



NHTI SOAKS UP THE RAIN ON CAMPUS

In 2015, the New Hampshire Technical Institute (NHTI) in Concord created an opportunity to both beautify the campus and address an environmental issue. Stormwater from the Wellness Center's roof, parking area, and sidewalk, along with its potential pollutants, was being transported through the stormwater collection system straight to the Merrimack River.



NHTI repurposed a raised traffic island to create a rain garden which captures stormwater outside the Goldie Crocker Wellness Center.



Before (above), rain flowed around the raised area into the catch basin. After (right), the rain garden has been built within the previously raised area. Rain flows into the rain garden, is stored in the stone, absorbed by the plants and soil, and slowly soaks in. Only overflow from large storms is collected by the catch basin.



SITUATION UPGRADED

NHTI took advantage of the trend to repurpose raised parking lot areas as sunken rain gardens that absorb and treat stormwater, greatly reducing the quantity and improving the quality of the stormwater that eventually reaches receiving waters like the Merrimack River.

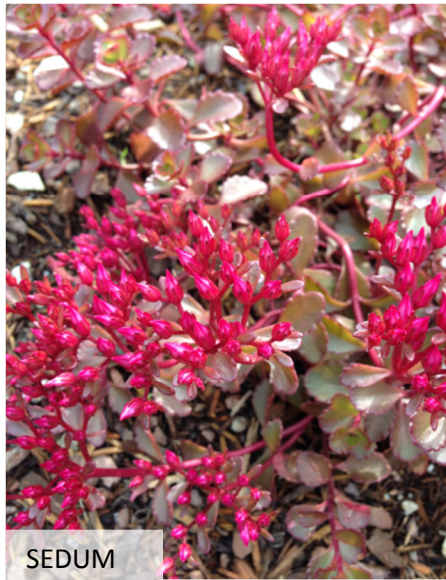
RAIN WATER IMPROVEMENTS

NHTI's rain garden is estimated to reduce the amount of stormwater going to the river by 6,515 cubic feet (over 48,700 gallons) per year effectively removing 26.3 pounds of suspended sediments, 0.08 pounds of phosphorus, and 0.54 pounds of nitrogen each year.

See NHTI's Campus Comment story and rain garden design below for more information on this great project.



CATMINT



SEDUM



BLACK EYED SUSAN



JOE PYE WEED (TALL, BACKGROUND)
DENSE BLAZING STAR (PURPLE TOPS)
PENNSYLVANIA SEDGE (FOREGROUND)





We Never Promised You a Rain Garden

But You Got One Anyway!

Students, faculty and alumni from NHTI's Landscape and Environmental Design (LED) program joined forces this spring to design and install the school's first-ever Rain Garden just outside the main entrance to the Goldie Crocker Wellness Center. A rain garden is a bowl-shaped garden that uses soil, mulch, and plants to capture, absorb, and treat stormwater runoff. This reduces the amount of stormwater coming from our property, and helps to recharge groundwater.



*Left to right: **Johanna Blais, Joe Geisler, Michael Shawver and Bao Huynh** in the early stages of construction of the rain garden.*

Stormwater runoff is water from rain or melting snow that doesn't soak into the ground. Instead, it flows over the land surface, picks up pollutants in its path, and flows untreated into nearby bodies of water. Stormwater runoff can pollute lakes, ponds, streams, and coastal waters, making them unsafe for swimming and creating an unsafe habitat for fish and other animals. Runoff can cause other problems such as flooding and erosion. In fact, stormwater runoff contributes to over 90% of the water quality problems in New Hampshire.

If you've ever stood outside the entrance to the Wellness Center during a rain storm, you've seen the water pour off the roof and go flooding over the ground and down the

storm drain. According to **Susanne Smith Meyer**, Coordinator of the LED Program, all the storm drains on campus flow directly into the Merrimack River, so this untreated water is going directly into the water supply.



In 2013-14, NHTI received an EPA grant -- administered through Campus Compact -- to promote environmental stewardship among students, with specific reference to the issues of climate change and water quality. The rain garden was designed under this grant, in partnership with the NH Dept of Environmental Services.

Ready for Planting: Joe, Johanna, and Johanna's

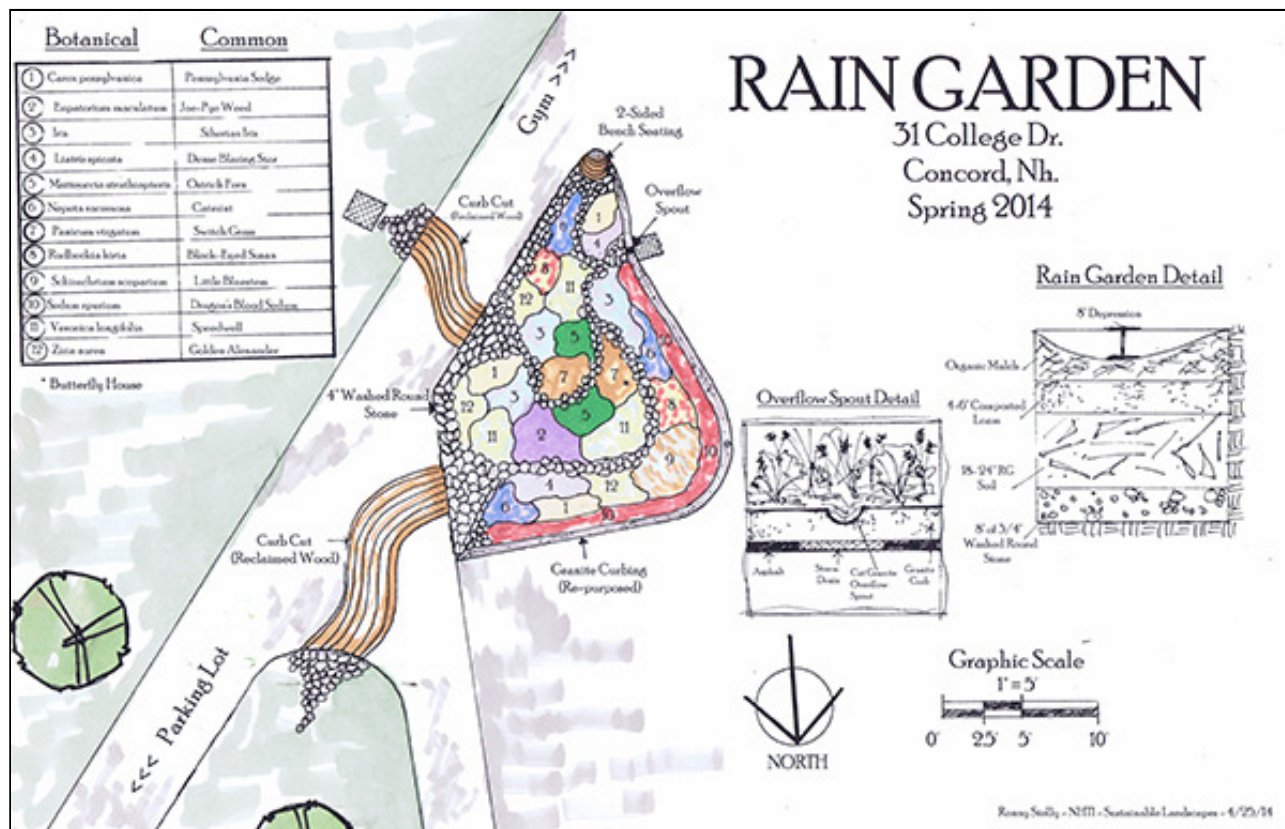
10-year-old son son Gunner survey their work.

The garden was designed by **Ronny Stelly**, a 2014 graduate of the Landscape and Environmental Design program. It features four layers of stone, soil, loam and mulch, and a dozen varieties of water-tolerant plants. The mix includes flowering plants like iris, liatris, Black-eyed Susan and sedum, so the garden will be attractive as well as functional; in fact, the design includes a small viewing bench.

Stormwater flowing into the garden will be captured, absorbed and filtered, gradually seeping down into the aquifer below. Only the most extreme weather events should cause the garden to overflow, sending excess water into the storm drain.

The rain garden was constructed by Susanne Smith Meyer, Adjunct Professor **Joe Geisler** (NHTI '99), Landscape Design student **Bao Huynh**, graduating LED seniors **Michael Shawver** and **Johanna Blais**, and Johanna's son Gunner ("the world's hardest-working 10-year-old").

Don't leave campus this spring without checking it out!

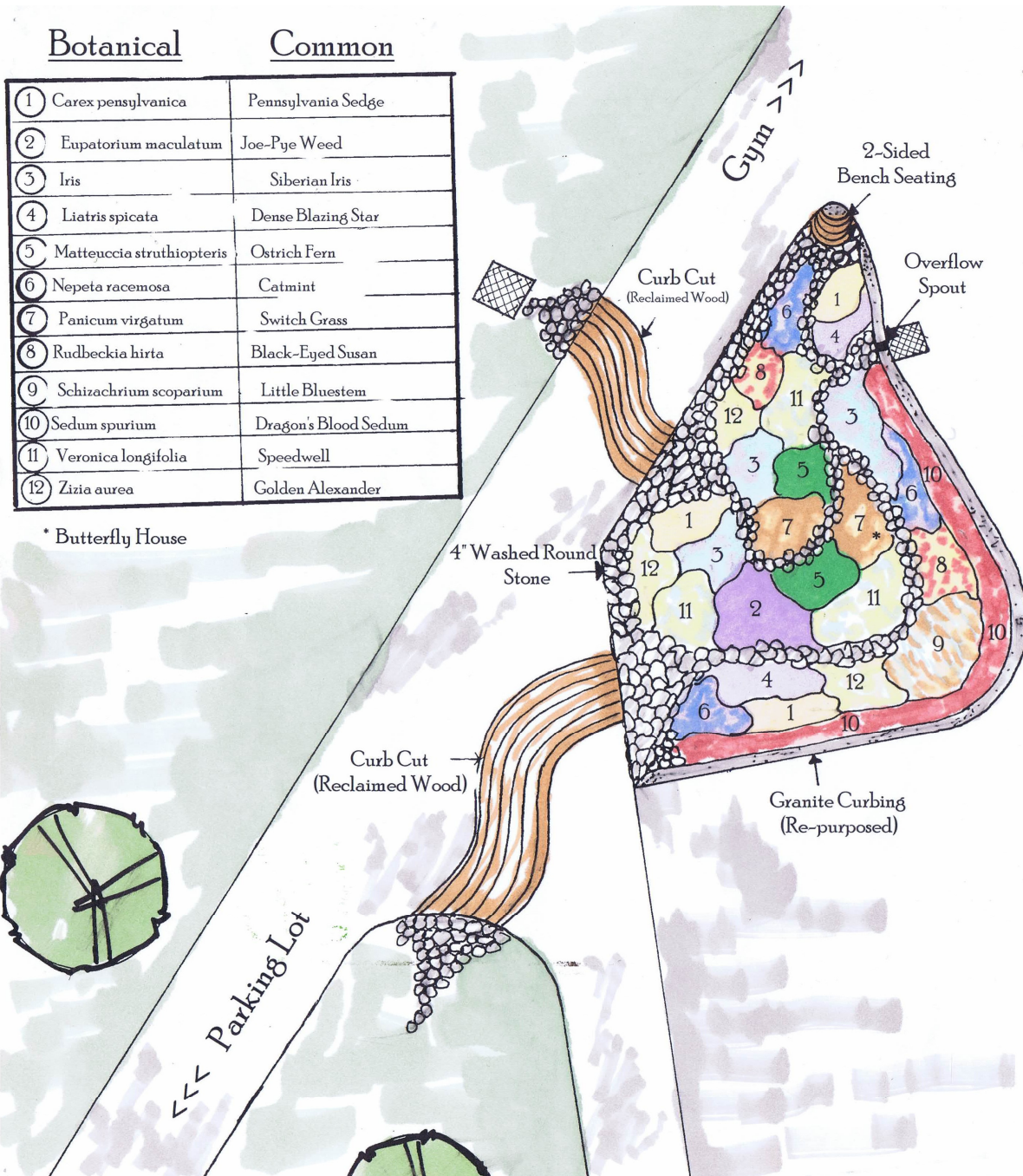


Botanical

Common

①	<i>Carex pensylvanica</i>	Pennsylvania Sedge
②	<i>Eupatorium maculatum</i>	Joe-Pye Weed
③	<i>Iris</i>	Siberian Iris
④	<i>Liatris spicata</i>	Dense Blazing Star
⑤	<i>Matteuccia struthiopteris</i>	Ostrich Fern
⑥	<i>Nepeta racemosa</i>	Catmint
⑦	<i>Panicum virgatum</i>	Switch Grass
⑧	<i>Rudbeckia hirta</i>	Black-Eyed Susan
⑨	<i>Schizachrium scoparium</i>	Little Bluestem
⑩	<i>Sedum spurium</i>	Dragon's Blood Sedum
⑪	<i>Veronica longifolia</i>	Speedwell
⑫	<i>Zizia aurea</i>	Golden Alexander

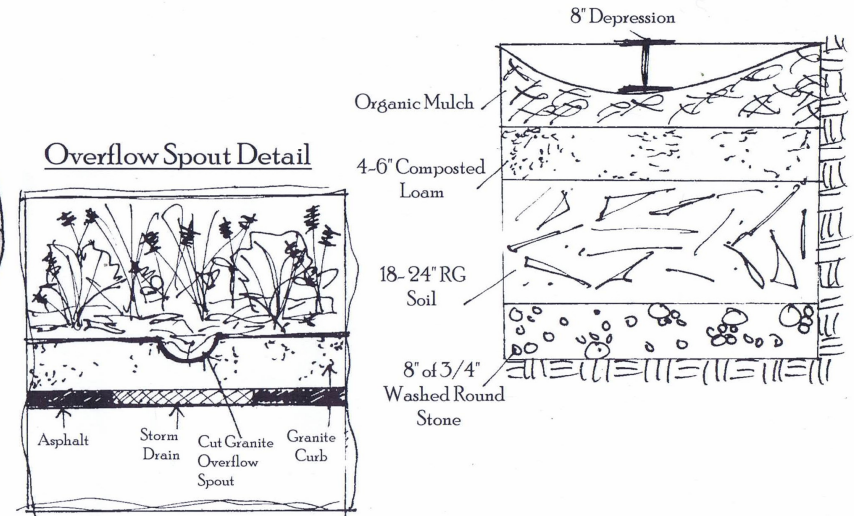
* Butterfly House



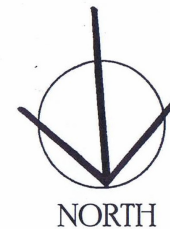
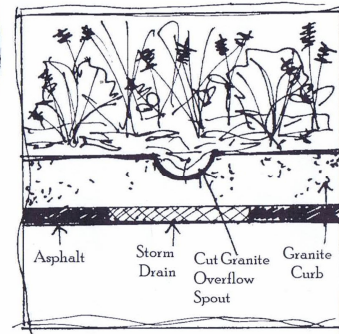
RAIN GARDEN

31 College Dr.
Concord, Nh.
Spring 2014

Rain Garden Detail



Overflow Spout Detail



Graphic Scale

1" = 5'

