COTTONWOOD COUNTY DRAINAGE MANUAL

Disclaimer

This document is intended to be used as guidance. Minnesota Law will take precedence if there is a conflict between this document and Minnesota Law. This document is subject to change at any time by Cottonwood County. Questions and concerns should be directed to County Drainage Staff.

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This Document was prepared by the Cottonwood County Drainage Inspector.

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Introduction

Public Drainage Systems are petitioned for and approved for establishment. Cottonwood County has a total of 86 different drainage systems within the county. 33 of these are County Ditch Systems, 30 Judicial Ditch Systems, and 23 Joint Drainage Systems.

The difference between a system that is listed as a County System compared to a Judicial System is that with a Judicial System it had a District Court decide if the system should be ordered during the establishment period. Joint Drainage Systems are systems that cross county lines. The county shares systems with Murray, Redwood, Brown, Watonwan, Jackson, and Martin counties.

The oldest drainage systems in operation in the county were established in 1904. Most of the Drainage Systems in the county were established before 1930, but there was also another group of Drainage Systems established in the 40's and 50's. Since that time there have been improvements and larger repairs done, but most of the work has been smaller repairs and Drainage System maintenance.

Definitions

The definitions found in Minnesota Statute 103E.005 are used in this document. Definitions not found in 103E.005 are found below.

Drainage Inspector: A person appointed by the Drainage Authority, pursuant to Minnesota Statute 103E.065, to examine, inspect, and administer the Drainage Systems designated by the Drainage Authority.

Best Management Practices: A structural or non-structural practice that minimizes water quality and/or quantity (peak flow or volume reduction) impacts within a public drainage system or its watershed and/or downstream. (Minnesota Drainage Manual)

Benefits: Refers either to the impact a drainage system has on land in terms of improving the market value of the land or the impact (and costs associated with that impact) that the land has on the drainage system because of land use that accelerates drainage, transports drainage or increases volume demand in a drainage system. (Minnesota Drainage Manual)

Viewers: "Viewers" means three persons appointed by the drainage authority to determine and report the benefits and damages to all property affected by the proposed drainage project, or existing drainage system, who are disinterested residents of the state qualified to assess benefits and damages. (Minnesota Statute 103E.305).

Inspections

The Drainage Inspector is responsible for all inspections of the Drainage Systems. Any system that has an open ditch portion will be put on a five-year inspection rotation. Inspections may be done at earlier intervals if there is an issue. The Drainage Inspector shall keep a record of all inspections, repairs, and condition reports done on the Drainage Systems. Drainage Inspector will also inspect the vegetative strip buffers along the open ditch portions, and make sure they are adequate and not in violation. Repair decisions will be based on weighing factors such as maintenance history, cost, size and scope of repair and other relevant factors. Inspections will be made during the progress of a repair and after it has been completed to ensure that the work has been completed in a satisfactory matter.

Violations

Violation reports will be prepared by the Drainage Inspector. This report will include extensive information to identify the violation. The report will include photos, GPS locations, and a written description entailing the nature of the violation and the repairs needed to remedy the situation. **Failure to fix the violations defined in Minnesota Statute 103E.081**

is a misdemeanor and subject to criminal prosecution. The Drainage Authority reserves the right to seek enforcement of violations in accordance with Minnesota Statute 103E.085.

Considerations Before Drainage Work is Done

According to **Minnesota Statute 103E.015 Subdivision 1:** Environmental, land use, and multipurpose water management criteria:

(1) private and public benefits and costs of the proposed drainage project;

(2) alternative measures, including measures identified in applicable state-approved and locally adopted water management plans, to:

(i) conserve, allocate, and use drainage waters for agriculture, stream flow augmentation, or other beneficial uses;

(ii) reduce downstream peak flows and flooding;

(iii) provide adequate drainage system capacity;

(iv) reduce erosion and sedimentation; and

(v) protect or improve water quality;

(3) the present and anticipated land use within the drainage system project or system, including compatibility of the project with local land use plans;

(4) current and potential flooding characteristics of property in the drainage project or system and downstream for 5-, 10-, 25-, and 50-year flood events, including adequacy of the outlet for the drainage project;

(5) the effects of the proposed drainage project on wetlands;

(6) the effects of the proposed drainage project on water quality;

(7) the effects of the proposed drainage project on fish and wildlife resources;

(8) the effects of the proposed drainage project on shallow groundwater availability, distribution, and use; and

(9) the overall environmental impact of all the above criteria.

Drainage System Repairs

The Drainage Authority has the responsibility of making decisions regarding repairs on the Public Drainage System. Repairs are anything that is done to maintain a Drainage System to the state of how it was originally constructed.

Procedure to Initiate Repairs

Repairs are different compared to other proceedings that happen for a Drainage System, and do not always require a petition for them to occur. Minnesota Statue 103E.705 outlines the repair procedure and Minnesota Statue 103E.715 outlines the repair by petition. When it comes to repairs it is more common to have the Drainage Authority order the repair without aa petition under Minnesota Statute 103E.705. If the cost of a repair is projected to be above $175,000 then an engineer will be appointed, and the project will have to go out on bids. The only exception to this rule is for anything that is done after a natural disaster.

Replacement of Drain Tile

Drain tile will be replaced with the same size or nearest size that is readily available. The new drain tile will be installed to the same depth and as close as possible to the location of the original tile. There are a few exceptions:

Minnesota Statute 103E.701 Subdivision 6 allows the realignment of a drainage system for a repair if it is for the "preservation, restoration, or enhancement of wetlands."

Minnesota Statute 103E.701 Subdivision 1 allows: (1) incidental straightening of a tile system resulting from the tile-laying technology used to replace tiles; and (2) replacement of tiles with the next larger size that is readily available, if the original is not readily available.

Open Ditch Repairs

Open ditch cleaning is recommended every 10 years. Clean outs will occur on a needed basis and recommendation from the drainage inspector. Most of these instances will be certain lengths of ditch where the water has become impeded by sloughing of banks or increased sediment deposits. If the open ditch system has accumulated sediment along the channel bottom above legal grade, a larger portion of the open ditch will need to be cleaned. Ditch bank stabilization as well as fixing of tile outlets into the open ditch will be fixed when they occur.

Drainage System Improvements

Minnesota Statute 103E.215 Subdivision 2 defines a Drainage System Improvement as "the tiling, enlarging, extending, straightening, or deepening of an established and constructed drainage system including construction of ditches to reline or replace tile and construction of a tile to replace a ditch."

Petition Requirements

According to **Minnesota Statute 103E.215 Subdivision 4** "A petition must be signed by:

(1) at least 26 percent of the owners of the property affected by the proposed improvement;

(2) at least 26 percent of the owners of the property that the proposed improvement passes over;

(3) the owners of at least 26 percent of the property area affected by the proposed improvement; or

(4) the owners of at least 26 percent of the property area that the proposed improvement passes over."

After the petition is signed it must be filed with the Cottonwood County Auditor Treasurer. What must be included in the petition is:

1. Designate the drainage system proposed to be improved by number or another description that identifies the drainage system.

2. State that the drainage system has insufficient capacity or needs enlarging or extending to furnish sufficient capacity or a better outlet.

3. Describe the starting point, general course, and terminus of any extension.

4. Describe the improvement, including the names and addresses of owners of the 40-acre tracts or government lots and property that the improvement passes over.

5. State that the proposed improvement will be of public utility and promote public health.

6. Contain an agreement by the petitioners that they will pay all costs and expenses that may be incurred if the improvement proceedings are dismissed.

Laterals

A lateral is any drainage construction by branch or extension. According to **Minnesota Statute 103E.225 Subdivision 1: Petition.** (a) Persons that own property in the vicinity of an existing drainage system may petition for a lateral that connects their property with the drainage system. The petition must be signed by at least 26 percent of the owners of the property or by the owners of at least 26 percent of the area of the property that the lateral passes over. The petition must be filed with the auditor, or for property in more than one county, the petition must be filed with the auditor of the county with largest property area to be passed over by the lateral. The petition must:

(1) describe in general terms the starting point, general course, and terminus of the proposed lateral;

(2) describe the property traversed by the lateral including the names and addresses of the property owners from records in the county assessor's office;

(3) state the necessity to construct the lateral;

(4) state that, if constructed, the lateral will be of public benefit and utility and promote the public health;

(5) request that the lateral be constructed and connected with the drainage system; and

(6) provide that the petitioners will pay all costs incurred if the proceedings are dismissed or if a contract for the construction of the lateral is not awarded

(b) The petitioners shall give the bond required by section **103E.202, Subdivision 5**

Drainage Assessments

Drainage System costs are determined and approved by the Drainage Authority and assessed by the Auditor-Treasurer's office. The size of the assessment depends on what is already in the Drainage Systems fund balance and what the system's expenses were for the year. An always upkept maintenance fund allows certain repairs and other maintenance to be done without having an extra assessment. Cottonwood County has not currently established a strategy for annual drainage assessments. Assessments will vary and will be done based on the current and future needs of the drainage system to make sure that the system continues to benefit the landowners that utilize it.

Redetermination of Benefits

Is a process to ensure proper accounting and identifying all lands that benefit from the use of the Drainage System as well as the different values of drainage associated with those lands. The values that are established are what is used to determine what each parcel owes for an assessment. According to the Minnesota Public Drainage Manual, "Benefits refers either to the impact a Drainage System has on land in terms of improving the market value of the land or the impact (and costs associated with that impact) that the land has on the Drainage System because of land use that accelerates drainage, transports sediment, or increases volume demand in a drainage system".

The individuals tasked with undertaking the redetermination of benefits are called viewers. Viewers must be individuals who are impartial to the drainage systems. During the process the viewers will use aids such as Lidar radar, County GIS maps, USDA soil surveys and visual inspection of each 40-acre parcel or less. This is what helps put the land into its drainage classification. This would be established benefit classification before drainage. The four classes are A, B, C and D. "A Class" is frequently flooded or ponded with no agricultural use, "B Class" is seasonably flooded, but is usable for hay or pasture ground, "C Class" is normally farmable but having high water table limitations and "D Class" are upland areas not requiring drainage but having improved production or contributing to needed capacity.

Buffer Acquisition

One step in the redetermination process is the acquisition of a 16.5-foot buffer easement on each side of the ditch. The easement must remain in perennial vegetation. The land may be used for other agricultural activities, but they must not be harmful to the vegetation or the open ditch. All the benefiting landowners in the system pay the "damages" or costs of acquiring the easement, with payment made to landowners who own these buffers.

Removing Property from Drainage System

According to **Minnesota Statute 103E.805 Subdivision 1:** "After construction of a drainage system, an owner of benefited property may petition the drainage authority to remove property from the drainage system." As with other proceedings that involve a petition, this petition must be filed with the county auditor. If it is a joint drainage system, it must be filed in the county with the largest area of property in the drainage system.

Minnesota Statute 103E.805 Subdivision 3 states that " (a) when the petition is filed, the drainage authority in consultation with the auditor or the secretary shall set a time and location for a hearing on the petition and shall give notice of the hearing by mail to the owners of all property benefited by the drainage system, and either in a newspaper of general circulation within the affected drainage area or by publication on a website of the drainage authority.

(b) At the hearing, the drainage authority shall make findings and shall direct, by order, that the petitioners' property be removed from the drainage system if the drainage authority determines:

(1) that the waters from the petitioners' property have been diverted from the drainage system, or that the property cannot significantly or regularly use the drainage system;

(2) that the property is not benefited by the drainage system; and

(3) that removing the property from the drainage system will not prejudice the property owners and property remaining in the system.

The property that is removed is not affected by any later proceedings for the drainage system or any other assessments. The property is not released from assessments or drainage lien that was filed on or after the order for costs that occurred before the date of the order.

Best Management Practices

A best Management Practice is a structural or non-structural practice that minimizes water quality and/or quantity (peak flow or volume reduction) impacts within a public drainage system or its watershed and/or downstream. These practices can have a positive impact on the drainage system, the environment, and water quality. BMPs are of two types: on-system and off-system.

On-system BMPs

These can include any statute allowed or required practice. These would include vegetated buffer strips, grade control structures, side inlets, erosion control, multi-stage ditch, water

storage, restored wetland, culvert sizing, resloping and tile repair. Many of these practices do not have a design standard.

Off-System BMPs

These BMPs are located off the drainage system. These practices can be applied on fields and farms in the watershed of the system that will provide benefits downslope to the drainage system. These can include both structural and non-structural BMPs. Some examples are water and sediment control basins, grass waterways, drainage water management, nutrient management, cover crops and conservation tillage.

Building Structures over Tile Lines

Permanent structures of any type shall not be built over or near a public drain tile line. If a landowner does build a structure over or near a tile line, then they assume liability for damages that are caused by the failure of the drain tile line. The landowner is responsible for the costs of moving the drain tile line. Before anything is done the landowner must submit a plan showing the new location of the drain tile.

Bridges and Culverts

According to **Minnesota Statute 103.701 Subdivision 4:**

(a) Highway bridges and culverts constructed on a drainage system established on or after March 25, 1947, must be maintained by the road authority charged with the duty of maintenance under section **103E.525.**

(b) Private bridges or culverts constructed as a part of a drainage system established by proceedings that began on or after March 25, 1947, must be maintained by the drainage authority as part of the drainage system. Private bridges or culverts constructed as a part of a drainage system established by proceedings that began before March 25, 1947, may be maintained, repaired, or rebuilt and any portion paid for as part of the drainage system by the drainage authority.

(c) For a repair of a drainage system that has had redetermination of benefits under section **103E.351,** the drainage authority may repair or rebuild existing bridges or culverts on town and home rule charter and statutory city roads constructed as part of the drainage system and any portion of the cost may be paid by the drainage system.

Private Crossings and Culverts

Landowners who want to construct a new private crossing or culvert submit a request and get permission from the Drainage Authority prior to construction. The Drainage Authority may set the parameters of the new crossing or culvert and will inspect the project after it is completed. The Drainage Authority may also get a consultation from an engineer to make sure the proposed crossing or culvert will not impair the drainage system. If a culvert or crossing is improperly installed or installed without prior approval the Drainage Authority reserves the right to remove it at the landowners expense.

Beaver Control

When beaver dams are reported or discovered during an inspection of a drainage system, a trapper will be retained by the Drainage Authority to remove the problem beaver. It will be up to the trapper to get the appropriate approval from the DNR if trapping beavers out of season. Trappers should have their names registered with the Ditch Inspector. To be paid the trapper must have been directed by the Ditch Inspector to remove problem beavers from a specifically designated County Ditch.

Miscellaneous Drainage Issues

Fencing

No permanent fencing is allowed to be installed within 16.5 feet from the crown of the spoils. Gates may be installed on property line fences to allow acess for equipment during a repair of a drainage system.

Feedlot Runoff

Feedlot runoff is not allowed to be discharged into a drainage system. There must be considerable effort in the prevention of this happening.

Septic Systems

Septic Systems are not permitted to discharge into any drainage system.

Rock and Debris

Rocks and debris are prohibited from being dumped within the in-slope of a drainage ditch. This does not apply if it is being placed during a drainage project.

Livestock

Livestock are prohibited from drainage ditches, except at approved crossings. The locations of these crossings have to be approved by the Drainage Authority. It is preferred the livestock do not cross the open ditch by walking through the water, and should cross at an installed crossing. Livestock may graze along a dich and be watered by the ditch, but both of these must be controlled. Contact the Drainage Inspector to work out a grazing rotation.

Manure

Spreading and injection of manure follows the same guidelines as applications near streams and lakes. Manure must be spread 300 feet from the crown of the spoils and this is the distance stockpiled manure must be kept at.

Trees, Shrubs and Hedges

Trees, shrubs and hedges should be planted 50 feet away on either side of county tile lines. If a landowner does plant trees, shrubs and hedges over or near a tile line, then they assume liability for damages that are caused by the failure of the drain tile line.

Resources

2021 Minnesota Statutes Chapter 103E. Drainage

https://www.revisor.mn.gov/statutes/cite/103E

Le Sueur County Drainage Manual

https://www.lesueurcounty.gov/DocumentCenter/View/5845/Le-Sueur-County-Drainage-Manual_20240102?bidId=

Minnesota Public Drainage Manual

https://bwsr.state.mn.us/Minnesota-Public-Drainage-Manual

Redwood County Drainage Policy and Guidance

https://redwoodcounty-mn.us/wp-content/uploads/2020/04/Redwood-County-Ditch-Guidance-andPolicy-Version-1.5.pdf