

Prairielands eLine

The Newsletter of the Prairielands Groundwater Conservation District

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Senate Bill 2440 – Groundwater Availability Certifications



The Texas 88th Legislature recently convened and successfully passed several important bills. Notably, Senate Bill 2440 stands out as a significant achievement during this session. Effective January 1, 2023 this bill introduces an essential requirement for individuals submitting plats for the subdivision of land that intends to utilize groundwater as its primary water supply source. This amends platting authorities' eligibility to request a Groundwater Availability Certification ("GAC") from permissive to mandatory. As per the bill's provisions, municipal or county platting entities must now exercise their authority to require a GAC in accordance with the Texas Local Government Code, specifically §212.0101 or §232.0032.

A GAC is a critical assessment carried out by qualified licensed professional engineers or geoscientists to determine the availability and sustainable yield of groundwater in a designated area. The process is completed by conducting aquifer tests using two test wells to gather site specific groundwater data to assess the subdivision's capacity to supply water for the projected population.

The certification aims to prevent the overexploitation or depletion of the underlying aquifer, thereby promoting responsible water management practices. Completion of a GAC ensures water rights are allocated fairly and in accordance with the available groundwater resources. It helps protect the rights of individual landowners and communities to access and use groundwater. The criteria for the contents of a GAC are detailed in Chapter 230 of the Texas Administrative Code.

As development relying on groundwater continues to grow at an accelerated pace, the District supports SB 2440. The rapid influx of people moving to Texas brings along incredible opportunities, but not a limitless water supply. Securing water sources for the next 30 to 40 years is becoming more crucial than ever. Requiring GACs compels developers to envision long-term plans, while enabling the District to establish a management strategy to support the growing needs in population. We trust that the implementation of SB 2440 will significantly contribute to sustainable water usage and responsible subdivision development in the District.

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Groundwater Conservation Districts Collaborating to Enhance Aquifer Understanding Through Geophysical Logging of Wells

In their core mission, Groundwater Conservation Districts (GCDs) are dedicated to protecting, enhancing, and conserving groundwater resources within specific geographical zones. Despite having separate areas of jurisdiction, their objectives frequently align as they work to protect shared aquifers. This collaborative approach enables GCDs to collectively enhance their understanding and develop management plans tailored to their individual jurisdictions.

To aid in the development of effective management plans, GCDs implement monitoring well programs that extend across their jurisdiction, gathering crucial data on water level trends. Monitoring well programs provide early detection of changes in groundwater conditions. Rapidly declining water levels can indicate over-pumping, prompting GCDs to take appropriate measures to address the situation before it escalates.

Over the last two years Prairielands GCD (“PGCD”) staff has been working diligently to expand the PGCD’s monitoring well program. During this expansion, staff discovered wells that were drilled before the District’s creation and had the potential to be incorporated into the program. In hopes of obtaining a deeper understanding of the aquifer characteristics in these wells, PGCD partnered with Upper Trinity GCD (“UTGCD”) to conduct geophysical logging which measures the depths of formation tops, thickness of formations, and determine whether wells could be added to the District’s monitoring program.

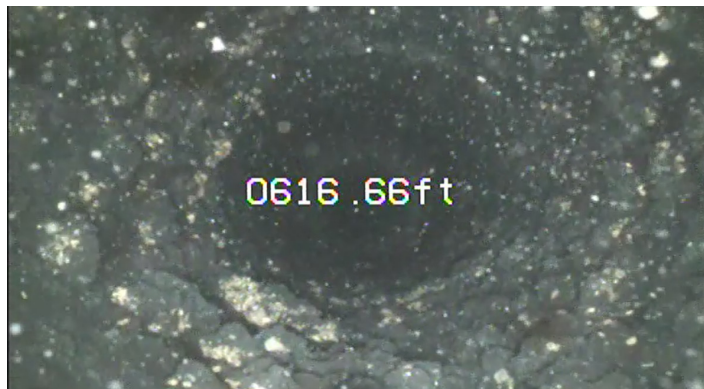
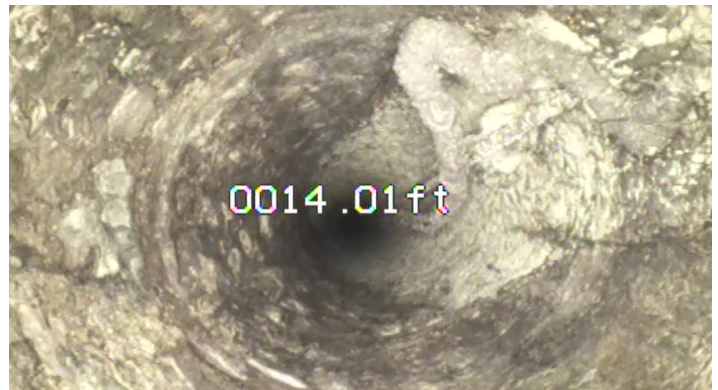
The geo-logging process for water wells, involves the use of specialized equipment to gather detailed geological and hydrogeological data from wells. The geo-logging equipment is lowered into the well borehole, by

lowering it with a winch system. The tools are carefully guided through the well, ensuring accurate data collection at different depths. As the tools move through the well, they record data about the geological formations they encounter. This information includes lithology (rock types) and stratigraphy (layering of rock formations). Geo-logging tools are equipped with pressure sensors that can indicate the water level within the well. This data helps determine the depth to the water table or the depth of the groundwater within the aquifer. After completing the geo-logging process, the collected data is analyzed to gain a comprehensive understanding of the aquifer characteristics. Depending on the depth of the wells, the geo-logging process could take some time. UTGCD and PGCD field staff dedicated two days to geo-logging and using a down hole camera on several wells spanning from North Johnson County to South Hill County.

The geo-logging and down hole camera process is full of surprises, as you never know what you’ll discover. Given that the majority of the wells being logged by UTGCD and PGCD were drilled before 2002, a few findings were particularly intriguing. While wells are typically situated in open areas away from vegetation, over time, plants and trees can encroach upon the well location. When trees grow near a water well, two scenarios can unfold: their roots may either encircle the well casing below ground or even breach the well casing itself, a process known as root intrusion. This occurs when the roots of nearby trees seek out water sources, and if they encounter gaps, cracks, or weaknesses in the well casing, they may exploit these openings to enter the well. In this particular instance, it seems tree roots have been intruding into a well located in Somervell County for a considerable period.

During the inspection using a downhole camera, field staff observed a tree root intrusion at 14 feet below ground surface in the well casing. Once the tree roots entered the well, they continued to grow and expand as they sought access to the water supply. Further down the well, the tree root appeared to grow against the well casing until around 26 feet, where it started shifting away from the casing and occupying more of the well's bore hole. As field staff continued to lower the camera down the well, they encountered a significant ball of tree roots at 32 feet below ground, which hindered further progression of the camera. The images on the right capture snapshots of the findings made by field staff.

Field staff made another fascinating discovery in south Hill County—a well with a unique completion design. Typically, wells are completed with steel casing



throughout their entire depth to safeguard the well borehole from collapsing. However, in this particular instance, the well casing did not extend to the bottom depth of the well. Instead, steel casing was used until 618 feet below ground. Beyond this point, the well lacked casing, relying on the protection provided by the surrounding limestone rock layer. The pictures on the left illustrate the stark contrast between a borehole completed with steel casing and one surrounded by limestone.

Collaborating with UTGCD to complete the geo-logging process and utilizing the downhole camera proved to be beneficial for the District. The data gathered through this collaboration not only allowed PGCD to gain a deeper understanding of the aquifer characteristics and geological formations but also enhances the scientific foundation of our management plans.

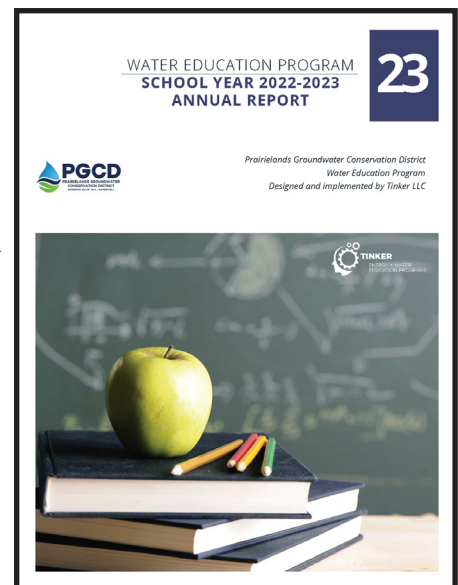
Year in Review: 2022 Prairielands GCD Annual Report Now Available



The District's Annual Report is intended to give an annual update on Prairielands Groundwater Conservation District's progress on each of the objectives and standards included in the District's management plan. Topics covered in the annual report include well registrations, annual groundwater production amounts by county and user group, preventing waste of groundwater, monitoring drought conditions, regional water planning, and education initiatives. Printed copies are available at the District office, but for your convenience a digital copy is available on the District's website www.prairielandsgcd.org/about/management-plan/.

2022 - 2023 Prairielands GCD Water Education Program Annual Report Now Available

The District's Water Education Program aims to offer schools within the District a curriculum focused on water conservation. The primary objective is to align the program with the state's TEKS (Texas Essential Knowledge and Skills) and support teachers by providing relevant materials to create a more engaging and hands-on learning experience for students. In the 2022-2023 school year, the program was introduced to fifth-grade teachers, who were invited to participate. Commitments were received from 10 schools, representing 521 fifth-grade students and 10 teachers.



Staff Spotlight: Kaylin Garcia promoted to Public Relations and Education Director

We are thrilled to announce the recent promotion of Kaylin Garcia as our new Public Relations and Education Director at Prairielands GCD. In this new role, Kaylin will be responsible for developing and implementing innovative outreach programs, engaging educational initiatives, and fostering strong relationships within the community. Please join us in congratulating Kaylin on this well-deserved promotion.



Prairielands GCD Mascot



In a heartwarming turn of events, a sweet stray cat recently found her way to our PGCD office, and our compassionate staff immediately stepped in to offer a helping hand. Every day, we've been providing this furry friend with food and love, ensuring she feels safe and cared for. She just gave birth to the most adorable kittens here at our office, right in our culvert. Given she had her babies in a pipe, staff decided Piper was a very fitting name. Our team will continue to provide a safe and loving environment for the mama cat and her precious kittens until they find loving forever homes.

About Prairielands GCD

The Prairielands Groundwater Conservation District was created in response to a finding by the Texas Commission on Environmental Quality that groundwater shortages were expected in Ellis, Hill, Johnson, and Somervell counties over the next 25 years. The TCEQ finding required local residents to create a groundwater conservation district, or else TCEQ would mandate one. Enabling legislation for the Prairielands GCD was passed in 2009.

The Mission of the Prairielands Groundwater Conservation District is to develop rules to provide protection to existing wells, prevent waste, promote conservation, provide a framework that will allow availability and accessibility of groundwater for future generations, protect the quality of the groundwater in the recharge zone of the aquifer, insure that the residents of Ellis, Hill, Johnson, and Somervell Counties maintain local control over their groundwater, and operate the District in a fair and equitable manner for all residents of the District.

Upcoming Events and Meetings

August

21 PGCD Board Meeting
9:00 a.m.
208 Kimberly Dr
Cleburne, TX 76031

29-31 TAGD Summit
San Antonio, TX

September

4 Labor Day
PGCD Office Closed

18 PGCD Board Meeting
9:00 a.m.
208 Kimberly Dr
Cleburne, TX 76031

October

9 Columbus Day
PGCD Office Closed

16 PGCD Board Meeting
9:00 a.m.
208 Kimberly Dr
Cleburne, TX 76031

November

10 In Observance of Veteran's Day
PGCD Office Closed

13 PGCD Board Meeting
9:00 a.m.
208 Kimberly Dr
Cleburne, TX 76031

General Manager
Kathy Turner Jones

Board:

President
Charles Beseda
Hill County

Vice President
Paul Tischler
Johnson County

Secretary/Treasurer
Maurice Osborn
Ellis County

Director
Marty McPherson
Somervell County

Director
Kathy Tucker
Ellis County

Director
John Curtis
Somervell County

Director
Brad Daniels
Hill County

Director
Barney McClure
Johnson County

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817-556-2299
208 Kimberly Dr
Cleburne, TX 76031