HOMEOWNERS GUIDE ON CARE AND MAINTENANCE OF INFILTRATION TRENCHES

Are you a homeowner of a sublot with an infiltration trench on it? Do you need help maintaining this structure or have questions on how to do this? This fact sheet outlines the basics for stormwater management on your property.

What is an Infiltration Trench?

Infiltration trenches are designed to receive stormwater runoff and allow that runoff to infiltrate into the ground. The stormwater that is generally being treated by infiltration trenches is from downspouts on both commercial and residential buildings. They provide water quality treatment and groundwater recharge. These trenches are rock filled and provide underground temporary storage and are used in conjunction with other sediment removal practices such as stormwater ponds, which remove most of the suspended solids before discharging the runoff into the trench. The removal of the suspended solids is usually accomplished by passing the stormwater through a grass filter strip or water quality swale before it reaches the infiltration trench. These trenches are considered one of the most efficient stormwater practices which provides several benefits that other stormwater practices do not.

Infiltration trenches are used primarily for sites that are 5 acres or smaller. Where space is limited, these trenches can be used to incorporate water quality treatment before stormwater enters a site's drainage system, such as a parking lot drain. However, this practice is not recommended to be installed in areas of heavy industry dealing with chemical storage because it is not set up to filter heavy pollutants such as pesticides or gasoline. Although soil is considered an adequate filter for pollutants and water will pass through a pretreatment area prior to entering the infiltration trench, it is recommended that infiltration trenches are installed least 100 feet away from an active water supply well. In cold weather climates infiltration trenches should have the flow diverted around it due to possible infiltration of chlorides from road salt on parking lots or driveways.

These trenches can require maintenance more often than other stormwater practices, but the correct and proper maintenance is key to establishing a healthy, functioning infiltration trench.

Maintenance and Responsibility

Maintenance for an infiltration trench should focus on the sediment trapping before the stormwater gets to the trench. If the infiltration trench becomes clogged with sediments, then the potential for failure is very high. By installing a pretreatment area that treats the incoming water before it actually reaches the trench, allows the trench to continue to function properly. One example of a pretreatment area is a plunge pool. This pool is constructed as a shallow area that receives stormwater runoff, slows the water flow, and helps to filter pollutants and sediments prior to entering the trench. The pool can either be made up of stone or grass. If the stormwater runoff being treated is 1 acre or less, pretreatment can be provided by the use of an underground trap with a permanent pool between the downspout and infiltration trench. The trap should be accessible, but tightly sealed off to prevent any standing water that may become a breeding ground for mosquitoes. Another way the sediment can be filtered prior to the stormwater entering the trench is through the use of a vegetated filter strip.

The mission of Geauga Soil and Water Conservation District is "To conserve, protect, and enhance the natural resources of Geauga county by providing leadership, education, and assistance to all."

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Maintenance and Responsibility contd.

A vegetated filter strip is installed adjacent to the infiltration trench to allow any pollutants or sediment to be filtered out of the stormwater before it enters the trench. Maintenance on these vegetated strips should consist of fixing any erosion in or around the strip, along with keeping the vegetation coverage adequate for filtering purposes. In keeping up with the maintenance of the pretreatment area, the infiltration trench will function at its highest capacity.

Infiltration trenches, whether they are located on a commercial or residential lot may be the responsibility of a business, individual homeowner, or homeowner association. Infiltration trench ownership and maintenance responsibility is typically outlined in the Deed Restrictions for subdivisions or within a Declaration of Restrictive Covenants if not within a subdivision. Either document should identify the owners, how it will be funded and who will ultimately perform inspections and maintenance. If the responsibility is unknown, check with the Geauga SWCD. Sometimes, the infiltration trenches are contained within a Drainage Maintenance District and the major maintenance will be the responsibility of the County Engineer.

When conducting infiltration trench maintenance, there are some activities that should not be done without obtaining permission from Geauga SWCD. For example, the depth of the infiltration trench is specified within the Deed Restrictions or Declaration of Restrictive Covenants and cannot be altered without prior written consent of the Geauga SWCD.

A maintenance checklist is recommended to be used to document condition and maintenance performed on the infiltration trench. This checklist should be accompanied by a dedicated schedule for infiltration trench maintenance. Below are some basic suggestions to be considered in the infiltration trench maintenance checklist:

Infiltration Trench Biannual Maintenance	Yes/No or N/A	Comments
Date of Inspection *Inspected By*		
Remove debris from overflow structure		
Inspect pretreatment area and diversion structures for sediment build-up and structural damage		
Ensure the trench is dewatering between storms and not bypassing facility		
Check the surrounding grass area for erosion		
Check for adequate mulch cover		
Infiltration Trench Annual Maintenance	**Yes/No or N/A**	**Comments**
Date of Inspection *Inspected By*		
Removal of sediment in sediment traps or pretreatment swales		
Repair any erosion within the pretreatment or aggregate areas		

Information and photo on second page for this brochure provided by ODNR-Division of Soil and Water and the ODNR-Rainwater and Land Development Manual, along with the Georgia Stormwater Management Manual.