Water Quality Conveyance Swale BMP

Reduce Runoff from Landscape and Hardscape Areas

Siting

Can be constructed anywhere except: floodways, over septic areas, designated native habitat areas, beneath existing tree canopy.

Overview

WQ Conveyance Swales are linear vegetated, channeled depressions that convey and treat runoff from a variety of surfaces.

Construction

WQ Conveyance Swales can be categorized as lined or unlined. Unlined swales are the easiest to construct. You can construct an unlined swale by:
1. Dig the shape and depth of the swale that you'd like, based on the guidance discussed above. If native soils will be exposed to rain before the next step, clay particles may clog the surface, so keep native soils covered with (weed seed-free) straw, compost, or jute fabric. This can be left in place if planting or removed if lining with rocks.
2. Plant the bottom with vegetation or line with a 3" minimum depth of rocks.
3. Direct runoff to the top of the swale by disconnecting your downspout If using a vegetated swale, wait 3 months before introducing runoff to give the plants time to establish; erosion will be less likely.
The recommended cross-sectional shape of a swale is a trapezoidal mainly because it is the easiest to maintain, causes the least scouring and the least runoff.
Lined Swales have a few more steps.

Maintenance

The facility will need to be inspected four times a year to check if the swale:

- Maintains a calm flow of water entering the facility via downspout pipes or other inlets.
- Removes sediment and debris
- Stabilizes slopes with plants and appropriate erosion control measures
- Maintains the design ponding depth
- Vegetation is healthy and dense enough to provide filtering and prevent underlying soils from erosion
- Exercises spill prevention measures when handling substances that can contaminate stormwater

Cost

The construction costs may be less costly or cost neural when siting allows you to replace piping or curb or gutter. Otherwise the cost can be medium to high.