

# TECHNICAL REVIEW COMMITTEE

Quarterly Meeting

March 6, 2014

NC State Fair Administrative Conference Room, 1025 Blue Ridge Road Raleigh, NC

Teleconference phone number: (919) 733-2451

To join the Connect Pro meeting: <https://agr.ncgovconnect.com/trc/>

**TRC Business Meeting** – Kelly Ibrahim, Chair

9am - noon

## DRAFT AGENDA

Welcome & Introductions

Approval of minutes

Approval of agenda

### **Action Items**

1. Consideration of Pitt District BMP Bryan Evans
2. Consideration of changes to the Lagoon Biosolids Removal BMP Natalie Woolard
3. Consideration of changes to the cost list: Cover Crop BMP Kelly Ibrahim
4. Consideration of adding automation to Water Control Structure BMP

Chad Poole, Dr. Youssef, Dr. Appelboom, NCSU

### **Discussion items (continued)**

1. Work group reports
  - a. Precision Farming – David Williams
  - b. Aquaculture – Natalie Woolard
  - c. Integrated Pest Management – Davis Ferguson
  - d. Pasture BMPs – Ralston James/Matt Flint
  - e. Compost Workgroup – Lisa Fine
  - f. Conservation Effects Workgroup – Kelly Ibrahim
  - g. Christmas Tree/Orchard Workgroup – Davis Ferguson
  - h. Enhanced Water Management Workgroup – Kelly Ibrahim
  - i. Animal Waste Policy Workgroup-Julie Henshaw
  - j. Enhanced Cover Crop – Kelly Ibrahim
2. Member/guest comments

# TECHNICAL REVIEW COMMITTEE

Quarterly Meeting  
Tuesday, August 27<sup>th</sup>

NC Farm Bureau, Agents Training Room, 5301 Glenwood Avenue, Raleigh, NC

Teleconference phone number: (919) 733-2451

To join the Connect Pro meeting: <https://agr.ncgovconnect.com/trc/>

**TRC Business Meeting** – Kelly Ibrahim, Chair

9am - noon

## DRAFT MINUTES

### Members & Attendees

Name	Affiliation	
Kelly Ibrahim	DSWC	Member
J Ben Knox	Rowan SWCD	Member
Greg Hughes	Hertford SWCD	Member
Jeff Young	DSWC	Member
Matt Flint	NRCS	Member
Tim Jones	FSA	Member
Tom Ellis	NC Grange	Member
Terri Ruch	NRCS	Member
Anne Coan	NC Farm Bureau	Member
Wayne Buhler	NC Cooperative Extension	Member
Lisa Fine	DSWC	Guest
Steve Harris	Albemarle-Pasquotank SWCD	Guest
Dwaine Hinson	Albemarle-Pasquotank SWCD	Guest
Chester Lowder	NC Farm Bureau	Guest
Mitch Miller	Robeson	Guest
Eric Pare	DSWC	Guest
Kevin Clark	Caldwell SWCD	Guest
Pam Bowman	Caldwell SWCD	Guest
Ed Spivey	Caldwell SWCD	Guest
Patrick Baker	Craven SWCD	Guest
Lee Holcombe	NRCS	Guest

Approval of minutes- The minutes were approved with corrections. Chester Lowder 1<sup>st</sup>, Matt Flint 2<sup>nd</sup>, all approved.

Approval of agenda by consensus.

### Discussion items:

1. Kelly Ibrahim reported on the commission actions from the May TRC recommendations.

## **Action Items**

1. Consideration of Caldwell District BMP- The district personnel presented the need for a clearing and snagging BMP in the Caldwell district. (See the attached BMP standard.) Ben Knox moved to approve the BMP as changed, Anne Coan 2<sup>nd</sup>, all approved.
2. Consideration of Albemarle District BMPs for Water Quality- Dwane Hinson presented three BMPs for consideration by the TRC. Wetland, Buffer, Weir (see attached BMP standards). Matt Flint moved to approve the BMPs, Greg Hughes 2<sup>nd</sup>, All approved.
3. Consideration of committee recommendations for contract lengths that extend beyond three years due to the nature of the ACSP policy. Kelly Ibrahim presented the issue to the TRC. Several options were considered including paying up front for the practices which require 3 years to implement, creating a policy which doesn't allow "later" funds to be used for those types of contracts or a policy which doesn't allow prescribed grazing to be combined with exclusion fencing/alternative water. The group decided it would need more discussion at a later date.

## **Discussion items (continued)**

1. Above ground storage tanks- Greg Hughes-Updated information was provided to the TRC. (See attachments)
2. Work group reports
  - a. The enhanced cover crop workgroup was added- Chair-Kelly Ibrahim, Members-Rodney Woolard, Anthony Hester, Karl Crozier, Dana Ashford-Kornburger, Chester Lowder, Dewitt Hardee

**NEW PROPOSED**

**BEST MANAGEMENT PRACTICE**

Submitted by Caldwell SWCD  
8/19/2013

**CLEARING AND  
SNAGGING**

**NRCS PRACTICE CODE 326**

AUGUST 2013

## CLEARING AND SNAGGING

### Definition/Purpose

Clearing and Snagging is a Best Management Practice for Removal of vegetation along the bank (clearing) and/or selective removal of snags, drifts, or other obstructions (snagging) from natural or improved channels and streams. Clearing and Snagging reduces excessive bank erosion by eddies or redirection of flow caused by obstructions. The practice restores flow capacity and direction and reduces risks to stream bank or cropland erosion by removing obstructions that hinder channel flow.

### Policies

1. BMP soil impact is required on the contract.
2. Minimum life of BMP is 10 years.
3. Clearing and Snagging is to be used only when the obstruction has caused erosion to the stream bank or adjacent cropland.
4. Clearing and Snagging must be used in conjunction with a vegetative practice or stream bank stabilization. Native herbaceous/woody plant materials shall be planted.
5. Areas denuded and susceptible to soil erosion as a consequence of obstructions must be repaired in conjunction with Clearing and Snagging.
6. Cost Share shall be based on actual cost.

### Specifications

NC Natural Resources Conservation Service (NRCS) Technical Guide, Section IV, Specification #326 (Clearing and Snagging), #342 (Critical Area Planting) and #580 (Stream bank and Shoreline Protection).

Average Cost per Unit

- ?. Clearing and Snagging
  - a. Obstruction Removal 75% of actual cost
  - b. Vegetation  
(Designate elements from cost list)
  - c. Grading  
(Designate elements from cost list)



Fallen trees creating obstruction



Bank exposed and susceptible to erosion



(Upper right in photo) Debris adding to obstruction



Stream bank erosion as a result of the obstruction (fallen tree and root system)

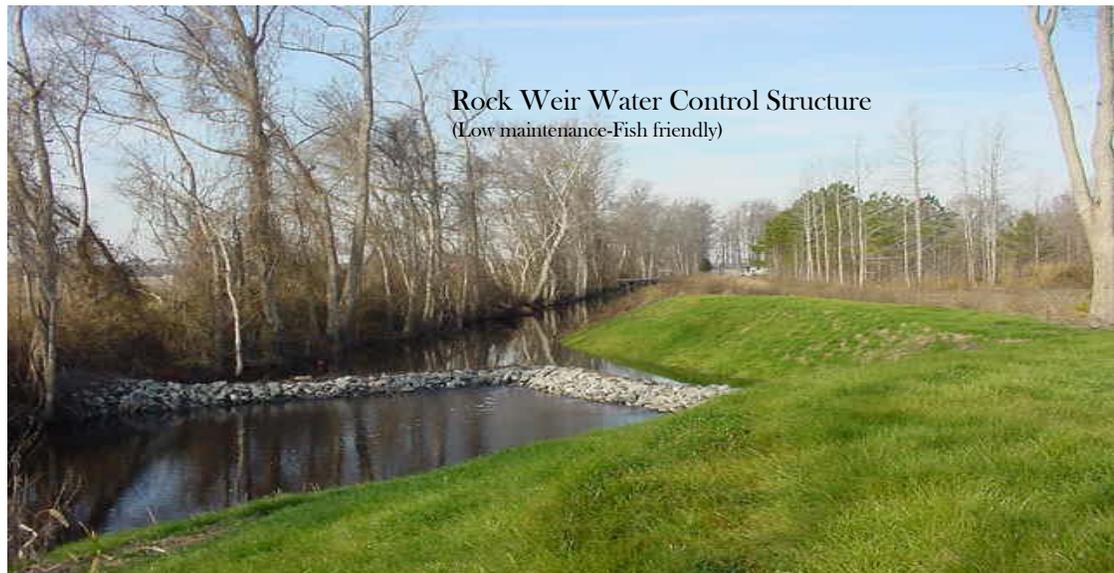
## Rock Weir (Water Control Structure)

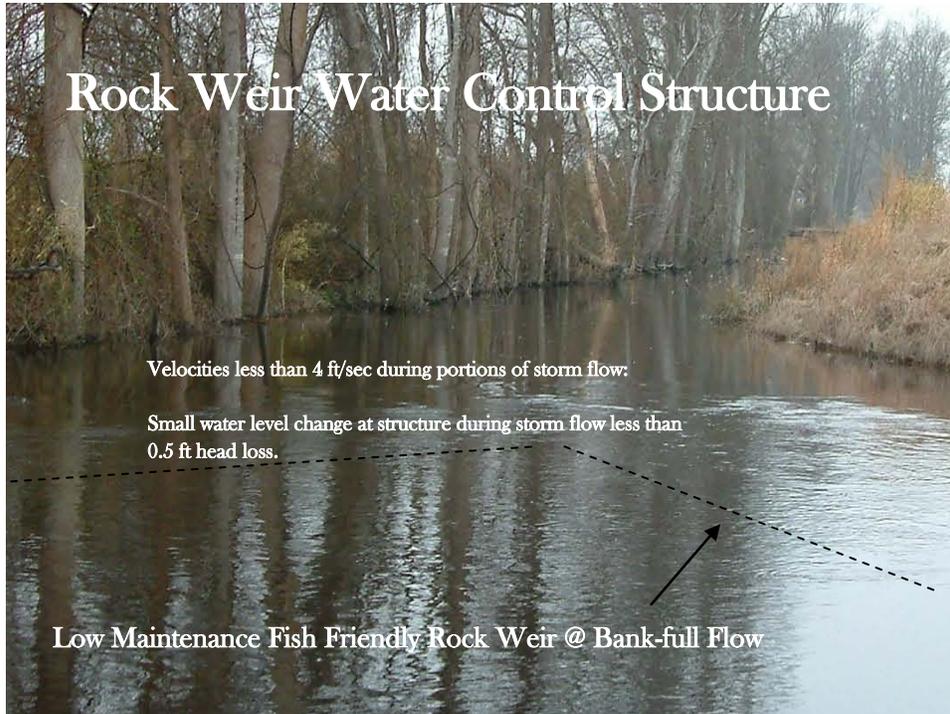
### Definition/Purpose:

A water control structure that is low maintenance, fish friendly, and improves water quality on a watershed scale. This structure reduces total subsurface and surface water drainage volumes; improves anadromous fish habitat access to headwater areas defined by drainage systems; and establishes static water levels needed to support wetland shelves associated with Riparian Herbaceous Cover (Buffers) for Drainage Systems, and Wetland Filters for Drainage Systems. (Reference ACSP Water Control Structure BMP)

(Reference: Structure for Water Control 582).

- Addresses water quality and excessive drainage issues associated with main drainage outlets that pierce the surficial aquifer. Generally these structures are used on drainage outlets that range from 4 to 10 feet deep
- Requires no adjustment or maintenance of storm water flow level.
- Fish friendly:
  1. Some areas of the weir will contain slopes of 3% or less;
  2. Drainage flow velocities over the weir will be less than 4 ft/sec during some portions of the drainage discharge.
- Works in conjunction with upstream drainage systems:
  1. Water control occurs at elevations below upstream drainage outlets, generally 3.0 feet below upstream ground levels.
  2. Storm drainage events pass over the structure without significantly impeding upstream surface and subsurface drainage flow rates, or significantly altering upstream surface water profiles.





## Policies

1. Utilize applicable structural and management considerations found in ACSP Water Control Structure specifications.
2. Ditch water levels will be controlled at elevations that do not interfere with upstream subsurface water table control, or surface water and storm water drainage flows (Generally 3.0 feet below upstream field elevations).
3. Watershed scale modeling (utilizing HEC-RAS, etc) will be performed to determine weir configurations that reflect upstream drainage considerations.
4. BMP life 10 yrs.

## Cost-Share Components Needed for Rock Weir Water Control Structure

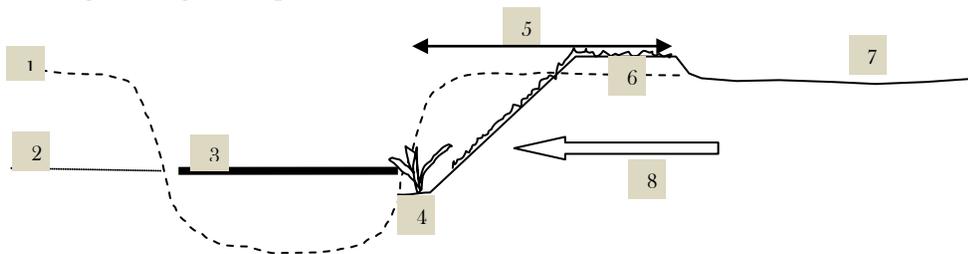
(All components available in NCACSP)

Existing Program List	Component	Unit Type	Unit Cost	Maximum Cost Share	Minimum Cost Share	Cost Type
NCACSP	Excav. w/spoil remove	CuYd	\$ 2.20			Average
NCACSP	Stone-Boulders	Ton	\$ 77.00			Average
NCACSP	Stone-gravel	Ton	\$ 31.00			Average
NCACSP	Stone-riprap	CuYd	\$ 33.00			Average
NCACSP	Filter Cloth-geotextile fabric	SqYd	\$ 2.25			Average
NCACSP	Grading-light (1-3 in)	Acre	\$ 1,700.00			Average
NCACSP	Vegetation-bag lime, seed & fert	Acre	\$ 700.00			Average
NCACSP	Vegetation-establish, hydroseed	Acre	\$ 1,700.00			Average
NCACSP	Vegetation-mulch, small grain straw	Acre	\$ 550.00			Average

## Riparian Herbaceous Cover (Buffer) for Drainage Systems

### Definition /Purpose:

To intercept subsurface drainage, reduce ditch bank erosion from surface water over bank flow, maintain and stabilize ditch banks, and expose drainage water flowing in ditches to wetland biology for water quality improvement. These riparian herbaceous cover buffers are to be used in conjunction with water control structures to establish consistent ditch water levels for exposure to wetland biology and to force subsurface drainage through the riparian buffers.



1. Existing Main Canal or Outlet Ditch
2. Existing field ditches elevation (2.5 to 3.0 ft below ground level) entering drainage Main or Canal.
3. Water level controlled at elevation of existing outlet field ditches or 2.5 to 3.0 ft below ground level.
4. Wetland shelf (1 ft wide) to support emergent wetland vegetation; six inches below level of water control. Exposes flowing ditch water to wetland biology.
5. Riparian herbaceous cover buffer must be at least 2.5 times the ditch width, but not more than 35 ft measured from the wetland shelf to the berm area. (Reference NRCS RIPARIAN HERBACEOUS COVER 390)
6. Berm (0.5 to 1.0 ft above ground level) to prevent surface water overflow. Land shaping and grading required. Drop pipes may be needed.
7. Land shaping and grading area for spoil disposal (area determined to spread spoil 3 inches deep).
8. Water quality improvement impacts realized by subsurface drainage water forced through vegetative buffer, and ditch flow interaction with riparian vegetation.

### Policies:

1. At least four species of wetland plants will be initially utilized (Refer to Suggested Wetland Plants List attached). Any variety of wetland plants can be use provided they reflect the indigenous species found within the watershed. Initial wetland plantings should be approximately on five-foot spacings. For future maintenance, the concentration and type of wetland plants found is expected to change with seasonal and environmental conditions. Any natural occurring density, variance, or spatial distribution of population is acceptable for wetland specifications.
2. Riparian herbaceous cover buffer must be at least 2.5 times the ditch width, but not more than 35 ft measured from the wetland shelf to the berm area. (Reference: NRCS RIPARIAN HERBACEOUS COVER 390)
3. Water control (preferably a rock weir) is required to compliment this BMP (Reference: STRUCTURE FOR WATER CONTROL 587).

4. Excavated spoil for slope stabilization is to be spread on the adjacent farm fields. Land shaping and grading is required to divert surface water from flowing over ditch banks (Reference: LAND SMOOTHING 466). Drop pipes may be needed.
5. Ditch slope to be established in grasses and shrubs compatible with stabilization requirements and management strategy (Reference: Critical Area Planting 342).
6. Minimum life of BMP (10 years).



## Average Cost Components Needed for Riparian Herbaceous Cover (Buffer) for Drainage Systems

(All items are available in current NCACSP, and CCAP cost list).

Existing Program List	Component	Unit Type	Unit Cost	Maximum Cost Share	Minimum Cost Share	Cost Type
NCACSP	Excav. w/spoil remove	CuYd	\$ 2.20			Average
NCACSP	Grading-light (1-3 in)	Acre	\$ 1,700.00			Average
NCACSP	Vegetation-bag lime, seed & fert	Acre	\$ 700.00			Average
NCACSP	Vegetation-establish, hydroseed	Acre	\$ 1,700.00			Average
NCACSP	Vegetation-mulch, small grain straw	Acre	\$ 550.00			Average
CCAP	Wetland Plants Installed	Each	\$ 2.30			Average

### Wetland Plants List

#### Suggested Species for Wetland Shelf

#### Riparian Herbaceous Cover (Buffer) for Drainage Systems

Arrow arum	Peltandra virginica
Broad leaf arrowhead	Sagittaria spp.
Southern blue flag,	Iris virginica
Cattail	Typha latifolia
Lizard's tail	Saururus cernuus
Pickerelweed	Pontederia cordata
Spatterdock	Nuphar advena
Bulrush	Scirpus spp.
Sawgrass	Cladium mariscus jamaicense
Sedge	Carex Carex spp.
Spike Rush	Eleocharis spp.
Black needle rush	Juncus roemerianus
Rush	Juncus spp.
Giant Cane	Arundinaria gigantean
Giant Cordgrass	Spartina cynosuroides
Salt Meadow Cordgrass	Salt Meadow Spartina patens
Smooth Cordgrass	Spartina alterniflora
Rice Cutgrass	Leersia oryzoides

-Agriculture Cost Share Program

## Wetland Filters for Drainage Systems (Constructed Wetland)

### Definition/Purpose:

A wetland constructed within an existing drainage system to reduce the concentration of targeted pollutants (nitrogen, phosphorus, sediment) in drainage waters from runoff or subsurface flows before reaching creeks or streams in an effort to address watershed and regional water quality issues.



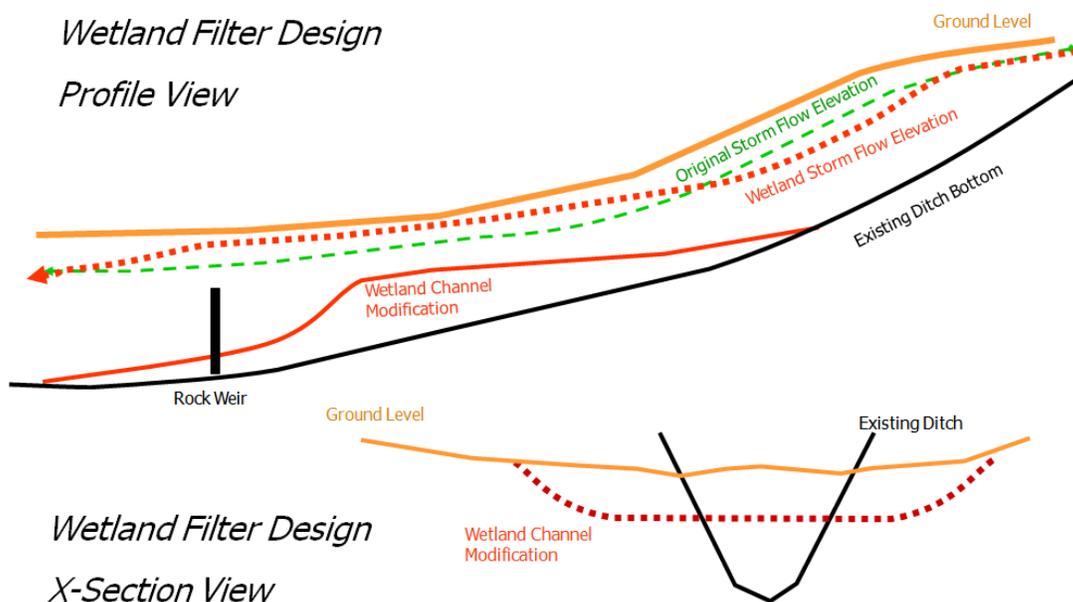
### Policies:

1. Wetland filters within existing drainage systems are intended to address the water quality issues associated with uncontrolled and unfiltered drainage systems that carry water borne pollutants (nitrogen, phosphorus, and sediment) directly to creeks, streams, and rivers.

2. Wetland filters will be planted with four or more species of trees and emergent vegetation (Refer to attached Wetland Plant List). These species must emulate the indigenous wetland vegetation within the watershed. Initial planting will be at a spacing of one plant per 10 square feet. Wetland plants can be transferred from sources within the watershed (dug and replanted), or purchased from a nursery source.
3. For future maintenance, the concentration and type of wetland plants found is expected to change with seasonal and environmental conditions. Any natural occurring density, variance, or spatial distribution of population is acceptable for wetland specifications.



#### 4. Wetland Filter Design



Wetland Filter Design Considerations:

- Watershed scale modeling (utilizing HEC-RAS, etc) will be performed to determine weir configurations that reflect upstream drainage considerations.
- Maintain stagnant water levels 0.5 to 1.5 feet deep in the wetland area.

5. Wetland filters must be complimented with water control structures (usually Rock Weirs).



6. BMP life expectancy 10 years.

## Cost Share Components Needed for Wetland Filter For Drainage Systems (Constructed Wetland)

Wetland Filter For Drainage Systems (Constructed Wetland)						
Existing Program List	Component	Unit Type	Unit Cost	Maximum Cost Share	Minimum Cost Share	Cost Type
NCACSP	Excav. w/spoil remove	CuYd	\$ 2.20			Average
NCACSP	Grading-light (1-3 in)	Acre	\$ 1,700.00			Average
NCACSP	Vegetation-bag lime, seed & fert	Acre	\$ 700.00			Average
NCACSP	Vegetation-establish, hydroseed	Acre	\$ 1,700.00			Average
NCACSP	Vegetation-mulch, small grain straw	Acre	\$ 550.00			Average
CCAP	Wetland Plants Installed	Each	\$ 2.30			Average
NCACSP	Vegetation-Bare Root Seedlings	Each	\$ 1.80			Average

**Wetland Plants List - Wetland Filters for Drainage Systems**  
**Suggested Plantings\***

- Arrow arum *Peltandra virginica*
- Broad leaf arrowhead *Sagittaria* spp.
- Southern blue flag, *Iris virginica*
- Cattail *Typha latifolia*
- Lizard's tail *Saururus cernuus*
- Pickerelweed *Pontederia cordata*
- Spatterdock *Nuphar advena*
- Bulrush *Scirpus* spp.
- Sawgrass *Cladium mariscus jamaicense*
- Sedge *Carex* *Carex* spp.
- Spike Rush *Eleocharis* spp.
- Black needle rush *Juncus roemerianus*
- Rush *Juncus* spp.
- Giant Cane *Arundinaria gigantea*
- Giant Cordgrass *Spartina cynosuroides*
- Salt Meadow Cordgrass *Spartina patens*
- Smooth Cordgrass *Spartina alterniflora*
- Rice Cutgrass *Leersia oryzoides*
- Black gum *Nyssa sylvatica*
- Swamp black gum *Nyssa biflora*
- Water tupelo *Nyssa aquatica*
- Bald Cypress *Taxodium distichum*

\*(Recommended species for Wetland Filters for Drainage Systems. Plantings should reflect the indigenous plants within the watershed)

**Windbreak Establishment  
(Trees, Shrubs, Grasses and Wildlife Plantings)**

Definition/Purpose

A Windbreak practice means the establishment of single or multiple rows of trees, shrubs or wildlife plantings in linear configurations to reduce wind soil erosion, protect plants from wind related damage, provide shelter for structures, animals and people, enhance wildlife habitat, provide noise and visual screens, improve air quality by reducing and intercepting air borne particulate matter, chemicals and odors, improve irrigation efficiency, increase carbon storage in biomass and soils, and reduce energy use.

Policies

1. Windbreak Establishment can only be used on lands used for agricultural purposes. Headquarters, livestock and agricultural storage areas that are for the purpose of agricultural production qualify if a water quality issue is identified.
2. The use native evergreen tree, evergreen shrub and grass species is required.
3. This practice should not be used over current easement areas, such as utility easements, unless a legal encroachment agreement is obtained.
4. This practice is allowed for wildlife corridors, however, soil erosion and nutrient reduction benefits are required.
5. Cost Share Program funds can be used on land eroding at less than “T” due the reduction of applied nutrients in the area of the practice.
6. Cost Share Program funds should only be used for establishment of perennial grasses. If annuals are incorporated in the mix, they are done at the landowner’s expense and should not adversely affect the vitality of the perennial species.
7. Minimum life of the practice is 10 years.
8. A mix of tree species should be used to insure continued protection from ground level upward. (example: Loblolly Pine with Eastern Red Cedar)
9. If this practice is used for wildlife corridors, it must connect at each end to an established habitat area.

10. All uses of this practice must tie to a water quality benefit, even if this is a subset benefit to the producers need. (example: Wildlife corridor 300' L X 30'W = .2 ac NLEW, WEPS and RUSLE2 reductions)
11. Native Grasses can be used for removal of airborne particulates and ammonia from animal operation fan areas.

### Specifications

NRCS Technical Guide, Section IV, Specification #380 (Windbreak/Shelterbelt Establishment).

### Cost Shared Rates

1. Planting
  - a. 1 Row (Shrub or Surface to Top Coverage, ie Eastern Red Cedar) .52/ft @ 75%
  - b. 2 Row (1 Row Tree, 1 row Shrub or Surface to Top Coverage) .64/ft @ 75%
  - c. 3 or More Rows ( at least 1 row Surface to Top Coverage) 1.20/ft @ 75%
  - d. Native Grasses 3.05/plt@75%



4300' Total  
Windbreaks



- Windbreaks have a current NRCS Standard – Code 380 (last revised 12/11)
- Multiple benefits
  - Soil erosion control (wind)
  - Nutrient loss reduction (NLEW/PLAR)
  - Wildlife corridors
  - Microenvironments
  - Carbon Storage
  - Ammonia sequestration
  - Floor control
  - Plant damage

Variations from NRCS standard

- Requirement of native species
- Requirement of evergreen shrubs and trees
- Requirement of ground to top coverage from selected species
- Requirement of perennial grass species
- Use of native grasses for animal operation fan areas

Standard windbreak

An Example of the Effects of a Windbreak on Wind Speed.

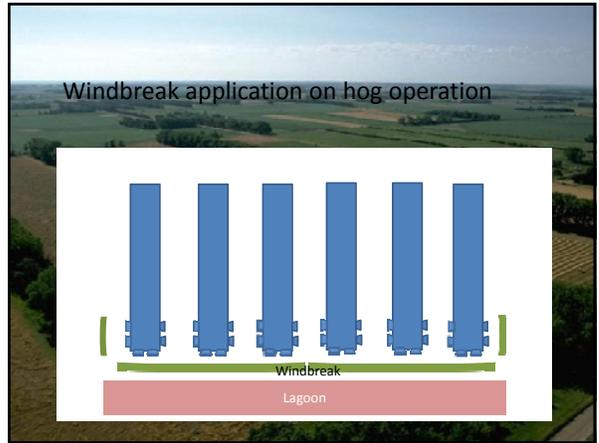
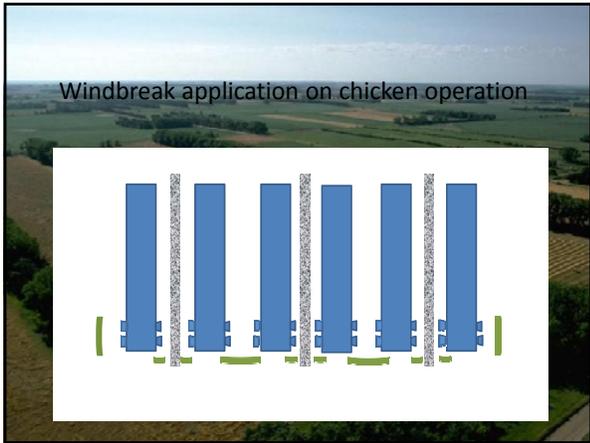


Cost Share Rates for Windbreaks

- 1 Row (Shrub or Surface to Top Coverage, ie Eastern Red Cedar) = \$52/ft @ 75%
- 2 Row (1 Row Tree, 1 row Shrub or Surface to Top Coverage) = \$64/ft @ 75%
- 3 or More Rows (at least 1 Row Surface to Top Coverage) = 1.26/ft @ 75%
- Native Grasses = [LINK HERE](#)

Native grasses on animal operations

10' x 18" spacing, 30' long = 60 plants @ 3.05 = \$183/100' length  
 Cost of windbreak = \$137/\$165



## Lagoon Biosolids Removal ~~Incentive~~ Practice

### Definition/Purpose

Lagoon Biosolids Removal means removing accumulated biosolids from active lagoons. ~~to restore required treatment volume at on-going operations.~~ The biosolids will be properly utilized on offsite farmland or processed to a value-added product, including energy production, to reduce ~~nutrient impacts~~ nutrient impacts from nitrogen only based planning and impacts of phosphorus accumulation on application land. Lagoon Biosolids Removal ~~Incentive Practice~~ payments shall be limited to cost share percent of actual amount not to exceed \$30,000 per operation. ~~\$15,000 in a lifetime.~~ (DIP)

### Policies

1. The *generator* of the waste product will be the applicant. A *generator* is an independent or contract poultry or livestock grower.
2. This ~~incentive practice~~ shall only be used to remove biosolids when a biosolids survey indicates that accumulation needs to be managed. ~~that biosolids have accumulated within the required treatment volume.~~
3. This ~~incentive practice~~ shall not be used to apply biosolids at a rate exceeding the following maximums:
  - a. For sites with a phosphorus loss potential (per PLAT) of low or medium, application shall not exceed the phosphorus ~~requirements~~ removal rate for the next two crops,
  - b. For sites with a phosphorus loss potential (per PLAT) of high, application shall not exceed the phosphorus ~~requirements~~ removal rate for the next crop,
  - c. For sites with a phosphorus loss potential (per PLAT) very high, no application allowed.
  - d. Planning should project the impact of the sludge application to heavy metal critical levels based on soil index.
  - e. In addition, ~~the nitrogen~~ application shall not exceed the nitrogen requirement of the next receiving crop.
4. It is highly recommended that sludge be applied only to fields that are not used for continual animal waste application.
- 4.5. If required, a Manure/Litter Shared Responsibility Agreement must be used with each entity receiving transported biosolids.
- 5.6. Applicants who engage in value-added processing onsite are eligible ~~to receive the incentive for this practice.~~ However, a cooperator who receives state cost share for any components of their value-added processing system (e.g., litter or manure composter, pelletizer) is not eligible for this ~~practice~~ e-incentive.

~~6.7.~~ An applicant may receive cost share for waste storage structures, waste treatment structures, and solids separation systems and remain eligible ~~to receive this incentive for this practice~~. An ~~applicant~~ applicant, who received cost share for application systems previously, may be eligible ~~to receive this incentive for this practice~~.

~~8.~~ An applicant may not receive cost share for this BMP and still be eligible for the manure litter transport incentive BMP.

~~7.9.~~ Payments will be based upon the amount of biosolids transported for offsite use or processing. Requirements for payment include:

- a. The applicant must present a record of the amount of ~~litter~~/manure transported to each receiving entity using the appropriate NC form.
- b. If the biosolids are being transferred to a manure hauler or other third party applicator or processor, the applicant must present:
  - i. NMP from each entity receiving biosolids for land application compliant with the NRCS Standard 590 and in accordance with the 1217 Interagency Committee Guidance and/or other applicable rules. A Technical Specialist with the Waste Utilization Planning/ Nutrient Management designation must approve the nutrient management plan.
  - ii. The receiving entity must also provide the applicant with records using appropriate NC forms indicating the fields to which biosolids has been applied and any other records required by 1217 Interagency Committee Guidance and/or other applicable rules. (Receiving entity must be in compliance with all applicable requirements)
  - iii. Certification from each entity receiving biosolids for processing that the waste has been processed and that the product has been transported from the processing facility for use.

~~8.10.~~ Biosecurity measures outlined by the NC Department of Agriculture and Consumer Services must be followed for all transported biosolids.

~~9.11.~~ BMP life is one year.

~~10.12.~~ Soil loss is not required. Include the amount of nitrogen and phosphorous units that will be properly managed under the transportation incentive.

### Specifications

N.C. NRCS Technical Guide, Section IV, Specification #633 (Waste Utilization), Specification #590 (Nutrient Management), 1217 Interagency Committee Guidance.

For Average Cost Manual:

#### VI. Lagoon Biosolids Removal ~~Incentive~~ Practice

The ~~costs share~~incentive rate will be \$0.~~025~~04 per gallon of sludge removed ~~up to \$15,000 in a lifetime per applicant.~~ not to exceed \$30,000 per operation.

## Lagoon Biosolids Removal Practice

### Definition/Purpose

Lagoon Biosolids Removal means removing accumulated biosolids from active lagoons. The biosolids will be properly utilized on offsite farmland or processed to a value-added product, including energy production, to reduce nutrient impacts from nitrogen only based planning and impacts of phosphorus accumulation on application land. Lagoon Biosolids Removal Practice payments shall be limited to cost share percent of actual amount not to exceed \$30,000 per operation.  
(DIP)

### Policies

1. The *generator* of the waste product will be the applicant. A *generator* is an independent or contract poultry or livestock grower.
2. This practice shall only be used to remove biosolids when a biosolids survey indicates that accumulation needs to be managed.
3. This practice shall not be used to apply biosolids at a rate exceeding the following maximums:
  - a. For sites with a phosphorus loss potential (per PLAT) of low or medium, application shall not exceed the phosphorus removal rate for the next two crops,
  - b. For sites with a phosphorus loss potential (per PLAT) of high, application shall not exceed the phosphorus removal rate for the next crop,
  - c. For sites with a phosphorus loss potential (per PLAT) very high, no application allowed.
  - d. Planning should project the impact of the sludge application to heavy metal critical levels based on soil index.
  - e. In addition, the application shall not exceed the nitrogen requirement of the next receiving crop.
4. It is highly recommended that sludge be applied only to fields that are not used for continual animal waste application.
5. If required, a Manure/Litter Shared Responsibility Agreement must be used with each entity receiving transported biosolids.
6. Applicants who engage in value-added processing onsite are eligible for this practice. However, a cooperator who receives state cost share for any components of their value-added processing system (e.g., litter or manure compost, pelletizer) is not eligible for this practice.
7. An applicant may receive cost share for waste storage structures, waste treatment structures, and solids separation systems and remain eligible for this practice. An

applicant, who received cost share for application systems previously, may be eligible for this practice.

8. An applicant may not receive cost share for this BMP and still be eligible for the manure litter transport incentive BMP.
9. Payments will be based upon the amount of biosolids transported for offsite use or processing. Requirements for payment include:
  - a. The applicant must present a record of the amount of manure transported to each receiving entity using the appropriate NC form.
  - b. If the biosolids are being transferred to a manure hauler or other third party applicator or processor, the applicant must present:
    - i. NMP from each entity receiving biosolids for land application compliant with the NRCS Standard 590 and in accordance with the 1217 Interagency Committee Guidance and/or other applicable rules. A Technical Specialist with the Waste Utilization Planning/ Nutrient Management designation must approve the nutrient management plan.
    - ii. The receiving entity must also provide the applicant with records using appropriate NC forms indicating the fields to which biosolids has been applied and any other records required by 1217 Interagency Committee Guidance and/or other applicable rules. (Receiving entity must be in compliance with all applicable requirements)
    - iii. Certification from each entity receiving biosolids for processing that the waste has been processed and that the product has been transported from the processing facility for use.
10. Biosecurity measures outlined by the NC Department of Agriculture and Consumer Services must be followed for all transported biosolids.
11. BMP life is one year.
12. Soil loss is not required. Include the amount of nitrogen and phosphorous units that will be properly managed under the transportation incentive.

### Specifications

N.C. NRCS Technical Guide, Section IV, Specification #633 (Waste Utilization), Specification #590 (Nutrient Management), 1217 Interagency Committee Guidance.

For Average Cost Manual:

#### VI. Lagoon Biosolids Removal Practice

The costs share rate will be \$0.025 per gallon of sludge removed not to exceed \$30,000 per operation.

<b>Company</b>		<b>Elk Mount Seed</b>	<b>Madison County</b>	<b>Cover Crop Solutions</b>	<b>Green Cover Seed</b>	<b>AgCare Products (ACPI)</b>	<b>avg</b>
<i>Cover Crop</i>	<i>unit</i>	<i>Price</i>	<i>Price</i>	<i>Price</i>	<i>Price</i>		
Winter Rye	lb	0.29	0.3	na	0.31	0.32	0.305
winter wheat	lb	0.28	0.27	na	0.61	0.29	0.3625
Winter pea	lb		0.78	0.64	0.91	0.58	0.7275
Crimson clover (coated)	lb		2	2.05	2.06	2.34	2.1125
Hairy vetch	lb		2.2	2.2	2.26	1.93	2.1475
Nitro radish		2.98		3.45	2.91	3.24	3.145
Oats	lb		0.78	na	0.65	0.3	0.576667
Triticale	lb			0.64	0.69	0.47	0.36
Rye	bu		17	na	na		
Wheat	bu		16	na	na		

<http://www.unc.edu/~rowlett/units/scales/bushels.html>