

# MANHEIM BOROUGH

## STORM WATER MANAGEMENT ORDINANCE OF 2014



ADOPTED JULY 29, 2014  
ORDINANCE 640

Prepared by:

**RETTEW**  
We answer to you.



# TABLE OF CONTENTS

## ARTICLE I - GENERAL PROVISIONS

- Section 101 – Title
- Section 102 – Statement of Findings
- Section 103 – Purpose
- Section 104 – Statutory Authority
- Section 105 – Applicability
- Section 106 – General Requirements
- Section 107 – Repeals and Continuation of Prior Regulations
- Section 108 – Severability
- Section 109 – Compatibility with Other Ordinance Requirements and Greater Restrictions
- Section 110 – Municipal Liability
- Section 111 – Erroneous Permit
- Section 112 – Duty of Persons Engaged in the Development of Land

## ARTICLE II – DEFINITIONS

- Section 201 – Definition of Terms
- Section 202 – Definitions

## ARTICLE III –PLAN PROCESSING PROCEDURES

- Section 301 – General
- Section 302 – Compliance with Zoning Ordinance and Zoning Hearing Board Decisions
- Section 303 – Application and Processing Procedures

## ARTICLE IV – STORM WATER MANAGEMENT SITE PLAN REQUIREMENTS

- Section 401 – Applicability
- Section 402 – Exemptions
- Section 403 – Minor Land Disturbance/Small Project
- Section 404 – Major Land Disturbance
- Section 405 – General Requirements
- Section 406 – Notifications
- Section 407 - Certificates

## ARTICLE V – STORM WATER MANAGEMENT STANDARDS

- Section 501 – General Requirements
- Section 502 – Design Standards – Erosion and Sediment Control
- Section 503 – Methods of Calculation of Runoff
- Section 504 – Design Standards – Water Carrying Facilities
- Section 505 – Design Standards – Above Ground Storage Facilities
- Section 506 – Design Standards – Volume Control
- Section 507 – Design Standards – Subsurface Storage Facilities

## ARTICLE VI – MAINTENANCE, FINANCIAL SECURITY, MODIFICATIONS AND PROHIBITED ACTIVITIES

- Section 601 – Responsibilities of Developers and Landowners
- Section 602 – Operation and Maintenance Agreements
- Section 603 – Performance Guarantee
- Section 604 – Maintenance Responsibilities
- Section 605 – Maintenance of Existing Facilities/BMPs
- Section 606 – Modifications
- Section 607 – As-Built Plan
- Section 608 – Prohibited Discharges and Connections
- Section 609 – Roof Drains and Sump Pumps
- Section 610 – Alteration of SWM BMPs
- Section 611 – Inspection

## Article VII – ADMINISTRATION

- Section 701 – Right-of-Entry
- Section 702 – Notification
- Section 703 – Enforcement/Violations
- Section 704 – Penalties/Remedies
- Section 705 – Appeals
- Section 706 – Construction
- Section 707 – Effective Date

## APPENDICES

- APPENDIX A – Operation and Maintenance Agreement
- APPENDIX B – Low Impact Development Practices
- APPENDIX C – Storm Water Management Design Criteria
- APPENDIX D – Carbonate Geology Certification
- APPENDIX E – Storm Water Management Site Plan Approval Certification
- APPENDIX F – Manheim Borough Engineer Review Certificate
- APPENDIX G – Landowner acknowledgement of permanence of BMPs

# **ARTICLE I**

## **GENERAL PROVISIONS**

### **SECTION 101 TITLE**

This Ordinance shall be known as the Manheim Borough Storm Water Management Ordinance.

### **SECTION 102 STATEMENT OF FINDINGS**

The Manheim Borough Council finds that:

1. Inadequate management of accelerated storm water 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 storm water; undermines floodplain management and flood reduction efforts in upstream and downstream communities; reduces groundwater recharge; and, threatens public health and safety.
2. A comprehensive program of storm water 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 Borough and all the people of the Commonwealth, their resources, and the environment.
3. Storm water is an important water resource, which provides groundwater recharge for water supplies and base flow of streams, which also protects and maintains surface water quality.
4. Federal and state regulations require certain municipalities to implement a program of storm water controls. These municipalities are required to obtain a permit for storm water discharges from their separate storm sewer systems under the National Pollutant Discharge Elimination System (NPDES).
5. Public education on the control of pollution from storm water is an essential component in successfully addressing storm water issues.
6. Non-storm water discharges to municipal separate storm sewer systems (MS4) can contribute to pollution of Waters of this Commonwealth.
7. Inadequate maintenance of storm water best management practices (BMPs) causes loss of water quality, flooding, and other problems.
8. A program of reasonable regulation of connections and discharges to municipal storm water management facilities will be beneficial.

### **SECTION 103 PURPOSE**

The purpose of this Ordinance is to promote health, safety, and welfare within Manheim Borough by minimizing the damages described in Section 102 of this Ordinance through provisions designed to:

1. Meet legal water quality requirements under state law, including regulations in Chapter 93 to protect, maintain, reclaim, and restore the existing and designated uses of the Waters of this Commonwealth.
2. Manage accelerated runoff and erosion and sedimentation problems at their source by regulating activities that cause these problems.
3. Utilize and preserve the existing natural drainage systems.
4. Maintain recharge of groundwater to prevent degradation of surface and groundwater quality and to otherwise protect water resources.
5. Maintain existing flows and quality of streams and watercourses in the Borough and the Commonwealth.
6. Preserve and restore the flood-carrying capacity of streams.
7. Provide proper operations and maintenance of all temporary and permanent storm water management facilities and Best Management Practices (BMPs) that are constructed and implemented.
8. Ensure consistency and compliance with the recommendations for quantity and quality controls that are found in "Blueprints: An Integrated Water Resources Plan for Lancaster County", including the "Countywide Act 167 Plan" dated April 2013 Revised Aug 16.
9. Prevent scour, aggradation, degradation, and erosion of stream banks and streambeds.
10. Provide procedures, performance standards, and design criteria for storm water planning and management.
11. Implement an "illegal discharge detection and elimination program" within MS4 permitted urbanized areas to address non-storm water discharges into Manheim Borough separate storm sewer system.
12. Promote storm water runoff prevention through the use of nonstructural Best Management Practices (BMPs).
13. Provide a regulatory environment that supports the proportion, density, and intensity of development called for in the comprehensive plan; allows for creative methods of improving water quality and managing storm water runoff; and promotes a regional approach to water resource management.
14. Help preserve and protect exceptional natural resources, and conserve and restore natural resource systems.
15. Promote storm water management practices that emphasize infiltration, evaporation, and transpiration.

16. Provide standards to meet NPDES permit requirements.

#### **SECTION 104 STATUTORY AUTHORITY**

The Manheim Borough Council pursuant to the Pennsylvania Storm Water Management Act, Act No. 167 of October 4, 1978, (P.L. 864) (Act 167), Section 680.1, et. seq., as amended, The Pennsylvania Borough Code, Act of February 1, 1966, P.L. (1965) 1656, No. 581, as reenacted and amended by the Act of May 17, 2012 (P.L. 262, No. 43), as amended, and the Pennsylvania Flood Plain Management Act, Act No. 166 of October 4, 1978 (P.L. 851), and 35 P.S. Section 691.1 et seq. the Pennsylvania Clean Streams Law hereby enacts and ordains this Ordinance as the Manheim Borough Storm Water Management Ordinance.

#### **SECTION 105 APPLICABILITY**

With the exception of activities exempted under Section 402, the provisions, regulations, limitations, and restrictions of this ordinance shall apply to Regulated Activities as defined in this Ordinance. Including:

1. Installation and proper operation and maintenance of storm water management facilities and appurtenances thereto.
2. All activities that may contribute non-storm water discharges to the Borough's regulated small MS4.
3. Discharges from Regulated Earth Disturbance Activities.
4. The following additional activities are defined as "Regulated Activities" and shall be regulated by this Ordinance:
  - A. All Subdivisions or Land Developments.
  - B. Major or Minor Land Disturbances.
  - C. Construction of new or additional impervious 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 or modification of storm water management facilities, BMPs, or appurtenances thereto.
  - G. Any other activities where the Borough determines that said activities may affect any existing watercourse's storm water management facilities, or storm water drainage patterns.

## **SECTION 106 GENERAL REQUIREMENTS**

For any of the activities regulated by this Ordinance, the final approval of subdivision and/or land development plans, the issuance of any zoning permit, authorizing earth disturbance or additional impervious area, or the commencement of any land disturbance activity may not proceed until the Property Owner or Developer or his/her agent has received written approval of a Storm Water Management Site Plan from the Borough or its Designee and has received approval from the Lancaster County Conservation District of a written Erosion and Sediment Pollution Control Plan as specified in Chapter 102 (where applicable).

## **SECTION 107 REPEALS AND CONTINUATION OF PRIOR REGULATIONS**

1. Except as otherwise required by law, this Ordinance is intended as a continuation of, and not a repeal of, existing regulations governing the subject matter. To the extent that this Ordinance restates regulations contained in ordinances previously enacted by the Council, this Ordinance shall be considered a restatement and not a repeal of such regulations. It is the specific intent of the Council that all provisions of this Ordinance shall be considered in full force and effect as of the date such regulations were initially enacted. All ordinances or parts of ordinances inconsistent with the provisions of this Ordinance are hereby repealed. It is expressly provided that the provisions of this Ordinance shall not affect any act done, contract executed or liability incurred prior to its effective date, or affect any suit or prosecution pending or to be instituted to enforce any rights, rule, regulation or ordinance, or part thereof, or to punish any violation which occurred under any prior storm water regulation or ordinance. In the event any violation has occurred under any prior storm water regulation or ordinance of the Borough, prosecution may be initiated against the alleged offender pursuant to the provisions of said prior storm water regulation or ordinance, and the provisions and penalties provided in said prior storm water regulation or ordinance shall remain effective as to said violation.
2. Any Storm Water Management Site Plan pending at the time of the effective date of this Ordinance shall be allowed to proceed with revisions, finalization and implementation in accordance with any Ordinance in effect prior hereto.

## **SECTION 108 SEVERABILITY**

Should any section, provision or part thereof 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 109 COMPATIBILITY WITH ORDINANCE REQUIREMENTS AND GREATER RESTRICTIONS**

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. To the extent that this Ordinance imposes more rigorous or stringent requirements for storm water management, the specific requirements contained in this Ordinance shall be followed.

## **SECTION 110 MUNICIPAL LIABILITY**

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

## **SECTION 111 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 purporting to validate such a violation.

## **SECTION 112 DUTY OF PERSONS ENGAGED IN THE DEVELOPMENT OF LAND**

Notwithstanding any provision(s) of this Ordinance, including exemptions, any landowner or any person engaged in the alteration or development of land which may affect storm water runoff characteristics shall implement such measures as are reasonably necessary to prevent injury to health, safety, or other property. Such measures also shall include actions as are required to manage the rate, volume, direction, and quality of resulting storm water runoff in a manner which otherwise adequately protects health, property, and water quality.

## **ARTICLE II DEFINITIONS**

### **SECTION 201 DEFINITION OF TERMS**

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

1. 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 those of feminine gender and vice-versa.
2. 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.
3. The word “person” includes an individual, firm, association, organization, partnership, trust, company, corporation, or any other similar entity.
4. The words “shall” and “must” are mandatory; the words “may” and “should” are permissive.
5. The words “used or occupied” include the words “intended”, “designed”, “maintained”, or “arranged to be used or occupied.”
6. The time, within which any act required by this Ordinance is to be performed, shall be computed by excluding the first day and including the last day. However, if the last day is a Saturday or Sunday or a holiday declared by the United States Congress or the Pennsylvania General Assembly, it shall also be excluded. The word "day" shall mean a calendar day, unless otherwise indicated.
7. Any words not defined in this Ordinance or in Section 107 of the MPC shall be construed as defined in standard dictionary usage.
8. References to officially adopted regulations, standards, or publications of DEP or other governmental agencies shall include the regulation, publication, or standard in effect on the date when a SWM Site Plan is first filed. It is the intent of the Borough Council in enacting this Section to incorporate such changes to statutes, regulations, and publications to the extent authorized by 1 Pa. C.S. § 1937.

### **SECTION 202 DEFINITIONS**

Specific Terms or words used herein, unless otherwise expressly stated, shall have the following meanings:

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

Access Easement – A right granted by a landowner to a grantee, allowing entry for the purpose of inspecting, maintaining and repairing SWM Facilities.

Act 167 Plan - A plan prepared under the authority of Pennsylvania's Storm water Management Act of October 4, 1978, P.L. 864, No. 167, as amended 32 P.S. Section 680.1 et seq., and as may be amended in the future.

Agricultural Activities - The work of producing crops and raising livestock including tillage, plowing, disking, harrowing, pasturing and installation of conservation measures. Construction of new buildings or impervious areas is not considered an agricultural activity.

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

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

Applicant – A Landowner or Developer who has filed an application for approval to engage in any Regulated Activities as defined in Section 105 of this Ordinance.

BMPs (Best Management Practices) - Activities, facilities, designs, measures, or procedures used to manage storm water impacts from Regulated Activities, to meet State Water Quality Requirements, to promote groundwater recharge, and to otherwise meet the purposes of this Ordinance. Storm water BMPs are commonly grouped into one (1) of two (2) broad categories or measures: "non-structural" or "structural". "Non-structural" BMPs are measures referred to as operational and/or behavior-related practices that attempt to minimize storm water runoff generation resulting from an alteration of the land surface or the contact of pollutants with storm water runoff, whereas "structural" BMPs are measures that consist of a physical device or practice that is installed to capture and treat storm water runoff. "Structural" BMPs include, but are not limited to, a wide variety of practices and devices, from large-scale wet ponds and constructed wetlands, to small-scale underground treatment systems, infiltration facilities, filter strips, low impact design, bio-retention, wet ponds, permeable paving, grassed swales, riparian or forested buffers, sand filters, detention basins, and manufactured devices. "Structural" storm water BMPs are permanent appurtenances to the project site.

BMP Manual – The Pennsylvania Storm water Best Management Practices Manual as published by the Department of Environmental Protection (PADEP), of December 2006, or most recent version thereof.

Building – Any enclosed or open structure, other than a boundary wall or fence, occupying more than four (4) square feet of area and/or having a roof supported by columns, piers, or walls.

Borough – The Borough of Manheim, Lancaster County, Pennsylvania.

Borough Council – The Manheim Borough Council.

Carbonate Geology - Limestone or dolomite bedrock. Carbonate geology is often associated with karst topography.

Chapter 102 - Chapter 102 of the regulations of PaDEP, 25 Pa. Code Section 102.1 et seq (Erosion and Sediment Control).

Chapter 105 - Chapter 105 of the regulations of PaDEP, 25 Pa. Code Section 105.1 et seq (Dam Safety and Waterway Management).

Chapter 106 - Chapter 106 of the regulations of PaDEP, 25 Pa. Code Section 106.1 et seq (Floodplain Management).

Cistern - A reservoir or tank for storing rainwater.

Conservation Plan – A plan written by a National Resources Conservation Service (or any agency successor thereto) certified planner that identifies Conservation Practices and includes site specific BMPs for agricultural plowing or tilling activities and Animal Heavy Use Areas.

Conservation District - The Lancaster County Conservation District or any agency successor thereto.

Conveyance - The ability of a pipe, culvert, swale or similar facility to carry the peak flow from the design storm.

Culvert - A structure with appurtenant works which carries a stream under or through an embankment or fill.

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

- A. The contributory drainage area exceeds 100 acres.
- B. The greatest depth of water measured by upstream toe of the dam at maximum storage elevation exceeds 15 feet.
- C. The impounding capacity at maximum storage elevation exceeds 50 acre-feet.

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

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 storm water management systems.

Designee - The agent of the Manheim Borough Council involved with the administration, review, or enforcement of any provisions of this Ordinance.

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

Detention Volume – The volume of runoff that is captured and released into the Waters of this Commonwealth at a controlled 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 area of land for which a Regulated Activity is proposed, planned, conducted, or maintained.

Disconnected Impervious Area (DIA) - An impervious or impermeable surface that is disconnected from any storm water drainage or conveyance system and is redirected or directed to a pervious area, which allows for infiltration, filtration, and increased time of concentration.

Disappearing Stream - A stream in an area underlain by limestone or dolomite which flows underground for a portion of its length.

Disturbed Area - A land area where an Earth Disturbance Activity is occurring or has occurred.

Drainage Easement - A right granted by a landowner to a grantee, allowing the use of private land for storm water management, drainage, or conveyance purposes.

#### E&S – Erosion and Sediment

Earth Disturbance Activity - A construction or other human activity which disturbs the surface of the land, including, but not limited to, clearing and grubbing; grading; excavations; embankments; land development; agricultural plowing or tilling; operation of animal heavy use areas; timber harvesting activities; road maintenance activities; oil and gas activities; well drilling; mineral extraction; building construction; and the moving, depositing, stockpiling, or storing of soil, rock, or earth materials.

Environmentally Sensitive Area - Slopes greater than 15% percent, shallow bedrock (located within 6 feet of ground surface), wetlands, Natural Heritage Areas and other areas designated as Conservation or Preservation areas in Greenscapes, the Green Infrastructure Element of the County Comprehensive Plan, where encroachment by land development or land disturbance results in degradation of the natural resource.

Ephemeral Stream - A transient stream, one that flows for a relatively short time.

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

Erosion and Sediment Pollution Control Plan - A plan which is designed to minimize accelerated erosion and sedimentation.

Existing Conditions - The initial condition of a project site prior to the proposed regulated activity. If the initial condition of the site is not forested or undeveloped land, the land use shall be considered as

"meadow" unless the natural land cover is documented to generate lower Curve Numbers or Rational "C" Coefficients, such as forested lands.

Facility Depth – For above ground detention/retention/BMP facilities, the facility depth is defined to be the depth between the bottom invert of the lowest orifice and the invert of the spillway. If there is no spillway, the top of the berm shall be used. For basins with no orifices or outlet structure, the bottom elevation of the basin shall be used.

FEMA - The Federal Emergency Management Agency or any agency successor thereto.

Flood - A general but temporary condition of partial or complete inundation of normally dry land areas from the overflow of streams, rivers, and other Waters of this Commonwealth.

Flood Fringe – That portion of the floodplain outside of the floodway.

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 - Mapped as being a special flood hazard area. Also, the area of inundation which functions as a storage or holding area for floodwater to a width required to contain a base flood of which there is a one percent (1%) chance of occurring in any given year. The floodplain contains both the floodway and the flood fringe.

Flood Plain Management Act - Act of October 4, 1978, P.L. 851, No. 166, as amended 32 P.S. Section 679.101 et seq., and as may be amended in the future.

Floodway - The channel of the watercourse and those portions of the adjoining floodplains which are reasonably required to carry and discharge the 100-year frequency 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 100-year frequency floodway, it is assumed - absent evidence to the contrary - that the floodway extends from the stream to 50 feet from the top of the bank of the stream.

Forest Management/Timber Operations - Planning and activities necessary for the management of forest land. These include timber inventory; preparation of forest management plans; silvicultural treatment; cutting budgets; logging road design and construction; timber harvesting; site preparation; and reforestation.

Freeboard - A vertical distance between the 100-year design elevation of the water surface at the emergency spillway, in a condition that assumes the primary outlet(s) are blocked, and the top of a dam, levee, tank, basin, berm, or diversion ridge.

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

Grade - A slope, usually of a road, channel, or natural ground, specified in percent and shown on plans as specified herein.

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

Groundwater Recharge - Replenishment of existing natural underground water supplies.

Hydrologic Soil Group (HSG) –The classification of soils according to their runoff-producing characteristics by NRCS. 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.

Impervious Surface - A surface that prevents the infiltration of water into the ground. Impervious surfaces (or areas) shall include, but are not limited to, roofs, additional indoor living spaces, patios, garages, storage sheds and similar structures, and any new streets and sidewalks. Any surface area proposed to initially be gravel or crushed stone shall be assumed to be impervious, unless designed and maintained as an infiltration BMP. Decks, parking areas, and driveway areas are not counted as impervious areas if they do not prevent infiltration.

Impoundment - A retention or detention basin designed to retain storm water runoff and release it at a controlled rate.

Infiltration Structures - A structure designed to direct runoff into the ground (e.g. French drains, seepage pits, infiltration trench, rain gardens, etc.).

Inlet - A surface connection to a closed drain. A structure at the diversion end of a conduit. The upstream end of any structure through which water may flow.

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

Land Development - Any of the following activities:

- A. The improvement of one lot or two or more contiguous lots, tracts, or parcels of land for any purpose involving:
  - (1) A group of two or more residential or nonresidential buildings, whether proposed initially or cumulatively, or a single nonresidential building on a lot or lots regardless of the number of occupants or tenure; or
  - (2) the division or allocation of land or space, whether initially or cumulatively, between or among two or more existing or prospective occupants by means of, or for the purpose of streets, common areas, leaseholds, condominiums, building groups, or other features.

- B. A subdivision of land.
- C. Development in accordance with Section 503 (1.1) of the Pennsylvania Municipalities Planning Code.

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

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 condition of the land; the erection of a dwelling or other structure; or the modification, removal, filling, or alteration of an existing storm water management facility or drainage easement. Land Disturbance Activities shall be classified as follows:

- A. Major Land Disturbance Activity:
  - (1) Any use requiring the submission of a subdivision or land development plan as herein defined;
  - (2) Any land disturbance not defined as a minor land disturbance activity or deemed to qualify as a minor land disturbance activity by the Borough;
  - (3) Any use involving the diversion or piping of any natural or man-made watercourse or existing drainage pattern;
  - (4) Any use involving the installation of ground cover, grading, filing, excavation, or disturbance of woodland in excess of one (1) acre except for the use of land for agricultural plowing and tilling and the science of forestry when operated in accordance with approved conservation and erosion control practices;
- B. Minor Land Disturbance Activity
  - (1) The use of land on an existing lot of record, including subdivided lots or land developments approved under a Major Land Disturbance Activity, provided that:
    - (a) The use is not within a floodplain area;
    - (b) No diversion or piping of any natural or man-made water course or existing drainage pattern is involved;
    - (c) The use creates impervious areas of more than 1,000 sq. ft. and less than 5,000 sq. ft. or involves the removal of ground cover, grading, filling, or excavation of an area less than 5,000 sq. ft., either of which shall be measured on a cumulative basis from *(the date of enactment of this Ordinance or other date as determined by the Borough)*;
    - (d) The use does not require the submission of a subdivision or land

development plan as herein defined.

- (2) Any use of the land, which in the opinion of the Borough, represents minimal ground disturbance or impact to the environment.

Limiting Zone - A rock formation, other stratum, or soil condition which is so slowly permeable that it effectively limits downward passage of effluent. Seasonal high water tables, whether perched or regional, also constitute a limiting zone.

Lineament - A fracture on the order of 10's of kilometers long usually extending to the basement below sedimentary rock.

Manning Equation (Manning formula) - A method for calculation of velocity of flow (e.g. feet per second) and flow rate (e.g. cubic feet per second) in open channels based upon channel shape, roughness, depth of flow, and slope. "Open channels" may include closed conduits so long as the flow is not under pressure.

Maximum Extent Practicable (MEP) – Applies when the Applicant demonstrates to the Borough's satisfaction that the performance standard is not achievable. The Applicant shall take into account the best available technology, cost effectiveness, geographic features, and other competing interests such as protection of human safety and welfare, protection of endangered and threatened resources, and preservation of historic properties in making the assertion that the performance standard cannot be met and that a different means of control is appropriate.

Municipalities Planning Code (MPC) - The Pennsylvania Municipalities Planning Code, Act of July 1, 1967, P.L. 805, No. 247, as reenacted and amended, 53 P.S. Section 10101 et seq., and as may be amended in the future.

Municipal Separate Storm Sewer – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains), which is all of the following: (1) owned or operated by a state, city, town, borough, county, district, association or other public body (created under state law) having jurisdiction over disposal of sewage, industrial wastes, storm water or other wastes; (2) designed or used for collecting or conveying storm water; (3) not a combined sewer; and (4) not part of a Publicly Owned Treatment Works as defined at 40 CFR § 122.2.

Municipal Separate Storm Sewer System (MS4) - All separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems pursuant to 40 CFR § 122.26(b)(18), or designated as regulated under 40 CFR § 122.26(a)(1)(v).

Natural Drainageway - An existing channel for water runoff that was formed by natural forces.

Natural Ground Cover – Ground cover which mimics the infiltration characteristics of predominant hydrologic soil group found at the site.

NOAA Atlas 14 - [Precipitation-Frequency Atlas of the United States](#), Atlas 14, Volume 2, US Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service,

Hydrometeorological Design Studies Center, Silver Spring, Maryland (2004). NOAA's Atlas 14 can be accessed at Internet address: <http://hdsc.nws.noaa.gov/hdsc/pfds/>.

National Pollution Discharge Elimination System (NPDES) - The federal government's system for issuance of permits under the Clean Water Act, which is delegated to PADEP in Pennsylvania.

Natural Resources Conservation Service (NRCS) - Previously Soil Conservation Service (SCS) or any agency successor to the NRCS.

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

Outfall - (i) Point where water flows from a conduit, stream, or drain; (ii) "Point Source" as described in 40 CFR § 122.2 at the point where the municipal separate storm sewer system discharges to surface Waters of this Commonwealth.

Outlet - Points of water disposal from a stream, river, lake, tidewater or artificial drain.

Parent Tract - All contiguous land held in single and separate ownership, regardless of whether (i) such land is divided into one or more lots, parcels, purparts, or tracts; (ii) such land was acquired by the landowner at different times or by different deeds, devise, partition, or otherwise; or (iii) such land is bisected by public or private streets or rights-of-way, which was held by the landowner or his predecessor in title on the effective date of this Ordinance. Single and separate ownership is the ownership of property by any person, partnership, or corporation, in which ownership is separate and distinct from that of any adjoining property.

Peak Discharge - The maximum rate of storm water runoff from a specific storm event.

PennDOT - The Pennsylvania Department of Transportation or any agency successor thereto.

Pervious Area - Any material/surface that allows water to pass through at a rate equal to or greater than natural ground cover.

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

Plan - The Storm Water Management and Erosion and Sediment Pollution Control plans and narratives.

Planning Commission - The Planning Commission of Manheim Borough, Lancaster County, Pennsylvania.

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

Project Site – The specific area of land where any regulated activities in the Borough are planned, conducted, or maintained.

Qualified Person - Any person licensed by the Pennsylvania Department of State or otherwise qualified

by law to perform the work required by this Ordinance.

Rate Control - SWM controls used to manage the peak flows for the purposes of channel protection and flood mitigation.

Rational Formula (Rational Method) - A rainfall-runoff relation used to estimate peak flow.

Record Plan - Where a regulated activity constitutes a subdivision or land development, the Final Subdivision or Land Development plan which contains the information the Ordinance requires. Where a regulated activity does not constitute a subdivision or land development, a Storm Water Management Site Plan containing all required information and prepared in a form acceptable to the Office of the Recorder of Deeds for recording.

Regional Storm Water Management Plan – A plan to manage storm water runoff from an area larger than a single Development Site. A Regional Storm Water Management Plan could include two adjacent parcels, an entire watershed, or some defined area in between. Regional Storm Water Management Plans can be prepared for new development, or as a retrofit to manage runoff from already developed areas.

Regulated Activities - Any earth disturbance activities or any activities that involve the alteration or development of land in a manner that may affect storm water runoff and that are specified in Section 105 of this Ordinance.

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.

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

Release Rate Map – A graphical representation of the release rates for a specific area.

Retention Basin - An impoundment in which storm water 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.

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 recur. For example, the 25-year return period rainfall would be expected to recur on the average once every twenty-five years or stated in another way, the probability of a 25-year storm occurring in any one year is 0.04 (i.e. a 4% chance).

Riparian Buffer - A vegetated area bordering perennial and intermittent streams and wetlands that serves as a protective filter to help protect streams and wetlands from the impacts of adjacent land uses.

Riparian Forest Buffer – A type of Riparian Buffer that consists of permanent vegetation that is

predominantly native trees, shrubs and forbs along a watercourse that is maintained in a natural state or sustainably managed to protect and enhance water quality, stabilize stream channels and banks, and separate land use activities from surface waters.

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

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

Sediment - Soils or other materials transported by surface water as a product of erosion.

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

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

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

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

Sheet Flow - Runoff which flows over the ground surface as a thin, even layer, not concentrated in a channel.

Soil Conservation Service (SCS) - Now known as National Resource Conservation Service (NRCS).

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

Soil Horizon - A layer of soil or soil material approximately parallel to the land surface and differing from adjacent genetically related layers in physical, chemical, and biological properties or characteristics such as color, structure, texture, consistency, kinds and number of organisms present, degree of acidity or alkalinity, etc.

Spillway - A depression in the embankment of a pond or basin which is used to pass peak discharge greater than the maximum design storm controlled by the pond.

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

Storage – A volume above or below ground that is available to hold storm water.

Storage Indication Method - A reservoir routing procedure based on solution of the continuity equation

(inflow minus outflow equals the change in storage) with outflow defined as a function of storage volume and depth.

Storm event - A storm of a specific duration, intensity, and frequency

Storm Frequency - The number of times that a given storm “event” occurs or is exceeded on the average in a stated period of years. See “Return Period.”

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

Storm Water - Drainage runoff from the surface of the land resulting from precipitation or snow or ice melt.

Storm Water Management Act - Act of October 4, 1978, P.L. 864, No. 167, as amended 32 P.S. Section 680.1 et seq., and as may be amended in the future.

Storm Water Management Best Management Practices (SWM BMP) – See BMPs.

Storm Water Management Facility - Any structure, natural or man-made, that, due to its condition, design, or construction, conveys, stores, or otherwise affects storm water runoff. Typical storm water management facilities include, but are not limited to, detention and retention basins, open channels, road gutters, swales, storm sewers, pipes, BMPs, and infiltration structures.

Storm Water Management Plan - The “Countywide Act 167 Plan” for Lancaster County for managing storm water runoff adopted by Lancaster County as required by the Act of October 4, 1978, 32 P.S. P.L. 864, (Act 167) as amended, and known as the “Storm Water Management Act.”

Storm Water Management Operation and Maintenance Plan (O & M Plan) – A plan, including a narrative, to ensure proper functioning of the SWM Facilities in accordance with Article VI of this Ordinance.

Storm Water Management Site Plan - The plan prepared by the Developer or his representative indicating how storm water runoff will be managed at the particular site of interest according to this Ordinance.

Storm Water Management Permit - A permit issued by Manheim Borough after the Storm Water Management Site Plan is unconditionally approved.

Subwatershed Area - The smallest drainage unit of a watershed for which storm water management criteria have been established in the Storm Water Management Plan.

Subdivision - The division or redivision of a lot, tract, or parcel of land by any means into two (2) or more lots, tracts, parcels, or other divisions of land including changes in existing lot lines for the purpose, whether immediate or future, of lease, partition by the court for distribution to heirs or devisees, transfer of ownership, or building or lot development; provided, however, that the subdivision by lease of land for agricultural purposes into parcels of more than ten (10) acres, not involving any new street or easement of access or any residential dwelling, shall be exempted.

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

SWM – Storm Water Management

SWM Site Plan – A Storm Water Management Site Plan.

Timber Operations - See Forest Management.

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

USDA – United States Department of Agriculture or any agency successor thereto.

Watercourse - A stream of water; river; brook; creek; or a channel or ditch for water, whether natural or manmade, having a defined bed and banks with perennial or intermittent flow.

Watershed - The entire region or area drained by a watercourse.

Waters of this Commonwealth - Any and all rivers, streams, creeks, rivulets, 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.

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, ferns, and similar areas. The term includes, but is not limited to, wetland areas listed in the State Water Plan, the United States Forest Service Wetlands Inventory of Pennsylvania, the Pennsylvania Coastal Zone Management Plan and a wetland area designated by a river basin commission. This definition is used by the United States Environmental Protection Agency (USEPA) and the United States Army Corps of Engineers (USACOE).

# ARTICLE III

## PLAN PROCESSING PROCEDURES

### SECTION 301 GENERAL

1. This Article sets forth the application requirements for obtaining approval of a Storm Water Management Site Plan. The form of the plans referred to in this Article and information required to be forwarded with such plans shall be as specified in Article IV.
2. Manheim Borough shall not approve any SWM Site Plan that is deficient in meeting the requirements of this Ordinance. At its sole discretion and in accordance with this Article, when a SWM Site Plan is found to be deficient, Manheim Borough may either disapprove the submission and require a resubmission or, in the case of minor deficiencies, Manheim Borough may accept submission of revisions.

### SECTION 302 COMPLIANCE WITH ZONING ORDINANCE AND ZONING HEARING BOARD DECISIONS

Whenever the Zoning Ordinance provides that the use proposed by the Applicant for a subdivision or land development approval shall constitute a use by special exception or conditional use, or when a variance from the terms of the Zoning Ordinance is required to develop in accordance with the plan, the Applicant shall obtain such special exception, variance, or conditional use approval from the Borough Zoning Hearing Board or Borough Council, as applicable, prior to the submission of the plan. The plan shall be designed and developed in accordance with any conditions which have been imposed upon the grant of such special exception, variance, or conditional use by the Borough Zoning Hearing Board or Borough Council, as applicable.

### SECTION 303 APPLICATION AND PROCESSING REQUIREMENTS

**ALL** applications shall follow these application and processing requirements.

1. Formal Application/Submission Deadlines All applications for approval of a Storm Water Management Site Plan shall be made by the Developer filing an application form, to be supplied by the Borough, together with the appropriate plans. The plan shall include studies, reports, supporting data (including all plans, reports, and correspondence with the Lancaster County Conservation District), and required filing fee. Applications may be filed with the Borough on any business day; however, the Borough Planning Commission or Borough Council will review a plan at a particular meeting only if the plan was filed at least fifteen (15) business days prior to that meeting.
2. Application Requirements All plan applications shall include the following:
  - A. Two (2) copies of the plan(s). All plans shall be either black on white or blue on white paper prints and prepared in conformance with the provisions of Article IV of this Ordinance.
  - B. Two (2) copies of all reports, notifications, and certifications which are not provided on the plan.

- C. Two (2) copies of the application form as provided by the Borough.
  - D. Filing and Review Escrow fees in the amounts as specified on the fee schedule adopted by resolution of the Borough Council and available at the Borough Office.
  - E. Two (2) copies of all reports required by Article IV.
  - F. Plans which require access to a highway under the jurisdiction of the PennDOT, shall include two (2) copies of the plans prepared to support the application for a Highway Occupancy Permit.
  - G. The Applicant shall provide the Borough with five (5) copies of the most current plan at least five (5) business days before the plan is scheduled to be reviewed by the Planning Commission or the Borough Council.
  - H. Applicants are encouraged to schedule a pre-application meeting to review the overall storm water management concept with Borough staff/engineer. The pre-application meeting is not mandatory and shall not constitute formal filing of a plan with the Borough.
3. Distribution The Applicant shall submit one (1) copy of the above-required information to the Borough and one (1) copy to the Borough Engineer for their respective reviews. The Developer is responsible for submitting plans to any other agencies such as the Lancaster County Conservation District, PennDOT, DEP, etc., when permits from these agencies are required.
  4. Initial Application The Borough staff shall have seven (7) business days from the date of submission of an application to check the plans and documents to determine if on their face they are in proper form and contain all information required by this Ordinance. If defective, the application shall be returned to the Applicant with a statement explaining the reason(s) of rejection, within twelve (12) business days following the date of submission by the Applicant; otherwise, it shall be deemed accepted for filing as of the date of submission. Acceptance for filing shall not, however, constitute a waiver of any deficiencies or irregularities. Under this Section, the Applicant may appeal a decision by the Borough staff to the Borough Council.
  5. Amendments or Corrections to an Application The Borough staff shall have seven (7) business days from the date of submission of an amended or corrected application or plan to determine whether such amended or corrected application results in a substantial amendment to the plan or if the application or plan filed is/was/has changed so as to be considered a new plan. If the Borough staff determines that the amended or corrected application constitutes a substantial amendment, the Applicant shall be informed of the determination within twelve (12) business days from the date of the submission of the amended or corrected application and the Borough staff shall further inform the Applicant that the Borough shall consider the ninety (90) day review procedure to have been restarted as of the date of the filing of the substantial amendment. If the Borough staff determines that the amended or corrected application constitutes a new plan, he shall so inform the Applicant and shall inform the Applicant that a new application and new fees are required. Under this Section, the Applicant may appeal a decision by the Borough staff to the Borough Council.

6. Plan Review Process

- A. All complete applications for approval of a plan shall be acted upon by the Borough Council, which shall render its decision and communicate it to the Applicant not later than ninety (90) days following the date the completed application is filed.
- B. The decision of the Borough Council shall be in writing and shall be communicated to the Developer personally or mailed to him at his last known address not later than fifteen (15) days following the decision.
- C. When the application is not approved in terms as filed, the decision shall specify the defects found in the application and describe the requirements which have not been met and shall, in each case, cite the provisions of the Ordinance(s) relied upon.
- D. Failure of the Borough Council to render a decision and communicate it to the Applicant within the time and in the manner required herein shall be a disapproval of the application in terms as presented, unless the Applicant has agreed in writing to an extension of time or change in prescribed manner of presentation or communication of the decision; in which case, failure to meet the extended time or change in manner of presentation or communication shall have like effect.
- E. Approval of a Storm Water Management Site Plan by the Borough shall be obtained by the Applicant/Developer prior to the issuance of a zoning permit by the Borough. No regulated activity may begin until proof of recording of the required Ownership & Maintenance Program is presented and a zoning permit is obtained by the Applicant in accordance with the Borough Zoning Ordinance, as amended.

7. Procedure for Modifications of the Provisions of This Ordinance to be Applied to the Submitted Plan

- A. Application Requirements A request for a modification may be submitted to the Borough at any time. All requests shall be in writing and accompanied by a plan prepared to the minimum standards of a Minor Land Disturbance Plan (see Section 403). The written request shall identify:

- (1) The specific section of this Ordinance which is requested to be modified.
- (2) The provisions proposed as an alternate to the requirements. The alternate provisions must be equal to or better than the requirements of, and consistent with, the intents of this Ordinance and shall not be contrary to the general public interest.
- (3) Justification for the modification. The request shall state in full the grounds and facts of unreasonableness or hardship on which the request is based.

- B. Borough Action

- (1) A modification request that is submitted as part of an application for a Storm

Water Management Site Plan shall be processed along with that application of which it is a part. The plan processing procedures outlined in this Section shall apply.

- (2) If a modification request is not submitted with an application for subdivision, land development, lot add-on, or improvement construction plan, then the processing procedures outlined in this Section shall apply.
  - (3) The Borough may determine that a modification constitutes a substantial modification as specified in Section 303.5 of this Ordinance, where upon the application may be deemed to be a new plan.
8. A disapproved SWM Site Plan may be resubmitted, with the revisions addressing the Borough's concerns, to the Borough in accordance with this Article. The applicable review fee must accompany a resubmission of a disapproved SWM Site Plan.
  9. All storm water management permits or approvals shall expire twelve (12) months from the date of issuance unless an extension of time is approved. An extension of an unexpired Storm Water Management Permit or approval shall be issued by the Code Enforcement Officer following the submission of a written request if, in the opinion of the Code Enforcement Officer, the subject property or affected surrounding area has not been altered in a manner which requires alteration to the Storm Water Management Site Plan.

# ARTICLE IV

## STORM WATER MANAGEMENT SITE PLAN REQUIREMENTS

### SECTION 401 APPLICABILITY

To determine what Storm Water Management Site Plan Requirements to follow, an Applicant should first review the Exemption criteria in Section 402. If the Applicant's proposal does not satisfy the criteria as described, then the Applicant should consult the definitions of Minor and Major Land Disturbance Activity in Section 202 of this Ordinance to determine which category the Applicant's proposal falls. With the determination made, the Applicant can follow the appropriate Storm Water Management Site Plan Requirements of this Article for their proposal.

### SECTION 402 EXEMPTIONS

Any Regulated Activity that meets one of the following exemption criteria (Section 402.1 through 402.5 below) is exempt from the provisions of this Ordinance. These criteria shall apply to the total development even if development is to take place in phases. The date of the adoption of this Ordinance shall be the starting point from which to consider tracts as "parent tracts" in which respective impervious area computations shall be cumulatively considered. Exemption shall not relieve the Applicant from implementing such measures as are necessary to protect health, safety, and property.

1. Regulated activities that create additional impervious areas less than or equal to 1,000 sq. ft., are exempt from the requirements of this Ordinance except as provided for in Section 402.6, provided that the activities meet the following criteria below (Section 402.1.B(1) through (6)). This exemption will be applied on a cumulative basis for the subject property.
  - A. Any Applicant desiring exemption from design, plan submission, and plan processing requirements shall complete an application for exemption in the form set forth and available at the Borough Office and pay any applicable filing fee.
  - B. The Applicant for exemption shall provide the Borough with all information necessary for the Borough to determine that:
    - (1) There shall be no disturbance of land within floodplains, wetlands, environmentally sensitive areas, riparian forest buffers, or slopes greater than 15%.
    - (2) No impervious surface coverage shall be installed and no Earth Disturbance Activity shall be conducted within any existing drainage or storm water easement created by or shown on any recorded plan.
    - (3) The Applicant shall minimize soil disturbance, take steps to minimize erosion and sedimentation during construction activity, and promptly reclaim all disturbed areas with topsoil and vegetation.

- (4) The Applicant shall take steps that runoff be directed to pervious areas on the subject property. No runoff shall be directed onto an abutting street or neighboring property.
      - (5) The proposed impervious surface shall not adversely impact any existing known problem areas or downstream property owners or the quality of runoff entering any storm sewer.
      - (6) The proposed impervious surface shall not create accelerated erosion and sedimentation.
    - C. If the proposed activity does not meet all of the criteria set forth in Section 402.1.B above, the Applicant shall follow the Minor Land Disturbance processing procedure in Section 403 or the Major Land Disturbance processing procedure in Section 404.
    - D. No Applicant and no activity is exempt from complying with any state or federal requirements applicable if the subject property is located in a High Quality (HQ) or Exceptional Value (EV) watershed.
    - E. No Applicant and no activity shall violate or cause to be violated: the Federal Clean Water Act or any regulation issued thereunder, an NPDES permit, any recorded Storm Water Management or Operations and Maintenance Agreement, or any requirement applicable to a Municipal Separate Storm Sewer System.
  2. Activities on lands which have a prior approved Storm Water Management Plan, which was approved prior to the adoption of this Ordinance and which, in the opinion of the Borough following consultation with the Borough Engineer adequately manages storm water resulting from the proposed activities, are exempt from the requirements of this Ordinance that may conflict with the requirements of the Storm Water Management Ordinance in effect at the time of the approval of the prior approved Storm Water Management Plan.
  3. Use of land for gardening and landscaping of property, when performed as an accessory use of the property are exempt from the requirements of this Ordinance.
  4. Except as provided for Section 402.6, agricultural activity when operated in accordance with a Conservation Plan or an Erosion and Sedimentation Pollution Control plan found to be adequate by the Lancaster County Conservation District and performed according to the requirements of 25 Pa. Code Chapter 102. The Agricultural Activities such as growing crops, rotating crops, tilling of soil and grazing animals and other such activities are specifically exempt from the requirements of this Ordinance.
  5. Except as provided for in Section 402.6, Forest Management and timber operations which are following the Department of Environmental Protections' management practices contained in its publication "Soil Erosion and Sedimentation Control Guidelines for Forestry" and are operating under an Erosion and Sedimentation Pollution Control plan according to the requirements of 25 Pa. Code Chapter 102 are specifically exempt from the requirements of this Ordinance.
  6. The Borough may deny or revoke any exemption pursuant to this Section at any time for any project that the Borough believes may pose a threat to public health, safety, property, or the

environment.

### **SECTION 403 MINOR LAND DISTURBANCE**

1. The Minor Land Disturbance Plan shall include a general plan of the lot configuration, existing and proposed building locations, location, and square footage of proposed impervious area or land disturbance, grading, storm water management facilities, and erosion and sedimentation control facilities.
2. The Plan need not demonstrate literal compliance with all the provisions of this Ordinance, other than Appendix E, however the plan shall demonstrate that the proposed activity will comply with the intent of this Ordinance as provided for in Section 103.
3. The Minor Land Disturbance Plan shall provide for volume control, but shall not be required to provide for rate control. Additional guidance is provided in Appendix E including formulas and construction notes to be followed in design and construction of volume control features.
4. The Borough staff may require additional information, or invoke any section of this Ordinance, as deemed necessary to adequately demonstrate compliance with the intent of this Ordinance. These requirements may be appealed to the Borough Council.
5. Appendix D shall be completed and signed by the Applicant.

### **SECTION 404 MAJOR LAND DISTURBANCE**

The SWM Site Plan shall consist of all applicable calculations, maps and plans, including simultaneous copies of all plans, reports, and correspondence with the Lancaster County Conservation District. A note on the maps shall refer to the associated computations and E&S Pollution Control Plan by title and date. The cover sheet of the computations and E&S Pollution Control Plan shall refer to the associated maps by title and date. All SWM Site Plan materials shall be submitted to the Borough in a format that is clear, concise, legible, neat and well organized.

#### **1. DRAFTING STANDARDS**

All Storm Water Management Site Plans shall be prepared in accordance with the following drafting standards.

- A. The plan shall be clearly and legibly drawn at a horizontal scale of 10 feet, 20 feet, 30 feet, 40 feet, or 50 feet to the inch.
- B. All profiles of storm water management facilities, streets, sanitary sewer facilities, and water supply facilities shall be drawn at a horizontal scale of 1" = 50' and at a vertical scale of 1" = 10', or 1" = 5'.
- C. A north arrow, graphic scale and written scale shall be provided.
- D. Dimensions shall be in feet and decimals; bearings shall be in degrees, minutes and seconds.

Lot line descriptions shall read in a clockwise direction.

- E. The survey shall not have an error of closure greater than one (1) foot in ten thousand (10,000) feet.
- F. The sheet size shall be no smaller than eighteen by twenty-two (18 x 22) inches and no larger than twenty-four by thirty-six (24 x 36) inches. If the plan is prepared in two (2) or more sections, a key map showing the location of the sections shall be placed on each sheet. If more than one (1) sheet is necessary, each sheet shall be the same size and numbered to show the relationship to the total number of sheets in the plan (e.g. Sheet 1 of 5).

## 2. PROJECT LOCATION AND IDENTIFICATION

The following location and identification shall be included on all SWM Site Plans:

- A. The proposed project name or identifying title.
- B. Name of the Borough or municipalities in which the project is located, including the location of any municipal boundaries if located within 200 feet of the subject tract.
- C. The name and address of the owner of the tract (or his authorized agent), the Developer/Subdivider, and the firm that prepared the plans.
- D. The file or project number assigned by the firm that prepared the plan, the plan date, and the date(s) of all plan revisions.
- E. The entire existing tract boundary with bearing and distances. (If it is the intention of the landowner to retain a single lot with a lot area in excess of ten [10] acres, the boundary of that lot may be identified as a deed-plotting and may be drawn at any legible scale; if the retained lot has a lot area of ten [10] or less acres, it must be described to the accuracy of the requirements of this Ordinance). In the case of lot add-on plans, and revised final plans, the boundary of the receiving tract shall also be identified as a deed plotting and may be drawn at any legible scale.
- F. The total acreage of the entire existing tract.
- G. The location of existing lot line markers along the perimeter of the entire existing tract.
- H. The zoning district, lot size, and/or density requirements of the Borough Zoning Ordinance.
- I. A statement on the plan indicating the granting of a prior zoning amendment, special exception or variance, if applicable, along with any prior modifications granted by the Board to sections of this Ordinance.
- J. The names of all adjacent landowners, both adjoining and across existing rights-of-way, along with the plan book record numbers of all previously recorded plans for adjacent properties.

- K. A location map, drawn to scale, relating the subdivision or land development to at least two (2) intersections of street centerlines, including the approximate distance to the intersection of centerlines of the nearest improved street intersection.
- L. Source of title, deed, book, page, plan book (if applicable), and tax map, block, and parcel number.
- M. A note indicating existing and proposed land use(s).

3. EXISTING FEATURES

The following features shall be shown on all SWM Site Plans and shall be shown on **a separate sheet** titled "Existing Features". No proposed features shall be included on this sheet.

- A. Existing contours shall be shown at the following minimum vertical intervals:

<u>Average Natural Slope</u>	<u>Required Contour Interval</u>
0 to 3%	1 foot contour interval
4 to 20%	2 foot contour interval
21% and greater	5 foot contour interval

- (1) Contour interval may be adjusted based upon horizontal scale with concurrence of the Borough Engineer.
- (2) Contours shall be accompanied by the location of the bench mark and a notation indicating the datum used. The datum used by an Authority shall be used in all plans indicating connection to an Authority's public sewer system or public water system.
- (3) Contours plotted by interpolation of Lancaster County GIS mapping will only be accepted when there is no new construction or earth disturbance proposed by the plan.
- (4) Contours plotted by interpolation of the United States Geodetic Survey 7.5' mapping will not be accepted.

- B. The following items **when located upon or within two hundred (200) feet** of the tract:

- (1) The location and name of existing rights-of-way and cartways for private or public streets, alleys and driveways.
- (2) The location and size of the following features and any related right-of-way: sanitary sewer mains, water supply mains, fire hydrants, buildings, and storm water collection, conveyance, and management facilities.
- (3) The location and size of existing on-lot sewage systems and wells.
- (4) The location of existing rights-of-way and easements for electric, gas and oil

transmission lines, and railroads.

- (5) Significant environmental or topographic features such as floodplains, wetlands, quarry sites, solid waste disposal areas, historic structures, cemetery or burial sites, archaeological sites, highly erosive soils, or wooded areas.
- (6) The soils names and boundaries.

C. The following items **when located within** the subject tract:

- (1) The size, capacity and condition of the existing storm water management system and any other facility that may be used to convey storm flows.
- (2) The location and size of existing on-lot sewage systems and wells.
- (3) The location and use of existing buildings and other man-made features.
- (4) Significant environmental or topographic features as identified in the Manheim Borough Comprehensive Plan including, but not limited to:
  - (a) Prime agricultural soils;
  - (b) Underlying geology with any hazardous geology noted;
  - (c) Floodplains;
  - (d) Quarry sites;
  - (e) Solid waste disposal areas;
  - (f) Historic structures;
  - (g) Cemetery or burial sites;
  - (h) Archaeological sites;
  - (i) Highly erosive soils;
  - (j) Wooded areas;
  - (k) Natural habitat; and,
  - (l) PNDI sites.
- (5) The location of wetlands and supporting data.

#### 4. PROPOSED FEATURES AND PLAN INFORMATION

The following proposed features and plan information shall be shown on all Storm Water Management Site Plans and shall be shown on a separate sheet entitled "Proposed Features". The proposed features and plan information shall be overlaid upon a copy of the Existing Features Plan. The existing features shall be "screened" or "shaded" on the Proposed Features Plan.

- A. Block and lot numbers in consecutive order (e.g. Block "A", Lots 1 through 10; Block "B", Lots 11 through 22).
- B. The location and configuration of proposed buildings, parking compounds, streets including cartway and right-of-way widths, alleys, driveways, common open space, recreational areas, and all other significant planned facilities.
- C. Total number of lots, units of occupancy, density, and proposed land use. If a multiple land use is proposed, the location of each land use shall be indicated.
- D. Easements and rights-of-way, including:
  - (1) A minimum twenty (20) foot wide access easement around all SWM facilities that would provide ingress from and egress to a public right-of-way. Easements shall be provided to allow for the collection and discharge of water, the inspection, maintenance, repair and reconstruction of the drainage facilities, and the passage of machinery for work.
  - (2) Provisions for permanent access or maintenance easements for all existing and proposed physical SWM facilities, such as ponds and infiltration structures, as necessary to implement the Operation and Maintenance (O&M) Plan. All such agreements shall be duly recorded in the Office of the Recorder of Deeds and shall constitute a binding permanent covenant upon the property, superior to all liens of record and not subordinate to any easement or restriction that would interfere with its provisions and the implementation thereof.
- E. Building setback line and building envelope.
- F. Identification of buildings to be demolished and all other features to be removed.
- G. Typical street cross-section for each proposed public or private street and typical cross-section for any existing street which will be improved as part of the application. Each cross-section shall include the entire right-of-way width.
- H. Storm water management data and plans designed in accordance with this Ordinance. This information may be provided on a sheet with other data or on separate sheets and need not necessarily be recorded with the final plan. In the case of any dispute in the methodology used in the design of any Storm Water Management Site Plan and/or in the presentation of such information, the Borough Council shall make the final determination on the design criteria, methodology, and form of presentation. The following information shall be included:
  - (1) All calculations, assumptions, criteria, and references used in the design of the

storm water management facilities, the establishment of existing facilities capacities, and the pre- and post-development discharges.

- (2) All plans and profiles of the proposed storm water management facilities, including the horizontal and vertical location, size, and type of material.
  - (3) For all basins, a plotting or tabulation of the storage volumes and discharge curves with corresponding water surface elevations, inflow hydrographs, and outflow hydrographs.
  - (4) The guidelines for lot grading within the subdivisions. This information shall identify the direction of storm water runoff flow within each lot and the areas where storm water runoff flows will be concentrated. This information shall be shown by flow arrows or topographical data.
- I. A table indicating the existing zoning district, total tract area, required lot size, required setbacks, required maximum and/or minimum development density, maximum building height, maximum lot coverage, and number of lots in the proposed subdivision along with the proposals for each of these parameters.
  - J. A statement identifying the number of square feet of impervious coverage for which storm water management facilities have been designed for each lot.
  - K. A statement on the plan indicating the granting of a zoning amendment, special exception or variance, if applicable, along with modifications granted by the Borough Council to sections of this Ordinance.
  - L. Where the proposed regulated activity is located partially or wholly within an area prone to frequent flooding (either by impoundment or conveyance) as indicated by the flood boundary and floodway map, profiles, and supporting data, soil type or local historical record; the Developer shall supply the location and elevation of all proposed roads, fills, utilities, buildings, storm water management, and erosion control facilities.
  - M. Location of all percolation test holes, deep probe holes and proposed well locations.
  - N. Easements for the on-lot sewage replacement locations.
  - O. The location of all trees and/or woodlands on the site and location of trees and/or woodlands to be removed and trees and/or woodlands to remain.
  - P. The layout of lots with approximate dimensions and gross and net acreage.
  - Q. A detailed grading plan. The grading plan shall include finished grades and ground floor elevations. This information may be provided on separate sheets and is not subject to recording with the final plans.
  - R. The location and dimensions of all E&S control facilities.
  - S. Identification of any lands to be dedicated or reserved for public, semi-public, or community use.

- T. In the case of a plan which requires access to a highway under the jurisdiction of the Department of Transportation, the inclusion of the following plan note:

"A Highway Occupancy Permit is required pursuant to Section 420 of the Act of June 1, 1945 (P.L. 1242, No. 428), known as the 'State Highway Law', before access to a state highway is permitted. Access to the state highway shall be as authorized by a Highway Occupancy Permit, and the Borough Council's approval of this plan in no way implies that such a permit can be acquired."

- U. A complete landscape plan showing the location, size, and type of all plant material required by provisions of this Ordinance or any other applicable Borough regulations, including, but not limited to, all vegetated storm water BMPs. The landscape plan should be provided on separate sheets and must include the signature and seal of the registered landscape architect responsible for preparation of the plan. Native or Naturalized/Non-Invasive Vegetation suitable to the soil and hydrologic conditions of the development site shall be used unless otherwise specified in the BMP Manual. The limit of existing, native vegetation to remain shall be delineated on the plan along with proposed construction protection measures.

- V. A detailed schedule of inspections during construction, as generally outlined as follows, which is tailored for the site under consideration

- (1) The Borough shall inspect all phases of the installation of any temporary or permanent SWM facilities during construction. The Developer shall pay the cost of any such inspection. The Developer shall provide at least twenty-four (24) hours' notice prior to the start of construction of any improvements that are subject to inspection. All inspections of completed items shall be requested, in writing, at least forty-eight (48) hours in advance of the inspection time and date.
- (2) It is generally required that the following phases of site construction have mandatory inspection. This general list of phases may be amended by mutual agreement of the Borough and Developer when the site requires special construction procedures. The inspection schedule must be shown on the approved Storm Water Management Site Plan.
- (3) General Site Construction
  - (a) Upon completion of preliminary site preparation including stripping of vegetation, stockpiling of topsoil, and construction of temporary erosion and sedimentation control devices.
  - (b) Upon completion of rough grading, but prior to placing topsoil, permanent drainage, or other site development improvements and ground covers.
  - (c) During the construction of permanent storm water management and BMP facilities.

- (d) Upon the final completion of permanent storm water management and BMP facilities, including the establishment of ground covers and plantings.
- (e) After review of the as-built drawings, required by Section 607, but prior to final release of the financial guarantee for completion of final grading, vegetative controls required by the BMP standards, or other site restoration work.

(4) In addition to the above outlined observations, additional observations will be made at the request of the Developer for reduction of financial securities. Random observations should be made at the frequency desired by the Borough. At the time of any of the above listed observations, all ongoing construction (i.e. storm drainage, sanitary sewer, water, erosion control, etc.) should also be checked for compliance with the approved plans and the findings reported. Since the above inspections are mandatory, it is recommended that requests for reduction of financial guarantee be submitted to coincide with the above inspections.

W. A note indicating that As-Built Plans will be provided for all storm water management facilities prior to occupancy, or the release of financial security.

#### **SECTION 405 GENERAL REQUIREMENTS**

The following general standards shall be applied to all regulated activities to promote flow attenuation, erosion and sediment control, and flood control, unless the otherwise regulated activity is specifically exempted in Section 402 or falls under the definition of Minor Land Disturbance and is regulated by the provisions of Section 403.

1. The SWM Site Plan shall include a note on the plan informing the owner that the Borough shall have the right of entry for the purposes of inspecting all storm water conveyance, treatment, or storage facilities.
2. All landowners of land included in the SWM Site Plan who will be directly impacted by the Applicant's proposed runoff or earth disturbance shall be required to execute all applications and final documents.
3. All SWM Site Plans shall be prepared by a Qualified Person.
4. SWM Site Plans shall be prepared in a form that meets the requirements for recording for the Office of the Recorder of Deeds of Lancaster County.
5. For all regulated earth disturbance activities, Erosion and Sedimentation Pollution 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, the Clean Streams Law, and the Storm Water Management Act.
6. Impervious areas:

- A. The measurement of impervious area shall apply to the total proposed development even if development is to take place in stages or phases.
  - B. For development taking place in stages or phases, the entire development plan must be used in determining conformance with this Ordinance.
  - C. Any areas designed to initially be gravel or crushed stone shall be assumed to be impervious.
  - D. Existing impervious areas that are not being altered by the proposed regulated activity shall not be subject to the volume controls in Section 507 and the peak rate controls of Section 501.22.
7. Storm water flows onto adjacent property shall not be created, increased, decreased, relocated, or otherwise altered without written notification of the adjacent property owner(s) by the Developer including the establishment of an easement. Such storm water flows shall be subject to the requirements of this Ordinance.
8. All regulated activities shall include such measures as necessary to:
- A. Protect health, safety, and property;
  - B. Meet the water quality goals of this Ordinance by implementing measures to:
    - (1) Minimize disturbance to floodplains, wetlands, natural slopes, existing native vegetation, and woodlands.
    - (2) Create, maintain, or extend riparian buffers and protect existing forested buffers.
    - (3) Provide trees and woodlands adjacent to impervious areas whenever feasible.
    - (4) Minimize the creation of impervious surfaces and the degradation of Waters of the Commonwealth and promote groundwater recharge.
    - (5) Protect natural systems and processes (drainageways, vegetation, soils, and sensitive areas) and maintain, as much as possible, the natural hydrologic regime.
    - (6) Incorporate natural site elements (wetlands, stream corridors, mature forests) as design elements.
    - (7) Avoid erosive flow conditions in natural flow pathways.
    - (8) Minimize soil disturbance and soil compaction.
    - (9) Minimize thermal impacts to Waters of the Commonwealth.

- (10) Disconnect impervious surfaces by directing runoff to pervious areas wherever possible, and decentralize and manage storm water at its source.
- C. To the maximum extent practicable, the techniques for Low Impact Development (LID) Practices described in the BMP Manual shall be incorporated. The proposed LID Practices shall be noted on the SWM Site Plan.
9. The design of all storm water management facilities over karst shall include an evaluation of measures to minimize adverse effects.
10. Infiltration BMPs, to the extent practicable, shall be spread out, made as shallow as practicable when located above grade, and located to maximize use of natural on-site infiltration features while still meeting the other requirements of this Ordinance.
11. Normally dry, open-top storage facilities shall completely drain the volume control storage over a period of time not less than 24 hours and not more than 72 hours from the end of the design storm. However, any infiltration at such facilities is exempt from the minimum 24-hour standard, i.e. may infiltrate in a shorter period of time, provided that none of this water will be discharged into Waters of this Commonwealth.
12. Normally dry, open-top storage facilities shall completely drain the rate control storage over a period of time less than or equal to 24 hours from the peak 100-year water surface design elevation.
13. The design storm volumes and precipitation intensities to be used in the analysis of peak rates of discharge shall be as required in Section 503.1.D.
14. The Applicant shall refer to the BMP Manual for various BMPs and their design standards.
15. For any activities that are regulated under Chapter 105 or Chapter 106, or require any other permit under applicable state or federal regulations, the permit(s) shall be part of the SWM Site Plan and must be obtained prior to final plan approval.

#### **SECTION 406 NOTIFICATIONS**

1. Notice from the Lancaster County Conservation District of the approval of the Erosion and Sedimentation Pollution Control Plan.
2. A note shall be placed on the plan indicating any area that is not to be offered for dedication, if applicable.
3. Written notice from the Borough that all proposed improvements have been designed to the standards of the Borough and that financial guarantee and a completed improvement guarantee agreement in a form suitable to the Borough Council has been received.
4. Such written notices of approval as may be required by this Ordinance, including, but not limited to, storm water runoff to adjacent properties.

5. Notification from the appropriate state and federal agencies that permits have been issued, or are not required, for any proposed activities within streams, wetlands, or any other state or federally regulated body of water. These permits include, but are not limited to, Floodplain Encroachment Permits, Dam Safety Permits, Earth Disturbance Permits, Stream Encroachment Permits, and General Permits.
6. Public Utility Lines
  - A. Where the tract described in the application includes any public utility, electric transmission line, gas pipeline, or petroleum product transmission line located within the tract, the Applicant shall notify, in writing, the owner or lessee of the right-of-way of his intentions.
  - B. A note stating any conditions regarding the use of the land, minimum building setback, or right-of-way lines shall be included on the plan.
  - C. This requirement may also be satisfied by submitting a copy of the recorded agreement.
7. Natural Resource Easement
  - A. Where the land included in the subject application has an agricultural, woodland or other natural resource easement located within the tract, the application shall be accompanied by a letter from the party holding the easement stating any conditions on the use of the land.
  - B. This requirement may also be satisfied by submitting a copy of the recorded easement.

#### **SECTION 407 CERTIFICATES**

1. Certificate for Approval by the Borough's Authorized Staff Representative. See form of certificate in Appendix E.
2. Certificate for approval by the Borough Engineer.
3. A statement, signed by the landowner, acknowledging that the storm water BMPs are fixtures that cannot be altered or removed without prior approval by the Borough.
4. A statement referencing the Operation and Maintenance (O&M) Agreement and stating that the O&M Agreement is part of the SWM Site Plan.
5. The following signature block for the Qualified Professional preparing the SWM Site Plan:  
"I, \_\_\_\_\_, hereby certify that the Storm Water Management Plan meets all design standards and criteria of the Borough Storm Water Management Ordinance."

# ARTICLE V

## STORM WATER MANAGEMENT STANDARDS

### SECTION 501 GENERAL REQUIREMENTS

All storm water management, collection, conveyance, erosion control, and floodplain considerations shall be accomplished in accordance with the following provisions:

1. Prior to the final approval of any subdivision or land development plan, or the commencement of any regulated activity within the jurisdiction of this Ordinance, the Developer shall submit a Storm Water Management Site Plan to the Borough for approval.
  - A. When plan applications, whether preliminary or final, are submitted in sections, a generalized Storm Water Management Site Plan for the entire project site shall be submitted in addition to the detailed Storm Water Management Site Plan for the proposed section. This generalized plan shall demonstrate how the storm water of the proposed section will relate to the entire development. The amount and velocity at the discharge point of the section shall be included in the data submitted. If temporary facilities are required for construction of a section, such facilities shall be included in the submitted plans.
  - B. The type, location and extent of all erosion and sedimentation control measures shall be shown on an Erosion and Sedimentation Pollution Control plan that conforms to the requirements of the Soil Erosion and Sedimentation Control Manual of the Pennsylvania Department of Environmental Protection and the Design Standards of Section 502 of this Ordinance.
  - C. An ownership and maintenance program, in recordable form acceptable to the Borough, that clearly sets forth the ownership and maintenance responsibility of all temporary and permanent storm water management facilities and erosion and sedimentation control facilities, including:
    - (1) Description of temporary and permanent maintenance requirements;
    - (2) Identification of a responsible individual, corporation, association, or other entity for ownership and maintenance of both temporary and permanent storm water management and erosion and sedimentation control facilities;
    - (3) Provisions for permanent access or maintenance easements for all existing and proposed physical SWM Facilities and BMPs, such as ponds and infiltration structures, as necessary to implement the Operation and Maintenance (O&M) Plan. All such agreements shall be duly recorded in the Office of the Recorder of Deeds and shall constitute a binding permanent covenant upon the property, superior to all liens of record and not subordinate to any easement or restriction that would interfere with its provisions and the implementation thereof.
    - (4) The intent of these regulations is to provide private ownership and maintenance of

storm water management and erosion and sedimentation control facilities. Where the Borough Council accepts dedication of storm water management facilities, the Borough Council may require the Developer to establish, at the time of dedication, a maintenance fund, in an amount determined by the Borough, adequate for the perpetual care of such facilities;

D. A written report shall be submitted that includes the following information:

- (1) Storm water runoff calculations for both pre-development and post-development conditions.
  - (2) An Erosion and Sedimentation Pollution Control plan narrative that conforms to the requirements of the Soil Erosion and Sedimentation Control Manual of the Pennsylvania Department of Environmental Protection and provides a description of all erosion and sedimentation control measures, temporary as well as permanent, including the staging of earth moving activities, sufficient in detail to clearly indicate their function.
  - (3) General description of the development site, including a description of existing natural and hydrologic features and any Environmentally Sensitive Areas.
  - (4) General description of the overall SWM concept for the project, including a description of permanent SWM techniques, non-structural BMPs to be employed and construction specifications of the materials to be used for structural SWM Facilities.
  - (5) For all proposed detention basins and retention basins, except temporary sedimentation basins, the documentation shall include a plotting or tabulations of storage volumes with corresponding water surface elevations and the outflow rates for those water surfaces.
  - (6) For all proposed detention basins and retention basins, except temporary sediment basins, documentation shall set forth the design hydrograph, the shortcut routing method or a method of equal caliber acceptable to the Borough Engineer, utilized to determine the function of the basin.
2. Storm water drainage systems shall be provided in order to permit unimpeded flow along natural watercourses, except as modified by storm water management facilities or open channels consistent with this Ordinance.
  3. The existing points of concentrated drainage that discharge onto adjacent property shall not be relocated and shall be subject to any applicable discharge criteria specified in this Ordinance.
  4. Where a Development Site is traversed by watercourses other than permanent streams, a drainage easement shall be provided conforming substantially to the line of such watercourses. The terms of the easement shall prohibit excavation, the placing of fill or structures, and any alterations that may affect adversely the flow of storm water within any portion of the easement. Also, maintenance of vegetation within the easement shall be required.
  5. The PADEP, Chapter 105, Rules and Regulations, apply to the construction, modification, operation, or maintenance of both existing and proposed water obstructions and

encroachments throughout the watershed, including work in wetlands. Inquiries on permit requirements or other concerns shall be addressed to DEP's Regional Office.

6. When it can be shown that, due to topographic conditions, natural drainage ways on the development 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 DEP through the Joint Permit Application process, or, where deemed appropriate by DEP, through the General Permit process.
7. If diffused flow is proposed to be concentrated and discharged onto adjacent property, the Applicant 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. The Applicant must provide an executed easement for newly concentrated flow across adjacent properties.
8. Any storm water management facilities or any facilities that constitute water obstructions (e.g. culverts, bridges, outfalls, or stream enclosures, etc.) that are regulated by this Ordinance, that will be located in or adjacent to Waters of the Commonwealth (including wetlands), shall be subject to approval by DEP under regulations at 25 PA Code Chapter 105 through the Joint Permit Application process, or, where deemed appropriate by 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 DEP.
9. Should any storm water management facility require a dam safety permit under 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 one hundred (100)-year event.
10. When storm water management facilities are proposed within one thousand (1,000) feet of a downstream Borough, the storm water analysis shall be submitted to the downstream Borough's engineer for review and comment.
11. Roof drains shall not be connected to sanitary or storm sewers. When it is more advantageous to connect directly to streets or storm sewers, then the Borough shall permit it on a case-by-case basis.
12. Any storm water management facilities regulated by this Ordinance that will be located on or discharged onto State Highway rights-of-way shall be subject to approval by PennDOT.
13. Storm water management facilities located within or affecting the floodplain of any watercourse shall comply with the requirements of the flood plain regulations provided in the Zoning Ordinance or any future ordinances regulating construction or development within areas of the Borough subject to flooding.
14. The minimum floor elevations for all structures that would be affected by a basin, other temporary impoundments, or open conveyance systems where ponding may occur shall be two (2) feet above the 100-year water surface. If basement or underground facilities are proposed, detailed calculations addressing the effects of the storm water ponding on the structure and water-proofing and/or flood proofing design information shall be provided for review and approval.

15. Storm water BMPs shall be encouraged. They shall be located, designed, and constructed in accordance with the latest technical guidance published by PADEP, provided they are accompanied by detailed engineering plans and performance capabilities and supporting site specific soils, geology, runoff and groundwater and infiltration rate data to verify proposed designs. Additional guidance from other sources may be accepted at the discretion of the Borough Engineer (a pre-application meeting is suggested).
16. All existing and natural watercourses, channels, drainage systems, and areas of surface water concentration shall be maintained in their existing condition unless an alteration is approved by the appropriate regulatory agency.
17. No outlet structure from a storm water management facility shall discharge directly onto a Borough or State roadway.
18. Infiltration BMPs intended to receive runoff from regulated activities shall be selected based on suitability of soils and site conditions and shall be constructed on soils that have the following characteristics:
  - A. A minimum depth of twenty-four (24) inches between the bottom of the facility and the limiting zone, unless it is demonstrated to the satisfaction of the Borough that the selected BMP has design criteria which allow for a smaller separation.
  - B. A stabilized infiltration rate sufficient to accept the additional storm water load and drain completely as determined by field tests conducted by the Applicant's professional designer. The stabilized infiltration rate is to be determined in the same location and within the same soil horizon as the bottom of the infiltration facility. The stabilized infiltration rate is to be determined as specified in the BMP Manual.
19. Storm water discharge points onto an adjacent property shall comply with the following:
  - A. Storm water runoff from a project site shall flow directly into a natural watercourse or into an existing storm sewer system. If neither of these is available, the Applicant shall obtain an easement from the downstream landowner(s) to allow the site's runoff discharge to reach a natural watercourse or an existing storm sewer system through the easement. If an easement is obtained, post-developed flow characteristics must be similar to or better than the runoff characteristics (spread, velocity, and peak rate) of the pre-developed flows. The easement from the downstream property owner(s) shall be to allow for a piped storm sewer system, an overland flow system, or a combination of the two. The downstream system design shall conform to the design requirements of this Ordinance.
  - B. When the Applicant provides verification that the downstream landowner(s) refuses to grant an easement at reasonable terms in the sole opinion of the Borough, the site shall be designed such that the discharge from the Applicant's site shall be in a non-erosive, sheet flow condition. For all design year storms, including the 100-year storm, runoff from the Applicant's site shall flow onto the adjacent property in a manner similar to the runoff characteristics (spread, velocity, and peak rate) of the pre-developed flow. The use of level spreaders is prohibited.
  - C. Storm water runoff shall not be transferred from one watershed to another unless the

watersheds are sub-watersheds of a common watershed which join together within the perimeter of the property, or both of the following apply: 1) the effect of the transfer does not alter the peak discharge (in conformance with the requirements of the Act 167 Plan) onto adjacent lands; and, 2) drainage easements from the affected landowners are provided.

20. Unless an alternate design is submitted to the Borough for review, and said design is prepared by a licensed (in the Commonwealth of Pennsylvania) geologist or geotechnical engineer:
- A. No storm water facilities shall be placed in, over or within a distance that will impact the following features:
    - (1) Sinkholes
    - (2) Closed depressions
    - (3) Lineaments in carbonate areas
    - (4) Fracture traces
    - (5) Caverns
    - (6) Intermittent Streams
    - (7) Ephemeral streams
    - (8) Bedrock pinnacles (surface or subsurface)
  - B. The minimum isolation distance from storm water management facilities to the listed geologic features shall be as follows:
    - (1) One hundred (100) feet from the rim of sinkholes or closed depressions;
    - (2) One hundred (100) feet from disappearing streams;
    - (3) Fifty (50) feet from lineaments or fracture traces;
    - (4) Twenty-five (25) feet from surface or identified subsurface pinnacles.
  - C. Storm water runoff from any regulated activity shall not be discharged into sinkholes.
  - D. It shall be the Developer's responsibility to verify if the development is underlain by carbonate geology. The following note shall be attached to all Storm Water Management Site Plans and signed and sealed by the Developer's qualified professional:  

**"I, \_\_\_\_\_, certify that the proposed detention basin is/is not (circle one) underlain by carbonate geology."**
  - E. Whenever a storm water facility will be located in an area underlain by carbonate geology, a geological evaluation of the proposed location by a Registered Professional Geologist shall be conducted to determine susceptibility to sinkhole formation. The

evaluation may include the use of impermeable liners to reduce or eliminate the separation distances listed in Section 502.6.B.

21. All storm water runoff flowing over the project site shall be considered in the design of the storm water management facilities.
22. The calculated peak rates of runoff for storm water originating on the project site must meet one the following conditions, for all watersheds flowing from the project site:

A. Match Pre-Development Hydrograph

Developers and/or landowners are encouraged to provide infiltration facilities or utilize other techniques which will allow the post-development 100-year hydrograph to match the pre-development 100-year hydrograph, along all parts of the hydrograph, for the development site. To match the pre-development hydrograph, the post-development peak rate must be less than or equal to the pre-development peak rate, and the post-development runoff volume must be less than or equal to the pre-development volume for the same storm event. A shift in hydrograph peak time of up to five (5) minutes and a rate variation of up to 5% at a given time may be allowable to account for the timing effect of BMPs used to manage the peak rate and runoff volume. This option is most feasible for small subdivisions in areas of non-carbonate geology. Incorporating the Volume Control requirements as given in Section 506 can be used as part of this option.

B. Where the pre-development hydrograph cannot be matched, one of the following shall apply:

- (1) For areas covered by a release rate map from an approved Act 167 Plan, the post-development peak discharge rates for the 2-, 10-, 25-, 50-, and 100-year storm events (a 24-hour SCS type storm or an IDF Curve Rational Method storm) will follow the applicable approved release rate maps.
- (2) For areas not covered by a release rate map from an approved Act 167 Plan, post-development runoff from any regulated activity shall not exceed the peak rates of runoff prior to development for all design storms (2-, 10-, 25-, 50-, and 100-year storm events) except where the post-development hydrograph does not exceed the pre-development hydrograph at all points in time for all design storms.

C. Infiltration – Developers and/or landowners are encouraged to provide infiltration facilities or utilize other techniques which will allow the post-development hydrograph to match the pre-development hydrograph, along all parts of the hydrograph for the site. This option is most feasible for small subdivisions in areas of non-carbonate geology.

D. Developers have the option to propose a regional storm water management plan or participate in a regional storm water management plan developed by others. A regional storm water management plan may include offsite volume and rate control, as appropriate and supported by a detailed design approved by the Borough. A regional storm water management plan must meet all of the volume and rate control standards required by this Ordinance for the area defined by the regional storm water management plan, but not necessarily for each individual development site. Appropriate agreements must be established to ensure the requirements of this

Ordinance and the requirements of the regional storm water management plan are met.

23. Areas proposed for infiltration BMPs shall be protected from sedimentation and compaction during the construction phase to maintain maximum infiltration capacity. Staging of earthmoving activities and selection of construction equipment should consider this protection.
24. Infiltration BMPs shall not be constructed nor receive runoff from disturbed areas until the entire contributory drainage area to the infiltration BMP has achieved final stabilization.

#### **SECTION 502 DESIGN STANDARDS – EROSION AND SEDIMENT CONTROL**

1. The Applicant shall meet requirements as contained in 25 PA Code, Chapters 92 and 102 as required and applicable as follows:
  - A. The implementation and maintenance of Erosion and Sediment control BMPs.
  - B. Development of written plans.
  - C. Submission of plans for approval.
  - D. Obtaining Erosion and Sediment Control and NPDES permits.
  - E. Maintaining plans and permits on site.
2. Evidence of any necessary plan or permit approval for Earth Disturbance activities from PADEP or the LCCD must be provided to the Borough.
3. The Borough shall receive simultaneous copies of plans, reports, applications, and other documents submitted to LCCD for review.
4. A copy of the Notice of Termination for NPDES Permits shall be provided to the Borough once accepted by LCCD.
5. A copy of the approved Erosion and Sediment Control Plan and any other permit, as required by PADEP or the LCCD, shall be available at the project site at all times if required under Chapter 102.
6. Approval of an Erosion and Sedimentation Control Plan by the Borough shall not be construed as an indication that the plan complies with the standards of any agency of the Commonwealth.
7. Construction of temporary roadways (e.g. for utility construction, timber harvesting, etc.) shall comply with all applicable standards for erosion and sedimentation control and stream crossing regulations under 25 PA Code, Chapters 102 and 105.
8. The Erosion and Sedimentation Control Plan shall be submitted to the LCCD for approval and shall address the following, as applicable:
  - A. Design of the roadway system, including haul roads, skid roads, landing areas, trails, and storage and staging areas.
  - B. Runoff control structures (e.g. diversions, culverts, detention ponds, etc.).

- C. Stream crossings for both perennial and intermittent streams.
  - D. Access to public roadways, including design of rock construction entrance for mud and debris control.
  - E. A remediation plan for restoring the disturbed area through re-grading, topsoil placement, reseeding, and other stabilization techniques, as required.
9. In accordance with Chapter 102, temporary facilities shall be included in the submitted plans for a phased section where the following conditions are met:
- A. A regulated activity constitutes a Subdivision or Land Development.
  - B. The Final Plan applications are submitted in sections.
  - C. Temporary facilities are required for construction of a section.

### **SECTION 503            METHODS OF CALCULATION OF RUNOFF**

Methods shall be selected by the Qualified Person based on the individual limitations and suitability of each method for a particular site. The methods of computation used to determine peak discharge and runoff shall be:

1. The Soil-Cover-Complex Method (as set forth in the latest edition of Urban Hydrology for Small Watersheds, Technical Release No. 55 as published by NRCS, formerly SCS) may be used for all detention facilities with a drainage area greater than or equal to sixty (60) acres. This method is recommended for design of storm water management facilities and where storm water runoff volume must be taken into consideration.
2. The Rational Method may be used for drainage areas up to sixty (60) acres. Extreme caution should be used by the Qualified Person if the watershed has more than one (1) main drainage channel, if the watershed is divided so that hydrologic properties are significantly different in one (1) watershed versus the other, if the time of concentration exceeds sixty (60) minutes, or if storm water runoff volume is an important factor. The combination of Rational Method hydrographs based on timing shall be prohibited.
3. The Rational Method shall be used for all:
  - A. Collection Facilities;
  - B. Conveyance Facilities.
4. If the NRCS/SCS Method (also known as Soil-Cover-Complex Method) is used, the design storm volumes to be used in the analysis of peak rates of discharge shall be obtained from the Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2, Version 3.0, U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Spring, Maryland. NOAA's Atlas 14 can be accessed at: [http://hdsc.nws.noaa.gov/hdsc/pfds/orb/pa\\_pfds.html](http://hdsc.nws.noaa.gov/hdsc/pfds/orb/pa_pfds.html).
  - A. Provide the rainfall used for the 2-, 10-, 25-, 50-, and 100-year 24-hour storm events. Rainfall values vary throughout the county depending on location.

- B. Provide the location (longitude and latitude) or a description of the location for which the rainfall applies.
  - C. If rainfalls from more than one (1) location are used, provide the methodology by which the design rainfall was calculated
5. If the SCS method is used, Antecedent Moisture Condition 1 is to be used in areas of carbonate geology, and Antecedent Moisture Condition 2 is to be used in all other areas. A Type II distribution shall be used in all areas.
  6. If the Rational Method is used, the NOAA Atlas 14 data (see item "D" above) shall be used to determine the rainfall intensity in inches per hour based on the information for the 5- through 60-minute duration storm events.
  7. Hydrographs may be obtained from NRCS methods such as TR-55, TR-20, or from use of the "modified" or "unit hydrograph" rational methods. If "modified" or "unit hydrograph" rational methods are used, the ascending leg of the hydrograph shall have a time of three times the time of concentration ( $3 \times T_c$ ) and the descending leg shall have a time of 7 times the time of concentration ( $7 \times T_c$ ) to approximate an NRCS/SCS Type 2 hydrograph.
  8. Runoff Coefficients "C" and Curve Numbers "CN" shall be based on the charts contained in the Appendix.
  9. Times of concentration shall be based on the following design parameters:
    - A. Sheet flow: The maximum length for each reach of sheet or overland flow before shallow concentrated or open channel flow develops is one hundred fifty (150) feet. Flow lengths greater than one hundred (100) feet shall be justified based on the actual conditions at each development site. Sheet flow may be determined using the nomograph in Appendix C-4, or the Manning's kinematic solution shown in the Sheet Flow section of Worksheet No. 1 in Appendix C-5.
    - B. Shallow concentrated flow: Travel time for shallow concentrated flow shall be determined using Appendix C-6 from TR-55, Urban Hydrology for small watersheds.
    - C. Open Channel flows: At points where sheet and shallow concentrated flows concentrate in field depressions, swales, gutters, curbs, or pipe collection systems, the travel times and downstream end of the development site between these design points shall be based upon Manning's Equation and/or acceptable engineering design standards as determined by the Borough engineer.
  10. For the purpose of calculating pre-development peak discharges, all runoff coefficients, both on-site and off-site, shall be based on actual land use assuming summer or good land conditions. Post-development runoff coefficients for off-site discharges used to design conveyance facilities shall be based on actual land use assuming winter or poor land conditions.
  11. Design of on-site conveyance systems calculations may use the Rational Method of  $Q=CIA$  where Q is the peak discharge of the watershed in cubic feet per second, C is the coefficient of runoff,

I is the intensity of rainfall in inches per hour, and A is the area of the watershed in acres; or any other method approved by the Borough.

12. Runoff calculations shall include a hydrologic and hydraulic analysis indicating volume and velocities of flow and the grades, sizes, and capacities of water-carrying structures, sediment basins, and retention and detention structures and sufficient design information to construct such facilities. Runoff calculations shall also indicate both pre-development and post-development rates for peak discharge of storm water runoff from the project site.
13. Runoff calculations will also be made to ensure that the runoff from the upstream watershed area can be accommodated by the pipes, drainage easements, watercourses, etc., on the site.
14. Peak rate control is not required for off-site runoff. Off-site runoff may be bypassed around the site provided all other discharge requirements are met. If off-site runoff is routed through rate control facilities, runoff coefficients for off-site discharges used to design those rate control facilities shall be based on actual land use assuming winter or poor land conditions.

**SECTION 504 DESIGN STANDARDS – WATER CARRYING FACILITIES**

1. All storm sewer pipes, grass waterways, open channels, swales, and other water carrying facilities that service drainage areas within the site shall be designed to convey the twenty-five (25)-year storm event unless in the opinion of the Borough or Borough Engineer the character of development and potential for damage warrant design for the 50- or 100-year storm.
2. Storm water management facilities that convey off-site water through the site shall be designed to convey the fifty (50)-year storm event.
3. All developments shall include provisions that allow for the overland conveyance and flow of the post-developed one hundred (100)-year storm event without damage to public or private property.
4. Conveyance facilities shall comply with the design criteria in the following table:

<b>Conveyance facility design criteria</b>			
<b>Location</b>	<b>Within public street right-of-way</b>	<b>Outside public street right-of-way</b>	
<b>Loading</b>	<b>All</b>	<b>Vehicular loading</b>	<b>Non-vehicular loading</b>
<b>(a) Pipe design</b>			
[1] Material	SLHDPE, RCP	PVC, SLHDPE, RCP	PVC, SLHDPE, RCP
[2] Slope (minimum)	0.5%	0.5%	0.5%
[3] Cover	1 foot to stone subgrade	1 foot to stone subgrade	1 foot to surface
[4] Diameter (minimum)	15 inches	15 inches	8 inches
[5] Street crossing angle	75° to 90°	N/A	N/A
[6] Access/maintenance port frequency (maximum)	400 feet	400 feet	600 feet

<b>(b) Inlet design</b>			
[1] Material	Concrete	Concrete	N/A
[2] Grate depression	0 inches	0 inches	0 inch minimum
<b>(c) Manhole design</b>			
[1] Material	Concrete	Concrete	Concrete
<b>(d) Swale design</b>			
[1] Freeboard (minimum)	6 inches	N/A	6 inches
[2] Velocity (maximum)	Stability check	N/A	Stability check
[3] Slope (minimum)	1%	N/A	1%
[4] Side slopes (residential area)	4:1 max	N/A	4:1 max
[5] Side slopes (non-residential area)	4:1 max	N/A	3:1 max
[6] Bottom width to flow depth ratio	12:1	N/A	12:1
<b>(e) Outlet design</b>			
[1] End treatment	Headwall/endwall	N/A	Headwall/endwall or flared end section
[2] Energy dissipater	Required	N/A	Required

5. All storm sewer pipes, culverts, manholes, inlets, endwalls, and end sections shall be constructed in accordance with Pennsylvania Department of Transportation, Form 408, as amended by Manheim Borough.
6. Storm sewer pipes, culverts, manholes, inlets, endwalls, and end sections proposed for dedication or located along streets shall conform to the requirements of the Pennsylvania Department of Transportation, Bureau of Design, Standards for Roadway Construction, Publication No. 72, in effect and as amended by Manheim Borough at the time the design is submitted.
7. The roughness coefficient (Manning “n” values) used for conveyance pipe capacity calculations shall be determined in accordance with PennDOT Publication 584, PennDOT Drainage Manual, or per the manufacturer’s specifications.
8. Endwalls and end sections shall be used where storm water runoff enters or leaves the storm sewer horizontally from a natural or manmade channel.
9. Inlets shall be placed on both sides of the street at low spots, at changes in the horizontal or vertical directions of storm sewers, and at points where the flow in gutters exceeds three (3) inches. Inlets shall normally be along the curb line at or beyond the curb radius points. For the purpose of inlet location at corners, the depth of flow shall be considered for each gutter. At intersections, the depth of flow for the 25-year storm across the through streets shall not exceed one (1) inch. Inlets shall be depressed two (2) inches below the grade of the road-side swale, curb line, or ground surface. An access/maintenance port may either be an inlet or manhole. Manholes may be substituted for inlets at locations where inlets are not required to collect surface runoff.
10. Material consistency and placement depths for storm sewer pipe backfill shall be (at a minimum)

per all applicable pipe manufacturer's recommendations, further providing it should be free of large (not exceeding 6 inches in any dimension) objectionable or detritus material.

11. Within the public street right-of-way, the gutter spread based on the 25-year storm shall be no greater than one-half of the travel lane and have a maximum depth of three (3) inches at the curb line. A parking lane shall not be considered as part of the travel lane. In the absence of pavement markings separating a travel lane from the parking lane, the parking lane shall be assumed to be seven (7) feet wide if parking is permitted on the street.
12. Inlets or manholes shall be placed at all points of changes in the horizontal or vertical directions of conveyance pipes. Curved pipe sections are prohibited.
13. All inlets placed in paved areas shall have heavy duty bicycle-safe grating consistent with PennDOT Publication 72M, latest edition. A note to this effect shall be added to the SWM Site Plan or inlet details therein.
14. Inlets, junction boxes, or manholes greater than five (5) feet in depth shall be equipped with non-aluminum ladder rungs and shall be detailed on the SWM Site Plan.
15. Where the connecting pipe has a diameter eighteen (18) inches or greater, headwalls and endwalls shall be provided with a protective barrier device to prevent entry of the storm sewer pipe by unauthorized persons. Such protection devices shall be designed to be removable for cleaning.
16. Storm water roof drains and pipes, wherever possible shall discharge water to encourage dispersion or infiltration and not into storm sewers or street gutters.
17. All existing and natural watercourses, channels, drainage systems, and areas of surface water concentration shall be maintained in their existing condition unless an alteration is approved by the Borough.
18. In addition to the material requirements in this section, culverts designed to convey Waters of the Commonwealth may be constructed with either a corrugated metal arch or a precast concrete culvert.
19. Flow velocities from any storm sewer shall not result in a degradation of the receiving channel.
20. Energy dissipaters shall be placed at the outlets of all storm sewer pipes where flow velocities exceed maximum permitted channel velocities.
21. The capacities of swales shall be computed from the Manning Equation using the following design parameters: Permissible open channel velocities and design standards shall be in accordance with good engineering practice as documented in the Engineering Field Manual for Conservation Practices, U.S.D.A., S.C.S., or in Design Charts for Open-Channel Flow, Hydraulic Design Series No. 3, U.S. Department of Transportation.
  - A. Vegetated swales:
    - (1) The first condition shall consider swale stability based upon a low degree of retardance ("n" = 0.03);
    - (2) The second condition shall consider swale capacity based upon a higher degree of retardance ("n" = 0.05); and

- (3) All vegetated swales shall have a minimum slope of 1% unless otherwise approved by the Municipal Engineer.
- B. The “n” factors to be used for paved or riprap swales or gutters shall be based upon accepted engineering design practices, as approved by the Municipal Engineer.
- C. All swales shall be designed to maximize infiltration and concentrate low flows to minimize siltation and meandering, unless geotechnical conditions do not permit infiltration.

**SECTION 505 DESIGN STANDARDS – ABOVE GROUND STORAGE FACILITIES**

- Above ground storage facilities shall consist of all storm water facilities which store, infiltrate/evaporate/transpire, clean or otherwise affect storm water runoff and the top of which is exposed to the natural environment. Above ground storage facilities shall be located above the finished ground elevation. Above ground storage facilities do not include storm water management facilities designed for conveyance or cisterns.
- Facilities with a facility depth greater than eight (8) feet shall not be permitted in residential areas.
- Above ground storage facilities shall comply with the design criteria in the following table:

<b>Above-ground storage facility design criteria</b>			
	<b>Facility Depth</b>		
	<b>Less than 2 feet</b>	<b>2 feet to 8 feet</b>	<b>Greater than 8 feet</b>
<b>(a) Embankment Geometry</b>			
[1] Top width (minimum)	2 feet	5 feet	8 feet
[2] Interior side slope (maximum)	2:1	3:1	5:1
[3] Exterior side slope (maximum)	2:1	3:1	3:1
<b>(b) Embankment construction</b>			
[1] Key trench	Not required	Required	Required
[2] Pipe collar	Not required	Required	Required
[3] Compaction density	Not required	Required	Required
<b>(c) Internal Construction</b>			
[1] Dewatering feature	N/A	Required	Required
[2] Pretreatment elements	Not required*	Required	Required
<b>(d) Outlet Structure</b>			
[1] Pipe size (minimum)	6 inches	12 inches	15 inches
[2] Pipe material	SLHDPE, PVC, RCP	SLHDPE, RCP	RCP
[3] Anticlogging devices	Required	Required	Required
[4] Antivortex design	Not required	Required	Required
[5] Watertight joints in piping?	No	Yes	Yes
<b>(e) Spillway Requirements</b>			
[1] Spillway freeboard (minimum)	3 inches	3 inches	6 inches

[2] Width (minimum)	Not required	10 feet	20 feet
[3] Width (maximum)	Not required	50 feet	50 feet
[4] Spillway channel design	Not required	Required	Required
[5] Routing of 100 year storm	Permitted	Permitted	Permitted

4. All basins shall be structurally sound and shall be constructed of sound and durable materials. The completed structure and the foundation of all basins shall be stable under all probable conditions of operation and shall be capable of discharging the peak discharge of a post-development 100-year storm event through the emergency spillway facilities, in a condition that assumes the primary outlet(s) are blocked, which will not damage the integrity of the facility or the downstream drainage areas. Use of the spillway to convey flows greater than the 50-year design storm shall be permitted.
5. An easement shall be provided from the basin spillway outfall to a natural or artificial watercourse.
6. The effect on downstream areas if the basin embankment fails shall be considered in the design of all basins. The basin shall be designed to minimize the potential damage caused by such failure of the embankment.
7. The maximum depth of water for basins without restricted access shall not exceed six (6) feet unless approved by modification by the Borough Council. Access to basins with a maximum depth of water greater than six (6) feet shall be restricted by fencing that will discourage access.
8. Basins without restricted access shall have impoundment areas with side slopes no greater than five (5) horizontal to one (1) vertical. Access to basins with steeper side slopes shall be restricted by fencing that will discourage access.
9. All detention basins shall include an outlet structure to permit draining the Rate Control Volume to a completely dry position within twenty-four (24) hours, exclusive of BMP storage.
10. All outlet structures and emergency spillways shall include a satisfactory means of dissipating the energy of flow at its outlet to assure conveyance of flow without endangering the safety and integrity of the basin and the downstream drainage area.
11. An impervious core/key trench, when required, shall consist of a cutoff trench (below existing grade) and a core trench (above existing grade). A key trench may not be required wherever it can be shown that another design feature, such as the use of an impermeable liner, accomplishes the same purpose. Materials used for the core shall conform to the Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the No. 200 sieve.
  - A. The dimensions of the core shall provide a minimum trench depth of two (2) feet below existing grade, minimum width of four (4) feet and side slope of 1H:1V or flatter.
  - B. The core should extend up both abutments to the 10-year water surface elevation or six (6) inches below the emergency spillway elevation, whichever is lower.
  - C. The core shall extend four (4) feet below any pipe penetrations through the impervious

core. The core shall be installed along or parallel to the centerline of the embankment.

- D. Compaction requirements shall be the same as those for the embankment to assure maximum density and minimum permeability.
12. All pipe collars, when required, shall be designed in accordance with Chapter 7 of the DEP E&S Manual. The material shall consist of concrete or otherwise non-degradable material around the outfall barrel and shall be watertight.
  13. When required, embankments shall be compacted by sheepsfoot or pad roller. The loose lift thickness shall be nine (9) inches or less, depending on roller size, and the maximum particle size is six (6) inches or less (two-thirds of the lift thickness). Five (5) passes of the compaction equipment over the entire surface of each lift is required. Embankment compaction to visible non-movement is also required.
  14. The embankment fill material shall be taken from an appropriate borrow area which shall be free of roots, stumps, wood, rubbish, stones greater than six (6) inches, frozen or other objectionable materials.
  15. The minimum freeboard shall be provided above the 100-year design elevation of the water surface at the emergency spillway in a condition that assumes the primary outlet(s) are blocked.
  16. No outlet structure from a detention basin or swale shall discharge directly onto any publicly used Borough, state, or private road but shall discharge into a culvert under or along the road.
  17. Wherever possible, basins shall have a non-uniform (naturalistic) shape, rather than a geometric design in the form of a square or rectangle.
  18. The minimum bottom slope of facilities not designed for infiltration shall be one percent (1%). A flatter slope may be used if an equivalent dewatering mechanism is provided.
  19. When required, dewatering shall be provided through the use of underdrain, surface device, or an alternate approved by the Borough Engineer. If the facility is to be used for infiltration, the dewatering device should be capable of being disconnected and only be made operational if the basin is not dewatering within the required timeframe.
  20. When required, pretreatment elements shall consist of forebays, or an alternate approved by the Municipal Engineer, to keep silt to a smaller portion of the facility for ease of maintenance.
  21. Within basins designed for infiltration, existing native vegetation shall be preserved, if possible. For existing unvegetated areas or for infiltration basins that require excavation, a planting plan shall be prepared in accordance with this Ordinance and the BMP Manual which is designed to promote infiltration.
  22. All discharge control devices with appurtenances shall be made of reinforced concrete and stainless steel. Bolts/fasteners shall be stainless steel.
  23. For facilities with a depth less than two (2) feet, no outlet structure shall be required.

## SECTION 506 DESIGN STANDARDS – VOLUME CONTROL

Storm water runoff volume controls shall be implemented using the *Design Storm Method* in Subsection 1 below.

1. The *Design Storm Method* (CG-1 in the BMP Manual) is applicable to any size of regulated activity. This method requires detailed modeling based on site conditions.
  - A. The post-development total runoff volume shall not increase for all storms equal to or less than the 2-year 24-hour storm event.
  - B. For modeling purposes:
    - (1) Existing (pre-development) non-forested pervious areas must be considered meadow in good condition.
    - (2) 20% of existing impervious area, when present, shall be considered meadow in good condition in the model for existing conditions.
    - (3) The maximum loading ratio for volume control facilities in Karst areas shall be 3:1 impervious drainage area to infiltration area and 5:1 total drainage area to infiltration area. The maximum loading ratio for volume control facilities in non-Karst areas shall be 5:1 impervious drainage area to infiltration area and 8:1 total drainage area to infiltration area. A higher ratio would be acceptable if proper justification is submitted and approved.
2. A detailed geologic evaluation of the Development Site shall be performed in areas of carbonate geology to determine the design parameters of recharge facilities. The evaluation shall be performed by a state licensed/certified Professional Geologist (PG), and shall, at a minimum, address soil permeability, depth to bedrock, susceptibility to sinkhole formation, and subgrade stability.
3. Any portion of the volume control storage that meets the following conditions may also be used as rate control storage;
  - (1) Volume control storage that depends on infiltration and is designed according to the infiltration standards in Section 501.18.
  - (2) The volume control storage which will be used for rate control is that storage which is available within twenty-four (24) hours from the end of the design storm based on the stabilized infiltration rate and/or the evapo-transpiration rate.
4. Volume Control BMPs shall be designed in accordance with the BMP Manual. All applicable worksheets from Chapter 8 of the BMP Manual must be used when establishing Volume Controls.
5. Actual field infiltration tests at the location of the proposed elevation of the storm water BMPs are required when five thousand (5,000) square feet or greater of new impervious surface is

added. Infiltration test shall be conducted in accordance with BMP Manual. The Borough shall be notified twenty-four (24) hours prior to infiltration tests being conducted as to provide an opportunity for the Borough to witness the tests.

**SECTION 507 DESIGN STANDARDS – SUBSURFACE STORAGE FACILITIES**

1. Subsurface storage facilities shall consist of all storm water facilities which store, infiltrate/evaporate/transpire, clean or otherwise affect storm water runoff and the top of which is not exposed to the natural environment. Subsurface facilities shall be located below the finished ground elevation. Subsurface facilities shall not include storm water management facilities designed for conveyance.
2. Subsurface storage facilities shall comply with the design criteria in the following table:

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

3. The facility shall be designed to provide a method to eliminate solids, sediment, and other debris from entering the subsurface facility.
4. The facility shall be designed to provide a means of evenly balancing the flow across the surface of the facility to be used for infiltration.
5. For facilities with the bottom less than five (5) feet below the average grade of the ground surface, a clean-out shall be an acceptable observation port. For facilities with the bottom five (5) feet or more below the average grade of the ground surface, a manhole or other means acceptable to the Borough shall be provided for access to and monitoring of the facility. The number of access points shall be sufficient to flush or otherwise clean out the system.
6. Distribution system piping shall be PVC, SLHDPE, or RCP.
7. The stone used for infiltration beds shall be clean washed, uniformly graded coarse aggregate (AASHTO No. 3 or equivalent approved by the Borough). The void ratio for design shall be assumed to be 0.4.
8. Material consistency and placement depths for backfill shall be (at a minimum) per all applicable

pipe manufacturer's recommendations, further providing it should be free of large (not exceeding [6] inches in any dimension) objectionable or detritus material. Select non-aggregate material should be indigenous to the surrounding soil material for non-vehicular areas. Backfill within vehicular areas shall comply with this section unless otherwise specified in governing municipal road/street or subdivision and land development ordinances. Furthermore, if the design concept includes the migration of runoff through the backfill to reach the infiltration facility, the material shall be well drained, free of excess clay or clay-like materials, and generally uniform in gradation.

9. Non-woven geotextiles shall be placed on the sides and top of subsurface infiltration facilities. No geotextiles shall be placed on the bottom of subsurface infiltration facilities.
10. When located under pavement, the top of the subsurface facility shall be a minimum of three (3) inches below the bottom of pavement subbase. Where located under vegetative cover, the top of the subsurface facility shall be a minimum of twelve (12) inches below the surface elevation or as required to establish vegetation.
11. Subsurface facilities shall be designed to safely convey and/or bypass flows from storms exceeding the design storm.
12. The following principles shall be applied to the design plan and construction schedule to minimize soil erosion and sedimentation.
  - A. Stripping of vegetation, grading or other soil disturbance shall be done in a manner that will minimize soil erosion.
  - B. Whenever feasible, natural vegetation shall be retained and protected.

# **ARTICLE VI**

## **MAINTENANCE, FINANCIAL SECURITY, MODIFICATIONS AND PROHIBITED ACTIVITIES**

For the purposes of this Article, drainage courses, swales, storm water inlets, pipes, conduits, detention basins and other SWM Facilities, including BMPs, shall be included under the term “SWM Facilities”.

### **SECTION 601 RESPONSIBILITIES OF DEVELOPERS AND LANDOWNERS**

1. The Borough shall make the final determination on the continuing maintenance responsibilities prior to final approval of the SWM Site Plan. The Borough may require a dedication of such facilities as part of the requirements for approval of the SWM Site Plan. Such a requirement is not an indication that the Borough will accept the facilities. The Borough reserves the right to accept or reject the ownership and operating responsibility for any portion of the SWM Facilities.
2. 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.
3. The O&M Plans and agreements shall be recorded as a restrictive deed covenant that runs with the land.
4. The Borough may take enforcement actions against a landowner for any failure to satisfy the provisions of this Article.

### **SECTION 602 OPERATION AND MAINTENANCE AGREEMENTS**

1. Prior to final approval of the development site's SWM Site Plan, the record owner of the Development Site shall sign and record an O&M agreement covering all storm water control facilities that are to be privately owned. Said agreement, designated as Appendix A, is attached and made part hereto. The agreement shall stipulate that:
  - A. The Landowner, successor, and assignees shall maintain all facilities in good working order in accordance with the approved maintenance schedule and shall keep all facilities in a safe and attractive manner.
  - B. The Landowner shall convey to the Borough conservation easements and/or rights-of-way to assure access for periodic inspections by the Borough and maintenance, if required.
  - C. The owner shall keep on file with the Borough 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 Borough within ten (10) days of the change.

- D. In the case Condominium and Planned Committees, separate agreements will be entered and be in legal form capable of being enforced against the common elements and the ownership interests of the individual units or properties, as the case may be, so that the Borough has the ability to force compliance with the provisions of such agreements and to assess the cost (as set forth in this Ordinance) against all owners so that the Borough does not incur out of pocket expenses.
- E. The owner is responsible for operation and maintenance (O&M) of the SWM BMPs. If the owner fails to adhere to the O&M Agreement, the Borough may perform the services required and charge the owner appropriate fees. Nonpayment of fees may result in a lien against the property.
- F. Where the NPDES permit for the project requires that BMPs be installed, annual written reporting of the inspection and maintenance of those BMPs shall be included in the program.
2. The Operation and Maintenance Agreement shall be subject to the review and approval of the municipal solicitor and governing body.
3. Municipalities are exempt from the requirement to sign and record an O&M agreement.

#### **SECTION 603 PERFORMANCE GUARANTEE**

1. For SWM Site Plans that are required to have an NPDES permit and a financial guarantee to the Borough is required, evidence of the NPDES permit's execute "Notice of Termination" shall be provided to the Borough prior to release of the financial security.
2. A financial security (bond, restricted account or letter of credit) for storm water related improvements shall be supplied by the Developer in conjunction with the subdivision/land development approval, or in conjunction with the Storm Water Management Site Plan approval if no subdivision/land development plan is required.
3. The Applicant shall provide a financial security to the Borough for the timely installation and proper construction of all Storm Water Management Facilities, including E&S BMPS, as required by the approved Storm Water Management Site Plan and this Ordinance and, as applicable, in accordance with the provisions of Sections 509, 510, and 511 of the MPC.
4. As the work of installing the required Storm Water Management Facilities proceeds, the party posting the financial security may request the Council to release or authorize the release, from time to time, such portions of the financial security necessary for payment to the contractor or contractors performing the work. Any such requests shall be in writing addressed to the Council, and the Council shall have forty-five (45) days from receipt of such request within which to allow the Borough Engineer to certify, in writing, to the Council that such portion of the work upon the Storm Water Management Facilities has been completed in accordance with the approved Storm Water Management Site Plan. Upon such certification the Council shall authorize release by the bonding company or lending institution of an amount as estimated by the Borough Engineer fairly representing the value of the Storm Water Management Facilities completed.

The Council may, prior to final release at the time of completion and certification by its Engineer, require retention of 10% of the estimated cost of the aforesaid Storm Water Management Facilities.

5. In the event that any Storm Water Management Facilities which may be required have not been installed as provided in the approved Storm Water Management Site Plan the Council is hereby granted the power to enforce any corporate bond, or other security by appropriate legal and equitable remedies. If proceeds of such bond, or other security are insufficient to pay the cost of installing or making repairs or corrections to all the Storm Water Management Facilities covered by said security, the Council may, at its/their option, install part of such Storm Water Management Facilities and may institute appropriate legal or equitable action to recover the monies necessary to complete the remainder of the Storm Water Management Facilities. All of the proceeds, whether resulting from the security or from any legal or equitable action brought against the Developer, or both, shall be used solely for the installation of the Storm Water Management Facilities covered by such security, and not for any other Municipal purpose.

#### **SECTION 604 MAINTENANCE RESPONSIBILITIES**

1. Maintenance of SWM Facilities shall include, but not be limited to, the following:
  - A. Regular inspection of the SWM Facilities to assure proper implementation of BMPS, maintenance and care, as per Section 611.
  - B. All pipes, swales and detention facilities shall be kept free of any debris or other obstruction and in original design condition.
  - C. Removal of silt from all permanent structures which trap silt or sediment in order to keep the material from building up in grass waterways, pipes, detention or retention basins, infiltration structures, or BMPs, and thus reducing their capacity to convey or store water.
  - D. Mowing grass areas as necessary to maintain adequate growth and to control weeds. Chemical weed control may be used to maintain the specified planting (i.e. grass, wetlands plants, etc.) if federal, state and local laws and regulations are met.
  - E. Liming and fertilizing vegetated channels and other areas according to the specifications in the "Erosion and Sedimentation Control Handbook of Berks/Chester/Lancaster County."
  - F. Re-establishment of vegetation by seeding and mulching or sodding of scoured areas or areas where vegetation has not been successfully established. Selection of seed mixtures shall be subject to approval by the Borough.
  - G. Where the NPDES permit for the project requires that BMPs be installed, annual written reporting of the inspection and maintenance of those BMPs shall be provided to the Borough. LID Practices shall be included in the annual written report. A form for reporting shall be available at the Borough office. Failure to provide such reports may result in

enforcement and penalties by the Borough.

2. The Borough reserves the right to accept or reject any proposal to dedicate ownership and operating responsibility of any SWM Facilities to the Borough.

#### **SECTION 605 MAINTENANCE OF EXISTING FACILITIES/BMPS**

1. SWM Facilities existing on the effective date of this Ordinance, which have not been accepted by the Borough or for which maintenance responsibility has not been assumed by a private entity such as a homeowners' association shall be maintained by the individual Landowners. Such maintenance shall include at a minimum those items set forth in Section 604 above. If the Borough determines at any time that any permanent SWM Facility has been eliminated, altered, blocked through the erection of structures or the deposit of materials, or improperly maintained, the condition constitutes a nuisance and the Borough shall notify the Landowner of corrective measures that are required, and provide for a reasonable period of time, not to exceed thirty (30) days, within which the property owner shall take such corrective action. If the Landowner does not take the required corrective action, the Borough may either perform the work or contract for the performance of the work and bill the Landowner for the cost of the work plus a penalty of 10% of the cost of the work. If such bill is not paid by the property owner within thirty (30) days, the Borough may file a municipal claim against the property upon which the work was performed in accordance with the applicable laws. The Borough shall have the right to choose among the remedies and may use one or more remedies concurrently.
2. No person shall place any structure, fill, landscaping or vegetation into a SWM Facility or within a drainage easement that will limit or alter the functioning of the facility or easement in any manner.

#### **SECTION 606 MODIFICATIONS**

1. MODIFICATION OF ORDINANCE PROVISIONS
  - A. The provisions of this Ordinance not related to water quality are intended as minimum standards for the protection of the public health, safety, and welfare. The Borough reserves the right to modify or to extend them conditionally in individual cases as may be necessary in the public interest; provided, however, that such variation shall not have the effect of nullifying the intent and purpose of this Ordinance, and that the Applicant shows that to the satisfaction of the Borough that the applicable regulation is unreasonable, or will cause undue hardship, or that an alternative proposal will allow for equal or better results. The list of such modifications shall be listed on the plan.
  - B. In granting waivers/modifications for provisions of this Ordinance, the Borough may impose such conditions as will, in its judgment, secure substantially the objectives of the standards and requirements of this Ordinance.
  - C. The Borough 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. The Borough shall maintain a record of consultations with DEP pursuant to this paragraph. Where an NPDES permit for storm water discharges associated with construction activities is required, issuance of an NPDES permit shall constitute satisfaction of consultation with DEP.

- D. Where a written Erosion and Sediment Control Plan associated with earth disturbance of 5,000 square feet to 1 acre is required, review of the written Erosion and Sediment Control Plan shall constitute satisfaction of consultation with DEP.

## 2. MODIFICATION OF APPROVED PLANS AND FACILITIES

- A. Any modification which involves a change in storm water management control methods or techniques, or which involves the relocation or redesign of control measures, or which is necessary because soil or other conditions are not as stated on the approved plan, shall require the submission of a revised plan by the Developer in accordance with the plan requirements as set forth in Article IV of this Ordinance.
- B. Any replatting, revision, or resubdivision of recorded plans or any replatting, revision, or resubdivision of any approved final plan which has not been recorded, including lot grading plans in subdivisions, shall be considered as a new application and shall comply with all the requirements of this Ordinance.

### **SECTION 607 AS-BUILT PLAN**

Prior to the final release of the financial security, the Developer shall provide the Borough with one (1) Mylar and two (2) prints of the final as-built plan showing the following:

1. Actual horizontal and vertical location of cartway centerline versus right-of-way centerline.
2. Actual location of floodplain by elevation and dimension from property line.
3. Actual location and cross section of swales and accompanying easements.
4. Actual horizontal and vertical location of storm water management facilities including type and size of storm drainage pipes.
5. Storm water management facility:
  - A. Actual contours of the storm water management facility.
  - B. Actual outlet structure details including type, size and inverts of outlet pipes.
  - C. Actual elevation of the embankment and emergency spillway.
  - D. A table showing the stage/storage/discharge curve for the constructed conditions.
  - E. A table providing a comparison of the approved design vs. the as-built discharge rates from

all storm water management facilities.

6. When a digital submission of an As-Built Plan is required, all coordinates as depicted on the plan shall be based on the PA South Zone State Plane Coordinate System (NAD83 for horizontal and NAVD88 for vertical).
7. The As-Built Record Plan submission shall include a certification of completion signed by the Owner’s qualified professional verifying that all permanent SWM BMPs have been constructed according to the approved plans and specifications. If any qualified licensed professionals contributed to the construction plans, then a qualified licensed professional must sign the completion certificate.

**SECTION 608 PROHIBITED DISCHARGES AND CONNECTIONS**

1. The following connections are prohibited, except as provided in Section 608.3 below.
  - A. Any drain or conveyance, whether on the surface or subsurface, that allows any non-storm water discharge including sewage, process wastewater, and wash water to enter a separate storm sewer system (if applicable), or Waters of this Commonwealth, and any connections to the storm drain system from indoor drains and sinks; and,
  - B. Any drain or conveyance connected from a commercial or industrial land use to the separate storm sewer system (if applicable) which has not been documented in plans, maps, or equivalent records, and approved by the Borough.
2. No person shall allow, or cause to allow, discharges into surface Waters of this Commonwealth which are not composed entirely of storm water, except (1) as provided in Section 608.3 below and (2) discharges allowed under a state or federal permit.
3. The following discharges are authorized unless they are determined to be significant contributors to pollution to the Waters of this Commonwealth:

- Discharges from firefighting activities	- Flows from riparian habitats and wetlands, diverted streamflows
- Potable water sources including water line flushing	- Uncontaminated water from foundations or from footing drains
- Irrigation and Landscape irrigation drainage	- Lawn watering
- Air conditioning condensate	- Dechlorinated swimming pool discharges
- Springs	- Uncontaminated pumped groundwater, rising groundwater, and groundwater infiltration
- Water from crawl space pumps	- Water from individual residential car washing

- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used	- Routine external building wash down (which does not use detergents or other compounds)
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4. In the event that the Borough or DEP determines that any of the discharges identified in Section 608.3 above significantly contribute to pollution of the Waters of this Commonwealth, the Borough or DEP will notify the responsible person(s) to cease the discharge.

**SECTION 609 ROOF DRAINS AND SUMP PUMPS**

Roof drains and sump pumps shall discharge, to the maximum extent practicable, to infiltration or vegetative BMPs and to the maximum extent practicable satisfy the criteria for DIAs.

**SECTION 610 ALTERATION OF SWM BMPS**

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

**SECTION 611 INSPECTION**

1. SWM BMPs shall be inspected by the Landowner, or the Landowner’s Designee according to the following list of minimum frequencies:
  - A. Annually for the first five (5) years.
  - B. Once every three (3) years thereafter.
  - C. During or immediately after the cessation of a 10-year or greater storm.
  - D. Those BMPs related to an NPDES permit shall be inspected to the Post-Construction Storm Water Management Plan, with annual written reports provided to the Township.

## **ARTICLE VII ADMINISTRATION**

### **SECTION 701 RIGHT-OF-ENTRY**

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

### **SECTION 702 NOTIFICATION**

In the event that any person fails to comply with the requirements of this Ordinance, or fails to conform to the requirements of any permit issued hereunder, the Borough shall provide written notification of the violation. Such notification shall set forth the nature of the violation(s) and establish a reasonable time limit, for correction of these violation(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 shall not preclude by the Borough from pursuing any and all other remedies.

### **SECTION 703 ENFORCEMENT/VIOLATIONS**

1. The Borough Council is hereby authorized and directed to enforce all of the provisions of this ordinance. All inspections regarding compliance with the Storm Water Management Site Plan shall be the responsibility of the Borough Engineer or other qualified persons designated by the Borough.
  - A. A set of SWM Site plans approved by the Borough shall be on file at the development site throughout the duration of the regulated activity. Periodic inspections may be made by the Borough or Designee during construction.
  - B. It shall be unlawful for any person, firm, or corporation to undertake any activity under Section 105 on any property except as provided for in the approved Storm Water Management Site Plan and pursuant to the requirements of this Ordinance. It shall be unlawful to alter or remove any control structure required by the Storm Water Management Site Plan pursuant to this Ordinance or to allow the property to remain in a condition which does not conform to the approved storm water management site plan.
  - C. Any approval or permit issued by the Borough pursuant to this Ordinance may be suspended or revoked for:
    - (1) Non-compliance with or failure to implement any provision of the approved SWM Site Plan or O&M 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.

A suspended approval may be reinstated by the Borough when:

- (4) The Borough has inspected and approved the corrections to the violations that caused the suspension.
  - (5) The Borough is satisfied that the violation has been corrected.
- D. An approval that has been revoked by the Borough cannot be reinstated. The Applicant may apply for a new approval under the provisions of this Ordinance.
  - E. If a violation causes no immediate danger to life, public health, or property, at its sole discretion, the Borough may provide a limited time period for the owner to correct the violation. In these cases, the Borough will provide the Landowner, or the Landowner'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 may revoke or suspend any, or all, applicable approvals and permits pertaining to any provision of this Ordinance.

2. It shall be a violation of this Ordinance to commit any of the following acts:

- A. To commence Regulated Activities prior to obtaining unconditional approval of a SWM Site Plan or in violation of the terms or conditions of a SWM Site Plan approved under this Ordinance.
- B. To install, repair, modify or alter SWM Facilities prior to obtaining approvals under this Ordinance, or, in a manner which violates the terms and conditions of any Approval issued under this Ordinance.
- C. To misuse or fail to maintain any SWM Facility installed upon a property.
- D. To construct any improvements upon, grade, fill or take any other action which will impair the proper functioning of any SWM Facility.
- E. To place false information on or omit relevant information from an application for Approval under this Ordinance.
- F. To fail to comply with any other provisions of this Ordinance.

**SECTION 704 PENALTIES/REMEDIES**

- 1. For each violation of the provisions of this Ordinance, the owner, agent, lessee, or contractor or any other person who commits, takes part in, or assists in any such violation

shall be liable upon conviction thereof in a summary proceeding to pay a fine of not less than \$200.00 nor more than \$1,000.00 for each offense, together with the costs of prosecution. Each day or portion thereof in which a violation exists shall be considered a separate violation of this Ordinance, and each Section of this Ordinance which is violated shall be considered a separate violation. In accordance with Section 3321(6) of the Borough Code, any person found guilty of violating this Ordinance may be assessed reasonable attorneys' fees incurred by the Borough in the enforcement proceeding.

2. The Borough may also institute suits to restrain, prevent, or abate a violation of this Ordinance in equity or at law. Such proceedings in equity or at law may be initiated before any court of competent jurisdiction. In cases of emergency where, in the opinion of the court, the circumstances of the case require immediate abatement of the unlawful conduct, the court may, in its decree, fix a reasonable time during which the person responsible for the unlawful conduct shall correct or abate the same. The expense of such proceedings shall be recoverable from the violator in such manner as may now or hereafter be provided by law. In accordance with Section 3321(6) of the Borough Code, any person found guilty of violating this Ordinance may be assessed reasonable attorneys' fees incurred by the Borough in the enforcement proceeding.
3. The Borough Council may also take actions relating to suspension or revocation of permits set forth in Section 703.
4. The Borough Council may, by resolution, appoint a code enforcement officer to enforce this Ordinance and may authorize such code enforcement officer to institute summary criminal proceedings without prior action by the Borough Council.

#### **SECTION 705 APPEALS**

1. Any person aggrieved by any action of the Borough or its Designee may appeal to Borough Council within thirty (30) days of that action. Any such appeal shall be governed by the procedures of Article V of the Local Agency Law, 2 Pa. C.S.A. 401 et seq.
2. Any person aggrieved by any decision of Borough Council may appeal to the Lancaster County Court of Common Pleas within thirty (30) days of that decision, in accordance with Article VII of Local Agency Law, 2 Pa. C.S.A. 701 et seq. the Local Agency Law.

#### **SECTION 706 CONSTRUCTION**

Nothing in this Ordinance shall be construed to affect any suit or proceeding pending in any court, or any rights or liability incurred, or any permit issued, or any approval granted, or any cause or causes of action existing prior to the enactment of this Ordinance.

**SECTION 707 EFFECTIVE DATE**

This Ordinance shall take effect and be in force five (5) days after its enactment by the Manheim Borough Council, as provided by law.

**DULY ORDAINED AND ENACTED** by the Manheim Borough Council, Lancaster County, Pennsylvania, on the \_\_\_ day of \_\_\_\_\_, 20 , in lawful session duly assembled.

Borough of Manheim

\_\_\_\_\_  
(Vice) Chairman, Borough Council

Attest: \_\_\_\_\_ Secretary

\_\_\_\_\_  
[Borough SEAL]