

**Improvement to Judicial Ditch No. 15
Lyon and Redwood Counties**

In October of 2018 the Joint Drainage Authority accepted a petition for an improvement of Lyon – Redwood County Joint Judicial Ditch No. 15. (JD-15)

The proposed improvement of Judicial Ditch No. 15 includes the replacement of the main tile along with Branches 22, 23, 24, 24A, 25, 25A, 26, and Branch 27. The outlet for this proposed improvement is into the main open ditch of JD-15 in Section 18 of Westline Township, Redwood County. The proposed improvement is located about 2 miles west of Milroy Minnesota. The total estimated watershed of the proposed improvement is 2,325 acres.

The viewers are completing a Redetermination of Benefits that coincides with this proposed improvement. The total watershed of JD-15 is 10,339 acres. (Including the improvement acres) The following information is the Viewers report for the proposed improvement.

**Lyon - Redwood Counties JD-15
Improvement
Viewers Report
January 15, 2022
(Draft)**

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 originally did not have an adequate outlet for artificial drainage.

- “A” – Standing water or cattails, wetland classification with economic productivity for agriculture purposes of \$0 per acre, and a market value of \$1,000 to \$2,000
- “B” – Seasonally flooded/pasture ground. Pasture classification with economic productivity of \$90 per acre based on grazing days and/or hay values, and a market value of \$2,500 to \$3,500
- “C” – Wet subsoil – Generally farmable land with moderate crop potential, with annual economic productivity of \$494 per acre based upon average annual yield of 80% of optimum with \$326 production costs, and a market value of \$4,000 to \$5,000
- “D” – Upland areas not needing artificial drainage and intermixed with wetter soils, with annual economic productivity of \$549 per acre based upon an average annual yield of 89% of optimum with \$326 production costs, and a market value of \$5,000 to \$6,000

Valuation with NRCS recommended drainage

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

- “A” – Drained slough area, medium classification land with economic productivity of \$549 per acre based upon average production of 89% of optimum with \$326 per acre production costs, and a market value of \$5,000 to \$6,000

- “B” – Well drained ground, high land classification with economic productivity of \$574 per acre based upon average annual production of 93% of optimum with \$326 production costs, and a market value of \$6,000 to \$7,000
- “C” – Well drained ground, highest land classification with economic productivity of \$592 per acre based upon average annual production of 96% of optimum with \$326 production costs, and a market value of \$6,500 to \$8,000
- “D” – Well drained ground, high land classification with improved farm ability, with economic productivity of \$605 per acre based upon average production of 98% of optimum with \$326 production costs, and a market value of \$6,000 to \$7,000

Utilizing these productive values, potential benefit values were determined for the system based upon a 25 year effective life with proper maintenance, private tile improvement cost were depreciated over the same 25 year period, and an allowance of 0.5% return on the system investment. A three year average County yield was used for the benefit value calculations along with a three year average sale price for the corn and beans.

Increased productivity

<u>Crop</u>	<u>Yield</u>	<u>Value</u>	<u>Income</u>	<u>%</u>	<u>Adjusted</u>
Corn	191.1	\$3.82	\$730	50%	\$365
Beans	53.6	\$9.41	\$504	50%	\$252
					\$617

Production costs

Corn	\$426 X 50% =	\$213
Beans	\$226 X 50% =	\$113
		\$326

Potential Benefit value

	<u>“A”</u>	<u>“B”</u>	<u>“C”</u>	<u>“D”</u>
	89% of \$617	93% of \$617	96% of \$617	98% of \$617
	\$549	\$574	\$592	\$605
Minus cost of production	<u>\$326</u>	<u>\$326</u>	<u>\$326</u>	<u>\$326</u>
Net income	\$223	\$248	\$266	\$279
Previous income	\$0	\$90	<u>\$168</u>	<u>\$223</u>
Increased income	\$223	\$158	\$99	\$56
Private tile costs	<u>\$56</u>	<u>\$31</u>	<u>\$27</u>	<u>\$18</u>
Annual increase	\$167	\$127	\$72	\$38
Capitalized for 25 years @ ½ %	\$3,921	\$2,976	\$1,682	\$880
% of potential Benefit	90%	90%	90%	90%
Reduced benefit Value (Open ditch Outlet acres and improvement Tile acres after improvement)	\$3,529	\$2,678	\$1,514	\$792

% of reduced value	60%	60%	60%	60%
Tile outlet acres	\$2,353	\$1,785	\$1,009	\$528
% of reduced value	40%	40%	40%	40%
Improvement	\$1,568	\$1,190	\$673	\$352
Tile outlet acres (Before improvement)				

The potential benefit values have been reduced to reflect a less than optimum yield.

Summary

- Lyon - Redwood Counties JD-15 consists of 10,339.43 acres of farmland, roads, and building sites with benefits of \$13,829,858
- a. 4,404.31 acres of farmland and building sites in Lyon County in Clifton Township
 - b. 128.40 acres of County and Township roads in Lyon County in Clifton Township
 - c. 4,532.71 total acres in Lyon County
 - d. \$5,813,079 of benefits in Lyon County
 - e. 5,560.42 acres of farmland and building sites in Redwood County in Westline and Granite Rock Townships
 - f. 176.30 acres of State, County, and Township roads
 - g. 70.00 acres in the city of Milroy
 - h. 5,806.72 total acres
 - i. \$8,016,779 of benefits in Redwood County

Benefit values were adjusted based on multiple factors. Location to the open ditch, location to the County tile, drainage coefficient, soil type

Potential Benefit Value

Average land benefits, over a 25 year period are **\$2,365** per acre

- a. A soil \$3,921
- b. B soil \$2,976
- c. C soil \$1,682
- d. D soil \$880

90% of Potential Benefit Value

Average land benefits, over a 25 year period are **\$2,128** per acre

- a. A soil \$3,529
- b. B soil \$2,678
- c. C soil \$1,514
- d. D soil \$792

60% of Potential Benefit Value

Average land benefits, over a 25 year period are **\$1,419** per acre

- a. A soil \$2,353
- b. B soil \$1,785
- c. C soil \$1,009
- d. D soil \$528

40% of Potential Benefit Value

Average land benefits, over a 25 year period are **\$946** per acre

- a. A soil \$1,568
- b. B soil \$1,190
- c. C soil \$673
- d. D soil \$352

Building site benefit potential

- a. (Average of B + C + D soils) X 1.5 = **\$2,769**

Ponds, woodland, and non-benefited acres

- a. **\$0**

Pasture benefits potential

- a. (Average land benefit) X 0.5 = **\$1,182**

Road benefits potential

- a. Gravel roads, County or Township
(Average land benefit) X 1.0 = **\$2,365**
- b. Paved roads, County
(Average land benefit) X 1.5 = **\$3,547**
- c. Paved roads, Wide, State
(Average land benefit) X 1.25 = **\$2,956**

Crop damages

Crop damages will be paid per acre on standing crops damaged by construction or repair on the County open ditch or County tile system as determined by the Lyon or Redwood County Ditch Inspector.

Tile benefits in total watershed (before improvement)

- a. A tile benefit was given for most County tile at a rate of \$0.50 per linear foot. This value was given because of the ease of access for private tile, and also for the drainage the County tile may provide. 193,995 feet of County tile, **\$92,308 of tile benefits**

Improvement Acres

Land benefits, (Improvement area 2,324.99 acres) (over a 25 year period)

Before Improvement		After Improvement	
A soil	\$1,568	A soil	\$3,529
B soil	\$1,190	B soil	\$2,678
C soil	\$673	C soil	\$1,514
D soil	\$352	D soil	\$792

Tile benefits in improvement watershed (after improvement)

- a. A tile benefit was given for most County tile at a rate of \$2.00 per linear foot. (after improvement) This value was given because of the ease of access for private tile, and also for the drainage the County tile may provide. 58,775 feet of County tile, **\$117,550 of tile benefits**

Lyon - Redwood Counties JD-15 Improvement (cost verses benefits)

The Engineer has estimated the project cost to be \$4,474,304. In accordance with Minnesota Statute 103E.215 Subdivision 6, the repair cost allocation for the project is \$2,459,580. This repair allocation will be assessed to all landowners in JD-15, based on the 2021 Redetermination of Benefits. (10,339.43 acres) The improvement portion of the project is \$2,014,724. This amount will be paid by the landowners in the improvement area (2,324.99 acres) listed on the excel spreadsheet for the JD-15 improvement.

Improvement Watershed Benefits (2,324.99 acres)

\$4,432,918	After improvement benefits
\$2,029,145	Before improvement benefits (From the 2021 Redetermination)
\$2,403,773	Increased benefits
\$2,014,724	Improvement cost
\$389,049	Difference (The benefits outweigh the cost of the project)

Benefits and damages statement

This report covers the proposed improvement 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 County open ditch and County tile systems construction, with those that do exist with the drainage system in a reasonable state of repair. 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 comparison of all pertinent facts and information that the viewers were aware of at the time of this redetermination process. The following aids were used in this viewing process.

- Lyon and Redwood Counties online GIS parcel information site
- USDA web soil survey
- Google Earth aerial satellite photos
- Yield averages taken from USDA national agriculture statistics service
- Production costs taken from University of Minnesota FinBin
- Average commodity sale prices from Minnesota Finbin
- Sales data from the Lyon and Redwood Counties Assessor office and website
- Visual inspection of each 40 acre parcel or less
- Consultation with the Counties Auditor / Treasurer, drainage staff, ditch inspectors

The Viewers determined that the lands affected by the drainage system are generally similar and that the following comments refer to all such tracts.

1. Existing land use, property value and economic productivity:

Land is presently used for building sites, roads, city, and for agricultural purposes. The property value is consistent with most agricultural land sales within Lyon and Redwood Counties. Agricultural lands are primarily used for the production of corn and soybeans. The land has good economic productivity when properly drained.

2. **Potential land use, property value and economic productivity from the drainage system:**

The drainage system has been in existence for many years and provides drainage for agricultural purposes. The property value is consistent with most agricultural land sales within Lyon and Redwood Counties. Land affected by the drainage system has the potential to produce above average yields.

3. **The benefits or damages from the drainage system:**

Benefits derived by lands affected by the drainage system are due to (A) Improved capacity to remove surface waters due to previous construction and maintenance of the County open ditch and County tile system, which results in an increase in the current market value of property; or (B) an increase in the potential for agricultural production as a result of the previous construction and continued maintenance of the drainage system; or (C) increased value of the property as a result of potential different land use.

4. There is no damage to any riparian rights.

5. There are no acres added to any tract or lot and there are no public waters, wetlands, and other areas not currently being cultivated, that are proposed to be drained in this proceeding.

6. There are no acres which before the drainage benefits could be realized would require a public waters work permit to work in public waters under 103G.245 to excavate or fill a navigable water body under United States Code, Title 33, Section 403, or a permit to discharge into waters of United States under United States Code, Title 33, Section 1344.

7. There are no acres being assessed for drainage of areas that would be considered conversion of a wetland under United States Code, Title 16, Section 3821, if the area was placed in agricultural production.

This report is respectfully submitted to the Drainage Authority of Lyon and Redwood Counties JD-15 by:

Mark Behrends _____

John Thompson _____

Robert M. Hansen _____

Kendall Langseth _____

Submitted this 15th day of January 2022