

Filter Strip

North Carolina Practice Job Sheet 393

Prepared for: _____

Prepared by: _____

Farm: _____ Tract: _____ Date: _____



DEFINITION

A strip or area of herbaceous vegetation that removes contaminants from overland flow.

PURPOSE

- Reduce suspended solids and associated contaminants in runoff.
- Reduce dissolved contaminant loadings in runoff.
- Reduce suspended solids and associated contaminants in irrigation tailwater.

CRITERIA

Overland flow entering the filter strip will be uniform sheet flow. Concentrated flow will be dispersed before it enters the filter strip. The maximum gradient along the leading edge of the filter strip will not exceed one-half of the up and down hill slope percent, immediately upslope from the filter strip (up to a maximum of 5%).

State-listed noxious plants will not be established in the filter strip.

Filter strip will be established to permanent herbaceous vegetation in accordance with North Carolina NRCS standard 342.

Where Used

Filter strips are established where environmentally-sensitive areas need to be protected from sediment, suspended solids, and dissolved contaminants in runoff.

Procedure to ensure designed filter strip function

NRCS Agronomy Technical Note No. 2 (June 2007), found with the 393 standard, states that in order to maintain a properly functioning vegetated filter strip, that total sediment accumulation must not exceed 6 inches. The Excel Spreadsheet found with the 393 standard, Filter Strip Lifespan for Sediment, may be used to document the impact of projected sediment delivery to filter strip survival for the required practice lifespan of 10 years. If the contributing area to the filter strip has a slope of 10% or greater, and is eroding at greater than T, then use of the spreadsheet is required to document filter strip viability for the practice lifespan. In all other design conditions, sheet and rill erosion from the contributing area must not exceed 2 times soil loss tolerance.

PLANS AND SPECIFICATIONS

Site-specific requirements are listed on the specifications sheet. Additional provisions are entered on the job sketch sheet. Specifications are prepared in accordance with the NRCS Field Office Technical Guide. See NC practice standard Filter Strip, code 393. For reducing contaminants in surface runoff from a cropland contributing area, the minimum practice width is 20 feet. For reducing surface runoff contaminants from livestock lounging areas, the minimum practice width is 100 feet.

OPERATION AND MAINTENANCE

Mow filter strips (and harvest if possible) as necessary to encourage dense vegetative growth. If established for wildlife habitat, avoid

mowing during the nesting period of ground-nesting wildlife. If wildlife habitat enhancement is a complimentary practice objective, then utilize NC NRCS 393 *Wildlife Habitat in Filter Strips* Supplement, dated October 1999. Control undesirable weed species. Inspect and repair after storm events to fill in gullies, remove flow-disrupting sediment accumulation, reseed disturbed areas, and take other measures to prevent concentrated flow into and across the filter strip. Lime and fertilize to soil test recommendations to maintain a vigorous stand. Exclude livestock and vehicular traffic from filter strips during wet periods of the year to reduce compaction that will limit infiltration. This type of traffic should be excluded at all times to the extent practical. Restoration is required if the filter strip has accumulated sediment to a point that it no longer functions effectively. The filter strip area shall be able to adjust and survive the calculated rate of sediment delivery.

Additional operations and maintenance requirements specific to this plan:

Purpose (check all that apply)			
<input type="checkbox"/> Reduce suspended solids and associated contaminants in runoff.	<input type="checkbox"/> Reduce suspended solids and associated contaminants in irrigation tailwater.		
<input type="checkbox"/> Reduce dissolved contaminant loadings in runoff.			
Layout	Strip 1	Strip 2	Strip 3
Strip width (feet)			
Strip length (feet)			
Area in strip (acres)			
Field slope (%)			
Plant Materials (species/cultivars)	Seeding Rate (lbs/acre of pure live seed)		Seeding Date
Strip 1:			
Strip 2:			
Strip 3:			
Soil Amend. and Fertilization	Strip 1	Strip 2	Strip 3
Lime per Soil Test (tons/acre)			
N Fertilizer per Soil Test – (lbs/acre)			
P ₂ O Fertilizer per Soil Test – (lbs/acre)			
K ₂ O Fertilizer per Soil Test – (lbs/acre)			
Site Preparation			
<i>Prepare a firm seedbed. Apply lime and fertilizer as indicated by soil testing. Additional requirements:</i>			
Planting Methods			
<i>Drill grass and legume seed _____ inches deep uniformly over area. Establish vegetation according to the specified seeding rate. If necessary, mulch newly seeded area with _____ tons per acre of mulch material. A small grain crop may be needed as a companion crop at the rate of _____ pounds per acre (clip or harvest before it heads out). Additional requirements:</i>			
Operation and Maintenance			
<i>Maintain original width and length of the filter strip. Harvest, mow, reseed, and fertilize as necessary to maintain plant density and vigorous plant growth. Inspect after major storms, remove trapped sediment, and repair eroding areas. Shut off pesticide sprayers when turning on a filter strip. Additional requirements:</i>			

LANDOWNER’S/OPERATOR/S ACKNOWLEDGEMENT:

The landowner/operator acknowledges that:

- a. He/she has received a copy of the drawings and specifications, and that he/she has an understanding of the contents, and the requirements.
- b. He/she has obtained all the necessary permits. (IT WILL BE THE RESPONSIBILITY OF THE OWNER TO OBTAIN ALL NECESSARY PERMITS AND/OR RIGHTS, AND TO COMPLY WITH ALL ORDINANCES AND LAWS PERTAINING TO THIS INSTALLATION.)
- c. No changes will be made in the installation of the job without prior concurrence of the NRCS.
- d. Maintenance of the installed work is necessary for proper performance during the project life.

PRACTICE COMPLETION:

I have made an on-site inspection of the site (or I am accepting owner/contractor documentation), and have determined that the job as installed does conform to the drawings and practice specifications.

Completion Certification by:

Planner _____ Date _____

I have reviewed this plan and agree to install as designed.

Cooperator _____ Date _____

Additional Specifications and Notes: