

SMYRNA'S DETENTION PONDS AND YOU



Thank You!

During the past year, the Stormwater Program staff assessed all of the Smyrna detention ponds, including yours. We found the vast majority of these ponds are being maintained very well and serving their purpose of detaining stormwater while keeping it as clean as possible.



Thank you so much for assisting the Town's staff in improving the water quality and protecting the streambank integrity of its five streams. The federally mandated Clean Water Act requires each Stormwater Program in America to strive for well-maintained detention ponds, like those we have in Smyrna.

How can a pond owner maintain their pond?

- 1. Regularly assess the integrity of all pond slopes and floor for significant erosion, causing loss of soil; repair eroded areas by adding or raking existing soil and adding seed or sod
- 2. Seed or sod any bare areas, bare soils erode more easily than stabilized soils!
- 3. Be vigilant in not allowing any harmful chemicals to reach your pond's slopes or floor, being careful not to over-fertilize, especially soon before storm events.
- 4. Regularly assess the rock apron found immediately downslope of your inlet structure(s), filling in any eroded ruts then adding large rock, if needed.
- 5. Regularly assess the rock apron found immediately downslope of your outlet structure then follow line item 4, if needed.
- 6.Controlling the growth of large trees on the pond's slopes is recommended.
- 7. Regularly patrol your pond for litter and debris, moving it as soon as possible, especially when near the outlet.
- 8.Be sure not to over-cut your slopes and floor. Allowing your grass to 'go to seed' then mow, spreads free seed over your entire pond.
- 9. Remember your pond cannot be used for permanent structures, but can be used for fun events !

Once again, Smyrna's Stormwater Program commends you for doing a great job of maintaining your pond, so downstream water remains as clean as possible, stream banks remain intact, and the habitat for natural fauna and flora is preserved.

Please do not hesitate to contact our staff at (615) 459-2553 with any questions you might have or any violations you might see.

Stormwater Coordinator (615) 355-5701 Environmental Tech (615) 557-3559



History

Before settlers began removing trees to create fields for row cropping and livestock, Rutherford County and Smyrna were mostly forests with some meadows. These conditions enabled minimal amounts of overland water movement, known as runoff.



Once many of the trees were removed, there were no longer leaves and limbs to slow down the raindrops and far less organic soil on the forest floor to soak up and store this water. Thus, the stream water velocities increased, water depths deepened, and the water's ability to erode became stronger. So strong that not even existing tree roots can stop it, leading to leaning trees!



When urban areas become more densely populated, the impervious surface area of rooftops, driveways, sidewalks, roads, and parking lots greatly increase. This enables runoff to flow into the streams much sooner than before. This causes massive erosion of the stream bank, removing animal habitat, and dumping much sediment downstream, which can cover habitat and cause flooding.



Detention Ponds

Detention ponds are engineered and built to correct these poor conditions in many ways. Here are some examples:



They collect, store, and slowly release rain runoff to emulate forest conditions, thus reducing stream water velocities, depth, and strength.



Forebays are separated pond areas where runoff enters the pond then becomes still, allowing sediment to settle to the pond's floor, while also allowing water to percolate (soak) into the pond's earthen floor.



Well-rocked inlets, underlain by tough, porous fabric spreads runoff, slows and lowers erosion. Heavily grassed and slightly sloping floors enable percolation into underlying soil or fractured bedrock. The roots of many plants can also uptake some of the pollutants found in parking lot runoff left by vehicles.