


## 7. Drainage Water Management



### Purpose

1. Encourage producers to install and manage water control structures
2. Reduce nutrient loading to downstream receiving waters

### Applicability


Applies to cropland acres in the 14-county project area. Acres receiving payment under any other county, state or federal program for Drainage Water Management (EQIP, LE-NRP, etc.) are not eligible.

### Specifications

1. Outlet pipe needs to be a minimum of six inches in diameter
2. Outlet structures need to be installed per engineering plan
3. Minimum 10 acres controllable area based on a 30 inches control height with out submain installation
4. Minimum 20 acres controllable area based on a 30 inches control height with submain installation
5. Structures should not be installed on a main tile that drains another landowners land, unless written permission is obtained from the upstream landowners
6. Producer will provide SWCD or DSWC access to the control structure

### Technical Responsibilities

#### Producer Responsibilities

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1. Provide tile maps and any necessary written permissions from upstream landowners
  2. Install structure per provided design
  3. Manage structure in accordance with provided management plan and provide documentation annually for four years

#### SWCD Responsibilities

1. Receive application from the producer, document plan on BMP Worksheet, and complete contract
2. Locate sites to install practices
3. Enter all required information into Beehive
4. Obtain landowner agreement
5. Obtain current drainage tile plan
6. Design and lay out structures
7. Oversee construction
8. Verify structures are closed per the provided management plan annually for four years
9. Process payment to producer

### Participant Payments

Producer will receive \$1,500 per site without submain installation. Producer will receive \$4,000 per site with submain installation. Producer will receive an additional \$200/structure/year, in years two, three and four, after operation and management records have been reviewed and certified by the SWCD.

## OPERATION AND MAINTENANCE DRAINAGE WATER MANAGEMENT

Landowner/Operator \_\_\_\_\_

Practice Location \_\_\_\_\_

County \_\_\_\_\_ Farm/Tract No. \_\_\_\_\_

Prepared By \_\_\_\_\_ Date \_\_\_\_\_

Inspections and maintenance are required to achieve the intended function, benefits, and life of the practice. The landowner/operator is responsible to establish and implement an inspection and maintenance program. Items to inspect and maintain during the 10-year design life of the practice include, but are not limited to, the following:

1. Inspect after significant storm events and at least annually to identify repair and maintenance needs.
2. Lubricate seals on boards annually with vegetable-based lubricant, dishwashing soap or lithium grease approved by the manufacturer.
3. Protect the structure from damage by farm equipment and livestock.
4. Remove accumulated debris from the pipe inlet, structure and outlet.
5. Fertilize grassed areas to maintain vigorous vegetative cover.
6. Check frequently for burrowing animals. When found, remove the burrowing animals, replace embankment materials, and reseed.
7. Maintain good vegetation on the berms and dikes. If mowing, wait until after nesting birds have hatched (about August 1). Do not burn.
8. Control tree and bush growth by hand cutting, mowing or chemicals. Avoid damaging grass with herbicide sprays.
9. Repair any settlement or erosion that occurs along the pipes and reseed. If this problem persists, evaluate the pipe for leakage and erosion of the fill material into or along the pipe.
10. Repair any scouring that occurs directly upstream or downstream of the pipe with rock riprap.
11. During the non-growing season (after harvest of crops and continuing until April 1<sup>st</sup>) a sufficient number of boards are placed in the structure to raise the outlet elevation to 12 inches below the ground surface as measured adjacent to the structure. On or about April 1<sup>st</sup>, boards are removed. After side-dressing corn (use a similar calendar date for soybeans) install a sufficient number of boards to raise the outlet elevation to 18 inches below the ground surface. These boards should remain in place until black layer development in corn or until September 15 for soybeans. At that time, boards are removed. Summer operation is optional for the producer. Repeat annually.
12. Summer rains will generally not cause the water table to rise into the root zone. Rainfall intensity greatly exceeds infiltration during summer thunderstorms, and excess water runs off rather than causing a water table rise. Infiltration through macropores that may cause some drainage discharge from the unmanaged field does not establish a watertable in the soil. This water may fill the drainage pipes in the managed field, but it will soon soak away from the drainage pipes and replenish the crop available water within the soil. In the event of substantial rainfall, especially from two separate storms within a short interval, it will be prudent to observe whether water is flowing over the top of the highest board and whether any water is ponded on the soil surface in the lowest areas in the field. If surface water is evident, one or more boards can be removed but these boards should be reinstalled as soon as the surface water is gone.