

Regular Board of Directors Meeting  
Monday, September 9, 2019 6:00 PM  
Lower Platte North NRD Office  
P.O. Box 126  
Wahoo, NE 68066

1. Call to Order

**NOTE: The agenda is on file at the LPNNRD office and may be changed up to 24 hours prior to the meeting as scheduled.**

1.A. Meeting Notice

1.B. Inform Public on Location of Copy of "Open Meeting Act"

1.C. Pledge of Allegiance

2. Roll Call

2.A. Introductions

3. Approval of Agenda

Are there any additions or corrections to the agenda?

4. Comments - Advisors/Guests

4.A. Guest Comments

4.B. NRCS Report

4.C. NARD Report

4.D. NRC Report

4.E. Managers Report

4.F. Education Program

5. Approval of Minutes

Are there any additions or corrections to the minutes? If not they will be approved on the consent agenda.

6. Report of Standing Committees

6.A. Executive Committee - Action as Required

## 6.A.1. UNFINISHED BUSINESS

### 6.A.1.a. Off-Site Water Table Concerns Near Sand Creek

## 6.A.2. MEETINGS

### 6.A.2.a. Pending

#### 6.A.2.a.1. NARD Annual Fall Conference

Attached find the tentative agenda for the NARD Fall Conference. Currently Directors Hilger, Hannah and Johnson are registered to attend. Registration deadline is August 31.

#### 6.A.2.a.2. 2019 Nebraska Water Conference

The 2019 Nebraska Water Conference will be held October 9-10 at Divots Conference Center in Norfolk. Conference topics include water quality and public health, Innovative solutions to current problems and community engagement. I have attached a copy of the agenda. Registration deadline is September 17th.

### 6.A.2.b. Reports

## 6.A.3. MANAGEMENT ITEMS

### 6.A.3.a. Directors Absence

### 6.A.3.b. Monthly Education Program

Becky Appleford and Ellana Haakenstad will be present at the September 9th Board Meeting to update Directors on our Hazard Mitigation Plan.

### 6.A.3.c. NARD Resolutions

### 6.A.3.d. November Board Meeting

We normally have our November Board Meeting In Newman Grove to accommodate the Newman Grove Shell Creek Watershed Group. Director Seier is suggesting the following schedule.

3:15 p.m. Presentation from Shell Creek Group  
3:45 p.m. Start Board Meeting  
6:00 p.m. Eat Dinner and everyone can head home

### 6.A.3.e. Clear Creek Levee Easement

In order to finalize our Clear Creek Project, easement papers for the property on the National Guard camp need to be signed and returned. We are still working with

USACE as to the length of the easement, it is currently only 25 years and we are pushing for it to be perpetual.

#### 6.A.3.f. NARD Membership Dues

We have received a bill for the 2019-20 NARD Membership Dues in the amount of \$27,846.00.

#### 6.A.4. EQUIPMENT

#### 6.A.5. PERSONNEL

##### 6.A.5.a. General Manager vehicle reimbursement

There was discussion at the last board meeting regarding use of GM's personal vehicle for District use. In the last six months Gottschalk logged 2021 miles with his personal vehicle at no charge to the district.

We currently have a mileage reimbursement policy which pays the IRS, 2019 rate of \$.58 per mile.

I would like some discussion as to how the board would like to proceed.

#### 6.A.6. FINANCE

##### 6.A.6.a. Approval of Financial Reports

Approval of the Financial Statement will take place after adjusting entries are received from the Audit Firm. No action needed.

##### 6.A.6.b. Approval of Managers Time and Expense Sheets

##### 6.A.6.c. Accounts over 90 Days

##### 6.A.6.d. Budget and Set Property Tax Rate

Valuations have been received from our seven counties with a summary table attached. At 5:00 p.m. on September 9 the LPNNRD Tax Levy Hearing will be held. Last month the FY '20 budget was approved with the property tax rate to be set in September.

There was discussion at the last board meeting to consider increasing our tax asking this fiscal year. Our asking has been level the past 3 years at \$ 3,480,715.00 If we choose to increase our asking by any amount above last year we are required by LB103 to hold a public hearing, vote and pass a resolution stating the name of the political subdivision, the amount of the property request and four required statement relating to the new tax asking.

We have sufficient cash carry-over to maintain our same tax asking as the last three years

and achieve our current budget goals which include additional funds for flood damage repair.

To approve maintaining a level tax asking of \$3,480,715 and adjusting our levy to correspond with said asking.

A motion will be needed at Board Meeting to set the property tax rate.

**Potential motion to read:**

"To approve state budget that includes total expenditures of \$6,978,789 with tax levy rate of .035512 for a tax asking of \$3,480,715, the same asking as the past three years"

6.B. Operations Committee - Action as Required

6.B.1. UNFINISHED BUSINESS

We have nothing to address.

6.B.2. WILD NE AND OTHER PROGRAMS

We have nothing to address.

6.B.3. OPERATION & MAINTENANCE & OTHER ITEMS

The O & M staff has been doing some vehicle and equipment maintenance, cutting volunteer trees, preparing equipment for the mowing season or circuit.

6.B.3.a. Dirt Sales from Wanahoo Property

M.E. Collins has paid the District \$9,000 from the first of the year to August 19, 2019. The total since June, 2012 is \$242,916.00.

6.B.3.b. Swedeburg (Thorston) Dam Renovation

We have obtained a second bid from Girmus Dirt Works. Staff attempted to get a third bid but could not. See the attached bids from M.E. Collins and Girmus Dirt Works. M.E. Collins bid \$22,710.00 for the use of rip-rap and \$23,737.50 in using earth fill. Girmus Dirt Works bid \$49,335.00 to use rip-rap and \$26,678.00 for earth fill. DNR Dam Safety has recommended that the face of this dam be repaired.

6.B.3.c. FEMA Projects Wanahoo Spilling Basin, Rawhide Ditch 8 and Fuse Plug Levee at Camp Ashland

We received RFP/RFQ's from Engineering firms for the repair of the Wanahoo Dam Spilling Basin and Rawhide Ditch 8. (RFP's Attached) The RFP's were electronically sent to Committee members for your review and scoring. Staff has also reviewed and scored the RFP's. A decision to hire a firm can be made by the Committee or the Committee can

ask that we interview the top two candidates. Staff requests a board decision on September 9th. The hired firm will then proceed with planning, design, the bid and hiring process to obtain a contractor and oversee the project through completion. After reviewing the RFP's, staff and committee members had the same outcome, choosing FYRA Engineering for the Wanahoo repair and JEO Consulting for the Rawhide Ditch Repair.

**Clear Creek Fuse Plug Levee at Camp Ashland** - A site showing took place for contractors on August 23rd with proposals due Sept. 5th. A site showing for Engineers will take place Sept. 3rd with their proposals due September 11th. The deadline to have the fuse plug levee completed is Dec. 15, 2019, before ice season. At the September Board meeting, a decision to hire a contractor will be requested. Approval to hire an Engineering firm after the Board meeting could be made by staff and Committee members after having reviewed and scored the RFP's.

We received construction bids from M.E. Collins \$138,357.60 and Clark Construction \$63,685.00 (attached). Contractors were asked to mail or deliver their sealed bid and included a bid bond or certified check of 5%. Collins followed these procedures. Clark emailed their bid and did not include a bid bond or certified check. We don't know how strict FEMA would be with these issues. We may look to our legal counsels for advise.

#### 6.B.3.d. Clear Creek Levee Repairs by Corps of Engineers

The Corps of Engineers had sent out a 90% Design package for staff to review. The Corps is addressing 25 of 31 deficiencies along the Clear Creek Levee due to the March flood.

There are 6 items in which the District potentially will have to address. Five of those items deal with Environmental Components which were required by the Fish & Wildlife Service. We are waiting to hear from the COE and/or F & W S as to whether some of these components need to be repaired. Of the 5 deficiencies, Saunders County will repair County Road E and the two culverts through Road E, which are LPNNRD's responsibility. The sixth item is the Fuse Plug Levee which is addressed in a previous agenda item.

#### 6.B.3.e. No-Till Grass Drill Revenue

After the Committee meeting, Schuyler Co-op reported revenue of \$167.50, of which 50% (\$83.75) is the Districts share.

All three grass drill cooperators have reported their revenue's for the first half of the year.

#### 6.B.4. ROCK AND JETTY - Stream Bank Stabilization

Find attached a letter and program description for our Stream Bank Stabilization Program that is sent to interested landowners. With the flooding that occurred this past March, we may consider changing our cost-share rates for the future to better assist landowners in protecting their stream banks and property. At the Budget Workshop it was mentioned to bump the individual cost-share rate to \$4,000 and for Dike & Drainage Districts \$6,000.

The District could also assist Dike and Drainage Districts, that had major damage, with cost

for engineering and administrative paperwork with FEMA. These requests would be discussed individually and requests may not all be treated the same. We would use the budget line item labeled Inter-Governmental - Emergency Repair.

#### 6.B.5. LAKE WANAHOO

##### 6.B.5.a. Lake Wanahoo 2019 Permit Sales

Permit sales have slowed as we reach the end of our peak season, 201 annual Lake Wanahoo permits were sold in August (as of 8/28/2019) totaling \$3,657.50.

Total gross income for 2019 with regards to permit sales is \$92,585.13. This is broken down into two categories, annual permits and day passes. Annual permit sales make up \$78,967.50 (4562 total permits) and day passes make up the remaining \$13,617.63 (approximately 2724 day passes).

##### 6.B.5.b. Lake Wanahoo Camping Sales

Camping sales, as of 8/26/2019, total \$72,848.46.

##### 6.B.5.c. Pork Chop Island

Pork Chop Island is gaining interest of park visitors. As of 8/28/2019, the District has received a total of 7 reservations for Pork Chop Island totaling \$500. Four reservations were for single campsites, and three reservations were for the entire island. As a reminder, the rates are one campsite for \$25/night or the whole island for \$100/ night.

##### 6.B.5.d. Wanahoo Education Building

Work on the education building is continuing at a brisk pace. Interior walls are complete, pine wall finishing is nearly complete and drywall hanging will be finished today with mud and taping to be finished next week. Electrical and plumbing is all roughed in and will be completed after painters are out. Water supply and sewer install was completed two weeks ago and geo-thermal will be finished by the week of September 9th. Kitchen cabinets and appliances are scheduled to also be in the week of September 9th.

Our first rental will be on September 15th! They are aware the building will not be 100% finished but will have full use of kitchen, restrooms and heating/cooling.

We have the following approvals needed to complete our work:

**Appliances:** Simon's Home Store in Wahoo has offered to supply all kitchen appliances (Whirlpool) at cost as part of their building donation. Fridge, stove, microwave and dishwasher for a total price of \$ 2,569. (\$1,219, \$ 582, \$ 285 and \$ 483 respectively)

**Building entry, security, internet service & Audio/visual:** Also as part of their building donation, Diode Technologies have offered these building services at their cost.

- Link wifi from main NRD office building
- Audio/Video Components (speakers, all video connections, wireless microphone, amplifier, storage cabinet and all switching)
- Security surveillance (5 total cameras with connections and digital recorder)
- Remote access control - front door will be operated remotely and programmable via

internet/smart phone.

- Networking of entire building

Total price for above hardware and installation: \$ 7,493.37

**Geo-Thermal Well Installation:** After considerable discussion and research we have chosen to go with a closed loop geo-thermal system instead of an open-loop system. We initially were hoping to utilize our existing irrigation will to supply water to our unit but have decided to go with a new 4" well and a closed loop system. Initially, this will cost approx. \$ 1,500 more but will greatly reduce our need for routine maintenance and system cleaning and treatment.

Our low bid for this work is Subbert Well & Septic, LLC - Mead with a price of \$ 8,400 for complete install for 5 ton unit.

**Portable Tables and Chairs:** 12, 6' round tables, 125 folding chairs and 5, 8' banquet tables. Sam's \$ 5,671.50 plus shipping

## 6.B.6. INFORMATION AND EDUCATION

### 6.B.6.a. Information

#### 6.B.6.a.1. Radio & eAds

The current KTIC radio ad and Wahoo Newspaper eAd promote the deadlines for variance requests on new and expanded irrigated acres. The deadline for the hydrologically connected areas is September 15<sup>th</sup>. The ads beginning September 16 will promote the recreation areas and will continue through October 31. The ads are attached.

#### 6.B.6.a.2. Website

In October 2017, an RFP was developed to seek proposals for website development, design, & hosting services. redthread was selected to give the website a new look with user-friendly features. TePoel will have specifics on that process.

Content Management Program: Wordpress

Hosting Fees: FlyWheel: \$330 annually

Domain Name ([www.lpnrd.org](http://www.lpnrd.org)): Hover: \$15.99 annually

Technical Support: redthread: \$80/hourly

#### 6.B.6.a.3. Viaduct

The 2019 summer edition of The Viaduct has been sent to Suburban Newspapers for printing and distribution throughout the district.

### 6.B.6.b. Education

#### 6.B.6.b.1. Education Presentation

There is a local family with three children that have participated in various LPNNRD

education programs. TePoel has asked the three siblings to attend the September Board of Directors Meeting to share their experiences and answer questions.

6.B.6.b.2. September Education Programs

<b>Date</b>	<b>School/Group</b>	<b>Grade/Age</b>	<b># of students</b>	<b>Topic</b>	<b>Staff</b>
Thursday, September 5	Fremont Education Field Day	7 <sup>th</sup> grade	350	Drones/Lake Ecosystems/Tree Planting	TePoel/Sabatka/Heimann/Andersen
Saturday, September 7	World O! Water Festival	Open to the Public		Water Quality	TePoel
Wednesday, September 18	Wonderful World of Water	High School		Wildlife CSI	TePoel

6.B.6.b.3. NRD Education Workshop

TePoel is coordinating a 2-day workshop for NRD I&E staff at the Lake Wanahoo Education Building. The workshop will include environmental education curriculum training, CPR certification, a first aid presentation, and a youth behaviors presentation.

6.B.7. RURAL WATER SYSTEMS

6.B.7.a. Colon System

All valves (hydrants and shut offs) were exercised this month. Monthly testing completed. Meters read and bills will be out 8/30.

6.B.7.b. Bruno System

The RWD completed the required disinfectant testing needed for any system that chlorinates. Testing was completed 8/22. Regular monthly testing completed 8/13. Meters read and bills will be out 8/30.

6.B.7.c. Other

6.C. Water Committee - Action as Required

6.C.1. UNFINISHED BUSINESS

6.C.2. REGULATORY

6.C.2.a. GROUND WATER MANAGEMENT AREA

6.C.2.a.1. Variance Request from 2010

The variance LPN-V-010-052 was approved in the Fall 2010 for 135 acres. (approval letter attached) The land was not developed, but the person is now wanting to put on a swing arm pivot and include the extra acres. The land currently has 117.81 certified acres. Is the variance still valid?

The attached letter, dated 12/15/2010, states that a producer has one calendar year to purchase and install equipment or the permit would be adjusted accordingly for irrigated acres. Committee felt that the producer should submit a new variance request.

6.C.2.a.2. Variance Request in the Hydrologically Connected Area (Limited Development Area)

Applications for new irrigated acres are due by September 15, 2019. The District has received 10 new applications totaling 603 acres.

6.C.2.a.3. Variance Requests in the Non-Hydrologically Connected Area (Normal Development Area)

The District has 5 applications up for review in the Non-Hydrologically Connected Area totaling 90.0 acre feet. Per the Groundwater Management Area Rules and Regulations, the Board can approve up to 75 acre feet per year. Attached is the list of applications.

Staff and Committee discussed the variance and it was determined that only one variance met the 300 point threshold, which was adopted by the LPNNRD Board in June 2019.

6.C.2.a.4. Variance Requests in the Restricted Development Areas

6.C.2.a.5. Well Permit Program

6.C.2.a.5.A. Well Permits Approved in 2019

The total number of approved permits for 2019 is 19

Location of Approved Well Permits for 2019: Correct as of 8/28/2019

County	Irrigation - New	Irrigation - Replacement	Stock	Commercial	Municipal	Other	Total
Butler		1					1
Colfax		1					1
Dodge	1	1				1	3
Boone	6						6
Madison							0

<b>Platte</b>		4					4
<b>Saunders</b>	1		1		1	1	4
<b>Total</b>	8	7	1		1	2	19

6.C.2.a.5.B. Irrigation Well Permit

Tom Weber, NDOT, emailed the NRD with this situation. NDOT is building the new Highway 30 in the Rogers to North Bend area now. When we acquired property from Duane Emanuel (west of North Bend, west of County Rd 5 and between US Hwy 30 and County Rd S, - see legal description below), our design plans called for moving irrigation water from Duane’s current well (see the green circle on the attached aerial photo/plan) through a pipe under the new highway (see the green arrow) to a new riser on the southeast side of the new highway (see the green X) to enable Duane to continue irrigating that southeast property.

However, it now appears that we won’t be able to run that pipe under the highway after all. We are now proposing to drop a new well approximately where that green X is located. The existing well (the green circle) would still be used to irrigate the area northwest of the new highway.

Can staff sign a new well permit when it is received? No new acres will be added.

The Committee instructed that under these circumstances, staff could sign the well permit when it is received.

6.C.2.a.5.C. Well Permits - Livestock

The LPNNRD has received 3 wells permits for poultry operations in Butler County. Locations are SE SE 7-15N-1E, NW NE 16-15N-1E, NE SE 8-15N-1E. The nearest flight line is about 3 miles north but there is other irrigation in the area.

Staff and Committee looked at AEM flight information for this area and it appears that water would be sufficient.

6.C.2.a.6. Water Flow Meters

I took one of the questions from last month's Committee Meeting for the Committee to answer.

1. Are we willing to put any money towards this activity?

1a. If we are going to put money towards this activity are we going to have cost share with producers? If so what rate?

Committee had great discussion on the process of implementing flow meters within the District. It was recommended that a tier cost-share with set amounts be explored. An example would be, if producers install meters in year 1 they would get \$1,000, year 2 - \$800 and year 3 - \$600. The installation of flow meters should be over a 3 - 5 year period with producers realizing that a date after this time, flow meters would become mandatory. The purpose of installing flow meters for the NRD is to get a better understanding of sustainable aquifers for future generations. This will also allow the LPNNRD to be pro-active instead of re-active if water consumption becomes an issue. A producer can utilize the flow meter on how the well is actually performing and increase irrigation management efficiency. The Committee recommended to start setting aside funding, like \$200,000 a year, into a sinking fund for the purpose of a grant match. Committee directed staff to obtain information on how many meters are actually installed in the District.

#### 6.C.2.a.7. Voluntary Integrated Water Management Plan - LPNNRD

Nebraska Department of Natural Resources will be at the Water Committee on Thursday, October 3 at 9 am. They will discuss the current V-IMP along with the proposed draft 10/50 boundary. All directors are welcome to attend.

#### 6.C.2.a.8. Cost Share Programs

##### 6.C.2.a.8.A. Irrigation Well Sample Kits

#### 6.C.2.a.9. LPNNRD Operator Certification

#### 6.C.2.b. CHEMIGATION

August 2019 Update:

We have 665 renewals and 54 new permit applications for a current total of 719 (minus 5 cancellations), which brings our total to 714 active permits. Inspections for 178 renewal permits and 50 new permits have been completed. We have 2 new permits and 1 re-inspection left to inspect. There were 2 new permit cancellations and 3 renewal cancellations (5 total). Thus far we have completed 24 re-inspections as well. This brings our current inspection total to 251 inspections for the year. If everything goes according to plan, we will have 254 total inspections for the year, which includes the 2 new permits and 1 re-inspection that is left to do. Below is a breakdown of this information.

New Permits by Counties: (54)-- (including the 2 cancellations and the 2 new permits that are left to inspect)

Boone- 7  
Butler- 1  
Colfax- 12  
Dodge- 4  
Madison- 0  
Platte- 10  
Saunders- 20

Renewal Permits by Counties: (665)--including the cancellations

Boone- 53  
Butler- 106  
Colfax- 56  
Dodge- 111  
Madison- 7  
Platte- 105  
Saunders- 227

Renewal Inspections by Counties: (178)

Boone- 15  
Butler- 25  
Colfax- 14  
Dodge- 17  
Madison- 1  
Platte- 31  
Saunders- 75

New Inspections by Counties: (50)

Boone- 6  
Butler- 1  
Colfax- 11  
Dodge- 4  
Madison- 0  
Platte- 10  
Saunders- 18

New Permit Cancellations by Counties: (2)

Colfax- 1  
Dodge- 1

Renewal Permit Cancellations by Counties: (3)

Saunders- 3

6.C.2.c. LIVESTOCK WASTE PERMITS

The LPNNRD has received # 1 livestock permit applications from DEE since the last Water Committee meeting.

<b>Name</b>	<b>Livestock</b>	<b>Type of Permit</b>	<b>Legal Description</b>	<b>County</b>
Munsch Poultry Farm	Poultry	New	NE SE 28-18-1E	Platte

Description of permit application  
Munsch Poultry Farm - 2 barns for a total of 95,000 broilers. This site is located next to other existing barns.

### 6.C.3. GROUND WATER PROGRAMS

#### 6.C.3.a. DECOMMISSIONED WELL PROGRAM

##### 6.C.3.a.1. Well Estimates

Staff explained to the Committee that in certain circumstances after taking the approved material list cost and then 75 percent of that cost, the final cost-share on a well can be around 50-60 percent. To encourage individuals to decommission their wells, it was recommended to keep the total cost-share to 75 percent of the total cost.

3 new wells has been reviewed and approved for decommissioning since the last Committee meeting.

<b>Well Owner</b>	<b>Type of Well</b>	<b>Cost Share Estimate</b>	<b>County</b>
David C. Mitchell	Domestic	\$272.06	Dodge
David C. Mitchell	Domestic	\$202.69	Dodge
David C. Mitchell	Domestic	\$212.44	Dodge
John L. Bender	Irrigation	\$1,000 (capped limit)	Platte

### 6.C.3.a.2. Plugged Wells

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

Well Owner	Type of Well	Cost Share Estimate	County
Clay Jedlicka	Irrigation	\$450.89	Colfax
Clay Jedlicka	Irrigation	\$420.23	Colfax
Clay Jedlicka	Irrigation	\$420.23	Colfax
Weston Loseke	Irrigation	\$1,136.05 (applied before reasonable rate change)	Platte

### 6.C.3.b. LOWER PLATTE NORTH NRD GROUND WATER STUDIES

A technical meeting is scheduled for Monday, September 16 from 1 to 3 pm.

#### 6.C.3.b.1. AEM (Airborne Electromagnetic) Information

The AEM report is attached for directors to review. The AEM information is now on the EMWRA website starting August 29th.. Shown below is the recommendations from the AGF company.

Staff reported to the Committee that it would recommend looking at Recommendation 3.1 for better utilization of the data.

#### RECOMMENDATIONS:

Recommendations provided to the LPNNRD in this section are based on the interpretation and understanding gained from the addition of the AEM data to existing information and from discussions with the LPNNRD about their management challenges.

- **3.1 Integration of 2007-2018 AEM Hydrogeological Investigations** - The LPNNRD has acquired AEM data from 2007, 2014, 2015, 2016 and 2018 with several different AEM systems and contractors performing the work including USGS, XRI Geophysics and AGF with oversight from the ENWRA and the LPNNRD. With the completion of this current study there needs to be additional work done to bring all the work from previous years together in one seamless package using the same parameters such as the three different geographic projections NAD83 Zone 14N (meters), NAD83 Zone 14N (feet),

and NAD83 Nebraska State Plane (feet), model layering structure, and hydrologic nomenclature. Recent communication with consultants and NE-DNR has also brought to light that additional effort is needed to quantify the NE-DNR boreholes relationship to the aquifer materials that the AEM has mapped. There apparently exists confusion on the use of "principal aquifer material" versus "aquifer material" versus "Principal Aquifer" as determined by NE-DNR. While these are apparently minor additions and changes, they can add to the overall usability and portability of the AEM analysis results within the LPNNRD.

- **3.2 Additional AEM Mapping** - The AEM coverage of the district is nearly complete. At this time the only reason to gather additional AEM is to better understand the details of a specific area. Examples of those areas could be the Bellwood and Richland-Schuyler control areas.
- **3.3 Update the Water Table map** - The groundwater data used in the analyses presented in this report utilized the 1995 CSD water table map which is now 24 years old. Additional water level measurement locations would improve the water table map where groundwater conditions are unconfined. The areas of glacial till and loess covering the parts of the district will need great care in developing a water level map of potentiometric heads due to the confined to semiconfined nature of the area. Use of the data collected in this survey and future surveys will provide the best possible water table and conditions map for the district.
- **3.4 Siting new test holes and production wells** - The AEM hydrogeological framework profiles, maps, and surfaces provided in this report provide great insight in 3D on the relationship between current test holes and production groundwater wells. At the time of this report, the currently available lithology data for the LPNNRD area was used in building the framework maps and profiles. Additional information from previous groundwater reports were helpful in this work. It is recommended that the results from this report be used to site new test holes and monitoring wells. Often test holes are sited based on previous work that is regional in nature. By utilizing the maps in this report new drilling locations can be sited in more optimal locations. The location of new water supply wells for communities can also use the results in this report to guide development of new water supply wells. Planners should locate wells in areas of greatest saturated thickness with the least potential for non-point source pollution. A good example of this would be confined aquifers with large volumes of coarse aquifer and aquifer material with minimal sedimentary boundary conditions. The previous AEM studies have already found use by CSD and local well drillers to locate test wells and production wells within the LPNNRD.
- **3.5 Aquifer testing and borehole logging** - Aquifer tests are recommended to improve estimates of aquifer characteristics. Limited aquifer properties from previous reports were available outside the larger cities in the survey area. A robust aquifer characterization program is highly recommended at the state, regional (NRD's), and smaller municipal levels. Aquifer tests can be designed based on the results of AEM surveys and existing production wells could be

used in conjunction with three or more installed water level observation wells. Additional test holes with detailed, functional, and well calibrated geophysical logging for aquifer characteristics are highly recommended. Examples of additional logging would be flow meter logs and geophysical logs including gamma, neutron, electrical, and induction logs. Detailing aquifer characteristics can be accomplished with nuclear magnetic resonance logging (NMR) at a reduced cost when compared to traditional aquifer tests. This is a quick and effective way to characterize porosity and water content, estimates of permeability, mobile/bound water fraction, and pore-size distributions with depth.

- **3.6 Recharge Zones** - The LPNNRD hydrogeologic framework in this report provides areas of recharge from the ground surface to the groundwater aquifer. Reconnaissance level AEM investigations provide limited detailed information between the lines for understanding recharge throughout the survey area. It is recommended that future work integrate new soils and land use maps with the results of this study to provide details on soil permeability, slope, and water retention to provide a more complete understanding of the transport of water from the land surface to the groundwater aquifer. A potential solution to water quality, quantity, and stream depletions is adding additional fresh surface water as recharge to select areas of rangeland or other areas. Additional work can be done to identify where the best locations are for these type of management efforts. This information can and has been used in Nebraska to improve Well Head Protection Areas by refining the estimated travel time estimates and the boundary areas.
- **3.7 Managed Aquifer Recharge** - The areas which may have potential for managed aquifer recharge (MAR) can be approximately located by the interpreted results from AEM reconnaissance line interpretations. Detailed analysis for this purpose would need to be done to determine where viable opportunities for the LPNNRD exist and what additional information would be required for final selections of MAR sites. A detailed plan for locating and developing MAR sites would be beneficial to the LPNNRD for storage and release of water for stream flow and other uses.
- **3.8 Updating previous groundwater reports and Groundwater Management Plans** - The groundwater reports and management plans should be updated with the AEM information. The addition of estimates of groundwater in storage, recharge areas, hydrologic connection to streams and consideration of managed aquifer recharge sites will greatly improve and groundwater management plan.
- **3.9 Assist the LPNNRD staff with additional interpretation and data analysis for groundwater management needs** - The AEM reports provided to the district are complete, but there is always a need to extract and analyze the AEM data in conjunction with a particular management need or area. Examples include using the AEM data to define areas for management practices related to water quality problems, use the AEM data to site water well development, assist groundwater modelers with input data sets for groundwater modeling,

and define hydrologic connections between groundwater and surface water to name a few.

#### 6.C.4. GROUND WATER ENERGY LEVELS

WANN Basin day was held on August 27 with 4 agencies measuring 51 wells. These wells are measured spring, summer and fall for the purpose to assist in containing the NAD contamination. Graphs are attached for all 51 wells measured. Staff opinion, nothing really showed up on the graphs and the currents readings to cause concern.

#### 6.C.5. GROUND WATER QUALITY SAMPLING

#### 6.C.6. SURFACE WATER PROGRAMS

##### 6.C.6.a. STATE LAKES, FOR THE WEEK OF

The Committee felt that Lake Wanahoo should be included in this sampling.

Week of August 19th, 2019

Beach Bacteria and Harmful Algal Bloom results are now posted on the NDEE web page (<http://www.deq.state.ne.us/>)

No lakes within Lower Platte North is on the list for this week.

#### 6.C.7. OTHER

##### 6.C.7.a. Modeling Example

Staff showed the Committee different scenarios utilizing the GET tool from Ollson's.

##### 6.C.7.b. COMMENTS FROM THE PUBLIC

#### 6.D. Projects Committee - Action as Required

##### 6.D.1. UNFINISHED BUSINESS

No unfinished business to address.

##### 6.D.2. SWCP

##### 6.D.2.a. SWCP Application Approvals

19-S-7 Pamela Goudie (Saunders - Cottonwood 8-D) TOT \$12,500.00

##### 6.D.2.b. SWCP Payments

None.

6.D.2.c. SWCP Cancellations

None.

6.D.2.d. Wahoo Creek Cost Share Approvals

None.

6.D.3. WATERSHEDS

6.D.3.a. Shell Creek

6.D.3.a.1. Shell Creek Environmental Enhancement Plan Implementation

6.D.3.a.2. Shell Creek Application Approvals

John Sonderman Septic Inspection & Upgrade      \$3,300 (60% up to \$3,300)

6.D.3.a.3. Shell Creek Grant Funding Update

As reported last month, we have closed out the old Shell Creek 319 grant and are awaiting a new agreement from NDEE to receive another \$250,000 for helping additional water quality projects in the Shell Creek Watershed. These funds will accompany the already approved \$104,688 from the Nebraska Environmental Trust.

6.D.3.a.4. Shell Creek U.P. Bridge Replacement Project/ Road 15

We have had continued discussion with the U.P. Railroad and Colfax County about U.P.'s plan to replace their Shell Creek bridge at county road 15. U.P. has indicated that they are ready to move forward with bridge design as their desire is to complete the bridge replacement in 2020. U.P. said they will complete two bridge designs, a 130' and a 200' bridge. Which design is used is dependent on LPNNRD and Colfax County completing an Interlocal agreement for completing channel improvements and benching north and south of the replacement bridge. Director Bailey and Mountford meet with the Colfax County Attorney, Road Superintendent and Assistant along with Commissioner Carl Groteluschen on August 22nd to draft an Interlocal Agreement that was to be approved at Colfax County's August 27th meeting. The Colfax County Attorney has been working with our attorney, Jovan Lausterer, on the final document. The Projects committee is asked to recommend moving approval of the final Interlocal to the full Board. The proposal discussed was for Colfax County to take the project lead and provide all engineering services and obtain land rights needed to complete the entire channel improvement and benching project. LPNNRD is being asked to handle the channel improvements and benching costs outside of county right-of-way, estimated at \$600,000. Of this amount, NDEE has indicated they will contribute \$150,000 leaving up to \$450,000 contribution for LPNNRD. LPNNRD has reaffirmed our support toward this effort on August 12th.

6.D.3.b. Wahoo Creek Watershed

#### 6.D.3.b.1. Wahoo Creek Dam Site Planning Update/ FYRA & JEO Invoices

FYRA continues to work with NRCS on completing the Wahoo Creek Watershed Plan. We have requested them to have all portions of the draft plan to the NRCS State Office by November, 2019. FYRA has reported that during this past invoicing period, they attended the LPNNRD Board meeting to provide an update on the project and coordinated with NRCS Lincoln staff on cultural resources, economics, threatened and endangered species, and prime and unique farmland. They also worked on required project maps related to the floodplain, analyzed the effects on public health and safety, and worked on the economics calculations and discussion based on feedback provided by national NRCS staff. Sections of the Plan-EA were also provided to NRCS Lincoln staff for review and invoicing and schedule updates occurred. Attached is FYRA's recent invoice totaling \$9,101.60 that is 100% reimbursable from NRCS. After this payment, \$49,679.36 remains under contract.

As an essential part of completing a viable watershed plan, we are planning for the Saunders County September 10, 2019, Public Hearing on the establishment of the Wahoo Creek Dam Breach Overlay District in the areas below the eleven planned dams. The hearing will be in conjunction with Saunders County's Supervisor's meeting at the Courthouse starting at 9:30 a.m.

We received an invoice from JEO in the amount of \$1,350 for contract work in preparation for establishing our needed Dam Breach Overlay District (bill is attached).

#### 6.D.3.b.2. Wahoo Creek Watershed Water Quality Plan Phase II

Chris Poole has submitted on final reimbursement request to NDEE (Wahoo Creek Phase II Implementation - Part A) totaling \$40,872.86 for future Lands for Conservation Payments These payments will be made after all summer conservation practices are completed. We will now move into Wahoo Creek Phase II Implementation - Part B (attached) that will provide \$200,000 for EPA 319 funding along with \$90,000 from NET for future water quality conservation work in Wahoo Creek. The Board previously authorized Chair Ruzicka to sign the grant agreement.

#### 6.D.3.b.3. Olsson Design Update and Invoice

Attached is the August 13, 2019, invoice from Olsson totaling \$6,809.58 earmarked toward geotechnical work at dam sites 26a., 26b. and 27. After this payment there will be \$1,820,941.38 remaining under contract.

#### 6.D.4. JOINT WATER MANAGEMENT ADVISORY BOARD

JEO has asked Brian Newton, Bob Misle and Mountford to meet with them on September 12 to update and review the process of the funding applications.

#### 6.D.5. HAZARD MITIGATION PLAN UPDATE

Attached is an invoice totaling \$24,977.50 from JEO for contract work completed on our

Hazard Mitigation Plan (HMP) update. Of this invoice, 75% of the \$24,977.50 (\$18,733.13) is reimbursable from (NEMA/FEMA) and 25% of the \$9,375 (\$2,343.75) will be reimbursed from Fremont and 25% of the invoiced \$6,875 (\$1,718.75) will be reimbursed from Schuyler. After this payment, \$178,500 will remain under JEO's contract. Public meetings are scheduled at 7:00 p.m. at the Wahoo Public Library on September 19 and at the David City Public Library at 7:00 p.m., September 24th.

Becky Appleford with JEO will give an educational program on our HMP at the September 9th Board meeting.

#### 6.D.6. EROSION AND SEDIMENT RULES AND REGULATIONS

#### 6.D.7. OTHER

##### 6.D.7.a. Dan Wolfe Jetty Project Damage/Flooding Update

As reported earlier this year, March floods totally destroyed an 8 Jetty Platte River Bank Stabilization Project that LPNNRD sponsored in 1994. This project was located approximately four miles south of Richland along the North bank of the Platte River. Flooding also washed out the landowners levee/road and left sand on 400 - 500 acres of prime farmland. In addition, there was much damage to Colfax County roads. This week, high Platte River flows once again passed through this area and washed out County road 5a. LPNNRD has inspected the area with FEMA and USACE officials. In 1994, the 8 Jetty project costing \$110,000 was constructed with NRCS assistance (75%) with the local 25% costs being shared by LPNNRD, the landowner and Colfax County. At this time it is unknown who may partner on this repair or where the funding will come from, but ball park total cost estimates are \$500,000 - \$1,000,000 but could be even higher.

#### 7. Additional Action Items

##### 7.A. SWCP Summer Payment Approval

19-S-1 JALA LLC - Terrace and Tile Outlet - \$10,000

#### 8. Approval of Bills Pending

#### 9. Consent Agenda Adoption

#### 10. Comments from Directors/Guests

#### 11. Meeting Establishment/Adjournment

**NOTE: The agenda is on file at the LPNNRD office and may be changed up to 24 hours prior to the meeting as scheduled.**