

**Redwood County JD 5-1 Kunkel Branch  
Redetermination of Benefits  
Viewers Report  
July 12, 2023  
(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 \$105 per acre based on grazing days and/or hay values, and a market value of \$2,500 to \$4,500.
- “C” – Wet subsoil – Generally farmable land with moderate crop potential, with annual economic productivity of \$540 per acre based upon average annual yield of 75% of optimum with \$329 production costs, and a market value of \$4,000 to \$6,000.
- “D” – Upland areas not needing much artificial drainage and intermixed with wetter soils, with annual economic productivity of \$648 per acre based upon an average annual yield of 90% of optimum with \$329 production costs, and a market value of \$5,000 to \$7,000.

**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 \$532 per acre based upon average production of 74% of optimum with \$329 per acre production costs, and a market value of \$5,000 to \$7,000.
- “B” – Well drained ground, high land classification with economic productivity of \$576 per acre based upon average annual production of 80% of optimum with \$329 production costs, and a market value of \$5,500 to \$8,000.
- “C” – Well drained ground, highest land classification with economic productivity of \$640 per acre based upon average annual production of 89% of optimum with \$329 production costs, and a market value of \$6,500 to \$9,000.
- “D” – Well drained ground, high land classification with improved farm ability, with economic productivity of \$698 per acre based upon average production of 97% of optimum with \$329 production costs, and a market value of \$5,500 to \$8,500.

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 Township yield was used for the benefit value calculations along with a three year average sale price for the corn and beans.

**Increased productivity**

<b><u>Crop</u></b>	<b><u>Yield</u></b>	<b><u>Value</u></b>	<b><u>Income</u></b>	<b><u>%</u></b>	<b><u>Adjusted</u></b>
Corn	190.2	\$4.47	\$850	50%	\$425
Beans	54.5	\$10.80	\$589	50%	<u>\$294</u>
					<b>\$719</b>

**Production costs**

Corn	\$430 X 50% = \$215
Beans	\$228 X 50% = \$114
	<b>\$329</b>

**Potential Benefit value**

	<b><u>"A"</u></b>	<b><u>"B"</u></b>	<b><u>"C"</u></b>	<b><u>"D"</u></b>
	74% of \$719	80% of \$719	89% of \$719	97% of \$719
	\$532	\$576	\$640	\$698
Minus cost of production	<u>\$329</u>	<u>\$329</u>	<u>\$329</u>	<u>\$329</u>
Net income	\$203	\$247	\$311	\$369
Previous income	<u>\$0</u>	<u>\$105</u>	<u>\$211</u>	<u>\$319</u>
Increased income	\$203	\$142	\$101	\$50
Private tile costs	<u>\$56</u>	<u>\$31</u>	<u>\$27</u>	<u>\$18</u>
Annual increase	\$147	\$111	\$74	\$32
Capitalized for 25 years @ 1/2 %	<b>\$3,457</b>	<b>\$2,593</b>	<b>\$1,729</b>	<b>\$759</b>
% of potential Benefit	80%	80%	80%	80%
<b>Reduced benefit Value (Direct to open ditch)</b>	<b>\$2,766</b>	<b>\$2,074</b>	<b>\$1,383</b>	<b>\$607</b>
% of potential Benefit	50%	50%	50%	50%
<b>Reduced benefit Value (Indirect to open ditch)</b>	<b>\$1,729</b>	<b>\$1,297</b>	<b>\$864</b>	<b>\$379</b>

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

**Summary**

Redwood County JD 5-1 Kunkel Branch consists of 974.04 acres of farmland, roads and building sites with benefits of \$1,103,059. JD 5-1 Kunkel Branch is in Redwood Falls Township in Redwood County.

- a. 958.24 acres of farmland and building sites with benefits of \$1,081,133
- b. 15.80 acres of County and Township roads with benefits of \$21,926
- c. 974.04 total acres with benefits of \$1,103,059

Benefit values were adjusted based on multiple factors including if the parcel has direct access to the open ditch, location to the County tile, drainage coefficient, and soil type.

**Average land benefits**, (full potential) over a 25 year period are **\$2,135** per acre

- a. A soil \$3,457
- b. B soil \$2,593
- c. C soil \$1,729
- d. D soil \$759

**Building site benefits**

- a. (Average of B + C + D soils) X 1.5 = **\$2,541**

**Ponds, woodland, and non-benefited acres**

- a. **\$10**

**Road benefits**

- a. Gravel roads, County or Township  
(Average land benefit) X 1.0 = **\$2,135**
- b. Paved roads, County  
(Average land benefit) X 1.5 = **\$3,202**

**Tile benefits**

- 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 for the drainage the County tile may provide. 3,070 feet of County tile in Redwood County JD 5-1 Kunkel Branch with **\$1,535 of tile benefits**

**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, as determined by the Redwood County Drainage Department.

**Outlet Benefits**

Nicollet County JD 5-1 Kunkel Branch outlets into Nicollet County JD 5-1 Nelson Branch. JD 5-1 Nelson Branch needs to be bigger and cleaned more often because of the additional water from JD 5-1 Kunkel Branch. Using acres, drainage coefficient, and amount of open ditch used, along with other factors it is the viewer's recommendation that **JD 5-1 Kunkel Branch has an outlet benefit of 1.4% into JD 5-1 Nelson Branch**. This includes acquiring the one rod grass strip.

**Benefits and damages statement**

This report covers the redetermination 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 we were aware of at the time of this redetermination process. The following aids were used in this viewing process

- Redwood County 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 taken from University Finbin
- Sales data from Redwood County Assessor offices and websites

- Visual inspection of each 40 acre parcel or less.
- Consultation with the Redwood County Environmental Office and Drainage Staff

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 and for agricultural purposes. The property value is consistent with most agricultural land sales within Redwood County. 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 Redwood County. 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 Redwood County JD 5-1 Kunkel Branch by:

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Submitted this 12<sup>th</sup> day of July 2023