RainSmart Rain Gardens

This document was created by a homeowner who participated in the RainSmart rain gardens program & chose the DIY option.

She documented the steps she & her family took, and it turned out beautifully! This resource is only meant to give a good idea of the labor involved and steps of the process. This rain garden was 90 ft^2.

Dug column for soil sample and infiltration rate (perc test). Used post hole digger to make hole. This took 2 days to ensure appropriate water infiltration rate. Marked outline of garden with flags and spray paint. Calculated slope and area of garden according to specifications from RainSmart program. Required tape measurer, stakes, string.

Put in online request for “Call Before You Dig” to clear area to ensure no utilities would be damaged during digging. Free service; took approximately 3 days lead time.

Due to the distance of the rain garden from the downspout, we rented a commercial trencher. The trencher dug a uniform trench for placement of pipe. This required being able to tow a trailer with trencher and operating a large piece of equipment.

During the trenching process, we hit a drain pipe from the house to the main sewer line. We were able to fix this by cutting out the damaged section of the plastic sewage pipe and replacing that section using standard plumbing tools. It is important to note that we did not include the trench plan in the “call before you dig” plan. We knew a previously existing gas line had been cut and capped at

the house so we were confident that we did not run the risk of hitting a gas line. We also knew we ran the risk of hitting the water drainage pipe to sewer and had the knowledge and tools to fix it.

It took one person running the trencher approximately 1 ½ hours to complete 55 feet of trench with the trencher tool.

A 4 inch standard pipe pipe was connected to the existing downspout. This took one person approximately 20 minutes with no special tools required. The pipe was then re-buried approximately 4 inches deep. We used a shovel and found a standard push broom to be very helpful to “sweep” the dirt back to the trench. This took 1 person approximately 1 hour to re-bury 55 feet of pipe.

The grass layer was removed with the use of a mattock. Grass was relocated to other areas of the yard. It took one person approximately 3 hours of time to remove this layer. This was hard physical work with lots of bending and upper body strength required. This process could have been sped up with use of a turf grass remover, but would still require lifting and bending.

A large garden tiller was used to break up clay and soil for easier soil removal. A shovel was used to lift soil to a trailer for re-use. This took several iterations, loosening soil with a tiller and removing with a shovel. Some of the removed soil was moved to make the berm. After every few inches of soil moved to the berm, I would walk on soil and beat down with a shovel to compact the soil.

The digging process took one person approximately 6 hours of labor-intensive work, with breaks required due to heat and fatigue. It required being able to operate the tiller (we already owned tiller) and lots of bending, digging and lifting. This was definitely the most labor intensive part of the process. I dug to a total depth of 14 inches. The leftover soil was moved to different parts of the yard and a community property that needed filler.

*At this step, the RainSmart representative was contacted for the subgrade inspection. As the measurements created matched the submitted design, this rain garden passed inspection!

After completing this step, I was rewarded with seeing the space fill with rainwater diverted from the downspout through the pipe. I was thrilled to see it working!

I then amended the soil. I obtained soil from a local commercial supplier. I got 1 scoop (1 cubic yard) of manufactured sand and 1 scoop (1 cubic yard) of compost. I layered it on a trailer with sand on bottom and compost on top. I then used a shovel and broom to scoop and push the compost and sand into the existing depression of the garden. Once the sand and compost was added, I used the tiller to mix all of the soil types together. I leveled with the use of a broom. Amended soil was 6 inches deep and depression from ground surface was 6 inches deep.

The fun part - adding plants!
This part was very easy, as the soil was already very loose. Native plants with varying bloom season, root depth and light tolerance were purchased from local native plant nursery and online source when not available locally. Some plants had been dug and transplanted from other areas of the yard. Plants were placed according to aesthetics, moisture tolerance and light requirements. It took 1 person approximately 1 hour.

Rather than traditional mulch, I chose to use stone to cover soil and allow filtration. Pebbles and stones are also commercially available. This took 1 person approximately 2 hours.

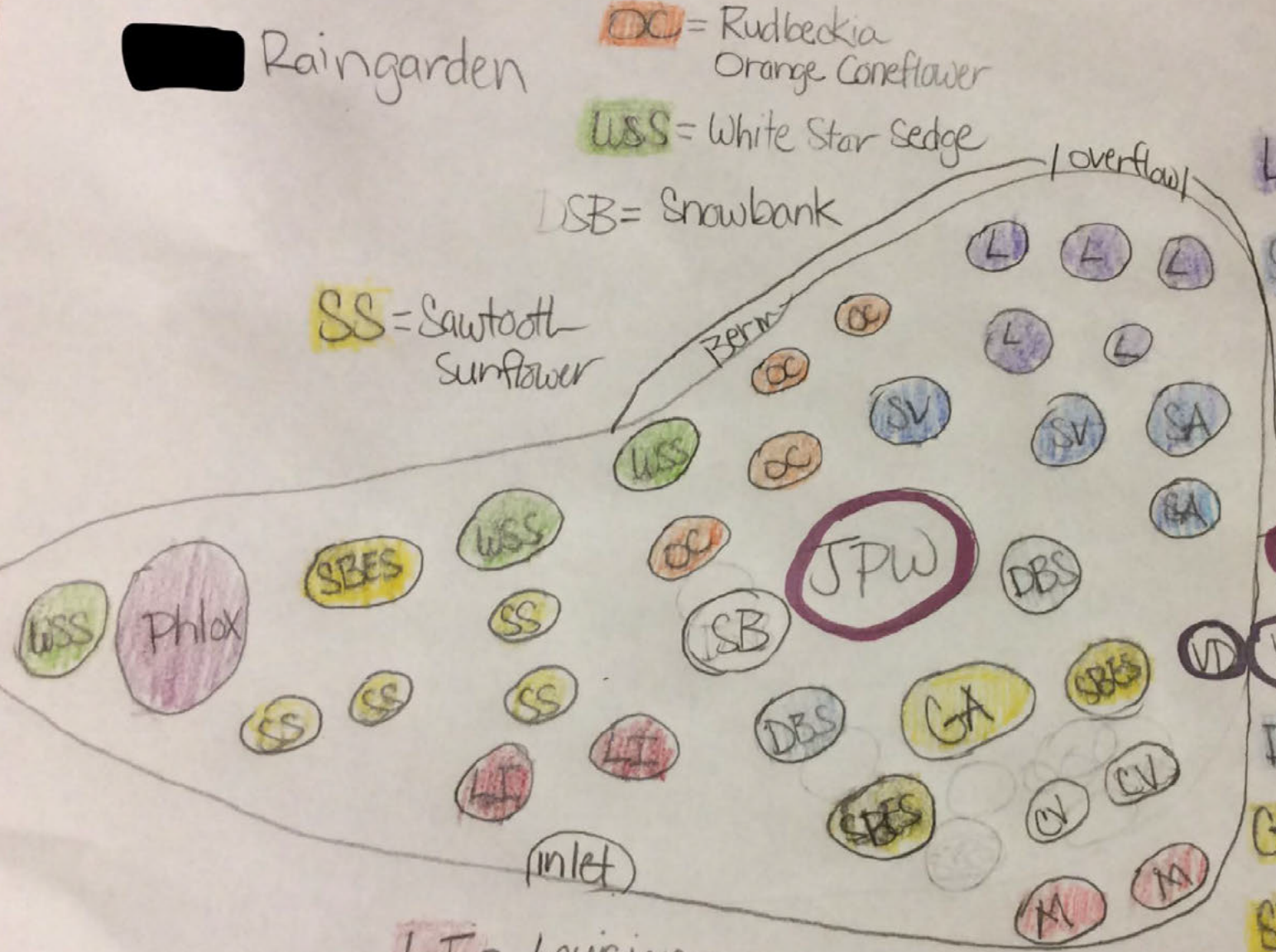
The edges of the garden and berm were then bolstered and strengthened with commercially obtained stones that were placed over the berm and edges of the garden. Gaps between the large stones were filled with sand and pebbles. This took one person approximately 2 hours to place and 1 hour to get pebbles/sand and fill gaps.

From July to September, plants have grown tremendously. I've had a few losses. The Joe Pye weed succumbed mysteriously - it might have already been too big when I transplanted. I have a touch of rust on my asters that I am monitoring. Rusts are common on this type of plant when they stay wet, but I am not willing to treat. I may put a small controlled dose of Neem oil in spring to prevent it, but right now the garden is just too full with pollinators to experiment with treating.

The sedge, sunflowers, phlox, cardinal flower, day flower and another variety of asters are all blooming happily. The boneset is a favorite among butterflies. The place is literally buzzing with life. I had some "volunteer" sunflowers, goldenrod and zinnias that have sprouted thanks to my bird friends. I have a huge gentian growing where the Joe Pye was. I may or may not keep it, as I would really like to put some Joe Pye back.

The biggest challenge yet has been keeping the crabgrass out of the rocky berm, and cleaning out clippings from the lawnmower to keep the circulation at the bottom of the plants - that is probably the culprit for my rust.

[redacted] Raingarden



RC = Rudbeckia Orange Coneflower

WSS = White Star Sedge

SB = Snowbank

SS = Sawtooth Sunflower

L = Liatris Blazing Star

SV = Swamp Vervain

SA = Stokes Aster

JPW = Joe Pye Weed

VD = Virginia Dayflower

DBS = Dwarf Blue Star

GA = Golden Alexander

SBES = Swamp Black-eyed Susan

CV = Canada Violet

M = Monarda Bee Balm

LI = Louisiana Iris