



LOWER PLATTE SOUTH natural resources district

3125 Portia Street | P.O. Box 83581 • Lincoln, Nebraska 68501-3581
P: 402.476.2729 • F: 402.476.6454 | www.lpsnrd.org

Memorandum

Date: October 19, 2022
To: Board of Directors
From: Mike Murren Projects Coordinator *mm*
Subject: Water Resources Subcommittee meeting minutes

The Water Resources Subcommittee met on Monday October 17, 2022, at 5:30 pm. Members present included Susan Seacrest, Bob Andersen, Gary Hellerich, Bruce Johnson, Larry Ruth, and Ken Vogel. Others present were Dick Ehman, Paul Zillig, Dave Potter, Chris Witthuhn, MacLan Scott, Steve Herdzina and Mike Murren, all with the LPSNRD. Also present was legal Counsel Corey Wasserburger and Vice-Chair Dave Landis. There were four (4) items the Subcommittee took action on and three reports. The meeting was called to order by Director Seacrest at 5:30 p.m.

Item 10a- Consideration of the Annual Stream Gage Operation Agreement with the United States Geologic Survey Division (USGS). attachment [Action]

Paul Zillig presented the Annual agreement with USGS. There are 24 USGS stream gauges located in the LPSNRD. This map is attached. This NRD contributes to USGS towards the cost of operating 16 of these gauges. USGS requires local partners to annually approve joint funding agreements with USGS for this assistance. Please find attached a copy of the annual joint funding agreement with USGS for the operation of these 16 gauges at a cost of \$117,915 to the LPSNRD.

It was moved by Andersen, seconded by Hellerich and unanimously approved to recommend that the Board of Directors approve the October 2022 Joint Funding Agreement with the USGS for operation of 16 stream gauges in the Lower Platte South NRD in the amount of \$117,915.

Item 10b- Consideration of a professional services contract with Phoenix Web Group for the Groundwater Database improvements. attachment [Action]

The LPSNRD Water Resources Staff member Steve Herdzina presented a contract with Phoenix Web Group (PWG) to modify the existing SQL database to improve its capabilities and improve the accuracy of the database. PWG constructed the current LPSNRD database in 2015 and has been utilized for these types of improvements since the inception of the current Groundwater Database.

Some of the modifications and new functionality would include:

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- Improvements to water meter information including allocation data, GPS location, and similar information
- Modifying information retrieved and displayed on the well information page
- Improving reports to landowners to better communicate usage information
- Adding the ability to flag parcels from the Assessor to identify and rectify data discrepancies.
- Administrative tools to remove users and user documentation to map the capabilities of the database for future needs

Staff received a Scope of Work from PWG on September 21, 2022. District staff reviewed and negotiated the attached scope with PWG (Attachment 1).

It was recommended by Vogel, seconded by B Johnson and unanimously approved to recommend Board approval for the professional services contract for the Groundwater Database improvements through Phoenix Web Group, in the amount not to exceed \$18,070.

Item 10c- Consideration of the Lower Platte River Basin Sub-Regional Groundwater Modeling Interlocal Cooperation Agreement and designation of Collective representatives. (attachment) [action]

Erhman presented the Lower Platte River Basin Sub-regional Cooperation agreement to the committee. This agreement involves the three Lower Platte Rivers Basin NRD's, Lower Platte South NRD, Lower Platte North NRD, and the Papio Missouri NRD, along with the Nebraska Department of Natural Resources wishes to approve an Interlocal Agreement to form a "Collective" to financially support, provide the necessary data, technical support, and administer contracts necessary to develop the baseline sub-regional groundwater flow model of the Basin. The agreement also calls for each entity to designate representative(s) to represent them concerning any action by the "Collective". The LPSNRD shall designate Dick Erhman and Steve Herdzina shall be named the alternate for the LPSNRD. See the attached agreement for further information.

It was recommended by Vogel, seconded by Hellerich and unanimously approved to recommend board approval of the Lower Platte River Basin Sub-Regional Groundwater Modeling Interlocal Cooperation Agreement and designate Dick Erhman as the representative and Steve Herdzina as the alternate.

10d- Review of updated “draft” GW Rules & Regulations (attachment) Report

Ehrman went over the suggestions that came out of the last WRS meeting. The committee had a couple more suggestions and asked that staff, legal counsel, and director Ruth work together to come up with final version and bring back in November for a subcommittee recommendation to hold a public hearing on the proposed changes.

10e-Report on the Drinking Water Specialist position and 319 Grant application schedule(attachment) Report

Ehrman informed the board that NPS 319 drinking water specialist position has been approved by NDEE. This person would work with our Wellhead Protection (WHP) areas (city of Waverly) that are identified as special priority areas for implementation in the LPSNRD’ District Wide Water Quality Management Plan (WQMP) approved in May 2019. Many communities in the LPSNRD including Waverly are facing growing concerns about drinking water quality as nitrate concentrations trend upwards in municipal wells. Staff will continue working with NDEE and the city Waverly on the NPS 319 project Implementation plan. The LPSNRD would provide funding and serve as a local project lead on hiring a drinking water protection coordinator.

10f-Magee Dam (attachment) Report

The Magee Dam is located near 120th and Yankee Hill Road. Potter and Zillig updated the subcommittee on a couple of potential violations in our easement area below the dam. See attached map. This matter will be taken up by the executive committee at a later date.

10g-Consideration of Amendment #3 to Cost Reimbursable Standard Research Agreement #132270 for Vadose zone research. (attachment) [Action]

Ehrman presented Amendment 3 to the agreement with UNL on Vadose research. The LPSNRD Board and the University of Nebraska entered into research agreement #132270 on February 18, 2020, “Characterization of the Vadose Zone Transport and Groundwater Nitrate Attenuation”. UNL has asked for a no-cost extension till March 31, 2023, to allow them to complete their laboratory analysis.

It was moved by Andersen seconded by B Johnson and unanimously approved (Hellerich had left and didn’t vote) to recommend Board approval of Amendment #3 to Cost Reimbursable Standard Research Agreement #132270 (Vadose Zone Study). With no further business, the subcommittee meeting adjourned at approximately 6:31 pm.

Enc.

Cc: Steve Seglin Corey Wasserburger



United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Nebraska Water Science Center
5231 South 19th Street
Lincoln, NE 68512-1271

August 29, 2022

Paul Zillig
Lower Platte South Natural Resources District
PO Box 83581
Lincoln, NE 68501-3581

Dear Mr. Zillig:

Enclosed is a copy of Joint Funding Agreement No. 23NRJFA00030 for the operation of 16 streamgages as listed in the enclosed summary of proposed funding. The total amount of the agreement is \$164,835 or \$46,920 for the U.S. Geological Survey and \$117,915 for the Lower Platte South Natural Resources District. Funds in the amount of \$27,260 from the Federal Priority Streamgages Program (FPS), which are not included in the above amounts, have been used as a supplement to or in place of Cooperative Matching Funds for several stations. Please sign the agreement and return by email to aflynn@usgs.gov. Work cannot be continued until we receive the signed agreement.

Work performed with funds from this agreement will be conducted under the authority of Statute 43 USC 36C on a fixed-price basis. Billings will be rendered quarterly in 2023. If the billing schedule needs to be revised, please contact Amanda Flynn at 402-328-4144 or aflynn@usgs.gov. The results of all work under this agreement will be available for publication by the U.S. Geological Survey.

For more information or any questions concerning this agreement, please contact Jason Lambrecht at 402-328-4124.

Sincerely,

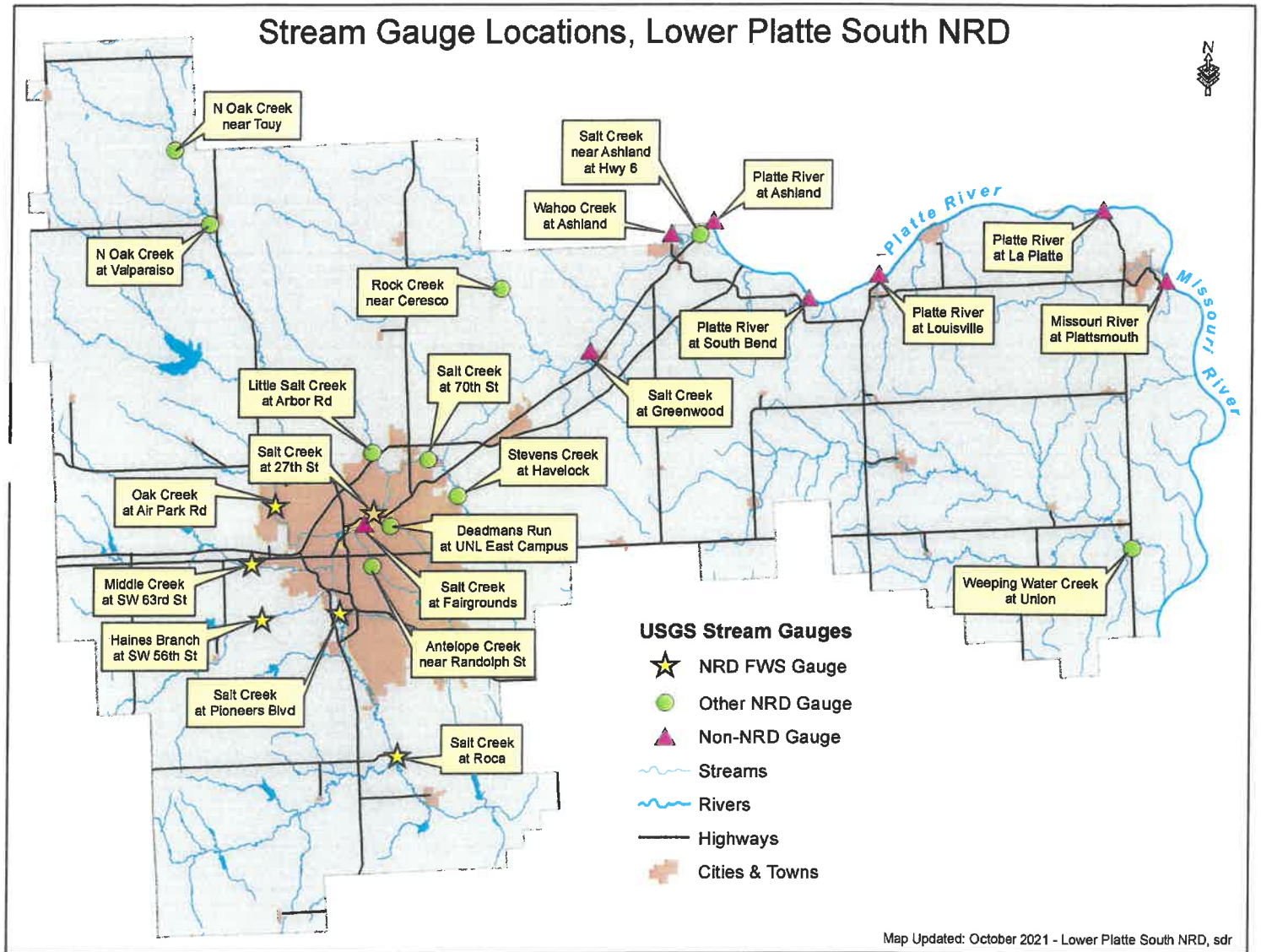
**STEVEN
PETERSON**

Steve Peterson, Director
USGS Nebraska Water Science Center

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STEVEN PETERSON
Date: 2022.08.30 10:16:37
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2 Enclosures
DUNS No. 949286512

Stream Gauge Locations, Lower Platte South NRD



Form 9-1366
(May 2018)

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations

Customer #: 6000000121
Agreement #: 23NRJFA00030
Project #: NR00GS1
TIN #: 47-0542969

Fixed Cost Agreement YES[X] NO[]

THIS AGREEMENT is entered into as of October 1, 2022, by the U.S. GEOLOGICAL SURVEY, Nebraska Water Science Center, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT party of the second part.

1. The parties hereto agree that subject to the availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation **the operation and computation of records for 16 streamgages**, herein called the program. The USGS legal authority is 43 USC 36C; 43 USC 50, and 43 USC 50b.

2. The following amounts shall be contributed to cover all of the cost of the necessary field and analytical work directly related to this program. 2(b) include In-Kind-Services in the amount of \$0.00

- (a) \$46,920 by the party of the first part during the period
October 1, 2022 to September 30, 2023
- (b) \$117,915 by the party of the second part during the period
October 1, 2022 to September 30, 2023
- (c) Contributions are provided by the party of the first part through other USGS regional or national programs, in the amount of: \$27,260

Description of the USGS regional/national program:
Federal Priority Streamgages Program

- (d) Additional or reduced amounts by each party during the above period or succeeding periods as may be determined by mutual agreement and set forth in an exchange of letters between the parties.
- (e) The performance period may be changed by mutual agreement and set forth in an exchange of letters between the parties.

3. The costs of this program may be paid by either party in conformity with the laws and regulations respectively governing each party.

4. The field and analytical work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.

5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the party of the first part to insure the required standards of accuracy subject to modification by mutual agreement.

6. During the course of this program, all field and analytical work of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner, either party may terminate this agreement upon 60 days written notice to the other party.

7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.

8. The maps, records or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program, and if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at cost, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records or reports published by either party shall contain a statement of the cooperative relations between the parties. The Parties acknowledge that scientific information and data developed as a result of the Scope of Work (SOW) are subject to applicable USGS review, approval, and release requirements, which are available on the USGS Fundamental Science Practices website <https://www.usgs.gov/about/organization/science-support/science-quality-and-integrity/fundamental-science-practices>

Form 9-1366
(May 2018)

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations

Customer #: 6000000121
Agreement #: 23NRJFA00030
Project #: NR00GS1
TIN #: 47-0542969

9. Billing for this agreement will be rendered quarterly. Invoices not paid within 60 days from the billing date will bear Interest, Penalties, and Administrative cost at the annual rate pursuant the Debt Collection Act of 1982, (codified at 31 U.S.C. § 3717) established by the U.S. Treasury.

USGS Technical Point of Contact

Name: Jason Lambrecht
Hydrologic Data Section Chief
Address: 5231 South 19th
Lincoln, NE 68512
Telephone: (402) 328-4124
Fax: (402) 328-4101
Email: jmlambre@usgs.gov

Customer Technical Point of Contact

Name: Paul Zillig
General Manager
Address: PO Box 83581
Lincoln, NE 68501
Telephone: (402) 476-2729
Fax:
Email:

USGS Billing Point of Contact

Name: Amanda Flynn
Budget Analyst
Address: 5231 South 19th
Lincoln, NE 68512
Telephone: (402) 328-4144
Fax: (402) 328-4101
Email: aflynn@usgs.gov

Customer Billing Point of Contact

Name: Paul Zillig
General Manager
Address: PO Box 83581
Lincoln, NE 68501
Telephone: (402) 476-2729
Fax:
Email:

U.S. Geological Survey
United States
Department of Interior

Lower Platte South Natural Resources District

Signature

STEVEN
By PETERSON
Name: Steve Peterson
Title: Director

Digitally signed by STEVEN
PETERSON
Date: 2022.08.30 10:17:19
-05'00'

Signatures

By _____ Date: _____

Name:

Title:

By _____ Date: _____

Name:

Title:

By _____ Date: _____

Name:

Title:

Table 1. Summary of proposed funding for operation of stream gaging stations supported by the Lower Platte South Natural Resources District and other partners for period October 1, 2022 – September 30, 2023.

[CMF, USGS, Cooperative matching funds; LPS NRD, Lower Platte South Natural Resources District; FPS, Federal Priority Streamgaging Program; USACE, U.S. Army Corps of Engineers; USGS, U.S. Geological Survey]

Station Number	Station name	LPS NRD Supported Since	Station funding								Remarks code	
			USGS CMF for LPS NRD	LPS NRD	Subtotal USGS & LPS NRD	USGS CMF for other partners	Lincoln Waste-water System	Lancaster County	USGS FPS	USACE		Total funding
06803000	Salt Cr at Roca	1995		\$4,715	\$4,715			\$2,900	\$8,125		\$15,740	1,2
06803080	Salt Cr at Pioneers Blvd	1994	\$6,315	\$9,425	\$15,740						\$15,740	1
06803093	Haines Br at SW 56th St	1994	\$6,315	\$9,425	\$15,740						\$15,740	1
06803170	Middle Cr at SW 63rd St	1994	\$6,315	\$9,425	\$15,740						\$15,740	1
06803300	Antelope Cr at 27th St	2012	\$2,265	\$13,475	\$15,740						\$15,740	1
06803420	North Oak Cr nr Touhy	2016	\$2,265	\$13,475	\$15,740						\$15,740	
06803430	North Oak Cr at Valparaiso	2016	\$2,265	\$13,475	\$15,740						\$15,740	
06803486	Oak Cr at Air Park Rd	2000	\$6,315	\$9,425	\$15,740						\$15,740	1
06803500	Salt Cr at Lincoln (27th St)	2005		\$4,505	\$4,505		\$4,485		\$6,440	\$310	\$15,740	1, 2
06803502	Deadmans Run at 38th St	2021	\$0	\$0	\$0					\$11,710	\$11,710	4
06803510	Little Salt Cr near Lincoln	1995	\$3,900	\$5,815	\$9,715	\$2,415		\$3,610			\$15,740	
06803513	Salt Cr at 70th St at Lincoln	1994	\$3,165	\$4,700	\$7,865	\$3,160	\$4,715				\$15,740	
06803520	Stevens Cr near Lincoln	1995	\$3,900	\$5,815	\$9,715	\$2,415		\$3,610			\$15,740	
06803530	Rock Cr near Ceresco	1995	\$3,900	\$5,815	\$9,715	\$2,415		\$3,610			\$15,740	
06805000	Salt Cr near Ashland	2012		\$1,260					\$5,310		\$6,570	2,3
06806500	Weeping Water Cr at Union	1998		\$7,165	\$7,165				\$7,385	\$1,190	\$15,740	2
Funding Partner Totals			\$46,920	\$117,915	\$164,835	\$10,405	\$9,200	\$13,730	\$27,260	\$13,210	\$238,640	

- 1 Flood-warning site with satellite telemetry and WaterAlert notification system
- 2 FPS funds used in place of CMF for match
- 3 Stage-only site
- 4 Seasonal site (8 months), Oct. 1-31 and Mar. 1 to Sept. 30



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Memorandum

Date: September 21, 2022
To: Water Resources Subcommittee
From: Steve Herdzina, Water Resources Compliance Specialist
Subject: Professional Services Contract for Groundwater Database

The LPSNRD Water Resources Staff has contacted Phoenix Web Group (PWG) to modify the existing SQL database to improve its capabilities and improve the accuracy of the database. PWG constructed the current LPSNRD database in 2015 and has been utilized for these types of improvements since the inception of the current Groundwater Database.

Some of the modifications and new functionality would include:

- Improvements to water meter information including allocation data, GPS location, and similar information
- Modifying information retrieved and displayed on the well information page
- Improving reports to landowners to better communicate usage information
- Adding the ability to flag parcels from the Assessor to identify and rectify data discrepancies.
- Administrative tools to remove users and user documentation to map the capabilities of the database for future needs

The District received a Scope of Work from PWG on September 21, 2022. District staff reviewed and negotiated the attached scope with PWG (Attachment 1).

Staff recommends that the LPSNRD Water Resources Subcommittee recommend Board approval for the professional services contract for the Groundwater Database improvements through Phoenix Web Group, in the amount not to exceed \$18,070.

Enclosures



LOWER PLATTE SOUTH
natural resources district

Lower Platte South NRD

2022 Miscellaneous Changes & Additions (Adjusted)

September 21st, 2022

Neil Johnson

CEO

njohnson@phoenixwebgroup.com

(w) 402.786.5111

Overview & Purpose

The Lower Platte South NRD would like to make several changes to their existing management site, adding new features and making adjustments to existing features to further streamline the workflows therein.

This project also includes the introduction of user documentation to the site, allowing a more direct method for users to identify the site's key features and understand its underlying processes. This documentation is to include visual examples along with explanations.

This document provides pricing for PWG to work with the LPSNRD to accomplish these goals.

Agreement Terms

By accepting this agreement, the customer will receive the following benefits in addition to deliverables enumerated within the Project Modules section.

Bug-Free Guarantee

Software bugs, discovered within 30 days following completion of the project, as confirmed by PWG, will be covered in full by this quote and fixed or corrected.

You Own the Code

PWG does not retain ownership of the solution developed for the customer. The customer is free to request a current copy of the source code at any time, and free to use it as they see fit. This is covered in greater detail in the Software Development Agreement.

Continuing Support

When the solution has been deployed, the customer will be presented with options for continuing support of the product. In addition to continuing bug fixes, support plan options may include small changes, technical support, server monitoring/maintenance, and periodic reporting on key activities.

Change Requests

Changes to the scope, value, or deliverables in this agreement will be managed with a formal change request, to be signed off by both the customer and PWG. Either party may initiate a request.

Major Project Components

Meters - \$5,805

The following changes are to be made to the Meters index and edit pages:

- The addition of a calculator that allows LPSNRD personnel to check the usage between any two readings for a meter.
 - This would allow a user to select two readings and display the usage between those readings in both converted gallons and inches/acre.
- The addition of a Set GPS button to the Meter Edit page, allowing a user to directly set the meter's location using the location of their device.
- The addition of an overview of relevant allocation information to the Meter Edit page
- The addition of a tooltip which explains the use of strikethrough in the
 - This includes any needed changes to the way "Decommissioned" is determined.
 - This will establish a site-wide standard for additional tooltips that may be implemented.
- The addition of a filter to disable the loading of Out of Service meters by default.

Wells - \$765

The following changes are to be made to the Well Edit page and the field map:

- The addition of a well's County alongside other DNS information on the Well Edit page
- Filtering decommissioned wells out of the field map

Reports - \$5,330

The following changes are to be made to the Meter Usage letter, allowing the recipient to see more useful metrics and trends pertaining to their meter usage:

- On the Meter Usage letter, grouping meter readings by year, rather than displaying every reading on the existing graph
- The addition of a new graph to the Meter Usage letter which shows the meter's annual usage in inches. This is to be a bar graph, where X is the year and Y is the inches/acre

Miscellaneous - \$6,170

There are additional miscellaneous changes across the site that the LPSNRD would like to make, the most significant of which is the introduction of documentation:

- The ability to flag Parcel Import discrepancies as dismissed, allowing LPSNRD personnel to view only pertinent discrepancies.
- The ability to remove users from the system
- The addition of user documentation, which will explain which reports are generated by which workflows
 - This is to include visual examples of these reports, allowing the user to understand them at a glance.

Project Timeline

The Project Manager will work with the customer to establish realistic expectations of project deadlines that meet customer needs. The changes are expected to be tested and usable in production by December for immediate use in early 2023.

Pricing

- Meters – \$5,805
- Wells – \$765
- Reports – \$5,330
- Miscellaneous – \$6,170
- Total for Project – \$18,070

Payment Terms

An initial deposit of 50% will be due at signing. 50% of the amount will be invoiced upon code completion, when the project is turned over for final review.

Sample Fee Schedule

- Beginning of Project – \$9,035
- Code Completion – \$9,035

CLIENT SIGNATURE: _____

DATE: _____

PWG SIGNATURE: _____

DATE: _____

Notes

Work will begin upon receipt of first payment. Payment is due upon receipt of invoice; past due invoices will trigger the halt of work and are subject to interest. The customer is responsible for paying applicable taxes in addition to the prices above.

This quote will expire after a time period of 30 days from the date printed on the cover sheet.

LOWER PLATTE RIVER BASIN SUB-REGIONAL GROUNDWATER MODELING INTERLOCAL COOPERATION AGREEMENT

This Lower Platte River Basin Sub-Regional Groundwater Modeling Interlocal Cooperation Agreement (“Agreement”) is entered into by and between the Nebraska Department of Natural Resources (“Department”); Lower Platte South Natural Resources District (“LPSNRD”); Lower Platte North Natural Resources District (“LPNNRD”); and Papio-Missouri River Natural Resources District (“PMRNRD”); all of which are an agency or political subdivisions of the State of Nebraska, each sometimes hereinafter individually referred to as “Party” or collectively referred to as “Parties.” The natural resources districts are sometimes collectively referred to as “NRDs.”

WHEREAS, the Parties desire to work together, under the Interlocal Cooperation Act (“Act”), Neb. Rev. Stat. §§ 13-801 to 13-827, to make the most efficient use of their respective authorities and other powers by enabling them to cooperate with one another on a basis of mutual advantage and thereby to provide services and facilities in a manner and pursuant to forms of governmental organization that will accord best with geographic, economic, population, and other factors influencing the needs and development of each Party; and

WHEREAS, the Parties desire to form a joint agreement under Neb. Rev. Stat. § 13-807 authorized by the governing body of each Party to the agreement, and which shall set forth fully as provided in the Act the purposes, powers, rights, objectives, and responsibilities of the contracting parties; and

WHEREAS, the Department has certain statutory authorities and responsibilities pertaining to the surface water of the State, and also authorities and responsibilities granted under the Nebraska Ground Water Management and Protection Act (“GWMPA”), Neb. Rev. Stat. §§ 46-701 to 46-754 for integrated management of hydrologically connected ground water and surface water; and

WHEREAS, the NRDs are organized pursuant to Neb. Rev. Stat. §§ 2-3201 et seq. and have certain statutory authorities and responsibilities, particularly pertaining to the ground water in their respective districts of the State, and also authorities and responsibilities granted by the GWMPA for integrated management of hydrologically connected ground water and surface water; and

WHEREAS, the Lower Platte River Basin (“Basin”) is geographically large and diverse in its geology, land use, ground and surface water supplies, and water uses. Each of the Parties are charged with responsibilities for planning and managing water resources. In furtherance of those responsibilities, each of the Parties has an interest in the development of a baseline sub-regional groundwater flow model of the combined area of the Basin that will help establish groundwater and surface water management criteria for NDNR, the Lower Platte River Basin-wide Plan and each NRD’s Integrated Management Plan; and

WHEREAS, the Department developed the Lower Platte Missouri Tributaries Model in 2018. The existing model is not based on Airborne Electromagnetic (“AEM”) data which has recently been obtained by the NRDs over the last few years; and

WHEREAS, the Parties desire to enter into a new Agreement to contribute financially, provide the necessary data, technical support, and administer contracts necessary to develop the baseline sub-regional groundwater flow model of the Basin.

NOW, THEREFORE, in consideration of the mutual covenants and promises of the Parties, it is agreed by and among the Parties hereto as follows:

1. PARTIES:

1.01 All Parties to this Agreement are public agencies within the meaning of Neb. Rev. Stat. §13-803(2).

2. AUTHORITY:

2.01 Neb. Rev. Stat. § 13-807 authorizes any two (2) or more public entities to enter into agreements with one another to perform any governmental service, activity, or undertaking, which at least one (1) of the public agencies entering into the agreement is authorized by law to perform.

2.02 The Parties enter into this Agreement pursuant to the authority conferred on each of them under the Act.

2.03 No part of this Agreement shall be interpreted as relieving the Department of any obligation or responsibility it may have to regulate water use or to compel compliance with any laws, regulations, interstate compacts or interstate agreements or as a delegation of its responsibilities and obligations to the Parties of this Agreement. No part of this Agreement may be or shall be interpreted as relieving the NRDs of any obligation or responsibility it may have to regulate water use or to compel compliance with any laws, regulations, interstate compacts or interstate agreements or as a delegation of its responsibilities and obligations to the Parties of this Agreement.

3. COLLECTIVE:

3.01 The Parties hereby create the Lower Platte River Groundwater Modeling Collective (“Collective”). The Collective shall be created immediately upon the execution of this Agreement by all Parties. The Collective shall be governed by the terms of this Agreement and applicable law. The Collective shall carry out the purposes as set forth in Section 5 of this Agreement. The Collective shall not be considered a joint entity separate and distinct from the respective Parties to this Agreement, but rather a collaborative working arrangement of the Parties.

4. DURATION:

4.01 The duration of this Agreement shall be for a period of three (3) years from the execution date of this Agreement by the last Party. This Agreement may be extended for successive one (1) year terms by the mutual written agreement of all Parties hereto.

5. PURPOSES:

5.01 The purposes of this Agreement pursuant to Neb. Rev. Stat. § 13-804 (3)(c) are: (1) to form a Collective to financially support, provide the necessary data, technical support, and administer contracts necessary to develop the baseline sub-regional groundwater flow model of the Basin.

5.02 This Agreement shall provide the organizational and administrative structure and enumeration of the powers, privileges, and authority of the Collective and the financial cooperative effort necessary to carry out the purposes in Subsection 5.01 of this Agreement. The powers, privileges, and authorities of the Collective shall not be used in a manner that is in violation of any of the Parties' public purposes.

6. MANNER OF FINANCING AND OF ESTABLISHING AND MAINTAINING A BUDGET:

6.01 The manner of financing and expenditure accounting of the Collective pursuant Neb. Rev. Stat. §13-804(3)(d) shall be as follows:

6.01.1 The Collective will be financed by the Parties and a contribution from the Nebraska Natural Resources Commission through a grant from the Water Sustainability Fund ("WSF") as follows:

Department:	\$188,500.00
WSF:	\$282,900.00
LPSNRD:	\$62,866.67 (\$20,956 to be paid annually for three years)
LPNNRD:	\$62,866.67 (\$20,956 to be paid annually for three years)
PMRNRD:	\$62,866.67 (\$20,956 to be paid annually for three years)

6.01.2 The Collective shall have the authority to authorize applications for financial grants, to include use of Collective funds and in-kind services for match. Such applications shall be made by the Administrator on behalf of the Collective.

6.01.3 No bonds will be issued and no taxes will be levied or collected jointly by the Parties. Individual Parties may contribute funds derived from tax levies or bonds but these shall not be considered a tax levy or bond issuance by the Collective.

6.02 The manner of establishing and maintaining a budget pursuant to Neb. Rev. Stat. §13-804(3)(d) shall be as follows:

6.02.1 The Administrator as designated in Subsection 7.01.6 of this Agreement shall prepare, establish, adopt, and maintain a budget of revenues and expenditures annually for each fiscal year. Such annual budget shall be adopted by formal resolution on or before April 15th of each year for the upcoming fiscal year by the Board of the Collective. The fiscal year will be July 1 through June 30 of the succeeding year.

6.02.2 Upon completion of each annual budget, the Administrator will determine whether any payments need to be made by each Party for such fiscal year.

6.02.2.1 Each payment obligation of a Party is subject to the availability of government funds which are appropriated or allocated for the payment of the obligations incurred by signing this Agreement. If funds are not apportioned or appropriated and available for the continuance of the obligations incurred, the Agreement may be terminated at the end of the period for which funds are available. A Party shall notify the other Parties at the earliest possible time of the obligations which will or may be affected by a shortage of funds. No penalty shall accrue to any Party if this provision is exercised.

7. ADMINISTRATION:

7.01 The Collective shall be composed of one (1) representative from each of the Parties.

7.01.1 Each representative on the Collective shall be entitled to one (1) vote by either the representative or alternate for each Party.

7.01.2 All decisions shall be made by unanimous consensus of the Collective Parties.

7.01.3 A quorum, which shall be the presence of a representative or alternate representative of each Party shall be required to transact any official discussions or business.

7.01.4 All meetings of the Collective shall follow the requirements of the Open Meetings Act.

7.01.5 Meetings of the Collective shall occur when the Collective Chair determines a meeting is necessary and schedules such meeting after input from the Collective's representatives. The Collective shall meet, at least, once a year.

7.01.6 The PMRNRD shall serve as the Administrator as required under Neb. Rev. Stat. § 13-804(4)(a). As Administrator, its responsibilities include: serving as

the financial administrator, which includes collecting and holding the contributions from the Parties and other revenues, making the disbursements for expenses related to the Collective activities, and as grant applicant and administrator; serving as contracting member on behalf of the Collective and serving as day-to-day administration for the Collective, including information dissemination to members and the general public, scheduling and organization of meetings, record-keeping, and coordination of Collective activities. The PMRNRD Representative shall serve as Chair for the Collective and as Collective Chair, shall preside at all Collective meetings and shall develop agendas for each meeting.

7.02 The Collective shall have such powers, privileges, and authority as authorized by the Parties, and as necessary to achieve the purposes of the Collective as set forth in this Agreement. Such powers, privileges, and authority shall include but not be limited to the following.

7.02.1 Schedule and conduct meetings to transact business.

7.02.2 Hold public meetings.

7.02.3 Enter into contracts and agreements with other public agencies and private sector vendors.

7.02.4 Undertake studies, investigations, or surveys and do research as may be necessary, and publish and disseminate the results.

7.02.5 Access private land, which will be coordinated with the landowner.

7.02.6 Procure and contract with legal and other professional services.

7.03 Any Party may withdraw from this Agreement and from representation on the Collective upon written notification to the Collective Chair. Such withdrawal shall be effective upon receipt of the written notification. There will be no financial reimbursement of remitted funds unless specifically authorized by the Collective.

7.04 New members can be added to the Collective with a vote of the Collective. Eligible entities shall be limited to political subdivisions or agencies of the State of Nebraska.

8. PROPERTY:

8.01 The manner of acquiring, holding, and disposing of real and personal property pursuant to Neb. Rev. Stat. § 13-804 (4)(b) is as follows.

8.01.1 In the event it becomes necessary for the Collective to purchase any property,

either real or personal, the Collective will vote to determine how the property will be disposed of.

9. TERMINATION:

9.01 The permissible method or methods to be employed in accomplishing the complete or partial termination of this Agreement under Neb. Rev. Stat. §13-804(3)(e) shall be as follows.

9.01.1 This Agreement and the Collective created hereby shall be terminated upon the earlier of the completion of its purposes and objectives described herein or upon unanimous vote for the complete or partial termination of the Collective and this Agreement. Upon action to terminate the Collective, all outstanding debts and obligations of the Collective shall be paid and all unused funds and appropriations shall be returned to the remaining Parties in such proportions as represented by the pro rata share paid by each Party.

10. MISCELLANEOUS PROVISIONS:

10.01 All of the Parties' books, records, and documents relating to work performed or monies received or spent under this Agreement shall be subject to audit at any reasonable time after reasonable notice by the NRDs, Department, and the State Auditor or as required by any grant agreements, donations or other source of funds. The Administrator shall maintain all of such records throughout the existence of this Agreement and for a period of ten (10) full years from the date of termination of the Agreement, or until all issues related to an audit, litigation or other action are resolved, whichever is longer. All records shall be maintained in accordance with generally accepted accounting principles and record retention as required by the Secretary of State, Records Management Division.

10.02 Any governing body as defined in Neb. Rev. Stat. § 13-503 which is a Party to this Agreement shall provide information to the Auditor of Public Accounts regarding this Agreement as required in Neb. Rev. Stat. § 13-513.

10.03 No Party may assign its contractual rights or obligations under this Agreement without the prior written consent of all other Parties to this Agreement.

10.04 Each Party shall have taken, prior to the execution of this Agreement by such Party, appropriate action by ordinance, resolution, or otherwise pursuant to the law of the governing body of such Party so that this Agreement may enter into force consistent with the provisions of Neb. Rev. Stat. § 13-804(2).

10.05 This Agreement may be amended in a writing duly executed all of the Parties.

10.06 This Agreement contains the entire agreement of the Parties with respect to the Basin groundwater modeling. All prior and contemporaneous negotiations,

discussions, memorandums of understanding and other writings are merged and incorporated herein, it being the intention of the Parties that this Agreement is a final and full expression of their agreement. No representations were made or relied upon by any Party other than those expressly set forth herein.

10.07 This Agreement is governed by the laws of the State of Nebraska.

10.08 This Agreement becomes effective upon execution by all Parties.

10.09 This Agreement may be executed in any number of counterparts, each of which shall be an original, but all such counterparts shall constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have signed and executed this Agreement on the dates shown next to their respective signatures:

NEBRASKA DEPARTMENT OF NATURAL RESOURCES

BY: _____

DATE: _____

LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

PROPOSED CHANGES TO GROUNDWATER RULES & REGULATIONS (10/17/22)

- Pg 2 add definition for “dewatering well”
- Pg 2 “District” defines who is required to take action.

- Pg 3 add definition for Final Permit and Application
- Pg 3 Re-define “Hydrogeologic Analysis”

- Pg 5-6 add definition for Preliminary Permit Application

- Pg 6 add definition for test hole

- Pg 7 3 “Districts” changed to “Board of Directors”

- Pg 8 1 “Districts” changed to “Board of Directors”

- Pg 12 clarifies preliminary permit process
- Pg 12 Change from 30 to 120 days if Hydrogeologic analysis is required
- Pg 12 District may verify information and/or do it’s own analysis

- Pg 12-14 clarifies pumping/yield limits for well Classes 1-4

- Pg 14-15 adds a Class 5 well permit

- Pg. 17 adds reasons a Class 5 well permit cannot be granted

- Pg 23 add “irrigated acres must be certified by owner of land”
- Pg 23 4 “Districts” to “Board of Directors”

- Pg 24 2 “Districts” to “Board of Directors”

- Pg 26 2 “Districts” to “Board of Directors”

- Pg 27 4 “Districts” to “Board of Directors”

- Pg 28 2 “Districts” to “Board of Directors”

- Pg 30 3 “Districts” to “Board of Directors”

- Pg 31 3 “Districts” to “Board of Directors”

- Pg 32 2 “Districts” to “Board of Directors”

- Pg 36 2 “Districts” to “Board of Directors”

- Pg 38 3 “Districts” to “Board of Directors”

- Pg 39 2 “Districts” to “Board of Directors”

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LOWER PLATTE SOUTH
natural resources district

GROUNDWATER RULES & REGULATIONS

Revised Effective Date:
XXXX, 2023

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LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT
RULES AND REGULATIONS FOR
THE NEBRASKA GROUNDWATER MANAGEMENT AND
PROTECTION ACT

REVISED EFFECTIVE DATE: January 15, 2020

Authority – The following rules and regulations are adopted pursuant to the Nebraska Groundwater Management and Protection Act (the “Act”) *Neb. Rev. Stat. §§46-701 to 46-754*.

Purpose – The purpose of the rules and regulations is to implement the Lower Platte South Natural Resources District’s Groundwater Management Plan, to develop procedures for the implementation of management practices, to conserve and protect groundwater supplies, to prevent the contamination or inefficient or improper use of groundwater, and to prevent and resolve conflicts between users of groundwater and appropriators of surface water which are hydrologically connected. The District acknowledges the Nebraska preference statute, *Neb. Rev. Stat. §46-613*, which grants preference in the use of groundwater, first for domestic purposes, second for agricultural purposes, and last for manufacturing or industrial purposes.

Section A Definitions

Rule 1 Definitions

For purposes of implementation of these regulations under the Nebraska Groundwater Management and Protection Act, unless the context otherwise requires:

Acre-Inch shall mean the volume of water that would cover an area of one (1) acre to a depth of one (1) inch; one-twelfth of an acre-foot; equivalent to 3,630 cubic feet or 27,154 gallons.

Alleged Violator shall mean any person who is charged with failure to comply with any of these rules and regulations.

Allocation as it relates to water use for irrigation purposes shall mean the allotment of a specified total number of acre-inches of irrigation water per irrigated acre per year or an average number of acre-inches of irrigation water per irrigated acre over a reasonable period of time.

Annual Allocation is the amount of allocation for one (1) calendar year.

Aquifer Test shall mean the design, implementation, and analysis of a test by a licensed professional geologist or engineer according to standard procedures to determine the hydraulic conductivity, storativity, and other appropriate properties of an aquifer.

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Best Management Practices (BMPs) shall mean schedules of activities, maintenance procedures, and other management practices utilized to prevent or reduce present and future contamination and/or depletion of groundwater which may include soil testing, water testing, irrigation scheduling, proper timing of fertilizer and pesticide application, chemigation techniques, crop rotation, residue management, contaminant source inventories, land treatment, irrigation surge valves, pivot conversions, water return lines, reuse systems, water use efficiency techniques, and other management programs and practices as the Board of Directors may adopt from time to time.

Board or Board of Directors shall mean the Board of Directors of the Lower Platte South Natural Resources District.

Certified Irrigated Acres shall mean the number of acres or portion of an acre that the District has approved for irrigation from groundwater in accordance with law and with rules adopted by the District.

Complainant shall mean any person who files a complaint alleging a violation of these rules and regulations.

Community Water System Protection Area shall mean the area of land designated by the Nebraska Department of Environmental Quality that delineates the 20 year time of travel for groundwater to be intercepted by a political subdivision that has 15 or more connections to its water system's well or wells and serves 25 or more year round residents.

Contaminant, Contamination or Contamination of Groundwater shall mean nitrate nitrogen or other material which enters the groundwater due to any action of any person and causes degradation of the quality of groundwater sufficient to make such groundwater unsuitable for present or reasonably foreseeable beneficial uses.

De Minimis shall mean surface runoff of groundwater used for irrigation which causes either no damage or nominal damage to another person's land, -crops, buildings, or personal property.

Dewatering Well shall mean a water well constructed for the purpose of lowering the groundwater surface elevation, either temporarily or permanently.

District shall mean the Lower Platte South Natural Resources District. For the purposes of these Rules and Regulations, the General Manager shall be authorized to act on behalf any references to actions taken by of the District shall mean the General Manager acting under authorization by the Board of Directors, unless any a rule or regulation specifically such actions are specified to requires action by the Board of Directors.

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District Compliance Officer shall mean an employee of the District authorized to perform the functions assigned by these rules and regulations.

Domestic Well shall mean a water well pumping groundwater for human needs as it relates to health, fire control, sanitation, and water for domestic livestock and plants.

Final Permit Application shall mean a water well permit submitted after all information is supplied and appropriate fees paid, after all required analyses are completed, and after all required reports are presented. Such a permit application may require approval by the Board of Directors.

Good Cause Shown shall mean a reasonable justification for granting a variance for a consumptive use of water that would otherwise be prohibited by rule or regulation and which the granting agency, District, or organization reasonably and in good faith believes will provide an economic, environmental, social, or public health and safety benefit that is equal to or greater than the benefit resulting from the rule or regulation from which a variance is sought.

Gravity Irrigation shall mean a method of applying water to plants by letting water flow by gravity from a higher elevation and distributed to the plants at a lower elevation by flooding or furrows.

Groundwater shall mean that water which occurs in or moves, seeps, filters, or percolates through ground under the surface of the land, and shall include groundwater which becomes commingled with waters from surface sources.

Groundwater Reservoir shall mean a designated area of land under which a major aquifer is known to exist and which has been delineated by the District, based on readily identifiable physical boundaries on the land surface, to generally coincide with the boundaries of the aquifer and to be the basis for specific rules and regulations pertaining to groundwater as stated in these rules and regulations.

Hydrogeologic Analysis shall mean an analysis of the conditions near the proposed water well site and the impact of the proposed water well. A hydrogeologic analysis shall include, at a minimum, consideration of aquifer boundaries, existing water uses that may be impacted by the proposed water well, and other factors appropriate to the hydrogeologic setting of the proposed water well site. the investigation required to apply for a water well permit in the District. Analysis must include consideration of aquifer boundaries, existing water uses, and other factors appropriate to the hydrogeologic setting of the site. The District shall develop guidelines for preparing hydrogeologic analysis reports.

Illegal Water Well shall mean:

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- (a) any water well operated or constructed without or in violation of a permit required by the Nebraska Ground Water Management and Protection Act;
- (b) any water well not in compliance with rules and regulations adopted and promulgated pursuant to the Act;
- (c) any water well not properly registered in accordance with *Neb. Rev. Stat.* §§46-602 to 46-604; or
- (d) any water well not in compliance with any other applicable laws of the State of Nebraska or with rules and regulations adopted and promulgated pursuant to such laws.

Inefficient or Improper Irrigation Runoff shall mean water derived from groundwater used for irrigation that moves off of the land that is being irrigated onto another person's land, lake, stream, or river either as surface flow or as spray that accumulates to create surface flow, unless it is *De Minimis* or agreed to pursuant to these rules and regulations.

Investigator shall mean an employee or agent of the District authorized to perform functions assigned thereto by these rules and regulations.

Irrigation Well shall mean a water well pumping groundwater to apply to plants on two (2) or more acres of land.

Irrigation Runoff Water shall mean groundwater used for irrigation purposes which escapes from land owned, leased, or otherwise under the direct supervision and control of a person.

Large Capacity Well shall mean a well designed and constructed to pump more than 50 gallons per minute in a groundwater reservoir and more than 20 gallons per minute in the remaining area, except for domestic only wells of between 20 and 50 gallons per minute.

Landowner shall mean any person who owns or has a contract to purchase land.

Non-point Source Pollution shall mean contamination from diffuse sources where no one point of release can be identified and/or sources not identified as point source pollution.

Operator shall mean that person who has the most direct control over the day-to-day operations of the land in question.

Person shall mean a natural person, a partnership, a limited liability company an association, a corporation, a municipality, an irrigation District, an agency or a political subdivision of the State of Nebraska or a department, an agency, or a bureau of the United States.

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Pollution shall mean the process of contaminating air, water, or land with impurities to a level that is undesirable.

Point Source Pollution shall mean any discernible, confined, and discrete conveyance, including but not limited to, any pipe, channel, tunnel, conduit, well, discrete fissure, container, rolling stone, vessel, other floating craft, or other conveyance, over which the Department of Environmental Quality has regulatory authority and from which a substance which can cause or contribute to contamination of groundwater is or may be discharged.

Preliminary Permit Application shall mean a water well permit application submitted prior to conducting required analyses and before reports are presented. Such a permit application shall require the approval of the District General Manager prior to proceeding with well construction.

Pump Test shall mean the pumping of a well for a specified period of time at a specified pumping rate for the purpose of collecting water quality samples.

Remaining Area shall mean all lands outside of the boundaries of a Groundwater Reservoir

Rolling Allocation shall mean the amount of allocation for a three (3) year period, consisting of the previous two (2) calendar years and the current calendar year.

Salt Water shall mean groundwater pumped from a well containing total dissolved solids in concentrations more than 2500 parts per million.

Salt Water Intrusion shall mean the physical movement of groundwater into a well which either 1) the concentration of total dissolved solids equals or exceeds 2500 parts per million into areas of an aquifer in which the total dissolved solids previously was less than 1000 parts per million due to the pumping of groundwater; or 2) the concentration of total dissolved solids equals or exceeds 5000 parts per million into areas of an aquifer in which the total dissolved solids previously was less than 2500 parts per million due to the pumping of groundwater; or 3) the concentration of total dissolved solids equals or exceeds 10,000 parts per million into areas of an aquifer in which the total dissolved solids previously was less than 5000 parts per million due to the pumping of groundwater.

Salt Water Well shall mean a water well drilled and constructed such that it produces salt water.

Sprinkler Irrigation shall mean a method of applying water to plants by pipelines which carry water under pressure and distributed to the plants from overhead.

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Test Hole shall mean a hole or excavation designed to obtain information on hydrogeologic conditions.

Variance shall mean (a) an approval to deviate from a restriction imposed under subsection (1), (2), (8), or (9) of *Neb. Rev. Stat. §46-714* or (b) the approval to act in a manner contrary to existing rules or regulations from a governing body whose rule or regulation is otherwise applicable.

Water Well shall mean any excavation that is drilled, cored, bored, washed, driven, dug, jetted, or otherwise constructed for the purpose of exploring for groundwater, monitoring groundwater, utilizing the geothermal properties of the ground, obtaining hydrogeologic information, or extracting water from or injecting water into the underground reservoir. Water well shall not include any excavation made for obtaining or prospecting for oil or natural gas or for inserting media to repressure oil or natural gas bearing formations regulated by the Nebraska Oil and Gas Conservation Commission.

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Section B Groundwater Management Area

Rule 1 Management Options and Means Authorized

- (a) The ~~District~~Board of Directors hereby establishes a Groundwater Management Area which includes the entire geographic area within the boundaries of the District. The ~~District~~Board of Directors may, by order and following a hearing held in accordance with *Neb. Rev. Stat.* §46-712, manage the use of water in the management area for water quantity or water quality purposes or both by any of the following means, as provided in *Neb. Rev. Stat.* §46-739:
- (i) Allocate the amount of groundwater that may be withdrawn by groundwater users;
 - (ii) Adopt a system of rotation for use of groundwater;
 - (iii) Adopt well-spacing requirements more restrictive than those found in *Neb. Rev. Stat.* §§46- 609 and 46-651;
 - (iv) Require the installation of devices for measuring groundwater withdrawals from wells;
 - (v) Adopt a system which requires a reduction of irrigated acres pursuant to subsection (2) of *Neb. Rev. Stat.* §46-740;
 - (vi) Limit or prevent the expansion of irrigated acres or otherwise limit or prevent increases in the consumptive use of groundwater withdrawals from water wells used for irrigation or other beneficial purposes;
 - (vii) ~~It may r~~Require the use of best management practices;
 - (viii) ~~It may r~~Require the analysis of water or deep soils for fertilizer and chemical content;
 - (ix) ~~It may i~~Impose mandatory educational requirements designed to protect water quality or stabilize or reduce the incidence of groundwater depletion, conflicts between groundwater users and surface water appropriators, disputes over interstate compacts or decrees, or difficulties fulfilling the provisions of other formal state contracts or agreements;
 - (x) ~~It may r~~Require water quality monitoring and reporting of results to the District for all water wells within all or part of the management area;
 - (xi) ~~It may r~~Require ~~District~~Board of Directors approval of:
 - (A) Transfers of groundwater off the land where the water is withdrawn; or
 - (B) Transfers of rights to use groundwater that result from District allocations imposed pursuant to subdivision 1(a) of this section or from other restrictions on use that are imposed by the District in accordance with this section. Such approval may be required whether the transfer is within the management area, from inside to outside the management area, or from outside to inside the management area, except that transfers for which permits

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have been obtained from the Department of Natural Resources prior to July 16, 2004, or pursuant to the Municipal and Rural Domestic Ground Water Transfers Permit Act shall not be subject to District approval pursuant to this subdivision. The ~~District~~Board of Directors may adopt rules and regulations pursuant to this subdivision that shall require that the District deny or condition the approval of any such transfer when and to the extent such action is necessary to:

- (A) Ensure the consistency of the transfer with the purpose or purposes for which the management area was designated;
 - (B) Prevent adverse effects on other groundwater users or on surface water appropriators;
 - (C) Prevent adverse effects on the state's ability to comply with an interstate compact or decree or to fulfill the provisions of any other formal state contract or agreement; and
 - (D) Otherwise protect the public interest and prevent detriment to the public welfare.
- (xii) ~~It may~~Require, when conditions so permit, that new or replacement water wells to be used for domestic or other purposes shall be constructed to such a depth that they are less likely to be affected by seasonal water level declines caused u by other water wells in the same area;
- (xiii) ~~It may~~eClose all or a portion of the management area to the issuance of additional permits or may condition the issuance of additional permits on compliance with other rules and regulations adopted and promulgated by the District to achieve the purpose or purposes for which the management area was designated; and
- (xiv) ~~It may~~aAdopt and promulgate such other reasonable rules and regulations as are necessary to carry out the purpose for which a management area was designated.
- (b) In adopting, amending, or repealing any control authorized by subsection (1) of *Neb. Rev. Stat.* §46-739, §46-740 or §46-741, the District's considerations shall include, but not be limited to, whether it reasonably appears that such action will mitigate or eliminate the condition which led to designation of the management area or will improve the administration of the area.
- (c) Upon request by the District or when any of the controls being proposed are for the purpose of integrated management of hydrologically connected groundwater and surface water, the Director of Natural Resources shall review and comment on the adoption, amendment, or repeal of any authorized control in a management area. The director may hold a public hearing to consider testimony regarding the control prior to commenting

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on the adoption, amendment, or repeal of the control. The director shall consult with the District and fix a time, place, and date for such hearing. In reviewing and commenting on an authorized control in a management area, the director's considerations shall include, but not be limited to, those enumerated in subsection (b) of this section.

- (d) If because of varying groundwater uses, varying surface water uses, different irrigation distribution systems, or varying climatic, hydrologic, geologic, or soil conditions existing within a management area, the uniform application throughout such area of one or more controls would fail to carry out the intent of the Nebraska Ground Water Management and Protection Act in a reasonably effective and equitable manner, the controls adopted by the District pursuant to *Neb. Rev. Stat. §46-739* may contain different provisions for different categories of groundwater use or portions of the management area which differ from each other because of varying climatic, hydrologic, geologic, or soil conditions. Any differences in such provisions shall recognize and be directed toward such varying groundwater uses or varying conditions. Except as otherwise provided in this section, if the District adopts different controls for different categories of groundwater use, those controls shall be consistent with *Neb. Rev. Stat. §46-613* and shall, for each such category, be uniform for all portions of the area which have substantially similar climate, hydrologic, geologic, and soil conditions.
- (e) The District may establish different water allocations for different irrigation distribution systems.
- (f) The District may establish different provisions for different hydrologic relationships between groundwater and surface water:
 - (i) For management areas for which a purpose is the integrated management of hydrologically connected groundwater and surface water, the District may establish different provisions for water wells either permitted or constructed before the designation of a management area for integrated management of hydrologically connected groundwater and surface water and for water wells either permitted or constructed on or after the designation date or any other later date or dates established by the District. Permits for construction of new wells not completed by the date of the determination of fully appropriated shall be subject to any conditions imposed by the District; and
 - (ii) For a management area in a basin or part of a basin that is or was the subject of litigation over an interstate water compact or decree in which the State of Nebraska is a named defendant, the District may establish different provisions for restriction of water wells constructed after January 1, 2001, if such litigation was commenced before or on May 22, 2001. If such litigation is commenced after May 22, 2001, the District may establish different provisions for restriction of water wells constructed after the date on which such litigation is commenced in federal court.

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An appeal from a decision of the District under this subdivision shall be in accordance with the hearing procedures established in the Nebraska ~~Groundwater~~ Ground Water Management and Protection Act.

- (g) Except as otherwise authorized by law, the District shall make a replacement water well as defined in *Neb. Rev. Stat.* §46-602, or as further defined in District rules and regulations, subject to the same provisions as the water well it replaces.
- (h) If the District has included controls delineated in subdivision (1)(m) of *Neb. Rev. Stat.* §46-739 in its management plan, but has not implemented such controls within two years after the initial public hearing on the controls, the District shall hold a public hearing, as provided in *Neb. Rev. Stat.* §46-712, regarding the controls before implementing them.
- (i) In addition to the controls listed in subsection (1) of *Neb. Rev. Stat.* §46-739, the District may also adopt and implement one or more of the following measures if it determines that any such measures would help the District and water users achieve the goals and objectives of the management area. It may sponsor non-mandatory educational programs and it may establish and implement financial or other incentive programs. As a condition for participation in an incentive program, the District may require water users or landowners to enter into and perform such agreements or covenants concerning the use of land or water as are necessary to produce the benefits for which the incentive program is established.

Rule 2 Designated Areas of Management

- (a) The District hereby establishes the following as designated areas of management (see maps in Appendix A):
 - (i) Crete-Princeton-Adams Groundwater Reservoir;
 - (ii) Dwight-Valparaiso Groundwater Reservoir;
 - (iii) Lower Salt Creek Groundwater Reservoir;
 - (iv) Missouri River Groundwater Reservoir;
 - (v) Platte River Groundwater Reservoir;
 - (vi) Remaining Area; and
 - (vii) Community Water System Protection Areas.

Rule 3 Remaining Area

- (a) Due to the hydrogeology of the Remaining Area, the District hereby recognizes the need to manage groundwater declines, conflicts between users and salt water intrusion and may require well permits on all new and replacement wells in the remaining area designed and constructed to pump greater than 20 gallons per minute, except for domestic wells that pump 50 gallons per minute or less.

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Section C Water Well Permits

Rule 1 Water Well Permits

- (a) Any person who intends to construct any new or replacement water well on land which he or she owns or controls that falls within the following categories shall, before commencing construction, apply to the District for a permit on forms provided by the District, and receive approval from the District:
 - (i) Any well designed and constructed or modified to pump more than 50 gallons per minute;
 - (ii) Any well in the Remaining Area designed and constructed or modified to pump more than 20 gallons per minute except for domestic wells and wells used to water range livestock that pump 50 gallons per minute or less;
 - (iii) Any well in (i) and (ii) above that is designed and constructed to pump salt water for a beneficial use;
 - (iv) Any wells commingled, combined, clustered, or joined with any other water well or wells and such wells shall be considered one water well and the combined capacity shall be used as the rated capacity;
 - (v) Except that no permit shall be required for test holes or dewatering wells with an intended use of ninety (90) days or less;
 - (vi) Permit application forms are available at the office of the District, 3125 Portia Street, at Lincoln, Lancaster County, Nebraska, or shall be available at such office or at such other office or offices as from time to time the Board of Directors shall designate;
 - (vii) The application shall contain:
 - (A) The name and post office address of the applicant or applicants;
 - (B) The nature of the proposed use;
 - (C) The intended location of the proposed water well or other means of obtaining groundwater;
 - (D) The intended size, type and description of the proposed water well and the estimated depth, if known;
 - (E) The estimated capacity in gallons per minute
 - (F) The estimated annual water usage in acre feet per year;
 - (G) The acreage and location by legal description of the land involved if the water is to be used for irrigation purposes;
 - (H) A description of the proposed use if other than for irrigation purposes;
 - (I) The registration number of the water well being replaced if applicable; and
 - (J) Such additional information as the District deems necessary or desirable.

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- ~~(viii)~~ Prior to submitting a final permit application, the applicant shall submit ~~an application for~~ a preliminary permit application, so as to allow the applicant to conduct the tests and analyses required for such wells.
- (ix) For any permit that requires a hydrogeologic analysis report, such report shall be submitted to the District at least one hundred twenty (120) days prior to the submittal of a final permit application.
- ~~(viii)~~ The District shall review ~~such~~any application and issue or deny the permit within thirty (30) days after a complete and properly prepared application is filed; and
- ~~(ix)~~ If the District finds that ~~the~~an application is incomplete or improperly prepared, it shall return the application for correction. If the correction is not made within sixty (60) days, or an extension is not granted, the application shall be cancelled. All permits shall be issued with or without conditions attached or denied not later than thirty (30) days after receipt by the District of a complete and properly prepared application. A permit issued shall specify all regulations and controls adopted by the District relevant to the construction or utilization of the proposed water well. No refund of any application fees shall be made regardless of whether the permit is issued, canceled, or denied. The District shall transmit one copy of each permit issued to the Director of the Department of Natural Resources.

Rule 2

Classes of Well Permits and Required Hydrogeologic and Water Quality Information

- (a) Any person who proposes to construct a well requiring a permit shall be required to provide certain hydrogeologic and water quality ~~information reports~~ before a final water well permit may be approved, as is provided below. The District may verify the information contained within such reports by whichever methods it deems necessary, including but not limited to reviewing the reports, consulting with a third-party to review the reports, and commissioning its own independent hydrogeologic and water quality analyses. The District shall provide guidelines for required reports which shall be submitted to the District with each permit application.
- (b) Class 1 Permit:

 - (i) Applies to any proposed well to be located in a Groundwater Reservoir, that is designed to pump more than 50 gallons per minute, ~~and but~~ less than 1000 gallons per minute, ~~and or~~ pump less than 250 acre-feet of water per year;

 - (A) The requirements for a Class 1 permit shall be as follows and shall be included with the application:

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- (1) Water quality samples to be collected at the end of a 24-hour pump test. Any well must be pumped at 100% of its designed rate. The samples shall be submitted to a qualified laboratory for an analysis of sodium, chloride and total dissolved solids.
- (c) Class 2 Permit:
 - (i) Applies to any proposed well to be located in a Groundwater Reservoir designed and constructed to pump 1000 gallons per minute or more, or pump 250 acre-feet ~~to 500 acre-feet or more of~~ water per year;
 - (A) The requirements for a Class 2 permit shall be as follows and shall be included with the application:
 - (1) A copy of the well log to determine geologic formations ~~present~~;
 - (2) An accurate static water level measurement to estimate saturated thickness of the aquifer;
 - (3) An aquifer test including all necessary ~~pumping~~, drawdown, and ~~recovery~~~~pumping~~ data as required by the District. The aquifer test ~~shall be performed over a minimum 24-hour period, and~~ must be designed and supervised by a licensed professional geologist or engineer with experience in such analysis;
 - (4) Water quality samples to be collected at the end of a 24-hour pump test. Any well must be pumped at 100% of its designed rate ~~for the duration of the pump test~~. The samples shall be submitted to a qualified laboratory for analysis of sodium, chloride and total dissolved solids; and
 - (5) A hydrogeologic analysis report considering the impact of the proposed withdrawal on current groundwater users and a minimum twenty (20) year impact on the aquifer for potential future users shall be submitted by the Applicant. The report must be prepared by a licensed professional geologist or engineer with experience in such analysis.
- (d) Class 3 Permit:
 - (i) Applies to any proposed well located in the Remaining Area designed and constructed to pump more than 20 gallons per minute, ~~and but~~ less than 250 gallons per minute, ~~or and use~~~~pump~~ less than 25 acre-feet of water per year, except a domestic well that pumps 50 gallons per minute or less is not required to obtain a permit;
 - (A) The requirements for a Class 3 permit shall be as follows:
 - (1) Water quality samples to be collected at the end of a 24-hour pump test. Any well must be pumped at

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100% of its designed rate for the duration of the pump test. The samples shall be submitted to a qualified laboratory for analysis of sodium, chloride and total dissolved solids.

(e) Class 4 Permit:

(i) Applies to any proposed well in the Remaining Area designed to pump 250 gallons per minute or more, or pump 25 acre-feet to 500 acre-feet or more of water per year;

(A) The requirements for a Class 4 permit shall be as follows:

- (1) A copy of the well log to determine geologic formations present;
- (2) An accurate static water level measurement to estimate saturated thickness of the aquifer;
- (3) An aquifer test including all necessary pumping, drawdown, and recovery pumping data as required by the District. The aquifer test shall be performed over a minimum 24-hour period, and must be designed and supervised by a licensed professional geologist or engineer with experience in such analysis;
- (4) Water quality samples to be collected at the end of a 24-hour pump test. Any well must be pumped at 100% of its designed rate for the duration of the pump test. The samples shall be submitted to a qualified laboratory for analysis of sodium, chloride and total dissolved solids; and
- (5) A hydrogeologic analysis report considering the impact of the proposed withdrawal on current groundwater users and a minimum twenty (20) year impact on the aquifer for potential future users shall be submitted by the Applicant. The report must be prepared by a licensed professional geologist or engineer with experience in such analysis.

(f) Class 5 Permit:

(i) Applies to any proposed well located anywhere in the District designed and constructed to pump more 500 acre-feet of water per year.

(A) The requirements for a Class 5 permit shall be as follows and shall be included with the application:

- (1) A copy of the well log to determine geologic formations present;
- (2) An accurate static water level measurement to estimate saturated thickness of the aquifer;
- (3) An aquifer test including all necessary pumping, drawdown, and recovery data as

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- required by the District. The aquifer test shall be performed over a minimum 72-hour period, and must be designed and supervised by a licensed professional geologist or engineer with experience in such analysis;
- (4) Water quality samples to be collected at the end of a 24-hour pump test. Any well must be pumped at 100% of its designed rate for the duration of the pump test.
 - (5) A hydrogeologic analysis report considering the impact of the proposed withdrawal on current groundwater users and a minimum twenty (20) year impact on the aquifer for potential future users shall be submitted by the Applicant. The report must be prepared by a licensed professional geologist or engineer with experience in such analysis.
 - (6) The applicant shall contact owners of all adjoining land informing them of the permit application, and shall submit evidence of this contact.
 - (7) All applications for a Class 5 water well permit shall be presented to the Board of Directors for approval or denial.
- (f) ~~Salt~~ ~~Water~~ ~~Well~~ ~~Permit~~:
- (i) A salt water well permit shall be required if an Applicant desires to pump salt water from any proposed well for a beneficial use. The Applicant is required to demonstrate that groundwater withdrawals from the proposed well will not cause salt water intrusion. The requirements for a Class 1, 2, 3, ~~or 4~~, or 5 well permit, stated above, shall apply to any salt water well permit.
 - (ii) The requirements for salt water well permits ~~applies~~ apply to all ~~permit~~ permit-sized wells described ~~above, including in~~ above, including in Class 1, 2, 3, ~~and~~ and, ~~4, or and 5~~ 4, or and 5 well permits ~~above~~, in which either:
 - (A) The total dissolved solids of the water quality sample taken at the end of a 24-hour pump test are 2500 parts per million or more and the intended use of the water is for a beneficial use; or
 - (B) The intended use of the well is to pump salt water from an aquifer that is expected to contain salt water under ambient conditions. In this case, the Applicant may choose to fulfill the requirements below during the 24-hour pump test as required for the appropriate Class 1, 2, 3, or 4 permit.
 - (iii) The requirements for a salt water well permit shall be as follows:

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- (A) The applicant must collect water quality samples at various times during a 24-hour pumping test at 100% of proposed pumping rate. The samples shall be submitted to a qualified laboratory for analysis of sodium, chloride and total dissolved solids. One sample each shall be collected:
- (1) within 15 minutes after the start of pumping;
 - (2) within 15 minutes of the half-way point between the beginning and end of the pump test. Typically this will be 12 hours after the start of pumping; and
 - (3) within 15 minutes prior to the end of pumping.

Rule 3

Granting, Denying or Cancelling a Water Well Permit in a Groundwater Reservoir

- (a) An application for a permit or late permit for any water well in a Groundwater Reservoir shall be granted unless the District finds any of the following conditions:
- (i) The location or operation of the proposed water well or other work would conflict with any regulations or controls adopted by the District or of other applicable laws of the State of Nebraska;
 - (ii) The proposed use would not be a beneficial use of water for domestic, agricultural, manufacturing, or industrial purposes;
 - (iii) The applicant refuses to cooperate with the District in groundwater monitoring activities;
 - (iv) An applicant refuses to equip the well with a water well flow meter;
 - (v) In the case of a late permit only, that the applicant did not act in good faith by failing to obtain a timely permit;
 - (vi) For a Class 1 Permit:
 - (A) The total dissolved solids from a water quality sample taken at the end of a 24-hour pump test are 2500 parts per million or more, and an applicant does not choose to apply for a salt water well permit.
 - (B) An applicant shall have the option to apply for a salt water well permit prior to denial of the permit.
 - (vii) For a Class 2 Permit:
 - ~~(A)~~ ~~(A)~~ ~~The~~ A hydrogeologic analysis indicates potential short-term or long-term detrimental effect(s) to the aquifer;
 - ~~(B)~~ ~~and/or if~~ The drawdown, as determined by an aquifer test, would adversely affect a nearby well with a higher preference of use; ~~and/or~~
 - ~~(B)~~ C The total dissolved solids from a water quality sample taken at the end of a 24-hour pump test are 2500 parts per million or more, and the applicant does not choose to apply for a salt water well permit.

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~~(C)~~ An applicant shall have the option to apply for a salt water well permit prior to denial of the permit.

~~(viii)~~ For a Class 5 Permit:

~~(A) A hydrogeologic analysis indicates potential short-term or long-term detrimental effect(s) to the aquifer system;~~

~~(B) The drawdown, as determined by an aquifer test, would adversely affect a nearby well with a higher preference of use; or~~

~~(C) The total dissolved solids from a water quality sample taken at the end of a 24-hour pump test are 2500 parts per million or more, and the applicant does not choose to apply for a salt water permit. An applicant shall have the option to apply for a salt water well permit prior to denial of the permit application.~~

~~(viii)~~ For a Salt Water Well Permit:

(A) The water quality samples indicate the potential for salt water intrusion.

Rule 4

Granting, Denying or Cancelling a Water Well Permit in the Remaining Area

- (a) An application for a permit or late permit for a water well in the Remaining Area shall be granted unless the District finds any of the following conditions:
- (i) The location or operation of the proposed water well or other work would conflict with any regulations or controls adopted by the District or of other applicable laws of the State of Nebraska;
 - (ii) The proposed use would not be a beneficial use of water for domestic, agricultural, manufacturing, or industrial purposes;
 - (iii) An applicant refuses to cooperate with the District in groundwater monitoring activities;
 - (iv) An applicant refuses to equip the well with a water well flow meter;
 - (v) In the case of a late permit only, that the applicant did not act in good faith by failing to obtain a timely permit;
 - (vi) For a Class 3 Permit:
 - (A) The total dissolved solids from a water quality sample taken at the end of a 24-hour pump test are 2500 parts per million or more, and the applicant does not choose to apply for a salt water well permit.
 - (B) An applicant shall have the option to apply for a salt water well permit prior to denial of the permit.
 - (vii) For a Class 4 Permit:
 - (A) The total dissolved solids from a water quality sample taken at the end of a 24-hour pump test are 2500 parts per million or more, and the applicant does not choose to apply for a salt water well permit.

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- (B) An applicant shall have the option to apply for a salt water well permit prior to denial of the permit.
- (C) ~~The~~A hydrogeologic analysis indicates potential short or long-term detrimental effects to the aquifer and/or if the drawdown as determined by an aquifer test would adversely affect a nearby well with higher preference of use.
- (viii) For a Salt Water Well Permit:
 - (A) The water quality samples indicate the potential for salt water intrusion.

Rule 5 Water Well Permit Fees and Required Information

- (a) The application shall be accompanied by a fifty dollar (\$50.00) filing fee payable to the District.
- (b) Any person who has failed or in the future fails to obtain a permit required by Rule 1 shall make application for a late permit on forms provided by the District and the application shall be accompanied by a two hundred fifty dollar (\$250.00) fee payable to the District, and shall contain the same information required in Rules 1 and 2.

Rule 6 No Right to Violate

- (a) The issuance by the District of a permit pursuant to *Neb. Rev. Stat. §46-736* or registration of a water well by the Director of the Department of Natural Resources pursuant to *Neb. Rev. Stat. §46-602* shall not vest in any person the right to violate any District rule, regulation, or control in effect on the date of issuance of the permit or the registration of the water well or violate any rule, regulation, or control properly adopted after such date.

Rule 7 Groundwater Monitoring

- (a) All applicants for a water well permit shall, as a condition of the permit, agree to cooperate with the District, at its request, in groundwater monitoring activities to include water level measurements and water quality sampling.

Rule 8 Water Well Commence Construction and One-Year Completion

- (a) When any permit is approved pursuant to *Neb. Rev. Stat. §46-736* the applicant shall commence construction as soon as possible after the date of approval and shall complete the construction and equip the water well prior to the date specified in the conditions of approval, which date shall not be more than one year after the date of approval, unless it is clearly demonstrated in the application that one year is an insufficient period of time for such construction. If the applicant fails to complete the project under the terms of the permit, the District may cancel the permit. If the permit is cancelled, the applicant may apply for a new permit in accordance with these rules and regulations.

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Rule 9 Replacement Water Well Permits

- (a) The permit for a replacement water well of any Class may be granted by the District without the hydrogeologic analysis and/or water quality sampling results if the replacement water well:
 - (i) is located within 150 feet of the well to be replaced, as long as such location does not violate existing well spacing requirements;
 - (ii) is drilled to a depth similar to and is screened over an interval similar to the well being replaced;
 - (iii) is constructed and equipped such that the yield of the replacement well does not exceed the ~~most current records of the yield~~ of the well to be replaced, as reflected in the most current records of the well to be replaced; and
 - (iv) meets all other statutory and regulatory requirements for such a well.
- (b) For a replacement irrigation well, the District may require the hydrogeologic analysis and/or water quality sampling results for the permit if additional irrigated acres are requested.

Rule 10 Water Well Spacing

- (a) No new water well requiring a permit from the District shall be located within 600 feet of an existing registered water well with the same or higher preference of use, except for a water well owned by the applicant, or a properly permitted replacement well.
- (b) All additional spacing requirements as set forth in Nebraska statute and/or State regulations shall apply.

Section D Required Water Well Flow Meters

Rule 1 Water Well Flow Meters

- (a) The District shall require all new and replacement water wells requiring a water well permit to be equipped with a flow meter as a condition of the water well permit.
- (b) After the effective date of these regulations, any water well capable of pumping more than 50 gallons per minute shall be equipped with a water well flow meter prior to use. No water well capable of pumping more than 50 gallons per minute shall be pumped without first installing a water well flow meter.
- (c) The District may, in its sole discretion, require water flow meters on existing wells in the Remaining Area that pump 20 to 50 gallons per minute, on a case by case basis to manage groundwater quality and/or quantity .
- (d) Any well owner and/or operator who has a well equipped with a water flow meter shall provide water usage information on the volume of water pumped to the District annually. Any well owner and/or operator is

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required to maintain each flow meter in working condition on each well pumped.

Section E Phases for Designated Areas of Management

- Rule 1 Phases for Designated Areas of Management
- (a) Phase I for quality and quantity has been designated District-wide and the District has established educational programs, groundwater monitoring and best management practices. Phase II shall establish cost-share incentives to promote best management practices and require educational certification. Phase III shall establish regulatory requirements to address groundwater quality and/or quantity degradation.

Section F Groundwater Monitoring Networks

- Rule 1 Monitoring Network in Groundwater Reservoirs
- (a) The District shall establish a groundwater monitoring network for groundwater quality and quantity.
- Rule 2 Monitoring Network in Remaining Area
- (a) The District shall establish a groundwater monitoring network for groundwater quality and quantity.
- Rule 3 Monitoring Network in Community Water System Protection Areas
- (a) The District shall establish a monitoring well network for groundwater quality and quantity in Community Water System Protection Areas.

Section G Groundwater Phase Triggers

- Rule 1 Phase I Quality and Quantity
- (a) The entire geographic area of the District has been designated as a Phase I Quality and Quantity Groundwater Management Area.
- Rule 2 Groundwater Quality Phase Triggers in a Groundwater Reservoir
- (a) The Phase II trigger shall occur when at least 50% of the monitoring wells in the network are at or above 50% of the Maximum Contaminant Level for a contaminant for more than two (2) consecutive years.
 - (b) The Phase III trigger shall occur when at least 80% of the monitoring wells in the network are at or above 80% of the Maximum Contaminant Level for a contaminant for more than two (2) consecutive years.
- Rule 3 Groundwater Quantity Phase Triggers in a Groundwater Reservoir
- (a) The Phase II trigger shall occur when spring static groundwater elevations in 30% of the monitoring network wells have declined from the established upper elevation of the saturated thickness to an elevation that represents greater than or equal to a percent reduction in the saturated

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thickness and has remained below that elevation for more than two (2) consecutive years.

- (b) The Phase III trigger shall occur when spring static water elevations in 50% of the monitoring network wells have declined from the established upper elevation of the saturated thickness to an elevation that represents greater than or equal to a percent reduction in the saturated thickness and has remained below that elevation for more than two (2) consecutive years.
- (c) The percent reduction for each groundwater reservoir and Phase is:

	Phase II (30% of the wells)	Phase III (50% of the wells)
Lower Salt Creek Groundwater Reservoir	15%	30%
Missouri River Groundwater Reservoir	8%	15%
Platte River Groundwater Reservoir	8%	15%
Crete-Princeton Groundwater Reservoir	8%	15%
Dwight-Valparaiso Groundwater Reservoir	8%	15%

Rule 4 Groundwater Quality Phase Triggers in the Remaining Area

- (a) The Phase II trigger shall occur when at least 50% of the monitoring wells in the network are at or above 50% of the Maximum Contaminant Level for a contaminant for more than two (2) consecutive years.
- (b) The Phase III trigger shall be when at least 80% of the monitoring wells in the network are at or above 80% of the Maximum Contaminant Level for a contaminant for more than two (2) consecutive years.

Rule 5 Groundwater Quantity Phase Triggers in the Remaining Area

- (a) The Phase II trigger shall occur when spring static groundwater elevations in 30% of the monitoring network wells have declined from the established upper elevation of the saturated thickness to an elevation that represents greater than or equal to a 8% reduction in the saturated thickness and has remained below that elevation for more than two consecutive years.
- (b) Phase III trigger shall occur when spring static water elevations in 50% of the monitoring network wells have declined from the established upper elevation of the saturated thickness to an elevation that represents greater than or equal to a 15% reduction in the saturated thickness and has remained below that elevation for more than two consecutive years.

Rule 6 Groundwater Quality Phase Triggers in a Community Water System Protection Area

- (a) The Phase II trigger shall occur when at least 50% of the monitoring wells in the network are at or above 50% of the Maximum Contaminant Level for a contaminant for more than two (2) consecutive years.

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- (b) The Phase III trigger shall occur when at least 80% of the monitoring wells in the network are at or above 80% of the Maximum Contaminant Level for a contaminant for more than two (2) consecutive years.

Rule 7 **Groundwater Quantity Phase Triggers in a Community Water System Protection Area**

- (a) The quantity Phase triggers for a Community Water System Protection Area shall be the same as the triggers of the groundwater reservoir or remaining area in which it is located.

Rule 8 **Groundwater Monitoring Results Reporting**

- (a) Each year the District shall disseminate the results of the groundwater monitoring activities to monitoring well cooperators, the Board of Directors, appropriate state and federal agencies and the general public.

Section H Salt Water Intrusion

Rule 1 **Investigation**

- (a) When any groundwater well in the District shows evidence of salt water intrusion as described herein, the District shall conduct an investigation.

Rule 2 **Investigation Procedures**

- (a) Any investigation conducted as a result of salt water intrusion shall include but not be limited to the sampling of the well(s) to determine the concentration of total dissolved solids; collection of historical groundwater quality data; pumping rates and groundwater usage of wells in the vicinity; groundwater level measurements; evaluation of well(s) stratigraphy, depth and pump installation.

Rule 3 **Action Plan**

- (a) Upon completion of the salt water intrusion investigation and a determination by the District that salt water intrusion is occurring, the District shall develop an action plan for the affected area. The action plan can provide for incentives to implement best management practices to stabilize and reduce the salt water intrusion. The action plan shall also include a trigger and time line based on the concentration of total dissolved solids in the effected wells to develop and implement rules and regulations.

Rule 4 **Rules and Regulations**

- (a) When the action plan trigger has occurred, the District shall develop and implement rules and regulations to require well owners to operate their wells in such a manner as to limit or reduce the salt water intrusion.

Section I Groundwater Verification Studies for Management Phase Determination

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Rule 1 Groundwater Quality

- (a) When the District's monitoring network in a designated area of management shows that the trigger for either Phase II or Phase III has occurred, the District shall conduct a two (2) year verification study to determine if non-point source contamination has occurred and/or is occurring.

Section J Groundwater Management Phase Actions

Rule 1 Annual Review for All Phases of Management Actions

- (a) The District shall prepare for the Board of Directors annually, by March 1st, a report reviewing the Groundwater Management actions, even though a Phase has not been triggered.

Rule 2 Phase I Groundwater Management Actions.

- (a) The District shall require all lands irrigated with groundwater to be certified by the owner of the land to be irrigated. After the effective date of these regulations, any lands irrigated with groundwater shall first be certified by the District prior to those lands being irrigated with groundwater. The number of acres of lands certified as being irrigated with groundwater shall correspond with the number of irrigated acres recorded by county assessors. Lands not certified as irrigated with groundwater shall not be irrigated with groundwater without being first certified by the District.
 - (i) If a landowner wishes to decertify irrigated acres, he or she shall provide evidence for such decertification by completing a form supplied by the District.
- (b) The District Board of Directors shall establish incentive programs to implement best management practices for groundwater quality and quantity.
- (c) The District Board of Directors shall establish programs to educate all District constituents on groundwater conservation, management and utilization.
- (d) The District Board of Directors shall develop, in conjunction with the Department of Natural Resources, integrated management plans for any lands found by the Department to be hydrologically connected by surface water and groundwater under *Neb. Rev. Stat. §46-712* if not fully appropriated or under *Neb. Rev. Stat. §§46-713 and 46-715* if fully appropriated.

Rule 3 Phase II Groundwater Management Actions

- (a) Upon the Board of Directors designation of a Phase II area, the District Board of Directors shall establish an advisory group of stake holders from within the Phase II area to assist the District in developing Phase II rules and regulations, incentives to adopt best management practices and educational certification requirements.

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Rule 4 Phase III Groundwater Management Actions

- (a) ~~Advisory Group.~~ Upon the Board of Directors designation of a Phase III area, the ~~District~~**Board of Directors** shall establish an advisory group of stake holders from within the Phase III area to assist the District in developing Phase III rules and regulations. The rules and regulations shall require the implementation of best management practices, and shall require landowner reports relating to the contaminant and/or groundwater.

Section K Phase II Rules and Regulations

Section K(1) Groundwater Quality Management Area Phase II Lower Salt Creek Groundwater Reservoir, and the Davey, Hickman, Otoe County Rural Water District #3/Weeping Water, Pleasant Dale, Union and Valparaiso Community Water System Protection Areas

Rule 1 Determination and Designation of Phase II.

- (a) Pursuant to these rules and regulations, the ~~District~~**Board of Directors** has determined that the criteria have been met to designate the following areas of management as Phase II Groundwater Quality Management Areas for nitrate-nitrogen, and therefore designates Phase II Groundwater Quality Management Areas on the following land, to wit (see maps for each area in Appendix A):

Lower Salt Creek Groundwater Reservoir

Lancaster County, Nebraska:

Township 10 North, Range 7 East,

Sections 4, 5, and 6

Township 11 North, Range 7 East,

Sections 13, 14, 23, 24, 25, 26, 27, 32, 33, 34, and 35;

Township 11 North, Range 8 East,

Sections 1, 2, 3, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, and 30;

Township 12 North, Range 8 East,

Section 36;

Cass County, Nebraska:

Township 11 North, Range 9 East,

Sections 6 and 7;

Township 12 North, Range 9 East,

Sections 15, 16, 17, 18, 19, 20, 21, 29, 30, 31, and 32;

Saunders County, Nebraska:

Township 12 North, Range 9 East,

Sections 1, 2, 3, 4, 5, 7, 8, 9, 10, and 11.

Davey Community Water System Protection Area

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Lancaster County, Nebraska

Township 12 North, Range 6 East:

Section 24: East $\frac{1}{2}$ of the Southwest $\frac{1}{4}$; West $\frac{1}{2}$ of the Southeast $\frac{1}{4}$; and the Southeast $\frac{1}{4}$ of the Southeast $\frac{1}{4}$

Section 25: North $\frac{1}{2}$ of the Northeast $\frac{1}{4}$

Township 12 North, Range 7 East

Section 19: South $\frac{1}{2}$ of the Southwest $\frac{1}{4}$

Section 30: North $\frac{1}{2}$ of the Northwest $\frac{1}{4}$

Hickman Community Water System Protection Area

Lancaster County, Nebraska

Township 7 North, Range 7 East:

Section 9: Southeast $\frac{1}{4}$;

Section 10: South $\frac{1}{2}$;

Section 15: North $\frac{1}{2}$ and Southwest $\frac{1}{4}$; and

Section 16.

Otoe County Rural Water District #3/Weeping Water Community Water System Protection Area

Cass County, Nebraska:

Township 11 North, Range 11 East:

Section 1: South $\frac{1}{2}$ of the Southwest $\frac{1}{4}$;

Section 2: South $\frac{1}{2}$ of the Southeast $\frac{1}{4}$;

Section 11: Northeast $\frac{1}{4}$ and South $\frac{1}{2}$;

Section 12: Northwest $\frac{1}{4}$ and South $\frac{1}{2}$;

Section 13: North $\frac{1}{2}$ and North $\frac{1}{2}$ of the South $\frac{1}{2}$;

Section 14: North $\frac{1}{2}$ and North $\frac{1}{2}$ of the South $\frac{1}{2}$;

Section 15: Northeast $\frac{1}{4}$; North $\frac{1}{2}$ of the Southeast $\frac{1}{4}$; and

The portion of the South $\frac{1}{2}$ of the Southeast $\frac{1}{4}$ within the Village of Manley as of January 1, 2011;

Township 11 North, Range 12 East:

Section 7: South $\frac{1}{2}$ of the Southwest $\frac{1}{4}$; and

Section 18: Northwest $\frac{1}{4}$ and North $\frac{1}{2}$ of the Southwest $\frac{1}{4}$.

Pleasant Dale Community Water System Protection Area

Seward County, Nebraska:

Township 9 North, Range 4 East:

Section 2: The portion of the North $\frac{1}{2}$ north of the Burlington-Northern Santa Fe railroad tracks;

Section 3: Northeast $\frac{1}{4}$ and the portion of the Southeast $\frac{1}{4}$ north of the Burlington-Northern Santa Fe railroad tracks;

Township 10 North, Range 4 East:

Section 34; and

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Section 35: South $\frac{1}{2}$; Northwest $\frac{1}{4}$; South $\frac{1}{2}$ of the Northeast $\frac{1}{4}$; and West $\frac{1}{2}$ of the North $\frac{1}{2}$ of the Northeast $\frac{1}{4}$.

Union Community Water System Protection Area

Cass County, Nebraska:

Township 10 North, Range 13 East:

Section 22: Southeast $\frac{1}{4}$; and the portion of the South $\frac{1}{2}$ of the Northeast $\frac{1}{4}$ south of Nehawka Road;

Section 23: Southwest $\frac{1}{4}$; and that portion of the Southwest $\frac{1}{4}$ of the Southeast $\frac{1}{4}$ within the Village of Union as of November 1, 2013;

Section 25: Southwest $\frac{1}{4}$ of the Northwest $\frac{1}{4}$; and the Northwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$;

Section 26: North $\frac{1}{2}$; Southeast $\frac{1}{4}$; and the portion of the Southwest $\frac{1}{4}$ north of Weeping Water Creek; and

Section 27: Northeast $\frac{1}{4}$.

Valparaiso Community Water System Protection Area

Saunders County, Nebraska:

Township 13 North, Range 5 East:

Sections 14, 15, 21, 22, 23, and the southeast quarter of Section 16.

Rule 2

Continue Phase I Rules.

- (a) The District shall continue to enforce all rules set forth in Groundwater Management Area Phase I, with respect to the land designated in these rules and regulations.

Rule 3

Establishment of Cost-Share Programs.

- (a) The ~~District~~**Board of Directors** will establish cost-share programs to implement Best Management Practices (BMP's) on the land designated in Rule 1 above, which may include, but is not limited to, irrigation scheduling, proper timing and application of nitrogen fertilizers, proper chemigation techniques, crop rotation, residue management, irrigation surge and pivot conversions, water efficiency techniques, groundwater nitrate analysis kits and contaminant source inventories. All guidelines for BMP cost-share programs offered in the areas specified in these rules and regulations shall be made available by the District.
- (b) The ~~District~~**Board of Directors** may also approve cost-share assistance for land in neighboring NRDs as long as the land is in a LPSNRD designated CWSPA, the landowner is certified as per these rules and regulations, and there is a jointly approved Interlocal Agreement allowing cost-share to be paid.

Rule 4

Required Certification Programs.

- (a) The District requires educational certification for persons engaged in the use, application and storage of nitrogen fertilizers. Persons required to

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complete the nitrogen management certification are those that make the nitrogen management decisions on the land to be fertilized to include but not limited to: operators of agricultural lands who fertilize 20 acres or more; farm managers; commercial applicators; operators of lawn service companies; operators of golf courses; operators of sod farms; and anyone engaged in the application of manure/bio-solids/bio-liquids on five acres or more. The District will notify landowners when person(s) have completed nitrogen management certification. Nitrogen management certification can be obtained in one of four ways:

- 1) Attend a nitrogen management certification class in person,
- 2) Complete a Nebraska Association of Resources Districts nitrogen management certification course online,
- 3) Complete a nitrogen management certification home study course and open book exam, or
- 4) Obtain certification in nitrogen management from an adjoining natural resources District. The operator shall provide proof of certification to the District.

Certification classes will be scheduled each year when necessary from January through March. Certification will be required once every four years. The District will contact each certified person one year prior to the certification expiration date to verify if they are required to be re-certified.

Rule 5

Annual Review.

- (a) The District will conduct an annual review no later than January 31 of each calendar year to assess Phase II actions and effectiveness on the land designated in Rule 1 above, including but not limited to the nitrogen management certification program and the BMP cost-share programs. After review by the appropriate subcommittees and/or advisory groups, the annual review will then be reported to the Board of Directors no later than March 1 of each calendar year.

Rule 6

Suspension of Phase II.

- (a) When the District's groundwater quality monitoring data indicates that levels of a contaminant have dropped below the Phase II trigger for a period of not less than three (3) consecutive years, the ~~District~~Board of Directors may choose to suspend Phase II requirements. In making such a decision, the ~~District~~Board of Directors will consider all available information, including its groundwater quality monitoring data, vadose zone data, land use information, and all other pertinent information.
- (b) Upon the District's determination that levels of a contaminant have dropped below the Phase II trigger, the ~~District~~Board of Directors shall:
 - (i) suspend the requirement for nitrogen certification in that Phase II area until such time as the ~~District~~Board of

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Directors should determine that Phase II trigger levels have again been exceeded;

- (ii) direct District staff to notify all persons within that Phase II area who are required to obtain/maintain nitrogen certification of the District's Board of Directors' determination that levels of a contaminant have dropped below the Phase II trigger and that nitrogen certification requirements have been suspended;
- (iii) continue to offer cost-sharing on approved Best Management Practices; and
- (iv) continue to offer nitrogen certification training, but on a rotating, voluntary basis. Persons who had been required to obtain/maintain nitrogen certification shall be notified of such voluntary training.

Section L Phase III Rules and Regulations

Section L(1) Groundwater Quality Management Area Phase III Elmwood Community Water System Protection Area

Rule 1 Determination and Designation of Phase III

- (a) Pursuant to Rule 4, Section I, the District Board of Directors has determined that the criteria have been met to designate the Elmwood Community Water System Protection Area a Phase III Groundwater Quality Management Area for nitrate-nitrogen and hereby designates a Phase III Groundwater Management Area on the following land, to wit (see map in Appendix A):

Elmwood Community Water System Protection Area

Cass County, Nebraska:

Township 10 North, Range 10 East:

Section 8: Southeast $\frac{1}{4}$

Section 9: South $\frac{1}{2}$

Section 16: The portion of the Northeast $\frac{1}{4}$ north of the MoPac Trail; Northwest $\frac{1}{4}$; and the portion of the Southwest $\frac{1}{4}$ north of the MoPac Trail

Section 17: Northeast $\frac{1}{4}$ and the portion of the Southeast $\frac{1}{4}$ north of the MoPac Trail.

Rule 2 Continue Phase I and II Rules.

- (a) The District will continue to enforce all rules set forth in Section I, Groundwater Management Area Phases I and II.

Rule 3 Required Certification Programs.

- (a) The District requires educational certification for persons engaged in the use, application and storage of nitrogen fertilizers. Persons required to complete the nitrogen management certification are those that make the nitrogen management decisions on the land to be fertilized to include but

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not limited to: operators of agricultural lands who fertilize 20 acres or more; farm managers; commercial applicators; operators of lawn service companies; operators of golf courses; operators of sod farms; and anyone engaged in the application of manure/bio-solids/bio-liquids on five acres or more. The District will notify landowners when person(s) have completed nitrogen management certification. Nitrogen management certification can be obtained in one of four ways:

- 1) Attend a nitrogen management certification class in person,
- 2) Complete a Nebraska Association of Resources Districts nitrogen management certification course online,
- 3) Complete a nitrogen management certification home study course and open book exam, or
- 4) Obtain certification in nitrogen management from an adjoining natural resources District. The operator shall provide proof of certification to the District.

Certification classes will be scheduled each year when necessary from January through March. Certification will be required once every four years. The District will contact each certified person one year prior to the certification expiration date to verify if they are required to be re-certified.

Rule 4

Annual Review.

- (a) The District shall conduct an annual review no later than January 31 of each calendar year to assess Phase III actions and effectiveness on the land designated in Rule 1 above, including but not limited to the nitrogen management certification program and the BMP cost-share programs. After review by the appropriate subcommittees and/or advisory groups, the annual review will then be reported to the Board of Directors no later than March 1 of each calendar year.

Rule 5

Except as otherwise provided by Rule 6 below, any landowner, operator, farm manager or applicator who intends to apply nitrogen on any crop is required to conduct soil sampling each year prior to planting such crop. One soil sample shall be collected for each field between 10 and 40 acres, or each 40 acre area within a larger field. Soil samples for each 40 acres shall consist of a minimum of the following:

One shallow composite sample consisting of 10-15 individual samples randomly collected from a depth of 0-8" and thoroughly mixed; and
One deep composite sample consisting of 6-8 individual samples randomly collected from a depth of 8-30" and thoroughly mixed. NOTE: The University of Nebraska recommends that deep samples be taken to a depth of 36".

Rule 6

If any landowner, operator, farm manager or applicator applies nitrogen only as a starter, then the soil sampling described by Rule 5 above is not required.

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- Rule 7 Nitrogen fertilizer shall only be applied after the results of the soil sampling has been duly considered by the landowner, operator, farm manager or applicator and in no event shall such application exceed the crop nitrogen recommendations as determined according to the most current University of Nebraska formula.
- Rule 8 Landowners, operators, farm managers or applicators required to conduct soil sampling shall report to the District the results of soil sampling and the amount of nitrogen applied to the field(s) sampled during any calendar year by the end of that calendar year.
- Rule 9 Landowners, operators, farm managers or applicators are prohibited from applying nitrogen fertilizer between harvest and March 1 of any crop year.
- Rule 10 The District encourages landowners of abandoned feedlots to identify and implement practices that will increase the uptake of existing nitrogen in the soil below the normal crop root zone and will consider developing programs to provide assistance.
- Rule 11 The District encourages the establishment of grass or other buffer zones surrounding all public or community water wells and will consider developing programs to provide assistance.
- Rule 12 Suspension of Phase III
- (a) When the District's groundwater quality monitoring data indicates that levels of a contaminant have dropped below the Phase III trigger for a period of not less than three (3) consecutive years, the ~~District~~Board of Directors may choose to suspend Phase III requirements and revert to Phase II programs. In making such a decision, the ~~District~~Board of Directors will consider all available information, including its groundwater quality monitoring data, vadose zone data, land use information, and all other pertinent information.
- (b) Upon the District's determination that levels of a contaminant have dropped below the Phase III trigger, the ~~District~~Board of Directors shall:
- (i) suspend all regulatory requirements enacted for Phase III;
 - (ii) develop and adopt Phase II regulations for that area consistent with other Phase II areas;
 - (ii) notify all persons within that Phase III area who are required to comply with Phase III regulatory provisions that contaminant levels have dropped below the Phase III trigger, and that the area shall revert to Phase II requirements (i.e. nitrogen certification training only); and
 - (iii) offer cost-sharing on approved Best Management Practices.

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Section M Improper Irrigation Runoff

- Rule 1 The District by implementing these rules and regulations intends to conserve groundwater supplies and prevent the inefficient or improper runoff of groundwater used for irrigation. Each person who uses groundwater for irrigation within the boundaries of the District shall take action to prevent or control the inefficient or improper runoff of groundwater used for irrigation. These rules and regulations are not intended to prevent the *De Minimis* surface runoff of water derived from groundwater irrigation, onto the land of another person.
- Rule 2 The District has no jurisdiction over the spray of groundwater from an irrigation system directly onto another person's land.
- Rule 3 Prevention or Control of Inefficient or Improper Runoff
- (a) Each person who uses groundwater for irrigation shall control or prevent the inefficient or improper runoff of such water by implementing structural or non-structural procedures, measures, or combinations thereof designed to prevent or control inefficient or improper irrigation runoff, including but not limited to:
 - (i) Limitation of groundwater utilized so that structural measures are not necessary to prevent or control such inefficient and improper irrigation runoff and the utilization of proper operation and management of the irrigation system, including any reuse or other control measures installed;
 - (ii) Construction of a runoff collection and/or retention system such as a sump or dugout, together with a reuse pump and/or ditch to return the water to the same or other field for beneficial use;
 - (iii) Blocking of rows or field borders to contain irrigation water within the property where the groundwater is pumped;
 - (iv) The execution and performance of an agreement between two or more landowners, including tenants if any, and approved by the ~~District~~Board of Directors -for utilization of any inefficient and improper irrigation runoff; and
 - (v) Any other procedure or measure approved by the ~~District~~Board of Directors.
- Rule 4 Irrigation Runoff Utilization
- (a) Any landowner, including a tenant if any, whose inefficient and improper irrigation runoff is capable of being captured and utilized by another landowner, including a tenant if any, in a manner which will prevent or control the inefficient or improper irrigation runoff may enter into an agreement with such landowner and tenant if any, with the consent and approval of the ~~District~~Board of Directors. The agreement may be

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terminated at any time by either party or by the ~~District~~Board of Directors whenever it is determined that such agreement no longer prevents or controls the inefficient or improper irrigation runoff. If the ~~District~~Board of Directors terminates the agreement, written notice shall be provided to all parties. If one of the parties to the agreement causes the termination, written notice shall be provided to all other parties and to the District.

Section N Transfer of Groundwater

Rule 1 Transfer of Groundwater

- (a) Any person who withdraws groundwater for any purpose pursuant to a groundwater remediation plan as required under the Environmental Protection Act, including the providing of water for domestic purposes, from aquifers located within the State of Nebraska may transfer the use of the groundwater off the overlying land if the groundwater is put to a reasonable and beneficial use within the State of Nebraska and further complies with the requirements of *Neb. Rev. Stat.* §46-691. Groundwater transfers will be allowed for domestic or municipal uses. Groundwater transfers for environmental, recreational, agricultural and industrial uses from a groundwater reservoir to lands outside of a groundwater reservoir are prohibited.

Section O Enforcement Procedures for the Nebraska Groundwater Management and Protection Act

Rule 1 General

- (a) The District shall enforce the provisions of The Nebraska Groundwater Management and Protection Act and all rules and regulations adopted pursuant thereto by the issuance of cease and desist orders in accordance with the procedure hereinafter specified and by bringing appropriate actions in the District court of the county in which any violations occur for enforcement of such orders. Cease and desist orders may be issued for the following reasons:
 - (i) To enforce any of the provisions of the act or of orders or permits issued pursuant to the Act;
 - (ii) To initiate suits to enforce the provisions of orders issued pursuant to the Act; and
 - (iii) To restrain the construction of illegal water wells or the withdrawal or use of water from illegal wells.

Rule 2 Any person who violates any of the provisions of *Neb. Rev. Stat.* §§46-721 to 46-734, and §46-748 for which a penalty is not otherwise provided, other than the Director of Natural Resources, or the Department of Natural Resources, shall be subject to a civil penalty of not more than five hundred dollars. Each day of continued violation shall constitute a separate offense.

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Rule 3 Complaints

- (a) Any person who owns or leases land within the boundaries of the District, any person who resides within the District, any non-resident person who can show that the actions of any person within the District directly affects him or her, or the Board on its own motion may file a written complaint against a person alleging a violation of these rules and regulations or that such person is constructing, operating or possessing an illegal water well.
- (b) Complaints shall be filed at the office of the District, 3125 Portia Street, at Lincoln, Lancaster County, Nebraska, on complaint forms prepared by said District which shall be available at such office or at such other office or offices from time to time the Board of Directors shall designate.

Rule 4 Investigations

- (a) The alleged violation shall be investigated by a person authorized by the Board to conduct such investigations within five (5) days following the day of the filing of the complaint exclusive of Saturday, Sundays, and legal holidays. A copy of the complaint shall be delivered to the alleged violator in person, or at his or her place or residence, or be sent by certified mail prior to the investigation.
- (b) Upon completion of the investigation, the investigator shall file a report of his or her findings in the District office and shall deliver a copy of said report to the alleged violator and to the complainant, if other than the Board, in person, or at their place of residence, or shall transmit the same by certified mail.

Rule 5 Submittal of Investigation Report and Subcommittee Consideration Alleging Violation and Alleged Violators Alternatives

- (a) A Subcommittee consisting of District Board members shall assist the District staff in administering these rules and regulations and make a determination as to whether a probable violation of these rules and regulations has occurred. Such determination shall be based upon the investigator's report completed pursuant to these rules and regulations and an on-site inspection by the Subcommittee, if warranted. The Subcommittee may also request that both the alleged violator and the complainant appear before them to discuss the complaint. The Subcommittee shall report its findings to the Board, the alleged violator and the complainant with a recommendation of further actions as follows:
 - (i) If the Subcommittee determines that no violation of these rules and regulations has occurred, it shall recommend and the Board may dismiss the complaint. The complainant shall be given an opportunity to appear before the entire Board before the Board acts on the recommendation;
 - (ii) If the Subcommittee determines that a probable violation of these rules and regulations has occurred, the alleged violator shall be informed of its findings by letter delivered in person or sent by

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registered or certified mail. The letter shall specify the options available to the alleged violator, including:

- (A) Agree with and accept as true and correct the Subcommittee's findings that the alleged violation has in fact occurred or is occurring, consent to cease and desist from continuing or allowing the reoccurrence of such violation, and submit a plan which shall provide for the discontinuance and/or non-reoccurrence of the violation. If appropriate, such plan shall include the identification and description of all proposed procedures or measure to prevent, control, or abate improper groundwater irrigation runoff. The alleged violator shall agree to implement and abide by the terms of such plan. If such plan involves structural measures, the alleged violator shall simultaneously submit a schedule of compliance on forms provided by the District. The schedule of compliance shall provide for the submittal of a work order within ten days following approval of the plan in the manner hereinafter provided; or
- (B) Reject the findings of the Subcommittee and request that a formal hearing before the Board be scheduled and conducted in accordance with the rules and regulations of the District. The alleged violator shall be granted no less than seven (7) days (excluding Saturdays, Sundays and legal holidays) from the date that said report and notice is provided to him or her to respond and to indicate any actions intended.

Rule 6

Action Subsequent to Person's Consent to Cease and Desist

- (a) When an alleged violator has been notified in accordance with Rule 4 of this section and has consented to cease and desist in accordance therewith, a District compliance officer shall review the complaint, the investigator's report, the consent order and any plan for discontinuance and schedule of compliance to determine whether the actions agreed to by the person will, when applied, bring such user into compliance with these rules and regulations, prevent construction, operation or possession of an illegal water well, or prevent improper ground well irrigation runoff. If the compliance officer determines that the proposed actions of the person are adequate and will prevent future non-compliance within a reasonable timer period, he or she shall approve such action or plan and approve the schedule of compliance. If the District compliance officer determines that implementation of the proposed plan and/or schedule of compliance would be inadequate to prevent improper groundwater irrigation runoff, he or she shall indicate the additions or changes he or she deems necessary. There after the person shall have five (5) days to consent to such additions or changes in the event of which the compliance officer shall approve the

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plan and/or schedule of compliance as amended, or, the person may refuse to agree to such additions or changes and request the scheduling of a formal hearing on the issues, which shall be held no less than ten days from the date of request. The original actions under these rules and regulations and the documents filed in accordance therewith by the person shall not be considered at such hearing unless introduced into record by that person. The complainant shall be notified of any such action by the District compliance officer approving the plan and/or schedule of compliance submitted by the person within three (3) days following such approval. If no objections to the action taken are received from the complainant, other than the Board itself, or from any members of the Board if the Board is the complainant within five (5) days after such notification, the proposed plan and/or schedule of compliance shall be considered as having received final approval, if any such complainant or Board member objects to the approval granted by the compliance officer within five (5) days after notification, a formal hearing before the Board shall be scheduled not less than ten (10) days following notification to all affected parties and shall be conducted in the same manner as if the person had requested the hearing in accordance with these rules and regulations..

- Rule 7 Board Action Subsequent to Person's Request for Hearing
- (a) At a meeting of the Board prior to which an alleged violator, complainant, or Board member has, in accordance with these rules and regulations, requested a formal hearing, the Board shall hold such formal hearing. If, following a hearing, the Board determines that such person is violating or has violated these rules and regulations or is constructing or operating an illegal water well, it shall adopt and transmit to such person, in person or by certified mail, an order directing such user to immediately cease and desist from all activities determined by the Board to be violations and specifying any actions deemed necessary and appropriate by the Board.
- Rule 8 Board Action if Person Fails to Respond or Appear
- (a) At a meeting of the Board prior to which an alleged violator has been notified in accordance with these rules and regulations, and such alleged violator has failed to respond there under, or has failed to appear at any properly scheduled formal hearing, the Board shall review the complaint and the investigator's report as well as any other pertinent information and issue such order or orders in accordance with these rules and regulations as are deemed appropriate.
- Rule 9 Person's Actions Following Issuance of Cease and Desist Order
- (a) Any person against which a cease and desist order has been issued in accordance with these rules and regulations may within seven (7) days following receipt of such order, submit a schedule of compliance. Any such schedule of compliance requested shall be accompanied by a work order on forms provided by the District and the schedule of compliance

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and the work order shall be approved by the ~~District~~Board of Directors and the schedule of compliance and the work order shall be approved by the District compliance officer if such request is in accordance with any and all guidance given by the Board ~~of Directors~~ at the time of issuance of the order.

Rule 10 Board Authorization to Initiate Court Action

- (a) The Board shall, at the time it takes any action in accordance with these rules and regulations, designate a representative of the Board to initiate appropriate legal actions in the District Court of the County of which the violation has occurred ten days after the notice to the person affected by issuance of any orders of the District which orders have not been complied with nor a schedule of compliance approved. In addition, if any schedule of compliance or work order approved by the Board or the District compliance officer is not initiated as agreed to or is not being properly and timely carried out, unless due to circumstances beyond the control of the person, the Board shall authorize immediate initiation of appropriate litigation.

Rule 11 Cease and Desist Order

- (a) Any violation of a cease and desist order issued by the Lower Platte South Natural Resources District pursuant to *Neb. Rev. Stat. §46-656.08* shall be a Class IV misdemeanor.

Section P Request for Variance

Rule 1 Information Required

- (a) Name, address, phone number, e-mail address;
- (b) State the section and rule pertaining to the variance request;
- (c) Aerial photo showing location of the variance request;
- (d) State why the variance is needed;
- (e) Map showing the name and address of all adjoining landowners;
- (f) A signed acknowledgement of notice by the adjoining landowners and water well owners;
- (g) Any other information the person making the request deems relevant; and
- (h) Any other information the District deems necessary.

Rule 2 Fee For Variance Request

- (a) Any applicant for a variance shall deliver to the District a non-refundable fee of \$500.00 for each variance request.

Rule 3 Appearance Before the Directors of the Lower Platte South NRD

- (a) Variance applicant may be required to appear before the Water Resources Subcommittee to explain the variance request.

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- (b) Variance applicant may be required to appear before the Board of Directors.

Rule 4 Consideration of the Variance Request

- (a) All variance requests will be considered on a case by case basis.
- (b) All variance requests shall be acted upon by the Board of Directors.

Rule 5 Variance Terms and Conditions

- (a) The Board of Directors may place terms and conditions on the variance that the applicant must agree to by signing an affidavit which shall be recorded with the Register of Deeds.
- (b) If such terms and conditions are required by the Board, the applicant must provide the District with documentation that the affidavit was recorded within thirty (30) days of the granting of the variance.

Section Q Hydrologically Connected Area

Rule 1 Designation of Hydrologically Connected Areas of Groundwater and Surface Water

- (a) The Nebraska Department of Natural Resources has determined that groundwater and surface water in portions of Lancaster, Saunders, and Cass Counties in the Lower Platte South Natural Resources District are hydrologically connected. The District hereby adopts the following as a Hydrologically Connected Area (HCA) for the purpose of managing groundwater and surface water (see map in Appendix A):

Lancaster County: Township 11 North, Range 7 East, Section 24; Township 11 North, Range 8 East, Sections 1, 2, 3, 9, 10, 16, 17, 18, 19, and 20; and Township 12 North, Range 8 East, Sections 25, 35, and 36.

Saunders County: Township 12 North, Range 9 East, Sections 2, 3, 4, 8, 9, and 10; Township 13 North, Range 9 East, Section 36; and Township 13 North, Range 10 East, Sections 31 and 32.

Cass County: Township 12 North, Range 9 East, Sections 15, 16, 17, 19, 20, 21, 22, 29, 30, and 31; Township 12 North, Range 10 East, Sections 4, 5, 9, 10, 11, 12, 13, 14, and 24; Township 12 North, Range 11 East, Sections 1, 11, 12, 14, 15, 16, 18, 19, 20, and 21; Township 12 North, Range 12 East, Section 6; Township 12 North, Range 13 East, Sections 1, 2, 3, 4, and 12; Township 13 North, Range 12 East, Sections 25, 26, 27, 28, 31, 32, 33, 34, 35, and 36; Township 13 North, Range 13 East, Sections 28, 30, 31, 32, 33, 34, 35, and 36; and Township 13 North, Range 14 East, Section 31.

Rule 2 District to Maintain Status

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- (a) The District intends to maintain the status of not fully appropriated as determined by the Nebraska Department of Natural Resources by adopting and implementing the rules and regulations herein.

Rule 3 Certification of Historically Irrigated Acres

- (a) Within the HCA, only acres that are certified by the District as historically irrigated or approved for expansion may be irrigated.
- (b) The District has completed certification of acres historically irrigated with groundwater within the Hydrologically Connected Area, and determined that 2,964 acres should be so certified.

Rule 4 Expansion of Irrigated Acres

- (a) The District shall allow for the expansion of irrigated acres in accordance with the allowable new depletions in each five-year increment as agreed upon by the Lower Platte River Basin Water Management Plan Coalition.
- (b) To expand irrigated acres, landowners shall apply to the District on forms provided by the District.
- (c) The ~~District~~Board of Directors shall consider each application and either approve or deny the application based on the following criteria and considerations:
 - (i) Whether or not the land is suitable for irrigation of the crops grown using criteria established by the U.S. Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS);
 - (ii) Whether or not the proposed expansion is considered to be “sodbusting” as defined by USDA/NRCS;
 - (iii) Whether or not the landowner is implementing practices designed to conserve water such as converting from furrow to center pivot irrigation or other practices designed to conserve water;
 - (iv) Whether or not the irrigation expansion utilizes an existing groundwater source;
 - (v) Whether or not the groundwater source is proposed to be withdrawn from an illegal water well; and
 - (vi) Any other criteria and considerations deemed relevant by the District.
- (d) Irrigation of land outside the HCA by a new well in the HCA is prohibited.
- (e) As of the effective date of these rules and regulations, if an existing well within the HCA is irrigating land outside the HCA, the District will allow that land to continue to be irrigated, but no expansion of irrigated acres will be allowed outside the HCA.

Rule 5 Transfer of Certified Irrigated Acres Designated by the ~~District~~Board of Directors Within the Hydrologically Connected Area

- (a) Transfer of certified irrigated acres designated by the ~~District~~Board of Directors within the HCA will be allowed only if:

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- (i) The transfer is acre-for-acre or less than acre-for-acre;
 - (ii) The land to which the acres are transferred is suitable for irrigation of the crops grown using criteria established by the USDA/NRCS;
 - (iii) The transfer is not to a furrow irrigation system; and
 - (iv) The requirements of LB477, 2009 Legislative Session, are followed.
- (b) If the transfer is less than acre-for-acre, the District reserves the right to claim credit for all groundwater not used as a result of the transfer.

Rule 6 District to Claim Credit for Difference

- (a) Beginning with the effective date of these rules and regulations, the District reserves the right to claim credit for and set aside for future use the difference between:
- (i) Groundwater used on the number of expanded irrigated acres approved by the District; and
 - (ii) Groundwater that would have been used on 20% of the acres located in the HCA and certified by the District as historical.

Rule 7 New Permits for Water Wells Located Within the Hydrologically Connected Area

- (a) The ~~District~~Board of Directors will consider applications for new water well permits in the HCA if the applicants meet all conditions for water well permits set forth in Section C of the District's Groundwater Rules and Regulations as well as the conditions in these rules and regulations.
- (b) In addition to the reasons set forth in Section C of the District's Groundwater Rules and Regulations, the ~~District~~Board of Directors shall deny any new water well permits in the HCA for:
- (i) Gravity irrigation; or
 - (ii) Irrigation of land determined by the District to be not suitable for irrigation of the crops grown using criteria established by the USDA/NRCS; or
 - (iii) Irrigation of lands outside the HCA.
- (c) Water well permits are not required for:
- (i) Domestic wells pumping 50 gallons per minute or less;
 - (ii) Wells used to water range livestock and pumping 50 gallons per minute or less;
 - (iii) Test holes;
 - (iv) Dewatering wells with an intended use of 90 days or less;
 - (v) Monitoring or observation wells;
 - (vi) Wells designed for remediation of groundwater contamination;
 - (vii) Surface water uses;
 - (viii) Wells for emergency human consumption or public health and safety; or
 - (ix) Wells permitted by the Nebraska Department of Natural Resources under the Municipal and Rural Domestic Transfers Permit Act prior to the stay imposed by the Nebraska Department of Natural Resources.

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- Rule 8 District to Claim Credit for Groundwater Pumped from Outside Hydrologically Connected Area
- (a) The District reserves the right to claim credit for future use the discharge from all municipal, community, or industrial water systems if such systems obtain their water from wells located outside the HCA and such discharge is returned to the Platte River Basin.
- Rule 9 Enforcement and Variance
- (a) The District will enforce the rules and regulations adopted herein pursuant to and in accordance with the Enforcement Procedures provided in the Groundwater Rules and Regulations of the District, as may from time to time be amended.
- (b) Any requests for a variance from these rules and regulations will be governed by the Groundwater Rules and Regulations of the District, as may from time to time be amended.
- (c) If a landowner is not satisfied with any determination made pursuant to the rules and regulations adopted herein, he or she may request a formal hearing before the Board as provided in these rules and regulations.

Section R Special Management Area

- Rule 1 The District may designate a Special Management Area for the protection of groundwater quantity in a portion or portions of the District where additional controls are necessary for the protection of groundwater quantity in that area. Such additional controls are in the public interest and for the promotion of the health and welfare of the District because they will minimize pumping conflicts and protect groundwater supplies for all beneficial uses.
- Rule 2 Dwight-Valparaiso-Brainard (DVB) Special Management Area.
- (a) The District hereby designates an area, which includes the Dwight-Valparaiso Groundwater Reservoir and portions of the Remaining Area, as a Special Management Area for additional groundwater quantity controls to address short term problems, in response to the situation where the existing groundwater quantity Phase Triggers for this Groundwater Reservoir are not responsive. This area includes the following land, to wit (see map in Appendix A):

Butler County, Nebraska

Township 14 North, Range 4 East

Sections: 1-5, 8-18, 20-29 and 32-36.

Township 13 North, Range 4 East

Sections: 1-5, 8-18, 20-30, and 32-36.

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Saunders County, Nebraska

Township 14 North, Range 5 East

Sections: 4-9, 16-21, and 28-33.

Township 13 North, Range 5 East

Sections: 1-36.

Township 13 North, Range 6 East

Sections: 3-11, 14-23, and 26-35.

Seward County, Nebraska

Township 12 North, Range 4 East

Sections: 1-3.

Lancaster County, Nebraska

Township 12 North, Range 5 East

Sections: 1-6, and 10-12.

- (b) No New Irrigated Acres.
 - (i) There shall be no new groundwater irrigated acres from any water well located in the Special Management Area beyond those acres certified by the District on March 1, 2014 as irrigated acres by groundwater.
- (c) Allocation.
 - (i) The use of groundwater from any water well for irrigation of certified acres in the Special Management Area shall be subject to an allocation. The District hereby establishes a three (3) year rolling allocation of twenty-one (21.0) acre-inches per irrigated acre not to exceed a nine (9.0) acre-inch annual maximum. The rolling allocation shall remain in effect until such time as the District modifies or removes it. The District shall also maintain a local advisory committee.
 - (A) There shall be no required allocation for that portion of the Special Management Area located in Township 13 North, Range 6 East, Saunders County.
 - (ii) If groundwater use has exceeded the annual maximum allocation during any one (1) calendar year of the three (3) year rolling allocation period, the subsequent allocation shall be reduced by an amount equal to two (2) times the amount in excess of such annual allocation, and carried forward in each of the following calendar years until such penalty is reduced to zero (0).
 - (iii) In addition to (ii) above, if groundwater use exceeds the maximum three (3) year rolling allocation of 21.0 acre-inches, the subsequent allocation shall be reduced by an amount equal to two (2) times the amount in excess of such three (3) year rolling allocation, and carried forward in each of the following calendar years until such penalty is reduced to zero (0).

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- (d) Required Certification Programs.
 - (i) The District shall require educational certification in irrigation management for those persons making the management decisions for using a well to irrigate agricultural land. The irrigation management certification may be obtained by attending class, as a take home test, or on-line. After June 1, 2015, the name of each person so certified must be on file with the District for each groundwater well irrigating agricultural lands in the Special Management Area. Irrigation certification will be required once every four years. The District will accept certification in irrigation management from other natural resources Districts upon providing proof of certification.
- (e) Establishment of Cost-Share Programs.
 - (i) The District will establish cost-share programs to implement Best Management Practices (BMP's) on the land designated in these rules and regulations, which may include but is not limited to, irrigation management practices.
- (f) New or Replacement Wells.
 - (i) All new or replacement water wells to be used for domestic or other purposes, excluding monitoring and other non-consumptive wells, shall be constructed to such a depth that they are less likely to be affected by seasonal declines caused by other water wells in the same area.
 - (ii) Except for wells listed as exceptions to stays in *Neb. Rev. Stat. §46-714(3)*, all applications for wells in the Special Management Area for which permits are required shall be presented to the Board of Directors for consideration. The District may request an applicant to provide a hydrogeologic assessment from a qualified professional geologist or engineer with experience in such analysis showing the extent of any impact from this new or replacement well on existing wells. The Board may deny an application for a permit if it finds that the operation of a new or replacement well will adversely impact an existing well or wells or if such well is not in the public interest. Public interest shall include consideration of the economic, social, and environmental impacts of the proposed new or replacement well and whether and under what conditions other sources of water are available for use proposed for the new or replacement well.

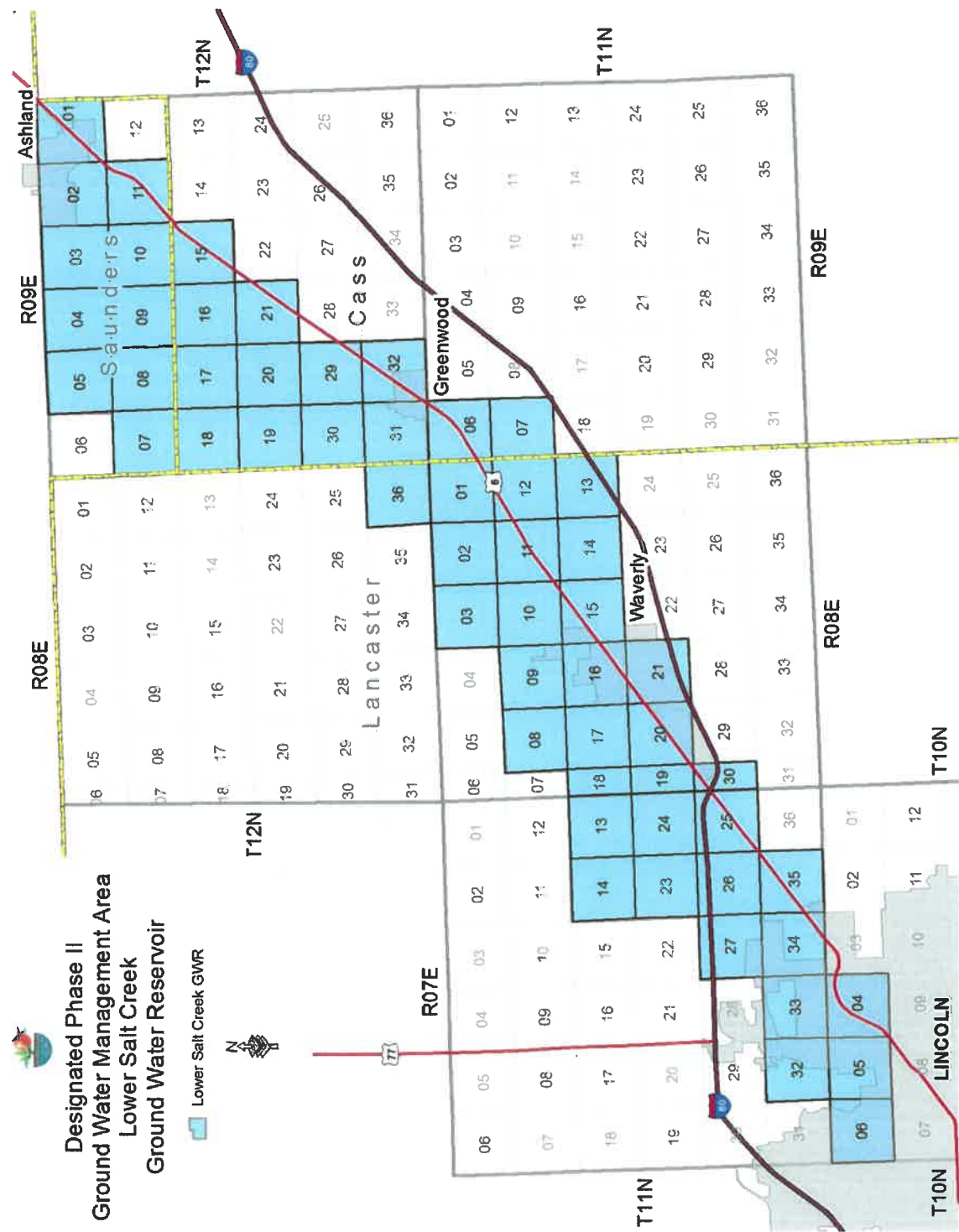
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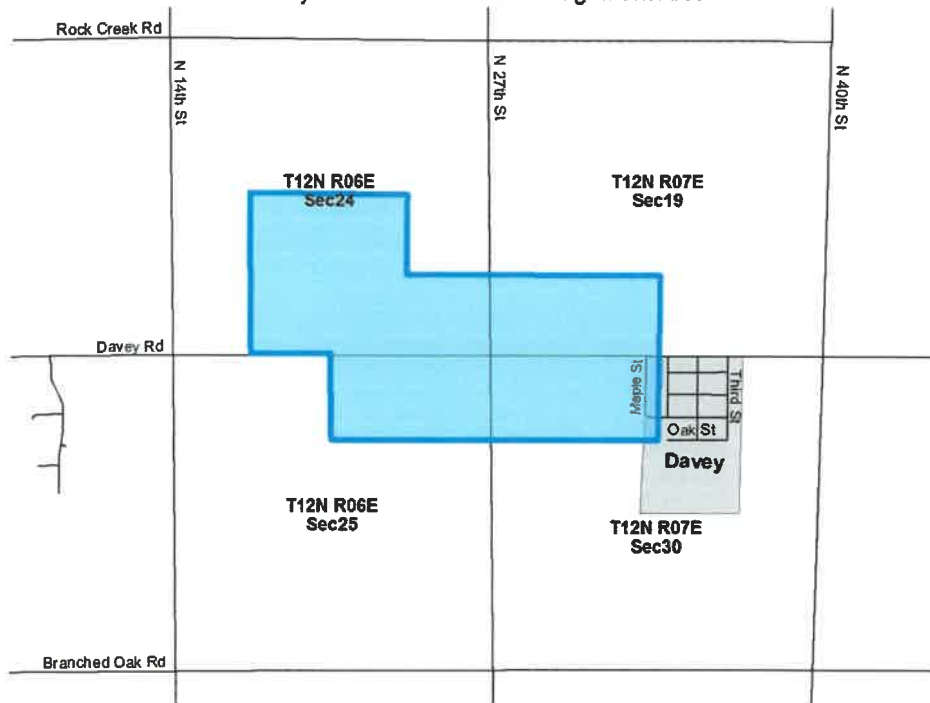
Appendix A

Maps

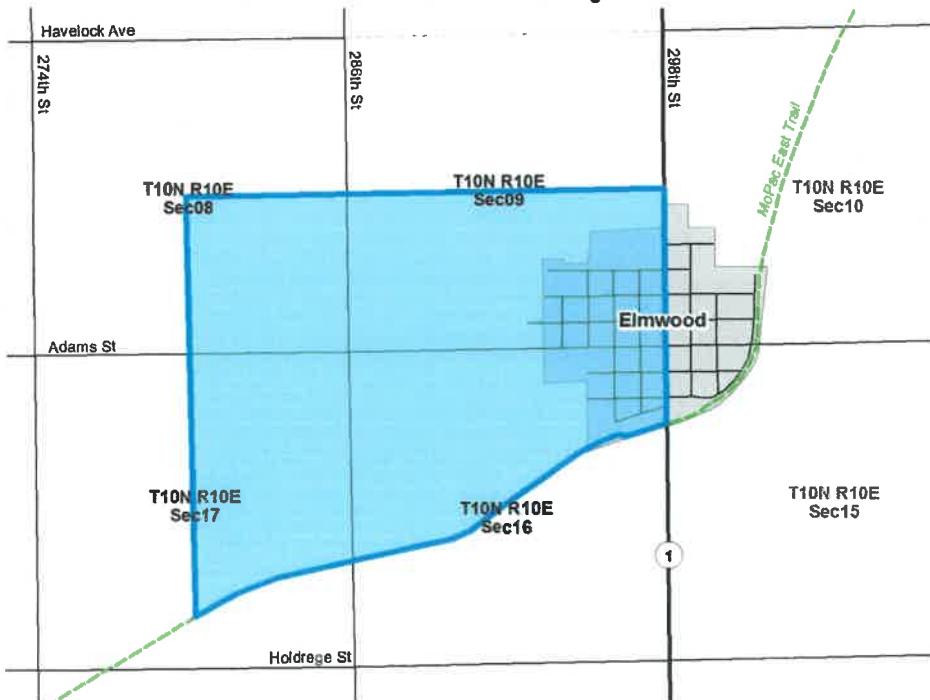


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Davey CWSPA - Phase II Management Area

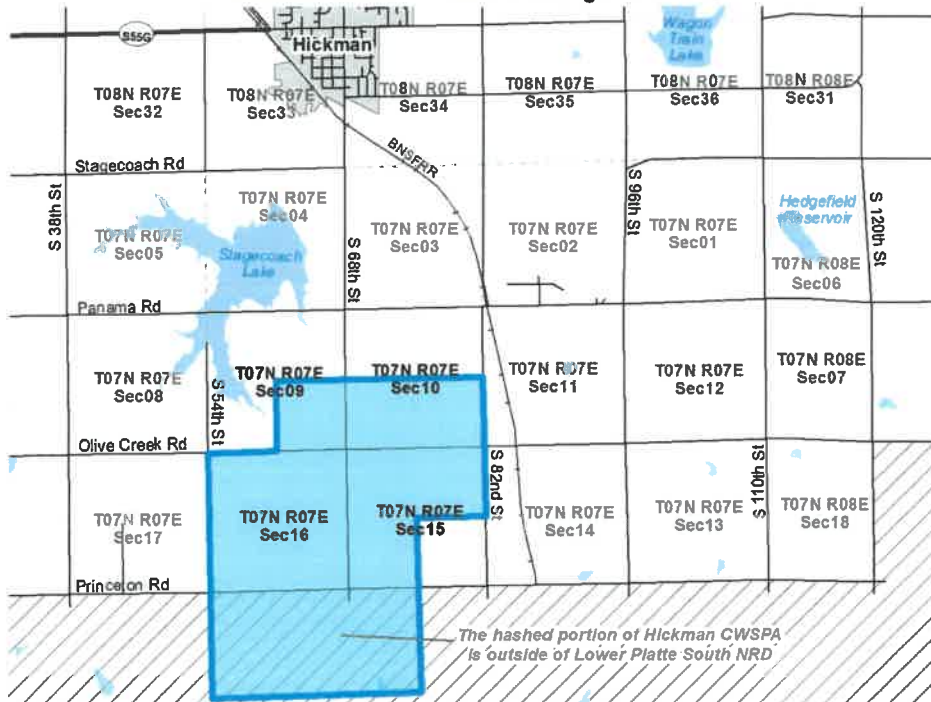


Elmwood CWSPA - Phase III Management Area

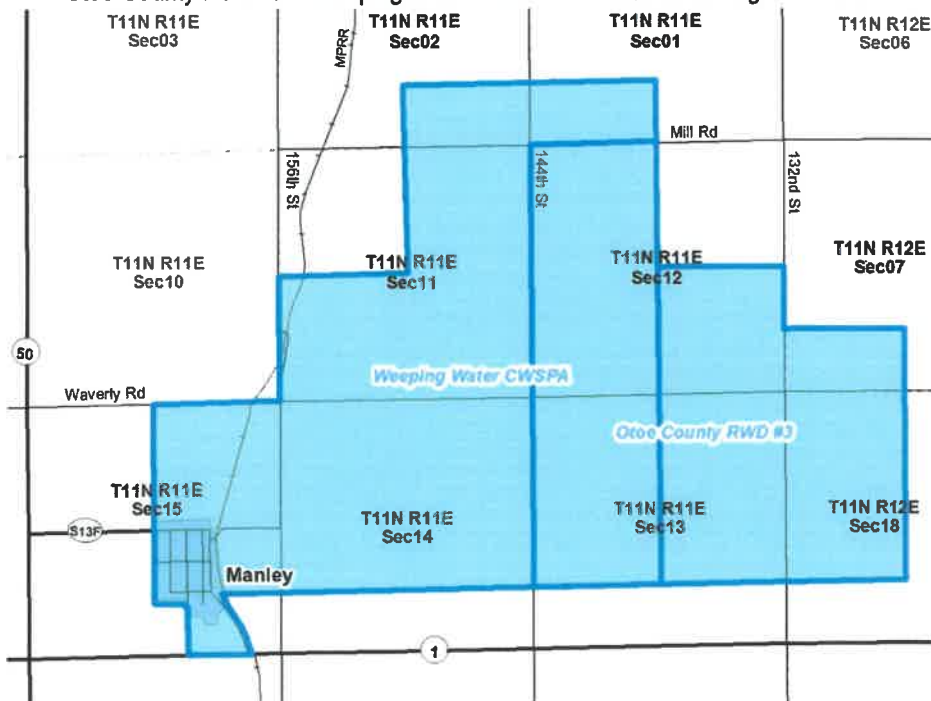


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Hickman CWSPA - Phase II Management Area

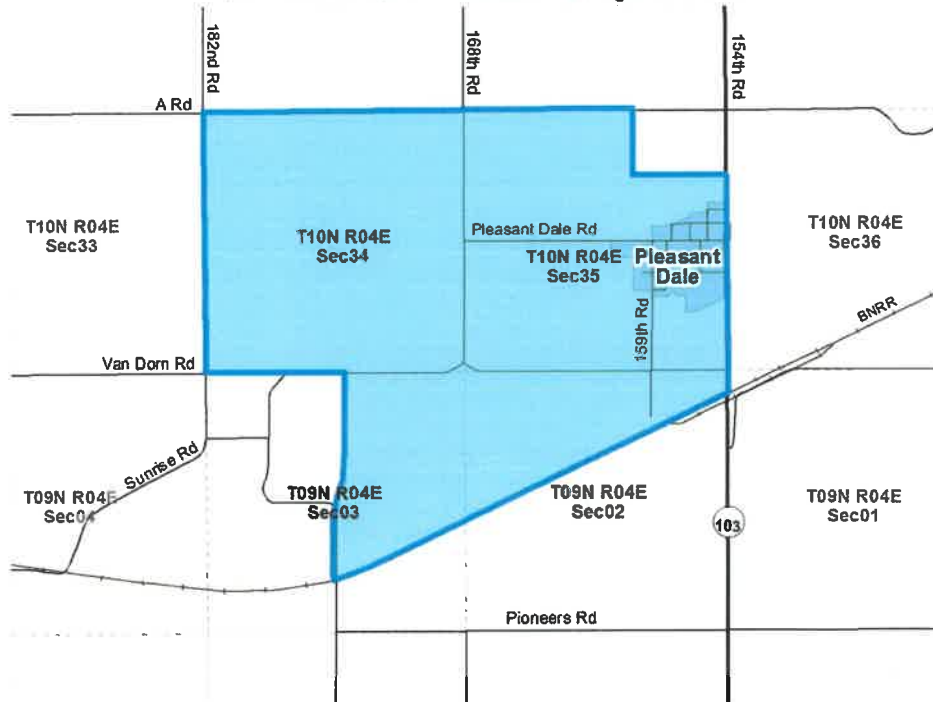


Otoe County RWD#3 + Weeping Water CWSPAs - Phase II Management Area

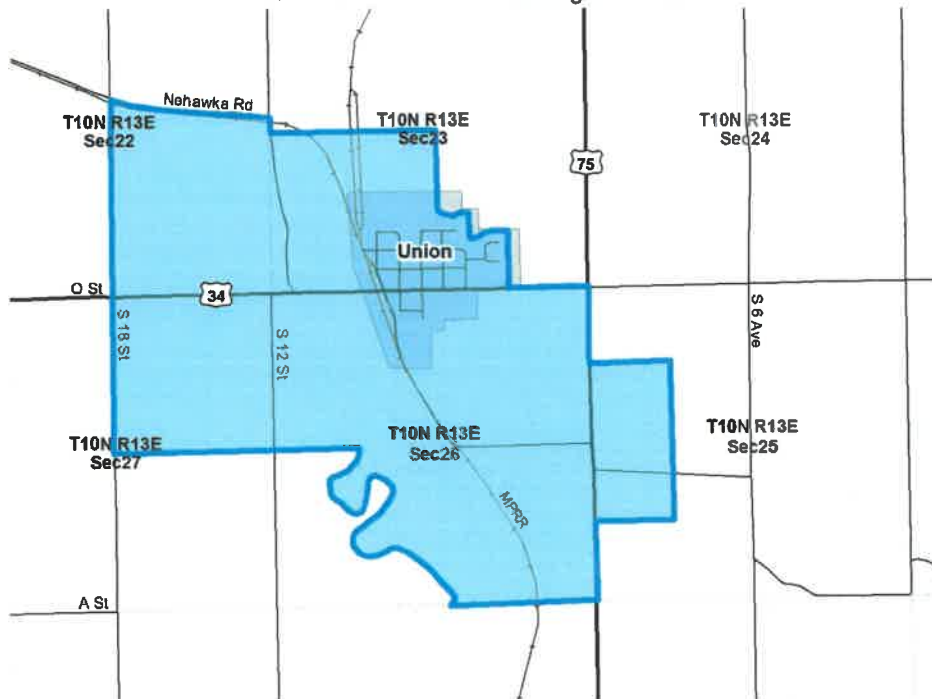


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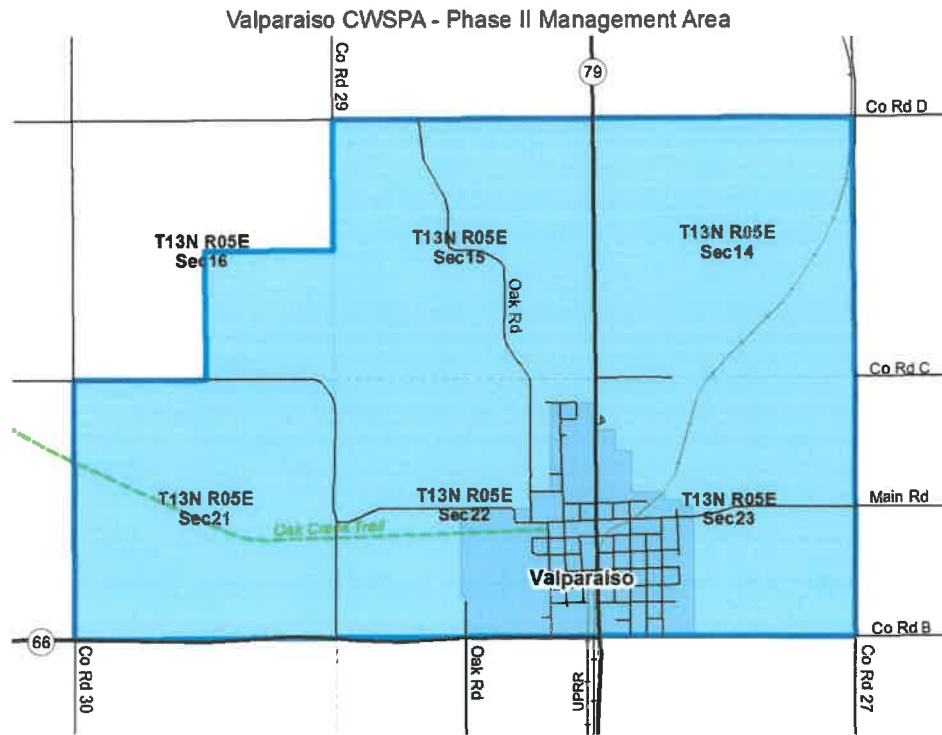
Pleasant Dale CWSPA - Phase II Management Area

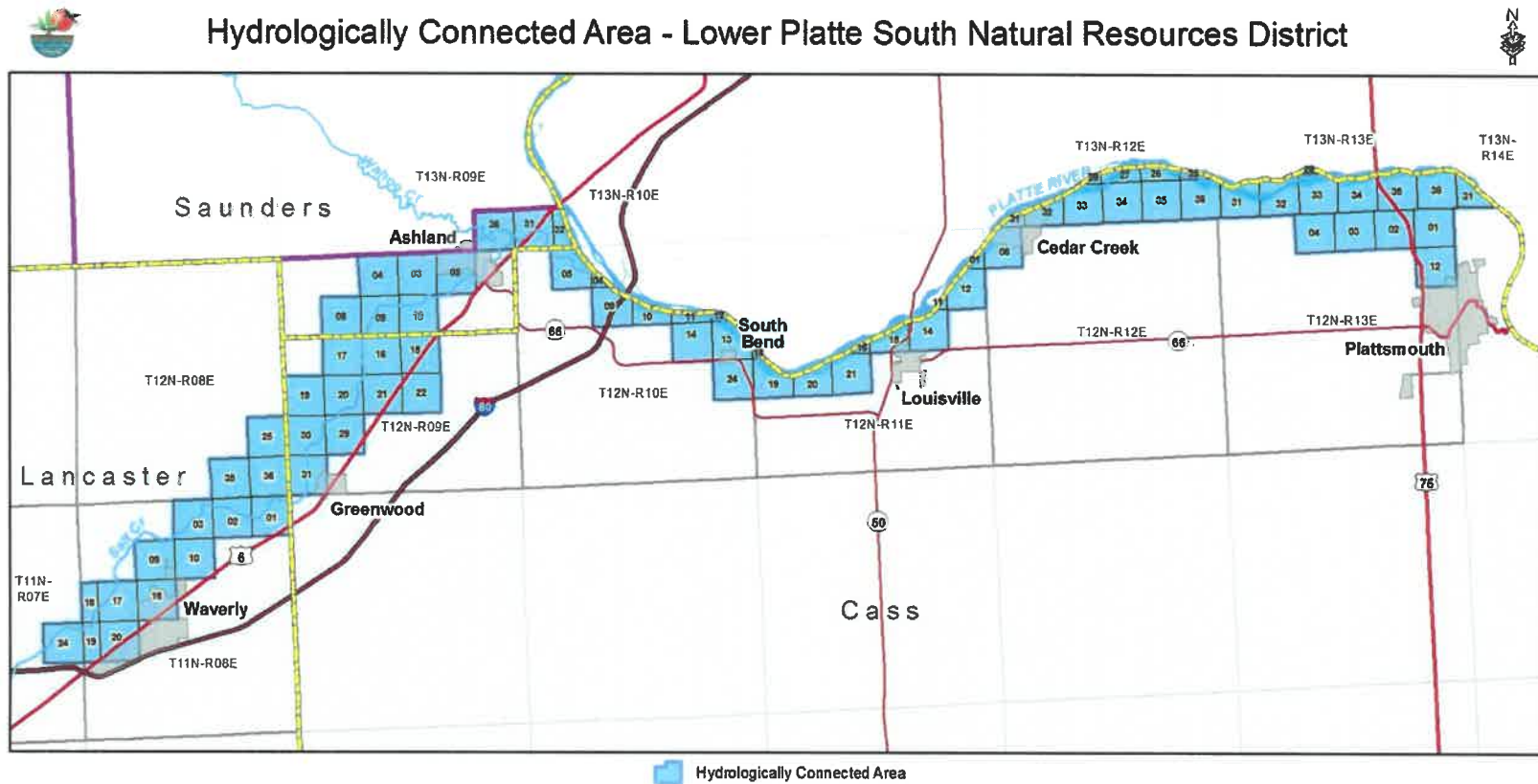


Union CWSPA - Phase II Management Area

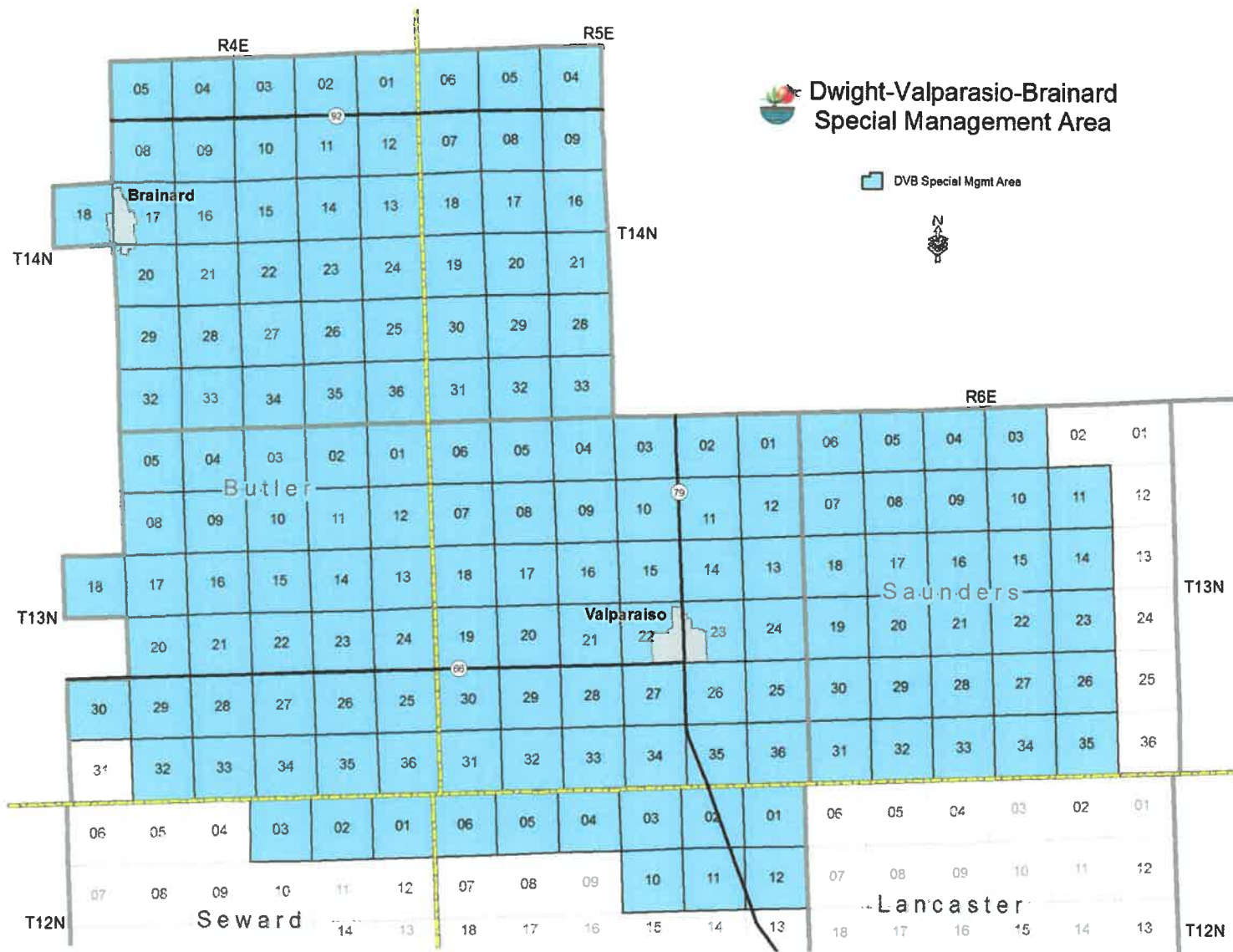


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**NDEE NPS 319 Project Implementation Plan
Lower Platte South Natural Resources District
Waverly Wellhead Protection Area Implementation
Add NDEE Project ## Here**

Project Sponsor:	Lower Platte South Natural Resources District Project Manager: Dick Ehrman 3125 Portia Street Lincoln, NE 68521 (402)-476-2729 dehrman@lpsnrd.org
Project Partners:	<p><u>Lower Platte South Natural Resources District:</u> Provide project funding. Serve as local project lead on hiring drinking water protection coordinator. Provide technical assistance and funding to stakeholders to install BMPs.</p> <p><u>City of Waverly:</u> Provide project funding. Provide use of farm ground for a BMP demonstration farm. Assist with stakeholder involvement.</p> <p><u>Nebraska Department of Environment and Energy:</u> Funding through the EPA Section 319 to fund a drinking water protection coordinator. Assist with outreach and education to the public, landowners, and producers. Provide funding to implement BMPs and collect project monitoring data.</p> <p><u>Natural Resources Conservation Service:</u> Technical assistance, BMP implementation administration, and project technical advisor.</p> <p><u>University of Nebraska-Lincoln:</u> Assistance with landowner and producer outreach, field days, education. Assistance in management of the BMP demonstration farm.</p>
319 Project Funds:	\$300,000
Non-Federal Match:	\$277,000
Project Duration:	January 2023 – January 2026 (3 years)
Project Area:	The Waverly, Nebraska Wellhead Protection Area Approximately 6,800 acres

Introduction/Background

The Lower Platte South Natural Resources District (LPSNRD) is located in southeast Nebraska and contains over 977,000 acres, including nearly all of Lancaster and Cass counties, and parts of Butler, Otoe, Saunders, and Seward counties (Figure 1). The LPSNRD serves diverse rural and urban interests, with a population of over 300,000 people. The majority of the land in the LPSNRD is rural (85%), but the majority of the population is urban (89%). The LPSNRD must balance water quality issues stemming both from urban runoff and agricultural lands.

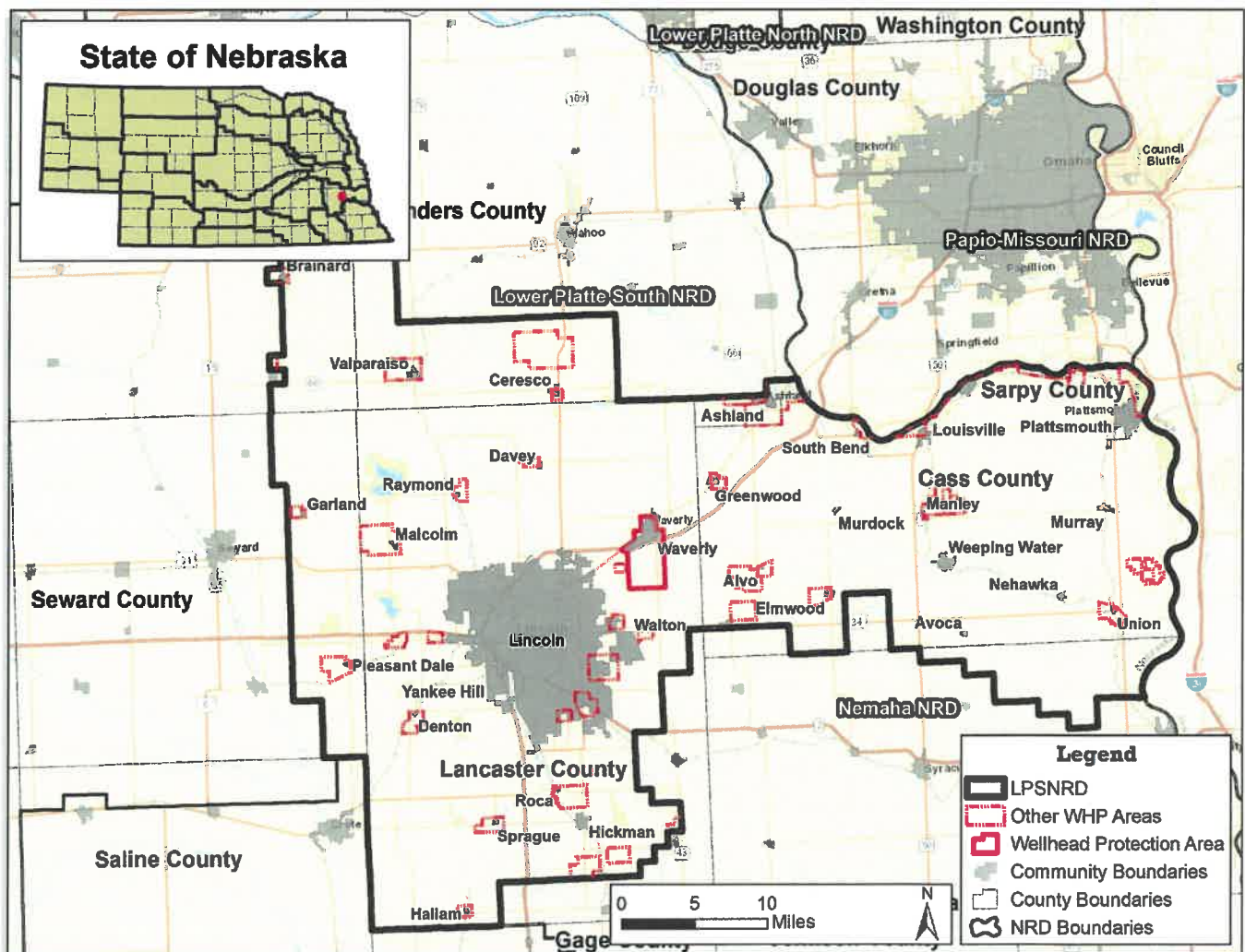


Figure 1: Project Area Map

Wellhead Protection (WHP) areas were identified as special priority areas for implementation in the LPSNRD's District Wide Water Quality Management Plan (WQMP), approved by EPA May 2019. Many communities in the LPSNRD are facing growing concerns about drinking water quality as nitrate concentrations trend upwards in municipal wells. The LPSNRD provides groundwater monitoring and quality sampling to each of the 34 designated WHP areas in the LPSNRD. As nitrate concentrations continue to increase, many communities, including Waverly (Figure 1), are facing expensive remediation options to continue providing safe drinking water.

Wellhead Protection Areas are identified through NDEE's Wellhead Protection Program. This voluntary program helps community water systems protect groundwater through a series of steps including delineation and mapping of the Wellhead Protection (WHP) Areas. The LPSNRD District Wide WQMP recognized these areas as special priority areas due to the influence a WHP Area has on the management needs of source water aquifers and associated public drinking water systems. In the LPSNRD, WHP areas are also referred to as Community Water System Protection Areas (CWSPAs)

Pollutant management in WHP areas typically focuses on nitrate-nitrate (nitrate) contamination of groundwater. Nitrates are known to cause a disease called methaemoglobinaemia (or "blue baby syndrome") with infants. Carcinogenic compounds have also been known to become more prevalent when there are high levels of nitrates in drinking water. While low levels of nitrates in groundwater can occur naturally, the major source of nitrates in agriculturally dominated areas, are nitrogen fertilizers. Implementation of BMPs which target groundwater quality were identified in the WQMP. These would include but are not limited to: Fertilizer at Agronomic Rates, nutrient management, irrigation Water Management, and Cover Crops.

Waverly's WHP Area was recently updated in August of 2019, and the city is currently working with NDEE and LPSNRD on the development of a joint Drinking Water Protection Management (DWPMP) Plan and WHP Plan. The recent WHP area update included the development of MODFLOW groundwater model to delineate the 50-year time-of-travel. The groundwater model utilized Aerial Electromagnetic (AEM) data. The AEM data allows for more detailed assessment of geologic and aquifer materials in the model and represents the best available data for this effort. These planning efforts, which will be complete by the end of 2022, have helped to further inform the development of this project.

During the development of the DWPMP, the City of Waverly, LPSNRD, UNL, and other partners began work on a BMP Demonstration Farm on city owned property. The city owns approximately 60 acres of farmland surrounding three of its wells and has partnered with UNL Extension to utilize this land as a demonstration farming area. The demonstration area will be maintained as an example of possible agricultural BMPs that local producers can implement while still maintaining agricultural production and profitability. Soil sampling, crop canopy sensors, crop yield analysis, vadose zone assessments, varied fertilizer application timing and rates, and other practices can show how certain BMPs allow for good yields and profitability, improve soil health, decrease soil erosion, and improve water holding capacity, all while fulfilling the primary goal of decreasing nitrate leaching and contamination. The city plans to utilize this land for education and outreach purposes by hosting field days for local producers, as well as increasing nitrate awareness with field trips or open houses. In 2020 UNL completed a preliminary research plan for the demonstration farm.

The purpose of this project is to protect local drinking water aquifers from nitrate contamination, originating from nonpoint source pollutant sources. The focus of this project will be within the Waverly WHP Area, but benefits will also be realized at other WHP Areas within the district. In Waverly, nitrate concentrations have exceeded the Environmental Protection Agency (EPA) Maximum Contaminant Level (MCL) of 10 mg/L several times in the last five years in one municipal well. Other municipal wells have shown increasing nitrate concentrations, with two wells exceeding 9 mg/L in 2019.

Efforts to reduce nitrate contamination of groundwater are based on the voluntary adoption of agricultural best management practices (BMPs) by area landowners and producers. Public education and outreach, along with stakeholder engagement, will be used to help increase adoption of BMPs. Where available, financial cost-share will be promoted to help with BMP adoption. The best available science will guide efforts with ongoing monitoring, studies, and data collection.

With the assistance of a new coordinator position, the LPSNRD will be able to lead and focus public outreach and education on BMPs. Additionally, the coordinator will assist producers in accessing funding or technical assistance to adopt BMPs. Through these engagement efforts, the coordinator will identify barriers to adoption and develop strategies to overcome these. This work will allow sponsors to better identify what level of incentives (technical and funding assistance) will be needed in order for landowners and operators in the Waverly WHP area to implement these BMPs, better positioning the LPSNRD for future budgetary planning work within the WQMP.

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Project Description

The LPSNRD's WQMP has identified WHP areas as priority areas to address nonpoint source contamination of drinking water. The City of Waverly will be the first target of public outreach and BMP implementation. The existing WQMP outlines recommended BMPs to reduce nitrate pollutant loading within the WHP area. The LPSNRD will utilize 319 funding to employ a coordinator that will be solely focused on increasing the adoption of BMPs within WHP areas.

The strategy of developing a new Drinking Water Protection (DWP) Coordinator position was identified as the most critical element for implementing BMPs and improving water quality, during the development of the WQMP and DWMP.

The coordinator will gather feedback on existing BMPs and identify barriers to further adoption in order to develop strategies to overcome those barriers. This coordinator will host education and outreach activities, assist producers in implementing BMPs, provide technical assistance in BMP selection, help coordinate the BMP demonstration farm, collect public feedback, and provide recommendations to the LPSNRD and other project partners to improve BMP implementation programs.

Project Goals and Objectives

The following goals match those listed in the WQMP to illustrate how this project works towards meeting those goals. Objectives and action items are based on those found in the WQMP and have been modified to reflect specific project activities.

Goal 1: The surface and groundwater resources within the LPSNRD target areas, or special priority areas, will be enhanced through a comprehensive and collaborative program that efficiently and effectively implements actions to restore and protect natural resources from degradation and impairment.

Objective 1: Strong working partnerships and collaboration among appropriate local, state, and federal agencies; and non-governmental organizations, will be established and maintained regarding management of natural resources.

Action 1.1: The LPSNRD will create a new Drinking Water Protection (DWP) Coordinator position. The intent of this position will be on outreach and education to the public, landowners, and producers within WHPAs across the district, with a special focus on the Waverly WHP area.

Goal 2: Resource managers, public officials, community leaders, and private citizens will be informed about the effects of human activities on water quality and change their behavior in order support actions to restore and protect water resources from impairment by nonpoint source pollution.

Objective 1: Work with project partners to provide focused information and education to stakeholders within the project area to help them understand the resource concerns and benefits of implementing BMPs.

Action 1.1: The DWP Coordinator will identify, develop, and maintain potential partnerships where education, technical, and financial resources could be leveraged.

Action 1.2: The DWP Coordinator will engage with and educate crop consultants, agri-chemical dealers, and other agricultural service providers about water quality issues and programs available to producers.

Action 1.3: The DWP Coordinator will collaborate with partners to target stakeholder education regarding water quality and conservation practices. An annual public meeting/BMP workshop, field tours, and other meetings will be held with producers. If necessary, a facilitator will be utilized as part of public meetings.

Action 1.4: The DWP Coordinator will provide targeted education materials to farmers discussing the benefits of nutrient management and the practices they can take to enhance it.

Action 1.5: The DWP Coordinator will develop and distribute signage to post on participating properties, showing the source of funding and the project partners.

Objective 2: Develop a BMP Demonstration Farm within the WHP Area that will model adoption and implementation of nutrient reduction BMPs, provide research opportunities, and be used for education and outreach events, such as producer field days.

Action 2.1: The DWP Coordinator will take part in collaboration efforts with UNL to identify and obtain a long term management plan and funding for Waverly's BMP Demonstration Farm

Action 2.2: The DWP Coordinator will assist the City of Waverly in discussions with the tenet farmer to implement and maintain BMPs on the Waverly BMP Demonstration Farm.

Action 2.3: The DWP Coordinator will develop and install signage at the BMP Demonstration Farm to raise awareness of the efforts.

Goal 3: The water, land, and biological resources utilized for beneficial uses in the LPSNRD WQMP target areas will be healthy, productive, and sustainable through actions of the LPSNRD, communities, and other resource agencies.

Objective 1: Provide cost-share to landowners and producers to increase the adoption or installation of priority BMPs within the project area to reduce nitrate pollutant loads to the groundwater.

Action 1.1: The DWP Coordinator will enroll new lands in BMP cost-share programs to increase the total number of acres in the WHP area with BMPs installed.

Action 1.2: The DWP Coordinator will connect landowners and producers to existing BMP cost-share programs through NRCS, LPSNRD, or other partners.

Objective 2: Provide technical assistance to landowners and producers in the project area to help them implement and maintain BMPs.

Action 2.1: The DWP Coordinator will collaborate with NRCS to provide technical assistance to participants in selecting, installing, and maintaining BMPs.

Action 2.2: The DWP Coordinator will regularly solicit feedback from landowners to identify barriers to further adoption and ultimately improve the assistance they receive as part of this project.

Proposed Management Practices

Currently, financial assistance for BMPs is available through the NRCS's Environmental Quality Incentives Program (EQIP) and the LPSNRD's Land Treatment Program. This project will increase the utilization of these programs within WHP Areas, leading to increased rates of BMP adoption. The DWP Coordinator will act as a catalyst towards these efforts.

The DWP coordinator will gather feedback from residents of the Waverly WHP area concerning which proposed BMPs are most desirable. The coordinator, with support from the City of Waverly, will identify barriers to BMP implementation and then overcome them by developing tailored programming to fill potential educational, technical, and monetary gaps. This will include in-person meetings with all farmers/landowners in the WHP area to explore potential management options, tracking the types and locations of BMPs that are installed, and monitoring changes in nitrate concentrations over time to document BMP impacts.

The DWP Coordinator will focus efforts on BMPS that are identified within the WQMP that reduce nitrate loading. Priority BMPs for were selected through review of scientific literature, discussions with experts at the University of Nebraska-Lincoln (UNL), and feedback from stakeholder groups in the LPSNRD.

The proposed BMPs include, but are not limited to:

- Agricultural BMPs
 - Land use conversion
 - Conservation crop rotations
 - Nutrient management (4R's of nutrient management)
 - Fertilizer management
 - Irrigation water management
 - Cover crops
 - Soil sampling
 - Terraces
 - Grassed waterways
- Public education, information, and outreach
 - Public open houses, workshops, field days, and demonstrations
 - Social media posts, newsletters and articles
 - Project signage and promotion
- Vadose zone sampling
- Locating and decommissioning abandoned wells
- Upgrading septic systems
- Establishment and maintenance of a city-owned demonstration farm
 - Coordination with UNL for data collection/monitoring and on-farm research

Pollutant Source

The primary sources of nitrogen in the Waverly WHP area are agricultural production, animal waste/manure, leaching from human septic systems, and runoff from developed urban areas. The largest contributor of nitrogen is commercial fertilizer runoff from row crop farming, followed by unconfined animal feeding operations. Water within the WHP area that infiltrates down into the aquifer carries pollutants along with it, and eventually migrates to the municipal supply wells.

Load Reduction

The nitrate reduction goal for the Waverly WHP area is driven by the LPSNRD Phase II Groundwater Management designation trigger, which is a concentration of 5.0 mg/L. Based on recent nitrate sampling in Waverly's municipal wells, the anthropogenic nitrate concentration in the WHP area needs to be reduced by 63% to maintain the natural and anthropogenic nitrate concentration at or below the Phase II trigger of 5.0 mg/L. Meeting the reduction goal of 63% will require significant BMP implementation throughout the WHP area.

Communication

Communication efforts began during the development of the WQMP, which included meetings with technical staff, stakeholders, and the general public. Additionally, more targeted communication efforts occurred during the development of the Waverly DWPMP, which included the formation of a stakeholder group and holding a BMP Workshop in Waverly. These activities generated information on the values and general concerns of stakeholders, residents, landowners, and producers within the Waverly WHP area. Successful implementation of the WQMP will depend on the continued participation of willing landowners.

The strategy of developing a new Drinking Water Protection (DWP) Coordinator position was identified as the most critical element for implementing BMPs and improving water quality, during the development of the WQMP and DWPMP.

The DWP Coordinator will be a central point of contact for all agencies, partners, stakeholder, landowners, and public. Because of the proximity to the WHP area and available meeting facilities, The City of Waverly will serve as a central meeting location.

The DWP Coordinator will become extremely familiar with landowners and producers in the region, as well as project partners such as UNL, to successfully promote BMP implementation. Communication will include face-to-face meetings with all interested landowners/producers, hosting and presenting at public open houses or workshops, organizing field days and demonstrations at the BMP demonstration farm, regularly distributing newsletters or other informational materials, and being able to answer any questions about the project.

The WQMP identified the following target audiences for communication efforts:

- Residents of Waverly, who rely on the safe drinking water provided by the City;
- Land managers, tenants, and property owners within WHP area; and
- Agricultural producers with existing BMPs who may be interested in implementing additional practices.

Specific educational efforts of this project will include the following, which the DWP Coordinator will lead the development of, while coordinating with other stakeholders, such as: City of Waverly, LPSNRD, area schools, FFA groups, NRCS, UNL, and others:

- Site visits with landowners and producers
- Targeted coffee shop meetings, tailgate sessions, and other informal/casual informational exchanges
- Website and social media posts
- Distribution of flyers, pamphlets, brochures, or other products describing BMPs and/or the project
- Postcard mailings utilizing GIS database
- Installation of signage at BMP demonstration sites, key WHP area entrances or landmarks, and other highly visible areas
- WHP area tours with all stakeholders to see existing BMPs
- Annual BMP workshops or townhall meetings
- Surveys and questionnaires
- Other peer-to-peer outreach and meetings
- Media releases, informational brochures, and newsletter articles
- Activities with area high schools or FFA programs (e.g., citizen science, test your well nights)

Monitoring and Evaluation

The success of this project will ultimately be measured by the level of BMPs installed, and the nitrate reduction effectiveness of those BMPs over time. However, detecting changes to water quality requires a long time frame. Therefore, this project will a combination of short-term, medium, and long-term monitoring and evaluation strategies:

- Short-term
 - Yearly producer surveys to gather information on the following:
 - Soil sampling results
 - BMP enrollment counts
 - Tracking numbers and types of BMPs installed and mapped in GIS
 - Tracking number of attendees at outreach events
 - Assessing rates of producer and landowner adoption of conservation practice programs
 - Examining quality and quantity of outreach activities, materials and methods
 - Measuring increased awareness and knowledge about nonpoint sources pollution management through feedback surveys and questionnaires
- Medium-term
 - Vadose zone sampling
 - Dedicated groundwater quality monitoring wells
 - Private drinking water well sampling
- Long-term
 - City municipal wells

Monitoring data will be evaluated through an adaptive management process. This will allow the project sponsors to evaluate, plan, implement, and adjust their approach over time.

Progress of implementation will be monitored by the LPSNRD, who will coordinate with other agencies to identify the extent and level of BMPs implemented. Progress will be tracked annually, as the LPSNRD works to compile BMP implementation results and monitors water quality changes. Should it be realized that implementation is falling short, the LPSNRD will evaluate additional actions and confer with the City of Waverly and project partners to review or update strategies.

Schedule

Table 1 outlines the anticipated project schedule.

Table 1: Project Schedule

Activities	2023				2024				2025				2026
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Communication Activities													
Develop/ Update Project brochure / educational materials													
Hold BMP Field Tours													
Conduct BMP Workshop and Sign-up / Open House													
Install WHP signage /BMP signage													
Install BMP signage throughout WHP													
BMP Implementation Activities													
Assist producers with BMP cost-share applications													
Submit funding application for BMP Demo Farm													
Monitoring Activities													
Solicit, compile, and summarize annual producer surveys													
Conduct updated vadose zone sampling													
Sample city municipal wells (quarterly)													
Sample private drinking water wells													
Sample LPSNRD monitoring wells													
Administrative Activities													
Hire project coordinator													
Submit yearly summary report													
Submit yearly summary report													
Submit yearly summary report													
Submit final project report													

Budget

The total cost of this project is estimated to be \$XXXXXX over three years, and a detailed breakdown in federal and non-federal contributions are shown in Table 2. The primary activity funded through this project is the newly created Drinking Water Protection (DWP) Coordinator. The project will be accomplished through funding from Section 319, City of Waverly, and LPSNRD.

BMP financial assistance relies on existing BMP land treatment programs from LPSNRD. Additional funding from existing USDA, NRCS, or FSA financial assistance programs, such as EQIP, will be utilized, where possible, to achieve the maximum levels of BMP adoption; these federal funds, however, are not eligible as match towards Section 319 funds, and the LPSNRD does not assume a defined level of participation from these programs.

Section 319 funds are being matched by non-federal funds (percentages approximate):

- Section 319: XX%
- Non-federal: XX%

The non-federal share includes landowner contributions toward BMP implementation, which vary according to practice. LPSNRD will budget additional funds toward, e.g., education and monitoring, to accomplish project goals, but LPSNRD is not seeking Section 319 match for these costs.

Table 2: Project Budget

Activity	Section 319 (federal)	LPSNRD (non-federal)	City of Waverly (non-federal)	Landowner (non-federal)	USDA, NRCS, FSA (other federal)	Total
BMP Implementation						
BMP cost-share						
Personnel						
Salary & benefits						
Education						
Educational activities						
Supplies						
Printing, mailing, etc.						
Signage						
Monitoring						
Vadose zone sampling						
Municipal wells (quarterly)						
Private drinking water wells						
LPSNRD monitoring wells						
Contractual						
XX						
Total						

*LPSNRD acknowledges that EQIP funding may be available for certain BMPs and will work with successful applicants to that program. EQIP cost-share is not included in the project budget at this time.

**Water quality test kits to be used for citizen science/public education & outreach purposes only

***Additional contractual costs may accrue in the course of project implementation. LPSNRD has not developed an estimate for these costs at this time.

Magee Dam Easement Review - NE NE Sec 30, T9N-R8E



Map By: Lower Platte South NRD, sdr - August 2022 (Imagery - Spring 2022)

AMENDMENT #3 TO COST REIMBURSABLE
STANDARD RESEARCH AGREEMENT #132270

This Amendment made and entered into this _____ day of October, 2022; by and between the Lower Platte South Natural Resources District and the Board of Regents of the University of Nebraska on behalf of the University of Nebraska-Lincoln;

RECITALS

This amendment is entered into pursuant to the Cost Reimbursable Agreement for the project entitled, "Characterization of the Vadose Zone Transport and Groundwater Nitrate Attenuation" (Research Agreement # 132270), entered into by the University of Nebraska-Lincoln and the Lower Platte South Natural Resources District on February 18, 2020, for the purposes outlined in that Agreement.

NOW, THEREFORE, it is agreed by the parties hereto to amend the Agreement as follows:

1. PERIOD OF PERFORMANCE: The Research shall be conducted during the period of 11/01/2019 (the "Effective Date") through 09/30/2022 ("the Completion Date"). The date of completion is hereby extended to March 31, 2023.

Executed by the parties the day and year first written above.

Lower Platte South Natural Resources District

By _____ Date _____

The Board of Regents of the University of Nebraska

By _____ Date _____