

Jackson County Drainage Authority:

RE: Jackson County  
Judicial Ditch No. 86  
Redetermination of Benefits

August 20, 2024

In accordance with the Minnesota Statute 103E.351 law, 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, therefore, based upon a comparison of the conditions that would have existed prior to the ditch system's construction with those that do exist with the drainage system in a reasonable state of repair.

Jackson County Judicial Ditch No. 86 was originally established in 1923. The drainage system consists of a short open outlet ditch, a main tile and several tile branches. The project serves as an outlet for parcels in sections 18, 18, 19, and 20 in Belmont Township; and section 24, in Heron Lake Township, all in Jackson County. The outlet is into an altered watercourse and then into the Des Moines River.

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 office
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.

Benefits for lands used for industrial agricultural purposes, such as large bin sites or hog production facilities, have been determined with consideration of the drainage system providing an outlet for the accelerated runoff and for a different land use. 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 \$2000.00 to \$3000.00 per acre, economic productivity of \$145.00 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 \$7000.00 to \$8500.00 per acre, annual economic productivity of \$666.00 based upon average annual yield of 80 % of optimum with \$381.10 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 \$8500.00 to \$10000.00 per acre, annual economic productivity of \$790.88 based upon average annual yield of 95 % of optimum with \$381.10 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 \$8000.00 to \$9000.00 per acre, economic productivity of \$765.90 based upon average production of 92% of optimum \$381.10 production costs.

"B" Well drained ground, high land classification with a market value of \$10000.00 to \$11000.00 per acre, economic productivity of \$799.20 based upon average annual production of 96 % of optimum with \$381.10 production costs.

"C" Well drained ground, best land classification with an estimated market value of \$11000.00 to \$12000.00 per acre, economic productivity of \$832.50 based upon average annual production of 100 % of optimum with \$381.10 production costs.

"D" Well drained ground, high land classification with improved farmability and market value of \$10000.00 to \$12000.00 per acre. Economic productivity of \$832.50 based upon average production of 100% of optimum with \$381.10 production costs.

Special consideration was given to areas where the ditch system has only provided an outlet adequate to convert the lands to pasture or hay land and are restricted from further individual improvements by regulatory restrictions.

Road benefits were determined with consideration of the reduced maintenance costs that should be realized after construction of the drainage system. Tile benefits were given to reflect the additional value added as the ditch system tile provides one of the normal lines of tile for subsurface drainage.

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 an allowance of 1.0% return on the system investment. 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 improvement provides. Benefit values were rounded off to an even percentage benefit increase for ease of computation.

Example: "B" Benefits per Acre

Potential productivity Value	\$832.50
Adjusted Value at 96%	799.20
Production Cost	-381.10
Beginning Productivity Value	<u>-145.00</u>
Change in Productivity Value	273.10
Private Improvement (\$900/25) (Waterway or tile)	<u>-40.00</u>
Annual Benefit Value	\$233.10

\$233.10 x 25 years, discounted @ 1.0% = \$5133.60 (\$5130.00)

The drainage system does 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 benefit currently being provided by the county ditch system with consideration of the substandard size capacity and a parcel's proximity to an 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.

Where required, damages have been given for the easement acquisition for the area required to establish the one-rod seeding area adjacent to the channel required by Minnesota Statute No. 103E.021. The lands taken are considered as a permanent easement only and will be restricted from use for commodity crop production. The damage value in our opinion is the difference between the current land value and the value of the same lands with the easement in place.

Respectfully submitted,

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Dan Ruby

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Tom Peterson

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Ron Ringquist

JACKSON COUNTY  
 JUDICIAL DITCH NO. 86  
 2024 DETERMINATION OF BENEFITS  
 INCOME APPROACH TO VALUE WORKSHEET

PRODUCTION INCOME

CROP PLANTED	AVERAGE YIELD	SALES VALUE	GROSS INCOME	ROTATION PERCENTAGE	ADJUSTED INCOME
CORN	210 BU	4.50	945.00	50	472.50
SOYBEANS	60 BU	12.00	720.00	50	360.00
					832.50

DIRECT PRODUCTION EXPENSE

CROP PLANTED	PRODUCTION COST	ROTATION PERCENTAGE	ADJUSTED EXPENSE
CORN	499.55	50	249.77
SOYBEANS	262.65	50	131.33
			381.10

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%	95.0%	100.0%	100.0%
GROSS INCOME	765.90	799.20	832.50	832.50
PRODUCTION COST	381.10	381.10	381.10	381.10
NET INCOME	384.80	418.10	451.40	451.40
PREVIOUS INCOME	0.00	145.00	166.50	409.78
INCREASED INCOME	384.80	273.10	193.50	41.63
PVT TILE COST	40.00	40.00	40.00	0.00
NET ANNUAL INCREASE	344.80	233.10	126.50	41.63
CAPITALIZED FOR 25 YEARS @ 1.0%	7593.58	5133.60	2785.93	916.71
BENEFIT VALUE	\$7590.00	\$5130.00	\$2790.00	\$920.00