Souder, Miller & Associates ♦ 5454 Venice Avenue NE, Suite D ♦ Albuquerque, NM 87113
(505) 299-0942 ♦ fax (505) 293-3430

May 11, 2018

Mr. James Maxon, MPA, EFO
Fire Chief
Sandoval County Fire Department
P.O. Box 40
Bernalillo NM 87004
jmaxon@sandovalcountynm.gov

RE: Well Evaluation, Sandoval County La Madera Fire Station, 826 Faith Dr., Sandia Park, NM

Dear Chief Maxon:

Souder, Miller & Associates (SMA) is providing this letter in response to your request of April 27, 2018. I met with you and representatives of the La Madera Volunteer Fire Department (VFD) on May 4, 2018 to evaluate the existing supply well at the La Madera Fire Station.

Based on a review of records provided at the meeting and well records available on the New Mexico Office of the State Engineer (NMOSE) on-line database, the supply well was drilled in approximately 1999 to a depth of 205 feet below ground surface (bgs). The well is a comprised of a 4 ½ inch casing inside a 6-inch boring. Depth to water at the time the well was drilled was 90 feet bgs. The well is completed in the Madera Formation, a regional limestone aquifer in which groundwater flow is mainly controlled by fractures.

Records provided also indicate the depth to water in the well was 198 feet bgs in 2015. Records were also provided of a simple pumping test that was completed in 2015. The well was pumped at a rate of 8.8 gallons per minute (gpm), and drawdown of the water table was recorded during pumping. The test indicated the well could be pumped dry in 10 to 15 minutes.

This decrease in water table elevation is likely related to pumping of the subject well and nearby domestic supply wells completed in the Madera Formation. While the water table decline is great, it is consistent with other areas where the Madera Formation is utilized by many wells.

The supply well is currently plumbed to fill a 10,000-gallon supply tank at the facility equipped with a float switch to ensure the tank is always filled to capacity, and to the fire station for domestic use (toilet flushing, handwashing, coffee making, etc.). The supply well currently has adequate production for the designed uses as described. As water levels continue to decline in the future, which is likely, the well will eventually likely go dry.

In order to equilibrate water supply, you may want to evaluate increasing the size of the pressure tank, or adding a small storage tank and booster pump to fill the pressure tank. Additional capacity would be filled by the well during periods when the station is unoccupied, and increase functionality of the system. SMA recommends contacting a licensed plumbing contractor to complete this work.

It was noted that a new supply well is currently being drilled on the property north of the fire station. Discussion with the VFD representatives indicate the driller reported the total depth of the well was approximately 300 feet bgs, and production is estimated at 20 to 30 gpm. Given the expense to drill a replacement well at the VFD, it may be desirable to enter into a well-share agreement with the owner of this well, or the owner of another nearby well.

Please feel free to contact me if you have questions or need additional information. SMA appreciates the opportunity to work with Sandoval County.

Sincerely,

MILLER ENGINEERS, INC. D/B/A
SOUDER, MILLER & ASSOCIATES

Scott A. McKitrick, P.G.
Senior Geoscientist / Environmental Services Manager
scott.mckitrick@soudermiller.com