

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.

GRASSED SWALE	
Lifespan	5 years single-family home, 10 years all other properties
BMP Units	SQUARE FEET
Required Effects	Soil loss reductions (volumetric calculation) SNAP tool, nutrient reductions <u>– only if retention or check dams are employed</u>

Community Conservation Assistance Program

JAA	Commission JAA 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
<u>Specifications</u>	N.C. CCAP Design Manual: Vegetated Swales
<u>Additional Resources</u>	N.C. DEQ Stormwater BMP Manual: Grassed Swale NRCS Grassed waterway standard (412) NCSU Guide to designing grassed swales
CS2/Reference Materials	<ul style="list-style-type: none"> • NC-ACSP-11 Signature Page • Map with BMP location and fields • Any other practices necessary for the grassed swale to function properly must be installed at the time the grassed swale is installed • Receipts for Actual Costs • Receipts Summary form •

Specifications

N.C. CCAP Design Manual: Vegetated Swales

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

Additional Resources

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>

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