United States Department of Agriculture

Conservation Enhancement Activity

E393122Z

CONSERVATION STEWARDSHIP PROGRAM

Extend filter strip to reduce excess pathogens and chemicals in surface water

Conservation Practice 393: Filter Strip

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Associated Agricultural Land

RESOURCE CONCERN ADDRESSED: Water Quality Degradation

ENHANCEMENT LIFE SPAN: 10 Years

Enhancement Description

Extend existing filter strips for water quality protection (reduce excess pathogens and chemicals from manure, bio-solids or compost applications in surface waters). Extend the existing buffer for a total of 60 feet or more to enhance water quality functions. The extended buffers must be composed of at least 5 species of non-noxious, wildlife friendly grasses and/or perennial forbs best suited to site conditions. Include species that provide pollinator food and habitat where possible.

Criteria

- Extend existing filter strips for water quality protection (reduce excess pathogens and chemicals from manure, bio-solids or compost applications in surface waters).
- Extend the existing buffer for a total of 60 feet or more to enhance water quality functions.
- Overland flow entering the filter strip shall be uniform sheet flow. Concentrated flow shall be dispersed before it enters the filter strip.

- The maximum gradient along the leading edge of the filter strip shall not exceed one-half of the up-and-down hill slope percent, immediately upslope from the filter strip, up to a maximum of 5%.
- Filter strips shall not be used as a travel lane for equipment or livestock.
- The filter strip will be designed to have a 10-year life span, following the procedure in the Agronomy Technical Note No. 2 (Using RUSLE2 for the Design and Predicted Effectiveness of Vegetative Filter Strips (VFS) for Sediment), based on the sediment delivery in RUSLE2 to the upper edge of the filter strip and ratio of the filter strip flow length to the length of the flow path from the contributing area.
- The filter strip shall be located immediately downslope from the source area of contaminants.
- The drainage area above the filter strip shall have a slope of 1% or greater.
- The extended buffers must be composed of at least 5 species of non-noxious, wildlife friendly grasses and/or perennial forbs best suited to site conditions. Include species that provide pollinator food and habitat where possible. State-listed noxious or invasive plants will not be established in the filter strip.
- The filter strip shall be established to permanent herbaceous vegetation. Species selected shall be:
    - able to withstand partial burial from sediment deposition and
    - tolerant of herbicides used on the area that contributes runoff to the filter strip.
- Species selected shall have stiff stems and a high stem density near the ground surface.
- Species selected for seeding or planting shall be suited to current site conditions and intended uses.
- Selected species will have the capacity to achieve adequate density and vigor within an appropriate period to stabilize the site sufficiently to permit suited uses with ordinary management activities.

- Species, rates of seeding or planting, minimum quality of planting stock, such as PLS or stem caliper, and method of establishment shall be specified before application. Only viable, high quality seed or planting stock will be used.

- Site preparation and seeding or planting shall be done at a time and in a manner that best ensures survival and growth of the selected species. What constitutes successful establishment, e.g. minimum percent ground/canopy cover, percent survival, stand density, etc. shall be specified before application.

- Planting dates shall be scheduled during periods when soil moisture is adequate for germination and/or establishment. Seeding shall be timed so that tillage for adjacent crop does not damage the seeded filter strip.

- The minimum seeding and stem density shall be equivalent to a high quality grass hay seeding rate for the climate area or the density of vegetation selected in RUSLE2 to determine trapping efficiency, whichever is the higher seeding rate.

Documentation and implementation Requirements

CONSERVATION STEWARDSHIP PROGRAM

Participant will:

☐ Prior to implementation, prepare the planned acres for vegetation establishment. Refer to NRCS Conservation Practice Standard Filter Strip (Code 393). (NRCS will provide technical assistance, as needed.) Total planned amount of filter strip extension = _____feet

☐ Prior to implementation, select at least 5 species of non-noxious, wildlife friendly grasses and/or perennial forbs best suited to site conditions. (NRCS will provide technical assistance, as needed.)

Species	Seeding Rate (lb/ac pure live seed)	Note specific species characteristic(s)

☐ Prior to implementation, select planting technique and timing appropriate for the site and soil conditions. (NRCS will provide technical assistance, as needed.)

Planting Date	
Planting Technique	

☐ During implementation, install and maintain erosion control measures as needed for the site. (NRCS will provide technical assistance, as needed.)

☐ During implementation, notify NRCS of any planned changes to verify changes meet NRCS enhancement criteria.

☐ During implementation, protect the planting from plant and animal pests and fire.

☐ After implementation, maintain and protect the planting from plant and animal pests and fire.

☐ After implementation, verify the total amount of filter strip implemented. Total implemented amount of filter strip extension = _____feet

CONSERVATION STEWARDSHIP PROGRAM

NRCS will:

- ☐ Prior to implementation, verify the enhancement is planned for cropland.
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Filter Strip (Code 393) as it relates to implementing this enhancement.
- ☐ Prior to implementation, verify the enhancement is planned for acres that have been appropriately prepared for filter strip establishment. Total planned amount of filter strip extension = _____feet
- ☐ Prior to implementation, verify no plants on the Federal or state noxious weeds list are included.
- ☐ As needed, prior to implementation, NRCS will provide technical assistance:
    - o Planning site preparation meeting NRCS Conservation Practice Standard Filter Strip (Code 393).
    - o Selecting the wildlife friendly grasses and/or perennial forbs best suited to site conditions.
    - o Selecting planting techniques and timing appropriate for the site and soil conditions.
    - o Planning the use of additional erosion control, as needed for the site.
    - o Preparing specifications for applying this enhancement for each site using approved state implementation requirements, national technical notes, appropriate state technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
- ☐ During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- ☐ After implementation, verify the vegetation was established to specifications developed for the site.

CONSERVATION STEWARDSHIP PROGRAM

- ☐ After implementation, verify the planting is protected from pests and fire.
- ☐ After implementation, verify all erosion control needed for the site is functioning and is maintained to specifications developed for the site.
- ☐ After implementation, verify the total amount of filter strip implemented. Total implemented amount of filter strip extension = _____feet

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

United States Department of Agriculture

IDAHO SUPPLEMENT TO

CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E393122Z

Additional Criteria for Idaho

Refer to the following for additional guidance

Idaho NRCS Agronomy Technical Note 9, *Vegetative Filter or Buffer Strips*.
https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_043904.pdf

Idaho NRCS Plant Materials Technical Note 24, *Conservation Plant Species for the Intermountain West.*
https://www.nrcs.usda.gov/wps/PA_NRCSConsumption/download?cid=nrcseprd383031&ext=pdf

Idaho NRCS Plant Material Technical Note 24 Supplement: *Intermountain Planting Guide*, USDA-ARS Forage and Range Research Lab/Utah State Extension, AG 510.

https://www.nrcs.usda.gov/wps/PA_NRCSConsumption/download?cid=nrcseprd401870&ext=pdf

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

393 - Filter Strip
Implementation Requirements

Producer: _____ **Project or Contract:** _____

Location: _____ **County:** _____

Farm Name: _____ **Tract Number:** _____

Practice Location Map

(showing detailed aerial view of where practice is to be installed on farm/site, showing all major components, stationing, relative location to any landmarks, and survey benchmarks)

Index

Utility Safety / One-Call System Information

Description of work:

NRCS Review Only

Designed By: _____ **Date:** _____

Checked By: _____ **Date:** _____

Approved By: _____ **Date:** _____

393 – Filter Strip
Implementation Requirements

The Practice Purpose(s):

____ Reduce suspended solids and associated contaminants in runoff.

____ Reduce dissolved contaminant loadings in runoff.

____ Reduce suspended solids and associated contaminants in irrigation tail water.

{ŜŜŘŜŘ

Field Number/Location:_____ **Acres Installed:** _____ **Date:**_____

Average Width: _____ **Minimum Width (ft)** _____ **Filter Strip Length (ft):** _____

Site Preparation: _____

Planting Method:_____

Planting Description (*e.g.* warm season grasses only, *etc.*):

SEEDING RATES AND SPECIES

Plant species	Lbs/acre of seed (PLS)	Total lbs of seed for planned acreage
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTALS =>	0.00	0.00

FERTILIZERS AND AMENDMENTS

Fertilizer Element	Fertilizer Form	Fertilizer Amount (lbs/acre)
N	*e.g. DAP*	as N
P	*e.g. DAP*	as P_2O_5
K	*e.g.* K_2SO_4	as K_2O
S	*e.g.* K_2SO_4	as S
Lime		
Gypsum		

393 – Filter Strip
Implementation Requirements

Operation and Maintenance: (check all that apply)

_____ For the purposes of filtering contaminants, permanent filter strip vegetative plantings shall be harvested as appropriate to encourage dense growth, maintain an upright growth habit and remove nutrients and other contaminants that are contained in the plant tissue.

_____ Control undesired weed species, especially State-listed noxious weeds.

_____ If prescribed burning is used to manage and maintain the filter strip, an approved burn plan must be developed.

_____ Inspect the filter strip after storm events and repair any gullies that have formed, remove unevenly deposited sediment accumulation that will disrupt sheet flow, reseed disturbed areas and take other measures to prevent concentrated flow through the filter strip.

_____ Apply supplemental nutrients as needed to maintain the desired species composition and stand density of the filter strip.

_____ Periodically regrade and reestablish the filter strip area when sediment deposition at the filter strip-field interface jeopardizes its function. Reestablish the filter strip vegetation in these regraded areas, if needed.

_____ If grazing is used to harvest vegetation from the filter strip, the grazing plan must insure that the integrity and function of the filter strip is not adversely affected.

Certification Statement:

I certify that implementation of this enhancement is complete and meets documentation requirements.

X_____

Planner/Technical Service Provider