

FILTER STRIP

CONSERVATION SHEET – Agronomy Series

393



Natural Resources Conservation Service

Michigan



Definition

Filter strips are areas of herbaceous vegetation situated between cropland, grazing land, forest land, or disturbed land and environmentally-sensitive areas. Sensitive areas include streams, lakes, wetlands, and other water bodies and areas susceptible to damage by water-borne pollutants, including sediment, particulate organics, sediment-adsorbed contaminants, and dissolved contaminants.

Purposes

Filter strips function by: 1) reducing sediment, particulate organics, and sediment-adsorbed contaminant loadings in runoff; 2) reducing dissolved contaminant loadings in runoff; 3) serving as Zone 3 of a Riparian Forest Buffer (see Practice Standard 391); 4) restoring, creating, or enhancing herbaceous habitat for wildlife and beneficial insects; and 5) maintaining or enhancing watershed functions and values.

Where Used

Filter strips are used on cropland, grazing land, forest land, or disturbed land.



Multiple filter strips can be strategically located in a watershed to reduce and slow runoff and increase infiltration and groundwater recharge. A filter strip is designated as a vegetated area to treat runoff and is not part of the adjacent cropland rotation. A strip is designed to filter surface sheet flow. Concentrated flows need to be dispersed before water enters a strip. A filter strip is typically positioned at the down-slope edge of a field or disturbed area. Filter strips are normally only used when adjacent and up-gradient areas have slopes gradients between 1 and 10 percent. To the extent practical, an individual filter strip is placed on the approximate contour, with its upper edge ideally not exceeding a 0.5 percent gradient (measured perpendicular to the flow length). When establishing a filter strip, consider using vegetation that is tolerant to herbicides used in the adjacent crop rotation.

Resource Management System

Filter strips are normally established concurrently with other practices as part of a resource management system for a conservation management unit. They should be installed only below areas where sheet and rill erosion have been reduced to an acceptable level and where other practices are in place that slow runoff and contaminant delivery. A filter strip is influenced by but is not considered part of the adjacent crop rotation.

Wildlife

Filter strips can enhance wildlife objectives depending on the vegetative species used and management practiced. Using native or adapted vegetative species can improve the wildlife values of a filter strip area as well as biodiversity. Avoid mowing during nesting periods.

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. 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.

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 practice standard Filter Strip, code 393.

Filter Strip – Job Sheet

Landowner _____ Field
 number _____

Purpose (check all that apply)	
<input type="checkbox"/> Reduce sediment, particulate organics, and sediment-adsorbed contaminant loadings in runoff	<input type="checkbox"/> Reduce sediment, particulate organics, and sediment-adsorbed contaminant loadings in surface irrigation tailwater
<input type="checkbox"/> Reduce dissolved contaminant loadings in runoff	<input type="checkbox"/> Restore, create, or enhance herbaceous habitat for wildlife and beneficial insects
<input type="checkbox"/> Serve as Zone 3 of a Riparian Forest Buffer (391)	<input type="checkbox"/> Maintain or enhance watershed functions and values

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
Prepare a firm seedbed. Apply lime and fertilizer as indicated by soil testing. Additional requirements:

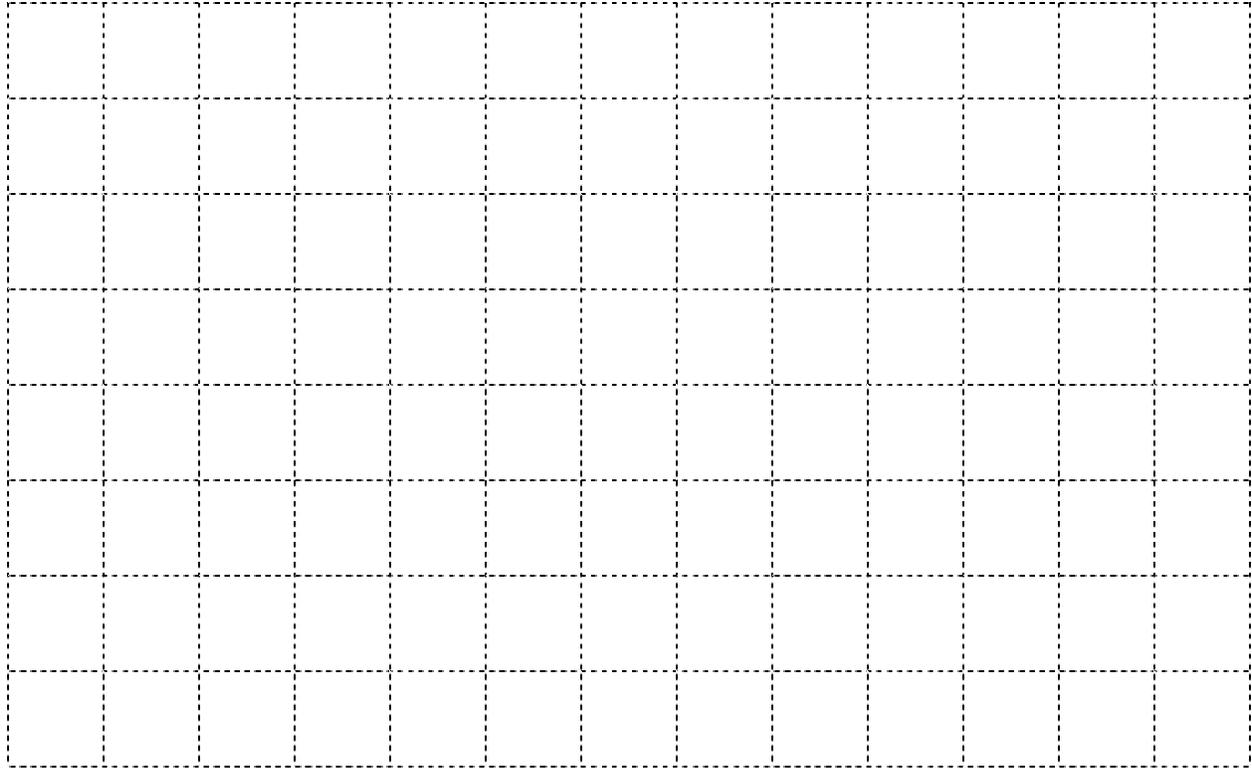
Planting Methods
Drill grass and legume seed _____ inches deep uniformly over area. Establish vegetation according to the specified seeding rate. If necessary, mulch newly seeded area with _____ tons per acre of mulch material. A small grain crop may be needed as a companion crop at the rate of _____ pounds per acre (clip or harvest before it heads out). Additional requirements:

Operation and Maintenance
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:

Filter Strip – Job Sheet

If needed, an aerial view or a side view of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.

Scale 1"=_____ ft. (NA indicates sketch not to scale: grid size=1/2" by 1/2")



Additional Specifications and Notes:

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