

United States Department of Agriculture

Natural Resources Conservation Service

Contour Buffer Strips Wisconsin Job Sheet 332

Date:

Landowner:	
Tract (s):	

Definition

Narrow strips of permanent, herbaceous vegetative cover established perpendicular to the hill slope and alternated with wider cropped strips that are also farmed on the contour.

Purpose

Contour buffer strips established on the contour can significantly reduce sheet and rill erosion. Strips slow runoff and trap sediment. Sediment, nutrients, pesticides, and other contaminants are removed from the runoff as they pass through the buffer strip. Buffer strips also provide food and nesting cover for wildlife.



Conditions where Practice Applies

Contour buffer strips are used on cropland subject to sheet and rill erosion. They are most suitable on uniform slopes ranging from 4 to 10 percent. These narrow strips of permanent vegetation are not part of the normal crop rotation. Contour buffer strips are also an excellent filter for runoff and will help improve surface water quality. Contour buffer strips shall be designed individually or as part of a conservation system to achieve a sustainable level of resource protection for the primary resource concern(s) the practice has been designed to address.

Considerations

Certain tillage practices can be used on the cropped strips to increase random surface roughness and increase sediment deposition in the resulting depressions.

Consider utilizing Wisconsin Practice Standards 329, Residue and Tillage Management - No Till/Strip Till/Direct Seed, or 386, Field Border, to protect headlands from excessive soil erosion.

Where contour row curvature becomes too sharp to keep equipment aligned with rows during field operations, consider establishment of turn strips or increasing the buffer strip width to avoid sharp ridge points. The turn strips, or expanded buffer strips should be wide enough to allow the equipment to be lifted and/or turned.

Prior to design and layout, consider removing any obstructions or making changes in field boundaries or shape, where feasible, to improve the effectiveness of the practice and the ease of performing farming operations.

Consider the need for water management practices (terraces, diversions, structures for water control) when surface water runoff flows downhill through two or more contiguous slope lengths (L).

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Plans and Specifications

Specifications for establishment and operation of this practice shall be prepared for each field according to the criteria described in this standard. The plans shall include:

- 1. percent land slope a slope length used for planning each contour farming layout
- 2. minimum and maximum allowable row grades for the contour buffer system
- 3. design width of vegetated buffer strips and cropped strips prior to any adjustment
- 4. actual width of crop and vegetated buffer strips as installed
- 5. seed mixture to establish the buffer strips; and a sketch, plan map, or photograph of the field showing:
 - the approximate location of the key line(s) used to establish the contour system
 - the location of stable outlets and outlets needing treatment identified during the design of the contour farming system
 - the location of all existing or planned supporting conservation practices needed to control surface water runoff.

Operation and Management

- Conduct all farming operations parallel to the strip boundaries except on headlands or end rows with gradients less than the criteria set forth in this standard.
- Time mowing of buffer strips to maintain appropriate vegetative density and height for optimum trapping of sediment from the upslope cropped strip during the critical erosion period(s). Mow before September 15 to allow vegetation adequate time for recovery in the fall.
- Fertilize buffer strips as needed to maintain stand density.
- Mow or spot treat sod turn strips and waterways as necessary to control brush and tree establishment.

• Spot seed or totally renovate buffer strip systems damaged by herbicide application after the residual action of the herbicide has passed.

References

- NRCS Wisconsin Field Office Technical Guide (FOTG), Section IV, Practice Standard 332 Contour Buffer Strips.
- NRCS Wisconsin Field Office Technical Guide (FOTG), Section IV, Practice Standard 342 Critical Area Planting.
- NRCS Wisconsin Agronomy Technical Note 5, Establishing and Maintaining Native Grasses, Forbs and Legumes.
- NRCS Wisconsin Agronomy Technical Note 6, Establishing and Maintaining Introduced Grasses and Legumes Cover Seeding.
- Foster, G. R., Revised Universal Soil Loss Equation, Version 2 (RUSLE2), Science Document, USDA-ARS, Washington DC, 2005.
- USDA, NRCS, Revised Universal Soil Loss Equation Version 2 (RUSLE2) Wisconsin web site: http:// www.wi.nrcs.usda.gov/technical/consplan/rusle. html.
- Renard, K. G. Foster, G. A. Weesies, D. K. McCool, and D. C. Yoder, Coordinators. Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Soil Loss Equation (RUSLE), USDA, Agriculture Handbook 703, 1997.

Certification Requirements For Practice Standard 332 Contour Buffer Strips: All Fields Must Include the Following Information

□ Conservation plan map identify the location of the contour buffer strip systems.

- □ Plan map for each field identifies the approximate location of the key line or base line used to establish the contour buffer strip system.
- □ Documentation include design criteria computations of minimum and maximum buffer strip width, spacing, row grades, critical slope length, minimum ridge height, and erosion calculations using the Revised Universal Soil Loss Equation for each field and conservation plan include the location of existing facilitating practices necessary to ensure compliance with the standard criteria of 332 Contour Buffer Strips.
- □ Surface water flow from the contour buffer strip crop rows directed to headlands/end rows; documentation verify headlands or end rows are protected from erosion by utilizing field borders, no-till farming, contouring farming row grade is less than 2% toward the headlands or soil loss computations using the Revised Universal Soil Loss Equation computes low soil loss rates below the tolerance for the planned soil map unit.
- □ Surface water flow from the contour buffer strip crop rows directed to concentrated flow areas of fields; documentation, verify ephemeral/gully is not present or the conservation plan include applied practices that provide a stable outlet during runoff events.
- □ Practice standard 342 Critical Area Planting was used to design the seed mixture.
- □ Pure live seeding rates (PLS) per specie in mixture were based on seed tags or documented computations, verify the actual adjusted seeding rate is correct.
- □ The seeding mixture design was established according to the seeding plan without modification.
- □ Changes to the seed mixture are documented by pen and ink change or revised seeding plan is attached to this checklist and approved by practice designer or other authorized individual.

Field Inspection Date:	Acres planned:	Acres applied:
Comments:		

I certify that NRCS Wisconsin practice standard 332 Contour Buffer Strips was applied according to the standard design criteria and documentation includes all criteria related computations and analysis.

Certified by: Date:

TSP or Certified Conservation Planner

Wisconsin Practice Standard 332 Contour Buffer Strips—Checklist

- □ Conservation plan map identify the location of the contour buffer strip systems.
- □ Plan map for each field identifies the approximate location of the key line or base line used to establish the contour buffer strip system.
- Documentation include design criteria computations of minimum and maximum buffer strip width, spacing, row grades, critical slope length, minimum ridge height, and erosion calculations using the Revised Universal Soil Loss Equation for each field and conservation plan include the location of existing facilitating practices necessary to ensure compliance with the standard criteria of 332 Contour Buffer Strips.
- Surface water flow from the contour buffer strip crop rows directed to headlands/end rows; documentation verify headlands or end rows are protected from erosion by utilizing field borders, no-till farming, contouring farming row grade is less than 2% toward the headlands or soil loss computations using the Revised Universal Soil Loss Equation computes low soil loss rates below the tolerance for the planned soil map unit.
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