

## Grassed Swale

### Definition/Purpose

A *grassed swale* is a natural or constructed channel that is shaped or graded to required dimensions and established in suitable vegetation for the stable conveyance of runoff to improve water quality. Benefits may include reduced soil erosion, sedimentation and pollution from dissolved and sediment-attached substances.

### Policies

1. This is a sediment control practice and must not be used if the primary purpose is to drain wet areas.
2. As a condition for cost sharing, the contributing watershed draining into the waterway must have installed, or the cooperator must agree to install as part of the agreement, erosion control measures necessary to prevent damage from washout or excessive sedimentation in the waterway.
3. Land smoothing for grassed waterways is intended for use only where existing terraces, diversions or other minor landscape features must be removed prior to initiating a grassed waterway system.
4. All NRCS standards and N.C. Community Conservation Assistance Program policies relative to vegetation must be followed.
5. BMP soil, nitrogen and phosphorus benefits are required on the contract.
6. This practice shall not drain directly into Shellfish (SA) Waters.
7. If the swale meets any of the following conditions, it must be designed by a Professional Engineer:
  - a. The 2 year storm velocity is greater than 2 feet per second.
  - b. The 10 year storm velocity is greater than 5 feet per second.
  - c. The drainage area is greater than 2 acres.

<b>GRASSED SWALE</b>	
<b>Lifespan</b>	5 years single-family home, 10 years all other properties
<b>BMP Units</b>	SQUARE FEET
<b>Required Effects</b>	Soil loss reductions (volumetric calculation) SNAP tool, nutrient reductions

Community Conservation Assistance Program

<b>JAA</b>	<a href="#">Commission JAA</a> for grassed swales if the velocities of a 2 year, 24 hour storm event is < 2 fps and for those 10 year, 24 hours storm events with velocities < 5fps and the watershed is < 2 acres; all others a Division or private engineer must perform the design
<b>CS2/Reference Materials</b>	<ul style="list-style-type: none"><li>• NC-ACSP-11 Signature Page</li><li>• Map with BMP location and fields</li><li>• Any other practices necessary for the grassed swale to function properly must be installed at the time the grassed swale is installed</li></ul>

Specifications

N.C. CCAP Design Manual: Vegetated Swales

<http://www.ncagr.gov/SWC/costshareprograms/CCAP/documents/Chapter8-VegetatedSwales.pdf>

Additional Resources

N.C. DEQ Stormwater BMP Manual: Grassed Swale

[https://files.nc.gov/ncdeq/Energy%20Mineral%20and%20Land%20Resources/Stormwater/BMP%20Manual/C-11\\_Treatment\\_Swale.pdf](https://files.nc.gov/ncdeq/Energy%20Mineral%20and%20Land%20Resources/Stormwater/BMP%20Manual/C-11_Treatment_Swale.pdf)

NCSU Guide to designing grassed swales

<https://stormwater.bae.ncsu.edu/wp-content/uploads/sites/11/2016/03/DesigningDrySwales4WQ.1.3.pdf>