

Redwood County Ditch Authority

Re: Redwood County Ditch 109  
Redetermination of Benefits

February 1, 2019

In accordance with Minnesota Statute 103E.351, we herewith submit the following viewers' report:

Benefits and Damages Statement

This report covers the redetermination of benefits for a previously constructed drainage system. The basis for determining benefits and damages is a comparison of the conditions that would have existed prior to the drainage system's construction to those that currently exist with the drainage system in a reasonable state of repair.

Redwood County Ditch 109 was established in 1938 with a benefited area of 4293 acres. A redetermination of benefits was completed in 2018 with benefits of \$15,621,572.55 for the system. The system consists of approximately 51,700 ft. feet of open ditch and 156,773 ft of County tile. Flow is generally from South to North with the system providing drainage to parts of Sections 3,4,5,6,7,8,9,16,17,18, 19,20,21,22,28,& 29 of Morgan Township. It also includes parts of sections 36 of Paxton Township. It also includes parts of sections 28,29,30,31,32,33,&34 of Sherman Township. It also includes parts of sections 1,12,13,&14 of Three Lakes Township. It also includes parts of the City of Morgan.

The field observations and land classifications for the improvement watershed area were completed in 2017). The viewers made a visual inspection of each 40 acre or smaller parcel. There are approximately 8976 acres benefited within the watershed.

Supporting documentation for the analysis and conclusions of this report are contained in our files and are available for inspection.

The conclusions stated herein are based on a full and fair consideration of all pertinent facts and information that the viewers were aware of at the time of this appraisal. The following aids were used during the viewing process: (LIST ALL INFORMATION OF DATA COLLECTED)

1. NRCS/USDA Soil Survey Geographic Database of Redwood County
2. Redwood County Pictometry Aerial Imagery
3. LIDAR data and derived maps
4. Meadowland Coop for production and expense valuation
5. Visual inspection of each 40 acre or smaller parcel
6. Original ditch files, maps, and profiles
7. Sales data from the Redwood County Assessor's Office
8. Bolton & Menk Hydraulic Efficiencies Review

Land classification benefit values were calculated and based upon the potential increase in agricultural production as a result of constructing the drainage project. These benefit values were then reconciled with recent sales values. Existing individual land management practices were not considered. All present land use was evaluated using an estimated best land management practice standard. Consideration was given to those areas which were determined to be in a native/non-converted condition, including rural farmsteads.

Road benefits were determined based on reduced road construction and maintenance costs that were realized after construction of the drainage system.

“A-“ land classification corresponds to land which was converted by the existing system from standing water or cattails to a condition suitable only for pasture or haying on a limited basis.

“D-“land classification corresponds to those areas currently being used primarily for building sites.


Using the agricultural economic productivity values from the previous page, potential benefits values were determined for the system based upon a 25 year effective life with proper maintenance. Private improvement costs were depreciated over the same 25 year period and a 4.0% return on system investment was used.


Increased Productivity Evaluation


<u>CROP</u>	<u>OPTIMUM YIELD</u>	<u>COMMODITY VALUE</u>	<u>POTENTIAL INCOME</u>	<u>ROTATION ADJUSTMENT</u>	<u>ADJUSTED INCOME</u>
Corn	210	\$4.00	\$840.00	50%	\$420.00
Soybeans	65	\$9.00	\$585.00	50%	\$292.50
				Total	\$712.50
Expenses	Corn	\$459.29 x 50% =		\$229.64	
	Soybeans	\$258.93 x 50% =		\$129.46	
		Total	\$359.10	Rounded	\$360.00

Benefit Determination

	<u>"A"</u>	<u>"B"</u>	<u>"C"</u>	<u>"D"</u>
	85% x \$713.00 = \$ 606.05	90% x \$713.00 = \$641.70	97% x \$713.00 = \$691.61	100% x \$713.00 = \$713.00
Production cost	- \$360.00	- \$360.00	- \$360.00	- \$360.00
Net income	\$246.05	\$281.70	\$331.61	\$353.00
Previous Income	- \$0.00	- \$60.00	- \$210.40	- \$317.35
Increased Income	\$246.05	\$221.70	\$121.21	\$ 35.65
Private Improv.(Tile)	- \$37.75	- \$25.17	- \$18.88	- \$9.44
<b>Annual Increase</b>	<b>\$208.30</b>	<b>\$196.53</b>	<b>\$102.33</b>	<b>\$26.21</b>
Capitalized @ 4%				
for 25 years	x 15.6221	x 15.6221	x 15.6221	x 15.6221
<b>Benefit Value</b>	<b>\$3254.05</b>	<b>\$3074.24</b>	<b>\$1598.67</b>	<b>\$409.49</b>
<b>Round to:</b>	<b>\$3254.00</b>	<b>\$3070.00</b>	<b>\$1599.00</b>	<b>\$409.00</b>

  
 John Schueller  
 Date 2-1-2019

  
 Kevin Vickerman  
 Date 2-1-2019

  
 Luke Olson  
 Date 2-1-2019

### Prior to Drainage

Beginning land use has been determined with the consideration that the benefited properties within the watershed originally did not have an adequate outlet for artificial drainage.

“A” - Standing water or cattails – wetland classification

“B” - Seasonally flooded – pasture classification

“C” – Wet subsoil – Marginal crop land of medium crop land classification

“D” – Upland areas - not needing artificial drainage but irregular in shape and intermixed with wetter soils.

### Valuation with NRCS Recommended Drainage

After public and private drainage have been installed following NRCS design standards and using current crop rotation, income, and expenses, the land classifications have been modified as follows:

“A” – Drained slough – medium land classification with a market value of \$6100 to \$6500 per acre and annual Ag net productivity of \$208 based upon an average annual yield of 85 % of optimum with \$360 per acre production costs

“B” – Moderately well drained ground, high land classification with a market value of \$6800 to \$7300 per acre and annual Ag economic net productivity of \$197 based upon an average annual yield of 90 % of optimum with \$360 per acre production costs

“C” - Well drained ground, highest land classification with a market value of \$8200 to \$8500 per acre and annual Ag economic net productivity of \$102 based upon an average annual yield of 97 % of optimum with \$360 per acre production costs

“D” - Well drained ground, high land classification with improved farmability and a market value of \$7500 to \$7900 per acre and annual Ag net economic productivity of \$26 based upon an average annual yield of 100% of optimum with \$360 per acre production costs