

## Table of Contents

<u>Article Number</u>	<u>Description</u>	<u>Page Number</u>
I.	General Provisions	2-5
II.	Definitions	5-11
III.	Plan Submission Requirements	11-15
IV.	Stormwater Calculation Methods and Requirements	15-17
V.	Additional Requirements	17-18
VI.	No Harm Analysis	18-19
VII.	Maintenance and Performance Responsibilities	19-21
VIII.	Accessibility and Required Easements	21
IX.	Authority of Township Engineer	22
X.	Stormwater Management Plan/Report Approval and Plan Modification Requirements	22-23
XI.	Enforcement and Penalties	24-25
XII.	Fees and Expenses	25-26

# **STORMWATER MANAGEMENT ORDINANCE**

## **ARTICLE I GENERAL PROVISIONS**

### **SECTION 101. STATEMENT OF FINDINGS**

The governing body of the Township finds that:

- A. Inadequate management of accelerated stormwater runoff resulting from development throughout a watershed increases flood flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of existing streams and storm sewers, greatly increases the cost of public facilities to convey and manage stormwater, undermines floodplain management and flood 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 Township and all the people of the Commonwealth, their resources, and the environment.

### **SECTION 102. PURPOSE**

The purpose of this Ordinance is to promote health, safety, and welfare within the Township 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 Township 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 Township.
- G. Provide performance standards and design criteria for watershed wide stormwater management and planning.

### **SECTION 103. STATUTORY AUTHORITY**

The Township 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 by Act 170 of December 21, 1988 and Act 131 of December 14, 1992, (and the applicable Municipal Code).

In addition, the Stormwater Management Act of October 4, 1978, P.L. 864 No. 167 32 P.S. § 680.1 et seq. (As Amended by Act 63) provides for the regulation of land and water use for flood control and stormwater management purposes, imposing duties and conferring powers on the Department of Environmental Resources, municipalities and counties, providing for enforcement and making appropriations.

### **SECTION 104. APPLICABILITY**

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 Cross Creek Township Subdivision and Land Development Ordinance and Infrastructure Construction and Improvement Ordinance, latest revision.

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 Township 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.

**SECTION 108. MODIFICATIONS**

- A. Modification of these provisions by the Township Supervisors: The provisions of this Ordinance are intended as minimum standards for the protection of the public health, safety, and welfare, The Township Supervisors may modify or extend said provisions in individual cases as may be deemed necessary in the public interest as set forth hereinafter, provided, however, that such variation shall not have the effect of nullifying the intent and purpose of this Ordinance. If the literal compliance with any mandatory provisions of these regulations is shown to a majority of the Township Supervisors present at a prescheduled public meeting to be unreasonable as applied to the property to be subdivided or developed, the Township Supervisors may grant a Waiver of the requirements of this Ordinance insofar as they are found to be unreasonable as applied to the particular property for which a modification is sought, all as more fully set forth in the definition of “Waiver”: in this Ordinance.
  
- B. Modification of approved plans: No changes, erasures, modifications or revisions shall be made in any documentation after approval has been made by the Supervisors, unless the said documentation is first resubmitted and approved by the Township Supervisors. In all cases “as built” plans must be provided prior to final release of security during the improvements phase.

## **SECTION 109. WARNING AND DISCLAIMER OF LIABILITY**

The degree of stormwater protection sought by the provisions of this Ordinance is considered reasonable for regulatory purposes and is based on acceptable engineering methods of study. THIS ORDINANCE DOES NOT IMPLY THAT AREAS SUBJECT TO THE STORMWATER MANAGEMENT REQUIREMENTS OF THIS ORDINANCE WILL BE FREE FROM FLOODING OR FLOOD DAMAGES.

### **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.

**Accelerated Erosion** - The removal of the surface of the land through the combined action of man's activities and natural processes at a rate greater than would occur because of the natural processes alone.

**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.

<b>Best Management Practice (BMP)</b>	- Stormwater structures and facilities designed or used to maintain or improve the water quality of surface runoff. BMP's may be structural (basins and seepage pits), nonstructural (vegetation filter strips and buffers) or managerial techniques (maintenance practices) that may be used singly or in combination to achieve water quality.
<b>Cistern</b>	- An underground reservoir or tank for storing rainwater.
<b>Conservation District</b>	- The Washington County Conservation District.
<b>Culvert</b>	- A structure with appurtenant works which carries a stream under or through an embankment or fill.
<b>Dam</b>	- 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.
<b>Design Storm</b>	- 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.
<b>Designee (Designated Representative)</b>	- Any person or consultant designated by the Township governing body to administer, review or enforce the provisions of this ordinance whether by contract or by Memorandum of Understanding.
<b>Detention Basin</b>	- An impoundment structure designed to manage stormwater runoff by temporarily storing the runoff and releasing it at a predetermined rate.
<b>Developer and/or Subdivider</b>	- A person, partnership, association, corporation, or other entity, or any responsible person therein or agent thereof, that undertakes any PADEP Regulated Activity of this Ordinance.
<b>Development Site</b>	- 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 this Ordinance; Stormwater Management Plan and Report Package.
- Engineer** - A person, partnership or corporation which shall have a license issued by the Commonwealth of Pennsylvania as a “Professional Engineer” and which shall prepare all stormwater management plans and reports required under this Ordinance, and which shall seal with the professional seal all plans and documents submitted under this Ordinance.
- 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 Protection (PA DEP) Technical Manual for Sewage Enforcement Officers (as amended or replaced from time to time by PA DEP).
- Grade** - The inclination, with the horizontal, of a road, unimproved land, etc., which is generally expressed by stating the vertical rise or fall as a percentage of the horizontal distance.
- Grade Groundwater Recharge** - Replenishment of existing natural underground water supplies.
- Impervious Surface** - A surface that prevents the percolation of water into the ground.
- Improvements** - Those physical additions and changes to the land that may be necessary to produce usable and desirable lots.
- Infiltration Structure** - 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 of 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 of streets, common areas, leaseholds, condominiums, building groups, or other features;
  - (ii) (ii) any subdivision of land;
  - (iii) (iii) any lot improvements regulated under the Township 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.
  
- Lot**
  - A designated parcel, tract or area of land established by a plan or otherwise as permitted by law and to be used, developed or built upon as a unit.
  
- Municipality**
  - Cross Creek Township, Washington 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.
  
- Peak Discharge**
  - The maximum rate of stormwater runoff from a specified storm event.
  
- Performance Guarantee**
  - Any security which may be accepted in lieu of a requirement that certain improvements be made before the Township gives final approval of a Plan, including performance bonds, escrow agreements, letters of credit, and any other collateral or surety agreements.
  
- Pipe**
  - A culvert, closed conduit, or similar structure (including appurtenances) that conveys stormwater.
  
- Plan, Preliminary**
  - A tentative subdivision or land development plan (including all required supplementary data), in lesser detail than a final plan, showing, among other things, topographical data and approximate proposed street and lot layout as a basis for consideration of a major

subdivision prior to preparation of a final plan, all as more fully set forth in the Subdivision and Land Development Ordinance of the Municipality.

**Plan, Final**

- A complete and exact subdivision or land development plan (including all required supplementary data), prepared for official recording of a major subdivision, to define property rights and proposed streets and other improvements, prepared by a Registered Surveyor, all as more fully set forth in the Subdivision and Land Development Ordinance of the Township.

**PMF-Probable Maximum Flood**

- The flood that may be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in an area. The PMF is derived from the probable maximum precipitation (PMP) as determined on the basis of data obtained from the National Oceanographic and Atmospheric Administration (NOAA).

**Regulated Activities**

- Actions or proposed actions that have an impact on stormwater runoff and that are specified in this Ordinance.

**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 Natural Resources, Soil Conservation Service. (Now USDNR)

**Sedimentation**

- The process of 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.

<b>Seepage Pit/Seepage Trench</b>	- An area of excavated earth filled with loose stone or similar coarse material, into which surface water is directed for infiltration into the ground.
<b>Soil Cover Complex Method</b>	- 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 (CN).
<b>Storage Indication Method</b>	- 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.
<b>Storm Sewer</b>	- A system of pipes and or open channels that convey intercepted runoff and stormwater from other sources, but excludes domestic sewage and industrial wastes.
<b>Stormwater</b>	- The total amount of precipitation reaching the ground surface.
<b>Stormwater Management Facility</b>	- 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.
<b>Stream enclosure</b>	- A bridge, culvert or other structure in excess of 100 feet in length upstream to downstream which encloses a regulated water of this Commonwealth.
<b>Subarea</b>	- The smallest drainage unit of a watershed for which stormwater management criteria have been established in the Stormwater Management Plan.
<b>Subdivision</b>	- 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.
<b>Waiver</b>	- Intentional relinquishing of a specific right, claim or privilege by the governing body.
<b>Wetland</b>	- 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, ferns, and similar areas.

### **ARTICLE III PLAN SUBMISSION REQUIREMENTS**

#### **SECTION 301. GENERAL REQUIREMENTS**

For all activities by this Ordinance, the steps below shall be followed for submission. For any activities that require a PADEP Joint Permit Application and are regulated under Chapter 105 (Dam Safety and Waterway Management) or Chapter 106 (Floodplain Management) of PA DEP's Rules and Regulations, require a PENNDOT Highway Occupancy Permit, or require any other permit under applicable state or federal regulations, the permit(s) shall be part of the plan.

- A. A Stormwater Management Plan and Report Package shall be submitted by the Developer as part of the Preliminary Plan submission for the Regulated Activity. This package shall consist, as a minimum, of a Stormwater Management Plan as specified in Section 302 of this Ordinance and a Stormwater Management Report as specified in Section 303 of this Ordinance.
- B. Four (4) copies of the Stormwater Management Plan and Report Package shall be submitted.
- C. Distribution of the packages will be as follows:
  - 1. Two (2) copies to the Township accompanied by the requisite Municipal Review Fee, as specified in this Ordinance.
  - 2. One (1) copy to the Municipal Engineer.
  - 3. One copy to the County Planning Commission.

- D. In addition to meeting the requirements of this Article, Package submissions must show that all other requirements specified in this Ordinance are met when applicable, specifically Article IV and V.

## **SECTION 302. STORMWATER MANAGEMENT PLAN SUBMITTAL REQUIREMENTS**

The Stormwater Management Plan shall consist of all applicable maps and plans. A note on the maps shall refer to the associated computations Stormwater Management Report and erosion and sedimentation control plan by title and date. The cover sheet of the computations and erosion and sedimentation control plan shall refer to the associated maps by title and dates. All Stormwater Management Plan materials shall be submitted to the Township in a format that is clear, concise, legible, neat, and well organized; otherwise, the Plan shall be disapproved and returned to the Applicant.

The following items shall be included in the Stormwater Management Plan:

Map(s) of the project area shall be submitted on 24 inch X 36 inch sheets and shall be prepared in a form that meets the requirements for recording the offices of the Recorder of Deeds of Washington County. The contents of the map(s) shall include, but not limited to:

- A. The location of the project relative to highways, municipalities or other identifiable landmarks.
- B. Existing contours at intervals of two feet. In areas of steep slopes (greater than 25 percent), five feet contour intervals may be used.
- C. Existing steams, lakes, ponds, or other bodies of water within the project area.
- D. Other physical features including flood hazard boundaries, sinkholes, streams, 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 50 feet of property lines.
- F. An overlay showing soil names and boundaries.
- G. Proposed changes to the land surface and vegetative cover, including the type and amount of impervious area that would be added.

- H. Proposed structures, roads, paved areas, and buildings.
- I. Final contours at intervals of two feet. In areas of steep slopes (greater than 15 percent), five feet contour intervals may be used.
- J. The name of the development, the name and address of the owner of the property, and the name of the individual or firm preparing the plan.
- 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.
- 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).
- P. A key map showing all existing man made features beyond the property boundary that would be affected by the project.
- Q. Horizontal and vertical profiles of all piped and open channels, including hydraulic capacity.
- R. Overland drainage paths.
- S. A twenty feet wide access easement around all stormwater management facilities that would provide ingress from and egress to a public right of way.
- T. 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 the Ordinance.
- U. A construction detail of any improvements made to sinkholes and the location of all notice to be posted, as specified in this Ordinance.

V. A statement, signed by the landowner, acknowledging the stormwater management system to be a permanent fixture that can be altered or removed only after approval of a revised plan by the Township.

W. The following signature block for the Township:

Cross Creek Township on this date (date of signature), has reviewed and hereby certify that the Drainage Plan meets all design standards and criteria required by this ordinance.

X. All stormwater management facilities must be located on a map and described in detail.

### **SECTION 303. STORMWATER MANAGEMENT REPORT SUBMITTAL REQUIREMENTS**

The Stormwater Management Report shall consist of all applicable calculations, maps, and plans. All materials shall be submitted to the Township in a format that is clear, concise, legible, neat, and well organized; otherwise, the Stormwater Management Report shall be disapproved and returned to the Applicant.

The following items shall be included in the Stormwater Management Report:

A. General

1. General description of project.
2. General description of permanent stormwater management techniques, including construction specifications of the materials to be used for stormwater management facilities.
3. Complete hydrologic, hydraulic, and structural computations for all stormwater management facilities as specified in Article IV of this Ordinance.

B. A written description of the following information shall be submitted.

1. The overall stormwater management concept for the project.
2. Stormwater runoff computations as specified in this Ordinance.
3. Stormwater management techniques to be applied both during and after development.

4. Expected project time schedule.
- C. Confirmation of soil erosion and sedimentation control plan approval, as required by the PADEP and the Washington County Conservation District.
- D. 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.
- E. A Declaration of Adequacy and Highway Occupancy Permit from the PennDOT District Office when utilization of a PennDOT storm drainage system is proposed.

#### **ARTICLE IV STORMWATER CALCULATIONS METHODS AND REQUIREMENTS**

1. The stormwater management submission shall include, but not be limited to, the following:
  - (a) A plan indicating the pre-developed drainage areas and time of concentrations and flow paths used. This plan shall indicate the pre-developed contours of the site in such detail as to be capable of being field verified.
  - (b) A plan indicating the post-developed drainage areas, time of concentration and flow paths, and all drainage facilities. This plan shall indicate the post-developed contours of the site. All facilities shall be labeled in an easily understandable manner consistent with the stormwater management report.
  - (c) A stormwater management report including all assumptions, methods, references, and calculations for all stormwater drainage facilities.
2. The stormwater calculations shall be performed as specified in the current edition PADEP Erosion & Sediment Pollution Control Program Manual including the following:
  - (a) The methodology for calculating stormwater runoff shall be the Rational Method or other method as approved by the Township Engineer.
  - (b) All pre-developed calculations shall be based upon existing land use features. The conditions of the existing land uses shall, however, be considered “good” in all instances regardless of actual conditions.

- (c) Pre-developed and post-developed runoff shall be calculated for the 2, 10, 25, 50, and 100-year storm events.
- (d) All stormwater conveyance facilities shall be designed based on the 25-year storm event peak discharge to the facility.
- (e) All stormwater pipes shall be smooth flow polyethylene pipe (ads-N12) reinforced concrete pipe, with a minimum diameter of fifteen inches (15"). Changes in horizontal or vertical direction of pipes shall be accomplished by installing a catch basin or a manhole. The minimum slope of pipe shall be 0.35%. The crown of the pipe shall be at least six inches (6") below the subgrade elevation. Pipes under roads shall meet with requirements set forth in Penn DOT Design Manual Part 2 or any successor Penn DOT document on this subject. No rip-rap lined areas shall be permitted within existing Township right-of-way areas unless specifically authorized by the Township.
- (f) Catch basins shall be utilized at all inlet ends of pipes, and shall have bicycle-proof inlet grates.
- (g) All catch basins, manholes, endwalls, etc. shall be as shown in Penn DOT Standard Details for Roadways.
- (h) All swales shall be at least one foot (1') deep, and the bottom of the swale shall be at least six inches (6") below subgrade elevation.
- (i) Stormwater velocities in swales shall be calculated for both the pre-stabilized and stabilized conditions. The type of swale lining to be utilized shall be specifically indicated. Verification that the velocity in the swale does not exceed the permissible velocity for the design swale lining (pre-stabilized and stabilized) shall be provided.
- (j) Stormwater velocities at pipe outlets shall be calculated. Outlet protection consisting of a rip-rap apron, or other suitable control measure, shall be provided.
- (k) The apron dimensions and rip-rap size shall be calculated and provided.
- (l) The capacities and spacing of the catch basin inlets shall be indicated to assure that they are capable of intercepting the design runoff.
- (m) Post-developed runoff shall be restricted as follows for each pre-developed drainage area:
  - (1) The post-developed peak discharge for the 10, 25, 50, and 100-year storm events shall not exceed 90% of the peak discharge for the corresponding pre-developed storm events.

- (2) In order to achieve this, it is recommended that methods be considered that will direct runoff from impervious areas to pervious areas or infiltration trenches that will retain/detain the runoff, or, by some other means suitable to the Township Engineer.
- (3) The post-developed 25-year storm event peak discharge shall not exceed the capacity of downstream stormwater facilities.
- (n) Retention/detention facilities shall be designed such that the post- to pre-development requirements set forth herein are met. Further, the facility shall be designed with any emergency spillway, capable of handling the entire 100-year post-developed flow without causing property damage. The emergency spillway shall be at an elevation of at least two feet (2') below the top of the impoundment embankment and at least six inches (6") above the highest principal outlet. Adequate evidence that the facility (ies) will not present a public safety or health hazard problem must be submitted in detail. This shall include, but not be limited to the following:
  - (1) Compaction requirements for the impoundment embankment.
  - (2) Pond retention times which shall not exceed 24 hours after the end of the design storm events.
  - (3) Protection around the perimeter of ponds that have depths which exceed two feet (2').

**ARTICLE V ADDITIONAL 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 watercourses. The terms of the easement shall prohibit excavation, the placing of fill or structures. And any alteration 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.

- D. 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).
- E. 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 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 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 DEP.
- F. 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 DEP, through the Joint Permit Application process, or, where deemed appropriate by PA DEP, through the General Permit process.
- G. Sinkholes. Stormwater resulting from land development activities shall not be discharged into sinkholes.
- H. Proposed stormwater development shall not increase the 100-year flood water surface elevation for floodplain areas within or affected by such development.
- I. Erosion and Sedimentation Plan approval must be obtained from the Washington County Conservation District.
- J. Any additional State, Federal, or other governing authority or approvals not specifically mentioned in this Ordinance required as a result of the proposed stormwater developments must be obtained.

#### **ARTICLE VI – NO HARM ANALYSIS**

For any development site, the developer has the option of discharging post development runoff at a higher rate than pre development runoff if the developer can prove that no harm would be caused to any person or property located upstream or downstream of the development site. The Developer must assume that the entire subarea in which the site is located is developed. The type and amount of development that the Developer must consider

shall be either based on current zoning or established by the Township, whichever results in a greater amount of imperviousness. Proof of no harm must demonstrate conformance with the hydraulic capacity criteria specified in this Ordinance. Areas that drain through documented drainage problem areas would be precluded from any no harm based peak runoff increases, except where hydraulic capacity improvements would be provided, consistent with this Ordinance.

- A. “No Harm Analysis” must be submitted as part of a Stormwater Management Plan and Report Package.

## **ARTICLE VII MAINTENANCE AND PERFORMANCE RESPONSIBILITIES**

### **SECTION 701. PERFORMANCE GUARANTEE**

The applicant shall provide a financial guarantee to the Township for the timely installation and proper construction of all stormwater management controls required by the approved stormwater plan and this ordinance equal to the full construction cost of the required controls.

### **SECTION 702. MAINTENANCE RESPONSIBILITIES**

- A. The stormwater management plan for the development site shall contain an operation and maintenance plan prepared by the developer 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).
- B. The stormwater management plan for the development site shall establish responsibilities for the continuing operating and maintenance of all proposed stormwater control facilities, consistent with the following principals:
  - 1. If a development consists of structures or lots which are to be separately owned and in which streets, sewers and other public improvements are to be dedicated to the Township, stormwater control facilities should also be dedicated to and maintained by the Township.
  - 2. If a development site is to be maintained in a single ownership or if sewers and other public improvements are to be privately owned and maintained, then the ownership and maintenance of the stormwater control facilities should be the responsibility of the owner or private management entity.
- C. The governing body, upon recommendation of the Township Engineer, shall make the final determination on the continuing maintenance responsibilities prior to final approval of the stormwater management plan. The Township reserves the right to accept the ownership and operating responsibility for any or all of the stormwater management controls.

**SECTION 703. MAINTENANCE AGREEMENT FOR PRIVATELY OWNED STORMWATER FACILITIES**

- A. Prior to final approval of the site stormwater management plan, the property owner shall sign and record a maintenance agreement covering all stormwater control facilities which are to be privately owned. The agreement shall stipulate that:
  - 1. The owner shall maintain all facilities in accordance with the approved maintenance schedule and shall keep all facilities in a safe and attractive manner.
  - 2. The owner shall convey to the Township easements and or right of way to assure access for periodic inspections by the Township and maintenance, if required.
  - 3. The owner shall keep on file with the Township the name, Address and telephone number of the person or company responsible for maintenance activities; in the event of a change, new information will be submitted to the Township within ten (10) days of the change.
  - 4. If the owner fails to maintain the stormwater control facilities following due notice by the Township to correct the problem(s), the Township may perform the necessary maintenance work or corrective work and the owner shall reimburse the Township for all costs.
- B. Other items may be included in the agreement where determined necessary to guarantee the satisfactory maintenance of all facilities. The maintenance agreement shall be subject to the review and approval of the municipal solicitor and governing body.

**SECTION 704. MUNICIPAL STORMWATER MAINTENANCE FUND**

- A. Persons installing stormwater storage facilities shall be required to pay a specified amount to the Municipal Stormwater Maintenance Fund to help defray costs of periodic inspections and maintenance expenses. The amount of the deposit shall be determined as follows:
  - 1. If the storage facility is to be privately owned and maintained, the deposit shall cover the cost of the periodic inspections and maintenance performed by the Township for a period of five (5) years, as estimated by the municipal engineer and approved by the Township. After that period of time, inspections will be performed at the expense of the Township.
  - 2. If the storage facility is to be owned and maintained by the Township, the deposit shall cover the estimated costs for maintenance and inspections for

five (5) years. The municipal engineer will establish the estimated costs to be approved by the Township utilizing information submitted by the applicant.

3. The amount of the deposit to the fund shall be converted to present worth of the annual series values. The municipal engineer shall determine the present worth equivalents which shall be subject to the approval of the governing body.
- B. If a storage facility is proposed that also serves as a recreation facility (e.g., ballfield, lake), the Township may reduce or waive the amount of the maintenance fund deposit based upon the value of the land for public recreation purposes.
  - C. If at some future time a storage facility (whether publicly or privately owned) is eliminated due to the installation of storm sewers or other storage facility, the unused portion of the maintenance fund deposit will be applied to the cost of abandoning the facility and connecting to the storm sewer or other facility. Any amount of the deposit remaining after the costs of abandonment are paid will be returned to the depositor.

## **SECTION 705. FINANCIAL ACCEPTANCE**

Financial guarantees as required by this ordinance shall be provided in the form of:

- A. Bonds
- B. Escrow Accounts, or
- C. Irrevocable Letters of Credit

## **ARTICLE VIII – ACCESSIBILITY AND REQUIRED EASEMENTS**

- A. A twenty feet wide access easement around all stormwater management facilities that would provide ingress from and egress to a public right of way shall be provided.
- B. Existing Waterbodies or Watercourses: Where a subdivision or land development is traversed by or contains a pond, lake, watercourse, drainageway, channel, storm drainage system, or stream, where shall be provided a drainage easement that conforms substantially with the line of such pond, lake, watercourse, drainageway, channel, storm drainage system, stream, of such width as will be adequate to preserve the unimpeded flow of drainage and to provide for widening, deepening, relocating, improving or protecting such features or drainage facilities. Minimum easement width shall be ten feet (10') from each side of the watercourse, waterbody, stream, pond or lake, but the Township may require a greater easement when necessary.

## **ARTICLE IX – AUTHORITY OF TOWNSHIP ENGINEER**

- A. The design of all stormwater management facilities shall incorporate sound engineering principals and practices. The Township shall reserve the right to disapprove any design that would result in the occurrence or perpetuation of an adverse hydrologic or hydraulic condition within the watershed.
- B. The Township engineer reserves the right to request additional information and/or calculations necessary for its review and may approve methods of calculation not specified in this ordinance.
- C. The Township or its designated representative shall be afforded access to inspect all phases of the installation of the permanent stormwater management facilities.
- D. During any stage of the work, if the Township determines that the permanent stormwater management facilities are not being installed in accordance with the approved Stormwater Management Plan, the Township shall revoke any existing permits until a revised Drainage Plan is submitted and approved, as specified in this Ordinance.

## **ARTICLE X – STORMWATER MANAGEMENT PLAN/REPORT APPROVAL AND PLAN MODIFICATION REQUIREMENTS**

### **SECTION 1001. DRAINAGE PLAN REVIEW**

- A. The Township shall review the Stormwater Management Plan and Report Package for consistency with the requirements of this ordinance and any other applicable municipal requirement. The Township shall require receipt of a complete plan, as specified in this Ordinance.
- B. The Township shall not approve any subdivision or land development for Regulated Activities of this Ordinance if the Stormwater Management Plan and Report Package has been found to be inconsistent with this Ordinance, as determined by the Township, or without considering the comments of the Township Engineer. All required permits from the PA DEP must be obtained prior to approval.
- C. The Township Building Permit Office shall not issue a building permit for any Regulated Activity of this Ordinance if the Stormwater Management Plan and Report Package has been found to be inconsistent with this Ordinance, as determined by the Township, or without considering the comments of the Township Engineer. All required permits from PA DEP must be obtained prior to issuance of a building permit.
- D. The Developer shall be responsible for completing an As Built Survey of all stormwater management facilities included in the approved Stormwater Management Plan and Report Package. The As Built Survey and an explanation

of any discrepancies with the design plans shall be submitted to the Township for final approval. In no case shall the Township approve the As Built Survey until the Township receives a copy of an approved Declaration of Adequacy, Highway Occupancy Permit from the PennDOT District Office, and any applicable permits from PA DEP.

- E. The Township's approval of a Stormwater Management Plan and Report Package shall be valid for a period not to exceed one (1) year. This one year time period shall commence on the date that the Township signs the approved Stormwater Management Plan and Report Package. If stormwater management facilities included in the approved Stormwater Management Plan and Report Package have not been constructed, or of an As Built Survey of these facilities has not been approved within this one year time period, then the Township may consider the Stormwater Management Plan and Report Package disapproved and may revoke any and all permits. Stormwater Management Plan and Report Packages that are considered disapproved by the Township shall be resubmitted in accordance with Article III of this Ordinance.

## **SECTION 1002. MODIFICATION OF PLANS**

A modification to a submitted Stormwater Management Plan and Report Package for a development site that involves a change in stormwater management facilities or techniques, or that involves the relocation or re design of stormwater management facilities, or that is necessary because soil or other conditions are not as stated on the Stormwater Management Plan and Report Package (as determined by the Township or the Township Engineer), shall require a resubmission of the modified Stormwater Management Plan and Report Package consistent with this Ordinance and be subject to review as specified in this Ordinance.

A modification to an already approved or disapproved Stormwater Management Plan and Report Package shall be submitted to the Township, accompanied by the applicable Review Fee. A modification to a Stormwater Management Plan and Report Package for which a formal action has not been taken by the Township shall be submitted to the Township, accompanied by the applicable Review Fee.

## **SECTION 1003. RESUBMISSION OF DISAPPROVED DRAINAGE PLANS**

A disapproved Stormwater Management Plan and Report Package may be resubmitted, with the revisions addressing the Township's concerns documented in writing, to the Township in accordance with this Ordinance and be subject to review as specified in this Ordinance. The applicable Review Fee must accompany a resubmission of a disapproved Stormwater Management Plan and Report Package.

## ARTICLE XI ENFORCEMENT AND PENALTIES

### **SECTION 1101. RIGHT OF ENTRY**

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

### **SECTION 1102. NOTIFICATION**

In the event that a person fails to comply with the requirements of this Ordinance, or fails to conform to the requirements of any permit issued hereunder, the Township shall provide written notification of this violation. Such notification shall set forth the nature of the violation (s) and establish a time limit for correction of these violations(s). Failure to comply within the time specified shall subject such person to the penalty provisions of this Ordinance. All such penalties shall be deemed cumulative and resort by the Township from pursuing any and all other remedies. It shall be the responsibility of the owner of the real property on which any Regulated Activity is proposed to occur, is occurring, or has occurred, to comply with the terms and conditions of this Ordinance.

### **SECTION 1103. PUBLIC NUISANCE**

- A. The violation of any provision of this ordinance is hereby deemed a Public Nuisance,
- B. Each day that a violation continues shall constitute a separate violation.

### **SECTION 1104. LIABILITY DISCLAIMER**

- A. Neither the granting of the approval nor the compliance with the provisions of this ordinance or with any condition imposed by the Township, its officials, employees or designated representatives hereunder, shall relieve any person from any responsibility for damage to persons or property resulting therefrom, or as otherwise imposed by law, nor impose any liability upon the Township, its officials, employees or designated representatives to the maximum extent permitted by law.
- B. The granting of any permit which includes any stormwater management requirements shall not constitute a representation, guarantee or warranty of any kind by the Township, the officials, employees or designated representatives thereof, of the practicability or safety of any stormwater structure or facility, use or other plan proposed, and shall create no liability or cause of action upon the Township, its officials, employees, or designated representatives for any damage that may result in pursuant thereto to the maximum extent permitted by law.

## **SECTION 1105. PENALTIES**

- A. Any person who or which has violated any provisions of this Ordinance, shall, upon a judicial determination thereof, be subject to civil judgment for each such violation of not less than 300.00 and 00/100 Dollars nor more than 1,000.00 and 00/100 Dollars, plus cost of suit. All fines shall be paid to Cross Creek Township for its use.
- B. In addition, Cross Creek Township may institute injunctive, mandamus of any other appropriate action or proceeding 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 from remedy of relief.

## **SECTION 1106. APPEALS**

- A. Any person aggrieved by the decision of the Township, its officials, employees or any designated representative thereof may appeal to the Cross Creek Board of Supervisors within 30 days of the decision.
- B. Any person aggrieved by a decision of the Cross Creek Board of Supervisors may appeal to the Washington County Court of Common Pleas within 30 days of the decision.

## **ARTICLE XII FEES AND EXPENSES**

### **SECTION 1201. GENERAL**

The fees required by this Ordinance are the Application Fee and the Township Review and Inspection Fees. The fees shall be established by the Township to defray costs incurred by the Township and the Township Engineer. All fees shall be paid by the Applicant.

### **SECTION 1202. DRAINAGE PLAN REVIEW FEE**

The Township shall establish a Review Fee Schedule based on the size of the Regulated Activity and based on the Township's costs for reviewing the Drainage Plan. The Township shall periodically update the Review Fee Schedule to ensure that review costs are adequately reimbursed.

### **SECTION 1203. EXPENSES COVERED BY FEES**

The fees required by this Ordinance shall at a minimum cover:

- A. Application fee to cover administrative costs
- B. The review of the Drainage Plan by the Township and the Township Engineer.

- C. The site inspection.
- D. The inspection of stormwater management facilities and drainage improvements during construction.
- E. The final inspection upon completion of the stormwater management facilities and drainage improvements presented in the Drainage Plan.
- F. Any additional work required to enforce any permit provisions regulated by this Ordinance, correct violations, and assure proper completion of stipulated remedial actions.