



GREEN STORMWATER INFRASTRUCTURE (GSI) CASE STUDY BEST MANAGEMENT PRACTICE (BMP) IN ACTION: RAIN GARDEN

Community Library Rain Garden

BENEFITS

Rain gardens are shallow, planted depressions specifically designed to intercept and infiltrate stormwater. As stormwater enters the garden, it is held in void spaces within the soil and slowly allowed to infiltrate into the ground. Any transported pollutants are removed through biological uptake by plants and microbial activity within the soil. As a result, rain gardens typically address both stormwater quality and quantity.

The rain garden at the South Burlington Library captures stormwater runoff from the parking lot, in the process reducing chronic flooding. It also serves as an eye-catching component of the library entrance.



THE RAIN GARDEN INSTALLATION WITH AN INFORMATIVE SIGN

PROJECT DESCRIPTION

This rain garden was installed in the Spring of 2013 in front of the South Burlington Community Library. It was specifically designed to capture excess water from the parking lot which was the cause of periodic flooding. The rain garden is planted with various native and non-native vegetation specifically chosen to suit the location. An informative sign provides general information about stormwater and the project.

The installation was made possible through partnerships between the South Burlington School District, the South Burlington City Library, the South Burlington Public Works Department, and the Winooski Natural Resources Conservation District.

FAST FACTS

LOCATION:

This rain garden installation is located at the South Burlington Community Library on Dorset Street in South Burlington, Vermont.

COST:

The estimated cost of an installation this size, including labor, equipment, and materials is \$3,000. A grant to construct the rain garden was provided by the Ecosystem Restoration Program through the Winooski Natural Resources Conservation District.

CONSTRUCTION:

Installation of the rain garden was a combined effort of construction workers and volunteers. There were roughly 18 people working on the garden, at various times, over the course of one week.

DESIGN:

The rain garden was designed by a diverse group of individuals beginning in the Fall of 2012.

Case study prepared by the Vermont Green Infrastructure Initiative, a program of the Watershed Management Division of the VT Department of Environmental Conservation (http://watershedmanagement.vt.gov/stormwater/htm/sw_green_infrastructure.htm).



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BMP IN ACTION: RAIN GARDEN



DESIGN FEATURES

This rain garden measures roughly 1,200 square feet and is situated between the building and the parking lot. The garden consists of two cells that were excavated to a depth of 24" and filled with 15" of washed stone aggregate. A 4" perforated pipe sits within the stone aggregate and acts as a subsurface connection between the two cells. A soil mix consisting of 60% sand, 20% top soil, and 20% compost overlays the stone aggregate. The soil mix is highly infiltrative and provides a growing medium for the vegetation.

Vegetation was chosen based on site conditions, salt tolerance, maintenance requirements and aesthetic appeal. The design incorporated eye-catching flowers and plants to attract the public's attention.

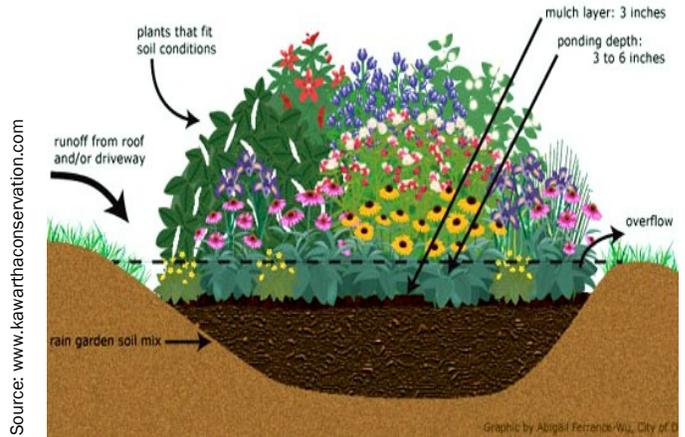


DIAGRAM OF A RAIN GARDEN

MAINTENANCE



RAIN GARDEN AT THE LIBRARY ENTRANCE

The maintenance required for the rain garden is similar to typical garden care techniques. This includes things like weeding, re-planting, watering and re-mulching. Maintenance of the rain garden occurs throughout the year but a large portion of the work is conducted in the spring and fall.

Most of the maintenance work is completed by volunteers through the Chittenden County Stream Team's "Adopt-a-Rain-Garden" Program. Additional maintenance is completed by members of the South Burlington Community Library's maintenance crew.

REFERENCES

Tharp, Becky. "Public Demonstration Sites." Let it Rain , 2012. Web. <<http://letitrainvt.org/demonstration/>>.

"VT Rain Garden Manual." . N.p., 2012. Web. <<http://www.uvm.edu/seagrant/sites/uvm.edu.seagrant/files/vtraingardenmanual.pdf>>.

 **VERMONT**
AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation

Vermont Green Infrastructure Initiative
VT DEC, Watershed Management Division
One National Life Drive, Main 2
Montpelier, VT 05620-3522
802-490-6118