

## Ground Water Consultants, LLC

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May 21, 2019

Mr. Alan Day  
General Manager  
Brazos Valley Groundwater Conservation District  
P.O. Box 528  
Hearne, Texas 77859

[aday@brazosvalleygcd.org](mailto:aday@brazosvalleygcd.org)

Re: Review of Aquifer Impact Assessment for Wickson Creek Special Utility District Proposed Well 8, Brazos County, Texas

Dear Mr. Day:

Our firm has reviewed a report submitted by the Wickson Creek SUD and prepared by Carollo Engineers, Inc. regarding the potential impacts from pumping a new well screening sands of the Simsboro Aquifer and located in the northeast part of Brazos County near Wixon Valley. The report was submitted to address Brazos Valley GCD Rule 8.4(b)(7)(B) for wells capable of producing 800 or more acre-feet per year (ac-ft/yr).

The well permit application is for a withdrawal amount of 1,848 ac-ft/yr, which is equivalent to an average pumping rate of about 1,144 gallons per minute (gpm) continuously for one year. The proposed maximum well pumping rate is 2,000 gpm. The proposed well location is shown on the attached figure, which was provided as part of the hydrogeological evaluation report and on another figure prepared by our firm showing the results of one of the modeling simulations.

Our comments regarding the report for the well are included below.

1. As required by the rule referenced previously, the evaluation report addresses the surface geology in proximity to the proposed well location and the surface geology in the general area extending a few miles from the well. The Cook Mountain Formation is at land surface in proximity of the well and is a marine deposit mainly composed of carbonaceous clay. The report also addresses the depth of the proposed screened interval for the well and the thickness of the Simsboro Aquifer in the general area. The report also addresses the question regarding whether the aquifer is confined or unconfined and it is confined in this area with over 1,000 feet of artesian head above the top of the aquifer. The proposed well is intended to screen sands of the Simsboro Aquifer, with the top of the depth interval planned for screening being about 2,630 feet with about 260 feet of screen set below that depth. Hydrologic or hydrogeologic features near the



proposed well site also are discussed with a test hole drilled in 2017-2018 through the Simsboro Aquifer and water sampled near the well site.

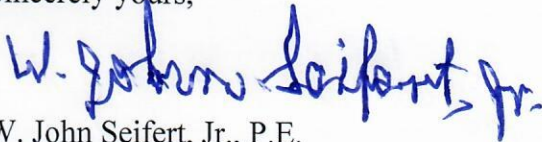
2. As required by Rule 8.4(b)(7)(B)(2), Table 2 and Figure 2 are provided in the report for wells that are located within one mile of the proposed well location and the wells screen sands of the Sparta Aquifer and not the Simsboro Aquifer. A copy of the well location map is attached that was included in the report. As required by Rule 8.4(b)(7)(B)(3), the report includes estimates of the interference drawdown that could be caused by pumping the well at an average rate of 1,144 gpm continuously for one year and ten years. The estimates of interference drawdown show that at a distance of five miles from the well the drawdown is about 10 feet or less after 10 years of pumping. The interference drawdown estimates were developed using the recently updated Queen City/Sparta Groundwater Availability Model (GAM) prepared by the Texas Water Development Board(TWDB).

The actual amount of interference drawdown that will occur with the pumping should be monitored using data from the District's water-level monitoring program.

3. Ground Water Consultants, LLC(GWC) performed a model simulation with the recently updated Queen City/Sparta GAM using the same amounts of pumping in the same location as in the permit application for the same duration as simulated by Carollo and obtained results that were very similar to the results presented by Carollo. One figure showing the results of the simulation performed by GWC is attached. GWC reserves the right to perform additional model simulations in the future, if needed, and review the results.
4. The evaluation report, in general, addresses the requirements of Rule 8.4(b)(7)(B).

If you have questions concerning our review or require other information that we can provide, please do not hesitate to contact us.

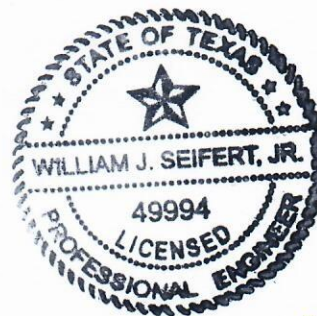
Sincerely yours,



W. John Seifert, Jr., P.E.  
Principal

Enclosures

Transmitted via Electronic and U S Postal Service Mail



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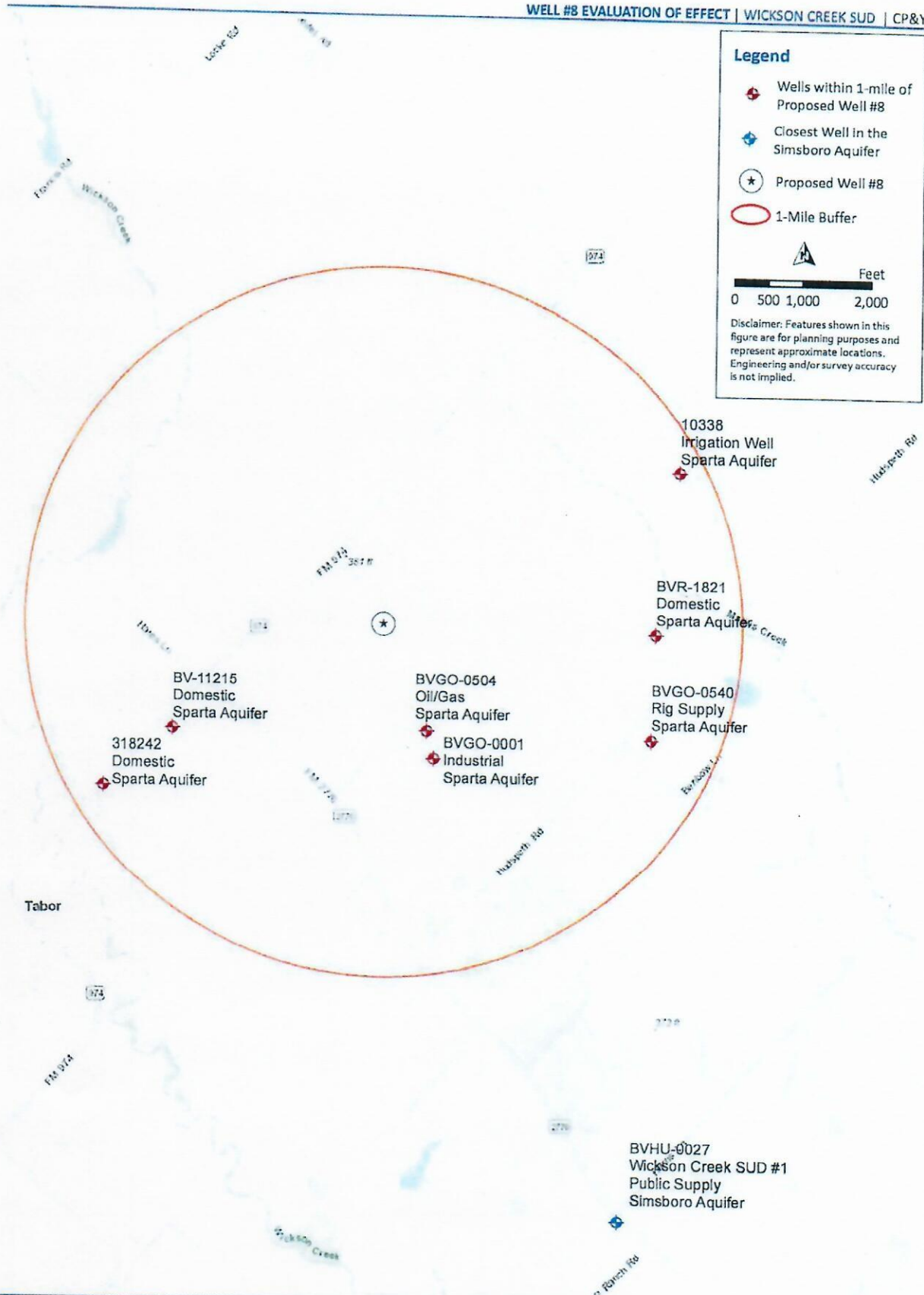
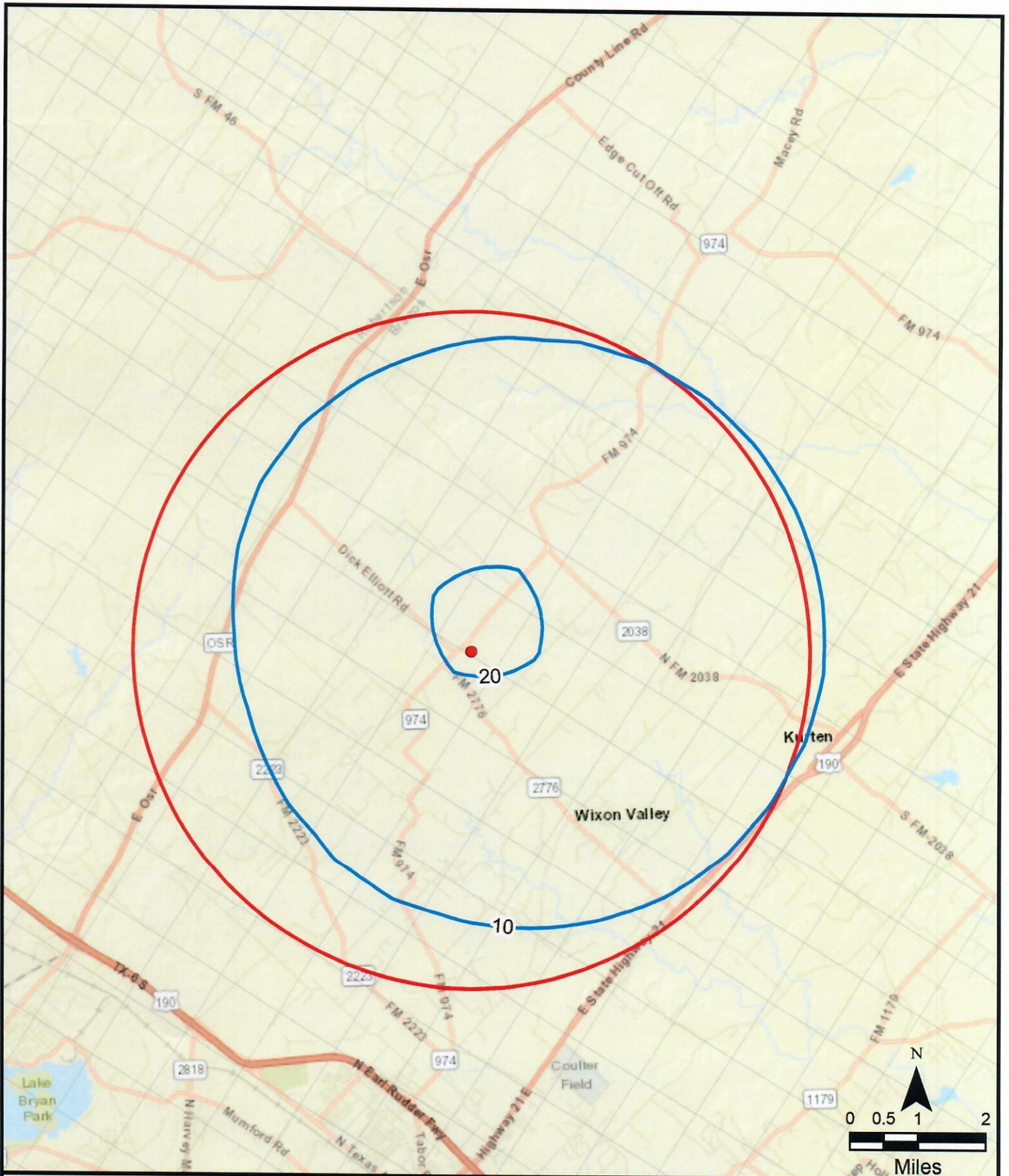


Figure 2 Existing Wells Within 1-mile of Proposed Well #8





- Proposed Wickson Well 8
- Drawdown Contours (feet)
- 5 Mile Buffer
- CWQCSP Central GAM Grid

Wickson Well Estimated Drawdown Map  
 10 Years of Pumping at 1,848 AFY  
 CWQCSP Central GAM