

**Applicants for Building Permits/ Grading Permits  
Stormwater Management Guidelines  
For  
Impervious surface additions greater than 200 SF  
and less than 1,000 SF**

Per Act 167, the "Stormwater Management Act," the Township is empowered to regulate land use activities that affect runoff, surface and groundwater quality and quantity in the Neshaminy Creek and Delaware River South watersheds.

For any impervious surface addition greater than 200 SF and less than 1,000 SF, where impervious surface areas are defined as roof, stone or concrete surfaces such as patios, pavers, or walkway areas, the construction project must include the installation of an approved stormwater dry well. The dry well shall be sized to store the first inch of runoff from the new impervious area. Please refer to the attached documents and the sample sizing calculation.

Any projects proposing 1,000 SF or greater of impervious surface addition shall be subject to the Chapter 430 Stormwater Management and Earth Disturbance Ordinance for projects located in the Delaware River South watershed or the Neshaminy Creek Watershed Stormwater Management Plan dated November 2010 for projects located in the Neshaminy Creek watershed.

**Sample sizing calculation for dry well:**

For 240 SF of new impervious area, the calculation for storing the first inch of runoff follows:

$$240 \text{ SF} \times 1\text{'}/12\text{'}/\text{ft.} = 20 \text{ CF of required storage}$$

Since the dry well is stone filled, and stone has a 40% average void ratio,

$$20 \text{ CF} / 0.40 = 50 \text{ CF of stone filled required storage}$$

Assuming the dry well will be 2.5 feet deep,  $50 \text{ CF} / 2.5 \text{ ft.} = 20 \text{ SF}$ .

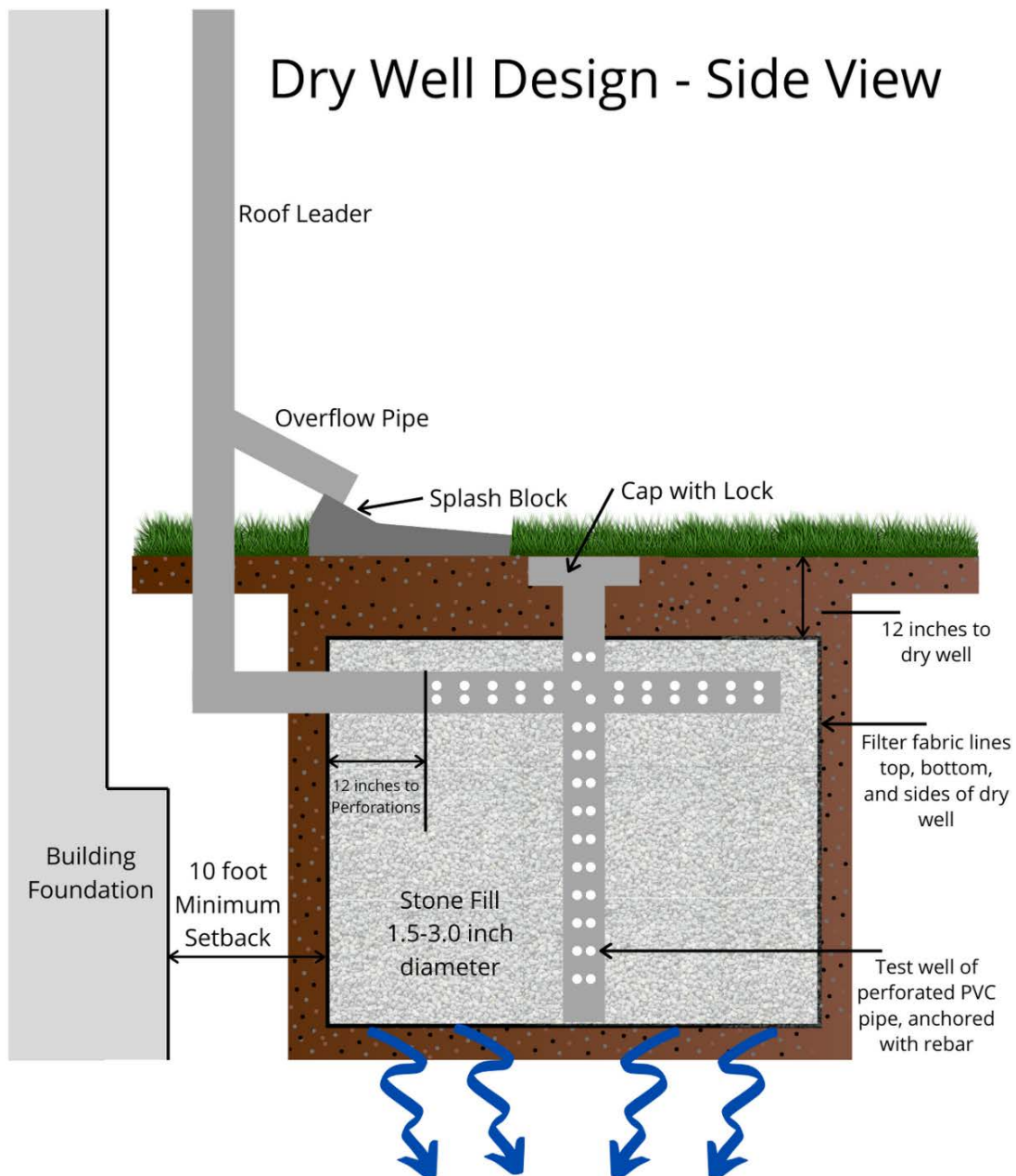
Thus, size the dry well to be 5 feet long by 4 feet wide by 2.5 feet deep.

**The dry well must be inspected by the Township prior to and after filling of stone.**

## Design 4:

Dry Well Designs. (Figure 5.8). Dry wells are a basic trench variation which are designed exclusively to accept rooftop runoff from residential or commercial buildings (Figure 5.8). Additional guidance on dry well design is available from Md WRA (1984). Basically, the leader from the roof is extended into an underground trench, which is situated a minimum of ten feet away from the building foundation. Rooftop gutter screens are needed to trap any particles, leaves and other debris, and must be regularly cleared.

Figure 5.8: Dry Well Design (adapted from Md WRA, 1986)



Trenches

sure they still work, 2) the vegetated buffer strips are established immediately, preferably by sodding, and 3) if hydroseeding is used, reinforced silt fences or Austin triangles must be placed between the buffer and trench to prevent sediment entry before the buffer becomes fully established.

Table 5.5: Approved Geo-Textiles For Use in Infiltration Trenches

Mirafi 140-N	NOTE: This is a partial list of acceptable filter fabrics for use in infiltration trenches available from suppliers in the Washington, D.C. area. The use of a brand name does not constitute and endorsement by MWCOG of any particular product or company
Sipac 4NP, 4.5NP, 5NP and 8 NP	
Typar 3401	
AMOCO 4545	
EXXON Geo-textiles No. 125D, 130D and 150D	
TerraTex SD	

Source: Prince George's County Stormwater Bulletin No. 4, 1986.

**Ownership Responsibilities & Maintenance**

The stormwater dry well must not be altered or removed without Township approval. The homeowner is responsible for maintaining the dry well in proper working condition. The Township will have the right to inspect the stormwater dry well during normal business hours. If the dry well is found not to be working properly, the Township will give the homeowner 30 days to correct the problem. If the problem is not corrected within 30 days, the Township has the right to enter the property to properly maintain the dry well at the homeowner's expense.

**Routine Dry Well Maintenance**

Regularly clean out gutters and ensure proper connections.

Use observation port to inspect dry well at least four times a year and after every storm exceeding 1 inch. The dry well should empty/infiltrate within 72 hours after completion of rainfall event. If slow drainage persists, the system may need replacing.



# Fact Sheet

Commonwealth of Pennsylvania • Department of Environmental Protection

## Pennsylvania's Storm Water Management Act (Act 167)

Pennsylvania's Storm Water Management Act (Act 167) was enacted in 1978. This Act was in response to the impacts of accelerated stormwater runoff resulting from land development in the state. It requires counties to prepare and adopt watershed based stormwater management plans. It also requires municipalities to adopt and implement ordinances to regulate development consistent with these plans.

### What is accelerated stormwater runoff?

Precipitation that falls on the natural landscape is managed by a system of vegetation, soil, groundwater and surface waters that has formed over time. Natural events shape this system to efficiently handle stormwater through infiltration, evaporation and runoff. When less precipitation is infiltrated into the soil and groundwater or evaporated, either directly to the air or through plants and trees, there is an increase in the volume and rate, or acceleration, of stormwater runoff.

### Why is accelerated stormwater runoff a concern?

As changes to the landscape alter the balance of the natural water cycle, accelerated stormwater runoff causes further impacts to the landscape. Higher volumes and rates of stormwater runoff cause increased soil erosion, greater and more frequent flooding, and reshape surface waters through scour and deposition. It also reduces groundwater levels because less precipitation ends up there and this in turn reduces dry weather stream flows that are fed by groundwater. More soil and other water pollutants are picked up and carried further with accelerated stormwater runoff. Depending on the extent of these impacts, serious safety, property and environmental risks can also result.

### How does development accelerate stormwater runoff?

Changing the soil cover by placing impervious surfaces (pavement, roofs), removing vegetation (grass, plants, trees) and changing the shape of the land and the way water flows across it can all accelerate stormwater runoff. During construction vegetation is removed, soil is exposed, the landscape is reshaped and impervious surfaces are installed. Following construction, some vegetation is replaced, the impervious surfaces prevent infiltration and may attract new pollution sources and the reshaped landscape alters the flow and destination of stormwater runoff.

### How can the impacts of accelerated stormwater runoff be reduced and prevented?

If there is no change from preconstruction to post-construction stormwater runoff volume, rate and quality, accelerated stormwater runoff will be avoided and the impacts prevented. This is accomplished by minimizing changes to the landscape and implementing stormwater management practices that replicate pre-development conditions.

### What is a watershed based Stormwater Management Plan?

Watershed based Stormwater Management Plans provide municipalities with a framework, including model

ordinances and management practices, to control stormwater runoff from new development in a watershed. These plans include standards for managing the quantity and quality of stormwater runoff given the characteristics of the watershed including current and future development plans. The goal is to control post-development stormwater runoff rate, volume and quality to replicate pre-development conditions. This is to prevent additional downstream flooding and to protect water resources and their uses. The Department of Environmental Protection (DEP) may require counties to develop joint plans where a watershed includes land in more than one county.

### How is the public involved in this process?

During the watershed planning process, counties establish plan advisory committees consisting of county and municipal representatives. Counties may also appoint representatives of interest groups and the public. These committees help to define local concerns and develop stormwater control strategies. The processes for county adoption of the plan includes a public hearing. Municipal adoption of ordinances to implement the plan is also an opportunity for public input.

### How are Stormwater Management Plans implemented?

Following adoption of the Stormwater Management Plan by the county and approval by DEP, anyone engaged in construction activities in the watershed is required to implement stormwater management measures consistent with the plan. In addition, each municipality in the watershed covered by the plan must, within six months of DEP's approval, adopt ordinances consistent with the plan. This includes zoning, subdivision and development, building code, erosion and sedimentation and post-construction stormwater management requirements in the municipality. This process is also consistent with municipal obligations under federal National Pollutant Discharge Elimination System (NPDES) permitting requirements for Municipal Separate Storm Sewer Systems (MS4).

### What assistance is available to counties and municipalities?

DEP provides technical, administrative and financial assistance to counties in preparing Stormwater Management Plans. DEP pays for 75% of the costs counties incur in preparing plans, and it approves reimbursements to municipalities for 75% of the allowable costs of preparing plans and enacting, administering and implementing stormwater ordinances.