United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

E393A

CONSERVATION STEWARDSHIP PROGRAM

Extend existing filter strip to reduce water quality impacts

Conservation Practice 393: Filter Strip

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

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 10 Years

Enhancement Description

Extend existing filter strips for water quality protection. 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 strip for water quality protection.
- 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 pure live seed 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

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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

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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.
- ☐ After implementation, verify the planting is protected from pests and fire.

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- ☐ 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

OREGON SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY E393A

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Additional Recommendations and Guidance

- If the base practice (393) is being contracted and paid for along with the enhancement, complete an Oregon 393 IR for the project, indicating species and quantities to be seeded/planted. If the base practice has been completed or the site has been inventoried and found to meet specifications, the planner should document this information (such as an IR from a previous contract or some other form of documentation/inventory).
- Document how this enhancement will help reduce crop erosion and pollinator habitat (if applicable).

Plant Guidance

Plants seeded or planted at the site should be suitable to the MLRA (ecoregion) and site conditions. Planners should consult ecological site information (if available and using native plants) in determining plant selections. Native plants or seeds used for enhancement should originate from the same MLRA (or similar climate) as the enhancement location.

Refer to the following documents to help select suitable "stiff-upright" plants to seed or plant for expansion of a Filter Strip. Other species not contained in these documents may be appropriate for use. For further recommendations, please contact your Basin Agronomist, Basin Biologist, or Plant Material Specialist.

Statewide

- Oregon & Washington Guide for Conservation Seedings and Plantings
- Plants for Pollinators in Oregon

Eastern Oregon

- Pullman PMC Vegetative Solutions to Conservation Problems
- Technical Note 05: Riparian Buffer Design and Species Considerations (see tables at back)
- Conservation Plant Species for the Intermountain West
- Plants for Pollinators in the Inland Northwest

Seed and Plant Vendors - places to find plants

- Oregon Plant Material Technical Note No. 9 – "Plant and Seed Vendors for Oregon, Washington, Idaho, and Northwest California"
- Coming soon on Oregon Flora Project Website – Gardening Portal – Nurseries that supply native plants: https://oregonflora.org/garden/