

Water Committee Meeting
 Wednesday, November 27, 2019 7:30 AM
 Lower Platte North NRD Office
 P.O. Box 126
 Wahoo, NE 68066

1. UNFINISHED BUSINESS

2. REGULATORY

2.A. GROUND WATER MANAGEMENT AREA

2.A.1. Variance Request in the Hydrologically Connected Area (Limited Development Area)

Attached are information on the 2 variances (LPN-V-013-0351, LPN-V-013-0314) that were postponed until the November Water Committee Meeting. Staff has met with Kenny Pestal and Gary Meister in the last couple of weeks. As Kenny Pestal is an expansion of acres with not slope issue, the only conditions is the location of the pivot because of Dam Site 77 potential location. Gary Meister variance involved slopes greater than the 20% allowances. Staff has done a site visit and felt that with some conditions and movement of the pivot this variance could be considered. Conditions recommended for Gary Meister are:

1. Flow Meter Installed and Water Use Report needed annually.
2. Terraces needs to be maintained with additional grassed water ways as necessary.
3. Soil Moisture Sensors installed and reported annually to assist in irrigation management.
4. If more than 1 Irrigation runoff complaints, the variance could be revoked.
5. Cover Crop implemented when possible. (Didn't discuss this but open to your thoughts)
6. No till needs to be continually implemented.

Committee felt that as the Pestal Pivot will be right next to a stream, filter strips should be required.

2.A.2. Well Permit Program

2.A.2.a. Well Permits Approved

Wells Permits Approved: #

| Landowner | Number of Wells | Number of New Irrigated Acres | Type of Well | County | Subarea |
|-------------------------------|-----------------|-------------------------------|--------------|----------|--------------------|
| Rainier Resource Holdings LLC | 1 | 0 | Livestock | Saunders | Todd Valley |
| Jim and John Stock | 1 | 135 | Irrigation | Platte | Middle Shell Creek |
| Sweetwater Inc | 1 | 47 | Irrigation | Dodge | Fremont East |

The total number of approved permits for 2019 is 26

Location of Approved Well Permits for 2019: Correct as of 11/25/2019

| County | Irrigation - New | Irrigation - Replacement | Stock | Commercial | Municipal | Other | Total |
|--------------|------------------|--------------------------|----------|------------|-----------|----------|-----------|
| Butler | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| Colfax | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Dodge | 2 | 1 | 0 | 0 | 0 | 1 | 4 |
| Boone | 6 | 0 | 0 | 0 | 0 | 0 | 6 |
| Madison | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Platte | 1 | 4 | 0 | 0 | 0 | 0 | 5 |
| Saunders | 2 | 1 | 2 | 0 | 1 | 1 | 7 |
| Total | 12 | 9 | 2 | 0 | 1 | 2 | 26 |

2.A.3. Livestock Well Permits

The LPN has received 2 livestock well permits for poultry operations. They are located in SW¼ NW¼ Section 33-17N-6E, Saunders County and NW¼ SW¼ Section 27-18N-1W, Platte County. Attached are maps of GWEL wells along with their water level graphs within the area UNL provided some detailed information on the AEM flights in these locations.

The depletion for for Platte County Operation - 9.82 acre feet depletion (0.84 Stream Depletion Factor, 168,000 birds)

The depletion for the Saunders County Operation - 28.77 acre feet depletion (0.82 Stream Depletion Factor, 504,000)

The LPNNRD has approved 4 other Poultry Operations in 2019 for a total of 87.7 Acre Feet of Depletion.

Calculations are assuming 90 gallons of water per 1000 birds ~ 252 operational days.

Committee reviewed staff's data and the letter from Linsee Schoenherr. As NRD responsibility is groundwater and not surface water, they felt sampling of the creek might be out of direct responsibility of the NRD. The Committee felt the comments should be forward to DEE after a livestock permit is received.

2.A.4. Well Interference Complaints

2.A.5. WaterSmart Grant

Chris and Daryl has been working with the Bureau of Reclamation to get the process moving. The Bureau would like more exact dollar amounts for the equipment that is part of the grant. The grant is for 31 sites within the SQS areas to install remote read transmitters with the objectives of achieving a pro-active approach for water management. Staff would like to send out RFPs in December, so the Water Committee can review and recommend a vendor at the January Board Meeting. The Bureau would like a contract signed the latter part of February.

2.A.6. Lower Platte River Basin Water Management Plan Coalition (LPRBC)

The technical group is scheduled to meet on December 3rd at Lower Elkhorn NRD in Norfolk.

2.A.7. Bellwood Phase 2 Area

2019 is the seventeenth year for this Phase 2 Area.

| Year | Nitrate-nitrogen Range | Percent Nitrate-nitrogen 0 to 8.0 ppm | Percent Nitrate-nitrogen 8.01 to 10.00 ppm | Percent Nitrate-nitrogen greater than 10 ppm |
|-------------|-------------------------------|--|---|---|
| 2004 | 0 to 25 ppm | 46.3% (44 of 95) | 8.4% (8 of 95) | 45.3% (43 of 95) |
| 2005 | 0 to 25 ppm | 47% (44 of 94) | 15% (14 of 94) | 38% (36 of 94) |
| 2006 | 0 to 24 ppm | 41% (29 of 71) | 14% (10 of 71) | 45% (32 of 71) |
| 2007 | 0 to 31 ppm | 48% (48 of 100) | 9% (9 of 100) | 43% (43 of 100) |
| 2008 | 0 to 28 ppm | 53.75% (43 of 80) | 7.5% (6 of 80) | 38.75% (31 of 80) |
| 2009 | 0 to 22 ppm | 45.5% (41 of 90) | 15.5% (14 of 90) | 39% (35 of 90) |
| 2010 | 0 to 35.7 ppm | 48.65% (54 of 111) | 11.71% (13 of 111) | 39.64% (44 of 111) |
| 2011 | 0 to 26.6 ppm | 51% (56 of 110) | 6% (7 of 110) | 43% (47 of 110) |
| 2012 | 0 to 28.9 ppm | 57% (61 of 107) | 9% (10 of 107) | 34% (36 of 107) |
| 2013 | 0 to 25.8 ppm | 50% (53 of 107) | 9% (10 of 107) | 41% (44 of 107) |
| 2014 | 0 to 22.3 ppm | 51% (55 of 108) | 13% (14 of 108) | 36% (39 of 108) |
| 2015 | 0 to 32.3 ppm | 43% (31 of 72) | 8% (6 of 72) | 49% (35 of 72) |
| 2016 | 0 to 35.1 ppm | 34% (25 of 74) | 11% (8 of 74) | 55% (41 of 74) |
| 2017 | 0 to 23.5 ppm | 36% (27 of 74) | 15% (11 of 74) | 49% (36 of 74) |
| 2018 | 0 to 30.9 ppm | 40% (25 of 63) | 11% (7 of 63) | 49% (31 of 63) |
| 2019 | 0 to 24.5 | 48% (22 of 46) | 9% (4 of 46) | 43% (20 of 46) |

2.A.8. Richland - Schuyler Phase 2 Area

2019 is the fourth year of this Phase 2 Area. Staff recommends setting a hearing date prior to Water Committee Meeting in January. The hearing will recommend moving this area into a Phase 3 Management Area. The stakeholder group will be meeting December 5 at Bailey's Shop at 9:30 am.

| Year | Nitrate-nitrogen Range | Percent Nitrate-nitrogen 0 to 8.0 ppm | Percent Nitrate-nitrogen 8.01 to 10.00 ppm | Percent Nitrate-nitrogen greater than 10 ppm |
|------|------------------------|---------------------------------------|--|--|
| 2016 | 1.47 to 41.8 ppm | 29% (10 of 34) | 9% (3 of 34) | 62% (21 of 34) |
| 2017 | 2.44 to 25.4 ppm | 23% (8 of 35) | (0 of 35) | 77% (27 of 35) |
| 2018 | 1.75 to 29.3 ppm | 25% (5 of 20) | 10% (2 of 20) | 65% (13 of 20) |
| 2019 | 0.80 to 35.9 | 7% (2 to 30) | 13% (4 of 30) | 80% (24 of 30) |

2.A.9. Richland - Schuyler Phase 3 Area

2019 is the fourth year of this Phase 3 Area.

| Year | Nitrate-nitrogen Range | Percent Nitrate-nitrogen 0 to 8.0 ppm | Percent Nitrate-nitrogen 8.01 to 10.00 ppm | Percent Nitrate-nitrogen greater than 10 ppm |
|------|------------------------|---------------------------------------|--|--|
| 2004 | 0 to 47 ppm | 30% (42 of 139) | 10% (14 of 139) | 60% (83 of 139) |
| 2005 | 0 to 120 ppm | 31.3% (74 of 236) | 10.2% (24 of 236) | 58.5% (138 of 236) |
| 2006 | 0 to 53 ppm | 28% (50 of 181) | 14% (26 of 181) | 58% (105 of 181) |
| 2007 | 0 to 99 ppm | 32% (75 of 231) | 10% (22 of 231) | 58% (134 of 227) |
| 2008 | 0 to 46 ppm | 28% (53 of 190) | 12% (23 of 190) | 60% (114 of 190) |
| 2009 | 0 to 57 ppm | 33% (72 of 216) | 6% (13 of 216) | 61% (131 of 216) |
| 2010 | 0 to 57.5 ppm | 31% (70 of 229) | 7% (15 of 229) | 62% (142 of 229) |
| 2011 | 0 to 65.8 ppm | 28% (67 of 241) | 9% (21 of 241) | 63% (153 of 241) |
| 2012 | 0 to 52.6 ppm | 29% (70 of 241) | 9% (21 of 241) | 62% (150 of 241) |
| 2013 | 0 to 94.0 ppm | 25% (63 of 252) | 9% (23 of 252) | 66% (166 of 252) |
| 2014 | 0 to 101.0 ppm | 27% (68 of 251) | 9% (22 of 251) | 64% (161 of 251) |
| 2015 | 0 to 53.3 ppm | 23% (55 of 238) | 12% (29 of 238) | 65% (154 of 238) |
| 2016 | 0 to 50.5 ppm | 25% (58 of 228) | 10% (22 of 228) | 65% (148 of 228) |
| 2017 | 0 to 53.4 ppm | 25% (60 of 238) | 6% (14 of 238) | 69% (164 of 238) |
| 2018 | 0 to 56.9 ppm | 26.5% (50 of 189) | 6.3% (12 of 189) | 67.2% (127 of 189) |
| 2019 | 0 to 39.4 | 26% (52 of 199) | 11% (22 of 199) | 63% (125 of 199) |

2.A.10. LPNNRD Operator Certification

Winter Classes:

- Thursday, January 9 - 3:30 pm at Fremont Extension Office
- Wednesday, January 22 - 4:30 pm at ENREC - Mead (in between pesticide classes)
- Wednesday, January 29 - 1 pm at Ag Hall - Columbus (flyer attached)
- Tuesday, February 11 - 9:30 am at Fairgrounds - David City (during Ag Show)
- Tuesday, February 25 - 9 am at Village Hall - Lindsay
- Wednesday, February 26 - 1 pm at Oak Ball Room - Schuyler (flyer attached)
- Tuesday, March 17 - 9 am at Ag Hall - Columbus
- Thursday, March 19 - 6 pm at ENREC - Mead

2.B. Flow Meter Policy Update

Staff attended a seminar conducted by NRCS on their grant. The first deadline is December 3rd with another planned for June or July 2020. The process would be similar to the EQIP process. Staff also met with the Bureau about water meters and they were receptive in funding flow meters. The deadline for a larger grant is September 2020.

Meter Proposal Policy:

Cost-share

- Year 1 - \$1000 cost-share for the flow meter and extra \$500 for a check valve if needed.
- Year 2 - \$800 cost-share for flow meter and extra \$500 for a check valve if needed.
- Year 3 - \$600 cost-share for flow meter and extra \$500 for a check valve if needed

Installation

- Year 1 - All wells in Nitrate Management Areas
- Year 2 - Dodge, Colfax and Butler County
- Year 3 - Platte, Boone and Madison
- Year 4 - Saunders County

Meter Details

- Meter Installation handled by Private Companies
- Meter Maintenance will be contracted out with about 1000 meters a year.

Committee discuss how Year 1 would work with the funding and the installation areas. It was suggested to go District wide the 1st year with the \$1000 incentive and then Year 2 start installation by areas.

The purpose of installing flow meters for the LPNNRD 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.

3. GROUND WATER PROGRAMS

3.A. DECOMMISSIONED WELL PROGRAM

Earlier this month we noticed that we were not getting reimbursed by the the Nebraska Water Well Decommissioning Fund (NWWDF) like we thought we were. For the 2019 Fiscal Year there is currently \$55,000 in the NWWDF fund to be split between 20 NRD's. There are three NRD's that do not cost-share on well decommissions. For the 2019 Fiscal year (current year) the LPNNRD will be reimbursed \$1,439.00. For the 2018 Fiscal year (last year) the LPNNRD was reimbursed \$1,798.00. These figures are predetermined based upon the average amount of well's decommissioned in each district over the last three fiscal years (16,17,18). The attachment is a breakdown on how this is determined.

As of November 20th, 2019 the LPNNRD has cost-shared on 12 wells and have reimbursed those well owner \$7,433.52. For the 2019 Fiscal Year (current year) we have \$12,500 budgeted for well decommissions. Currently there are six additional wells that have been plugged but we are waiting on the well owners to provide copies of their paid invoices to the well contractors for plugging their wells. These six additional well plugs for \$5,187.38 will push us over the budgeted amount. Including those six additional wells we will have cost-shared on 18 wells and reimbursed well owners a total of \$12,620.90.

Three more well owners have applied in the month of November and an estimated \$1,707.86 will be reimbursed for those wells to be properly plugged. We have also had interest from other well owners but have not yet received the necessary paperwork to move forward. It is unknown at the current moment on how many more well owners will apply for cost-share for the remainder of the 2019 Fiscal Year.

It is recommended that we allocate more funds to this budget for the remainder of the 2019 Fiscal Year. This amount is up for discussion but it appears that we will need approximately \$3,500-\$5,000 more in the budget for the remainder of the 2019 Fiscal Year and going forward into the future.

3.A.1. Well Estimates

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

| Well Owner | Type of Well | Cost Share Estimate | County |
|--------------------|--------------|---------------------|----------|
| Jamie Schnakenberg | Domestic | \$364.51 | Saunders |
| Tommy E. King | Domestic | \$343.35 | Madison |

| | | | |
|---------------|------------|---------|----------|
| Jeffrey Bauer | Irrigation | \$1,000 | Saunders |
|---------------|------------|---------|----------|

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 |
|-------------------|--------------|---------------------|----------|
| Marvin L. Mueller | Irrigation | \$1,000 | Platte |
| Dorothy A. Kavan | Domestic | \$273.54 | Saunders |

3.B. LOWER PLATTE NORTH NRD GROUND WATER STUDIES

3.B.1. Eastern Nebraska Water Resources Assessment (ENWRA)

A meeting is scheduled for December 11.

3.B.2. AEM (Airborne Electromagnetic) Update

Jim Cannia - AGF will be presenting at the Board Meeting on December 9 on the airborne flights conducted in 2018. If anyone is interested Jim will be giving more details in the morning at 10:30.

3.B.3. Lower Platte River Consortium

The drought plan has been approved by Bureau of Reclamation. The process now is to get all partners to approve the plan and then move into the next stage looking at specific projects. It would be nice to approve this at the December Board Meeting to keep the process moving. The plan is attached for review.

Highlights from the plan:

Response Actions

- Coordinated Public messaging
- Urban water use restrictions

- Urban water rate pricing
- Shifting water operations
- Groundwater pumping management and administration of surface water
- Groundwater augmentation pumping
- Import water from Missouri River
- Reservoir Releases
- Rapid Response Area

Mitigation Actions

- Surface water storage
- Canal recharge
- Alluvial aquifer recharge
- Water leasing/banking/exchanges

A few of the pages for the the Committee/Board to review are ES-10, ES-11, page 63 - 67, A-1 and A-2. Still great to read the whole document.

3.C. GROUND WATER ENERGY LEVELS

Staff has completed fall water levels. Graphs are attached for viewing. The NRD uses the fall graphs for a reference on what spring levels might be. Water levels were taken from 199 wells with only 5 fall water levels below their trigger points. Two wells, PV-13 and SC-44A, have been below their triggers for several years.

3.D. GROUND WATER QUALITY SAMPLING

Staff is planning on collecting water samples for nitrate and bacteria on any well that is available, just north and east of Columbus Lakeview Schools. The plan is to have staff contact these people for a sampling event conducted in the middle of December. Attached is an updated nitrate map for that area.

4. SURFACE WATER PROGRAMS

4.A. STREAM FLOW GAUGING SITES AND CAMERA

Attached is a possibility of a camera along the Platte River. A meeting was held on Monday, November 25 with potential partners. The group consist of Papio, Lower Platte North, Dodge Co., Fremont, Inglewood, Emergency Management, OPPD, National Weather Service and there may be more. The thought is to place up to 5 cameras on the Platte River from Columbus to Hwy 92. The cost for the current cameras is \$1,080.00. These cameras are not infrared which probably should be strongly considered.

Staff has been contacted and continue talking to partners on setting up cameras and equipment along the Platte River. Papio NRD visited with staff and is wanting to proceed with at least 3 sites. These sites would include cameras and water level sensors. The sites initially mentioned were Hwy 92, Fremont and Schuyler Bridges. Colfax County would like us to consider a site around Columbus. The cost for the equipment would be \$1,080 for the camera

units and \$1,176 for the water level sensors. The subscription cost for obtaining the information is \$70/site/year through Verizon. So the total cost would be \$2,326.75 per site.

Staff has been in contact with Michael Farrell of the Platte Basin Timelapse. Hopefully a meeting can be arranged to visit with them also. Time is the biggest factor on this pilot project.

Papio NRD has reported to staff that they would be a financial partner. Staff feels other partners will also help financially with this project. The project would be a pilot project to find out if there would be benefits for adding additional sites. Three sites would be \$6,980.25. Staff would like the Board to consider allowing staff to purchase the equipment with a maximum limit of either \$7,000 or \$9,500. Other partners will be contacted for financial help.

4.B. USGS Streamgages

Attached is a contract from USGS for continuing support of the stream gages on Shell Creek, Wahoo Creek and the Mead Groundwater Station. Lower Platte North contribution will be \$17,090.

5. Flow Meter Update

Because of the weather, McCrometer will be coming to the January 2 Water Committee.

McCrometer will be attending the Committee Meeting to update LPN on their meters. At the present time the following are approved meters manufactured by McCrometer:

McPropeller - All propeller models

Magnetic Meters

McMag 3000

Dura Mag

The purpose is to evaluate all current meters on the approved meter list and decide if they should be kept on the list.

6. OTHER

6.A. COMMENTS FROM THE PUBLIC