KL Water & Land LLC

Amendment to

General Plan Zoning Amendment Application

January 20, 2023

KL Water & Land LLC (KLWL) has entered into a long-term Water Service Agreement with NatureBridge to start operations at Yosemite's *National Environmental Science Center* (NESC). Following recommendations from the State Water Resources Board and with completion of the due diligence process, KLWL will sell potable water from its private well on the parcel to the NESC campus within Yosemite National Park. A private pipeline will deliver water from the Project's Water Tank(s) to the common boundary and the National Park Service (NPS) will construct and connect a new pipeline to the existing NESC water storage tanks.

The Water Service Agreement is to provide up to 3000 gallons per day (gpd) from the KLWL water system to the NatureBridge NESC campus. The campus has completed their Phase 1 of developing the Science Center. The initial water service is expected to be up to 1500gpd for Phase 1. Following successful startup of the water service and campus operations, NatureBridge will begin their planning and construction of their Phase 2 development. The second Phase will require an additional 1500gpd for a total 3000gpd provided in this Agreement.

The planned User MDD of the Water System is 5960gpd. The State allocated rate of the onsite Well#4 is 7200gpd. The Scenic Project and the NESC campus Project will be phased developments over an estimated 6-year timeline to reach the MDD of 5960gpd. The primary well produces high quality water meeting public water standards. We propose not treating the water, installing UV lights in the storage tanks, design and build the heated tank shed with adequate space for future chlorination equipment and monitoring the regular water testing reports for the possible future need of treatment.

The new water service will enable NatureBridge to begin operations for the existing development to host 56 students and staff while maintaining full capacity of the 180,000 gal storage tanks for domestic uses and firefighting emergencies. Upon completion of their Phase 2 expansion of the campus, NatureBridge will be hosting an additional 56 students and staff.

KLWL has preliminary approval for a new public water system and is proceeding with the final engineering, permitting and construction to be completed in 2023. KLWL has performed successful water pump tests, commissioned a water shed review, finished preliminary water system design, preliminary engineering reviews and documented well soundings of surrounding water wells in filing the public water system application for operating permits. The new water system applications, engineering reviews, preliminary approval and final operating permits are conducted by the State Water Resources Board.

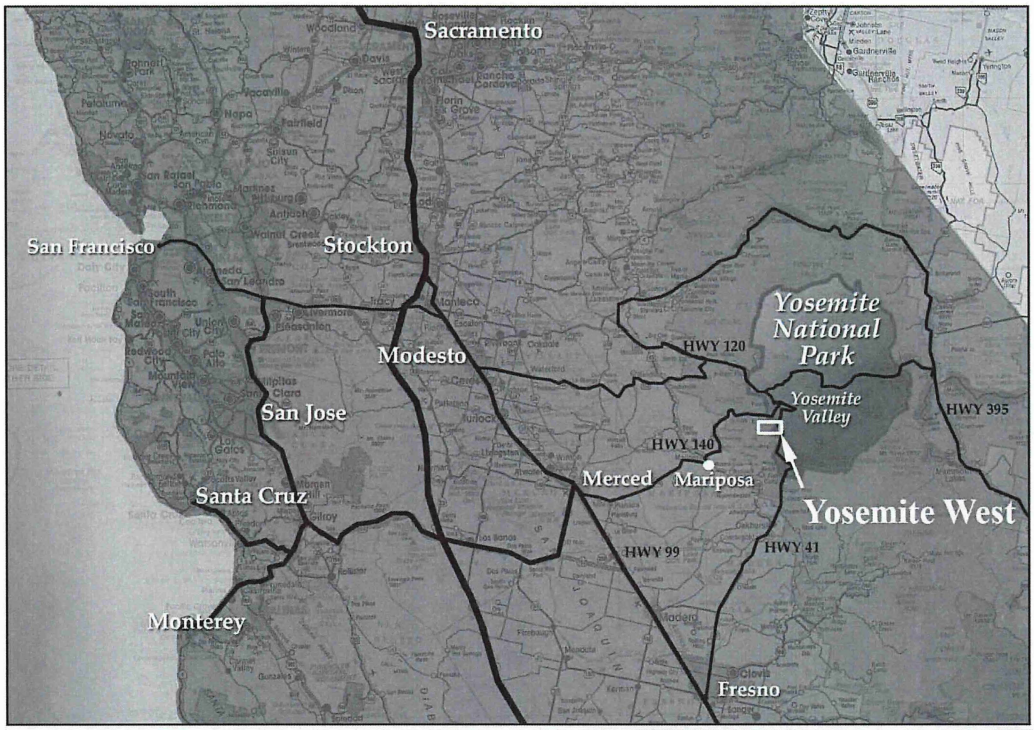
NatureBridge and KL Water & Land are proud to be working together to solve the water issues at the NESC campus. Hopefully in the near future the campus will be hosting students in their exploration and understanding of the natural wonders in Yosemite National Park.

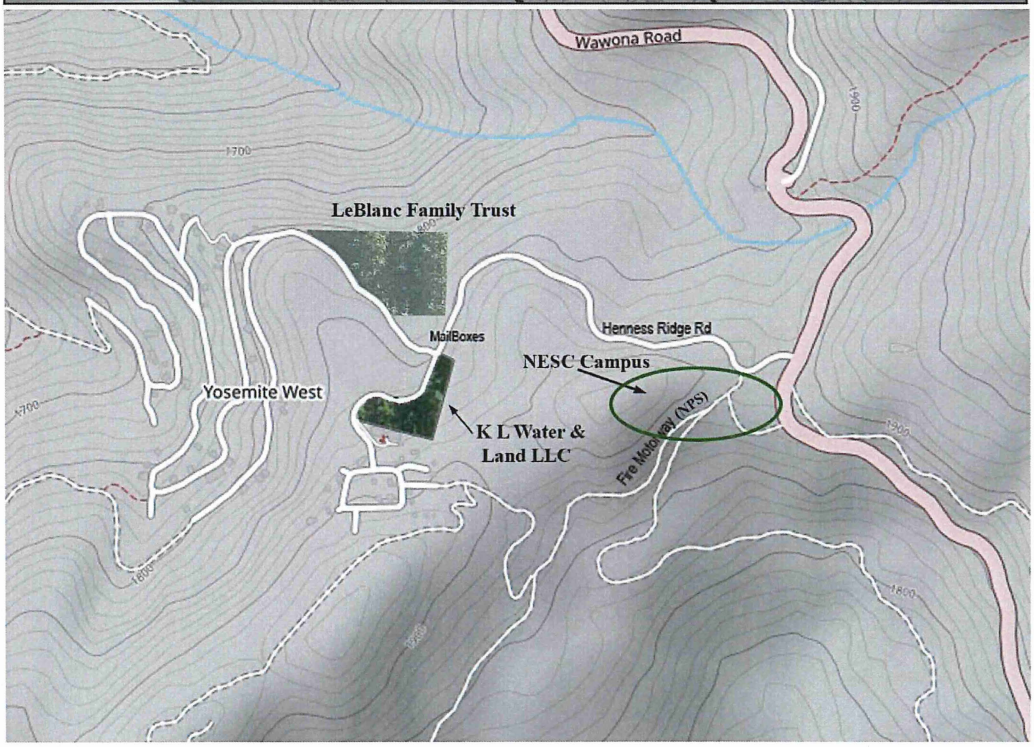
Sincerely,

Kenneth LeBlanc, Managing Member,
KL Water & Land LLC (Owner of the "Scenic Wonders Project")
7403 Yosemite Park Way, Yosemite National Park, CA 95389
ken@scenicwonders.com

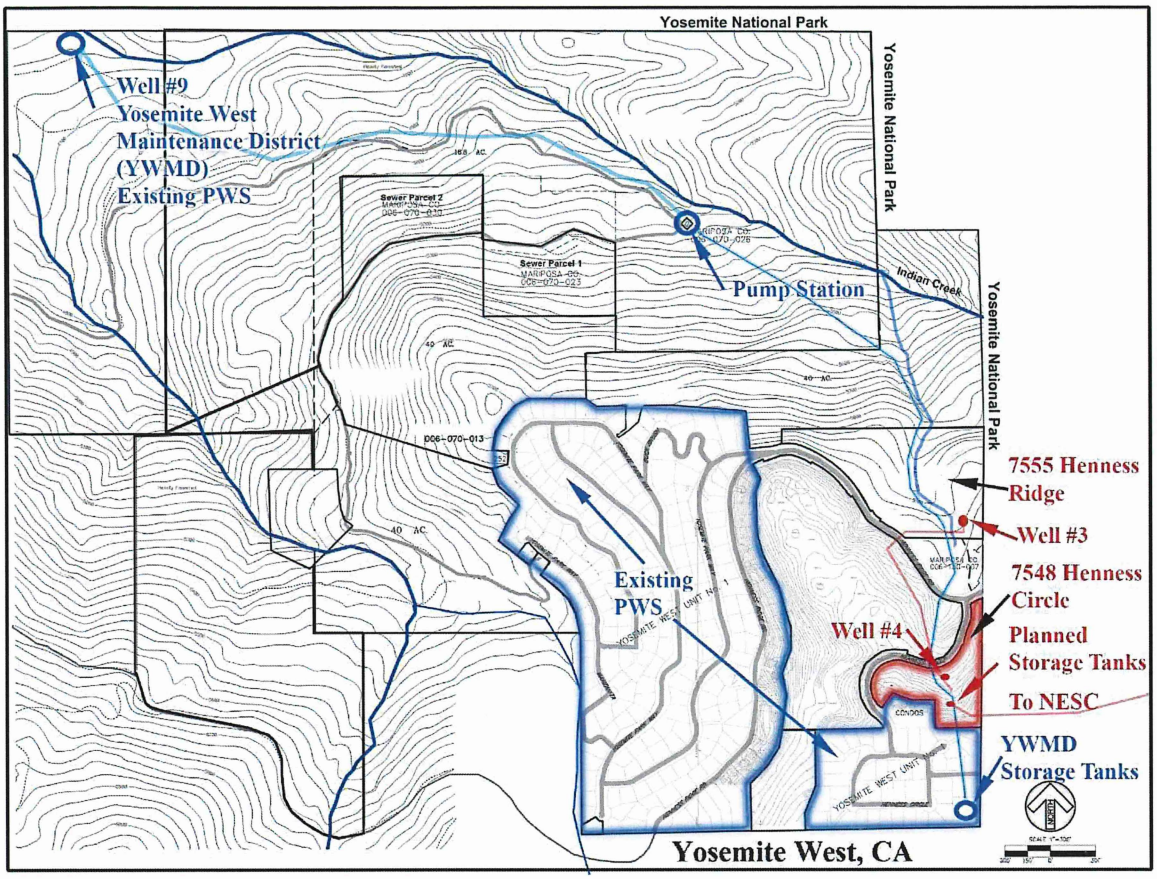
EXHIBITS

Vicinity Maps

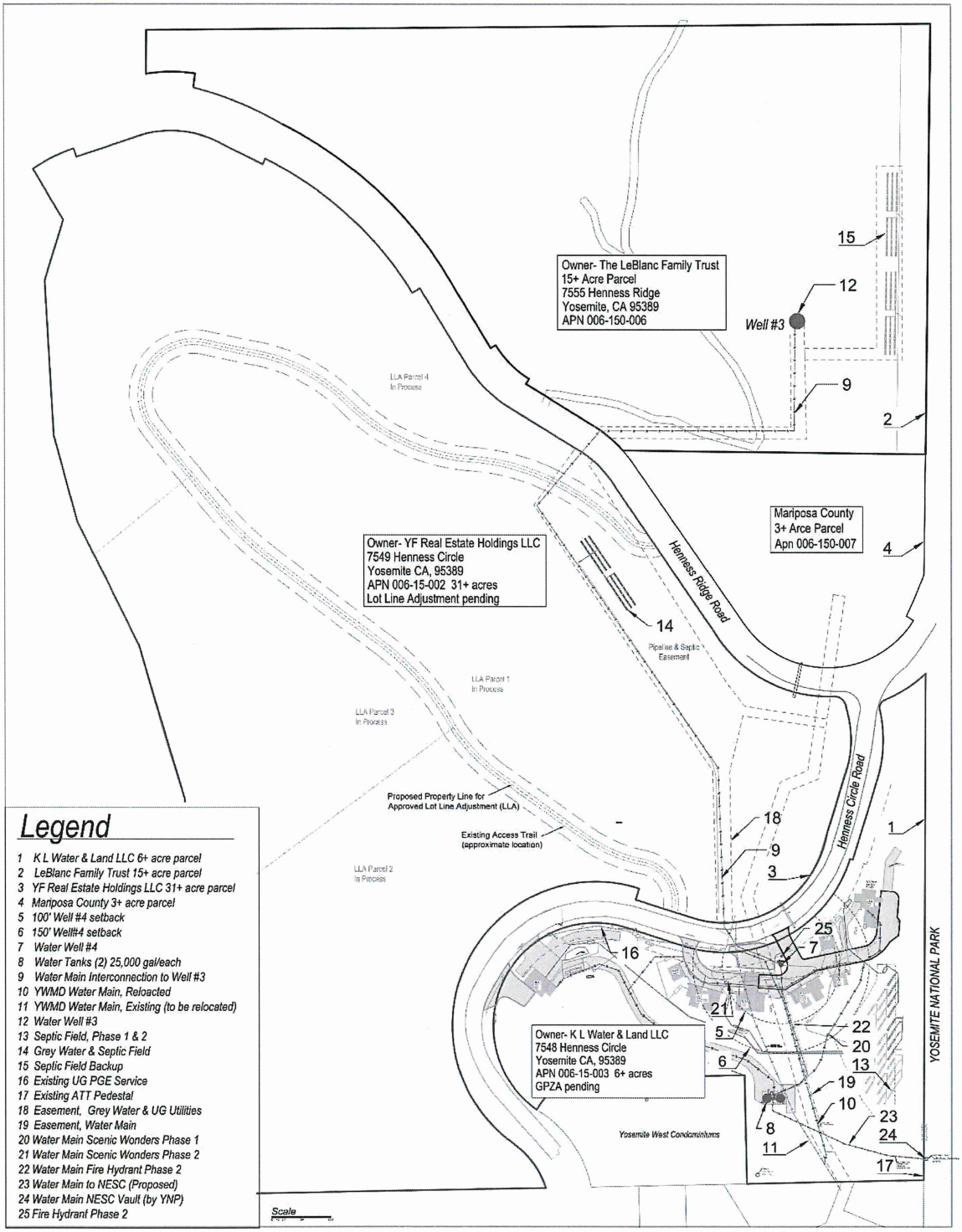




Local Water Systems



Proposed Water System Design



MEMO

To: Jeff Hornacek
From: Ken Schmidt
Topic: Scenic Wonders Wells No. 3 and 4
Date: November 16, 2022

I have reviewed the historical water-level measurements for the Scenic Wonders Wells No. 3 and 4, the results of the 2019 pump tests, and the pumpage data for Well No. 4 during September 2022. Following is my interpretation of these data.

Pumpage

For the 2019 10-day pump tests, a total of 694,000 gallons, or 2.13 acre-feet, of water was pumped from Well No. 3 and 180,600 gallons, or 0.56 acre-feet, from Well No. 4. The pumpage from Well No. 4 between September 15 and September 22, 2022 was 67,200 gallons, or an average of 9,600 gpd. The State Allocated Pumping Rate is 23.5 gpm for Well No. 3 and 5 gpm for Well No. 4, or a total of 28.5 gpm. Pumping 7,200 gpd is equal to 5 gpm. If the two wells were pumped at this rate continuously for one year, they would produce about 8.07 acre-feet of water. The pumpage from the two wells during the 10-day pump tests alone was 2.69 acre-feet, or 34 percent of this value. It is more applicable to evaluate pumpage during the period of no recharge, and this is considered to be 120 days. If the wells were pumped continuously for 120 days at a total of 5 gpm, they would produce 2.66 acre-feet of water. This is about equivalent to what was pumped during the 10-day pump tests. The State Allocated Rate of 28.5 gpm is 5.7 times greater than the 5 gpm or 7,200 gpd rate. The wells can readily produce 7,200 gpd.

Water Levels

The two primary factors influencing depth to water in the wells are 1) recharge from winter precipitation, and 2) pumpage. We obtained records of precipitation at the Highway 41 entrance to Yosemite National Park for water years 2019-2022. Because of a lack of measurements, records for August-November, 2022 were taken from a nearby station (Yosemite at Wawona). Following are the annual precipitation values.

Water Year 2019 (Oct 1, 2018 to Sept 30, 2019) 45.3 inches

Water Year 2020 (Oct 1, 2019 to Sept 30, 2020) 25.2 inches
Water Year 2021 (Oct 1, 2020 to Sept 30, 2021) 25.4 inches
Water Year 2022 (Oct 1, 2021 to Sept 30, 2022) 36.9 inches

The long-term average annual precipitation at the Highway 41 station is 39.5 inches. Water years 2020 and 2021 are considered drought years, with the precipitation about one-third less than the long-term average.

Water-level measurements for Well No. 3 are available for the period September 23, 2019 to November __, 2022. Numerous measurements are available for this well for September 13, 2022 through November __, 2022, associated with the pump test on Yosemite Conservancy Well No. 2. The static water level in Well No. 3 ranged from 629.2 feet deep prior to the 2019 pump tests on Wells 3 and 4 to 637.5 feet, near the end of the Well No. 2 pump test and following pumpage from Well No. 4 in September 2022. There was a drawdown of 7.1 feet (637.5 minus 630.4 feet) in Well No. 3 due to pumpage of Wells No. 2 and 4. By September 13, 2022, the water level in Well No. 3 was 630.4 feet deep, or 1.2 feet below the static level prior to the 2019 pump tests.

A substantial amount of water-level measurements are available for Well No. 4 for 2019-22. The shallowest level was 766.5 feet on September 13, 2022. The deepest static level was 773.4 feet on March 19, 2020, or 1.9 feet below the static level of 771.5 feet before the 2019 pump tests. Records indicate that following the Fall 2019 pump tests, the water level in Well No. 4 rose to a depth of 769.9 feet through June 8, 2021, and to a depth of 766.6 feet through September 13, 2022. The water level rose 3.5 feet during the Winter of 2021-2022. This was associated with precipitation that was near the long-term average.

Winter recharge has been sufficient to maintain water levels in Wells No. 3 and 4. Following the 10-day pump tests in 2019, water levels rose due to the expected normal recovery once pumping stopped and due to winter recharge. Recharge occurred even when the precipitation was about a third less than normal.

Summary

Wells No. 3 and 4 can produce 7,200 gpd in the future. Pumpage of Wells 3 and 4 at the State Allocated Pumping Rate of 28.5 gpm would require about four hours of pumping per day to obtain 7,200 gallons, which is readily achievable.

Please call me if you have any questions.

inch of precipitation on January 10, 0.8 inch on January 17, 0.34 inch on January 26-27, and 1.7 inch on March 14-16. This was the only precipitation recorded through March 16, 2020. The total precipitation was about 3.3 inches, which is indicated to be relatively small compared to other winters.

Following the Drinking Water Division Well Capacity Determination Methods, following are the allocated yields of the tested wells.

Well No.	Pumping Rate at End of 10 days (gpm)	Half of 10-day Pumping Rate (gpm)
3	47	23.5
4	10	5
Total	57	28.5

GROUNDWATER QUALITY

Table 2 provides a summary of the results of analyses of water collected from Wells No. 3 and 4 just prior to the cessation of pumping for the test. The water samples were preserved and hand to delivered to APPL Inc. of Clovis for inorganic chemical analyses. Water samples for radiological analyses were preserved and shipped by overnight delivery to FGL Environmental in Santa Paula. For Well No. 3, the total dissolved solids (TDS) concentration was 124 mg/l and the water was of the calcium bicarbonate type. Concentrations of nitrate, iron, manganese, and