

# RainScapes

Environmentally-Friendly Landscapes for Healthy Watersheds



## **Stormwater Gardens**

#### What is a "Stormwater Garden"?

Stormwater gardens are gardens designed to catch, filter and clean the volume of stormwater on your property that runs off impervious surfaces like roofs, patios, and driveways. While some gardens are able to catch all stormwater runoff and have it fully soak into the ground, others soak up a portion of runoff while the rest is safely directed through vegetation at a reduced quantity and speed. These gardens support native plants, pollinators, soil health, and keep our local watersheds clean by filtering stormwater. They prevent pollution like sediment or trash from reaching stormdrain systems, which frequently drain into local streams. Stormwater gardens are attractive additions to a variety of landscapes including homes, businesses, congregations, and schools.

# What are the different types of Stormwater Gardens?

Montgomery County's RainScapes program recognizes three types of Stormwater gardens.

- 1) A Rain Garden is a depression in the ground which catches stormwater and allows it to temporarily pool at a depth of 6 inches or greater.
- 2) A 3" Ponding Conservation Landscape is a native plant garden that can temporarily pond at 3 inches in depth.
- 3) A Conservation Landscape is a native plant garden which intercepts, slows, and filters stormwater, but does not create any ponding.







## What are the Benefits of Stormwater Gardens?

One inch of rain falling over a 1,500 square foot home can produce over 5,000 gallons of stormwater runoff. Typically, roof downspouts release runoff directly onto lawns or hard surfaces such as driveways or streets. On these surfaces, water cannot soak into the ground, so it is funneled across concrete and asphalt into stormdrains. As the stormwater flows over hard surfaces and lawns, it picks up pollutants like road oil, fertilizers, pesticides, and trash. Once in the stormdrain pipes, the dirty stormwater is discharged into streams in huge surges. This causes downstream erosion, flooding, and habitat degredation.

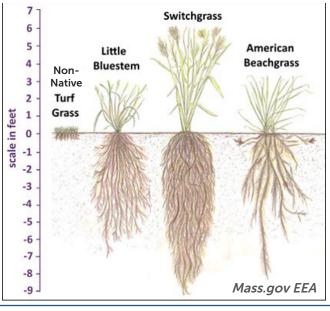
Stormwater gardens reduce the negative effects of stormwater in urban areas by slowing, filtering, evaporating, and letting water filter into the ground before it reaches our waterways. Filled with native plants, stormwater gardens promote biodiversity, provide food and shelter for native animals, prevent erosion with their strong root systems, and are particularly resilient to our local climate extremes. They are low-maintenance alternatives to traditional gardens with nonnative plants because they require less watering, fertilizer, pesticides, and mowing. Additionally, stormwater gardens are appealing to the eye with strong seasonal changes and exciting forms when properly designed and maintained.

#### Did you know...

Native plants have deep root systems that are much bigger than conventional turf grass. Typical turf has roots that are 2-4 inches deep, while native stormwater garden plants have roots that can extend multiple feet into the ground, depending on soil makeup. As the plant matures, it grows new roots to look for water, and discards about 30% of its existing roots annually. As the discarded roots decay, it leaves holes that break up the soil and allow water to drain out quicker. This is one reason why soil drainage will improve over time with native plants.

# Additional Benefits of Rain Gardens and 3" Ponding Gardens:

- Reduced localized flooding
- Recharged groundwater supplies
- Enhanced pollution prevention & filtration
- Larger species variety
- Additional topographic interest





Top: A RainScapes Conservation Landscape Left: Native roots vs. nonnative roots

# **Contractors and DIY Stormwater Gardens**

# Can I create a Stormwater Garden myself?

Yes! The RainScapes team calls these projects "DIY", or Do It Yourself. Detailed design templates for all types of stormwater gardens are provided at Rainscapes.org. You may consider hiring a qualified designer an/or installer if:

- The project is treating a large amount of off-site drainage
- The site has a steep slope
- The project will be terraced
- The property has many trees & large tree roots
- You are interested in a stormwater garden that holds water (rain garden or ponding project)

You are welcome to create your own plan and give it to a contractor of your choosing. A list of <u>qualified</u>, <u>experienced contractors</u> and landscapers who have previously attended RainScapes trainings and installed projects is at <u>Rainscapes.org</u>.

#### What should I ask a Contractor?

Many projects use a contractor for ease of installation and professional appearance.
Ask your contractor the following:

- What experience do you have with Rain Gardens and Conservation Landscapes?
- Are you certified with any nationally recognized landscaping organizations?
- Can you supply references from previous clients?
- Are you available to perform ongoing maintenance if needed?
- Where will you get the plants?
- How long do you expect this project to take?

Visit <u>Rainscapes.org</u> for a <u>full sheet</u> on choosing a professional contractor.



#### **Cost Considerations:**

Stormwater garden costs vary greatly and depend on the size, materials, and design of the garden. A typical price is:

### \$8-25/sf for Rain Gardens \$5-20/sf for Conservation Landscapes

The lower figure is likely for "DIY" projects with no hardscape and smaller plants. Other factors include:

- difficulty of access to the site
- labor costs
- garden size
- use of heavy machinery vs. hand tools
- excavation & offsite soil disposal
- size of plants selected

#### **Tools Recommended for DIY:**

Certain tools make the job of creating a stormwater garden much simpler.

- Shovel & rake
- Wheelbarrow
- Line level
- Stakes
- Rope & string
- Tiller or back hoe (with teeth) easily rented from a home improvement store
- Sod-cutter easily rented from a home improvement store

## Where should a Stormwater Garden go?

# What Stormwater Garden is right for my property?

While most properties could benefit from a stormwater garden, choosing the correct type is important. All stormwater gardens are designed to be attractive and functional at managing stormwater. They can also:

- Preserve existing beneficial features of a property
- Attract wildlife (butterflies, pollinators, etc.)
- Block an unattractive view or create privacy
- Block winter winds
- Shade your home or A/C unit
- Create beautiful views that can be enjoyed from your home

Use the Flow Chart on Page 5 to visualize which Stormwater Garden is right for a specific property:

# What are the steps to assessing my property for stormwater gardens?

The first step in assessing a property for **Rain Gardens**, **3" Ponding Conservation Landscapes**, and **Conservation Landscapes** is to familiarize yourself with drainage patterns. Take some time to walk around your property to assess the drainage conditions. The best time to make observations is when it is raining, so that you can see where the rain lands and where it flows. Consider these questions and create a map of your property to help you identify where a stormwater garden could be placed to capture or slow runoff:

- Are there hard surfaces on your property which regularly receive runoff? (roof, driveway, patio, etc.) Identify the sources and map it.
- Where does the rainwater go? Is the runoff directed to a lawn, the street, or a stormdrain?
- Are there any areas where stormwater stands and doesn't naturally infiltrate into the ground?

**IMPORTANT NOTE:** The stormwater garden should be placed between where the rain falls on the property (hard surfaces) and where water exits the property. See Page 6 for a diagram explaining how to asses a property.

### Some things to remember:

- Just like lawns, stormwater gardens will require maintenance. They need regular weeding, occasional watering, and seasonal care like mulching and cut-backs.
- For active play, save some space for high quality turf! Stormwater gardens are a great addition for areas of excess lawn, but kids and pets still benefit from yards.
- The goal of RainScapes projects is to slow stormwater and allow it to soak into the ground. When huge quantities of water are present, a single stormwater garden won't be enough to fix water-related issues entirely. While it is possible to link multiple projects together in a "treatment train", prolonged erosion and household water damage might need larger fixes to make an impact.

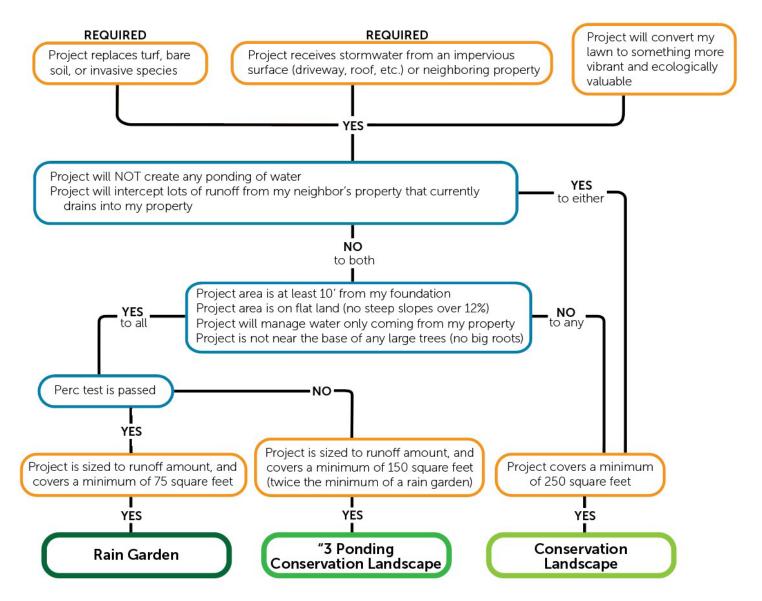


An example of downspout-related erosion and stormwater problems. This could be solved with a Stormwater Garden.

## **Stormwater Garden Flow Chart**

#### What's the best Stormwater Garden for me?

Reference the following flow chart to determine which Stormwater Garden is best for you and your property. Start at the top - orange boxes are required components, while blue boxes are optional. Using additional information from this document and supplementary information from Rainscapes.org, you will have a basic understanding of the garden best suited for your property.





## Placing a Stormwater Garden

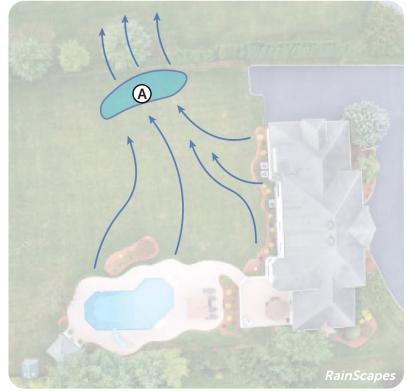
# How do I decide where to place a new Stormwater Garden?

Stormwater Gardens should be placed between the property's hard surfaces and where water exits the property. By placing them here, the gardens will slow the flow of water, preventing erosion and allowing for infiltration of the water into the ground.

The example on this page shows a house with lots of impervious surfaces that experiences a persistent muddy puddle at the base of their yard. A few stormwater gardens are added to address the problem, with explanations of their placement.

- (A) Water from the roof and patio flows quickly across the yard and stands at the lowest point without evaporating, indicating poor soil drainage in this spot and excess runoff.
- A Conservation Landscape is placed between the house and the property's low-point to slow the flow of runoff.
- 2 A Rain Garden is excavated between the house and the property's low-point to capture and hold runoff in a place that infiltrates. The plants help absorb water, too. Downspouts are either piped straight into the garden, or directed to the garden through gravel channels.
- 3 Small berms are built to direct runoff through the Stormwater Gardens. This elongates the water's natural flow-path, allowing for more water to infiltrate before reaching the property's low-point.
- A Conservation Landscape is built at the property's low-point. It still pools during storms, but the amount of water reaching it has dramatically decreased. Native plants also absorb water better than the old turf, so it dries much faster than before.

#### **Before**



After



## Planning a Conservation Landscape

# What are the steps to planning a Conservation Landscape?

Conservation Landscapes are native plant gardens that are in the path of stormwater, slowing its flow and allowing for some absorption via plants and soil. Conservation Landscapes are much less intense to design than ponding gardens. Once the property drainage patterns have been identified and it is determined that a non-ponding Conservation Landscape is desired, follow these steps to identify the best location:

- 1. Notice and document water flow patterns.
- 2. Fit the garden into the current landscape, working with topography as much as possible. A well-designed garden will improve property aesthetics.
- 3. Avoid marked underground utilities and septic tanks. Identify existing utilities and call "Miss Utility" at 811-257-7777 for unknown areas.
- 4. Avoid digging into large tree roots if any excavation needs to be done.
- 5. Protect your foundation. Make sure that the flow of water will be directed away from your home, but not onto a sidewalk or near your neighbor's home..
- 6. Think about entry and exit flows of water.
  - Direct a roof downspout to the stormwater garden through a grass or rock-lined swale, or through a buried PVC pipe with stones at the outlet to prevent erosion.
  - Collect driveway runoff in a shallow trench drain and pipe the water into the stormwater garden.
  - Install a 1-inch speed bump in your driveway to send runoff to an adjacent stormwater garden.
  - Direct rain barrel overflow into the stormwater garden through a hose.

Note: Do not have a stone creekbed lead directly to the property's edge and into another yard.

# How does water move through the garden?



Downspout connection



Water washes directly into the Conservation Landscape off the adjacent pavement



To control water during extreme weather events, this rain garden has a stone notch where it will overflow when full

## Planning a Ponding Stormwater Garden

#### What are ponding stormwater gardens?

Ponding Stormwater gardens include both Rain Gardens and 3" Ponding Conservation Landscapes. Unlike ordinary Conservation Landscapes, both of these systems trap water, and allow it to filter into the soil in large quantities. Rain gardens, when filled, have water standing between 6"-1' deep. They are situated on soils that are proven to drain by a percolation test (see right). 3" Ponding Conservation Landscapes hold water only up to 3" deep. They are not required to pass the perc test, but the plants will be able to soak it up so there is not prolonged standing water.

# What are the steps to planning a ponding stormwater garden?

Ponding gardens take much more planning effort than Conservation Landscapes. *Follow the same steps for Conservation Landscapes on the previous page*. Once the property drainage patterns have been identified and it is determined that a ponding stormwater garden is desired, follow these steps to identify the best location for either a

# **Rain Garden** or a **3" Ponding Conservation** Landscape:

- 1. Place the ponding garden at least 10 feet away from basements and 5 feet away from built slabs like garages, patios, driveways, and sidewalks. It should also be downhill from these structures.
- 2. Avoid placing the rain garden in soggy areas of the property, which would indicate soils that don't effectively drain. (See Perc Test)
- 3. Measure the area that will drain into the garden. Use the table on Page 9 to determine the size needed. The area is determined by the relationship between hard surfaces draining into the garden, the depth of the basin, and the amount of rain you are trying to catch.

#### How to Perform a Perc Test:

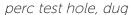
It is important to understand your soil's drainage capacity. Follow the instructions below to see if a stormwater garden location passes a percolation test.

- 1. Dig a hole in the potential stormwater garden location that is about 1 foot in diameter and 2 feet deep. Using a post-hole digger is recommended.
- 2. Fill the hole with water. Cover with a board or a cone to prevent injury.
- 3. Allow the water to soak naturally into the soil and record the time it takes to drain completely. It should take no longer than 36 hours.
- 4. Within 12 hours, refill the hole with water again and record the time it takes to drain. It should take no longer than 36 hours.

If either of these tests take longer than 36 hours to drain, the area has "failed" the perc test. This means that a Rain Garden is not the best option, and a 3" Ponding Conservation Landscape could be installed instead. This will need to be twice as big as the Rain Garden would have been.

Detailed <u>perc test info</u> can be found at Rainscapes.org







perc test hole, filled

## How to Size a Ponding Stormwater Garden

# How do I size my ponding stormwater garden?

Sizing a **3" Ponding Conservation Landscape** or **Rain Garden** is a crucial design step. If sized incorrectly, the garden may overflow into unwanted areas, or may not reach its full potential of catching stormwater. To determine the exact ponding area needed, use the following calculations. For quick reference, use the table below.

#### **Ponding Calculations**

- 1. RainScapes recommends only installing ponding gardens that directly intercept impervious runoff. Estimate how much impervious area (roof, patio, driveway, etc.) could be directed to the rain garden in square feet. This will be your "Contributing Impervious Area"
- 2. Determine if your soil passes the perc test. Use the information on Page 8, or visit RainScapes. org for the perc test instructions and recording sheet. If the desired garden placement location passes the test, you can install a **Rain Garden**. If it does not pass the test, you may install a **3" Ponding Conservation Landscape**. For sizing these types of stormwater gardens, use the rain garden chart to the right and simply double the recommended footprint for "flat planting area". Another option for those that don't pass the perc test is switching to a traditional **Conservation Landscape** without ponding.
- 3. Use the appropriate sizing chart to determine the flat planting area square footage. The numbers in boxes represent the total amount of rain stored in cubic inches per square foot. Staying within the blue boxes is recommended. **Note:** The total ponding footprint will be larger since the side slopes flare out from the flat soil base. The interior slopes should be planted with additional native species. See the ponding diagram on Page 13 for a visual explanation.

## **Designing to Prevent Pests:**

The main pest we think about with rain gardens and standing water is mosquitos. Propertly designed ponding stormwater gardens will drain within 36 hours, which is not enough time for mosquito larva to develop. Ponding gardens are intended to dry out between storms - they should not hold permanent water. Additionally, native plants attract predatory insects, like dragonflies, that consume mosquitos and their larva.

If a rain garden is not draining or is breeding mosquitos, something is wrong. Please contact a RainScapes professional or your contractor.



#### 1' Media Depth - Sizing Chart

| 1 1                | - (       |       | •       |        |        |        |         |  |
|--------------------|-----------|-------|---------|--------|--------|--------|---------|--|
| Inches<br>Rain Sto | OT<br>red | Conti | ributir | ng Imp | pervic | ous Ar | ea (sf) |  |
| (all i Sto         | 100       | 100   | 200     | 300    | 400    | 500    | 600     |  |
| (JS)               | 5         | 1.1   | 0.6     | 0.4    | 0.3    | 0.2    | 0.2     |  |
| int (              | 15        | 2.2   | 1.1     | 0.7    | 0.6    | 0.4    | 0.4     |  |
| Footprint (sf)     | 30        | 3.8   | 1.9     | 1.3    | 1.0    | 0.8    | 0.6     |  |
| 7 FO               | 50        | 6.0   | 3.0     | 2.0    | 1.5    | 1.2    | 1.0     |  |
| Planting           | 60        | 7.1   | 3.6     | 2.4    | 1.8    | 1.4    | 1.2     |  |
| Plar               | 75        | 8.8   | 4.4     | 2.9    | 2.2    | 1.8    | 1.5     |  |
| Flat               | 100       | 11    | 5.7     | 3.8    | 2.9    | 2.3    | 1.9     |  |
|                    | 125       | 14    | 7.1     | 4.7    | 3.6    | 2.8    | 2.4     |  |

# How to Develop a Planting Plan

# What are the first steps of creating a planting design?

The success of a stormwater garden is contingent on the success of its plants. A few key things need to be taken into account when developing a planting plan: sunlight, moisture, and soil type.

- Familiarize yourself with native plants, because Stormwater Gardens must be componsed of 75% native plants. Native species are low maintenance because they're accustomed to local climate patterns. They handle extreme conditions such as drought, heavy rains, wide temperature fluctuations, and degraded soil better than most non-native plants. Plus, they promote ecosystem resilience and provide habitat for animals.
- Identify north on the property. Morning sun comes from the east, harsh afternoon sun from the west, full sun from the south, and shade from the north. Trees and buildings cast shade. Determine the amount of sun a garden space will receive, and select plants accordingly.
- Think about water. Plants in ponding gardens should tolerate being underwater for short periods of time. In places that are hardly watered, plants need to tolerate drought well. Rain Garden plants need to tolerate both! These ideas apply to drainage and soil type, too.

With this information, you'll have a foundation of knowledge about the property to effectively plant a space for success, beauty, and longevity.



## Some things to remember:

RainScapes has a few requirements that must be met in order to receive a rebate:

- Planting plan must be at least 75% native to the Piedmont region in BOTH plant quantity and coverage. This ensures the ecological benefits of a native garden, while still allowing for unique, beautiful, useful species from other regions.
- RainScapes staff have a set of calculations they apply to each planting plan - if you're curious about species, coverage, or effectiveness, reach out to them!
- Much of Montgomery County suffers fom excessive deer browse. If there are deer in your area, make sure you select plants that are deer-resistant.



Above, a traditional planting design exhibits species in blocks, which is much easier to maintain than other styles.



Above, a cottage-style or "wild and wooly" planting design exhibits lots of species in a naturalistic fashion.

## How to Develop a Planting Plan

#### How do I draw a planting plan?

A planting plan is a map of where specific plants are placed in a garden. To create one, measure the edges of the property, house, and the relationship between them. Take note of any other key features, too. Translate them into a scaled drawing of the property, and draw the outline of where you'd like to have the stormwater garden.

- 1. Ensure that the entire garden outline is the correct size, and the square footage matches what you're looking to achieve.
- 2. Start by drawing blobs where you'd like to put specific species, or individual circles equivalent to a plant's diameter. Think about the sunlight and water requirements of that spot, and whether they match the plant's needs. Consider consulting a basic planting design reference book for detailed guidance.
- 3. Label the blobs or circles with species and quantity of each plant.
- 4. Draw any other features you'd like to see: berms, stones, logs, dry creekbeds, terraces, rain barrels, gnomes, you name it!

See the example below depicting a "minimum standard" planting plan, meaning it has everything needed for approval.

There is more detailed info and instructions about drawing a planting plan at Rainscapes.org.

# Roof drains to Back of House rain garden downspout Reinforce inlet with 3-5" River stone Reinforce inlet with Reinforce inlet with Reinforce out flow RainScapes

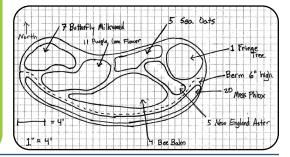
## Planting design basics:

- Shrubs look best in odd-numbered groups. It creates balance in the landscape.
- Too many shrubs creates a dense thicket that is inaccessible. Too many perennials creates a design without foundation that lacks winter interest - unless it is a meadow planting. There should be a balance of both shrubs and perennials in every design.
- Put bigger plants in the back and smaller plants up front so that you can see everything. Large shrubs block visibility of ones in back and make your space seem smaller.
- Don't forget to put shade-tolerant perennials, like sedges or ferns, under shrubs to meet the plant coverage requirements.
- If you want to plant trees, make sure to give them enough space. Research their mature canopy growth size.
- As trees grow, they will slowly add shade to your property. Sun-loving plants may need to be replaced with shade tolerant ones.

Left: This is a "minimum standard"

DIY planting plan. It has a title, a north arrow, an accurate scale, plant species, and quantity of each species. It also has any unique physical structures like berms or logs denoted.

Below: This minimum standard plan opts for "blobs" instead of individual plants. Everything else is still marked.



## **How to Select Plant Species**

# How do I choose the species to include in my stormwater garden?

Even after establishing a basic foundation with sun and water requirements, there are a huge number of plant species - native and nonnative - to choose from when making a planting plan. It's best to ask yourself the following questions to help narrow down a list of species you'd like to use:

- **HEIGHT**: How tall do you want species to be? In a decorative garden, it is often best to keep the majority of plants at waist-height or lower to maximize visibility. However, having a few taller plants adds structure to a design.
- **BLOOM**: When do you want things to bloom? Spread across the year, or an explosion in summer?
- COLOR: Do you want flower color coordination? Maybe a limited spread of 3 or less colors?
- **STRUCTURE**: Native evergreens are hard to come by, but there are a few evergreen groundcovers and shrubs.
- **SEASONALITY**: Some species have nice fall colors or winter fruit that adds seasonal interest
- **ANIMALS**: Deer resistance is important in most areas in Maryland, especially in wooded areas! Do you like watching birds? Plants with berries and winter seeds attract animals.

Once you've determined the plants you'd like to use, apply them to your planting plan. You'll need to list them in a spreadsheet with certain information, described below.

The <u>spreadsheet</u> and extensive native plant lists are available at <u>Rainscapes.org</u>.



Button Bush is a large native shrub that needs moist soils



Marginal Wood Fern is one of many native ferns for shady spots



Golden Groundsel is an adaptable ground-cover for shady areas

| Scientific Name                       | Common Name         | Size | Qty | Spacing |  |
|---------------------------------------|---------------------|------|-----|---------|--|
| Agastache 'Black Adder'               | Wild Hyssop         | 1QT  | 32  | 2' o/c  |  |
| Amsonia hubrichtii                    | Arkansas Amsonia    | 3QT  | 20  | 3' o/c  |  |
| Aster 'October Skies'                 | Aromatic Aster      | 1QT  | 9   | 24" o/c |  |
| Baptisia australis                    | False Indigo        | 1G   | 9   | 3' o/c  |  |
| Calycanthus floridus 'Athens'         | Carolina Sweetshrub | 3G   | 1   | 5' o/c  |  |
| Carex rosea                           | Rosy Sedge          | LP32 | 32  | 12" o/c |  |
| Carex cherokeensis                    | Cherokee Sedge      | LP32 | 96  | 18" o/c |  |
| Clethra alnifolia 'Ruby Spice'        | Sweet Pepper bush   | 3G   | 3   | 3' o/c  |  |
| Coreopsis palustris 'Summer Sunshine' | Tickseed Coreopsis  | LP32 | 22  | 18" o/c |  |
| Cotinus x 'Grace'                     | Smoke Bush          | 10G  | 1   | 4' o/c  |  |

Left: An example plant list with the required info included - name, size, quantity, and spacing between plants. A spreadsheet with plant list information can be downloaded at Rainscapes.org

# Additional Ponding Planting Plan Information

## What's different about ponding plans?

Rain Gardens and 3" Ponding Conservation Landscapes will have multiple zones within them: Wet zones where water temporarily ponds, dry zones outside of the basin around the edges, and transition zones between the two.

- Dry zones are traditional garden space, and there are a wide variety of plants suitable for this space. Check your plant guides for "Upland Species".
- There are a limited number of native species capable of thriving in a rain garden's wet zone, where they will frequently be submerged in water for an extended period of time. However, during dry spells, these plants must also weather very dry conditions. Check your plant guides for "Facultative Wetland" species.
- Transition zones are usually dry, but may experience slight inundation during the most extreme rain events. This zone is forgiving, where "Facultative Wetland", "Facultative Upland", and "Obligate Upland" species can coexist.



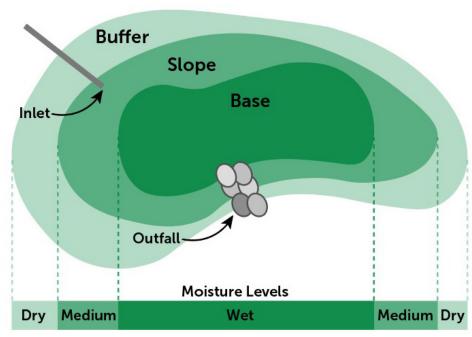
Swamp Milkweed loves moisture and does well in wet zones



Pepperbush is a versatile shrub that would thrive in the Transition Zone



Little Bluestem 'Standing Ovation' is a sturdy, sun-loving grass with multiseason interest for dry zones



Left: Depiction of the wet and dry zones in a rain garden. Wet zones are in the center where water ponds, while dry zones are usually the berm surrounding the pool that always stays dry. The "kidney bean" shape is the most common and most recommended ponding garden shape.

## How to "DIY" Install a Stormwater Garden

# What are the steps to build my own stormwater garden?

Check back on Page 3 to see the recommended tools list for DIY installation.

- 1. Outline the footprint of the stormwater garden with rope or string.
- 2. Pull up existing turf or invasive species with a sod-cutter or shovel.
- 3. If building a ponding garden, dig out the bed area to the appropriate depth (plus a few extra inches for compost & mulch). Set aside excavated material to use for berms if in the plan. Then flatten out the excavated area (do not compact!).
- 4. Mound and compact the soil where you have designated to create the berm(s). Cut a "weir notch" in the berm to let the water out at the correct location during large storm events. Protect the notch area with stones to prevent erosion.
- 5. Place a layer of 2" of compost, and mix to a depth of 9-12" with existing soil. Excessive compost isn't needed with native plants because they're already accustomed to local soil types.
- 6. Place edging around the garden to prevent grass from creeping back in and to keep mulch in. Make sure the hard edging is lower than the existing edge so that it doesn't block the flow of water into the garden.
- 7. If building a ponding garden, fill it with water to ensure it will drain within 24 hours and overflow in the intended direction.
- 8. Before planting, place 3" of hardwood mulch over the garden bed to prevent weeds, add nutrients, and capture pollutants. Use natural mulch that is not artificially dyed.
- 9. Plant your garden!
- 10. Water the garden weekly during the first year after planting. This allows plants to establish themselves.



Measure where the garden will be, and then place a physical indicator, like a hose or string, along the boundary.



Turf removal can be done with an easily rentable tool, like above, or simply with a shovel.



Conservation Landscape with plants placed in their pots at their planned location.

## **Stormwater Garden Links**

Below are links to RainScapes and non-RainScapes documents that are helpful for understanding Stormwater Gardens and other concepts. In online PDF form, simply click the description that interests you.

#### Contractor & DIY Information

- Choosing a RainScapes Professional
- RainScapes Contractor List
- How to do a Perc Test

#### Plant & Planting Resources

- MD DNR Native Plants for Wildlife Habitat & Conservation Landscaping
- Plant Invaders of Mid-Atlantic Natural Areas
- The "Lasagna" Method for Turf Grass Removal
- Conservation Landscape Templates
- Conservation Landscape Establishment Guide
- Rain Garden Templates
- Rain Garden Establishment Guide

- RainScapes Plant Spacing Guide
- Rain Garden Technical Manual
- 12 Native Deer Resistant Plants
- 12 Native Perennials for Shady Gardens
- <u>12 Native Perennials for Sunny Gardens</u>
- 12 Shrubs for Sunny and Shady Gardens
- Native Plants for Pollinators
- Guide for Choosing Native Plants coming soon

