

## Drainage Water Management (DWM) Plan Template Instructions

The data, maps, and specific information on the following pages are included as examples of what would be the minimum content found in a Drainage Water Management (DWM) Plan. Maps included in the final plan must be legible without magnification. The DWM Plan is a tool to ensure the proper application and implementation of Drainage Water Management and to identify fields that are best suited for the practice.

### Site Location and General Information

Cooperator Name	
County and Township	
Latitude and Longitude	
Farm Number	
Tract Number	
Crops in Rotation	
Contractor Name developing plan	
Date of Plan Development	

### Drainage Water Management Plan boundary

If the drainage area is shown on the soils map, include the following note can be included:

The total project drained area is the same as the boundary line shown in the soils map below.

### Objectives

- Improve water quality by reducing nitrate loading to surface waters.
- Improve the soil environment for vegetative growth.
- Reduce the rate of soil organic matter oxidation.
- Reduce wind and water erosion.
- Enable seasonal soil saturation and/or shallow flooding.
- Reduce drainage contribution to peak flows.

## Soils Map

Map Unit Symbol	Soil Name

## Existing or Proposed Tile Map

Add tile map(s) that includes the materials, diameters and locations of the laterals and mains. List the flowline elevation of any tile line that crosses the field boundary, upstream of any proposed control structure (depth and grade of tile lines or ditches not leaving the field not required.)

\_\_\_\_' Depth      \_\_\_\_' Spacing      Grade of Main = \_\_\_\_%

### Proposed Drainage System Installation

Component	Amount	Item
Total		

All corrugated plastic tubing is \_\_\_\_ inches in diameter except as noted.

## **Topographic Map**

The topographic map, on a maximum scale of 1:2,400, should show elevation contours on a 6-inch increment (tile map and topographic map need to be the same scale). The topographic map should include, at a minimum, all of the drained area covered by the drainage system.

## **Existing Tile**

Indicate whether the site has existing tile.

## **Wetland Map**

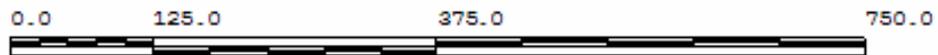
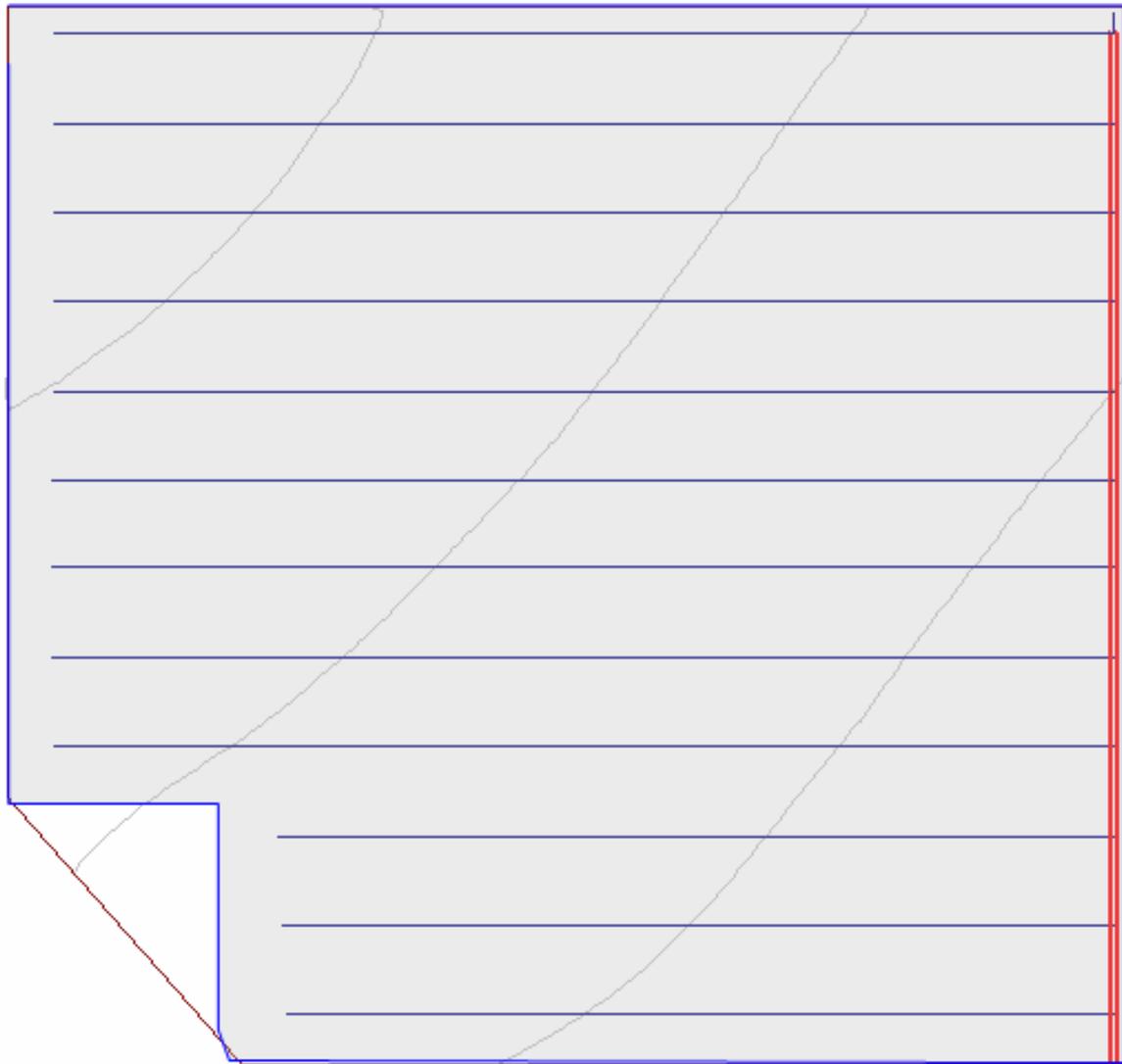
(If applicable)

Modification of drainage systems could affect the eligibility of the producer for USDA program benefits, if such modification results in negative impacts to wetlands. The DWM plan should include a map of any wetlands delineated on the site, to demonstrate that the proposed activities will not negatively affect the wetland functions. Site specific wetland determinations are completed by the local NRCS office on any land receiving USDA program benefits, and may be made available to the consultant with written permission from the landowner. More information about wetland compliance can be found at

<http://www.in.nrcs.usda.gov/technical/Wetland%20Science/wetland%20science.html>

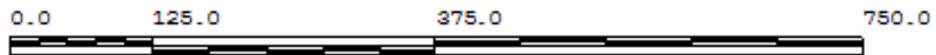
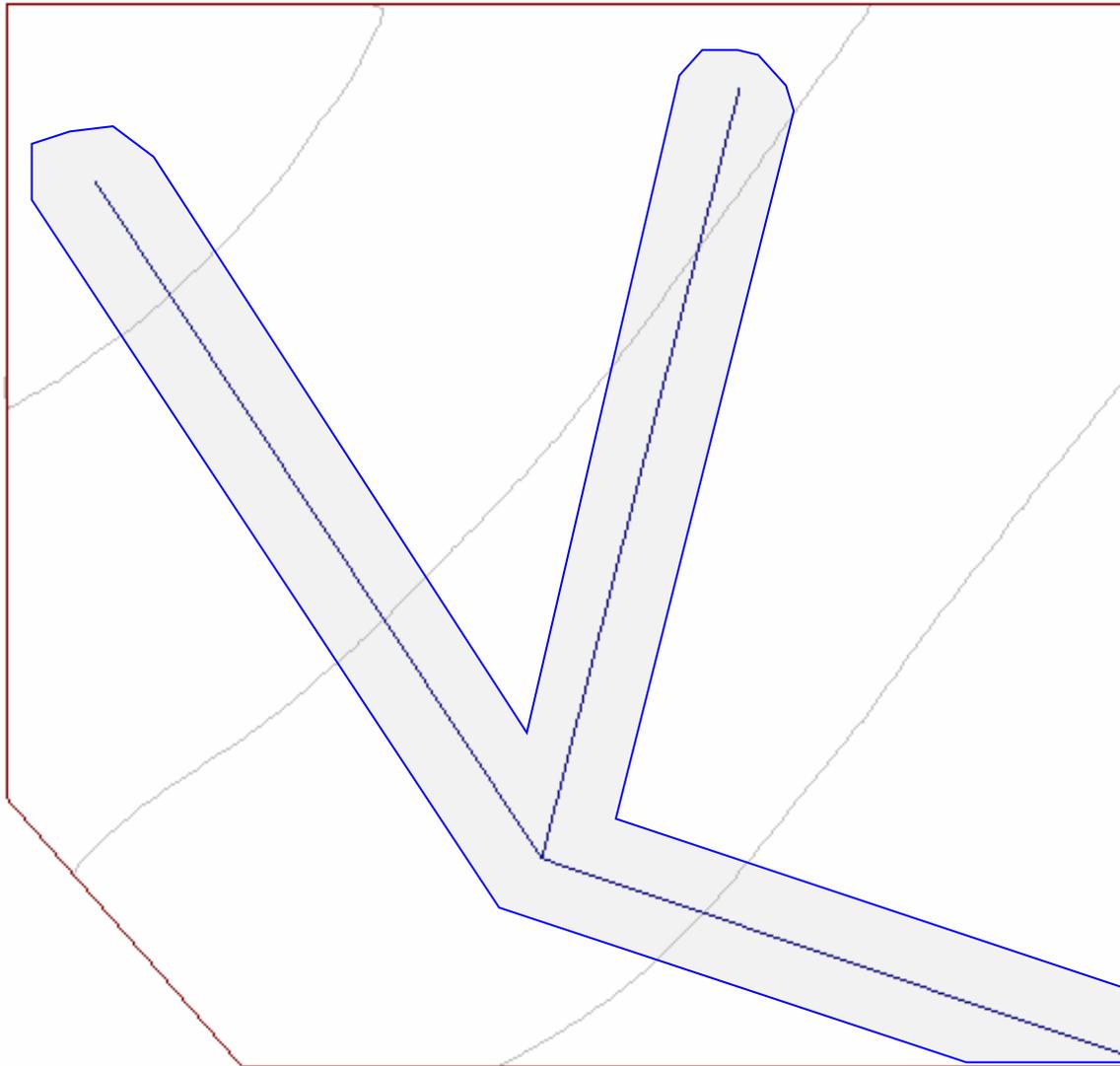
**Area Impacted by Tile**  
**EXAMPLE FOR PATTERNED SYSTEM**

Draw a line that is half the lateral spacing outside the boundary of all tile in the patterned system.



**Area Impacted by Tile**  
**EXAMPLE FOR RANDOM SYSTEM**

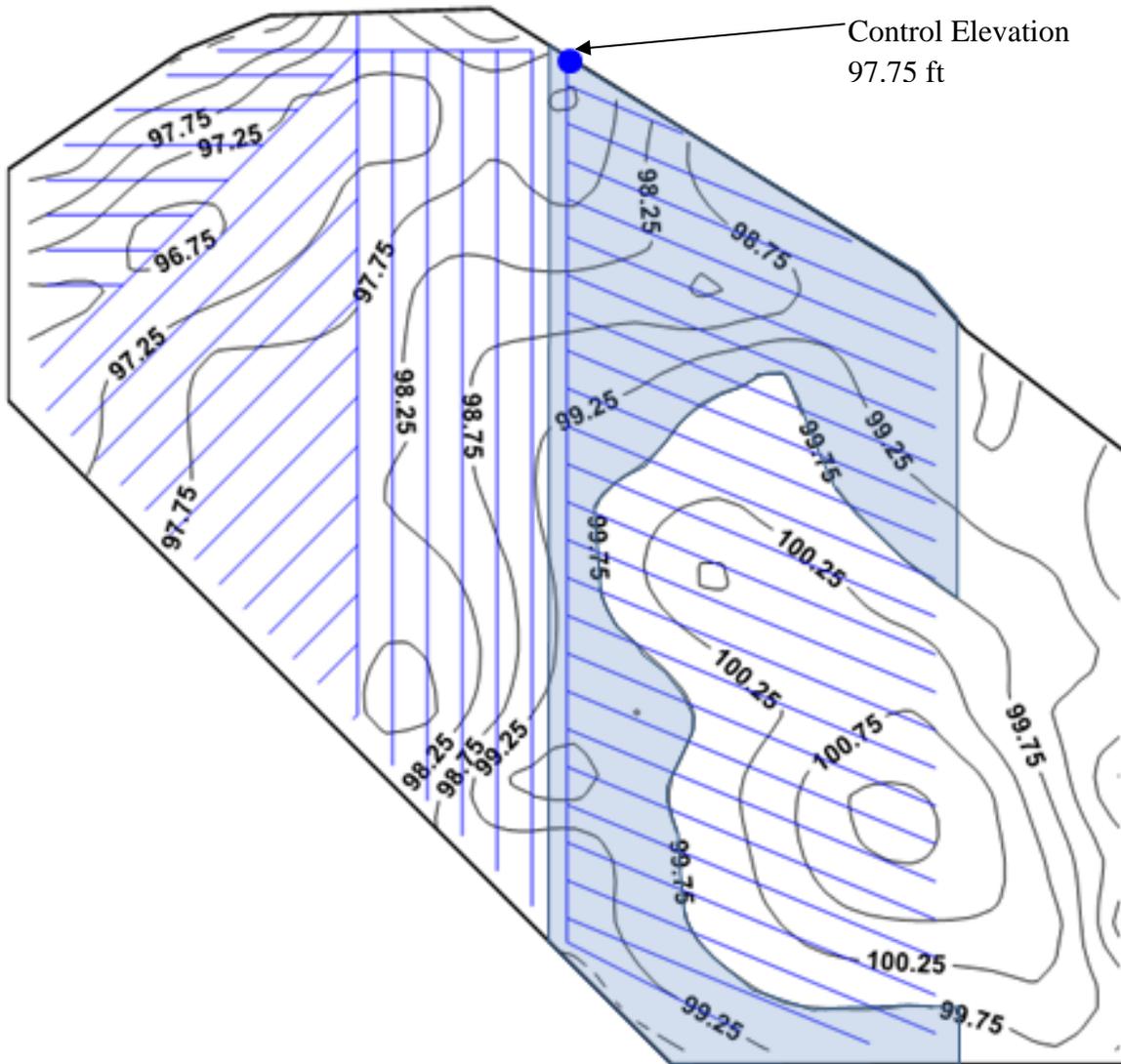
Draw a line that is half the lateral spacing away from each side of each tile in the random system. The drained area of this random system will look like a strip with several branches.



## Overlay Map

### EXAMPLE IN WHICH THE CONTROL ELEVATION IS LOCATED AT THE CONTROL STRUCTURE

If the control structures are set at an elevation interval greater than 2 feet, then the impacted area is the drained area contained within the 2-foot contour above the control elevation.



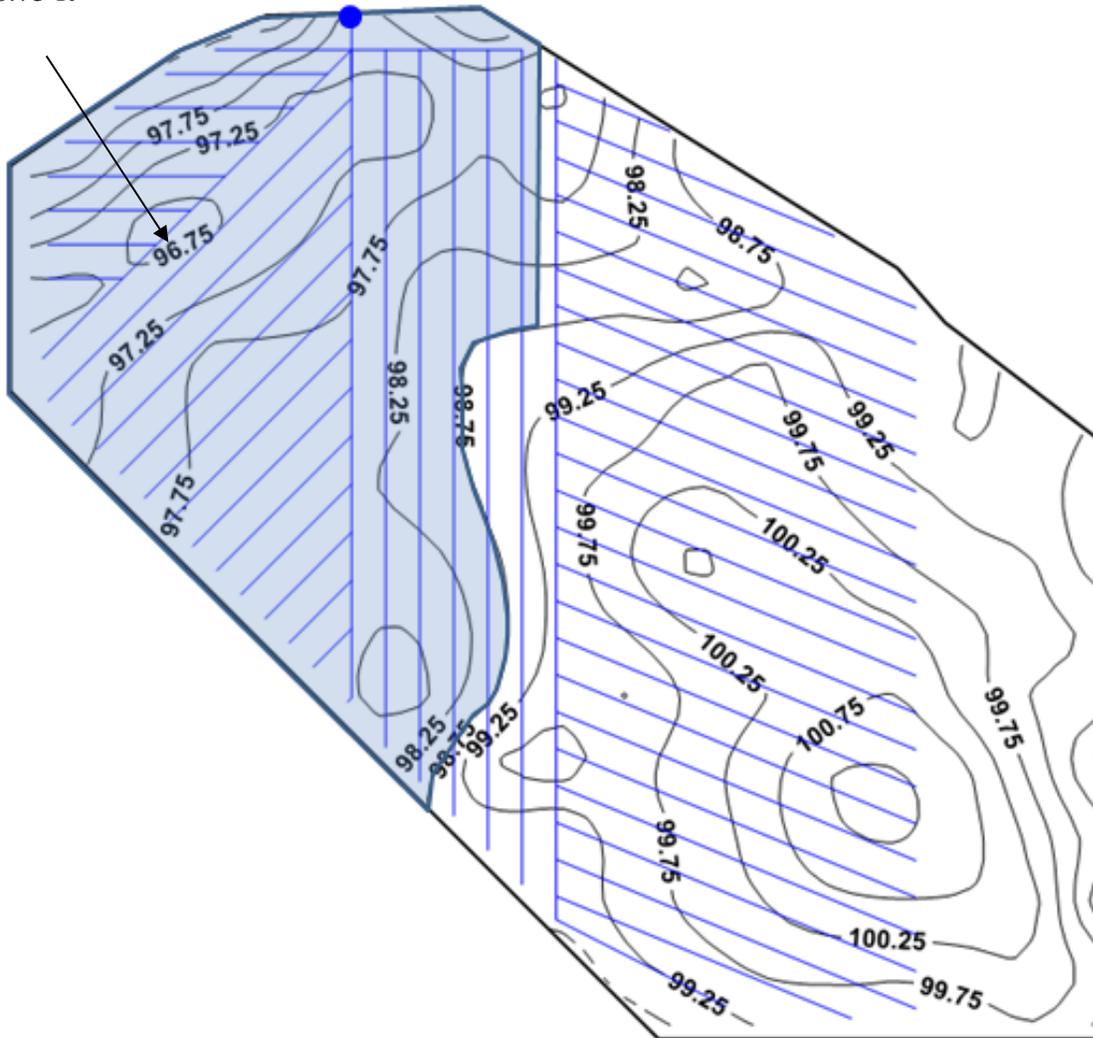
## Overlay Map

### EXAMPLE IN WHICH THE CONTROL ELEVATION IS NOT LOCATED AT THE CONTROL STRUCTURE

If the control structures are set on a 2-foot elevation interval, the impacted area is defined as the drained area contained within the 2-foot contour above the control elevation.

If the control structures are set at an elevation interval less than 2 feet, then the impacted area is the drained area contained within the control elevation interval at which the control structures are set.

Control  
Elevation  
96.75 ft



Note: Maximum winter control elevation should be 6-inches below the soil surface at the control elevation.

## Impacted Areas

Water Control Structure \_\_\_ (WCS\_\_\_)

Location of Control Structure (Latitude, Longitude)	
Ground Elevation at Control Structure	
Area of impact	
Flow Elevation of structure	
Location of Outlet (Lat/Long)	

Water Control Structure \_\_\_ (WCS\_\_\_)

Location of Control Structure (Latitude, Longitude)	
Ground Elevation at Control Structure	
Area of impact	
Flow Elevation at structure	
Location of Outlet (Lat/Long)	

## Water Table Management Plan – Control Structure

### Winter Management

Harvest Date	
Starting Date for Fallow Season Water Control	
Fallow Season Control Elevation <sup>1</sup>	
Spring Water Release Date	
Planting Date or Range	

### Growing Season Management<sup>2</sup>

Date	Control Elevation

## Water Table Management Plan – Control Structure

### Winter Management

Harvest Date	
Starting Date for Fallow Season Water Control	
Fallow Season Control Elevation	
Spring Water Release Date	
Planting Date or Range	

### Growing Season Management

Date	Control Elevation

### Footnotes for all zones:

<sup>1</sup> During the fallow period, the control structure should be operated to allow the water table to rise to the soil surface or to a designated maximum control elevation (6-inches below soil surface at the control structure or the lowest elevation in the drained field).

<sup>2</sup> For some guidelines for control of drainage and the management of the water table during the growing season, review MN NRCS Practice Standard 554 and brochure WQ-44.

### Summary of control systems

System	Pipe Diameter at Structure Inlet	Impacted Area	Ground Elevation	Depth to Tile	Location, GPS (Lat, Long)

## **Main Tile Profile**

A plot of the main tile profile is not required, but is highly recommended. The following information should be shown on the profile.

- Natural ground line
- Profile(s) of the main(s) for the tile system that have control structures on them
- Water level at growing season elevation for each control structure
- Note high point and low point elevations in the field drained by the drainage system
- Main tile grade and pipe sizes
- Note distance and elevation at major points along the main tile profile, including the beginning and end of the tile main, points where pipe sizes change, and locations of control structures.



## Check List for District Conservationist

The DWM Plan includes the following components<sup>1</sup>:

- Farm and field information is provided.
- Objectives have been provided.
- MN Practice Standard 554 has been provided to the landowner.
- A soil map with field boundaries is included in the plan.
- A tile map is provided in the plan.
- A map of wetlands in the field (if applicable) is included in the plan.
- Optional but highly recommended: Profile(s) of the main(s) for the tile system that have control structures on them, showing structure(s) with the water level at growing season elevation, high point and low point in the field drained by the drainage system, main tile grade.
- A topographic map of the field (on 0.5' contours) is included.
- An overlay map with field boundaries, drain location(s) and topographic contours, with a determination (location and area) of the impacted area(s) is provided.
- A water table management plan is included, detailing when the stoplogs will be adjusted and by how much.
- A summary sheet that lists the pipe diameter of each proposed control structure, control elevations, the area impacted by each structure, exact location of the structure using GPS, and the depth to tile is provided as part of this plan.
- Each of the above components has been reviewed with the landowner and the landowner understands the plan.

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<sup>1</sup> The District Conservationist will check off each item on this list before authorization of payment.