

Southwest Kansas GMD# 3
2009 E Spruce St
Garden City, KS 67846

November 13, 2019

Re: Proposed Modifications of the District's Management Program

Mr. Rude and Board of Directors,

Review of proposed modifications

On January 17, 2019 the District submitted proposed modifications to the District's management program (Proposed Program) for study, review, and approval pursuant to K.S.A. 82a-1029. In order to ensure that this review is still timely, we also conducted a brief comparison with your modified management program dated November 1, 2019 and posted on your website, even though that version was not submitted for formal review. We believe the comments regarding the Proposed Program are also applicable to the November version.

The Groundwater Management District Act, 82a-1020 et seq., (GMD Act) tasks the Chief Engineer with reviewing proposed management programs and modifications thereto by requiring the Chief Engineer to:

examine and study the management program and, if he or she finds that it is compatible with article 7 of chapter 82a of the Kansas Statutes Annotated, and all acts amendatory thereof or supplemental thereto and any other state laws or policies, he or she shall approve it and notify the board of his or her action." K.S.A. 82a-1029.

The act goes on to state that in the case of proposed modifications to a management program the Chief Engineer "shall transmit a supplemental written report of the results of his or her study and investigation to the board, including his or her written approval or disapproval of the modified management program." K.S.A. 82a-1029.

Upon review, the Proposed Program cannot be approved because it contains multiple statements that are "not compatible with Article 7 of Chapter 82a of the Kansas Statutes Annotated and all acts mandatory thereof or supplemental thereto and any other state laws or policies." Primarily, the Proposed Program seeks to limit and effect the Chief Engineer's authority in violation of K.S.A. 82a-1039 and it strays beyond the expressly granted powers provided to districts in the GMD Act. In doing so, the Proposed Program attempts to interfere with the lawful exercise of water rights by limiting the right to change the characteristics of the water rights and by limiting the right to enroll in statutorily authorized management tools such as multi-year flex accounts (MYFA) and water conservation areas (WCA). There is no express authority within the GMD Act that allows such limitations to be implemented by way of a management program. Instead, the Legislature gave districts the right to recommend rules for adoption by the Chief Engineer under the Kansas Water Appropriation Act (KWAA) for this

purpose. The Proposed Program further creates confusion because it contains numerous policy statements represented as required considerations of the Chief Engineer where no statutory obligations exist.

A more thorough review is contained in the supplemental report included with this letter. I have also attached selected pages of November 2019 Proposed Program draft, highlighting DWR concerns and questions.

This decision comes following significant dialogue with the District that began in early 2017. We have provided significant oral and written feedback on past draft revisions to the Management Program. For your reference, I have attached some of the significant written interactions, including links to two markups of previous drafts which contain our detailed review of these, past versions. Despite significant revisions, we find our key concerns previously expressed remain. In addition, our advice to simplify the document has gone unheeded, with the narrative of the document expanding significantly over time. As I note in my supplemental report, it is concerning, that the Proposed Program does little in the way of informing the public of Southwest Kansas as to how the District proposes to promote water conservation and meet the other public interest purposes contained in K.S.A. 82a-1020 for which the District was created.

Path forward

I sincerely believe the District has an opportunity to play a critical role in management of groundwater in Southwest Kansas. In order to make a difference in the future, a careful review of the region's groundwater problems, which are significant, variable and complex; must be followed by a careful review of the powers granted by the Legislature and how those powers can be used to significantly expand the conservation of the region's groundwater resources for the prevention of economic deterioration as envisioned by state law.

With respect to the Proposed Program, I suggest the Board consider giving the latest document a new title and purpose which does not require the Chief Engineer's approval and move forward with developing the action plans and smart goals discussed therein. Perhaps these action plans and goals, combined with select elements of the existing document describing the characteristics of the District and the nature of groundwater supply within the District, might serve as a basis for a modified management program that could be approved.

Again, the attached letters include not only our recommendations for meaningful water conservation actions but also many excellent suggestions from the two Regional Advisory Committees that share a concern for your region.

Sincerely,



David Barfield, P.E.
Chief Engineer

cc: Mike Meyer, Chris Beightel, Lane Letourneau, Kenneth Titus

Attachments:

- Supplemental written report regarding Proposed Program
- March 6, 2017 letter to GMDs with GMD management program update recommendations
- May 1 and May 5, 2017 emails from Barfield to GMD No. 3 policy committee on draft revisions of Management Program
- The markup is on our web site at: www.agriculture.ks.gov/gmd3
- May 8, 2017 email with RAC recommendations
- February 6, 2018 KDA input to GMD 3 on draft management program of fall 2017. The markup is on our web site at: www.agriculture.ks.gov/gmd3
- Select pages of November 2019 Proposed Program draft, highlighting DWR concerns and questions

THE STATE OF KANSAS



KANSAS DEPARTMENT OF AGRICULTURE
Mike Beam, Secretary of Agriculture

DIVISION OF WATER RESOURCES
David W. Barfield, Chief Engineer

**PURSUANT TO K.S.A. 82A-1029
THE CHIEF ENGINEER'S SUPPLEMENTAL WRITTEN REPORT
REGARDING THE MODIFIED MANAGEMENT PROGRAM DATED JANUARY 16, 2019 AND
SUBMITTED FOR APPROVAL BY THE
SOUTHWEST KANSAS GROUNDWATER MANAGEMENT DISTRICT NO. 3**

After having examined and studied the proposed Modified Management Program, dated January 16, 2019 (Proposed Program) for the Southwest Kansas Groundwater Management District No. 3 (District), submitted by the Board of Directors of the District on January 17, 2019 via email including review of the further modified management program dated November 1, 2019, the Chief Engineer, Kansas Department of Agriculture, Division of Water Resources (Chief Engineer) makes the following supplemental report of the results of such study and investigation.

Background

Pursuant to K.S.A. 82a-1020 *et seq.*, (GMD Act) the District was formed in 1976. On January 17, 2019 the District Board of Directors properly requested approval by the Chief Engineer of the Proposed Program. Pursuant to K.S.A 82a-1029, when a management program, including proposed modifications thereto, is submitted for approval, the Chief Engineer:

shall examine and study the management program and, if he or she finds that it is compatible with article 7 of chapter 82a of the Kansas Statutes Annotated, and all acts amendatory thereof or supplemental thereto and any other state laws or policies, he or she shall approve it and notify the board of his or her action.

That pursuant to K.S.A. 82a-1021(a)(8), a "management program" is defined as:

a written report describing the characteristics of the district and the nature and methods of dealing with groundwater supply problems within the district. It shall include information as to the groundwater management program to be undertaken by the district and such maps, geological information, and other data as may be necessary for the formulation of such a program.

Findings

Therefore, the Chief Engineer reports the following findings:

1. That the Proposed Program does contain significant information describing the characteristics of the district and groundwater supply problems within the district.
2. That while the Proposed Program includes a list of programs, statements of policy, and an extensive list of strategies for dealing with these problems, it fails to set forth a groundwater management program to be undertaken by the District. Despite the explicit requirements set forth in K.S.A. 82a-

1021(a)(8) requiring specific methods and the program to be undertaken, the Proposed Program instead reserves the development of a program for some future process. See Proposed Program (November 2019, page 3-4), which states:

This regional management program document contains a description of the nature and methods undertaken to address water supply problems in the district. *It is not written as an action plan but is intended to provide the basis for goals, coordinated action, water planning and addressing water program funding needs.* The GMD3 governing body follows a prescribed process to adopt a program update that can be referenced and considered by all administrative, planning, program and project managers having activities affecting district groundwater. GMD3 regularly adopts resolutions creating Board policy and selects supply and policy problems for resources and funding to address goals and action plans that are SMART FOR GMDs.

Thus, the Proposed Program fails to inform water users of the region how, with reasonable specificity, the District will address the identified groundwater problems. Therefore, the Proposed Program is not ready for public hearing because the public has no specific actions to evaluate, support, or oppose.

3. The Proposed Program contains multiple statements that are “*not compatible*” with the Kansas Water Appropriation Act and other state laws and policies. The Proposed Program improperly interprets and expands statutory language to suggest that the District, through its management program, has the power to limit the Chief Engineer’s authority in contravention of K.S.A. 82a-1039. Other statements in the document are unclear and appear to go beyond state law and policy, and thus should be removed. Below are illustrations, principally from the executive summary.
 - a. On page 4, “**GMD3 Mission, Objectives & Principles – Summary**”, the following statement is made: “*The GMD Act and ‘the right’ to manage groundwater use. It is the opinion of GMD3 that Kansas water policy in the GMD Act (K.S.A. 82a-1020 et. seq.) establishes ‘the right’ to determine the destiny of district groundwater use as a power, privilege, faculty, or demand, inherent in a GMD and incident upon others in support of the public interest.*” This statement is inconsistent with K.S.A. 82a-1020 which does not define the District’s “right” in such terms. The District is a “creature of the Legislature and its power is only such as is conferred either expressly or by necessary implication.” Kan. Att’y Gen. Op. No. 04-16. The District may only exercise the right to determine its destiny as provided by the Legislature and not by implication unrelated to those direct grants of authority.
 - b. On pages 4-5, under the heading “**GMD3 Water Rights Administration Summary**”, numerous statements are inconsistent with the GMD Act’s express intent. One of the express purposes of the GMD Act is “*to preserve basic water use doctrine*” and to allow local management “insofar as it does not conflict with the basic laws and policies of the state of Kansas.” K.S.A. 82a-1020. Elsewhere, the GMD Act explicitly states that “*Nothing in this act shall be construed as limiting or affecting any duty or power of the chief engineer granted pursuant to the Kansas water appropriation act.*” K.S.A. 82a-1039. In spite of these statutory limitations, the Proposed Program affirmatively seeks to assert that the Proposed Program does so limit and effect the Chief Engineer in statements such as: “*So, the activities of the GMD3 management program identifies **key public interest considerations** for water rights administration under the Kansas Water Appropriations (KWA) Act and the GMD Act in the district portion of Kansas. So, GMD3 activities that ‘determine their destiny with respect to water use’ and economy **necessarily involves participating in state water right proceedings affecting the area...Just and proper administration of water rights under the management program requires a multi-generational set of values applied to water appropriation doctrine and groundwater management law in the public interest...It is the***”

*opinion of GMD3 that ‘all other matters pertaining to the question’ of public interest under the KWA Act in K.S.A. 82a-711(b)(5) necessarily **must include the legislative declaration of public interest in the GMD Act under K.S.A. 82a-1020 and to consider the management program...The public interest in the management program and recommendations of the governing body are required considerations in water rights administration under the KWA Act.***

- c. Also on pages 4-5, under the heading “**GMD3 Water Rights Administration Summary**” the Proposed Program goes beyond any authority provided by the Legislature. This is evidenced by the plain language of the Proposed Program and in the District Board’s recent actions requesting administrative review of a change application to which the District was not a party. The practical impact of such statements is to attempt to bind the Chief Engineer to make decision based on criteria developed by the District, even when it conflicts with statewide law and policy. This is especially evident in the section on “*GMD3 Guidelines for evaluation of well drawdown estimates.*” The District does have tools to implement different or stricter standards as K.S.A. 82a-1028(o) allows the District to “*recommend to the chief engineer rules and regulations which relate to the conservation and management of groundwater within the district.*” The GMD Act does not allow districts to use a management program to circumvent or supersede the rule-making process. Water right changes and other approvals already must meet requirements of statute and over 100 pages of administrative regulations; there is no grant in statute to allow districts to add 100 pages of management program considerations as well. The District must use its power to recommend rules and regulations for this purpose.
4. Beginning on page 6, there are numerous statements under the “**GMD3 Water Conservation Summary**” section, which either clearly go beyond the authority granted to districts and the purpose of the management program, or statements that are ambiguous. These include but are not limited to:
 - a. Under “*MYFA conservation considerations*”, it is unclear what is meant by the following statement: “*Under the GMD3 management program, a groundwater conservation factor calculation is needed to implement the Multi-Year Flex Account (MYFA) calculation based on previously implemented groundwater conservation activity in the district.*”
 - b. Under “*Due consideration for past management or conservation measures*”, it is unclear what is meant by the following statement: “*Statewide legislative policy in the KWA Act (K.S.A. 82a-744) requires “due consideration” to implemented management and conservation measures when the Chief Engineer implements new limits on a member water right after July 1, 2015. The management program interprets this to include a specific set of public interest considerations in the management program.*”
 - c. Under “*Adopting or changing WCA plans and agreements*”, the following statement is inconsistent with state law by limiting and effecting the Chief Engineer’s powers: “*GMD3 encourages voluntary groundwater reservoir maintaining corrective controls in Water Conservation Area (WCA) consent agreements between members and the Chief Engineer that are consistent with the rules and policies of the GMD3 Board and management program in the public interest.*”
 - d. Under “*Multi-well use flexibility in GMD3*” “*New multi-well water use flexibility has been authorized by state policy in the KWA Act. Waivers of rules or local appropriation limits should include enough well evaluation affects for members to ensure future supply improvement to all prior rights and/or appropriate private consent agreements. Legislative policy for WCA’s in K.S.A. 82a-745 further provides the following: (m) Notwithstanding K.S.A. 82a-1039, and amendments thereto, nothing in this section shall be construed as limiting or affecting any duty or power of a groundwater management district granted to such district by the Kansas groundwater management district act. This assures “the right” of GMD3 vested by the legislature to make decisions and recommendations that will determine*

the destiny of the area. GMD3 well evaluation guidelines are used to limit “paper water” on the poor wells (incapable of providing the water) from moving to better wells (a concept termed “chasing water”) to protect the benefits of Type (2) water conservation activity and limit hardships imposed on others.”

5. On page 13, under “Expressed Powers”, the Proposed Program provides a summary of the powers provided to districts under K.S.A. 82a-1028, which adds to the legislative list in at least two ways inconsistent with state law:
 - a. Under number 15, to “recommend to the chief engineer the initiation of proceedings to establish special groundwater management areas, including an IGUCA, a LEMA and a WCA.” The Legislature only granted authority to recommend IGUCAs and LEMAs. and
 - b. Adding the statement “Other GMD powers may exist as necessarily and fairly implied in the statutory grant, such as the power to manage groundwater, and powers essential to the right and purposes of the GMD Act.” It is settled law in Kansas that districts are political bodies created by the legislature and have only those powers expressly granted to them.

After consideration of the information summarized in this Supplemental Report, the Proposed Program submitted by the District cannot be approved.



David W. Barfield, P.E.
Chief Engineer, Division of Water Resources
Kansas Department of Agriculture

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Jackie McClaskey, Secretary

Governor Sam Brownback

March 6, 2017

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Halstead, KS 67056

Southwest Kansas GMD #3
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Garden City, KS 67846

Northwest Kansas GMD #4
PO Box 905
1290 W 4th
Colby, KS 67701

Big Bend GMD #5
125 S. Main
Stafford, KS 67578

RE: GMD management program update recommendations

GMD Managers and Board Members,

During our joint meeting last November it was suggested that it would be helpful if KDA provided input and guidance to the GMDs on updates to their management programs, including advice on the level of detail required in such updates. Below are our thoughts and suggestions related to GMD management programs and their updates.

The GMD Act defines a management program as, “*a written report describing the characteristics of the district and the nature and methods of dealing with groundwater supply problems within the district. It shall include information as to the groundwater management program to be undertaken by the district and such maps, geological information, and other data as may be necessary for the formulation of such a program.*”

The Act requires the GMD Board to prepare a management program before undertaking active management of the district. In addition, the Board is to review the document at least annually and to update the plan as required, using the same process as required for the original program adoption (review and approval by the Chief Engineer, public hearing, adoption by the Board with notice to the Chief Engineer). Beyond the definition above and the process for adoption and revision of management programs, the Act provides little additional guidance.

Thus, we believe the Act provides significant flexibility for GMDs to develop a plan with the level of detail it believes necessary to outline and support the Board’s plan of action to address conservation of the District’s groundwater resources.

Last year GMD 4 updated its management program (see our web site or GMD 4's for a copy). It provides a good example of a plan update, particularly their work in designating high priority areas and the Board's active work in these area to develop plans for enhanced groundwater management. GMD2's management program also provides a good example of a plan with a significant level of data analysis to support their plan.

For your consideration, below is a listing of potential subjects for management program updates from KDA brain-storming:

- Identification and designation high priority areas within the GMD with plans to dialogue with water users within these areas regarding additional management they wish to explore and best means to accomplish (LEMAs, WCAs, proposing rules for the District, water banks, etc.)
- Education activities within the District to promote and facilitate the adoption of water savings measures and practices, particularly those which maintain the economic benefits of water use, such as alternate crops, use of technology and irrigation scheduling to reduce inefficient use, etc.
- GMD cost sharing on soil moisture probes and other technology for improved water management.
- GMD support for research on water conservation methods.
- Collection of stories and strategies from those who are using less water. Recognize those are using water most effectively. Develop a best practices manual for irrigation.
- Proactively work with those who are concerned about potential impairment and their neighbors before they file complaints.

In summary, we see the management program development and updating process as the means for each GMD to keep current its plans for action to fulfill the their purpose under the GMD Act: *to promote the conservation of groundwater resources and the prevention of economic deterioration; for associated endeavors within the state of Kansas through the stabilization of agriculture; and to secure for Kansas the benefit of its fertile soils and favorable location with respect to national and world markets.*"

We would be happy to meet with any of the GMDs as you develop updates to your management programs to share ideas and feedback during your update process.

Let us know if you have any questions.

Sincerely,



David W. Barfield, P.E.

Chief Engineer

Kansas Department of Agriculture

Division of Water Resources

Barfield, David [KDA]

From: Barfield, David
Sent: Friday, May 5, 2017 3:32 PM
To: Mark Rude; Kirk Heger (kirkheger@gmail.com); Kirk Heger (ag1stkh@pld.com)
Cc: Beightel, Chris; Metzger, Susan; Letourneau, Lane; Jason Norquest; Chris Law; Trevor Ahring
Subject: RE: GMD 3 management program update discussion
Attachments: Draft-MP-GMD3-2017-03-31wDWRcomments_2017-05-05.docx

Mark,

Per your request, attached is a markup with comments and suggestions on your 3/30/2017 version for your informal use. We had the core of this done early April but did not send it to you as we did not have sufficient time to finalize it before your subsequent drafts arrived. So we opted instead to provide the general comments and advice in my email of Monday.

Today, Chris, Mike and I reviewed the previous work and updated it some based on our discussion Tuesday. Our review was partial. I know we are 2-3 drafts behinds. **Use what is useful.** If you have questions, let us know as, just as we failed to understand some of your text without discussion, I am sure the same will be true of our comments and suggestions herein.

Chris mentioned the Western States Water Councils policy statements as model you might consider for material not necessary to a management program. See <http://www.westernstateswater.org/policies-2/> for a listing of their policy statements and examples.

We can do another review on your next version of the draft management program when you think appropriate.

David

From: Mark Rude [mailto:mrude@gmd3.org]
Sent: Wednesday, May 3, 2017 6:12 PM
To: Barfield, David <David.Barfield@ks.gov>; Kirk Heger (kirkheger@gmail.com) <kirkheger@gmail.com>; Kirk Heger (ag1stkh@pld.com) <ag1stkh@pld.com>
Cc: Beightel, Chris <Chris.Beightel@ks.gov>; Metzger, Susan <Susan.Metzger@ks.gov>; Letourneau, Lane <Lane.Letourneau@ks.gov>; Jason Norquest <norquest@gmd3.org>; Chris Law <claw@gmd3.org>; Trevor Ahring <trevora@gmd3.org>
Subject: RE: GMD 3 management program update discussion

David,

Thank you so much for taking the time to sit down with Mike, Chris, my staff, Mike McNiece, Mike O'Brate and Kirk Heger. I will be working to revise the management program some with the few priority tasks and immediate actions to accomplish them, based on our discussion.

We also began reviewing a list of comments you had identified, but ran out of time to hear but only a couple. As discussed at the end of the meeting, would you be willing to send your notes to us where we can consider them informally as we attempt to improve the draft document at the staff level for further board consideration next week?

Thanks again,
Mark

Mark E Rude

Executive Director
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From: Barfield, David [<mailto:David.Barfield@ks.gov>]
Sent: Monday, May 01, 2017 10:09 AM
To: Mark Rude <mrude@gmd3.org>; Kirk Heger (kirkheger@gmail.com) <kirkheger@gmail.com>; Kirk Heger (ag1stkh@pld.com) <ag1stkh@pld.com>
Cc: Beightel, Chris <Chris.Beightel@ks.gov>; Metzger, Susan <Susan.Metzger@ks.gov>; Letourneau, Lane <Lane.Letourneau@ks.gov>
Subject: GMD 3 management program update discussion

Mark and Policy Board members,

We appreciate the opportunity to collaborate with you as you draft your management program update. KDA-DWR and the district have the same compelling reasons to ensure that GMD3 has a meaningful, achievable management plan and the support to implement it. We sent along some general advice on management program updates in our March 6, 2017 letter to you (attached). After reviewing your recent drafts, we've prepared some additional comments and guidance to keep us moving towards a successful update of your plan.

The GMD Act defines a management program as, "*a written report describing the characteristics of the district and the nature and methods of dealing with groundwater supply problems within the district...*" GMD3's plan needs to lay out the district's water supply problems and the board's plan of action, under the existing statutes, rules and regulations, in a specific, concise, understandable way; no more, no less.

The management program is not the appropriate venue to discuss policy positions or stake out opinions on "water governance", re-interpretation and commentary on statutes, and such.

It is both your mission and ours to fulfill the respective purposes and roles prescribed to us by the Legislature. While the chief engineer is singularly responsible for administration the state's water rights, GMDs are tasked with recommending rules and acting via the powers prescribed to them in K.S.A. 82a-1028 to advance groundwater management within the Districts. Your management plan update should give particular attention to recent years legislation granting additional tools to address your water resource challenges within the District (LEMAs, WCAs, legislation aimed to remove disincentives to reduce use).

Thus, the plan needs to be a simple, clear document, defining specific problems, laying out specific goals (how much of the problem is going to be solved, and when), and specific actions (what is going to be done, and when) to solve those problems within the GMD's role and powers granted by the Legislature.

For instance, in the most recent draft one of your commitments is to "promote water use efficiency through new technology implementation". This worthy goal should be followed with a commitment and plan to achieve it, such as, "by March 31, 2018, the district will implement a cost-sharing program and will commit up to 10% of the district's assessments to the program to help its constituents implement water saving technology." Another statement in the recent draft says the district will, "reduce the rate of water level decline a minimum of 1% per year". There needs to be a plan for how this will happen.

As we have interacted with the board and membership, particularly over the last three years, we sense a heightened awareness of the problem of over-appropriation and a desire to do something tangible about it. We believe this growing consensus and the new tools developed in recent years (LEMAs, WCAs, revised MYFA for example) provide an historic opportunity for GMD 3 to take the lead in promoting and achieving water conservation that can sustain the region's economy into the future.

We look forward to continuing to work with you on your management plan update and will be happy to have further discussions with the board on how to best use this opportunity to serve our water users.

David

David W. Barfield, P.E.
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Barfield, David [KDA]

From: Barfield, David
Sent: Monday, May 8, 2017 4:08 PM
To: Mark Rude; Kirk Heger (kirkheger@gmail.com); Kirk Heger (ag1stkh@pld.com)
Cc: Beightel, Chris; Metzger, Susan; Letourneau, Lane; Jason Norquest; Chris Law; Trevor Ahring
Subject: RE: GMD 3 management program update discussion
Attachments: CimarronActionStepsGoals1_2from_Rpt_RAC_ActionPlans_Jan2017.pdf;
UpperArkActionStepsGoal1from_Rpt_RAC_ActionPlans_Jan2017.pdf

Mark,

I just became aware of and briefly reviewed the RACs Action Plans which KWO compiled earlier this year, including those from the Cimarron and Upper Ark RAC's (excerpts attached).

As I read the Cimarron RAC's "action steps" for its goals 1 & 2 below, it reinforced the idea that they are many non-regulatory that can address the problem of over-appropriation using the powers of K.S.A. 82a-1028 granted to GMDs. What entity will do these things if not the GMD? While they don't have the degree of specificity that we are suggesting, it seems a good list to review in developing your plan.

David

The Cimarron RAC **Action Steps** for their Goals #1 and 2

- Define and quantify the regional aquifer decline, establishing a baseline for comparison.
- Work with partners, including KDA and NRCS, to develop baseline of water saving technologies in use and voluntary incentive based conservation occurring and a method to track participation. Consider using the annual water reporting system, producer surveys and other means to identify water saving efforts if needed.
- Secure funding, including statutory SGF transfer to SWPF, to support water conservation programs and evaluation of technologies, crop varieties and water management to save water.
- Provide water users with information on available tools and programs, including but not limited to; LEMAS, WCAs, Multi-Year Flex Accounts, Water Banks, Irrigation Scheduling, RCPP-Soil Probe program through GMDs, K-State Extension tools, K-State Research/farms and additional tools and programs as made available.
- Change producer perception from a "use it or lose it" mentality.
- Use demonstration projects to educate producers to economically reduce water used. (Water technology farms, LEMAS, WCAs, K-State Research and Extension farm projects and other water management and water efficiency projects can provide valuable examples and information to producers to encourage their participation in water saving efforts.)
- GMD3 and DWR work with producers to establish LEMAs and WCAs.
- Build a network of agencies, organizations, researchers, industry and producers to disseminate credible, accurate information on water use, conservation and technology, programs and tools to reduce water use.
 - Utilize K-State and others to develop technologies and crop varieties to enhance water savings methodologies and deliver information.
 - Work with producer and farm groups to reach other producers.
 - Include municipal and industrial users in outreach.
- Evaluate the effectiveness of technologies and crop varieties to develop voluntary incentives and tools to economically reduce water usage.
 - Support water technology farms (WTF) in the region for evaluation of technologies and management methods to reduce the current level of water use with a goal of at least one WTF in a water stressed area and one in a non-stressed area.

- Develop mobile drip irrigation (MDI) statistics so funds could become available for technology upgrades through state and federal programs.
- Work with federal partners to make additional water saving technologies eligible for federal programs.
- Disseminate scientific and economic information on technology efficiencies and crop varieties as well as other relevant information from pilot studies, research and water technology farms.
- Use positive press releases to spread the word as WCAs are developed.
- Public water suppliers and industrial users should consider alternative uses of non-potable water and existing water supplies before developing any new water supplies.
- Public water suppliers should consider water rate structures to promote water conservation.

David

From: Barfield, David

Sent: Monday, May 1, 2017 10:09 AM

To: Mark Rude <mrude@gmd3.org>; Kirk Heger (kirkheger@gmail.com) <kirkheger@gmail.com>; Kirk Heger (ag1stkh@pld.com) <ag1stkh@pld.com>

Cc: Beightel, Chris <Chris.Beightel@ks.gov>; Metzger, Susan <Susan.Metzger@ks.gov>; Letourneau, Lane <Lane.Letourneau@ks.gov>

Subject: GMD 3 management program update discussion

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It is both your mission and ours to fulfill the respective purposes and roles prescribed to us by the Legislature. While the chief engineer is singularly responsible for administration the state's water rights, GMDs are tasked with recommending rules and acting via the powers prescribed to them in K.S.A. 82a-1028 to advance groundwater management within the Districts. Your management plan update should give particular attention to recent years legislation granting additional tools to address your water resource challenges within the District (LEMAs, WCAs, legislation aimed to remove disincentives to reduce use).

Thus, the plan needs to be a simple, clear document, defining specific problems, laying out specific goals (how much of the problem is going to be solved, and when), and specific actions (what is going to be done, and when) to solve those problems within the GMD's role and powers granted by the Legislature.

For instance, in the most recent draft one of your commitments is to "promote water use efficiency through new technology implementation". This worthy goal should be followed with a commitment and plan to achieve it, such as, "by March 31, 2018, the district will implement a cost-sharing program and will commit up to 10% of the district's assessments to the program to help its constituents implement water saving technology." Another statement in the



Cimarron Regional Advisory Committee Priority Goals #1 & #2 Action Plan

Priority Goal #1: Reduce the rate of decline of the Ogallala Aquifer in the region through voluntary, incentive-based conservation as assessed every five years.

Priority Goal #2: Extend the usable lifetime of the Ogallala Aquifer in the region through technology adoption (irrigation, industrial, municipal, etc.), new crop varieties and conservation for all uses and for many generations.

Goals 1 and 2 seek to reduce water use in the region therefore the following actions apply to both Goals. Goals 3 and 4 are strategies to address Goals 1 and 2.

Action Steps

- ❖ Define and quantify the regional aquifer decline, establishing a baseline for comparison
- ❖ Work with partners, including KDA and NRCS, to develop baseline of water saving technologies in use and voluntary incentive based conservation occurring and a method to track participation. Consider using the annual water reporting system, producer surveys and other means to identify water saving efforts if needed.
- ❖ Secure funding, including statutory SGF transfer to SWPF, to support water conservation programs and evaluation of technologies, crop varieties and water management to save water.
- ❖ Provide water users with information on available tools and programs, including but not limited to; LEMAS, WCAs, Multi-Year Flex Accounts, Water Banks, Irrigation Scheduling, RCPP-Soil Probe program through GMDs, K-State Extension tools, K-State Research/farms and additional tools and programs as made available.
- ❖ Change producer perception from a “use it or lose it” mentality.
- ❖ Use demonstration projects to educate producers to economically reduce water used. (Water technology farms, LEMAS, WCAs, K-State Research and Extension farm projects and other water management and water efficiency projects can provide valuable examples and information to producers to encourage their participation in water saving efforts.)
- ❖ GMD3 and DWR work with producers to establish LEMAs and WCAs.
- ❖ Build a network of agencies, organizations, researchers, industry and producers to disseminate credible, accurate information on water use, conservation and technology, programs and tools to reduce water use.
 - ◇ Utilize K-State and others to develop technologies and crop varieties to enhance water savings methodologies and deliver information.
 - ◇ Work with producer and farm groups to reach other producers.
 - ◇ Include municipal and industrial users in outreach.
- ❖ Evaluate the effectiveness of technologies and crop varieties to develop voluntary incentives and tools to economically reduce water usage.
 - ◇ Support water technology farms (WTF) in the region for evaluation of technologies and management methods to reduce the current level of water use with a goal of at least one WTF in a water stressed area and one in a non-stressed area.
 - ◇ Develop mobile drip irrigation (MDI) statistics so funds could become available for technology upgrades through state and federal programs.
 - ◇ Work with federal partners to make additional water saving technologies eligible for federal programs.
 - ◇ Disseminate scientific and economic information on technology efficiencies and crop varieties as well as other relevant information from pilot studies, research and water technology farms.
- ❖ Use positive press releases to spread the word as WCAs are developed.
- ❖ Public water suppliers and industrial users should consider alternative uses of non-potable water and existing water supplies before developing any new water supplies.
- ❖ Public water suppliers should consider water rate structures to promote water conservation.



Cimarron Regional Advisory Committee Priority Goal #3 & #4 Action Plan

Priority Goal #3: If individuals elect to conserve then they would be afforded flexibility (e.g. - allowing quantities to be moved, water bank movement, water conservation areas, etc.) Individuals may choose to remain with current water use but not be afforded the flexibilities.

- ❖ Increase adoption of water conservation through education by those who are currently using the technology.
- ❖ Identify existing conservation success stories and share with area producers, industry or municipalities as applicable.
- ❖ Initiate demonstration projects with willing producers in the region (technologies, crop varieties and management techniques) to reduce water use.

Priority Goal #4: As measured through increase in adoption by 50% as assessed each five years, promote the adoption of irrigation efficient technology and invest in university research to evaluate the effectiveness of such technology and crop varieties to develop voluntary incentives and tools to economically reduce water usage. Recommended strategy to achieve Goal - Increase adoption through education by those who are currently using the technology.

- ❖ Educate water users on new technologies through local papers, extension, meetings of producer groups, irrigation organizations, conservation districts, GMD3 and other means.
- ❖ Develop and disseminate results from the use of water saving tools by those who have adopted technology and management tools to economically reduce water usage.
- ❖ Use local demonstrations of technology/demo farms in region to share techniques.
- ❖ Provide Water Conservation Area (WCA) information, including dissemination with water use reports.
- ❖ Develop widespread awareness of EQIP, CRP, RCPP, CIG and other program availability and increase participation.
- ❖ Encourage improvement of municipal conservation plans, municipal rate structures and other means to encourage water use reductions.

Priority Goal #1: Extend the usable lifetime of the Ogallala Aquifer for at least 25 years in the planning region through the promotion of multiple Local Enhanced Management Areas (LEMAs), Water Conservation Areas (WCAs) and other incentive-based programs. Slow the depletion of the Ogallala Aquifer by 25% in 10 years in the planning region maximizing the opportunity to make use of emerging technologies. Encourage conservation through added flexibility. Find additional sources of water and a place to store water for irrigation and recharge. Increase the opportunity to use wastewater for other beneficial uses. Increase education of aquifer conditions.

- ❖ The depletion rate of the Ogallala Aquifer is based on the previous 15 years of data, 2000-2015. Usable life of the Aquifer is defined as 400 gpm well.
- ❖ Gather data to quantify the reduction in water use needed to reduce the depletion rate by at least 25% in 10 years and extend the life of the Ogallala in the region for at least 25 years. Use data to determine problem areas for focusing efforts.
- ❖ Gather data and disseminate information to water users in declining areas on soil/ water quality compatibility, water saving farming practices and Mobile Drip Irrigation (MDI) efficiencies.
- ❖ Focus on irrigation conservation (as largest user)
 - ◇ Encourage adoption of water conservation tools, Local Enhanced Management Areas (LEMAs), Water Conservation Areas (WCAs), technologies, crops and programs to reduce water use (new and improved programs).
 - ◇ Provide tools and assistance for WCA development and adoption.
 - ◇ Reduce inefficiencies in water use through proven technologies and best management practices, i.e., re-nozzle, technology advances and conservation programs.
 - ◇ Provide incentives to reduce pumping rates, reduce usage.
 - ◇ Support water technology farms as research and education tools for water use efficiency.
 - ◇ Define appropriate water needed to raise crop economically based on soil type and irrigation water compatibility.
 - ◇ Evaluate data on MDI for EQIP eligibility
 - ◇ Provide producers with information on water saving farming practices that add value to that farm.
 - ◇ Improve conservation programs such as CREP, and develop others to allow conversions to alternate crops or irrigation systems and remove county acreage caps.
- ❖ Maximize available water and promote conservation of municipal use through incentives, reduced water loss, and increased data availability to reduce gallons per capita per day usage. (Goal #3)
- ❖ Maximize available water and promote conservation of industrial use through incentives, benchmarking efforts, and increased data availability to reduce gallons per production unit usage. (Goal #4)
- ❖ Target conservation efforts along Arkansas River in Finney, Gray and Ford counties to aid in re-establishment of stream flow (Goal #2)
- ❖ Utilize 50-Year Water Vision Education Plan and other means to educate water users to adopt water saving technologies and management techniques, develop LEMAS, WCAs, understand water appropriation laws, and aquifer conditions. Provide decision makers with appropriate information.
- ❖ Develop alternative water supplies (capture runoff and high flows, reuse and recharge).
- ❖ Support research on water conservation and innovative, value-added concepts to offset economic loss.
- ❖ Support funding to provide water conservation actions and education.
- ❖ Support the exploration and investigation of surface water transportation for Kansas.
- ❖ Educate water users recognizing there are costs to individuals beyond program funds to reduce water use.

February 6, 2018

Southwest Kansas GMD #3
2009 E. Spruce St.
Garden City, KS 67846

RE: GMD 3 draft management program review

To: The Board of Directors of Southwest Kansas Groundwater Management District No. 3
(Board)

Thank you for the considerable effort you've invested in this latest draft of the GMD 3 Management Program (draft MP) dated August 11, 2017. Thank you for being responsive to several of our previous comments. There are several issues that still need to be addressed. We apologize if we did not previously communicate our thoughts effectively.

To help you re-formulate this draft, below are some main points and specific examples of why the draft has not yet been approved. We have also provided a copy of the draft management plan with recommended edits and changes as an attachment.

General Comments and Recommendations

- Replace the word "governance" with the word "management" throughout the document to be consistent with statute.
- Throughout the document we have recommended deletion of paragraphs and in some cases, full sections, to be more accurate and concise, stay consistent with statute, and to remain within the role and authority of a GMD.
- Please see the list in David Barfield's March 6, 2017 letter to the GMDs for potential actions for your consideration as you draft your action plans and goals.
- The draft document has a large number of potential actions included in both Sections V and VI, the sum of which will require considerable time and effort to implement and achieve. We recommend grouping these action items based on priority.

Specific Comments and Recommendations

Characteristics of the District – General Characteristics

- Highlight some of the key general characteristics about the district in a table. Including information on the average use and average annual reduction in storage could help readers understand the significance and magnitude of the resources remaining to be managed

Characteristics of the District – Economy

- Inclusion of the economic conditions in the district is useful background. If possible, include district-specific data rather than statewide.

Characteristics of the District – Water Use and Water Levels/Saturated Thickness

- Water use and water level/saturated thickness declines charts and maps are helpful references. As often as feasible, we recommend including data specific to GMD3 such as graphs on annual pumping or maps of estimate useable lifetime within the district.
- Moved many of the graphs and maps to an appendix and enlarged to full page.
- Percent storage remaining in 25 years is an important graphic to target areas that don't meet the allowable depletion rate. Replace the image with a clearer graphic so county numbers are readable.
- Add a sentence description to the caption for the Arkansas River Flow/Loss Chart to help readers understand the data displayed and its connection to the management plan.

Problem 1: Threatened Water-based Economy

- Add citations and sources for information related to contributions from irrigation to Gross Regional Product and statements related to growth in the economy with the application of less water.
- Some of the narrative included in the *Threatened Water-based Economy* section seems better suited for the Groundwater Conservation section. We have recommended moving this background and action items to Problem 3.

Problem 2: Water Right Impairment

- We disagree that water right impairment or water administration is a problem, it is the law. We recommend this section be removed or redefined to offer actions to reduce the risk of impairment in the district through proactive management and conservation.
- Related to groundwater banking, the concepts you raise are interesting and if actions to create a bank or a similar program are a proposed action item it should be described in the Activities section. With that in mind we have proposed a draft activity statement related to deferred groundwater use for your consideration.

Problem 3: A Culture of Water Conservation

- Related to minimum conservation standards, you discuss the goal of reducing local decline rates by one percent per year. While potential mechanisms to achieve this goal are described throughout the draft management plan, here could be an opportunity to add some details such as what is the baseline condition, how do those decline rates vary across the district, and will greater activity be focused in areas not meeting the goal?
- Identification of high priority areas within the GMD would strengthen the management plan. Could you designate, on a map, areas that currently do not meet your 1% decline per year target and begin with those areas as designated high priority areas?

Problem 4: Implementing WCA Maximum Water Utilization Provision

- The issues raised in this section are inaccurately described. Water Conservation Areas (WCAs) are a conservation tool, not a problem and not about maximum utilization. We have recommended removal of this section.
- KDA-DWR is working to develop rules and regulations for the WCA program. The arguments and issues raised in the draft management plan related to WCAs would be helpful during the development of these rules and regulations. We have also recommended an action item in Problem 3 to highlight this opportunity.

Problem 5: Arkansas River IGUCA (Intensive Groundwater Use Control Areas)

- We have recommended removal of some of the background to Problem 5 to reflect our understanding of the background and history of the IGUCA. We are a bit unclear of the purpose and direction of some of the activities described to address this problem and look forward to visiting with you more to hear your concerns and perspective on this issue.

Problem 6: Upper Arkansas River Corridor Water Management

- Activity 3 “Explore water storage options for water importation projects” seems to better fit with the background as described in Problem 1. We have moved it to the activities to address a *threatened water-based economy*.

Problem 12: Improve On-Site Water Management

- One activity describes promotion of on-site technology through the Tomorrows Aquifer Supply Collaborative (TASC). We are unfamiliar with this effort. Recommend adding some context or background about TASC in the problem description for Problem 12.
- Problem and activities described under “Enforcement” seemed to align with the content under “Improve On-Site Water Management” so we’ve recommended consolidating these two problems.
- Activities such as “Provide GMD3 enforcement assistance” and “Ensure an appropriate regulatory environment” warrant additional discussion with KDA, as well as, more descriptive detail of the specific activities.

VI. Programs

- Recommend including an introduction to this section to clarify how this section relates to the rest of the document.
- Recommend adding a clarifying sentence to the guiding principles (item #7). Do these guiding principles apply to the GMD review of water right applications?
- Contribution to future supply – can you clarify this guiding principle? Does this apply to groundwater banking?
- Recommend removal of “Board intervention” as a guiding principle as this extends beyond the authority of the GMD.

Data Collection Programs

- Recommended removal of a separate water rights database as this would be duplicative to the water right information system (WRIS).

Each of the above comments and recommended changes within the document are aimed at clarifying measurable goals for problems you believe GMD3 should be addressing and streamlining the document to improve its accessibility to district members.

While we recognize it may take time to re-formulate the document, we believe the process and product is well worth the delay and will be helpful to both the Board and members. This is an historic opportunity to address these long-term problems as there is increased interest in so many of the solutions and new tools provided.

We look forward to meeting to discuss our comments with the GMD3 Executive Committee and/or the Policy Committee.

The Groundwater Management Program

of the
**Southwest Kansas Groundwater Management
District Number 3 (GMD3)**

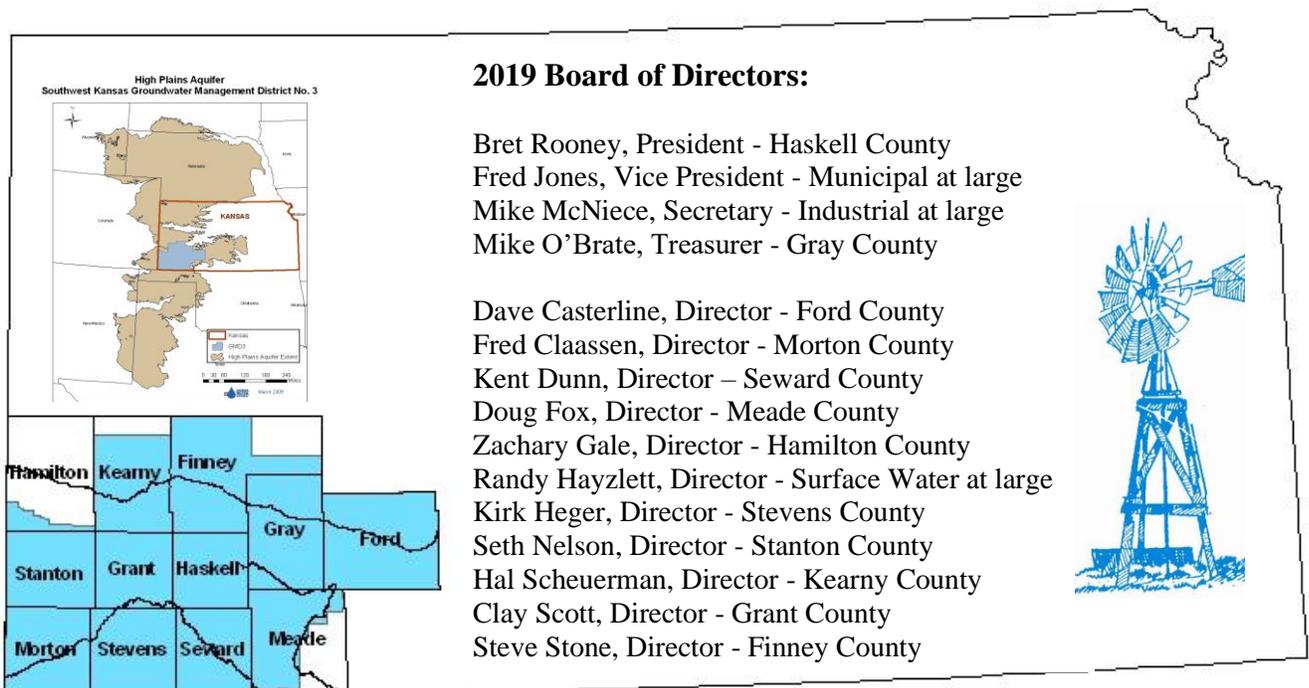
2009 E. Spruce Street, Garden City, Kansas 67846 (620) 275-7147

URL: [HTTP://www.gmd3.org](http://www.gmd3.org)

DWR highlighting reflects concerns and/or questions

DRAFT REVISED 2019

All policy and opinion expressed herein are of GMD3 and not necessarily that of other agencies.
Additional program implementation documents may exist as posted on the GMD3 website.



2019 Board of Directors:

Bret Rooney, President - Haskell County
Fred Jones, Vice President - Municipal at large
Mike McNiece, Secretary - Industrial at large
Mike O’Brate, Treasurer - Gray County

Dave Casterline, Director - Ford County
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Zachary Gale, Director - Hamilton County
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Seth Nelson, Director - Stanton County
Hal Scheuerman, Director - Kearny County
Clay Scott, Director - Grant County
Steve Stone, Director - Finney County

Southwest Kansas Working Aquifers – Conserving Every Day Since 1976

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Water

EXECUTIVE SUMMARY

GMD3 is a special district that conducts activities in water planning, policy development, water use and supply evaluation, participates in state administration matters affecting groundwater use and economy and represents membership interests in matters concerning groundwater management. GMD3 prepares and adopts the management program for the groundwater resources and makes recommendations to members, state and federal officials, the Governor, Kansas Legislature and to Congress.

PURPOSE FOR LOCAL GROUNDWATER MANAGEMENT - SUMMARY

Southwest Kansas features some of the most fertile agricultural land in the United States, but it typically receives less rainfall than necessary to consistently grow the crops and livestock that sustains the backbone of the economy. Water use fuels this agriculture-based economy. However, overdrafts on storage and insufficient groundwater replenishment have created a depleting groundwater supply condition and a threatened water dependent economy. Future economy and water services depend on the local management program activities implemented as a public interest.

Public Interest. As declared in the Kansas Groundwater Management District (GMD) Act, the Kansas legislature established the right of local water users and land owners to form, fund and operate a local groundwater management agency to address common concerns regarding water use affecting district members rights, health and wellbeing, and for proper management of local groundwater in affairs of local, state, and national government. The will to invest in ourselves is necessary to encourage others to invest in us. A **lead from local need** approach relies on a formal elected board to provides program oversight and management direction in water use affecting natural resources and economy. A GMD in Kansas is a special district independent special-purpose governmental unit that exist separately from other local governments such as county, municipal, township or school district governments, with substantial administrative and fiscal independence to perform a set of governmental functions identified by the Kansas legislature or consistent with the GMD Act.

Regular meetings. In more than 500 monthly meetings, the volunteer elected Board of Directors of the Southwest Kansas Groundwater Management District Number 3 (GMD3) has identified district water supply and policy problems and considered the nature and methods of addressing them with the assistance of members, professional staff, consultants, state officials and other important partners in Kansas groundwater management. Individual well yields, and the number of irrigated fields have declined dramatically in many areas and reduced pumping rates indiscriminately and adversely impact livestock feeding operations, dairies, ethanol plants, and municipal and industrial members, making it more difficult for them to meet demands for water. But there are areas where the groundwater reservoir supply and recharge rates offer hope for sustainable economic activity made possible through enhanced management and value of water.

Management Program. This regional management program document contains a description of the nature and methods undertaken to address water supply problems in the district. It is not written as an action plan but is intended to provide the basis for goals, coordinated action, water planning and addressing water program funding needs. The GMD3 governing body follows a prescribed process to adopt a program update that can be referenced and considered by all administrative, planning, program and project managers having activities affecting district

groundwater. GMD3 regularly adopts resolutions creating Board policy and selects supply and policy problems for resources and funding to address goals and action plans that are SMART FOR GMDs. Policy statements contained herein are GMD3 policies and practices for the management program and are not intended as a description of the policies of other agencies.

GMD3 MISSION, OBJECTIVES & PRINCIPLES - SUMMARY

MISSION: Act on a shared commitment to conserve and develop water supply to grow the social, economic and natural resources well-being for current members and future generations in the public interest.

Kansas water rights. Water is used in the district according to water rights established or perfected under Kansas law as supervised by the state Department of Agriculture's Chief Engineer and Division of Water Resources (DWR) and assisted locally by GMD3 for matters of concern occurring within the district. The management program describes key public interest in ascertaining, among other things, whether a proposed water use (or change in use) may impair other water rights or prejudicially and unreasonably affect the public interest. The GMD Act in K.S.A. 82a-1028(m) provide enumerated authority to GMD3 to "provide advice and assistance in the management of drainage problems, storage, groundwater recharge, surface water management, and all other appropriate matters of concern to the district." GMD3 participation in review of water use proposals is "advice and assistance in the management" of groundwater in "storage" and "all other appropriate matters of concern to the district."

The GMD Act and "the right" to manage groundwater use. It is the opinion of GMD3 that Kansas water policy in the GMD Act (K.S.A. 82a-1020 et. seq.) establishes "the right" to determine the destiny of district groundwater use as a power, privilege, faculty, or demand, inherent in a GMD and incident upon others in support of the public interest. The legislature recently added policy in K.S.A. 82a-1042 regarding the impact of proposed rules and regulations on a local groundwater management program, providing that when state agency rules and regulations are proposed which may change an adopted local groundwater management program or impact groundwater use in a GMD, the state official "*...shall notify ... of such requested management program change or proposed rules and regulations. Upon such notice, the board of directors shall prepare a response ... and ... shall follow the provisions of K.S.A. 82a-1029, and amendments thereto, for revising active groundwater management programs.*"

GMD3 PROGRAM ACTIVITIES - NATURE AND METHODS SUMMARY

locally prudent groundwater management decision-making and activities are authorized by the Kansas legislature guided by a formal elected board and management program to lead from the local need and play **an ancillary water administrative role.** The federal **High Plains Study** is an example early in GMD3 activities for exploring the feasibility of various management strategy alternatives for assuring adequate water supplies and are appropriate for updated evaluations.

GMD3 Water Rights Administration Summary

GMD3 members use water dedicated by law to the people of the state according to members real property rights under basic water use doctrines. **The customary use of these doctrines by water right owners and the state, not their mere codification, determine their meaning in practice. So, the activities of the GMD3 management program identifies key public interest considerations for water rights administration under the Kansas Water Appropriations (KWA) Act and the GMD Act in the district portion of Kansas. So, GMD3 activities that "determine their destiny with respect to water use" and economy necessarily involves participating in state water right proceedings affecting the area.** The basic legislative goal **for water use is** found in the KWA Act

in K.S.A. 82a-711(a) “...to the end that the highest public benefit and maximum economical development may result from the use of such water.” Just and proper administration of water rights under the management program requires a multi-generational set of values applied to water appropriation doctrine and groundwater management law in the public interest. The review of all applications and projects by GMD3 occurs to evaluate conditions and inform members and management partners of changes in groundwater supply that affect all member appropriators for at least one generation, or 25 years. The GMD3 evaluations increase transparency, inform capitol market participants, identify injury and impact concerns, quantify possible mitigation, and help manage transaction costs and risk associated with changing water use and conservation. It is the opinion of GMD3 that “all other matters pertaining to the question” of public interest under the KWA Act in K.S.A. 82a-711(b)(5) necessarily must include the legislative declaration of public interest in the GMD Act under K.S.A. 82a-1020 and to consider the management program. Additionally, a GMD must review and approve any conservation plan required by the Chief Engineer under the KWA Act per subsection (g) of K.S.A 82a-733. The public interest in the management program and recommendations of the governing body are required considerations in water rights administration under the KWA Act. Today, improved data and evaluation tools inform member interests to provide enhanced water management services for private water infrastructure investment and public partner needs in an ever-changing supply outlook.

GMD3 Water Rights Administration Principles:

- A. Preserve basic water use doctrine and lead from local need
- B. Conserve to preserve supply.
- C. A closed groundwater reservoir dedicates native supply to existing usufruct rights.
- D. Safe drinking water is a priority.
- E. Contributions to future supply have no penalty.
- F. Communicate and exchange information and expert evaluations.
- G. Seek mutual benefits and good will.
- H. Ensure necessary investment stability and intervene when needed.
- I. Promote free enterprise in acquiring use rights to available supply.

GMD3 Guidelines for evaluation of well drawdown estimates. To address the varied and diverse groundwater reservoir conditions across the district, GMD3 will use guidelines for well drawdown estimates to enable members to identify and consider reasonable water table lowering and critical wells with prior rights to the local source of supply, outlined as follows:

- A. **Drawdown Allowance.** Drawdown allowance (DA) is considered a reasonable water level or de minimis effect to allow some redrills and changes among critical wells.
- B. **Critical wells.** Wells in which economic and/or physical constraints are exceeded, indicating threatened water right impairment.
- C. **Economical Drawdown Constraint.** The GMD3 40% in 25 years maximum allowable rate of depletion or the percent of initial water column that can be lost before the well loses economical viability, generally 70%, whichever is more conservative.
- D. **Physical Drawdown Constraint.** Physical hardship is the loss of the required well yield due to excessive water level and well yield decline.
- E. **Domestic wells.** Assumed to have an appropriation right and to need 20 feet above the base of the water column to function.

Additional management program considerations. Board deliberations and recommendations on the management program, statute and rule standards governing groundwater supply include:

- A. **Public and domestic drinking water supplies.**
- B. **Water usability depletion.** A lowering of quality depletes usability.
- C. **Local groundwater supply clock** (depletion rate).
- D. **Maximum allowable rate of groundwater reservoir depletion.**
- E. **Water right priority contribution.** Not calling priority right to share limited supply.
- F. **Use of lessor quality water where economically and technologically feasible.**
- G. **Member property agreements in water use.** Agreements resolve disputes.
- H. **Economy use value.** Some consideration is inevitably applied to use-values that grow the value of the water used and of future supply.
- I. **Alternate supply.** Water imports and lessor quality water source treatment for use.
- J. **Improved groundwater inventory estimates.** Adding data and model estimates.
- K. **Water imports.** Outside capture transported into district supply.
- L. **Flexible use of prior well allocations.** May add use efficiency but subject to adequate evaluation to avoid adding critical well problems (impairment concerns).

GMD3 Water Conservation Summary

Wise use. Conservation is not so much about prohibiting or defeating consumption as using water wisely. GMD3 is a cooperating agency with partners to lead from local need for conservation that includes information, proper resource administration, program development, funding, supporting legislation, and working with members and project beneficiaries for water.

Water Conservation defined: (1.) Use efficiency and (2.) Groundwater reservoir maintenance.

Use efficiency: Use efficiency is the amount of valued output per unit of water diverted.

Maintaining aquifer storage: Defined as less native storage depletion or more future supply for a more sustainable groundwater reservoir infrastructure. In other words, encouraging voluntary choices for demand reduction and groundwater reservoir imports for improved future supply.

Unwise use and waste of water. Demands to discourage unwise use increase with decreasing groundwater storage. Activity that may unreasonably diminish groundwater value and/or be consumed with an efficiency well below what is now considered technologically and economically feasible **may receive due consideration as impairment of the GMD3 management program by preventable waste of water.**

Conserve-to-preserve factor. Used in evaluating water conservation, the groundwater conservation factor or conserve-to-preserve factor requires a separation of inevitable non-use (insufficient supply) from real groundwater supply maintenance decisions that add future supply.

GE&P Act. GMD3 works with KDHE and other partners in the implementation of the Groundwater Exploration and Protection Act for safe lawful well drilling, data collection and water protection from contamination or water usability depletion.

Drought resiliency. The Management Program provides ongoing drought resiliency strategy.

State mandated water conservation plans. Water conservation under Kansas Water Office water conservation plan guidelines focus on type (1) conservation for use efficiency defined as: *“The utilization of cost-effective water use efficiency practices to curtail the waste of water and to ensure that water use does not exceed reasonable needs.”* Hundreds of members have been required to implement conservation plans. GMD3 will emphasize type (2) water conservation.

MYFA conservation considerations. **Under the GMD3 management program, a groundwater conservation factor calculation is needed to implement the Multi-Year Flex Account (MYFA) calculation based on previously implemented groundwater conservation activity in the district.**

Due consideration for past management or conservation measures. Statewide legislative policy in the KWA Act (K.S.A. 82a-744) requires “due consideration” to implemented management and conservation measures when the Chief Engineer implements new limits on a

member water right after July 1, 2015. **The management program interprets this to include a specific set of public interest considerations in the management program.**

Rivers flow to groundwater storage. Linking natural and constructed water infrastructure to preserve water supply is an intended activity of the GMD3 water conservation program that exceeds state conservation plan guidance and emphasizes type (2) water conservation activities to maintain working groundwater reservoirs across the district.

Conservation storage in pore space. As waters of the state are declared a public good dedicated to the use of the people of the state subject to appropriation (K.S.A. 82a-702), **so too is aquifer pore space a necessary consideration under the public good of the GMD Act for the geological formations having pore space with natural or artificial water storage potential.**

Groundwater conservation preparing for major water imports. Available surface water flow in excess of prior rights presents an opportunity to conserve rather than waste transient water by developing water transportation lines and utilizing available groundwater reservoir storage for more sustainable drought resiliency.

Additional wells vs. supplemental wells and “chasing water.” Additional wells may be necessary to allow a partial sale and change of water right use. But additional well activity is distinguishable from adding supplemental wells to restore reservoir extraction rate and capacity in shared declining aquifer supply, **which raises concerns for changing purpose and strategy of the management program, causing a disproportionate local rate of groundwater reservoir depletion, anti-Type 2 water conservation activity and a “chasing water” concern to eventual complete depletion of supply to all.** A “standby well” is a source security condition under the terms and limits on a lawful primary well should catastrophic failure occur. A standby well meets well spacing from the primary well of other water rights and emergency pumping is limited to 60 days. A primary well is not required to meet well spacing from its standby well.

GMD3 Upper Arkansas River IGUCA. The Upper Arkansas River IGUCA was requested by the GMD3 Board in 1984 as a groundwater management area (GMA) to replace the 1977 moratorium on new appropriations and to extend corrective controls from the Colorado and Kansas Stateline across GMD3 along the river corridor. The GMD3 management program and the IGUCA order are key public interest concerns for regular updates with GMD3 participation.

Corrective controls. Corrective controls are additional new type (2) water conservation commitments that add future groundwater reservoir supply consistent with the management program and state law. Any provisions necessary to effectuate agreed-upon water conservation goals consistent with the public interest of the GMD3 management program.

GMD3 LEMA plans. GMD3 adopted a LEMA plan policy that any proposal should be recommended to the GMD3 Board by members as a priority GMA to be further managed with infrastructure development and/or corrective controls and specific considerations.

Adopting or changing WCA plans and agreements. GMD3 encourages voluntary groundwater reservoir maintaining corrective controls in Water Conservation Area (WCA) consent agreements between members and the Chief Engineer that **are consistent with the rules and policies of the GMD3 Board and management program in the public interest.**

Multi-well use flexibility in GMD3. **New multi-well water use flexibility has been authorized by state policy in the KWA Act. Waivers of rules or local appropriation limits should include enough well evaluation affects for members to ensure future supply improvement to all prior rights and/or appropriate private consent agreements. Legislative policy for WCA’s in K.S.A. 82a-745 further provides the following: (m) Notwithstanding K.S.A. 82a-1039, and amendments thereto, nothing in this section shall be construed as limiting or affecting any duty or power of a groundwater management district granted to such district by the Kansas groundwater management district act.** This assures “the right” of GMD3 vested by the legislature to make

decisions and recommendations that will determine the destiny of the area. GMD3 well evaluation guidelines are used to limit “paper water” on the poor wells (incapable of providing the water) from moving to better wells (a concept termed “chasing water”) to protect the benefits of Type (2) water conservation activity and limit hardships imposed on others.

GMD3 Ark River Management Summary.

The GMD3 management program includes the Arkansas (Ark) River. Authority for GMD3 Ark River Management Program activities are included in the GMD Act management “right” and in the list of district powers in K.S.A. 82a-1028 in paragraphs (g), (i), (m), (n) and (u).

GMD3 Upper Ark GMA. The portion of the basin above Garden City to the Colorado and Kansas Stateline that includes the IGUCA, ditch service areas and tributary underflow affecting supply is considered the GMD3 Upper Ark Groundwater Management Area (GMA) for purposes of the management program. This includes the paleo river channel fresh groundwater reservoir.

Resource crisis from water usability depletion. Changes in the basin water resource system have created mounting water management and usable supply concerns all along the basin that include very low-quality river water deep percolating into the subsurface, replenishing and contaminating the groundwater reservoirs. The saline mineralizing nature of the water reduces its usability, reducing crop yields and creating a drinking water public health and welfare concern.

Managing pre-compact water rights supply. There are existing vested rights (pre-1945) and pre-compact (pre-1949) water rights in the portion of the Arkansas River IGUCA below Garden City that are authorized over 200 cubic feet per second (CFS), creating a 200 CFS at Garden City and flow at Dodge City administrative threshold practice adopted to preserve supply to pre-compact water rights in the GMD3 Upper and Lower Ark GMA during wet river conditions.

River navigability for title. The obvious effect of “normal high-water mark” consideration on water development from a resource reality that one cannot manage what one cannot define.

GMD3 riparian interest and administrative river boundaries. GMD3 may propose river administration or easement boundaries that are consistent with prior administrative boundary determinations, working with the Secretary of State, Director of Kansas Water Office, the Chief Engineer of the Kansas Department of Agriculture and others in the public interest.

Managing GMD3 upper and lower Ark River GMA’s for conservation storage. Records indicate the GMD3 Ark river system can store about 200,000 acre-feet per month in groundwater reservoir space when river flows occur across the district. The natural recharge opportunities of the Upper Ark IGUCA hold significant promise for imports and enhanced water management.

Additional Program Areas.

The remaining program activities include water-based **Economy Preservation and Development** that recognizes the business of water governance with an understanding of public infrastructure and how it plays a role in development of economy, and the inevitable water costs to Kansas affecting wellbeing; converting undervalued supply to long term economic growth. Without it, annual economic loss could drop gross state product by \$18 million annually, with \$10 million of that coming from the GMD3 area. Also covered in the document are activities for **GMD3 Outreach, Advocacy and Public Education; GMD3 State Water Planning Coordination** to meet the state planning and state project needs of the district; **GMD3 Interstate Water Coordination** to meet the interstate needs of the management program; **GMD3 Models, Investigations and Research; and GMD3 Water Quality Protection** to address the data, water usability protection and remediation needs of southwest Kansas.

GMD3 MANAGEMENT PROGRAM



I. PURPOSE FOR LOCAL GROUNDWATER MANAGEMENT

Southwest Kansas runs on water. Water is a great connector in that everyone uses it and relies on its availability. Water has always been the key resource for the prosperity of all. There are other resources which may mean the difference between wealth and poverty, such as oil or gas or fertile soil, but none is like water as a fundamental necessity for our existence and nearly all other economic development. Our inheritance in both experience and knowledge from the past is far more than we know or realize. Abundant groundwater and energy supply in southwest Kansas historically allowed a significant development of private infrastructure and demand for water. Wise use and local management of groundwater supply requires the will to act on an essential service of leadership to adapt use and secure future water inventory with significant cooperative assistance from many partners in the public interest. Ultimately, all water supply depends on precipitation, transport and storage; managing stored water or parking transient surface water for later use. Overdraft on underground reservoir storage without parking additional supply creates a depleted groundwater source and a threatened economy. The challenges of a declining water table and groundwater contamination in some areas is pushing policymakers to integrate groundwater and surface water strategies in management activities. The extent of future economy and water services depend on the planning, integrity and brave action of members and partners implementing the management program.

The necessity for local groundwater government. Kansas water planning study recognized in 1958 (Cimarron basin study) a need for formal local groundwater management activity to work with the centralized administration of state water resources; a **lead from local need** perspective. Regular local policy review aids in avoiding institutional fragmentation, lack of coordinated decision-making, and encourages good practices of transparency and accountability. State administration of water in Kansas is mainly divided among three state agencies: Division of Water Resources of the Department of Agriculture with responsibilities for water appropriation and water rights; Bureau of Water of the Department of Health and Environment with responsibilities for water quality protection; and Kansas Water Office with duties of water planning and water programs coordination with support from the Kansas Water Authority. It should be noted that a number of other state agencies have a lesser but important role in the state administration of water, including: the Adjutant General's Department; the Kansas Biological Survey; the Kansas Corporation Commission; the Kansas Department of Wildlife, Parks and Tourism; the Kansas Geological Survey; Kansas State University Research and Extension; the State Conservation Commission/Division of Conservation of the Department of Agriculture; and the Secretary of State. Rapid private development and state permitting of groundwater use without locally adopted standards in the 1950s and 60s demonstrated a public interest need in Kansas for formal local groundwater management activity under a program locally adopted, funded and operated in coordination with state duties.

Purposes. There are several purposes for proper water management decisions affecting agriculture and supporting groundwater use. They are for the conservation of groundwater resources; for the prevention of economic deterioration; for associated endeavors within the state

of Kansas through the stabilization of agriculture; and to secure for Kansas the benefit of its fertile soils and favorable location with respect to national and world markets. These purposes identified by the Kansas legislature made it necessary to establish groundwater policy and provide for the formation of GMD's as a necessary and advisable instrument of public interest.

Groundwater management program policy. Policy statements contained herein are an expression of local government and the management program and are not intended as an expression of any state agency policies. **The Southwest Kansas Groundwater Management District No. 3 (GMD3) is intended to steer the course of public water management activities to meet the goals of the legislature and demands for water as the key public resource important to all. This management program provides an orientation and basis for the formal and informal policy norms and practices adopted for groundwater management purposes considered to be compatible with basic Kansas laws and policies (See K.S.A. 82a-1020, K.S.A. 82a-1029 and K.S.A.82a-1039).** Accordingly, this document is a written report of the characteristics of the district and the nature and methods of activities dealing with groundwater supply problems of the district as provisioned in state law for that purpose. Guidance and implementation documents that target strategic activities with available funding and other resource partners will be publicly considered and posted on the GMD3 website when adopted by the governing body of GMD3.

Regular program review and revision. An up-to-date management program document is required by K.S.A. 82a-1029. If it is proposed that the management program be revised, the board shall complete the management program proposed revision and transmit a copy to the chief engineer with a request for his or her approval. The chief engineer shall examine and study the management program and, if he or she finds that it is compatible with K.S.A. 82a-701 et. seq., and any other state laws or policies, he or she shall approve it and notify the board of his or her action. The Board then follows a notice and hearing process before adopting the document and seeking any needed rule revisions to implement the revised management program.

Resource management. Demand increases to grow use value as water supplies decline. So too, demand grows to take significant steps to add water and drought resiliency into the future of district agricultural production systems. Data indicates a direct correlation between timely rainfall and groundwater pumping, where soil moisture deficits and dry cycles must be balanced with the conservation opportunities associated with wet cycles and surface water availability.

Groundwater governance can be difficult for many reasons that include:

1. Groundwater is a shared resource;
2. Groundwater inflows and outflows are difficult to observe and cannot be measured directly;
3. Surface water and groundwater are interconnected;
4. Groundwater reservoir boundaries and characteristics may be locally unknown or poorly defined;
5. Groundwater management requires specialized model tools;
6. Groundwater conditions can vary on multiple time scales;
7. Groundwater use can pit present needs against future needs; especially in declining groundwater reservoir supplies;
8. Diverse local, state and federal interests, institutions and authorities require significant coordination activity for productive partnerships.

II. GMD3 MISSION, OBJECTIVES & PRINCIPLES



MISSION: Act on a shared commitment to conserve and develop water supply to grow the social, economic and natural resources well-being of current members and future generations in the public interest.

Kansas Water Law. It is important to know some basics of Kansas water law that set the framework for policy and water management decisions. The core of Kansas water law is comprised of several Acts or bodies of law that include the Kansas Water Appropriation (KWA) Act body of water use law, the Groundwater Management District (GMD) Act body of groundwater management law, and the Water Exploration and Protection (WEP) Act body of well construction and groundwater protection law. These Acts and amendments and other policies are intertwined in the history of the development of the state. So, to gain perspective of how to proceed with managing water use going forward, it is advisable to know some history and basics of Kansas water law beyond this management program document. **See: Water Primer, Part 5: Water Law, Kansas State University, January 2013.**

<https://www.bookstore.ksre.ksu.edu/pubs/mf3024.pdf> ; and **Water Law Basics.**

<https://agriculture.ks.gov/divisions-programs/dwr/water-appropriation/water-law-basics>

Kansas water rights. A water right in Kansas water law refers to the right of a person to take water under control from a Kansas public water source for beneficial use, such as from a groundwater reservoir, and to have that right continue unimpaired into the future subject to senior water right demands of prior rights to use available supply. The western US water law doctrine of prior appropriation (or “first in time is first in right”) has been a part of water policy in Kansas since the mid 1800’s (See Appendix for *Kansas Water Law and History Notes*). Uniform prior appropriation policy was not fully adopted for all usable water sources until the Kansas Water Appropriation (KWA) Act of 1945, whereby ownership of the water is dedicated to the people of Kansas as a public good, but the right to use the public water is a private right created under an application and state grant. The grant included water user actions and investment to apply the water to authorized beneficial uses that are certified as a real property right. Water rights may be recorded as developed and established real property rights that are part of a traditional "bundle of legal rights" transferred with land from seller to buyer as an appurtenance to the land, or a water right can be separated from the land and conveyed by evidence of a separate deed or lease. Domestic rights are not required to be recorded with the state. Domestic use has an implied Appropriation Right under the law for domestic use to the extent of actual use, and with all the protections of right under the KWA Act and management program participation assured under the GMD Act.

Impaired water rights. One water user can affect another’s ability to exercise their prior right to enjoy resource benefits in a limited supply setting. **This affect is assured in a declining groundwater reservoir where a well can become critically unable to meet investment backed authorized use demands within a reasonable prospective period of time and within reasonable economic limits (critical well).** So, a system of concepts and customary practice has evolved and been adopted to implement the KWA Act in southwest Kansas. This includes evaluating the effects of proposed use on other use rights for any new appropriation or change to authorized use, and to resolve complaints as to first right to the available local source of supply. The

principle of prior appropriation is basic Kansas water use doctrine where water rights are each assigned a priority date to establish who has first right to water. The KWA Act is administered by the Kansas Department of Agriculture's Division of Water Resources (DWR), which issues permits to appropriate water, regulates usage, and keeps records of all water rights, which are real property rights in Kansas. Short term permits are also issued by the state. The maintenance of water right and permit records allows Kansas water use to be defined, apportioned legally and managed fairly. In times of plentiful local supply, there may be enough water to satisfy all water rights. However, in times of water scarcity, like in a declining local groundwater reservoir, those who have earlier more senior water rights may be entitled to be satisfied before those who have rights junior to them. Except for domestic use, public water cannot be unlawfully appropriated, or even threatened to be appropriated, without first making application and receiving approval by the state. Local and state agencies can collect and share data on water use and water rights and take steps to fairly and efficiently administer use. Appropriate steps can increase transparency, inform market participants, clarify injury and impacts, quantify mitigation, and reduce transaction costs associated with the exercise of water rights. **The job of the state is guided by ascertaining whether a proposed use (or change in use) will prejudicially and unreasonably affect the public interest, which includes consideration of the management program for the aquifer area served by GMD3.**

Groundwater depletion. By the late 1960's, the legislature had become concerned with the groundwater "mining" (depletion) conditions of Kansas groundwater reservoirs and passed legislation in 1968 to enable the creation of groundwater management districts. When this legislation produced no GMD's, the legislature enacted the GMD Act of 1972. This Act deemed that in addition to water appropriation for beneficial use as a public good, it is also a public good "...to preserve basic water use doctrine and to establish the right of local water users to determine their destiny with respect to the use of the groundwater..." in providing for the formation and funding of GMD's by the groundwater users and land owners of the area.

The GMD Act and "the right" to manage groundwater use. The GMD Act established the public interest "... need for the creation of special districts for the proper management of the groundwater resources of the state; for the conservation of groundwater resources; for the prevention of economic deterioration; for associated endeavors within the state of Kansas through the stabilization of agriculture; and to secure for Kansas the benefit of its fertile soils and favorable location with respect to national and world markets (K.S.A. 82a-1020)." In that statute, the legislature set two elements of policy in law for groundwater management: "...to preserve basic water use doctrine and to establish the right of local water users to determine their destiny with respect to the use of the groundwater insofar as it does not conflict with the basic laws and policies of the state of Kansas." **It is the opinion of GMD3 that the GMD Act establishes "the right" as a noun. According to Black's Law Dictionary, 6th addition, pg. 1324, "Right ... As a noun, and taken in a concrete sense, a power, privilege, faculty, or demand, inherent in one person and incident upon another."** Applied to the plain language of the statute, this definition indicates a duly formed GMD3 governing body has the power, privilege, faculty, or demand vested by the legislature to make decisions and provide recommendations and conduct activities and have standing that determines the destiny of the area with respect to the use of the groundwater as a declared matter of public interest, provided it is done in a manner compatible with the other laws and policies of the state.

State duties. The GMD Act does not alter any duty or power of the chief state official (Chief Engineer) responsible for administering Kansas water rights as per the KWA Act (K.S.A.82a-1039) nor does it alter the duties or powers of other state water officials. Nor does it form a basis to prevent anyone from upholding basic Kansas water use doctrine (notwithstanding Gove County District Court Case No. 2018 CV 000010). The GMD Act declares a public interest in local government for groundwater management and also stipulates the process required to form, fund and operate the GMD and groundwater management program with direction for government activities either required or eligible to be undertaken.

Coordination of administrative rules. The Kansas legislature added policy in 2016 to the GMD Act (K.S.A. 82a-1042) to further implement its provisions that when rules and regulations are proposed by the Kansas Secretary of Agriculture or the Chief Engineer that may change an adopted local groundwater management program or impact groundwater use in a GMD, the state official “...shall notify the groundwater management district board of directors of such requested management program change or proposed rules and regulations. Upon such notice, the board of directors shall prepare a response of intended board actions. The board of directors shall follow the provisions of K.S.A. 82a-1029, and amendments thereto, for revising active groundwater management programs.”

Expressed Powers. To conduct the affairs of groundwater management as a public agency, a GMD must have a management program, sources of funding, regular meetings of the elected Board and members, respond to proposed management program changes, and exercise a list of enumerated powers (See K.S.A. 82a-1028) to accomplish the purposes of groundwater management:

1. Construct and operate works for drainage, recharge, storage, distribution or importation of water and all other appropriate facilities of concern to the district;
2. Levy groundwater user charges and land assessments, issue bonds and incur indebtedness;
3. Contract with persons, firms, or agencies of state or federal governments or private entities;
4. Conduct or participate in research and demonstration projects;
5. Sue and be sued;
6. Maintain equip, staff and an office;
7. Extend or reduce district boundaries;
8. Hold and sell certain property and water rights;
9. Require installation and reading of meters or gauges;
10. Provide management assistance of drainage, storage, recharge, surface water and all other appropriate matters of concern to the district;
11. Recommend to state officials’ rules and regulations necessary to implement and enforce Board policies that are not inconsistent with law, which relate to the conservation and management of groundwater within the district;
12. Enforce by suitable action, administrative or otherwise, rules and regulations adopted;
13. Enter upon private property for inspection purposes to determine conformance with policies;
14. Seek and accept grants or other financial assistance from federal, public or private sources;
15. **Recommend to the chief engineer** the initiation of proceedings to establish special groundwater management areas, including an IGUCA, a LEMA and a **WCA**.

Other GMD powers may exist as necessarily and fairly implied in the statutory grant, such as the power to manage groundwater, and powers essential to the right and purposes of the GMD Act.

V. GMD3 PROGRAM ACTIVITIES - NATURE AND METHODS

GMD3 conducts groundwater supply evaluation, local water planning, policy development, participates in state water administration activities and economy review to represent district water users and landowners in matters concerning groundwater management. It prepares and adopts the Management Program and needed policy for the groundwater resources of the district and makes recommendations to members, state and federal officials, the Governor & the Legislature.



Elements of the Groundwater Management Program

1. **Working relationships** with members and other local, state and federal agencies;
2. **Facilitate planning** of surface water and groundwater conjunctive use operations;
3. **Collaborating** to achieve efficient infrastructure and natural resource management investment;
4. **Harmonizing activities** of the GMD3 Management Program with state and federal activities of administering programs of water rights, natural resource conservation, water planning, water quality protection, infrastructure development and other government services;
5. **Managing** activities with good process and appropriate enforceable policies;
6. **Monitoring** groundwater levels and storage inventory;
7. **Mitigating** conditions of overdraft by encouraging conservation, exploring additional sources of supply and remediation of contaminated groundwater;
8. **Protecting** rights, recharge sources, infiltration areas, wellhead and groundwater reservoirs;
9. **Developing imported supply** for use services and groundwater conservation storage replenishment;
10. **Demonstrating leadership** to intervene and guide, or construct and operate groundwater supply, contamination cleanup, recharge, storage, conservation, water recycling, and extraction projects;
11. **Corrective Control** of depletions, including mineralized water intrusion into fresh supplies; and,
12. **Review and recommendation** on surface water, groundwater reservoir use and land use plans and work of other planning agencies to harmonize activities which may create opportunity or risk.

The Kansas Legislature provided for locally prudent groundwater decision-making guided by a formal elected board and management program to lead from the local need and play **an ancillary administrative role** in Kansas water interests and groundwater management. In more than 500 monthly meetings, the 15-member volunteer Board of Directors of GMD3 has identified district water use and supply problems and considered the nature and methods of addressing those supply problems, assisted by professional staff, consultants, state officials and other important partners in groundwater management. Even with the significant progress achieved, individual well yields and the number of irrigated fields have declined dramatically in many areas. Reduced pumping rates and unproductive wells are real and current events in an increasing area of western Kansas that indiscriminately and adversely impact livestock feeding operations, dairies, ethanol plants, and municipal and industrial users, making it more difficult for them to meet demands for water. There are district areas where the groundwater column and recharge rates offer hope for sustainable economic activity and growth through development of unused or uncommitted sources of Kansas water.

The High Plains Study example. In the year GMD3 formed (1976), the problem of depleting Ogallala Aquifer water supplies to support 15 million acres of irrigation crop farming in the High Plains region of the United States was addressed by Congress in Section 193, Public Law 94-587. The Intent was clear and concise in directing the Secretary of Commerce ". . . to examine the feasibility of various alternatives to provide adequate water supplies" for the High Plains Region, and ". . . to assure the continued economic growth and vitality of the region." To carry out the Congressional directives concerning the Ogallala/High Plains region and to fulfill a High Plains Study Council objective, two incremental management strategies to reduce water demands in the Region and three strategies to increase regional or sub-regional water supplies were formulated. The Framework for High Plains Study Management Policy Impact Assessment were to establish a "**Baseline**" trend projection of currently available water conservation and use technology and practices already in use to some extent at the time, with no new purposeful public policy to intervene with action programs for altering the course of irrigation water consumption (the Baseline). Then use the baseline condition to evaluate five strategies as follows.

- 1) A strategy which would **stimulate voluntary action** to reduce water demands through research, education, demonstration programs and incentives, using technology and practices either not considered Baseline practices or rates of implementation purposefully accelerated. (Management Strategy One)
- 2) A strategy which assumes Strategy One policies and programs and adds further water demand reduction by **mandatory programs** of a regulatory nature to control water use. (Management Strategy Two)
- 3) A strategy to add **local water supply augmentation** to demand reduction efforts. These actions included local practices such as cloud-seeding, local storage, ground water recharge, desalination, and snowpack and vegetation management. (Management Strategy Three)
- 4) A strategy of **intra-state surface water interbasin transfers**, importing water into the High Plains Region in accordance with State Water Plans. (Management Strategy Four)
- 5) A strategy of **interstate surface water transfers**, importing water from sources in areas adjacent to the Ogallala/High Plains Region by means of large-scale federal-state or federal projects to restore and maintain irrigation of the acreage that would have reverted to dryland farming by 2020 under Strategy One or Two. (Management Strategy Five)

Results of the Department of Commerce High Plains Study released in 1982 with a 40 page Executive Summary provides several analyses synthesized and available at: <https://scholar.law.colorado.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1007&context=new-sources-of-water-for-energy-development-and-growth-interbasin-transfers> Projected outcomes aid in making policy choices and choosing methods for translating policy into program administration. GMD3 utilizes this information to develop management program activities.

New High Plains study and planning can provide new cost and benefit projections that will further aid in making project, policy and program choices. GMD3 participated in a 2015 update of the 1982 High Plains Study Route B Water Transfer Element which identified significantly more Missouri River water available originally estimated. See: http://www.circleofblue.org/wp-content/uploads/2015/01/KansasAqueduct_DRAFT_Final_1982_Update_011615.pdf The GMD3 participation was not to promote the 1982 project as originally envisioned. GMD3 seeks to establish a set of transfer concepts from which Kansas and other western partners can work from to establish drought resiliency and further consider energy and water services obtainable from the conservation of the significant transient surface water flows available for management and transfer across Kansas to overcome present demand shortage and provide for future water needs, services, storage and drought resiliency.



GMD3 Water Rights Administration Program

For members to corporately act through their GMD according to groundwater law, GMD3 must be closely involved as a party in the water rights administration activities affecting district membership. The tools are available to support resource conservation and management activities; the most urgent need being policy consensus on the relative priorities of competing socially beneficial uses of Ogallala/High Plains Aquifer inventories and the practices for evaluating water rights. Kansas law requires the Chief Engineer decide on the question of impairment of prior water rights before approving a water application or proposal. GMD3 assists state water officials as a person with associational standing and statutory rights embodied in K.S.A. 82a-1020 for the proper management and conservation of groundwater resources, the prevention of economic deterioration and associated endeavors that can be invaded if not allowed to participate in review or a proposal impairs another water right or conflicts with the management program. The partnership of local groundwater government and state water officials, like the Chief Engineer, includes a shared effort to carry out the purposes of basic water use doctrine and the right declared in the GMD Act, where the Chief Engineer is to serve the public interest with powers to conduct specific duties as a neutral expert administrative judge.

State and local judgement. Because water rights are real property rights, the importance of transparent enforceable policy and expert judgement on questions of possible water right impairment should be emphasized to protect the public interest recognized in this management program and to uphold both basic water use doctrine and the right and purposes of the GMD Act. Accordingly, the Chief Engineer and agency staff of the Kansas Department of Agriculture are key partners in the GMD3 Water Rights Administration Program activities.

Public interest in proper management considers the science-based present and future conditions of an over-committed supply to satisfy water right claims for beneficial use with reasonable effects on declining water levels of storage dedicated to investment backed private property. **To conduct proper management and conservation, GMD3 has an associational and legal right to be party to all matters affecting basic water use doctrine and the management program that may suffer cognizable injury if impaired or ignored.** This public interest concern is based on a recognition that declining groundwater supplies are causing re-aridification of farms and communities as before groundwater development. **For changes to water rights, the traditional “net effect” evaluation preserves re-aridification and is inadequate to prevent impairment in most groundwater use settings that are subject to this management program. Given that “impair” is not defined in statute, a more precise method or basis of evaluation is provided for whatever numbers are chosen using the application of objective hydrologic principles applicable by all rather than as a matter of enforcing subjective rules favoring one party over another.**

Proper timing. The submittal of a water proposal to the state is a proper time to evaluate the local complexities of water rights, use demands, supply, management program and wise investments for water use and management improvement. The GMD3 management program for southwest Kansas is a key public interest element for consideration by water officials. All water users of an acre foot or more of groundwater pumped per year from within the district are eligible voter members who use waters of the state according to their water rights. So, GMD3 activities that determine the destiny of water use and economy per K.S.A. 82a-1020 necessarily involves

participation in all matters of water administration, including changes or allotments for water use. Under authority of the GMD Act, GMD3 adopted limits on the density and movement of pumping authority between wells and for proposed well locations based on well spacing and GMD3 site specific evaluations. Groundwater reservoir depletion limits not to exceed 40% of supply in 25 years were set. GMD3 calculations became recommendations relied on by the state Chief Engineer, Division of Water Resources. The outcome of application approval for thousands of water project proposals can profoundly affect the future success of the management program and local groundwater conservation efforts.

Improved data. Today thanks to efforts of many partners, improved data and GMD3 groundwater reservoir evaluation tools add value to member interests and support the prescribed review of the state under Kansas law K.S.A. 82a-711 and other laws. The GMD3 “711” evaluations serve the application review process to assist member water management and private infrastructure investment needs by applying expert study, fact finding, analytical and numerical calculations and other work intended to inform and support member interests and aid in addressing key proposal questions of well pumping and water supply effects under present use and declining groundwater level conditions.

No free lunch. Relocating wells or pumping authority for better well yield simply adds to the rate of decline of the dwindling groundwater supply. There is no free lunch. Someone’s well(s) will pay the price of changing appropriation locations. The circumstances require an indication of what the price will be. So, GMD3 critical well concerns extend over a future evaluation period to look beyond traditional minimum average condition based spacing rules to include other public interest considerations of scarcity and security. Some response in the management program through innovation and collaboration is key to addressing water scarcity. The GMD3 board plays a critical Kansas role of responsibility and local accountability to members for both preserving basic water use doctrine and for the implementation of the locally adopted management program. Acts opposed to either could cause irreparable harm to the district water supply and economy.

No one wants regulations but most want protections from scarcity. Nobody wants to see anybody lose any groundwater, but people are. Nobody wants to see that hardship come to anybody, but there is going to be hardship (well yield decline, stored supply decline and increased water costs). Reality is a harsh reminder of the cruelty of water shortage. The question is how we deal with it and how members and partners accept responsibility for the economic and social burdens of water shortage with brave action.

1. **GMD3 Water Rights Administration Guiding Principles:**

- A. **Preserve basic water use doctrine and lead from local need.** An implied legislative purpose of the GMD Act.
- B. **Good public record for good decisions.** Complete and transparent public record of facts, science and policy provides for good public decisions.
- C. **Conserve to preserve supply** – Engage members to grow present and future benefits from preserved or replenished supply. In the depleting groundwater reservoir, limiting “paper water” on poor wells (incapable of providing the water) from moving to good wells (a concept termed “chasing water”) will protect conservation benefits and avoid imposing added hardship on member wells.
- D. **A closed groundwater reservoir dedicates native supply to existing usufruct rights** – Groundwater reservoir inventory and recharge sources closed to most new

appropriation becomes dedicated to users having existing real property rights owned by eligible voters. New appropriations should be offset by non-use of prior rights or replaced to assure a net zero or less change in depletion rate supply.

- E. **Drinking water necessity**- Safe drinking water is a fundamental necessity of every person which must be considered in member management activity for future supply, with considerable assistance from GMD3 and all partners. It is an anomaly in the law and in proper management of groundwater if one person can for individual profit destroy the community and render the neighborhood uninhabitable.
- F. **Contributions to future supply** - An unexercised right to enjoy an acre foot or more of groundwater from a declining groundwater reservoir supply in the district that is physically and lawfully divertible from an existing operable well has a present groundwater conservation value resulting in voluntary conservation measures that GMD3 can recognize as a contribution to future district supply under the management program.
- G. **Communicate to exchange information** - Good and effective communications between GMD3, its members and state and federal regulators are necessary for productive partnerships that implement the management program.
- H. **Seek mutual benefits and good will** - All water users and landowners can make water right decisions, agreements or stipulations between property right interests that promote mutual benefits and goodwill in the use and conservation of the groundwater supply in the district for a reasonable future period. Annual “call” administration between rights to groundwater storage is not practicable.
- I. **Ensure necessary investment stability** - Spur wise water-resource development and intervene to protect the interests of all members.
- J. **Promote free enterprise** – Enable a market-based system of water rights administration of available supply.

Members use waters of the state of Kansas according to their water rights. Water rights are granted by statute or by statutory process with private investment in order to be granted vested or appropriation rights. Those rights are known and have value in the market place. Water use is supervised administratively by the state Department of Agriculture, Division of Water Resources in the GMD3 area in a manner consistent with the rights of GMD3 members according to the KWA Act and the management and public interest under the GMD Act. A key legislative policy for such activity that pre-dates the GMD Act is found in K.S.A. 82a-711(a) “...to the end that the highest public benefit and maximum economical development may result from the use of such water.” Once granted, a water right becomes a real private property right to use available water in a manner consistent with the terms, limitations or conditions of authorized and perfected use. A water right is not a guarantee of a water supply and is subject to available supply not needed to satisfy demands for water by owners of prior rights. The question of whether a hardship or injury to water supply may be realized under member use or threatened by new use proposals for pumping wells from depleting local supply has always been a public interest concern of GMD3 to fairly share use and to conserve and extend supply.

Kansas Law K.S.A.82a-706b(a) provides in pertinent part: *“It shall be unlawful for any person to prevent, by diversion or otherwise, any waters of this state from moving to a person having a prior right to use the same...”*

Also, K.S.A.82a-711(c) provides in pertinent part: *“With regard to whether a proposed use will impair a use under an existing water right, impairment shall include the unreasonable raising or lowering of the static water level or the unreasonable increase or decrease of the streamflow or the unreasonable deterioration of the water quality at the water user’s point of diversion beyond a reasonable economic limit.”*

It is widely accepted that the KWA Act endows the Chief Engineer with certain statutory duties to grant and protect water rights according to the doctrine of prior appropriation under prescribed considerations. **These include the effects on other wells within reasonable economic limits as described above and to consider all matters pertaining to public interest per K.S.A.82a-711(b) as follows:** *“(b) In ascertaining whether a proposed use will prejudicially and unreasonably affect the public interest, the chief engineer shall take into consideration:*

- (1) Established minimum desirable streamflow requirements;*
- (2) the area, safe yield and recharge rate of the appropriate water supply;*
- (3) the priority of existing claims of all persons to use the water of the water supply;*
- (4) the amount of each claim to use water from the appropriate water supply; and*
- (5) all other matters pertaining to such question.”* (Emphasis added)

It is the opinion of GMD3 that for “a proposed use” within the GMD3 area, “all other matters pertaining to the question” under K.S.A. 82a-711(b)(5) necessarily must include the management program and board recommendations as a legislative declaration of public interest in K.S.A. 82a-1020 of the GMD Act and declaration of the Chief Engineer in the formation of GMD3 per K.S.A. 82a-1024. In addition, K.S.A. 82a-733(g) provides the following: *“(g) Any conservation plans and practices required pursuant to this section with regard to any groundwater right or permit to appropriate groundwater from within the boundaries of a groundwater management district shall be subject to approval by both the chief engineer and the board of directors of the groundwater management district unless such plans and practices are incorporated in the groundwater management district's management program which has been approved by the chief engineer pursuant to K.S.A. 82a-1029 and amendments thereto.”* Legislative policy in K.S.A. 82a-745 of the KWA Act further assures the intended ancillary role of the GMD3 management program and consideration by the Chief Engineer for the district area as follows: *“(m) Notwithstanding K.S.A. 82a-1039, and amendments thereto, nothing in this section shall be construed as limiting or affecting any duty or power of a groundwater management district granted to such district by the Kansas groundwater management district act.”* (emphasis added).

These and other provision of law illustrate legislative intent to preserve the right, purposes and public interest declared in the GMD Act for GMD3 to make decisions and provide recommendations that guide public interest and the destiny of the GMD3 area with respect to the use of the groundwater, and part of the prescribed considerations of the Chief Engineer under his duties in both the KWA Act and the GMD Act and further provides

standing in such matters. This includes the provision for changing water rights under K.S.A. 82a-708b where “...*The chief engineer shall approve or reject the application for change in accordance with the provisions and procedures prescribed for processing original applications for permission to appropriate water.*” Preserving the K.S.A. 82a-711 (711) provisions and procedures in changing water rights also preserves the considerations of the management program as a key water administration public interest.

Just and proper administration. Just and proper administration of water use under the activities of the district management program and state partners has been a fundamental reason for the formation and operation of the district by the water users and landowners. The customary use of basic water use doctrines, not their mere codification, determines their meaning in practice. It is therefore necessary for GMD3 to review applications and projects, guided by adopted review process, evaluation guidelines, and rules to provide the necessary information and program services to member water users and others who are affecting the groundwater reservoir conditions upon which all members depend. These activities are to both satisfy water rights and apply due consideration for efforts to conserve water and any extent management efforts may be undermined by any activities proposed or otherwise. More than 40 years of additional data, custom, law and input has influenced the management program since GMD3 formed in 1976.

2. GMD3 will provide comments and recommendations of the management program.

As local groundwater reservoirs decline, the value of available usable water goes up. K.S.A. 82a-1028(m) authorizes GMD3 to "provide advice and assistance in the management of drainage problems, storage, groundwater recharge, surface water management, and all other appropriate matters of concern to the district." **GMD3's position is that participating in a hearing on the issue of whether a proposed permit or water right change will impair existing water rights is "advice and assistance in the management" of groundwater in "storage" and "all other appropriate matters of concern to the district."** To operate the management program, GMD3 will seek to build good record on which good decisions are made by providing comments and recommendations. The Board of GMD3 may include the following considerations in their deliberations and recommendations of the management program and standards governing groundwater use.

- A. **Public and domestic drinking water supplies.** Steps to ensure quality drinking water is available locally for people and animals is recognized as a necessary element of the groundwater management program. No modification to historic terms of groundwater use should contribute to unreasonable or unsafe drinking water supply conditions, including deteriorating drinking water quality (Water Usability Depletion).
- B. **Water usability depletion.** Water usability depletion is when the value of use of water supply is lessened or impaired by a decline in water quality, causing a material depletion in the utility of the water. The degradation of quality can either restrict or eliminate the beneficial use or reuse of water or require additional “fresh” water use to dilute or replace the degraded water. People clearly understand the situation of water flowing into a salty sea, but poorly understand “the equivalent amount of water” lost when “good” groundwater reservoirs suffer a loss in water quality.

- C. **Maximum allowable rate of groundwater reservoir depletion.** For groundwater management purposes, available supply from the OHP groundwater reservoir is subject to a maximum allowable rate of depletion not to exceed 40% in 25 years; a limit adopted by GMD3 on July 12, 1978 and made enforceable by rule of the Chief Engineer for new appropriations. This depletion rate cap set the maximum allowable local consumption rate of the OHP groundwater reservoir. Preserved in rule for evaluating closure of entire areas, the depletion rate cap is applied here as a groundwater reservoir public interest and economic constraint under the management program, given that the entire groundwater reservoir is considered closed to most new appropriations unless offset by unused prior right commitments whose use is not already constrained by conservation corrective controls or physical lack of accessible supply (paper water).
- D. **Well drawdown estimates.** Conducting well evaluations in declining groundwater reservoirs to identify critical wells (supply hardship wells) will provide a framework where analytical tools such as a Theis Calculation and numerical tools such as the GMD3 Groundwater Model can be applied and considered to inform water right administrative decisions where critical wells may be strong candidates for impairment of associated water rights.
- E. **Local source of supply.** In the history of the GMD3 management program, GMD3 has used local source areas of groundwater reservoir supply ranging from a section centered on a 9 square mile block to a two-mile radius circle centered on a well to calculate supply availability or maximum allowable depletion rate. Administrative practice and hydrological constraints suggest a local source of supply for a K.S.A.82a-708b(a)(3) demonstration should not allow a move beyond a 2-mile radius circle. Management program rules and guidelines may further constrain changes or change-like evaluations affecting groundwater management.
- F. **Water right priority contribution.** GMD3 member-owners of senior water right interests who stipulate conditions, provide forbearance agreements or otherwise withhold priority call against other users in a local source of supply provide mutual benefits and good will to be recognized as supporting the management program.
- G. **Use of lessor quality water.** Under state law (K.S.A.82a-711), lessor quality water with a lower usability factor must be considered for uses over better quality water where technology and economics will allow it.
- H. **Member agreements contributing to the Management Program.** GMD3 members seeking rule waivers or negotiated water management plans who enter into agreements that support neighbors' needs when developing a conservation proposal, and who meet the requirements of K.S.A. 82a-711 and K.S.A.82a-706b to satisfy prior rights for at least 25 years, may be recognized as contributing to the GMD3 management program.
- I. **Economic use value.** Influencing water management as an economic public interest is a key element of the management program and an important way of achieving efficient and equitable groundwater use without waste to realize the

greatest value for the water used. Plans or proposals that significantly increase groundwater use value while lessening actual decline rates should be recognized as contributing to the GMD3 management program in the public interest.

- J. **Alternate supply development.** Proposals to conserve Ogallala/High Plains groundwater reservoir water by seeking an economically and technologically feasible lesser quality alternative groundwater source should be recognized as contributing to the GMD3 management program.
 - K. **Groundwater inventory estimate improvements.** Information provided by members that improves knowledge of usable supply estimates, including donating geological test well logs and other data, should be recognized as contributing to the GMD3 management program.
 - L. **Water imports and transportation of water.** Where the demand for water within the district exceeds long term groundwater supply, any member pursuit of additional sources of water to meet sustainable agriculture water needs may be recognized as securing water services in the district, the state and the region in the public interest.
 - M. **New flexible use among wells and their prior allocations.** New use flexibility between wells presents a significant potential for new added pumping onto the remaining producing wells in a declining local source, and for new effects on other wells with prior use rights. Also, with improvements to type (1) water conservation (efficiencies), there is risk that no real type (2) water conservation (groundwater reservoir maintenance) is achieved to mitigate use effect on the neighbor. Especially where “paper water” may be re-allotted to a productive supply well. For more information on flexible use of appropriation rights, see *Out-of-Priority Water Use: Adding Flexibility to the Water Appropriation System*, Lawrence J. MacDonnell, Nebraska law review, 2004. See: <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1272&context=nlr>
3. **GMD3 will use physical and economic well constraints to identify critical wells. Evaluation service to inform members.** Kansas law requires member water right applicants to demonstrate their proposal will not impair prior rights. **Guidelines will be employed for performing investigations and to provide information for program consideration** that may include the following:
- drawdown and/or stream depletion due to a proposed well pumping;
 - drawdown due to use under existing water rights;
 - impact of drawdown on existing well completions;
 - potential to obtain the rate and/or quantity of water sought;
 - water availability;
 - water quality;
 - other information needed to support decision making.

New proposals that alter conditions of well use for local water supply simply propose new effects on other wells. State rules requested by GMD3 and adopted for the area have provided minimum standards for well spacing and move limits that aid in implementing statutory policy absent better demonstration or investigation. Significant additional data and information are now available to evaluate today’s water use proposals that adds value

to proposal considerations for all members. GMD3 guidelines for hydrologic investigation can be employed to provide a consistent format to evaluate project proposals on a case-by-case basis and include the unique characteristics of each application and groundwater reservoir use setting and use effects. GMD3 well evaluations are performed to inform all members and others of estimated drawdown effects and the local public interest view.

Well drawdown evaluation guidelines. Well drawdown evaluation guideline may be updated and posted on the GMD3 website as deemed necessary outside the management program revision process. Guidelines are necessary for the following reasons:

- Member water rights are real and private property that can be impaired.
- Groundwater depletion is provisioned in law and practice for the district.
- Hydrogeology is sufficiently understood.
- Mutual well interference is prevalent.
- A regional groundwater flow model (and any revisions) has been employed.
- Application and proposal reviews occur regularly.
- Minimum well spacing rules are not adequate to protect rights in many cases.

Guidelines will have a settling effect on the general controversy of what may indicate impairment of prior groundwater rights. Guidelines simply serve as a framework for judgments on whether to investigate or to require more demonstration of local hydrology and well effects or special terms or conditions to protect all member interests. Under a physical solution to well hardship or injury in a declining groundwater source, the objective often is to enable an existing junior use proposal, but in using less water. This is explicitly based on the understanding that it is the beneficial use that is protected by a senior water right and not necessarily any fixed quantity of water. Guidelines aid in identifying any needed **corrective controls** to protect water moving to wells having a prior right to its use.

A. **Drawdown Allowance.** In a process for review of new proposals affecting water use in a depleting supply area, preventing any level of new impact on a well is impractical, as this would result in the denial of all applications including those causing small or de minimis impacts. A drawdown allowance will be used as a maximum reasonable lowering of a critical wells water table and to define a relatively small impact due to a proposed diversion that may be allowed to occur on wells in which economical and/or physical constraints are exceeded. A drawdown allowance can also be used as a screening tool for additional evaluation.

RECOMMENDED ADDED DRAWDOWN ALLOWANCE
FOR AREA WITH NO IMPAIRMENT CLAIM

AVERAGE AQUIFER THICKNESS IN THE VICINITY OF A PROPOSED WELL (ft)	TOTAL DRAWDOWN ALLOWANCE OVER 50 YRS (ft)
0 - 50	1.0
>50 - 75	1.5
>75 - 100	2.0
>100 - 125	2.5
>125 - 150	3.0
>150 - 200	3.5
>200	4.0

For up-to-date allowance, see GMD3 posted guidelines.

- B. **Critical wells.** Critical wells have high risk of suffering excessive supply decline and water right impairment. Wells in which economic and/or physical or other constraints are exceeded due to adopted criteria are referred to as “critical wells.” Adopted criteria are used unless better site-specific information is available. Wells may become critical due to the use of existing water rights in a declining supply alone or the combined effects of dynamic drawdown, existing uses, and proposed uses if one or more of the drawdown constraints are exceeded.
- C. **Economical Drawdown Constraint.** The economical drawdown constraint is calculated in two ways, with the more conservative result used. Constraint (1) is based on the percent of initial useable water column that can be lost before the well falls below economical viability. In the absence of more reliable data, a value of 70 percent of the initial water column may be assumed as the economical drawdown constraint where from a theoretical (hydraulic) standpoint, it is impractical to pump a well in an unconfined groundwater reservoir at a drawdown that exceeds two-thirds of the thickness of the water-bearing formation (Groundwater and Wells, Third Addition, Johnson Screens, 2007, page 429). Constraint (2) for the OHP groundwater reservoir uses an excessive decline maximum allowable rate of depletion that has been used as a standard under the management program for more than 40 years. The GMD3 40/25 maximum allowable rate of depletion calculation will be used to ensure any proposal will not result in exceeding nor increase and exceeding the maximum rate of groundwater reservoir depletion.
- D. **Physical Drawdown Constraint.** Physical hardship is the loss of the required well yield due to excessive usable water level decline. The physical drawdown constraint is the difference between the depth to the current static water level (or depth to the potentiometric surface) and depth to the **Lowest Practical Pumping Level (LPPL)**. The LPPL depends on the availability of well completion information such as the depth and thickness of the water bearing zone or confining unit, pump setting, and screen setting. For non-domestic wells in an unconfined groundwater reservoir, the LPPL may be assumed to be 60 feet above the base of the water column. If the screen interval and/or pump setting is unknown, a different LPPL may be determined to address reasonable concerns such as cascading water or other physical well concerns. The LPPL for non-domestic wells in a confined bedrock groundwater reservoir may be assumed at the base of the upper confining unit unless this assumption is unreasonable (Sterrett, 2007). If the total drawdown extends below the LPPL that well becomes a critical well.
- E. **Domestic wells.** Due to the relatively low volume of water produced by domestic wells, and other construction factors, some wells may be constructed with pumps set within the screen interval or close to the bottom of the well. The LPPL is typically assumed to be 20 feet above the base of the water column for domestic wells unless a different value is supported. At least 20 feet may be necessary to maintain submerged conditions, avoid sediment problems, and allow for dynamic drawdown, etc.(length of pump and net positive suction head).
- F. **Water usability constraint.** Usable water column for well evaluations can be significantly reduced by unusable water quality, or water usability depletion of

supply. Usability constraints such as saltwater upwelling will be identified as available information may dictate.

Local source management. In a closed and declining groundwater reservoir area, the management program can avoid wasteful infrastructure investments and objectionable clustering of wells mining remaining productive groundwater reservoir “hot spots.” Adding depletion to local sources by moving “paper water” from adjoining unproductive areas has been referred to as “**chasing water.**” Water rights that authorize use in depleting areas may be held to existing local source use terms. A well drawdown evaluation system implementing the KWA Act in GMD3 will inform the destiny of water use for any needed **corrective controls** and further implement the GMD Act. See manual posted at: <http://www.gmd3.org/wp-content/uploads/2019/04/DRAWDOWN-ASSESSMENT-GUIDELINES-for-GMD3-2019.docx>

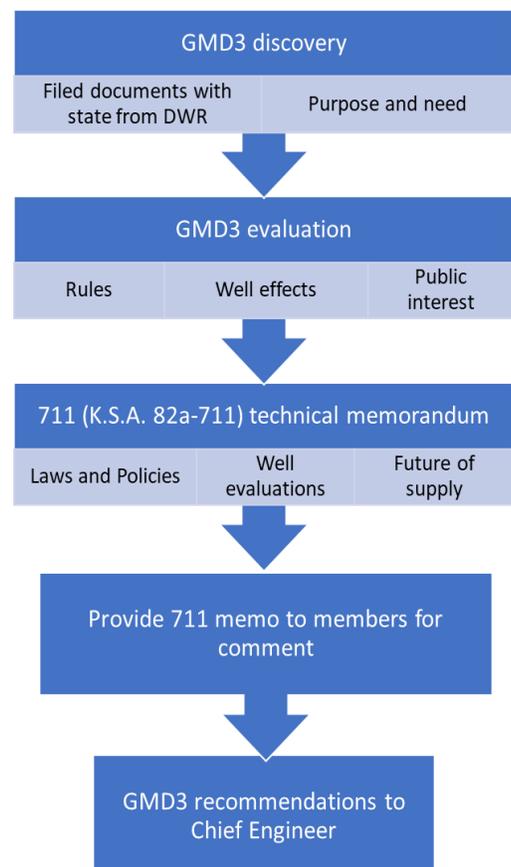
4. **GMD3 will assist in the preparation of applications.** Assistance provided by GMD3 staff may be for completing an application for a state permit or for other such water-rights related member project planning and paperwork, but it shall be the responsibility of the proposer to review all such information and to submit it to the Chief Engineer as required by law and as advised by their own independent legal counsel and/or technical expert.
5. **GMD3 will review water right proposals.** Evaluation use analytical and numerical tools and results will be provided when considering effects of water use proposals or operating plans that affect supply to members prior rights to ensure compliance with basic water use doctrine, the management program and Board policies.
6. **GMD3 will advise.** Recommendations will be provided to the Chief Engineer or other appropriate local, state or federal officials for actions, policies, or terms of water use to implement the management program and policies adopted by the GMD3 governing body.
7. **GMD3 will work with members and officials.** GMD3 will provide program compliance assistance and options to address uncertainty in water rights administration and future supply concerns that may include seeking facilitated consent agreement to be recognized by water officials. Activity may include review of use proposals or supply complaints using a 25-year prospective supply evaluation period.
8. **GMD3 will monitor annual water use.** GMD3 will work with partners to improve the water use and reporting process as needed to support member interests and public interest in implementing the groundwater management program.
9. **GMD3 will provide on-site diversion inspection services to members.** Installed water flowmeters and other devices have been required by the governing body of GMD3 on all non-domestic wells since the early 1990s. On-site services assure good water measurement assistance and ensures groundwater programs are based on good use data.
10. **Multi-well use flexibility (MUF) in GMD3.** **Someone’s well(s) always pays a price when changing pumping allotment locations in a shared declining local source of supply.** So, care is needed implementing new multi-well allocation use flexibility in the declining aquifers of GMD3. Support will be provided to evaluate and ensure MUF is done lawfully

regarding critical well concerns and with voluntary corrective controls that are consistent with the management program. **Reallocating water right allotments between wells where new water appropriation is otherwise not allowed under Kansas administrative law or the management program is not advisable unless enough well and groundwater reservoir evaluation and district oversight occurs to ensure that future supply improvement under type (2) water conservation will protect prior water rights from impairment.** As an example of granting new use flexibility for better water management, the statewide WCA law limitations include in K.S.A.82a-745(e)(2): *“the management plan may allow, in any given calendar year, the water use of an individual water right or rights to exceed the annual authorized quantity of the individual water right or rights participating in the management plan, provided that the water use shall not exceed the total annual authorized aggregate quantity and rate of all the water rights participating in the management plan in any given calendar year.”*

This optional WCA law provision can threaten wells with prior rights in GMD3 areas if used to propose adding critical well conditions to a declining local source of supply committed to prior water rights. GMD3 well-to-well objective hydrological evaluation is a necessary part of WCA implementation under the GMD3 management program. An example of selective legislative provision limited in GMD3 include MYFA’s are disallowed by the Chief Engineer in parts of the Arkansas River IGUCA. The WCA tool will be encouraged in the GMD3 area for new conserve-to-preserve corrective controls and to avoid adding critical well concerns to supply areas; a problem that was common prior to the formation of GMD3 and the management program. Activities will seek to assure real type (2) water conservation occurs if new pumping liberties are proposed.

11. **Time for GMD3 review process.** A GMD3 application review process will be conducted with efficient use of time to respect the needs of all members and to add value and confidence in groundwater project investments by applying rigor and relevance in the evaluations of local groundwater supply conditions, well operating needs and private property rights to use the available water supply for a reasonable period of time. Accordingly, some review time to a recommendation may range from **less than 15 days to significantly more time** depending on a number of factors that may include:

- legal setting;
- physical setting;
- insufficient information provided;
- request for rule waiver;
- extent of available data;
- number of calculations to complete
- communication time
- concerns from other members;
- proposal revisions;
- GMD3 committee and board review;
- mitigation of impairment concerns;
- Need for a hearing.



GMD3 Water Conservation Program

Wise use. Under the GMD3 management program to address depleting groundwater resources, water has generally become a commodity to be weighed, measured, allotted and metered out by the gallon or acre foot. These are important management program activities. But a better leading public policy strategy might be devised than one that only conveys the message that water use is something to be minimized or even defeated by water conservation. Instead it should be stressed that conservation is not so much about prohibiting water use as using all water wisely, even during flood and drought conditions. Such uses are many and include an understanding of water risk, and the emotional and aesthetic power of water. The GMD3 water conservation program will encourage activities that conserve and extend use of developed water supply sources while also developing added control and conservation of new supply sources to replace or replenish district groundwater reservoir inventory. Both forms of conservation are equally key and necessary elements of the management program activities adopted by GMD3 to move the Kansas economy forward. Strengthening links between natural infrastructure (Rivers, streams, playa lakes and groundwater reservoirs) with private, community and public constructed infrastructure (Wells, tanks, pipelines, canals, pits, lakes, and surface reservoirs) will help build climate and drought resilience all across Kansas.



• **Water Conservation** - has two types of activity under the GMD3 management program:

- (1.) **Use efficiency**
- the amount of valued output per unit of water consumed.
- (2.) **Maintaining aquifer storage**
- preserves and/or replenishes future useable storage.

Type (1) Water Conservation = Use Efficiency. Use efficiency is the amount of valued output per unit of consumed water. This type of activity improves wise use by adding present economic value and benefits to each unit of water diverted from storage. But it also adds risk in greater capacity to consume every drop available from declining groundwater reservoir supply. Efficient water use technologies, products and services are an effective means of increasing or sustaining GMD3 economy and member water project bottom line. Use efficiency is the first activity generally attributed to water conservation for wise use without waste. As the cost of water increases, the business incentives and benefits associated with efficient use increase. However, as efficiencies increase, historical return flow back to the groundwater reservoir decrease. So, in a declining groundwater reservoir, type (1) conservation activity adds present supply value and opportunity for both groundwater reservoir maintenance and groundwater reservoir consumption. So improved use efficiency by itself does not assure aquifer storage maintenance for the future.

Type (2) Water Conservation = Maintaining Aquifer Storage. Maintaining aquifer or groundwater reservoir storage requires conserve-to-preserve activities for future water supply value. Supply maintenance activity includes protecting renewable recharge sources, adopting lower project demands, adjusting local use corrective controls and administering the exercise of water rights based on the long view while also seeking replacement sources. All are effective means of Type (2) water conservation. Groundwater reservoir maintenance activity may be coupled with type (1) use efficiency activity. But a conserve-to-preserve factor evaluation is necessary in order to determine useable preserved or replaced storage amounts vs. unusable or unavailable paper water right amounts.

Unwise use and waste of water. GMD3 member activities that don't promote Type (1) and Type (2) water conservation should receive due consideration under the management program as prejudicially and unreasonably affecting the public interest. As a general principle, equity abhors waste, and delights to restrain it. In the Western states, water is so scarce and the possible beneficial uses thereof so great, that it is reasonable to believe such allegations will, as time goes on, be more and more strictly construed against those shown to be guilty. Demands to discourage unwise use increases as supplies dwindle. Activity that may unreasonably diminish groundwater value and/or used with an efficiency below what is now considered technologically and economically feasible may receive due consideration for impairing the GMD3 management program with preventable waste of water. Surface water flows or delivered quantifiable gains to groundwater reservoir storage are historical sources of groundwater supply considered an important source of water conservation under district management program. Groundwater reservoir recharge flows from surface flows are therefore not considered a waste of water, unless manageable water quality or preventable evaporative waste problems locally dictate otherwise.

Conserve-to-preserve factor. Conserving to preserve or replenish “wet water” supply may be considered the conserve-to-preserve storage factor (or water conservation factor) of a plan or program, expressed in an acre-foot amount. A water conservation factor is a calculation that requires a separation of the inevitable non-use of a water right (inaccessible or depleted supply) from groundwater reservoir maintenance actions (demand reduction choice or groundwater reservoir replenishment actions that preserve physically and legally available storage) that most agree is adding future supply. The management program requires consideration of every acre foot of water stored or available for management. Of the 3.6 million acre-feet of perfected annual authorized groundwater use from the declining district inventories, generally about 44% is not used for various reasons, including voluntary groundwater conservation activity or diminished well yields from depleted groundwater reservoir conditions. Wells generally perform under several factors affecting well yield. Well yield is rate in GPM that a well can reliably produce water under normal operating conditions. The water that the well provides may differ from the authorized maximum allowable conditions of a water right. For diminished well yields, there is a significant amount of “paper water” (water rights on paper only, due to diminished well yield). So, it will be necessary to determine through a practice suitability audit and appropriate data review to determine the actual water conservation factor or conserve-to-preserve factor for any accounting of credit or due consideration provided in the GMD3 area.

Conserve-to-preserve water accounting. GMD3 may account (determine, record and audit) for voluntary conserve-to-preserve or water conservation factor amounts under management program activities. Development of water conservation factor calculations have several considerations that

environmental users, one way of expanding the usable supply of water is using harvested, recycled and/or reclaimed water for irrigation and other purposes. In some cases, potable water has been the only water resource available for irrigation, either because of infrastructure constraints or regulation. Under suitable conditions, irrigating crops, landscapes and recreational areas with harvested, recycled and/or reclaimed water will not only increase the water available for health and human safety, but will also support the environment through economic, social and environmental benefits. Limited water usability will necessitate treatment to gain appropriate purity levels for use and the effects on supply of other users should be adequately evaluated.

Non-potable water conservation. Like potable water, non-potable water is a vital and limited resource that requires management to avoid waste in valuable water resources. GMD3 will encourage additional study and implementation of recycling and reuse projects that have historically occurred as part of water resource management activity in the water short environments and economy of the GMD3 area.

MYFA conservation. Starting in 2001 and revised several times in subsequent years in response to widespread drought, the Kansas legislature provided a **Multi-Year Flex Account, or MYFA** water management policy for owners of groundwater rights and authority for the Chief Engineer in the KWA Act. The MYFA law provides for flexible groundwater use from the same well over five years as follows: **K.S.A. 82a-736. Multi-year flex accounts; term permits.** *(a) It is hereby recognized that an opportunity exists to improve water management by enabling multi-year flexibility in the use of water authorized to be diverted under a groundwater water right, provided, that such flexibility neither impairs existing water rights, nor increases the total amount of water diverted, so that such flexibility has no long-term negative effect on the source of supply.*

The updated law contains two provisions for considering past implemented water management and conservation. Under the GMD3 management program, a groundwater conservation factor calculation is needed in order to properly implement the MYFA provision for considering member implemented groundwater conservation activity in the district.

Due consideration for past management or conservation measures. In 2015, the Kansas legislature added the following policy to the Water Appropriation Act. **K.S.A. 82a-744. Water management and conservation measures; due consideration by chief engineer.** *(a) The chief engineer shall give due consideration to water management or conservation measures previously implemented by a water right holder when implementing any further limitations on a water right pursuant to any program established or implemented on and after July 1, 2015. The chief engineer shall take into account reductions in water use, changes in water management practices and other measures undertaken by such water right holder.*

This statewide policy under the KWA Act requires “due consideration” to previously implemented management and conservation measures when the Chief Engineer implements new limits on a member water right for any new water conservation program after July 1, 2015. **Under the GMD3 management program and the unique considerations of the district, it is the opinion of GMD3 this means the Chief Engineer will sit down and think about a number of public interest considerations that include: priority of right; the water management or conservation measures previously implemented by a member water user or water right holder; account for changes in groundwater use practice improvements under the water right; consider the condition of the local source of supply; consider the guidance and advice of the management program and GMD3; and decided how to implement the new program in the GMD3 area in a manner consistent with the management program or any proposed revision as required in K.S.A. 82a-1042 of the GMD Act.**

Surface water conservation storage as groundwater. Linking natural and constructed water infrastructure to conserve and manage water supply is a key activity to add water value and to manage sustainable supply systems for Kansas. State water policy and management should maximize the use of surface water supply and groundwater storage space assets. Operational integration of surface and groundwater storage will increase water supply for all users. The significant demand annually for water (3.6 million acre-feet developed in SW Kansas alone), and the more that 60 million acre-feet of available groundwater reservoir storage space in GMD3 compels action on the water extremes in Kansas flood and drought conditions to secure minimal value supplies to meet higher value needs. The untapped potential of a cooperative groundwater reservoir storage initiative may identify opportunities for storage when surface water reservoirs are unable to accommodate the opportunities for Kansas. Today on average, more than eight times the annual amount of groundwater used in Kansas leaves the state annually as river flow. So, the conservation and management of available surface water presents significant opportunity for leadership that will find the opportunities to divert, transport and store water in the groundwater reservoir pore space in the GMD3 area. Available surface water flow is a limited time supply opportunity that should be harvested and conserved and managed accordingly to meet demand and to replenish groundwater inventories. Any GMD3 management program activity looking to include future agreements or contracts to purchase and transfer excess water from local, state or federal surface water conservation capacity may carry a requirement to adopt and implement water conservation plans and practices that are consistent with the state guidelines as per K.S.A. 82a-1311a. It is a purpose of the GMD3 water conservation program to exceed state standards for type (1) efficiency and waste elimination activity with type (2) water conservation storage activities.

Conservation storage in groundwater reservoir pore space in GMD3. In recent years the issues surrounding geological formation pore space and rock structure ownership has been raised in discussions generally connected to oil and gas operations for carbon capture sequestration into subsurface geologic formations and for ownership and management rights in topics of water rights administration, federal reserved water rights, deep formation disposal projects and in artificial storage and recovery of water. With water being an exception in Kansas, generally ownership of the surface of the land includes ownership of all that lies beneath the surface boundaries, to include mineral, rock structures and voids (David Pierce, Washburn Law School, legislative briefing, 2011).

Estate ownership. Ownership of the surface estate of land can be separated from one or more mineral estates below the surface of the earth, which is where one finds groundwater. The owner of the surface estate generally retains ownership of minerals not expressly encompassed by the conveyed mineral estate. Owners of minerals (oil and gas) also have the right to access the rock structure where the oil and gas are found so they can be developed, even though the mineral owner may not “own” the minerals comprising the rock structure. **Similarly, a water right to use groundwater may be a right to access the water in the pore space even though the user may not own either the surface or the mineral estate.** Recall a water right is a usufruct right of use where ownership is not conveyed in the corpus of the water or the channel of the stream or groundwater rock formation. Regardless of who owns the pore space of the rock formation, it is going to be connected and one cannot control where it goes. Pore space structure, like oil and gas reservoirs or groundwater reservoirs, is not compartmentalized beneath a single tract of land but is interconnected by body of rock. **The naturally stored usable water within the rock formations is a part of the “waters of the state” governed under the provisions of the KWA Act and the GMD Act and the management program.** The GMD Act in K.S.A.82a-1021(a)(7) defines a “land owner” but

includes the following: *“Owners of oil leases, gas leases, mineral rights, easements, or mortgages shall not be considered landowners by reason of such ownership.”*

In groundwater management affairs, the risks associated with ownership in either the surface estate or one or more mineral estates may be intertwined with several factors that include land use, the quality and quantity of available water supply, the effects of mineral estate exploitation on usable groundwater supply, and the opportunity to participate in groundwater management activities as an eligible voter of GMD3. A natural groundwater reservoir may contain a native body of public water subject to the public processes of appropriation and groundwater management, but artificial conservation storage in geological formation pore space owned by another for personal control of the water may be something different. For example, ownership of a surface reservoir storage space comes from acquiring the use of the surface estate and construction of the storage space for conserved surface water. Use of a natural water course is provided in Kansas policy for private conveyance of water (K.S.A. 42-303) but a constructed surface reservoir on a surface water course for controlled use of conservation storage requires easement or ownership of the surface estate. **Groundwater reservoir pore space may be replenished or filled with non-native water under a managed program where there is reasonable effect on the satisfaction of prior groundwater rights to native supply. This is based on the theory that no owner of either the mineral estate or the surface estate or of a water right should be allowed to hold management improvements to natural water storage in underground reservoir pore space for ransom. Ownership and use of natural recharge infrastructure vs. artificially constructed recharge infrastructure, and the retained ownership of artificial conservation storage in formation pore space owned by another, may be key factors as to the question of whether any pore space use easement may be necessary.**

Conservation in preparing for water imports. As society confronts the challenges of capturing and delivering enough fresh water to meet the needs of agricultural, municipal, industrial, and environmental users, multiple sources must be managed with type (2) conservation from transferred sources. The Kansas Water Transfer Act in K.S.A. 82a-1502(b) and (c) state:

(b) *“No water transfer shall be approved under the provision of this act: (1) if such transfer would impair water reservation rights, vested rights, appropriation rights or prior applications for permits to appropriate water; and (2) unless the hearing officer determines that the applicant has adopted and implemented conservation plans and practices that (A) are consistent with the guidelines developed and maintained by the Kansas water office pursuant to K.S.A. 74-2608 and amendments thereto, (B) have been in effect for not less than 12 consecutive months immediately prior to the filing of the application on which the hearing is being held.”*

(c) *“To determine whether the benefits to the state for approving the transfer outweigh the benefits to the state for not approving the transfer, the hearing officer shall consider all matter pertaining thereto, including specifically: ... (7) the effectiveness of conservation plans and practices adopted and implemented by the applicant and any other entities to be supplied water by the applicant; (8) the conservation plans and practices adopted and implemented by any persons protesting or potentially affected by the proposed transfer, which plans and practices shall be consistent with the guidelines for conservation plans and practices developed and maintained by the Kansas water office pursuant to K.S.A 74-2608 and amendments thereto.”*

The conserve-to-preserve water activity under the GMD3 management program will fulfill the purposes of the KWA Act and Water Transfer Act to exceed statewide guidelines emphasizing type (2) conservation for groundwater reservoir maintenance to ensure the needed conservation of

existing supply and allow new storage of transient surface water captured and transferred into the 60 million acre-feet of available storage space managed under the GMD Act in GMD3.

Additional wells vs. supplemental wells and “chasing water.” Additional wells may be necessary to allow a partial sale and change of water right use from irrigation to a higher value beneficial use. This additional well activity is distinguishable in the management program from efforts to add one or more wells to a water right authorized annual quantity in order to supplement or restore aquifer extraction rate capacity as sources to replace lost capacity due to general water level decline. This raises concerns for changing purpose and strategy of the management program, causing a disproportionate local rate of aquifer depletion and a “chasing water” concern to eventual complete depletion of supply to all. At a minimum, careful evaluation procedures are necessary to identify critical wells under such proposals. A **Standby well** is different yet as a source security condition documented on the water right of a primary well, should catastrophic failure occur. A standby well meets standard spacing from the primary well of other water rights. A primary well is not required to meet well spacing from its standby well and emergency operation is for 60 days.

Local rule-based conservation. Local management program strategies cannot succeed as intended if local rules are waived in favor of statewide initiatives without careful evaluation of the effects on the management program purposes. **“Paper water”** is considered a legitimate water right on paper but lacks divertible supply from the authorized source. “Paper water” on wells in a depleted local source of supply must be allowed to remain dry and the junior demand unsatisfied in the absence of new water to replenish depleted supply or unreasonable effects on senior water rights. “Paper water” does not carry a right to chase remaining water supply and create a functional equivalent of new appropriation outside the local source of supply under the management program for type (2) conservation efforts. Moving “paper water” may deny supply to other members wells with prior rights to depleting future supply unless evaluated carefully.

Culture of conservation. Growing the market for water conservation in a culture of market driven use involves a strategy of reaching out to specific industry groups and locales which have comparatively low rates of participation and engagement around water conservation and efficiency. As more members participate, vendors can develop economies of scale and more cost-effectively run active and passive programs. “Growing the culture” naturally occurs as participation rates increase across the district. While programs might lose their potential for scale as more members participate, the proportion of the population engaged increases.

Targeting water conservation to a Groundwater Management Area (GMA).



GMA. GMA is a general term for any targeted area in the district identified for unique specified groundwater management program activity. GMD3 conservation and/or management activity may exist to accomplish a special private, corporate or governance goal and use one or more institutional tools uniquely applied through the district management program in each GMA.

Conservation barriers. GMD3 and other Kansas GMD’s pursued forming special GMAs for corrective controls in 1977, but found a lack of local and state authority, which was considered barriers in attempting to manage groundwater supply and use. Local or state permitting of all non-domestic water use was not required in Kansas at the time and the extent of water use was not known. The GMD3 Board immediately requested an official moratorium on granting new

water rights by the Chief Engineer for an area in the Arkansas River basin above Garden City to allow work for data and policy development on over-allocated water short areas. The difficulty of managing what is not defined was recognized and addressed.

Mandated permitting and IGUCAs. Legislation was successful in 1978 to add state policy in the KWA Act requiring permitting of all water rights to define water use across the state and to add policy in the GMD Act providing authority for a GMD or a group of GMD members to initiate special GMA corrective control action in their GMD. That GMA tool was called an Intensive Groundwater Use Control Area, or “IGUCA.” It was designed as a request made to the Chief Engineer, who then must conduct a process to consider the need and formation of the IGUCA. The IGUCA tool, once requested by a GMD, involves a prescribed review and fact-finding process where the Chief Engineer conducts one or more public hearings and can result in an order of the Chief Engineer imposing corrective controls on water use. For areas outside GMD’s, the legislature extended the IGUCA tool for the chief engineer to initiate proceedings on his own initiative. A few IGUCA management orders have been developed and issued to implement mandatory corrective controls onto groundwater rights in GMA’s across the state.

GMD3 Upper Arkansas River IGUCA. The Upper Arkansas River IGUCA was requested by GMD3 in 1984 as a GMA to replace the GMD3 requested 1977 moratorium on new appropriations in certain counties with high vested right amounts. The request was to extend corrective controls from the Colorado and Kansas Stateline in a corridor along the river across GMD3. This IGUCA was ordered after significant public process, testimony and recommendations of the Board and district members to the Chief Engineer. See map of the IGUCA area in the Appendix. Any revision action should include GMD3 review. Additional state information on the Upper Arkansas River IGUCA is available at:

<http://agriculture.ks.gov/divisions-programs/dwr/managing-kansas-water-resources/intensive-groundwater-use-control-areas/arkansas-iguca>

Corrective controls. Water right administration under the prior appropriations doctrine is the most direct form of corrective control provided by the Kansas legislature for water short supply conditions. Protecting a prior right generally involves a complaint, opposition to an administrative action or a request to secure a water entitlement. Beyond water right administration, corrective controls are considered new program actions to secure corrections to water supply decline problems. Corrective controls are intended to benefit future supply in addition to present use constraints. **It is well established that the supply problem conditions set forth in K.S.A.82a-1038 of the GMD Act exist across the entire GMD3 area for the OHP groundwater reservoir.** These conditions have been perpetuated in the routine approval decisions of the Chief Engineer in applications made to the state. Corrective controls in the declining OHP aquifer must add new controls as Type (2) water conservation to maintain aquifer storage and improve future supply under the management program. Proper corrective controls ensure that member benefits fall both to members seeking use improvements do not already have higher use than their peers from the same supply area with comparable circumstances. Members may not benefit from higher groundwater use than their peers in the application of additional use benefits from voluntary corrective controls. GMD3 management program guidance documents may provide further standards and mitigation methods for securing proper corrective controls.

LEMA. The Legislature added a new GMA tool in 2012 for GMD’s after more than a decade of development work by Northwest Kansas GMD4 and partners. The LEMA statute (K.S.A. 82a-

1041) provides a procedural structure for the development of LEMA management plans that are to be consistent with state law. These plans can be developed and requested by a GMD governing body to the Chief Engineer for needed area corrective controls. If accepted after a public process, enforcement occurs by the state.

LEMA plans. A LEMA plan is intended to further empower local leaders and the GMD3 governing body to address local groundwater concerns. Local water right owners and other members of GMD3 can come together to seek ways to reduce the rate of groundwater decline. The GMD3 Board has the authority to recommend a plan of a LEMA to the chief engineer, who must consider only the requested plan for adoption. GMD3 has adopted LEMA plan policy that a proposal should be recommended to the GMD3 Board by members as a priority GMA to be further managed with infrastructure development and/or corrective controls in the public interest. Basic steps for establishing a GMD3 LEMA involve formulation of a plan generally accepted by area members, presentation of the plan to the Board, Board adoption of the proposed plan, Board request for a LEMA to the Chief Engineer based on the plan, two prescribed public hearings considering the proposed plan, and a decision order of the Chief Engineer approving, returning, or rejecting the LEMA. Any LEMA plan proposed to the Board for adoption shall include: 1) A clear groundwater management goal; 2) A basis for the proposed boundaries; 3) Evidence in the record of plan development that multiple alternatives were formulated for setting corrective controls on member water rights, including use of the principle of prior appropriation; 4) Reasoning for the use or rejection of each alternative; and, 5) The recommended strategy for determining the will of the eligible voters of the district having property rights within the proposed LEMA area. GMD3 staff will support the development of a LEMA by members and will identify facilitation resources for beneficial conservation plans and evaluate impacts of goals for corrective controls, including effects on present and future property valuation and economy.

Special rule conservation areas. Another GMA tool identified by the management program is a special rule conservation area with controls established or requested as an enforceable policy or state rule area of corrective controls. These concerns may be quantity, usability or use practice related concerns that require administrative standards to manage or encourage efficient groundwater use while protecting useable supply. K.A.R. 5-23-4(c) is a special rule for a water quality control area in parts of Seward and Meade Counties. The potential for upwelling of naturally occurring saltwater in Upper Permian Age formations to invade into the overlying connected Ogallala groundwater reservoir formation threatens water usability depletion.

Voluntary consent agreements. A voluntary agreement can be a highly effective tool to obtain regulatory, conservation or other water management needed outcomes. This tool was used early in a federal court consent decree of 1910 to establish the Associated Ditches of Kansas along the Upper Arkansas River. A local leadership role was recommended in state water planning for groundwater management in a 1958 Cimarron Basin Water Resources Report. Voluntary agreements for water management consistent with the management program are highly supported and encouraged by GMD3. Today, the voluntary consent agreement tool includes various forms in conservation plans, water banking and other water management activities that benefit from voluntary consent agreement.

“Water Conservation Area.” In 2015, the Legislature provided an additional GMA tool called a “Water Conservation Area (WCA)”. A WCA is a KWA Act tool where any water right owner, or group of owners can develop a water conservation plan for consideration and agreement of the

Chief Engineer to commit water rights to conservation through voluntary corrective controls consistent with other laws and the public interest. As described earlier in the management program, public interest includes the GMD Act and GMD3 management program and recommendations of the governing body. By order of the Chief Engineer, a WCA plan consent agreement becomes new authority that temporarily changes water use conditions without changing base water rights, as base rights are viewed as becoming suspended during the period of the WCA. WCAs are intended to encourage conservation through volunteered corrective controls and are best used under the management program to document voluntary water conservation.

Changing WCA plans and agreements. With the consent of all participating water right owners in a WCA, the Chief Engineer may amend the agreement and order to modify corrective controls or boundaries, add or remove water rights, terminate the WCA or make other changes requested by the water right owner(s). **Under the management program, GMD3 will review each proposal, WCA change or extension and provide recommendations to the chief engineer.** GMD3 supports and encourages the voluntary implementation of groundwater reservoir maintaining corrective controls in WCA consent agreements that are consistent with the policies of the GMD3 Board and management program. GMD3 will adopt and enforce policy as needed to implement the Management program and WCA's and for other purposes as provided in state law. For more state information on the WCA tool, see: <http://agriculture.ks.gov/divisions-programs/dwr/managing-kansas-water-resources/wca>.

Water bank conservation and review. Water banking policy has different application in declining vs. non-declining groundwater reservoir areas. A water bank can have many elements that have both good and bad implications on the management program. Similarly, some statewide statutory provisions, such as "Flex Accounts", LEMAs, WCA's can affect groundwater reservoir use and groundwater reservoir storage and can authorize elements of water banking. These can have a profound impact on the management program. GMD3 will review each water bank or bank-like proposal to determine effects on district groundwater reservoir supply and consistency with the management program and public interest.

Mobile Drip Irrigation. Irrigation by the drop on the High Plains of southwest Kansas.



Mobile Drip

A combination of price and non-price strategies are needed for supply security improvement. Planning, regulation, education and the uptake of water efficient technologies are important in the GMD3 management program where drops of water matter.

See video at: <https://www.youtube.com/watch?v=3yT9yiyjB-4>

GMD3 Draft WCA Conservation Plan Executive Summary

Example for the GMD3 management program appendix

The Proposal: Water Conservation Area plan for Southwest Kansas

New state law allows water users to develop management plans with flexibilities that substantially exceed the limitations of current water rights in return for achievement of measurable corrective controls for water conservation. Under the management program, corrective controls are considered type (2) groundwater reservoir maintenance. A 15-member team formed in early 1974 explored the development of a GMD. The team has changed with elections and voluntary service of individuals over time, investing more than 500 monthly meetings and thousands of hours in this process. They have provided their own funds and obtained support from the Kansas legislature and local, state and federal agencies to guide their process. The present elected board and staff is comprised of industry representatives, community leaders, city commissioners, school board members, COOP board members, and surface water and groundwater managers. The result is a management program and formal local agency to oversee a Southwest Kansas GMD3 Water Conservation Area that receives significant partner activity and member support.

The Issue: Water

Our communities, economy, and quality of life depend upon water. The Ogallala groundwater reservoir is our primary and most important water resource. Overall, about 38% of the water stored in the Ogallala groundwater reservoir underlying southwest Kansas has been used. Irrigation accounts for 96% of the water withdrawn from the groundwater reservoir. Despite a diminishing number of wells and reduced pumping capacity, our groundwater reservoir water level continues to decline at an average rate of about 24 inches per year, or about 3.6 inches of actual water decline per year over the productive groundwater reservoir areas. Some areas exceed the maximum allowable depletion rate adopted by GMD3 of 40% in 25 years.

The Solution: Type 2 Water Conservation

Conserve water now through a coordinated, district-wide water management program that extends the life of our portion of the Ogallala/ High Plains Groundwater reservoir by reducing irrigation use while groundwater replenishing supply is developed and made available. This approach extends the life of the groundwater reservoir to provide time for new technologies to emerge and for businesses to adapt to changing conditions while renewable sources infrastructure is developed to transfer water for conservation storage in the 60 million acre-feet of available district Ogallala groundwater reservoir pore space.

Key Features of the GMD3 WCA Water Management Plan

- Developed by district water users for the benefit of their own communities
- Provides a process based on local and state conditions to achieve conservation goals
- Participation is voluntary
- The WCA management plan is reviewed, amended, and governed by participants and a locally elected board
- Includes provisions to hold participants accountable so that commitments can be fulfilled

Goal of a WCA Water Management Plan

- Implement water conservation activity in the WCA to exceed state conservation guidelines and capture transient surface waters of the state for transfer and conservation storage into groundwater reservoirs to meet established supply demand and add drought resiliency.

Details of the GMD3 WCA Water Management Plan

- Annual conservation allocations are based on existing water use capacity and adjusted to your priority of right portion of a 25-year supply evaluation period, not to exceed 40% depletion in one generation of 25 years, providing viable supply while groundwater reservoir replenishment sources are developed and transferred for preferred sustainable water supply activities.
- Uses incremental steps to achieve groundwater conservation program compliance and assure work on a new conservation sources of supply can bridge the supply and demand gap when transfer delivery and conservation storage as groundwater can occur.
- The initiation of one or more applications of permits to appropriate water for conservation storage from renewable sources to the 60 million acre-feet of available groundwater reservoir pool space.
- Each incremental step is for a period or term of 5 years; this is the period of commitment.
- Includes provisions for continuous enrollment or participation with a graduated structure of limits based on supply but without loss of the developed water rights while alternate sources to meet the total demonstrated vested and appropriated demands can be developed and delivered.
- Substantial flexibility is considerable for place of use and water may be used for any legal beneficial use while replenishment supply is being developed, subject to neighborhood participations and critical well evaluations.
- Multiple wells may be grouped into a management unit that is subject to one overall allocation of water, subject to state permitting and critical well evaluations.
- Unused annual allocations may be carried forward for use in the future – a form of water banking or groundwater reservoir maintenance credit.
- Includes provisions for establishing an annual allocation for wells that were operated under groundwater reservoir preserving voluntary conservation or were enrolled in a state or federal conservation program that preserved groundwater reservoir supply.
- The management plan is reviewed every year by the GMD3 board and can be revised to incorporate lessons learned through experience and to accommodate changes in technology and partner support.
- Works in harmony with local, state and federal officials and agricultural associations.

Credit: This document is a draft concept adapted from work of the Wichita County WCA proponents. It is included here in recognition of the civic minded leadership of local individuals who exercised their right established under the Kansas GMD Act by the legislature to locally guide water use and future of groundwater supply using the tools and provisions of the GMD Act and Water Appropriations Act.