

Water Committee Meeting  
Thursday, May 1, 2025 9:30 AM  
Lower Platte North NRD Office  
P.O. Box 126  
Wahoo, NE 68066

1. UNFINISHED BUSINESS

2. REGULATORY

2.A. GROUND WATER MANAGEMENT AREA

2.A.1. Well Permit Program

Pictures from a well drilling site near Linwood.

2.A.2. US Army Engineer District Well Permit

A well permit for a 250 GPM extraction well is attached for the NW NE 28-14N-9E, Saunders County. This well will be used for part of the cleanup of the NAD cleanup southeast of Mead.

The Committee asked staff to visit with the Army Corp of Engineers about the beneficial use of the water being extracted.

2.A.3. Lower Platte River Basin Water Management Plan Coalition (LPRBC)

It was agreed at the Coalition Board meeting to continue \$10,000 annual dues.

2.B. GROUND WATER ENERGY LEVELS

Attached is analysis of LPN spring water levels.

2.C. Groundwater Sampling

Staff will water sampling wells in the Todd Valley Area along with the Phase Areas. In the Todd Valley Area area, LPN will be sampling for higher sodium concentrations along with nitrates and pesticides.

2.D. Groundwater Management Plan

Attached is an invoice from LRE for \$2,906.75 per contract. Goals and objectives are attached for discussion, which LRE condensed from the 1995 Groundwater Management Plan.

LRE is planning on having a draft update in May with all the additions and comments implemented into the plan. At previous meetings, discussion on updating the variance scoring sheet along with conducting additional evaluation of SQS#2 rules and boundaries. Attached are LRE recommendations with initial cost estimates.

The committee will review the recommendations at the next Water Committee Meeting.

3. GROUND WATER PROGRAMS

3.A. DECOMMISSIONED WELL PROGRAM

3.A.1. Well Estimates

1 new well has been reviewed and approved for decommissioning since the last Committee meeting.

Well Owner	Type of Well	Cost Share Estimate	Shell Creek Cost	County
Barry Benson	Irrigation	767.10	\$1010.70	Boone

3.A.2. Plugged Wells

3 wells have been plugged, reviewed, and ready for cost share payment approval this month.

Well Owner	Type of Well	Cost Share Estimate	Shell Creek Cost Share	County
Ryan Loseke	Irrigation	\$861.07	259.53	Platte
Francis Emanuel	Irrigation	\$752.89	\$0	Dodge
Brian Birkel	Irrigation	\$1,256.12	\$0	Butler

3.B. LOWER PLATTE NORTH NRD GROUND WATER STUDIES

3.B.1. Phase Area Update

The NRD still have flow meter cost share sheets coming in. Staff is continuing to approve the cost share for flow meters as LPN has grant funds from the WSF grant. The grant will expire at the end of the year.

David Hahn	\$1,000.00
Jonathon Sobota	\$1,000.00
David Sobota	\$1,000.00
David Sobota	\$1,000.00
David Sobota	\$1,000.00

David Sobota	\$1,000.00
David and Theresa Novak	\$1,000.00
Russ and Gene Novak	\$1,000.00
Russ and Gene Novak	\$1,000.00
Russ and Gene Novak	\$1,000.00

We have a Pivot Conversion invoice and a flow meter invoice from Dan Wachal. The cost share amount for the pivot conversion is \$10,000 and the flow meter for \$1,000.

Invoice have been submitted for the following:

Name	Number of meters	Total Amount
Ron Klug	2	\$2,000
Thomas Stibal	1	\$1,000
Jeff McAfee	1	\$1,000

3.B.2. Eastern Nebraska Water Resources Assessment (ENWRA)

The LPNNRD agreement with CSD will expire on June 30, 2025. The LPN has submitted a grant to drill 10-12 monitoring wells in Wellhead Protection Areas. UNL-CSD obligates the money to assist in the drilling of the test holes with analysis. The agreement includes the following amounts of \$29,600 Y1, \$16,600 Y2, \$29,600 Y3.

If the WSF grant is not approved, then the money will not be obligated.

attachments

3.C. SOURCE WATER PROTECTION

The Village of Mead has passed a motion to pursue a Source Water Protection Grant to update their Wellhead Protection Area.

Postcards were sent out to Newman Grove and Platte Center Wellhead Protection Area producers notifying them that we will be water sampling in the area this summer.

Attached is an invoice for \$920.00 from LRE for LPN to complete its portion of the project per contract for Shell Creek Analysis.

4. SURFACE WATER PROGRAMS

4.A. USGS STREAM FLOW GAUGING SITES

An invoice for \$8,426 for stream gages on Shell Creek near Columbus and Wahoo

Creek near Ashland. In the past, this was an annual fee, but USGS requested the payment to be semi-annual with the new contract.

5. OTHER

5.A. COMMENTS FROM THE PUBLIC

5.B. Basin Tour

Attached is information about the 2025 NRD Niobrara Basin Tour on June 9th-10th based in Valentine. Registrations are due (To Jill) on or before May 9th.

more info:

The Nebraska Association of Resources Districts (NARD), in collaboration with the Niobrara Basin NRDs, is pleased to invite you to the **2025 NRD Basin Tour**. Join us for an immersive two-day experience as we explore key projects and programs dedicated to protecting Nebraska's natural resources.

**Tour Highlights Include:**

- CSS Farms - Seed potato operation
- Drip irrigation & Ponderosa Pine trials
- Fort Niobrara & Cub Creek Reservoir
- Minor Ranch & Niobrara Valley Vineyards
- Watershed management initiatives & Spencer Dam

**Registration Information:**

To reserve your seat, please submit your completed **by May 9th**. Space is limited and early registration is encouraged. Registrations received after May 9<sup>th</sup> will be subject to lodging availability.

**Registration Fee Includes:**

- All meals, breaks and activities
- Motor coach transportation
- Lodging for Monday night (*NARD will arrange hotel accommodation*)

If you plan to arrive early and need a room for Sunday night, be sure to mark this on your registration form. All lodgings must be booked through NARD.



**APPLICATION FOR A PERMIT TO CONSTRUCT A WATER WELL  
IN THE LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT**

DNR & NRD USE ONLY			
Permit No. _____	Date Approved/Denied _____	NRD Representative _____	
Permit Type: New, Replacement or Late _____	Date Received _____	Paid: Cash or Check _____	
Date Post-inspected _____	Registration No. _____	Updated Form: June 2022	

**ALL APPLICANTS SEEKING A WATER WELL PERMIT MUST COMPLETE PAGES 1 AND 2, AND THE APPROPRIATE SECTION BASED ON THE PURPOSE OF THE WELL. (CLASS 1 - 4 WELL PERMIT)**  
**WATER WELL PERMITS FOR IRRIGATED ACRES GREATER THAN 160 ACRES IN SIZE OR TOTAL ANNUAL WATER USE BETWEEN 150 AND 300 ACRE FEET PER YEAR MUST COMPLETE PAGES 1, 2, AND 3, AND THE APPROPRIATE SECTION BASED ON THE PURPOSE OF THE WELL. (CLASS 3 WELL PERMIT)**  
**WATER WELL PERMITS FOR TOTAL ANNUAL WATER USE EQUAL TO OR GREATER THAN 300 ACRE FEET PER YEAR, REGARDLESS OF NUMBER OF IRRIGATION ACRES, MUST COMPLETE PAGES 1, 2, AND 4, AND THE APPROPRIATE SECTION BASED ON THE PURPOSE OF THE WELL. (CLASS 4 WELL PERMIT)**

<b>1. NAME AND ADDRESS OF <u>LAND OWNER</u>:</b> University of Nebraska Eastern Research, Extension and Education Center 1071 County Road G, Ithica, NE 68033 Phone: (402) 624-8000	<b>NAME AND ADDRESS OF <u>CONTACT</u>:</b> US Army Engineer District, Kansas City Attn: CENWK-PM (Alissa Sutter) 601 E. 12th Street, Kansas City, MO 64106-2896 Phone: (816) 634-3148
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**2. PURPOSE OF NEW WATER WELL (indicate one):**

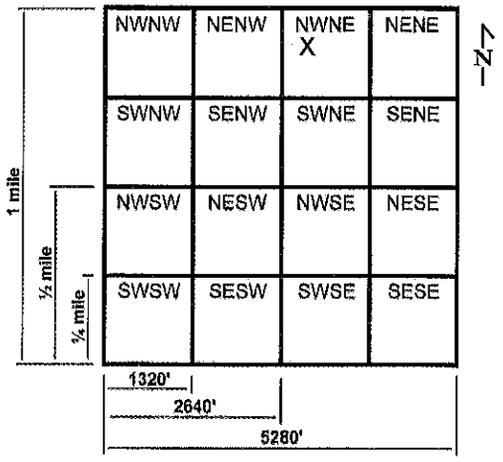
<input type="checkbox"/> Irrigation (Complete section A)	<input type="checkbox"/> Dewatering (Over 30 days, Complete section B)
<input type="checkbox"/> Livestock (Complete section C)	<input type="checkbox"/> Domestic (Irr. on one acre or larger, Complete section D)
<input type="checkbox"/> Industrial (Complete section E)	<input type="checkbox"/> Public Water Supply (Complete section F)
<input checked="" type="checkbox"/> Recovery or Remediation (Complete section G)	
<input type="checkbox"/> Other (specify) _____	(Complete section H)

**3. IDENTIFY LOCATION OF PROPOSED WELL:**

A. Saunders County, NW 1/4 of the NE 1/4 of Section 28, Township 14 North, Range 9 East West. (circle one)

B. The box at the right represents one square mile, (section). Indicate with an "X", the proposed location of the well. Outline the proposed water use area. If the water is to be used outside the above written legal description, give legal description of water use area, \_\_\_\_\_ 1/4 of the \_\_\_\_\_ 1/4 of Section \_\_\_\_\_, Township \_\_\_\_\_ North, Range \_\_\_\_\_ East/West.

C. The well will be located 45 feet from the North/South section line, and will be 2,500 feet from the East/West section line. Or enter Lat. / Long. Latitude Degree \_\_\_\_\_ Minute \_\_\_\_\_ Second \_\_\_\_\_ Longitude Degree \_\_\_\_\_ Minute \_\_\_\_\_ Second \_\_\_\_\_



**4. REPLACEMENT AND ABANDONED WELL INFORMATION:**

A. Is this a replacement well?  Yes,  No. If yes, fill out the rest of this section.

B. Registration number of well to be replaced: \_\_\_\_\_

C. Well to be replaced was last operated (month/year): \_\_\_\_\_

D. Replacement well is \_\_\_\_\_ feet from original well.

E. Decommissioning of Original well on (month/day/year): \_\_\_\_\_

F. If water use is for irrigation, list the number of acres watered by the original well: \_\_\_\_\_

G. If water use is for irrigation, will replacement well, water the same tract of land as the decommissioned well?  
 Yes,  No: If No, list the number of additional acres \_\_\_\_\_ and legal description \_\_\_\_\_ 1/4 of the \_\_\_\_\_ 1/4 of Section \_\_\_\_\_, Township \_\_\_\_\_ North, Range \_\_\_\_\_ East/West. (circle one)

- A replacement water well must deliver water to the same tract of land as the original water well, pump from a comparable aquifer, and yield approximately the same gallons per minute and total annual water use as the original water well.

**5. SPECIFICATIONS OF INTENDED WELL AND PUMP:**

- A. Approximate date when construction will begin (month/day/year): 09/24/2024
- B. Expected total well depth: 100 feet.
- C. Well Casing Diameter: 12 inches.
- D. Pump Column Diameter: 6 inches.
- E. Estimated pumping capacity: 250 GPM.
- F. Expected total annual water use in Acre Inches / Year \_\_\_\_\_ or Total Gallons / Year 131,400,000
- G. The system is to be powered by  Electric  Fuel
- H. Will the well be used in a system with other wells?  Yes,  No. If Yes, How many \_\_\_\_\_  
List well registration number and legal description of each well in Section 6 below.
- I. Name of Well Driller: Peterson Well Drilling, Inc. (Please attach test hole log, if available.)

**6. List additional information requested in this Section or attached additional sheet.**

The near term expected pumping rate of this well is 250 gpm The pumping rate is subject to change depending on hydraulics and contaminated plume status.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**7. Addition information and requirements for Lower Platte North NRD review.**

- Attach current tax assessor records including map, parcel number, and current land use such as irrigated acres.
- Attach aerial photo showing location of water source(s) and area water or reuse water is to be used.
- All new and replacement water wells must install a District approved flow meter and report water pumped annually to the LPNNRD by January 31<sup>st</sup> of the following year. See approved list in this packet.
- Water well permit conditions maybe required for approval by the Lower Platte North NRD for each individual well.

**8. I certify that I am familiar with the information contained in this application, and it's restrictions, rules and regulations and that to the best of my knowledge and belief such information is true, complete and accurate.**

Date 4-29-2025 Signature of Applicant [Signature]  
Signature of Well System Operator, if different than Applicant \_\_\_\_\_  
NRD Certification Number of Landowner or Operator \_\_\_\_\_ (Required for irrigation, livestock, domestic (with irrigation on one acre or more of land), industrial, and public water supply wells.)

**9. Lower Platte North NRD Use Only. Comments by District Representative.**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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IN THE *LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT***

**WATER WELL PERMIT FOR IRRGATED ACRES GREATER THAN 160 ACRES IN SIZE OR TOTAL  
ANNUAL WATER USE BETWEEN 150 AND 300 ACRE FEET PER YEAR, PROVIDE INFORMATION  
REQUESTED ON PAGES 1, 2, AND 3. (CLASS 3 WELL PERMIT)**

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**10. WATER SOURCE INFORMATION:**

In a TWO-mile radius around the water source location, provide the following information to the LPNNRD in both paper copy and electronically in Excel Spreadsheet (Microsoft) or Access Database (Microsoft) format.

- A. List of all registered wells in this area giving registration number, well identification number, legal description, latitude / longitude or UTM coordinates in NAD 83, elevation in feet above mean sea level, and well log for each well.
  - B. List of all test holes in the area that have been published by Conservation and Survey Division of the University of Nebraska.
  - C. List of all surface water rights in this area giving appropriation number, priority date, legal description, use, status, current total acres (if applicable), and grant amount.
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**11. WATER USE LOCATION INFORMATION:**

In the location where the water will be used, provide the following information to the LPNNRD in both paper copy and electronically in Word (Microsoft) format.

- A. Description of expanded water use including: latitude / longitude or UTM coordinates in NAD 83 of water use location and timeframe or schedule when water will be used.
  - B. Amount of water that will be reused or recycled at this new location.
  - C. Description of how water will be used at this new location, i.e. process water vs. cooling water, etc. and estimated total annual water use for each purpose.
-

**APPLICATION FOR A PERMIT TO CONSTRUCT A WATER WELL  
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**WATER WELL PERMIT FOR TOTAL ANNUAL WATER USE EQUAL TO OR GREATER THAN 300 ACRE FEET PER YEAR, REGARDLESS OF NUMBER OF IRRIGATED ACRES, PROVIDE INFORMATION REQUESTED ON PAGES 1, 2, AND 4. (CLASS 4 WELL PERMIT)**

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**12. WATER SOURCE INFORMATION:**

In a FIVE-mile radius around the water source location, provide the following information to the LPNNRD in both paper copy and electronically in Excel Spreadsheet (Microsoft) or Access Database (Microsoft) format.

- A. List of all registered wells in this area giving registration number, well identification number, legal description, elevation in feet above mean sea level, latitude / longitude or UTM coordinates in NAD 83, and well log for each well.
  - B. List of all test holes in the area that have been published by Conservation and Survey Division of the University of Nebraska.
  - C. List of all surface water rights in this area giving appropriation number, priority date, legal description, use, status, current total acres (if applicable), and grant amount.
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**13. WATER USE LOCATION INFORMATION:**

In the location where the water will be used, provide the following information to the LPNNRD in both paper copy and electronically in Word (Microsoft) format.

- A. Description of expanded water use including: latitude / longitude or UTM coordinates in NAD 83 of water use location and timeframe or schedule when water will be used.
  - B. Amount of water that will be reused or recycled at this new location.
  - C. Description of how water will be used at this new location, i.e. process water vs. cooling water, etc. and estimated total annual water use for each purpose.
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**14. AQUIFER PUMP TEST:**

In the location of the proposed water source a District approved aquifer pump test is to be performed to obtain geologic data that will be used in the ensuing ground water modeling effort. Data from the pump test is to be reported to the LPNNRD in both paper copy and electronically in Excel Spreadsheet (Microsoft) or Access Database (Microsoft) format.

- A. Description of pumping well should include legal description of well, latitude / longitude or UTM coordinates in NAD 83, elevation of well in feet above mean sea level, total amount of water pumped, gallons per minute during pump test, duration of pump test, well construction, well log, water discharge location and method.
  - B. Description of each monitoring well should include legal description of well, latitude / longitude or UTM coordinates in NAD 83, spacing in feet and direction from pumping well, elevation of well in feet above mean sea level, well log, and well construction.
  - C. Depth to bedrock, bedrock material, and name of geologic formation.
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**15. GROUNDWATER MODEL:**

In a FIVE-mile radius of the location of the proposed water source a ground water model using MODFLOW software, or similar software approved by LPNNRD, is to be done. Data from the ground water model is to be reported to the LPNNRD in both paper copy and electronically using the appropriate software.

- A. Model should list boundary conditions used, grid size, include all high capacity wells in modeled area, streams and rivers in the modeled area, expected recharge rates, location and flow amounts, hydrologic conductivity and transmissivity values used.
  - B. At least one iteration, reviewed and approved by LPNNRD, should model steady state conditions over a five-year period with a no flow boundary, and little or no recharge to simulate drought conditions.
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**APPLICATION FOR A PERMIT TO CONSTRUCT A WATER WELL  
IN THE LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT**

**PURPOSE OF WELL**

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**IRRIGATION WELLS (SECTION A)**

- A. How many acres will be irrigated? \_\_\_\_\_ acres
- B. Crops to be planted: \_\_\_\_\_ Crop rotation schedule \_\_\_\_\_
- C. Type of irrigation system.  Center Pivot,  Gravity,  Other (specify) \_\_\_\_\_
- D. The irrigation system is to be powered by  Electric  Fuel
- E. Expected total annual consumptive water use in Acre Inches / Year \_\_\_\_\_ or  
Total Gallons / Year \_\_\_\_\_
- F. Will Fertilizer, Chemicals or Animal waste be applied through the system?  Yes,  No

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**DEWATERING WELLS OVER 30 DAYS (SECTION B)**

- A. Purpose of dewatering well, such as installation of building foundation, etc. \_\_\_\_\_
- B. Expected total number of days the dewatering well will be in use \_\_\_\_\_
- C. Approximate dates (month/day/year) in operation: Start \_\_\_\_\_ End \_\_\_\_\_
- D. Legal description of water discharge location: \_\_\_\_\_ ¼ of the \_\_\_\_\_ ¼ of Section \_\_\_\_\_, Township \_\_\_\_\_ North,  
Range \_\_\_\_\_ East/West and name of river, stream or water body \_\_\_\_\_
- E. Will discharge water be used for another purpose, such as livestock, irrigation, etc.?  Yes,  No  
If Yes, list purpose, location and expected total amount of water use in acre-inches / year or total gallons / year.  
\_\_\_\_\_  
\_\_\_\_\_

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**LIVESTOCK WELLS (SECTION C)**

- A. Name of facility \_\_\_\_\_
- B. Type of Livestock:  Feeder Cattle,  Dairy Cattle,  Swine over 55 lbs.,  Swine under 55 lbs.,  
 Sheep,  Poultry,  Horses
- C. Average number of livestock per year \_\_\_\_\_ and average weight per animal \_\_\_\_\_ lbs.
- D. Peak number of livestock \_\_\_\_\_ and time of year \_\_\_\_\_
- E. Is facility approved by Nebraska Department of Environmental Quality?  Yes,  No. If Yes, list NDEQ  
certification IIS number \_\_\_\_\_ If No, complete the rest of this section.
- F. Type of facility:  Open lot,  Covered Building
- G. If facility is Open lot, list soil type \_\_\_\_\_
- H. Estimated depth to ground water under feedlot \_\_\_\_\_ ft.
- I. Describe manure collection system of feedlot \_\_\_\_\_  
\_\_\_\_\_
- J. Name and distance of nearest surface watercourse from feedlot \_\_\_\_\_
- K. For each manure land application site, list legal description and size in acres, method of application, and distance  
from feedlot operation. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**DOMESTIC WELLS WITH IRRIGATION ON ONE ACRE OR MORE (SECTION D)**

- A. Check all that apply:
  - a. Water use:  Lawn and number of acres to be irrigated \_\_\_\_\_ acres.
  - b. Water use:  Commercial garden and number of acres to be irrigated \_\_\_\_\_ acres.
  - c. Water use:  Tree Farm and number of acres to be irrigated \_\_\_\_\_ acres.
  - d. Water use:  Type of livestock \_\_\_\_\_ and number \_\_\_\_\_
- B. Type of irrigation system.  Sprinkler,  Drip Tape,  Other (specify) \_\_\_\_\_
- C. If applicable, give Street address and town \_\_\_\_\_  
\_\_\_\_\_

\* One acre equals 43,560 square feet.

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**INDUSTRIAL AND COMMERCIAL WELLS****(SECTION E)**

- A. Name of facility \_\_\_\_\_
- B. Products produced by facility \_\_\_\_\_
- C. In Section 6 or on a separate sheet of paper, list well registration number and legal description of current wells supplying water to this facility.
- D. In Section 6 or on a separate sheet of paper, provide a short description how water is used within the facility and the expected annual amount of water for each use. For example: "The manufacturing plant will use 45% of total annual water use, or 1.45 million gallons per year, for electroplating of galvanized pipe and the remaining 55% of total annual water use, or 1.77 million gallons per year, will be used for non-contact cooling water throughout the plant".
- E. Will any of the used water or waste water from this facility be re-used for another purpose?  Yes,  No.  
If Yes, list purpose, location and expected total amount of water use in acre-inches / year or total gallons / year.
- \_\_\_\_\_
- \_\_\_\_\_

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**PUBLIC WATER SUPPLY WELLS****(SECTION F)**

- A. On a separate sheet of paper, list the well registration numbers and legal description of current wells supplying water to this community.
- B. Attach a list of the five largest industrial water users that your community supplies water to, and the total annual amount of water supplied to each of these industries for the last five years.
- C. For these same industries list the total annual amount of water returned to the community as waste water for each of the last five years.
- D. Will waste water be used for another purpose, such as livestock, irrigation, etc.?  Yes,  No  
If Yes, list purpose, location and expected total amount of water use in acre-inches / year or total gallons / year.
- \_\_\_\_\_
- \_\_\_\_\_

- E. Attach a list of the golf courses that the community supplies water to and list the location and number of acres for each one.
- \_\_\_\_\_
- \_\_\_\_\_

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**RECOVERY OR REMEDIATION WELLS****(SECTION G)**

- A. Reason for recovery or remediation well, i.e. leaking underground storage tank. \_\_\_\_\_  
Contaminated groundwater extraction
- B. Contaminates of concern TCE
- C. Treatment method of contaminants Air Stripper
- D. Approximate dates (month/day/year) in operation: Start May 1, 2025 End May 1, 2055
- E. Legal description of water discharge location: NW ¼ of the NE ¼ of Section 2, Township 13 North, Range 8 East/West and name of river, stream or water body Wahoo Creek
- F. Will cleanup water be used for another purpose, such as livestock, irrigation, etc.?  Yes,  No  
If Yes, list purpose, location and expected total amount of water use in acre-inches / year or total gallons / year.
- \_\_\_\_\_
- \_\_\_\_\_

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**OTHER WELLS****(SECTION H)**

- A. Purpose of water use \_\_\_\_\_
- B. Will the well be used for one calendar year or less?  Yes,  No
- a. If Yes, list approximate dates (month/day/year) the well will be in operation: Start \_\_\_\_\_  
End \_\_\_\_\_
- b. If No, list the approximate dates (months) or seasons of the calendar year that well is expected to be in peak or highest use. \_\_\_\_\_
- C. Legal description of water discharge location: \_\_\_\_\_ ¼ of the \_\_\_\_\_ ¼ of Section \_\_\_\_\_, Township \_\_\_\_\_ North, Range \_\_\_\_\_ East/West and name of river, stream or water body \_\_\_\_\_
-

**This form must be completed in full and accompanied by a non-refundable \$50.00 filing fee** (payable to the Lower Platte North Natural Resources District). In addition, for Class 3 well permits an added fee of \$250.00 is required for District review. For Class 4 well permits an added fee of \$500.00 is required for District review. Forward this application and filing fees to:

**Lower Platte North Natural Resources District  
P.O. Box 126  
Wahoo, NE 68066  
Phone: (402) 443-4675**

Please take the time and fill out the information correctly. The District will return an incomplete or defective application, with 60 days being allowed for resubmission. The District shall issue all permits with conditions attached, or denied not later than 30 days after receipt of a complete and properly prepared application.

### **WATER WELL PERMIT RESTRICTIONS**

1. A well permit is required prior to the construction of a water well. If construction of a water well is commenced prior to obtaining a permit, a late permit must be completed and accompanied by a \$250.00 application fee. Construction or operation of a new water well without an approved water well permit shall result in the District issuing a 'cease and desist order' against further construction or use of that water well.
2. An irrigation well shall not be constructed within 1000 feet of any registered industrial or public water supply well or within 600 feet of a registered irrigation well; A public water supply well shall not be constructed within 1000 feet of any registered irrigation, industrial or other public water supplier's well; An industrial well shall not be constructed within 1000 feet of any registered irrigation, industrial or public water supply well pursuant to §46-609 and §46-651. These spacing restrictions shall not apply to water wells owned by the same person. Any person may apply to the Nebraska Department of Natural Resources for a special permit to drill a water well without regard to the spacing requirements pursuant to §46-653. The District may adopt stricter well spacing requirements based on different aquifer subareas. Check with the District office if you have any questions.
3. This permit does not register the well with the Department of Natural Resources. All wells are required to be registered by the well driller with the Nebraska Department of Natural Resources within 60 days after the well is completed.
4. A replacement water well is one, which replaces an abandoned water well that has been operated within the last three years, and is constructed to water the same tract of land as the abandoned water well that is being replaced. A replacement water well must be pumping from a comparable aquifer and yield approximately the same gallons per minute and total annual water uses as the original water well it is replacing. As of January 1, 1997, both new and replacement wells need a permit from the Lower Platte North Natural Resources District.
5. Consumptive water use in acre-inches is determined from the Department of Natural Resources (DNR) Net Corn Crop Irrigation Requirement map or a similar map produced by the University of Nebraska.
6. If the well is being replaced it must be properly abandoned according to state guidelines. A copy of these guidelines is available from the Lower Platte North NRD.
7. If the water well is not constructed within a one-year period from the date of approval, a new permit is needed.
8. Water wells may not be drilled within 50 feet of a stream bank without first obtaining a surface water right for that water withdrawal from the Department of Natural Resources pursuant to §46-637.
9. Any person who, on or after January 1, 1997, commences or causes construction of such a well for which the required permit has not been obtained, or who knowingly furnishes false information regarding such a permit, shall be guilty of a Class IV misdemeanor pursuant to §46-602.01 and §46-613.02.
10. Permits are not required for test holes or temporary dewatering wells (30 days or less). Permits are needed for water wells designed to pump 50 gallons per minute or less in Level 3 and Stay management areas.
11. Tax assessor records submitted with water well permit must include map, parcel number and an accurate account of current land use, such as irrigated acres.
12. With the well permit application, submit an aerial photograph with markings to show the location of the water source(s) and the location of where the water is to be used.
13. Any person, who knowingly furnishes false information regarding a water well permit, shall be subject to the imposition of penalties imposed through the controls adopted by the District pursuant to §46-746.
14. All new or replacement water wells must install a District approved flow meter and report water pumped annually in acre-inches per year or total gallons per year on LPNNRD approved forms by January 31<sup>st</sup> of each following year.
15. If multiple water sources are used, landowner must supply flow records from each water source in acre-inches per year or total gallons per year on LPNNRD approved forms by January 31<sup>st</sup> of each following year.
16. Water well permit applications require that the applicant or operator of irrigation, livestock, domestic (with irrigation on one acre or more of land), industrial, and public water supply wells by NRD certified.

**\*\* Landowners must list new irrigated acres with the County Assessor, update the DNR well registration, and comply with any additional conditions within 90 days of LPNNRD approval of this water well permit. LPNNRD staff may perform a site visit to verify information provided in the well permit application. \*\***

**Approved List of Propeller Flow Meters  
Lower Platte North Natural Resources District (LPNNRD)  
Effective: April 11, 2022**



**Approved List of Propeller Flow Meters and Required Conditions**

**LPNNRD requirements for all propeller flow meters:**

- Anti-reverse flow feature to prevent backflow.
- Follow manufactures installation recommendations taking into account in-pipe jetting or non-jetting flow conditions. (Correct installation of the flow meter is critical to getting an accurate reading. Most meters require a straight pipe before and after the flow meter that is at least equivalent to five times the pipe diameter in order to obtain an accurate flow measurement. Doing the installation correctly the first time saves money in the long run).
- Straightening vanes are required according to manufacturer’s installation recommendations for in-pipe jetting or non-jetting flow conditions.
- Meter must be positioned to ensure water totally fills the pipe, such as a level pipe or positioned on a riser.
- Meter must be configured: to inside and outside diameter of the pipe, material of the pipe, meter used that will operate within minimum and maximum output flow rates of the well, horizontal or vertical installations, and unobstructed straight run distance upstream and downstream of meter and in most cases straightening vanes (or other flow straightener) will be necessary.
- Meter totalizes flow in acre inches and flow meter dial is in gallons per minute.
- A flow meter must be dedicated to each individual well. (Exceptions will be made if several wells are used to provide enough water to operate a single irrigation system such as a pivot or gated pipe. In these situations a flow meter placed at the central location where all water can be metered is acceptable).

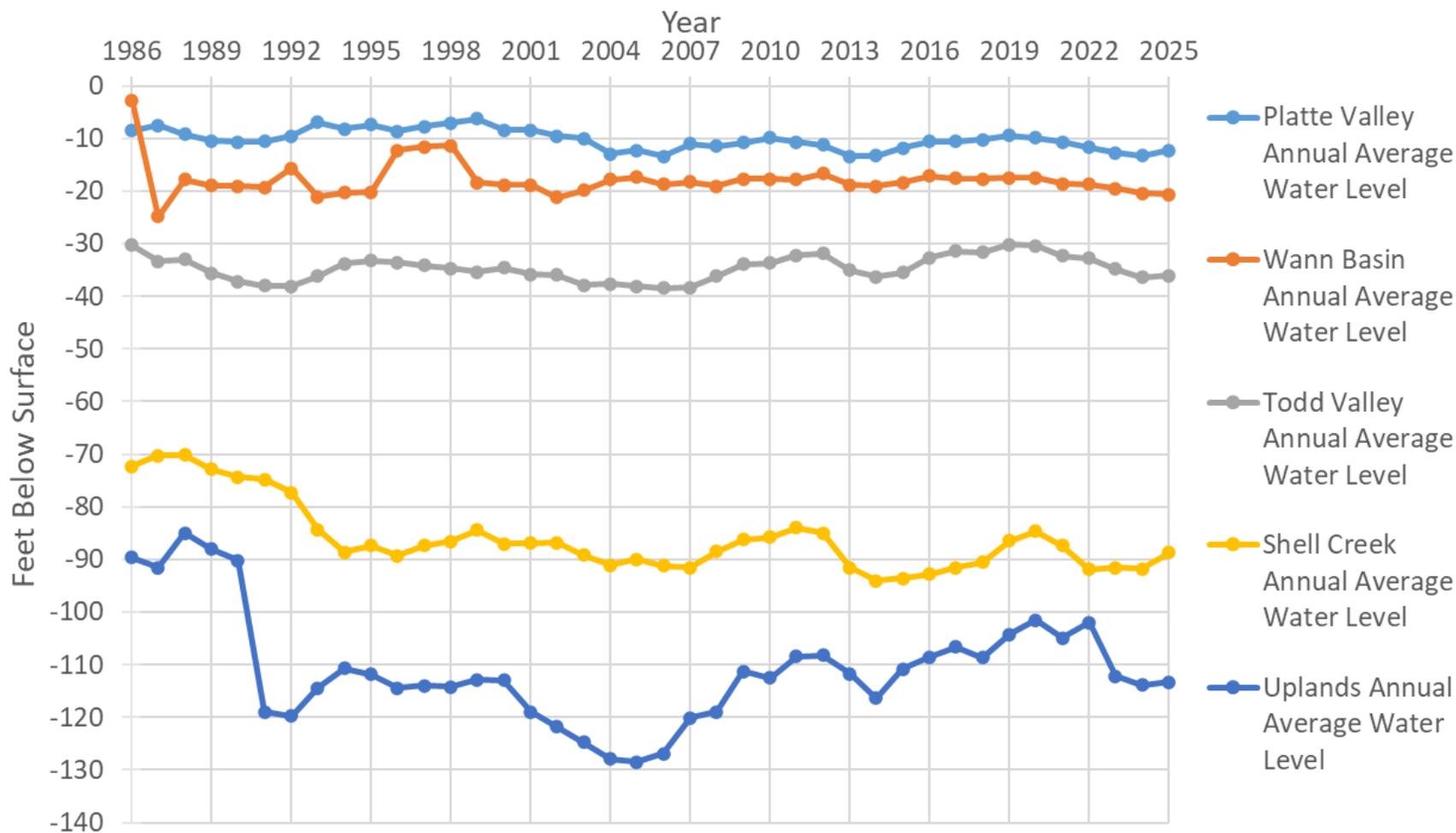
<b>Manufacturer</b>	<b>Model</b>	<b>Notes</b>
McCrometer	McPropeller	All propeller models
Sparling	Propeller saddle meter	Model 312 propeller meter
Geyser	Saddle meter	All propeller models for Farmland Irrigation

**LPNNRD prefers the following added features for all propeller flow meters:**

- Over-run bearing (or extra bearing) for smother operation and to extend life of the meter
- Canopy cover to protect meter

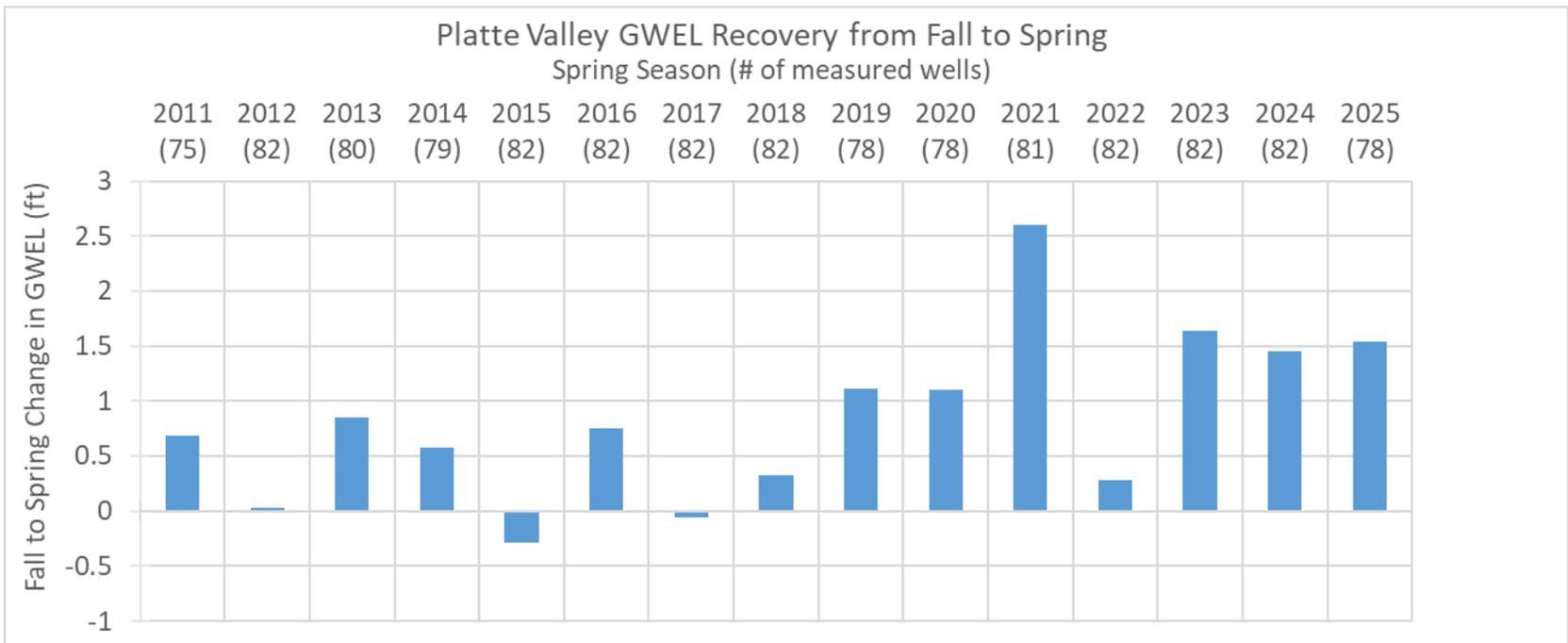
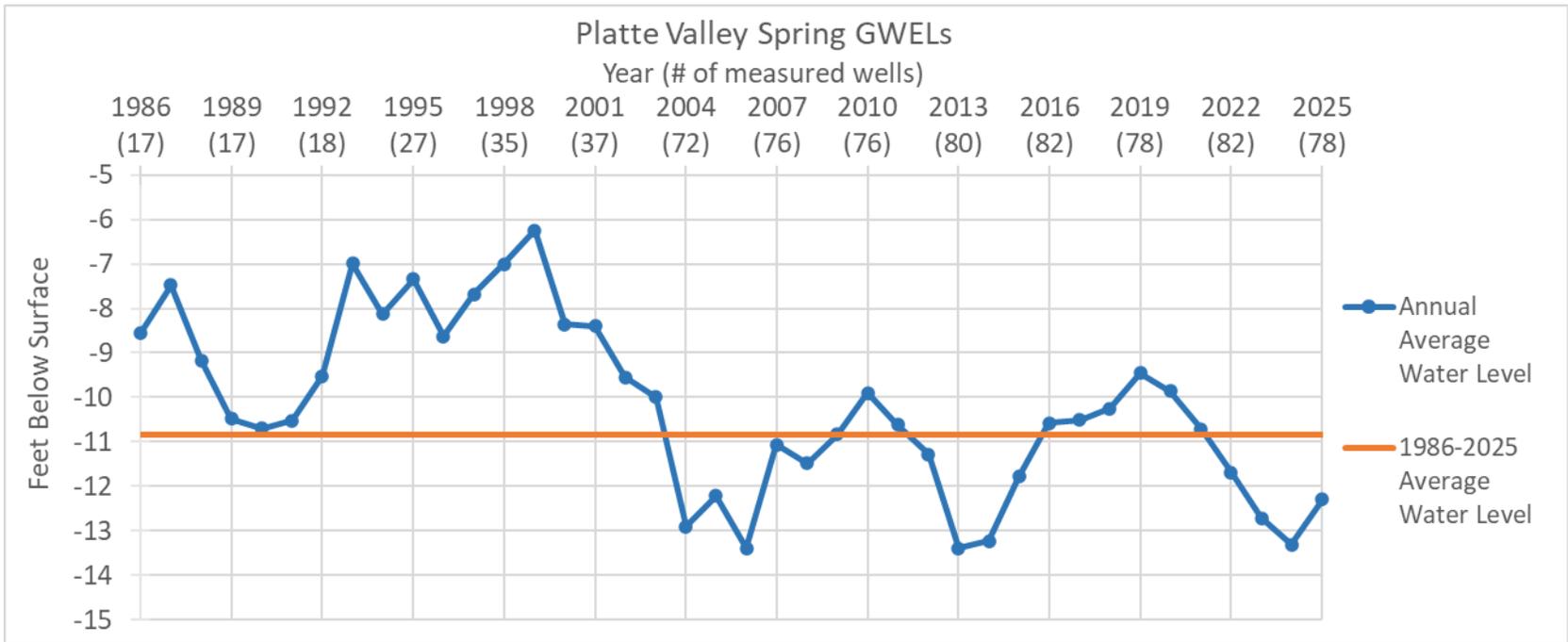
LPNNRD will inspect systems for proper installation of flow meters

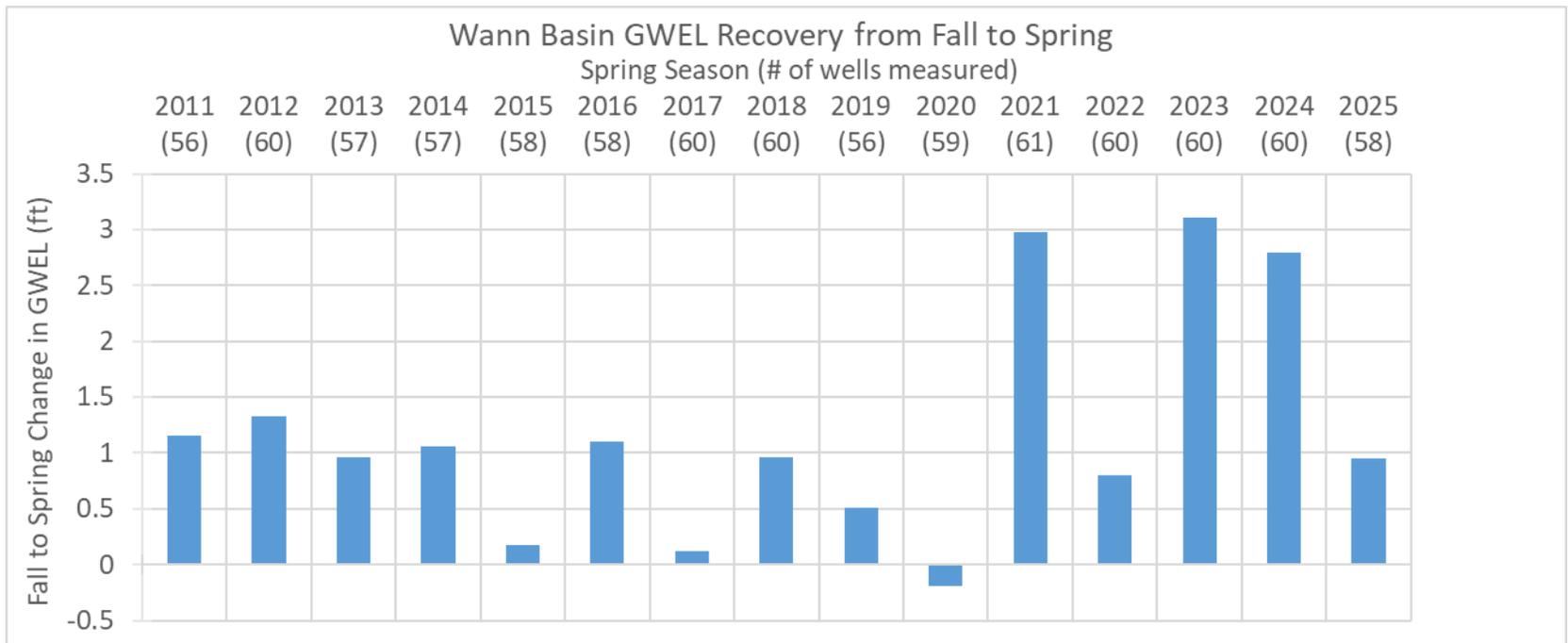
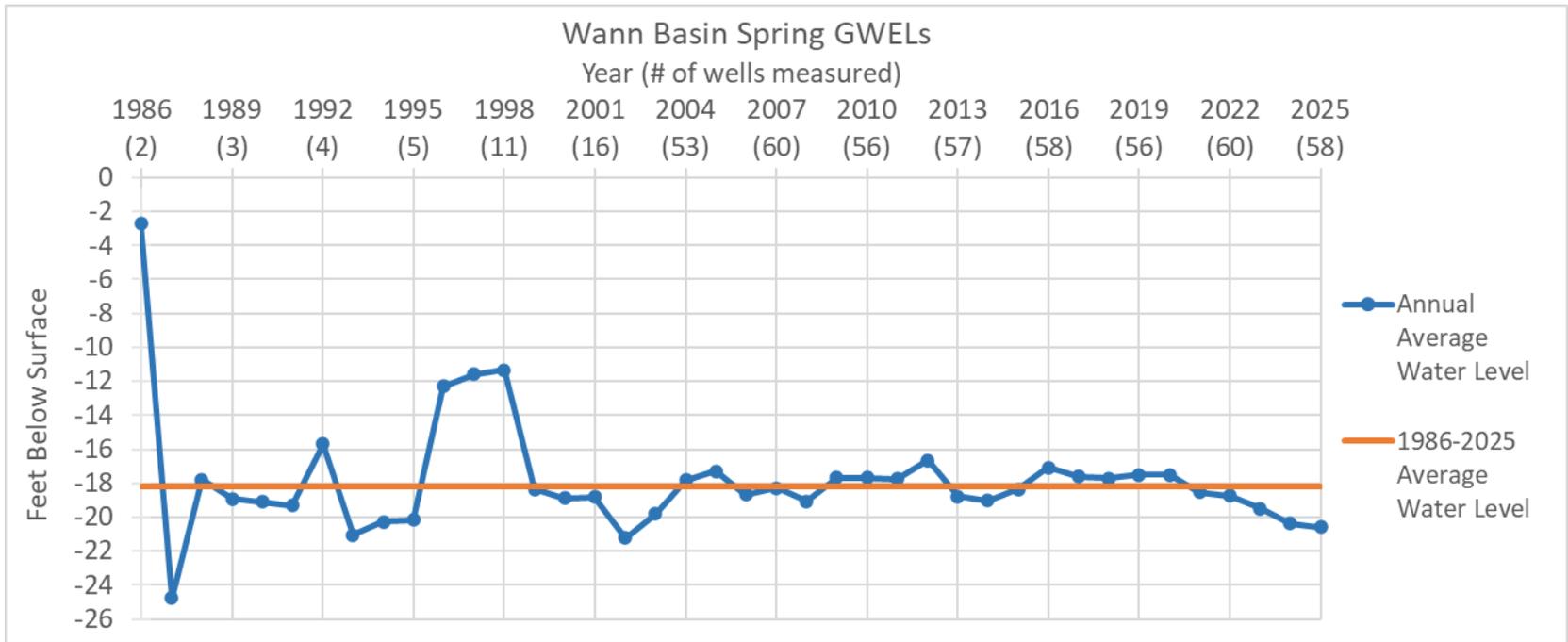
# Regional Spring GWELs

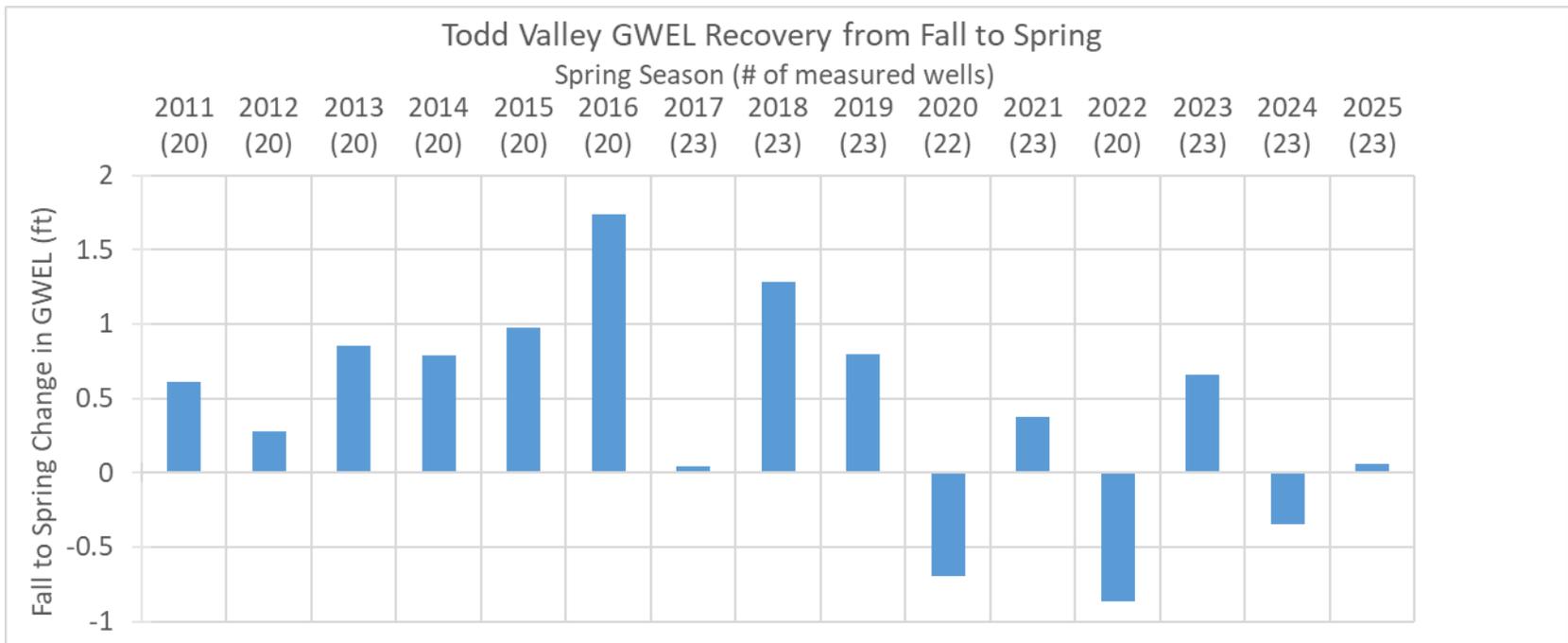
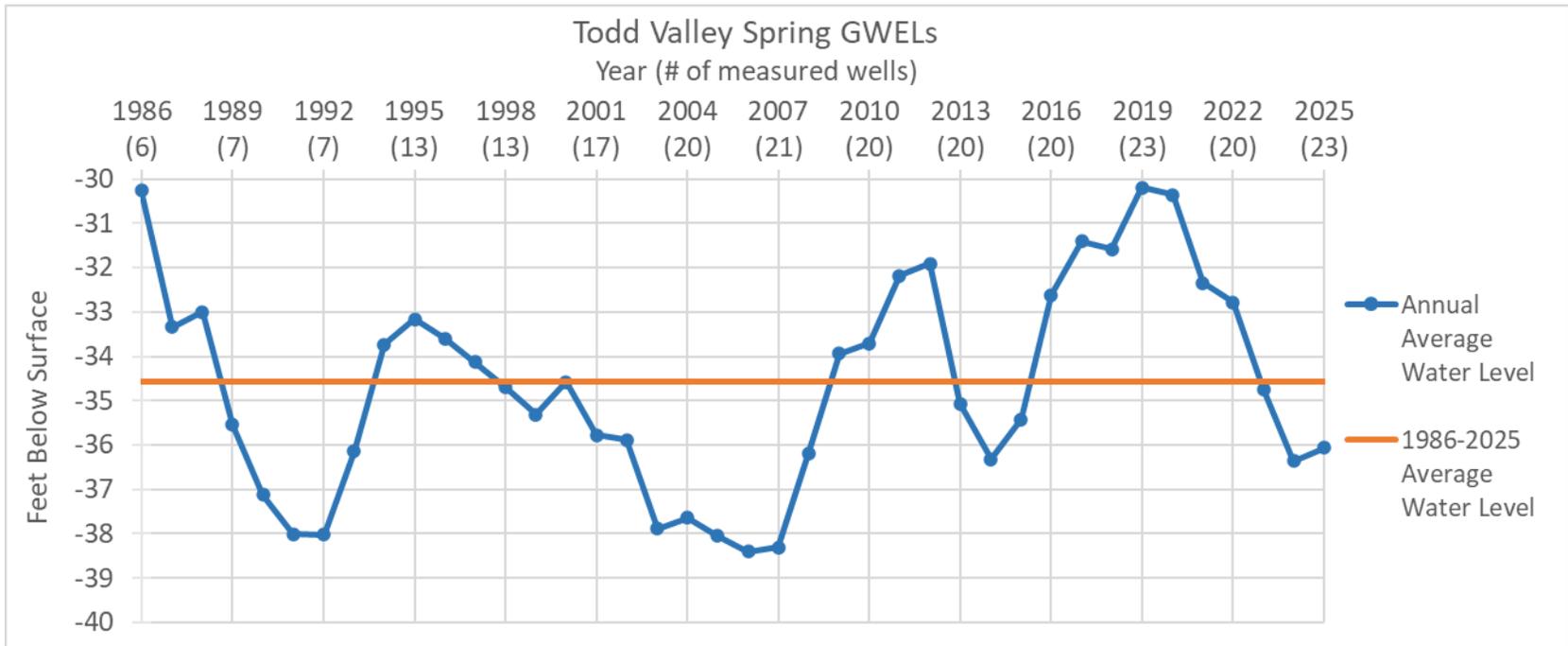


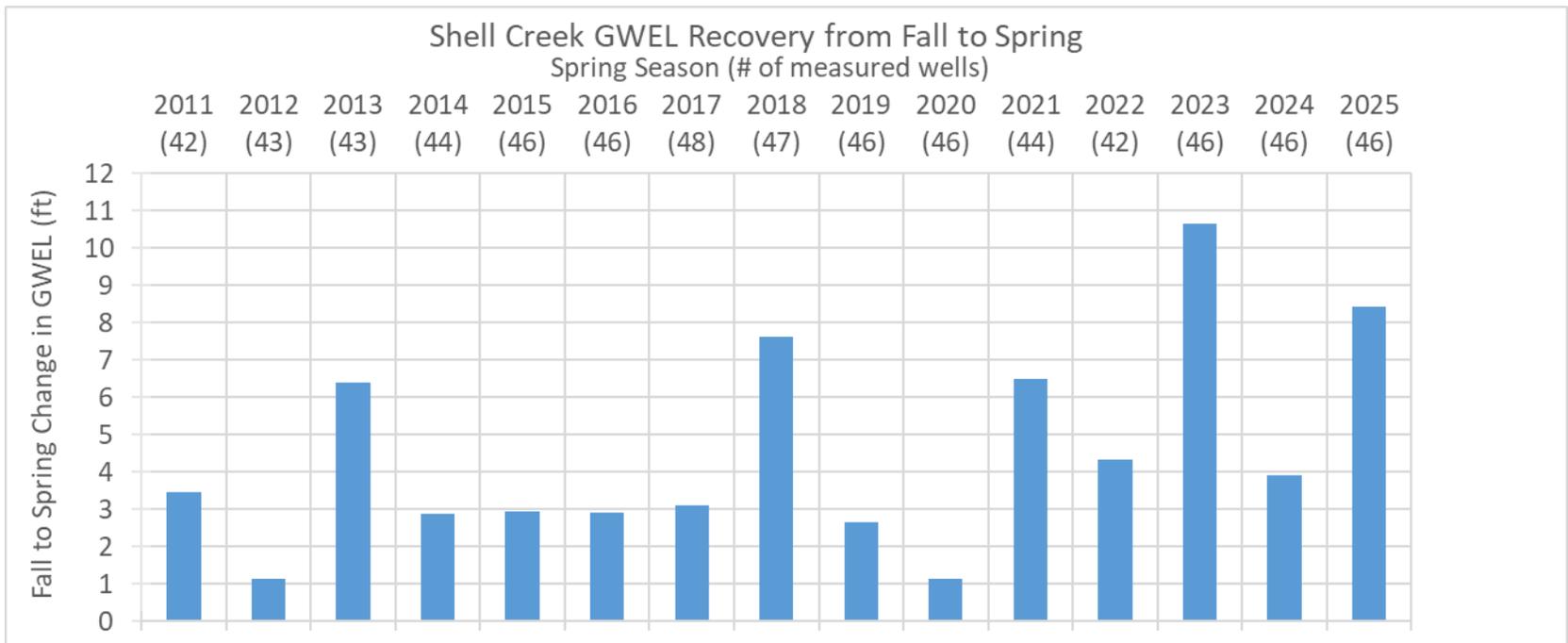
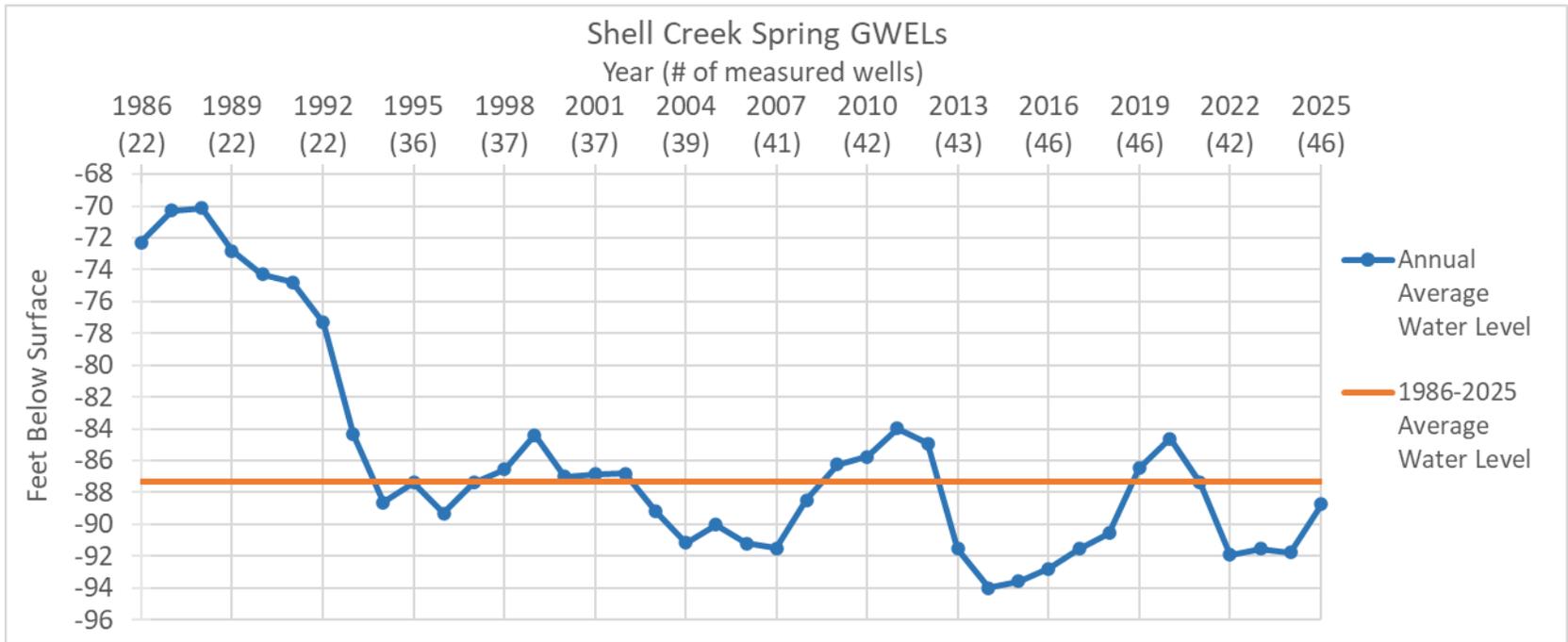
Groundwater Level Summary Comparison of Spring 2024 to Spring 2025						
Subarea	Number of Wells Measured	Median Change (Feet)	Mean Change (Feet)	Number of Wells Increased in Level	Number of Wells Unchanged (+ or - 0.3 ft)	Number of Wells Decreased in Level
Platte Valley	78	0.77	0.86	60	6	12
Todd Valley	23	0.20	0.30	10	6	7
Uplands	64	0.50	0.76	36	11	17
Shell Creek	46	0.34	0.60	24	18	4
				61.6%	19.4%	19.0%
Spring 2023 to Spring 2024				11.4%	15.6%	73.0%

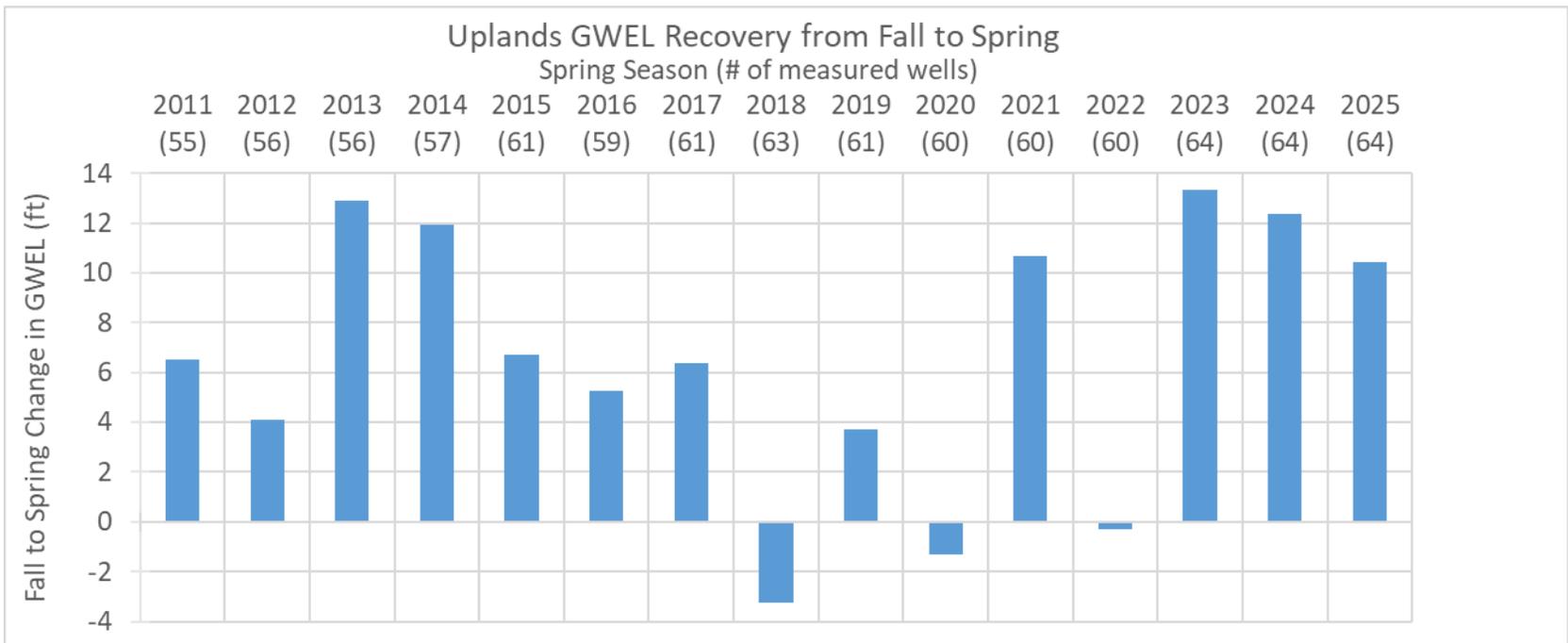
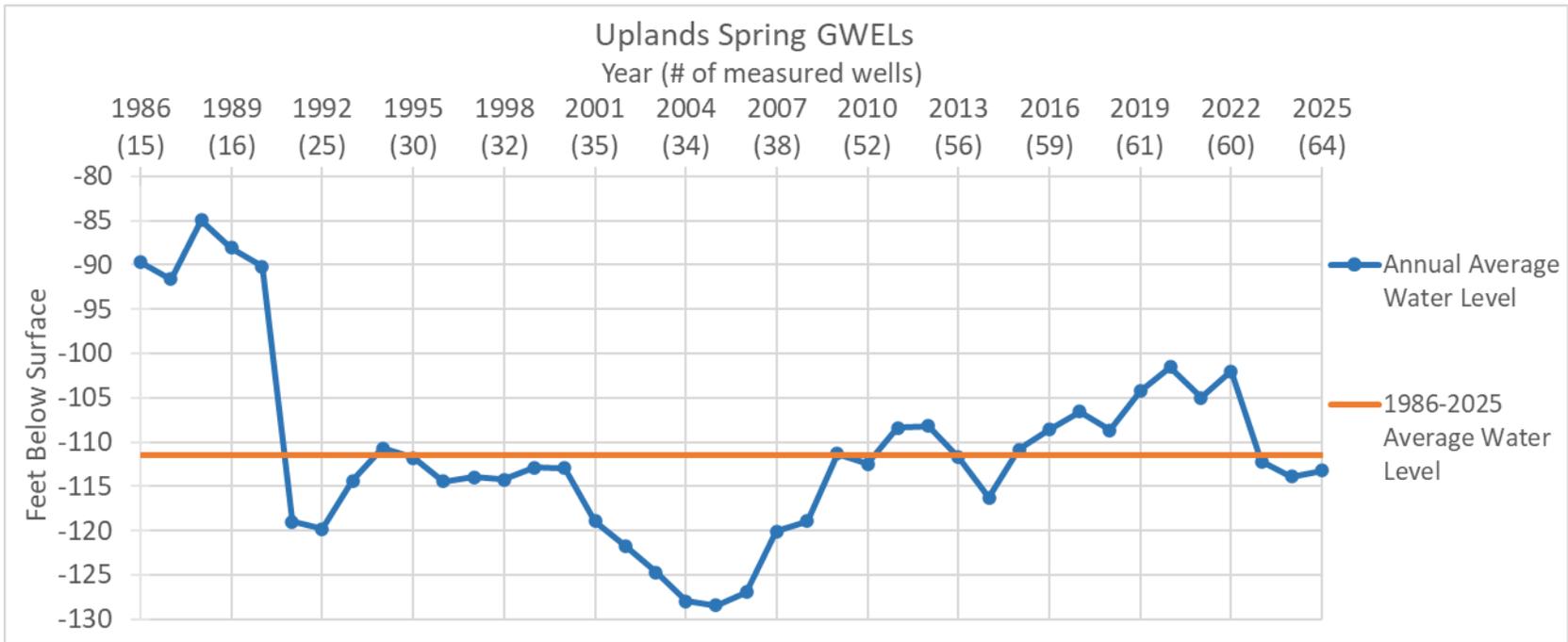
	Change 2024 Spring to 2025 Spring	Change 2024 Fall to 2025 Spring
Platte V	1.02 rise	1.54 rise
Wann B	-0.20 fall	0.95 rise
Todd V	0.30 rise	0.06 rise
Shell C	3.04 rise	8.44 rise
Uplands	0.65 rise	10.41 rise
District	0.09 rise	3.62 rise

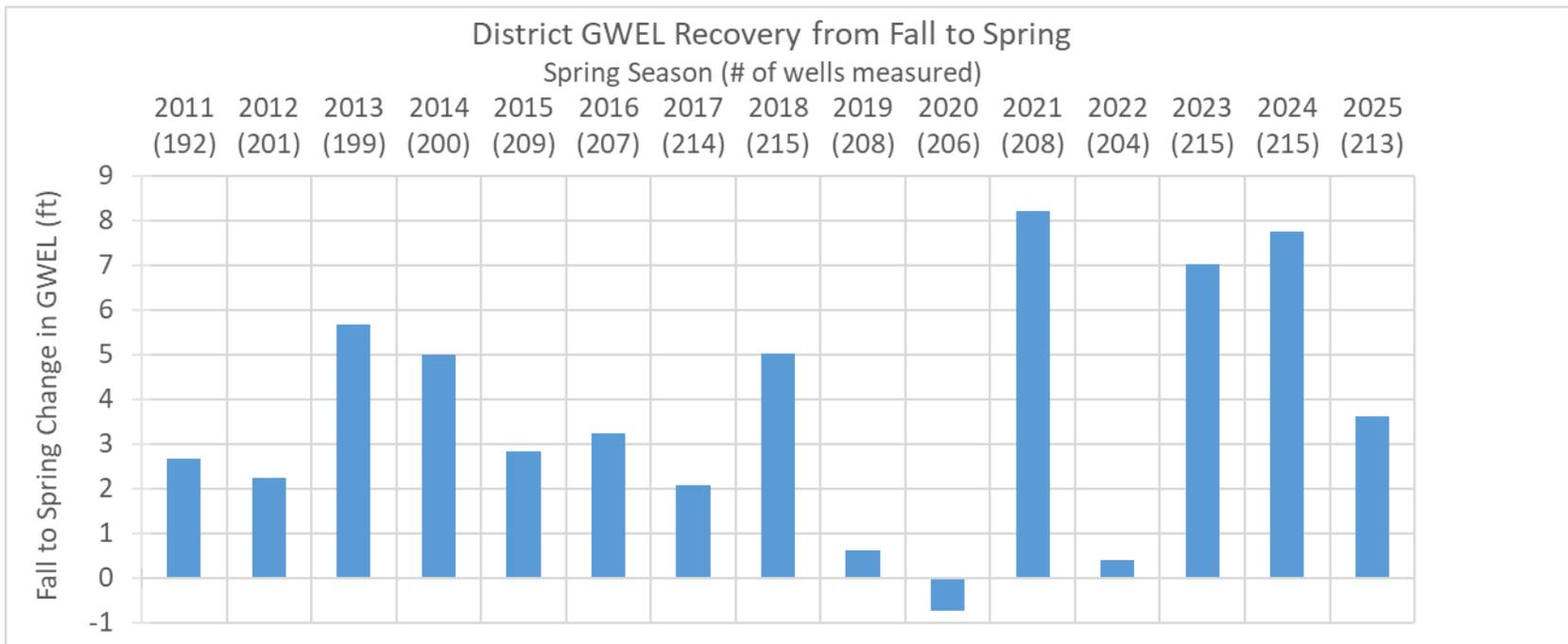
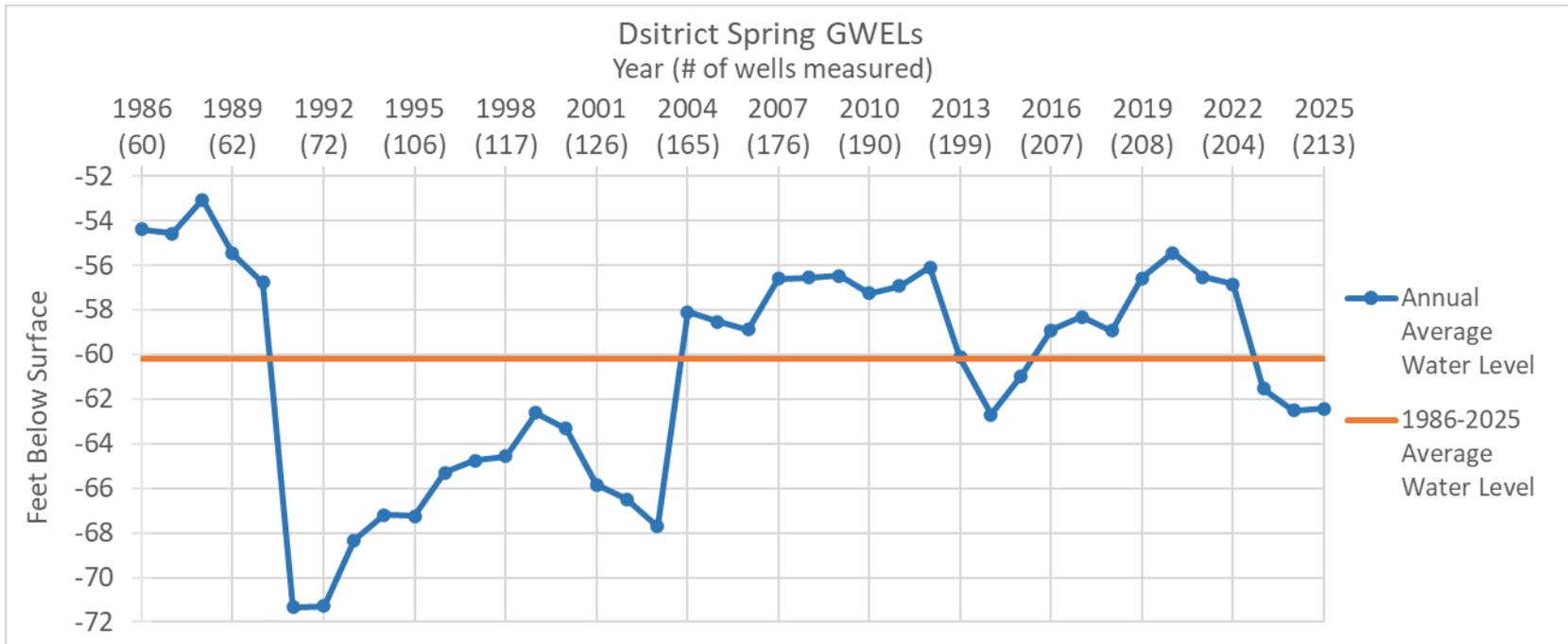












## Memorandum

**To:** Daryl Andersen, LPNNRD

**From:** Jonathan Mohr, LRE Water & Roscoe Sopiwnik, PG, LRE Water

**Copy to:** Eric Gottschalk & Ryan Chapman, LPNNRD; Dave Hume, PG, LRE Water

**Date:** April 30, 2025

**Project:** Groundwater Management Plan Update

**Subject:** Key Recommendations Summary and Budgeting Cost Estimate

The Groundwater Management Plan (GWMP) Update (current version 7.0) included several recommendations for the LPNNRD to enhance their methods of groundwater management. These recommendations were presented and discussed with staff and the Board of Directors during a retreat on February 7, 2025. Overall, the staff and Board expressed support for the proposed recommendations.

This document provides budget-level cost estimates for each recommendation outlined below. **Please note that these cost estimates are intended for budgeting purposes only. LRE Water can provide a detailed scope of work and refined cost estimates upon request.** LRE Water can also assist with grant applications to support the implementation of these key recommendations.

### Recommendations:

1. Adoption of Groundwater Management Subareas
2. Expansion of the Observation Well Network
3. Updating the Variance Scoring Sheet
4. Quantity Trigger Adjustments
5. Clarification of Terminology
6. Re-evaluation of Special Quantity Subareas
7. Enhancement of Data Transparency and Communication
8. Reassessment of Water Quality Triggers

## 1. Adoption of Groundwater Management Subareas

During the GWMP update process, LRE Water refined the existing subareas and thoroughly discussed the boundaries with staff and the Board of Directors. The Board has given initial approval for the use of subareas. No additional work by LRE Water is expected aside from assisting with the incorporation of subareas into the rules and regulations. The final subareas have been provided to LPNNRD.

**Preliminary Cost Range:** Not Applicable

## 2. Expansion of the Observation Well Network

The LPNNRD has already begun expanding the observation well network by obtaining funding from NeDNR to purchase several pressure transducers with loggers for use in observation wells within Wellhead Protection (WHP) areas. Additionally, a grant application for the Water Sustainability Fund (WSF) was submitted in March 2025 to secure funding for 29 additional observation wells with loggers and telemetry near Public Water Supply systems.

Following the Hydrogeologic Assessment in 2024, LRE Water identified several data gaps outside WHP areas. To address these, LRE Water can conduct a detailed observation well siting assessment that includes:

1. **Defining Objectives:** Determine the purpose of observation wells, such as monitoring water levels, quality, or both. Collaborate with LPNNRD staff to identify priority areas.
2. **Site Selection:** Choose locations based on hydrogeologic conditions, proximity to high-capacity wells, and accessibility.
3. **Design Specifications:** Select appropriate depths, screen intervals, and types to ensure functionality and support decision-making.

This assumes there is no field work and no equipment cost have been included.

**Preliminary Cost Range:** \$15,000 - \$20,000

## 3. Updating the Variance Scoring Sheet

During the GWMP update process, LRE Water reviewed the variance scoring sheet and recommended significant modifications, including the creation of separate sheets for confined and unconfined aquifers. Additional criteria, such as the Resource Development Risk Map, updated ranges of new consumptive uses, well density, water level trends, and nitrate concentrations, were suggested.

LRE Water will develop two scoring sheets (confined and unconfined aquifer setting) and work with LPNNRD staff to test each sheet against past scoring sheet evaluations and Board recommendations for variance actions.

**Preliminary Cost Range:** \$10,000 - \$12,000

#### **4. Rules and Regulation Update**

Implementation of several of the recommendations would require an update to the rules and regulations. LRE Water will provide technical assistance and input to LPNNRD staff as the District updates their rules and regulations. This would include at least further review and recommendations for altering water quantity triggers, incorporating subareas, and making suggestions on clarification of key terminology.

The focus would be on quantity triggers. Although quantity triggers have been in place since 1987, they have yet to be used by LPNNRD to implement a Groundwater Management Area. Revising the quantity triggers methodology could likely be completed immediately before or during an official update of the rules and regulations.

Key tasks include:

1. **Clarification of terminology** - Revising rules and regulations to ensure terminology and definitions are clear and consistent. Examples include terms such as "Trigger Level," "Control Areas," "Subareas," and "Groundwater Management Areas."
2. **Quantity Triggers** – Working with staff and the Board to create an updated methodology to evaluate areas with declining water levels. Incorporate the new method.
3. **Subareas** - Incorporating language that describes the purpose and intent of the subareas.
4. **Document Formatting:** Provide support in updating and refining the format of the existing documents.

**Preliminary Cost Range:** \$25,000 - \$30,000

If the LPNNRD requests assistance with other aspects of the rules and regulation update, LRE Water will update the preliminary cost range.

#### **5. Clarification of Terminology**

Clarification of terminology is included as part of the rules and regulation update outlined above.



## 6. Reevaluation of Special Quantity Subarea Boundaries

The Special Quantity Subareas (SQS) established in 2016 aim to address aquifer level declines during peak irrigation periods that risk water shortages in shallower wells. Periodic boundary reevaluations are essential for monitoring and effective management. This study proposes a hydrogeologic reassessment of Butler/Saunders SQS #1 and Platte/Colfax SQS #2, leveraging existing data, Airborne Electromagnetic (AEM) surveys, and hydrogeologic insights. The proposed tasks include:

- Conducting a desktop review of water levels within and around the SQS areas, incorporating data from neighboring NRDs.
- Integrating Hydrogeologic Assessment the 3D AEM Framework data to characterize project-area hydrogeology.
- Obtain and review historic metered well pumping volumes.
- Developing a Geographic Information System (GIS) model to visualize historic groundwater changes, including an animated representation.
- Producing a detailed report with findings, data gaps, and recommendations for potential boundary modifications.

**Preliminary Cost Range:** \$30,000 - \$35,000

NOTE: The Lower Platte River Basin Sub-Regional Groundwater Model is under construction as of May 2025. If available, LRE Water can use this groundwater model to review potential changes in water levels given a variety of water management scenarios, such as pumping allocations. If groundwater modeling is desired, LRE Water can provide an update to this preliminary cost range.

## 7. Enhancement of Data Transparency and Communication

Improved real-time data collection and web-based visualization tools can enhance transparency and public communication. Recommendations include:

- Developing an online data visualization tool to display recent nitrate concentrations, water level trends, and related information.
- Sharing maps and data from the Hydrogeologic Assessment, GWMP, and rules and regulations.
- Establishing a system for public notifications through text messaging or email about upcoming events, meetings, and policy changes.

In April 2025, LRE Water significantly updated the Nitrate Risk Tool (Tool) to cover the Shell Creek Watershed down to the Schuyler/Richland GWMA. There are many expanded features of the new Tool that could be leveraged and expanded to the remainder of the District:

- Rapid display of additional well data such as status, depth, nitrate concentrations, and depth to water.
- Integration and public sharing of Hydrogeologic Assessment data like transmissivity and saturated sand thickness.
- Incorporation of LPNNRD's real-time water level data, spring/fall water levels, and other data sources.

Note: The Nitrate Risk Tool feature itself would not be expanded to the remainder of the District, only the additional basic features of the Tool.

**Preliminary Cost Range:** \$40,000 - \$45,000

#### **8. Water Quality Trigger Update**

There were many discussions related to changes to the current water quality trigger and questions on how to justify a change. LRE Water would not be involved in providing input related to potential changes to the water quality trigger update, unless requested.

**Preliminary Cost Range:** Not applicable

# Goals and Objectives

## Groundwater Management Goals and Objectives

The primary management target, defined below in the Vision Statement, is to maintain the ‘groundwater reservoir life goal’ – defined within the Rules and Regulations as the period of time which the District establishes as its goal for maintenance of the supply and quality of water in a groundwater reservoir. This goal can also be described as ensuring a safe yield for aquifers, which is the amount of water that can be sustainably withdrawn without causing long-term depletion or adverse effects on the aquifer and hydrologically connected water resources. The goals and objectives are intended to guide water resource management decision making.

### ***LPNNRD Groundwater Management Vision Statement***

*Strive for the continuous management of the groundwater reservoir, in perpetuity, to ensure it meets the standards appropriate for its various uses, including domestic, livestock, public water supply, public health, irrigation, agriculture, wildlife, industrial, and other beneficial uses. Minimizing, as much as possible, the adverse impact of these uses on the quantity and quality of groundwater that supports lakes, wetlands, and streams.*

By implementing the five goals and objectives shown below, the LPNNRD can ensure groundwater remains a reliable resource while protecting the ecosystems that depend on it. Goal categories include monitoring, pollution prevention, conservation, public education, and sustainable management plans and regulations.

### **Goal 1 – To continuously monitor and assess groundwater levels and quality to detect changes early.**

- **Objective 1.1** - The effort to monitor and sample water quality will be continued and expanded as necessary focusing on wells with known construction data.
- **Objective 1.2** – Integrate scientific advances and research into plans and regulations.
- **Objective 1.3** – Repeat annual water quality sampling to help understand nonpoint source contamination.
- **Objective 1.4** – Collaborate with various partners to review and expand the water quality monitoring network.
- **Objective 1.5** – Maintain and steadily expand the spring/fall water energy level monitoring network.
- **Objective 1.6** – Explore opportunities to obtain real-time water use and aquifer level data from dedicated observation wells.
- **Objective 1.7** – Continue expansion of the dedicated monitoring well network, for both quantity and quality purposes, at critical locations in the District.
- **Objective 1.8** – Ensure pumping of groundwater does not directly degrade water quality.

## Goal 2 – To reduce the potential for pollution to ensure a sustainable supply of high-quality, consumable, and safe groundwater for all users in the NRD.

- **Objective 2.1** – Utilize available studies and tools to gain a stronger understanding of groundwater flow and contamination movement.
- **Objective 2.2** - Obtain and assess data that supports sustainable development decisions.
- **Objective 2.3** – Explore efforts for cost share programs that promote reduction of pollutants to the aquifer.
- **Objective 2.4** – Offer cost share for well decommissioning.
- **Objective 2.5** – Promote cutting-edge technologies to improve application efficiencies as nitrate-reducing tools.
- **Objective 2.6** – Proactively manage Phase Areas where vulnerable aquifers or excessive nitrate exist and recognize the importance of reducing nitrogen loading and leaching to aquifers that provide public water supplies.

## Goal 3 – The LPNNRD will continue to encourage the use of highly-efficient water conservation management practices intended to maintain water levels.

- **Objective 3.1** – Utilize hydrogeologic and modeling data to assess the impacts of new uses and understand the response of water levels to drought or reduced precipitation trends.
- **Objective 3.2** – Promote efficient irrigation and farming practices to improve soil health, reduce erosion, and enhance water retention and recharge.
- **Objective 3.3** – Connect property owners to existing conservation programs that benefit water quality and quantity.
- **Objective 3.4** – Create a strategy for managing water declines and supporting communities during severe droughts.
- **Objective 3.5** – Continue management of Control Areas where thin or limited aquifers exist and recognize the importance of conjunctive management of hydrologically connected areas.

## Goal 4 – Continue to be a resource for outreach and education of youth and adults emphasizing the importance of protecting groundwater resources.

- **Objective 4.1** – Involve stakeholders in the review process to gather diverse perspectives and needs.
- **Objective 4.2** – Expand public education programs to raise awareness about the relationship of nitrates to public health, along with other water quality issues and encourage water conservation measures.
- **Objective 4.3** – Utilize hydrogeologic data and studies to provide an opportunity for one-on-one education.
- **Objective 4.4** – Participate in natural resources workshops, county fairs, camps, and classroom presentations.
- **Objective 4.5** – Demonstrate cutting-edge technologies for water and fertilizer management.
- **Objective 4.6** - Provide information and education through news articles, social media, newsletters, brochures, and the website.
- **Objective 4.7** – Create a web-based graphic user interface to allow users to obtain and view hydrogeologic data and other relevant maps and information.

**Goal 5 – To develop and enforce Rules and Regulations and plans that balance usage with natural replenishment rates and reduce contamination.**

- **Objective 5.1** – Regularly update the Groundwater Management Plan and Rules and Regulations to meet changing water uses, emerging contaminants, and integration of the latest policies.
- **Objective 5.2** – Align regulations with new state and federal policies to ensure compliance and leverage available resources.
- **Objective 5.3** – Implement an adaptive management approach that allows for flexibility and adjustment based on monitoring results and changing conditions.
- **Objective 5.4** – Continue active participation in Lower Platte River Basin integrated and drought management plans and implementation.
- **Objective 5.5** – Encourage community participation in NDEE’s Wellhead Protection Program.
- **Objective 5.6** – Utilize the hydrogeological based subareas to manage Control Areas, and as the basis for defining study areas for potential Phase Areas.
- **Objective 5.7** – Regularly review and update the Integrated Management Plan to balance water uses and ensure sustainable water management, including maintaining instream flows.
- **Objective 5.8** – Support and conduct special studies, research, and data gathering activities.



April 10, 2025  
Invoice No: 29746

**Invoice Total: \$2,906.75**

Daryl Andersen  
Lower Platte North NRD  
511 Commercial Park Road  
Wahoo, NE 68066-0126

**Please Remit To:**  
**LRE Water**  
**1221 Auraria Pkwy**  
**Denver, CO 80204**  
**(303) 455-9589**  
**billing@LREwater.com**

Invoice Email: dandersen@lpnrd.org  
Project No.: 5036LPN03  
Project Name: LPNNRD GW Management Plan

**Professional Services through March 29, 2025**

Task 06 Review Spring/Fall Wells

**Professional Personnel**

		<b>Hours</b>	<b>Rate</b>	<b>Amount</b>
Libra, Jon		19.25	151.00	2,906.75
	Totals	19.25		2,906.75
	<b>Total Labor</b>			<b>\$2,906.75</b>
			<b>Total this Task</b>	<b>\$2,906.75</b>
			<b>Total this Invoice</b>	<b>\$2,906.75</b>

**AMENDMENT #6**

**TO THE COOPERATIVE AGREEMENT SIGNED June 24, 2015  
between the**

**LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT  
and**

**THE BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA ON BEHALF OF  
THE UNIVERSITY OF NEBRASKA-LINCOLN THROUGH ITS  
CONSERVATION AND SURVEY DIVISION,  
SCHOOL OF NATURAL RESOURCES**

**THIS AMENDMENT** is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_ May \_\_\_\_\_, 2025, to modify the original AGREEMENT signed on the 24<sup>th</sup> day of June, 2015 by the Lower Platte North Natural Resources District (hereinafter referred to as the LPNNRD) and the Conservation and Survey Division, School of Natural Resources of the University of Nebraska-Lincoln (hereinafter referred to as the CSD).

**THEREFORE, IT IS MUTUALLY AMENDED THAT:**

- (1) **PERIOD**: This AMENDMENT shall be in effect from July 1, 2025 to June 30, 2028 unless terminated or amended by the terms of the AGREEMENT.
- (2) **STATEMENT OF WORK**: Specific elements listed in the attached proposal, herein referred to as Attachment #1 are expanded to include such actions as: ground-based geophysical measurements, related assessment fieldwork and additional technical expertise.
- (3) **PRINCIPAL INVESTIGATORS** Kathleen Cameron, Eastern Nebraska Water Resources Assessment (ENWRA) Coordinator/CSD Hydrogeologist shall be the principal investigator for the project (50%). Jesse Korus CSD Assistant Professor (30%), Matt Marxsen lead driller of CSD (10%), and Susan Lackey (10%) will be co-principal investigators for the project.
- (4) All portions of the original AGREEMENT remain in effect.

LOWER PLATTE NORTH  
NATURAL RESOURCES DISTRICT

By \_\_\_\_\_ Date \_\_\_\_\_

CONSERVATION & SURVEY DIVISION  
OF THE UNIVERSITY OF NEBRASKA

By \_\_\_\_\_ Date \_\_\_\_\_

THE BOARD OF REGENTS OF THE  
UNIVERSITY OF NEBRASKA

By \_\_\_\_\_ Date \_\_\_\_\_

## ATTACHMENT #1

### **Test-hole Drilling, Logging and Surveying Program for the Lower Platte North Natural Resources District**

The Lower Platte North Natural Resources District (LPNNRD) has a complex assemblage of aquifers which supply most of the water used for irrigation and drinking. The LPNNRD has future plans to drill test-holes, record down-hole data, and collect geophysical and hydrogeologic measurements to establish baseline information about groundwater quality, quantity, and aquifer composition.

Conservation and Survey Division (CSD) scientists will perform preliminary hydrogeologic analyses to determine the most appropriate drilling and surveying sites. These will be reviewed with the LPNNRD staff that will be responsible for obtaining landowner permission for site access for test-hole drilling and geophysical/hydrogeologic measurements. CSD will drill the test-holes and conduct the geophysical/hydrogeologic measurements and surveys. The LPNNRD will provide staff on-site during fieldwork to interact with the public and assist the CSD as needed.

At the time of drilling, samples will be collected by CSD geologists to adequately represent the types of material encountered during the drilling operation. These samples will be described both in the field and in the laboratory to determine the lithologic composition and stratigraphic nomenclature of the test-hole. At the completion of drilling operation for each rotary test-hole, a geophysical log suite will be obtained using CSD's equipment and personnel. Measurements will include natural gamma, single-point resistance, spontaneous potential, 16- and 64-inch normal resistivity, lateral resistivity, fluid resistivity and fluid temperature. The geophysical log suite will aid in the interpretation of lithology and, in some instances, provide information on hydraulic properties of various units encountered within the test-hole. Some locations may be wire-line cored in lieu of rotary drilling depending on schedule, budget and depth of drilling.

At the time of ground based geophysical surveys and/or hydrogeologic related measurements (if applicable) CSD will collect, process and interpret the field data and provide information on the hydrogeologic properties of various units encountered.

Once the interpretation phase is complete, the drilled samples will be placed in CSD's test-hole repository and the geophysical/hydrogeologic data uploaded to the Nebraska GeoCloud maintained by the CSD. CSD scientists will utilize desktop information, the test-hole logs, and field measurements to design monitoring wells and define pumping and water level monitoring equipment or provide other hydrogeologic specifications (if applicable). An additional CSD contribution to the project will be conducting downhole geophysical logs for other hydrogeologic assessments (non-CSD drilling) planned in the LPNNRD in the next three years that align with CSD's ongoing objectives and schedule (if applicable).

## Budget

Year	Budget Category	Estimated Quantity	Cost
<b>One</b> (FY26)	Equipment (Test-hole Drilling, Geophysical Logging and Well Designs)	~4 holes, up to 1,350 total feet	\$11,600.00
	Labor (Drilling)		\$3,500.00
	Expenses (Crew and Geologists' Travel)		\$1,500.00
	Ground Geophysical surveys	One survey	\$13,000
	Subtotal		

Year	Budget Category	Estimated Quantity	Cost	
<b>Two</b> (FY27)	Equipment (Test-hole Drilling, Geophysical Logging and Well Designs)	~4 holes, up to 1,350 total feet	\$11,600.00	
	Labor (Drilling)		\$3,500.00	
	Expenses (Crew and Geologists' Travel)		\$1,500.00	
	Subtotal			<b>\$16,600.00</b>

Year	Budget Category	Estimated Quantity	Cost
<b>Three</b> (FY28)	Equipment (Test-hole Drilling, Geophysical Logging and Well Designs)	~4 holes, up to 1,350 total feet	\$11,600.00
	Labor (Drilling)		\$3,500.00
	Expenses (Crew and Geologists' Travel)		\$1,500.00
	Ground Geophysical surveys	One survey	\$13,000
	Subtotal		

**Note:** CSD equipment, crew labor and personnel travel costs will be invoiced according to the actual quantities accomplished at current CSD rates. **Budget** assumes 9-12 test holes and up to two geophysical surveys for estimating purposes, **invoice amounts will not exceed \$75,800**. LPNNRD is scheduled for a **\$9,150.00 dues credit** from ENWRA in fiscal year (FY) 2026 or FY 2027 for hydrogeologic assessment activities.

### Potential Site Locations tentatively planned for the LPNNRD:

Test hole/Log ID	Test hole/Log ID	high Ground (feet AMSL)	Low Ground (feet AMSL)	AQ1 Mid (feet AMSL)	AQ1 Thickness (feet)	AQ2 Mid (feet AMSL)	AQ2 Thickness (feet)	Dakota Top (feet AMSL)	Paleozoics Top (feet AMSL)	Total TH Depth (feet below ground)	# of Monitoring Wells	Total FT of 4in Wells	1995 WT
Abie	01-LPN-2025	1560	1405	1400	20	1150	80	1230	750	450	2	570	1425
Bellwood	02-LPN-2025	1490	1430	1400	60	1310	10-30	1120	620	210	3	400	1430
Cedar Bluffs	03-LPN-2025	1365	1250	1150	50	1025	30	1100	800	360	3	630	1250
David City	04-LPN-2025	1645	1510	1300	50	1160	50	1200	700	450	2	830	1450
Fremont		1360	1150	-	-	-	-	1165	860	-	-	-	1160-1210
Maimo	01-LPN-2026	1420	1230	1200	20	1050	25	1150	805	375	2	590	1250
Mead	02-LPN-2026	1300	1175	1100	100	980	50	1080	880	300	2	520	1250
Newman Grove	03-LPN-2026	1940	1650	1650	30	1450	70	950	427	400	2	780	1675
Prague	04-LPN-2026	1500	1338	1300	50	1215	80	1250	790	360	3	935	1325
Wahoo		1390	1160	1130	-	1130	-	1100	850	-	-	-	1160
Weston	01-LPN-2027	1380	1210	1225	20	1100	50	1150	790	320	2	435	1225
Yutan	02-LPN-2027	1315	1115	1140	20	1060	50	1060	900	340	3	560	1150
River Influence	03-LPN-2027	1400	1300	1300	50	1220	100	1220	600	220	3	280	1440_1290
River Influence	01-LPN-2028	1300	1190	1190	50	1165	100	1165	850	220	2	245	1290_1190

**Note:** AMSL is above mean sea level, numbers reported in feet (\* indicates CSD estimated)

**COOPERATIVE AGREEMENT**  
between the  
**LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT**  
and  
**THE CONSERVATION AND SURVEY DIVISION,**  
**SCHOOL OF NATURAL RESOURCES, UNIVERSITY OF NEBRASKA**

THIS AGREEMENT, is entered into the 24<sup>th</sup> day of June, 2015, by the Lower Platte North Natural Resources District (hereinafter referred to as the LPNNRD) and the Conservation and Survey Division, School of Natural Resources of the University of Nebraska-Lincoln (hereinafter referred to as the CSD).

The LPNNRD and the CSD, in accord with their ongoing program responsibilities, desire to participate in a CSD test hole drilling and monitoring well installation program to (1) Provide test hole drilling equipment, supplies and expertise for obtaining subsurface geologic and hydrogeologic information within the LPNNRD boundaries; (2) Provide bore-hole geophysical logging equipment, supplies and expertise for obtaining measurements of physical, chemical and electrical properties within test holes drilled at each site; (3) Provide well designs and administration services of the contract associated with the installation of monitoring wells (if applicable); and (4) Provide on-site training for LPNNRD staff during the well construction phase (if applicable).

**THEREFORE, IT IS MUTUALLY AGREED THAT:**

- (1) **COOPERATION:** The LPNNRD and the CSD desire to cooperate and collaborate to accomplish the study objectives mutually agreed upon.
- (2) **PERIOD:** This agreement shall begin upon approval by LPNNRD and will continue for a period of one year or as may be altered pursuant to the provisions of Section 9.
- (3) **STATEMENT OF WORK:** Certain portions of the study require a significant level of technical expertise and interpretation from the CSD. These include specific elements as listed in the attached proposal, herein referred to as Attachment #1.
- (4) **LPNNRD CONTRIBUTIONS:** As hereinafter limited, the LPNNRD shall contribute such of its funds, facilities, equipment, materials and personnel as it deems suitable and appropriate to accomplish the objectives of the study. The LPNNRD shall provide funds to the CSD to support costs directly related to test hole drilling activities, monitoring well installations (if applicable), and field completion report expenditures. The costs include approximately five test hole drilling locations, each up to approximately 700 feet deep, and will not exceed the amount of thirty-two thousand dollars (\$32,000).
- (5) **CSD CONTRIBUTION:** The CSD shall utilize funds provided by the LPNNRD and such of its own funds for facilities, equipment, materials and personnel as it deems suitable to conduct the investigation and analysis called for in this Agreement and to prepare final drafted products.
- (6) **PRINCIPAL INVESTIVATORS:** Kathleen Cameron, Eastern Nebraska Water Resources Assessment (ENWRA) Coordinator/CSD Hydrogeologist, shall be the principal investigator for the project (50%). Susan Lackey and Dana Divine of CSD will be the

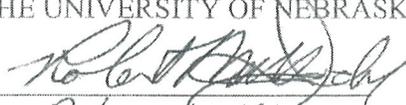
co-principal investigators for the project (25% each).

- (7) **PUBLICATION:** Both parties shall have the right to announce and publish the results, facts, or conclusions of cooperative work under the terms of the Agreement, provided such announcement or publication shall expressly recognize the cooperation of the other party and provided such publication shall not indicate approval of the results, facts or conclusions by the other party. It is recognized that the CSD is obligated to maintain public access to data obtained in this study.
- (8) **LIABILITY:** Each party agrees that it will be responsible for its own acts and the results thereof and shall not be responsible for the acts of the other parties and the results thereof. Each party therefore agrees that it will assume all risk and liability to itself, its agents or employees, for any injury to persons or property resulting in any manner from the conduct of its own operations, and the operations of its agents or employees, under this Agreement, and for any loss, cost, damage, or expense resulting at any time from any and all causes due to any act or acts, negligence, or the failure to exercise proper precaution of or by itself or its own agents or its own employees while occupying or visiting the premises under and pursuant to this Agreement.
- (9) This Agreement may be modified and/or extended provided that such modifications and extensions are executed by authorized officials of the LPNNRD and the CSD.
- (10) Attachment #1 is hereby incorporated in and made a part of this Agreement the same as if it had been specified herein verbatim.

LOWER PLATTE NORTH  
NATURAL RESOURCES DISTRICT

By  Date 6-24-15  
John R. Miyoshi

CONSERVATION & SURVEY DIVISION  
OF THE UNIVERSITY OF NEBRASKA

By  Date 07/31/15  
Robert Matthew Joekel

THE BOARD OF REGENTS OF THE  
UNIVERSITY OF NEBRASKA

By  Date 8/3/15

Jeanne Wicks, Director  
Office of Sponsored Programs

## ATTACHMENT #1

### **Test Hole Drilling and Monitoring Well Installation Program for the Lower Platte North Natural Resources District**

The Lower Platte North Natural Resources District (LPNNRD) has a complex assemblage of aquifers which supply most of the water used for irrigation and drinking. The LPNNRD has future plans to drill test holes, record down-hole data, and construct monitoring wells to establish baseline information about groundwater quality, quantity, and aquifer composition.

Conservation and Survey Division (CSD) scientists will perform preliminary hydrogeologic analyses to determine the most appropriate drilling sites. These will be reviewed with the LPNNRD staff that will be responsible for obtaining landowner permission for site access for test hole drilling and monitoring well installation (if applicable).

CSD will drill or will hire a licensed water well contractor to drill the test holes. At the time of drilling, samples will be collected to adequately represent the types of material encountered during the drilling operation. These samples will be described both in the field and in the laboratory to determine the lithologic composition and stratigraphic nomenclature of the test hole. Once the interpretation phase is complete, the samples will be placed in CSD's test hole repository for future use and the information obtained will be entered into the statewide test hole database maintained by the CSD.

At the completion of drilling operation for each test hole, a geophysical log suite will be obtained using CSD's equipment and personnel. Measurements will include natural gamma, single-point resistance, spontaneous potential, 16- and 64-inch normal resistivity, lateral resistivity, fluid resistivity and fluid temperature. The geophysical log suite will aid in the interpretation of lithology and, in some instances, provide information on hydraulic properties of various units encountered within the test hole. CSD scientists will utilize the test hole logs to design the monitoring wells and define pumping and water level monitoring equipment specifications (if applicable).

An additional CSD responsibility to the project will be the preparation and administration of the test hole drilling and/or monitoring well installation contract. The process will include the preparation of a subcontractor contract to be released for bid and the subsequent administration of the contract to ensure that the specified work has been completed. CSD will also train LPNNRD staff to obtain accurate well construction data and to complete well completion logs for each monitoring well (as applicable).

## Budget

Year	Budget Category	Estimated Quantity	Cost
<b>One</b> (2014-2015)	Test Hole Drilling & Sampling (approx. 3,000 feet of drilling – individual test hole depths not to exceed 700 feet)	5	\$ 26,000
	Geophysical Logging	5	\$ 4,000
	Report Development		\$ 2,000
	<b>Year One Annual Total</b>		<b>\$ 32,000</b>

Potential Site Locations by the Lower Platte North NRD  
 Test Holes and Monitoring Wells

Test Hole	Test Hole Priority	Also Monitoring Well and Priority	Subarea	Comments
Sec. 3, T17N, R7E, SE of NE / half mile line	High	Yes, high	North Bend	East of Fremont Cutoff Ditch / <b>NB7A</b>
Sec. 22, T19N, R2E, NW	High-medium	No	Middle Shell Creek	Sec. 23 no registered wells, LENRD Sec. 14 one irrigation well in NW1/4, LENRD / <b>MSC2</b>
Sec. 9, T18N, R2E	High if no log	Yes, Existing, old domestic well	Shell Creek Uplands	Clint Johannes site, old domestic well, well log?
Sec. 5, T18N, R2E NE of NW	High	No	Shell Creek Uplands	Prefer TH along north county road in the middle / SCU#2
Sec. 21, T16N, R6E NW	High	?	Prague	<b>P#1</b>
Sec. 33, T16N, R6E SE of SW	High	?	Prague	P#2
Sec. 21, T15N, R6E NE of NW	High	?	Prague	<b>P#3</b>
Sec. 8, T15N, R5E SE of NW UP-22	High	Existing stock well	Prague	UP-22 Galen Jambor well, no log, nearest well 0.65 miles east G-150701
Sec. 5, T16N, R5E NE of NW	High	?	Prague	P#5
Sec. 20, T16N, R5E NW of NE	High	?	Prague	<b>P#6 (or P#7)</b>
Sec. 32, T16N, R5E SE of SW	High	?	Prague	<b>P#7 (or P#6)</b>
Sec. 20, T15N, R5E NW of NW	High	?	Prague	P#8

**AMENDMENT #1 TO COOPERATIVE AGREEMENT SIGNED June 24, 2015**  
**between the**  
**LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT**  
**and**  
**THE CONSERVATION AND SURVEY DIVISION,**  
**SCHOOL OF NATURAL RESOURCES, UNIVERSITY OF NEBRASKA**

**THIS AMENDMENT** is made and entered into this 11<sup>th</sup> day of April, 2016, to modify the original AGREEMENT signed on the 24<sup>th</sup> day of June, 2015 by the Lower Platte North Natural Resources District (hereinafter referred to as the LPNNRD) and the Conservation and Survey Division, School of Natural Resources of the University of Nebraska-Lincoln (hereinafter referred to as the CSD).

**THEREFORE, IT IS MUTUALLY AMENDED THAT:**

- (1) **PERIOD:** This AMENDMENT shall be in effect from March 18, 2016 to June 30, 2017 unless terminated or amended by the terms of the AGREEMENT.
- (2) **BUDGET:** Specific budget items as listed in the attached table, herein referred to as Budget.

**Amendment No. 1 Well Installation Budget:                      \$44,600.00**

- (3) All portions of the original AGREEMENT remain in effect.

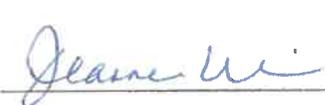
LOWER PLATTE NORTH  
NATURAL RESOURCES DISTRICT

By  Date 4-11-16

CONSERVATION & SURVEY DIVISION  
OF THE UNIVERSITY OF NEBRASKA

By  Date 04/25/2016

THE BOARD OF REGENTS OF THE  
UNIVERSITY OF NEBRASKA

By  Date 5/13/16

Jeanne M. Wicks, Director  
Office of Sponsored Programs

**BUDGET**

	Year	Budget Category	Estimated Quantity	Cost
One Deep Well at Prague Uplands (P-3 location)	FY 2016	One Deep Dakota Monitoring Well Installation (larger diameter hole to accommodate well install and additional reaming), Setting Surface Casing (60 feet), Well Development, Cover & Pad (up to approx. 500 feet)	1	\$ 32,100
		<b>P-3 Subtotal</b>		<b>\$ 32,100</b>
	Year	Budget Category	Estimated Quantity	Cost
Two Wells at North Bend (NB-1 location)	FY 2016	One Dakota Monitoring Well Installation (larger diameter hole to accommodate well install and additional reaming), Setting Surface Casing (20 feet), Well Development, Cover & Pad (up to approx. 300 feet)	1	\$ 10,750
		One Shallow Monitoring Well Installation (up to 25 feet deep)	1	\$ 1,750
		<b>NB-1 Subtotal</b>		<b>\$12,500</b>
<b>TOTAL</b>				<b>\$44,600</b>

**Notes:** Estimated costs are not to exceed and actual billing amounts will be based on invoices received by the selected subcontractor for actual footages drilled. A Request For Proposal (RFP) is planned for release by CSD in spring 2016. CSD will coordinate e-logging NB-1 and designing screen intervals during the well installation work.

Additionally, ENWRA has budgeted funds to credit back each of the ENWRA NRDs, including the LPNNRD on this project, **\$9,150** on the FY17 ENWRA dues for test hole work done along ENWRA Airborne Electromagnetic (AEM) Survey reconnaissance lines.

Potential Site Locations by the Lower Platte North NRD  
 Test Holes and Monitoring Wells

Test Hole	Test Hole Priority	Also Monitoring Well and Priority	Subarea	Comments
Sec. 3, T17N, R7E, SE of NE / half mile line	Completed	Yes, high	North Bend	East of Fremont Cutoff Ditch / NB#1
Sec. 22, T19N, R2E, NW	Completed	No	Middle Shell Creek	Sec. 23 no registered wells, LENRD Sec. 14 one irrigation well in NW1/4, LENRD / MSC#1
Sec. 9, T18N, R2E	High if no log	Yes, Existing, old domestic well	Shell Creek Uplands	Clint Johannes site, old domestic well, well log?
Sec. 5, T18N, R2E NE of NW	High	?	Shell Creek Uplands	Prefer TH along north county road in the middle / SCU#2
Sec. 21, T16N, R6E NW	Completed	?	Prague	P#1
Sec. 33, T16N, R6E SE of SW	High	?	Prague	P#2
Sec. 21, T15N, R6E NE of NW	Completed	?	Prague	P#3
Sec. 8, T15N, R5E SE of NW UP-22	High	Existing stock well	Prague	UP-22 Galen Jambor well, no log, nearest well 0.65 miles east G-150701 P#4
Sec. 5, T16N, R5E NE of NW	High	?	Prague	P#5
Sec. 20, T16N, R5E NW of NE	High	?	Prague	P#6
Sec. 32, T16N, R5E SE of SW	Completed	?	Prague	P#7
Sec. 20, T15N, R5E NW of NW	High	?	Prague	P#8

NOTE: Green highlights are potential locations for Options A through D

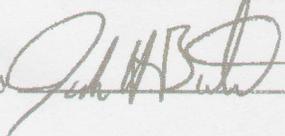
**AMENDMENT #2 TO COOPERATIVE AGREEMENT SIGNED June 24, 2015**  
between the  
**LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT**  
and  
**THE BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA ON BEHALF OF**  
**THE UNIVERSITY OF NEBRASKA-LINCOLN THROUGH ITS**  
**CONSERVATION AND SURVEY DIVISION,**  
**SCHOOL OF NATURAL RESOURCES**

THIS AMENDMENT is made and entered into this 9 day of October, 2017, to modify the original AGREEMENT signed on the 24<sup>th</sup> day of June, 2015 by the Lower Platte North Natural Resources District (hereinafter referred to as the LPNNRD) and the Conservation and Survey Division, School of Natural Resources of the University of Nebraska-Lincoln (hereinafter referred to as the CSD).

**THEREFORE, IT IS MUTUALLY AMENDED THAT:**

- (1) **PERIOD:** This AMENDMENT shall be in effect from September 7, 2017 to June 30, 2020 unless terminated or amended by the terms of the AGREEMENT.
- (2) **BUDGET:** Specific budget items as listed in the attached table, herein referred to as Budget.
- Amendment No. 2 Test Hole and Well Installation Budget (FY18): \$136,700.00**
- (3) All portions of the original AGREEMENT remain in effect.

LOWER PLATTE NORTH  
NATURAL RESOURCES DISTRICT

By  Chairman, Date 10-9-17

CONSERVATION & SURVEY DIVISION  
OF THE UNIVERSITY OF NEBRASKA

By  Date 11/07/17

THE BOARD OF REGENTS OF THE  
UNIVERSITY OF NEBRASKA

By Jeanne Wicks Digitally signed by Jeanne Wicks  
DN: cn=Jeanne Wicks, o=University  
of Nebraska-Lincoln, ou=CSSP  
Director, email=jwicks2@unl.edu,  
c=US  
Date: 2017.11.01 10:31:52 -0500 Date 11/1/2017

**AMENDMENT #2 Budget**

<b>Year</b>	<b>Budget Category</b>	<b>Estimated Quantity</b>	<b>Cost</b>
<b>One (FY18)</b>  <b>SQS 2</b>	CSD test-hole logging (2 geologists travel, geophysical logging unit charges)	2 test holes & 1-3 monitoring wells	\$5,670
	Test-hole drilling and well installation contractor bids (depends on bid letting results)		\$131,030
	Subtotal		<b>\$136,700</b>

**Note:** A Request For Proposal (RFP) is planned for release by CSD in January or February 2018 for May 2018 field services. Year one costs for two deep test-holes and one to three deep monitoring wells (depends on bid results and geological evaluations) will not exceed the amount of one hundred thirty six thousand, seven hundred dollars (\$136,700).

Additionally, the Eastern Nebraska Water Resources Assessment (ENWRA) has budgeted ongoing funds to credit back each of the ENWRA NRDs, including the LPNNRD, for test-hole work done along Airborne Electromagnetic (AEM) Survey reconnaissance lines. LPNNRD was awarded \$9,150 in a dues credit from ENWRA in fiscal year (FY) 2017 and is anticipated for another dues credit in fiscal year 2019 or 2020.

AMENDMENT #3 TO COOPERATIVE AGREEMENT SIGNED June 24, 2015

between the

LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

and

THE BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA ON BEHALF OF  
THE UNIVERSITY OF NEBRASKA-LINCOLN THROUGH ITS  
CONSERVATION AND SURVEY DIVISION,  
SCHOOL OF NATURAL RESOURCES

THIS AMENDMENT is made and entered into this 9<sup>th</sup> day of July, 2018, to modify the original AGREEMENT signed on the 24<sup>th</sup> day of June, 2015 by the Lower Platte North Natural Resources District (hereinafter referred to as the LPNNRD) and the Conservation and Survey Division, School of Natural Resources of the University of Nebraska-Lincoln (hereinafter referred to as the CSD).

THEREFORE, IT IS MUTUALLY AMENDED THAT:

- (1) **STATEMENT OF WORK:** The LPNNRD has requested an additional Dakota drilling site. The goal of this exploration is to obtain and describe geologic samples and complete a borehole log of the test hole. If the appropriate material is penetrated by the test hole, a well will be designed and constructed to obtain water level and water quality samples from the Dakota aquifer. Aquifer monitoring equipment may also be included if funds are available. CSD will work with the LPNNRD staff to design a monitoring program for the Dakota aquifer within the District. (Refer to CSD Interim Progress Report dated June 27, 2018.)
- (2) **BUDGET:** The estimated additional costs will not exceed fifty thousand dollars (\$50,000). The NRD will be invoiced based on the actual costs.
- (3) All portions of the original AGREEMENT remain in effect.

LOWER PLATTE NORTH  
NATURAL RESOURCES DISTRICT

By  Chair Date 7-9-18

CONSERVATION & SURVEY DIVISION  
OF THE UNIVERSITY OF NEBRASKA

By  Date 07/10/2018

THE BOARD OF REGENTS OF THE  
UNIVERSITY OF NEBRASKA

By Suzan J. Lund Date 8/6/2018

**AMENDMENT #4 TO COOPERATIVE AGREEMENT SIGNED June 24, 2015**  
**between the**  
**LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT**  
**and**  
**THE BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA ON BEHALF OF**  
**THE UNIVERSITY OF NEBRASKA-LINCOLN THROUGH ITS**  
**CONSERVATION AND SURVEY DIVISION,**  
**SCHOOL OF NATURAL RESOURCES**

**THIS AMENDMENT** is made and entered into this 8<sup>th</sup> day of June, 2020, to modify the original AGREEMENT signed on the 24<sup>th</sup> day of June, 2015 by the Lower Platte North Natural Resources District (hereinafter referred to as the LPNNRD) and the Conservation and Survey Division, School of Natural Resources of the University of Nebraska-Lincoln (hereinafter referred to as the CSD).

**THEREFORE, IT IS MUTUALLY AMENDED THAT:**

- (1) **PERIOD:** This AMENDMENT shall be in effect from May 30, 2018 to June 30, 2022 unless terminated or amended by the terms of the AGREEMENT.
  
- (2) All portions of the original AGREEMENT remain in effect.

LOWER PLATTE NORTH  
NATURAL RESOURCES DISTRICT

By *Gene Ryzuka* Date 6-8-2020

CONSERVATION & SURVEY DIVISION  
OF THE UNIVERSITY OF NEBRASKA

By *R.M. Jell* Date 06/10/2020

THE BOARD OF REGENTS OF THE  
UNIVERSITY OF NEBRASKA

Digitally signed  
by Suzan G. Lund  
Date: 2020.06.12  
11:12:27 -05'00'  
By *Suzan G. Lund* Date 6/12/2020  
Suzan Lund, Associate Director  
Sponsored Programs

**AMENDMENT #5 TO COOPERATIVE AGREEMENT SIGNED June 24, 2015**

**between the**

**LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT**

**and**

**THE BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA ON BEHALF OF  
THE UNIVERSITY OF NEBRASKA-LINCOLN THROUGH ITS  
CONSERVATION AND SURVEY DIVISION,  
SCHOOL OF NATURAL RESOURCES**

**THIS AMENDMENT** is made and entered into this 9 day of May, 2022, to modify the original AGREEMENT signed on the 24<sup>th</sup> day of June, 2015 by the Lower Platte North Natural Resources District (hereinafter referred to as the LPNNRD) and the Conservation and Survey Division, School of Natural Resources of the University of Nebraska-Lincoln (hereinafter referred to as the CSD).

**THEREFORE, IT IS MUTUALLY AMENDED THAT:**

- (1) **PERIOD:** This AMENDMENT shall be in effect from May 30, 2018 to June 30, 2025 unless terminated or amended by the terms of the AGREEMENT.
  
- (2) All portions of the original AGREEMENT remain in effect.

LOWER PLATTE NORTH  
NATURAL RESOURCES DISTRICT

By Kelly Thompson Date 5/9/22

CONSERVATION & SURVEY DIVISION  
OF THE UNIVERSITY OF NEBRASKA

By R. M. Joekel Date 05/19/22 | 10:57 CDT

THE BOARD OF REGENTS OF THE  
UNIVERSITY OF NEBRASKA

By [Signature] Date 05/19/22 | 10:25 CDT



April 9, 2025  
Invoice No: 29731

<b>Invoice Total:</b>	<b>\$920.00</b>
-----------------------	-----------------

Daryl Andersen  
Lower Platte North NRD  
511 Commercial Park Road  
Wahoo, NE 68066-0126

**Please Remit To:**  
**LRE Water**  
**1221 Auraria Pkwy**  
**Denver, CO 80204**  
**(303) 455-9589**  
**billing@LREwater.com**

Invoice Email: dandersen@lpnrd.org  
Project No.: 5036LPN04  
Project Name: LPNNRD Nitrate Assessment Project

**Professional Services through March 29, 2025**

Task 01 Risk Tool Expansion

**Professional Personnel**

	<b>Hours</b>	<b>Rate</b>	<b>Amount</b>	
Carter, Will	4.25	216.47	920.00	
Totals	4.25		920.00	
<b>Total Labor</b>				<b>\$920.00</b>
		<b>Total this Task</b>		<b>\$920.00</b>
		<b>Total this Invoice</b>		<b>\$920.00</b>

UNITED STATES DEPARTMENT OF THE INTERIOR  
DOWN PAYMENT (BILL) REQUEST

Bill #: 90095843  
Customer: 6000000136  
Date: 04/10/2025  
Due Date: 06/09/2025

Make Remittance Payable To: U.S. Geological Survey  
Billing Contact: Amanda Flynn, Budget Analyst Phone: 402-328-4144,  
aflynn@usgs.gov

Remit Payment To: United States Geological Survey  
P.O. Box 6200-27  
Portland, OR 97228-6200

Payer: LOWER PLATTE NORTH NRD  
P.O. BOX 126  
WAHOO NE 68066

Additional forms of payment may be accepted. Please email GS-A-HQ\_RMS@USGS.GOV or call 703-648-7683 for additional information.

To pay through Pay.gov go to <https://www.pay.gov>.

Checks must be made payable to U.S. Geological Survey. Please detach the top portion or include bill number on all remittances.

Amount of Payment: \$ \_\_\_\_\_

Date	Description	Qty	Unit Price		Amount
			Cost	Per	
04/10/2025	The streamgages at Shell Creek near Columbus and Wahoo Creek at Ashland, as agreed to in Joint Funding Agreement 25NRJFA00170 between the US Geological Survey and the Lower Platte North NRD  JFA 25NRJFA00170 25NRJFA00170	1	8,426.00	1	8,426.00
<i>Amount Due this Bill:</i>					8,426.00

Accounting Classification:  
Sales Order: 143669  
Sales Office: GENR  
Customer: 6000000136  
Accounting #: 11586894  
  
TIN: \*\*\*\*\*2716



**To:** NRD Board of Directors, Staff and Conservation Partners  
**From:** Nebraska Association of Resources Districts (NARD)  
**Re:** NRD Basin Tour | June 9-10, 2025  
**Date:** April 25, 2025

## You're Invited, Please Register Now!

### 2025 NRD Basin Tour – Niobrara Basin

Hosted by NARD in Partnership with the Niobrara Basin NRDs  
*Based in Valentine, Nebraska | June 9–10, 2025*

The Nebraska Association of Resources Districts (NARD), in collaboration with the Niobrara Basin NRDs, is pleased to invite you to the **2025 NRD Basin Tour**. Join us for an immersive two-day experience as we explore key projects and programs dedicated to protecting Nebraska's natural resources.

#### **Tour Details:**

##### **Monday, June 9**

- 11:15 a.m. – 11:45 a.m. (CDT): Lunch at the Niobrara Lodge patio (803 US-20, Valentine, NE)
- 12:00 p.m. (CDT): Bus departs the Niobrara Lodge
- Tour will showcase conservation efforts and innovative practices across the Middle Niobrara NRD
- Evening: Dinner at **Niobrara Valley Vineyards**, Nenzel

##### **Tuesday, June 10**

- 7:30 a.m. (CDT): Depart from hotel after breakfast for Spencer Dam
- Tour highlights initiatives across both Middle and Lower Niobrara NRDs
- Lunch included
- Return to Niobrara Lodge by 4:30 p.m. (CDT)

#### **Tour Highlights Include:**

- CSS Farms – Seed potato operation
- Drip irrigation & Ponderosa Pine trials
- Fort Niobrara & Cub Creek Reservoir
- Minor Ranch & Niobrara Valley Vineyards
- Lower Niobrara NRD facilities
- Watershed management initiatives & Spencer Dam

#### **Registration Information:**

To reserve your seat, please submit your completed registration form to the NARD office **by May 9th**. Space is limited and early registration is encouraged.

#### **Registration Fee Includes:**

- All meals, breaks and activities
- Motor coach transportation
- Lodging for Monday night (*NARD will arrange hotel accommodation*)

If you plan to arrive early and need a room for Sunday night, be sure to mark this on your registration form. All lodgings must be booked through NARD.

We look forward to seeing you in the Niobrara Basin this June!

# Registration Form

## Annual Basin Tour – Niobrara River Basin, June 9-10, 2025



**Registration deadline is Friday, May 8. Cancellations received after May 19 are non-refundable.**

**Basin Tour registration fee will include the following:**

- Monday, June 9: Lunch, conservation tour, snacks, beverages, activities, evening group dinner and hotel.
- Tuesday, June 10: Breakfast at the hotel, conservation tour, lunch, snacks, and beverages.

**Registration options:**

- Registration - with single room occupancy - \$450 per person
- Registration - with double room occupancy - \$390 per person
- Registration – with NO HOTEL accommodation – \$325 per person. If you live in the area and don't need hotel accommodation, use this option to register for the tour.

**For those arriving on Sunday for the NARD board meeting, or for the Basin Tour, you must reserve your Sunday night lodging with NARD. Use this form to add Sunday lodging. This is an extra fee not included with basin tour registration.**

NRD: \_\_\_\_\_

Name: \_\_\_\_\_ Title: \_\_\_\_\_

**Extra Sunday night**  
**Stay Niobrara Lodge - \$ 125**  
 (not included in Basin Tour registration)  
Extra Sunday night – June 8  
Extra Sunday night – June 8

**Basin Tour Registration.**  
 Circle single or double occupancy (for each person registering)  
Basin Tour Reg – Single/Double  
Basin Tour Reg – Single/Double

List any special needs, including dietary restrictions: \_\_\_\_\_

**Tour registration cost per person:**

**Extra Sunday night, June 8th lodging at Niobrara Lodge. Number of rooms needed - \_\_\_\_\_ x \$ 125 = \_\_\_\_\_**  
**Basin Tour Registration = Single room occupancy. Number of registrations - \_\_\_\_\_ x \$ 450 = \_\_\_\_\_**  
**Basin Tour Registration = Double room occupancy. Number of registrations - \_\_\_\_\_ x \$ 390 = \_\_\_\_\_**  
**Basin Tour Registration = NO HOTEL accommodation. Number of registrations - \_\_\_\_\_ x \$ 325 = \_\_\_\_\_**  
**Total submitted = \_\_\_\_\_**

Submit payment and registration to: NARD, 8100 S. 15<sup>th</sup> St., Ste B, Lincoln, NE 68512. **Register prior to May 8 (cancellations are non-refundable after May 19).**