

Nemaha Natural Resources District

Insight

**ANNUAL
REPORT
2017**

Non-Incumbents Still Have Time to File for Election

Though the deadline has passed for incumbents, non-incumbents (someone who does not currently hold any elected office) have until March 1 to throw their hat in the ring! Eleven spots are up for election this year on the Nemaha NRD board including one at-large position. The other 10 are subdistrict-specific positions. NRD directors serve four-year terms; meetings are held on the second Thursday of each month at Tecumseh; and a \$65 per diem is paid plus mileage/expenses for attendance at NRD meetings and functions. Incumbents whose terms expire this year and their subdistrict assignments are:

- Subdistrict 1: Tim Loseke, Hickman
- Subdistrict 1: Bob Lassen, Firth
(2-year term)
- Subdistrict 2: Duane Sugden, Sterling
- Subdistrict 3: Doug Iske, Syracuse
- Subdistrict 4: Jenny Kearney, Nebraska City
- Subdistrict 5: Kevin Thorne, Nebraska City
- Subdistrict 6: Lisa Beethe, Elk Creek
- Subdistrict 7: Dan Stukenholtz, Brock
- Subdistrict 8: Don Siske, Table Rock
- Subdistrict 8: Eldon Snoko, Humboldt
(2-year term)
- Subdistrict 9: Bill Niedfeldt, Shubert
- Subdistrict 10: Alan Romine, Falls City
- At-Large: Russel Moss, Burr

For the most up-to-date list of those who have filed, check the Nebraska Secretary of State's website: www.sos.ne.gov.

March Deadlines for Tree Orders, Grass Seeding

Seedlings are still available for those wanting to plant their own windbreaks this spring. March 1 is the deadline to order, and you must pay when you order to reserve your trees. Regardless of species all trees/shrubs are \$1.00 each, plus a \$4.00 packaging fee/order and applicable sales tax. All orders must be in quantities of 25/species. Check our website for all the details and a list of species available.

Anyone wishing to employ the NRD's no-till grass drilling services, March 15 is your deadline for spring seeding (October 15 for fall seeding). The cost is \$26/acre (\$150 minimum) with all spring seeding done between March 15-May 15. Maximum acreage per landowner is limited to 25 acres per year.

Note: the NRD only offers a no-till drilling service. Rental drills are no longer available from the NRD effective February, 2018.

Duck Creek Recreation Area Set to Open in April

After years of planning, designing, building, and finishing, the Duck Creek Recreation Area northwest of Peru, Nebraska, is finally nearing completion. A partial opening is anticipated for Monday, April 16, 2018, with the park gates to be opened at noon that day. Both RV and tent camping sections will remain closed, however, to allow grass to become better established, but the entire park should be available for use by May 21, just in time for the Memorial Day holiday weekend. Between the April and May opening dates, visitors will be able to fish, picnic, hike, and launch small boats on the 62-acre, no-wake lake.

Rules for the Duck Creek area will be similar to those at Iron Horse Trail Lake including fishing regulations, requirement of an NNRD park entry permit, and no-wake boating. The 200-acre park will offer 28 RV pads with electrical hookups, various tent camping areas, pit-style outhouses, drinking water, picnic shelters/areas, two playgrounds, sand beach and boat dock,



Restrooms, concrete, picnic tables and water are ready to go at Duck Creek Recreation Area.

and optimal fishing access points.

A grand opening and formal dedication of the park is planned sometime in June. Watch the NRD's website (nemahanrd.org), Facebook page, and local news media for updates and details.

NRD Park Permits Available

Beginning January 1, 2018, the Nemaha NRD's charge for vehicle entry permits required at its parks changed (the first increase since their inception in 1999). With the opening of Duck Creek this year and to streamline the process, the board of directors approved the following rates for permits that are required at Kirkman's Cove, Iron Horse Trail Lake, Wirth Brothers Lake, and now Duck Creek Recreation Area.

Annual Permits: \$15 for the first permit; \$8 for a second permit (for a vehicle titled to the same person); valid at all four parks through December 31, regardless of date purchased

Daily Permits: \$5/day, available at iron ranger collection boxes at each park

For your convenience you may now purchase your annual permits via the NRD's website: nemahanrd.org. Click on the Purchase Park Permit button at the top of the home page, fill out your name, address, and vehicle information; pay with your Visa, Mastercard, or Discover. Your permit will be mailed to you (often times the next day.)

Watershed of Wonders Slated for June 20

Calling all youth 10-12 years old: Watershed of Wonders is scheduled Wednesday, June 20, at Iron Horse Trail Lake. You don't want to miss out on this opportunity to enjoy some fun in the outdoors at this natural resources themed day camp. This is the ninth time for the event which is open to all boys and girls who will be 10-12 years old as of June 1. Pre-registration is required, and forms will be made available to all schools within the Nemaha NRD this spring. You may also find the form on our website or by request. Activities are scheduled throughout the day, lunch is provided, and t-shirts and other goodies go home with each participant. Mark your calendar and watch for more details later this spring!

Welcome, Kerri, to the NRD!

On January 1 Kerri Miller joined the NRD staff as the Administrative Assistant in charge of accounting and bookkeeping. Her previous experience includes income tax services, administrative positions with Wilbur Ellis Company, Johnson County Central Schools, and the Tecumseh State Correctional Institution. She is also co-owner/operator of 57 Fitness in Tecumseh and a Tecumseh High School graduate. Kerri and her husband, Randy, live and raise cattle near Tecumseh and have four adult children.

CALENDAR OF EVENTS



FEBRUARY

- 15 Incumbent Filing Deadline
- 19 Presidents' Day Holiday, NNRD Office Closed

MARCH

- 1 Non-Incumbent Filing Deadline
- 1 Deadline to Order Trees
- 6 Chemigation Training @ NRD Office
- 6-7 Water Celebration @ Peru State College
- 8 NNRD Board Meeting, Tecumseh – 7:00 p.m.
- 17-22 NARD Washington, DC, Conference

APRIL

- 12 NNRD Board Meeting, Tecumseh – 8:00 p.m.
- 14 NARD 5K Run, Norfolk
- 16 Duck Creek Recreation Area Opening @ Noon
- 22 Earth Day
- 25 Nebraska Envirothon, Niobrara State Park
- 27 Arbor Day (NRD Office is Open)

Annual Report:-----

2017 Highlights



These trees had to be removed around and below the outlet tube before a new riser and outlet tube could be installed

Watershed Repair:

The District is responsible for operating and maintaining over 350 watershed dams. In 2017 work completed on 18 dams at a cost of \$175,000 included:

- Rip rap installed on the face of 4 structures
- Risers/outlet tubes replaced on 5 structures
- Sediment removed from outlet channel on 1 priority watershed structure
- Beaver dams removed around risers on 8 structures

Rehabilitation of Upper Big Nemaha 25-C (Doctor's Lake near Adams):

Federal engineers have determined that the original design of the structure does not meet current safety standards for safely passing a maximum probable precipitation event, which is 24 inches of rain in a 24-hour period. Federal rehabilitation funds will pay for 65% of the cost to construct a large, concrete chute through the center of this high hazard dam. Last summer land rights were secured, and construction is scheduled to begin in September, 2018.

Small Dams Program:

The District provided 75% cost share towards the construction of a small dam on property owned by Doug & Sandi Davison. The structure controls 100 acres of drainage and reduces potential flooding to South 110th Road located approximately ½ mile north of Highway 41 in Gage County.

Recreation:

Annual Park Permits Issued: 1,273

Total Park Permit Revenue from both annual and two-day permits: \$17,060

Regulation Updates: In December, 2017, changes were adopted to the recreation area rules to include the soon-to-be-opened Duck Creek Recreation Area. They also voted to limit camping at Prairie Owl to seven days and to remove all language in the official rules regarding fees. Instead the board of directors may set fees through action at a regular meeting. (See the article on the front page for details about the changes to the fees beginning January 1, 2018.)

Solar Eclipse: August 21 saw folks from across the country and even a few from across the ocean travel to southeast Nebraska to glimpse the solar eclipse. With the line of totality stretching through the Nemaha NRD, crowds estimated around 1,000 flocked to both Kirkman's Cove, Iron Horse Trail Lake, and Wirth Brothers Lake to view the phenomenon. NRD staff was on hand at the parks throughout the weekend and on Monday to help direct traffic and answer questions.



These youngsters had everything they needed to view the solar eclipse at Kirkman's Cove.

Duck Creek Sediment Basin Project: The NRD will receive \$345,000 from the NRCS Watershed and Flood Prevention Program to construct a sediment basin above the new Duck Creek reservoir. This structure is designed to store 40 years of sediment helping to extend the recreation life of the lake in this new recreation area. Design for the sediment basin has been completed, so the funding will be used to complete the permitting and construction of the facility. Construction will take place in 2019.

Conservation Assistance:

Combined funds of \$170,473 from Nebraska Soil & Water Conservation Program (SWCP) and NNRD funds provided up to 50% cost-share for:

- 111,043 linear feet of terraces
- 9.63 acres of grass waterways
- 24,629 linear feet of tile

Nebraska Buffer Strip Program: Nearly 1,050 acres in the Nemaha NRD are currently enrolled in the Nebraska Buffer Strip Program, which provides annual payments for grass filter strips or riparian forest buffers along vulnerable surface water resources.

Trees & Grass Drilling Programs:

Approximately 8,000 seedlings were sold last year with the NRD's tree crew planting about 4,000 at 10 different sites.

Grass drilling during the past year totaled 54.9 acres on eight sites, not including 20 acres seeded at the Duck Creek Recreation Area.

Information & Education:

Activities that the Nemaha NRD conducted or participated in during 2017:

- Water Celebration – 309 fifth graders participated in water related activities
- Third Grade Plant-A-Tree – 721 trees distributed to third graders at 14 schools
- Envirothon – Norris High School qualified a team during the regional contest to attend the state contest held in western Nebraska last April
- NRD staff assisted with the Farm Safety Day in Tecumseh in April and Husker Harvest Days in September.
- Over 140 high school students from 14 schools participated in the Area 6 Range Judging Contest held in Pawnee County in September.
- Awards – Ben & Paula Sue Steffen, Humboldt, were honored with the 2017 Nebraska Outstanding Soil Stewardship Conservation Award by the Nebraska Association of Resources Districts.
- Staff Service – NRD staff members recognized in 2017 for their years of service included: Alice Alexander-5 years; Bob Hilske-15 years*; Tomas Chale Ake-25 years; Jane Kuhl-35 years. *Hilske has 35 years combined service at 3 different NRDs.
- New Website – The NRD launched a new website in April, 2017. Soon after credit card processing was added for purchasing park permits through the site as well.

Urban Special Projects:

In May of 2017 four projects were approved for matching funds during FY18 with final deadlines of June, 2018.

- Village of Talmage – Pond Improvement @ Gritzka Lake (\$10,000)
- HTRS Public School – Greenhouse (\$20,000)
- Nebraska City – Pond Improvements @ Steinhart Park (\$25,000)

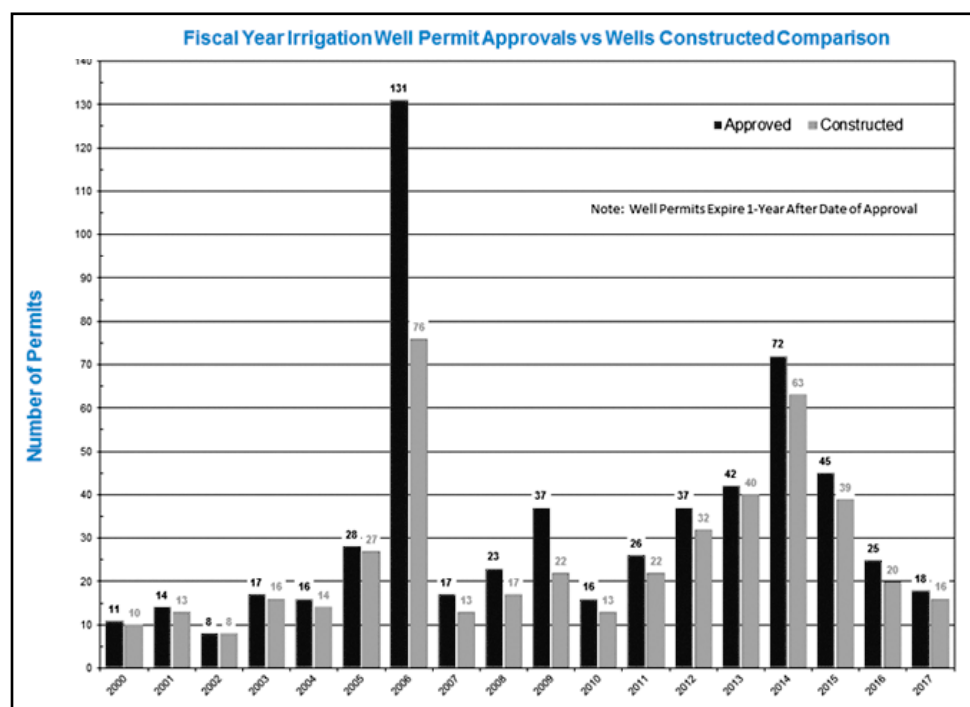


Right: Sediment removal was a large part of the project to improve Gritzka Lake in Talmage last year.

Water Resources Report FY2017

Groundwater Management

- Water wells that are designed to pump greater than 50 gallons per minute (gpm) require an approved well permit application prior to construction. A flowmeter is also required to be installed on any new or replacement wells.
- The chart below represents the number of well permits approved vs. wells constructed since 2000.



Groundwater Levels

- A network of 131 wells (irrigation, livestock, domestic and public water supply) located throughout the District were measured in the spring and fall of 2016 and 2017. A comparison of the spring readings indicated a median groundwater rise of 0.05 feet, and the fall readings indicated a median groundwater decline of 1.18 feet.
- Local area median rises and declines from the October, 2016, to October, 2017, measurements were as follows:

Barada -1.01'	Firth -0.48'	Eagle -4.13'
Sterling North -0.26'	Burr -0.46'	Talmage -1.91'
Humboldt -0.64'	Sterling South -0.43'	Cook -3.67'
Adams -0.65'	Auburn -5.37'	Brock -3.02'

Well Abandonment

- A total of 39 abandoned wells were decommissioned this fiscal year with \$15,469 of District cost-share funds. Since inception in 1994, the District has cost-shared on the closure of over 1,300 abandoned wells. Statewide NRD's have provided cost-share assistance for the closure of over 20,100 abandoned wells.

Phase II Groundwater Quality Management Area

- A Phase II GWQMA was established in January of 2004 for Northwest Richardson County due to elevated levels of nitrate-nitrogen in the groundwater. The 73 square

mile area includes all land East and South of Pawnee and Nemaha Counties, respectively, North of the North Fork of the Big Nemaha River and West of Highway 75.

- Annual groundwater sampling occurred in June and August with 28 domestic wells and 6 irrigation wells sampled for nitrate-nitrogen averaging 7.0 parts per million (ppm), which is down from 8.6 ppm measured last year.
- Throughout the District, 165 wells (86 irrigation, 67 domestic, & 12 monitoring) were sampled and analyzed for the nitrate-nitrogen concentration averaging 6.5 ppm for the domestic wells, 3.6 ppm for the irrigation wells, 2.4 for the monitoring wells, and 4.7 ppm overall. Of the 138 samples that were also analyzed for atrazine, 5 exceeded the minimum detection limit at or above 0.05 parts per billion (ppb); however, none exceeded the 3 parts per billion (ppb) maximum contaminant level (MCL) set by EPA. The MCL for nitrate nitrogen is 10 ppm.

Chemigation

- This year the District received 255 permit applications and inspected 98 systems for safety equipment compliance. Of the 255 applications, 222 were renewals; and 33 were new permits.
- Applicator certification is required prior to chemigating. Training sessions are held throughout the State each winter/early spring. The District will host a training session at the NRD Office in Tecumseh on Tuesday March 6, from 9:00–noon. The training will be proctored by Randy Pryor, Saline County Extension Agent, and he can be contacted at (402) 821-2151. Contact the NRD or log on to www.deq.state.ne.us/ click on Licenses & Certification dropdown box located on the top right center of the page then click Chemigation for a current list of training dates, locations and training materials. Also, applicators may find their certification number and expiration year.

High Capacity Flow Meter & Irrigation Management Cost-Share Program

- The District has cost-share programs for flow meters for water wells within the District pumping greater than 50 gpm and for irrigation management equipment. The programs cover 50% of the cost of a new flow meter up to a maximum of \$500 and 50% of the cost of eligible irrigation management equipment up to \$300. Approval is required prior to purchase for both programs.
- This fall 171 flowmeters were read indicating an average of 4.25 inches of water were applied per acre on approximately 17,338 acres.

Surface Water Sampling

- The beaches at Iron Horse Trail Lake, Kirkman's Cove and Wirth Brothers were sampled weekly during the recreation season (May-September) for E. coli bacteria and blue-green algal toxins. Iron Horse and Kirkman's Cove were placed on health alert for toxic algae for three and six weeks this season, respectively. Kirkman's Cove tested high for E. coli six different weeks, Wirth Brothers for four weeks and Iron Horse two weeks.
- Sampling for the new Duck Creek Recreation Area beach will begin in May of 2018.
- Additional Lake beach bacteria and toxic algae monitoring results for other lakes throughout the State can be found on the NDEQ website at: <http://deq.ne.gov/NDEQProg.nsf/OnWeb/SWMA> More information about health alerts, potential health effects and facts regarding toxic algae can be found there also.

FISCAL YEAR 2017 - 2018 PROJECTIONS

NRD board members were able to lower the FY18 budget, the second consecutive year of budget reductions. At the same time, however, they added funding to supplement the Soil and Water Conservation cost-share program, pay off the loan on the NRD building construction, and bank some funds for the upcoming rehabilitation of Upper Big Nemaha 25-C. With completion of the Duck Creek project, expenditures reflected a corresponding decrease. Adequate funds were included in the budget to continue water quality and quantity studies and programs.

Here's a brief description of the major items included in this year's budget:

Projected Expenditures

Watershed & Flood Control Projects: \$1,165,509

Buck Creek Road Improvement
Watershed Rehabilitation (Upper Big Nemaha 25-C)
Watershed Structure Repair/Maintenance

Recreation: \$393,369

Duck Creek Recreation Development (picnic shelters, playground equipment, concrete pads/trail, water system, seeding/landscaping, signs)
Park & Trail Maintenance (rock, sand, tables, grills, utilities, mowing, etc.)
Dock replacement @ Iron Horse
Restroom replacements @ Kirkman's (2)

Personnel & Director Expenses: \$1,233,574

General Operation & Administration: \$184,808
Utilities, vehicle & equipment expenses, property maintenance, supplies, insurance, dues, postage, etc.

Conservation Assistance: \$234,720

Tree Planting & Grass Drilling
Nebraska Buffer Strip Program
Soil & Water Conservation Program
Urban Special Projects
Small Dams Cost-Share Program

Water Quality/Quantity: \$245,442

Groundwater & Surface Water Monitoring
Well Abandonment
Chemigation
Flow Meter & Irrigation Management Cost-Share
Basin Planning/Groundwater Consulting

Capital Expenditures: \$209,282

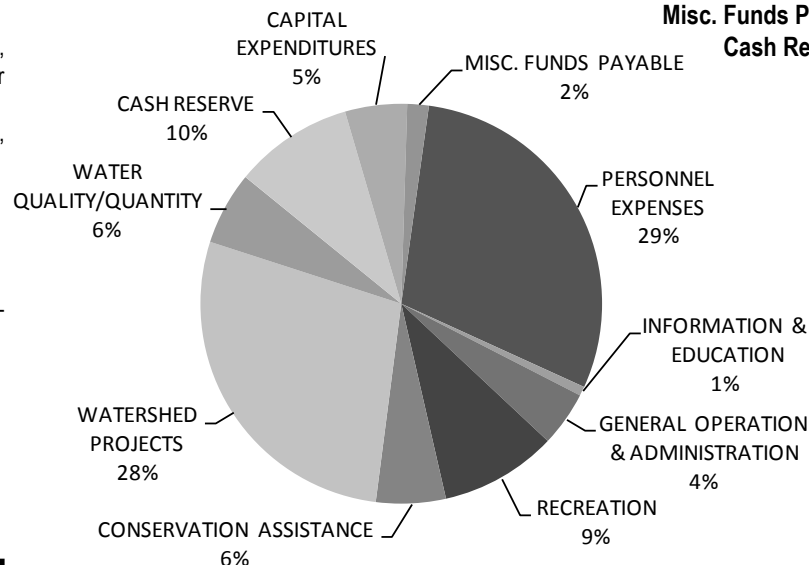
Building loan payoff & interest, UTV, lawnmower, jet pump, pickup replacement, photocopier & tablets (excludes recreation improvements)

Information & Education: \$31,115

Awards, youth & education programs, newsletter & website, advertising, etc.

Misc. Funds Payable: \$72,788

Cash Reserve: \$400,000



Projected Revenue

Federal Grants & Funds: \$18,030

Nemaha Basin Water Quality Plan (EPA 319 Funds)

State Grants & Funds: \$439,966

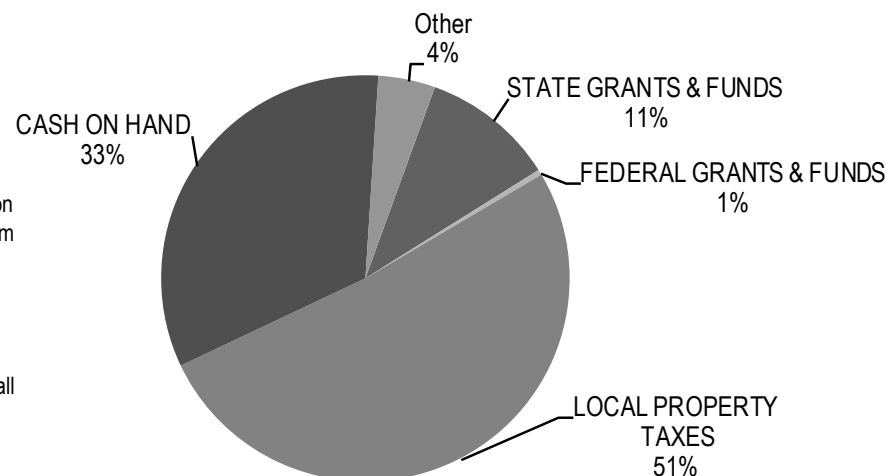
Nebraska Game & Parks: Duck Creek Recreation
Nebraska Resource Development Fund: Duck Creek Recreation
Nebraska Department of Agriculture: Nebraska Buffer Strip Program
State Water Quality Funds

Local Property Taxes: \$2,145,521

Cash on Hand & Misc. Funds Receivable: \$1,377,565

Other: \$189,527

Landowner Share of Project Costs (Duck Creek road project; small dams)
Tree sales & planting services
Park Permits & Electrical Hookup Fees



FOR MORE DETAILED EXPLANATIONS OF SPECIFIC BUDGET ITEMS, PLEASE CONTACT THE NEMAHA NRD (402) 335-3325.

Funding Secured for Water Data Collection Projects

Airborne Electromagnetic Monitoring Project (AEM)

- Nemaha NRD is one of six NRDs receiving State Water Sustainability Funding for mapping geology to better define aquifer areas in the glaciated portions of eastern Nebraska. ENWRA (Eastern Nebraska Water Resources Assessment) is coordinating the project for the NRDs.
- Nemaha NRD's project will include 375 linear flight miles.
 - A 35 square mile area near Shubert will be flown using a grid spacing of 1,000 feet to provide high level detail of the aquifer in that area.
 - A 180 square mile area in northern Johnson and south-

central Otoe County will be flown using 1-mile spacing to provide a reconnaissance level overview of potential aquifer areas in this area.

- Helicopters equipped with the electromagnetic imaging equipment will be used to fly the areas.
- Fights will take place in June or July 2018; the final report is expected in spring, 2019.
- Total cost of the Nemaha NRD portion of the project is \$300,000 with \$180,000 being provided by the Nebraska Water Sustainability Fund.

Critical Aquifer Assessment Project

- Nemaha NRD is working with Auburn, ENWRA and several other public water suppliers in the District to install 20 monitoring wells which will be used to collect groundwater level data in critical areas of the NRD. Wells will include data recorders which will continually record groundwater levels in the wells.
- Funding is also being provided to Auburn to evaluate the potential for increasing groundwater storage in the Little Nemaha Alluvial aquifer that supplies the community's water. Auburn will spearhead this portion of the project.
- Five monitoring wells will be installed near the Auburn wellfield along the Little Nemaha River.
- 15 monitoring wells will be installed at other locations where the

NRD has determined additional data collection is critical to better manage groundwater in the NRD. No exact locations have been determined at this time.

- The District will be working with Adams, Burr, Cook, Syracuse, and Nemaha County Rural Water District #2 to install continuous recorders in their wells to collect groundwater level data.
- Work on this effort will begin this spring and be completed by June, 2019.
- Total cost of the project is \$318,000 with the Nebraska Environmental Trust providing \$169,000 in assistance. The balance will be split among the NRD (\$91,000), Auburn (\$40,000), and ENWRA (\$18,000).

NEMAHA NRD STAFF

Bob Hilske, Manager
Scott Nelson, Assistant Manager
Jane Kuhl, Administrative Assistant
Kerri Miller, Administrative Assistant
Lisa Bartels, Secretary
Chuck Wingert,
Water Resources Manager
Charlie Pierce,
Water Resources Technician
Steve Bartels, Field Representative
Mark McDonald, Field Representative
Vernon Speers, Jr., Field Representative
Aaron Stalder, Resources Specialist
Tomas Chalé Aké, Field Technician
Ken Hatten,
Land & Water Resources Assistant

NRD STAFF IN NRCS OFFICES

Alice Alexander, Auburn
Geraldyn O'Malley, Tecumseh
Kim Zech, Syracuse
Monica Dishong, Falls City
Kathy Harlow, Pawnee City

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