

# SWALES & GRASS CHANNELS

Swales are shallow, sloped, densely vegetated channels designed to collect and treat stormwater runoff. Swales treat stormwater through vegetative filtering and infiltration through the surrounding soil. Dry swales, wet swales, bio-swales, and grass swales are all different types of practices which help remove pollutants from stormwater runoff. They can be found adjacent to roads, driveways, and even small parking lots.

## STORMWATER MANAGEMENT

## QUEEN ANNES COUNTY, MD

### STORMWATER RUNOFF: WHAT IS IT & WHY SHOULD YOU CARE ABOUT IT?

It is water from rain or snowmelt that is not absorbed into the ground, but instead flows over land and paved surfaces. It picks up trash, chemicals, pet waste, and other pollutants. Unlike water from inside your house which is carried via pipes to a wastewater treatment plant or a septic system, stormwater runoff goes straight from the storm drain system to local waterways without being treated. As a result, stormwater runoff is a major cause of polluted water in our local waterways.



Image from Boston Water and Sewer Commission

### SWALES/GRASS CHANNEL BENEFITS:

Swales/grass channels are designed to slow runoff and allow for pollutants such as sediment to settle out. This helps to:

- ↓ Reduce polluted runoff to our local streams
- ↓ Reduce flooding, runoff velocity, and temperature
- ↓ Reduce erosion of our streambanks
- ↑ Increase groundwater recharge

By maintaining the facility on your property, you are doing your part to help protect local waterways in Queen Anne's County as well as the Chesapeake Bay.



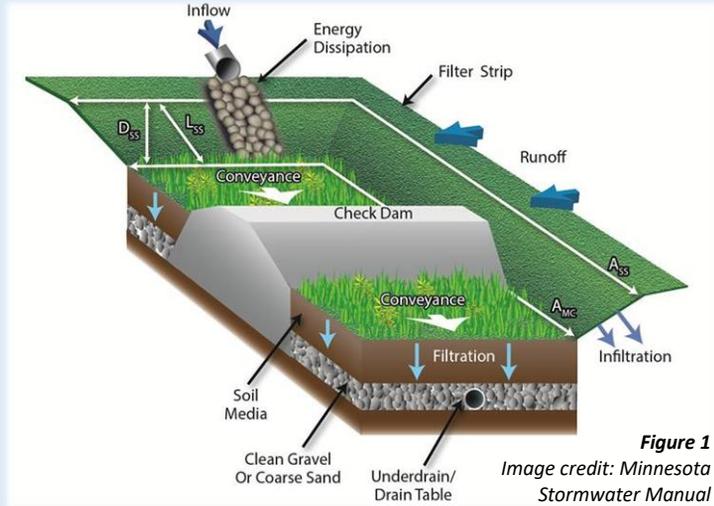
### WHAT SHOULD YOU EXPECT IF YOU HAVE A SWALE/GRASS CHANNEL?

Depending on the design, the swale could be grassed and require simple mowing or could be planted with other native vegetation which may require a bit more maintenance. You should ensure that you are familiar with the type of practice and general maintenance requirements. Ideally water should infiltrate or flow through the swale within 48 hours after rainfall. If not, the soil or media could be clogged or the swale may not have enough slope.

## SWALES & GRASS CHANNEL COMPONENTS:

The primary components of a swale/grass channel facility (as shown in Figure 1) will depend on the design type but may include inflow point(s), filter strip, conveyance path, the filter media, check dam, and landscaping.

- ☼ **Inflow point(s):** location(s) where runoff enters the facility.
- ☼ **Filter strip:** help dissipate/disperse concentrated flow as it enters the facility.
- ☼ **Conveyance path:** the flow path of water through the system.
- ☼ **Filter media:** subsoil may be enhanced to provide additional pollutant reductions.
- ☼ **Check dam:** helps to slow flow of water through the system.
- ☼ **Landscaping:** typically turf grass but can be native plants depending on the design.



## MAINTENANCE: WHAT, WHEN & WHY?

As the property owner, you are responsible for regular maintenance of the facility including:

- ☼ Mowing
- ☼ Weeding/Pruning (if planted)
- ☼ Erosion Repair

Unmaintained facilities will stop filtering stormwater, will become more expensive to maintain, and will no longer function properly.

MAINTENANCE DO'S & DON'TS	
Do:	DON'T:
Remove weeds, invasive plants, woody vegetation, trash, & debris	Don't construct a fence or structure within the swale area
Check for erosion or bare areas and stabilize with vegetation as needed	Don't mow grass shorter than 3 inches
Check and repair the filter strip	Don't mow immediately after a rain event
Inspect after storms to make sure water has drained	Don't fill the swale with debris, grass clipping, leaves, etc.
Inspect regularly and notify SWM Division if you have concerns	Don't fill in or remove facility

An unmaintained swale may stop filtering runoff; be difficult/expensive to replace; block flow of water from your property and cause flooding; or pool water promoting insect breeding. Table 1 provides recommended time frames for typical maintenance activities:

TABLE 1:	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Remove Sediment, Leaves, & Debris	★	★	★	★	★	★	★	★	★	★	★	★
Mow Facility				★	★	★	★	★	★			
Water, Replant, Repair/Stabilize Eroded/Bare Areas, Repair/Replace Filter Strip	PERFORM AS NEEDED											

Queen Anne's County gratefully acknowledges the Cecil County Stormwater Management Division for sharing these materials

## HAVE QUESTIONS OR NEED ADDITIONAL INFORMATION?

If you have questions or would like additional information, please contact the SWM Team at 410.758.0925 or visit our website at: <https://www.qac.org/997/Stormwater-Management>