

RUSH TOWNSHIP
Schuylkill County, Pennsylvania

ORDINANCE NO. 121

NESQUEHONING CREEK STORMWATER PLAN ORDINANCE

WHEREAS, the Counties of Schuylkill and Carbon in conjunction with the Pennsylvania Department of Environmental Protection, formerly known as the Pennsylvania Department of Environmental Resources, and alternately referred to herein by both names, has completed a study under Act 167 and developed a stormwater management plan for combined watersheds of four (4) creeks including Nesquehoning Creek; and

WHEREAS, one of the four creeks, Nesquehoning Creek is found in Rush Township, Schuylkill County; and

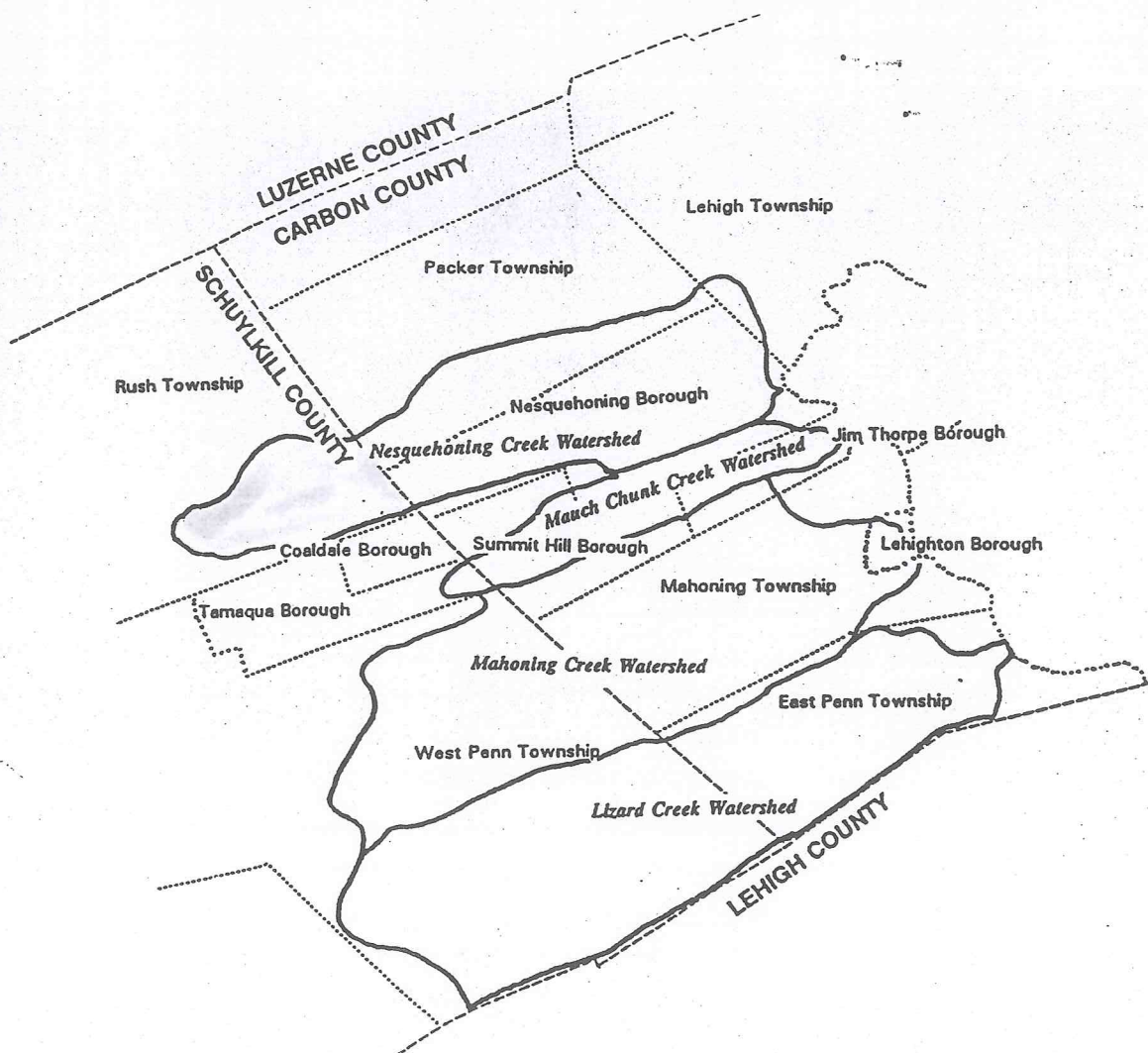
WHEREAS, the Pennsylvania Department of Environmental Protection (PA DEP) requires adoption of the plan by appropriate ordinance of the affected municipality; and

WHEREAS, the combined watersheds of Carbon and Schuylkill County Stormwater Management Plan included a plan for Nesquehoning Creek, known as the Nesquehoning Creek Watershed Stormwater Management Plan (the Plan);

NOW, THEREFORE, BE IT ORDAINED this 25th day of July, 1996 by the Rush Township Schuylkill County Board of Supervisors as follows:

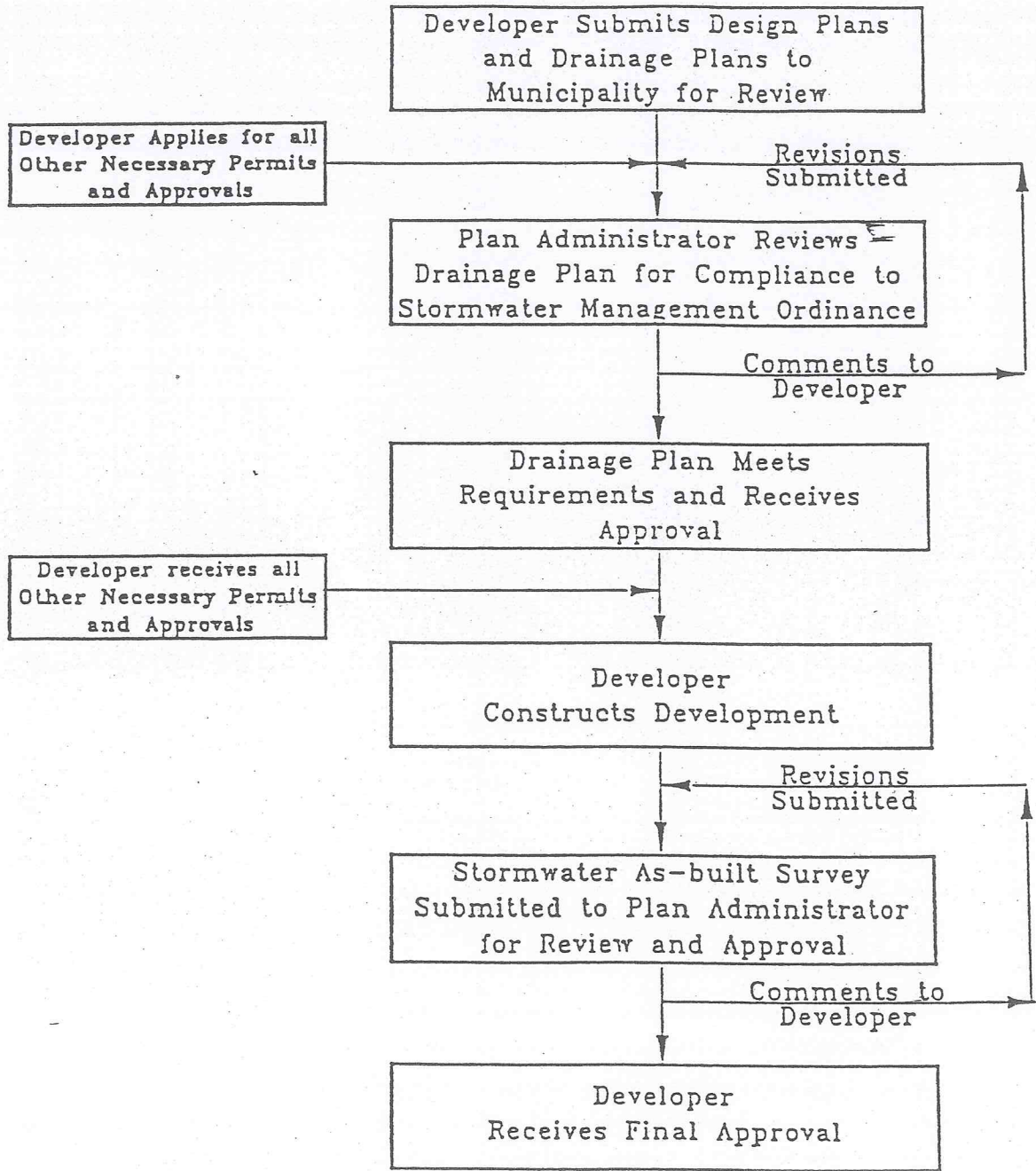
Combined Watersheds of Carbon and Schuylkill Counties

Act 167 Phase II
Storm Water Management Plan
for
Nesquehoning, Mauch Chunk, Mahoning, & Lizard Creek Watersheds



Prepared By:
Sweetland Engineering & Associates, Inc
1994

Figure 1
 SCHEMATIC REPRESENTATION OF DRAINAGE PLAN REVIEW PROCEDURE



NOTE:

Conservation District, PaDER, PaDOT, FEMA and other local, State, and Federal review and approval processes are independent to the above outlined procedure.

It is hereby authorized that the full text of this Ordinance may be maintained separate and apart from the Ordinance Book of the Township but is incorporated by reference herein.

Four (4) full and correct copies of this Ordinance shall be maintained by the Township at all times and additional copies may be made for use by Township officials in administration and enforcement of this Ordinance. Copies of the Ordinance may be purchased at cost by the general public.

COMBINED WATERSHEDS
ACT 167 STORMWATER MANAGEMENT ORDINANCE
ARTICLE I
GENERAL PROVISIONS

SECTION 101. STATEMENT OF FINDINGS

The governing body of the Municipality finds that:

- A. Inadequate management of accelerated stormwater runoff resulting from development throughout a watershed increases flood flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of existing streams and storm sewers, greatly increases the cost of public facilities to convey and manage stormwater, undermines floodplain management and flood reduction efforts in upstream and downstream communities, reduces groundwater recharge, and threatens public health and safety.
- B. A comprehensive program of stormwater management, including reasonable regulation of development and activities causing accelerated erosion, is fundamental to the public health, safety, welfare, and the protection of the people of the Municipality and all the people of the Commonwealth, their resources, and the environment.

SECTION 102. PURPOSE

The purpose of this Ordinance is to promote public health, safety, and welfare within the Combined Watersheds by minimizing the damages described in Section 101.A of this Ordinance through provisions designed to:

- A. Manage accelerated runoff and erosion and sedimentation problems at their source by regulating activities that cause these problems.
- B. Utilize and preserve the existing natural drainage systems.
- C. Encourage recharge of groundwater where appropriate and prevent degradation of groundwater quality.
- D. Maintain existing flows and quality of streams and watercourses in the Municipality and the Commonwealth.
- E. Preserve and restore the flood-carrying capacity of streams.
- F. Provide proper maintenance of all permanent stormwater management facilities

that are constructed in the Municipality.

- G. Provide performance standards and design criteria for watershed-wide stormwater management and planning.

SECTION 103. STATUTORY AUTHORITY

The Municipality is empowered to regulate land use activities that affect runoff by the authority of the Act of October 4, 1978, P.L. 864 (Act 167), the "Stormwater Management Act," [and the applicable Municipal Ordinance].

SECTION 104. APPLICABILITY

This Ordinance shall only apply to those areas of the Municipality that are located within the Combined Watersheds, as delineated on Plate 1 of this Ordinance.

This Ordinance shall only apply to permanent stormwater management facilities constructed as part of any of the Regulated Activities listed in this Section. Stormwater management and erosion and sedimentation control during construction activities are specifically not regulated by this Ordinance, but shall continue to be regulated under existing laws and ordinances.

This Ordinance contains only the stormwater management performance standards and design criteria that are necessary or desirable from a watershed-wide perspective. Local stormwater management design criteria (e.g. inlet spacing, inlet type, collection system details, outlet structure design, etc.) shall continue to be regulated by the applicable Municipal Ordinance.

The following activities are defined as "Regulated Activities" and shall be regulated by this Ordinance:

- A. Land development.
- B. Subdivision.
- C. Construction of new or additional impervious or semi-pervious surfaces (driveways, parking lots, etc.).
- D. Construction of new buildings or additions to existing buildings.
- E. Diversion or piping of any natural or man-made stream channel.
- F. Installation of stormwater management facilities or appurtenances thereto.

SECTION 105. REPEALER

Any ordinance of the Municipality inconsistent with any of the provisions of this Ordinance is hereby repealed to the extent of the inconsistency only.

SECTION 106. SEVERABILITY

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

SECTION 107. COMPATIBILITY WITH OTHER ORDINANCE REQUIREMENTS

Approvals issued pursuant to this Ordinance do not relieve the Applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance.

ARTICLE II
DEFINITIONS

For the purposes of this chapter, 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 word "person" includes an individual, firm, association, organization, partnership, trust, company, corporation, or any other similar entity.
- D. The words "shall" and "must" are mandatory; the words "may" and "should" are permissive.
- E. The words "used or occupied" include the words "intended, designed, maintained, or arranged to be used or occupied."

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

Applicant - A landowner or developer who has filed an application for approval to engage in any Regulated Activities as defined in Section 104 of this Ordinance.

Cistern - An underground reservoir or tank for storing rainwater.

Dam - An artificial barrier, together with its appurtenant works, constructed for the purpose of impounding or storing water or another fluid or semifluid or a refuse bank, fill or structure for highway, railroad or other purposes which does or may impound water or another fluid or semifluid.

Design Storm - The magnitude and temporal distribution of precipitation from a storm event measured in probability of occurrence (e.g. a 5-year storm) and duration (e.g. 24-hours), used in the design and evaluation of stormwater management systems.

Detention Basin - An impoundment structure designed to manage stormwater runoff by temporarily storing the runoff and releasing it at a predetermined rate.

Developer - A person, partnership, association, corporation, or other entity, or any responsible person therein or agent thereof, that undertakes any Regulated Activity of this Ordinance.

Development Site - The specific tract of land for which a Regulated Activity is proposed.

Drainage Easement - A right granted by a landowner to a grantee, allowing the use of private land for stormwater management purposes.

Drainage Plan - The documentation of the stormwater management system, if any, to be used for a given development site, the contents of which are established in Section 403.

Erosion - The movement of soil particles by the action of water, wind, ice, or other natural forces.

Floodplain - Any land area susceptible to inundation by water from any natural source or delineated by applicable Department of Housing and Urban Development, Federal Insurance Administration Flood Hazard Boundary Maps as being a special flood hazard area. Also included are areas that comprise Group 13 Soils, as listed in Appendix A of the Pennsylvania Department of Environmental Resources (PA DER) Technical Manual for Sewage Enforcement Officers (as amended or replaced from time to time by PA DER).

Groundwater Recharge - Replenishment of existing natural underground water supplies.

Impervious Surface - A surface that prevents the percolation of water into the ground.

Infiltration Structures - A structure designed to direct runoff into the ground (e.g. french drains, seepage pits, seepage trench).

Land Development - (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) any lot improvements regulated under the Municipal Zoning Regulations.

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

Municipality - Rush Township, Schuylkill County, Pennsylvania.

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

Plan Administrator - The entity set up specifically to review Act 167 Drainage Plans, inspect stormwater management structures, and otherwise enforce all regulations as outlined in the "Combined Watersheds Act 167 Stormwater Management Ordinance."

Peak Discharge - The maximum rate of stormwater runoff from a specified storm event.

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

Regulated Activities - Actions or proposed actions that have an impact on stormwater runoff and that are specified in Section 104 of this Ordinance.

Release Rate - The percentage of the pre-development peak rate of runoff from a subarea to which the post-development peak rate of runoff must be reduced to protect downstream areas.

Retention Basin - An impoundment in which stormwater is stored and not released during the storm event. Stored water may be released from the basin at some time after the end of the storm.

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

Runoff - Any part of precipitation that flows over the land surface.

SCS - U. S. Department of Agriculture, Soil Conservation Service.

Sedimentation - The process by which mineral or organic matter is accumulated or deposited by the movement of water.

Sediment Basin - A barrier, dam, retention, or detention basin located and designed to retain rock, sand, gravel, silt, or other material transported by water.

Seepage Pit/Seepage Trench - An area of excavated earth filled with loose stone or similar coarse material, into which surface water is directed for infiltration into the ground.

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

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

Storm Sewer - A system of pipes and/or open channels that convey intercepted runoff and stormwater from other sources, but excludes domestic sewage and industrial wastes.

Stormwater - The total amount of precipitation reaching the ground surface.

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 structures.

Stormwater Management Plan - The plan for managing stormwater runoff in the Combined Watersheds adopted by Carbon County as required by the Act of October 4, 1978, P.L.864, (Act 167), and known as the "Combined Watersheds Act 167 Stormwater Management Plan."

Subarea - The smallest drainage unit of a watershed for which stormwater management criteria have been established in the Stormwater Management Plan.

Subdivision - The division or re-division of a lot, tract, or parcel of land by any means into two or more lots, tracts, parcels or other divisions of land including changes in existing lot lines for the purpose, whether immediate or future, of lease, transfer of ownership, or building or lot development.

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

ARTICLE III
STORMWATER MANAGEMENT

SECTION 301. GENERAL REQUIREMENTS

- A. Stormwater drainage systems shall be provided in order to permit unimpeded flow along natural watercourses, except as modified by stormwater management facilities or open channels consistent with this Ordinance.
- B. The existing points of concentrated drainage that discharge onto adjacent property shall not be relocated and shall be subject to any applicable release rate criteria specified in this Ordinance.
- C. Areas of existing diffused drainage discharge shall be subject to any applicable release rate criteria in the general direction of existing discharge, whether proposed to be concentrated or maintained as diffused drainage areas.

If diffused flow is proposed to be concentrated and discharged onto adjacent property, the Developer must document that adequate downstream conveyance facilities exist to safely transport the concentrated discharge, or otherwise prove that no erosion, sedimentation, flooding, or other harm will result from the concentrated discharge.

Where a Development Site is traversed by watercourses other than permanent streams, a drainage easement shall be provided conforming substantially to the line of such watercourse. The terms of the easement shall prohibit excavation, the placing of fill or structures, and any alterations that may affect adversely the flow of stormwater within any portion of the easement. Also, maintenance and mowing of vegetation within the easement shall be required.

- E. Any stormwater management facilities regulated by this Ordinance that would be located on State highway right-of-ways shall be subject to approval by the Pennsylvania Department of Transportation (PADOT).
- F. Any stormwater management facilities regulated by this Ordinance that would be located in or adjacent to waters of the Commonwealth or potential wetlands shall be subject to approval by PA DER through the Joint Permit Application process, or, where deemed appropriate by PA DER, the General Permit process. When there is a question whether wetlands may be involved, it is the responsibility of the Developer 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 DER.
- G. When it can be shown that, due to topographic conditions, natural drainageways on the site cannot adequately provide for drainage, open channels may be constructed conforming substantially to the line and grade of such natural drainageways. Work

within natural drainageways shall be subject to approval by PA DER through the Joint Permit Application process. or, where deemed appropriate by PA DER, through the General Permit process.

H. Sinkholes shall be protected as follows:

1. Stormwater from roadways, parking lots, storm sewers, roof drains, or other concentrated runoff paths shall not be discharged directly into sinkholes.
2. Sinkholes with sufficient capacity to receive appreciable amounts of stormwater, as determined by the Plan Administrator, shall be designated as such by posting on-site notices clearly visible at the sinkhole prohibiting any disposal of refuse, rubbish, hazardous wastes, organic matter, or soil into the sinkhole. Rock fill may be permitted in the sinkhole for the purpose of preventing dumping of said materials. The discharge of stormwater runoff to the subsurface using sinkholes shall be considered as potential pollution and prohibited unless the disposal method is designed so that contaminants in the runoff will be absorbed/adsorbed in the soil mantle and be acted upon by the bacteria naturally present in the mantle before reaching the groundwater. Systems intended to meet this requirement shall be designed by a hydrogeologist.
3. If increased or concentrated runoff is to be discharged into a sinkhole, including filtered discharge, a geologic assessment of the effects of such runoff on increased land subsidence and groundwater quality shall be prepared and the results submitted with the Drainage Plan. Such discharge shall be prohibited if the Plan Administrator determines that the discharge poses a hazard to life, property, or groundwater resources.

- J. The DER, Chapter 105, Rules and Regulations, apply to the construction, modification, operation of maintenance of both existing and proposed dams, water obstructions and encroachments throughout the watersheds, including work in wetlands. Inquiries on permit requirements or other concerns, should be addressed to the Northcentral Regional Office, 200 Pine Street, Williamsport, PA 17701.

SECTION 302. STORMWATER MANAGEMENT PERFORMANCE STANDARDS

The applicable performance standards for managing runoff from each subarea in the Combined Watersheds for the 2-, 10-, 25-, and 100-year design storms are provided in the release rate table found below. Post-development peak flows at the mouth of each of the subareas, shown on Plate 2, 6, 10, and 14 for Nesquehoning, Mauch Chunk, Mahoning, and Lizard Creek respectively, must not exceed the arithmetic product of the applicable subarea release rate times the pre-development peak flow at the mouth of the subarea for the 2-year or 10-year storm event.

RELEASE RATES (PERCENTAGE OF PRE-DEVELOPMENT PEAK)
NESQUEHONING CREEK WATERSHED

Subarea	Return Period (Years)	
	2-YEAR	10-YEAR
NES-1	90%	85%
NES-2	90%	85%
NES-3	80%	65%
NES-4	90%	75%
NES-5	60%	65%
NES-6	65%	65%
NES-7	100%	100%
NES-8	70%	70%
NES-9	60%	75%
NES-10	100%	100%
NES-11	90%	90%
NES-12	100%	100%
NES-13	70%	70%
NES-14	60%	60%
NES-15	100%	100%
NES-16	95%	95%
NES-17	65%	65%
NES-18	100%	100%
NES-19	100%	100%
NES-20	100%	100%
NES-21	100%	100%
NES-22	100%	100%
NES-23	100%	100%

RELEASE RATES (PERCENTAGE OF PRE-DEVELOPMENT PEAK)
NESQUEHONING CREEK WATERSHED

Subarea	Return Period (Years)	
	2-YEAR	10-YEAR
NES-24	100%	100%
NES-25	100%	100%
NES-26	100%	100%
NES-27	100%	100%
NES-28	95%	95%
NES-29	95%	95%
NES-30	100%	100%
NES-31	100%	100%