

PAW PAW BRIDGE PARK RAIN GARDEN – City of Zeeland



What is a rain garden?

A rain garden is an area of landscaping in which native wildflowers, sedges, grasses, shrubs, and small trees are planted. This area is designed specifically to catch and infiltrate water in a natural way. You may ask yourself, “Doesn’t turf catch and infiltrate water?” The answer is turf does, but rain gardens do this much better.

Rain gardens have the capacity to filter water that runs off impervious surfaces such as roofs, streets, parking lots, and walkways. With urban development, there is an ever-increasing number of impervious surfaces. Anything on these surfaces, like sediment and grass clippings, can be washed into the storm drains and rivers right into Lake Macatawa. With the filtration of the rain garden however, the load of these pollutants into Lake Macatawa is reduced, which is important for the health of the lake.

What kind of care does a rain garden require?

Rain gardens require routine maintenance, and the specific activities to be done at Paw Paw Bridge Park are outlined on the next page. As you’ll notice, weeding is one of the activities. This task can be more difficult than it seems though, so a weeding guide is provided in this packet. The species on the pages labeled “**KEEPERS**” are those that were purposefully planted in the garden. The page labeled “**WEEDS AND INVASIVES**” is a list of weeds and invasive species that may have started to grow in the garden. Care must be taken in weeding to leave the planted species and to pull the weeds and invasives. Keep in mind that plants can look different at various stages of growth and will not always look like they do in the picture. If you are unsure of what you are pulling, ask a professional.

Site Constructed May 2008 by Niswander Environmental



DEQ
Michigan's
Nonpoint Source
Program

It is important to note that the design of this water quality feature has an innovative element. The terraced bioswale uses a Coir block product that is designed to decompose over time. The rate of decomposition is determined by many factors such as moisture, water velocity, light penetration, vegetation, soils, etc. The Coir Blocks used in this bioswale will be closely monitored to determine if replacement or repair is needed. It is imperative that this terraced swale remain stable and intact. If at any time erosion, instability, or a catastrophic failure occurs, the site will be evaluated and the best course of action for stabilization will be determined. This activity will be led by both the MACC Watershed Project, the City of Zeeland with assistance from the MDEQ. Funding for such repairs will be determined by the City of Zeeland and the MACC. Repair may involve a combination of the following activities: replacement of existing Coir Logs, proactive repair of Coir logs to negate replacement that may include vegetation or natural stone. It should also be noted that the intention of this project is to improve water quality by allowing for infiltration of storm water and reducing velocity prior to entering Noordeloos Creek to prevent erosion. Said partners should consider these goals when corrections are made.

Maintenance Activities	Schedule
Maintain vegetation in order to enhance appearance and prevent erosion of the soil mixture	First year: 1× per month After first year: as needed
Prune and weed to maintain appearance	First year: 1× per month After first year: as needed
Remove trash and debris	As needed
Replace mulch when erosion is evident	As needed
Clip standing dead vegetation stalks to maintain weed-free vegetation	First year: 1× per month After first year: each spring
Remove stems and seed heads to promote cover and bird food	Each spring
Collect grass clippings within the bioswale and garden	Ongoing
Repair eroded areas	Monthly or as needed
Inspect and re-seed grass filter strip	Spring and fall
Replace mulch within the bioswale and garden	Each spring
Inspect overflow inlets – This area is where the storm water flows into the feature from the road. It is likely that this location will need the most maintenance attention for the first few years until the vegetation is fully developed and thick. Inspector will look for any areas that have exposed soil from erosion of water velocity and repair. If this area seems to continue to need attention, a change in inlet design may have to be made	Ongoing with more frequent observations made during the first few years.

<p>such as increasing inlet size or width.</p>	
<p>Maintain healthy plants and proper pH level of soil – Healthy plants are those that look good and flourish as they are expected. Simple observations such as growth, color, and fullness should be made frequently. Use the following picture guide to compare plants to determine health. Plants that are not blooming, low-bloom, or poor vegetation color may need pH adjustment.</p> <p>pH testing should be done annually in the spring to ensure proper levels.</p> <p>Water plants when they look wilted or stressed, presumably in the summer months or when it hasn't rained for more than a week or two.</p> <p>Remove dead plant material through cutting, and inspect for any insect infestations. Remedies for infestations will depend on the problem. (Work with MSU Extension)</p>	<p>Test soil in spring using MSU extension office to determine if soil is too alkaline or acidic (keep between 8 and 5).</p> <p>1× per year for pH testing and adjustment if test shows necessary using lime.</p> <p>Mid-season yellowing may indicate that the plants are unable to get their nutrients from the soil, indicating possible pH problems. Testing the soil will indicate what the problem is and report will give suggested remedies.</p>
<p>Keep snow from being stockpiled in the bioswale</p>	<p>Ongoing</p>

KEEPERS



kgNaturePhotography.com

Shrubby cinquefoil



kgNaturePhotography.com

Monkeyflower



USDA-NRCS PLANTS Database

Cutleaf Coneflower



kgNaturePhotography.com

Blue lobelia



kgNaturePhotography.com

Swamp milkweed



kgNaturePhotography.com

New England aster



kgNaturePhotography.com

Cup Plant



kgNaturePhotography.com

White Turtlehead



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Jennifer Anderson @ USDA-NRCS PLANTS Database



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Joe-pye weed



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John Hilty, illinoiswildflowers.info

Boneset



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Sneezeweed



Robert H. Mohlenbrock @ USDA-
NRCS PLANTS Database

Cardinal Flower



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Foxglove Penstemon

Panicled Aster

Late Goldenrod

Tall Ironwood



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Riverbank Wildrye

Prairie Cordgrass

Common Rush

Fox Sedge



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Frank's Sedge

Rice Cutgrass

Short's Sedge

Indian Grass

WEEDS AND INVASIVES



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Wild Violet



Richard Old, XID Services, Inc,
Bugwood.org

Horseweed/Marestail



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Annual Bluegrass



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Crabgrass



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Knotweed



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Yellow Nutsedge



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Black Medic



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Ground Ivy



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White Clover



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Purslane/Little Hogweed



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Canadian Thistle



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Dandelion



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Pigweed



Erin Hill, www.msuweeds.com

Lambsquarters



John Byrd, Mississippi State Univ,
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Chickweed



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Wild Carrot/ Queen Anne's Lace