

# Rain Garden Maintenance Guide



**Prepared for:**

(private residence)  
(street address)

**2011**

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## A Quick Look

### All about the Mount Pleasant Rain Garden Project:

In 2007 Mount Pleasant Borough received a grant\* to construct innovative stormwater management measures in the Borough. The Ramsay Terrace neighborhood and surrounding areas were targeted to receive a portion of this money to install residential rain gardens to alleviate the flooding and sewer overflows that have plagued the neighborhood and to reduce pollution entering Shupe Run.

**Your rain garden** is part of a larger project designed to manage stormwater runoff in the Ramsay Terrace neighborhood. As your rain garden captures runoff water from your roof, it helps reduce flooding to the streets and your neighbors' properties. Not only does your rain garden help your neighbors but it also beautifies the area and provides a little bit of wildlife habitat.

The Ramsay Terrace rain gardens were designed by the Westmoreland Conservation District under an agreement with Mount Pleasant Borough. Each participating homeowner volunteered to take part in this project; homes for rain garden installation were selected according to technical criteria developed by the Conservation District. Each home owner had the opportunity to review and approve their individual rain garden design prior to construction.

The first phase of the rain garden project was constructed in the fall of 2010 by Silvis Group, Inc., a landscape contractor hired by the Borough. Construction was monitored by Westmoreland Conservation District staff. Prior to construction, each homeowner signed a '**Landowner Agreement**' with the Borough allowing the construction of their rain garden. This agreement calls, in part, for the homeowner to keep the rain garden in place and maintain it for twenty years. This is a requirement of the original grant made to the Borough by the Pennsylvania Department of Environmental Protection.

Your participation in the rain garden project is appreciated. Should you have any questions about the rain garden program or the maintenance of your rain garden, please contact:



218 Donohoe Road  
Greensburg PA 15601  
724-837-5271  
[www.wcdpa.com](http://www.wcdpa.com).

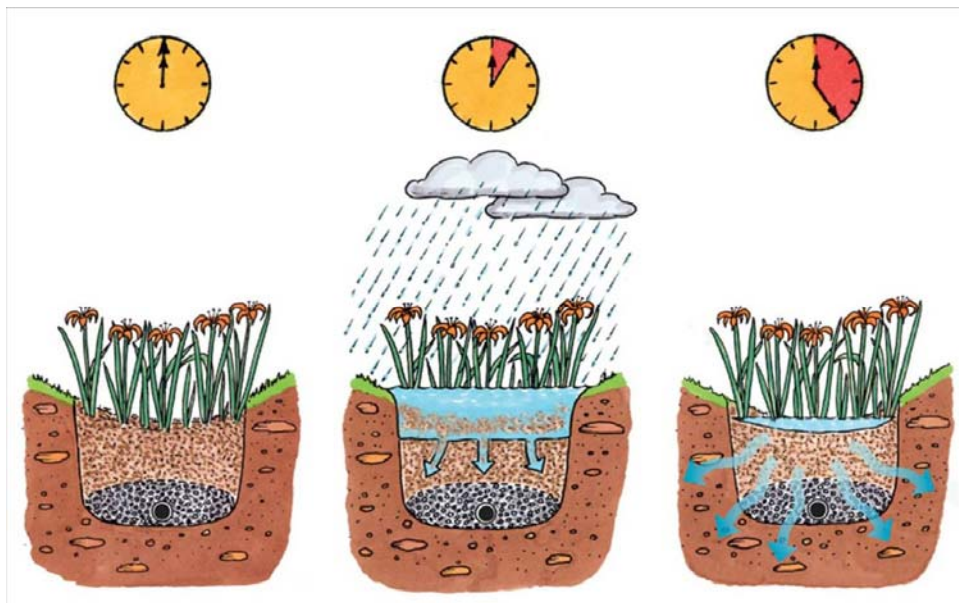
\*The grant funding was provided by the Pennsylvania Department of Environmental Protection through Section 319 of the Federal Clean Water Act administered by the U.S. Environmental Protection Agency.

## A Quick Look

### How a rain garden works:

A rain garden is a landscape bed designed to capture excessive rainwater runoff\* and allow it to soak into the ground to be used by plants instead of contributing to excessive water entering the nearest storm sewer system. **Your rain garden** captures a portion of your roof water, allows it to pond up to the height of the basket grate, before it overflows to the street and storm sewer system. The ponded water soaks into the soil mix within a few hours to keep the plants in the garden healthy.

\*Rainwater runoff from a roof or from a paved area picks up pollutants before entering a storm sewer system and carries it directly into the nearest waterway contributing to flooding, pollution and stream channel degradation.



### The responsibility of the rain garden homeowner:

While the rain garden plants are being established, watering, weeding and pruning may be required.

The emergency overflow basket grate should be checked often and kept free of litter and debris.

Leaf litter and other debris may need to be removed approximately twice per year.

Perennials and grasses may be trimmed at the end of the growth season or at the end of the winter season before new growth starts.

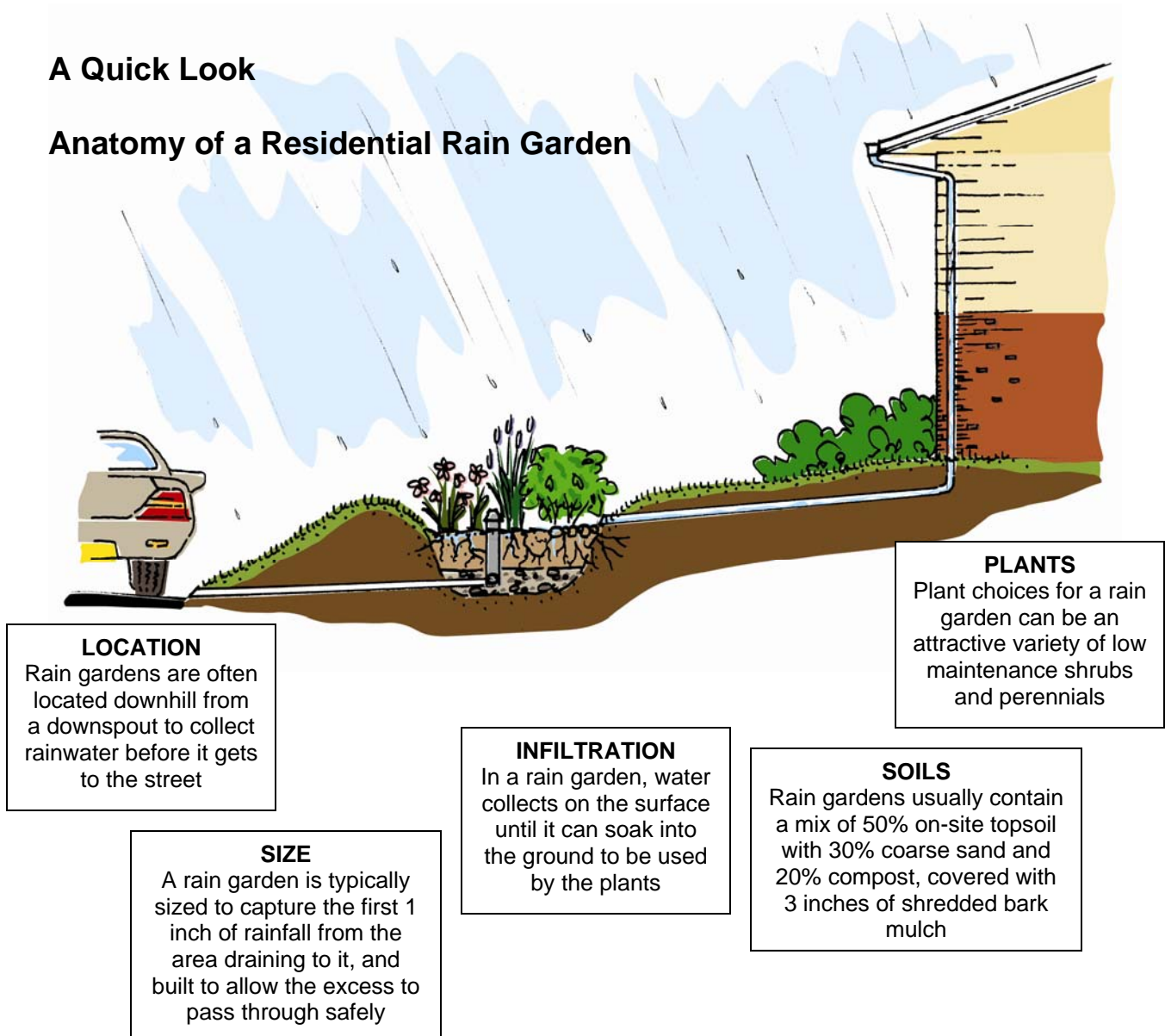
Rain gardens should be inspected by the owner at least two times per year for sediment build up, erosion, vegetation conditions/health, etc.

Replace stone apron, shredded bark mulch and vegetation as necessary.

Mulch should be replaced every two to three years with a shredded bark mulch.

## A Quick Look

### Anatomy of a Residential Rain Garden



#### LOCATION

Rain gardens are often located downhill from a downspout to collect rainwater before it gets to the street

#### SIZE

A rain garden is typically sized to capture the first 1 inch of rainfall from the area draining to it, and built to allow the excess to pass through safely

#### INFILTRATION

In a rain garden, water collects on the surface until it can soak into the ground to be used by the plants

#### SOILS

Rain gardens usually contain a mix of 50% on-site topsoil with 30% coarse sand and 20% compost, covered with 3 inches of shredded bark mulch

#### PLANTS

Plant choices for a rain garden can be an attractive variety of low maintenance shrubs and perennials

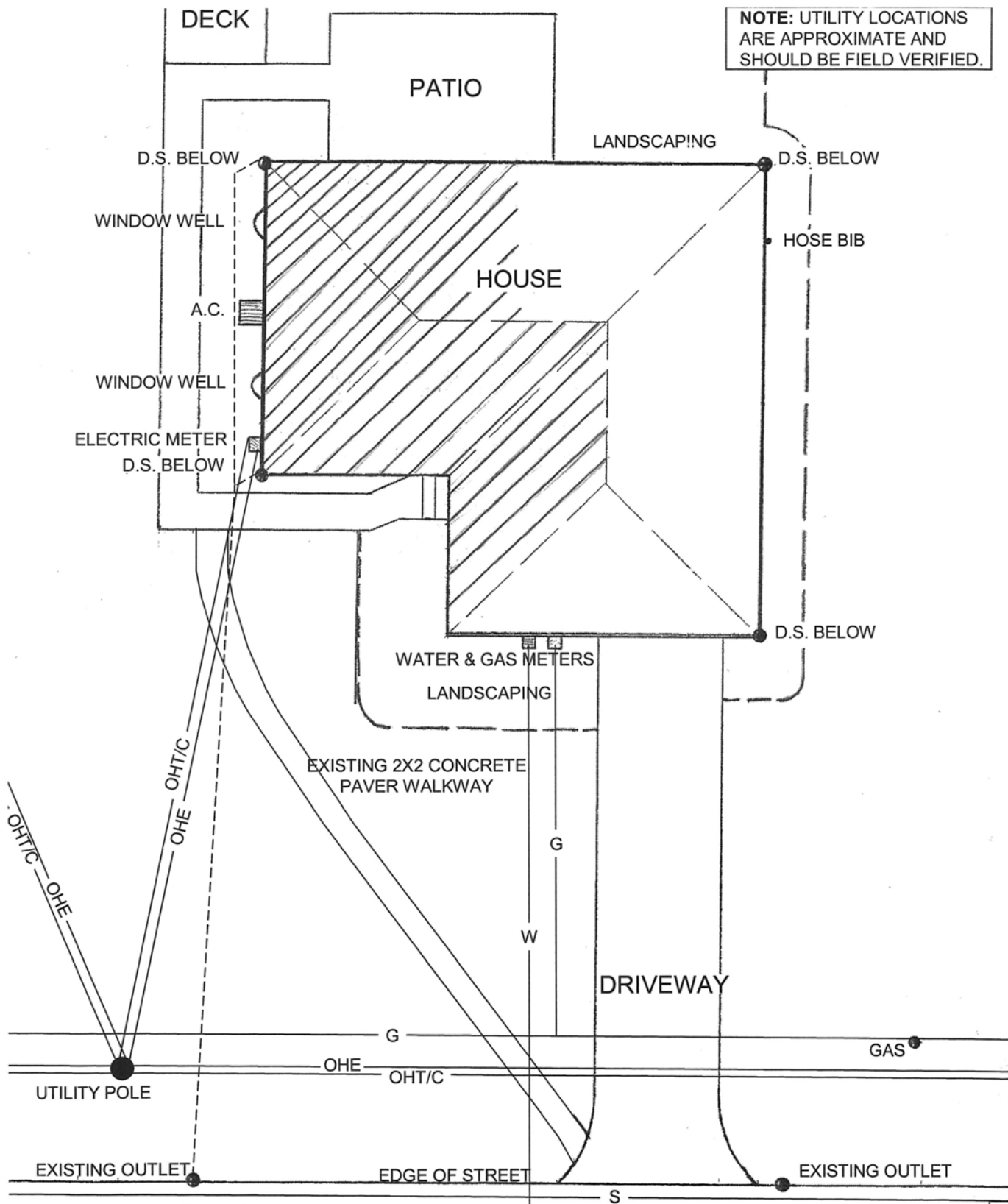
## A Rain Garden as a Problem Solver:

When rain falls during a storm, it can end up in one of two places: 1) into the ground through lawns and landscaped areas or 2) onto paved surfaces and roofs where it is usually collected and concentrated into pipes underground which empty into our streams and waterways.

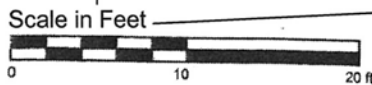
This concentrated water, or runoff, can carry with it many pollutants from our built environment such as fertilizers, pesticides, oils, car fluids, soaps, pet waste, and even our precious topsoil. This polluted water contributes to degradation of our streams, poor water quality in our communities, and can contribute to flooding and combined sewer overflows.

An effective and attractive solution to approach these problems is to use a rain garden to capture, clean, and even use a portion of the water that runs off the hard surfaces on your own property.

# Your Rain Garden Plan

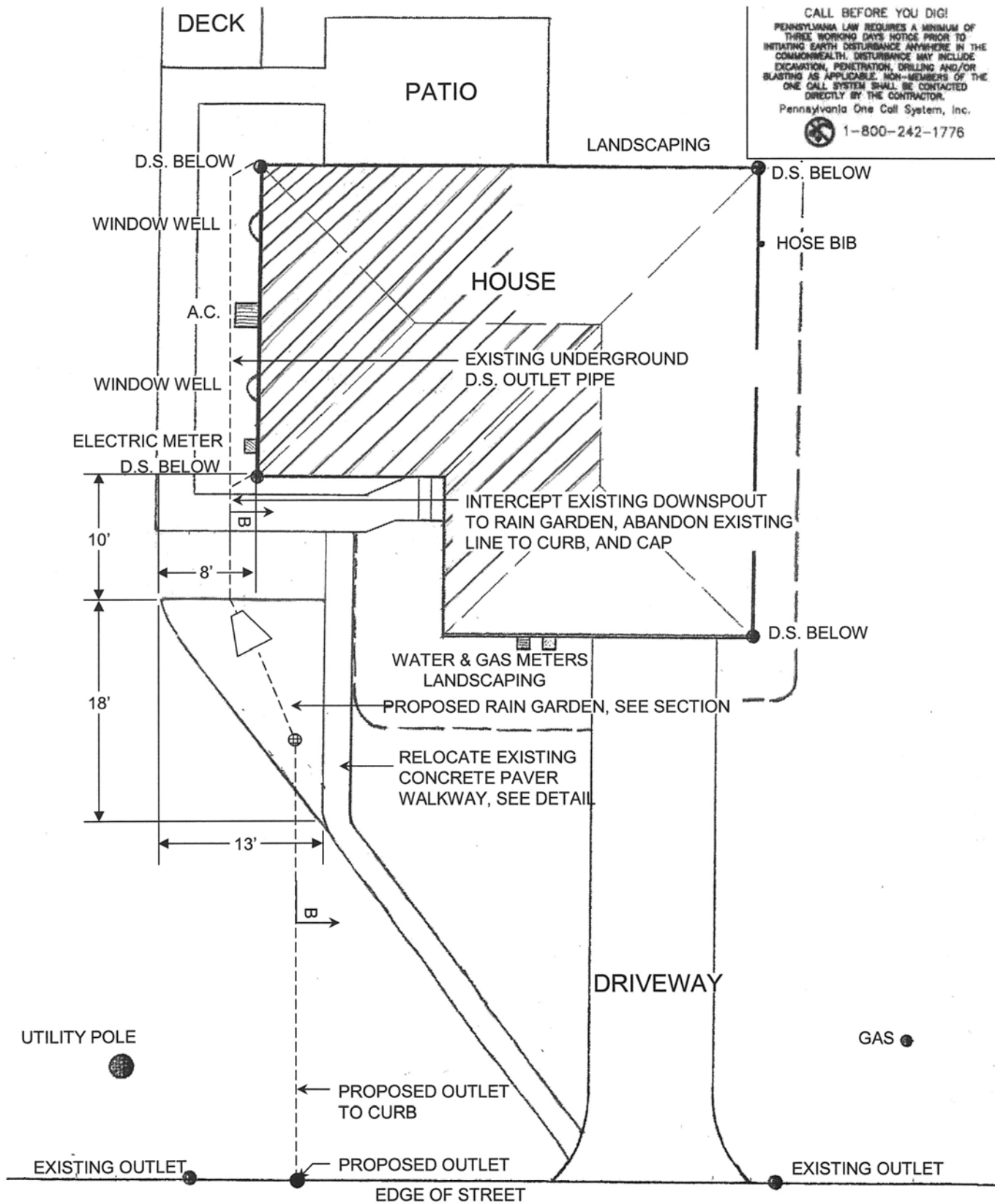


**Existing Conditions**  
**Mt. Pleasant Rain Garden Program**  
 (Private) Residence  
 ( Street address )



# Your Rain Garden Plan

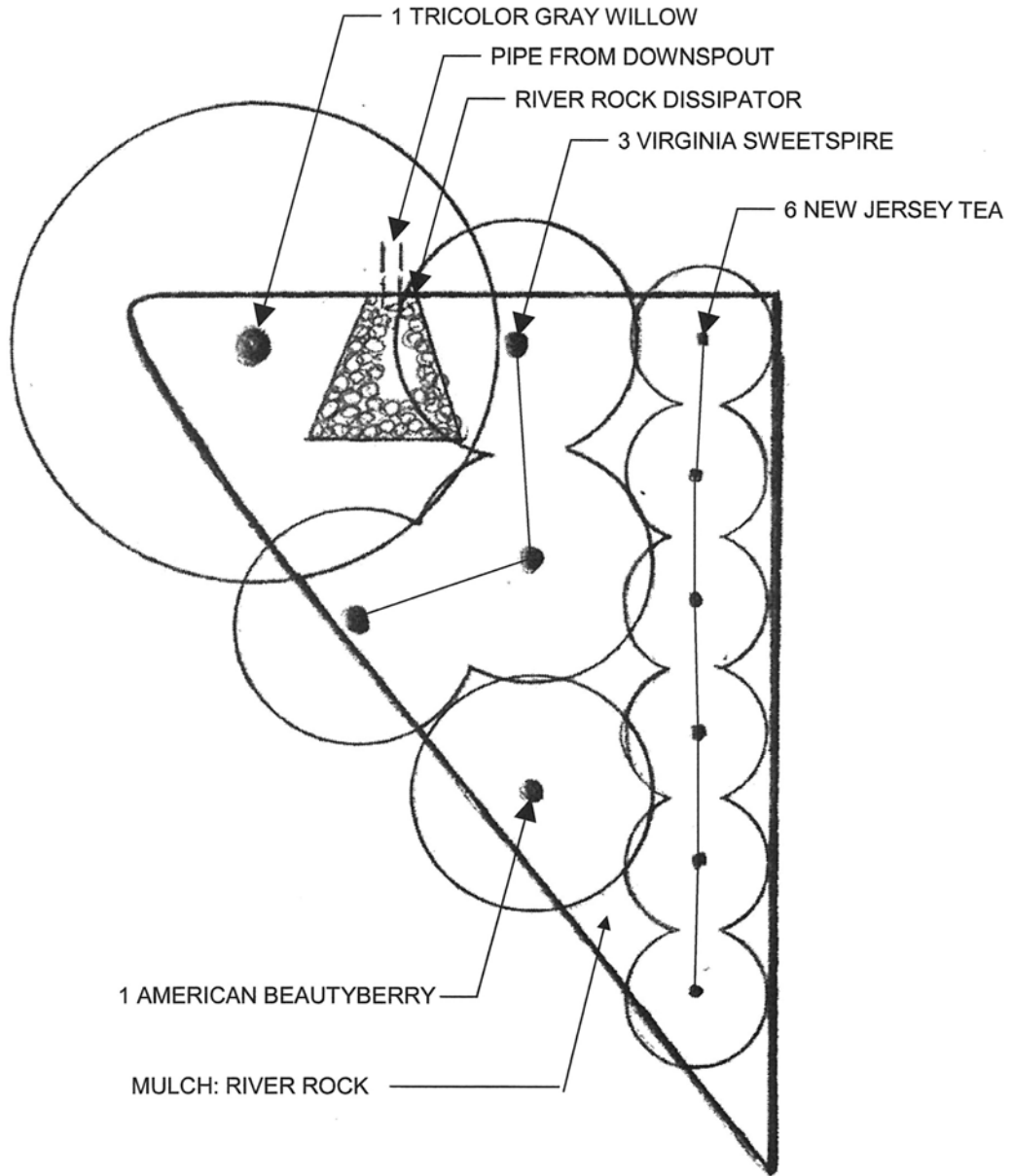
CALL BEFORE YOU DIG!  
 PENNSYLVANIA LAW REQUIRES A MINIMUM OF THREE WORKING DAYS NOTICE PRIOR TO INITIATING EARTH DISTURBANCE ANYWHERE IN THE COMMONWEALTH. DISTURBANCE MAY INCLUDE EXCAVATION, PENETRATION, DRILLING AND/OR BLASTING AS APPLICABLE. NON-MEMBERS OF THE ONE CALL SYSTEM SHALL BE CONTACTED DIRECTLY BY THE CONTRACTOR.  
 Pennsylvania One Call System, Inc.  
 1-800-242-1776



**Site Improvements Plan**  
**Mt. Pleasant Rain Garden Program**  
 (Private) Residence  
 ( Street address )



# Your Rain Garden Plan

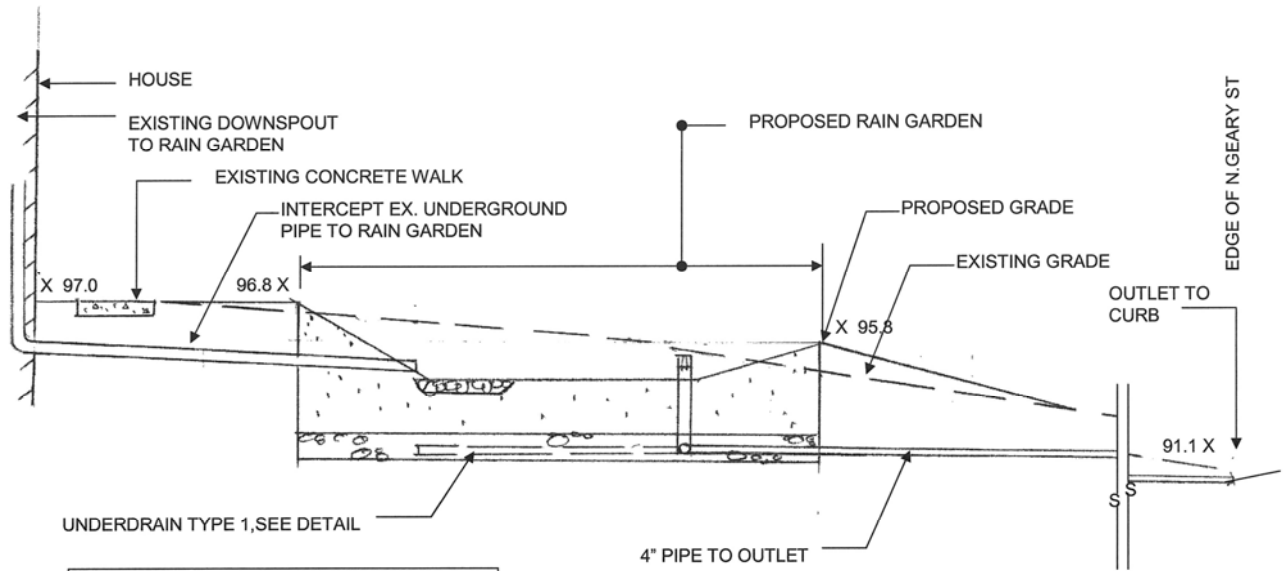


**Landscape Plan**  
**Mt. Pleasant Rain Garden Program**  
(Private) Residence  
( Street address )

Not to Scale



# Your Rain Garden Section

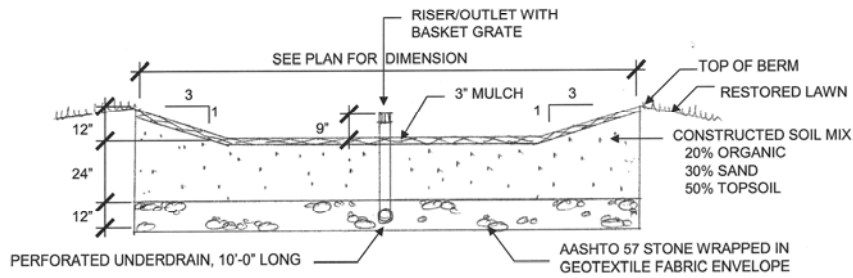


NOTE: SPOT ELEVATIONS ARE ILLUSTRATIVE AND SHOULD BE USED AS A GUIDE

## SECTION BB (Private) RESIDENCE RAIN GARDEN

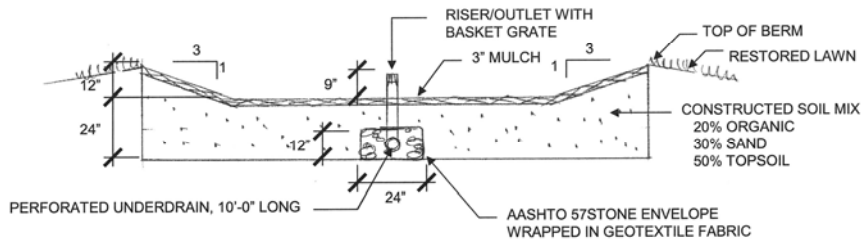
NOT TO SCALE

# Your Rain Garden Details



NOTE: PROVIDE 3" DEPRESSION IN EMBANKMENT BERM, 20" WIDE, CENTERED OVER OUTLET PIPE FOR EMERGENCY OVERFLOW. LOCATION SHALL BE FIELD VERIFIED BY WCD PERSONNEL.

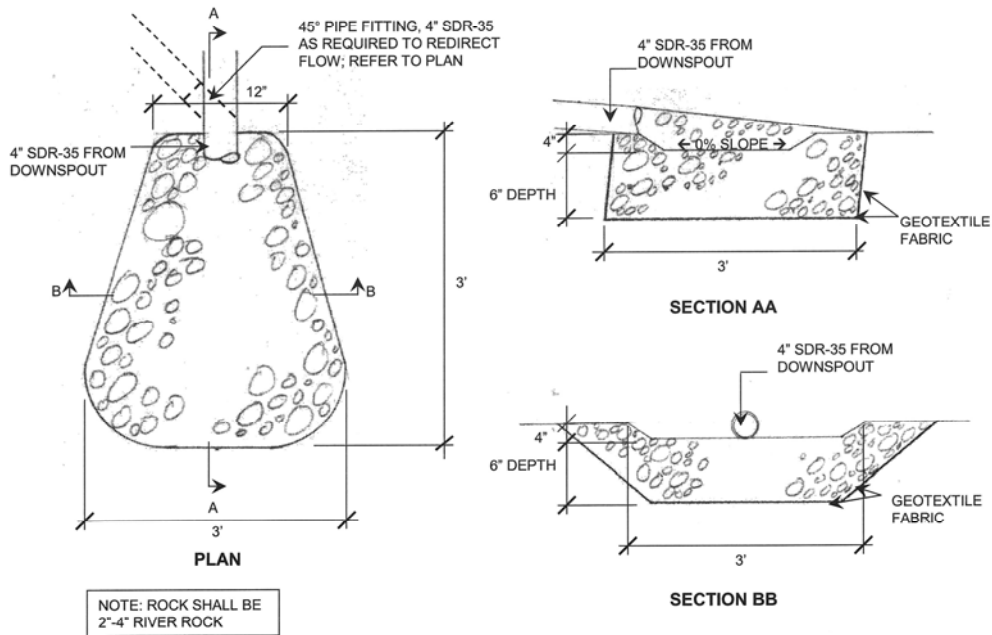
## UNDERDRAIN TYPE "1"



NOTE: PROVIDE 3" DEPRESSION IN EMBANKMENT BERM, 20" WIDE, CENTERED OVER OUTLET PIPE FOR EMERGENCY OVERFLOW. LOCATION SHALL BE FIELD VERIFIED BY WCD PERSONNEL.

## UNDERDRAIN TYPE "2"

NOTE: TYPE 2 FOR USE WITH GARDEN 'I'-FORISKA, GARDEN 'J'-AMDY



NOTE: ROCK SHALL BE 2"-4" RIVER ROCK

## ENERGY DISSIPATOR

WCD 2010 N.T.S.

## Caring for your Rain Garden

**First Season:** Caring for your garden the first season after planting is critical to its success. The most important tasks during the first year are watering and weeding. Young establishing plants need about an inch of rainfall or water per week.

### Long-term Watering:

By the second or third season, your plants should be fairly well established and most of the plants will be able to handle short periods of drought. During longer periods, you may need to water your garden, as you would any other landscape bed. Plants need moisture well into the Fall, especially shrubs and trees.



### Watering tips:

The best way to water is to use a hose to water around the base of each plant, preferably in the morning. This is a more time-consuming method of watering, but it is best for the plant (keeps foliage dry which helps prevent disease) and for the environment (wastes the least amount of water).

### Weeds and Mulch:

Plants compete with each other for nutrients, light, water and space. Weeds, when given a chance, will almost always win. If weeds are rampant in your garden, your ornamental plants will suffer and your garden will look messy and unkempt. The easiest solution to control weeds is to maintain a 3 inch layer of mulch. Shredded bark mulch is the best mulch for rain gardens.



**Mulching tips:** It is important to use a shredded bark mulch because it will knit together and stay in place when the garden fills with rainfall, whereas wood chips tend to float and clog the overflow drain.

Shredded bark mulch does break down and will need to be replaced every year or two, but as your plants grow and fill in, less mulch will be necessary to keep weeds down.

## Caring for your Rain Garden

### Fertilizing and Compost:

The plants selected for your rain garden do not require rich, fertile soil or lots of fertilizer to grow. You may not need to fertilize, but if growth appears poor, or if plants are yellowing or discolored, you may want to consider fertilizing.

To use a fertilizer:

1. **Test the soil.** Ideally, a fertilizer should be chosen to match whatever may be deficient in the soil. The Penn State Extension Service provides a testing kit for a minimal cost. Their phone number in Westmoreland County is 724-837-1402.
2. **Select the right fertilizer.** A soil test will tell you what nutrients need to be added and in what quantities.
  - a. Nitrogen rich fertilizers should be applied in the Spring when plant growth starts for maximum effectiveness.
  - b. Phosphorus and potassium can be applied in the Spring or Fall.
  - c. Slow-release fertilizers, which release nutrients over a period of weeks or months, are best for shrubs and perennials to reduce the risk of 'burning' your plants.
  - d. Well-composted yard waste, applied regularly, can add nutrients and structure to soil, and may be adequate for fertilization.
3. **Apply fertilizer properly.** Always read and follow labels properly when using fertilizers to prevent over application. Using too much fertilizer or applying it incorrectly can damage plants and degrade the environment.



**Fertilizer Tips:** The nutrients plants need in the greatest quantities are nitrogen (N), phosphorus (P) and potassium (K). A bag of fertilizer will have 3 numbers on it which relate to the percentage of each nutrient in the mix. For instance, 20-10-15 indicates 20% nitrogen, 10% phosphorus and 15% potassium.

**Compost Tips:** There are a variety of methods that can be used to recycle your yard waste into healthy compost that can be used to add nutrients back into your garden.

Westmoreland Cleanways, a non-profit corporation, provides programs and assistance with composting. They can be contacted by phone at 724-836-4129, or through their website [www.westmorelandcleanways.org](http://www.westmorelandcleanways.org).

## Caring for your Rain Garden

### Perennial Selection:

The perennials selected for your rain garden are native or naturalized varieties that can thrive through wet and dry conditions. They have a nice natural form, have seasonal interest and are deep rooted to perform the uptake of water required in a rain garden.



**Perennial choice tips:** Plants for a rain garden should be chosen by the amount of light they will receive (sun vs shade) and their ability to handle the periods of wet and dry they will experience throughout the year. See the recommended list in the back of this manual.

### Perennial Care:

**Dividing perennials:** As your garden matures, the perennials will grow, fill in and may become crowded. To keep the plants healthy, you may need to remove some plants or divide them. Some species may die out in the middle as they age and dividing will reinvigorate them.



**Dividing tips:** Perennials are best divided in the Spring before they reach 4 inch height. Dig up the entire plant and use a knife, shovel or ax to break the clump into two or more pieces. Replant the pieces in the bed or elsewhere leaving enough space for them to grow.

**Pinching and deadheading:** Pinching and deadheading are not required for your rain garden, but they do benefit some species. **Pinching** means to cut back or to pinch young stems a few inches above a leaf or bud. This practice makes the plant bushier, more compact or delays blooming. **Deadheading** means to cut off dead flower heads to increase the duration of bloom time. Cut off the spent flower at the base of the flower stalk, and the plant will put its energy into more flowers instead of seed production.

**Removing dead stalks:** After perennials die back, dead stalks should be cut and removed from the garden. This can be done in Fall or Spring. Fall removal is recommended if the plants were diseased or had insects. Spring removal is beneficial to allow the plants to provide winter interest of attractive seed heads and dried foliage, as well as for food and shelter for birds.

## Caring for your Rain Garden

### Perennials and Disease:

Most of the plants chosen for your rain garden are fairly disease resistant, but sometimes it is hard to distinguish between disease, nutrient deficiency, and insect damage. Prevention is an important strategy in handling disease.



#### Disease prevention tips:

1. **Remove dead and diseased material from the garden promptly.**
2. **Keep weeds to a minimum.**
3. **Minimize plant stress by making sure plants have adequate nutrients and water.**
4. **Keep foliage dry by watering early in the day without wetting the leaves.**

## Caring for your Rain Garden

### Shrub

#### Selection:



Shrubs should be selected for the size of the space to be filled. It is best to plant a variety that naturally fits the height and spread requirements of the space where it is planted rather than force the shape through repeated pruning.

**Shrub choice tips:** Plants for a rain garden should be chosen by the amount of light they will receive (sun vs shade) and their ability to handle the periods of wet and dry they will experience throughout the year. See the recommended list in the back of this manual.

#### Shrub Care:

**Pruning:** The shrubs selected for your rain garden have a nice natural form and should not require much pruning to maintain this form. You may however need to occasionally remove dead or diseased branches, crossing or rubbing branches, an odd branch, or just to rejuvenate the shrub.

It is best to let the shrubs grow to their natural height and form, but in some cases pruning is helpful to the health of the plant. The best time to prune most shrubs is early in the Spring before the shrub begins actively growing. To maintain a natural shape, cut the oldest and largest stems back to the ground. Broken, damaged or odd stems should be pruned back to the next growing point (leaf or bud) or to the main stem. Do not shear across the top of the shrub to make it shorter. This practice could harm the health of the plant and cause the bottom to lose foliage.



**Pruning tips:** Pruning shears and clippers for small stems, or a saw for larger stems should be used in the Spring to prune individual stems back to the next growing point (leaf or bud) or to the main stem to maintain a natural shape.

## Caring for your Rain Garden

### Annual Maintenance Schedule:

#### Tasks for early Spring (before new growth is 3 inches high):

Cut and remove dead stalks and seed heads remaining from previous season.

Remove sticks and debris.

Prune shrubs if necessary (see Shrub Pruning section).

Divide and move perennials if they are too crowded (see Perennial Care section).

Replenish mulch layer to maintain a 3 inch layer of shredded bark.

#### Tasks for late Spring and Summer:

Remove weeds.

Water as needed during periods of drought.

#### Tasks for Fall:

Remove weeds and diseased plants.

Remove excess leaves.

If Fall is dry, continue to water trees and shrubs until the ground begins to freeze (late October). These woody plants need moisture entering winter to ensure survival.



### Leaf Litter:

Leaves are a natural mulch and are good for your rain garden in limited quantities. A 2 inch to 3 inch layer of leaves in the garden is plenty.

Because the rain garden is a depressed garden, it tends to collect leaves and debris and should be cleaned out in the Fall and Spring.

The rain garden should not be used as a place to dump leaves.

The overflow outlet pipe with the basket grate should be kept clear of leaves and other debris.

Shredded leaves (created by running a lawn mower over 2 inch to 4 inch thick piles) will decompose faster and are better as mulch than whole leaves, but care must be taken to keep them from floating and entering the outlet pipe.

## Caring for your Rain Garden

### Enhancing your

**Rain Garden:** **Adding plants:** Plants can be added to your rain garden to fill in gaps or to replace some of the original plants in the event of damage or loss. Plant selection should consider mature size (height and spread) of the plant, the sun exposure and the changing conditions (wet to dry) of the rain garden.



**Spring bulbs** should be planted in the Fall and can add a bright splash of color first thing in the growing season. Most bulbs need dry soil so they should be planted in the dry upper zone of the rain garden.

**Annuals**, planted in late Spring or early Summer, can add continual summer color to your rain garden, especially during the first two years while the perennials and shrubs are filling out. Keep in mind that most annuals will need some type of fertilizer to thrive in the rain garden.

**Perennials** can be added at any time to provide additional color and interest.

**Shrubs** should be selected to fit the space. It is best to plant a variety of shrub that naturally fits the height and spread requirements of the space where it is planted rather than force the shape through repeated pruning. They should also be able to tolerate the amount of sun exposure and the changing conditions (wet to dry) of the rain garden.

### Adding other features:

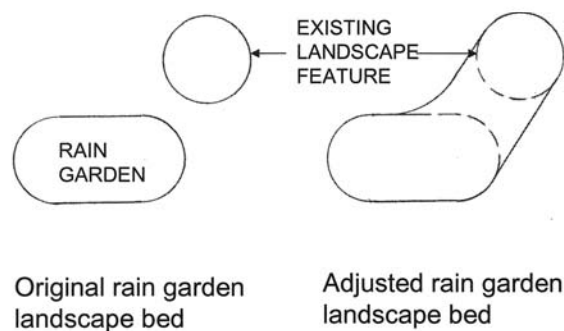
Decorative rock, statues or other landscape features can be added to the rain garden to enhance the appearance, but should be carefully placed to avoid interference with the function of the rain garden.

## Caring for your Rain Garden

### Adjusting the Shape of your Rain Garden:

The perimeter shape of the rain garden can be adjusted slightly to make mowing easier or to fit in with the rest of your landscape. The rain gardens were designed primarily as island beds surrounded by grass but sometimes as an extension of an existing landscape bed. It is important that the rain garden maintain its surface storage volume (depressed bed surrounded by sloping ground) and soil and mulch layers, but the mulch and landscape bed area can be extended up and over the slopes to tie in with other landscaping beds.

#### PLAN VIEW



**Note:** If you have any questions or concerns about adjusting the shape of the landscape bed around the rain garden, please contact the **Westmoreland Conservation District** staff.

# Plant Care Guide

## Callicarpa bodinieri (Beautyberry) • Zone 5

Abundant small purple berries on graceful arching branches. Forms a vigorous bushy shrub. Creates a show from July to August.

**Great For:**

Sun or light shade  
Massing for naturalization

**Height:** 6-8' **Width:** 6'

**Blooms:** Purple berries (late summer)

**Rate of Growth:** Rapid

**Pruning:** Do not prune back like other shrubs, as it blooms on second year wood.



### PLANT CARE INFORMATION

**Sun Exposure:** 4-6+ hours **Soil Type:** Clay, Moist, Sandy

## Ceanothus americanus (New Jersey Tea)

• Zone 4

A compact native shrub blooms white in June-July. Deep green foliage loves the sun and well-drained soils, but tolerates dry sites in sun or shade.

**Great For:**

Accent border shrub  
Foundation plantings & woodland settings

**Height:** 3'-4' **Width:** 3'-5'

**Blooms:** White (Summer) **Fall Color:** tan to bronze

**Rate of Growth:** Slow

**Pruning:** Should not need trimming.



### PLANT CARE INFORMATION

**Sun Exposure:** 4-6+ hours **Soil Type:** Moist to dry, well-drained soils

## Plant Care Guide

*Itea virginica* 'Henry's Garnet' (Virginia Sweetspire) • Zone 5

A graceful fountain of fragrant, long white spikes emerge in summer over thick and clean medium green foliage with reddish stems. Use 'Henry's Garnet' in moist fertile soils as a border and enjoy the handsome burgundy-red twigs in winter.



**Great For:**

Accent border shrub  
Foundation plantings & woodland settings

**Height:** 3-5' **Width:** 4-8'

**Blooms:** White (Summer) **Fall Color:** Purple, Red

**Rate of Growth:** Slow

**Pruning:** Should not need trimming. Blooms in June for about 3 weeks followed in Fall and much of Winter by red and orange foliage.

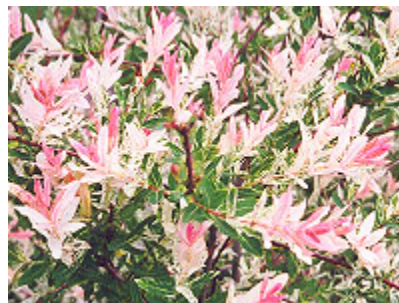
**PLANT CARE INFORMATION**

**Sun Exposure:** 4-6+ hours **Soil Type:** Clay, Moist, Wet

*Salix cinerea* 'Variegata' ( Tricolor Gray Willow )

• Zone 3

This plant has a rounded form with downy green leaves mottled yellow and cream white, with tones of salmon pink dappled across the surface. Color is most intense through mid summer.



**Great For:**

A nice foliage contrast in a shrub border

**Height:** 5'-10' **Width:** 5'-10'

**Bloom Time:** no flowers

**Bloom Color:** no flowers

**Pruning:** Plants should be cut back in winter to encourage new growth.

**PLANT CARE INFORMATION**

**Sun Exposure:** 4-6+ hours **Soil Type:** moist soils, but will adapt to most garden soils

**For more information about plants and installation, please contact:**



LANDSCAPE SERVICES

Jackie Gorski, Landscape Designer

**Silvis Group, Inc.**

250 Shultz Road

Mt. Pleasant, PA 15666

Phone: 724-547-5268

Fax: 724-547-7010

## Recommended Ornamental Native Plants for Rain Gardens

(100 sf device should have minimum 3 to 5 species, or more for larger devices)

Scientific Name	Common Name	Mature Height/ Tolerance
<b>Grasses</b>		
<i>Pennisetum alopecuroides</i> 'Hameln'	Dwarf Fountain Grass	2-4' ht., sun
<i>Phalaris arundinacea</i> 'Picta'	Ribbon Grass	1-2' ht., sun
<i>Schizachyrium scoparium</i>	Little Bluestem	2-4' ht., sun
<b>Perennials</b> (plant approx. 2' on center)		
<i>Aster novae-angliae</i> 'Purple Dome'	Purple Dome Aster	2' ht., sun
<i>Echinacea purpurea</i>	Purple Coneflower	2-4' ht., sun
<i>Geranium maculatum</i>	Wood Geranium	1-2' ht., sun-shade
<i>Hemerocallis fulva</i>	Daylily	2-4' ht., sun
<i>Liriope muscari</i> 'Big Blue'	Big Blue Lilyturf	1' ht., sun-shade
<i>Lobelia cardinalis</i>	Red Cardinal Flower	2' ht., sun-shade
<i>Monarda fistulosa</i>	Bee-balm	2-5' ht., sun
<i>Rudbeckia hirta</i>	Black-eyed Susan	2-3' ht., sun-shade
<b>Small Shrubs</b> (plant approx. 3' on center)		
<i>Ceanothus americanus</i>	New Jersey Tea	1-3' ht., sun-shade
<i>Rhus aromatica</i> 'Gro-low'	Gro-low Fragrant Sumac	1-3' ht., sun
<b>Large Shrubs</b> (plant approx. 5' on center)		
<i>Cornus alba</i> 'Argenteo Marginata'	Silverblotch Dogwood	4-8' ht., sun-shade
<i>Cornus sericea</i>	Red Osier Dogwood	4-8' ht., sun-shade
<i>Ilex glabra</i>	Inkberry Holly	4'-8' ht., sun-shade
<i>Itea virginica</i>	Virginia Sweetspire	3-5' ht., sun-shade
<i>Myrica pennsylvanica</i>	Northern Bayberry	4-8' ht., sun-shade
<i>Salix cinera</i> 'Variegata'	Tricolor Gray Willow	5-10' ht., sun
<i>Viburnum dentatum</i>	Arrow-wood Viburnum	3-15' ht., sun-shade
<b>Small Trees</b> (plant approx. 15'-20' on center)		
<i>Acer ginnala</i>	Amur Maple	15-20'
<i>Amelanchier canadensis</i>	Shadblow serviceberry	20-25'
<i>Amelanchier laevis</i>	Alleghany Serviceberry	20-25'
<i>Magnolia virginiana</i>	Sweetbay Magnolia	15-20'
<i>Salix</i> 'Scarlet Curles'	Scarlet Curles Willow	30'
<b>Large Trees</b> (plant approx. 30' on center)		
<i>Acer rubrum</i>	Red Maple	40-45'
<i>Betula nigra</i>	River Birch	40-50'
<i>Platanus occidentalis</i>	American Sycamore	50'
<i>Quercus palustris</i>	Pin Oak	60-70'