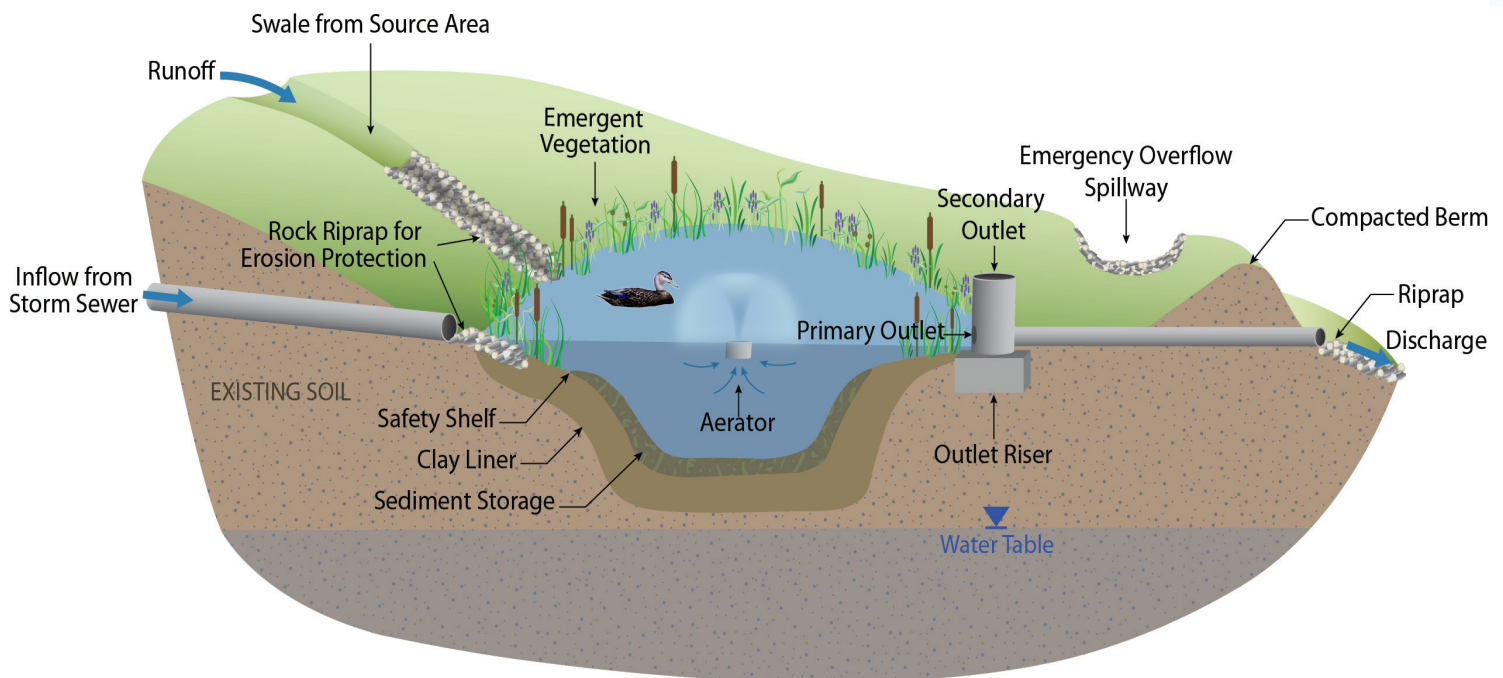


STORMWATER PONDS

Guidelines for Maintenance

A **stormwater pond** is a best management practice (BMP) that collects and holds storm runoff to remove pollutants carried by the water before they enter our rivers and lakes. Water reaches the stormwater pond through a combination of underground pipes, ditches and overland flow. Once the runoff enters the stormwater pond, sediment and other pollutants settle to the bottom. The water that entered as polluted runoff leaves the pond gradually, resulting in cleaner water draining into our lakes and streams and reduced flooding problems downstream.

Stormwater ponds are carefully designed to hold and treat runoff. Over time, the pond fills in with sediments and begins to lose its ability to remove pollutants. A smaller “forebay” may be present, which may fill up with sediment first. Maintenance is needed for the pond to continue to function the way it was designed, to protect our lakes and streams. Maintenance is also required by an agreement on file with the municipality.



ANNUAL MAINTENANCE FOR STORMWATER PONDS

DO-IT-YOURSELF

There are some maintenance jobs that can—and should—be regularly attended to by the owner of the stormwater pond. This includes:

- Remove vegetation/debris obstructions around the outlet pipes and trash rack. Outlets come in a variety of shapes and designs and may look different from the drawing on page 1.
- Check the sediment depth—most easily done through hole in ice when frozen. Many ponds will have a forebay where the runoff flows in, intended to trap the bulk of the sediment and which will fill up first. (See page 3.)
- Record water levels including depth along the safety shelf. This is best done by reading a depth gauge that is permanently mounted in the pond.
- Visually assess water quality and estimate percent weed/algae cover in early and late summer.
- Remove trash, litter and invasive plants. Cattails or reeds around the edge of the pond (safety shelf) help deter children and geese from entering the water and should be left uncut.
- Remove trees sprouting along the embankments. Left to grow, tree roots threaten the structural integrity of the embankments.
- Be sure to check the engineering design before doing any digging. Ponds often have a clay or synthetic lining that could be punctured or damaged resulting in a pond that no longer holds water.
- Inspect any fencing or signage for damage.
- Replace spent mosquito control devices.
- Invite bats to the area by installing bat houses to provide natural mosquito control.
- Aeration is sometimes added for algae control. While it helps with the aesthetics of a pond, it detracts from the sediment trapping abilities. Turn off aerators during rain or snow melt periods to allow settling of sediment.

ENLIST A PROFESSIONAL

Besides the maintenance that owners can do, a qualified inspector should be hired to annually inspect the pond and check for the following:

- The condition of the pipes, swales or structures where water flows into and out of the basin.
- Erosion of sideslopes, embankments, inlet/outlet, and emergency spillway, including the condition of rock riprap and underlying fabric.
- The condition of the pond liner (if present). Patch holes and remove burrowing animals, if necessary.
- The presence of invasive species. Develop a plan for their removal if necessary.
- The permanent pool elevation and sediment depth by surveying and referencing to a vertical benchmark (known elevation).
- Soft spots or settling that may have occurred in the embankment.

CHECKING SEDIMENT DEPTH



Simply use an ice auger to drill a hole and insert a measuring pole or rod into the hole to get the total depth. If distance from water surface to top of sediment is less than 3 feet, refer to a professional for advice on possible sediment removal. A reference to as-built surveys and design water levels is necessary. You may have less than 3 feet if water levels are low, so record water from the depth gauge levels at the same time. (See page 2.)

MANAGING THE WATERSHED: WHAT HOMEOWNERS CAN DO

Many stormwater ponds are owned by a group of landowners and maintained through a homeowner association within a subdivision. In addition to maintaining the ponds, there are actions that each homeowner can take to manage the land that drains to the ponds. The following will help extend the life of the ponds and reduce water pollution at the same time:

- Regularly sweep litter and grass clippings off sidewalks, driveways, streets and parking lots.
- Test the soil in landscaped areas, and follow recommended application rates for fertilizers and pesticides.
- Pick up after pets. This also helps keep excess nutrients and bacteria out of the pond.
- Minimize salt application to impervious areas. Salt generally passes through the pond soils, damaging the plants and polluting the receiving surface and groundwater resources.
- Prevent sediment from leaving construction sites. The more sediment that enters the pond, the sooner it will require expensive soil restoration or replanting.

Ponds that fill up with sediment over time will have to be cleaned out, requiring expensive maintenance like dredging. Proper care and maintenance of your pond will extend its life.



Enforcement of Stormwater Pond Maintenance

Maintenance responsibilities for stormwater ponds are usually documented as a deed restriction or a maintenance agreement that was recorded on the property when the pond was built. Maintenance can also be required through a local ordinance to meet clean water laws. The local municipality or stormwater utility district is the likely regulatory agency for maintenance. Either way, the regulatory agency can require the owner(s) of a stormwater pond to perform and report inspections and to complete repairs and maintenance activities as needed. If the owner(s) fails to comply, the regulatory agency may resort to citations or other enforcement measures, or may perform the maintenance activities itself and recover the costs through special charges on the property tax bill.

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