

MINUTES
ENWRA Technical Committee Meeting
April 26, 2023 10-noon
Lower Platte North NRD Board Room and Virtual Zoom meeting
Wahoo, Nebraska

Attendees (21):

Annette Sudbeck (Lewis and Clark NRD [LCNRD]), Myles Lammers (LCNRD), Brian Bruckner (Lower Elkhorn NRD [LENRD]), Mike Murphy LENRD, Dallas Dorey (LENRD), Chuck Wingert (Nemaha NRD [NNRD]), Kyle Hauschild NNRD, Daryl Andersen (Lower Platte North NRD [LPNNRD]), Dick Ehrman (LPSNRD), Philip Paitz (Papio-Missouri River NRD [P-MRNRD]), Jesse Bradley (Nebraska Department of Natural Resources (NeDNR), Tyler Martin (NeDNR), Margeaux Carter (NeDNR), Dustin Wilcox (Nebraska Association of Natural Resources Districts [NARD]), Aaron Young (University of Nebraska-Lincoln, School of Natural Resources, Conservation and Survey Division [UNL CSD]), Jesse Korus (UNL CSD), Chris Hobza United States Geological Survey (USGS), Mikaela Cherry (USGS), Ginny McGuire (USGS), Tyler Weishahn et al Lower Big Blue NRD [LBBNRD]), Katie Cameron (Eastern Nebraska Water Resources Assessment [ENWRA] Coordinator/UNL CSD)

Agenda Overview and ENWRA Budget:

ENWRA is in Year 1 of 5 of the 6 NRD interlocal in place through June 30, 2027. Fiscal year (FY) 2023 annual dues were received in January 2023. Also \$8,000 dues from non-ENWRA NRDs LLNRD, CPNRD, TPNRD and UENRD received in early 2023 for annual Nebraska GeoCloud support (ENWRA data management funds pay the remaining \$15,000 of the \$23,000 agreement which goes through June 30, 2027). ENWRA Recharge WSF #5312 presentations to NRDs were provided in early 2023 along with working meetings for the focus areas – the last CSD-USGS meeting was March 22, 2023 and the annual status report was filed with NeDNR March 30, 2023.

The ENWRA budgeting process through LPSNRD is in progress with the first draft for ENWRA's FY 2024 presented for group discussion (see attachment 1, numbers went through LPSNRD subcommittee April 27, 2023 and were updated to the final amounts in July 2023).

Several items were reviewed on the upcoming FY2024 budget and discussed as a group:

Mesonet: ENWRA sponsors 3 stations (Oakland, Firth, and Fordyce). LENRD mentioned they sponsor 2 stations and indicated that the Mesonet funding bill sponsors tabled the bill and there were concerns about future funding. Dustin elaborated there will be an "interim study" [LR208 - Interim study to examine the current funding mechanisms and operations of Nebraska's Mesonet system... committee shall upon the conclusion of its study make a report of its findings, together with its recommendations, to the Legislative Council or Legislature.']. [Update: Ruben Behnke is the new Mesonet manager and asked stakeholders/sponsors to look into adding potential stations and indicated the legislature bill is dead but many other grants and partnerships are in the works to build out the network with 200 stations and everyone within 15 miles of a station as the goal.]

ENWRA \$9,150 and test hole drilling: LPSNRD (for test holes planned in fall) and NNRD (for monitoring well maybe) in FY2024, LCNRD and LENRD planned for FY 2025. NNRD indicated Sargent wanted to do a demo site with sieve analysis to bring to light logging consistency with the scoring system NNRD has in place – group had discussion. LCNRD indicated Cedar-Knox with Downey planned at end of May and Martinsburg test hole.

Transducers:

ENWRA: ~60 transducers recording at 8-hour intervals at OAKLAND, ASHLAND, and FIRTH pilot sites, clustered multi aquifer units screened for vertical evaluations, (select wells record hourly for surface water gage and weather data comparisons). ENWRA has one HydroVu unit.

LCNRD: 50+ reading 8 hr, rediflo dedicated pumps in network

LENRD: 60-70 wells with telemetry, 50+ since 2011, troll 500s been replacing ones with dates reset, 4 new with one year data

LPNNRD: 70 transducers, 55 realtime, METOs online 2-3 years Update: HydroVu telemtry

LPSNRD: 18 transducers, half a dozen realtime, In-situ HydroVu

PMRNRD: handful of transducers with USGS

NNRD: 31 transducers, 8 with telemetry, decent signal, 2 years of 3 in Shubert. AgSense weather stations mentioned. Can't flip the y axis discussion.

LBBNRD: 46 wells with level troll 500s, telemetry in 24 (dozen adcon mccrometer units). Cost discussion: ~\$795 VuLink plus \$1000 per (also comment on getting y axis where it should be).

NeDNR: sounds like around 300 sites in region, NeDNR funded with LPNNRD on SQS#2 project with 30 realtime locations. Maybe a water sustainability fund grant application next March or project with ENWRA NRDs where NeDNR could match funds was discussed. Follow-up with NRDs and Aaron Young CSD regarding realtime.

ENWRA website:

Unanimous is who LPSNRD uses for their website, an initial cost estimate was around \$10,000 for a revamp of the ENWRA website and then it would be around \$1,500 per year to maintain and keep updated [UPDATE: formal proposal says \$12,000 initial switch, \$1,500 annual, working with LPSNRD to get the website launched and running in FY2024]. Several reasons for using the same website vendor as Lower Platte South NRD were outlined (ex: having inhouse support and prior experience already with the provider and associated software to make updates). Lower Platte North who uses a different vendor had a website revamp in 2018 around the similar ballpark cost wise, plus rates have only gone up in the years since. NNRD also uses Unanimous and reviewed the perks of getting demographics reports on how the website is used so they can cater content more to the bulk of users if needed. LENRD indicated aggressively go for updating the website. NARD also indicated they use Unanimous also and around six years ago they had built a know your NRD interactive map feature like ENWRA would be looking to add which worked out well.

AEM related projects/grants:

- NNRD and LBBNRD 2023 AEM flights – AGF has a Colorado survey and a Middle Republican NRD survey scheduled to fly first this summer then they will start LBBNRD survey and likely end of June early July for the NNRD AEM survey [Update: surveys flown in summer 2023 with bonus lines, reports coming out early 2024]
- LPSNRD has WSF #5311 scheduled to be ready at the end of the 2023 calendar year, with a similar approach as LENRD WSF #5243 and PMRNRD/LPNNRD #5303 which will cover the entire district gathering available AEM and borehole data into a 3D framework geologic model and will include recommendations for the District [Update: delivered in early 2024].
- LPNNRD indicated LPNNRD, P-MRNRD and LPSNRD along with NeDNR will get started with the Lower Platte River Basin Sub Regional GW Modeling model work in fall 2023 [Update: Model Development underway WSF #10070].

- LBBNRD mentioned a water quality project planned for fall 2023 [**Update:** AEM flights also planned for 2024 nearer to ENWRA boundary]
- Discussion on the AEM funding: comment that 2/27 Natural Resource Commission (NRC) members maybe had comments about not funding AEM anymore at the April 2023 meeting. NNRD mentioned NET application was short one point for AEM getting funding (went for both WSF and NET) and added to the NRC comments. Regarding WSF in March 2023: 19 applications were filed with 4 large (>\$250k) totaling \$13 Million asking and 14 small (<\$250k) totaling \$2.3 Million asking. The Omaha combined sewer is obligated each year (~\$1.1M). There is greater competition going forward. Alexa Davis mentioned updating NRC Storyboard and revamp of AEM success stories through podcasts and interviews to demonstrate benefit and use of AEM. [**Update:** Sept. 2023 coordinator met with Alexa about AEM updates to talk about – NRC meetings were July 19th and November 28th 2023 and one of the NRC members commenting on AEM left the commission and the LBBNRD had a subsequent AEM2 application funded Nov. 2023]
- Public Inquiries – property owners, drillers, towns – coordinator using 3D Projects to look at close-up of local areas with other supporting datasets

Nebraska GeoCloud (NGC) – Jesse Korus:

- The developer had annual maintenance and continued updates for FY2023
- Further developments for profile tool and online viewing tools include showing the boreholes and interpreted surfaces in 3D with the AEM. Test holes and registered wells from NeDNR are summarized into set standard keyword lithologies with well screens & water levels for each NRD. Public well details are not presented on the GeoCloud.
- Cursor moves on the map simultaneous with the profile and has hinge points you can set for reference
- GeoCloud is international so developments made for other countries or entities benefits all using the GeoCloud
- New user access levels and login, backend structure changes, and Groups organized mainly by NRD – the group discussed online access without email now that there are several access levels, could be read only level for general users
- Advisory Group and Upcoming Activities Update - looking for stories how GeoCloud is being used & surveys going out

Other future work topics:

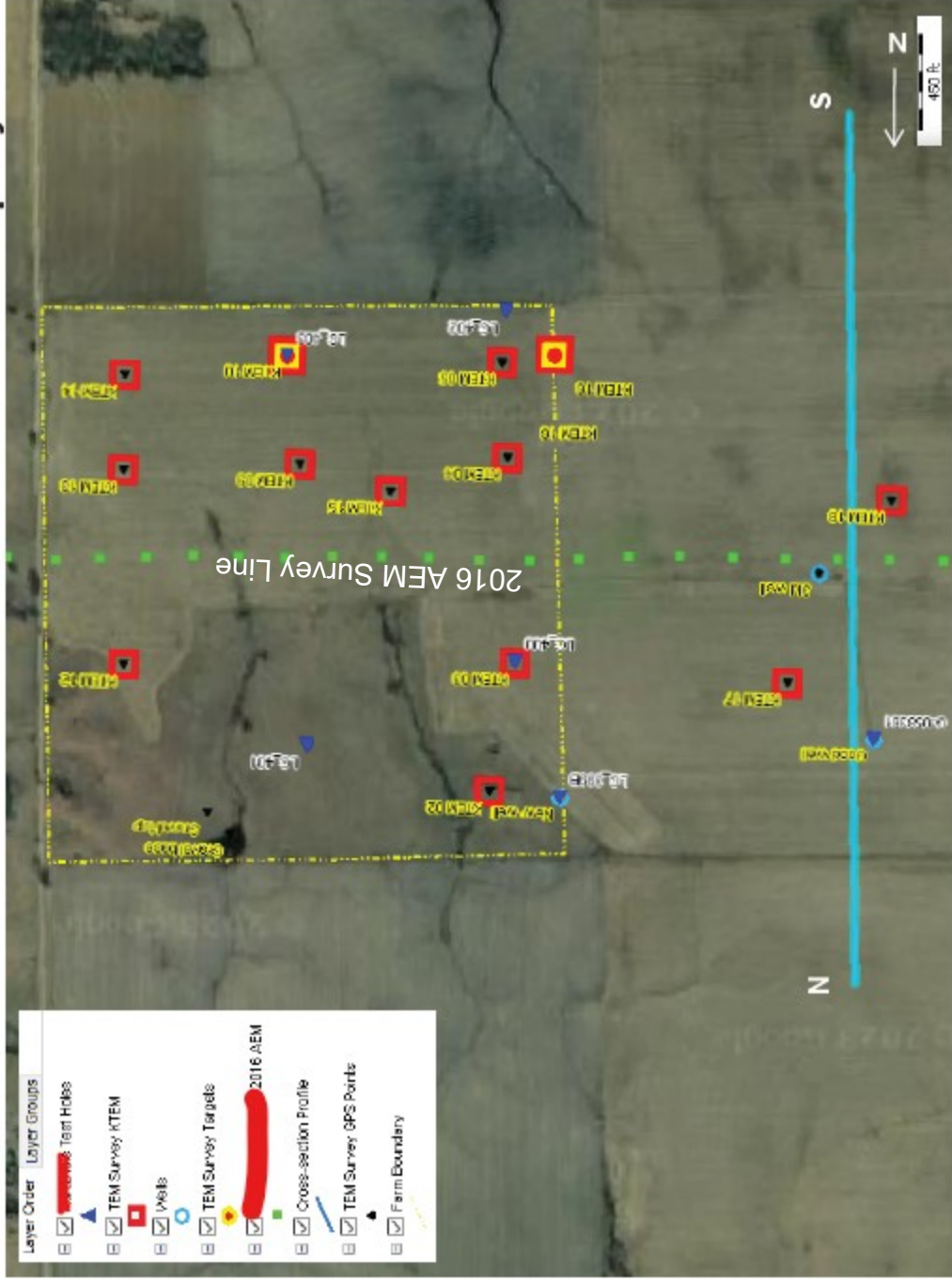
- **Upcoming:** Schedule individual ENWRA mtgs. following spring meeting regarding 5 year outlines, any new updates for group? Discussed meeting invite policy.
- **Ground-based geophysics:** CSD has a WalkTEM, we also have other ground layout geophysical equipment based out of Scottsbluff with Mohamed but ENWRA could use them through agreements like we do for test holes (maybe up to 5 virtual boreholes a day, costs are comparable with a day of test hole work and travel is the bigger part of the cost). Tools for Well Head Protection areas (WHPAs) or areas with remaining questions after AEM survey, or in other areas with data gaps. [**Update:** Example WalkTEM near 2016 AEM on profile example attached]
- **Recharge** is the main assessment focus for ENWRA now along with our current WSF. More pilot recharge assessment and data collection sites with a goal to obtain recharge factors for NRDs, the WSF covers 3 to 5 focus areas but other important areas to obtain rates are being identified in the Phase 1 work which need focused study. **Adjourn**

ENWRA Fiscal Year (FY) 2024 Budget

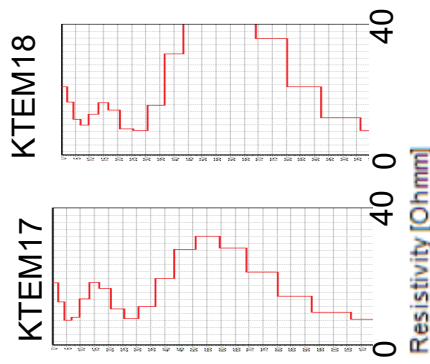
ENWRA FY24 FINAL :		Budgeted
Total Bank for start of FY 24:		\$ 343,605.21
Planned Routine (PR) expenses:		
PR Pilot site wells/equip maintenance	\$	15,000.00
PR Pilot site water sampling (includes <i>select</i> extra param.)	\$	17,000.00
PR Weather stations (new pricing)	\$	9,000.00
PR Test Holes or other \$9,150 use (NNRD, LENRD, LPSNRD)	\$	27,450.00
PR Conferences, booths, advertisements, handouts etc.	\$	2,500.00
PR Coordinator Salary (UNL Coop Agree. Y2 of 5)	\$	65,000.00
PR Coord. Office Reimbursement to LPSNRD	\$	5,000.00
PR Nebraska GeoCloud (\$15,000 from ENWRA account, \$8,000 from 4 non-ENWRA NRDs)	\$	23,000.00
	\$	-
	Subtotal	\$ 163,950.00
Committed (C) and/or Suggested (S) expenses for consideration:		
S Data Management (new Website set-up services, would also increase annual maintenance to \$1,500)	\$	12,935.00
C WSF Grant from Bank (recharge H M L grant with USGS and CSD), FY24 est. \$95,000 spending, \$57,000 est. DNR)	\$	38,000.00
S Consultant proposal OR 3D project with or without grant funds (includes possible new software \$2,000 and \$12,000 out-of-pocket for \$18,000 est. reimbursement on \$30,000 grant)	\$	14,000.00
	Subtotal	\$ 64,935.00
	TOTAL	\$ 228,885.00
Plus Incoming FY24 Dues: \$149,150 + NGC \$8,000)	\$	157,150.00
Plus interest on banked funds:	\$	1,000.00
	Estimated Bank going into FY25:	\$ 272,870.21

Note: LRIP Draft#1&2 used \$300,000 for BANK to start FY24 to round uncertainties & **\$230,565** was listed as FY25 start. **Red text** indicates Draft #2 revised amount with \$135 Dropbox and \$800 current website hosting overlap added to a \$12,000 updated proposal amount. **Green text** indicates updated after June 30, 2023 fiscal close. Note FY 2023 UNL (April 2023 to June 30, 2023) incurred charges did not get invoiced until Jan. 2024 and were incurred in FY2024.

North to South Cross-section West of the Farm Property



example WalkTEM Models:



Geophysical Legends:

