Engaging High School Community in Rain Garden Experience

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Untouched Ground

Mapping the garden's size

Students digging

Digging progress after weeks

Top layer of soil is removed

Staging plants before installation

Success!

Purpose of Rain Gardens

A rain garden is a permanent design to hold and soak in rain water runoff that flows from impervious surfaces like rooftops, driveways, and patios.

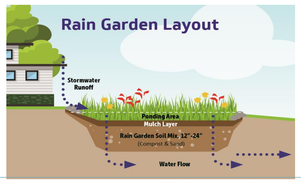

Photo courtesy of Hillsborough County
Https://www.hillsboroughcounty.org46A0AF7AEB84946.

Why are Rain Gardens Beneficial?

Before constructing our rain garden, we were only aware of rainwater management impacts. Other benefits include:

1. **Absorption of stormwater runoff underground, diverting it from nearby streams or rivers due to impervious surfaces.**
2. **Replenishment of aquifers as well due to their impact in the water cycle.**

Rain gardens provide ecosystem services while adding aesthetically to nature (Photo courtesy of http://www.prairietownship.org/269/Rain-Garden)

Our Goal

The goal of this project is to investigate the affects of rain gardens, and learn about the best way to construct one on our school campus. This project will leave an environmental and educational impact at Bloomfield High School (BHS) for years to come.

Planning & Preparing the Rain Garden

- **Meetings were held with the BHS principal to organize and discuss the location and cost of the rain garden**
- **Location was chosen based on added aesthetic to the school, proximity to a storm drain, and impervious surfaces that surround the BHS courtyard space**
- **UConn's NEMO Rain Garden app was used to calculate the garden's size**
- **Equipment and materials used were low maintenance plants, mulch, shovels, rope, rocks, gravel, barrel, mattock, and a rototiller**
- **Visited One Site Landscaping Supply to obtain plants**

BHS courtyard area before the rain garden installation

UConn's NEMO Rain Garden App used in preparing the site

Involving People in the Rain Garden Experience

- **Between Oct and Nov 2018, Six Classmates learned about the importance of rain gardens and worked together to install the garden**
- **Dirt in the area had to be removed and a rototiller and mattock were used to break up soil**
- **Native trees and plants were planted, and mulch was put down to keep in moisture and prevent weeds**
- **Stone work installed was needed for water percolation & drainage**

Top: **Using a rototiller to break up the soil.**

Bottom: **laying out plants before planting.**

List of Native Plants Used in the BHS Rain Garden	
Scientific Name	**Common Name**
Cornus Sericea	Red Oster Dogwood
Rudbeckia Hirta	Blacked-eyed Susan
Symphyotrichum	American Asters
Hosta Spp.	Plantain Lilies
Hemerocallis Spp.	Daylily

Outcome

The outcome of this project was a completed rain garden that added an educational component and an environmental impact for the Bloomfield community.

- **Involved students were educated on the water cycle and rain gardens**
- **Learned about native and low maintenance plants at One Site Landscaping Supply company**
- **Soil compaction was managed and rocks were broken**
- **Completed rain garden adds beauty to BHS's courtyard aesthetic**

Finished Rain Garden!

Conclusions

The impact a rain garden can bring to a community is powerful, and managing storm water runoff in a more environmentally friendly way is key to resolving some water cycle issues. More policies should be created in municipalities to install rain gardens. These efforts could help limit pollution into streams due to storm water runoff from impervious surfaces.

The rain garden created at BHS was a learning experience that required hard work and patience for a great outcome. We hope to encourage other schools and people to check it out and build a rain garden of their own!

References

1) UConn Rain Garden App
2) "Surface Runoff - The Water Cycle." Adhesion and Cohesion Water Properties, USGS Water Science School, water.usgs.gov/edu/watercyclerunoff.html.
3) "Rain Gardens." The Groundwater Foundation, www.groundwater.org/action/home/raingardens.html

Acknowledgements

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