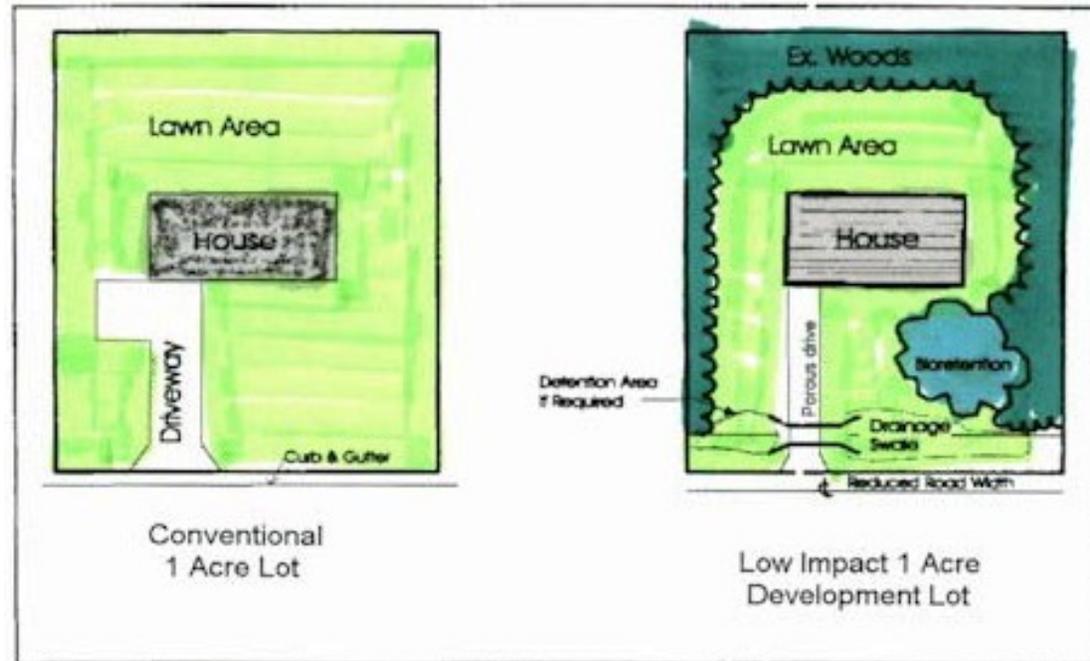


KNOWING YOUR IMPERVIOUS SURFACE AREA

The Clarion County Amended Stormwater Management Plan, including a Model Stormwater Management Ordinance, was adopted on August 28, 2012. Your municipality has adopted a Stormwater Management Ordinance and is providing this information to give you an overall view of the need for stormwater management and to assist you in complying with the requirements of the Ordinance.

A stormwater management plan will be required for all projects that create at least 5,000 square feet of new impervious area or for projects of any size that municipal officials determine may cause a threat to property, health or safety.



Importance of Stormwater Management

Replacing forested and agricultural land with urban land (pavement, roofs, and the removal of natural vegetation) negatively affects water quality and increases the amount of runoff. More than 50% of the rainfall in Pennsylvania infiltrates or is used by vegetation in well maintained forested and agricultural land. Runoff volume is dramatically increased when this natural land use is replaced with hard (or impervious) surfaces such as concrete and asphalt and other compacted surfaces. When left unmanaged, the increased impervious area also increases peak flows, reduces groundwater recharge and contributes to the erosion of stream banks. Proper stormwater management can mitigate these detrimental effects and protect the health of our communities and preserve the values of our natural resources.

Steps to Meet Stormwater Requirements

Step 1: Determine the new impervious area.

The purpose of this step is to calculate the surface area in square feet of all ***new*** rooftop, driveway and parking area surfaces associated with your project. Determine the area of new rooftops, driveways and parking areas by multiplying the length times the width.

Step 2: Choose potential stormwater management practice locations and determine soil drainage.

To ensure proper functioning of a stormwater management practice, you must make sure it is located in an area with adequate soil drainage. Improper siting of stormwater management practices can cause extended ponding or overall failure of the practice, which can lead to flooding and possible mosquito breeding problems on your site.

A simple way to determine the texture of the soil is to squeeze a moistened (damp but not dripping wet) ball of soil in your hand. Hold the ball of soil in your palm and poke it with your finger. If the soil ball breaks with slight pressure, then the soil is a sand or loamy sand. If the soil ball stays together but changes shape easily, then the soil is a sandy loam or silt loam. If the soil ball completely resists breaking, then it is a clay or clayey loam, and not suitable for stormwater management practices.

Step 3: Select appropriate storm water treatment practice(s) based on your site conditions and required elements for each practice.

After you have identified locations that are appropriate for stormwater management practices, you will need to select the type of practice to be installed at each location. Some examples are included in this document. You may have to install more than one practice to meet your stormwater management requirements.

Step 4: Size the selected stormwater treatment practice(s) to meet the water quality volume requirement.

Now that you have selected the appropriate stormwater management practices for your site, you'll need to size each practice to accommodate the water quality volume.

Step 5: Prepare a site plan depicting the location of all proposed stormwater treatment practices.

The site plan submitted must clearly show the location and size of each stormwater management practice. The site plan should show the distance between each practice and the property lines, as well as the location of any existing structures on the adjoining properties. Maintenance language for each practice must also be submitted.

Structural Best Management Practices (BMPs)

Volume/Peak Rate Reduction by Infiltration BMPs

- Pervious Pavement with Infiltration Bed
- Infiltration Basin
- Subsurface Infiltration Bed
- Infiltration Trench
- Rain Garden/Bioretention
- Dry Well/Seepage Pit
- Constructed Filter
- Vegetated Swale
- Vegetated Filter Strip
- Infiltration Berm & Retentive Grading

Volume/Peak Reduction BMPs

- Vegetated Roof
- Runoff Capture & Reuse

Runoff Quality/Peak Rate BMPs

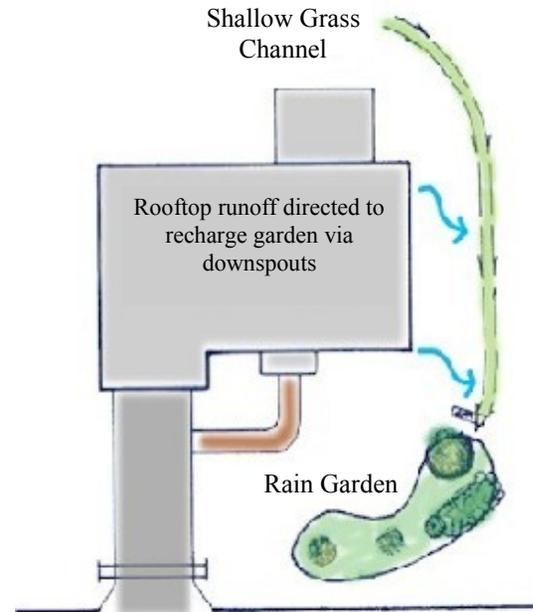
- Constructed Wetland
- Wet Pond/Retention Basin
- Dry Extended Detention Basin
- Water Quality Filter & Hydrodynamic Devices

Restoration BMPs

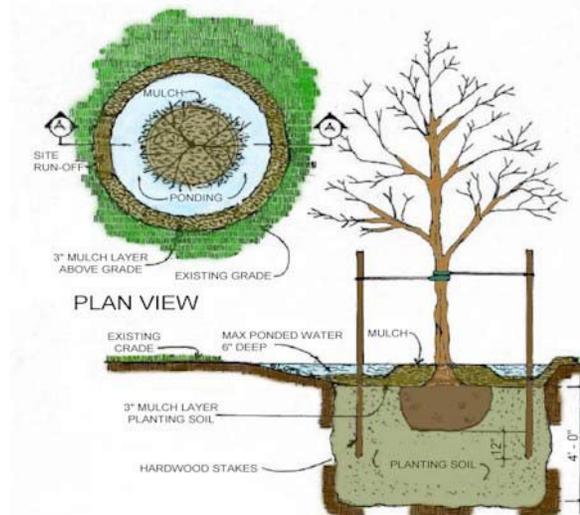
- Riparian Buffer Restoration
- Landscape Restoration
- Soils Amendment & Restoration
- Floodplain Restoration

Other BMPs and Related Structural Measures

- Level Spreader
- Special Detention Areas — Parking Lot, Rooftop



Rain Garden

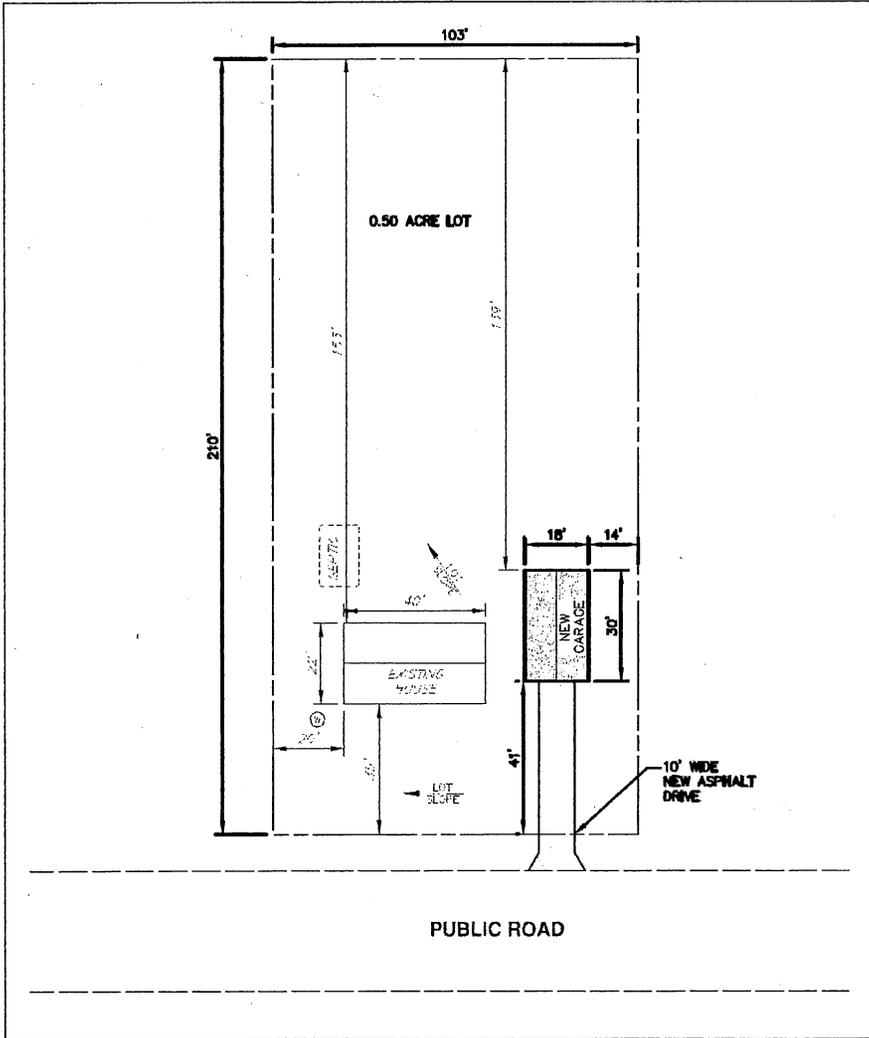


Tree and Shrub Pit



Vegetated Swale

Small Project Application - Example #1



Example #1 Small Project Stormwater Management Application

Per [municipality]'s Act 167 Stormwater Management Ordinance, a stormwater management plan is required whenever more than 5,000 square feet of impervious surface is proposed. Impervious surfaces are areas that prevent the infiltration of water into the ground and shall include, but not be limited to, roofs, patios, garages, storage sheds and similar structures, and any new driveways, streets or sidewalks.

To Calculate Impervious Surfaces Please Complete This Table					
Surface Type	Length	X	Width	=	Proposed Impervious Area
Building	30	X	18	=	540
		X		=	
		X		=	
		X		=	
Driveway	41	X	10	=	410
		X		=	
		X		=	
Parking Areas		X		=	
		X		=	
		X		=	
Patios/Walks		X		=	
		X		=	
		X		=	
		X		=	
Other		X		=	
		X		=	
		X		=	
Total Impervious Surface Area to be managed (sum of all areas)					950

If the Total Impervious Surface Area is LESS THAN 5,000 Square Feet, read, acknowledge and sign below.

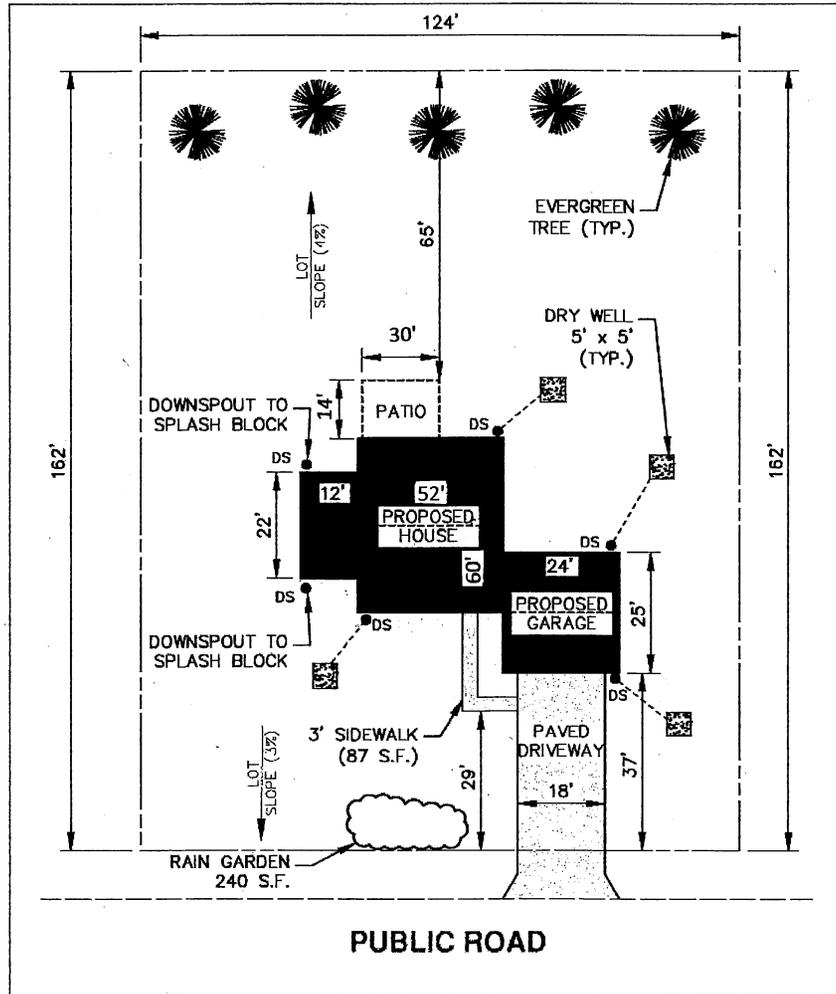
If the Total Impervious Surface Area is GREATER THAN 5,000 Square Feet, a stormwater management site plan is required.

Based Upon the information you have provided, less than 5,000 square feet of impervious surface is proposed and a **Stormwater Management Plan IS NOT required** for this regulated activity. However, [municipality] may request additional reporting and/or management should public health or safety or property or the environment be threatened.

Property Owner Acknowledges that submission of inaccurate information may result in a stop work order or permit revocation. Acknowledgement of such is by signature below. I declare that I am the owner or owner's legal representative. I further acknowledge that the information provided is accurate and employees of [municipality] are granted access to the above described property for review and inspection as may be required.

Owner _____ Date: _____

Small Project Application - Example #2



Example #2

Small Project Stormwater Management Application

Per [Municipality]'s Act 167 Stormwater Management Ordinance, a stormwater management plan is required whenever more than 5,000 square feet of impervious surface is proposed. Impervious surfaces are areas that prevent the infiltration of water into the ground and shall include, but not be limited to, roofs, patios, garages, storage sheds and similar structures, and any new driveways, streets or sidewalks.

To Calculate Impervious Surfaces Please Complete This Table					
Surface Type	Length	X	Width	=	Proposed Impervious Area
Building	60	x	52	=	3120
	22	x	12	=	264
Driveway	37	x	18	=	666
		x		=	
		x		=	
Parking Areas		x		=	
		x		=	
		x		=	
Patios/Walks	14	x	30	=	420
	29	x	3	=	87
		x		=	
		x		=	
Other	24	x	25	=	600
		x		=	
		x		=	
Total Impervious Surface Area to be managed (sum of all areas)					5157

If the Total Impervious Surface Area is LESS THAN 5,000 Square Feet, read, acknowledge and sign below.

If the Total Impervious Surface Area is GREATER THAN 5,000 Square Feet, a stormwater management site plan is required.

Based Upon the information you have provided, less than 5,000 square feet of impervious surface is proposed and a **Stormwater Management Plan IS NOT required** for this regulated activity. However, [Municipality] may request additional reporting and/or management should public health or safety or property or the environment be threatened.

Property Owner Acknowledges that submission of inaccurate information may result in a stop work order or permit revocation. Acknowledgement of such is by signature below. I declare that I am the owner or owner's legal representative. I further acknowledge that the information provided is accurate and employees of [Municipality] are granted access to the above described property for review and inspection as may be required.

Owner

Date: