

Future Water Security

Phase I – Test Wells



FLOODMARK
ENGINEERING



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Phase I – Test Wells

Project Planning

Who is this guy?

Jason Ferguson – FloodMark Engineering

- 10 years with PWS design, permitting and project management in the Texas Hill County
- Contracted with the Double Horn Creek Water Supply Corporation for Phase I of the Test
- Lives in Stonewall



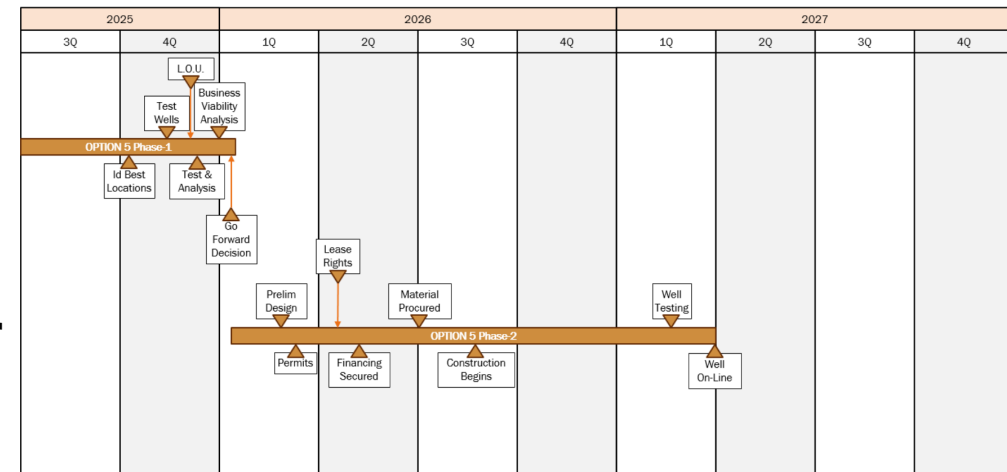
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Executive Summary

- **Drill two test wells to establish water quality and quantity**
 - **Target quantity - 60+ GPM**
 - **Target quality – Good or better than existing**



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What is this presentation about?

High level overview:

- What is a test well?
- Why drill a test well?
- How do we drill a test well?
- What do we do after drilling the test well?



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WHAT IS A TEST HOLE?

- “Test Hole” means a drilled hole used to obtain information on geologic and hydrologic conditions for groundwater exploration.
- Requires a permit from the Central Texas Groundwater Conservation District.
- Limited purpose: A Test Hole Drilling Authorization issued by the District shall only authorize a person to drill one or more test holes for the limited purpose of obtaining necessary and reliable information regarding aquifer characteristics and other relevant subsurface conditions for use in locating groundwater, and potentially subsequently applying to the District to complete and permit a final producing groundwater well.



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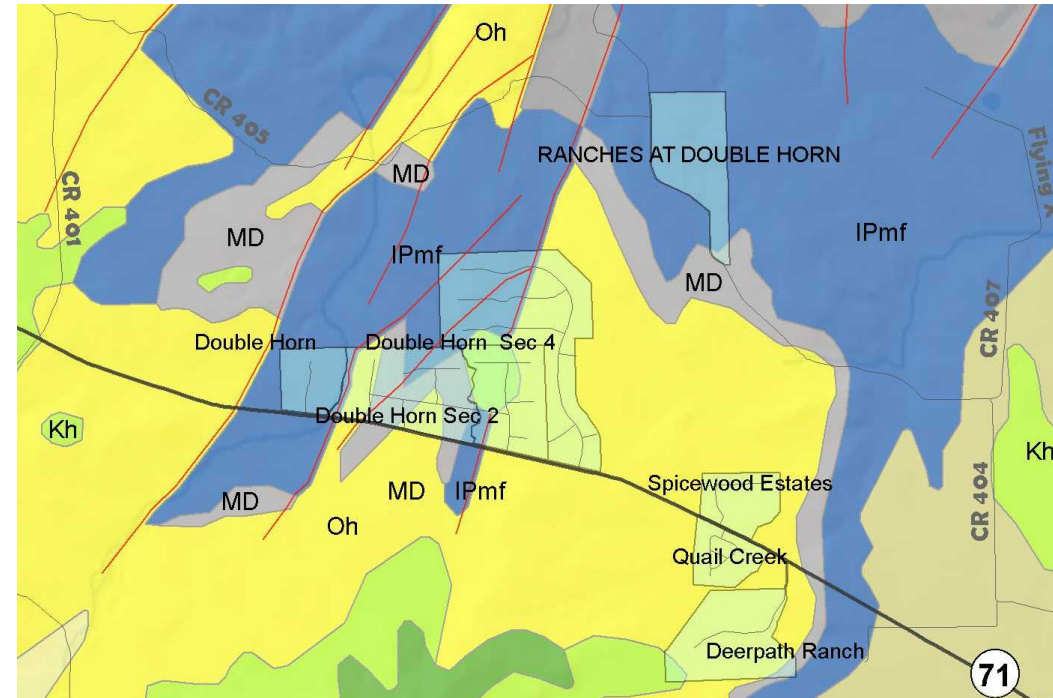
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Why a test well?

“All models are wrong, some are wronger than others.”

- Very complicated hydrogeology.
 - 3-4 Aquifers of varying quality and quantity
 - Many fractures, faults and voids
 - Real possibility of drilling a “dry hole”.



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Why a test well?

“All models are wrong, some are wronger than others.”

- Conversion to a fully built PWS supply well.
 - Known water quality.
 - Known water quantity.
 - Lower final cost of construction for a fully permitted supply well.



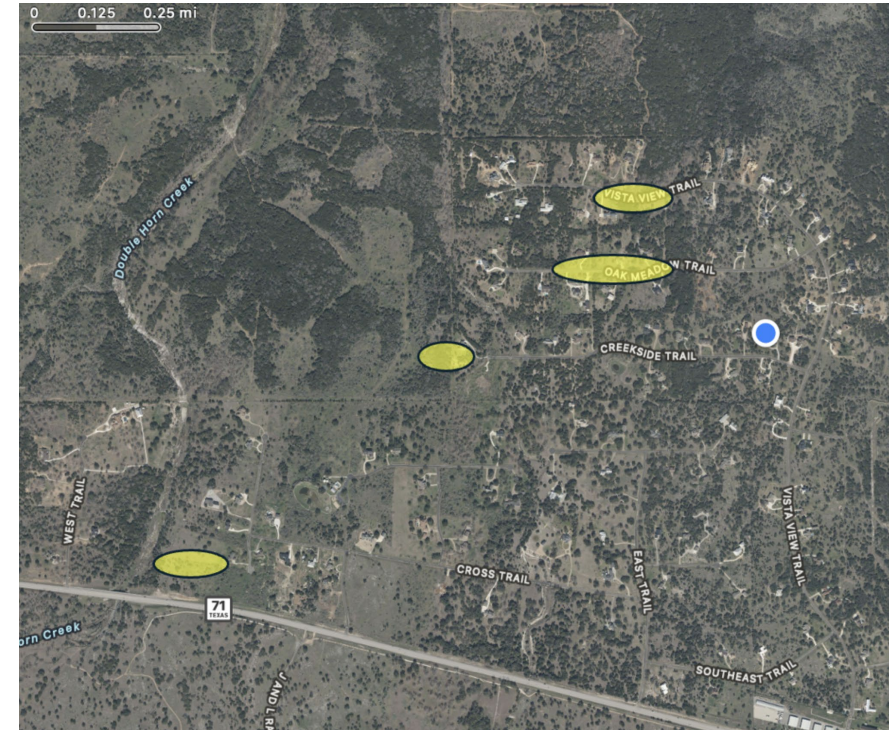
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How do we get a test well?

- Site selection
 - Identify 3+ suitable sites
 - Hydrogeology
 - Access
 - Affordability



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How do we get a test well?

- 2-3 weeks of activity on site (typically)
- Permission
 - Ownership
 - Sanitary Control Easement
 - 150-ft radius that limits certain kinds of development/activities
 - Accessibility



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How do we get a test well?

- Local Permitting
 - Purpose = Determine quality/quantity only
- Central Texas Groundwater Conservation District
- Typically pulled by driller
- 180-days with 30-day extensions



Central Texas Groundwater Conservation District

P.O. Box 870 • 225 South Pierce Street • Burnet, Texas 78611

Phone: 512-756-4900 • Fax: 512-756-4997

Email: district@centraltexasgcd.org Website: www.centraltexasgcd.org

District to Complete

Grid #

District Well #

TEST HOLE/WELL REGISTRATION APPLICATION

APPLICATION TO BE COMPLETED AND SIGNED BY THE "WELL OWNER". "WELL OWNER" means the person who owns a possessory interest in: (1) the land upon which a well or well system is located or to be located; (2) the well or well system; or (3) the groundwater withdrawn from a well or well system. (An Authorized Agent of the Well Owner may be named in an executed Agent Authorization Form provided by the District.) (A potential purchaser of the land, well/ system or groundwater is not the Well Owner)

If ownership has not been updated in the records of the Burnet Central Appraisal District, proof of ownership must be provided to the District.

If the Well Owner is in a partnership, LTD, LLC, or other corporation please provide documentation that the person signing on the entity's behalf is a registered or authorized agent. The Texas Secretary of State maintains records on business entities and the Texas Comptroller's office has a search available to obtain this information from the following web site <https://mycpa.cpa.state.tx.us/coa/>

Well Owner: Double Horn Creek Water Supply Corporation

Mailing Address:

Email Address:

Phone:

Contact if Different than Well Owner:



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How do we get a test well?

- Drilling (typically about a week)
 - One well at a time.
- Minimally cased to facilitate further further development if promising.
- Geo-logging (as required)
- Plugged and returned to previous condition if dry.



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How do we get a test well?

- Testing (1 week of activity on-site, typically)
 - Quantity
 - 36-hour pumping test
 - Water routed per landowner preference during test
 - Quality
 - Bacteriological
 - Chemical
 - Radiological



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What do we do after we have the test well?

- Next steps
 - Evaluation of results from logs and tests to determine final design
 - End of Phase I
-
- Preliminary design and budget
 - Finance options
 - Bidding
 - Permitting with TCEQ and CTGCD
 - Construction



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Questions?



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