

2020



Legal Drainage Systems

RED LAKE WATERSHED DISTRICT DRAINAGE AUTHORITY

CHRISTINA SLOWINSKI, DITCH INSPECTOR

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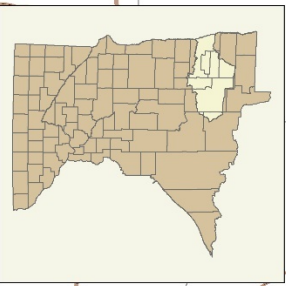
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INTRODUCTION

Minnesota Statutes §103D.625, requires a Watershed District to be the drainage authority if a new ditch is built or an improvement project is done. Because of this, the Red Lake Watershed District (RLWD) is the drainage authority for several systems in Polk, Red Lake, Pennington, Marshall, Beltrami, and Clearwater Counties. All proceeding for the construction or improvement of drainage systems in the watershed district must conform to chapter 103E, except for repairs and maintenance done pursuant to section 103D.621, subdivision 4.

Reports and project updates pertaining to each system can be found on the RLWD website at www.redlakewatershed.org.



CURRENT PROJECTS

ESTABLISHMENT OF NEW DITCH SYSTEM

PROJECT #177, RLWD DITCH #16

Location: RLWD Ditch 16 outlets into the Grand Marais River in section 36 of Esther Township. Moving upstream, the ditch is located on the north side of sections 31,32,33,34,35, and 36 of Northland Township, and Sections 31, 32, and 33 of Tabor Township.

Size: The ditch provides drainage to approximately 17.89 square miles or 11450.23 total acres. The ditch is 9.2 miles of open channel.

Proposal: The proposed project is a result of a petition received by the RLWD, on July 13, 2017, from several landowners requesting the establishment of a new drainage system. The petition for establishment of a new drainage system states, "The area to be drained by this system has existing drainage, but the existing systems are not functioning well and thus causes a lack of drainage. A new drainage ditch is necessary to adequately drain the land and make it reach its full potential for crop production."

Timeline & Status: On July 27, 2017, the RLWD Board of Managers accepted the petition for the Establishment of a New Drainage System to be named RLWD Ditch No. 16, RLWD Project No. 177, appointing Jerry Pribula of Pribula Engineering Inc., as the Engineer for the Project. The Engineer's Preliminary Survey Report was presented and accepted on March 13, 2018 and the preliminary hearing was held April 26, 2018 where the Board approved the Engineers Preliminary Survey Report and viewers were appointed.

MnDOT indicated that soil borings would be required to install a box culvert through State Highway 220. Northern Technologies submitting the lowest quote and performed the borings October 12, 2018. It was determined that no DNR Protected Waters Permit was required, but a delineation was needed of the project area to satisfy Wetland Conservation Act rules. The U.S. Army Corps of Engineers (USACOE) required an archeological survey to be completed at the area of the Grand Marais continuing two miles upstream of State Highway 220. On December 31, 2018, the USACOE indicated they will only require a General Permit for construction of the project upon completion of the cultural survey.

January 24, 2019 Jerry Pribula presented and the Board accepted the Detailed Engineer's Report. Robert Wagner presented, and the Board accepted the Viewer's Report. On February 28, 2019, the MnDNR Commissioner's Report was filed. By March 15, 2019, all Property Owner's Reports have been sent.

The Final Hearing was held April 4, 2019. The Engineers presented the Detailed Engineer's Report. Viewers Jerry Bennett, Roger Beiswenger and Robert Wagner presented the Viewer's Report. The Board voted to establish, by order, RLWD Ditch 16, RLWD Project No. 177, according to the Engineer's Report; to adopt the Viewers Report of benefits and damages as amended by the Board; finding that the statutory factors necessary to establish the drainage project were present and directed Legal Counsel Sparby to prepare Findings and an Order consistent with the motion or the Board's consideration and adoption. On April 11, 2019, the Board issued the order for the Engineer to proceed with the completion of the Plans and Specifications for the construction, the Detailed Findings and Order were approved, and

the Board passed a Cooperative Construction Agreement between the District and Minnesota Department of Transportation.

On April 25, 2019 Jerry Pribula presented the Plans and Specifications for Ditch 16 with a start date of on or before July 8, 2019, with completion date of on or before July 8, 2020. On May 23, 2019, the Board accepted the apparent low bid from Burski Excavating, Inc. in the amount of \$1,454,118.40. Also, on May 23, 2018, the Board approved Houston Engineering in the amount of \$4,100 to complete a wetland delineation prior to the inspection of the wetlands which may be impacted during construction. It was noted as well on the 23rd of May that Joe McFarland of McFarland Consulting completed the Phase I Archaeological Survey.

On June 6th, 2019, the District received notice from the Minnesota Department of Labor and Industry that the District did not comply with the Prevailing Wage requirements in the Plan and Specifications and bid requests. The Plans and Specifications referenced the Prevailing Wage and Statute requirements, but did not specifically include the prevailing wage rates, prevailing hours of labor and hourly basic rates of pay as required. The project received funds from the Red Lake River 1W1P for the installation of side water inlet culverts, which are considered State funds, therefore Prevailing Wage is required. Burski Excavating Inc. requested an additional \$118,078.30 in addition to their bid price to comply with Prevailing Wage Requirements. The Board accepted the bid from Burski Excavating Inc. to include the applicable prevailing wage rates as designated by the Department of Labor and Industry, in the amount of \$1,572,196.70 which includes the increase in the amount of \$118,078.30.

The results from the wetland delineation on Highway 220 box culvert were revealed on July 11th, 2019. The installation of the culvert at the designed location would impact greater than .5 acres of wetlands, which requires a special permit. Pribula proposed to MnDOT, to move the culvert 400 feet to the south, which would reduce the acres of wetland mitigation to be less than .5 acres. It was determined that .25 acres of wetland will be impacted, which will be mitigated at a 1:1 ratio. The culvert will remain the same size. Pribula drafted a change order for the Contractor to include the culvert, alignment change and materials. Due to moving the location of the culvert the following changes were to be made to the Viewers Report: Ray Larson, 1.88 acres additional permanent ROW and .88 acres additional temporary ROW, and Doug Peterson a reduction of 1.5 acres of permanent ROW and .065 acres of temporary ROW.

November 14, 2019 Burski Excavating moved all equipment to the site but determined it to be too wet to start construction in 2019. Construction officially began May 28, 2020. Signage was posted for the closure of Highway 220 on June 8, 2020. The installation of the Highway 220 culvert was completed by June 25, 2020. At the June 25 Board Hearing, Pribula displayed a photo of a portion of completed ditch, noting the 5:1 in-slope and backslope, which appears to be vulnerable to the ground water table and slumping on the field side where water is weeping through the clay. Pribula noted that he will monitor the situation.

It was decided at a Board Meeting on July 9, 2020 that an 18" field inlet culvert would be added to the plans through the spoil of the newly constructed ditch to allow 20 acres of field to drain into the newly constructed ditch. This property was added to the benefited area, with an Addendum to the Viewer's Report to include the area into the assessment of the project with zero benefits from the project, as the landowner had adequate drainage prior. It was also decided, at the recommendation of the Engineer, to change/upsized the culvert sizes from State Highway 220 east to Polk County Road 62 to reduce the

velocity of the ditch and projected erosion. Due to concerns of progress being made, the Board of Managers also extended the completed date of the project to May 18, 2021.

September 10, 2020 the Board reviewed a letter from Attorney Mark A. Grainger, representing a landowner, stating that the District does not have authority to enter upon said landowner's property for the construction of Ditch 16, as the District has not acquired interest in the land. Legal Counsel Sparby reviewed the Property Owners Report sent to the landowner prior to the final hearing, stating that the report was very close to what the assessment will be. Sparby referenced Minnesota State Statute 103E.515, that states, awarded damages to be paid, less any assessment against the property, before the property is entered for construction of the drainage project. Since the landowner's damages were less than his assessment to the property, damages were taken from the assessment with the remainder to be put on the lien set up by the County. The property owner's report information is in the hands of the Polk County Auditor. Sparby drafted a letter to Mr. Grainger.

As of December 10, 2020, the construction on Ditch 16 is substantially complete. The project is seeded, and the cost was \$150,834 over the original bid due to added centerline culverts, moving of the Hwy 220 culverts to avoid wetlands and the addition of side water inlets culverts.

Pay Estimates to Contractor Burski Excavating			
Date	Transaction Type	Amount	For
2-13-2020	Pay Estimate# 1	\$78,333.13	220 Culvert
2-13-2020	Change Order #1	-\$3,948.96	Culvert Ends
6-11-2020	Pay Estimate #2	\$86,924.58	Ditch
6-25-2020	Pay Estimate #3	\$165,917.62	Ditch
7-23-2020	Pay Estimate #4	\$147,714.48	Ditch
8-13-2020	Pay Estimate #5	\$169,232.06	Ditch
8-27-2020	Pay Estimate #6	\$134,980.18	Ditch
9-10-2020	Pay Estimate #7	\$106,727.23	Ditch
9-24-2020	Pay Estimate #8	\$190,095.65	Ditch
10-8-2020	Pay Estimate #9	\$78,536.01	Ditch
10-22-2020	Pay Estimate #10	\$156,158.78	Ditch

IMPROVEMENT PROJECTS

PROJECT 179, POLK COUNTY DITCH NO. 39 IMPROVEMENT

Location: RLWD Ditch 17 outlets into the Grand Marais River in section 18 of Sullivan Township. Moving upstream, the ditch is located on the north side of sections 18, 17, 16, 15, 14, and 13 of Sullivan Township and sections 18, 17, 16, 15, and 14 of Keystone Township in Polk County.

Size: A 9.3-mile open channel ditch provides drainage to about 18.86 square miles.

Proposal: The proposed project is a result of a petition received by the RLWD, on October 16, 2017, from several landowners requesting the improvement of Polk County Ditch #39. The petition for the

improvement states, “Polk County Ditch #39 has insufficient capacity or needs enlarging or extending to furnish sufficient capacity or a better outlet.”

History & Status: On October 16, 2017, a Petition was submitted and reviewed by Legal Counsel, Delray Sparby. It was determined that the petition and bond were valid. On October 26th, 2017, the petition was accepted and engineer, Jerry Pribula of Pribula Engineering, was appointed. The Preliminary Engineer’s Report was presented, for information and filing, to the Board on January 24, 2019. The Advisory report from MN DNR and BWSR was received February 28th, 2019. Due to not all affected or interested persons being properly served notice for the preliminary hearing, it was rescheduled and held on April 11th, 2019. Based upon the evidence, the Board approved the Engineers Preliminary Survey Report and directed the Engineer to complete the Detailed Survey Report. The Findings of Fact and Order were approved on April 25th, 2019. On June 24th, 2019 viewers were appointed. The Viewer’s report was presented to the Board January 23, 2020 for informational and filing purposes. The total benefits of the project are \$2,466,715.50. The engineer also presented the Final Engineer’s report for informational and filing purposes. On February 13, 2020, the Board reviewed the Minnesota Wetland Conservation Act Notice of Decision for no loss for project 179. On March 12, 2020, the District received the U.S. Army Corps of Engineers permit. The Board also reviewed, accepted, and filed the Final Advisory Report from the Commissioner of the MnDNR. The Final Hearing was scheduled for April 20, 2020 but was postponed due to the stay-at-home order given by Governor Waltz until May 4, 2020. The Final Hearing was held July 24, 2020. The Board voted to establish, by order, RLWD Ditch 17, RLWD Project No. 179, according to the Engineer’s Report; to adopt the Viewer’s Report of benefits and damages and directed Legal Counsel Sparby to prepare the Findings and an Order. On August 13, 2020, the Board approved the Detailed Findings and Order for the Improvement to Polk County Ditch 39, RLWD Project No. 179 and approved to request the Polk County Commissioners to secure Bond Funding for construction of the ditch. On September 24, 2020 Legal Counsel Sparby updated the Board on the Notice of Appeal for RLWD Ditch No. 17, RLWD Project No. 179 and filed a Notice to Dismiss the appeal on October 8, 2020.

REDETERMINATION OF BENEFITS

PROJECT 41, JD # 72

Location: The ditch is broken up into two sections, both of which outlet into the Lost River. One part of the ditch is in sections 29, 30, 31, and 32 of Hangaard Township and section 6 of Winsor Township. The other part of the ditch is in sections 7, 18, 19, 20, 29, and 30 of Winsor Township.

Size: Currently (before redetermination) the system is 16 miles long and benefits 22, 760 acres. After the redetermination, the ditch system will be approximately 19 miles long.

Project: A Joint Board meeting was held on March 28, 2017 to discuss maintenance costs, SWI installation, erosion control projects and benefited area. It was then decided to hold an informational meeting with landowners along the systems regarding the buffer law requirements and the need for a redetermination of benefits.

Status: A landowner meeting was held July 31, 2017 where information was presented on the history of the ditch system, benefited area, and the changes in drainage patterns. At said meeting, the Joint Board approved a motion to complete a Redetermination of Benefits. The Redetermination of Benefits will allow for the establishment of buffer strips. On August 24, 2017 at a Joint Board meeting, Jerry Bennet, Roger Beiswenger and Rob Wagner were hired to proceed with the viewing for the redetermination of benefits. Many meetings were held with landowners and the Joint Board discussing the consolidation of Polk County Ditch 61 and JD 72 systems. At a Joint Board Meeting November 20, 2018, it was discussed that some laterals of JD 72 would be combined with State Ditch 61 and the remainder of JD 72 system would be turned over to the District and Polk County would keep CD 88 and SD 61, which could lead to the elimination of the Judicial Ditch 72 Joint Board. The viewers have finished the Redetermination of Benefits for Judicial Ditch 72, the redetermination of benefits hearing will be held in the early spring of 2021. Property Owner's Reports will need to be completed and mailed prior to holding the proposed hearing.

COMPLETED PROJECTS

PROJECT 2, RED LAKE RIVER

Location: Starts at the line along Red Lake Indian Reservation in Clearwater County, then west into Pennington County and terminates in section 22, Kratka Township.

Size: Project 2 is 18.88 miles of straightened river channel of the Red Lake River. The ditch benefits 67,873.38 acres.

Project: The purpose of deepening, straightening, and enlarging the river channel was to improve drainage through providing an outlet for ditches which discharge into the river, to improve drainage of flooded lands adjacent to the channel and to improve water supply for downstream municipalities and industrial use from the reservoir in Red Lake.

Status: Between January 1, 1948 and March 29, 1954, the Red Lake River Channel was improved. The initial project report originally called for the lower end of the project to terminate on the section line between Sections 22 and 23 of Kratka Township. However, the final design analysis indicated that adequate benefits could be attained by terminating the project between Sections 24 and 25 of Kratka; consequently, this latter location was established as the downstream limit for dredging in the contract as awarded. After award of contract, a modification was entered into with the contractor and approved by the Red Lake Drainage and Conservancy District in which the channel alignment was shifted a small amount towards the left bank and the channel bottom, the contractor was required to excavate, without cost to the Government, downstream from the contract limits, Station 205+00 to a point where the new grade intersected the natural channel bottom at elevation 1140.5, about STA 176+00 (See Viewer's Report). On May 21, 1965, the District Court of Pennington County, MN, Ninth Judicial District, made an Order establishing a repair and maintenance fund for the Red Lake River Channel.

PROJECT 3, CLEARWATER RIVER

Location: The project commenced at or near the westerly line of Section 30 Garnes Township in Red Lake County, thence easterly and upstream to the east line of Red Lake County; thence through a corner of Pennington County; thence through a part of Polk County and continuing into Clearwater County along the southwesterly boundary of the Red Lake Indian Reservation and terminating in Section 27, Greenwood Township in said Clearwater County.

Size: The length of the excavated channel is about 38 miles. The ditch benefits 102,615.27 acres.

Project: The purpose of the construction was to straighten, deepen and enlarge the river channel. The benefits from the construction are an improved outlet for drainage ditches which discharge into the river and the prevention of flooding adjacent lands, properties, and roads.

Status: The improved channel of the Clearwater River was constructed in the period 1949 through 1953 by the United State Army Engineers, with the Red Lake Drainage and Conservancy District as a local sponsor.

PROJECT 4, LOST RIVER

Location: The channel improvement began at Section 28 Winsor Township in Clearwater County and thence followed the channel downstream in a general westerly and northerly direction through the townships of Gully, Johnson, and Chester of Polk County and terminates in Section 4 in the township of Lamber of Red Lake County at the east section line.

Size: The total length of the river improvement was 22.75 miles. The ditch benefits 182,370 acres.

Project: The channel lying within Clearwater, Polk and Red Lake county was improved by straightening, deepening, and enlarging parts of the river channel.

Status: Between May 15, 1963 and September 30, 1966, the Lost River Channel was improved. Also, in connection with the channel improvement, a clearing and snagging operation was conducted beginning at the point of termination of the channel improvement continuing downstream to the intersection of the Lost River with the Clearwater River in Section 6 of Poplar River Township in Red Lake County.

PROJECT 5, RLWD DITCH #1

Location: Lateral A outlets into the Lost River in section 3 of Chester Township in Polk County. Continuing upstream, the ditch runs along the west side of section 34 of Equality Township in Red Lake County. Lateral B outlets into the Lost River in section 2 of Chester Township in Polk County. Continuing upstream, the ditch runs along the west side of section 35 and 26 of Equality Township in Red Lake County.

Size: Lateral A is a 1.5-mile open ditch and Lateral B is a 2.5-mile open ditch. The two ditches benefit 3133.83 acres (this includes only Lateral A and B). The ditch capacity calculations are based on five-year frequency. The culvert design is based on twenty-five-year frequency.

Project: The purpose of the ditch system is designed to provide at least a minimum level of protection to growing crops by providing outlet for drainage of water from summer storms.

Status: RLWD Ditch 1 was established in 1975. The bid was awarded to Holthusen Construction Company of Grygla, Minnesota. Laterals A, B, and C were completed October 7th, 1976. On October 27th, 1976, the Board accepted the completed contract and ordered the final payment to Holthusen Construction. On October 23rd, 1980, as part of the improvement to project 20, a second outlet was completed. The Improved Ditch 7 uses Lateral B of Ditch 1 as its second outlet. A 42" x 27" CSPA culvert is controlling the amount of flow into the Lateral B Ditch 1 system. A new ditch, ¼ mile long, was constructed connecting Ditch 7 to the beginning of Lateral B Ditch 1. A total of four ditch crossings along Lateral B were replaced with larger culverts in section 26 of Equality Township. Lateral B now carries an additional 20% of Ditch 7/Project 20's drainage. It is important to note that this new ¼ mile of ditch is part of the Ditch 7/Project 20 system and the benefitted area for Lateral B did not change from the 1976 design. In 1995 Lateral C was improved and absorbed by project 115 Equality/RLWD Ditch 1.

PROJECT 7, RLWD DITCH #3

Location: RLWD Ditch 3 outlets into a coulee which outlets into the Red Lake River in section 29 of River Township. Moving upstream, it continues traveling south east across section 28 and 27 then follows along the north side of section 34, 35, and 36 of River Township. The upstream end of the ditch ends just on the east side of the culvert between section 36 of River township and section 31 of Emardville township.

Size: The 5-mile open ditch benefits 2,307.36 acres.

Project: The purpose of the project was to improve the inadequate existing drainage outlets for the existing agricultural practices. The channel design has sufficient capacity to carry floodwater of a 5-year return frequency. The ditch is constructed with 3 to 1 side slopes and an 8- to 6-foot-wide bottom.

Status: RLWD Ditch 3 was established in 1982. The bid was awarded to Radniecki & Jensen Construction Company of Thief River Falls, Minnesota. October of 1983, the final payment was made to Radniecki & Jensen. There was a drainage block, in the form of a dry crossing, installed in Branch 1 of County Ditch 24 in the northeastern corner of the NW1/4NE1/4 sec 31 Emardville Township to prevent water outside of the benefitted area from entering the system. According to the as-builts (they are in the long files in the hallway) the excavation of the ditch started on the east side of County Road #2. There is a culvert under County Road #2, 72' x 80' R.C.P that outlets into a coulee that eventually leads into the Red Lake River.

PROJECT 14, STATE DITCH #83

Location: State Ditch 83 is a section of the Thief River. Moving downstream to upstream the ditch moves through sections 34, 35, 26, 25, 24, and 12 of Excel Township, sections 7, 6, and 5 of Agder Township and sections 32, 29, 28, 21, 16, 15, 10, 11, and 2 of East Valley Township and sections 36, 25, and 24 of Cedar Township and sections 19, 18, and 8 of Whiteford Township in Marshall County

Size: The approximate 22-mile open ditch system benefits 608,740.72 acres (from the 1986 redetermination).

Project: The ditch was established May 24, 1910. Scope of the project was to straighten, widen and deepen the river channel.

Status: The responsibility for repair, maintenance, and management of the main channel of State Ditch #83 was awarded to the Red Lake Watershed District by court order dated March 16, 1976. The court directed RLWD to manage only the main channel of the Thief River from Thief River Falls to Thief Lake. A redetermination of benefits for SD #83 was completed by the RLWD on October 9, 1986. In 1997 a petition requested repairs to the SD #83 by clearing and restoring the channel to its constructed grade, width, and side slope, between the reach from STA 418+72 to STA 1151+00. A repair order was issued by RLWD on June 11, 1998. After the period for appeal expired, the DNR claimed that the Watershed District did not have authority to assess State lands for the costs of repairing State Ditch 83. The DNR was actively opposed to the repair and refused to pay routine maintenance assessments for many years. The DNR felt that the redetermination conducted in 1986 was completed incorrectly. They felt that the Consolidated Conservation lands should be excluded from the lands being assessed. But the State of Minnesota failed to appeal during the process. The settlement in 2000 was that the DNR shall pay \$164,000.00 for the repair and that they shall pay an amount equal to 32 percent of the cost of minor repairs, up to a maximum of 16,000.00 per annum. Spot cleaning was completed in April 2000 by Spruce Valley Corporation. A hearing was held on the repair report on June 19, 2000, the Board decided not to proceed. Spot cleaning has been occurring yearly since 2000, with Lunke Construction doing the work requested. Starting in 2016, Agassiz National Wildlife Refuge (Agassiz) has been paying the RLWD \$60.00, for maintenance costs of the portions of land they own on the west side of the ditch. Agassiz has responsibility of maintaining the east side of State Ditch #83 where the ditch is within their legal boundary. There are areas that are now considered oxbows that technically are located within the legal boundary of Agassiz but are now on the west side of the channel. Agassiz is therefore responsible for the portion of land along SD #83 that is in between the start and end of each oxbow. The District was provided a map by the U.S. Fish and Wildlife Service showing the locations of these oxbows.

PROJECT 20, RLWD DITCH #7

Location: RLWD Ditch 7 outlets into the Lost River in section 6 of Chester Township in Polk County. Continuing upstream, the ditch runs along the west side of section 31 and 30 and the south side of section 19, 20, 21, 22, 23, and 24 of Equality Township in Polk County. It continues east along the south side of section 19, runs north along the west side of sec 20, and then runs east along the north side of section 20, and 21 of Johnson Township in Polk County.

Size: A 12.6-mile open ditch benefits 14,287.01 acres.

Project: A petition for the improvement of Judicial Ditch No. 4 was brought to the RLWD Board on August 30, 1975. The project constructed provides for benefits of agricultural drainage. Natural drainage is very poor and drainage improvements are essential for profitable crop production. In addition to increasing both the depth and width of the channel, a new outlet was established. One outlet would be to the original outlet and the second outlet would be into Lateral B of RLWD Ditch 1. Both outlets outlet into the Lost River, which was dredged and straightened by the US Army Corps of Engineers project in 1964. The ditch was constructed as a "level ditch" meaning it results in permanent standing water in numerous reaches for a total length of 8 1/2 miles. The channel is designed to pass an estimated 5-year frequency flow without flooding along the ditch.

Status: March 25th, 1976, the ditch system formerly known as Judicial Ditch 4 was turned over to the Red Lake Watershed District. RLWD received a petition that called for the improvement of the drainage ditch originally constructed in 1904. The bid was awarded to Den Mar Inc. for construction of the second outlet, which was completed in December of 1979. The contract for the improvement of Red Lake Watershed Ditch No 7 was awarded to Radniecki and Jensen Construction Company. Work was completed and the final payment was awarded on November 13th, 1980. Outlet No. 1 carries about 80 percent of the total RLWD Ditch #7 flow and outlet number 2 will carry about 20 percent of RLWD #7 flow.

PROJECT 36. RLWD DITCH #8

Location: Section 22 and 23 of Johnson Township in Polk County.

Size: A 2-mile open channel ditch that benefits 889.66 acres.

Project: JD 4, a joint ditch between Red Lake and Polk County, was improved. The JD 4 benefited area was absolved, and a redetermination of benefits was completed and named RLWD 7, Project No. 20. The last 2-3 miles of JD 4 were not improved, which later became designated as RLWD Ditch 8, Project No. 36 on February 12, 1981.

Status: On September 11, 2008 Legal Counsel Sparby recommended doing a redetermination of benefits for RLWD Ditch 8. On July 23, 2009, the Redetermination of Benefits for RLWD Ditch 8, Project No. 36 was approved, thus removing the third mile of the original ditch and leaving the remaining westerly two miles in-tact.

PROJECT 39, RLWD DITCH 9

Location: RLWD Ditch #9 outlets into Joint County Ditch #11. The ditch runs along the west end of Section 35 of Benville Township in Beltrami County.

Size: A 1-mile open channel ditch that benefits 7,282.11 acres.

Project: The purpose of the ditch is to divert and carry excess runoff water. The new ditch will allow the east-west lateral ditch along the south side of M.T.H. 89 to be blocked (preventing it from traveling west) and have Branch 177 extended a mile north. The ditch was designed to have a 6-foot-wide bottom and a 3:1 side slope. The systems outlets into Joint County Ditch 11. The channel was designed to pass an estimated 5-year frequency flow without flooding along the ditch.

Status: On February 10, 1983 RLWD accepted the petition for the improvement of Joint County Ditch 11. RLWD ditch #9 was established in 1984. The bid was awarded to Holthusen Construction Inc. Work was completed and the final payment was awarded October 11, 1984.

PROJECT 43B, BURNHAM CREEK CHANNEL

Location: This project is split into two sections. One section (in the east) is in section 31 of Kertsonville Township, sections 2, 11, 13 and 14 of Russia Township. The second section (in the west) is in section 10, 9, 8, and 7 of Russia Township, section 7, and 1 of Hammond Township, and section 31, 28, 29, and 30 of Fairfax Township in Polk County. The systems empty into Burnham Creek, also known as CD #79.

Size: The 14-mile open channel ditch benefits 100,795.4 acres.

Project: The project is intended to reduce erosion damages and increase annual farm income, reduce agricultural flood damages, provide agricultural water management benefits, and improve wildlife habitat conditions. The typical cross section was designed with a 4 to 5-foot bottom width and 4:1 or 6:1 side slope. The channel was designed to pass an estimated 2-year frequency flow, eliminating flooding on 2,480 acres during a 2-year spring runoff event or 850 acres during a 2-year growing season runoff event. Flooding will also be eliminated on 8460 acres and 4290 acres for the 5-year spring runoff and growing season runoff events, respectively.

Status: The Burnham Creek system was created in part of the Multi-purpose Flood Control Project of 1982 that was completed in partnership with the Soil Conservation Service, RLWD, West Polk SWCD and the DNR. The construction started in 1982 and a letter of completion was sent to NRCS in January of 1996. In 2014, Construction along Burnham Creek consisted of excavation, erosion control, bridge removal, dam removal, streambank protection, random riprap, and turf establishment. The final payment was ordered on November 25th, 2014.

PROJECT 48, JD #2 BRANCH A & BRANCH 1 OF A

Location: JD #2 Branch A outlets into the Clearwater River in section 8 of Greenwood Township. Moving upstream the ditch runs along the west side of sections 8, 17, 20, 29 and 32 of Greenwood Township in Clearwater County. Branch 1 of A runs for about a quarter mile at the half mile line of section 30 of Greenwood Township on the east side of the section.

Size: The 5.25-mile open channel ditch benefits 5,120 acres.

Project: The original plans are dated from 1916. The elevation benchmarks have since disappeared, which made exact re-establishment of the design ditch profile impossible. By comparing natural ground elevations on the original survey with those of a new survey a reasonable correlation was made. A profile of the ditch showing its re-established ditch grade was created in 1984. The lower portion of the ditch was realigned and shortened as part of the construction of CSAH 5. The bottom grade was set to be as consistent as possible with the original ditch design and existing conditions. The original design shows bottom widths of 1 to 5 feet and side slopes of 1:1 and grade of .04% to .18%. After a ditch cleaning in 1983, the ditch has a two-year flood capacity.

Status: October 20, 1982, JD #2 Branch A & Branch 1 of A was transferred from Clearwater County to RLWD with the right to repair and maintain. A redetermination was completed in 1984. The system was surveyed in 2020 and it was found that the channel near the outlet is undercutting. Fixing the undercut channel will be considered a possible project for One Watershed One Plan.

PROJECT 49, JD #2B

Location: The ditch exists in sections 25, 26, and 36 of Winsor Township and Section 30 and 31 of Greenwood Township and section 1 of Pine Lake Township and section 6 of Leon Township in Clearwater County. Part of the ditch outlets to the west to Anderson Lake and the other outlets to the south to Waage Lake.

Size: The 5.6-mile open channel ditch benefits 23,264.31 acres.

Project: The ditch was built in 1916. The original design cross-section was a bottom width of two feet and the side slopes were 1:1. The design bottom grade of the ditch was intended to be at least as deep as the swamp peat deposits. The peat was up to 12 feet thick, resulting in ditch cuts up to 15 feet deep. The bottom grade was so deep that the capacity was much greater than required to carry a standard 5-year flood flow.

Status: October 20, 1982, JD #2B was transferred from Clearwater County to RLWD with the right to repair and maintain. In 1985, a petition for improvement of the system was received. At an informational meeting on September 23, 1985, it was a consensus that removing trees on both sides, sloping, and leveling to an absolute minimum, stockpiling the trees, and individual landowners removing and replacing fences was satisfactory work to make the ditch functional again. Debates continued for years about if trees should be removed. Eventually the ditch was cleaned and trees along both side of

ditch were removed in 1993 by Dyrdaahl. In 2006, the Board approved the installation of nine side inlet pipes at a cost of \$3,000.00.

PROJECT 51, JD #2 MAIN (LOST RIVER)

Location: JD #2 Main is a portion of the Lost River that starts at Anderson Lake in section 34 and moves downstream through sections 27 and 28 of Winsor Township in Clearwater County.

Size: The estimated 1.6-miles of open channel ditch benefits 61,613.61 acres.

Project: The Lost River has been dredged on three occasions in the past. First as Judicial Ditch 2, second as State Ditch 61 and most recently as the Lost River Project. The Lost River Project was constructed in 1965 by the U.S. Army Corps of Engineers and was locally sponsored by the Red Lake Drainage and Conservancy District. The existing channel capacity is less than estimated for a two-year flood flow.

Status: October 20, 1982, JD #2 Main was transferred from Clearwater County to RLWD with the right to repair and maintain. The system was cleared of snags and trees in 1989 and an improvement was done in 1990 enlarging an opening under a bridge.

PROJECT 53, KROSTUE PETITION

Location: Krostue Petition ditch outlets into Polk County Ditch 107 in section 23. Moving upstream, the ditch generally moves north through section 23, 14, and 11 of Bygland Township in Polk County.

Size: The 1.6 mile of open channel ditch benefits 980 acres.

Project: The petition called for the construction or improvement of a drainage system to correct problems caused by inadequate drainage, starting at the outlet of Polk County Ditch Number 107. Through the years, silt and blown dirt have filled the coulee such that it is no longer serves as an adequate outlet to PCD 107. The construction is to restore the coulee's original water carrying capacity. The ditch has a 4:1 side slope with a bottom width of 4 feet in the upper 2,500 feet, 6 feet in the next 1,300 feet and 8 feet in the remainder. The channel is designed to pass an estimated 5-year frequency flow with only minimal flooding along the ditch.

Status: On September 13, 1984 RLWD accepted the petition to improve County Ditch 107. The Krostue Petition project was established in 1986. The bid was awarded to Mckeever Construction. Work was completed and the final payment was awarded June 23, 1988.

PROJECT 101, JD #4

Location: JD #4 outlets into Clearwater River in section 15 of Copley Township. Moving upstream in a general north west direction the ditch passes through section 15, 10, 9, 3 and 4 of Copley Township and section 33 of Holst Township in Clearwater County.

Size: The 5.4-miles of open channel ditch benefits 2160 acres.

Project: The ditch was originally established June 13, 1922. There were petitions for repair in 1975 and 1978.

Status: October 20, 1982, JD #4 was transferred from Clearwater County to RLWD with the right to repair and maintain. March 11, 1993 the project was established as RLWD Project No. 101. Most of the ditch is viewable only in the winter by snowmobile, there are 4-wheeler trails that allow access to the ditch at two or three locations. District employees attempted to view the system in the fall of 2020, at the view spots they could access they found beaver dams. Looking at google earth aerials there are a lot of beaver dams along the system. With most of the ditch not being accessible, the District would like to hold a landowner meeting to discuss the potential of abandoning the system and maintenance.

PROJECT 102, JD #5

Location: Section 13 of Holst Township and section 9, 10, 16, 17, and 18 of Dudley Township in Clearwater County. The ditch is within the Four-Legged Lake System.

Size: The 2.75-miles of open channel ditch benefits 2,174.34 acres.

Project: The ditch was established in 1921. In 1982 Clearwater County transferred the ditch to the Red Lake Watershed District.

Status: May 19, 2015 RLWD received a petition for abandonment of the JD #5 system. July 23, 2015 a hearing for the abandonment of Judicial Ditch 5 was held, the board decided to table the decision of the abandonment pending the outcome of the Four-Legged Lake Flood Damage Reduction Project team process. After about three years of trying to get a consensus on setting of lake levels, RLWD Board of Managers voted to take the petition off the table on April 26, 2018. On June 23, 2018, the RLWD Board of Managers voted to deny the Petition for Abandonment. Legal action then ensued. On November 24, 2020, the Board was notified that the Judge of District Court sustained the decision of the Board of Managers. The Plaintiffs have 60 days to appeal the decision by the District Court.

PROJECT 109, ARVESON PETITION

Location: Arveson's Petition ditch outlet into the Red Lake River in section 9 of Hickory Township. Moving upstream the ditch goes south along the west side of section 9 and 16 and then travels east through section 16 and 15 of Hickory Township in Pennington County.

Size: The 2.2-mile open channel ditch benefits 2,331 acres.

Project: The improvement was done to establish a previously constructed Soil Conservation Service Group ditch as a legal ditch. The existing drainage ditch was improved so that the ditch provides adequate drainage for agriculture at an acceptable cost. The ditch grade was lowered about 1.5 feet. The outlet side slopes were changed from a 1:1 to a 3:1 and the upstream side slopes were changed from a 3:1 to a 4:1. The ditch bottom width at the outlet will be 12 feet where the upstream ditch bottom will be 10 feet wide. The improvement was designed to accommodate a 5-year frequency run off event with one foot of freeboard.

Status: On September 9, 1993, the RLWD accepted a petition for the improvement of an SCS Group ditch. Project 109 was established in 1994. The bid was awarded to Hedeem Construction. Work was completed and the final payment was awarded August 22, 1996.

PROJECT 113, WINSOR HANGAARD

Location: The Winsor-Hangaard system outlets into the Lost River in section 12 of Gully Township of Polk County. Moving upstream, the ditch travels along the north side of section 7, 8, and 9 of Winsor Township. There are laterals that extend into section 2, 3, 10, 14, 15, and 22 of Winsor Township in Clearwater County.

Size: The 13.9-mile open channel ditch benefits 8,181 acres.

Project: The improvement was done to provide drainage by establishing a previously constructed Soil Conservation Service Group Ditch as a legal ditch and re-establishing a portion of the old Judicial Ditch 1, which was abandoned. The ditch adjacent to CR 60 has a 3:1 side slope. The improved Judicial Ditch 72 Brand 11 will have 3:1 side slope and the SCS ditch and Laterals A, B, and C have a 2:1 side slope to reduce construction costs. The bottom widths will vary to provide the required capacities for the various reaches. The ditch design provides the capacity to handle one to two-year recurrence interval events.

Status: On January 13, 1994, the RLWD combined two petitions, named the project Winsor-Hangaard/Clearwater County Petitions, and numbered it RLWD No. 113. The ditch was established in 1995. The bid was awarded to Red Lake Builders Inc. Work was completed and the final payment was ordered November 10, 1999.

PROJECT 115, RLWD #1 LATERAL C

Location: RLWD #1 Lateral C outlets into Lost River in Section 1 of Chester Township in Polk County. Continuing upstream, the ditch runs north along the west side of section 1 of Chester Township and sections 36 and 25 of Equality Township in Red Lake County. The ditch also runs to the east on the south side of section 25 for a half mile.

Size: The 2.25-mile open channel ditch benefits 1,274 acres.

Project: RLWD 1 was created in 1975 and consisted of three separate laterals. Improvement and expansion of the RLWD #1 Lateral C in 1995 included reestablishing and enlarging the capacity of the original legal ditch plus constructing a half mile of new ditch. The planned improvements by Polk County to Polk County CSAH 6 reduced the cost of construction to landowners since Polk County reconstructed the portion of Lateral C along PCSAH 6. Lateral C was designed with an 8-foot-wide bottom. The side slopes are designed to a 1:3 and 1:4 on the roadside and 1:3 on the field side. The grade varies from .15% to .03% to .04% depending on stationing. The ditch was designed using three flow rates according to RLWD and MnDOT requirements: 1) 5-year peak flow for the channel design; 2) 10-year peak flow for access crossings; 3) 25-year peak flow for crossing design of roadways.

Status: On September 8, 1994 RLWD accepted a petition for improvement of Lateral C and to construct an additional Lateral. Project 115 was established in 1995. The bid was awarded to Zimpel Construction. Work was completed and the final payment was ordered on October 9, 1997.

PROJECT 117, JOHNSON PETITION

Location: The Johnson Petition ditch outlets into Polk County Ditch 130 in section 6 of Russia Township. The ditch continues upstream along the north side of section 5, 4, and 3 of Russia Township in Polk County.

Size: The 2.75-mile open channel ditch benefits 1,802 acres.

Project: The purpose of the petition was to provide agricultural drainage. The petition called for the establishment and improvement of a ditch, which extends upstream from Polk County Ditch 130 approx. 1.5 miles. The ditch was designed to be minimally four feet deep with 4 to 1 side slopes. The capacity is designed to an equivalent of a two-year recurrence interval.

Status: On October 13, 1994, RLWD accepted a petition for establishing a new drainage system. Project 117 was established in 1995. The bid was awarded to Zimpel Construction. Work was completed and the final payment was ordered December 12, 1996.

PROJECT 119, POLK COUNTY IMPROVEMENT #104, #61, #47, #94

Location: The ditch outlets into an unnamed coulee in section 25 of Roome Township. Moving upstream, the ditch runs southeast in Section 25 of Roome Township, then goes south along the west side of section 30 and 31 of Andover Township. The ditch then goes east along the north side of section 2 and 1 of Vineland and sections 6, 5, and 4 of Hammond Township. A part of the ditch travels south along the west side of section 1 and 12 of Vineland Township. Another part travels south along the west side of section 6 and 7 of Hammond Township. The last section of the ditch travels east along the north side of section 7, 8, and 9 of Hammond Township in Polk County.

Size: The 13.42-mile open channel ditch benefits 8,298 acres.

Project: The purpose of the project was to improve County Ditches No. 104, 61, 47, and the outlet of 94 and to consolidate the multiple ditch systems into one system. The goal of the project was to expand and enhance the existing legal ditch systems, provide adequate drainage, correct infilling of ditches and replace culverts that are inadequate. The side slopes on both ditch sides will be decreased to a 1-foot vertical to 4 feet horizontal. The bottom width in the lower and middle reaches of the ditch system are 8 feet. The upper reaches have a 6-foot-wide bottom. The ditch was designed using three flow rates 1) five-year peak flow for the channel design; 2) ten-year peak flow for access crossings and minimum maintenance road crossings upstream of CSAH 45; and 3) twenty-five-year peak flow for crossing design and roadways from CSAH 45 and downstream.

Status: On October 2, 1994, RLWD accepted the petition for improvement and consolidation of County Ditches 104, 61, 47, and the outlet of 94. Project 119 was established in 1995. The bid was awarded to Davidson Construction. Work was completed and the final payment was ordered on January 8, 1998.

PROJECT 122, CHALLENGER DITCH

Location: The Challenger Ditch outlets into the Red Lake River in section 4/9 of Rocksbury Township in Pennington County. The ditch continues upstream to the east and ends on the east side of County Road 17 (Pennington Avenue).

Size: The .32-mile open channel ditch benefits 408.0029 acres.

Project: The ditch provides a 5 to 10 year bankfull capacity for runoff from the existing drainage area.

Status: On March 9, 1995, RLWD accepted a petition to improve and establish a legal ditch. The bid was awarded to Spruce Valley. Work was completed and the final payment was ordered October 22, 1998. On January 8th, 2019, the Board received a Petition from Pennington County for the re-alignment of Challenger Ditch. The petition was accepted. Construction occurred during 2020 while the road and bridge were also being completed. Most of the ditch was constructed by the end of the season in 2020 with few culverts to still be installed.

PROJECT 123, BAATZ PETITION

Location: The ditch outlets into the Burnham Creek Ditch project 43B in section 9 of Russia Township. Moving up stream the ditch runs south along the west side of section 9 then turns east and runs along the north side of section 16 of Russia Township in Polk County.

Size: The 1.5-mile open channel ditch benefits 570 acres.

Project: The purpose for the construction was to alleviate channel capacity problems, the existing drainage system was not a legal ditch and did not have the capacity to convey runoff for frequent return internal events and was insufficient for providing agricultural drainage. Ditch depth, from flow line to adjacent field elevation, is a minimum of 4 feet. The channel bottom widths vary from 6 feet to 4 feet. Channel side slopes are a 3 to 1 ratio.

Status: On January 25, 1996 RLWD accepted the amended petition for the construction of a new ditch. Project 123 was established in 1996. The bid was awarded to Tom Radniecki, TR Excavation. Work was completed and the final payment was ordered on September 8, 1997.

PROJECT 134, POLK COUNTY DITCH #63 IMPROVEMENT

Location: The ditch outlets into Burnham Creek in section 9 of Andover Township. Moving upstream it travels north east through section 9 and 10 and then travels to the east along the north side of section 10 and 11 of Andover Township in Polk County.

Size: The 3-mile open channel ditch benefits 2,759.72 acres.

Project: The purpose of the ditch improvement of Polk County Ditch #63 was to improve drainage during spring melt. The ditch bottom was lowered 1.5 feet with replacement of 4 culverts. The channel bottom slope varied along the ditch to avoid lowering a gas main located at Station 134+00. The roadside slope is at a 1.75 to 1. The side slope on the field side is a 4 to 1. The design provides a two-year level of service for the ditch and can convey the 5-year flow within its banks.

Status: On October 9, 1997, RLWD accepted a petition for improving Polk County Ditch #63. Project 134 was established in 1999. The bid was awarded to Wright Construction, Inc. of Thief River Falls, Minnesota. Work was completed and the final payment was ordered on July 27th, 2000. A grade stabilization project at the outlet was completed in 2018.

PROJECT 135, POLK COUNTY DITCH #33

Location: The ditch outlets into the Red Lake River during normal events and outlets into the Little Marais Creek during flood events in section 16 of Fisher Township. Traveling upstream the ditch goes to the east along the north side of section 16, 15, 14, and 13 of Fisher Township and Section 18 of Lowell Township in Polk County.

Size: The 4.5-mile open channel ditch benefits 4,304.73 acres.

Project: Landowners pursued a ditch improvement because the ditch was inadequate to convey a USGS 5-year storm flow and a repair would not be able to provide the needed capacity. The ditch frequently overtopped and water backed into adjacent fields. The ditch bottom was lowered 0.5 feet to 1.5 feet to provide a consistent flow line between culverts. The channel bottom width varies to accommodate additional flow from the watershed. Side slopes on the roadside of the ditch would remain a 1.75 to 1. The field side was graded to a 4 to 1 side slope. The design provides a two-year level of service for the ditch and can convey a 5-year flow within its banks.

Status: On March 12, 1998 RLWD accepted the amended petition for Improvement to Polk County Ditch #33. Polk County Ditch #33 Improvement was established in 1998. The bid was awarded to Holthusen Construction, Inc. Work was completed, and the final payment was ordered on July 27th, 2000. Today at station 369+60, there is an old concrete bridge that is no longer structurally sound, and the landowner and ditch inspector no longer use the crossing for access. The responsibility of the structure needs to be determined and a discussion needs to be held with the landowner and/or landowners along the ditch system of how they would like to proceed forward.

PROJECT 161, RLWD DITCH #10

Location: RLWD Ditch #10 outlets into the floodplains along the Red Lake River in section 18 of Gervais Township. Moving upstream, the ditch continues to the north along the west side of section 18, 7, and 6 of Gervais Township and section 31 and 30 of River Township in Red Lake County.

Size: The 4.6-mile open channel ditch benefits 2,586.79 acres.

Project: The improvement was done to provide an adequate channel and outlet to alleviate or considerably lessen the damages being done by the overloading of the existing private drainage system. It also improved the agricultural drainage within the proposed system. The channel has a 6-foot bottom on the upstream end of the system with a 4:1 side slope and an 8-foot bottom on the downstream end of the system with a 4:1 side slope. The utilization of the ditch spoils and traps on side-inlet structures will enable the channel to handle a 5-yr-24-hr-storm without breakout flows. The drainage was designed to handle a minimum 2-yr 24-hr storm in-channel flow and culverts were sized to pass a minimum of a 5-yr 24-hr storm without over topping the roads.

Status: On July 10th, 2003 RLWD accepted a petition for establishing a new ditch system. RLWD #10 was established in 2005. The bid was awarded to Olson Construction of Thief River Falls. Work was completed and the final payment was ordered on October 13th, 2005. In 2016, upon inspection, it was

found that the outlet spillway had collapsed due to being undermined. The spillway was patched in the fall of 2016. In the Spring of 2019, upon inspection, it was noted that large cracks have formed along the spillway and water was disappearing under the spillway and would reenter the system at the outlet pool. The district applied and was awarded 84,412.86 from FEMA (\$63,309.65 Federal and \$21,103.21 State) to repair the issue. RLWD is bidding the project in January of 2021 and construction will be completed by September 30th, 2021.

PROJECT 166, RLWD DITCH #11

Location: The RLWD Ditch #11 outlets into the Grand Marais River in section 12 of Grand Forks Township. Moving upstream, the ditch continues east along the north side of section 12 of Grand Forks Township and section 7, 8, 9, 10, 11, and 12 of Sullivan Township in Polk County.

Size: The 6.4-mile open channel ditch benefits 9,135.56 acres.

Project: RLWD Ditch #11 (Polk County Ditch #40 Improvement) was primarily constructed to provide protection benefits to the land to the north of the constructed channel. The channel in sections 7, 8, 9, and 10 of Sullivan Township and section 12 Grand Forks Township has an 8-foot bottom with 3:1 to 4:1 side slope. The channel in section 11 and 12 of Sullivan Township has a 25-foot bottom with 4:1 side slope. The Township road was relocated between sections 6 and 7 of Sullivan Township. The improvement is designed to handle near a 20-year frequency.

Status: On February 10, 2005 RLWD accepted a petition to improve a portion of Polk Co Ditch #40, which was originally established in 1903. RLWD Ditch #11 was established in 2006. The bid was awarded to R. J. Zavoral & Sons, Inc. Work was completed, and the final payment was ordered on October 25th, 2007.

PROJECT 169, RLWD DITCH #12

Location: RLWD Ditch #12 outlets into an unnamed creek, which discharges into the Heartsville Coulee in section 16 of Bygland Township. Moving upstream the ditch continues through section 16, 15, 22, 27, 26 and 35 of Bygland Township and section 2, 11, 12, 13, 24, and 25 of Tynsid Township in a south easterly direction. A branch off the mainstem travels east along the north side of section 13 in Tynsid Township and section 18 of Room Township, then turns south along the west side of section 17 of Roome Township. A second branch off the mainstem travels east along the north side of sec 24 of Tynsid Township and section 19 and 20 of Room Township. The third branch off the mainstem travels east along the north side of section 25 of Tynsid Township and section 30 and 29 of Roome Township.

Size: The 17.34-mile open channel ditch benefits 15,596.03 acres.

Project: The goal and purpose of the project was to reduce the impacts of local and regional flooding and to add environmental benefits to the system. The channel has a 15-foot bottom with a 3:1 side slope. The proposed grade of the channel was set such that it matches the existing inverts of culverts promoting smooth continuous flow through the system. Slope grade varies from .011% to .093%.

Culverts upstream of County Highway 9 and downstream of MN Highway 220 were improved. The ditch improvement was designed to allow the 2-year and 10-year flow rates to pass through the ditch below natural ground along the entire length of the improved ditch.

Status: On March 22, 2007 RLWD accepted a petition to improve and extend Polk County Ditch No. 53. The RLWD #12 was established in 2009. The bid was awarded to RJ Zavoral and Sons, Inc. Work was completed, and the final payment was ordered on October 22nd, 2009.

PROJECT 170A, LATERAL TO PENNINGTON COUNTY DITCH #75

Location: The ditch outlets into the main of Pennington County Ditch No. 75 in section 17 of Star Township. Continuing upstream, the ditch moves east along the south side of section 8, 9, and 10 of Star Township in Pennington County.

Size: The 2.04-mile open channel ditch benefits 1,450.49 acres.

Project: The request of the new lateral relates to the inadequate access to public drainage systems and frequent long duration high water which damages crops. The channel bottom is 6 feet wide. The channel generally has a 3:1 side slope but areas through ridges have a 1:1 side slope. The lateral was designed to accommodate between a 2 and 5-year frequency runoff event.

Status: On September 9th, 2010 RLWD accepted a petition for a lateral to Pennington County Ditch No. 75. Project 170A was established in 2011. The bid was awarded to All Seasons Contracting, Inc. Work was completed, and the final payment was ordered on November 10th, 2011.

PROJECT 171, RLWD DITCH #14

Location: RLWD Ditch #14 outlets into the Red Lake River in section 34 of Rocksbury Township. Moving upstream through section 34 of Rocksbury Township, the ditch travels in a south, south east direction underground until Greenwood Street. The ditch continues as an open channel through section 3, 2, 11, 12, 13, 18, and 19 of Rocksbury Township in Pennington County.

Size: The 4.42-mile ditch benefits 2,734.17 acres. About .6 of a mile of the system (in town) is underground. The rest of the ditch is an open channel ditch.

Project: The request of improvements to Pennington County Ditch No. 1 was due to insufficient capacity, insufficient drainage, and a poor outlet. The ditch design is based on a 100-year urban protection and a 10-year agricultural protection. An improvement of CD 1 all the way to the Red Lake River along CD 1's existing course was problematic from a potential cost standpoint. To make the project for affordable, not only was an improvement completed to the entire CD1 system, but a flood damage reduction project was added that has the capability for 100% diversion. During high water events, there is a gate on the south side of County Road 8 that can be closed to redirect all the water to flow west

along the south side of CR 8 into Challenger Ditch where it will outlet into the Red Lake River. See operating plans for said gate.

Status: On September 24th, 2009 RLWD accepted the petition for an improvement to Pennington County Ditch 1. The bid was awarded to Spruce Valley Corporation. Work was completed, and the final payment was ordered on January 10th, 2013.

PROJECT 175, RLWD DITCH #15

Location: RLWD Ditch #15 outlets into Polk County Ditch #2 in section 28 of Tabor Township. Continuing up stream, the ditch runs east along the north side of section 27 and 26 of Tabor Township then continues in a south east direction across section 25 of Tabor Township, section 30, 31, and 32 of Angus Township and section 6, 5, and 9 of Euclid Township. The ditch then travels in an easterly direction through section 10, 11 and 12 of Euclid Township in Polk County. The ditch begins at the outlet of RLWD's Brandt Impoundment.

Size: The 13.26-mile open channel ditch benefits 51, 658.04 acres.

Project: The goal and ultimate purpose of the project was to reduce the impacts of local and regional flooding and to add environmental benefits to the system. The grade of the channel matches the existing inverts of many of the in-place culverts. The channel has a 15' wide bottom with most of the side slopes being 3:1 with exceptions of some locations where the side slopes are 4:1. The ditch is designed to pass a 2-year flow in the channel with 0 feet of free board below field inlets and to pass a 10-year flow in the channel ideally below natural ground or below berm levels.

Status: RLWD received a ditch establishment petition April 26th, 2012. Project 175 was established in 2014. The bid was awarded to Davidson Construction, Inc. Work was completed, and the final payment was ordered on August 27th, 2015.