BOROUGH OF LIGONIER

STORMWATER MANAGEMENT

ORDINANCE

ORDINANCE NO. 563
DATE April 14, 2016

BOROUGH OF LIGONIER , WESTMORELAND COUNTY,

PENNSYLVANIA

Adopted at a Public Meeting Held on

April 14 , 2016

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ARTICLE I - GENERAL PROVISIONS

Section 101. Short Title

This Ordinance shall be known and may be cited as the "Borough of Ligonier Stormwater Management Ordinance."

Section 102. Statement of Findings

The governing body of the Municipality finds that:

A. Inadequate management of accelerated runoff of stormwater resulting from development throughout a watershed increases flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of streams and storm sewers, greatly increases the cost of public facilities to carry and control stormwater, undermines flood plain management and flood control efforts in downstream communities, reduces groundwater recharge, threatens public health and safety, and increases non-point source pollution of water resources.

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

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

D. Federal and state regulations require certain municipalities to implement a program of stormwater controls. These municipalities are required to obtain a permit for stormwater discharges from their separate storm sewer systems under the National Pollutant Discharge Elimination System (NPDES). At the time of passage of this Ordinance the Borough of Ligonier's separate stormwater system is not required to be permitted by the MS4 – NPDES Program.

Section 103. Purpose

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

A. Meet legal water quality requirements under state law, including regulations at 25 Pa. Code Chapter 93 to protect, maintain, reclaim and restore the existing and designated uses of the waters of this Commonwealth.

B. Preserve the natural drainage systems as much as possible.

C. Manage stormwater runoff close to the source.

D. Provide procedures and performance standards for stormwater planning and management.

E. Maintain groundwater recharge, to prevent degradation of surface and groundwater quality and to otherwise protect water resources.

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

G. Provide proper operation and maintenance of all permanent Stormwater Management (SWM) Best Management Practices (BMPs) that are implemented within the Municipality.

H. Provide standards to meet NPDES permit requirements.

Section 104. Statutory Authority

A. Primary Authority:

The Municipality is empowered to regulate land use activities that affect runoff by the authority of the Act of July 31, 1968, P.L. 805, No. 247, The Pennsylvania Municipalities Planning Code, as amended.

The Municipality herein shall be Borough of Ligonier, a body politic and corporate, incorporated under the laws of the Commonwealth of Pennsylvania.
The municipality is empowered to regulate these activities by the authority of the Act of October 4, 1978, P.L. 864 (Act 167), 32 P.S. Section 680.1, et seq., as amended, the "Storm Water Management Act" and the (appropriate municipal code).

Section 105. Applicability

All Regulated Activities and all activities that may affect stormwater runoff, including Land Development, Redevelopment and Earth Disturbance Activity, are subject to regulation by this Ordinance.

Section 106. Repealer

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

Section 107. Severability

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

Section 108. Compatibility with Other Requirements

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

ARTICLE II - DEFINITIONS

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

A. Words used in the present tense include the future tense; the singular number includes the plural, and the plural number includes the singular; words of masculine gender include feminine gender; and words of feminine gender include masculine gender.

B. The word "includes" or "including" shall not limit the term to the specific example but is intended to extend its meaning to all other instances of like kind and character.

C. The words "shall" and "must" are mandatory; the words "may" and "should" are permissive.

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

Applicant - A landowner, developer or other person who has filed an application to the Municipality for approval to engage in any Regulated Activity at a project site in the Municipality.

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

Capture – Collecting runoff to be stored for reuse or allowed to slowly infiltrate into the ground.

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

Created Impervious Area – The measure of a net positive difference between the measure of existing impervious and proposed impervious area.

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

Detention Volume - The volume of runoff that is captured and released into the waters of this Commonwealth at a controlled rate.

DEP - The Pennsylvania Department of Environmental Protection.

Development Site (Site) - See Project Site.

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

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

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

Existing Condition - The dominant land cover during the five (5) year period immediately preceding a proposed Regulated Activity.

FEMA - Federal Emergency Management Agency.

Floodplain - Any land area susceptible to inundation by water from any natural source or delineated by applicable FEMA maps and studies as being a special flood hazard area. Also includes areas that comprise Group 13 Soils, as listed in Appendix A of the Pennsylvania DEP Technical Manual for Sewage Enforcement Officers (as amended or replaced from time to time by PADEP).

Floodway - The channel of the watercourse and those portions of the adjoining floodplains that are reasonably required to carry and discharge the 100-year flood. Unless otherwise specified, the boundary of the floodway is as indicated on maps and flood insurance studies provided by FEMA. In an area where no FEMA maps or studies have defined the boundary of the 100-year 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 forestland. These include conducting a timber inventory, preparation of forest

management plans, silvicultural treatment, cutting budgets, logging road design and construction, timber harvesting, site preparation and reforestation.

Geotextile - A fabric manufactured from synthetic fiber that is used to achieve specific objectives, including infiltration, separation between different types of media (i.e., between soil and stone), or filtration.

Hotspot - Areas where land use or activities generate highly contaminated runoff, with concentrations of pollutants that are higher than those that are typically found in stormwater (e.g., vehicle salvage yards and recycling facilities, vehicle fueling stations, fleet storage areas, vehicle equipment and cleaning facilities, and vehicle service and maintenance facilities).

Hydrologic Soil Group (HSG) - Infiltration rates of soils vary widely and are affected by subsurface permeability as well as surface intake rates. Soils are classified into four HSG's (A, B, C, and D) according to their minimum infiltration rate, which is obtained for bare soil after prolonged wetting. The NRCS defines the four groups and provides a list of most of the soils in the United States and their group classification. The soils in the area of the development site may be identified from a soil survey report that can be obtained from local NRCS offices or conservation district offices. Soils become less pervious as the HSG varies from A to D (NRCS[3,4]).

Impervious Surface (Impervious Area) - A surface that prevents the infiltration of water into the ground. Impervious surfaces (or areas) shall include, but not be limited to, roofs, additional indoor living spaces, patios, garages, storage sheds and similar structures, and any new streets or sidewalks. Decks, parking areas, and driveway areas are not counted as impervious areas if they do not prevent infiltration. Pervious pavers and pavement structures are not considered impervious surfaces. Surfaces covered by aggregates which prevent infiltration, such as PENNDOT 2A, shall be considered impervious.

Infiltration - Movement of surface water into the soil, where it is absorbed by plant roots, evaporated into the atmosphere, or percolated downward to recharge groundwater.

Karst - A type of topography or landscape characterized by surface depressions, sinkholes, rock pinnacles/uneven bedrock surface, underground drainage and caves. Karst is formed on carbonate rocks, such as limestone or dolomite.

Land Development (Development) - Inclusive of any or all of the following meanings: (i) the improvement, redevelopment, or modification of one lot or two or more contiguous lots, tracts, or parcels of land for any purpose involving (a) a group of two or more buildings, or (b) the division or allocation of land or space between or among two or more existing or prospective occupants by means of, or for the purpose of streets, common areas, leaseholds, condominiums, building groups, or other features; (ii) any subdivision of land; (iii) development in accordance with Section 503(1.1) of the PA Municipalities Planning Code.

Low Impact Development - A land development and construction approach that uses various land planning, design practices, and technologies to simultaneously conserve and protect natural resource systems, and reduce infrastructure costs.

Operation and Maintenance Plan – the written procedure for which an owner and/or operator of any regulated stormwater management facility is to provide as part of the SWM Site Plan.

Operation and Maintenance Agreement – the written Agreement between the Owner and the Municipality which indentifies the responsible party for proper Operation and Maintenance of a stormwater management facility.

Mining Activity – as defined in 25 Pa. Code §§ 87.1 and 88.1 as "Surface mining activities" and in 25 Pa. Code §77.1 as "Noncoal surface mining activities". All Mining Activities shall be regulated by General Permit BMR GP-104 and are not subject to the provisions of this Ordinance.

Municipality – Borough of Ligonier, Westmoreland County, Pennsylvania.

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

Parcel – the entire tract of land on which a Regulated Activity is to take place.

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

Pervious Surface (Pervious Area) - Any area not defined as impervious that allows for infiltration.

Project Site - The specific area of land where any Regulated Activities in the Municipality are planned, conducted or maintained.

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

Redevelopment – Any modification to an existing Project Site. Modifications within or on an existing structure shall be considered rehabilitation. Projects proposing demolition of existing structures and construction of new structures will be considered redevelopment and therefore will be subject to these requirements.

Regulated Activities - Any Earth Disturbances Activities or any activities that involve the alteration or development of land in a manner that may affect stormwater runoff.

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

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

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

Runoff - Any part of precipitation or snow melt event that flows over the land.

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

Small Project – A small project is defined as a regulated activity which is required to control 500 sq. ft. to 4,999 sq. ft. of impervious surfaces.

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

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

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

Stormwater Management Best Management Practices - Is abbreviated as **BMPs** or **SWM BMPs** throughout this Ordinance.

Stormwater Management Site Plan - The plan prepared by the Developer or his representative indicating how storm water runoff will be managed at the development site in accordance with this Ordinance. **Stormwater Management Site Plan** will be designated as **SWM Site Plan** throughout this Ordinance.

Subdivision - As defined in The Pennsylvania Municipalities Planning Code, Act of July 31, 1968, P.L. 805, No. 247.

Subwatershed – The catchment or drainage area within a watershed which collects, conveys, and discharges runoff to a singular point at the most downstream location of the delineated catchment or drainage area.

USDA - United States Department of Agriculture.

Void Ratio - The ratio of the volume of void space to the volume of solid substance in any material.

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

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

Wetland - 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, and similar areas.

ARTICLE III - STORMWATER MANAGEMENT STANDARDS

Section 301. General Requirements

A. All Regulated Activities required to control 5,000 sq. ft. or more of impervious area are required to prepare a SWM Site Plan.

B. SWM Site Plans approved by the Municipality shall be on site and made available throughout the duration of the Regulated Activity.

C. The Municipality 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.

D. For all Regulated Earth Disturbance Activities, erosion and sediment control BMPs shall be designed, implemented, operated, and maintained during the Regulated Earth Disturbance Activities (e.g., during construction) to meet the purposes and requirements of this Ordinance and to meet all requirements under the Pennsylvania Code Title 25 and the Clean Streams Law. Various BMPs and their design standards are listed in the *Erosion and Sediment Pollution Control Program Manual* (E&S Manual)[2], Commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-2134-008 (2000), as amended and updated.

E. For all Regulated Activities, implementation of the Volume Controls in Section 303 is required with the exception of regulated activities that meet the exemption criteria found in Section 302.A of this Ordinance.

F. Measurement and Definition of Controlled Impervious Area:

1. The measurement of impervious area shall include all of the impervious areas in the total proposed development even if development is to take place in stages.

2. For development taking place in stages, the entire development plan must be used in determining conformance with this Ordinance.

3. The measurement of controlled impervious area shall include all created impervious area and at least 20% of the total existing impervious area.

4. Regulated Activities that maintain or reduce the amount of impervious area, when compared to existing conditions, are required to control at least 20% of the total proposed impervious area.

G. Stormwater flows onto adjacent property shall not be created, increased, decreased, relocated, or otherwise altered without written permission of the adjacent property owner(s). Such stormwater flows shall be subject to the requirements of this Ordinance.

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

1. Protect health, safety, and property;

2. Meet State Water Quality Requirements as defined in Article II;

3. Meet the water quality goals of this Ordinance by implementing measures to:

   a. Minimize disturbance to floodplains, wetlands, natural slopes over 8%, and existing native vegetation.

   b. Preserve and maintain trees and woodlands. Maintain or extend riparian buffers and protect existing forested buffer. Provide trees and woodlands adjacent to impervious areas whenever feasible.

   c. Establish and maintain non-erosive flow conditions in natural flow pathways.

   d. Minimize soil disturbance and soil compaction. Over disturbed areas, replace topsoil to a minimum depth equal to the original depth or 4 inches, whichever is greater. Use tracked equipment for grading when feasible.

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

4. To the maximum extent practicable, incorporate the techniques for Low Impact Development Practices described in "The Pennsylvania Stormwater Best Management Practices Manual" (SWM Manual)[1].

I. The design of all facilities over Karst (soluble rocks, limestone, dolomite, and gypsum) shall include an evaluation of measures to minimize adverse effects.

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

K. Stormwater retention or detention facilities should completely drain both the volume control and rate control capacities over a period of time not less than 24 and not more than 72 hours from the end of the design storm.

L. For all Regulated Activities, SWM BMPs shall be designed, implemented, operated, and maintained to meet the purposes and requirements of this Ordinance and to meet all requirements under Pennsylvania Code Title 25, the Clean Streams Law, and the Storm Water Management Act.

M. The design storm volumes to be used in the analysis of peak rates of discharge should be obtained from the Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2, U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Spring, Maryland, 20910. NOAA's Atlas 14[5] can be accessed at Internet address: http://hdsc.nws.noaa.gov/hdsc/pfds/.

N. Various BMPs and their design standards are listed in the SWM Manual.[1]

O. The applicant may meet the Rate Controls criteria in Section 304 through off-site stormwater management measures as long as the proposed measures are in the same subwatershed. Off-site stormwater control measures may only be sought if it is shown that on-site stormwater control measures cannot be physically accomplished. This does not relieve the applicant from meeting the Volume Controls criteria in Section 303 on-site.

Section 302. Exemptions

A. Regulated Activities required to control up to 499 sq. ft. of impervious are exempt from requirements this Ordinance, but still are subject to the provisions of the Clean Streams Law and the Storm Water Management Act.

B. Regulated Activities required to control 500 sq. ft. to 4,999 sq. ft. of impervious area shall be classified as a Small Project and shall follow the volume control requirements of Appendix C. Small Projects exempt from peak rate control and preparation of a SWM Site Plan.

C. Regulated Activities required to control 5,000 sq. ft. and 9,999 sq. ft. are exempt from peak rate control.

D. Agricultural activity is exempt from the requirements of this Ordinance provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.

E. Forest management and timber operations are exempt from the requirements of this Ordinance provided the activities are performed according to the requirements of 25 Pa. Code Chapter 102.

F. Mining Activities are exempt from all requirements of this Ordinance, but must comply with the stormwater management General Permit BMR GP-104 and all other applicable mining permits.

Additional Exemption Criteria

1. Exemption Responsibilities - An exemption shall not relieve the Applicant from implementing such measures as are necessary to protect public health, safety, and property.

2. Drainage Problems - If a drainage problem is documented or known to exist downstream of or is expected from the proposed activity, then the Municipality may require the Applicant to comply with the Ordinance.

3. Even though the developer is exempt, he is not relieved from complying with other regulations.

Exemptions from any provisions of this Ordinance shall not relieve the Applicant from the requirements in Sections 301.D. through L.

Section 303. Volume Controls

The low impact development practices provided in the SWM Manual[1] shall be utilized for all Regulated Activities to the maximum extent practicable.

Water volume controls shall be implemented using the *Design Storm Method* in Subsection 1 or the *Simplified Method* in Subsection 2 below. For Regulated Activities that create 10,000 square feet or less of impervious cover that do not require hydrologic routing to design the stormwater facilities, this Ordinance establishes no preference for either methodology; therefore, the Applicant may select either methodology on the basis of economic considerations, the intrinsic limitations on applicability of the analytical procedures associated with each methodology, and other factors.

1. *The Design Storm Method* (CG-1 in the SWM Manual[1]) is applicable to any size of Regulated Activity. This method requires detailed modeling based on site conditions.

   a. Do not increase the total runoff volume of the 2 year, 24 Hour storm event.

   b. For modeling purposes:

      i. Existing (pre-development) non-forested pervious areas must be considered meadow or its equivalent.

      ii. Controlled Impervious Area must be considered meadow or its equivalent for the pre-development analysis.

2. *The Simplified Method* (CG-2 in the SWM Manual[1]) provided below is independent of site conditions and should be used if the Design Storm Method is not followed. This method is not applicable to Regulated Activities greater than 1 acre or activities which

are subject to Section 304, Rate Controls of this Ordinance. For controlled impervious surfaces:

a. Stormwater facilities shall capture at least the first two inches (2") of runoff from all controlled impervious surfaces.

b. At least the first one inch (1.0") of runoff from controlled impervious surfaces shall be permanently removed from the runoff flow (i.e., it shall not be released into the surface waters of this Commonwealth). Removal options include reuse, evaporation, transpiration, and infiltration.

c. Wherever possible, infiltration facilities should be designed to accommodate infiltration of the entire permanently removed runoff; however, in all cases at least the first one-half inch (0.5") of the permanently removed runoff should be infiltrated.

Section 304. Rate Controls

A. Post-development discharge rates shall not exceed the predevelopment discharge rates for the 1-, 2-, 5-, 10-, 25-, 50-, and 100-year storms. If it is shown that the peak rates of discharge indicated by the post-development analysis are less than or equal to the peak rates of discharge indicated by the pre-development analysis for 1-, 2-, 5-, 10-, 25-, 50-, and 100-year, 24-hour storms, then the requirements of this section have been met. Otherwise, the Applicant shall provide additional controls as necessary to satisfy the peak rate of discharge requirement.

Section 305. Off-site Stormwater Management

A. Developer's shall contact the Municipality in the event that they cannot demonstrate consistency with the Ordinance due to site limitations. The Developer must provide substantiating evidence that stormwater management cannot be provided on the Project Site in accordance with the Ordinance. The Municipality may consider off-site stormwater management by physical or financial means. The Developer may not proceed with off-site stormwater management unless authorized by the Municipality in writing.

ARTICLE IV - STORMWATER MANAGEMENT (SWM) SITE PLAN REQUIREMENTS

Section 401. Plan Requirements

The following items shall be included in the SWM Site Plan:

A. Appropriate sections from the Municipal Subdivision and Land Development Ordinance, and other applicable local ordinances, shall be followed in preparing the SWM Site Plans. In instances where the Municipality lacks Subdivision and Land Development regulations, the content of SWM Site Plans shall follow the County's Subdivision and Land Development Ordinance.

B. The Municipality 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, the Municipality may either disapprove the submission and require a resubmission, or in the case of minor deficiencies the Municipality may accept submission of modifications.

C. Provisions for permanent access or maintenance easements for all physical SWM BMPs, such as ponds and infiltration structures, as necessary to implement the operation and maintenance plan discussed in item E.9 below.

D. The following signature block for the Municipality:

"(Municipal Official or designee), on this date (date of signature), has reviewed and hereby certifies that the SWM Site Plan meets all design standards and criteria of the Municipal Ordinance No. (Number assigned to the Ordinance)."

E. The SWM Site Plan shall provide the following information:

1. The overall stormwater management concept for the project.

2. A determination of Site Conditions in accordance with the SWM Manual[1]. A detailed site evaluation shall be completed for projects proposed in areas of carbonate geology or karst topography, and other environmentally sensitive areas such as brownfields.

3. Stormwater runoff design computations, and documentation as specified in this Ordinance, or as otherwise necessary to demonstrate that the maximum practicable measures have been taken to meet the requirements of this Ordinance, including the recommendations and general requirements in Section 301.

4. Expected project time schedule.

5. A soil erosion and sediment control plan, where applicable, as prepared for and submitted to the County Conservation District. When erosion and sediment control plan approval is required then a copy of the transmittal letter shall be provided with the SWM Site Plan submission.

6. The effect of the project (in terms of runoff volumes, water quality, and peak flows) on surrounding properties and aquatic features and on any existing stormwater conveyance system that may be affected by the project.

7. Plan and profile drawings of all SWM BMPs including drainage structures, pipes, open channels, and swales.

8. SWM Site Plan shall show the locations of existing and proposed on-lot wastewater facilities and water supply wells.

9. The SWM Site Plan shall include an Operation and Maintenance (O&M) Plan for all existing and proposed physical stormwater management facilities. This plan shall address long-term ownership and responsibilities for operation and maintenance as well as schedules and costs for O&M activities.

10. An Executed Operation and Maintenance Agreement which is considered part of the Operation and Maintenance Plan.

11. The SWM Site Plan shall be prepared by a Qualified Professional.

Section 402. Plan Submission

A. ____ (Typically two (2)) copies of the SWM Site Plan shall be submitted as follows:

1. ____ (Typically One (1)) copy accompanied by an electronic copy to the Municipality.

2. ____ (Typically One (1)) copy to the Municipal Engineer.

B. Additional copies shall be submitted as requested by the Municipality or DEP.

Section 403. Plan Review

A. The SWM Site Plan shall be reviewed by a Qualified Professional for the Municipality for consistency with the provisions of this Ordinance. Review by the County Conservation District is optional. After review, the Qualified Professional shall provide a written recommendation for the municipality to approve or disapprove the SWM Site Plan. If it is recommended to disapprove the SWM Site Plan, the Qualified Professional shall state the reasons for the disapproval in writing. The Qualified Professional also may recommend approval of the SWM Site Plan with conditions and, if so, shall provide

the acceptable conditions for approval in writing. The SWM Site Plan review and recommendations shall be completed within the time allowed by the Municipalities Planning Code for reviewing subdivision plans.

B. The Municipality shall notify the Applicant in writing within 45 calendar days whether the SWM Site Plan is approved or disapproved. If the SWM Plan involves a Subdivision and Land Development Plan, the notification period is 90 days. If a longer notification period is provided by other statute, regulation, or ordinance, the Applicant will be so notified by the Municipality. If the Municipality disapproves the SWM Plan, the Municipality shall cite the reasons for disapproval in writing.

C. Review and approval of any SWM Site Plan is strictly for compliance with the Ordinance and does not guarantee the design, as submitted, will function as intended.

Section 404. Modification of Plans

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

Section 405. Resubmission of Disapproved Storm Water Management Site Plans

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

Section 406. Authorization to Construct and Term of Validity

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

Section 407. As-Built Plans, Completion Certificate and Final Inspection

A. The Developer shall be responsible for providing as-built plans of all SWM BMPs included in the approved SWM Site Plan. The as-built plans and an explanation of any discrepancies with the construction plans shall be submitted to the Municipality.

B. The as-built submission shall include a certification of completion signed by a Qualified Professional verifying that all permanent SWM BMPs have been constructed according to the approved plans and specifications.

C. After receipt of the completion certification by the Municipality, the Municipality may conduct a final inspection.

ARTICLE V - OPERATION AND MAINTENANCE

Section 501. Responsibilities of Developers and Landowners

A. The Municipality shall make the final determination on the continuing maintenance responsibilities prior to final approval of the SWM Site Plan. The Municipality 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 Municipality will accept the facilities. The Municipality reserves the right to accept or reject the ownership and operating responsibility for any portion of the stormwater management controls.

B. Facilities, areas, or structures used as Stormwater Management BMPs shall be enumerated as permanent real estate appurtenances and recorded as deed restrictions or conservation easements that run with the land.

C. The Operation and Maintenance Plan, including the Operation and Maintenance Agreement, shall be recorded as a restrictive deed covenant that runs with the land.

D. The Municipality may take enforcement actions against an owner for any failure to satisfy the provisions of this Article.

Section 502. Operation and Maintenance Agreements

The owner is responsible for Operation and Maintenance of the SWM BMPs. If the owner fails to adhere to the Operation and Maintenance Agreement, the Municipality may perform the services required and charge the owner appropriate fees. Non-payment of fees may result in a lien against the property.

Section 503. Stormwater Management Easements

A. Stormwater management easements are required for all areas used for off-site stormwater control, unless a waiver is specifically granted by the Municipality in writing.

B. Stormwater management easements shall be provided by the Applicant or property owner if necessary for access for inspections and maintenance or the preservation of stormwater runoff conveyance, infiltration, and detention areas and other stormwater controls and BMPs by persons other than the property owner. The purpose of the easement shall be specified in any agreement under Section 502.

ARTICLE VI - FEES AND EXPENSES

Section 601. Schedule of Fees and Expenses

The Applicant shall be responsible for the following fees and expenses:

Application Fee - $100.00

Base Review Fees
a. Small Project - $25.00

Resubmission Review Fee (per each resubmission)
a. Small Project - $25.00

Final Inspection Fee –
a. Small Project - $25.00

Per Resolution the Applicant shall be responsible for all professional fees incurred by the Municipality during the review process. The Municipality shall notify the Applicant prior to incurring legal fees in association with the review.

The Municipality may amend the above fee schedule at any time as deemed necessary.

ARTICLE VII - PROHIBITIONS

Section 701. Prohibited Discharges and Connections

A. Any drain or conveyance, whether on the surface or subsurface, which allows any non-stormwater discharge including sewage, process wastewater, and wash water to enter the waters of this Commonwealth is prohibited.

B. No person shall allow, or cause to allow, discharges into surface waters of this Commonwealth which are not composed entirely of stormwater, except (1) as provided in subsection C below, and (2) discharges allowed under a state or federal permit.

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

- Discharges from fire fighting activities	- Flows from riparian habitats and wetlands
- Potable water sources including water line flushing	- Uncontaminated water from foundations or from footing drains
- Irrigation drainage	- Lawn watering
- Air conditioning condensate	- Dechlorinated swimming pool discharges
- Springs	- Uncontaminated groundwater
- 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)

D. In the event that the Municipality or DEP determines that any of the discharges identified in Subsection C, significantly contribute to pollution of the waters of this Commonwealth, the Municipality or DEP will notify the responsible person(s) to cease the discharge.

Section 702. Roof Drains

Roof drains and sump pumps shall discharge to BMPs to the maximum extent practicable to satisfy the provisions of the Ordinance

Section 703. 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 Municipality.

ARTICLE VIII - ENFORCEMENT AND PENALTIES

Section 801. Right-of-Entry

Upon presentation of proper credentials, the Municipality may enter at reasonable times upon any property within the Municipality to inspect the condition of the stormwater structures and facilities in regard to any aspect regulated by this Ordinance.

Section 802. Inspection

SWM BMPs should be inspected by the landowner, or the owner's designee (including the Municipality for dedicated and owned facilities) according to the following list of minimum frequencies:

1. Annually for the first 5 years.

2. Once every 3 years thereafter.

3. During or immediately after a cumulative rainfall of 3" over a 24 hour period.

Section 803. Enforcement

A. It shall be unlawful for a person to undertake any Regulated Activity except as provided in an approved SWM Site Plan, unless specifically exempted in Section 302.

B. It shall be unlawful to violate Section 703 of this Ordinance.

C. Inspections regarding compliance with the SWM Site Plan are a responsibility of the Municipality.

Section 804. Suspension and Revocation

A. Any approval or permit issued by the Municipality may be suspended or revoked for:

1. Non-compliance with or failure to implement any provision of the approved SWM Site Plan or Operation and Maintenance 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 or nuisance, pollution, or which endangers the life or property of others.

B. A suspended approval may be reinstated by the Municipality when:

1. The Municipality has inspected and approved the corrections to the violations that caused the suspension.

2. The Municipality is satisfied that the violation has been corrected.

C. An approval that has been revoked by the Municipality cannot be reinstated. The Applicant may apply for a new approval under the provisions of this Ordinance.

D. If a violation causes no immediate danger to life, public health, or property, at its sole discretion, the Municipality may provide a limited time period for the owner to correct the violation. In these cases, the Municipality will provide the owner, or the owner's designee, with a written notice of the violation and the time period allowed for the owner to correct the violation. If the owner does not correct the violation within the allowed time period, the Municipality may revoke or suspend any, or all, applicable approvals and permits pertaining to any provision of this Ordinance.

Section 805. Penalties

[Municipalities should ask their solicitors to provide appropriate wording for this section.]

A. Anyone violating the provisions of this Ordinance shall be guilty of a summary offense, and upon conviction shall be subject to a fine of not more than $_____ for each violation, recoverable with costs. Each day that the violation continues shall be a separate offense and penalties shall be cumulative.

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

Section 806. Appeals

A. Any person aggrieved by any action of the Municipality or its designee, relevant to the provisions of this Ordinance, may appeal to the Municipality within thirty (30) days of that action.

B. Any person aggrieved by any decision of the Municipality, relevant to the provisions of this Ordinance, may appeal to the County Court Of Common Pleas in the county where the activity has taken place within thirty (30) days of the Municipality's decision.

ARTICLE IX - REFERENCES

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

2. The Pennsylvania Department of Environmental Protection (DEP). 363-2134-008 (2000), as amended and updated. *Erosion and Sediment Pollution Control Program Manual.* Harrisburg, PA.

3. United States Department of Agriculture (USDA), National Resources Conservation Service (NRCS). *National Engineering Handbook.* Part 630: Hydrology, 1969-2001. Originally published as the *National Engineering Handbook*, Section 4: Hydrology. Available online at: http://www.wcc.nrcs.usda.gov/hydro/hydro-techref-neh-630.html.

4. United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 1986. *Technical Release 55: Urban Hydrology for Small Watersheds*, 2nd Edition. Washington, D.C.

5. US Department of Commerce (USDC), National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS), Hydrometeorological Design Studies Center. 2004-2006. *Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2*, Silver Spring, Maryland, 20910. Internet address: http://hdsc.nws.noaa.gov/hdsc/pfds/.

STORMWATER MANAGEMENT ORDINANCE

ORDINANCE NUMBER 563

ENACTED and ORDAINED at a regular meeting of the

Ligonier Borough Council

on this 14th day of April, 2016.

This Ordinance shall take effect immediately.

John Donnell — President
(Name) (Title)

Osmond K. Bellas, Jr. — Mayor approved
(Name) (Title)

(Name) (Title)

BOROUGH SEAL LIGONIER WESTMORELAND COUNTY JOHN RAMSEY

ATTEST: Paul A Fry
Secretary

APPENDIX A

OPERATION AND MAINTENANCE AGREEMENT
STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES
(SWM BMPs)

THIS AGREEMENT, made and entered into this _____ day of _____, 20___, by and between _____, (hereinafter the "Landowner"), and Borough of Ligonier, Westmoreland County, Pennsylvania, (hereinafter "Municipality");

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property as recorded by deed in the land records of _____ County, Pennsylvania, Deed Book _____ at Page _____, (hereinafter "Property").

WHEREAS, the Landowner is proceeding to build and develop the Property; and

WHEREAS, the SWM BMP Operation and Maintenance Plan approved by the Municipality (hereinafter referred to as the "Plan") for the property identified herein, which is attached hereto as Appendix A and made part hereof, as approved by the Municipality, provides for management of stormwater within the confines of the Property through the use of BMPs; and

WHEREAS, the Municipality, and the Landowner, his successors and assigns, agree that the health, safety, and welfare of the residents of the Municipality and the protection and maintenance of water quality require that on-site SWM BMPs be constructed and maintained on the Property; and

WHEREAS, the Municipality requires, through the implementation of the SWM Site Plan, that SWM BMPs as required by said Plan and the Municipal Stormwater Management Ordinance be constructed and adequately operated and maintained by the Landowner, successors and assigns.

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

1. The Landowner shall construct the BMPs in accordance with the plans and specifications identified in the SWM Site Plan.

2. The Landowner shall operate and maintain the BMPs as shown on the Plan in good working order in accordance with the specific maintenance requirements noted on the approved SWM Site Plan.

3. The Landowner hereby grants permission to the Municipality, its authorized agents and employees, to enter upon the property, at reasonable times and upon presentation of proper

credentials, to inspect the BMPs whenever necessary. Whenever possible, the Municipality shall notify the Landowner prior to entering the property.

4. In the event the Landowner fails to operate and maintain the BMPs per paragraph 2, the Municipality or its representatives may enter upon the Property and take whatever action is deemed necessary to maintain said BMP(s). It is expressly understood and agreed that the Municipality is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Municipality.

5. In the event the Municipality, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Municipality for all expenses (direct and indirect) incurred within 10 days of receipt of invoice from the Municipality.

6. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite BMPs by the Landowner; provided, however, that this Agreement shall not be deemed to create or affect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.

7. The Landowner, its executors, administrators, assigns, and other successors in interests, shall release the Municipality from all damages, accidents, casualties, occurrences or claims which might arise or be asserted against said employees and representatives from the construction, presence, existence, or maintenance of the BMP(s) by the Landowner or Municipality.

8. The Municipality shall inspect the BMPs at a minimum of once every three years to ensure their continued functioning.

This Agreement shall be recorded at the Office of the Recorder of Deeds of Westmoreland County, Pennsylvania, and shall constitute a covenant running with the Property and/or equitable servitude, and shall be binding on the Landowner, his administrators, executors, assigns, heirs and any other successors in interests, in perpetuity.

ATTEST:

WITNESS the following signatures and seals:

(SEAL)

For the Municipality:

_____

For the Landowner:

_____

ATTEST:

_____ (City, Borough, Township)

County of _____, Pennsylvania

I, _____, a Notary Public in and for the County and State aforesaid, whose commission expires on the _____ day of _____, 20_____, do hereby certify that _____ whose name(s) is/are signed to the foregoing Agreement bearing date of the _____ day of _____, 20_____, has acknowledged the same before me in my said County and State.

GIVEN UNDER MY HAND THIS _____ day of _____, 20_____.

_____ _____

NOTARY PUBLIC **(SEAL)**

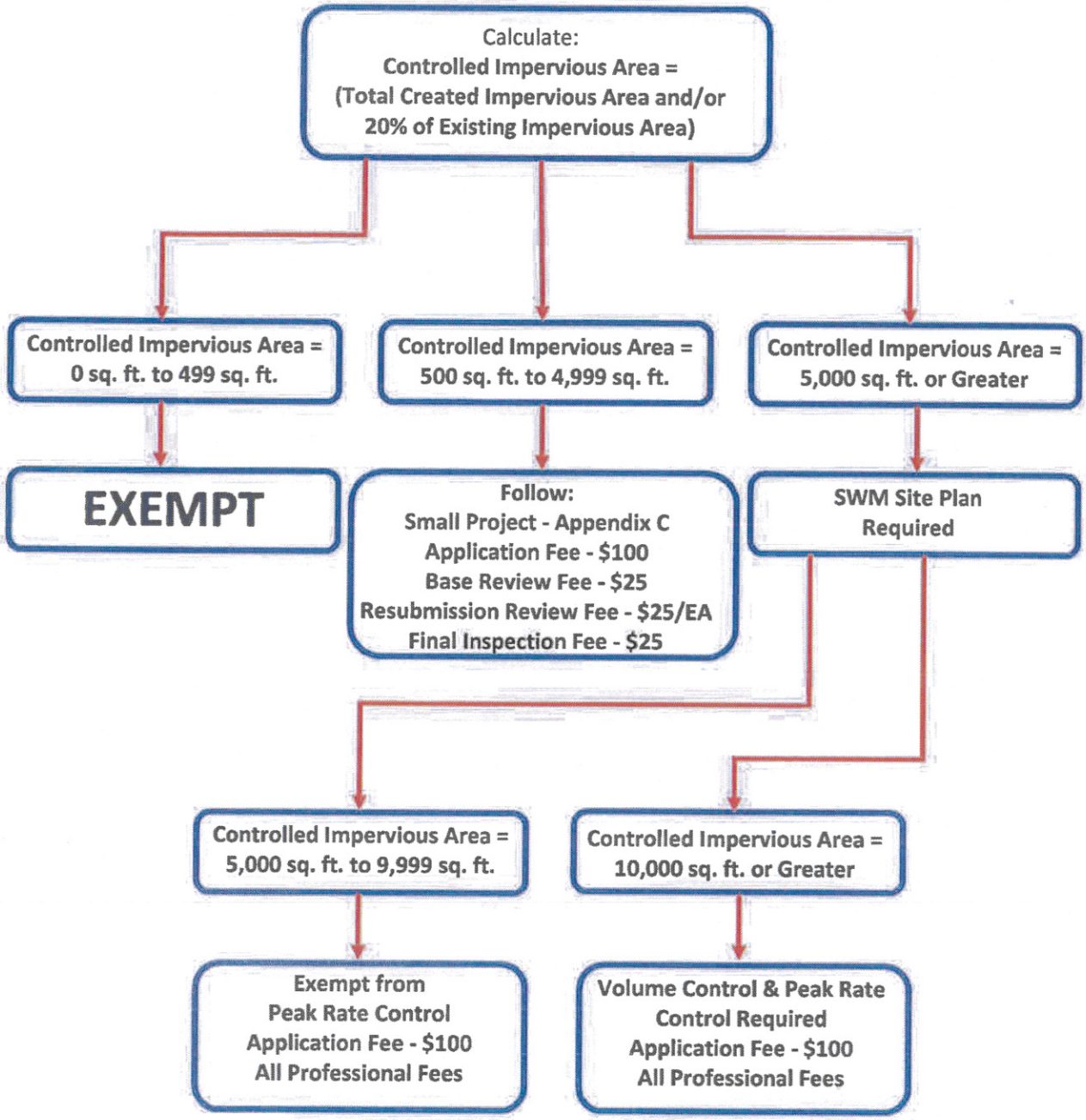
APPENDIX B

Borough of Ligonier

Stormwater Management Ordinance

Ordinance No.

STORMWATER MANAGEMENT PLANNING AND DESIGN GUIDE



APPENDIX C - SMALL PROJECTS

STORMWATER MANAGEMENT FACILITIES DESIGN AND SIZING

1. Determine Controlled Impervious Area

   Insert square footage (sq. ft.) for your Project Site in the table below.

   Impervious Area includes roof tops, sidewalks, driveways, parking lots, etc.

	Square Feet	Reduction Factor	Total
Created/New/Additional Impervious Area			
Existing Impervious Area		X 0.20	
Totals (Controlled Impervious Area)	N/A		

2. Determine Controlled Volume of Runoff

Volume (V) = Value in Gray Box_____ X (1/12) = _____ Cubic Feet (CF)

Option #1 – Rain Barrel/Cistern

This option is to install a Rain Barrel/Cistern which collects runoff from roof leaders. Each Rain Barrel must be connected to a separate roof leader (downspout). This option is best for small additions to single family homes. The maximum amount of recommended Rain Barrels is four (4). Cisterns can provide a larger volume. Design of these larger cisterns should be reviewed with the Municipality.

Volume (Cubic Feet)	Number of Rain Barrels
7	1
14	2
21	3
28	4

Rain Barrels

Source (pic on left): http://www.rfcity.org/Eng/Stormwater/YourProperty/YourProperty.htm
Source (pic on right): :http://www.floridata.com/tracks/transplantedgardener/Rainbarrels.cfm
Source (for both pics): Pennsylvania Stormwater BMP Manual (2006)

Option #2 – Rain Garden

This option is to install a Rain Garden which collects runoff from all sources of potential upstream runoff. Rain Gardens consist of a small depression which retains and infiltration a volume of water. The rain garden is designed to include loose soils below the depression to allow the water to be absorbed into the ground. Plants, shrubs, and other vegetation shall be installed in the rain garden. Rain gardens are great ways to control stormwater and provide landscaping. Rain gardens should be limited to a 1' depth. The depth is measured from the top of the rain garden to the lowest point within the rain garden.

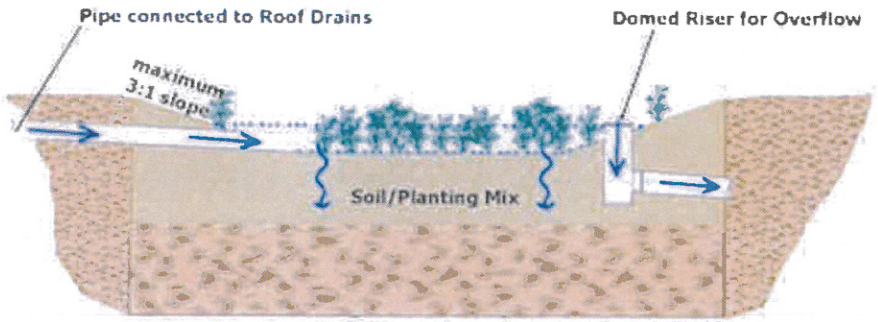
Rain Garden Area (A) Sq. Ft. = Volume (V) = _____ SF

Rain Garden Depth = 1 foot

The calculated area (sq. ft.) is equal to the required volume (cubic ft.) because the depth is 1 foot.

The rain garden should be located on the property in an appropriate area away from foundations. The calculated area can be provided in any configuration. Each project is different and the applicant will need to determine the dimensions of the rain garden which best fit the site. Rain gardens should be placed on level areas where possible and should be downstream of the impervious areas.

Rain Garden



Rain Garden Planting Listing			
Common Name	**Scientific Name**	**Plant Type**	**Photos**
Red Maple	Acer rubrum	Tree	
Grey Birch	Betula populifolia	Tree	
Shadbush Serviceberry	Amelanchier canadensis	Tree	
Eastern Cotton-wood	Populus grandidentata	Tree	
Virginia Sweetspire	Itea virginica	Shrub	
Red-Twig Dogwood	Cornus sericea (stolonifera) 'Arctic Fire'	Shrub	

Southern Arrow-wood	Viburnum dentatum	Shrub	
Black Choke Berry	Aronia melanocarpa	Shrub	
Great Blue Lobelia	Lobelia siphilitica	Perennial	
Dwarf Pink false aster	Boltonia asteroides 'Nana'	Perennial	
White false aster	Boltonia asteroides 'Snowbank'	Perennial	
Switchgrass	Panicum virgatum	Grass	

Source: Pennsylvania Stormwater BMP Manual (2006)

Option #3 – Dry Well/Infiltration Trench

This option is to install a Dry Well or Infiltration Trench. The basic design of each provides an underground void in which to store collected runoff. The void can be created using clean stone, piping, crating, and other stormwater technologies. For simplicity, the following assumes the Applicant is strictly piping runoff to a clean stone filled void. The Applicant may submit additional calculations demonstrating alternate designs on the Small Project Design Worksheet.

The Municipality has determined that the maximum depth of these structures shall be 3 feet and shall include 6" of cover. The total overall depth is then calculated to be 3'6".

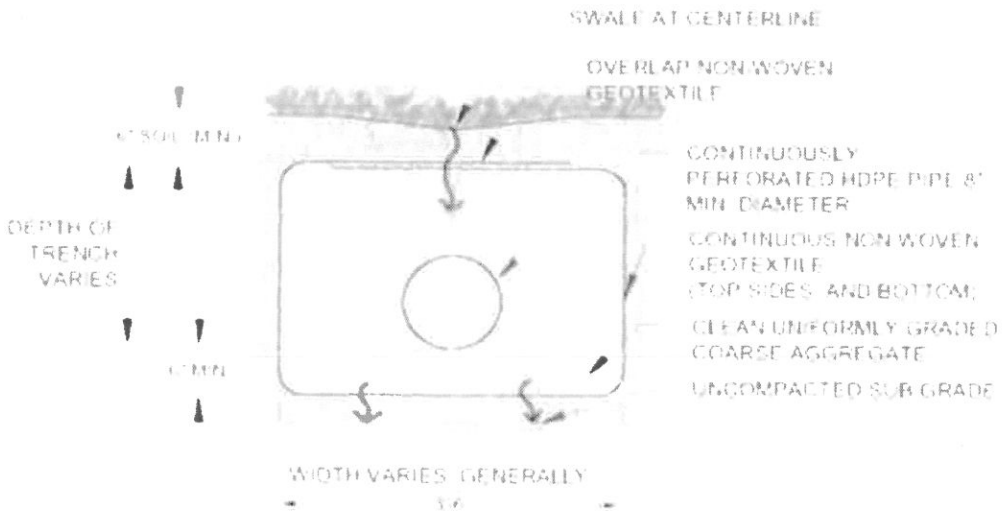
Well/Trench Area (A) Sq. Ft. = Volume (V) cu. ft. / 1.2 = _____ SF

Topsoil/Cover Depth = 6 inches

Well/Trench Depth = 3 feet

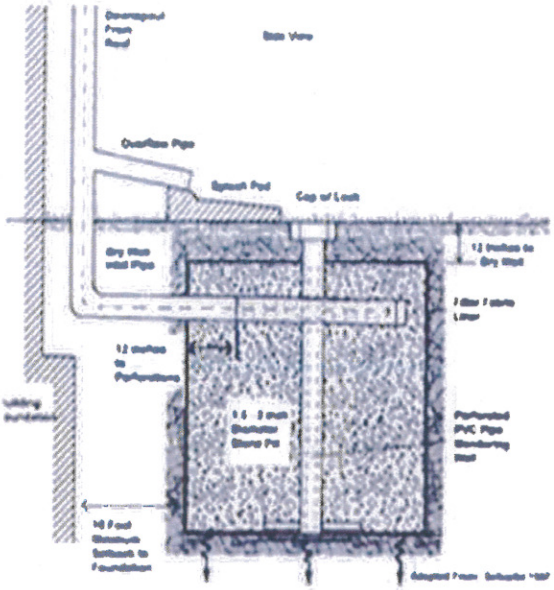
The calculated area (sq. ft.) considers a void space factor of 40% to be available within the stone area. The factor 1.2 is the result of 3 feet multiplied by 0.4.

Typical Infiltration Trench



Source: Pennsylvania Stormwater BMP Manual (2006)

Typical Dry Well



Source (for pic on left): http://www.seagrant.sunysb.edu/pages/BMPsForMarinas.htm
Source (for pic on right): http://www.copelandconcreteinc.net/1800652.html

SMALL PROJECT DESIGN WORKSHEET		
1.	NAME:	
2.	ADDRESS:	
3.	PARCEL No./TAX MAP ID No.	
4.	DATE:	
5.	PROJECT DESCRIPTION:	
6.	EXISTING IMPERVIOUS AREA:	
7.	ADDITIONAL/CREATING/ NEW IMPERVIOUS AREA (increasing existing, if existing is 0 this row only):	
8.	DEDUCTION OF IMPERVIOUS AREA (reducing existing area):	
9.	CONTROLLED IMPERVIOUS AREA:	= #6 x 0.20 + #7 = or = (#6 - #8) x 0.20 =
10.	CONTROL VOLUME = V =	#9 x (1/12) =
11.	STORMWATER CONTROL STRUCTURES (BMPs)	
	a. RAIN BARREL	V = #9 x (1/12) =
	V = or < 7 =	1 RAIN BARREL
	V = or < 14 =	2 RAIN BARRELS
	V = or < 21 =	3 RAIN BARRELS
	V = or < 28 =	4 RAIN BARRELS
	b. RAIN GARDEN	V = #9 x (1/12) =
	Surface Area = A =	V / 1' = V =

	c. INFILTRATION TRENCH/DRY WELL	V = #9 x (1/12) =
	Surface Area = A =	V / 1.2' =
	d. ALTERNATE DESIGN	V = #9 x (1/12) =
12.	SUMMARY	
	Control Volume = V	
	Selected BMPS	Volume of BMPs
	Total Volume Controlled	

SITE PLAN SKETCH

Approval:

Borough of Ligonier

By: