 - 3. Stormwater Runoff design computations and documentation as specified in this Ordinance, or as otherwise necessary to demonstrate that the maximum practicable measures have been taken to meet the requirements of this Ordinance, including the recommendations and general requirements in Section 141-301.
 - 4. Expected project time schedule.
 - 5. A Soil Erosion and Sediment Control Plan, where applicable, as prepared for and submitted to the approval authority.
 - 6. The effect of the project (in terms of Runoff volumes, water quality, and peak flows) on surrounding properties and aquatic features and on any existing stormwater conveyance system that may be affected by the project.
 - 7. Plan and profile drawings of all SWM BMPs, including drainage structures, pipes, open channels, and swales.
 - 8. SWM Plan shall show the locations of existing and proposed on-lot wastewater facilities and water supply wells.

9. The SWM Plan shall include an O&M requirement for all existing and proposed physical stormwater management facilities. This plan shall address long-term ownership and responsibilities for O&M as well as schedules and costs for O&M activities.
10. A justification must be included in the SWM Plan if BMPs other than Green Infrastructure methods and LID practices are proposed to achieve the volume, rate and water quality controls under this Ordinance.

11. Maps

Map(s) of the project area shall be submitted on 24-inch x 36-inch sheets or 18-inch x 24 inch and/or shall be prepared in a form that meets the requirements for recording at the offices of the Recorder of Deeds of Monroe County. If the Subdivision and Land Development Ordinance (SALDO) has more stringent criteria then the more stringent criteria shall apply. The contents of the map(s) shall include, but not be limited to:

- a. The location of the project relative to highways, municipalities, or other identifiable landmarks.
- b. Existing and final contours at intervals of two feet. In areas of steep slopes (greater than fifteen (15%) percent), five (5') foot contour intervals may be used.
- c. Existing streams, lakes, ponds, or other Waters of the Commonwealth within or adjacent to the project area.
- d. Other physical features including flood hazard boundaries, buffers, existing drainage courses, areas of natural vegetation to be preserved, and the total extent of the upstream area draining through the site.
- e. The locations of all existing and proposed utilities, sanitary sewers, and water lines within fifty (50') feet of property lines. 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.
- f. The location(s) of public water supply wells and surface water intakes as well as their source water protection areas.
- g. Soil names and boundaries.
- h. Limits of earth disturbance, including the type and amount of Impervious Area that would be added.
- i. Proposed structures, roads, paved areas, and buildings.
- j. The name of the development, the name and address of the Applicant of the property, and the name of the individual or firm preparing the plan.

- k. The date of submission.
- l. A graphic and written scale of one (1") inch equals no more than fifty (50') feet; for tracts of twenty (20) acres or more, the scale shall be one (1) inch equals no more than one hundred (100') feet, unless justification is provide for a different scale required to make the plan more legible.
- m. A north arrow.
- n. The total tract boundary and size with distances marked to the nearest foot and bearings to the nearest degree.
- o. Existing and proposed land use(s). A key map showing all existing man-made features beyond the property boundary that would be affected by the project.
- p. Location of all open channels.
- q. Overland drainage patterns and swales.
- r. All stormwater management facilities must be located on a plan and described in detail.
- s. A fifteen (15') foot wide access easement to and around all stormwater management facilities to provide ingress to and egress from a public right-of-way or general access statement approved by the Municipal Solicitor.
- t. The location of all Erosion and Sediment Control facilities.
- u. A note on the plan indicating the location and responsibility for maintenance of stormwater management facilities that would be located off-site. All off-site facilities shall meet the performance standards and design criteria specified in this Ordinance.
- v. A statement, signed by the Applicant, acknowledging that any revision to the approved SWM Plan must be approved by the Borough of East Stroudsburg and that a revised ESC Plan must be submitted to the Conservation District for a determination of adequacy.
- w. The following signature block for the Design Engineer:

I, (Design Engineer), on this date (date of signature), hereby certify that the SWM Plan meets all design standards and criteria of the Brodhead and McMichael Creek Watershed Act 167 Stormwater Management Ordinance."
- x. Stormwater management techniques to be applied both during and after development. All calculations, assumptions, and criteria used in the design of the stormwater management facilities must be shown.
- y. Expected project time schedule.

- z. Development stages (project phases) if so proposed.
- aa. An operation and maintenance plan.
- bb. The effect of the project (in terms of Runoff volumes and peak flows) on adjacent properties and on any existing municipal stormwater collection system that may receive Runoff from the Project Site.
- cc. A Declaration of Adequacy and Highway Occupancy Permit from the PennDOT District Office when utilization of a PennDOT storm drainage system is proposed or Stormwater is discharged to the Penn DOT Right of Way.
- dd. 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.

Section 141-402. Plan Submission

For any activities that require an NPDES Permit for Stormwater Discharges from Construction Activities, or a PA DEP Joint Permit Application, or a PennDOT Highway Occupancy Permit, or any other permit under applicable state or federal regulations or are regulated under 25 Pa. Code Chapter 105 (Dam Safety and Waterway Management) or 25 Pa. Code Chapter 106 (Floodplain Management) of PA DEP's Rules and Regulations, the proof of application for said permit(s) or approvals shall be part of the plan. The plan shall be coordinated with the state and federal permit process and the municipal SALDO review process.

For those Regulated Activities which require SALDO approval, the SWM Plan and Erosion Control Plan shall be submitted by the Applicant as part of the Preliminary Plan submission.

Five copies of the SWM Plan shall be submitted as follows:

1. Two (2) paper copies to the Borough of East Stroudsburg or as required for Land Development applications.
2. One (1) electronic copy to the municipal engineer.
3. One (1) electronic copy to the County Conservation District.
4. A Stormwater Management Agreement will be required prior to approval of the Drainage Plan.

Section 141-403. Plan Review

A. SWM Plans shall be reviewed by the Borough of East Stroudsburg for consistency with the provisions of this Ordinance. Applications for Land Development shall include a SWM Plan that meets the requirements of this ordinance. The review of this information shall be

performed as part of the Land Development application and a separate SWM Plan application is not required.

- B. The Borough of East Stroudsburg shall notify the applicant in writing within forty-five (45) days whether the SWM Site Plan is approved or disapproved. If the SWM Site Plan involves a Subdivision and Land Development Plan, the notification shall occur within the time period allowed by the Municipalities Planning Code ninety (90) days. If a longer notification period is provided by other statute, regulation, or ordinance, the applicant will be so notified by the Borough of East Stroudsburg.
- C. For any SWM Plan that proposes to use any BMPs other than Green Infrastructure and LID practices to achieve the volume and rate controls required under this Ordinance, the Borough of East Stroudsburg will not approve the SWM Plan unless it determines that Green Infrastructure and LID practices are not practicable.
- D. The Municipal Engineer shall review the SWM Plan for consistency with the adopted Brodhead and McMichael Creek Watershed Act 167 Stormwater Management Plan.
- E. The Municipal Engineer shall review the SWM Plan for any subdivision or Land Development against the municipal subdivision and Land Development ordinance provisions not superseded by this Ordinance.
- F. The ESC Plan shall be reviewed by the County Conservation District, if the proposed Earth Disturbance Activity exceeds ten thousand (10,000) square feet, and found adequate to meet the requirements of 25 Pa. Code Chapter 102 Erosion and Sediment Control regulations prior to Municipal approval of the SWM Plan.
- G. For Regulated Activities specified in Section 141-104 of this Ordinance, the Municipal Engineer shall notify the Borough of East Stroudsburg in writing, within ninety (90) calendar days, whether the SWM Plan is consistent with the Stormwater Management Ordinance.
 - 1. Should the SWM Plan be determined to be consistent with the Stormwater Management Plan, the Municipal Engineer will forward a letter of consistency to the Municipal Secretary, who will then notify the Applicant/Owner and include the application on the Council Agenda for Approval of the plan.
 - 2. Should the SWM Plan be determined to be inconsistent or noncompliant with the Stormwater Management Plan, the Municipal Engineer shall forward a letter to the Municipal Secretary with a copy to the Applicant citing the reason(s) and specific Ordinance sections for the inconsistency or noncompliance. Inconsistency or noncompliance may be due to inadequate information to make a reasonable judgment as to compliance with the Stormwater Management Plan. Any SWM Plans that are inconsistent or noncompliant may be revised by the Applicant and resubmitted consistent with this Ordinance. The Municipal Secretary shall then notify the Applicant/Owner of the Municipal Engineer's findings. Any disapproved SWM Plans

may be revised by the Applicant/Owner and resubmitted consistent with this Ordinance. An additional application fee adequate to cover the review cost of the application shall be submitted.

- H. For Regulated Activities specified in Section 141-104 of this Ordinance, which require a building permit, the Municipal Secretary shall notify the Enforcement Officer in writing, whether the SWM Plan of the status of the SWM Plan action by Council and forward a copy of the approval/disapproval letter to the Applicant. Any disapproved SWM Plan may be revised by the Applicant and resubmitted consistent with this Ordinance.
- I. For Regulated Activities specified in Section 141-104 of this Ordinance that require an NPDES Permit Application, PA DEP and the Conservation District may consider the Municipal Engineer's review comments in determining whether to issue a permit.
- J. The Borough of East Stroudsburg shall not grant approval or grant preliminary or final approval to any subdivision or Land Development for Regulated Activities specified in Sections 141-104 of this Ordinance if the SWM Plan has been found to be inconsistent with the Stormwater Management Plan, as determined by the Municipal Engineer. All required permits from PA DEP must be obtained prior to approval of any subdivision or Land Development. All required permits from PA DEP must be obtained prior to issuance of a building permit.
- K. The Borough of East Stroudsburg's approval of a SWM Plan shall be valid for a period not to exceed five (5) years commencing on the date that the Borough of East Stroudsburg signs the approval.
- L. SWM Plan. If stormwater management facilities included in the approved SWM Plan have not been constructed, or if constructed, and record drawings of these facilities have not been approved within this five (5) year time period, then the Borough of East Stroudsburg may consider the SWM Plan disapproved and may revoke any and all permits. SWM Plans that are considered disapproved by the Borough of East Stroudsburg shall be resubmitted in accordance with Section 141-407 of this Ordinance.
- M. If the Borough of East Stroudsburg disapproves the SWM Plan, the Borough of East Stroudsburg will state the reasons for the disapproval in writing. The Borough of East Stroudsburg also may approve the SWM Plan with conditions and, if so, shall provide the acceptable conditions for approval in writing.

Section 141-404. Modification of Plans

A modification to a submitted SWM Plan that involves a change in SWM BMPs or techniques, or that involves the relocation or redesign of SWM BMPs, or that is necessary because soil or other conditions are not as stated on the SWM Plan as determined by the Borough of East Stroudsburg shall require a resubmission of the modified SWM Plan in accordance with this Article.

Section 141-405. Resubmission of Disapproved SWM Plans

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

Section 141-406. Authorization to Construct and Term of Validity

The Borough of East Stroudsburg's approval of an SWM Plan authorizes the Regulated Activities contained in the SWM Plan for a maximum term of validity of five (5) years following the date of approval. The Borough of East Stroudsburg may specify a term of validity shorter than five (5) years in the approval for any specific SWM Plan. Terms of validity shall commence on the date the Borough of East Stroudsburg signs the approval for an SWM Plan. If an approved SWM Plan is not completed according to Section 141-407 within the term of validity, then the Borough of East Stroudsburg may consider the SWM Plan disapproved and may revoke any and all permits. SWM Plans that are considered disapproved by the Borough of East Stroudsburg shall be resubmitted in accordance with Section 141-405 of this Ordinance.

Section 141-407. Schedule of Inspections

- A. The Owner's Engineer shall inspect all phases of the installation of the permanent stormwater management facilities as outlined on the approved SWM Plan. Inspections reports of all critical stages of construction shall be provided to the Borough upon completion of the construction task. A preconstruction meeting shall be scheduled by the Applicant with the Borough and all regulatory agencies at least seven (7) days prior to the start of site construction.
- B. During any stage of the work, if the Municipal Engineer or his municipal designee determines that the permanent stormwater management facilities are not being installed in accordance with the approved Stormwater Management Plan, the Borough of East Stroudsburg shall revoke any existing permits or other approvals and issue a cease-and-desist order until a revised SWM Plan is submitted and approved, as specified in this Ordinance. The Borough Engineer shall be contacted twenty-four (24) hours prior to critical stage construction.
- C Final inspection of all stormwater management facilities shall be conducted by the Owner's Engineer and an as-built of all stormwater management facilities shall be prepared by a licensed surveyor. The Owners Engineer shall certify the stormwater management improvements have been constructed in accordance with the approved SWM Plan. The Municipal Engineer or his designee shall review this information to confirm compliance with the approved SWM Plan prior to the issuance of any Occupancy Permit.

Section 141-408. As-Built Plans, Completion Certificate, and Final Inspection

- A. The Applicant/Owner shall be responsible for providing as-built plans of all SWM BMPs included in the approved SWM Plan. The as-built plan shall show compliance with zoning

requirements shown on the zoning permit plan. The as-built plans and an explanation of any discrepancies with the construction plans shall be submitted to the Borough of East Stroudsburg. The information on the as-built plan shall include all applicable information on the DEP Record Drawings/As-Built Plans required for NPDES permit termination.

- B. The as-built submission shall include a certification of completion signed by a qualified professional verifying that all permanent SWM BMPs have been constructed according to the approved plans and specifications and a request that the financial security for the completed improvements be released by the Borough. The latitude and longitude coordinates for all permanent SWM BMPs must also be submitted, at the central location of the BMPs. If any licensed qualified professionals contributed to the construction plans, then a licensed qualified professional must sign the completion certificate.
- C. After receipt of the completion certification, the Borough of East Stroudsburg shall conduct a final inspection.

ARTICLE V – OPERATION AND MAINTENANCE

Section 141-501. Responsibilities of Applicant/Owners and Landowners

- A. The Borough of East Stroudsburg shall make the final determination on the continuing maintenance responsibilities prior to final approval of the SWM Plan. The Borough of East Stroudsburg may require a dedication of such facilities as part of the requirements for approval of the SWM Plan. Such a requirement is not an indication that the Borough of East Stroudsburg will accept the facilities. The Borough of East Stroudsburg reserves the right to accept or reject the ownership and operating responsibility for any portion of the stormwater management controls.
- B. Facilities, areas, or structures used as SWM BMPs shall be enumerated as permanent real estate appurtenances and recorded as deed restrictions or conservation easements that run with the land.
- C. The O&M requirements shall be recorded in a recorded Stormwater Management Agreement. Proof of recording shall be provided to the Borough prior to the start of construction. A Certificate of Occupancy will not be issued without proof of recording.
- D. The Borough of East Stroudsburg may take enforcement actions against the Owner for any failure to satisfy the provisions of this Article.
- E. The SWM Plan for the Development Site shall contain an operation and maintenance plan prepared by the Applicant and approved by the Municipal Engineer. The Operation and Maintenance Plan shall outline required routine maintenance actions and schedules necessary to insure proper operation of the facility(ies).

- F. The SWM Plan for the Development Site shall establish responsibilities for the continuing operation and maintenance of all proposed stormwater control facilities, consistent with the following principles:
1. If a development consists of structures or lots which are to be separately owned and in which streets, sewers or other public improvements are to be dedicated to the Borough of East Stroudsburg, stormwater control facilities may also be dedicated to and maintained by the Borough of East Stroudsburg. The Borough of East Stroudsburg is not obligated to accept ownership resulting in the requirement for maintenance by the Owner or an Association formed of all property owners with the responsibility of maintaining the stormwater management facilities.
 2. If a Development Site is to be maintained in a single ownership or if streets, sewers, or other public improvements are to be privately owned and maintained, then the ownership and maintenance of stormwater control facilities shall be the responsibility of the Owner or an Association formed of all property owners with the responsibility of maintaining the stormwater management facilities.
- G. The Borough of East Stroudsburg, upon recommendation of the Borough Engineer, shall make the final determination on the continuing maintenance responsibilities prior to approval of the SWM Plan. The Borough of East Stroudsburg reserves the right to accept the ownership and operating responsibility for any or all of the Stormwater Management controls.

Section 141-502 Stormwater Management Agreements

- A. Prior to final approval of the SWM Plan, the property Owner shall sign and record a Stormwater Management Agreement SMA substantially in accordance to the Sample provided in **Appendix A** and acceptable to the Borough covering all stormwater control facilities which are to be privately owned.
1. The Owner, successor and assigns shall maintain all facilities in accordance with the approved maintenance schedule in the SMA.
 2. The Owner shall convey to the Borough of East Stroudsburg conservation easements to assure access for periodic inspections by the Borough of East Stroudsburg and maintenance, as necessary.
 3. The Owner shall keep on file with the Borough of East Stroudsburg the name, address, and telephone number of the person or company responsible for maintenance activities; in the event of a change, new information shall be submitted by the Owner to the Borough of East Stroudsburg within ten (10) working days of the change.
- B. The Owner is responsible for operation and maintenance (O&M) of the SWM BMPs. If the Owner fails to adhere to the Stormwater Management Agreement, the Borough of East

Stroudsburg may perform the services required and charge the Owner appropriate fees. Nonpayment of fees may result in a lien against the property.

- C. Other items may be included in the agreement were determined necessary to guarantee the satisfactory maintenance of all facilities. The SMA shall be subject to the review and approval of the Municipal Solicitor and Governing Body.

Section 141-503. Performance Guarantee

For all SWM Plans that require stormwater improvements the Applicant shall provide a financial guarantee to the Borough of East Stroudsburg for the timely installation and proper construction of all stormwater management controls as required by the approved SWM Plans and this Ordinance in accordance with the provisions of Sections 509, 510, and 511 of the Pennsylvania Municipalities Planning Code.

The Applicant shall be responsible for the cost of all Borough costs resulting from the review of the documentation and the construction of site improvements to confirm compliance with this Ordinance.

- A. Long-Term Maintenance and Owner Inspection – The Owner shall be responsible to maintain all stormwater management facilities and submit inspection reports for these facilities as outlined in the Stormwater Management Agreement and this Ordinance.

Section 141-504. Separate Municipal Stormwater System Compliance.

The Owner acknowledges and agrees that the Borough is subject to an ongoing separate municipal storm sewer system compliance pursuant to East Stroudsburg Borough MS4 NPDES Permit No. PAG132318, authorization number 1199371, or latest renewal. Owner, and its successors and assigns, covenants that Landowner shall at all times comply with any and all applicable State and local law, rules, regulations, and ordinances, as exists, amended, or may be enacted, regulating stormwater and stormwater discharges in the discharge of stormwater from Owner's Property and shall be responsible for any charges, fees, costs, penalties, or fines which are or may be imposed on stormwater discharges from Owner's Property by the Borough or other regulatory agency with jurisdiction. Owner, and its successors and assigns, further covenants to maintain all stormwater facilities in accordance with applicable State and local law, rules, regulations, and ordinances, as exists, amended, or may be enacted, regulating stormwater and stormwater discharges including, but not limited to, the establishment of controls to regulate quality, quantity, and rates of discharge.

ARTICLE VI – FEES AND EXPENSES

Section 141-601. General

The Borough of East Stroudsburg may include all costs incurred in the review fee charged to an Owner. The review fee may include, but not be limited to, costs for the following:

- A. Administrative/clerical processing.
- B. Review of the SWM Plan.
- C. Attendance at meetings.
- D. Inspections.
- E. Any additional work required to enforce any permit provisions regulated by this Ordinance, correct violations, and assure proper completion of stipulated remedial actions.

ARTICLE VII – PROHIBITIONS

Section 141-701. Prohibited Discharges and Connections

- A. Any drain or conveyance, whether on the surface or subsurface, that allows any non-stormwater discharge including sewage, process wastewater, and wash water to enter a regulated small MS4 or to enter the surface waters of this Commonwealth is prohibited.
- B. No person shall allow, or cause to allow, discharges into a regulated small MS4, or discharges into waters of this Commonwealth, which are not composed entirely of stormwater, except (1) as provided in paragraph C below; and (2) discharges authorized under a state or federal permit.
- C. The following discharges are authorized unless they are determined to be significant contributors to pollution a regulated small MS4 or to the waters of this Commonwealth:
 - 1. Discharges or flows from firefighting activities.
 - 2. Discharges from potable water sources including water line flushing and fire hydrant flushing if such discharges do not contain detectable concentrations of Total Residual Chlorine (TRC).
 - 3. Non-contaminated irrigation water, water from lawn maintenance, landscape drainage and flows from riparian habitats and wetlands.
 - 4. Diverted stream flows and springs.

5. Non-contaminated pumped ground water and water from foundation and footing drains and crawl space pumps.
6. Non-contaminated HVAC condensation and water from geothermal systems.
7. Residential (i.e., not commercial) vehicle wash water where cleaning agents are not utilized.
8. Non-contaminated hydrostatic test water discharges if such discharges do not contain detectable concentrations of TRC.

D. In the event that the Borough of East Stroudsburg or DEP determines that any of the discharges identified in Subsection C significantly contribute pollutants to a regulated small MS4 or to the waters of this Commonwealth, the Borough of East Stroudsburg or DEP will notify the responsible person(s) to cease the discharge.

Section 141-702. Roof Drains and Sump Pumps

Roof drains and sump pumps shall discharge vegetative BMPs wherever feasible.

Section 141-703. Alteration of SWM BMPs

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

ARTICLE VIII – ENFORCEMENT AND PENALTIES

Section 141-801. Right-of-Entry

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

Section 141-802. Inspection

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

1. Annually

2. During or immediately after the cessation of a storm resulting in four inches (4") or more of rainfall in a 24 hour period.

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

Section 141-803. Enforcement

- A. It shall be unlawful for a person to undertake any regulated activity except as provided in an approved SWM Plan, unless specifically exempted in Section 141-302.
- B. It shall be unlawful to violate Section 141-703 of this Ordinance.
- C. Inspections regarding compliance with the SWM Plan are a responsibility of the Borough of East Stroudsburg.
- D. The Municipal Governing Body is hereby authorized and directed to enforce all provisions of this Ordinance. All inspections regarding compliance with the SWM Plan shall be the responsibility of the Municipal Engineer or other qualified persons designated by the Borough of East Stroudsburg.
 - a. Design Plans - A set of design plans approved by the Borough of East Stroudsburg shall be on file at the site throughout the duration of the construction activity. Periodic inspections may be made by the Borough of East Stroudsburg or designee during construction.
 - b. Adherence to Approved Plan - It shall be unlawful for any person, firm or corporation to undertake any Regulated Activity under Section 104 on any property except as provided for in the approved SWM Plan and pursuant to the requirements of this Ordinance. It shall be unlawful to alter or remove any control structure required by the SWM Plan pursuant to this Ordinance or to allow the property to remain in a condition which does not conform to the approved SWM Plan.
 - c. Hearing - Prior to revocation or suspension of a permit and at the request of the Applicant, the Governing Body will schedule a hearing to discuss the non-compliance if there is no immediate danger to life, public health or property. The expense of a hearing shall be the Applicant's responsibility.

Section 141-804. Suspension and Revocation

- A. Any approval or permit issued by the Borough of East Stroudsburg pursuant to this or any prior Stormwater Management Ordinance may be suspended or revoked for:
 - 1. Non-compliance with or failure to implement any provision of the approved SWM Plan or Stormwater Management Agreement.
 - 2. A violation of any provision of this Ordinance or any other applicable law, ordinance, rule, or regulation relating to the Regulated Activity.
 - 3. The creation of any condition or the commission of any act during the Regulated Activity which constitutes or creates a hazard, nuisance, pollution, or endangers the life or property of others.
- B. A suspended approval may be reinstated by the Borough of East Stroudsburg when:
 - 1. The Borough of East Stroudsburg has inspected and approved the corrections to the violations that caused the suspension.
 - 2. The Borough of East Stroudsburg is satisfied that the violation has been corrected.
- C. An approval that has been revoked by the Borough of East Stroudsburg cannot be reinstated. The Applicant may apply for a new approval under the provisions of this Ordinance.
- D. If a violation causes no immediate danger to life, public health, or property, at its sole discretion, the Borough of East Stroudsburg may provide a limited time period for the Owner to correct the violation. In these cases, the Borough of East Stroudsburg will provide the Owner, or the Owner's designee, with a written notice of the violation and the time period allowed for the Owner to correct the violation. If the Owner does not correct the violation within the allowed time period, the Borough of East Stroudsburg may revoke or suspend any, or all, applicable approvals and permits pertaining to any provision of this Ordinance.

Section 141-805. Penalties

- A. Anyone violating the provisions of this Ordinance shall be guilty of a summary offense, and upon conviction, shall be subject to a fine of not less than One Hundred Fifty (\$150.00) Dollars nor more than Six Hundred (\$600.00) Dollars for each violation, recoverable with costs. Each day that the violation continues shall be a separate offense and penalties shall be cumulative.
- B. In addition, the Borough of East Stroudsburg may institute injunctive, mandamus, or any other appropriate action or proceeding at law or in equity for the enforcement of this Ordinance. Any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus, or other appropriate forms of remedy or relief.

Section 141-806. Appeals

- A. Any person aggrieved by any action of the Borough of East Stroudsburg or its designee, relevant to the provisions of this Ordinance, may appeal to the Borough of East Stroudsburg within thirty (30) days of that action.
- B. Any person aggrieved by any decision of the Borough of East Stroudsburg, relevant to the provisions of this Ordinance, may appeal to the County Court of Common Pleas of Monroe County, Pennsylvania within thirty (30) days of the Borough of East Stroudsburg's decision.

ARTICLE IX – REFERENCES

1. U.S. Department of Agriculture, National Resources Conservation Service (NRCS). *National Engineering Handbook*. Part 630: Hydrology, 1969-2001. Originally published as the *National Engineering Handbook*, Section 4: Hydrology. Available from the NRCS online at: <http://www.nrcs.usda.gov/>.
2. U.S. Department of Agriculture, Natural Resources Conservation Service. 1986. *Technical Release 55: Urban Hydrology for Small Watersheds*, 2nd Edition. Washington, D.C.
3. BMP Manual - Pennsylvania Department of Environmental Protection. No. 363-0300-002 (December 2006), as amended and updated. *Pennsylvania Stormwater Best Management Practices Manual*. Harrisburg, PA.
4. ESPC Manual - Pennsylvania Department of Environmental Protection. No. 363-2134-008 (March 31, 2012), as amended and updated. *Erosion and Sediment Pollution Control Program Manual*. Harrisburg, PA.
5. NOAA Atlas 14 - U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, Hydrometeorological Design Studies Center. 2004-2006. *Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2, Version 3.0*, Silver Spring, Maryland. Internet address: <http://hdsc.nws.noaa.gov/hdsc/pfds/>.
6. The Stormwater Management District Watershed Map - See [Appendix D](#).
7. National Pollutant Discharge Elimination System (NPDES) Stormwater Discharges from Small Municipal Separate Storm Sewer Systems BMP Effectiveness Values.
8. Notice of Termination for Chapter 102 Permits

Appendices

The following Appendices A through G are attached to this Ordinance as an integral part of the legislation enacted herein:

APPENDIX A – STORMWATER FACILITIES MAINTENANCE AND MONITORING AGREEMENT

APPENDIX B – STORMWATER MANAGEMENT DESIGN CRITERIA

APPENDIX C – STORMWATER MANAGEMENT (SWM) PLAN APPLICATION

APPENDIX D – STORMWATER MANAGEMENT ACT 167 DISTRICT WATERSHED MAP

APPENDIX E – WEST NILE VIRUS GUIDANCE

APPENDIX F – FLORY POND DRAINAGE AREA SPECIAL DISTRICT REGULATIONS

APPENDIX G – MS4 PERMIT

P:\PA\Monroe Co\East Stroudsburg Bor_Authorities\East Stroudsburg Bor\ESB Projects 10205 Series\10205.398 Strmwtr Ord Rev\Project Info\Permit Applications\2025-12-15-cert-update\wp\ES Borough Stormwater Ord. (JCP Proposed Final) 09-12-2025 aw-revisions.docx

EFFECTIVE DATE. This Ordinance shall be effective upon its approval as provided by law.

ORDAINED AND ENACTED into an Ordinance at a regular meeting of East Stroudsburg Borough Council, Monroe County, Pennsylvania, on this ____ day of _____, 2026.

ATTEST:

BOROUGH OF EAST STROUDSBURG

(Assistant) Secretary

By: _____
Borough Council (Vice) President

(Print Name)

(Print Name)

APPROVED BY:

(Borough Seal)

Victor A. Brozusky, Mayor

Secretary's Certificate

I hereby certify that the foregoing is a true and correct copy of Ordinance No. _____ adopted by a majority vote of the East Stroudsburg Borough Council at a meeting of said Council duly held on _____, 2026. Present at the meeting and a record of their vote is as follows:

Council Member	Present	Aye	Nay
Sonia C. Wolbert			
Carrie Panepinto			
Jane Gagliardo			
Paul Shemansky			
Lauren Peterson			
Charles A. Garris			

Further be it certified that public notice of said meeting was given in the manner provided by law; that said Ordinance No. _____ shall be duly recorded upon the minutes of the Borough Council, has not been amended or rescinded, and is in full force and effect this _____ day of _____, 2026.

(Assistant) Secretary

(Borough Seal)

APPENDIX A

**STORMWATER FACILITIES MAINTENANCE AND MONITORING
AGREEMENT**

1 APPENDIX A

2 PARCEL NO. _____

3
4 STORMWATER FACILITIES MAINTENANCE AND MONITORING AGREEMENT

5 **THIS AGREEMENT**, made and entered into this _____ day of _____, 20____,
6 by and between _____, a _____ (hereinafter the "Landowner"), and **BOROUGH OF EAST**
7 **STROUDSBURG**, a municipal corporation of the Commonwealth of Pennsylvania, organized
8 under the Pennsylvania Borough Code, as amended, 8 Pa.C.S. §101, *et seq.*, with an office located
9 at 24 Analomink Street, East Stroudsburg, Monroe County, Pennsylvania 18301 (the "Borough")
10 (hereinafter collectively the "Parties").

11 **WITNESSETH:**

12 **WHEREAS**, the Landowner owns certain real property more particularly and at large
13 described in a certain deed dated _____, from _____ to _____, the Landowner, and recorded on _____, in
14 the Office for the Recording of Deeds, at Stroudsburg, Pennsylvania, in and for the County of
15 Monroe, in Record Book Volume _____, Page _____ (the "Property"); and

16 **WHEREAS**, the Landowner is solely responsible for the quantity, quality, and rate of all
17 stormwater discharged from its' Property; and

18 **WHEREAS**, the Landowner is proposing site improvements that trigger application of the
19 Borough's Stormwater Management Ordinance, *et seq.* and associated appendices, of the Borough
20 Code; and

21 **WHEREAS**, the Landowner submitted to the Borough a certain Stormwater Management
22 Plan (SWM Plan) including a Post Construction Stormwater Management (PCSM) Plan prepared
23 by _____, entitled "_____ Plan, for _____, dated, _____ last revised _____ consisting of _____ pages (the
24 "Plan"). A copy of PCSM Plan, a site specific plan consisting of both drawings and a narrative
25 that identifies Best Management Practices (BMP's) to manage changes in stormwater runoff
26 volume, rate and water quality after earth disturbance activities have ended and the project is
27 permanently stabilized; which is attached hereto and is incorporated herein as **Exhibit "A"** and is
28 located in the Borough files and further shall be recorded in the proper place for the recording of
29 plans at the Monroe County Courthouse.

30 **WHEREAS**, Landowner has filed with the Borough in support of the Plan, a Post-
31 Construction Stormwater Management Report, prepared by, _____ preparation date _____, last revised
32 _____ (the "Report"), which Report is incorporated herein by reference as though fully set forth at
33 length and which the approved copy of the report is on record in the files of the Borough; and

34 **WHEREAS**, the Borough requires that stormwater management facilities and PCSM
35 BMPs as described in the Report and the Plan be constructed and adequately maintained by the
36 Landowner such that the PCSM BMP's function as designed at all times; and

1 **WHEREAS**, the Landowner is responsible for implementation, construction,
2 maintenance, and operation of the approved PCSM BMPs located on the Property as depicted and
3 described on the Plan and in the Report; and

4 **WHEREAS**, the Landowner is required to provide access to the Borough, related to long-
5 term inspections, operation, maintenance including emergency actions for PCSM BMPs as further
6 set forth herein; and

7 **WHEREAS**, the Borough and the Landowner agree that the health, safety, and welfare of
8 the residents of the Borough of East Stroudsburg, Monroe County, Pennsylvania require that the
9 on-site stormwater management facilities as described and depicted on the Plan and in the Report
10 be constructed and maintained on the Property in good working order; and

11 **WHEREAS**, the Landowner, as part of the Borough permitting process, is required to
12 execute and deliver this Agreement in accordance with the East Stroudsburg Code of Ordinances
13 generally, and specifically Chapter _____, the Borough Stormwater Management Ordinance.

14 **NOW, THEREFORE**, in consideration of the foregoing promises, the mutual covenants
15 contained herein, and the following terms and conditions, the Parties hereto agree as follows:

16 1. **Incorporation of Recitals.** The background introductory Whereas provisions and
17 attached exhibits set forth above are incorporated herein as though fully set forth and are deemed
18 an integral part of this Agreement. The factual matters set forth therein are deemed factually
19 correct and conclusive and may be used in any action taken by the Borough to enforce this
20 Agreement without challenge.

21
22 2. **Landowner Covenants and Agreements.** Landowner hereby covenants and
23 agrees:

24 (a) to be responsible to ensure the operation and maintenance, and provide the
25 necessary access for the construction, operation, repair, and maintenance of the
26 PCSM BMPs as described and depicted on the Plan, Report and NPDES Permit
27 NO. (if appropriate), which is attached hereto and incorporated herein as Exhibit B,
28 for the Project, as follows:

29 (b) not to use or develop the Property in any manner that impairs or conflicts
30 with the operation and maintenance of the PCSM BMPs as described and depicted
31 on the Plan and in the Report approved for the Project; and

32 (c) to be responsible for long-term operation, repair, and maintenance of the
33 PCSM BMPs as described and depicted on the Plan and in the Report and provide
34 notice to the purchaser of the Property of the responsibility for long-term operation,
35 repair, and maintenance of the PCSM BMPs as set forth in this Agreement. The
36 responsibility for the PCSM BMPs is a covenant which shall attach to the Property
37 and shall run with the land and henceforth be binding upon and enforceable as to
38 subsequent owners of the Property; and

1 (d) to construct the on-site stormwater management facilities in accordance
2 with the terms, conditions, and specifications identified on the Plan and in the
3 Report.

4 (e) to redesign and reconstruct on site stormwater facilities which may for any
5 reason be required as a result of being damaged, destroyed or failing to function as
6 designed.

7 **3. Access Easement.**
8

9 (a) Per 25 Pa. Code §102.8(m)(2), Landowner grants and conveys an access
10 easement to the Borough, or its designee, engineers or consultants, and the MCCD
11 and PA DEP (when required), for the sole purpose of inspecting, maintaining,
12 operating, and repairing the identified PCSM BMP(s) as set forth on the Plan and
13 in the Report. In extension and not limitation of the foregoing, the Landowner
14 hereby grants permission to the Borough, its authorized agents and employees,
15 upon presentation of proper identification and reasonable prior advance notice to
16 the Landowner or any occupier of the Property of the Borough intent to enter upon
17 the Property with no less than twenty-four (24) hours' prior notice, paragraph (b)(i)
18 excepted, to inspect the stormwater management facilities constructed by
19 Landowner in accordance with the Plan and the Report whenever the Borough
20 deems reasonably necessary for the safety, health, and welfare of the residents of
21 the Borough. The purpose of any such inspection shall be to assess the safe and
22 proper functioning of the stormwater management facilities approved by the
23 Borough and constructed by Landowner pursuant to the Plan and the Report. The
24 Landowner and Borough hereby acknowledge and agree that the Borough has the
25 right to perform the aforesaid inspections, but the Borough shall not have an
26 obligation to do so. By this Agreement, Landowner grants and conveys to the
27 Borough an easement and/or license across, over, and upon the Property for the
28 foregoing purposes and the right, but not the obligation, to perform required
29 maintenance of the stormwater management facilities constructed by Landowner
30 pursuant to the Plan and the Report following an uncured Landowner's breach of
31 this Agreement.

32 (b) Notwithstanding the foregoing or any term or condition of this Agreement
33 to the contrary:

34 (i) in the advent of an emergency or the occurrence of special or
35 unusual circumstances or situations (exigent circumstances), the Borough may
36 enter the Property without prior notice if the Landowner is not immediately
37 available and without prior identification to inspect and perform necessary
38 emergency maintenance and repairs, if needed, when the health, safety, or welfare
39 of the citizens of the Borough is in jeopardy by reason of the stormwater
40 management facilities constructed by Landowner pursuant to the Plan and the
41 Report. In extension and not limitation of the foregoing, the Landowner hereby
42 grants the Borough the right to enter the Property with no less than twenty-four (24)
43 hours' prior notice in a reasonable manner and at reasonable times following an

1 uncured Landowner breach of this Agreement for purposes of implementation of
2 the Plan, the Report, the PCSM BMPs, and/or Landowner's compliance with the
3 terms and conditions of this Agreement; provided, however, no such prior notice
4 shall be required in exigent circumstances as above set forth.

5 (ii) the Borough shall notify the Landowner of any inspection,
6 maintenance, or repair work undertaken by the Borough within five (5) days of the
7 repair activity be it following an emergency or otherwise. The Landowner shall
8 reimburse the Borough for its' reasonable Costs incurred in effecting any required
9 maintenance or repairs to the stormwater management facilities constructed by
10 Landowner on the Property pursuant to the Plan and the Report.

11 4. **Maintenance of PCSM BMPs.** The Landowner shall maintain the stormwater
12 management facilities constructed by Landowner described and depicted on the Plan and in the
13 Report in good working order and condition, reasonably acceptable to the Borough as set forth in
14 covenants set forth on the Plan so that the stormwater management facilities perform in accordance
15 with their intended design functions. The Landowner shall perform maintenance of the stormwater
16 facilities described in this Agreement as well as in accordance with the maintenance schedule
17 included on the Plan included in Exhibit A.

18 5. **Covenants Running with the Land.** The Landowner hereby declares that the
19 Property shall be subject to the terms and conditions of this Agreement in perpetuity, including
20 exhibits, incorporated references, and appendixes, and that this Agreement shall be binding upon
21 all owners and occupiers of the Property and shall run with the land. Notwithstanding the
22 foregoing or any term or condition of this Agreement to the contrary, this Agreement may be
23 terminated or modified by a mutually acceptable writing executed by the Borough and the then
24 owner of the Property. When applicable, the NPDES Instrument for the Declaration of Restrictions
25 and Covenants and New Property Owner Post-Construction Stormwater Management Best
26 Management Practice notification and Operation and Maintenance Agreement, where required by
27 an NPDES permit (or similar documents for projects with no permit), shall be drafted and approved
28 by the Borough and executed as part of this agreement.

29 6. **Landowner Reserved and Retained Rights.** The Landowner hereby excepts and
30 reserves all benefits, privileges, and rights accruing to Landowner as owner of the Property,
31 including, without limitation, the right to engage in or permit or invite others to engage in all lawful
32 uses of the Property that are not expressly prohibited herein and are consistent with the purpose of
33 this Agreement or any applicable Borough Ordinance.

34 7. **Landowner Failure to Perform.** The Borough's failure to insist upon the
35 performance by Landowner to perform any act required by this Agreement shall not impair the
36 validity of this Agreement, limit its enforceability, or be deemed a waiver of the terms and
37 conditions hereof.

38 8. **Release of Landowner.** Any sale or transfer of the Property or any part thereof
39 shall include notice by the Landowner to the purchaser of the covenants set forth in this Agreement.
40 Upon such sale and transfer the Landowner shall be absolutely and forever released from any
41 future responsibility and/or liability arising out of and/or from this Agreement and new Landowner

1 shall be obligated hereunder except that Landowner shall remain responsible and/or liable for any
2 violations of the terms of this Agreement caused by the Landowner prior to the time of conveyance
3 of the Property.

4 9. **Inspections of Stormwater Management Facilities.**

5 (a) Construction Inspections

6 The Borough and Borough engineer shall be notified prior to all critical stages of
7 construction related to the installation of sub-surface portions of BMP's. The
8 Landowner's engineer must perform all critical stage construction inspections,
9 including a final inspection, and provide a report and as-built drawings to the
10 Borough verifying compliance with the approved Plans set forth in Exhibit A.

11 (b) Maintenance Inspections

12 The Landowner shall provide the Borough an inspection report of all stormwater
13 management facilities, berms, outlet structures, pond areas, access roads, etc.
14 constructed by Landowner pursuant to the Plan and the Report in accordance with
15 the inspection schedule set forth below (the "Inspections"). All Landowner
16 Inspections shall be conducted by a qualified professional who shall present to the
17 Borough a copy of the inspection report which, at a minimum, shall contain
18 findings, evaluations, and appropriate repairs if necessary. The Landowner
19 inspection report shall be provided to the Borough on the anniversary date of this
20 Agreement or within thirty (30) days of a precipitation event consisting of a total
21 of five (5) inches of rain or greater in any twenty-four (24) hour period. Failure of
22 Landowner to provide the inspection report as required herein shall be deemed
23 sufficient basis for the Borough to perform its own Inspections of the stormwater
24 management facilities as described and as depicted on the Plan and in the Report.
25 All costs associated with the Borough Inspections shall be borne by Landowner.
26 The minimum schedule of Landowner Inspections shall be as follows:

27 (i) Annually for the first five (5) years after the construction of the
28 stormwater facilities; and

29 (ii) Once every two (2) years thereafter; and

30 (iii) During or immediately upon the cessation of a precipitation event
31 consisting of a total of five (5) inches of rain or greater in any twenty-four (24) hour
32 period ; and

33 (iv) All costs of any Borough Inspections shall be borne by the
34 Landowner and payable to the Borough pursuant to the fee schedule then in effect
35 and payable within thirty (30) days of invoice; and

36 (v) The Borough in its reasonable discretion may extend the frequency
37 of the Borough Inspections if Landowner breaches this Agreement or the

1 stormwater management facilities as described and depicted on the Plan and in the
2 Report fail to operate as designed.

3 10. **Landowner Default.**

4 (a) In the event the Landowner breaches the terms and conditions of this
5 Agreement, the Borough shall give written Notice of Default to Landowner who in
6 non-exigent circumstances shall have the right to cure such default within a
7 commercially reasonable time, not to exceed 120 days, following the date of the
8 Borough's written Notice of Default. In the event Landowner fails to cure such
9 default, the Borough shall have the right, but not the obligation to enter upon the
10 Property and take such action as is necessary and prudent to maintain said
11 stormwater management facilities described and depicted on the Plan and in the
12 Report and to charge the costs of the Borough maintenance and/or repairs to the
13 Landowner. This provision shall not be construed to permit or authorize the
14 Borough to erect any structure(s) of a permanent nature on any part of the Property
15 or change the location or function of the stormwater management facilities
16 constructed by Landowner in accordance with the Plan and the Report other than
17 as may be expressly permitted pursuant to a separate agreement with the Borough.
18 The Borough reserves all rights, remedies, and causes of action at law or in equity
19 to enforce this Agreement. Any Costs expended by the Borough in accordance
20 with this Agreement and/or correction of a default may be charged as a lien against
21 the Property and may be collected in accordance with Pennsylvania law for
22 municipal liens.

23 (b) It is expressly understood and agreed that the Borough is under no
24 obligation to maintain or repair said stormwater management facilities, and in no
25 event shall this Agreement be construed to impose any such obligation on the
26 Borough.

27 11. **Separate Municipal Stormwater System Compliance.** The Landowner
28 acknowledges and agrees that the Borough is subject to an ongoing separate municipal storm sewer
29 system compliance pursuant to East Stroudsburg Borough MS4 NPDES Permit No. PAG132318,
30 authorization number 1199371. Landowner, and its' successors and assigns, covenants that
31 Landowner shall at all times comply with any and all applicable State and local law, rules,
32 regulations, and ordinances, as exist, amended, or may be enacted, regulating stormwater and
33 stormwater discharges from Landowner's Property through the easement granted herein and shall
34 be responsible for any charges, fees, costs, penalties, or fines which are or may be imposed on
35 stormwater discharges from Landowner's Property by the Borough or other regulatory agency with
36 jurisdiction. Landowner, and its' successors and assigns, further covenants to maintain all
37 stormwater facilities in accordance with applicable State and local law, rules, regulations, and
38 ordinances, as exists, amended, or may be enacted, regulating stormwater and stormwater
39 discharges including, but not limited to, the establishment of controls to regulate quality, quantity,
40 and rates of discharge.

41

1 12. **Landowner Indemnification.**

2 (a) The Landowner shall indemnify and hold the Borough and its' agents and
3 employees harmless against any and all fines, penalties, fees, charges, property
4 damage, damages, accidents, casualties, occurrences, or claims (collectively the
5 "Claims" in the plural and each a "Claim") which might arise or be asserted against
6 the Borough for the construction, presence, existence, maintenance, and operation
7 of the stormwater management facilities constructed by the Landowner in
8 accordance with the Plan, the Report, and this Agreement unless such Claims are
9 caused by the willful misconduct or gross negligence of the Borough, its agents, or
10 employees. The indemnification shall be deemed risk shifting to Landowner and
11 not risk sharing with the Borough.

12 (b) In the event any Claim is asserted against the Borough, its' agents or
13 employees, the Borough shall promptly notify the Landowner and Landowner shall
14 defend, at Landowner's own expense, any suit based on such Claim unless caused
15 by the willful misconduct or gross negligence of the Borough and its' agents or
16 employees. If any judgment or claim against the Borough, its' agents or employees
17 shall be allowed, the Landowner shall pay all costs and expenses in connection
18 therewith.

19 13. **As-Built Drawings.**

20 (a) The Landowner shall, upon completion of the Required Improvements, submit
21 "as-built" drawings signed and sealed by a professional land surveyor or
22 professional engineer licensed in the Commonwealth of Pennsylvania to the
23 Borough as stated on the Plan, Exhibit A. The "as-built" drawings shall show
24 all required improvements and be materially consistent with the Plan and shall
25 not deviate from the Plan without approval of the Borough. The "as-built"
26 drawings shall be submitted to the Borough Engineer for review and
27 recommendation of acceptance, if required due to revisions to the Plan, to
28 Borough. As built drawings shall be provided in accordance with the PA DEP
29 NPDES NOT checklist of required as-built plan information and to verify
30 compliance with the Plan. The location of underground utilities and storm
31 water facilities must be included in the as-built drawings.

32 (b) The Landowner shall provide the critical stage inspection reports performed
33 by the professional onsite during construction for review by the Borough and
34 Borough Engineer as part of the As-Built submission documents.

35 (c) Acceptance or Approval of the As-built Plan is required prior to issuance of
36 the final Zoning Occupancy Permit for the project.

37 (d) Deviations

1 14. **PCSM Basin Provisions.**

2 (a) If the proposed PCSM BMPs do not fully drain as required after a storm event,
3 the provisions under the Plan, of Exhibit A, shall be followed. The Borough
4 shall be notified of any issues or resolutions resulting from the PCSM BMPs
5 not functioning as designed.

6 15. **General Provisions.**

7 (a) **Recordation of Agreement.** This Agreement shall be recorded in the
8 Office for the Recording of Deeds, etc., at Stroudsburg, Pennsylvania, in and for
9 the County of Monroe.

10 (b) **Entire Agreement.** This Agreement constitutes the entire agreement
11 between the Parties hereto with regard to the subject matter of this Agreement and
12 they are not liable or bound in any manner whatsoever by express or implied
13 warranties, guarantees, promises, statements, representations, or information made
14 or furnished by any agent, employee, servant, or other person representing or
15 purporting to represent the Parties, unless such warranties, guarantees, promises,
16 statements, representations, or information are expressly set forth herein.

17 (c) **Modification of Agreement.** A modification or a waiver of any of the
18 provisions of this Agreement shall be effective only if made in writing and executed
19 with the same formality as this Agreement. Failure of either Party to insist upon
20 strict performance of any of the provisions of this Agreement shall not be construed
21 as a waiver of any subsequent default of the same or similar nature.

22 (d) **Successors and Assigns.** This Agreement shall extend to and shall bind
23 the heirs, executors, administrators, successors and assigns of the respective Parties
24 hereto and shall run with the land.

25 (e) **Costs** – Borough Costs for which a land owner shall be responsible shall be
26 pursuant to this agreement shall mean any and all cost incurred by the Borough in
27 performing any task set forth herein to include by way of illustration and not
28 limitation; Borough personal fees; Engineering fees; Solicitor fees; material costs,
29 litigation costs (including filing fees); expert fees; and/or fines or penalties paid by
30 the Borough as a result of Landowner failure to adhere to this agreement.

31 (f) **Exhibits.** Exhibits to this Agreement are an integral part hereof.

32 (g) **Controlling Law.** This Agreement shall be governed by and construed in
33 accordance with the laws of the Commonwealth of Pennsylvania.

34 (h) **Venue and Jurisdiction.** Venue and jurisdiction to hear any and all
35 disputes which may arise out of this Agreement shall be heard exclusively in the
36 Court of Common Pleas of Monroe County, Forty-Third Judicial District,
37 Commonwealth of Pennsylvania.

1 (i) **Separability.** Any provision of this Agreement which may prove
2 unenforceable under any law shall not affect the validity of any other provision
3 hereof.

4 (j) **Notices.** Notices required hereunder, or any correspondence concerning
5 this Agreement shall be directed to the following addresses and shall be deemed
6 properly given (a) if delivered by hand; (b) if sent by certified mail, return receipt
7 requested, postage prepaid, or by recognized overnight courier service (including,
8 without limitation, Federal Express or United Parcel Service overnight service),
9 charges prepaid; or (c) if sent by facsimile with a dated and time-stamped
10 verification of delivery; or (d) if sent by email with a dated and time-stamped proof
11 of delivery. All notices sent by fax or email shall also include a copy sent by United
12 States First Class Mail, postage prepaid, addressed as follows

13 If to Borough addressed as follows: Borough of East Stroudsburg
14 24 Analomink Street
15 East Stroudsburg, PA 18301
16

17 If to Landowner addressed as follows:
18
19

20 Notices and communications hereunder shall be deemed sufficiently given when
21 dispatched pursuant to the foregoing provisions. Notices and communications
22 delivered by hand shall be effective upon receipt; notices and communications sent
23 by fax or by e-mail, with a copy by United States First Class Mail, shall be effective
24 upon dispatch; notices and communications sent by recognized overnight courier
25 service shall be effective on the business day following dispatch; and notices sent
26 by certified mail shall be effective on the third business day following dispatch.
27 The Parties hereto may, by a notice given hereunder, designate any further or
28 different addresses to which any subsequent notice or communication hereunder
29 shall be sent.

30 (k) **Construction of Agreement.** Each Party hereto acknowledges, represents,
31 and warrants that: (i) each Party has participated in the negotiation of this
32 Agreement; (ii) no provision of this Agreement shall be construed against or be
33 interpreted to the disadvantage of any Party hereto by any court or other
34 governmental or judicial authority by reason of such Party having or being deemed
35 to have structured, dictated, or drafted such provision; (iii) each Party has had at all
36 times access to an attorney of their choice in the negotiation of the terms of and in
37 the preparation and execution of this Agreement; (iv) each Party has had the
38 opportunity to review and analyze this Agreement for a sufficient period of time
39 prior to the execution and delivery thereof; (v) the terms of this Agreement were
40 negotiated at arm's length; (vi) this Agreement was prepared and executed without
41 fraud, duress, undue influence, or coercion of any kind asserted by any of the Parties
42 upon the others; and (vii) the execution and delivery of this Agreement is the free
43 and voluntary act of each of the Parties hereto.
44

APPENDIX B

STORM WATER MANAGEMENT DESIGN CRITERIA

APPENDIX B

STORMWATER MANAGEMENT DESIGN CRITERIA

In selecting the appropriate design components, the Applicant SHALL consider the following:

- a) Lots shall be laid out and graded to provide positive drainage away from buildings.
- b) All streets shall be so designed as to provide for discharge of surface water from their rights-of-way
- c) - *Non-Structural Project Design (Sequencing to Minimize Stormwater Impacts)*–
 - a. The design of all Regulated Activities shall include the following steps in sequence to minimize stormwater impacts.
 - i. The Applicant is required to find practicable alternatives to the surface discharge of stormwater, the creation of impervious surfaces and the degradation of waters of the Commonwealth and must maintain as much as possible the natural hydrologic regime of the site.
 - ii. An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purposes.
 - iii. All practicable alternatives to the discharge of stormwater are presumed to have less adverse impact on quantity and quality of waters of the Commonwealth unless otherwise demonstrated.
 - b. The Applicant shall demonstrate that they designed the Regulated Activities in the following sequence to minimize the increases in stormwater runoff and impacts to water quality:
 - i. Prepare an Existing Resource and Site Analysis Map (ERSAM), showing environmentally sensitive areas including, but not limited to, steep slopes, ponds, lakes, streams, wetlands, hydric soils, vernal ponds, flood plains, buffer areas, hydrologic soil groups A and B (areas conducive to infiltration), any existing recharge areas and any other requirements outlined in the municipal Subdivision and Land Development Ordinance.
 - ii. Establish buffers in accordance with Section 141-305
 - iii. Prepare a draft project layout avoiding earth disturbance in sensitive areas identified on the ERSAM in i. above and minimizing total site earth disturbance as much as possible. The ratio of the disturbed area to the entire site area and measures taken to minimize earth disturbance shall be included on the ERSAM or in the design narrative.
 - iv. Identify site specific predevelopment drainage areas, discharge points, recharge areas to be preserved and hydrologic soil groups A and B to be utilized for recharge.

- v. Evaluate Nonstructural Stormwater Management Alternatives
 - 1. Minimize earth disturbance
 - 2. Minimize impervious surfaces
 - 3. Break up large impervious surfaces.

- c. Satisfy the Water Quality and Streambank Erosion Requirements outlined in Section 141-306

- d. Satisfy Groundwater Recharge (infiltration) requirements of Section 141-303 and provide for stormwater treatment prior to infiltration.

- e. Determine the Management District where the site is located (Appendix D) and conduct a predevelopment runoff analysis.

- f. Prepare final project design to maintain predevelopment drainage areas and discharge points, to minimize earth disturbance and impervious surfaces, and to reduce runoff to the maximum extent possible.

- g. Conduct a post development runoff analysis based on the final design and meet the release rate, the overbank flow and extreme event requirements of Section 141-304.

- h. Manage any remaining runoff through treatment prior to discharge, as part of detention, bioretention, direct discharge or other structural control

As part of the drainage design, the Applicant shall meet the following requirements.

- 1. Where the project consists of more than one phase, the storm water controls shall be designed so that the rate of runoff for the ultimate build-out condition is consistent with the release rate specified in the plan. The outlet structure may have to be modified for the first phase. The storm water detention basin shall be constructed prior to the construction of the first phase.

- 2. It shall be the responsibility of the Applicant to obtain any and all storm water easements on, over or through other properties when such easements are required.

- 3. Stormwater Management Site Plans shall include all appropriate design details and dimensions necessary to clearly explain and show all proposed construction materials, grades and elevations

- 4. Storm water management facilities designed to serve more than one property, subdivision or land development in the same watershed are encouraged, in which case consultation with the Borough is required prior to design.

- 5. Stormwater Structures
 - a. Proposed stormwater structures shall be concrete and equivalent to PennDOT design standards for structures in paved areas.

 - b. Proposed inlets shall have a bicycle safe grate when proposed in pavement accessible to bicycles or pedestrians. ADA inlet grates should be provided in pedestrian walkways.

- c. Manholes shall be spaced at intervals not exceeding 300-feet and be located wherever branches are connected or sizes are changed, and at changes in alignment or grade.
- d. All inlets shall be labeled with an embedded plastic disk indicating a prohibition against pollutants.
- e. Sumps for inlets to be fitted with snout / hoods or similar water quality features shall meet the snout manufacturer's requirements. Required sumps shall be noted on the plans.

6. Stormwater Conveyance Requirements

- a. Storm sewers, culverts, catch basin inlets and related installations shall be provided to insure the controlled flow of natural water courses and to guarantee the drainage of all low points along the curb or gutter lines, as well as at intervals related to slope, of all streets and paved areas in or adjacent to the stormwater management plan.
- b. Conveyance to Best Management Facilities shall be designed to convey the 100-yr storm. The conveyance shall be designed for a minimum of 25-year storm without surcharging. The total 100 year design conveyance to the facility may include surcharge and overland flow if safe, stable conveyance can be shown.
- c. The minimum pipe size for conveyance pipes shall be 15-inches.
- d. Storm piping material shall be RCP or HDPE when appropriate cover is provided.
- e. The minimum pipe slope is 0.5%
- f. Whenever storm pipe sizes change, the larger pipe shall be dropped such that the crowns of the pipe match whenever possible.
- g. Open pipe ends shall be fitted with concrete end walls or wing walls. All connections to the Borough of East Stroudsburg stormwater collection system shall be by a concrete inlet. The inlet shall have a sump created by the outlet pipe, being a minimum of eight inches off the bottom. Inlet sumps shall also be required in inlets tributary to Sambo Creek.
- h. Gutter flow calculations will be required for all streets intended to be dedicated to the Borough. The flow from a 10-year storm shall not encroach more than half the lane width.
- i. Manufacturer's requirements for pipe cover and slope shall be met. Slope anchors shall be provided as necessary for pipe slopes in excess of 15%. Structures upslope of pipes in excess of 15% shall have open grates for air release unless otherwise documented in writing from the pipe manufacturer. Manufacturer's documentation shall be required for pipe cover less than 2 ft under paved surfaces.
- j. Pipe outfalls shall be designed per the requirements of the PA DEP ESC manuals.
- k. Concrete pipes shall be required within 100-year floodplains.
- l. Adequate erosion protection shall be provided along all open channels and at all points of discharge.

- m. Storm sewer outfalls. shall be so designed, with respect to the elevation of the invert, installation of pumps or other features, that when the receiving stream is flooded, the storm sewer will continue to drain the area it is designed to serve.

7. Stormwater Management Facilities

- a. Basin Emergency Spillways shall be constructed in undisturbed virgin soil and stabilized accordingly. Outlets shall be designed to function without manual, electric, or mechanical controls where possible. They shall be placed outside the berm fill areas to the maximum extent practical. They shall be located such as to minimize the impact of the concentrated flow to adjoining properties.
- b. Earth fill for basin berms that pond water over 2 feet deep shall meet the requirements for sediment basins as noted in Chapter 7 of the Pennsylvania Department of Environmental Protection Erosion and Sediment Pollution Control Program Manual. Chapter 7. All earth fill shall be free from brush, roots, and other organic material subject to decomposition. The fill material in all earth dams and embankments shall be compacted to at least 95% of the maximum density obtained from compaction tests performed by appropriate methodology for berms that pond over two (2) ft deep and where failure can impact downstream properties. Basin side slopes and materials shall meet standard design criteria from the DEP ESC manual for sediment traps and sediment basins and in accordance with the requirements of the design professional. Internal side slopes shall not exceed 3 feet horizontal to 1 foot vertical unless approved and inspected by a geotechnical engineer. The approach slopes of the basin will conform as closely as possible to natural contours.
- c. Berms ponding water more than 2 feet deep for permanent BMPS, shall include design of either anti-seep collars or filter diaphragms per the PADEP ESPC Manual.
- d. A witness stick, markings on the OCS or other method will be provided to document the elevation when sediment must be removed from the basin.
- e. Basins are to be vegetated with appropriate species, preferably native, including the bottom, side slopes and top of earthen embankments. Dual use detention areas, such as parking lots, shall be shown on the PCSM plans and warning signs shall be posted noting the elevation of ponding during storms.
- f. Stormwater Storage in Parking Lots – Parking lot storage may be used in those areas where the health, safety and general welfare of the community will not be adversely affected. Paved parking lots may be designed to provide temporary detention storage of storm water during 50-yr storms or greater on all or a portion of their surfaces. Parking lot ponding should be arranged so that pedestrians can reach their destinations without walking through ponded water. Outlets will be designed so as to slowly empty the stored waters and depths of storage must be limited so as to prevent damage to parked vehicles.
- g. Suitable stabilized outfalls will be required for inflow to the basins. The basin inflow shall be at the opposite side of the basin wherever possible. Outlet control structures shall be designed as simply as possible, shall operate automatically, and be of a safe capacity.
- h. Wet Ponds shall be designed to the criteria of the PA DEP BMP Manual and West Nile Virus Guidelines. Safety ledges shall be constructed on the side slopes of all detention basins not designed to infiltrate or otherwise drain in 72 hours. The ledges shall be 4 to 6 feet wide and located approximately 2.5 to 3 feet below and 1 to 1.5 ft above the permanent water surface.

- i. The detention basin berm top for basins with more than 2 feet of depth shall be a minimum width of 10-feet.
- j. The minimum slope of the bottom of the detention basin shall be 2% toward the outlet structure, except for facilities meeting DEP standards for BMPs.
- k. An access ramp of 10:1, 10-feet wide, shall be provided to allow maintenance equipment to reach basin floor.
- l. Basin side slopes including berms shall be no steeper than 3:1, horizontal to vertical unless geotechnical report is provided demonstrating slope stability.
- m. The detention basin for basins more than 2 feet deep shall be equipped with a clay core to prevent migration of water through the berm.
- n. All outlet pipes through the berm shall be designed for the 100-yr storm and be RCP with watertight joints.

8. Infiltration Testing and Limits

Infiltration testing shall follow the Guidelines of BMP Manual Appendix C. Acceptable Infiltration Rates shall be as required in the Appendix.

USE CURVE NUMBERS FROM LATEST DEP SPREADSHEET.

**Table B-1
Runoff Curve Numbers Based on Land Use and HSG**

Cover Type and Hydrologic Condition	CNs for hydrologic soil group			
	A	B	C	D
Open Space (lawns, parks, golf courses, cementeries, landscaping, etc.)				
Poor condition (grass cover on <50% of the area)	68	79	86	89
Fair condition (grass cover on 50% to 75% of the area)	49	69	79	84
Good condition (grass cover on >75% of the area)	39	61	74	80
Impervious Areas:				
Open water bodies: lakes, wetlands, ponds, etc.	100	100	100	100
Paved parking lots, roofs, driveways, etc. or other similar impervious surfaces	98	98	98	98
Porous Pavement and Pavers:				
Porous Pavement / Concrete on minimum 12" Clean Aggregate Base	40	40	66	70
Porous Pavers/ Pavement/Concrete Walks with min. 6" Clean Aggregate Base	40	52	75	80
Non-Impervious Driving Surfaces:				
Gravel	94	97	97	97
Dirt	88	93	94	94
Cultivated Agricultural Lands				
Row Crops (good), e.g., corn, sugar beets, soy beans	64	75	82	85
Small grain (good), e.g., wheat, barley, flax	60	72	80	84
Meadow (continuous grass, protected from grazing, and generally mowed for hay):	30	58	71	78
Brush (brush-weed-grass mixture, with brush the major element):				
Poor (<50% ground cover)	48	67	77	83
Fair (50% to 75% ground cover)	35	56	70	77
Good (>75% ground cover)	30	48	65	73
Woods:				
Poor (forest litter, small trees, and brush are destroyed by heavy grazing or regular burning)	45	66	77	83
Fair (woods are grazed but not burned, and some forest litter covers the soil)	36	60	73	79
Good (woods are protected from grazing, and litter and brush adequately cover the soil)	30	55	70	77

[1] Composite CNs for Residential , Commercial and Industrial Uses shall be computed based on the applicable values provided in this Table

[2] If Weighted CN is less than 40, use CN=40 for runoff computations.

[3] Designer shall submit justification for the use of CN values not specified in the above Table

Table B-2
Runoff Coefficients for the Rational Formula
By Land Use, Hydrologic Soil Group and Overland Slope (%)

Hydrologic Soil Group (HSG)	A			B			C			D		
	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+
	Slope											
Cultivated Land	0.08 (a)	0.13	0.16	0.11	0.15	0.21	0.01	0.19	0.28	0.18	0.23	0.31
	0.14 (b)	0.18	0.22	0.16	0.21	0.28	0.20	0.25	0.34	0.24	0.29	0.41
Pasture	0.12	0.20	0.30	0.18	0.28	0.37	0.24	0.34	0.44	0.30	0.40	0.50
	0.15	0.25	0.37	0.23	0.34	0.45	0.30	0.42	0.52	0.37	0.50	0.62
Open Space/Lawn	0.10	0.16	0.25	0.14	0.22	0.30	0.20	0.28	0.36	0.24	0.30	0.40
	0.14	0.22	0.30	0.20	0.28	0.37	0.26	0.35	0.44	0.30	0.40	0.50
Forest	0.05	0.08	0.11	0.08	0.11	0.14	0.10	0.13	0.16	0.12	0.16	0.20
	0.08	0.11	0.14	0.10	0.14	0.18	0.12	0.16	0.20	0.15	0.20	0.25
Meadow	0.05	0.10	0.14	0.05	0.13	0.19	0.12	0.17	0.24	0.16	0.21	0.28
	0.11	0.16	0.20	0.14	0.19	0.26	0.18	0.23	0.32	0.22	0.27	0.39
Impervious Surfaces (including dirt, gravel)	0.85	0.86	0.87	0.85	0.86	0.87	0.85	0.86	0.87	0.85	0.86	0.87
	0.95	0.96	0.97	0.95	0.96	0.97	0.95	0.96	0.97	0.95	0.96	0.97

(a) Runoff coefficients for storm recurrence intervals less than 25 years.

(b) Runoff coefficients for storm recurrence intervals of 25 years or more

Source: "Recommended Hydrologic Procedures for Computing Urban Runoff from Small Watersheds in Pennsylvania" Pennsylvania DER #609-12/90

TABLE B-3

Roughness Coefficients (Manning's "n") For Overland Flow (U.S. Army Corps Of Engineers, HEC-1 Users Manual)

Surface Description	n	
Dense Growth	0.4	0.5
Pasture	0.3	0.4
Lawns	0.2	0.3
Bluegrass Sod	0.2	0.5
Short Grass Prairie	0.1	0.2
Sparse Vegetation	0.05	0.13
Bare Clay-Loam Soil (eroded)	0.01	0.03
Concrete/Asphalt - very shallow depths (less than 1/4 inch)	0.10	0.15
- small depths (1/4 inch to several inches)	0.05	0.10

Roughness Coefficients (Manning's "n") For Channel Flow

Reach Description	n
Natural stream, clean, straight, no riffs or pools	0.03
Natural stream, clean, winding, some pools or shoals	0.04
Natural stream, winding, pools, shoals, stony with some weeds	0.05
Natural stream, sluggish deep pools and weeds	0.07
Natural stream or swale, very weedy or with timber underbrush	0.10
Concrete pipe, culvert or channel	0.012
Corrugated metal pipe	0.012-0.027 ⁽¹⁾
High Density Polyethylene (HDPE) Pipe	
Corrugated	0.021-0.029 ⁽²⁾
Smooth Lined	0.012-0.020 ⁽²⁾

(1) Depending upon type, coating and diameter

(2) Values recommended by the American Concrete Pipe Association, check Manufacturer's recommended value.

APPENDIX C

STORMWATER MANAGEMENT (SWM) PLAN APPLICATION

APPENDIX C
STORMWATER MANAGEMENT (SWM) PLAN APPLICATION

Application is hereby made for review of the Stormwater Management Plan and related data as submitted herewith in accordance with the East Stroudsburg Stormwater Management Ordinance.

Date of Submission _____

1. Name of development _____
2. Name of Applicant _____ Telephone No. _____ (if corporation, list the corporation's name and the names of two officers of the corporation)

_____ Officer 1

_____ Officer 2

Address _____

Zip _____ E-Mail _____

Applicant's interest in development (if other than property owner give owner's name and address)

3. Name of property owner _____ Telephone No. _____
Address _____
Zip _____ E-Mail _____

4. Name of engineer or surveyor _____ Telephone No. _____
Address _____
Zip _____ E-Mail _____

5. Site Summary Information

- a. Existing Impervious area as of 2008 identified on a Site Plan _____ S.F. ___% of Property
- b. Current Impervious area identified on Site Plan _____ SF ___% of property area
- c. Proposed Impervious areas identified on a Proposed Site Plan _____ S.F. _____% of Property
- d. Proposed increase in Impervious Area _____ SF. If less than 2,000 square feet see SWM exemption options below.
- e. Proposed Limit of Earth Disturbance identified on a Site Plan _____ S.F. If less than 5,000 square feet, see exemption options below.
- f. Wetland and Streams
 - Are there wetland or regulated streams on the property? _____
 - Do streams or wetlands exist on or adjacent to the Project _____?

- Are stream and buffers required indicated on a Site Plan ____?

If impacts are proposed to streams, wetlands, or the buffers required in this ordinance, a SWM Plan Submission is required.

- g. Do the Proposed Improvements increase concentration or change flow path onto adjoining properties?_____, if yes no SWM Plan Exemption shall be granted, proceed to SWMP Application
- h. Is the project located in the Flory Pond Drainage Area? If yes, no SWM Plan Exemption shall be granted. Proceed to SWM Plan Application
- i. Is this project located in the Sambo Creek Drainage Area? _____ If yes, no SWM Plan Exemption shall be granted. Proceed to SWM Plan Application
- j. Has an NPDES permit for discharge of water from construction activities previously been issued for this site or required for this Project? _____ If yes, no SWM Plan Exemption shall be granted. Proceed to SWM Plan Application

6. Exemption of Stormwater Management Plan Submission under 200 square feet of increased Impervious Area

- a. Does the project propose less than 200 square feet of Impervious Area as calculated in 5.c ? _____
- b. Does the project propose less than 5,000 square feet of earth disturbance? _____

The application is subject to the Zoning Officer Review for Exemption. Go to Certificate of Ownership and Acknowledgement of Application at the end of this document.

7. Exemption of Stormwater Management Plan Submission, over 200 square feet and under 2000 of increased Impervious Area - If an application for SWM Plan submission exemption is being requested, a narrative addressing the questions in this section is required to demonstrate consistency with exemption requirements in Section 302. The required information and the certifications shall be provided with this application as required in the Ordinance. The request for exemption will be reviewed by Borough staff to confirm the exemption request is granted based the information submitted and consistency with the Stormwater Management Ordinance.

8. Stormwater Design Summary

- a. Does the peak rate of runoff from proposed conditions exceed that flow which occurred for existing conditions for the designated design storm? Yes or No
- b. Design storm utilized for stormwater BMP design (24 hr.) _____
- c. Design storm utilized for stormwater conveyance systems _____
- d. Does the submission and/or district meet the release rate criteria for the applicable subarea?_ Yes or No
- e. Number of subarea(s) from the Brodhead and McMichael Creek Watershed Stormwater Management Plan. (See map on MCCD Website) _____

- f. Type of BMP'S proposed for runoff control _____

- g. Does the proposed stormwater control criteria meet the requirement/guidelines of the Stormwater Ordinances? Yes or No If not, attach waiver request with required justification.
- h. Was TR-55, June 1986 formulas utilized in determining the time of concentration?

- i. What hydrologic method was used in the stormwater computations?

- j. Is a hydraulic routing through the stormwater control structure submitted? Yes or No
- k. Is a construction schedule or staging including critical stage inspection attached? Yes or No
- l. Is a recommended maintenance program attached? Yes or No
9. Erosion and Sediment Pollution Control (ESC):
- a. Has the stormwater management and ESC plan, supporting documentation and narrative been submitted to the Monroe County Conservation District if earth disturbance is more than 10,000 square feet Yes or No
10. Wetlands, Streams and Ponds
- a. Attach delineation report or verification of absence of these features prepared by a qualified professional.
- b. Have these features been verified by a state or federal permitting authority? Yes or No
- c. Are these features accurately shown on the SWM Plan? Yes or No
- d. Have the required buffers been indicated on the SWM Plan? Yes or No
- e. Total acreage of proposed wetland disturbance _____
11. Filing
- a. Has the required fee been submitted? _____ Amount: _____
- b. Has a Draft Stormwater Management Agreement been included with this application? Yes or No
- c. Have all required documents as outlined in this application and the Stormwater Management Ordinance been provided with this application? Yes or No
-

(Information Below This Line To Be Completed By the Municipality)

____ **Approved for Exemption of Stormwater Management Plan Submission –
Project less than 200 square feet of Impervious Area by**
_____ **(Name of Municipal Official)**

____ **Approved for Exemption of Stormwater Management Plan Submission –
Project less than 2,000 square feet of Impervious Area by**
_____ **(Name of Municipal Official)**

Drainage Plan Application (Projects that do not qualify for exemption)

_____ **(Name of) Municipal official:**

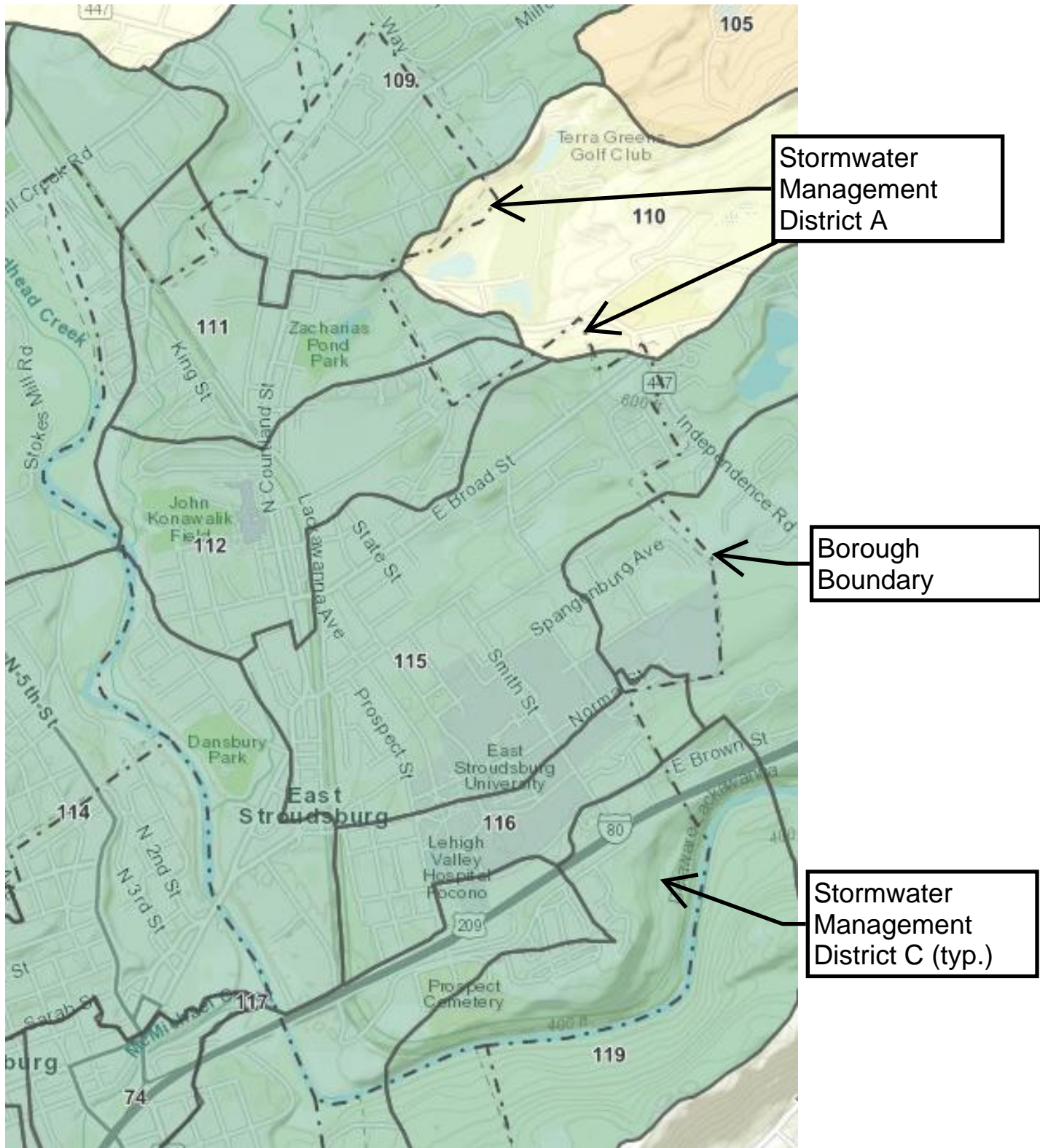
Date complete application received: _____ Plan Number: _____

Fees: _____ Date fees paid: _____ Received by: _____

Date of Complete Application Determination _____

Official submission receipt date: _____ **Received by Municipality** _____

APPENDIX D



Appendix D – Stormwater Management Act 167 District Watershed Map – 2025-09-16

APPENDIX E

WEST NILE VIRUS GUIDANCE

Borough of East Stroudsburg

**Appendix E
West Nile Virus Guidance**

**Monroe County Conservation District Guidance:
Stormwater Management and West Nile Virus**

The Monroe County Conservation District recognizes the need to address the problem of nonpoint source pollution impacts caused by runoff from impervious surfaces. The new stormwater policy being integrated into Act 167 Stormwater Management regulations by the Pennsylvania Department of Environmental Protection (DEP) will make nonpoint pollution controls an important component of all future plans and updates to existing plans. In addition, to meet post-construction antidegradation standards under the state National Pollution Discharge Elimination System (NPDES) permitting program, applicants will be required to employ best management practices (BMPs) to address nonpoint pollution concerns.

Studies conducted throughout the United States have shown that wet basins and in particular constructed wetlands are effective in traditional stormwater management areas such as channel stability and flood control and are one of the most effective ways to remove stormwater pollutants (United States Environmental Protection Agency 1991, Center for Watershed Protection 2000). From Maryland to Oregon, studies have shown that as urbanization and impervious surface increase in a watershed, the streams in those watersheds become degraded (CWP 2000). Although there is debate over the threshold of impervious cover when degradation becomes apparent (some studies show as little as 6% while others show closer to 20%), there is agreement that impervious surfaces cause nonpoint pollution in urban and urbanizing watersheds and that degradation is ensured if stormwater BMPs are not implemented.

Although constructed wetlands and ponds are desirable from a water quality perspective, there may be concerns about the possibility of these stormwater management structures becoming breeding grounds for mosquitoes. The Conservation District feels that although it may be a valid concern, the Borough of East Stroudsburg should not adopt ordinance provisions prohibiting wet basins for stormwater management.

Mosquitoes

The questions surrounding mosquito production in wetlands and ponds have intensified in recent years by the outbreak of the mosquito-borne West Nile Virus. As is the case with all vector-borne maladies, the life cycle of West Nile Virus is complicated, traveling from mosquito to bird, back to mosquito and then to other animals, including humans. *Culex pipiens* was identified as the vector species in the first documented cases from New York in 1999. This species is still considered the primary transmitter of the disease across its range. Today there are some 60 species of mosquitoes that inhabit Pennsylvania. Along with *C. pipiens*, three other

EAST STROUDSBURG CODE

species have been identified as vectors of West Nile Virus, while four more have been identified as potential vectors.

The four known vectors in NE Pennsylvania are *Culex pipiens*, *C. restuans*, *C. salinarius* and *Ochlerotatus japonicus*. All four of these species prefer, and almost exclusively use, artificial containers (old tires, rain gutters, birdbaths, etc.) as larval habitats. In the case of *C. pipiens*, the most notorious of the vector mosquitoes, the dirtier the water the better they like it. The important factor is that these species do not thrive in functioning wetlands where competition for resources and predation by larger aquatic and terrestrial organisms is high.

The remaining four species, *Aedes vexans*, *Ochlerotatus Canadensis*, *O. triseriatus* and *O. Irvittatus* are currently considered potential vectors due to laboratory tests (except the *O. trivittatus*, which did have one confirmed vector pool for West Nile Virus in Pennsylvania during 2002). All four of these species prefer vernal habitats and ponded woodland areas following heavy summer rains. These species may be the greatest threat of disease transmission around stormwater basins that pond water for more than four days. This can be mitigated, however, by establishing ecologically functioning wetlands.

Stormwater Facilities

If a stormwater wetland or pond is constructed properly and a diverse ecological community develops, mosquitoes should not become a problem. Wet basins and wetlands constructed as stormwater management facilities should be designed to attract a diverse wildlife community. If a wetland is planned, proper hydrologic soil conditions and the establishment of hydrophytic vegetation will promote the population of the wetland by amphibians and other mosquito predators. In natural wetlands, predatory insects and amphibians are effective at keeping mosquito populations in check during the larval stage of development while birds and bats prey on adult mosquitoes.

The design of a stormwater wetland must include the selection of hydrophytic plant species for their pollutant uptake capabilities and for not contributing to the potential for vector mosquito breeding. In particular, species of emergent vegetation with little submerged growth are preferable. By limiting the vegetation growing below the water surface, larvae lose protective cover and there is less chance of anaerobic conditions occurring in the water.

Stormwater ponds can be designed for multiple purposes. When incorporated into an open space design, a pond can serve as a stormwater management facility and a community amenity. Aeration fountains and stocked fish should be added to keep larval mosquito populations in check.

Publications from the Pennsylvania Department of Health and the Penn State Cooperative Extension concerning West Nile Virus identify aggressive public education about the risks posed by standing water in artificial containers (tires, trash cans, rain gutters, bird baths) as the most effective method to control vector mosquitoes.

Access for the County's Vector Control Program Coordinator must be ensured.

SUBDIVISION AND LAND DEVELOPMENT

Conclusion

The Monroe County Conservation District understands the pressure faced by the Borough of East Stroudsburg when dealing with multifaceted issues such as stormwater management and encourages the incorporation of water quality management techniques into stormwater designs. As Monroe County continues to grow, conservation design, groundwater recharge and constructed wetlands and ponds should be among the preferred design options to reduce the impacts of increases in impervious surfaces. When designed and constructed appropriately, the runoff mitigation benefits to the community from these design options will far outweigh their potential to become breeding grounds for mosquitoes.

APPENDIX F

FLORY POND DRAINAGE AREA SPECIAL DISTRICT REGULATIONS

Borough of East Stroudsburg

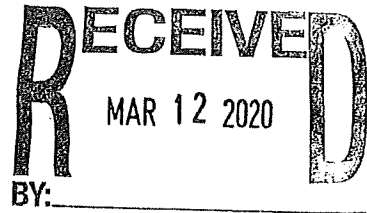
Appendix E

Flory Pond Drainage Area Special District Regulations

- A. The Flory Pond subbasin area presents a unique stormwater drainage situation within the Borough. All of the stormwater generated from this drainage area flows to Flory Pond, which has no natural outlet. Any increase in stormwater runoff severely impacts Flory Pond and the residences immediately surrounding it. All stormwater drainage system designs, plans and/or construction for any proposed development within this drainage area shall minimize such impacts and result in no net increase in runoff from the developed site after construction compared to the existing pre-development conditions, by means of one of three methods:
1. Any increased stormwater runoff shall be contained or infiltrated within the proposed development site.
 2. A stormwater management system shall be constructed/installed to bypass any increased stormwater runoff from the proposed development site from entering the existing Borough stormwater drainage system which flows to Flory Pond. Applicants shall, at their sole expense, construct such stormwater management system to bypass any stormwater runoff to Flory Pond which exceed pre-development flows and quantities.
 3. Alternatively, improvements shall be constructed to the existing Borough stormwater drainage system to alleviate increased stormwater runoff to Flory Pond from the proposed development site. The applicant shall, at their sole expense, construct such improvements to alleviate the increased stormwater runoff flows and quantities from their proposed development site. If undertaken in conjunction with other agreed-upon improvements to the existing Borough stormwater drainage system constructed by the Borough or another party, applicants shall bear their fair share of the cost of such improvements necessary to accommodate the post-development runoff increase from their proposed development site, in relation to the total stormwater runoff flows and quantities to Flory Pond from that portion of the Borough stormwater drainage system.
- B. The requirements of this subsection are intended to allow the applicant as much design flexibility as possible to attain the required results. All proposed stormwater drainage system designs and plans submitted pursuant to the subsection shall be reviewed by the Borough Engineer in accordance with the Codes of the Borough of East Stroudsburg, good engineering practice, and any other rules and regulations applicable to the proposed development.

APPENDIX G

MS4 PERMIT



March 9, 2020

Brian Bond
East Stroudsburg Borough
24 Analomink Street
East Stroudsburg, PA 18301-2801

APPENDIX G

Re: PAG-13 General Permit Approval
East Stroudsburg Borough MS4
NPDES Permit No. PAG132318
Authorization ID No. 1199371
East Stroudsburg Borough, Monroe County

Dear Mr. Bond:

The Department of Environmental Protection (DEP) has reviewed your Notice of Intent (NOI) to operate under the PAG-13 General NPDES Permit and your request for a waiver of permitting requirements. We have determined that permit coverage is required. Your permit is enclosed.

The statewide General Permit expires on March 15, 2023. **However, your coverage under the General Permit does not expire unless your coverage is revoked by DEP. A Notice of Intent (NOI) to renew your coverage is no longer required.** When the statewide General Permit is renewed, the permit will be published in the Pennsylvania Bulletin. Following publication of the final renewed General Permit, you must comply with the terms and conditions of the renewed General Permit or otherwise submit an application for an individual NPDES permit. You may submit an application for a waiver to DEP anytime during the term of your General Permit coverage if, due to changing circumstances, you become eligible for a waiver.

The General Permit contains numerous scheduled requirements that may apply to you. Please review DEP's "Summary of Scheduled Requirements" document, available at www.elibrary.dep.state.pa.us (select "Permit and Authorization Packages", "Clean Water", and "PAG-13 MS4 General Permit").

The submission of Annual MS4 Status Reports is required by the General Permit. You must submit the annual reports to the DEP office that approved your General Permit coverage by September 30th each year. You must also submit the annual installment payment of \$500 to DEP's Bureau of Clean Water by September 30th of each year. The first annual report and annual payment is due by September 30, 2021. The first annual report will cover the period from the effective date of General Permit coverage to June 30, 2021. Thereafter, the annual reporting period will be July 1 – June 30.

You are required to comply with the Pollutant Control Measures (PCMs) contained in Appendix B for the surface waters identified in DEP's MS4 Requirements Table (see www.dep.pa.gov/MS4). You are required to submit to DEP the following: 1) a storm sewershed

map for outfalls that discharge to the impaired surface waters; 2) an inventory of all suspected and known sources of the pollutant(s) of concern within the storm sewershed(s); and 3) a report documenting an investigation of each suspected source. Deadlines for submission of this documentation as attachments to future Annual MS4 Status Reports are established in the Appendices. You must also enact an ordinance that requires proper management of animal wastes on property owned by the permittee. If an ordinance or SOP already exists that controls animal wastes, it must be attached to the first Annual MS4 Status Report due following the first year of coverage unless the ordinance or SOP was attached to the NOI for General Permit coverage). If a new ordinance or SOP is enacted or adopted, the new ordinance or SOP must be attached to the first Annual MS4 Status Report due following enactment or adoption, but no later than September 30, 2022.

DEP has reviewed your Pollutant Reduction Plan (PRP). Your PRP is hereby approved.

During the permit term, DEP will evaluate your progress in implementing the PRP. If progress is not satisfactory DEP may require you to obtain coverage under an individual permit.

You are required to implement the load reduction requirements established in Appendix E of the General Permit within five years, and you must submit a report demonstrating that you have met these requirements as an attachment to the first Annual MS4 Status Report that is due following completion of the 5th year of General Permit coverage.

We would like to bring DEP's eNOTICE service to your attention. eNOTICE is a subscription service that provides options to receive notifications of DEP's activities such as the receipt of permit applications, comment periods for guidance and regulations, and stream redesignation evaluations. To sign up for an account, visit DEP's website (www.dep.pa.gov) and select Data and Tools – Tools – eNOTICE.

Any person aggrieved by this action may appeal the action to the Environmental Hearing Board (Board), pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. § 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A. The Board's address is:

Environmental Hearing Board
Rachel Carson State Office Building, Second Floor
400 Market Street
P.O. Box 8457
Harrisburg, PA 17105-8457

TDD users may contact the Environmental Hearing Board through the Pennsylvania Relay Service, 800-654-5984.

Appeals must be filed with the Board within 30 days of receipt of notice of this action unless the appropriate statute provides a different time. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional

law.

A Notice of Appeal form and the Board's rules of practice and procedure may be obtained online at <http://ehb.courtapps.com> or by contacting the Secretary to the Board at 717-787-3483. The Notice of Appeal form and the Board's rules are also available in braille and on audiotape from the Secretary to the Board.

IMPORTANT LEGAL RIGHTS ARE AT STAKE. YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD AT 717-787-3483 FOR MORE INFORMATION. YOU DO NOT NEED A LAWYER TO FILE A NOTICE OF APPEAL WITH THE BOARD.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST BE FILED WITH AND RECEIVED BY THE BOARD WITHIN 30 DAYS OF RECEIPT OF NOTICE OF THIS ACTION.

If you have any questions, please contact Paul Grella at 570.826.2045.

Sincerely,



Bharat Patel, P.E.
Environmental Program Manager
Clean Water Program

Enclosures

cc:

Central Office, Division of Operations
file(1)



PAG-13
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORMWATER DISCHARGES FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)
APPROVAL OF COVERAGE

NPDES PERMIT NO. PAG132318

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 et seq. ("the Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. Section 691.1 et seq.,

East Stroudsburg Borough
24 Analomink Street
East Stroudsburg, PA 18301-2801

is authorized to discharge from a regulated small municipal separate storm sewer system (MS4) located in **East Stroudsburg Borough, Monroe County to Unnamed Tributary to Brodhead Creek (TSF, MF), Brodhead Creek (CWF (existing use)), and Sambo Creek (CWF, MF)** in Watershed(s) 1-E in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

APPROVAL OF COVERAGE TO DISCHARGE UNDER THIS GENERAL NPDES PERMIT IS AUTHORIZED BEGINNING ON MARCH 9th, 2020. WHEN THE GENERAL PERMIT IS RENEWED, REISSUED OR MODIFIED, THE FACILITY OR ACTIVITY COVERED BY THIS APPROVAL FOR COVERAGE MUST COMPLY WITH THE FINAL RENEWED, REISSUED OR MODIFIED GENERAL PERMIT.

The authority granted by coverage under this General Permit is subject to the following further qualifications:

1. The permittee shall comply with the effluent limitations and reporting requirements contained in this General Permit.
2. Following initial coverage under this General Permit, the submission of Annual MS4 Status Reports in accordance with Part A III.D of the General Permit shall constitute the permittee's Notice of Intent (NOI) for continued coverage under the General Permit. The permittee shall be responsible for complying with the final renewed, reissued or amended General Permit. If the permittee is unable to comply with the renewed or amended General Permit, the permittee must submit an application for an individual NPDES permit within 90 days of publication of the final General Permit.
3. The NOI and its supporting documents are incorporated into this approval of coverage. If there is a conflict between the NOI or its supporting documents and the terms and conditions of this General Permit, the terms and conditions of this General Permit shall apply.
4. Failure to comply with the terms, conditions, or effluent limitations of this General Permit is grounds for enforcement action, permit termination or revocation.
5. The permittee shall implement Pollutant Control Measures as specified in **Appendix B**.
6. The permittee shall achieve pollutant loading reductions for sediment as specified in **Appendix E** by **March 8th, 2025**.

This approval of coverage is authorized by:

Bharat Patel, P.E.
Environmental Program Manager
Northeast Regional Office
Department of Environmental Protection



PAG-13
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORMWATER DISCHARGES FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 *et seq.* (the "Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. Section 691.1 *et seq.*, the Department of Environmental Protection (DEP) hereby authorizes, by this General Permit, the discharge of stormwater from regulated small municipal separate storm sewer systems (MS4s) to surface waters in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

Eligible dischargers who wish to be covered under this General Permit must submit a Notice of Intent (NOI) to DEP in accordance with the requirements of this General Permit, using the NOI form provided by DEP.

No new discharge may be commenced under this General Permit until the applicant complies with all of the following:

1. The applicant has submitted a complete Notice of Intent (NOI) in accordance with the requirements of this General Permit, using a NOI form provided by DEP.
2. The applicant has received a signed copy of the Approval of Coverage from DEP that authorizes coverage under the PAG-13 General Permit.

DEP may deny coverage under the PAG-13 General Permit and require submission of an application for an individual permit based on a review of the NOI or other relevant information, including monitoring data.

Once coverage is approved under the PAG-13 General Permit, coverage will continue when the PAG-13 General Permit is reissued, unless the permittee is otherwise notified by DEP. The submission each year of the Annual MS4 Status Report in accordance with Part A III.D of the General Permit shall constitute the permittee's NOI for continued coverage under the General Permit unless DEP notifies the permittee in writing that the submission of a new NOI is required.

SCOPE

The PAG-13 General Permit is intended to provide NPDES permit coverage to regulated small MS4s for discharges of stormwater to surface waters. Permittees operating under this General Permit have been either automatically designated as regulated by the U.S. Environmental Protection Agency (EPA) pursuant to 40 CFR § 122.32(a)(1) or designated as regulated by DEP under 40 CFR § 122.32(a)(2).

NOI REQUIREMENTS

Deadlines for NOI

MS4 permittees with existing NPDES permit coverage, MS4s that previously have been waived by DEP, and MS4s newly designated as a result of the 2010 census that are seeking coverage under this PAG-13 General Permit or a waiver must submit and DEP must receive an administratively complete and acceptable NOI by September 16, 2017. MS4s authorized to discharge under an individual NPDES permit who are seeking coverage under this General Permit may continue to discharge in accordance with the individual permit while their NOI and associated documents are being reviewed by DEP.

Contents of the NOI

The NOI shall be signed in accordance with the signatory requirements of this General Permit and shall contain the information required in the NOI form.

Where to Submit the NOI

An NOI is to be submitted to the regional office of DEP that has jurisdiction over the county where the MS4 is located.

DISCHARGES AUTHORIZED BY THIS GENERAL PERMIT

Except where specifically prohibited under the "Discharges Not Authorized by this General Permit" section, this General Permit authorizes the discharge of stormwater to surface waters from regulated small MS4s. In addition, the following non-stormwater discharges are authorized by this General Permit as long as such discharges do not cause or contribute to pollution as defined in Pennsylvania's Clean Streams Law:

1. Discharges or flows from firefighting activities.
2. Discharges from potable water sources including water line flushing and fire hydrant flushing, if such discharges do not contain detectable concentrations of Total Residual Chlorine (TRC).
3. Non-contaminated irrigation water, water from lawn maintenance, landscape drainage and flows from riparian habitats and wetlands.
4. Diverted stream flows and springs.
5. Non-contaminated pumped ground water and water from foundation and footing drains and crawl space pumps.
6. Non-contaminated HVAC condensation and water from geothermal systems.
7. Residential (i.e., not commercial) vehicle wash water where cleaning agents are not utilized.
8. Non-contaminated hydrostatic test water discharges, if such discharges do not contain detectable concentrations of TRC.

In the event existing outfall(s) are identified during the term of General Permit coverage that were not identified on maps submitted as part of the NOI (where required), the permittee shall identify the outfall(s) in the subsequent Annual MS4 Status Report that is submitted to the DEP office that approved permit coverage. In the event new stormwater outfalls are proposed, the permittee shall submit written notification to the DEP office that approved permit coverage at least 60 days prior to commencing a discharge, unless such discharges would meet one or more of the criteria specified in the "Discharges Not Authorized By This General Permit" section, in which case an individual permit application must be submitted and an individual permit obtained prior to commencing a discharge.

DISCHARGES NOT AUTHORIZED BY THIS GENERAL PERMIT

The following discharges are not authorized under the PAG-13 General Permit, and DEP may deny coverage under the General Permit when one or more of the following conditions exist:

1. The discharge, individually or in combination with other similar discharges, is or has the potential to be a contributor of pollution, as defined in the Pennsylvania Clean Streams Law, which is more appropriately controlled under an individual permit.
2. The discharger is not, or will not be, in compliance with one or more of the conditions of the General Permit.
3. The applicant has failed and continues to fail to comply or has shown a lack of ability or intention to comply with a regulation, permit, schedule of compliance or order issued by DEP.
4. A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source.
5. Categorical point source effluent limitations are promulgated by the EPA for those point sources covered by the General Permit.
6. The discharge is not, or will not, result in compliance with an applicable effluent limitation or water quality standard.

7. Other point sources within the MS4 require issuance of an individual permit, and issuance of both an individual and a General Permit for the facility would constitute an undue administrative burden on DEP.
8. The discharge from the regulated small MS4 is or would be to a surface water classified as a High Quality (HQ) or an Exceptional Value (EV) water under 25 Pa. Code Chapter 93 (relating to Water Quality Standards).
9. The discharge contains toxic or hazardous pollutants, or any other substance which, because of its quantity, concentration or physical, chemical or infectious characteristics, may cause or contribute to an increase in mortality or morbidity in either an individual or the total population, or pose a substantial present or future hazard to human health or the environment when discharged into surface waters.
10. The discharge individually or cumulatively has the potential to cause significant adverse environmental impact or have been determined by DEP to have caused impairment to the surface waters receiving the discharge(s).
11. The discharge would adversely affect a listed endangered or threatened species or its critical habitat.
12. The MS4 is covered by an individual permit, and coverage under this General Permit would result in less stringent effluent limitations or terms and conditions.
13. DEP determines that the denial of coverage is necessary for any other reason to ensure compliance with the Federal Clean Water Act, the Pennsylvania Clean Streams Law or DEP regulations.
14. The regulated MS4 is a large or medium MS4 as defined in 40 CFR §§ 122.26(b)(4) or (7).
15. The permittee is implementing a local or tribal Qualifying Local Program (QLP) pursuant to 40 CFR 122.44(s) that is not the state's program as outlined in 25 Pa. Code Chapter 102.
16. The regulated small MS4 is assigned a wasteload allocation (WLA) (either specific to the MS4 or general) in a Total Maximum Daily Load (TMDL) approved by the U.S. Environmental Protection Agency (EPA) for local surface waters, where the pollutant(s) of concern are nutrients (i.e., nitrogen and/or phosphorus) and/or sediment (i.e., siltation or total suspended solids), and the MS4 is identified in the "MS4 Requirements Table" (see definitions) as needing to complete a TMDL Plan.
17. The regulated small MS4 1) discharges to waters impaired for nutrients and/or sediment without an EPA-approved TMDL or discharges to the Chesapeake Bay watershed; 2) is identified in DEP's "MS4 Requirements Table"; and 3) has not developed and submitted a Pollutant Reduction Plan (PRP) with the NOI to reduce pollutant loading for the cause(s) of impairment.
18. The discharge will be commingled with sources of non-stormwater unless such non-stormwater discharges are identified in the "Discharges Authorized by this General Permit" section of this General Permit or are in compliance with a separate NPDES permit and do not cause or contribute to pollution.
19. Stormwater discharges associated with industrial activity as defined in 40 CFR §§ 122.26(b)(14)(i)-(ix) and (xi).
20. Stormwater discharges associated with construction activity as defined in 40 CFR § 122.26(b)(14)(x) or 40 CFR § 122.26(b)(15).

THE AUTHORITY GRANTED BY THIS GENERAL PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

1. If the permittee submits a timely NOI for coverage under this General Permit (i.e., received by DEP on or before September 16, 2017) and the previous General Permit expires, the permittee is authorized to continue discharging under the terms and conditions of this General Permit. The permittee must comply with all terms and conditions in this General Permit with the exception of requirements that do not take effect until DEP's approval of coverage, as specified in this General Permit.
2. DEP may require a permittee with discharge(s) authorized by this General Permit to apply for and obtain an individual permit by notifying the permittee in writing that an individual permit application is required. Any interested person may petition DEP to take action under this paragraph.

DEP's notice will include the following:

- A brief statement of the reason(s) for this decision;
- An individual permit application form;
- A deadline for the owner or operator to submit the application; and
- A statement that on the effective date of the individual permit, coverage under this General Permit shall automatically terminate.

If a permittee fails to submit an individual permit application required by DEP under this paragraph in a timely manner, then the applicability of this General Permit to the permittee is automatically terminated at the end of day specified for submission of the application.

3. Any person authorized to discharge by this General Permit may request to be excluded from the coverage of this General Permit by applying for an individual permit.
4. When an individual permit is issued to a person whose discharge(s) are covered by this General Permit, the applicability of this General Permit is automatically terminated on the effective date of the individual permit. When an individual permit is denied to a person whose discharge(s) are covered by this General Permit, the person may continue discharging if all eligibility requirements under this General Permit are met.
5. This General Permit will expire 5 years from the date of its issuance. DEP will publish a notice in the *Pennsylvania Bulletin* of the draft reissued General Permit or of any amendments to this General Permit. After a comment period, notice of the final reissued or amended General Permit will be published in the *Pennsylvania Bulletin*. The permittee shall be responsible for complying with the final renewed, reissued or amended General Permit. If the permittee is unable to comply with the renewed, reissued or amended General Permit, the permittee must submit an application for an individual permit within 90 days of publication of the final renewed, reissued or amended General Permit.
6. If DEP decides to administratively extend this General Permit, DEP will publish a notice in the *Pennsylvania Bulletin*. The terms and conditions of the General Permit will continue during the period of administrative extension. Permittees with existing coverage under the General Permit will continue to have coverage, unless otherwise notified by DEP. DEP will not approve new coverage under the General Permit during the period of administrative extension.
7. Following approval of coverage under this General Permit, if the permittee encounters a condition affecting eligibility under this General Permit as identified above ("Discharges Not Authorized by this General Permit") and does not provide a remedy to correct that condition, coverage under this General Permit may be revoked in writing by DEP, and DEP may require the permittee to obtain an individual permit. Coverage under this General Permit may be revoked if there is evidence indicating potential or actual adverse impacts to water quality as a result of the permittee's discharge(s).
8. No condition of this General Permit shall release the permittee from any responsibility or requirements under other federal or Pennsylvania environmental statutes or regulations or local ordinances.
9. Following initial coverage under this General Permit, the submission of an Annual MS4 Status Report in accordance with Part A III.D of the General Permit shall constitute the permittee's Notice of Intent (NOI) for continued coverage under the General Permit. The permittee is authorized to discharge in accordance with the terms of the General Permit immediately upon submission of the Annual MS4 Status Report.
10. The permittee shall comply with the requirements of this General Permit in accordance with the schedules contained herein. A summary of the scheduled requirements contained in this General Permit is available (see Document ID No. 3800-PM-BCW0100I).

APPENDIX B

POLLUTANT CONTROL MEASURES FOR WATERS IMPAIRED BY PATHOGENS

The permittee shall implement the following Pollutant Control Measures (PCMs) within the storm sewershed of any outfall that discharges to waters impaired due to Pathogens (e.g., Fecal Coliform), regardless of whether there is an approved TMDL:

A. Map and Inventory.

1. The permittee shall develop map(s) of the storm sewershed(s) associated with all outfalls that discharge to surface waters subject to Appendix B. The purpose is to identify the area the permittee is responsible for within its legal boundaries in developing a source inventory. For new permittees, the map(s) shall be submitted to DEP with an Annual MS4 Status Report that is due no later than two years following DEP's written approval of General Permit coverage. For existing permittees, the map(s) shall be submitted to DEP with an Annual MS4 Status Report due no later than September 30, 2019.
2. The permittee shall develop an inventory of all suspected and known sources of bacteria in stormwater within the storm sewershed, at a minimum, that discharge to impaired waters. The inventory must identify whether the source is suspected or known, the basis for this determination, the responsible party (if known), and any corrective action the permittee has taken or plans to take for any of these sources. For new permittees, the inventory shall be submitted to DEP with an Annual MS4 Status Report is due no later than three years following DEP's written approval of General Permit coverage. For existing permittees, the inventory shall be submitted to DEP with an Annual MS4 Status Report due no later than September 30, 2020.

B. The permittee shall complete an investigation of each suspected source. This investigation must include stormwater sampling if the investigation is required as part of implementing the IDD&E program under MCM #3 of the General Permit, and otherwise is voluntary. For new permittees, the results of the investigation shall be submitted to DEP with an Annual MS4 Status Report that is due no later than five years following DEP's written approval of General Permit coverage. For existing permittees, the results of the investigation shall be submitted to DEP with an Annual MS4 Status Report due no later than September 30, 2022.

C. The permittee shall enforce ordinances that prohibit illicit and illegal connections and discharges of sewage to the MS4. Anytime an illicit and illegal connection or discharge of sewage into the MS4 is discovered by the permittee, the permittee shall report the finding in the subsequent Annual MS4 Status Report along with a description of corrective action by the permittee.

D. If not already established in its Stormwater Management Ordinance (municipal permittees) or SOP (non-municipal permittees), the permittee shall enact an ordinance or develop and adopt an SOP that requires proper management of animal wastes on property owned by the permittee. If an ordinance or SOP already exists that controls animal wastes, it must be attached to the first Annual MS4 Status Report due following the first year of coverage for new permittees and no later than September 30, 2018 for existing permittees (unless the ordinance or SOP was attached to the NOI for General Permit coverage). If a new ordinance or SOP is enacted or adopted, the new ordinance or SOP must be attached to the first Annual MS4 Status Report due following enactment or adoption, but no later than September 30, 2022.

E. The permittee shall document the progress of its investigations, source control efforts and BMPs to control sources of pathogens in its Annual MS4 Status Reports.

APPENDIX E

POLLUTANT REDUCTION PLAN REQUIREMENTS FOR DISCHARGES TO WATERS IMPAIRED FOR NUTRIENTS AND/OR SEDIMENT

MS4 permittees with at least one stormwater discharge to surface waters considered impaired for nutrients (nitrogen and phosphorus) and/or sediment, in which a TMDL has not been developed or the TMDL has not identified a wasteload allocation (WLA) for the permittee, must develop and submit a Pollutant Reduction Plan (PRP) with the NOI to reduce the pollutant loads to those waters. In the event the permittee also has at least one stormwater discharge to surface waters within the Chesapeake Bay watershed, the PRP may be combined with the CBPRP described in Appendix D.

The PRP is approved upon DEP's approval of coverage under this General Permit. The permittee shall implement its approved PRP and comply with the following:

- A. The permittee shall achieve the pollutant load reduction(s) (lbs/year) proposed in its PRP within 5 years following DEP's approval of coverage under the General Permit (identified on page 1). The minimum percent reduction for pollutant loadings of sediment and Total Phosphorus (TP) shall be 10% and 5%, respectively. If the surface water is impaired for both sediment and nutrients, both sediment (10%) and TP (5%) reductions must be achieved. If the surface water is impaired for sediment alone, a sediment (10%) reduction must be achieved. If the cause of impairment is nutrients, a TP (5%) reduction must be achieved. Pollutant reduction efficiencies for selected BMPs shall be in accordance with the BMP Effectiveness Values document published by DEP (3800-PM-BCW0100m) or Chesapeake Bay Program Office expert panel reports. The permittee shall submit a report demonstrating implementation of the PRP as an attachment to the first Annual MS4 Status Report that is due following completion of the 5th year of General Permit coverage.
- B. The BMPs proposed in the PRP for the term of General Permit coverage shall be implemented in accordance with the schedule in the PRP. In the event the permittee decides to modify the location, type or number of proposed BMPs or modify the storm sewershed map, the permittee shall submit an update to its PRP to DEP prior to implementing the changes. A modified PRP that meets the conditions of paragraphs 1 – 3 herein may be implemented upon submission to DEP unless DEP issues an objection in writing within 60 days.
- C. Where submission of a modified PRP to DEP is required, the permittee shall solicit public involvement and participation, as follows:
 1. The permittee shall make a complete copy of the PRP available for public review.
 2. The permittee shall publish, in a newspaper of general circulation in the area, a public notice containing a statement describing the plan, where it may be reviewed by the public, and the length of time the permittee will provide for the receipt of comments. The public notice must be published at least 45 days prior to the deadline for submission of the PRP to DEP.
 3. The permittee shall accept written comments for a minimum of 30 days from the date of public notice.
 4. The permittee shall accept comments from any interested member of the public at a public meeting or hearing, which may include a regularly scheduled meeting of the governing body of the municipality or municipal authority that is the permittee.
 5. The permittee shall consider and make a record of the consideration of each timely comment received from the public during the public comment period concerning the plan, identifying any changes made to the plan in response to the comment.

Modified PRPs submitted to DEP must include a copy of the newspaper notice, a copy of all written comments received from the public and a copy of the permittee's record of consideration of all timely comments received in the public comment period.

- D. Progress with achieving the required pollutant load reductions shall be reported in each Annual MS4 Status Report.