

# RAIN GARDEN

Sample site size – 4,000 sq. ft.

Rain Garden size is 300 sq. ft.

COST ESTIMATES	cost per unit	units	total cost
<b>construction</b>			
site grading	contingent on site conditions		<b>TBD</b>
<b>landscape materials</b>			
Bioretention rain garden soil mix	\$45/cu. yd.	4	<b>\$180</b>
mulch	\$35/cu. yd.	2	<b>\$70</b>
<b>plant materials</b>			
Rain garden plant kit (available for sunny and shaded garden)	\$120/100 s.f.	3	<b>\$360</b>
12' shade tree-river birch, maple	\$225	1	<b>\$225</b>
6' flowering tree-flowering plum	\$95	2	<b>\$190</b>
<b>furnishings</b>			
Piping for downspout connections from adjacent homes (optional, depends on distance)			<b>TBD</b>
<b>subtotal cost</b>	\$0.26/s.f.		<b>\$1,025</b>
contingency 10%			<b>\$103</b>
<b>TOTAL PROJECT COST</b>			<b>\$1,128</b>

Materials list is based on projects completed by the Cuyahoga County Soil and Water Conservation District.

Depending on the purpose of your site, level of public access desired and surrounding land uses, fencing should be considered. Fencing costs vary according to site conditions, length and style.

## IDEAL LOCATION

- A vacant lot with a neighbor who will divert their downspouts to the rain garden area.

## BENEFITS AND OPPORTUNITIES

- Rain gardens trap stormwater allowing it to seep back into the ground or nearby waterways instead of overwhelming storm sewer systems and nearby streams.
- Rain gardens planted with native plants provide needed habitat for insects and birds and are beautiful year round.
- Rain gardens help to filter contaminated stormwater from roofs, driveways and parking lots before it enters back into natural waterways.
- Add benches to create a resting place and birdhouses and plant identification signage to educate neighbors and passersby.

## THINGS TO CONSIDER

- Diverting stormwater has many benefits. However, proper planning and construction of downspout disconnects is very important. Incorrect construction can lead to flooded yards or wet foundations. To ensure proper construction, the City of Cleveland requires a permit to disconnect your downspout. Permits can be obtained from the Department of Building and Housing, Division of Construction Permitting.
- Utility fees for the Northeastern Ohio Regional Sewer District are rising. Contact the Sewer District to learn about incentives for homeowners that disconnect their downspouts and reduce impervious surfaces on their property. <http://www.neorsd.org/>

## LOCATING AND SIZING YOUR RAIN GARDEN

- Consult the Rain Garden Manual for Homeowners for more detailed information <http://www.cuyahogawcd.org/PDFs/RainGardenManual.pdf>
- Rain gardens should not be within 10 ft. of your home. Creating a rain garden requires some excavation, so be sure to avoid trees and tree roots.
- If the lot collects water, the rain garden should not be in the natural depression. Instead it should be located just up the slope to trap the water before it collects in the depression.
- For areas with sandy soils, determine the size of your rain garden using a 5:1 ratio. Determine the surface area that will drain into your garden (sq. ft. of roof) and divide it by 5 to get the square footage of your garden. For example, if 500 sq. ft of your roof will drain into the garden, then the garden should be 100 sq. ft. For areas with compacted, poorly drained or clay soils, use a 2:1 ratio.



Volunteers working on the construction of a rain garden

Melissa Miller

- The depth of your rain garden is determined by the slope of the property. Gardens in vacant lots with a very slight slope should be 3 to 5 inches deep, medium slope should be 5 to 7 inches and lots with a larger slope should be 8 to 12 inches deep. The lot should have a slope no greater than 12% to prevent your rain garden from washing away.

#### LEVEL OF COMMUNITY COMMITMENT NEEDED

- This project takes about 6 to 10 volunteers to install the garden by hand in one day. Once the garden is installed it requires limited community involvement. Neighbors on either side of the lot can easily maintain the garden once it is installed.
- Maintenance may include regular litter pick-up, mowing (around the garden), and seasonal trimming and mulching. Until the plants are established, bi-weekly watering may be necessary.

#### TO SEE A LOCAL RAIN GARDEN

Reimagining Cleveland **Rain Garden** – 4354 West 131st Street, Cleveland, OH

#### FEATURED PROJECT LEADER

##### **Melissa Miller**

Melissa Miller is the Planning Coordinator for the Bellaire-Puritas Development Corporation. She works on various environmental projects in the neighborhood including stormwater projects along Big Creek and the preservation of the Puritas Wetlands.

*“Stormwater management is an issue that affects the entire region. Stormwater carries pollutants to the local waterways, and excessive stormwater can cause sewer overflows. By installing green stormwater demonstration projects on vacant lots in the Bellaire-Puritas neighborhood, we were able to begin to address the negative impact that stormwater has on the environment while improving the aesthetic appeal of the neighborhood.”*



View showing a rain garden layout