Hamilton Pool Management Zone Recommendations
Stakeholder Process Final Report

Prepared for
Southwestern Travis County Groundwater Conservation District

Prepared by
Christy Muse, Stakeholder Group Facilitator

Accepted
August 14, 2024

SOUTHWESTERN TRAVIS COUNTY GROUNDWATER CONSERVATION DISTRICT

HAMILTON POOL MANAGEMENT ZONE RECOMMENDATIONS STAKEHOLDER PROCESS FINAL REPORT

August 14, 2024

Prepared for:
Southwestern Travis County Groundwater Conservation District

Prepared by:
Christy Muse, Stakeholder Group Facilitator

Stakeholder Participants:
Roy Preslar, Reimers Ranch
Marvin Myers, Myers (4M) Ranch
Tricia Davis, Davis Ranch
Raymond Frank, Frank Ranch
Elaine Davenport, Stagecoach Ranch
Janet Gilmore, Lick Creek Ranch
Chris Kennedy, West Cypress Hills
JoAnn Pelz, Ranches at Hamilton Pool
Tony Salinas, Cypress Ranch WCID No 1
Lynn Sherman, Mirasol Springs MUD
Mick Long, Office of Pct 3. County Commissioner
Charles Bergh, Travis County Parks
Jon White, Travis County Transportation and Natural Resources
John Aoueille, Lake Travis Independent School District
Matt Welch, Mirasol Springs
Landon Marino, Preservation Ranch

SWTCGCD Board of Directors:
Richard Scadden, President
Tricia Davis, Vice President
Tim Van Ackeren, Secretary
Jim Urie, Treasurer
Michael Leva, Director
Ian Norton, Director
Jim Phillips, Director

SWTCGCD Staff:
Lane Cockrell, General Manager/Hydrogeologist
Virginia Smith, Regulatory Compliance Specialist
Barbara Reyes, Administrative and Hydrogeology Assistant

Cover Description:
Hamilton Pool, Hamilton Pool Preserve. Photo by Barbara Reyes.
Cover design by SWTCGCD staff

HAMILTON POOL MANAGEMENT ZONE RECOMMENDATIONS

Stakeholder Process Final Report

August 14, 2024

TRANSMITTAL MEMO

To: Southwestern Travis County Groundwater Conservation District (SWTCGCD) Board Members:
Richard A. Scadden, President – Director, City of Bee Cave
Tricia Davis, Vice President – Director, At-Large
Jim Urie, Treasurer – Director, City of Lakeway and Village of the Hills
Tim Van Ackeren, Secretary – Director, At-Large
Ian Norton – Director, At-Large
Michael Leva – Director, City of West Lake Hills
Jim Phillips – Director, At-Large

From: Hamilton Pool Management Zone Stakeholder Group

Prepared by:
Christy Muse, consultant and group facilitator

Date: July 15, 2024

Re: Final Recommendations

The Stakeholder Group is pleased to transmit the attached final report of our process and recommendations for the Hamilton Pool Management Zone. Our group met consistently every month from January through June 2024. Meetings were well-attended and provided a significant opportunity to learn about the unique geology and hydrology of the Hamilton Pool springshed study area and explore many topics related to groundwater policy, regulatory authority, planning tools, sustainability, and innovation.

This process has given stakeholders an opportunity to learn about water supply issues confronting our community. It has also provided a chance to experience diverse perspectives and build relationships with our neighbors.

We hope the SWTCGCD finds these recommendations helpful and an essential resource for future decision-making. We also hope that area residents, landowners, Travis County, future developers, and all stakeholders benefit from the findings in this report.

We would like to thank the numerous individuals, professionals, and agencies that supported our efforts, including Westcave Outdoor Discovery Center; Lake Travis Independent School District; The Campsite at Shield Ranch; Travis County Transportation and Natural Resources staff; Pct. 3 County Commissioner Ann Howard; Brian Hunt, the Bureau of Economic Geology; Charlie Flatten, Hays Trinity Groundwater Conservation District; Nick Dornak, Doucet & Associates; Robert Mace, Meadows Center for Water and the Environment; Jennifer Riechers, West Travis County Public Utility Agency; Lane Cockrell and Virginia Smith, staff at the SWTCGCD; and the entire board of the SWTCGCD who had the foresight to initiate this process and had the confidence in our community to work together toward united ideas that protect the long-term health of our unique spring systems and groundwater for future generations.

HISTORY AND BACKGROUND

Groundwater Conservation Districts (GCDs) are Texas' preferred method of groundwater management. The Texas Legislature authorized the creation of GCDs in 1949, and the first district was created in 1951.

A Priority Groundwater Management Area (PGMA) is an area designated and delineated by the Texas Commission on Environmental Quality that is experiencing or is expected to experience within 50 years critical groundwater problems, including shortages of surface water or groundwater from groundwater withdrawal or contamination of groundwater supplies. The Hill Country PGMA was established in 1990 and includes Western Travis County.

The Southwestern Travis County Groundwater Conservation District (SWTCGCD) was created by the Texas Legislature in 2017 and confirmed by voters within the district boundaries in 2019. SWTCGCD was the 101st GCD created in Texas and the last district created within the Hill Country PGMA.

The SWTCGCD's territory includes a portion of the southwest corner of Travis County. It is bound by the Colorado River to the north, Blanco and Burnet Counties to the west, Hays County to the southwest, and the Barton Springs Edwards Aquifer Conservation District to the southeast. The district is governed by a seven-member locally elected board of directors.

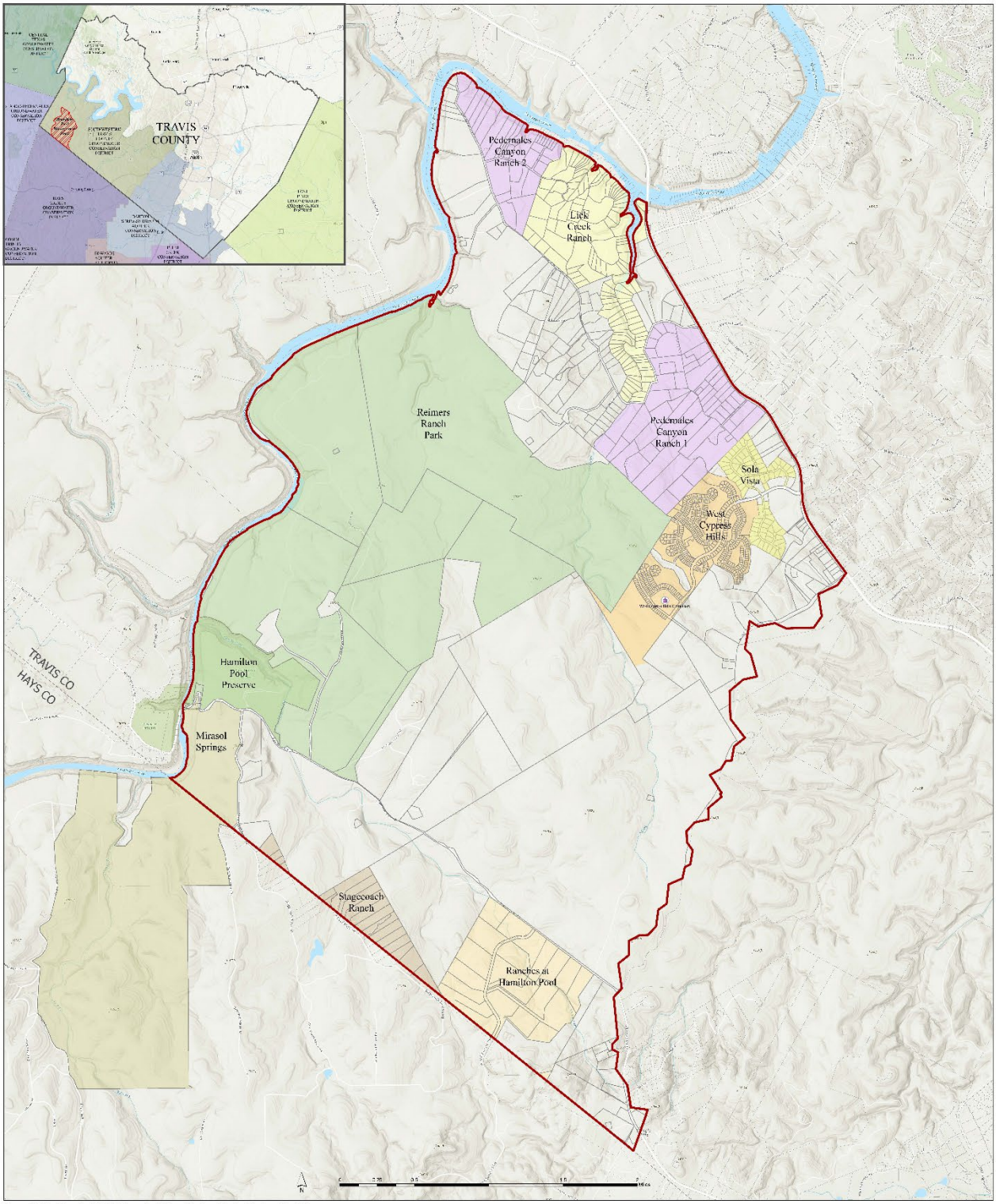
Hamilton Pool Preserve and Reimers Ranch Park are located within the SWTCGCD boundary. They are significant environmental features and assets treasured locally, regionally, and even globally. Beyond their beauty and environmental and recreational benefits, they indicate the health of groundwater resources for all who live within their supporting aquifer system.

In April of 2021, Travis County engaged the Bureau of Economic Geology (BEG) at the University of Texas to study the springs in and around the parks that also feed the Pedernales River. The study objectives were to better understand how water moves within the system and to inform science-based strategies for conserving and protecting these springs and the aquifers that support them. Extensive data was collected to ultimately model and map the "springshed." Among the findings of the study was a recommendation to create the Hamilton Pool Management Zone (HPMZ), where unique strategies could be deployed to protect the fragile system.

The Southwestern Travis County Groundwater Conservation District's Board of Directors approved the creation of the Hamilton Pool Management Zone in Western Travis County in August 2023. The district may consider special groundwater management rules and activities tailored to protect the unique aquifer and springs within this designated area. To inform the best path forward, the district created a stakeholder group process to provide recommendations for potential new rules and management strategies for the new management zone.

SOUTHWESTERN TRAVIS COUNTY GROUNDWATER CONSERVATION DISTRICT

HAMILTON POOL MANAGEMENT ZONE
PROPERTIES and SUBDIVISIONS



Source Credits: Hunt, B., 2022, Hydrogeologic Data: Hamilton Pool and Reimers Ranch Source Water Protection Study in Western Travis County, Texas;
Travis County: Subdivisions, Travis County; Texas Water Development Board: 2019 TCAD Parcels, Groundwater Conservation Districts; Esri Topographic base map.

2/23/2024 Southwestern Travis County Groundwater Conservation District.

KEY OBJECTIVES OF THE STAKEHOLDER PROCESS

- ✓ To bring key stakeholders together to evaluate existing scientific data specific to the unique hydrological setting of the Hamilton Pool springshed
- ✓ To learn about local and regional groundwater issues and various strategies that have been or are being deployed to protect long-term spring flow and aquifer health
- ✓ To build relationships and a common understanding of the risks and opportunities related to aquifer/groundwater sustainability
- ✓ To provide recommendations to the SWTCGCD to guide future groundwater management decisions related to this geographic area

STAKEHOLDER PARTICIPANTS

Landowners
1. Roy Preslar, Reimers Ranch
2. Marvin Myers, Myers (4M) Ranch
3. Tricia Davis, Davis Ranch
4. Raymond Frank, Frank Ranch

Neighborhoods/Communities
5. Elaine Davenport, Stagecoach Ranch
6. Janet Gilmore, Lick Creek Ranch
7. Chris Kennedy, West Cypress Hills
8. JoAnn Pelz, Ranches at Hamilton Pool

Water Supply
9. Tony Salinas, Cypress Ranch WCID No 1
10. Lynn Sherman, Mirasol Springs MUD

Public Agency
11. Mick Long, Office of Pct 3. County Commissioner
12. Charles Bergh, Travis County Parks
13. Jon White, Travis County Transportation and Natural Resources
14. John Aoueille, Lake Travis Independent School District

Business and Development
15. Matt Welch, Mirasol Springs
16. Landon Marino, Preservation Ranch

FINAL RECOMMENDATIONS

INTRODUCTION

Stakeholders expressed a shared desire to find the most impactful actions that will protect springs in the Hamilton Pool Management Zone (HPMZ) and sustain aquifer health. They understand the risk and reality of local aquifer conditions trending toward decline and note that while this is an aquifer system that can recover by responding to rainfall, science shows that as little as five percent of rainfall provides actual recharge to the local Trinity Aquifer System.

The forecast for future long-term aquifer decline is real. It is based on data related to flow rates, pumping and well monitoring, climate trends, and population growth trends. Stakeholder conversations included the suggestion of a pause in considering new permit applications until aquifer monitoring demonstrates stability versus decline.

It was also made clear that the legal framework within which the Groundwater Conservation Districts (GCDs) operate creates challenges for bold action. Broad community education, incentives for conservation practices, and extensive monitoring throughout the HPMZ are all high priorities, as well as protective rules and regulatory actions.

Stakeholders are united in their desire to find more incentives, financial and otherwise, for conservation efforts. Generally, this is something to pursue and continue working on.

Stakeholders understand that the SWTCGCD will work with its legal counsel to fully explore any potential legal or legislative challenges to these recommendations.

Stakeholders worked hard to reach a consensus on recommendations that will uphold our shared vision. Concerns of specific stakeholder interests are documented in the comments attached to this report.

The following recommendations share an important and overarching objective—to move away from future use of the Middle Trinity Aquifer by providing alternatives.

Recommendation #1 – EDUCATION & OUTREACH. Expand education and outreach activities to build community understanding and broaden participation in conservation.

Create an education and outreach program that targets the HPMZ geographic area. The stakeholder process identified gaps in knowledge of aquifer conditions, regulatory possibilities, and groundwater planning activities. HPMZ stakeholders can provide a link to the rest of the community and help identify communication avenues. Education should be neighborly and spread by community members.

Rather than re-inventing the wheel, seek opportunities to advance educational tools already created in neighboring GCDs. Use the SWTCGCD website, newsletter, and social media to provide education. Collaborate with other community organizations to advance education. Consider a shared newsletter with Barton Springs Edwards Aquifer Conservation District (BSEACD) and Hays Trinity Groundwater Conservation District (HTGCD)

with special editions specific to each GCD. Work with the real estate community to educate new and prospective homeowners.

Target specific messages for groundwater production permittees, exempt well groundwater users and surface water users. Key messages to include:

- ✓ The fragile nature of the local aquifer system, the reality of its current decline, and the limited regulatory framework to protect it
- ✓ Real-time aquifer and drought conditions
- ✓ The need for voluntary participation in science and monitoring
- ✓ The importance of minimizing the use of groundwater for outdoor irrigation/lawn watering
- ✓ Rainwater harvesting as an actionable strategy
- ✓ How sustainable groundwater management protects property rights and the future use of groundwater

Recommendation #2 – SCIENCE AND MONITORING. To effectively protect long-term spring flow and aquifer levels, expand the SWTCGCD aquifer and spring-flow monitoring, data collection, and analysis program. These activities will set the stage for measurable targets and data-driven management decisions and rules that accomplish long-term sustainability, such as drought curtailments and production limits.

Take action to broaden monitoring activities:

- ✓ Continue the important research partnership among Travis County, the Bureau of Economic Geology (BEG), and SWTCGCD
- ✓ Collaborate with neighboring GCDs on science and research activities
- ✓ Develop a financial budget for the monitoring and data analysis program so that funding needs can be adequately and promptly secured
- ✓ Request that Travis County establish a long-term funding commitment for groundwater monitoring
- ✓ Create community buy-in with education and outreach (recommendation #1)
- ✓ Establish more data collection points—a more extensive monitoring network. This monitoring plan should include metrics for quantifying the number and location of necessary monitoring wells and data points
- ✓ Establish a voluntary fund for permittees and donors to help offset the costs of monitoring activities
- ✓ Monitor springs directly

Recommendation #3 – DESIRED FUTURE CONDITION (DFC). Adopt management goal(s) and a stated Desired Future Condition (DFC) that clearly targets spring-flow protection and long-term sustainability.

The official "Desired Future Condition" (DFC) of Groundwater Management Area 9 (GMA 9) is 30 feet of average drawdown over the next 50 years. This goal allows for and could even encourage a steady decline of aquifer levels regionwide, which in turn will diminish spring flow.

SWTCGCD should independently (subject to adoption by GMA 9) establish and articulate management-plan goals and adopt a local DFC that articulates a philosophy consistent with the vision of the HPMZ Stakeholder Process: "*Hamilton Pool and surrounding springs and seeps continue a healthy flow, and all who depend on groundwater have reliable water for future generations*." This goal and the DFC should guide future SWTCGCD management actions and rules, as well as the SWTCGCD's active participation in GMA 9's regional planning activities.

SWTCGCD should follow the example of the Clearwater Underground Water Conservation District, which has adopted a DFC to maintain flow from Salado Springs. This DFC directs the district to work with permittees to reduce groundwater use during droughts when spring flow is diminished.

Recommendation #4 – DROUGHT MANAGEMENT. Establish drought management actions and rules informed by monitoring activities.

- ✓ Adopt special drought management rules, potentially designed to achieve a spring flow-based DFC to reduce the effects of Middle Trinity pumping during drought.
- ✓ Establish actionable curtailments triggered by drought stages based on local hydrological factors such as spring flow, groundwater levels, or surface flow/levels. Use the Jacob's Well Management Zone as a model for drought curtailments, acknowledging that each spring system is unique and should be evaluated using local science.
- ✓ Consider a rule to pause the acceptance of new permit applications during severe drought (See HTGCD as a model.)

Two options for a new permit classification are recommended for consideration as follows:

Option A
Consider a new alternative permit classification not currently offered by the GCD for those who agree not to use any groundwater for outdoor irrigation. Rainwater harvesting for landscape irrigation would be allowed. This would be a limited-volume permit based on an agreed-upon per capita indoor use metric. As an incentive, the permittee would be exempt from standard drought curtailment rules and assured that indoor potable use would not be curtailed. Special consideration could be given to small wildlife features or other minor outdoor uses.

Option B
Consider a new alternative permit classification not currently offered by the GCD for those who agree not to use any groundwater for outdoor irrigation. Rainwater harvesting for landscape irrigation would be allowed. This would be a limited volume permit based on an agreed-upon per capita potable use metric (for example, 80 gallons per person per day). As an incentive, the permittee would be exempt from standard drought curtailment rules and assured that water necessary for potable purposes would not be curtailed. Special consideration could be given to small wildlife features or other minor outdoor uses.

To qualify for this incentive, in addition to agreeing to use no groundwater for outdoor irrigation, the applicant or permittee would install, implement, and/or undertake at least two of the following water conservation measures:

- ✓ limitation of water well usage to potable use;
- ✓ utilization of water supplies other than groundwater;
- ✓ rainwater harvesting/collection for potable and/or non-potable use;
- ✓ managed aquifer recharge;
- ✓ aquifer storage and recovery;
- ✓ utilization of cisterns and/or other enclosed water storage;
- ✓ irrigation with treated wastewater;
- ✓ xeriscaping/artificial turf; and/or
- ✓ any other conservation measure(s) approved by the GCD.

- ✓ Follow a wildlife management plan that includes practices intended to maintain and/or improve native vegetation and water infiltration into the soil.

Recommendation #5 – RAINWATER HARVESTING. Prioritize a strong incentive program for rainwater harvesting, recognizing this as the most effective, reliable, and cost-effective alternative water supply for the HPMZ, especially for exempt wells. See Exhibit I for examples.

- ✓ Work with Travis County to explore an ad valorem tax incentive for rainwater harvesting in the HPMZ
- ✓ Seek grant funding for the GCD to offer a financial rebate program. Other fee-based GCDs in Texas are exploring this.
- ✓ Encourage commercial and institutional facilities to take advantage of the LCRA rebate program for rainwater harvesting systems

Recommendation #6 – INCENTIVES. Create incentives and strategies to prevent waste and encourage low-impact, one-water, and conservation strategies.

Investigate and consider the adoption of special rules that incentivize and promote water conservation strategies and waste reduction/avoidance, especially the elimination or reduction of groundwater use for outdoor irrigation and lawn watering.

- ✓ Limit and discourage landscape irrigation with groundwater
- ✓ Offer incentives and reward those who choose not to use groundwater for outdoor irrigation year-round. These permittees could be granted a special drought curtailment rule (see recommendation #4) that protects essential indoor potable use and gives assurance that essential indoor household use will be allowed during drought.
- ✓ Incentivize rainwater harvesting (Recommendation #5)
- ✓ Encourage and incentivize “One Water” practices as much as possible and feasible
- ✓ Adopt a rule that prohibits the use of groundwater for filling “vanity ponds”
- ✓ Encourage exploration of aquifer recharge enhancement activities
- ✓ Promote the 100% off-grid Shield Ranch model and remove barriers for rainwater-based public water systems, as well as other innovative conservation technologies

Recommendation #7 – SPECIAL PERMIT CONDITIONS. Use special conditions in permits as a collaborative way to work with new and renewing permit applicants.

Begin each permit application and renewal process with a conversation that educates and builds alignment on special permit conditions that go above and beyond GCD regulatory requirements. These conversations should be ongoing and encouraged when permittees are willing to come to the table and should include:

- ✓ Prohibition of the use of groundwater for lawn watering or outdoor irrigation
- ✓ Rainwater harvesting requirements for potable and non-potable use
- ✓ Contributions to science and monitoring
- ✓ Land conservation
- ✓ Alternative water supplies
- ✓ Aquifer storage and recovery
- ✓ Managed aquifer recharge
- ✓ Participation in GCD monitoring program by providing access and even funding contributions

Recommendation #8 – COLLABORATE WITH TRAVIS COUNTY.

- ✓ Continue the Travis County/SWTCGCD research collaborative
- ✓ Establish a protocol with Travis County that provides for the consideration of SWTCGCD technical guidance on groundwater availability studies submitted for new development in the HPMZ
- ✓ Request that Travis County review and potentially revise groundwater availability rules
- ✓ Encourage Travis County to study, monitor, and potentially mirror the Hays County conservation development ordinance

Recommendation #9 – WELL CONSTRUCTION.

Review and consider rules that establish conservation standards for new well construction in the HPMZ. Consider grouting requirements, column pipe and pump size limits, and other construction standards appropriate for conservation best practices.

Recommendation #10 – ANALYZE SURFACE WATER FEASIBILITY.

Collaborate with the West Travis County PUA, Travis County, Cypress Ranch Water Control and Improvement District No. 1, and the Lower Colorado River Authority to analyze the feasibility and practicality of bringing surface water to the West Cypress Hills neighborhood and reducing or eliminating their dependence on the Middle Trinity Aquifer.

Recommendation #11 – CONTINUE THE HPMZ STAKEHOLDER GROUP

Reconvene the Stakeholder Group in three to four months to evaluate progress and discuss future meetings and roles for stakeholders.

Comments provided by Stakeholder John Aoueille representing the Lake Travis Independent School District Board of Trustees:

Lake Travis Independent School District is doing a great deal to conserve water. We are installing, at great expense, four artificial turf playing fields and rainwater collection systems at our two newest campuses: High School #2 and Elementary #8. We currently have rainwater collection systems at 6 of our 11 campuses. We have artificial turf at four of the playing fields at the current high school and artificial turf is being installed throughout the district at each of our three middle school campuses.

These water conserving/harvesting measures are not mandated. We are choosing to spend the money to install these features to conserve water proving that water as a resource is very important to LTISD. Also, we use our rainwater harvesting systems as educational opportunities to introduce water conservation concepts to the next generation. We are designing and installing the largest Rainwater Collection System in the district at our new High School. Our students at the new high school will learn how the system works and why we chose to implement rainwater harvesting. But, Rainwater collection is not enough. We must supplement rainwater harvesting with groundwater at High School #2.

We have an obligation to provide and maintain a safe place for our students. Not being able to water our practice field and playground prevents the district from providing a safe place for our students to play and practice. Our administration's ongoing concern for concussions is at the forefront of our parents and students. Hard, dry fields contribute to the risk of kids suffering concussions and many other injuries.

LTISD's sole source for water at High School #2 is Groundwater. We do not have any other water source available to us currently.

Therefore, LTISD cannot support any Recommendation to SWTCGCD that would further limit our use of Groundwater in the HPMZ. We cannot support Recommendation #4/Bullet #1; Recommendation #6/Bullet #1; Recommendation #7/Bullet #1, for fear that recommending and adopting new rules that would further limit the use of groundwater for outdoor watering would jeopardize our ability to provide a SAFE ENVIRONMENT for our students.

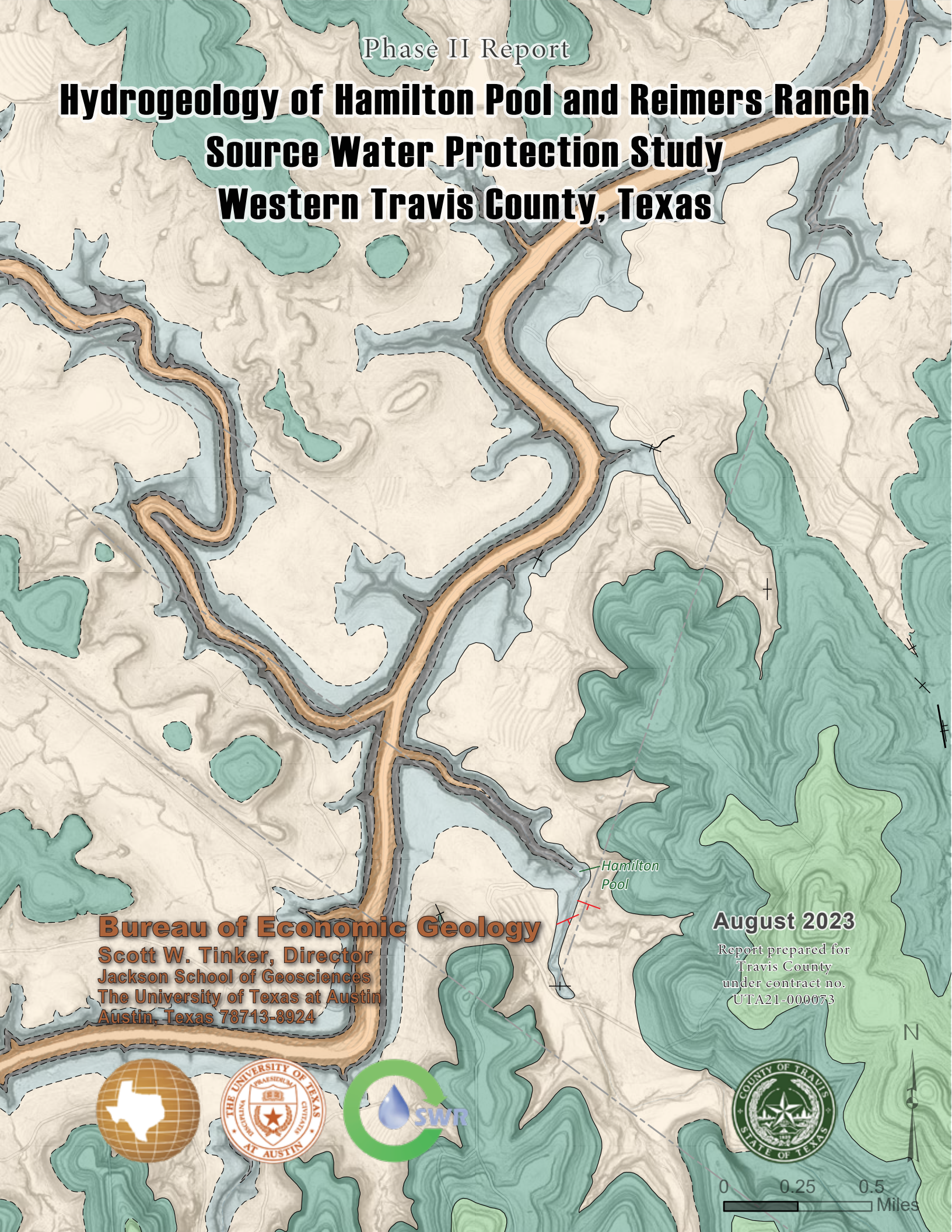
EXHIBITS

EXHIBIT A – Hamilton Pool Source Water Study Executive Summary
EXHIBIT B – HPMZ Syllabus
EXHIBIT C – Guiding Principles and Agreements
EXHIBIT D – Vision and Values Statements
EXHIBIT E – HPMZ Kickoff Meeting #1 Recap 2.26.24
EXHIBIT F – HPMZ Meeting #2 Recap 3.25.24
EXHIBIT G – HPMZ Meeting #3 Recap 4.29.24
EXHIBIT H – HPMZ Meeting #4 Recap 5.23.24
EXHIBIT I – Rainwater Harvesting Incentives
EXHIBIT J – Supplemental Resources

EXHIBIT A - Hamilton Pool Source Water Study Executive Summary

Phase II Report

Hydrogeology of Hamilton Pool and Reimers Ranch Source Water Protection Study Western Travis County, Texas



Bureau of Economic Geology
Scott W. Tinker, Director
Jackson School of Geosciences
The University of Texas at Austin
Austin, Texas 78713-8924

August 2023

Report prepared for
Travis County
under contract no.
UTA21-000073

Dedication:

Dr. Barbara June Mahler (1959–2023), a gifted scientist who began study of the Hamilton Pool area in 1991.

Cover Description:

A portion of the bedrock geologic map (Figure 25) with exaggerated (10×) shaded relief beneath transparent geology polygons.

Recommended Citation for report:

Hunt, B., 2023, Hydrogeology of Hamilton Pool and Reimers Ranch, Source Water Protection Study, Western Travis County, Texas, Phase 2 Report: The University of Texas at Austin, Bureau of Economic Geology, contract report prepared for Travis County (UTA21-000073).

Recommended Citation for data:

Hunt, B., 2023, Hydrogeologic Data: Hamilton Pool and Reimers Ranch Source Water Protection Study in Western Travis County, Texas: Texas Data Repository, v. 4. https://doi.org/10.18738/T8/SF0BXT

Phase 2 Report

Hydrogeology of Hamilton Pool and Reimers Ranch, Source-Water Protection Study, Western Travis County, Texas

Executive Summary

Springflow and groundwater at Hamilton Pool Preserve and Reimers Ranch Park in western Travis County are an important environmental, water supply, and recreational resource. Recent studies document groundwater mining occurring just a few miles east of these public lands in the Middle Trinity Aquifer. Springflow vital to the ecology of the preserve and park system may be at risk of depletion from increased groundwater pumping exacerbated by droughts. Prior to this study, little information was documented about the springs and their source-water area, or referred to as its *springshed*. Travis County commissioned this study to develop data and models to inform science-based strategies for conservation and protection of these groundwater resources. Research focuses on the Middle Trinity Aquifer and its springs within a collection of small watershed areas that include: Lick Creek, Pogue Creek, Reimers, Hamilton Creek, Elder Creek, and Roy Creek, as well as other small, unnamed watersheds.

Detailed geologic mapping, data collection, and aquifer characterization were done over a 2-year period (May 2021 through April 2023). This period had a total rainfall deficit of more than 13 inches, or about 23% lower than normal, representing significant drought conditions. Geologic, hydrologic, and elevation data were collected, compiled, and integrated to characterize the aquifer, springs, and springsheds. Data include geologic samples (core) and mapping, lidar, water chemistry, groundwater levels, and flow measurements at numerous sites throughout the study area. Nine springs and six surface-water sites were monitored, and more than 36 wells were monitored continuously or periodically during the study period. Groundwater levels and springflows have declined steadily over the 2-year period, although they have episodically responded to rainfall and subsequent recharge. Overall springflow during the study period declined more than 40%. Median spring flows were about 0.05 cfs (22 gpm) for larger spring complexes, such as Hamilton Pool, and about 0.01 cfs (4.5 gpm) for smaller springs, such as Reimers. The volume of cumulative springflow, as well as median flow rates, directly correlates to watershed areas and estimated rates of recharge, indicating that the springsheds (groundwater) and watershed (surface water) areas are most likely linked.

The resulting integration of data informed a conceptual model (**Figure ES-1)**. Perennial springs issue from a localized segment of the unconfined Middle Trinity Aquifer that generally correspond to the small watersheds listed earlier—informally named the Hamilton Pool segment of the Middle Trinity Aquifer. The aquifer segment is characterized by thicker and more permeable units than equivalent geologic units to the east, a result of the depositional history in the study area. These units are exposed in the watersheds of the study area, allowing recharge from rainfall and runoff. A water-level map of the area delineates a north-south-trending groundwater divide that generally divides groundwater flowing east toward Bee Caves and west or north toward springs and the base level of the Pedernales River. This groundwater divide coincides with geologic features such as a change in thickness and permeability of the geologic units. A conservative interpretation places the boundary of this localized aquifer and springshed along the watershed divide of Bee Creek. On the basis of this information, a groundwater-management area for the Travis County portion of the study has been recommended (**Figure ES-2)**.

The localized aquifer system in the study area has a strong connection between surface water and groundwater such that the aquifer and springs can be considered renewable; however, this connection also means that the springs are

vulnerable to drought conditions and pumping. Increased pumping will most likely result in the capture of springflow and, to a lesser extent, water-level declines in the aquifer, which are magnified in drought conditions.

Reducing current and future pumping of the Hamilton Pool segment of the Middle Trinity Aquifer in the management zone will be the primary way of achieving the goal of conserving and protecting the aquifer and its springs. These can be realized primarily by (1) groundwater rules that limit pumping and promote conservation and (2) development of alternative water supplies such as rainwater, use of the Lower Trinity, and aquifer storage and recovery (ASR).

Hydrogeologic data collected to date are available at the UT-Austin dataverse:

https://dataverse.tdl.org/dataset.xhtml?persistentId=doi:10.18738/T8/SF0BXT

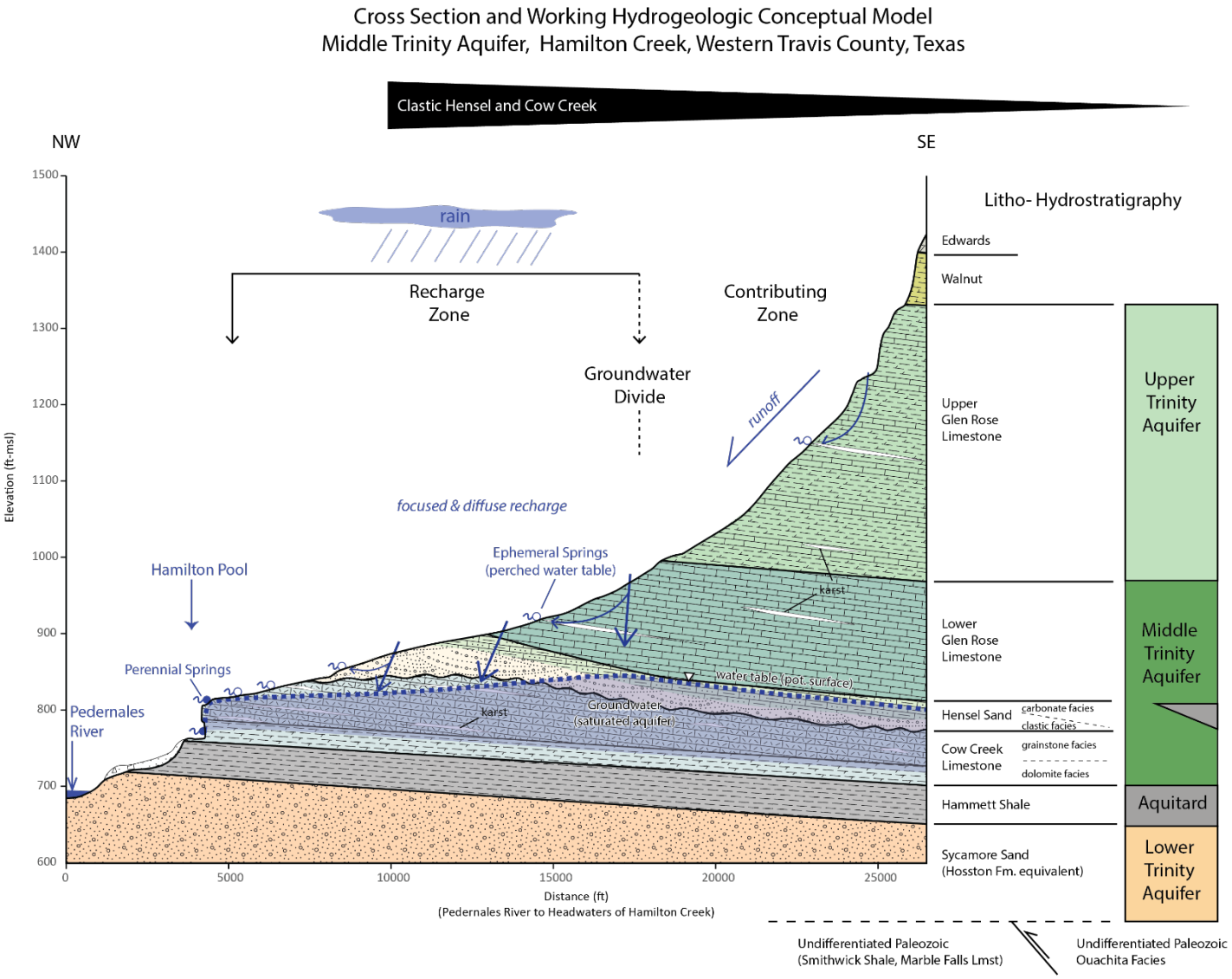


Figure ES-1. Cross section and conceptual hydrogeologic model of Hamilton Pool segment of Middle Trinity Aquifer. This figure is the same as Figure 57 in the report.

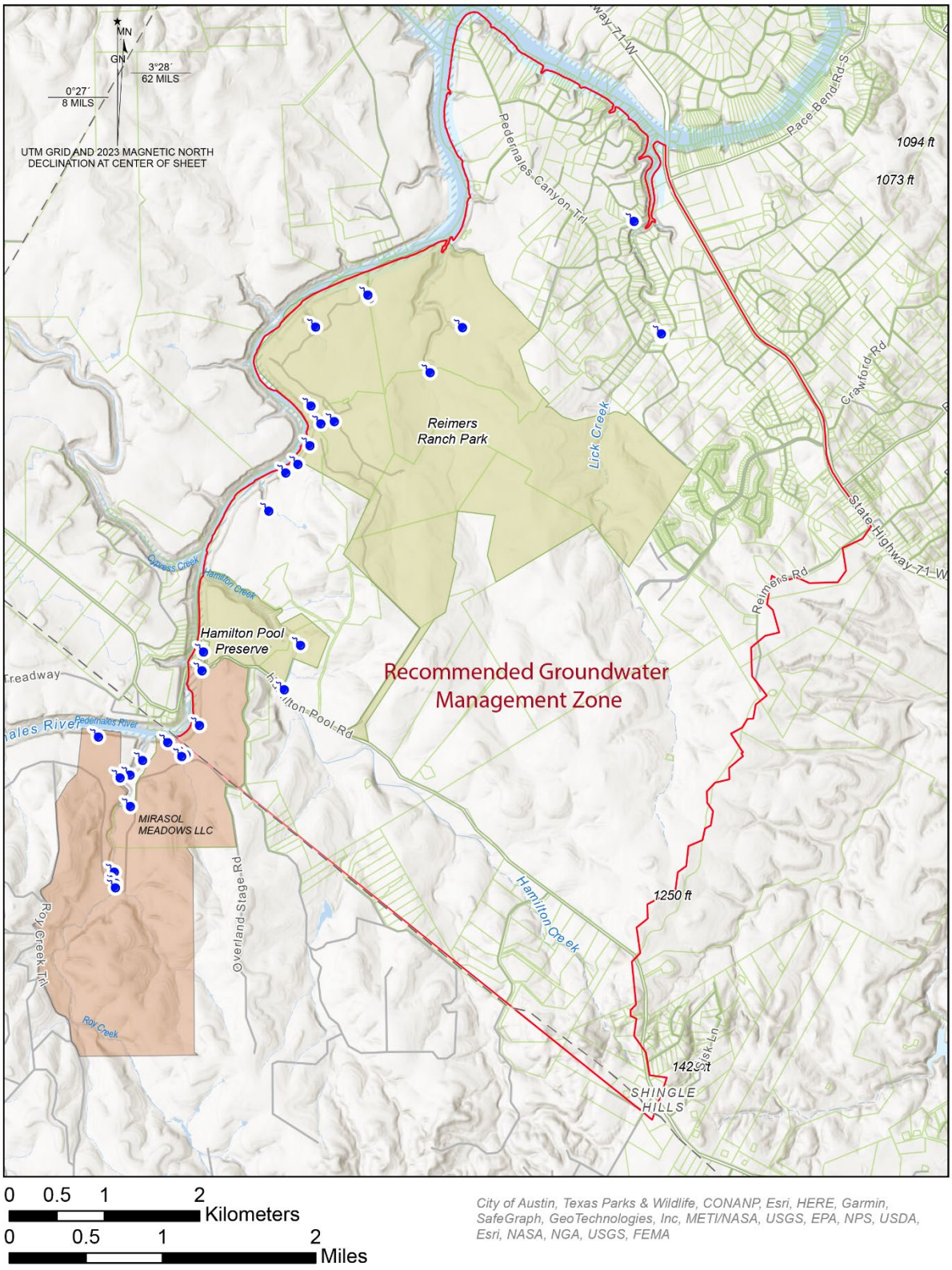


Figure ES-2. Recommended groundwater management zone, outlined in red, based on hydrogeologic data and evaluations in this report. Management zone covers informally designated Hamilton Pool segment of Middle Trinity Aquifer in Travis County. This figure is the same as Figure 59 in the report.

EXHIBIT B - HPMZ Syllabus

Landowners
1. Roy Preslar, Reimers Ranch
2. Marvin Myers, Myers (4M) Ranch
3. Tricia Davis, Davis Ranch
4. Raymond Frank, Frank Ranch

Neighborhoods/Communities
5. Elaine Davenport, Stagecoach Ranch
6. Janet Gilmore, Lick Creek Ranch
7. Chris Kennedy, West Cypress Hills
8. JoAnn Pelz, Ranches at Hamilton Pool

Water Supply
9. Tony Salinas, Cypress Ranch WCID No 1
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11. Mick Long, Office of Pct 3. County Commissioner
12. Charles Bergh, Travis County Parks
13. Jon White, Travis County Transportation and Natural Resources
14. John Aoueille, Lake Travis Independent School District

Business and Development
15. Matt Welch, Mirasol Springs
16. Landon Marino, Preservation Ranch

Meeting #1, Kickoff, Monday February 26, 3 to 6 p.m. Westcave Outdoor Discovery Center
Objectives
1. Welcome from Southwestern Travis County GCD President, Rick Scadden, and Pct. 3 County Commissioner, Ann Howard
2. High-level and brief overview of the science, unique hydrologic setting, and purpose of the new Management Zone: Brian Hunt, Bureau of Economic Geology
3. Facilitator introduction and report of stakeholder interview findings.
4. Stakeholder introductions and time to get to know each other.
5. Introduction of key learning objectives for this process and opportunity for discussion and improvement.
6. Introduction of proposed Guiding Principles and Agreements.
7. Shared Vision and Values conversation – group engagement activity.

Note: Principles and Agreements are about how the stakeholder process works.
Vision and Values articulate what we are striving for as recommendations are being considered.

8. Agree on dates and locations for future meetings.

Meeting #2, Monday March 25, 3 to 6 p.m. LTISD, Training room at the Transportation Bldg.
16101 SH 71 West, Bldg. A, Austin, TX 78738 (@Vail Divide)
Objectives
1. Brief around the table check-in and arrival.
2. Review Guiding Principles and Agreements.

3. An overview of GCD's, groundwater management in Texas and the SWTCGCD: Cole Ruiz, Lloyd Gosselink Rochelle & Townsend, P.C.
4. Land-use, county tools and gaps related to water resource protection and development oversight: Jon White, Natural Resources/Environmental Quality Division Director, Travis County
5. Local aquifer science deep dive and technical presentation with Q&A and discussion: Brian Hunt, Research Scientist Associate, Bureau of Economic Geology.
6. Highlights from other management zones; Jacob's Well, Clearwater, Kinney County, and others. Charlie Flatten, General Manager, Hays-Trinity GCD.
7. Continue shared Vision and Values conversation.

Meeting #3, Monday April 29, 3 to 6 p.m. The Campsite at Shield Ranch, 10417 Crumley Ranch Road.
Optional tour at 2:00 p.m. and optional hike at 6:00 p.m.
Objectives:

1. Brief around the room check-in and arrival.
2. One Water/Rainwater/Conservation opportunities: Nick Dornak, Doucet & Associates
3. Climate considerations for this region: Robert Mace, Meadows Center for Water and the Environment.
4. SWTCGCD presentation of possibilities for the management Zone. A menu of options presented by Lane Cockrell, SWTCGCD GM/Hydrogeologist.
5. Brief first discussion of HPMZ recommendations. Light brainstorm style.
6. Check-in about process, progress, vision and values.

Meeting #4, Thursday May 23, 3 to 6 p.m. RGK Ranch Park.
Objectives:

1. Check-in and arrival.
2. Surface water conversation. West Travis County Public Utility Agency (WTCPUA) plans and growth projections. Jennifer Reichers, General Manager, West Travis County Public Utility Agency (WCTPUA)
3. Benefits and success of public and private land conservation and investments: Charles Bergh, Travis County Parks.
4. Second deeper discussion of HPMZ recommendations. Workshop specific recommendations.
5. Check-in about process and progress

Meeting #5, Monday, June 10, 3 to 6 p.m. Travis County Parks Office, 14624 Hamilton Pool Road
Objectives:

1. Brief around the room check-in and arrival.
2. Workshop and finalize recommendations in preparation for SWTCGCD review.
3. Discuss future opportunities for this stakeholder group.

EXHIBIT C - Guiding Principles and Agreements

Hamilton Pool Management Zone (HPMZ) Stakeholder Group Process
Guiding Principles and Agreements
Agreed to by consensus February 26

1. Stakeholders have been invited by the SWTCGCD to represent diverse local interests. These meetings are being designed specifically for the actual stakeholders who are the learners, voices, opinions, and idea generators for the process. Others may be in the room for observation only, unless invited to provide expertise.

2. The geography we are focused on is specific and defined by a scientific hydrologic study. We will stay focused on this specific "zone" and steer away from broader out-of-scope issues.

3. All stakeholders bring value and will be heard; and all stakeholders will listen and learn with open minds.

4. We will strive for full transparency by remaining open, communicative, and responsive to all stakeholders.

5. Each step along the way, stakeholders will have the opportunity to gain clarity and to offer adjustments to our process and outcomes.

6. Stakeholders will strive for long-term strategies and solutions related to the health of this groundwater system—a system that provides drinking water; sustains springs, seeps, creeks and the Pedernales River; is essential to the overall health of our ecosystem and economy; and is vital to our community.

7. As we prepare to make recommendations to the District, group consensus-based decision-making will be ideal and our goal. When consensus is not viable an issue team may be created to explore pathways to consensus. Alternatively, a call for a vote may be taken. A vote receiving 75% stakeholder approval will carry as being representative of the committee. Dissenting statements may be included in the final report.

EXHIBIT D - Vision and Values Statements

Vision Statement(s)

Hamilton Pool and surrounding springs and seeps continue a healthy flow and all who depend on groundwater have reliable water for future generations.

Education leads to community driven, creative solutions for sustainability and balance given the reality of growth in our area. And science and data driven decisions keep this sensitive area from being over-consumed.

Shared Values

- Groundwater is a shared and limited resource.
- Ongoing aquifer science and monitoring is essential to success.
- Groundwater is a vital element of the overall health, beauty and value of our area and it is worth protecting.
- Creative solutions are needed to mitigate the reality of growth in our area.
- Groundwater and surface water are an interconnected system.
- Climate trends are shifting, and we need to prepare for hotter and dryer conditions in the future.
- Education is essential for all; groundwater permittees, exempt well users, and surface water users.
- Broad use of rainwater harvesting is doable and necessary.

EXHIBIT E - HPMZ Kickoff Meeting #1 Recap 2.26.24

Hamilton Pool Management Zone (HPMZ) Stakeholder Group Process
Meeting #1 Recap

Date: Monday, February 26, 2024, 3 to 6 p.m.

Location: Westcave Outdoor Discovery Center, 24814 Hamilton Pool Road

Stakeholder Attendees:
Landowners
1. Roy Preslar, Reimers Ranch
2. Marvin Myers, Myers (4M) Ranch
3. Tricia Davis, Davis Ranch
4. Kim Gray (for Raymond Frank), Frank Ranch

Neighborhoods/Communities
5. Elaine Davenport, Stagecoach Ranch
6. Janet Gilmore, Lick Creek Ranch
7. Chris Kennedy, West Cypress Hills
8. JoAnn Pelz, Ranches at Hamilton Pool

Water Supply
9. Tony Salinas, Cypress Ranch WCID No 1
10. Lynn Sherman, Mirasol Springs MUD

Public Agency
11. Commissioner Ann Howard (for Mick Long), Office of Pct 3. County Commissioner
12. Charles Bergh, Travis County Parks
13. Jon White, Travis County Transportation and Natural Resources
14. John Aoueille, Lake Travis Independent School District

Business and Development
15. Matt Welch, Mirasol Springs
~~16. Kristy Petree, Buddy's Backyard RV Resort~~
17. Landon Marino, Preservation Ranch

Resource Support Attendees: Travis County Commissioner Ann Howard, Rick Scadden (SWTCGCD), Lane Cockrell (STWTCGD), Virginia Smith (SWTCGCD), Brian Hunt (BEG), Christy Muse (facilitator)

Project Objectives:
- Bring stakeholders together to evaluate scientific data and other information needed to understand the unique hydrogeological setting of the Hamilton Pool Management Zone.
- Learn about local and regional groundwater issues and potential strategies that may be implemented to protect long-term spring flow and aquifer levels.
- Build relationships and common understanding of the risks and opportunities related to aquifer/groundwater sustainability.
- Develop recommendations and submit them to the District's Board to guide future groundwater management decisions within the management zone.

Welcome Remarks:
Travis County Precinct 3 County Commission, Ann Howard, and Southwest Travis County Groundwater Conservation District Board President, Rick Scadden provided welcome remarks.

The Science that Brought us Together: Brian Hunt, Research Scientist Associate, Bureau of Economic Geology. Brian Hunt provided a brief introduction to his research related to the Hamilton Pool springshed, and the geology and aquifer system conditions of the area.

Group Introductions: Each stakeholder took time to introduce themselves, and their experience and history in the community. Summaries of pre-session interviews were handed out and reviewed (see Appendix A).

Guiding Principles and Agreements: The following guiding principles and agreements were proposed by the facilitator and discussed in pairs and as a group. By consensus, the following set of guiding principles and agreements were agreed upon:

1. Stakeholders have been invited by the SWTCGCD to represent diverse local interests. These meetings are being designed specifically for the actual stakeholders who are the learners, voices, opinions, and idea generators for the process. Others may be in the room for observation only, unless invited to provide expertise.
2. The geography we are focused on is specific and defined by a scientific hydrologic study. We will stay focused on this specific "zone" and steer away from broader out-of-scope issues.
3. All stakeholders bring value and will be heard; and all stakeholders will listen and learn with open minds.
4. We will strive for full transparency by remaining open, communicative, and responsive to all stakeholders.
5. Each step along the way, stakeholders will have the opportunity to gain clarity and to offer adjustments to our process and outcomes.
6. Stakeholders will strive for long-term strategies and solutions related to the health of this groundwater system—a system that provides drinking water; sustains springs, seeps, creeks and the Pedernales River; is essential to the overall health of our ecosystem and economy; and is vital to our community.
7. As we prepare to make recommendations to the District, group consensus-based decision-making will be ideal and our goal. When consensus is not viable an issue team may be created to explore pathways to consensus. Alternatively, a call for a vote may be taken. A vote receiving 75% stakeholder approval will carry as being representative of the committee. Dissenting statements may be included in the final report.

- Review and discuss Calendar/Syllabus to include key learning objectives and resources.

Shared Vision and Values Activity: Group conversations took place about a proposed shared vision and set of values for this stakeholder process. Groups representatives presented their comments and provided written notes of suggestions. A composite of those findings and recommendations are attached (see Appendix B).

Future Meetings/Calendar and Syllabus: The group discussed content, dates, and locations for future meetings with the following suggestions noted:

- A question was raised about a continuation of this work once recommendations are submitted and meetings are finished. Interest was expressed in an ongoing group dialog about water after this process is over.
- Several stakeholders emphasized the importance of education about water in the community. Education for landowners, neighborhoods, businesses, and school-age children.
- A question was raised related to climate, and a suggestion to add a meeting segment on climate change and how will affect the future of water.

- A recommendation was made to add a segment about water policy from a legal perspective—a water law presentation.
- A suggestion was made to include information about Travis County rules related to land-use.
- A suggestion was made to explore LTISD development and growth data to the process.
- A brief conversation took place about Groundwater Management 9, Groundwater Conservation District responsibilities and state water planning. More education on this topic will be important.

Appendix A: Summary of pre-session individual interview comments.

What is unique about this area?

- We love it. Views of rolling hills. Natural environment
- The biological characteristics: Golden-cheeked warbler, salamanders and more. Picturesque.
- It's a sensitive and rare ecosystem at the edge of the escarpment, and it is trending towards less rainfall.
- It's home, it's special and unique.
- The terrain and the fact that it is removed from the city, yet not rural.
- I grew up in the Hill Country. It feels like a lot of the Hill Country, with Reimers and Hamilton Pool being unique.
- It's a highly sensitive, bio-diverse area, various plant communities come together here. And we are on the Texas flyway.
- Hamilton Pool and Reimer's Ranch—if you search popular swimming holes around the world, you'll find Hamilton Pool is recognized as one of the top 10 worldwide.
- The sloping geography that puts water into the tributaries that move across to other properties—your property affects others around you.
- I love this region. I have lived here for over 30 years. I love the natural beauty, the views, the wildlife, and the isolation of living in the Hill County, yet I am only 29 miles to Barton Springs.
- Still retains a lot of natural beauty and blend of community and wilderness.
- It's close to town but it's got a feeling of being in the country—the darks skies and the beauty.
- Beautiful and a lot of outdoor activities are available.
- The culmination of geology/topography, hydrology and ecology that are interconnected. The way water moves through this system. Scenic value, Ecological diversity value that is unmatched. The water.
- The peacefulness.
- Karst aquifer and unique environmental features while on the edge of the urban area.

What are you most curious about related to this process?

- How much we can learn about groundwater, and how it affects Hamilton Pool and her spring system.
- Curious about how much authority there is to enact adequate regulations.
- Curious about what's happening with our groundwater, and it's decline.
- Feeling confident about it.
- Understanding the aquifers, how they are connected, where the water is coming from, how much is there, and what's the plan.
- The overall goal, who is impacted and what are the implications for me.
- Whether or not rainwater harvesting will solve this area's needs. Will the "One Water" model work here and can it be popularized in the next 10 -50 years?
- What are the impacts or implications of future development on our county assets?
- Don't want to get caught up in a political/environmental rabbit hole.
- The water, that's what scares me.
- I want to learn more about what developments are being proposed, what are the timelines, who are the developers and what effect it will have on me, my property, and the natural resources that are currently available to us.
- With continuous growth, is there enough water?
- How can we get some regulation in place, so we aren't over-tapping our water supply?
- How will the GCD use our recommendations?
- What this process will yield and how these conversations will be structured.
- Fearful of what could be imposed on business owners, at this point there is no regulation or restrictions on residents or large landowners.
- How do we balance competing interests?

What would you like to contribute to this process?

- I know my community and their views well and can represent them.
- My understanding of the area we live in, the springs, groundwater, surface water and wildlife.
- To represent the natural resources of the county. To listen and to learn.
- I am not anti-growth and I want to be sure there are responsible actions taken so that we continue to thrive and don't lose value.
- Just listen and learn.
- The ability to understand the group, who is good at what and engaging people.
- Historical perspective in this area. Conservation action in this area.
- Common sense and reasonable ideas. We are stewards of this planet. We are limited in our powers as human beings, but we need to be responsible.
- History, been here all my life.
- I want to understand what is being proposed and to contribute my "common sense" approach; I believe my opinion has merit as I have lived here for over 30 years. I will be able to contribute by anticipating future problems. I am not anti-development. I believe that decisions need to be fair.
- To share the experience that we have had with underground water vs surface water.
- The perspective that we are coming to a tipping point before we lose access to water. To represent our neighborhood, to be a listener, and to understand what's going on.
- To share open and honest dialog about the needs of the GCD.
- For people to better understand our project, our goals and values. To bring to the process a voice for accepting the reality of growth and change in the region, and how to protect these precious resources under the reality of development.
- Bring my personal experience in educating neighbors about my business.
- Years of experience and perspective.

Appendix B: A composite of ideas expressed for process vision and values.

Ideas Generated for a Vision for the Hamilton Pool Management Zone Stakeholder Process:

- That Hamilton Pool and surrounding springs and seeps continue to flow, that people of this area collectively monitor, and conserve groundwater use so that all have a reliable water supply, and that the groundwater management system is fair and balanced.
- Dream idea/scenario is that the land can always have water as needed without depleting the two water sources, above and below ground.
- Caution to ignore current and/or future growth in this area and its reasonable sustainability.
- Science and data driven decisions to help keep this sensitive area from being over consumed.
- 100% Rainwater.
- Education needs to be a part of the Vision.
- Creative solutions will be needed.
- Groundwater resources – Sustainable and not overused in the long-term.
- Resilient – can come back.

Ideas Generated for a set of Value Statements for the Hamilton Pool Management Zone Stakeholder Process:

- Groundwater is a shared resource. Add “and limited”
- Ongoing aquifer science and monitoring is essential to success.
- Groundwater is a vital element of the overall health, beauty and value of our area and it is worth protecting.
- Groundwater and surface water are an interconnected system.
- Climate trends are shifting, and we need to prepare for hotter and dryer conditions in the future.
- Apply and keep up with the Science.
- Community, sense of pride and ownership.
- Education re: uniqueness to value
- Preserve and Conserve but Development is coming.
- Ongoing aquifer science and monitoring is essential to success.
- Groundwater is a vital element of the overall health, beauty and value of our area and it is worth protecting.
- Preservation – keep it around for others.
- Sharing our collected education.
- 100% Rainwater
- Groundwater is a shared and limited resource.
- Need for awareness and education.
- Preserving water resource for the future.
- Rise above political differences and ideologies to collaborate and achieve common goals.
- For the future.

EXHIBIT F - HPMZ Meeting #2 Recap 3.25.24

Hamilton Pool Management Zone (HPMZ) Stakeholder Group Process
Meeting #2

Date: Monday, March 25, 2024, 3 to 6 p.m.

Location: LTISD Transportation Center, 16101 State Highway 71, Building A

Stakeholder Attendees:
Landowners
1. Roy Preslar, Reimers Ranch
2. Marvin Myers, Myers (4M) Ranch
3. Tricia Davis, Davis Ranch
4. Raymond Frank, Frank Ranch

Neighborhoods/Communities
5. Elaine Davenport, Stagecoach Ranch
6. Janet Gilmore, Lick Creek Ranch
7. Chris Kennedy, West Cypress Hills
8. JoAnn Pelz, Ranches at Hamilton Pool

Water Supply
9. Tony Salinas, Cypress Ranch WCID No 1
10. Lynn Sherman, Mirasol Springs MUD

Public Agency
11. Mick Long, Office of Pct 3. County Commissioner
12. Charles Bergh, Travis County Parks
13. Jon White, Travis County Transportation and Natural Resources
14. John Aoueille, Lake Travis Independent School District

Business and Development
15. Matt Welch, Mirasol Springs
16. Landon Marino, Preservation Ranch

Resource Attendees: Rick Scadden (SWTCGCD), Lane Cockrell (SWTCGCD), Virginia Smith (SWTCGCD), Brian Hunt (BEG), Charlie Flatten (HTGCD), Christy Muse (facilitator)

Other Attendees: Robert Winovitch (LTISD), CJ Bennett (Mirasol), Kim Gray (representative for Raymond Frank), Jimmie Dale Gilmore (resident)

Project Objectives:
- Bring stakeholders together to evaluate scientific data and other information needed to understand the unique hydrogeological setting of the Hamilton Pool Management Zone.
- Learn about local and regional groundwater issues and potential strategies that may be implemented to protect long-term spring flow and aquifer levels.
- Build relationships and common understanding of the risks and opportunities related to aquifer/groundwater sustainability.
- Develop recommendations and submit them to the District's Board to guide future groundwater management decisions within the management zone.

Handouts were provided to stakeholders in advance and at the meeting to include Recap from Meeting #1, Agenda for Meeting #2, *Guiding Principles and Agreements*, Resource list, and a *Vision and Values* worksheet. No edits were suggested for the Recap from Meeting #1.

An Overview of the Southwestern Travis County GCD: Rick Scadden, President of the SWTCGCD filled in for Cole Ruiz who was scheduled to present however had to cancel due to illness. Key messages and discussion points:

- Presentation slides are available on request.
- The GCD focuses on a balance between protection of groundwater resources and protection of private property rights.
- The GCD is funded through permit fees, verses taxes. Funding is limited, and the GCD is financially supported by the county.
- Stakeholder group recommendations will be conceptual and offered to the GCD board as "recommendations" only. It will be up to the GCD staff and board to create proposed rules and to follow a public input process before voting and establishing any new rules.
- Many wells are "Exempt" from permitting (e.g. domestic wells incapable of producing >10,000 GPD on tracts under 10 acres; wells used for domestic and/or livestock incapable of producing >25,000 GPD located on a tract of 10 acres or more). This creates a challenge for data collection, aquifer science and groundwater management.
- The GCD is focused on getting wells registered which helps greatly with science and education. It's easy and can be done online.

An Overview of County Tools related to Water Resource Protection and Development Oversight: Jon White, Natural Resources Resources/Environmental Quality Division Director for Travis County (who is also a stakeholder) provided a brief presentation.

- Presentation slides are available on request.
- Travis County regulations are mostly limited to site planning for stormwater management.
- The county can require some water availability assurance.
- The county does not regulate spring flow protection.
- The county has a conservation development ordinance that has not been utilized, Hays County has a new conservation development ordinance worth exploring.

Aquifer Science Deep Dive: Brian Hunt, Research Scientist Associate, Bureau of Economic Geology provided an overview of his research, the aquifer system, and alternative supplies.

- Presentation slides are available on request.
- As time progresses, the source of water being pumped from a well increasingly comes from capture of groundwater that could otherwise be discharging as springflow.
- Groundwater Availability vs Sustainable Yield (rate at which water can be withdrawn from an aquifer without producing an undesired result)
- Short-term HPMZ sustainable yield strategy: reduce and mitigate the effects of pumping on Middle Trinity Aquifer, especially during drought.
- Long-term HPMZ sustainable yield strategy: eliminate need for pumping Middle Trinity Aquifer during drought.
- Potential alternative supplies: Rainwater, Surface Water (+source for ASR), Lower Trinity, Aquifer Storage and Recovery (ASR), Enhanced recharge (MAR)

Highlights from other GCD Management Zones such as Jacob's Well and Clearwater: Charlie Flatten, General Manager, Hays-Trinity GCD.

- Presentation slides are available on request.
- Chapter 36 allows for education and outreach, district rules and groundwater management zones.
- District rules involve well spacing, production limits, drought indices and drought triggers.

- Two districts with management zones that relate to springflow: Hays-Trinity GCD/Jacob's Well and Clearwater GCD recognized 5 unique management zones.

Throughout the meeting, stakeholders were encouraged to document ideas for consideration in the group's recommendation report to the SWTCGCD. The following ideas were captured:

1. Provide education throughout the community—for permittees, for exempt-well users, for surface water users.
2. Incentivize rainwater harvesting.
3. Require rainwater harvesting for new development.
4. Prevent waste: Landscape irrigation seems to be the #1 waste of groundwater.
5. Deploy "One Water" strategies.

Stakeholders were encouraged to continue dialog with each other about the proposed Vision and Values statement and to communicate edits to the group facilitator.

Plans for the next meeting to be held at the Campsite at Shield Ranch on Monday, April 29th were discussed. Liability wavers were signed and collected.

EXHIBIT G - HPMZ Meeting #3 Recap 4.29.24

Hamilton Pool Management Zone (HPMZ) Stakeholder Group Process
Meeting #3 Recap

Date: Monday, April 29, 2024, 3 to 6 p.m.

Location: The Campsite at Shield Ranch

Stakeholder Attendees:
Landowners
1. Roy Preslar, Reimers Ranch
2. Marvin Myers, Myers (4M) Ranch
3. Tricia Davis, Davis Ranch
4. Raymond Frank, Frank Ranch

Neighborhoods/Communities
5. Elaine Davenport, Stagecoach Ranch
6. Janet Gilmore, Lick Creek Ranch
7. Chris Kennedy, West Cypress Hills
8. JoAnn Pelz, Ranches at Hamilton Pool

Water Supply
10. Lynn Sherman, Mirasol Springs MUD

Public Agency
11. Mick Long, Office of Pct 3. County Commissioner
12. Charles Bergh, Travis County Parks

Business and Development
13. Matt Welch, Mirasol Springs
14. Landon Marino, Preservation Ranch

Stakeholders Absent: Tony Salinas, Jon White, John Aoueille

Resource Attendees: Rick Scadden (SWTCGCD), Lane Cockrell (SWTCGCD), Virginia Smith (SWTCGCD), Brian Hunt (BEG), Nick Dornak (Doucet, Speaker), Robert Mace (Meadows Center, Speaker), Christy Muse (facilitator)

Other Attendees: Tim Van Ackeren (SWTCGCD Board), CJ Bennett (Mirasol), Kim Gray (representative for Raymond Frank), Blaine Williams (resident)

Project Objectives:
- Bring stakeholders together to evaluate scientific data and other information needed to understand the unique hydrogeological setting of the Hamilton Pool Management Zone.
- Learn about local and regional groundwater issues and potential strategies that may be implemented to protect long-term spring flow and aquifer levels.
- Build relationships and common understanding of the risks and opportunities related to aquifer/groundwater sustainability.
- Develop recommendations and submit them to the District's Board to guide future groundwater management decisions within the management zone.

Shield Ranch Sustainable Model: An optional tour of the Campsite at Sheild Ranch was led by Shield Land Stewardship Group, CEO Blake Murden. This is a 100% off-grid facility, served completely by rainwater collection

and solar power. It is the first public water supply system to be permitted by the TCEQ that is totally reliant on rainwater.

Vision and Values: As stakeholders checked in to the meeting, a round of feedback was surveyed on the Vision and Values statement. The group demonstrated united support for the document dated 3.25.2024.

One Water/Rainwater/Conservation opportunities: Nick Dornak, Water Strategist Lead, Doucet & Associates presented an overview of One Water Strategies. Motivated by the desire to protect Jacob's Well and Blue Hole in Wimberley (both water supply and water quality), an innovative water management strategy was deployed as the Blue Hole Elementary School was conceptualized and built. This project serves as a demonstration model. A case study has been added to the resource list for details. Nick also presented a sample resolution for political jurisdictions to use to support innovative One Water strategies in public and private development practices.

Climate considerations for this region and recent research about Springs in Texas: Robert Mace, Executive Director, Meadows Center for Water and the Environment presented climate data and trends.

- Data shows climate warming to be real.
- The city of Austin is incorporating climate data into their planning process, however in Texas, state agencies, river authorities and regional water planning groups are not incorporating climate into planning – yet.
- Rainfall may not decline overall; however, it will likely come in spurts with short intense rains spells followed by extended dry spells which are problematic for saturation and infiltration.
- In Texas, about 86% of rainfall ends up evaporating making aquifer recharge a challenge. (note Brian Hunt's presentation revealed that locally recharge can be as little as 5% of rainfall)
- The situation can get much worse quickly.
- Data shows that over time, springs in Texas are declining.

SWTCGCD presentation of possibilities for the management Zone: A menu of options for consideration was presented by Lane Cockrell, SWTCGCD GM/Hydrogeologist, followed by a group discussion of the various tools and strategies. Some key take-aways from the group discussion include:

- The acknowledged struggle to protect the unique natural beauty that attracts people here, as interest to develop continues.
- How can we rate and evaluate the effectiveness of the various strategies? Which management tools "move the needle" significantly?
- Many strategies require significant monitoring and modeling. There is a need for more participation in monitoring well sites.
- There is a desire for a well-crafted narrative for the Desired Future Condition (DFC).
- Is it time to pause on new permits while aquifer levels are trending in decline?
- A reminder of groundwater as a private property right in Texas and legal limitations of GCD's in Chapter 36 of the Texas Government Code.
- A volunteer fund could give the district more funding and flexibility for groundwater monitoring.
- How do we incentivize and remove barriers for low impact strategies? Could development receive "credit" for doing the right thing?
- Education is critical and could include a drought notification system.
- Lawn watering/outdoor irrigation is a major issue to tackle.
- The large number of exempt wells, (unregulated production) creates additional challenges furthering the importance of public outreach and education to promote conservation by exempt well owners.
- Additional comments are requested in the interim and will be compiled by the group facilitator and presented in draft form for vetting, expanding, and refining on May 23.

EXHIBIT H - HPMZ Meeting #4 Recap 5.23.24

Hamilton Pool Management Zone (HPMZ) Stakeholder Group Process
Meeting #4 Recap

Date: Thursday, May 23, 3 to 6 p.m.

Location: Casa Blanca, RGK Ranch Park

Stakeholder Attendees:
Landowners
1. Roy Preslar, Reimers Ranch
2. Tricia Davis, Davis Ranch
3. Raymond Frank, Frank Ranch

Neighborhoods/Communities
4. Elaine Davenport, Stagecoach Ranch
5. Janet Gilmore, Lick Creek Ranch
6. JoAnn Pelz, Ranches at Hamilton Pool

Water Supply
7. Lynn Sherman, Mirasol Springs MUD

Public Agency
8. Mick Long, Office of Pct 3. County Commissioner
9. Charles Bergh, Travis County Parks
10. Jon White
11. John Aoueille

Business and Development
12. Matt Welch, Mirasol Springs
13. Landon Marino, Preservation Ranch

Stakeholders Absent: Marvin Myers, Chris Kennedy, Tony Salinas

Resource Attendees: Rick Scadden (SWTCGCD), Lane Cockrell (SWTCGCD), Virginia Smith (SWTCGCD), Brian Hunt (BEG), Christy Muse (facilitator)

Other Attendees: Jimmie Gilmore (resident) Blaine Williams (resident), Robert Winovitch (LTISD)

Project Objectives:
- Bring stakeholders together to evaluate scientific data and other information needed to understand the unique hydrogeological setting of the Hamilton Pool Management Zone.
- Learn about local and regional groundwater issues and potential strategies that may be implemented to protect long-term spring flow and aquifer levels.
- Build relationships and common understanding of the risks and opportunities related to aquifer/groundwater sustainability.
- Develop recommendations and submit them to the District's Board to guide future groundwater management decisions within the management zone.

Stakeholder check-in and creation of a list of priority conversations. Each stakeholder had an opportunity to offer their highest priority discussion topic related to the draft recommendations. The following topics were articulated:

- The legality of the recommendations being considered.
- Outdoor irrigation use, and lawn watering as a primary concern to address.
- Drought curtailments.
- Existing wells in PUA service areas.
- Rainwater harvesting.
- Carrots vs sticks – Incentives.
- Prevent another situation such as Aqua Texas in Wimberley not complying with restrictions.
- The importance of monitoring.

Discussion about the benefits and success of public and private land conservation and investments: Charles Bergh, Parks Division Director walked the group through the evolution of the bond program, land conservation/parks acquisition strategy, and recent progress.

Surface water conversation. A representative from the West Travis County Public Utility Agency (WTCPUA) planned on attending, however ended up with a conflict. The group reviewed a few maps of the service area. At this time, there are no service extensions planned in the HPMZ. That said a new capital improvement plan is in the works.

Highlights of the group discussion of HPMZ recommendations. Draft language was provided in advance.

- West Cypress Hills is a large permittee. Could there be an opportunity to bring surface water that moves them away from groundwater? Need to analyze this.
- Could there be a condition that would restrict groundwater production when surface water is available.
- Economics favor groundwater for irrigation.
- Incentivize vs penalize
- Rainwater incentives are great – however we need specifics.
- Financial incentives are important. Where will the money come from?
- LTISD is interested in incentives for rainwater harvesting and One Water strategies.
- Landen expressed concerns and a small group was established to meet with him including Lynn and Tricia.
- Drought curtailments could be relaxed for lower Trinity wells and more restrictive for Middle Trinity wells.
- Drought curtailments could be relaxed for conservation developments that eliminate outdoor watering.
- Concerns continue to be expressed that we aren't doing enough to make a difference.

Next Steps:
Christy will continue conversations with individuals and advance a second version to stakeholders for review prior to the next meeting.
Christy will research rainwater harvesting incentives.
Landen, Tricia, Lynn, Brian, Lane and Christy will meet before the next stakeholder meeting to review Landon's specific concerns.
The next meeting will be held Monday, June 10th. A request was made to schedule the meeting a little earlier so that we could end at 5pm. Location TBD.

EXHIBIT I - Rainwater Harvesting Incentives

Rainwater Harvesting Incentives Research

County Property Tax incentive: Travis County could initiate a property tax deduction for the installation of a rainwater harvesting system. This could apply to the HPMZ or to the entire SWTCGCD as a strategy to conserve groundwater in the Trinity Aquifer. This incentive could come with a stipulation that the property affirms that no middle trinity groundwater will be used for any outdoor irrigation.

Sec. 11.32. CERTAIN WATER CONSERVATION INITIATIVES. The governing body of a taxing unit by official action of the governing body adopted in the manner required by law for official actions may exempt from taxation part or all of the assessed value of property on which approved water conservation initiatives, desalination projects, or brush control initiatives have been implemented. For purposes of this section, approved water conservation, desalination, and brush control initiatives shall be designated pursuant to an ordinance or other law adopted by the governing unit.

Sales Tax Exemption (statewide): Rainwater harvesting equipment and supplies are exempt from sales tax.

Commercial Rebate from LCRA: Water-savings technology. Install water-savings technology, such as rainwater harvesting, cooling tower recycling, or commercial ice machines, and receive a rebate of 50 percent of cost, up to $20,000. A water audit is required. Contact LCRA staff at WaterSmart@lcra.org for more information.

Groundwater District Grant Program. The SWTCGCD could apply for grant funding that could in turn be offered to well users in the HPMZ (or GCD-wide), to help off-set the cost of installing a rainwater catchment system. This could come with a stipulation that no middle trinity groundwater will be used for any outdoor irrigation.

Travis County has a grant specialist that might be able to assist with grant writing.

Grant Funding Prospects:

1. Bureau of Reclamation WaterSMART grants
2. TWDB: More research is needed and in the works. There likely are options at TWDB for grants that the GCD or the County can apply for to create a RWH incentive program.
3. Local private philanthropy.

Examples of GCD Rainwater Incentive Programs:

Panhandle GCD – This is a rebate program paid out of the GCD's operating budget. This GCD collects ad velorem tax which provides for much more flexibility and opportunity for programs like this. The annual budget for this program is typically $50,000, although they budgeted $100,000 in 2024.

PGCD currently offers two financial options for the rainwater harvesting program. Option 1: Funds will be calculated at $0.50 per gallon of storage capacity not to exceed 50 percent of the total system. Option 2: Applicants may apply for a loan, putting 10 percent down of the total system cost, and pay the District back over five years at an interest rate of two percent.

Upper Trinity GCD – This is a competitive grant program for entities and not available to residents. This GCD is fee-based and does not collect taxes. In the first quarter of 2024, they spent approximately $10,000.

Prairielands GCD – This is a rebate program and it's new, 2024 is the first year. They are a fee-based GCD. They estimate a GCD could spend in the $30 - $70 range annually for a program like this. To help launch, they set a cap at $500 per applicant for the first year.

Applicants must reside or own land within the jurisdictional boundaries of Ellis, Hill, Johnson, or Somervell counties. The location of the rainwater harvesting system itself must also be within these counties. • Each household is allowed one rebate application and/or award every calendar year. • The maximum rebate amount per household is capped at $500. • Rebate amounts are calculated at a rate of $1.00 per gallon of storage capacity of the entire rainwater harvesting system. • Prior to application, a preliminary drawing must be reviewed and approved by a qualified staff member to be considered as eligible expenses within the program. • A completion inspection will be conducted by qualified staff when the installation is complete prior to rebate being disbursed. • All applications, required documents, and systems must be complete and received by the District no later than December 1, 2024.

Post Oak Savannah GCD – This is a rebate program. This GCD is fee-based and does not collect ad valorem tax. They fund this themselves through their general budget. The 2024 budget for this program is $40,000.

Additional Resources:

Innovative Water Solutions based in Austin, Texas is a supplier, installer, innovator, and advocate for rainwater harvesting systems. They are also tracking rebates and incentives on their website. See here.

Texas Water Development Board – Resources, How-to instruction, data, programs, awards.

EXHIBIT J - Supplemental Resources

Hamilton Pool Management Zone (HPMZ) Stakeholder Group Process
Resource List

These resources have been identified as helpful sources of information related to groundwater science, policy, conservation, and innovation. This is a living document. Additions are welcome.

1. Texas Water Development Board (TWDB) resources about Groundwater Conservation Districts (GCD's) across Texas, how they plan and how they coordinate planning in their region and with TWDB. https://www.twdb.texas.gov/groundwater/conservation_districts/index.asp

2. Texas AgriLife publication, Questions about Groundwater Conservation Districts. This document is free to download electronically, or to order a hard copy for a fee. It's an older publication, simple and also comprehensive in a nice 41-page format. https://agrilifelearn.tamu.edu/s/product/questions-about-groundwater-conservation-districts-in-texas/01t4x000004OfXlAAK

3. Southwestern Travis County GCD Technical Reports. This is a helpful collection of research documents that have been assembled by the SWTCGCD. The HPMZ research documents are included here: https://swtcgcd.com/groundwater-studies

4. Hays-Trinity Management and Special Study Zones. This page includes a helpful short video about Jacob's Well and information about the Jacob's Well Management Zone. https://haysgroundwater.com/management-special-study-zones/

5. Hill Country Alliance Resources about Groundwater Districts. This page contains links to numerous resources including the "*Tools for Managing Groundwater in the Texas Hill County*," that was provided as a hard copy resource in meeting #1: https://hillcountryalliance.org/our-work/water-resources/groundwater-resources/

6. Hill Country Alliance Resources about One Water. This is a guidebook about conservative and innovative water management strategies. https://hillcountryalliance.org/our-work/water-resources/water-conservation/one-water-guidebook/

7. Hays-Trinity GCD resources about GMA 9 and DFC's. This is a helpful resource about Groundwater Management Area 9, which is a planning group of Hill Country groundwater conservation districts. https://haysgroundwater.com/gma9/

8. Texas Water Development Board Resources about Rainwater Harvesting: https://www.twdb.texas.gov/innovativewater/rainwater/index.asp

9. Texas Alliance of Groundwater Conservation Districts Blog on Rainwater Harvesting: https://texasgroundwater.org/news-events/news/monthly-feature/drizzle-to-downpours-gcd-rainwater-harvesting-programs/

10. Advancing Groundwater Sustainability in Texas, A Guide to Existing Authorities and Management Tools for Groundwater Conservation Districts and Communities. And Environmental Defense Fund (EDF) publication. A hard copy has also been provided. https://www.edf.org/sites/default/files/documents/EDF%20Texas%20Groundwater%20Authorities%20and%20Tools_1.pdf

11. Our Desired Future, A resource from 2015 with landowner stories and data related to groundwater management and "desired future conditions," a groundwater management planning activity: www.ourdesiredfuture.com

12. A link to the video we watched together in the first meeting, "Beneath the Surface and Above: The Journey of Groundwater." https://www.youtube.com/watch?v=52Ln-LBr5ZU&t=1s

13. Net Zero Water Toolkit, A guide to non-potable onsite water reuse for Texas developers and owner/operators. A Texas Water Trade, Austin Water, LCRA publication. https://texaswatertrade.org/wp-content/uploads/2024/04/TWT_24_NetZero_Toolkit_2024.pdf

14. One Water Implementation: A Case Study of Blue Hole Primary School, Wimberley ISD, Hays County, Texas: https://watershedassociation.org/library/one-water-implementation-a-case-study-of-blue-hole-primary-school-wimberley-isd-hays-county-texas/