

Agenda Item: 8

## Memorandum

To: Papio-Missouri River Natural Resources District Programs Projects and Operations Subcommittee  
From: Paul W. Woodward, PE, Groundwater Management Engineer  
Date: March 2, 2018  
Re: Review and Recommendation on Amendments to District Policy 17.21 - Groundwater Management Program

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Proposed revisions to District Policy 17.21 – Groundwater Management Program incorporate the newly adopted Groundwater Management Plan (GMP) and associated rules and regulation. Other major amendments to the policy provide guidelines for financial assistance to private landowners and municipal public water suppliers to encourage the conservation or protection of groundwater in our District. These practices or activities that will be eligible for cost-share under the revised policy are based on recommendations found in Appendix E of the new GMP. See the attached proposed redline amendments to the policy.

The table below provides a description of the proposed cost-share practices and an estimated annual budget for each. The maximum cost-share amounts are either established by an annual payment rate schedule from the Natural Resource Conservation Service, or are based on rates established by similar programs in adjacent NRDs. The District's current FY18 budget has \$140,000 under professional services which was used to help develop the new GMP and rules and regulations. Since the GMP is complete, much of this funding can be focused on implementing these proposed incentives.

Phase or Level	Eligible Practice	Description	No. of Cost-Shares	Max Cost-Share	Annual Budget
I	Irrigation Water Management	2 to 3 soil-moisture sensors per 160 acre field w/ telemetry	25	\$1,300	\$32,500
II	Irrigation Water Management	2 to 3 soil-moisture sensors per 160 acre field w/telemetry	10	\$1,300	\$13,000
II	Soil and Water Nitrate Testing	1 soil test per 40 acres every other year	150	\$50	\$7,500
II	Fertilizer Meter	Purchase 1 meter and manifold	4	\$5,000	\$20,000
II	WHPA Plan	Develop WHPA Plan	1	\$30,000	\$30,000
HCA	Well Meter	1 flow meter for each well	55	\$900	\$50,000
TOTAL					\$153,000

**Management recommends that the Subcommittee recommend to the Board that the proposed amendments to Policy 17.21 – Groundwater Management Program be adopted and incorporated into the District's Policy Manual.**

**17.21 District Programs - Groundwater Management Program.** The Groundwater Management Program is an authorized program of the District, governed by the District's Groundwater Management Program Rules and Regulations (Appendix N). The authority for these rules is contained in Chapter 46, Reissue Revised Statutes of Nebraska, Article 7 of the Nebraska Groundwater Management and Protection Act. The program consists of a static water level and water quality monitoring programs, implementation of the District's Groundwater Management Plan, and implementation of the District's Integrated Management Plan.

- A. Static water levels have been recorded by Staff in both the spring and fall of each year at a number of irrigation well sites in the District since groundwater monitoring began in 1978. Data is provided to the United State Geological Survey and the University of Nebraska Conservation and Survey Division. The monitoring program will continue to be updated by Management.
- B. Water quality sampling and analysis has been conducted during the growing season at **both** individual wells (since 1992) and monitoring **2**-well nests (since 1999) across the District. The monitoring system will continue to be updated by Management.
- C. The District's Groundwater Management Plan outlines objectives towards meeting a groundwater reservoir life goal. The District's reservoir life goal is to maintain water in the groundwater reservoir in sufficient quantity and quality for all beneficial uses in perpetuity. As additional data becomes available, a revision to this goal may be made by the Board. The following groundwater management objectives are intended to achieve the reservoir life goal:
  - 1. Continue improvements to the Groundwater Level Monitoring Program in an attempt to provide the District with reliable measurements of the overall water level of each of the aquifers of the District and to assist in determining seasonal changes in water levels.
  - 2. Continue improvements to the District-wide Groundwater Quality Monitoring Program through cooperative efforts between the District, Nebraska Department of Environmental Quality and the U.S. Geological Survey.
  - 3. Encourage, through information and education activities, conservation of ground water quantity and protection of groundwater quality.
  - 4. Establish management or control areas in the District to address specific problems of groundwater quantity or quality, should the data collected indicate a need for such control areas.
  - 5. Continue to evaluate requests (petitions) from rural landowners for a more adequate and dependable water supply.
  - 6. Cooperate with other NRDs in the management of contiguous portions of the groundwater reservoir.

7. Continue to participate in the Eastern Nebraska Water Resources Assessment (ENWRA) to establish a hydrogeologic framework for the glaciated portion of eastern Nebraska.
- D. The District's Voluntary Integrated Management Plan (IMP) was developed and is administered in conjunction with the Nebraska Department of Natural Resources (NDRN) and outlines goals and objectives for the portion of the District within the Lower Platte River Basin where groundwater and surface water are considered hydrologically connected. The area affected by the IMP is the Platte and Elkhorn River alluvial aquifers and the surface area that drains to the Platte and Elkhorn Rivers. A requirement of IMPs is to implement at least one groundwater control. The District adopted a groundwater control that established a limit on the expansion of certified groundwater irrigated acres. Certification of irrigated acres consists of making application and providing documentation to the District, that an irrigation well is located in the hydrologically connected area and documentation of the number of acres irrigated using that irrigation well (Application for Certification of Irrigated Acres, Form 17.21-1, Manual of Standard Forms (Appendix E)). Those wishing to expand groundwater irrigated acres must obtain a variance from the District (Application for a Variance to Expand Irrigated Acres, Form 17.21-2, Manual of Standard Forms (Appendix E)). The first goal of the IMP is to implement policies to protect existing groundwater and surface water uses and allow for future development. The adoption of the groundwater control is intended to allow the District to meet that goal. The NDNR has adopted a comparable surface water control for the area. The limit on the expansion of irrigated acres and the rules and regulations for obtaining a variance are included in The Groundwater Management Program Rules and Regulations (Appendix N).
- E. The District's Groundwater Management ~~Program~~ Rules and Regulations also contain rules and procedures to manage groundwater irrigation runoff (Appendix N). A complaint form for use when groundwater irrigation runoff is observed is to be completed and returned to the District (Complaint of Violation, Form 17.21-3, Manual of Standard Forms (Appendix E)).
- F. The District's Groundwater Management Rules and Regulations (Appendix N) designate and establish Groundwater Management Areas within the District. Groundwater Quality Management Areas are designated as Phase I, Phase II, or Phase III. Groundwater Quantity Management Areas are designated as Level I, Level II, or Level III.
- G. The District's Groundwater Management Program may provide financial assistance to units of government or private landowners to encourage the conservation or protection of groundwater.
- a. Criteria for financial assistance
    - i. Public water suppliers with a designated wellhead protection area or municipalities with a designated wellhead protection area are eligible for financial assistance and are responsible for administering any professional service contracts required to complete a Wellhead Protection Area plan as specified in a written agreement with the District.



- in the current Natural Resources Conservation Service Nebraska Practice Payment Schedule for EQIP.
2. Provide 50% cost share on all Phase II or Level II eligible practices, up to a maximum cost equal to the General EQIP Payment Schedule as reported in the current Natural Resources Conservation Service Nebraska Practice Payment Schedule for EQIP. Cost-share for a fertilizer meter and manifold is exempt from the maximum General EQIP Payment Schedule, but shall not exceed a maximum NRD cost-share of \$5,000. Cost-share for soil and water testing for each landowner shall not exceed \$1,000 in any given year.
  3. Provide 50% cost share on all eligible practices within a Hydrologically Connected Area, up to a maximum cost equal to the General EQIP Payment Schedule for Irrigation Water Management, Advance Technique, as reported in the current Natural Resources Conservation Service Nebraska Practice Payment Schedule for EQIP.
  4. Provide 50% cost-share for a Wellhead Protection Area Plan not to exceed a maximum NRD cost-share of \$30,000

[February 5, 1987; December 11, 2014; February 8, 2018; March 8, 2018]