

Operations Committee Meeting
Thursday, September 30, 2021 8:30 AM
Lower Platte North NRD Office
P.O. Box 126
Wahoo, NE 68066

1. UNFINISHED BUSINESS

There is no unfinished business to consider.

2. WILD NE AND OTHER PROGRAMS

We are working with NRCS to have a prescribed burn on the Snitley Wetland on the north end of the Wanahoo property. The tract is split between WRP (Wetland Reserve Program) and EWPP (Emergency Wetland Protection Program) See attached Map. NRCS has a bid for approximately \$6,360. We were originally told the burn would be paid for at 100%. Now, NRCS is uncertain if the EWPP is cost-sharable. If the 67 acres of EWPP is not cost-sharable the District would pay that portion at \$40/acre or \$2,680. We will know more in October.

We also need to change our Power of Attorney with the Dept. of Ag. The Districts former signee was our former General Manager. We need to refile for our current General Manager.

3. OPERATION & MAINTENANCE & OTHER ITEMS

The O & M crew has finished mowing the Ames & Cotterell levees, around Czechland & Homestead, Cottonwood 21-A , Wanahoo and Clear Creek levee. We are refurbishing the Marlon England Project sign at Trouble Creek Dam. Also, continue to inspect some watershed dams.

A. Wanahoo Stilling Basin - (FEMA)

Mike Sotak will be on via Zoom to discuss timeline of the basin floor design and any information from DNR Dam Safety regarding it all.

Status on the Scope change - NEMA did not have any questions and forwarded it on to FEMA. NEMA thought FEMA may need a couple of weeks, we hope to receive notification soon.

Griffin Dewatering are designing the dewatering wells with the capability to be converted to pressure relief.

Attached is the FYRA Professional Services Amendment 3 for additional work needed for design and completion of the Wanahoo Dam basin.

Also attached is the FYRA change order letter that was forwarded to NEMA/FEMA.

B. Clear Creek Levee

The Corps of Engineers will be doing a couple of inspections the week of Sept. 27. One group will be inspecting all the repair zones from the 2019 flood damage, the other group will be doing their annual inspection of the entire levee. Heimann will be accompanying the second group.

The COE report will come at a latter date.

C. Wanahoo Dirt Borrow with M.E. Collins

M.E. Collins would like to extend the soil borrow agreement another 2 years.

Collins has amended the Soil Borrow Agreement, it is attached. In the agreement the

dates have changed starting January 1, 2022 and ending December 31, 2023, with the option to automatically renew for another 2 years ending in 2025 if neither party wants to discontinue at the end of 2023.

The price has moved from \$1.15 to \$1.20 and if we move to 2024–2025 it will go to \$1.30.

If in agreement, we'll need a motion.

D. NRD Owned Lots

Staff is researching information on the lots owned at Thomas Lakes, so we can put together information for guidance from our Legal Counsel.

E. District Assisting with a Sheriff's Investigation

We are assisting with a Sheriff's 1969 Cold Case investigation at our watershed dam Cottonwood 6-C. We were asked to lower the lake. We opened the alfalfa valve on Sept. 23rd. They would like the lake lowered 4-5 feet.

F. Bellwood 6-FLandowner Request

Greg Beringer is requesting fencing materials to replace fence that runs along the face of Bellwood 6-F dam, approx. 530'. His neighbor south of him grazes cattle and the fence has deteriorated and partially fallen in the water. The district would like most of the old fence removed for safety purposes and if possible reuse some of the old steel post. Beringer was asked for a material list and estimated dollar amount. The original fence on watershed dams were put in to obtain grass establishment. Materials possibly needed - 2 rolls of barbed wire \$180.00, and 25 steel post \$195.00 that totals \$375.00. Beringer would cover any wood post needed.

4. ROCK AND JETTY

The Don Medinger jetty project in Butler County has been inspected.

5. LAKE WANAHOO

A. Lake Wanahoo Permit Sales

For the month of September, the District received \$2,091.85 in annual park permit revenue. The year by year breakdown for annual permits sold during the month of September is listed below. Year to date annual permit and day pass revenue total equals \$101,802.71.

B. Month	C. Monthly Total	D. YTD Total
E. September 2021	F. 2,091.85	G. 84,384.35
H. September 2020	I. 2,937.50	J. 95,445.00
K. September 2019	L. 2,015.00	M. 81,627.50

N. Lake Wanahoo Camping Revenue

For the month of September (as of 9/29), the District received \$19,726.11 in camping revenue at Lake Wanahoo. For the calendar year, camping revenue totals \$110,381.87.

O. Clint Johannes Education Building

During the month of September, the building was rented 14 times. This number includes 1 NRD-involved events. Revenue for month of September was \$1,440

6. INFORMATION AND EDUCATION

A. Information

1. Radio & eAds

The 2nd half of September and October’s KTIC Radio ad and Wahoo Newspaper e-Ad are attached. These ads shared the cost-share assistance available to upgrade septic systems with open discharge in Shell Creek and Wahoo Creek Watersheds. October’s will feature no-till drill rental.

2. Analytics

LPNNRD Website: 33 clicks from Facebook to our website, and 1 from Twitter. Slow decline in number of users.

3. LPNNRD Website	4. # of Users	5. Top Pages/Views	6. Viewing Device
7. July 2021	8. 1,623	9. Home 1,516 Lake Wanahoo 1,038 Czechland Lake 275 Outdoor Recreation 179 Downloads 153	10. Mobile 49.17% Desktop 47.87% Tablet 2.96%
11. August 2021	12. 1,411	13. Lake Wanahoo 1,004 Home 765 Czechland Lake 313 Downloads 183 Outdoor Recreation 175	14. Desktop 51.45% Mobile 45.78% Tablet 2.76%
15. September 1-27	16. 1,190	17. Lake Wanahoo 938 Home 718 Czechland	18. Mobile 49.33% Desktop

		d Lake 242 Outdoor Recreatio n 177 Downloa ds 150	48.74 % Tablet 1.93%
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19.

Facebook:

Facebook once again changed their layout and what can be seen in their "Insights" tool. This month's top posts included pictures from the Fremont 7th Grade Outdoor Education Day, the Environmental Education flyer, Newman Grove and Lakeview's Test Your Well Event flyers, and National Farm Safety and Health week.

20. Facebook	21. Number of posts	22. Reach	23. Reaction
25. July 2021	26. 11	27. 3,801	28. 103
30. August 2021	31. 19	32. 12,561	33. 129
35. September 1-18	36. 15	37. 2,394	38. 22

40.

Twitter:

Our top posts for July on Twitter included pictures from the Fremont Outdoor Education event, Test Your Well events, National Farm Safety and Health week, and September's Coffee Lakeside event.

41. Twitter	42. Number of posts	43. Impressions	44. Engagements	45. Followers
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46. July 2021	47. 10	48. 2,2 12	49. 42	50. 3 4 2
51. August 2021	52. 13	53. 2,2 12	54. 42	55. 3 4 2
56. September 1-18	57. 15	58. 1,2 93	59. 48	60. 3 4 4

61. Long Range Plan

Attached is the Long Range Plan minus the appendix. A final draft will be prepared by board meeting and board approval will be requested.

B. Education

Lower Platte South is moving forward with plans to host the East Central Land Judging Contest. Lower Platte South is not asking for LPN staff assistance at the event due to Covid restrictions/hopeful prevention.

1. Past Events

- September 7th: Coffee, Lakeside was over Lake Ecosystems; had roughly 12 people come, 5 of which were homeschooled kids.
- September 8th: Classroom visits at Newman Grove and Schuyler high school talking about nitrates and running through the water testing kits in preparation for test your well nights.
- September 9th: Fremont middle school outdoor day. Stations the NRD will be running include: tree planting, drone flying, lake ecosystems, and wildlife CSI. Roughly 350 kids will attend the day.
- September 10th: Region V outdoor day at Lake Wanahoo. 150-200 attendees will be at the lake taking boat rides with Live Well Go Fish, playing disc golf, and going on nature hikes.
- September 20th: East Butler high school classroom visit to discuss careers in natural resources and prairie ecosystems.
- September 22nd: Met with the kindergarten classes at Wahoo to talk about trees. Test your night with Neman Grove; had roughly 19 samples tested.
- September 23rd: Test your well night with Columbus Lakeview; had roughly 45 samples tested.

- September 27th: East Butler middle school classroom visit to discuss prairie ecosystems.
- September 28th: Visited St. Wenceslaus pre-K classroom to talk about trees.

2. Future events & project

- October 4th: North Bend elementary for wildlife CSI.
- October 7th: Coffee Lakeside, Foraging for Wild Foods

3.

StoryWalk at Lake Wanahoo: The Wahoo Public Library will be partnering with us to put in a storywalk out at Lake Wanahoo (map attached). It will consist of 18 story boards (angled aluminum post mounts) along the looped trail. They are submitting a grant at this time to help fund the project but will move forward with the project regardless of receiving it or not. Attached are examples.

7. RURAL WATER SYSTEMS

A. Colon System

The Colon system's monthly routine sample came back with a positive coliform hit. The retest was clean, so no further assessment (Level 2) or chlorination will be required. Wahoo is also required to perform a well test after a positive hit, which they were notified on 9/22.

Meters read and bills will be mailed 10/1.

B. Bruno System

DHHS representatives met with Elliott on 9/20 for the Bruno RWD's sanitary survey. No deficiencies were noted.

Routine sampling completed, meters read and bills will be mailed 10/1

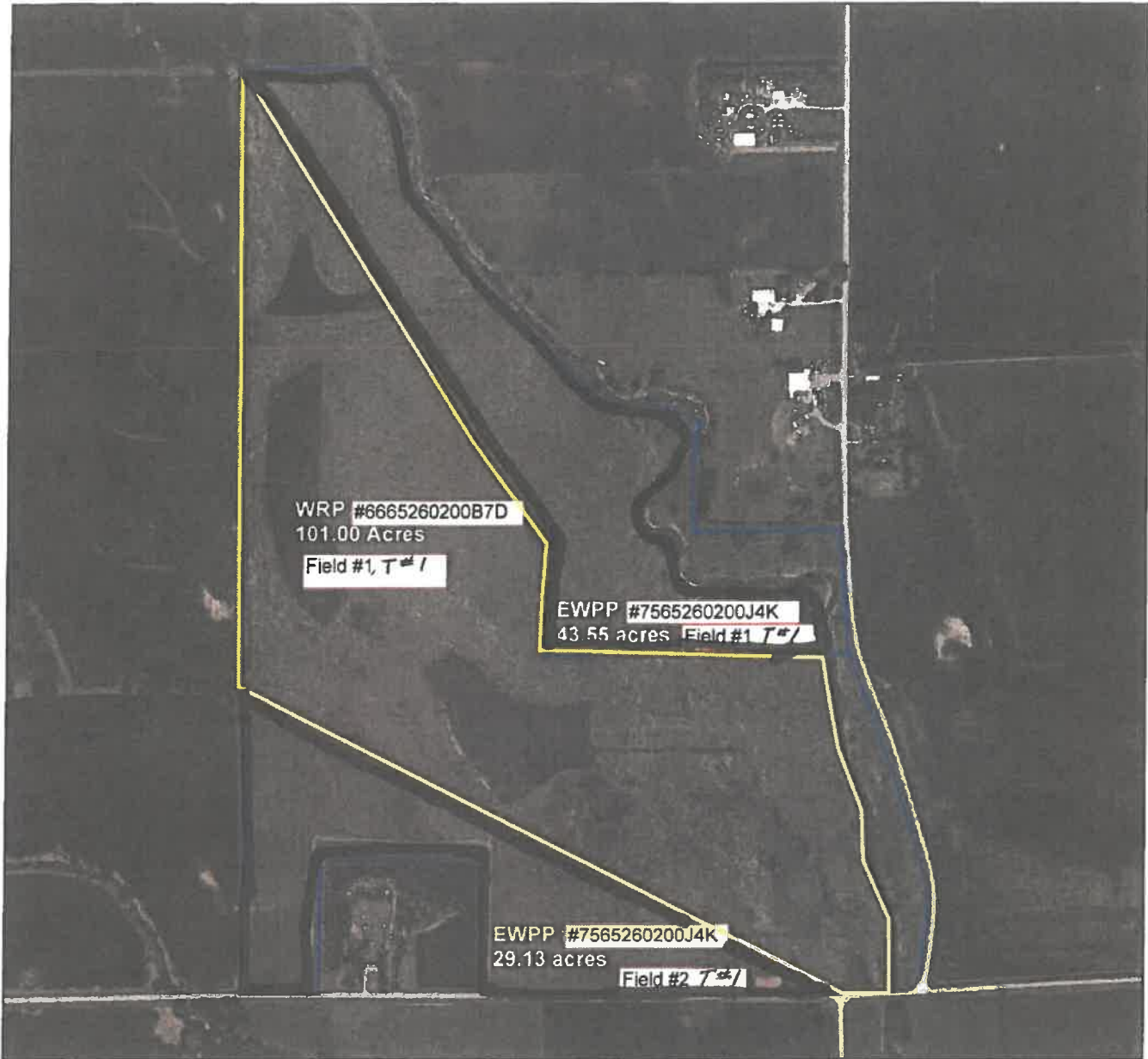
C. Other

Wetland Reserve Program 6665260200B7D
 & Emergency Wetland Protection Program
 #7565260200J4K Easement(s) Map

Date: 8/5/2021

District: LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT
 c/o Tom Mountford
 Office # 402-443-4675
 Legal Description: Pts. of Sections 9 & 10-T15N-R7E

Field Office: WAHOO SERVICE CENTER
 Agency: NRCS
 Assisted By: DAVID BICHLMEIER
 State and County: NE, Saunders County



Prepared with assistance from USDA-Natural Resources Conservation Service



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Legend

wrp_a_ne

EWPP #7565260200J4K Prescribed Burn (338) ~~43.55~~ 101.94 acres, CIN 1a

WRP #6665260200B7D Prescribed Burn (338)

WRP #6665260200B7D Prescribed Burn (338) 67.0 acres, CIN 1a

EWPP #7565260200J4K

101.94

67.0

36

28



12 August 2021

Mr. Eric Gottschalk
General Manager
Lower Platte North NRD
511 Commercial Park Road
Wahoo, NE 68066

Re: Professional Services for Lake Wanhoo Dam Spilling Basin Rehab – PSA Amendment 3

Dear Eric and Board of Directors:

This letter is in reference to the on-going delays in the construction of the above-referenced project. Attached to this letter is an executable Amendment 3 to our Professional Services Agreement (PSA.) There have been two previous Amendments as detailed below:

Original Contract for Design and Permitting:	Mar 2020	\$73,021
Amendment 1 – Construction Observation (CO)	Aug 2020	\$62,524
Amendment 2 – CO Additional Services	May 2021	\$18,140

The above three contracts total **\$153,685**. Amendment #2 provided enough funds for continued CO services into mid-June but were exhausted at that time. Since that time, total effort on this project through the preparation of this letter by FYRA personnel totals **\$15,815.52** which includes invoice number 022-064 which included all time through 7/26 in the amount of **\$12,713.36**.

You asked me to take a best guess at what effort may be left on this project, given the delays and the current plan forward. I have laid out the anticipated tasks and effort for each task as a best guess effort with what we know today. I have included time for the design of the repaired stilling basin floor as well and have assumed that the CO services would be conducted at the same time as the stilling basin completion, while the area is de-watered. As with all past agreements, this time would be billed on an hourly basis and if the time was not needed, it would not be used. The total amount anticipated including time between now and when construction begins again, once construction begins, and assuming that design services are needed for the apron floor repair project is **\$60,990**. Along with the \$15,815.52 described above for current uncontracted services, the total proposed for Amendment is **\$76,805.52**.

Thank you for the opportunity to continue serving your NRD on this challenging project. I trust you are pleased as I am with the work that has been completed to date and am confident that ultimately, we will complete the project as designed and as required. If you have any questions about this amendment or information provided, please do not hesitate to contact me at 402.934.8328, or msotak@fyraengineering.com.

Professionally,

A handwritten signature in black ink, appearing to read 'Michael K. Sotak', written over a light blue horizontal line.

Michael K. Sotak, PE, D.WRE
FYRA Engineering



PROFESSIONAL SERVICES AGREEMENT – AMENDMENT 3

PROJECT: Lake Wanahoo Stilling Basin Rehabilitation **FYRA Engineering, LLC JOB #:** 022-19-01

CLIENT: Lower Platte North NRD

ADDRESS: 511 Commercial Park Road, Wahoo, NE 68066

CONTACT: Bob Heimann **TEL:** 402.443.4675 **FAX:**

CONSULTANT: FYRA Engineering, LLC

ADDRESS: 12702 Westport Pkwy, Suite 300, Omaha, NE 68138

CONTACT: Michael K. Sotak, P.E. **TEL:** 402.502.7131 **FAX:** 402.932.6940

PROJECT DESCRIPTION: Additional construction observation services for stilling basin repair/rehabilitation work due to delays in project schedule and change in scope and design of spillway apron basin floor repair.

SCOPE OF SERVICES (See Attachment) **SCHEDULE (Contractor Bid – Weather Dependent)**

COMPENSATION:

The total compensation under this Agreement shall not exceed the dollar amount indicated herein or the amount authorized by Amendment(s) and/or Notice(s) to Proceed (NTP), whichever is the lesser.

LUMP SUM. Compensation for these services shall be a Lump Sum of \$_____.

TIME AND MATERIALS. Compensation for these services will not exceed **\$76,805.52** without written authorization and will be based on the following option (per the attached Budget or List of Hourly Rates), and Reimbursable Expenses based on actual costs incurred and approved by FYRA Engineering, LLC and as authorized in writing by Client. **This modification brings the total contract amount to \$230,490.52**

Subconsultant's Direct Job Wages times a factor of _____ Budget/List of Subconsultant's Hourly Rates.


COST PLUS FIXED FEE. Compensation for these services shall be Subconsultant Cost plus a fixed professional fee, including Reimbursable Expenses. The estimated compensation for services is \$_____ plus a fixed fee of \$_____ for a total of \$_____.

COMPENSATION DETAIL (See Following Pages)

SCHEDULE OF PAYMENTS (See Following Pages)

SERVICES AUTHORIZED BY: **Execution of Agreement** or **Amendment(s) and/or NTP**

EXECUTION: Execution of this document by duly authorized representatives of FYRA Engineering, LLC and CLIENT, including FYRA Engineering LLC's Standard Conditions (original Agreement) and any attachments, Additional Provisions as indicated, and addenda, represents the entire Agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. This Agreement may be amended or modified by written instrument, but such instrument is valid only upon signature by both parties.

CONSULTANT:	<u>FYRA Engineering, LLC</u>	CLIENT:	<u>Lower Platte North NRD</u>
BY:	<u>Michael K. Sotak, P.E.</u>	BY:	<u>Eric Gottschalk</u>
SIGNATURE:		SIGNATURE:	_____
TITLE:	<u>Owner/Principal Engineer</u>	TITLE:	<u>General Manager</u>
DATE:	<u>12 August 2021</u>	DATE:	_____



FYRA ENGINEERING, LLC STANDARD CONDITIONS

SERVICES. FYRA Engineering will perform services for the Project as set forth in attachment and in accordance with these Terms & Conditions. FYRA Engineering has developed the Project scope of service, schedule, and compensation based on available information and various assumptions. The Client acknowledges that adjustments to the schedule and compensation may be necessary based on the actual circumstances encountered by FYRA Engineering in performing their services.

AUTHORIZED REPRESENTATIVES. The officer assigned to the Project by FYRA Engineering is the only authorized representative to make decisions or commitments on behalf of FYRA Engineering. The Client shall designate a representative with similar authority.

PROJECT REQUIREMENTS. The Client shall confirm the objectives, requirements, constraints, and criteria for the Project at its inception. If the Client has established design standards, they shall be furnished to FYRA Engineering at Project inception. FYRA Engineering will review the Client design standards and may recommend alternate standards considering the standard of care provision.

SITE ACCESS. The Client shall obtain all necessary approvals for FYRA Engineering to access the Project site(s).

PERIOD OF SERVICE. FYRA Engineering shall perform the services for the Project in a timely manner consistent with sound professional practice. FYRA Engineering will strive to perform its services according to the Project schedule set forth in attachment. The services of each task shall be considered complete when deliverables for the task have been presented to the Client. FYRA Engineering shall be entitled to an extension of time and compensation adjustment for any delay beyond FYRA Engineering control.

COMPENSATION. In consideration of the services performed by FYRA Engineering, the Client shall pay FYRA Engineering in the manner set forth in attachment. The parties acknowledge that terms of compensation are based on an orderly and continuous progress of the Project. Compensation shall be equitably adjusted for delays or extensions of time beyond the control of FYRA Engineering.

PAYMENT TERMS. FYRA Engineering shall submit monthly invoices for services performed and Client shall pay the full invoice amount within thirty (30) days of the invoice date. Invoices will be considered correct if not questioned in writing within ten (10) days of the invoice date. FYRA Engineering shall be entitled to a 2% per month administrative charge in the event of payment delay. Client payment to FYRA Engineering is not contingent on arrangement of project financing. Invoice payment delayed beyond sixty (60) days shall give FYRA Engineering the right to stop work until payments are current. Non-payment beyond seventy (70) days shall be just cause for termination by FYRA Engineering.

ADDITIONAL SERVICES. The Client and FYRA Engineering acknowledge that additional services may be necessary for the Project to address issues that may not be known at Project initiation or that may be required to address circumstances that were not foreseen. In that event, FYRA Engineering shall notify the Client of the need for additional services and the Client shall pay for such additional services in an amount and manner as the parties may subsequently agree.

INDEPENDENT CONSULTANT. FYRA Engineering shall serve as an independent consultant for services provided under this agreement. FYRA Engineering shall retain control over the means and methods used in performing their services and may retain subconsultants to perform certain services as determined by FYRA Engineering.

STANDARD OF CARE. Services provided by FYRA Engineering will be performed with the care and skill ordinarily exercised by members of the same profession practicing under similar circumstances. FYRA Engineering will not be liable for the cost of any omission that adds value to the Project.

COMPLIANCE WITH LAWS. FYRA Engineering shall perform its services consistent with sound professional practice and endeavor to incorporate laws, regulations, codes, and standards applicable at the time the work is performed. In the event that standards of practice change during the Project, FYRA Engineering shall be entitled to additional compensation where additional services are needed to conform to the standard of practice.



PERMITS AND APPROVALS. FYRA Engineering will assist the Client in preparing applications and supporting documents for the Client to secure permits and approvals from agencies having jurisdiction over the Project. The Client agrees to pay all application and review fees.

OWNERSHIP OF DOCUMENTS. Documents prepared by FYRA Engineering for the Project are instruments of service and shall remain the property of FYRA Engineering. Record documents of service shall be based on the printed copy. FYRA Engineering will furnish documents electronically; however, the Client releases FYRA Engineering from any liability that may result from documents used in this form. FYRA Engineering shall not be held liable for reuse of documents for any purpose other than those intended under the Project.

INSURANCE. FYRA Engineering will maintain the following insurance and coverage limits during the period of service. The Client will be named as an additional insured on the Commercial General Liability and Automobile Liability policies.

<u>Workers' Compensation</u>	As required by applicable state statute.
<u>Umbrella or Excess Liability</u>	\$2,000,000
<u>Commercial General Liability</u>	\$1,000,000 per occurrence (bodily injury including death & property damage) \$2,000,000 aggregate.
<u>Automobile Liability</u>	\$1,000,000 combined single limit for bodily injury and property damage.
<u>Professional Liability</u>	\$1,000,000 each claim and in the aggregate.

The Client shall make arrangements for Builder's Risk, Protective Liability, Pollution Prevention, and other specific insurance coverage warranted for the Project in amounts appropriate to the Project value and risks. FYRA Engineering shall be a named insured on those policies where FYRA Engineering may be at risk. The Client shall obtain the counsel of others in setting insurance limits for construction contracts.

WAIVER OF SUBROGATION. FYRA Engineering, LLC affirmatively agrees to obtain waiver of subrogation against the client and name the client as an additional insured on the Commercial General Liability and Automobile policies.

INDEMNIFICATION AND HOLD HARMLESS. FYRA Engineering, LLC shall indemnify and hold harmless the Client and its employees and agents from any and all liability, settlements, loss, defense costs, and expenses in connection with any action, suit, or claim resulting from the negligent acts, errors, or omissions in services provided pursuant to this Agreement by FYRA Engineering, LLC its employees, or Subconsultants and/or subcontractors. Client shall indemnify and hold harmless FYRA Engineering, LLC and its employees and agents from any and all liability, settlements, loss, defense costs, and expenses in connection with any action, suit, or claim resulting from the negligent acts, errors, or omissions in services provided pursuant to this Agreement by the Client, its employees, or subconsultants and/or subcontractors. However, if any such liability, settlements, loss, defense costs or expenses result from the concurrent negligence of FYRA Engineering, LLC, and the Client this indemnification applies only to the extent of the negligence of FYRA Engineering, LLC.



LIMITATION OF LIABILITY. To the fullest extent permitted by law, a party's total liability to the other party and anyone claiming by, through, or under the other party for any cost, loss, or damages caused in part by the negligence of the party and in part by the negligence of the other party or any other negligent entity or individual, shall not exceed the percentage share that the party's negligence bears to the total negligence of Owner, Engineer, Subconsultant and all other negligent entities and individuals.

LEGAL EXPENSE. In the event that either party takes legal action against the other that is not prosecuted, is dismissed, or if the decision is rendered for the other party, the party taking legal action agrees to pay the other their attorney fees, court costs, and defense expenses that are allowable under Nebraska state law, within thirty (30) days of the court action.

CONSEQUENTIAL DAMAGES. Neither the Client nor FYRA Engineering shall be liable to the other for any consequential damages regardless of the nature or fault.

ENVIRONMENTAL MATTERS. The Client warrants they have disclosed all potential hazardous materials that may be encountered on the Project. In the event unknown hazardous materials are encountered, FYRA Engineering shall be entitled to additional compensation for appropriate actions to protect the health and safety of its personnel, and for additional services required to comply with applicable laws. The Client shall indemnify FYRA Engineering from any claim related to hazardous materials encountered on the Project except for those events caused by negligent acts of FYRA Engineering.

COST OPINIONS. If included in the scope of service, FYRA Engineering shall prepare cost opinions for the Project based on historical information that represents the judgment of a qualified professional. The Client and FYRA Engineering acknowledge that actual costs may vary from the cost opinions prepared and that FYRA Engineering offers no guarantee related to the Project cost.

INDEPENDENT COUNSEL. The Client agrees to obtain independent legal and financial counsel for the Project considering FYRA Engineering does not furnish these services.

CONTRACTOR SELECTION. FYRA Engineering may make recommendations concerning award of construction contracts and products. The Client acknowledges that the final selection of construction contractors and products is their sole responsibility.

SHOP DRAWING REVIEW. If included in the scope of service, FYRA Engineering shall review shop drawing submittals from the contractor solely for their conformance with the design intent of and performance criteria specified for the Project. FYRA Engineering shall not be liable for the performance of or consequential damages of any equipment furnished by the contractor under the Project.

CONSTRUCTION REVIEW. If included in the scope of service, FYRA Engineering shall observe the progress and content of the work to determine if the work is proceeding in general accordance with the Contract Documents. This construction review is intended to observe, document, and report information concerning the construction process. Observation of work at the Project site shall not make FYRA Engineering responsible for the work performed by another party; the means, methods, techniques, sequences, or procedures selected by another party; nor the safety precautions or programs of another party.

REJECTION OF WORK. FYRA Engineering may recommend that the Client reject work by construction contractors that does not conform to the requirements of the Project.

SAFETY. FYRA Engineering shall be responsible solely for the safety precautions or programs of its employees and no other party.

INFORMATION FROM OTHER PARTIES. The Client and FYRA Engineering acknowledge that FYRA Engineering will rely on information furnished by other parties in performing its services under the Project. FYRA Engineering shall not be liable for any damages that may be incurred by the Client in the use of third party information.



CONSTRUCTION RECORD DRAWINGS. If included in the scope of service, FYRA Engineering will deliver drawings to the Client incorporating information furnished by construction contractors. In that construction record drawings are based on information provided by others, FYRA Engineering cannot and does not warrant their accuracy.

FORCE MAJEURE. Neither party will hold the other responsible for damages or delay caused by Acts of God, acts of war, strikes, accidents, or other events beyond the other's control.

DISPUTE RESOLUTION. The Client and FYRA Engineering agree that they shall diligently pursue resolution of all disagreements within forty-five (45) days of either party's written notice using a mutually acceptable form of mediated dispute resolution prior to exercising their rights under law. FYRA Engineering shall continue to perform services for the Project and the Client shall pay for such services during the dispute resolution process unless the Client issues a written notice to suspend work.

SUSPENSION OF WORK. The Client may suspend services performed by FYRA Engineering with cause upon fourteen (14) days written notice. FYRA Engineering shall submit an invoice for services performed up to the effective date of the work suspension and the Client shall pay FYRA Engineering all outstanding invoices within fourteen (14) days. If the work suspension exceeds thirty (30) days from the effective work suspension date, FYRA Engineering shall be entitled to renegotiate the Project schedule and the compensation terms for the Project.

TERMINATION. The Client or FYRA Engineering may terminate services on the Project upon seven (7) days written notice in the event of substantial failure by the other party to fulfill its obligations of the terms hereunder. FYRA Engineering shall submit an invoice for services performed up to the effective date of termination and the Client shall pay FYRA Engineering all outstanding invoices within fourteen (14) days. The Client may withhold an amount for services that may be in dispute provided that the Client furnishes a written notice of the basis for their dispute and that the amount withheld represents a reasonable value.

GOVERNING LAW. The terms of agreement shall be governed by the laws of the state where the services are performed provided that nothing contained herein shall be interpreted in such a manner as to render it unenforceable under the laws of the state in which the Project resides.

ASSIGNMENT. Neither party shall assign its rights, interests, or obligations under the Project without the express written consent of the other party.

WAIVER OF RIGHTS. The failure of either party to enforce any provision of these terms and conditions shall not constitute a waiver of such provision nor diminish the right of either party to the remedies of such provision.

WARRANTY. FYRA Engineering warrants that it will deliver products under the Project within the standard of care. FYRA Engineering provides no other expressed or implied warranty.

SEVERABILITY. Any provision of these terms later held to violate any law shall be deemed void and all remaining provisions shall continue in force. In such event, the Client and FYRA Engineering will work in good faith to replace an invalid provision with one that is valid with as close to the original meaning as possible.

SURVIVAL. All provisions of these terms that allocate responsibility or liability between the Client and FYRA Engineering shall survive the completion or termination of services for the project.



12 August 2021

Mr. Eric Gottschalk
General Manager
Lower Platte North NRD
511 Commercial Park Road
Wahoo, NE 68066

Re: Lake Wanhoo Still Basin Repair Project – Proposed Change Orders.

Dear Eric:

This letter is in reference to the current construction at the above-referenced Lake Wanhoo Project. There are two items that I am proposing be considered for consideration, given what has been learned during construction to date:

1. The continued degradation of the surface course of the Roller Compacted Concrete (RCC) Stilling Basin Apron
2. The possibility of using relief wells to de-water the proposed downstream (deepened) portion of the stilling basin

RCC Stilling Basin Apron

As you will recall, after the spillway apron was initially drained (completely for the first time) in June of this summer to perform the welding on the downstream face of the newly installed sheet pile, it was discovered that there were loose courses of the top of the spillway apron. The areas were surveyed to document their location and some grout was poured into some of deeper pockets to try and prevent further damage. As can be seen in the attached Photo 2, most of the damaged surface course appeared to be centered below the principal spillway outlet, where one would expect the jet from the spillway discharge to hit and it was assumed that the prolonged runoff of previous events gradually wore a shallow pit in the apron's surface course. There was plenty of debris in the remainder of the basin that was also present, and that was removed using a small rubber-track driven surface loader shown in photos 1 and 2. Because the damage appeared to be localized, it was decided to document the damage and to re-assess it in future inspections and after significant runoff events. A minor runoff event occurred in early July of this summer and a prolonged spillway discharge ran through the project construction site for approximately a week. At the end of that runoff event, it was discovered that a significant amount of the apron floor was seemingly peeled up during the event, and large chunks of apron floor were piled along the downstream side of the spillway apron up against the newly constructed baffles. See photos 3 and 4. The amount of pieces of apron floor far exceeded the debris in the basin when the basin was initially drained the previous month. This seemed to lead towards one of two conclusions:

1. The surface course of the basin floor was damaged during construction of the project completed to date.
2. The surface course was damaged (cracked/broken) in the flood but was not displaced.

After observing the basin being drained and cleaned and the drilling that occurred through the basin floor to drill the grout ports and the baffle anchors, the surface seemed completely solid. No chunks of apron floor were dislodged or cracks observed. Only foot traffic and the one small piece of equipment with rubber tracks was used on the spillway floor. No heavy loads were placed on it. For that reason, it is my opinion that the apron floor was damaged previously, but the chunks of floor were not dislodged because of the loose gravel that was



on top of the floor and likely filling in any cracks between the broken floor chunks. Once the gravel was removed from the basin floor area, the next runoff event likely removed the gravel between the broken floor chunks and the turbulence lifted the floor chunks and placed them as shown in photos 3 and 4.

It is not possible to determine if the spillway floor was damaged during the 2019 runoff event, although that seems the most likely event that could have created this damage and the event that created the need for this project. The water in the basin was 2-3 feet deep and precluded any inspections that would have shown any damage to the basin.

At this time, the best course of action is to repair the basin floor. And while some design work needs to be done, it is estimated that a minimum 8" thick course of reinforced concrete anchored to the existing spillway floor will take approximately 250 CY of concrete and 30,000 lbs of steel reinforcement and would cost approximately \$480,000.00 to construct (including engineering). As mentioned above, there is design work to be done and potential cost savings to be realized, but guessing conservatively, this should be close, given unit prices given in the bidding process.

Additional Relief Wells

To date, this project has been constructed, "in the wet" as originally designed. Through the construction period, several means and methods have been made to construct the downstream portion of the stilling basin to no avail because of elevated groundwater levels that are under some pressure adjacent to the stilling basin. When water was drawn down less than two feet to weld the gabion receiver brackets to the sheet pile, several "micro boils" appeared along the edge of the outlet channel (see Photos 5 and 6), indicative of excessive exit gradients from the adjacent floodplain area which is some eight feet above the outlet channel water surface elevation. This pressure needs to be relieved to properly and safely construct this project. Drawing the water down further will increase the exit gradient, most certainly causing more severe boils that could potentially start mobilizing sand from the dam foundation. This is completely unacceptable in a high hazard potential dam structure.

I am proposing to add three high capacity wells adjacent to the stilling basin. These will be used to pump down (dewater) the stilling basin area so that the remainder of the planned repairs can be constructed without compromising dam safety.

We are still gathering information, but it is my estimate that these wells may cost \$80,000 each and there would be minor design/permitting costs, and therefore a total implementation cost of \$250,000 should be assumed for now.

At this time, it is my recommendation that conversations begin with FEMA to determine if these costs are eligible under the existing Public Assistance or Mitigation component of this project.

If you have any questions about this information, do not hesitate to contact me at 402.502.7131 or msotak@fyraengineering.com.

For the Firm,

A handwritten signature in black ink, appearing to read "Michael K. Sotak".

Michael K. Sotak, P.E., D.WRE
Principal



1 – View of contractor cleaning debris from basin



2 – Aerial view of stilling basin



3 – Spillway apron surfacing piled up



4 – Spillway apron surfacing after runoff event



Photo 5 – Micro boil appearing along water's edge in stilling basin



Photo 6 – Aggregate/Rock being used to cover discovered boil

LAKE WANAHOO SOIL BORROW AGREEMENT
Between
LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT
And
M.E. COLLINS CONTRACTING CO., Inc.

This Agreement is made by and among the following Parties:
Lower Platte North Natural Resources District (LPNNRD)
M.E. Collins Contracting Co., Inc. (MECC)

The Lower Platte North Natural Resources District hereinafter is referred to as “LPNNRD” and M.E. Collins Contracting Co., Inc. “MECC”.

Where as, MECC desires to operate a soil borrow site located on Lake Wanahoo property, owned by LPNNRD.

Therefore, the Parties agree as follows:

- A. LPNNRD WILL:** Allow MECC exclusive rights to operate a soil borrow site on Lake Wanahoo Property located in Section 15, Township 15 North, Range 7 East, as shown specifically on “Attachment A”, for a term of two (2) years beginning January 1, 2022 and ending December 31, 2023. The agreement shall renew automatically for an additional two (2) year term unless written notice is given by either party on or before July 1st of the final year of the term. If renewal occurs then this agreement shall terminate automatically as of December 31, 2025
- B. MECC WILL:** Make payment to LPNNRD of \$1.20 per cubic yard of bank measured soil from the allowed borrow site area as shown on “Attachment A” during calendar years 2022 and 2023. The price for material will become \$1.30 during the 2024 and 2025 calendar years.
1. The area has been surveyed in December of 2017. A copy of the survey is attached herto as Attachment “B” and incorporated herin by reference. Upon removal of an additional 50,000 cy of material calculated by truck count the area will again be surveyed. Monthly payment will be made to LPNNRD on or before the 15th day of each month based on the truck count of excavated material.
 2. Provide construction entrance and adequate erosion control measures as follows:
 - a. Maintain construction entrances to a usable condition. Maintain silt fence along east and west fence lines to usable conditions or other acceptable erosion control practices.

- b. No more than 30 acres may be actively open without vegetation at any one time. A cover crop of oats or wheat may be used for temporary cover.
- c. MECC will place additional erosion control measures as determined necessary by LPNNRD to insure compliance with the Erosion and Sediment Control Act and with the NPDES permit requirements.
3. Obtain all necessary federal, state, county and other permits and/or consents which may be required to open, operate and close the borrow site.
4. Upon completion, the borrow area will be seeded to a native grass, legume and forbs mixture as is currently present and shown on Attachment "C". Seeding will follow standard NRCS Technical Guide recommendations including seeding windows and methods.
5. Provide a final grade acceptable to LPNNRD and not pond water. All disturbed areas will have a maximum grade of 3 to 1 side slopes.
6. Not disturb a cultural resource site which is identified on Attachment "A". No disturbance of this site is allowed including soil removal, stock piling or vehicular traffic.
7. Assume liability for the borrow site and any roads or construction areas they are using as well as agree to indemnify and protect the LPNNRD from the same.
8. Not allow access to the site for purposes other than those identified in this agreement.
9. Be prohibited from assigning or subletting its interest in this agreement to a third party.

C: MUTUAL UNDERSTANDING: Notwithstanding herein anything to the contrary, if, in the future, it is determined, by a court of competent jurisdiction, or otherwise, that LPNNRD did not have the right to enter into this Agreement, pursuant to terms and conditions as set forth herein, MECC shall reimburse LPNNRD for all of LPNNRD's costs associated with the defense of any litigation involving this Agreement, including attorney fees incurred prior to and during litigation, and any and all monetary damages incurred by LPNNRD as a result of entering into this Agreement and MECC agrees to further release, quit and forever discharge LPNNRD, its agents and employees, from any and all claims, actions, causes of action, demands, rights, damages, costs, expenses and compensation whatsoever, which MECC now has or which may hereafter accrue on account of or in any way be attributable to this Agreement, known and unknown, foreseen and unforeseen and the consequences resulting therefrom.

Lower Platte North Natural Resources District is a conservation organization and it is expected that MECC will conduct their business on this location in a conservation stewardship like manner. The borrow site area is adjacent to public use and access lands and MECC will conduct their business on this location in a manner which minimizes disruption and negative impacts to these public areas.

All disputes between the parties shall be referred to non-binding mediation before either party can institute a lawsuit before the appropriate forum. If mediation proves unsuccessful then the appropriate forum and venue shall be the District Court of Saunders County, Nebraska.

Joe Birkel, Chair
Lower Platte North Natural Resources District

Date

Jerry Kabourek, Vice President
M.E. Collins Contracting Co., Inc.

October 4, 2021

Date

KTIC Radio Ad

October 2021 – No-till drills

89 words

Contact:
Lacey Sabatka
Information Coordinator
Lower Platte North NRD
(402) 443-4675
lsabatka@lpnnrd.org

The Lower Platte North NRD has Great Plains No-Till drills available for rental to landowners planting native grasses, grains, and legumes. Rental rates include \$25 per day, plus \$10 per acre. There is a minimum \$75 charge.

Contact our local cooperators for drill rental: the Schuyler Co-op for Colfax County area; Rosendahl Feed & Seed for Platte County area; and in Saunders County contact Rezac Seed. Cooperators can assist in setting the drill for the appropriate mixtures. For more information, please visit www.lpnnrd.org or call the NRD at 402-443-4675.

Cost-Share Program

The NRD is offering a voluntary program to landowners in Shell Creek and Wahoo Creek watersheds for cost-share assistance to upgrade septic systems with open discharge. Contact Columbus NRCS for Shell Creek 402-564-0506. Contact LPNNRD for Wahoo Creek 402-443-4675



LOWER PLATTE NORTH
Natural Resources District

No-Till Drill Rental

Landowners planting native grasses, grains and legumes. \$25 per day, plus \$10 per acre. Minimum \$75 charge.

Schuyler Co-Op (Colfax County)

Rosendahl Feed & Seed (Platte County)

Rezac Seed (Saunders County)

For more information visit lpnnrd.org or call 402-443-4675



LOWER PLATTE NORTH
Natural Resources District



LOWER PLATTE NORTH
Natural Resources District



Long Range Implementation Plan
Fiscal Year 2022

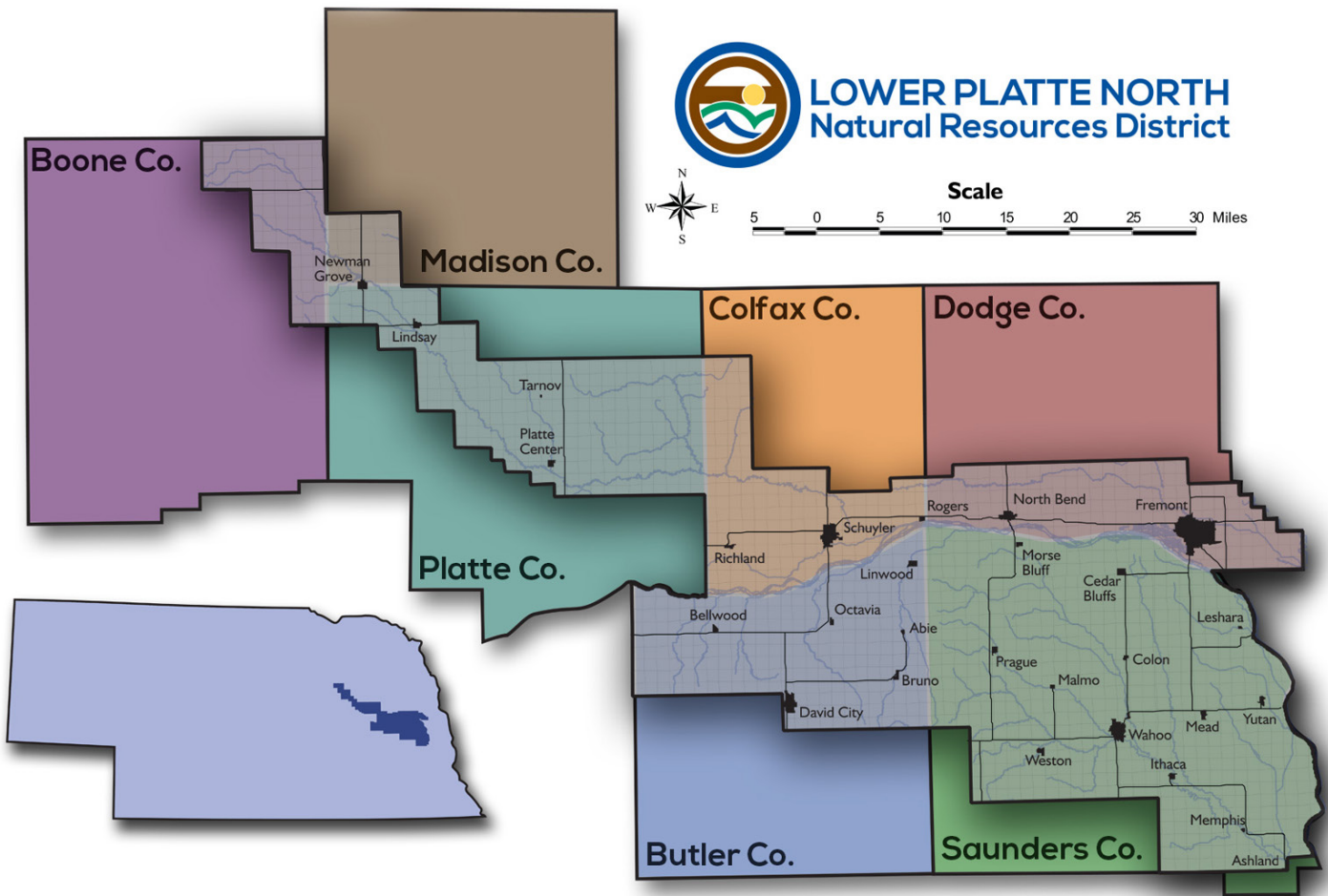


LOWER PLATTE NORTH
Natural Resources District



Scale

5 0 5 10 15 20 25 30 Miles



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Introduction

The Lower Platte North Natural Resources District (LPNNRD) is one of 23 Natural Resources Districts created in 1969 with the passage of LB 1357 by the Nebraska Unicameral. Since its formation in 1972, the LPNNRD has been assisting people in the Lower Platte North River Basin in the development and protection of our soil and water resources. Nebraska Statutes require that Natural Resources Districts develop a Long Range Implementation Plan. The purpose of this plan is to summarize accomplishments during fiscal year 2021 (July 1, 2021 to June 30, 2022) and planned District activities for fiscal year 2022. There are also objectives for a five-year period from fiscal years 2023 to 2027. The plan serves as an implementation tool of the district's Master Plan, which is updated every ten years.

Authority and Responsibilities

The Natural Resources Districts have been given statutory responsibility outlined in Sections 2-3229, R.R.S. 1943. In this section it states that "The purposes of the Natural Resources Districts shall be to develop and execute, through the exercise of powers and authorities contained in this act, plans, facilities, works and programs relating to: (1) erosion prevention and control, (2) prevention of damages from flood water and sediment, (3) flood prevention and control, (4) soil conservation, (5) water supply for any beneficial uses, (6) development, management, utilization, and conservation of groundwater and surface water, (7) pollution control, (8) solid waste disposal and sanitary drainage, (9) drainage improvement and channel rectification, (10) development and management of fish and wildlife habitat, (11) development and management of recreational and park facilities, and (12) forestry and range management."

Lower Platte North NRD programs and projects are available to meet the goal of properly developing our water and related land resources.

Description of the District

The Lower Platte North Natural Resources District is located in the Lower Platte River Basin in eastern Nebraska and includes 1,031,000 acres of land. A portion of Saunders, Butler, Platte, Dodge, Colfax, Boone and Madison Counties are within the district (see Appendix A), which includes twenty-eight cities, towns and villages. Besides the Platte River, other notable tributaries in the district include Wahoo Creek, Skull Creek, Bone Creek, Loseke Creek, Taylor Creek, Shell Creek, Elm Creek, Clear Creek, Rawhide Creek, Silver Creek, Sand Creek, and Duck Creek.

The population of the district is approximately 62,000, of which about half is rural and half urban. The Lower Platte North NRD is financed by a tax levy which may be up to four and one-half cents per \$100 valuation for general purposes and another one cent for water programs. The FY 2022 tax levy is .03345 cents per \$100 valuation.

Governing Body

The Lower Platte North Natural Resources District (LPNNRD) is governed by a 19-member Board of Directors. The directors are elected at the general election for a term of four years, with half of the members up for election every two years.

The district is divided into nine (9) subdistricts. Two board members are elected from each of the nine subdistricts, and one board member is elected at large every four years.

The district operates by a set of bylaws which are kept on file at the district headquarters at Wahoo, Nebraska.



FY 2021 Platte River Basin Activities

One of the great natural resources of Nebraska is the Platte River. It is the feature that attracted early settlers to our state and guided the wagon trails. Today, we look at the Platte River differently. It is a water source for agriculture and cities like Fremont, Lincoln and Omaha, a haven for wildlife, and a place for recreation. Issues surrounding the Platte are a top priority at the LPNNRD, since approximately 72 miles of the river flow directly through, or border, the district.

Ice Jam Agreement

In 1994, the LPNNRD entered into an agreement with the Papio-Missouri River NRD, Lower Platte South NRD, and Cass, Douglas, Sarpy and Saunders Counties to more effectively deal with ice jams and their resulting flood damages along the Lower Platte River. This area of concern is primarily from Fremont, Nebraska to the mouth of the Platte River. This group has pooled funds of \$150,000 to retain a contractor to use explosives when needed, to remove ice jams in a timely manner.

During the winter of 2020-21, the explosives contractor was put on stand-by, but no explosives were used.

Rock & Jetty Program

This program was developed to offer cost-share assistance to landowners to construct erosion control devices for stream bank stabilization and to assist Dike and Drainage Districts with maintenance of dikes along the Platte and Elkhorn rivers and perennial streams. In FY21, \$25,000 is budgeted for projects on rivers & streams. We assisted a couple landowners on maintenance projects in FY 20-21 at a cost of \$3,170.

FY 2022 Platte River Basin Objectives

- Administer \$25,000 in the Rock & Jetty Program to assist with priority stream bank stabilization for cooperators sustaining damage from the March 2019 flooding. This includes assisting cooperators with meeting the regulations of the Clean Water Act and 404 permits.
- As a member of the Joint Water Management Advisory Board, provide leadership and assistance to move forward with exploring flood reduction solutions for the lower one-third of Dodge County within the District.
- Support the Lower Platte Weed Management Area financially and technically in controlling noxious and invasive weeds.
- Support the Nebraska Land Trust in acquiring easements for the protection and preservation of quality lands.

FY 2023-2027 Long Range Platte River Basin Objectives

- Continue to budget cost-share funds for priority bank stabilization along the Platte and Elkhorn rivers and other perennial streams in the district.
- Continue to be an active member on the Joint Water Management Advisory Board.
- Promote riparian buffer zones along the Platte River and other perennial streams.
- Continue to explore new, innovative and cost-effective ways to protect against stream bank erosion.
- Provide education on stream bank protection and regulations.
- Support and budget annually, as needed, for the Ice Jam Agreement Fund.
- Keep up to date on Clean Water Act and Endangered Species Act regulations.
- Continue to participate with the City of Fremont to study potential nonstructural measures to reduce flooding and economic

losses from the Lower Platte River.

- Work with the City of Schuyler as they evaluate the need for future federal funding for completing structural and non-structural approaches to reduce flooding and economic losses from the Platte River through the LPNNRD District-Wide Hazard Mitigation Plan.
- Encourage cities and counties to initiate floodplain management planning to promote wise floodplain development.
- Assist dike and drainage districts within the LPNNRD to properly repair and maintain levy projects.
- Budget annually as needed to support the Lower Platte Weed Management group in controlling noxious weeds.



GROUND AND SURFACE WATER

One of the Lower Platte North NRD's major responsibilities is to conserve and protect our ground and surface water supplies. To accomplish this goal, the Lower Platte North continues to participate in water quality studies, ground water level monitoring, and water resource educational activities.

FY 2021 Ground & Surface Water Activities

Ground Water Management Area

LPNNRD implemented a District-wide Groundwater Management Area (GWMA) on January 1, 1997, to address both water quality and quantity concerns. This action was based on data gathered since 1985 indicating where groundwater quality conditions have deteriorated beyond those established as health standards, such as nitrate nitrogen. On that date, groundwater quality Phase I (education) regulations became effective for the entire District. One primary rule in Phase I requires certification for fertilizer and water use. The District has developed a groundwater program emphasizing a protection-based approach rather than a reactive, corrective approach. Since that time, advanced Phase areas have been determined by trigger levels listed in the rules and regulations of the GWMA. The District has two Phase groundwater quality control areas, those being Bellwood and Richland/Schuyler. The Bellwood Phase 2 Area was established in 2003 and presently covers approximately 30 square miles in the western portion of the Platte Valley in Butler County and includes the town of Bellwood. In 2015 nitrate levels decreased to a point that the trigger levels were not being achieved, so this area was decreased to 20 square miles. The Richland/Schuyler Phase 2 Area was established in 2004. In 2015 this area was raised to Phase 3 because of the rising nitrates. This area covers approximately 55 square miles in the Platte Valley of Colfax

County and includes the towns of Richland and Schuyler. In 2015, 10 additional sections north of the Richland/Schuyler Area became a Phase 2 area and in 2020 raised to Phase 3. Elevated nitrate-nitrogen levels continue to be the major concern in both Phase areas. Emphasis on awareness is a priority to the District with numerous grants being considered.

In June 2018, the District updated its Groundwater Rules and Regulations by adding a Phase Four under Water Quality and managing water by consumptive use or acre feet limitations. As of July 1, 2021, the District had 9155 registered active wells with 4586 irrigation wells and 206 wells in our GWEL network.

In Summer of 2012, the District saw mid-summer declines in the Bruno area and the uplands of Platte and Colfax Counties. These are now designated as the Butler-Saunders and Platte-Colfax Special Quantity Subareas. The District mandated water flow meters, rolling allocations and annual reports in these areas starting in 2016.

In 2012 seven NRD's agreed to develop a Lower Platte Basin plan, which is a cooperative agreement for the Basin Plan. This plan was approved in December of 2017 with each district assigned a depletion allotment within the Basin. The allotment is in 5-year increments starting in 2016 with a formula to determine the acre feet used for new water uses. The District completed its V-IMP in June of 2018 by adding an additional rule of requiring municipalities to report yearly water use, with an annual report due to NDNR. The Coalition contracted with the Flatwater Group to analyze the data that will be used in the next 5-year allotment.

In 2016 the Lower Platte River Consortium, made up of the Lower Platte South NRD, the Lower Platte North NRD, the Papio-Missouri River NRD, Lincoln Water System (LWS), Metropolitan Utilities District (MUD), and the Nebraska Department of Natural Resources

(DNR), embarked on an effort to develop a drought contingency plan to maintain/mitigate sustainable water supplies to the Lower Platte River during drought conditions. The final report was finalized in the Spring of 2020. The group is in the process of ranking the projects to be considered for supplying water into the Platte River.

Current rules and regulations of the GWMA are available at the LPNNRD headquarters in Wahoo and via the district website at www.lpnrd.org.

Ground Water Quality Sampling

The Lower Platte North NRD continues efforts to develop a ground water quality inventory. The District has been divided into four primary aquifer regions: Todd Valley, Platte Valley, Shell Creek and the Uplands, and further divided into 26 subareas. Staff samples the same 53 wells each summer, weather permitting, to determine long term trends for nitrate-nitrogen. This is referred to as the Statewide Network. The data collected is provided to the Nebraska Department of Environment and Energy (NDEE). NDEE in turn provides this to the Nebraska Legislature on an annual basis.

In 2021 samples were collected from all 53 sites.

Year	Nitrate-Nitrogen Range	% Nitrate-nitrogen 0-8.0 ppm	% Nitrate nitrogen 8.01-10.0 ppm	% Nitrate nitrogen > 10 ppm
2021	0 - 23.1 ppm	69.8% (37 of 53)	7.6% (4 of 53)	22.6% (12 of 53)

Samples for pesticide analysis were collected from seven of these sites (18%). The pesticide analysis was for a suite of 25 parameters, and all results were less than reporting level.

Ground Water Energy Level Monitoring Network

One of the responsibilities of the NRDs in the State is to monitor fluctuations in groundwater

levels. With the help of area cooperators, a ground water energy level monitoring network has been established in the LPNNRD. This monitoring network has been established to obtain a better understanding of the groundwater levels throughout the District. As of Spring 2021, the LPNNRD had 206 wells in the groundwater energy level monitoring network. These wells are monitored each spring and fall, with selected wells also measured in late August.

The LPNNRD compares the latest spring reading to the 1987 base-year to determine if a subarea needs to be declared a Level 2 or Level 3 groundwater management area. Level 2 and 3 management areas require flow meters on wells, annual reporting of water use, and establishment of acre-inch allocations. For the 26 subareas within the District, 24 subareas are currently at Level 1 management, while the other 2 subareas still need additional information before these can be designated. The District prefers at least three years of data before the subarea can be designated as a Level 1, 2, or 3 management area.

Fall readings in 2020 and Spring of 2021 showed a decline from the previous year's measurement. This change was likely the effects of less rainfall in the summer months of June through August 2020 and as a consequence more irrigation occurred. Spring readings in 2021 showed 87% of the wells measured had levels lower in Spring 2021 compared to Spring of 2020. There was a 4% rise in 7 wells from a year ago.

Chemigation

Chemigation is the act of injecting chemicals into the water line of an irrigation system that is then applied onto the crops. It is considered to be one of the most efficient ways of applying essential nutrients in times when the crop is uptaking the most amount of nitrogen through its growing stages. In order to use chemigation, a licensed permit holder must obtain a permit through the Lower Platte North NRD. Special equipment must be installed to

protect Nebraska’s groundwater from possible back-flow of chemicals into the groundwater source. To obtain this permit, administered by NDEE you must pass the Chemigation Certification test taught through UNL Water. There is an online test producers may take due to the recent COVID-19 protocols. The chemigation equipment must be properly equipped, inspected and approved by the NRD before applying any chemicals. The number of chemigation permits continues to slowly rise throughout the district due to chemigation’s efficient application rate when the crops are in the most need of nutrients. In sandier soil types, chemigation is extremely effective due to the soil’s incapability to hold essential nutrients in the root zone after heavy rainfall events.

Chemigation Permits	Total	Renewal	New	Emergency
November 2020	748	695	53	0
November 2021	704	658	46	0

In 2014, the Legislature approved changes to Title 195 that would allow individual NRDs to set chemigation fees. Chemigation fees for LPNNRD are: \$90 for a New permit, \$30 for a Renewal permit, and \$300 for an Emergency permit. New permits are to be inspected each year they are permitted and renewal permits are to be inspected on a 3 year rotation. Failure to renew by June 1st of the following year the permit was obtained will cause the permit to lapse. If a renewal permit lapses and the producer decides to use chemigation as a practice of crop application the individual must obtain a new permit and an inspection is required.

Decommissioned (Abandoned) Wells

Decommissioned (Abandoned) wells are a health and safety concern and have been ruled as illegal by the Nebraska Legislature. A well not used for three consecutive years or one which is no longer useful is considered

to be abandoned and needs to be properly decommissioned.

The Lower Platte North NRD offers up to 75% cost share assistance to landowners to properly decommission abandoned water wells. In addition, the district will assist with up to 75% of the cost for pump and obstruction removal on domestic and stock wells. To receive cost share assistance, the actual decommissioning must be performed by a certified well driller or pump installer. The landowner has six months from the time of application to accomplish this task unless good cause is shown.

Since 1992 the district has administered local and state cost-share dollars to decommission 707 wells. Through this program in FY 20-21, a total of \$13,510.62 was administered by LPNNRD for the plugging of 16 wells. The district will administer approximately \$15,000 of state and local funds to plug additional wells during the current fiscal year.

Flow Meter Maintenance Program/Flow Meter Readings

Since 2008, the LPNNRD has implemented the requirement of installing a District approved flow meter on any new or replacement well. Thereafter in 2012, the District also required the installation of a flow meter on any expansion of acres from an existing well. This pumping information is invaluable to the District to know what has been pumped during years of extended drought. It is vital that the LPNNRD keeps track of this going forward into the future. In order to know the volume of water within our aquifer systems, we need to know the water that is being extracted.

In 2016, the district chose to contract with a private company through the bidding process. The company was scheduled to maintain the flow meters within the LPNNRD’s SQS areas for the first four years. Since that was completed the District has chosen to open the flow meter maintenance program district wide in 2020. Maintenance on the flow meters will be performed once every four years. The district is in charge of the labor and site visit at each

meter. Each mechanical meter site visit is \$60 and each battery operated site visit is \$75. This maintenance includes the regular greasing of the mechanical meters and changing the batteries on the digitally read meters. Along with the regular maintenance the private company also ensures that the meter is not damaged from water or vibration. There are approximately 1,056 irrigation well flow meters that are getting routine maintenance once every four years.

Along with the irrigation wells, the LPNNRD also records meter readings from all of the municipality wells within the District including MUD, Lincoln and Fremont. Livestock wells and commercial wells are required to report if the well was drilled after the 2012 requirement date. Nearly 1,175 readings are recorded annually throughout the LPNNRD District. This Fiscal year the LPNNRD budgeted \$12,500 for the meter maintenance program.

Registered Wells

The Nebraska Legislature declared that the conservation and the beneficial use of ground water are essential to the future well-being of the State. State Law requires that all water wells in the State of Nebraska be registered with the Department of Water Resources. Wells that are not registered are illegal and should be registered as soon as possible. A breakdown by decade from 1970 to present shows the growth of active irrigation wells in the District.

Table of Active Irrigation Wells within LPNNRD compiled by Completion Date

Date	Number of Active Irrigation Wells in the District
December 31, 1970	1,428
December 31, 1980	2,756
December 31, 1990	3,241
December 31, 2000	3,686
December 31, 2010	4,307
December 16, 2016	4,528
December 31, 2020	4,585
January 1, 2021	4,586

Well Permits

In May of 2008, the LPNNRD placed a flow meter and water reporting condition on well permits for all permits issued after that date. All well permits require well owners to install a flow meter and report their water use for the calendar year to the LPNNRD by December 15 of each year. This reporting requirement is effective the year the well is drilled and for each year thereafter, until the well is decommissioned. Summer of 2020 brought drier conditions and as wells were being pumped harder than the last 3 years, replacement well permit requests across the District have increased. As of August 1st, 2021, the District has issued 39 well permits with 8 new irrigation wells, 29 replacement irrigation wells, 2 municipal wells.

Special Studies

The LPNNRD has done a number of studies within the District. The following is a list of studies that is currently being conducted within the District.

Aquifer Vulnerability Mapping and Analysis

The Lower Platte North has been working with UNL to collect and analyze data within the LPN Water Quality Management Areas. The first stage involved some intensive water sampling of irrigation wells for nitrates. A few samples were collected for isotope nitrate samples for the purpose of determining if the nitrates were organic or inorganic sources. This was followed-up with vadose soil sampling analysis to assist in determining the amount of nitrates in soil and pore water present in the unsaturated zones above the water table. A nitrate tool was developed utilizing this data, along with geological information to assist in determining vulnerability. This project will be wrapping up later in 2021 with informational meetings in the area.

3D Airborne Electromagnetic (AEM) Hydrogeologic Framework and Assessment

Papio-Missouri River NRD, NeDNR and LPN started a study in January 2021 to assess

AEM survey information, well logs and other geological information. The data will be used to characterize different geological layers and assign variables such as hydraulic conductivity. This data could be used in a groundwater model to better understand, assess and forecast groundwater flow within the geographical areas. This study should be completed in January 2022.

Lower Platte River Consortium Study

Municipal wellfields in the Lower Platte River Basin depend on the Platte River to recharge the groundwater for their use. This study looked at long term water supplies in the Lower Platte River Basin, and the ability to enhance streamflow, especially in drought conditions, to sustain these municipal water systems. Sustaining water in the river would also provide a benefit to wildlife and agriculture by lessening the likelihood of a 'call' on the river. Due to different hydrologic conditions in the Platte River, such as gaining and losing segments, siting of future reservoirs, groundwater storage projects, etc. becomes important in order to most effectively move water to a desired location downstream. The plan was completed in Spring 2020 with the group now in the process of conducting a desktop exercise on determining which projects are feasible.

Eastern Nebraska Water Resources Assessment

LPNNRD is a partner in the Eastern Nebraska Water Resources Assessment (ENWRA). The ENWRA study has been utilizing Airborne Electromagnetic (AEM) over eastern Nebraska to better model the geology of the glaciated portion of the State. It has opened several questions concerning bedrock aquifers both in water quantity and water quality such as salinity. New flights were conducted in the summer of 2018 with the final report received in summer 2019. A study is being conducted in the Platte-Colfax Area (SQS#2) utilizing the AEM, additional data loggers and other geologic logs to determine the relationship between confining and unconfined layers

along with determining drawdown levels for management decisions. The flights and the results can be found on the ENWRA website at (www.enwra.org).

Elkhorn-Loup Model

The Elkhorn-Loup Model (ELM) project is a study of surface water and groundwater resources in the Elkhorn River basin upstream of Norfolk, Nebraska and the Loup River basin upstream of Columbus, Nebraska. Parts of this basin overlap and cover portions of upper Shell Creek.

Certifying Acres

In July 2009, the District signed a contract with GIS workshop to develop a database of county assessor records as the preliminary step to certifying irrigated acres. Using these records, LPNNRD staff mailed out letters to landowners to verify irrigated ground. As of January 2021, the majority of the irrigation in the district has been catalogued. The District is still granting new irrigation development. Those new acres are not entered into the certification database until such time as they show up on aerial photography and can be accurately modeled. In March of 2021, the District went through all the approved new irrigations and modeled out all those that had yet to be counted. Acre certification provides a true inventory of the irrigation needs of the District, which is an important part of present and future groundwater management and planning. In addition to cataloging irrigated acres, LPNNRD staff have been actively working with the Nebraska Department of Natural Resources (NeDNR), as well as local landowners to bring all irrigation wells in LPNNRD into compliance with Nebraska Revised Statute 46-602 (7).

Nebraska Ordnance Plant Water Pollution Clean Up at Mead

During the 1940s, 1950s and 1960s, an Army Ordnance Plant near Mead was used to assemble bombs and served as an early

Atlas Missile ICBM site. Over time, the soil and groundwater at the plant site became polluted with various explosive residues and solvents. The cleanup has been divided into three basic project areas: Soils (OU1), Ground Water (OU2), and Building contamination (OU3). This area has been under study by the Army Corps of Engineers (COE) since 1988. Tours and open houses are conducted on an annual basis.

Wellhead Protection Program

The LPNNRD implemented a wellhead protection program in FY 2001. The goal of the program is to minimize potential polluting activities on the land surrounding a community's public water supply well(s). The District has identified 22 communities with public supply wells and they have been encouraged to become involved in the program. The City of Ashland, with assistance from LPSNRD, has conducted some investigations within its wellhead management area in 2019-2020. An open house is planned for Ashland in August 2021. The Cities of David City and Wahoo are in the process of re-evaluating their wellhead management areas along with decommissioning wells within these areas.

Rural Water Districts

In recent years, the District has worked with communities who have had difficulties with water quality and quantity by forming two rural water systems. The Butler County system linked the village of Bruno in 2006, who was having water quality and quantity problems, to David City. Also in 2006, the Saunders County system linked the village of Colon, who was experiencing water quality concerns, to Wahoo. The LPNNRD operates both of these systems. The District purchases water from the larger communities and delivers it to the smaller communities; RW staff manage and maintain Colon's system and billing while Bruno manages their infrastructure and household billing. Both systems are designed to serve rural customers along each service route. Combined, the two

systems serve over 135 households in Saunders and Butler Counties. To address fiscal concerns both RWDs have implemented a phased rate increase strategy to more diligently manage the financial standings of both districts. The District has been in contact with several other communities and anticipates several more communities and rural customers to be serviced by rural water systems in the future. Both systems are greater than 10 years old and repairs/replacements of meters is expected to take up RWD staff's time in 202-22 as a number of meters and components are showing the signs of wearing out.

Geographic Information System (GIS) and Global Positioning System (GPS)

LPNNRD has used Geographic Information System (GIS) technology since 1996. GIS is an automated system combining database information and maps. Features on a map, created with GIS technology contain attribute or feature descriptions that are referenced by location. The data used by a GIS system consists of Vector and Raster Data. Vector data consists of point (wells), line (roads) and polygon data (irrigation boundaries); with Raster data consisting of pixels, where each pixel on the screen corresponds to a data point. Raster data includes aerial photography and elevation data such as LidAR (a highly accurate elevation dataset). The District has incorporated the use of GIS into most district functions, including the certification of irrigated acres, maintenance, project planning and modelling of groundwater availability and the movement of contaminants such as nitrates through the soil profile.

In addition to in-house GIS activities, LPNNRD GIS staff assist a variety of partners, including projecting FSA aerial photography into Nebraska State Plane Feet coordinates for NeDNR, custom authoring of maps for the Nebraska Land Trust, coordination of helicopter flight lines for invasive species control with the Lower Platte Weed Management Area, and helping other NRDs with GIS questions as they emerge.

LPNNRD entered into an agreement with Phoenix Web Group to create a robust, relational database. GIS will be the backbone of this database and will allow LPNNRD to quickly, and efficiently, look up any information pertaining to any project or cost share that has been completed for any constituent with land in LPNNRD.

The Global Positioning System (GPS) relies on 28 NAVSTAR satellites, which provide world wide positioning and navigation information around the clock. Receivers acquire signals from satellites to determine precise locations on earth. The data obtained from taking GPS positions can be downloaded and mapped with GIS, making the two technologies complementary. LPNNRD partnered with NRCS on the purchase of a sub-centimeter GPS base station. This allows NRCS and NRD staff to quickly and efficiently perform a variety of tasks in the field with survey level precision.

FY 2021 Ground and Surface Water Objectives

- Continue to monitor changes in groundwater levels and quality in the district.
- Continue with LPNNRD Groundwater Management Area (GWMA) programs to help avoid the Lower Platte Basin being designated “fully appropriated.”
- Continue to implement Voluntary Integrated Water Management Plan (V-IMP) for the District and basin-wide plan. Utilize acre feet allotments assigned to the District for the benefit of the basin.
- As part of the GWMA, continue with LPNNRD certification classes, demonstration plots, generation of maps indicating problem areas, and evolving the development of a master database.
- Continue to cooperate with the United States Geological Survey (USGS) in monitoring groundwater levels at two sites.
- Continue to cooperate with the United States Geological Survey (USGS) in

- monitoring surface water levels at four sites and one site for contamination evaluation.
- Use the Subarea Delineation Study to identify ‘small pocket aquifers’ in the Swedeburg, Prague, Yutan, and Yutan South subareas. Review other aquifer subareas to determine if Stay Management Areas are justified in other portions of our District.
- Continue sampling of approximately 53 wells in our District that are part of the Nebraska State-wide Network.
- Continue to monitor the Phase Areas in Richland-Schuyler and Bellwood for nitrate and elevate these areas as needed.
- Implement extensive sampling of soil and water in the Phase Areas for the purpose of identifying workable best management practices for curbing the rising nitrate trend.
- Administer \$15,000 of state and local cost-share funds to decommission abandoned water wells, and provide 100% cost-share assistance within Wellhead Protection Areas to communities that are actively doing projects within it’s management area.
- Maintain a multi-agency groundwater energy level monitoring network in the Wann Basin of the Platte Valley north of Ashland to pool information from different agencies collecting water level data. This information is being used by the COE and MUD to refine their groundwater modeling efforts.
- Continue to implement the Chemigation Program to inspect safety equipment on permitted irrigation systems in the district.
- Continue with the District’s Well Permitting Program and Variance Process throughout the District.
- Continue to review water use reports submitted to the LPNNRD as part of the well permitting process from new and replacement wells.
- Provide information and education on water conservation and safe disposal of farm and household chemicals.
- Continue to site registered and unregistered wells in the district using GPS.

- Promote and sponsor LPNNRD's Spring Conservation Sensation
- Provide information on Integrated Pest Management in news releases and the "Viaduct" newsletter to encourage reduced use of pesticides.
- Support and promote urban water conservation and chemical disposal throughout the District.
- Assist in organizing the annual NRD Water Programs Conference held each year to update the NRD's on activity of State and Federal Agencies, new research and Legislative issues.
- Continue to install flow meters on irrigation wells that are part of our Ground Water Energy Level (GWEL) Network.
- Expand the GWEL network to monitor aquifer sub-areas as designated in the 2009 Subarea Delineation Study. This will be done by incorporating additional high capacity wells and the drilling of new monitoring wells.
- Continue to monitor clean up efforts by the COE at the Former Ordnance Plant at Mead, Nebraska.
- Work with the COE to establish spacing requirements for future high capacity irrigation, industrial, and/or municipal wells that are requesting to be installed near known contaminant plumes from the Former Ordnance Plant near Mead, so these wells will not interfere with the COE's clean up efforts.
- Continue to monitor clean up efforts by the University of Nebraska at the Eastern Nebraska Research and Extension Center (ENREC) facilities east of Ithaca, Nebraska.
- Maintain transducers placed in District monitoring wells to record changes in groundwater energy levels and to start the process of installing real-time remote reads.
- Declare Level 2 or Level 3 Management areas as warranted caused by declining groundwater energy levels in 50% or more of the monitoring wells reaching their trigger levels after three consecutive spring readings.
- Review livestock permits from DEQ.
- Investigate irrigation runoff and groundwater management area complaints as needed.
- Expand the NeRain program within our District.
- Continue to be a sponsor member of the Elkhorn-Loup Model (ELM)
- Continue groundwater studies with the University and NeDNR in the SQS areas. Study will focus on confined and unconfined aquifers and drawdowns within these areas.
- Communicate with well drillers and pump installers on water concerns within the District.
- Continue to assist the Eastern Nebraska Water Resources Assessment (ENWRA) with the use of AEM (Airborne Electromagnetic) to study the eastern glaciated portions of Nebraska to provide a geologic framework map.
- Improve irrigation efficiency by working with UNL Extension on the Nebraska Agricultural Water Management Network (NAWMN) to install Watermark sensors and ET gauges with producers each year in our District.
- Continue with the process of updating Irrigated Acre Certification within the District.
- Continue working on projects identified within the Shell Creek Watershed Water Quality Plan.
- Update water quality objectives as identified in the Wahoo Creek Watershed and the Shell Creek Watershed Water Quality Plans.
- To increase producer participation in online reporting for entering their data to improve efficiency and quality of data.
- To complete the process of developing a hydro-geological framework utilizing AEM data, boreholes and other geological information.
- To utilize the real-time water level measurement network in Special Quantity Areas for in-season management decisions.

FY 2022-2026 Long Range Ground and Surface Water Objectives

- Continue groundwater quality sampling throughout the LPNNRD, both the State-wide network and intensive sampling of selected regional aquifers.
- Continue water quality education programs based on the goals and objectives of the LPNNRD Groundwater Management Area, which includes LPNNRD certification classes for landowners, municipal and industrial water users.
- If needed, designate further Phase II, III & IV boundaries for the Groundwater Quality Management Areas.
- To educate the need for check valves in protecting the aquifer from contamination.
- Continue with nitrogen application demonstrations and participate with demonstrations on integrated pest management and sustainable agriculture.
- Assist in the proper decommissioning of water wells in the district.
- Continue to use GPS to site registered and unregistered wells within the district.
- If necessary, designate Level II and III boundaries within the district to manage declining groundwater levels.
- If necessary, designate new Special Quantity Subareas (SQS) within the district to manage mid summer declines of groundwater energy levels in aquifers that operate under large pressure swings.
- Continue measurement of ground water energy levels in the district.
- Develop a groundwater model for each sub-area. Additional information on water use from all wells will be needed for accurate information.
- Continued partnership with the Eastern Nebraska Water Resources Assessment (ENWRA) and apply information to the glaciated portions of our District.
- Additional studies to identify vulnerable aquifers and modify GWMA rules and regulations to protect these aquifers and

- their long term sustainability. Continue geophysical work, installation of monitoring wells and test holes to better define these vulnerable sub-areas. Additional AEM flights with $\frac{1}{4}$ to $\frac{1}{3}$ mile spacing would gratefully assist in defining such areas. Eventually cover the entire District with these detailed AEM investigations.
- Continue using AEM (airborne electromagnetic) information to analyze bedrock aquifers both in water quantity and water quality. Test holes and monitoring wells will have to be installed and sampled to determine these as a possible source of usable groundwater. New management strategies need to be developed for these aquifers such as summer trigger levels for confined bedrock aquifers, especially if these are hydrologically isolated from overlying alluvial aquifers. This could develop into three dimensional management where aquifers at different depths are treated by a separate set of rules for each one. This could become very complex but will likely be the only way to sustain the use of these aquifers far into the future.
 - Install precipitation gauges near monitoring wells in important sub-areas.
 - Utilize the completed Lower Platte River Consortium Study for possible locations for recharge and reservoir sites to better convey water downstream to municipal wellfields.
 - Complete water quality objectives as identified in the Watershed Quality Plans.
 - Continue to update the Groundwater Management Plan to include Integrated Management of surface and ground water. It may be necessary to install additional surface water gauging sites coupled with nearby groundwater monitoring wells as tools for integrated water management.
 - Expand the GWEL network to have continuous recording monitoring wells in each sub-area to better manage the resource with the ability for remote real-time readings. This is especially important

in confined aquifers.

- Continue to update the certification of irrigated acres.
- Continue to assist District communities who have difficulties with water quality and quantity by helping determine rural water system feasibility.
- Keep the Saunders County Rural Water System study as an alternative in the event of changing federal regulations governing municipal water supplies.
- Update the Platte Valley modeling efforts using MODFLOW software. This information will be used to further define the 10/50 boundary line.
- Keep abreast of updates and new iterations of the Elkhorn-Loup Model (ELM) to determine which areas in the Shell Creek watershed are in hydrologic connection with the Elkhorn or Loup River basins.

In summary, the LPNNRD needs to focus on five areas in the next five years:

1. Using information from the AEM flights and test holes, establish a monitoring well network in these confined aquifers to record continuous ground water energy levels. It is midsummer declines (late July to mid-August) when large drops in aquifer pressure can cause some wells to run low on water. Map locations of potential recharge sites. More flights, test holes and/or monitoring wells might be necessary in areas to provide the necessary information.

2. Establish ground water management rules to better address confined aquifers. This could involve comparing spring to summer ground water energy levels and comparing this to the potentiometric aquifer thickness and the depth of bedrock. The current management rules for unconfined aquifers should be adequate for future conditions. These controls are based on three consecutive spring readings at or below their trigger levels in at least 50% of the GWEL wells in a given subarea.

3. AEM flights have given a new interest in bedrock aquifers such as the Dakota formation. Monitoring wells in selected areas are needed to determine the water quality and quantity of these bedrock aquifers. Also are these bedrock aquifers in hydrologic connection to any overlying aquifers? If this is the case and new high capacity wells are being established in these bedrock aquifers then management should shift focus to the more vulnerable aquifer to sustain long term viability of both aquifers. If these bedrock aquifers are isolated from the overlying aquifer then "three dimensional management" where wells are managed differently due to their depth may be in order. This could get complex but management needs to take the chemical and physical characteristics of the aquifer in account. For example, what is the salinity of the groundwater and is the bedrock aquifer cemented, unconsolidated, sandstone, limestone, or shale.

4. Horizontal wells. In the immediate future horizontal high capacity irrigation water wells will likely be established in thin aquifers to increase well output or yield. On the plus side, these could replace several vertical wells that are used in series and therefore be a cost savings to the well owner. On the negative side these could quickly dry up thin aquifers less than 20 feet in thickness and affect nearby wells. How do you manage such a system? At the least you could require 600 feet spacing from any point of the lateral to a neighbor's well but again this may not provide much protection in thin aquifers such as the area immediately west of Fremont. Other management options would be to restrict the number of acres irrigated, restrict the length and direction of the laterals, restrict well output such as limit the gallons per minute, establish water allocation, install monitoring wells such as near the end of the laterals to track groundwater levels, etc.

5. Integrated Water Management. Siting of potential recharge sites, storage reservoirs

(both surface and groundwater), and potential water reuse projects to enhance the water supply in the District. Additional monitoring wells, streamflow gauging, and precipitation sites will likely be necessary. Effects of climate change will also need to be considered as part of integrated water management.



In response to the Erosion and Sediment Control Act (LB 474), passed in 1986, the Natural Resources Commission developed the Nebraska Soil and Water Conservation Strategy. This strategy outlines a course of action for efficiently conserving and managing the state's natural resources.

The Lower Platte North NRD administers the Erosion and Sediment Act and has patterned its local program after the state strategy. The district administers state and local cost-share funds through Soil and Water Conservation Programs (SWCP) to offer incentives to farmers for installation of land treatment practices. LPNNRD staff also worked with NRCS staff to utilize Farm Bill Programs to repair erosion problems.

FY 2021 Soil Conservation Activities

Soil and Water Conservation Programs (SWCP)

Under Soil and Water Conservation Programs (SWCP), the LPNNRD administered \$83,029.99 of state funds and \$11,513.56 of local funds for land treatment practices during fiscal year 2021 in cooperation with 13 different landowner projects. In addition, 9 Buffer Strip contracts were administered with \$ 15,008 in state funds.

For fiscal year 2022, \$85,024.81 of state funds (from the Nebraska Department of Natural Resources) and \$25,000 of local funds will be allocated for soil and water conservation practices.

Wahoo Creek Water Quality Land Treatment Efforts

Wahoo Creek in Saunders County, Nebraska, has resided on the Environmental Protection Agency's (EPA) Section 319 list of impaired water bodies. To address the impaired status of Wahoo Creek, LPNNRD in partnership with the U.S. Environmental Protection Agency (EPA)

and the Nebraska Department of Environment and Energy (NDEE) developed the Wahoo Creek Watershed Water Quality Management Plan in 2013. These plans are updated every 5 years and the District will complete another update in 2021. This plan identifies goals to reduce excess phosphorus, nitrogen, soil sediments and E. coli bacteria in the Wahoo Creek Watershed. This plan meets the EPA requirement of containing "Nine Elements" of an effective watershed plan. The plan identifies water quality goals to protect and enhance the quality of all water resources within the Wahoo Creek. Sub-watersheds within the Wahoo Creek Watershed were prioritized for future water quality projects. LPNNRD in partnership with EPA, NDEQ and the Natural Resource Conservation Service (NRCS) identified four Wahoo Creek sub-watersheds as Water Quality Initiative (WQI) areas to receive special EQIP and EPA 319 funding for landowners to complete conservation practices to help achieve the numerous identified water quality goals.

Approximately \$32,185 of 319 Grant Funds in FY 2021 were spent in the Wahoo Creek watershed. These cost-share monies helped construct practices including approximately 7,000 linear feet of terraces, 3,000 linear feet of tile outlets. The Wahoo Creek Grant also included approximately 157 acres in the Lands for Conservation program that helps generate Summer work in the watershed.

In FY 2022, we will complete the Wahoo Creek Watershed Water Quality Plan Phase II, Part B, which is combining \$177,250 of remaining EPA 319 grant funds and \$43,000 of the remaining Nebraska Environmental Trust grant funds. These funds will be used to complete a large Shoreline/Road Stabilization Project at Czechland Lake, Lands for Conservation landowner payments, and for the Wahoo Creek Watershed Plan Update. For example, septic systems that are over 30 years old or have an open discharge are eligible for up to \$4,800 of

cost-share assistance to bring the system up to EPA/NDEE code. To accomplish water quality goals, as outlined in the EPA Water Quality Watershed Plan, is to continue this partnership effort for many years to come. The Railroad Road/Czechland Lake Shoreline Stabilization Project will be completed in the Fall of 2021. This is a cooperative effort between LPNNRD and Saunders County.

Shell Creek Watershed EPA Section 319 Water Quality Improvement Efforts

Shell Creek is a major tributary of the Lower Platte River. Land use in the approximately 305,000 acre watershed is predominantly row crop agriculture. The designated beneficial uses (Primary Contact Recreation and Aquatic Life) of some segments of Shell Creek are impaired by elevated levels of Escherichia coli (E. coli) bacteria, selenium, Atrazine and excessive erosion from storm water flow.

The Shell Creek Watershed Improvement Group (SCWIG) is a volunteer committee that formed in 1999 to lead local efforts to identify problems and to promote implementation of conservation practices to improve water quality in Shell Creek. This evolved into an advisory group to LPNNRD continuing to provide local leadership toward reducing erosion and quality impairments in the watershed. A community-based planning approach was used to gather input from the citizens of the watershed for development of the Shell Creek Watershed Environmental Enhancement Plan that emphasizes combinations of practices that improve water quality. Efforts are underway on the plan update to be completed by the end of 2021.

Over the past 20 years, the Shell Creek Watershed has benefited with over \$2 million in EPA Section 319 funds combined with approximately \$4 million in partnering federal and local funds for assisting landowners in establishing Best Management Practices on their farms. These efforts resulted in Shell Creek becoming the first watershed in the nation to be delisted for atrazine contamination in FY 2018.

In FY 2021, in cooperation with Colfax County, Shell Creek Channel and Bank Stabilization Project near Schuyler north of the Union Pacific Railroad bridge replacement near Colfax County Road 15 was completed. Completion of Shell Creek Channel Improvement and Bank Stabilization will occur south of the railroad bridge to the Platte River will occur in the fall of 2021. In addition, a large Wetland Project was completed in December 2020, in cooperation with a private Platte County landowner. There are over \$390,000 of EPA 319 grant funds and approximately \$14,000 of NET funds remaining to assist with other Shell Creek Watershed projects.

Erosion and Sediment Complaints

The LPNNRD responds to occasional erosion and sediment complaints. In most cases, these complaints are resolved before going through the formal complaint process. Many cases are drainage issues that are resolved between the District and landowners. During FY 2021 the district received no formal complaints, but one verbal and some minor drainage issues.

FY 2022 Soil Conservation Objectives

- Use technical assistance from the NRCS in the planning, design, construction, and maintenance of conservation measures applied to the land.
- Use Federal, state and local funds to promote and implement land and water treatment projects in the Dunlap Creek, North Branch and Miller Branch of Wahoo Creek, along with Cottonwood Creek Watershed and Shell Creek Watershed, to reduce erosion and improve water quality.
- Continue encouraging the implementation of summer conservation construction utilizing federal funding within the Wahoo Creek Watershed through the Lands for Conservation program; for FY22 the NRD has approved \$43,050.00 for the set aside of 210 acres.
- Administer \$85,024.81 of State NSWCP

funds and \$25,000 of local cost-share and grant funds to landowners for the construction of terraces, tile outlets, waterways, diversions, small dams, planting of permanent vegetation, and maintaining water quality.

- Continue to promote conservation tillage measures, pasture & range management, sustainable agriculture, and the Conservation Reserve Program (CRP), through news releases and the district's newsletter.
- Recognize the Outstanding Soil and Water Conservationist, at the LPNDRD Recognition Banquet.
- Continue to assist landowners in resolving soil erosion and sediment complaints.
- Provide financial support and staff time to conservation education activities.
- Continue to work closely with locally-led conservation groups to promote soil and water conservation throughout the district.
- Partner with the Shell Creek Watershed Improvement Group (SWIG), EPA/NDEE and NET toward continuing implementation of Best Management Practices in the Shell Creek Environmental Enhancement Plan Implementation.
- Work with NRCS, NDEQ, NET, and Saunders County and the Wahoo Creek locally led Steering Committee in pursuing additional federal and state funds to assist with land treatment practices as defined in water quality objectives in the Wahoo Creek Watershed Water Quality Plan.
- Assist local landowner groups form advising steering committees in the Wahoo and Bone/Skull Creek Watersheds.

FY 2023-2027 Soil Conservation Long Range Objectives

- Maintain existing land treatment practices and programs.
- Continue to work with all counties in the district to reduce roadside erosion.
- Administer the NDEQ/EPA 319 Grant

Program to improve water quality throughout Wahoo Creek, Shell Creek priority watersheds.

- Begin implementing Best Management Practices under NDEQ/EPA Corridor Alliance Watershed Water Quality Plan.
- Look for new and innovative soil and water conservation methods.
- Partner with NRCS, UNL Extension and landowners to improve all aspects of their water and soil quality.
- Continue to support the Land and Range Judging Contests.
- Continue targeting SWCP land treatment program funds for priority watersheds in the District.
- Use existing and new technology and GIS software programs for implementing and promoting soil conservation practices.
- Promote the use of and make available soil surveys and land use information.
- Continue to support Locally Led Landowner Groups to promote and implement soil and water conservation practices.



FLOOD CONTROL & DAMAGE REDUCTION ACTIVITIES

Watershed projects have been completed in five of eleven sub-watersheds (see Appendix E) in the LPNNRD to help reduce floodwater and provide grade stabilization. These completed projects include Bellwood, Clear Creek, Cottonwood Creek, Sand and Duck Creek and Swedeburg watersheds, along with Rawhide Creek. Current high priority flood reduction areas include Shell Creek, Wahoo Creek, Skull Creek and Bone Creek watersheds. On federal and state projects where the LPNNRD acts as project sponsor, the district obtains land rights and mitigates for loss of trees, wildlife habitats and fences destroyed by project construction. The LPNNRD is also responsible for operation and maintenance activities on these projects after they are built.

The LPNNRD offers local assistance for the construction of small dams that can help counties and/or landowners protect county roads, control erosion and provide water for livestock and wildlife.

FY 2021 Flood Control and Damage Reduction Activities

Wahoo Creek Flood Reduction Efforts

In 2017, the Natural Resource Conservation Service (NRCS) approved \$1.5 million under their Regional Conservation Partnership Program (RCPP) to assist with planning, design and construction of three Wahoo Creek flood reduction dams, sites 26a, 26b & 27. These dam sites were originally identified as potential projects in the NRCS Wahoo Creek Watershed Plan completed in 1998. The total estimated cost to complete the three dams is \$4.1 million. In addition to RCPP funding, there is another \$2.3 million of state funds approved through the Nebraska Department of Natural Resources Water Sustainability Fund, leaving \$1.5 million needed from local sources. An RCPP agreement with NRCS was approved in September 2017

to accomplish planning, design, permits and construction of the project.

In the fall of 2017, NRCS approved additional funding for the Wahoo Creek Watershed under the federal Watershed Flood Prevention Operations Program (WFPO), historically referred to as P.L. 566. LPNNRD then entered into a three year agreement with NRCS to use federal funds for watershed planning to include sites 26a, 26b, 27 plus an additional seven remaining Wahoo Creek Watershed flood reduction dam sites (55, 66, 77, 82,, 84, 85 & 86). FYRA Engineering has been assisting LPNNRD with completing the Wahoo Creek Watershed plan which will be submitted to NRCS for approval in the fall of 2021. After watershed plan approval, LPNNRD has hired Olsson (Engineering) for completing the design, permitting, bid letting and construction oversight for dam sites 26a., 26b. & 27, along with designing the other seven dams.

After the watershed plan is approved, dam designs will be completed in 2022- 2023. After the first 3 dams are underway, it is anticipated that future federal and state assistance through the federal WFPO program and the state Water Sustainability Fund will be provided to assist with future construction of the remaining seven additional dams.

Sand Creek Environmental Restoration Project (Lake Wanahoo)

With the invaluable assistance of numerous local, state and federal partners, 2011 witnessed the completion of construction on Lake Wanahoo's earth embankment. The breakwater feature and the fisheries component were completed a few years prior to the embankment. Recreation components were completed for Lake Wanahoo in FY 2011. Construction of seven upstream flood reduction/environmental enhancement structures were completed in FY 2012 - FY 2014.

In FY19, LPNNRD assumed Lake Wanahoo's

recreation management responsibilities from the Nebraska Game and Parks Commission.

Operation and Maintenance

District staff completed inspections on 45 watershed structures and special projects in the NRD in FY 20/21. These inspections help detect problems before they become serious. Also during the 2020 fiscal year, noxious weeds and volunteer trees were sprayed on 45 dams, Clear Creek Levee and the Rawhide Ditch System. Annual maintenance activities such as removing debris, repairing fences and unplugging risers were completed at many of the dam locations.

Army Corps of Engineers 205 Flood Studies

Over the past few years, the District has partnered with local entities and the US Army Corps of Engineers to study flood protection alternatives for their areas. In 2004, LPNNRD partnered with Fremont, Inglewood and Dodge County to look at a potential levee project to remove areas from the Platte River 100-year ice induced floodplain. In FY 2017, the Fremont study evolved into a General Investigation (GI) Study which determined that there is not a feasible structural solution (levee) to the City of Fremont's flood threat from the Platte River. In 2018 the GI Study evolved back to a 205 Non-Structural Study for the City of Fremont and Dodge County. This effort will continue in FY 2022.

In 2005, LPNNRD entered into an interlocal agreement with the City of Schuyler to evaluate levee protection options to protect the city from flooding from the Platte River and Shell Creek. In FY 2012, the Schuyler 205 Study was completed and entered into the project design phase. In FY 2014 the design phase was completed and LPNNRD assisted Schuyler with obtaining needed land rights for the Shell Creek Levee portion of the project which began construction activities in the spring of 2014 and most construction activities were completed in

the fall of 2015. LPNNRD continued to assist Schuyler in FY 2018 with closing out the project with the Army Corps of Engineers. Schuyler continues to do a good job in maintaining the levee.

FY 2022 Flood Control and Damage Reduction Objectives

- Continue with accelerated land treatment efforts in identified priority watersheds in the District.
- Complete biennial inspections on 45 watershed structures; spray noxious weeds & cut and treat trees on 45 dams, Clear Creek Levee and Rawhide ditch; complete regular maintenance activities at all sites.
- Continue to be an active partner on the Joint Water Management Advisory Board to explore flood reduction and drainage solutions in the lower one-third of Dodge County within LPNNRD.
- Partner with the City of Fremont, Dodge County and Papio-Missouri River NRD to establish cameras and water sensors at five locations along the Platte River.
- Partner with Dodge County, City of Fremont, Dodge County, City of North Bend and the North Bend Drainage District toward an eventual FEMA Drainage Improvement Project.
- Partner with City of Fremont, Dodge County and the Fremont Rod & Gun Club on completing the Platte River Levee Breach Repair Project.
- Continue to educate the public on watershed management and flood reduction in LPNNRD newsletters, news releases and our website.
- Cooperate with landowners and counties in evaluating small dam sites for cost-share throughout the district.
- Continue to partner with the Army Corps of Engineers, FEMA, City of Fremont, Inglewood and Dodge County on exploring non-structural opportunities for feasible

flood control solutions.

- Support the City of Schuyler for exploring non-structural opportunities for feasible flood control solutions from the Platte River through the LPNNRD District-wide Hazard Mitigation Plan.
- Work with Communities, Counties and other entities on projects identified in our District-wide All Hazard Mitigation Plan.
- Complete the Wahoo Creek Watershed Plan that identifies the future completion of ten flood water reduction dams.
- Complete engineering designs on Wahoo Creek Dam Sites 26a, 26b and 27.
- Begin engineering designs on Wahoo Creek Dam Sites 55, 66, 77, 82, 84, 85, 86.
- Commit funds and staff time toward seeking federal and state funds for constructing the remaining seven unfunded flood water control structures (sites 55, 66, 77, 82, 84, 85, 86) in the Wahoo Creek Watershed.
- Begin the process of updating LPNNRD's district-wide All Hazard Mitigation Plan.
- Work with Dodge County and City of Fremont and other JWMAB members toward the completion of the Rawhide Watershed WFPO Planning efforts.
- Assist Fremont, Inglewood and Dodge County with non-structural flood protection projects as identified by the Army Corps of Engineers study and the Hazard Mitigation Plan Flood Resiliency study.
- Assist Schuyler with non-structural Platte River flood protection project opportunities as they become available.
- Assist District Communities in evaluating future flood protection for their communities through updating the District's Hazard Mitigation Plan and assisting with identified projects.
- Construct Wahoo Creek flood water reduction dams 26a., 26.b and 27.
- Complete engineering designs for eight remaining Wahoo Creek Dam Sites 55, 66, 77, 82, 84, 85 & 86.
- Commit funds and staff time toward obtaining federal and state funds for construction of the ten flood water reduction dams in the Wahoo Creek Watershed.
- Continue to work with JWMAB members on the numerous projects identified as flood reduction/drainage improvement projects.

FY 2023-2027 Flood Control and Damage Reduction Long Range Objectives

- Continue to commit funds and staff time toward obtaining additional funding for flood water control/reduction structures in the Wahoo Creek Watershed.
- Continue to budget staff time and funds to maintain and operate completed flood control structures that are sponsored by the LPNNRD.
- Continue to explore flood reduction opportunities for Shell Creek and Skull Creek Watersheds.
- Continue to encourage cities and counties in the district to accept and implement Floodplain Management Authorities.



The district administers several programs designed to enhance the region’s forest, range, and wildlife land, including the Tree Planting Program, Wildlife Habitat Programs with Game & Parks and Pheasants Forever, SWCP Program, and Mitigation Program. The district also sponsors educational activities such as Range Judging and Land Judging contests, and other school-oriented activities.

FY 2021 Forestry, Range, and Wildlife Habitat Activities

Tree Program

One of the most visible and popular programs offered by the LPNNRD is the district’s tree planting program. As a direct result of this program, begun in 1973, an estimated 862,750 trees and shrubs have been planted in the district. Trees and shrubs may be obtained from the NRD for windbreaks, shelterbelts, wildlife habitat, woodlots, and Christmas tree plantings. Besides providing a planting service, the NRD also designs tree plans and offers technical advice on ground preparation for tree sites.

During the spring of 2021, 6,215 trees and shrubs were distributed to District residents. Of this total, 5,245 were planted by the NRD field crew at 12 sites.

Wildlife Program

Lower Platte North continues to encourage landowners to set aside land for wildlife habitat by using Federal Programs and Programs provided by Nebraska Game & Parks and Pheasant Forever. Programs such as Corners For Wildlife and Wild Nebraska.

The district assisted with one Corners for Wildlife payment in FY 2020-2021.

Community Forestry Program

In FY 2020-2021 LPNNRD donated 900 seedlings for children in Fremont, and Newman Grove and provided trees to Conservation Sensation and Fremont EcoFair for educational purposes. The District budgets \$2,000 for Community tree development projects. The District assisted the American Legion Post in Newman Grove with their RollCall Veterans Memorial for Community Forestry funding.

FY 2022 Forestry, Range, and Wildlife Habitat Objectives

- Plant and distribute conservation trees and shrubs through the district’s Tree Planting Program.
- Continue to include tree planting as an eligible cost-share practice under the SWCP program.
- Offer trees and give staff presentations to elementary students across the district.
- Assist cooperators to sign up for Wildlife Programs.
- Cooperate with the Extension Service and the NRCS in obtaining tree orders from District residents.
- Recognize a cooperator for outstanding tree planting efforts at the Recognition Picnic/Banquet.
- Provide cost-sharing for the conversion of cropland to grassland through the SWCP program.
- Cooperate with Pheasant Forever Chapters to enhance wildlife habitat and establish windbreaks.

FY 2023-2027 Forestry, Range, and Wildlife Habitat Long Range Objectives

- Sell as many trees and shrubs each year

through the district's Tree Planting Program, and to plant as many trees and shrubs for qualified property owners.

- Provide information and education on tree planting, woodland management, grassland management, and proper wildlife habitat enhancement through the media, tours, and schools.
- Continue to administer Wildlife Habitat programs in cooperation with the Nebraska Game and Parks Commission and other partnering entities as opportunities arise.



FY 2021 Recreation Activities

Czechland Lake Recreation Area

Czechland Lake Recreation Area is a multipurpose project located one mile north of Prague, Nebraska on Highway 79. Flood control, recreation and education are the main benefits of the project. Located at a convenient distance from Omaha, Lincoln, Fremont and Wahoo, the 85 surface acre lake is situated on 265 acres of public access land operated and maintained by the LPNNRD.

State park permits and fees are not required for entrance to the area. Czechland Lake has 11 electrical camper pads at an \$18/night fee for the use of a camping pad. There are also three non-electrical pads. A Nebraska Fishing License is required for anglers. The lake fishery is managed by the Nebraska Game and Parks Commission, which stocks and monitors fish populations. Catfish, Bluegill, Northern Pike and Largemouth Bass were initially stocked in Czechland Lake.

Originally built as one of twelve floodwater structures in the Cottonwood Creek Watershed, Czechland Lake has developed into one of the area's most popular recreation spots. The reservoir and recreation area development was built at a total cost of \$1.8 million. Funding for the project was shared by the Nebraska Natural Resources Commission, Saunders County, USDA Natural Resources Conservation Service and LPNNRD. Grant monies from the U.S. Environmental Protection Agency have been used to reduce nonpoint source pollution entering the lake and to provide educational resources.

The Czechland recreation area was used extensively during FY 2021 generating approximately \$18,000 in camping revenue. Mowing, trash removal, repair and upkeep of park equipment, and thistle control kept LPNNRD park staff very busy during the spring and summer.

Homestead Lake (Skull Creek Site #55)

Construction was completed on Homestead Lake in 2001. The dam offers flood control for nearby communities, and has been developed for public recreation. Recreation facilities include a shelter, restroom, picnic areas, a boat ramp, and hunting areas. FY 2021 proved to be another very popular year for recreators as the area was extensively used.

Lake Wanahoo

Work was completed on recreation facilities at Lake Wanahoo one mile north of Wahoo in FY 2012. Recreation facilities at the 1,600 acre site straddle the 662-acre lake, with camping and boating access on the west side and a day use area on the east. A rocky hiking/biking trail winds throughout the park, linking the east and west side recreation areas over a breakwater levee one mile north of the dam. Mowed trails north of the levee provide access to undeveloped areas set aside for wildlife habitat.

The camping area contains 75 camper pads, 54 tent camping sites and 6 primitive cabins. All camper pads are equipped with electrical hookups and are rock surfaced. All sites, electrical, cabin and tent have fire rings and picnic tables.

The recreation area offers access to two large boat ramps wide enough to accommodate four boats at a time. Boating on the entire lake is no-wake only.

The day use area on the east side of the lake has two large picnic shelters and two smaller ones, all offering scenic views of the lake. In FY 2017 a dump station for RV's was constructed on the east day use area as well as a disc golf course/nature educational trail.

Both the camping and day use areas provide excellent fishing access, with a total of seven fishing jetties. One jetty on each side has an attached handicapped pier. The lake was

stocked with largemouth bass, bluegill, blue catfish, crappie, northern pike, and walleye beginning in 2008.

Limited hunting opportunities will continue to be available at Lake Wanahoo through the Game & Parks Commission PATH Program, where adults can schedule a time to mentor a youth hunter at designated hunting sites north of the recreation area.

The Lake Wanahoo Recreation Area was opened to the public in spring 2012. An operation and maintenance plan was developed with the assistance of the Nebraska Game and Parks Commission and Pheasants Forever in FY 2014 which identified activities that were implemented in 2015 .

In FY 2019, LPNNRD assumed the responsibilities of administering Lake Wanahoo as a public recreation area from the Nebraska Games & Park Commission.

In FY 2020, the Clint Johannes Education Building was completed on the day use portion of the recreation area. This facility provides a protected outdoor education space for LPNNRD education activities, as well as a rentable event facility for the public. Also in FY 2020, six new primitive cabins were installed in the primitive camping portion of the park to give visitors a unique alternative to tent camping.

FY 2022 Recreation Objectives

- Continue to budget funds for maintenance, including grass mowing, tree trimming, grading roads, outhouse cleaning, trash removal, painting and noxious weed control, at Lake Wanahoo, Czechland Lake and Homestead Lake Recreation Areas.
- LPNNRD will continue managing all recreation at the Lake Wanahoo recreation area.

FY 2023-2027 Recreation Long Range Objectives

- Continue to evaluate the development of new outdoor public recreational opportunities as they arise.
- Continue to assist NE Game & Parks and Pheasant Forever in developing new areas offering public access.



It is the general policy of the LPNNRD not to provide financial assistance for drainage improvement and channel rectification unless a project has public benefit and is sponsored by a county, city, Drainage District or a group of landowners through an established Improvement Project Area. Under this policy, the district has cooperated on several projects that have provided public benefit.

FY 2022 Drainage Improvement & Channel Rectification Objectives

- Work with Colfax County to complete the Shell Creek South Channel Improvement/Benching Project.
- In partnership with the North Bend Drainage District, Dodge County and City of Fremont, support the drainage improvement project assessment of the North Bend drainage ditch through FEMA.
- Continue to oversee the progress of the Rawhide Creek West Branch Project to ensure that landowners control vegetation on Rawhide Creek to help it stay clean.
- Provide continued assistance to Platte Center with stabilizing a segment of Elm Creek.
- Work with local landowners and Colfax County to improve Shell Creek flows east of Schuyler.

FY 2023-2027 Drainage Improvement & Channel Rectification Long Range Objectives

- Evaluate potential technical and funding assistance to counties, cities and other entities in the district that sponsor sound drainage and channel improvement projects.



WASTE DISPOSAL & POLLUTION CONTROL

Over 30 years ago, vast changes occurred in Nebraska's solid waste regulations. Landfills that weren't properly designed, operated or sited were required to shut down, as were unauthorized dumps. In order for a landfill to operate, it must be approved by the State and receive a permit. If a permit is not issued, the landfill cannot legally operate. Currently, the only permitted landfill in the Lower Platte North NRD is a facility near David City.

FY 2022 Waste Disposal & Pollution Objectives

- Promote recycling efforts in the district through education programs, newsletters, and news releases.
- Participate in education efforts to promote the reduction of pollution to our air, water, and soil resources.
- Cooperate and be supportive of other group and agency pollution control efforts, education, and/or regulation.

FY 2023-2027 Waste Disposal & Pollution Long Range Objectives

- Assist and encourage all District communities in establishing collection locations for recyclable wastes.
- Assist District cities and counties in establishing pickup days for hazardous household and farmstead wastes as opportunities arise.
- Promote waste reduction efforts in the district through education and incentives.



A major responsibility of the Lower Platte North NRD is to keep the public aware of the district's various projects and programs, and to inform and educate children and adults about the wise use and management of our natural resources.

FY 2021 Information & Education Activities

During fiscal year 2021, the Lower Platte North NRD conducted many activities to help residents learn the importance of our soil and water resources and to stay informed of issues and concerns regarding natural resources. Some of the highlights included:

Publications and Marketing

In FY 2012, the district switched distribution of "The Viaduct" newsletter from direct mail subscriptions to inserts in area newspapers. In FY 2021, more than 26,000 copies of the newsletter were distributed in area newspapers and via email.

Various brochures describing LPNNRD programs and services were updated as needed in FY 2021. These brochures are displayed in the office and distributed during LPNNRD sponsored events and exhibit booths. A Fact Sheet for use with the NARD's public relations campaign at public events is updated yearly.

Press releases are distributed to district papers and radio stations. Numerous ads spotlighting different NRD programs and upcoming deadlines air on KTIC Radio throughout the year. Digital ads on the Wahoo newspaper website continued in FY 2021. In FY 2020, the LPNNRD began airing 30-second program commercials on News Channel Nebraska. The Lake Wanhoo commercial aired during the summer of FY 2020. In FY 2021, the LPNNRD aired the newly produced Projects video, and Operations and Maintenance video,

along with the Lake Wanhoo video.

The NRD continues to maintain information and education outreach for the district through the use of social media outlets on Facebook, Twitter, and YouTube. Photos, videos and information is updated and maintained bi-weekly.

Website

The NRD's website at www.lpnrd.org contains information on nearly all of the district's projects and programs, along with staff and director information, committee and board meeting minutes, and more. Online application and registration forms for various projects and programs are available as well. Online payment capabilities continue to allow customers to pay for trees, rural water bills, and Lake Wanhoo permits. In 2019, the district began tracking the activity on the website including which pages are viewed to help keep current information available online. The website continues to be updated to allow for different types of viewing devices – desktop, mobile and tablet devices.

Video Promotion

During FY 2018, the district worked with redthread to create a 1 minute and 30 second video that promotes the conservation efforts of the district. The video is very unique to the Lower Platte North NRD because no professional acting or voice talent was hired for the video. A past director, current director, and current staff are featured in the video. The children of a current employee and a current director were also featured in the video.

During FY 2019, redthread created a promotional video for the Lake Wanhoo NRD Recreation Area. With the need to bring nature and outdoor recreation to people during the pandemic, the commercial was featured in 30-second spots on News Channel Nebraska during the summer of 2020.

KLKN produced a video to promote

LPNNRD's water conservation efforts. The video featured LPNNRD Water Department staff and various water quality and quantity efforts.

During FY 2020, redthread created a promotional video for the duties and responsibilities of the Operations & Maintenance department, and a video to promote the activities of the Projects department. The videos featured current staff, and the video was narrated by a current LPNNRD director.

The LPNNRD plans to create a video for the Information and Education department during FY 2022. This video will focus on the district's information outreach efforts and environmental education. Once completed, clips from the department videos will be combined to create another video that will feature all of the programs at the LPNNRD.

These videos are shown as commercials through area television stations, educational purposes for presentations and featured on social media platforms.

Education Programs

During FY 2021 the district continued with two year-long programs. The St. Wenceslaus Pre-kindergarten students learn about wildlife, trees, birds, recycling and water conservation through books, pictures, stories, and hands-on activities. The students also came out to Lake Wanahoo at the end of the year for a field trip filled with nature hikes and disc golf. The district teamed up Wahoo Public 8th Grade students for the Survival Club program, making a total of three full school years of the program. LPNNRD staff and other outdoor enthusiasts meet monthly with students during the school year to learn about hiking, knot tying, 2-legged predators, 4-legged predators, fishing, first aid, foraging for wild foods, fire building and other outdoor survival skills. Towards the end of the school year, the Survival Club meets at Lake Wanahoo for a year-end campout to test their new outdoor skills. The year-end campout was not held in 2021.

The district continues to participate in

the Career Exploration Opportunities (CEO) Program with Wahoo Public Schools. During the Spring semester of 2021, LPNNRD staff hosted one high school senior and he rotated between each department to learn about the LPNNRD responsibilities.

Since the completion of the Education Building on the East side of Lake Wanahoo, the LPNNRD staff has been able to hold events in conjunction with area teachers and students for hands-on education. LPNNRD staff started a monthly educational event, "Coffee, Lakeside," that has discussed topics such as gardening activities, migratory birds of Lake Wanahoo, fishes of Nebraska, tall-grass prairies, bats of Nebraska, and lake ecosystems.

The Lower Platte North NRD and Lower Platte South NRD rotate in hosting the East Central Land Judging Contest. Land Judging is a competition for high students that challenges them to gain a better understanding of soil structure and land evaluation. The Lower Platte North NRD works with local NRCS employees to choose a site location and help with site preparation. On October 6, 2020, the Lower Platte North NRD hosted the East Central Land Judging contest with special modifications to accommodate school guidelines and area health department guidelines. Over 180 students from 11 FFA chapters competed at the contest near Prague. The Lower Platte North NRD staff and NRCS staff assisted in the preparation, contest monitoring, and scoring efforts during the contest. The East Central Land Judging Contest will be held by Lower Platte South NRD in October 2021.

The annual LPNNRD Spring Conservation Sensation celebrated its 30th anniversary this year! Fifth and sixth grade students from Saunders, Butler, and Dodge Counties participated in various activities. Hands-on activities were presented by LPNNRD staff, additional personnel from various agencies and organizations, and volunteers to teach students about the environment, natural resources, tree planting, lake ecosystems, wildlife education and more.

The Outdoor Recreation Youth Workshop coordinated by the LPNNRD and Saunders County UNL-Extension was held at Lake Wanahoo. 4H students and other participants who attended learned a variety of outdoor recreation activities including how to kayak, how to play disc golf, how to start campfires, and they also had the opportunity to learn about owls by dissecting owl pellets. The other event coordinated between LPNNRD and Saunders County UNL-Extension is the Saunders County Youth Ag Tour, and due to low numbers, that was canceled.

Test Your Well Event is a program that partners with area FFA chapters to host public events, providing nitrate testing on water samples from private wells at no cost to the attendees. The district held an event with East Butler where over 50 water samples were collected and tested by the FFA students.

District staff provided various presentations and activities during natural resources festivals, field days, out-of-school time programs, school classrooms, online activities on the LPNNRD website, and adult education events. As a result of the district's educational outreach efforts, there was interaction with approximately 809 youth and 43 adults in FY 2021.

Awards, Contests, and Events

The LPNNRD provided a display at the 2021 Butler County Fair. Most of the County Fairs in the District did not offer booth space due to the lingering effects of the pandemic. The LPNNRD plans to provide displays at up to five area county fairs, and agriculture related events in the district in the future.

The LPNNRD provided assistance through preparation and completion during the 2021 NCF-Envirothon Virtual Contest. Staff helped to prepare media and advertising, prepare packages for contestants, and help with judging the oral presentations. The NCF-Envirothon was postponed from 2020 due to the pandemic, and for safety precautions, was held virtually in 2021.

In FY2021, LPNNRD directors voted to

rename the Lake Wanahoo Education Building to honor a former influential LPNNRD director. In a unanimous vote, the building was renamed to the Clint Johannes Education Building at Lake Wanahoo. An open house and dedication ceremony was held in August 2021. The LPNNRD holds environmental education programs for all ages throughout the year at the building for special programs and events with area schools, and outside-of-school groups.

FY 2022 Information & Education Objectives

- Publish the district newsletter "Viaduct" biannually in an electronic format and as a printed newspaper insert in 10 area newspapers.
- Send timely news releases to the local media on various LPNNRD programs, projects, and activities.
- Disperse pamphlets and other publications about LPNNRD programs.
- Update the district's website frequently.
- Continue to provide a display at county fairs (up to five major counties) within the district.
- Continue information and education outreach for the district through the use of tools such as local radio stations, local tv stations, and social media outlets (Facebook, Twitter, YouTube, etc.).
- Continue with the annual awards and recognition program.
- Provide district elementary students with free trees, as requested, in the spring.
- Provide LPNNRD staff as requested to speak to community organizations and schools on NRD activities and environmental topics.
- Provide various education programs, events, and activities to area schools and out-of-school time programs.
- Provide assistance for the East Central Region Land Judging Contest in the fall of 2021, hosted by Lower Platte South NRD.
- Host the 31st Annual Spring Conservation

- Sensation in May 2022.
- Develop new programs and promotional projects to aid in outreach efforts of the district.
 - Develop a video for the Information and Education department.
 - Provide assistance and publications for the students involved in the Shell Creek Watershed Monitoring Program.

FY 2023-2027 Information & Education Long Range Objectives

- Search for new and effective ways to inform and educate the public on the NRD purpose and programs.
- Participate with the Information & Education Staff Group to coordinate statewide I&E activities and produce statewide products.
- Increase participation in activities sponsored by other agencies related to NRD responsibilities.
- Seek to have conservation/environmental education as a part of the school curriculum.
- Support environmental education activities and events throughout the district, and neighboring NRDs.
- Provide assistance for the East Central Region Land Judging Contest in the fall of 2022, hosted by Lower Platte South NRD.
- Assist in the development of an outdoor classroom for a district school.
- Partner with district schools to host Test Your Well Events annually.



LPNNRD Staff

The staff of the Lower Platte North NRD includes 17 full-time and part-time employees stationed at the district office in Wahoo. The NRD administers a full-time field technician, four field office assistants in Natural Resource Conservation Service county offices, and a Recreation Facilitator for Czechland & Homestead Lake Recreation Areas.

In addition to the listed full-time and part-time positions, the district employs seasonal conservation technicians to assist in the layout of land treatment structures. There are also seasonal summer employees hired to help with Lake Wanhoo, water sampling, tree planting and maintenance of LPNNRD projects. Personnel positions and assigned responsibilities could increase in the future as increased project and program responsibilities increase.

Current staff as of September 1, 2021:

Sydney Abbott, **Education Coordinator**
 Daryl Andersen, **Water Resources Manager**
 Tyler Benal, **Water Resources Specialist**
 Jill Breunig, **Bookkeeping Department Head/Administrative Assistant**
 Will Brueggemann, **Water Resources Specialist**
 Duke Dokulil, **Operations & Maintenance Technician**
 Sean Elliott, **Projects/Rural Water Manager**
 Eric Gottschalk, **General Manager**
 Bob Heimann, **Operations & Maintenance Manager**
 David Moore, **Operations & Maintenance Technician**
 Tom Mountford, **Assistant General Manager**
 Russell Oaklund, **Lead Water Resources Specialist**
 Dave Odvody, **Recreation Facilitator**
 Chris Poole, **Grants/GIS Department Head**
 Karen Rezac, **Department/Administrative Assistant**
 Lacey Sabatka, **Information Coordinator**
 Bret Schomer, **Wanhoo Recreation Supervisor/Water Resources Specialist**

Staff Support for NRCS Offices:

Vacant, **Conservation Technician**
 Kimberly Piitz, **NRD/NRCS Field Office Assistant (Butler County)**
 Kristin Miller, **NRD/NRCS Field Office Assistant (Colfax County)**
 Luz Schafersman, **NRD/NRCS Field Office Assistant (Dodge County)**
 Marla Milliken, **NRD/NRCS Field Office Assistant (Saunders County)**
 Melissa Foreman, **Shell Creek Watershed Coordinator (LPN & SCWIG Volunteer)**



FY 2022 Financial Objectives

- Funding required for the LPNNRD projects and programs for Fiscal Year 2022 requires a general operating budget of \$7,782,546 of which \$3,458,000 is required from the district's local tax levy. The 2022 tax levy of .033457 cents per \$100 actual valuation is required from District property. Projected expenses and income for FY 2022-2027 are shown in Appendix F.
- A tax levy of .03345 means that an owner of a \$150,000 home will pay \$50.19 in NRD taxes in FY 2022. An owner of farm land valued at \$7,000 per acre will pay \$2.34 an acre/year to the NRD in FY 2022. The LPNNRD levy represents about two percent of the total property tax collected.

FY 2023-2027 Financial Long Range Objectives

- Although it is expected that the amount of revenue from all sources will fluctuate during the next few years, it is anticipated that the LPNNRD will operate at a mill levy between \$0.035 and \$0.055 per \$100 actual valuation as the District continues to assist with flood reduction project priorities and addresses our responsibilities with groundwater water quality and quantity management.

APPENDIX A - Estimated Population by County



COUNTY	% OF COUNTY IN DISTRICT	ACRES IN DISTRICT	RURAL POPULATION IN DISTRICT	URBAN POPULATION IN DISTRICT	TOTAL
Boone	12.78	56,175	231	--	231
Butler	44.38	167,700	1,863	3,724	5,587
Colfax	40.76	108,582	1,218	6,379	7,597
Dodge	31.96	111,147	3,075	27,923	30,998
Madison	6.25	22,998	129	721	850
Platte	37.78	165,401	2,222	637	2,859
Saunders	81.39	395,098	7,028	8,313	15,341
TOTAL		1,027,101	15,766	47,697	63,463

Twenty-eight cities, towns and villages are located within the Lower Platte North NRD, listed below with their populations (according to 2010 United States Census):

Abie	69	Memphis.....	114
Ashland	2,453	Morse Bluff	135
Bellwood.....	435	Newman Grove	721
Bruno	88	North Bend	1,177
Cedar Bluffs	610	Octavia	127
Colon.....	110	Platte Center	336
David City.....	2,906	Prague	303
Fremont	26,397	Richland	73
Inglewood	325	Rogers.....	95
Ithaca	148	Schuyler	6,211
Leshara	112	Tarnov	46
Lindsay	255	Wahoo	4,508
Linwood	88	Weston	324
Malmo	120	Yutan.....	1,174
Mead.....	569		





Angled Aluminum Post Mount





9/27/2021

Mr. Sean Elloit
511 Commercial Park Rd
Po Box 126
Wahoo Ne 688066

RE: Routine Sanitary Survey, Lower Platte North RWD(Bruno), NE31-21171, Butler Co.

Dear: Mr Elliot,

On 9/20/2021 a survey of the Lower Platte North RWD(Bruno) PWS (the system) was conducted by Eric Cox, accompanied by Yourself representing the system, to determine the systems compliance with Title 179 NAC *Regulations Governing Public Water Supply Systems*. Identified deficiencies are listed in the attached Compliance Plan:

- **Significant deficiencies must be corrected within 120 calendar days from the date of this letter**, unless 1) a shorter time period is specified in the plan, or 2) a written request from the system for a longer time period has been approved by the Department in writing.
- **Minor deficiencies** must be corrected within 12 months from the date of this letter
- **Recommendations** do not require correction, but the system is strongly encouraged to address them

NDEE DPH requires the System to submit a signed and dated written response to NDEE DPH within 30 calendar days from the date of this letter. The response must indicate whether and when the deficiencies were corrected. For any deficiencies not corrected, a corrective action plan, including a timetable stating a specified date when the correction(s) will be made, must be provided with the response.

As a reminder, prior to making any modifications or alterations to your public water system, please contact NDEE Engineering Services at (402)471-0597 to determine if plans and specifications prepared by a Nebraska registered professional engineer are required.

If you wish to discuss the Compliance Plan, please contact me by e-mail at eric.cox@nebraska.gov or by phone at (402)432-4831. You may also contact the DHHS DPH Field Services Supervisor Andy Kahle by phone at (402)471-0521 or by E-mail at andy.kahle@nebraska.gov.

Respectfully,

Eric Cox | Water supply Specialist
DRINKING WATER DIVISION

Ec:Sean Elliot Water Operator

Lower Platte North RWD(Bruno) files in Lincoln

Ec: mostransky@map-inc.org, dluebbe@map-inc.org.

Usefull Links: DHHS DPH Public Water Supply Program - <http://deq.ne.gov/NDEQProg.nsf/OnWeb/PWS>

Midwest Assistance Program - <http://map-inc.org/>

Nebraska Rural Water Association - <http://www.nerwa.org>

NDEE- DPH SANITARY SURVEY DEFICIENCY COMPLIANCE PLAN

PWS Name: Lower Platte North RWD(Bruno) PWS ID#: NE31-21171 County: Butler

Severity, Deficiency Code and Category	Regulatory/ Statutory Citation	Deficiency Corrective Action Required
		SYSTEM MUST SUBMIT A WRITTEN RSS RESPONSE WITHIN 30 CALENDAR DATE OF THE RSS LETTER. DUE DATE
		Deficiencies that were found were resolved prior to letter written. No response needed.

Keep this original document for your records. A copy of this Compliance Plan may be used to report back to the Department regarding correction of the listed deficiencies. **Send the required written response to the address provided below. Significant deficiencies must be corrected within 120 calendar days from the date of this letter or as specified above.**

Eric Cox, NDEE-DPH, 203 South H Rd Giltner, Ne 68841, or via E-mail eric.cox@nebraska.gov

Prepared by: Eric R Cox Date of Survey: 9/20/2021 Date Compliance Plan Prepared: 9/25/2021

This box to be used by PWS Representative for reporting purposes only:	
PWS Rep. Name: _____	Date Report Mailed: _____
Any document sent to the Department for reporting on deficiency correction must be signed and dated by of the system or it will not be accepted.	



Good Life. Great Resources.

DEPT. OF ENVIRONMENT AND ENERGY

NDEE – Office of Drinking Water
Public Water Supply Routine Sanitary Survey

PWS Name: Lower Platte North RWD (Bruno) PWSID #: NE31-21171 Permit Issue Date: 10/31/2006

County: Butler NRD #: 18 - Lower Platte North System Class: 4 Type of System: C

Accompanied By: Sean Elliott Title: Water operator Governing Body: NRD Board

Is there a defined organizational structure for decision making: Y [x] N []

RSS Date: 9/20/2021 Last RSS Date: 10/3/2018 Inspection By: Eric Cox

Is the operator in responsible charge properly licensed: Y [x] N []

Do all other operators that make process control / sytem integrity decisions have at least a Grade 4 License: Y [x] N []

FINANCIAL INFORMATION

% Metered Connections: 100%

System Interconnections: David City Reason: [x] Purchase [] Sell [] Emergency

System Interconnections: Village of Bruno Reason: [] Purchase [x] Sell [] Emergency

Comments: _____

Is operating budget available for inspection: Y [x] N []

Planned or Actual for Year: 2021

(Procure a copy of the systems operating budget and water rate structure and attach to survey)

SYSTEM RECORDS / PROGRAMS

Table with 4 columns: Item, S, U, NA, Comments. Rows include System Maps, Water Quality / Sample results, Water Production Records, Chemical Use Records, Maintenance Records, Customer Complaints, Cross-Connection Control Requirements, Copy of Sampling Plans, Wellhead Encroachment Policy, Emergency Phone List, Emergency Plan, Planning Records, CCR(s), O&M Manual, Provisions For Drought Mitigation/Management.

Other Records and Comments: _____

NEBRASKA SUSTAINABILITY CHECKLIST FOR PUBLIC WATER SYSTEMS

CAPACITY ASSURANCE SCORE

System name: Lower Platte North RWD NE31- 21171 Date: 9/20/2021

Community or NTNC: C Total connections: 5 Population: 25 plus Bruno 99

Completed by: Eric Cox

Scoring: Yes, No, N/A – not applicable. (If an element is unknown, score as N)

MANAGERIAL CAPACITY	Score	Points Possible	Points Achieved
Asset management program	Yes	10	
Documented bylaws or water system ordinances (drought, backflow, rates, fees, etc.)	N/A	5	
Employee handbook	Yes	5	
Written job descriptions	N/A	5	
Secure and accessible water system records	Yes	5	
Source water or wellhead protection plan	N/A	5	
Regular communication with customers (not CCR)	Yes	5	
Possible Achieved Managerial Subtotal		25	
FINANCIAL CAPACITY			
Formal water system budget	Yes	10	
Water rate or fee structure meets expenses	Yes	10	
Annual water rate review	No	10	
Capital reserve fund	Yes	10	
Monthly expense & revenue reports to board/council	N/A	10	
Annual outside audit	Yes	10	
Possible Achieved Financial Subtotal		40	
TECHNICAL CAPACITY			
Adequate source water capacity	Yes	10	
Licensed operator	Yes	5	
Operations & maintenance manual	Yes	5	
Up to date distribution map	Yes	5	
Water loss accounting (current water loss: [% Loss])	No	10	
Water meters	Yes	10	
Possible Achieved Technical Subtotal		35	
Total Possible Points Achieved Total		100	
Capacity Assurance Score (Achieved Total/Total Possible Points x 100)			
Systems with scores below 70% will be offered no-cost assistance to build capacity. This assistance is tailored to system needs, and acceptance is voluntary.			

WATER SOURCE INFORMATION

Source Type: Surface Water Infiltration Gallery Spring Well

Other: David City

Does the system have a withdrawal (allocation) permit: Y N

If yes, from whom and quantity: _____

Max. daily (24 hour) production capability: Unknown X Total production for past year: _____ MG

Comments: 25 population plus Bruno of 99

Complete a Source Water VA for each source and attach to sensitive / secure information sheet (Bulls eye, State only)

**VOLUNTARY PROGRAMS

**Does the system have a Watershed Management Program: Y N

**Does the system have a delineated Well Head Protection Area: Y N

**Has the WHPA officially been adopted by the system: Y N N/A Date: _____

**Has a contaminant source inventory been completed: Y N Date: _____

**Has the contaminant source inventory been updated: Y N N/A Date: _____

**Does the system have a delineated WDA (surface sources only): Y N N/A

**Has a contaminant inventory for the WDA been completed: Y N N/A Date: _____

**Is there an ERP for spills within WHP or WDA Areas: Y N N/A

(Items below required for systems over 3,300 population)

**Has an EPA Vulnerability Assessment (VA) been completed: Y N N/A Date: _____

**Has certification documentation been submitted for the EPA VA: Y N N/A

**Has an EPA Emergency Response Plan (ERP) been completed: Y N N/A Date: _____

**Have certification documents been submitted for the EPA ERP: Y N N/A

Comments: _____

NDEE- will assess the following:

Is the source adequate to meet peak demands: Y N

Is all source water metered: Y N

Are any source water facilities located within a 100 yr. flood plain: Y N

If yes, list each facility: _____

Have any source water facilities ever been flooded: Y N

If yes, list each facility: _____

Comments on Water Source: _____

CROSS-CONNECTION CONTROL PROGRAM

Name of person responsible for the administration and enforcement of the CCC Program: Sean Elliott

PWS Grade 6 Operators:

Name	License #	Expiration Date
None		

Does the system have an adopted resolution, ordinance, or other enforceable instrument that assures the CCC requirements are being met: Y N N/A Comments: _____

If yes, provide the following information: Ordinance #: _____ Other: Policy

Responsibility of PWS: program & test system owned devices

Responsibility of Consumer: test own devices

Fines or Penalties for Noncompliance: Disconnection of service

Date(s) of last cross-connection survey: 5/2021 N/A

How were (are) surveys distributed: mail

% of residential surveys returned: 100% % of non-residential surveys returned: 100%

What actions are taken if surveys are not returned: none

Have cross-connections been properly addressed: Y N Comments: _____

Required testing frequency of assemblies: yearly

Have all backflow preventers been tested by a properly licensed G6 operator: Y N

Are testing records for the last 5 years available: Y N Is testing current: Y N

Does the PWS enforce the requirements of their cross-connection control program: Y N Comments: _____

Is an on-going public information program being done (beyond the CCR addition): Y N Describe: mailing of

NeRWA phamplets

Comments: _____

ANNUAL REVIEW – SHORT AND LONG TERM PLANNING

Are records being kept to facilitate an annual review of the capabilities of the system: Y N

If yes, is an annual review being done: Y N

Have the following items been included in the Annual Review of the PWS for the purpose of short (2 years) and long (10 years) term planning:

Item	Y	N	Comments
Source	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Storage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Distribution System	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Population	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
PWS Value	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Water Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Security/Vulnerability	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Intended Capital Improvements for next 5 years:

- 1.) extending of mains
- 2.) service taps
- 3.) _____
- 4.) _____
- 5.) _____

WATER QUALITY MONITORING

If the system has an AO, are the requirements of the order being followed: Y N N/A

If not, describe: _____

If the AO is for nitrate, list locations of all nitrate postings: _____

If the system has a current MCL violation, is the system taking the required actions: Y N N/A

If not, describe: _____

Is compliance water testing equipment calibrated or standardized: Y N N/A

Are calibration records readily available: Y N

What non-compliance water testing, if any, is routinely done: _____ None

List any established water quality goals: good water

Comments on Water Quality Monitoring: _____

DISTRIBUTION SYSTEM

Page 1 of 2

This is a non-community PWS without a distribution system.

Are there maps of the Distribution System(s): Y N Date of last update: 2006

Are the following features shown on the distribution map(s):

Line and Valve Locations:	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	Comments: _____	
Line and Valve Sizes:	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	Comments: _____	
Line Materials:	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	Comments: _____	
Fire Hydrant Locations:	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	N/A <input type="checkbox"/>	Comments: _____
Pressure-zone(s) Boundaries:	Y <input type="checkbox"/>	N <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	Comments: _____
Storage Facilities:	Y <input type="checkbox"/>	N <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	Comments: _____
Booster Pump Stations:	Y <input type="checkbox"/>	N <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	Comments: _____
Sampling sites and zone boundaries:	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>		Comments: _____
Does system have dead end mains:	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>		
Do dead-ends have flushing capability:	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>		
Distribution system map comments:	_____			

Does the System retain records or documentation on the following:

O&M Distribution System Repairs:	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>		
Leak Detection / Water Loss:	Y <input type="checkbox"/>	N <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	Water Loss last year: _____%
R&R / Water Loss Comments:	_____			

Does the system have a flushing program:	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Frequency: _____	
Does the system utilize directional flushing:	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Frequency: _____	
Does the system utilize pigging:	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Frequency: _____	
Are valves inspected and exercised:	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	Frequency: <u>yearly</u>	
Are fire hydrants inspected and operated routinely:	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	N/A <input type="checkbox"/>	Frequency: <u>yearly</u>
Are sampling stations available:	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>	Number: _____	
Is there a <u>common</u> POE for more than one source:	Y <input type="checkbox"/>	N <input checked="" type="checkbox"/>		

If yes, how many sources per POE? _____

Are the POE's metered? Y N

What is the pressure at each common POE? _____

Comments on POE's: POE is connection to David City psi 65 Metter reading 42,552,600

DISTRIBUTION SYSTEM

Page 2 of 2

Piping Materials (indicate all types of piping existing in distribution system, # of feet of each type **may** be included)

C-900: <input type="checkbox"/> _____	C-909: <input checked="" type="checkbox"/> _____	PVC: <input type="checkbox"/> _____	Copper: <input type="checkbox"/> _____
Steel: <input type="checkbox"/> _____	Lead: <input type="checkbox"/> _____	AC: <input type="checkbox"/> _____	Concrete: <input type="checkbox"/> _____
Ductile Iron: <input type="checkbox"/> _____	CIP: <input type="checkbox"/> _____	SandCIP: <input type="checkbox"/> _____	Other: <input type="checkbox"/> _____

Size of Pipe (indicate each pipe size present in distribution system, # of feet of each size **may** be included):

1" <input type="checkbox"/> _____	2" <input type="checkbox"/> _____	3" <input type="checkbox"/> _____	4" <input checked="" type="checkbox"/> _____
6" <input type="checkbox"/> _____	8" <input checked="" type="checkbox"/> _____	10" <input type="checkbox"/> _____	12" <input type="checkbox"/> _____
14" <input type="checkbox"/> _____	16" <input type="checkbox"/> _____	18" <input type="checkbox"/> _____	24" <input type="checkbox"/> _____
36" <input type="checkbox"/> _____	Other: _____		

Comments: _____

The following applies to all PWS

Does the system have any lead service lines: Y N Unknown

If yes, does the system have a removal or replacement method: Y N Describe: _____

Where does the systems responsibility for the distribution system end (corp stop, curb stop, etc.): to meter

Where is the point of maximum water residence time in the distribution system: Village of Bruno meter pit (Physical location description)

Disinfectant Residual Check: POE: .66 mg/L Max. residence time: .66 mg/L

Other checks: _____

Frequency of checking distribution disinfectant residual: monthly as per regulations

Test kit used: Hach DR 890

Typical distribution system pressure range (pressure fluctuation): 0 psi

Pressure at highest elevation (lowest pressure): 35 psi Location (address or physical): 36th & R Road

Are pressure readings routinely taken from the distribution system: Y N

Frequency: _____

Comments on Distribution System: _____

**THE FOLLOWING MARKED SANITARY SURVEY
COMPONENTS ARE NOT APPLICABLE TO THIS PWS.**

CROSS-CONNECTION CONTROL PROGRAM	<input type="checkbox"/>
SOURCE FACILITIES—GROUNDWATER SUPPLY FACILITIES	<input type="checkbox"/>
WELL INFORMATION	<input checked="" type="checkbox"/>
SURFACE WATER SUPPLIES AND FACILITIES	<input checked="" type="checkbox"/>
INFILTRATION GALLERY FACILITIES	<input checked="" type="checkbox"/>
SPRING SOURCE FACILITIES	<input checked="" type="checkbox"/>
PUMPS AND PUMP FACILITIES	<input checked="" type="checkbox"/>
TRANSMISSION OF SOURCE WATER	<input checked="" type="checkbox"/>
TREATMENT FACILITIES AND PROCESS	<input checked="" type="checkbox"/>
PRESEDIMENTATION BASINS	<input checked="" type="checkbox"/>
FLOW CONTROL AND METERING	<input checked="" type="checkbox"/>
RAPID MIX PROCESS	<input checked="" type="checkbox"/>
CHEMICAL AND CHEMICAL FEED SYSTEMS	<input type="checkbox"/>
CHEMICAL EQUIPMENT SPECIFICATIONS	<input type="checkbox"/>
COAGULATION AND FLOCCULATION	<input checked="" type="checkbox"/>
SEDIMENTATION / CLARIFICATION	<input checked="" type="checkbox"/>
PRESSURE FILTERS	<input checked="" type="checkbox"/>
GRAVITY FILTERS	<input checked="" type="checkbox"/>
DISINFECTION PROCESSES	<input checked="" type="checkbox"/>
GROUND AND ELEVATED TANK STORAGE FACILITIES	<input checked="" type="checkbox"/>
GROUND AND ELEVATED STORAGE FACILITIES COMPONENTS	<input checked="" type="checkbox"/>
HYDROPNEUMATIC AND PRESSURE TANKS	<input checked="" type="checkbox"/>

LICENSED WATER OPERATOR NEEDS ASSESSMENT

Is the Designated Water Operator In Responsible Charge (DO) assigned full-time water system duties (is water all s/he does)?

Y N

If No, what are the other duties that are assigned to the DO? Works For Rual Warter District

Do all licensed operators for the system have a commensurate grade of license compared to the system classification? Y N

If No, what is the reason? _____

Other licensed operators duties: _____

Are there unlicensed persons working on the water system? Y N

If Yes, are they making any process control or system integrity decisions? Y N

If Yes, what are those decisions? _____

Are there training needs that are currently not available to the systems licensed operators? Y N

If Yes, what are those training needs? _____

What skills must an operator possess to work for this system? _____

Are there any skills that the DO or other licensed operators need to develop for their jobs that they do not already possess?

Does PWS management have knowledge of the DO and other licensed operators training/continuing education needs? Y N

Comments: _____

Is system management supportive of the DO/other licensed operators attending continuing education workshops/conferences? Y N

If No, what assistance may the Department provide to improve this situation? _____

On average, how much training is each operator afforded every year? 5-10 hrs

General comments on DO/Licensed Operator needs: _____

NEBRASKA

Good Life. Great Resources.

DEPT. OF ENVIRONMENT AND ENERGY

Inspector's Signature:

Eric Cox

System Representative:

Sean Elliot

Date Inspection Completed:

9/20/2021

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