

Definitions...

Wet detention pond: a pond designed to have a remaining permanent pool of water after a storm event.

Dry detention pond: a pond designed to NOT have a significant pool of water remaining after a storm event.

Water Quality Pond: a detention pond with an orifice sized to allow time for settling and filtering of pollutants before the runoff is discharged from the pond.

Tributary drainage area: the total land area that drains to the pond.

Impervious area: a solid surface, like pavement, that does not allow rain to soak into it.

Stormwater runoff: runoff that occurs as a result of a rain or storm event hitting an impervious surface and running off.

Inlet: The point where stormwater enters the pond.

Outlet: A structure that controls the rate of release of water from the pond and the water depth and storage volume in the pond.

Orifice: A controlled opening on the outlet structure through which stormwater is discharged from the pond (selected ponds).

Trash Rack: A structural feature of the outlet that filters stormwater by trapping debris before runoff is discharged (selected ponds).

Rip rap: Rock material typically used to stabilize conveyance channels.

Emergency spillway: Conveyance feature of a detention pond to discharge excess stormwater flows to maintain the integrity of the pond structure during substantial runoff events.

Drainage Easement: A natural or man-made drainage area with set restrictions to provide open access

So, you have a detention pond on your property ...

Stormwater detention ponds are very important for protecting our **water quality** and **stream habitats**.

As you may know, detention ponds are installed in all developments to capture stormwater which runs off of streets, driveways, roofs, and other impervious surfaces.

By detaining the stormwater for a short period of time in the pond, the velocity of the flow is decreased so that it will cause less erosion when it leaves the pond.

Also, the brief detention time allows the sediment and pollutants picked up by the stormwater runoff to settle out, thus improving the quality of the water leaving the pond as it flows on down to the nearest stream or lake.

Typical stormwater pollutants include petrochemical residues from roads and parking lots, lawn chemicals, fertilizers, bacteria from pet waste, sediment, trash and other debris.

This detention pond maintenance fact sheet will provide the information you need to keep the detention pond on your property fully functional.

Questions? Please contact:
City of Massillon
Engineering Office
330.830.1722

Who's responsible for your detention pond...

Per your subdivision regulations, the homeowner's association (HOA) or owner of the property where a detention pond is located is responsible for maintenance of the pond.

Some ponds are located on commercial property and some on residential property. In subdivisions where ponds are located within a buffer space/green space deeded to a party other than a homeowner, maintenance is typically the responsibility of the Homeowners' Association or a designated property management company. However, many ponds are located on individual residential lots or span two or more lots.

In all cases, the owners of the property where the ponds are located are responsible for maintaining them to ensure proper functioning.

The City of Massillon is responsible only for stormwater structures which are located within the City road right-of-way or on City-owned properties.

Why some ponds fail...

Studies show that **poor maintenance is the leading cause of pond failure.**

Poor maintenance can also result in unpleasant odors, mosquitoes, algae blooms and a generally unsightly, unkempt area. Detention ponds may fail due to:

- poor vegetation maintenance in terms of mowing and weed control
- clogged inlets or outlets resulting from trash and debris, sediment accumulation
- eroded side slopes
- inadequate access for routine maintenance activities

Detention Pond Maintenance Checklists

Why Maintain your pond...

Stormwater runoff is a significant source of water pollution in developed areas. Also, stormwater that has to flow over impervious surfaces (pavement, rooftops, etc.) cannot soak into the ground, so the volume of runoff is increased. Detention ponds help with both of these problems. A pond acts as a settling basin for pollutants to settle out of the stormwater before it leaves the pond. Also, a pond acts as a temporary storage basin to collect the larger stormwater flows and release them more slowly over a longer period of time to avoid the erosive effect of a large volume of stormwater rushing along the downstream channel.

Properly maintained detention ponds can be very effective at removing certain pollutants and providing necessary storage volumes during larger storm events. ***Improperly maintained ponds*** can allow pollutants to flow on downstream degrading water quality in the creeks, and also can increase the risk of causing erosion and flooding downstream. Poorly maintained detention ponds can look bad, and harbor nuisance pest problems.

Routine Maintenance...

Inspections:

Periodic inspections with a specified checklist, and inspections after major rainfall events, to check for obstructions/damage & to remove debris/ trash.

Vegetation Management:

Mowing on a regular basis to prevent erosion or aesthetic problems. Limited use of fertilizers and pesticides in and around the ponds to minimize entry into pond and subsequent downstream waters.

Trash, debris and litter removal:

Removal of any trash, etc causing any obstructions at the inlet, outlet, orifice or trash rack during periodic inspections and especially after every runoff producing rainfall event. General pickup of trash, etc in and around the pond during all inspections.

Structural Component check:

Inspection of the outlet works, inlet, orifice, trash rack, on a regular basis for additions to the annual Non-routine Maintenance list.

Mechanical Equipment check:

Inspection of any valves, pumps, fence gates, locks or mechanical components during periodic inspections and appropriate replacement/repair.

"Quick – Look" Maintenance Checklist ...

- Any obstructions of the inlet or outlet or orifice?***
- Has trash accumulated in the pond or at the outflow structure or on the trash rack?***
- Any erosion or instability on the slopes?***
- Any sedimentation piling up in the basin?***
- Any settling or cracking of the bermed areas?***
- Are there any upstream or downstream conditions that could affect pond operation?***
- Is outlet channel in good working order?***

Non-routine maintenance...

Bank erosion/stabilization:

It is critical to keep effective ground cover on all vegetated areas in order to see the benefits of proper infiltration of runoff, and effective filtering of pollutants. All areas not vegetated should be re-vegetated and stabilized immediately

Sediment removal:

Every six months or so, the amount of accumulated sediment should be checked. If the depth of the sediment is greater than 25% of the pond depth, sediment should be removed.

Structural Repair/Replacement:

Eventually the outlet structure or other structures such as a trash rack will need repair or be replaced.

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