

DRAINAGE DISTRICT COMPLIANCE PLAN

SENECA WARREN DRAINAGE DISTRICT

February 2003

PREPARED FOR: Mr. Richard Dukelow Green Lake County Drainage Board 492 Hill Street Green Lake, WI 54941-3188



8505 University Green Phone 608-831-6563
Suite 200 Fax 608-831-6564
Middleton, WI 53562-2573

February 14, 2003

8505 University Green Suite 200 Middleton, Wisconsin 53562-2573

Mr. David Russell, P.E. DATCP 2811 Agriculture Drive P.O. Box 8911 Madison, WI 53708-8911

RE: DRAINAGE DISTRICT COMPLIANCE PLAN WARREN-SENECA DRAINAGE DISTRICT

Dear Mr. Russell:

On behalf of the Green Lake County Drainage Board, Resource Engineering Associates Inc. (REA) is submitting the enclosed Drainage District Compliance Plan for the Warren Seneca Drainage District located in Green Lake County. As required in ATCP 48.22, this is to be filed with the department.

A public hearing was held on December 19, 2002 present the compliance plan and listen to public comment. After a 30 day time period to receive written comments, the board meet again on January 22,2003 to resolve issues, and voted to approve the compliance (maintenance) plan. Documentation of these activities can be found in the Appendix.

If you have any further questions or concerns, please give us a call.

Sincerely,

Lee A. Bartlett, PE Operations Manager

Lee G. Dantleto

1.0 INTRODUCTION

The Green Lake County Drainage Board requested that Resource Engineering Associates, Inc. (REA) develop a Compliance Plan for the Seneca Warren District Drain located in Green Lake County and Waushara County. The Compliance Plan presented in this report follows the basic outline of ATCP 48.22 (2). Specifications are already approved and on file with DATCP so no "professionally drawn map" described in ATCP 48.22 (a) is required.

1.1 General Information

I. Client:

Green Lake County Drainage Board

ii. Site location:

Seneca Warren Drainage District

Township of Berlin T17N-R13E Section 7 in Green Lake County

Township of Seneca T17N-R12E Sections

1,3,4,9,10,11,12,14,15,16 all in Green Lake County

Township of Warren T18N-R12E Sections 29,30,32,33 all in

Waushara County

Township of Marion T18N-R11E Section 25 in Waushara County

iii. Site contact:

Mr. Richard Dukelow

Green Lake County Drainage Board

492 Hill Street

Green Lake, WI 54941-3188

iv. Consultant:

Resource Engineering Associates, Inc.

8505 University Green, Suite 200

Middleton, WI 53562-2573

(608) 831-6563

1.2 Purpose

To prepare a Compliance (Maintenance) Plan to show how the Green Lake County Drainage Board intends to bring the Seneca Warren Drain and corridor into compliance with ATCP 48.22.

2.0 RESTORATION PLAN

2.1 Drain Segments that no longer conform to formally established cross-sections, grade profiles, or alignments.

Based on the information provided in the "Seneca Warren Drainage District Specifications" dated October 2001, and prepared by Resource Engineering Associates, Inc. (REA) the entire ditch has filled in over time and no longer conforms to the established grade profiles and alignment.

The ditch is planned to be graded in accordance with the profile and cross-sections presented in the Specifications. Typically the ditch section is a 2:1 slope to the top of bank plus 2 feet, then 8:1 back to the field. Spoil grading will be as shown in Figure 1. If the area has excess spoil, the material will be spread on the adjacent fields or removed from the site.

2.2 A priority sequence and schedule for restoring noncomplying drains to their formally established cross-sections, grade profile, and alignments.

From the outlet to junction of Lateral A (146+40)	2003 to 2004
From the junction to Hwy E (146+40 to 277+00) All of Lateral A(0+00 to 64+10)	2004 to 2005
From Hwy E to the end (277+00 to 466+60)	2005 to 2006

2.3 An estimate of the amount of material to be removed from each drain scheduled for restoration.

From the outlet to junction of Lateral A (146+40)	$3,800 \text{ yd}^3$
From the junction to Hwy F (146+40 to 277+00) All of Lateral A(0+00 to 64+10)	$21,900 \text{ yd}^3 \\ 12,000 \text{ yd}^3$
From Hwy E to the end (277+00 to 466+60)	$75,100 \text{ yd}^3$

Assuming that the amount of material to be removed is spread in 20 feet of the corridor on both sides of the ditch over the length of the proposed schedule for restoration the depth of spoil would be as follows:

From the outlet to junction of Lateral A (146+40)	0.2 feet
From the junction to Hwy E (146+40 to 277+00) All of Lateral A(0+00 to 64+10)	1.1 feet 1.3 feet
From Hwy E to the end (277+00 to 466+60)	2.7 feet

2.4 The intended disposition of removed materials, including the locations at which the materials will be deposited.

In general excavated soils will be deposited on both sides of the ditch in the corridor using the "land spread option" or the "pile option presented in Figure 1. Prior to commencing cleaning, individual land owners will be notified and given the opportunity to present alternative land spreading locations for the soil to the board for the boards approval. Land owners wishing for slopes gentler than 2:1 will be required to pay the additional excavation cost. Any cost associated with transporting the material out of the corridor would be borne by the individual land owner. Alternate locations would be presented to DATCP for approval prior to commencing cleaning operations.

Concerning trees and brush, trees may be requested by landowners to be put on property not in the corridor. Brush is not to be left in the corridor.

2.5 The projected cost for restoration, and a plan for financing those costs.

Projected restoration costs are based on costs obtained by REA from similar projects, with the assumptions that neither the soil or brush and trees would have to be hauled off-site, and any permits are obtained by the board. The estimated cost for ditch cleaning is \$12,500 per mile. Therefore, the projected costs for restoration are as follows:

From the outlet to junction of Lateral A (146+40)	\$34,600
From the junction to Hwy E (146+40 to 277+00) All of Lateral A(0+00 to 64+10)	\$31,000 \$15,200
From Hwy E to the end (277+00 to 466+60)	\$44,800

The Drainage Board plans to finance these costs by obtaining a loan. The Board will apply for grant funds through DATCP's Drainage District Grant Program, and assess the balance to district members through normal assessment procedures.

3.0 REPAIR AND MAINTENANCE PLAN

3.1 A plan for routine maintenance of drainage structures.

Inspect the structures during the annual inspection which is at least once a year and within three (3) weeks after a rainfall of 4.7 inches or more (see ATCP 48.14,16). An inspection report should be placed in the drainage board files and included in the annual report to DATCP. Structures will be repaired or replaced as necessary.

3.2 A plan for maintaining district corridors, and controlling woody vegetation in those corridors.

Activity will consist of removing trees and woody vegetation from the ditch side slopes and bottom, removing roots and vegetative material from the ditch bottom, repairing side slope damage and lowering the channel to the grade profile. Excavated soil will be placed in the corridor as shown in Figure 1. The excavated material will be allowed to drain, then will be spread, shaped, and seeded. The work will be performed using a bucket excavator (backhoe), leveling will be done with a bulldozer.

In those areas where the flow line of the ditch is at or near the grade profile and excavation is intended to remove primarily roots and other vegetative material from the ditch bottom, therefore the material excavated will be primarily vegetative material with soil in the root clumps. Roots and vegetative material will primarily be removed.

By clearing the trees and brush, sunlight can reach the ditch banks and a denser vegetative cover can be established to provide a stable bank during high drainage flows. Clearing trees on the side slopes will minimize trees and limbs falling into the ditch which can create erosion along the ditch embankment.

To maintain grade, the grade profile will be measured along the ditch bottom at approximately 500 foot intervals using either marked stakes, rod readings, or laser level readings. Excavation along the ditch bottom will be maintained within a variance of 0.5 feet.

Disturbed areas will be seeded with a seed mixture listed in the USDA-NRCS Field Office Technical Guide.

To control the emergence of woody vegetation in the future, an on-going maintenance program consisting of spraying or cutting the emerging brush every few years will be practiced.

3.3 A plan for special repairs and maintenance, if any.

At this time there are no plans for any special repairs or maintenance.

3.4 The projected costs of repairs and maintenance, and a plan for financing those costs.

Projected maintenance costs are based on costs obtained by REA from similar projects, with the assumptions that only brush and grass is being cut (no aquatic spraying), and any permits are obtained by the board. The estimated cost for ditch maintenance is \$600 per mile. Therefore, the projected costs for restoration are as follows:

From the outlet to junction of Lateral A (146+40)	\$ 1,700
From the junction to Hwy F (146+40 to 277+00) All of Lateral A(0+00 to 64+10)	\$ 1,500 \$ 700
From Hwy E to the end (277+00 to 466+60)	\$ 2,200

The Drainage Board plans to finance these costs by obtaining a loan. The Board will apply for grant funds through DATCP's Drainage District Grant Program, and assess the balance to district members through normal assessment procedures.

4.0 EROSION CONTROL PLAN

4.1 A plan for controlling soil erosion and runoff in the drainage district. The plan shall include the estimated cost to implement the plan.

The drainage board will take measures to minimize soil erosion and sediment delivery to the district drains. The district drains will be inspected annually or within three (3) weeks after a rainfall of 4.7 inches or more as specified in ATCP 48.14,16. Sloughed ditch slopes, private connections, or other erosion problems will be noted and repaired on an annual basis. When ditch banks are planted with vegetation to stabilize those banks, the plant variety or seed mixture shall be one of those listed in the USDA-NRCS Field Office Technical Guide.

The drainage board may install temporary in-channel sediment basins downstream of a land disturbing activity or require individual land owners to implement measures on private land, like the creation of buffer strips or the construction of drop inlets, to minimize soil erosion. The board may also re-shape ditch banks to conform to specifications, or create a berm in the corridor to, divert surface run-off from entering the drain.

At this time the cost of implementing the plan is unclear. The first step will be to clean the drains and bring them into compliance. During this process, many of the erosion problems will be corrected, with others presented in the annual report. It will be some time before an annual budget for erosion control can be established, therefore no cost is presented at this time.

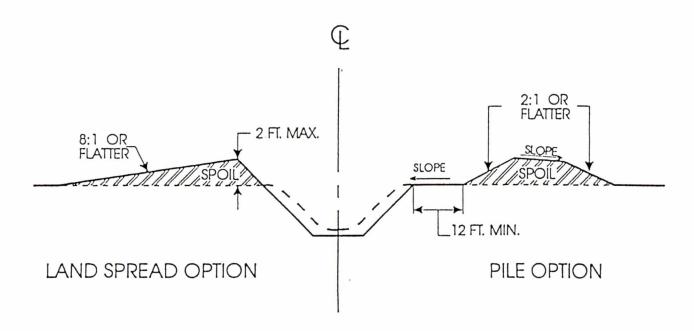


Figure 1. Methods of Material Disposal

APPENDIX A

HEARING COMPLIANCE DOCUMENTATION

PER ATCP 48.22 (2m) (b) 1.

PHONE NO. : 920 294 4056

FRTM: DEPT OF LAND CONSERVATION

Feb. 07 2003 10:16AM P2

APPENDIX B

NOTICE OF UNRESOLVED OBJECTIONS AND THE BOARDS POSITION ON THOSE OBJECTIONS

PER ATCP 48.22 (2m) (b) 2.

January 16, 2003

Green Lake County Drainage Board P O Box 3188 Green Lake, WI 54941-3188

Dear Sirs,

Since the dredging of the town ditch will ruin hundreds of acres of duck habitat by draining marshland, I would like to make a suggestion that tin whistles or slew gates be put along the dike on my property so water will flow into the marshland to the south of the dike. I do believe the Department of Natural Resources will approve of this and that way when the work is done something other than draining all marshland can be productive by keeping some of the existing habitat. Also when the ditch work is being done, we would oppose removal of the old bridge, unless it was replaced so we have access to part of our land.

Thomas A Haranhura

Thomas A Harenburg

Scot Harenburg



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor Scott Hassett, Secretary Ronald W. Kazmierczak, Regional Director Wildlife Management 120 North Pearl St. P.O. Box 343 Berlin, Wisconsin 54923 Telephone 920-361-3149

January 17, 2003

JAN Lous

Green Lake County Drainage Board 492 Hill Street P.O. Box 3188 Green Lake, WI 54941

Subject: Warren Seneca Drainage District

Dear Board Members:

I would like to make a few comments concerning the proposed Warren-Seneca Drainage District Plan.

Due to the fact that much of the "main drain" runs through the White River Marsh State Wildlife Area any activities associated with the drainage ditches outside of the Wildlife Area will have some effect on the Public Lands. Any additional siltation, chemical or nutrient loading would be detrimental to the functioning values of the wetlands on the state lands and any activities that would reduce those inputs would be strongly encouraged.

Therefore, the Department would encourage the Board have gradual side slopes and large buffers associated with any of the drains. Whenever ditches are designed and cleaned with steep side slopes, and farmed immediately adjacent to the ditch bank the life of the ditch is severely reduced. Designing the ditches with these modifications (4 to 1 side slopes and 20 ft buffers) would not only help reduce run-off into the ditch, and eventually onto the state lands which are downstream from the majority of the active farmland, but would increase the long term life of the ditch.

Not only would it be more financially cost effective to keep the ditch functioning as long as possible without constantly cleaning and maintaining them, but it would be environmentally more friendly if the ditches were designed with these gradual side slopes and buffers.

Finally, the Department would like to work with the Drainage Board when ditch modifications are being done on the State Lands. The Department has done some preliminary surveys along the town ditch and would like to restore some of the wetland values and functions of the land adjacent to the town ditch. I believe the Drainage Board and the Department can work to our mutual benefit when some of the spoils are removed from the existing ditch to create a sub-impoundment and reservoir on the state land to capture water during high flow and reduce downstream impacts.

None the less, I know we can work together to the benefit of the farmers and the outdoor enthusiasts of Wisconsin. If you have any questions, feel free to contact me at the number and address listed above.

Sincerely,

Jim Holzwart Wildlife Biologist

> Quality Natural Resources Management Through Excellent Customer Service



Green Lake County Drainage Board

492 Hill St. P.O. Box 3188 Green Lake, WI 54941-3188 Richard Dukelow Steve J. Meilahn Merlyn Soda

Drainage Board Minutes January 22, 2003 9:00 A.M. – 10:30 A.M. Courthouse Demonstration Room Green Lake, WI

Call to order: The meeting of the Drainage Board was called to order by Chairman Dukelow. The requirements of the open meeting law were certified as being met.

Present: Richard Dukelow, Chairman

Steve Meilahn, Secretary

Merlyn Soda

Also Present: Landowner: Gary Walejko

James A. Hebbe, County Conservationist

Agenda: Motion (Soda/Meilahn) to approve the agenda as presented. Motion carried.

Minutes: *Motion (Meilahn/Soda)* to approve the December 19, 2002 meeting minutes as presented. Motion carried.

Appearances and Public Comment: Gary Walejko stated he was in attendance to remain apprised of drainage board activities.

Seneca-Warren District Maintenance Plan Approval: A letter from the DNR was read encouraging 4:1 side slopes on the ditch which passes though state land.

A letter from Tom & Scot Harenburg was read concerning potential loss of duck habitat because of the ditch cleanout. They also opposed removal of the old bridge on their land. The Board will try not to affect the bridge when conducting the cleanout.

Trees may be requested by landowners to be put on property not in the corridor. Brush is not to be left in the corridor. All ditch side slopes are to be 2:1. Landowners wishing for slopes gentler than 2:1 will be required to pay the additional excavation costs. *Motion (Meilahn/Soda)* to approve the Seneca-Warren District Maintenance Plan. Motion carried.

Vouchers: none

Correspondence: none

Committee Discussion: Increasing per diem pay for the Board was discussed. State statute states \$40 maximum. Hebbe will contact the state drainage engineer on this issue.

Next Meeting Date: Tuesday, February 18, 2003 at 7:00 P.M. in the Demonstration Room of the Courthouse in Green Lake.

Adjourn: Motion (Meilahn/Soda) to adjourn. Motion carried.

Respectfully submitted,

James A. Hebbe Recorder

Meeting expenses: Seneca-Warren – 100%