

MINUTES

February 17, 2023

Groundwater Management Area 13

Regular scheduled meeting of GMA 13 was held at 10:00 AM at the office of the Evergreen Underground Water Conservation District located at 110 Wyoming Blvd., Pleasanton, Atascosa County, Texas.

Representatives in attendance:

Kelley Cochran, Administrator, Guadalupe County GCD
 Laura Martin, Gonzales County UWCD
 Diane Savage, Evergreen UWCD
 Daniel Meyer, Plum Creek CD
 David Caldwell, Medina County GCD
 Lonnie Stewart, McMullen GCD
 Vic Hildebran, Uvalde County UWCD
 Debbie Farmer, Wintergarden GCD

Public/Stakeholders in attendance:

Paula VanCleve, WGCD
 Bill Hutchison, consultant
 Steven Siebert, SAWS
 Daniel Smith, SAWS
 Jean Perez, TWDB
 Peter Gregg, Gregg Law
 Humberto Ramos, CRWA
 Andrew McBride, SSLGC
 Russell Labus, EUWCD
 Landon Yosko, EUWCD

1. **Public Comment** – no public comments received.
2. **Declaration of Quorum and Call Meeting to Order** – Quorum verified - All members present. Kelley Cochran called the meeting to order at 10:00 AM
3. **Welcome and Introductions** – Andrew McBride, new General Manager of SSLGC introduced himself.
4. **Discussion and possible action on the Minutes of the meeting held October 14, 2022** – Motion to approve the minutes by Lonnie Stewart. Second by Debbie Farmer. Motion passed.
5. **Update/Report on Financials** – Russell Labus gave update on financials – Balance in account is \$6,372.75. No action taken.
6. **Update/Report from the Texas Water Development Board** – Jean Perez reported that Robert Bradley is the new Groundwater Technical Assistance Manager for TWDB; Closing out the contract for the Southern Carrizo-Wilcox, Queen City, Sparta aquifers and will be posting data to website as soon as it's available.
7. **Updates/Discussion on GCD Management Plans** – Per Chapter 36, each District shared updates on adoption dates of Management Plans. District Management Plans can be found on District's websites.

- 8. Discussion and possible action on agreement with Bill Hutchison for 4th round of DFCs** – Per the GMA 13 Interlocal Agreement, each District’s board of directors must approve the engagement of professionals and the cost. To date, all of the districts, with the exception of Medina County GCD, have approved the hiring of Bill Hutchison and the cost per the agreement. Medina County GCD’s board is set to meet the following week. Pending Medina County GCD board approval, Kelley Cochran will sign the engagement letter with Dr. Hutchison and disseminate copies to the Planning Group.
- 9. Discuss work/schedule/timeline for beginning 4th round of Desired Future Conditions** – Dr. Hutchison reported that we are waiting for the final adoption/approval of the GAM by the TWDB. GMA 13 discussed updating the model prior to development of the next round of DFCs. The current GAM has three identified areas of concern: pumping - transmissivity numbers related to the pumping, transmissivity numbers unrelated to pumping, and storativity/specific yield numbers. Goal would be to have the model updates completed by end of 2023 so we can begin the Joint Planning portion starting in 2024. Next deadline for the proposed DFC is May 1, 2026. Dr. Hutchison outlined that the agreement is broken down into lump sums for tasks with the only variable being the number of meetings held. Draft technical memos will be emailed to the members. Dr. Hutchison will connect with each GCD if additional data is needed. Wintergarden has already provided data. Discussion about next meeting in the Fall. Discussion about requesting data from Webb County representatives early next year (early 2024) so they can be included/participate in the process from the beginning of the new round of DFC development, once the model has been updated/refined.
- 10. Discussion and possible action re: website for GMA 13** – TAGD Newsletter highlighted GMAs that have dedicated websites. Kelley showed pages from other GMA websites for reference. Currently, TWDB and individual district websites are the source for GMA 13 data. Consideration/discussion of GMA 13 hosting a dedicated website to share agendas, draft minutes, presentations, tech memos, model files, etc. Discussion about the size of model files and the ability to host large amounts of data. Research into companies and costs – to be discussed further at next meeting. Discussion of using balance in account to fund website and discussion on naming administrator(s) to update content – TBD next meeting. No action.
- 11. Update/Presentations from GMA 13 stakeholders** – Humberto Ramos asked a question regarding Webb County’s late involvement in the process and how to best include participation in this next round. Kelley Cochran commented that a website would be a useful tool to help explain the DFC process, provide schedules/agenda, etc. Kelley Cochran handed out her business cards so members of the public can email her directly to sign up to be included on the GMA 13 stakeholder email list (in addition to the sign-in sheet available at each meeting).
- 12. Discuss future agenda item(s)** – Website will be an action item next meeting. Draft tech memos will not for action until they are all presented. TWDB will connect if they have a presentation for next meeting.
- 13. Set date for next meeting(s)** – Next meeting has been scheduled for Friday, September 15, 2023 at 10:00 am at the EUWCD office.
- 14. Public comment** – No additional comments received.
- 15. Adjournment** – Motion to adjourn by Vic Hildebran. Second by Lonnie Stewart. Meeting adjourned at 10:32 AM.

<u>District</u>	<u>% Budget</u>	<u>Total Owed to Hutchison</u>	<u>Less amount in account*</u>	<u>Total amount owed</u>
		\$ 75,000.00	\$ 6,372.75	
Evergreen UWCD	30.77%	\$ 23,077.50	\$ 1,961.09	\$ 21,116.41
Gonzales County UWCD	7.69%	\$ 5,767.50	\$ 490.11	\$ 5,277.39
Guadalupe County GCD	7.69%	\$ 5,767.50	\$ 490.11	\$ 5,277.39
McMullen GCD	7.69%	\$ 5,767.50	\$ 490.11	\$ 5,277.39
Medina County GCD	7.69%	\$ 5,767.50	\$ 490.11	\$ 5,277.39
Plum Creek CD	7.69%	\$ 5,767.50	\$ 490.11	\$ 5,277.39
Uvalde County UWCD	7.69%	\$ 5,767.50	\$ 490.11	\$ 5,277.39
Wintergarden GCD	23.08%	\$ 17,310.00	\$ 1,471.00	\$ 15,839.00

*Rounded to equal balance

A BILL TO BE ENTITLED
AN ACT

relating to the joint planning of desired future conditions in groundwater management areas.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Section 36.108, Water Code, is amended by amending Subsections (d-2) and (d-3) and adding Subsection (d-2a) to read as follows:

(d-2) The desired future conditions proposed under Subsection (d) must provide a balance between the highest practicable level of groundwater production and the conservation, preservation, protection, recharging, and prevention of waste of groundwater and control of subsidence in the management area. This subsection does not prohibit the establishment of desired future conditions that provide for the reasonable long-term management of groundwater resources consistent with the management goals under Section 36.1071(a). The desired future conditions proposed under Subsection (d) must be approved by a two-thirds vote of all the district representatives for distribution to the districts in the management area. A period of not less than 90 days for public comments begins on the day the proposed desired future conditions are mailed to the districts. During the public comment period and after posting notice as required by Section 36.063, each district shall hold a public hearing on any proposed desired future conditions relevant to that district. During the public comment period, the district shall make available in its office a copy of the proposed desired future conditions and any supporting materials, such as the documentation of factors considered under Subsection (d) and groundwater availability model run results. After the close of the public comment period, the district shall compile and submit to the district representatives for consideration at the next joint planning meeting:

(1) a summary of relevant comments received;

(2) ~~[r]~~ any suggested revisions to the proposed desired future conditions, and the basis for those ~~[the]~~ revisions; and

(3) any supporting materials, including new or revised groundwater availability model run results.

(d-2a) The information compiled and submitted to the district representatives under Subsection (d-2) must be made available on a generally accessible Internet website maintained on behalf of the management area for not less than 30 days.

(d-3) After each ~~[all the districts have submitted their]~~ district has submitted to the district representatives the information required under Subsection (d-2) and made the information available for the required period of time under Subsection (d-2a) [summaries], the district representatives shall reconvene for a joint planning meeting to review the information required under Subsection (d-2) [reports], consider any district's suggested revisions to the proposed desired future conditions, receive public comment, and finally adopt the desired future conditions for the management area. The desired future conditions

must be approved by a resolution adopted by a two-thirds vote of all the district representatives not later than January 5, 2022. Subsequent desired future conditions must be proposed and finally adopted by the district representatives before the end of each successive five-year period after that date. The district representatives shall produce a desired future conditions explanatory report for the management area and submit to the development board and each district in the management area proof that notice was posted for the joint planning meeting, a copy of the resolution, and a copy of the explanatory report. The report must:

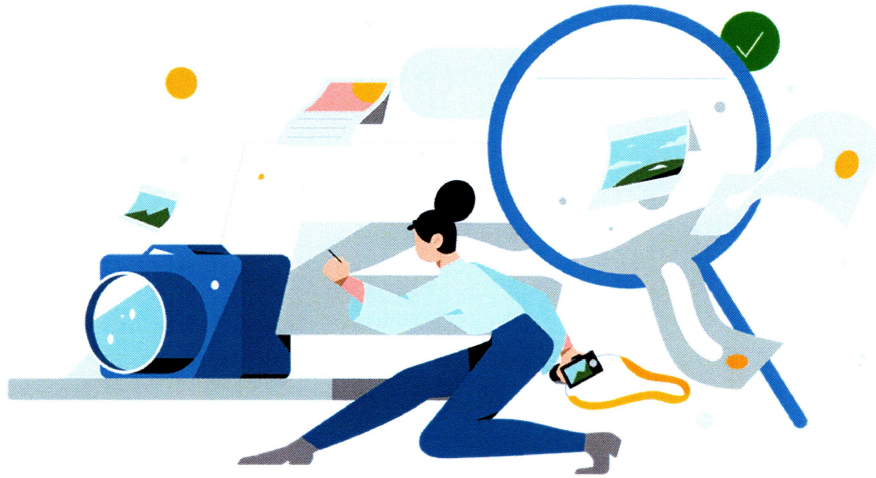
- (1) identify each desired future condition;
- (2) provide the policy and technical justifications for each desired future condition;
- (3) include documentation that the factors under Subsection (d) were considered by the districts and a discussion of how the adopted desired future conditions impact each factor;
- (4) list other desired future condition options considered, if any, and the reasons why those options were not adopted; and
- (5) discuss reasons why recommendations made by advisory committees and relevant public comments received by the districts during the public comment period or at the joint planning meeting were or were not incorporated into the desired future conditions.

SECTION 2. Section 36.108, Water Code, as amended by this Act, applies only to the proposal and adoption of a desired future condition that occurs on or after the effective date of this Act. A desired future condition proposed or adopted before the effective date of this Act is governed by the law in effect on the date the desired future condition was proposed or adopted, and that law is continued in effect for that purpose.

SECTION 3. This Act takes effect immediately if it receives a vote of two-thirds of all the members elected to each house, as provided by Section 39, Article III, Texas Constitution. If this Act does not receive the vote necessary for immediate effect, this Act takes effect September 1, 2023.

GM.gcgcd@gmail.com

From: Google Domains <domains-noreply@google.com>
Sent: Thursday, June 8, 2023 11:40 AM
To: gm.gcgcd@gmail.com
Subject: Your Google Domains Purchase Receipt



Hello Guadalupe County GCD,

Thank you for making a purchase from Google Domains.

Order: 138047152.1686242295337350 June 8, 2023,
9:40:04 AM PDT

Domain - gma13.org \$12.00
1 year registration

Tax \$0.00

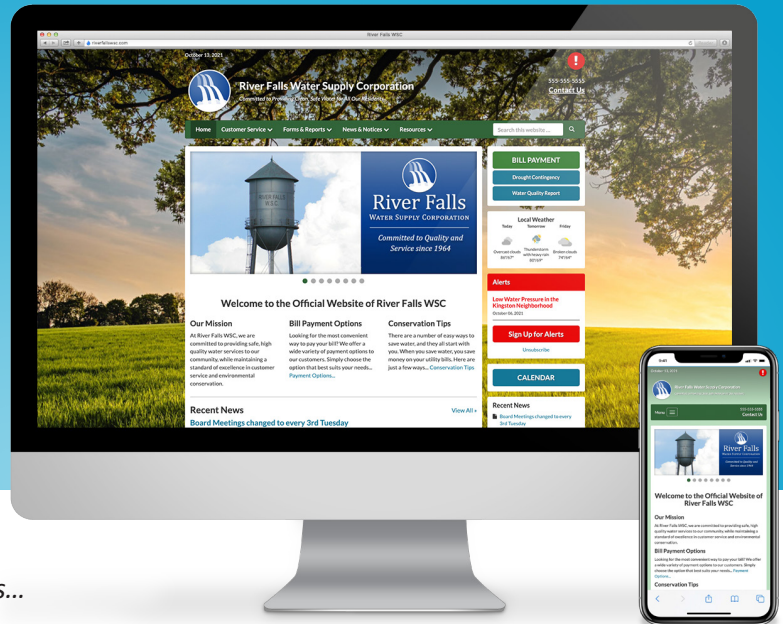
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Prepared For
 GMA 13
 P.O. Box 1221
 Seguin, TX 78156

Estimate Date
 08/11/2023

Estimate Number
 23-0905RWL

Description	Rate	Qty	Line Total
RWI Tier 1 Annual Subscription - 23 Rural Water Impact Tier 1 (0-750 connections) Annual Website Subscription. Includes Hosting, Unlimited Customer Support, All Website Software Updates, Upgrades & One Month Free (\$42.00).	\$457.00	1	\$457.00
RWI Set Up Fee - 23 Website Set Up Fee - One Time Charge (Does Not Include Existing Website Content Transfer or Custom Domain)	\$349.00	1	\$349.00
		Subtotal	806.00
		Tax	0.00
		Estimate Total (USD)	\$806.00

Notes

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AUSTIN, TEXAS 78759
(512) 404-7800

MARK WALKER
OF COUNSEL

Via email: jemd1225@yahoo.com, info@lrgvdc.org

Jim Darling, Chairman
Region M Water Planning Group
c/o LRGVDC
301 Railroad
Weslaco, TX 78596

Re: Legacy Water Supply Corporation/Legacy Water Control and Improvement District
Brackish Desalination Project

Chairman Darling:

I represent the Legacy Water Control and Improvement District in Webb County. LWCID and its wholesale water supplier Legacy Water Supply Corporation (collectively, the Legacy Entities). The Legacy Entities are developing a significant water supply project in Webb County (the "Legacy Project") to serve new development, numerous existing communities lacking safe and sufficient drinking water ("colonias"), and potentially the City of Laredo. This letter serves to provide Region M with notice that the Legacy Entities intend to apply for state financial assistance with regard to the Legacy Project and that they will be seeking Region M's support for the purpose making the Legacy Project eligible for state funding assistance.

The Legacy Project is a brackish desalination project using groundwater from the Carrizo Wilcox aquifer. The details of the number of wells and the size of the treatment plant are still being worked out. The project will initially serve residential and commercial development north of Laredo along the primary transportation corridors, as well as a number of colonias located adjacent to the project. The Legacy Entities also intend to make potable water available to Laredo to meet the city's expanding population and increasingly less than reliable surface water supplies. The project is needed to address real and immediate water needs in Webb County and the Legacy Entities will work diligently to get the project included in the next update of the Region M Water Plan. The needs in Webb County, however, are urgent, and the Legacy Entities will be working on finding other ways to make the project eligible for state funding assistance in the interim.

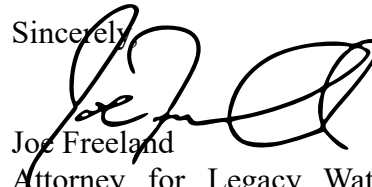
Given the timing of the start-up of this project neither the Legacy Entities, nor the project developer were able to participate in the 2021 Region M Water Plan. As a result, the Legacy Project is not part of the Region M Plan. Also, because there is no groundwater conservation district in Webb County (or the other Region M counties located in GMA 13), the county (and Region M) had no representation on Groundwater Management Area 13 (GMA 13) regarding the modeling decisions that led to TWDB's determination of modeled available groundwater (MAG) for the

aquifers in Webb County. As a result, the Region M counties located in GMA 13 (Maverick, Webb, and Zapata) were allocated only 1,459 acre-feet of MAG in the Carrizo compared to the 468,824 acre-feet allocated to the other counties in GMA 13.

The Legacy Entities are currently studying how to overcome the regulatory barriers to state funding assistance resulting from the inability to participate in the prior planning process. They plan on working with Region M to have the project included in the next round of planning. In the interim, they currently anticipate seeking a consistency waiver and, if possible, an amendment to the Region M plan for some or all of the project. Region M's support will be necessary for these approaches. The Legacy Entities are confident that they can make a convincing case for these requests, and once the necessary technical details are complete, they will make the appropriate requests to be included on a future agenda. The Legacy Entities look forward to getting Region M's support on the project and help on making the project eligible for state financial assistance, and on working together for inclusion of the project in future regional plans.

The Legacy Entities appreciate the efforts made by Region M to address critical water supply needs along the Rio Grande and look forward to working with Region M in addressing water needs in Webb County. If you have any further questions regarding the project, please feel free to contact Tom Wendorf, P.E., Project Manager (tgwendorf@wbpconsult.com), Jordan Furnans, Project Consultant (jordan.furnans@lrewater.com), or David Earl (David@earl-law.com).

Sincerely,



Joe Freeland

Attorney for Legacy Water Control and Improvement District

Water Supply Planning Consistency Reviews for TWDB Financial Assistance Projects

What is a consistency review?

To receive funding from the TWDB, projects must be consistent¹ with the most recent regional and state water plans². In addition, for the State Water Implementation Fund for Texas (SWIFT) program, and for reporting purposes in general, TWDB staff must assess whether a proposed project is specifically included as a recommended water management strategy in the most recently adopted regional and state water plans.

When is a consistency review completed?

Consistency reviews are completed by TWDB staff after a financial assistance application has been received. TWDB staff are responsible for evaluating whether the proposed project is consistent with or included in the applicable regional and state water plans.

What makes a project consistent or not consistent with the regional and state water plan?

Consistency is evaluated on a case-by-case basis and is determined based on the most recently adopted regional water plan and state water plan.

In general, the water supply source is the primary factor for consistency determinations. Consistency is based on whether the sources identified on the TWDB WRD-253a or WRD-253d form provided by the applicant are consistent with the existing and/or recommended new sources for the entity associated with the project in the regional and state water plans.

Some guiding principles include:

- A project that is the same as a project recommended in the regional water plan and state water plan is consistent.

- A project that expands the use of an existing supply source is generally consistent.
- A project that develops supplies in a source which is a recommended strategy for the entity in the regional and state water plan is consistent.
- For SWIFT loans, the proposed project must be in the currently adopted state water plan as a recommended WMS with an associated capital cost to be eligible for funding.

Examples of projects that would not be considered consistent with regional and state water plans include, but are not limited to the following:

- A new water treatment plant using contracted surface water to replace a previous groundwater supply source if it is not recommended as a water management strategy in the approved plans.
- A new groundwater well if the existing source was surface water, and there is no water management strategy for a new groundwater supply recommended in the approved plans.
- A proposed project to meet a need that was not met by the current approved state water plan.

If a project is not consistent, how can an entity pursue funding?

Projects determined to not be consistent with the regional and state water plans will not be eligible for TWDB funding, unless the applicant pursues a regional water plan amendment, or the TWDB Board grants a consistency waiver. The TWDB does not provide guidance on which option an applicant should pursue. The applicant must coordinate with

¹ State water plan consistency requirements do not apply to Flood Infrastructure Fund projects. Consistency requirements

apply to certain Clean Water State Revolving Fund projects, including reuse and conservation.

² Required by Texas Water Code Sec. 16.053(j)

JANUARY 2023

their regional water planning group (RWPG) to determine which option to proceed with³.

Regional Water Plan Consistency Waiver Process

To pursue a consistency waiver, the following steps should be taken by the entity sponsoring the project and pursuing funding with the TWDB:

1. The project sponsor should determine whether the project is eligible for a waiver under Texas Water Code §16.053(j) based on the factors in 31 Texas Administrative Code (TAC) §357.60(b). If the project sponsor finds the project to be eligible for a waiver, the project sponsor should ask the RWPG to support requesting a consistency waiver from the TWDB Board. The project sponsor should prepare an agenda item for action at the next RWPG meeting. The project sponsor should be prepared to explain why the consistency waiver is requested and should provide the technical material that will be submitted to the TWDB.
2. In its consideration of a consistency waiver, the RWPG should consider, at a minimum, the availability of water at the proposed project location.
3. After taking action on the waiver request, the RWPG should submit a letter to the TWDB Executive Administrator and copy TWDB staff stating the outcome of their consideration, including whether the RWPG supports the waiver request and a general opinion regarding the availability of water.
4. If the RWPG supports a waiver request, the project sponsor should submit a consistency waiver request to the TWDB Executive Administrator and copy the appropriate TWDB staff. The project sponsor's waiver request should address the language in 31 Texas Administrative Code §357.60(b)(5)⁴ and the governing body of the project sponsor should request the waiver by resolution and/or other statement.
5. In addition to the official resolution or statement, the consistency waiver request should also include reference to the project information form and date the project information form was submitted to the TWDB, or reference to the loan application and date the application was submitted to the TWDB, and include the following technical information on the project:
 - A statement of the need for the project, including the water source, the expected supply volumes to be generated by the project, and whether there are sufficient available supplies for the project to be developed.
 - A summary of the extent/service area of the project. If the entity's service area falls within more than one regional water planning area, the consistency waiver request should state whether the service area affected by this project is limited to only one planning area and only impacts one regional water plan.
 - A statement regarding why this project was not reflected in the most currently adopted regional water plan.
 - A summary of the current status of the loan, including timelines for closing on the loan, beginning construction, TCEQ enforcement actions, etc.
 - A summary of the entity's interactions with the RWPG, including when the waiver request was presented to the RWPG, the action taken by the RWPG, and any interactions with the RWPG's technical consultants on how the project would impact the currently adopted regional water plan.

A consistency waiver request to the Board will appear within the same agenda item for the loan commitment as a contingent requirement for the loan.

³ Information on the regional water plan amendment process: <https://www.twdb.texas.gov/waterplanning/rwp/planningdocs/resourcedocs/AmendingApprovedRWP.pdf>

⁴ [https://texreg.sos.state.tx.us/public/readtac\\$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=31&pt=10&ch=357&rl=60](https://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=31&pt=10&ch=357&rl=60)

Wintergarden Groundwater Conservation District

P. O. Box 1433

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www.wgcd.net (Email wgcd@wgcd.net)

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June 20, 2023

Mr. Jeff Walker
Executive Administrator
Texas Water Development Board
1700 North Congress Avenue
Austin, Texas 78701

Dear Mr. Walker,

On May 10, 2023, Dr. Daryn Hardwick, Manager of Groundwater Modeling, TWDB, issued an email with a link to the Final Numerical Model Report: Update to the Groundwater Availability Model for the Southern Portion of the Queen City, Sparta, and Carrizo-Wilcox Aquifers. Appendix N in the Numerical Model Report included public comments regarding the Draft Final GAM.

Kelley Cochran, GMA 13 Administrator, submitted a public comment letter to Mr. Jean Perez, Contract Manager Texas Water Development Board, on October 31, 2022 regarding the Draft Final Numerical Model Report: Update to the Groundwater Availability Model for the Southern Portion of the Queen City, Sparta, and Carrizo-Wilcox Aquifers, Texas Water Development Board Contract 1948312321. The letter included the following:

As presented to the public at the Stakeholder Advisory Forum meeting July 22, 2022, the draft of the model showed extremely high transmissivity values for GAM Layer 7 (Carrizo), which would result in a major under-prediction of drawdown. Additionally, the values reported for specific yield in the outcrop regions were too low.

An accurate Groundwater Availability Model is a valuable tool, essential for planning. Therefore, the members of GMA 13 respectfully request consideration be given to recalibrating the model to correct the over/under estimations of transmissivity and specific yield values prior to finalization.

Similar concerns were also submitted by RW Harden and Associates, Gonzales County Underground Water Conservation District, Wintergarden Groundwater Conservation District, and Plum Creek Conservation District.

A single response letter to all comments was prepared by Dr. Sorab Panday, GSI, from the team that was contracted to develop the new Groundwater Availability Model for the Southern Portion of the Queen City, Sparta, and Carrizo-Wilcox Aquifers. Dr. Panday noted there are two different regions where hydraulic conductivity was of concern, to the east in southern Gonzales and Wilson Counties, and to the west in La Salle County. Of particular concern to Wintergarden GCD, which encompasses LaSalle County, is the following passage from Dr. Panday's response:

In the western part of the model, the simulated hydraulic conductivity value is above 1,000 feet per day in central La Salle County and is as high as 1,400 feet per day in one location. As noted in the model report, these high conductivity estimates in this region are most likely an artifact of incorrect pumping distribution estimates. Specifically, there is very little simulated pumping in this high hydraulic conductivity region; however, there are extremely large drawdowns. Therefore, the high hydraulic conductivity provides a connection between the high pumping locations and the monitoring wells with large drawdowns.

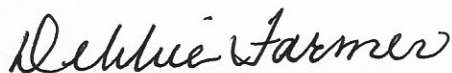
In a subsequent communication to Wintergarden GCD, Dr. Panday acknowledged that his project team was limited by a lack of pumping data at the time the May 10, 2023 version of the GAM was calibrated. He noted that additional pumping data are now available to accurately calibrate the GAM.

There was no response in Appendix N to the GMA 13 request to recalibrate the model to correct the over/under estimations of transmissivity and specific yield values prior to finalization. Because of this inaction to remedy the May 10, 2023 version of the GAM, GMA 13 retained Dr. Bill Hutchison, a member of the GSI-led team that prepared the Final Groundwater Availability Model for the Southern Portion of the Queen City, Sparta, and Carrizo-Wilcox Aquifers, to recalibrate the model to correct for erroneous values of transmissivity and specific yield. The recalibrated model is scheduled to be delivered later in 2023.

Wintergarden GCD does not believe the Final Groundwater Availability Model for the Southern Portion of the Queen City, Sparta, and Carrizo-Wilcox Aquifers that was released on May 10, 2023 is acceptable. Using this model, as currently calibrated, will calculate excessively large Modeled Available Groundwater (MAG) predictions for given Desired Future Conditions (DFCs). Wintergarden GCD is concerned that groundwater users could use these erroneously high MAG values to justify excessively high pumping allocations. Once allocated, it would be difficult to establish lower, more appropriate pumping allocations.

Wintergarden GCD respectfully requests that TWBD rescind the Final Groundwater Availability Model for the Southern Portion of the Queen City, Sparta, and Carrizo-Wilcox Aquifers that was released on May 10, 2023 and continue to rely on Version 2.01 of the groundwater availability model for the southern part of the Carrizo-Wilcox, Queen City, and Sparta aquifers (Deeds and others (2003) and Kelley and others (2004)) until which time the new GAM can be recalibrated with realistic and appropriate values for transmissivity and specific yield, particularly for Layer 7 (Carrizo).

Regards,



Debbie Farmer,
General Manager

July 17, 2023

Ms. Debbie Farmer
Wintergarden Groundwater Conservation District
P.O. Box 1433
Carrizo Springs, TX 78834

Ms. Farmer,

Thank you for your letter, received June 28, 2023, regarding the recently released groundwater availability model for the southern portion of Queen City, Sparta, and Carrizo-Wilcox aquifers (version 3.01).

As you are aware, the TWDB contracted with GSI Environmental Inc. to complete this model update, and Dr. Sorab Panday (GSI Environmental Inc.) provided responses to public comments received on the final draft of the numerical model. The concerns you note about high simulated hydraulic conductivity and transmissivity values in La Salle County and other areas are recognized as a model limitation in the final numerical model report and are discussed in Dr. Panday's response to public comments in Appendix N of the report.

Dr. Panday stated the following in response to those concerns:

We realized that the missing pumping data is related to oil and gas operations in the Eagle Ford but did not get any additional information. Assuming pumping locations and pumping rates would not be appropriate since the resulting hydraulic conductivity values would depend on the pumping data and would be just as uncertain. We therefore elected to retain the calibration as presented, with indications that this is an area of concern. We still restricted the PEST calibrated hydraulic conductivity values to be less than 1,000 feet per day as was noted in the data. The kriging between pilot points can cause overshooting of this limit which was noted in one location.

During and after the stakeholder meeting, it was pointed out that a possible source of this data could be a company called Enverus that collects pumping information from the railroad commission. This was also reflected in the comments provided by Brandon Davis. The data is not publicly available but can be accessed for a reasonable cost. The GSI team could investigate this further as an amendment to the current work or as a separate contract. If there is additional reliable pumping data in the region, we can assimilate the information and recalibrate the model to provide greater reliability of results in the central La Salle County region.

Our Mission

Leading the state's efforts
in ensuring a secure
water future for Texas

Board Members

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Jeff Walker, Executive Administrator

Ms. Debbie Farmer, General Manager

July 17, 2023

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TWDB groundwater availability models are considered “living tools” that are updated when new data or information is available. Because groundwater flow models are simplified representations of complex systems, there are always inherent limitations to these models. Overall, the recently released groundwater availability model for the Queen City, Sparta, and Carrizo-Wilcox aquifers (version 3.01) is an improvement of the previous model (version 2.01) and is currently considered the best available science to simulate groundwater flow in these aquifers, but the model still has recognized limitations that can be addressed in future model updates. Because version 3.01 is considered the best available science, the TWDB will not be rescinding the model in response to your request.

We acknowledge that member districts in Groundwater Management Area 13 have retained a consultant to recalibrate the model using possible new data sources in effort to correct the concerns you have noted. We have a new guidance document on how to submit a request to modify a groundwater availability model (attached and also located here: www.twdb.texas.gov/groundwater/models/other/RequestGAMModification_Guidance_May2023.pdf). Please reference the attached guidance document to submit a request to modify a groundwater availability model. Upon receipt of the request and all required documentation, staff in our Groundwater Modeling Department will review the data used to recalibrate the model in addition to the model itself and consider an update to the model if warranted.

Please feel free to reach out to Dr. Daryn Hardwick of our Groundwater staff at 512-475-0470 or daryn.hardwick@twdb.texas.gov with any questions or concerns.

Sincerely,

Jeff Walker
Executive Administrator

c w/att.: Daryn Hardwick, Ph.D., Groundwater, TWDB
Natalie Ballew, P.G., Groundwater, TWDB

Groundwater Availability Model Updates: Guidance for Requesting an Update based on New Data

Groundwater Division

Groundwater Modeling Program

Updated May 2023

Introduction

The Texas Water Development Board (TWDB) develops and maintains models for the major and minor aquifer of Texas. Groundwater availability models are regional groundwater flow models approved by the TWDB Executive Administrator. While the TWDB Groundwater Modeling Department schedules updates for existing groundwater availability models (GAMs), new hydrogeologic and groundwater data may be generated prior to the scheduled update of an existing GAM. Groundwater conservation districts may request a GAM update if new data are significant enough to potentially affect joint groundwater planning and groundwater management decisions.

This guidance document provides the requirements and process for requesting an update to the official, regional GAMs developed or maintained by the TWDB Groundwater Modeling Department. This document is not intended to be used by a groundwater conservation district creating a local model, as local models are not used in the joint planning process.

There are two important considerations involved in the process to update a GAM.

- 1. Best available science:** GAMs are intended to incorporate and reflect the best available science. To the extent possible and within available resources and constraints, the TWDB will make every effort to ensure that the GAMs are kept up to date to represent the best available scientific principles and data.
- 2. Public involvement and transparency:** GAMs are an important tool in the hands of decision-makers responsible for making groundwater management decisions for Texans across the state. Therefore, it is critical that the process to develop and update GAMs be open and transparent to all interested stakeholders and that stakeholders have opportunities to observe and contribute to any model updates.

What new hydrogeologic data may warrant a model update?

A GAM may qualify for an update if there is significant new hydrogeologic data available that will improve the model. This new data must be a robust dataset, and either be 1) spatially located in an area of the model with sparse or no data, or 2) be statistically different from existing data in the current model. Examples of these types of data include:

- water level data,
- stream gage data,
- springflow measurement data,
- evapotranspiration or rooting depth data,
- aquifer property data, such as hydraulic conductivity, transmissivity, specific capacity, or storativity,

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- pumping data, or
- subsidence measurement data.

How to request a GAM update

The TWDB will only accept a GAM update request to incorporate new hydrogeologic data from a groundwater conservation district that has been approved by district representatives in the groundwater management area(s) (GMA) within the model boundary.

The following general criteria apply to a groundwater conservation district requesting a GAM update:

- Only a groundwater conservation district may request a GAM update.
- Prior to submitting a request to the TWDB, the request must be discussed and approved in a GMA joint planning meeting. If the GAM is not used for joint planning purposes by a district in a GMA within the model boundary, the requestor must obtain written documentation from that GMA coordinator stating as such.
- A request must be submitted to the TWDB Executive Administrator by a groundwater conservation district in writing (physical or electronic) and include all the required documentation listed in this document.

Required documentation

A groundwater conservation district requesting a GAM update must submit all documentation listed below to the TWDB. All documentation submitted to the TWDB with a request will become public information and non-confidential, subject to the requirements and exceptions of the Public Information Act.

District representatives in a GMA may choose to have a consultant perform a GAM modification and then request an official TWDB update after their work is completed. If the TWDB performs the GAM update, the schedule for the update will be determined by other TWDB groundwater modeling priorities. The required documentation varies depending on whether a consultant or the TWDB will be doing the update work. More specifics on the required documentation in each instance are included in Appendices A and B.

General required documentation and data includes the following:

- Written request for an official GAM update to incorporate new data, addressed to the TWDB Executive Administrator with a copy to the TWDB Groundwater Modeling Manager (physical or electronic).
- Justification statement describing the need for and benefit of the GAM modification request.
- Demonstration that the new hydrogeologic data justify the proposed GAM update.

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- For consultants performing a GAM modification, see Appendix A for additional documentation requirements.
- For a request for the TWDB to perform a GAM update, see appendix B for additional documentation requirements.
- Written resolutions adopted by two thirds of the district representatives in the groundwater management area(s) within the model boundary.
 - If applicable, written documentation from a coordinator of a GMA within the model boundary that the GAM in question is not used for joint planning purposes.
- A copy of the notice and minutes of the public meeting held by the districts in the groundwater management area(s) within the model boundary at which the districts approved the resolution.

Submittal of incomplete data and information relevant to the GAM update request may impede processing the request. TWDB staff will work with the groundwater conservation district or designated contact to obtain complete data.

TWDB review and update

Once TWDB staff has reviewed the GAM update request and determined that the submittal is complete and appropriate, the TWDB will inform the district representatives in the groundwater management area(s) whether the request was accepted and whether the model update is a minor change (model revision) or a major change (model recalibration).

Once the data are incorporated and changes are made, all model statistics will be analyzed and compared against the existing model statistics. If statistics are within GAM Standards and indicate that the GAM does not need to be recalibrated, then the changes are classified as minor (model revision). If the statistics are not within GAM Standards and indicate the GAM needs to be recalibrated, then the changes are classified as major (model recalibration).

All relevant documents and data will be provided on the TWDB website for a public comment period (30 days for a minor change and 60 days for a major change).

Resources

[GAM Downloads](#)

[GAM Standards](#)

[GAM File Geodatabase Template and Metadata Standards](#)

Statutes and rules

[Texas Water Code § 16.012\(l\)](#)

[31 Texas Administrative Code § 356.10\(12\)](#)

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For questions, contact:

Daryn Hardwick, Ph.D., Groundwater Modeling Manager
daryn.hardwick@twdb.texas.gov, 512-475-0470

Appendix A: Required process and documentation for a consultant performing a modification to a groundwater availability model (GAM)

The following process and documentation requirements apply if groundwater conservation district representatives within a groundwater management area (GMA) choose to have a consultant modify a GAM and then request an official update from the TWDB.

Expectations

The TWDB expects a consultant chosen by district representatives within a GMA to

1. modify the model with new information and data,
2. run the model,
3. generate statistics,
4. compare statistics against the existing model statistics, and
5. visually assess model results for reasonably expected model behavior (water levels fluctuate according to inputs, land surface does not flood, etc.)

If the modified model statistics are within GAM Standards, the change is considered a minor change (model revision). If the modified model statistics are not within GAM Standards, the model needs to be recalibrated and the change is considered a major change (model recalibration).

Minor change (model revision) documentation and process

To obtain approval from the TWDB for a model revision performed by a consultant, a groundwater conservation district must submit the following to the TWDB:

1. A cover letter addressed to the TWDB Executive Administrator that includes:
 - a. the formal request for a GAM update,
 - b. a justification statement describing the need for and benefit of the GAM modification request, and
 - c. a list of technical staff (consultant) and contact information.
2. Written resolutions adopted by two thirds of the district representatives in the GMA(s) within the model boundary.
 - a. If applicable, written documentation from a coordinator of a GMA within the model boundary that the GAM in question is not used for joint planning purposes.
3. A copy of the notice and minutes of the public meeting held by the districts in the GMA(s) within the model boundary at which the districts approved the resolution.
4. An accessible¹ document sealed by a P.E. or P.G. that demonstrates that the new hydrogeologic data justifies the proposed GAM update and includes:

¹ The TWDB has a [guidance document on how to check a PDF for accessibility](#).

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Appendix A

- a. an executive summary,
 - b. maps (include date and a copy of the TWDB grid file),
 - c. a summary of data added or adjusted,
 - d. a comparison table of statistics from the existing model and proposed modified model, and
 - e. any supporting reports or studies as appendices.
5. All raw data stored in a current standard GAM File geodatabase with metadata.
 6. MODFLOW model files and all documented programs used to analyze statistics. All scripting or programming tools that were used for the model update should be included with the supporting information.

Once TWDB staff has reviewed the GAM update request and determined that the submittal is complete and appropriate, the TWDB will inform the district representatives in the groundwater management area(s) whether the request was accepted. If accepted, all materials submitted to the TWDB will be posted to the TWDB website for a 30-day stakeholder review and comment period. Stakeholders will be informed via email. A stakeholder meeting hosted by the TWDB will be scheduled at the end of the review period to address comments and questions. This will be a joint meeting coordinated by the TWDB with the district representatives within each applicable GMA and the consultant(s).

The TWDB may request a meeting(s) with the technical contacts provided for any clarification(s) or additional information.

If the minor change (model revision) is approved, the TWDB Executive Administrator will release a new version of the model to the applicable groundwater conservation districts, regional water planning groups, and river authorities. The model version number will increment by 0.01. For example, version 3.01 will become version 3.02.

Major change (model recalibration) documentation and process

To obtain approval from the TWDB for a model recalibration performed by a consultant, a groundwater conservation district must submit the following to the TWDB:

1. A cover letter addressed to the TWDB Executive Administrator that includes:
 - a. the formal request for a GAM update,
 - b. a justification statement describing the need for and benefit of the GAM modification request, and
 - c. a list of technical staff (consultant) and contact information.
2. Written resolutions adopted by two thirds of the district representatives in the GMA(s) within the model boundary.
 - a. If applicable, written documentation from a coordinator of a GMA within the model boundary that the GAM in question is not used for joint planning purposes.
3. A copy of the notice and minutes of the public meeting held by the districts in the GMA(s) within the model boundary at which the districts approved the resolution.
4. Consultant(s) will work with the TWDB to develop an approach for recalibration. TWDB staff may require a sensitivity analysis on various model inputs and predictive model runs within specifications provided by Groundwater Modeling staff to the consultant(s).
5. An accessible² numerical model report, sealed by a P.E. or P.G., that follows GAM Standards.
6. All raw data stored in a current standard GAM File geodatabase with metadata.
7. MODFLOW model files and all documented programs used to analyze statistics. All scripting or programming tools that were used for the model update should be included with the supporting information.

Once TWDB staff has reviewed the GAM update request and determined that the submittal is complete and appropriate, the TWDB will inform the district representatives in the GMA(s) whether the request was accepted. If accepted, all materials submitted to the TWDB will be posted to the TWDB website for a 60-day stakeholder review and comment period. Stakeholders will be informed via email. A stakeholder meeting hosted by the TWDB will be scheduled at the end of the review period to address comments and questions. This will be a joint meeting coordinated by the TWDB with the district representatives within each applicable GMA and the consultant(s).

The TWDB may request a meeting(s) with the technical contacts provided for any clarification(s) or additional information.

² The TWDB has a [guidance document on how to check a PDF for accessibility](#).

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If the major change (model recalibration) is approved, the TWDB Executive Administrator will release a new version of the model to the applicable groundwater conservation districts, regional water planning groups, and river authorities. The model version number will increment by 0.10. For example, version 3.10 will become version 3.20.

Appendix B: Required process and documentation for a groundwater conservation district to request a GAM update from the TWDB

The following process and documentation requirements apply if groundwater conservation district representatives within a groundwater management area (GMA) choose to request an official GAM update from the TWDB.

Minor change (model revision) documentation and process

To obtain approval for a model revision performed by the TWDB, a groundwater conservation district must submit the following to the TWDB:

1. A cover letter addressed to the TWDB Executive Administrator that includes:
 - a. the formal request for a GAM update, and
 - b. a justification statement describing the need for and benefit of the GAM modification request.
2. Written resolutions adopted by two thirds of the district representatives in the GMA(s) within the model boundary.
 - a. If applicable, written documentation from a coordinator of a GMA within the model boundary that the GAM in question is not used for joint planning purposes.
3. A copy of the notice and minutes of the public meeting held by the districts in the GMA(s) within the model boundary at which the districts approved the resolution.
4. The request and presentation from the GMA coordinator should provide enough information for Groundwater Modeling staff to review. Sufficient information and data may include
 - a. water level data,
 - b. stream gage data,
 - c. springflow measurement data,
 - d. evapotranspiration or rooting depth data,
 - e. aquifer property data, such as hydraulic conductivity, transmissivity, specific capacity, or storativity,
 - f. pumping data, or
 - g. subsidence measurement data.

Once TWDB staff has reviewed the GAM update request and determined that the submittal is complete and appropriate, the TWDB will inform the district representatives in the GMA(s) whether the request was accepted.

The TWDB will determine an appropriate schedule based on current staff workloads to complete the update. The TWDB will maintain communication with the requestor and the applicable GMA(s) to ensure modifications meet the needs of the GMA(s).

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If accepted and after a schedule is determined by the TWDB, the TWDB will update the model with the new information, run the model, analyze model statistics, and compare those statistics with the statistics from the existing GAM. The TWDB will document model revisions in a draft GAM Task Report.

The draft GAM Task Report will be posted to the TWDB website for 30-day stakeholder review and comment period. Stakeholders will be informed via email. A stakeholder meeting hosted by the TWDB will be scheduled at the end of the review period to address comments and questions. This will be a joint meeting coordinated by the TWDB with the district representatives within each applicable GMA.

If the minor change (model revision) is approved, the TWDB Executive Administrator will release a new version of the model to the applicable groundwater conservation districts, regional water planning groups, and river authorities. The model version number will increment by 0.01. For example, version 3.01 will become version 3.02. The model is updated to appropriate version number, which will increment by 0.01. For example, model version 3.01 will become version 3.02.

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Major change (model recalibration) documentation and process

To obtain approval for a model recalibration performed by the TWDB, a groundwater conservation district must submit the following to the TWDB:

1. A cover letter addressed to the TWDB Executive Administrator that includes:
 - a. the formal request for a GAM update, and
 - b. a justification statement describing the need for and benefit of the GAM modification request.
2. Written resolutions adopted by two thirds of the district representatives in the GMA(s) within the model boundary.
 - a. If applicable, written documentation from a coordinator of a GMA within the model boundary that the GAM in question is not used for joint planning purposes.
3. A copy of the notice and minutes of the public meeting held by the districts in the GMA(s) within the model boundary at which the districts approved the resolution.
4. The request and presentation from the GMA coordinator should provide enough information for Groundwater Modeling staff to review. Sufficient information and data may include
 - a. water level data,
 - b. stream gage data,
 - c. springflow measurement data,
 - d. evapotranspiration or rooting depth data,
 - e. aquifer property data, such as hydraulic conductivity, transmissivity, specific capacity, or storativity,
 - f. pumping data, or
 - g. subsidence measurement data.

Once TWDB staff has reviewed the GAM update request and determined that the submittal is complete and appropriate, the TWDB will inform the district representatives in the GMA(s) whether the request was accepted.

The TWDB will determine an appropriate schedule based on current staff workloads to complete the update. The TWDB will maintain communication with the requestor and the applicable GMA(s) to ensure modifications meet the needs of the GMA(s).

If accepted and after a schedule is determined by the TWDB, the TWDB will update the model with the new information, run the model, analyze model statistics, compare those statistics with the statistics from the existing GAM, and provide a comparison of model results using the model files for the most recently adopted desired future conditions. The TWDB will document model revisions in a draft GAM Numerical Model Report

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The draft GAM Numerical Model Report will be posted to the TWDB website for a 60-day stakeholder review and comment period. Stakeholders will be informed via email. A stakeholder meeting hosted by the TWDB will be scheduled at the end of the review period to address comments and questions. This will be a joint meeting coordinated by the TWDB with the district representatives within each applicable GMA.

If the major change (model recalibration) is approved, the TWDB Executive Administrator will release a new version of the model to the applicable groundwater conservation districts, regional water planning groups, and river authorities. The model version number will increment by 0.10. For example, version 3.10 will become version 3.20.

**RESOLUTION #09152023:
UPDATE GROUNDWATER AVAILABILITY MODEL**

THE STATE OF TEXAS	§
	§
GROUNDWATER MANAGEMENT AREA 13	§
	§
GROUNDWATER CONSERVATION DISTRICTS	§

WHEREAS, Texas Water Code § 36.0015(b) states that groundwater conservation districts are the preferred method of groundwater management in Texas and requires groundwater conservation districts to use the best available science in the conservation and development of groundwater;

WHEREAS, Texas Water Code § 36.108(d) requires groundwater conservation districts to consider groundwater availability models and other data or information for the management area when proposing and adopting desired future conditions;

WHEREAS, the groundwater conservation districts located wholly or partially within Groundwater Management Area 13 (“GMA 13”), as designated by the Texas Water Development Board, as of the date of this resolution are as follows: Evergreen Underground Water Conservation District, Gonzales County Underground Water Conservation District, Guadalupe County Groundwater Conservation District, McMullen Groundwater Conservation District, Medina County Groundwater Conservation District, Plum Creek Conservation District, Uvalde County Underground Water Conservation District, and Wintergarden Groundwater Conservation District (collectively hereinafter “the GMA 13 Districts”);

WHEREAS, the Texas Water Development Board contracted with GSI Environmental Inc. to complete a groundwater availability model update for the southern portion of the Queen City, Sparta, and Carrizo-Wilcox aquifers (version 3.01);

WHEREAS, the Texas Water Development Board, in a letter dated July 17, 2023 from Jeff Walker, Executive Administrator, to the General Manager of the Wintergarden Groundwater Conservation District, acknowledged that the high simulated hydraulic conductivity and transmissivity values in the La Salle County and other areas are recognized as model limitations in version 3.01 of the groundwater availability model;

WHEREAS, the groundwater conservation districts in Groundwater Management Area 13 recognize the limitations in version 3.01 of the groundwater availability model and have retained a consultant to recalibrate the model using new data sources to correct concerns that have been noted by Wintergarden Groundwater Conservation District and others in public comments received during model development;

WHEREAS, the Texas Water Development Board has published a guidance document (dated May 2023) related to obtaining approval for a model recalibration performed by a consultant;

WHEREAS, a written resolution adopted by two-thirds of groundwater conservation district representatives in the groundwater management area within the model boundary is one of the

requirements to obtain Texas Water Development Board approval for the updated groundwater availability model;

WHEREAS, at the September 15, 2023 Groundwater Management Area 13 meeting, after a motion was duly made and seconded, the groundwater conservation districts in Groundwater Management Area 13 adopted this resolution requesting the update to the groundwater availability model for use in the joint planning process.

NOW, THEREFORE, BE IT RESOLVED BY THE AUTHORIZED VOTING REPRESENTATIVES OF THE GROUNDWATER CONSERVATION DISTRICT IN GROUNDWATER MANAGEMENT AREA 13 AS FOLLOWS:

1. The above recitals are true and correct.
2. The groundwater conservation district in Groundwater Management Area 13 hereby support submitting an updated groundwater availability model of the southern portion of the Carrizo-Wilcox, Queen City, and Sparta aquifers to the Texas Water Development Board that adheres to the guidance document of May 2023.
3. The update to the groundwater availability model will be completed and submitted to the Texas Water Development Board after a draft of the model and documentation have been reviewed and approved by the groundwater conservation districts in Groundwater Management Area 13. The review of the draft is independent of the Texas Water Development Board public review process outlined in their May 2023 guidance document.
4. The groundwater conservation district in Groundwater Management Area 13 and their agents and representatives, individually and collectively, are further authorized to take all actions necessary to complete the model update and obtain Texas Water Development Board approval.

AND IT IS SO ORDERED.

PASSED AND ADOPTED on this 15th day of September 2023.

ATTEST:

Evergreen Underground Water Conservation District

Gonzales County Underground Water Conservation District

Guadalupe County Groundwater Conservation District

McMullen Groundwater Conservation District

Medina County Groundwater Conservation District

Plum Creek Conservation District

Uvalde County Underground Water Conservation District

Wintergarden Groundwater Conservation District