

Heron Lake Watershed District
as Drainage Authority:

RE: Jackson County/ HLWD
Judicial Ditch 36
2021 Improvement
Determination of Benefits

November 19, 2021

In accordance with the Minnesota Statute 103E.315 law, we herewith submit the following Viewers' Report:

Benefits and Damages Statement

This report covers the determination of benefits for the improvement of a previously constructed drainage system. As the system as constructed will be abandon and replaced with the improved system the basis of benefit is from no drainage system to the drainage system as improved. With the previously constructed drainage system abandonment, there is no separable maintenance or remaining benefit from the original drainage system.

Judicial Ditch 36 was constructed in the 1900's with no improvements or major repairs. The system consists of approximately 17,500 feet of agricultural tile ranging in size from 18 inches to 6 inches. The system provides and outlet for lands in sections 32 in Weimer Township and 4, 5, and 6 in West Heron Lake Township. This system outlets into a natural meander which flows to North Heron Lake.

The proposed improvement will replace a separable portion of the existing tile system with larger capacity tile.

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

The figures stated herein are based on a full and fair consideration of all pertinent facts and information that we were aware of at the time of this appraisal. The following aids were used during the viewing process.

1. Soil Survey Manuals and Maps of Jackson County
2. GIS photos and data
3. Minnesota LiDAR
4. Yield averages and production costs taken from Minnesota State College and University Farm Management Records
5. Sales data from the Jackson County Assessor's offices
6. Visual inspection of each 40-acre tract

Land classification benefit values are based upon an increase in the potential for agricultural production as a result of constructing the drainage project and reconciled with sales value increases. Existing individual land management practices were not considered. All present land use was evaluated under estimated best land management practice. Special consideration was given to areas, which were considered to be in a native/non-converted condition or identified as wetlands under wetlands inventory and restricted from drainage by state or federal regulations. State owned properties were considered for the purpose it is held.

No direct consideration was given to structure values within the watershed.

Valuation Prior To Drainage

Beginning land use, property value, and economic productivity have been determined with the consideration that the benefited properties within the watershed currently do not have an adequate outlet for artificial drainage.

"A" Standing water or cattails, wetland classification with a market value for agricultural purposes of \$0.00 per acre, economic productivity of \$0.00.

"B" Seasonally flooded/pasture ground. Pasture classification with a market value of \$1000.00 to \$2000.00 per acre, economic productivity of \$100.00 based on grazing days and/or hay values.

"C" Wet subsoil -- marginal crop land, low to medium crop land classification with a market value of \$4500.00 to \$6000.00 per acre, annual economic productivity of \$637.50 based upon average annual yield of 85 % of optimum with \$341.96 production costs.

"D" Upland areas not needing artificial drainage but irregular in shape and intermixed with wetter soils. Medium to high cropland classification with a market value of \$6000.00 to \$7000.00 per acre, annual economic productivity of \$712.50 based upon average annual yield of 95 % of optimum with \$341.96 production costs.

Valuation with NRCS Guideline Drainage

Potential land use, property value, and an economic productivity, after public and private drainage have been installed as per NRCS design standard as recommended in the Minnesota Drainage Guide, using current crop rotation, income, and expense.

"A" Drained slough area, medium classification land with a market value of \$6000.00 to \$7000.00 per acre, economic productivity of \$690.00 based upon average production of 92% of optimum \$341.96 production costs.

"B" Well drained ground, high land classification with a market value of \$7000.00 to \$8000.00 per acre, economic productivity of \$720.00 based upon average annual production of 96 % of optimum with \$341.96 production costs.

"C" Well drained ground, best land classification with an estimated market value of \$8000.00 to \$9000.00 per acre, economic productivity of \$750.00 based upon average annual production of 100 % of optimum with \$341.96 production costs.

"D" Well drained ground, high land classification with improved farmability and market value of \$8000.00 to \$9000.00 per acre. Economic productivity of \$750.00 based upon average production of 100% of optimum with \$341.96 production costs.

Road benefits were determined with consideration of the reduced construction and maintenance costs that were realized after construction of the drainage system. No tile benefits were given as the footage was minimal.

Utilizing these productive values, potential benefit values were determined for the system based upon a 25-year effective life, with proper maintenance, private improvement cost depreciated over the same 25-year period, and a market derived capitalization rate of 4.0%. Adjustment was made to each land class based upon consideration of the change in hydraulic capacity and the subsequent increased productivity that the construction of the drainage system provided. Benefit values were rounded off for ease of computation.

Example: "B" Benefits per Acre	
Potential productivity Value	\$750.00
Adjusted Value at 96%	720.00
Production Cost	-341.96
Beginning Productivity Value	<u>-100.00</u>
Change in Productivity Value	278.04
Private Improvement (\$900/25)	<u>-36.00</u>
(Waterway or tile)	
Annual Benefit Value	\$242.04

\$242.04 x 25 years, discounted @ 3.5% = \$3989.19 (\$3990.00)

The existing drainage system has open ditch and tile capacities that do not have adequate size and capacity to meet the NRCS recommended drainage capacities for tile outlets for agricultural drainage. Adjustment to the potential benefit value is made by the application of an efficiency rate. This rate reflects the viewer's determination of that portion of the potential system capacities and a parcel's proximity to the adequate outlet.

The net benefit provided by the ditch system is determined by the adjusted potential benefit value being applied to the number of acres determined to be in each class per tract, accumulating the sum of these benefit values, and then applying the proximity rate percentage.

Temporary damages have been given for the right of way required to construct the proposed improvement.

Respectfully submitted,

Dan Ruby

Tom Peterson

Gary Ewert

Ron Ringquist

JACKSON COUNTY/ HERON LAKE WATERSHED DISTRICT
 JUDICIAL DITCH 36

2021 REDETERMINATION OF BENEFITS

INCOME APPROACH TO VALUE WORKSHEET

PRODUCTION INCOME

CROP PLANTED	AVERAGE YIELD	SALES VALUE	GROSS INCOME	ROTATION PERCENTAGE	ADJUSTED INCOME
CORN	210 BU	4.00	840.00	50	420.00
SOYBEANS	60 BU	11.00	660.00	50	330.00
					750.00

DIRECT PRODUCTION EXPENSE

CROP PLANTED	PRODUCTION COST	ROTATION PERCENTAGE	ADJUSTED EXPENSE
CORN	456.29	50	228.15
SOYBEANS	227.63	50	113.82
			341.96

BENEFIT VALUE CALCULATION

PRODUCTION CAPABILITY BASED UPON CONSTRUCTED DRAINAGE SYSTEM
 MEETING N.R.C.S. OPEN DITCH GUIDE LINE DESIGN

LAND CLASS	"A"	"B"	"C"	"D"
% PRODUCTION	92.0%	96.0%	100.0%	100.0%
GROSS INCOME	690.00	720.00	750.00	750.00
PRODUCTION COST	341.96	341.96	341.96	341.96
NET INCOME	348.04	378.04	408.04	408.04
PREVIOUS INCOME	0.00	100.00	258.04	370.54
INCREASED INCOME	207.23	161.13	89.63	17.93
PVT TILE COST	36.00	36.00	36.00	0.00
NET ANNUAL INCREASE	312.04	242.04	114.00	37.50
CAPITALIZED FOR 25 YEARS @ 3.5 %	5142.89	3989.19	1878.89	618.06
BENEFIT VALUE	\$5140.00	\$3990.00	\$1880.00	\$620.00