COUNTY OF MONTEREY
HEALTH DEPARTMENT

MEMORANDUM

ENVIRONMENTAL HEALTH BUREAU

Date: August 22, 2016
To: John Ford, RMA-Planning
From: Nicki Fowler, REHS

Subject: PLN040183, Paraiso Springs Resort

The Environmental Health Bureau ("EHB") has reviewed the peer review of the Todd Groundwater Hydrogeologic Report prepared by Balance Hydrologic, dated May 25, 2016 and the subsequent response by Todd Groundwater, dated July 25, 2016, and offers the following comments.

Well No. 1 (Main Well)
This well was constructed in 1976 and includes a steel casing. EHB has concerns that a 40-year old, steel well casing is susceptible to corrosion and deterioration. Subsequently, a disinfection system will be required to be installed for the domestic water distribution system as an added precaution. Routine source water monitoring will be required to demonstrate the well remains free of coliform bacteria. A fully functional activated alumina treatment system will also be required to bring fluoride levels below the Maximum Contaminant Level of 2 mg/L.

The EHB recognizes that the sanitary seal of Well No. 1 is constructed to a depth of 40 feet. Water quality monitoring records do not indicate a history of bacteriological contamination; therefore, EHB will allow the continued use of Well No. 1 to serve the existing water system and proposed project.

Well No. 2 (Fluoride Well)
This well will need to be developed so that it can be brought immediately online in the event Well No. 1 was to fail. This includes the fully functional activated alumina treatment system, per the proposed plans.

Source Capacity of Well No. 1 (Main Well) and Well No. 2 (Fluoride Well)
EHB agrees with Todd Groundwater's July 2016 response to the peer review that despite procedural irregularities, the final pumping rate was appropriately reported to be 58 gpm in the Feburary 26, 2008 10-day Pumping Test Results report by CH2M HILL. As noted by Todd Engineering, a 50% reduction was conservatively assessed against the 58 gpm capacity credit, despite the well having been constructed in an alluvial formation. It is important to note that non-community water system may combine multiple sources to demonstrate that maximum day demand is available. The combined capacity of Wells No. 1 and No. 2 meet and exceed the source capacity requirement necessary to meet maximum day demand, including a 5% treatment loss that will occur during the activated alumina treatment process. Since the wells were source capacity tested in 2007, EHB requests the following information to provide assurance that each well is still in good working order:

1. Current water use for each well on the property, monthly and annually, in acre feet (as opposed to the water use in 2007 detailed in Table 5 of the 8/2014 Todd Report)
2. Current static water level of Wells No. 1 and No. 2, established using the test setup from Monterey County's Source Capacity Testing Procedure.
    - Well No. 1 should be equipped with a minimum 30 gpm pump
    - Well No. 2 should be equipped with a minimum 60 gpm pump (based on a 12-hour pump cycle since it is a fractured rock well)
3. "Wellness" check for each well to demonstrate that the well is in good working order, completed by a qualified professional.

General Comments on the Water Sources

Well No. 1 includes a steel casing that will be subject to deterioration over time and eventually failure. The EHB recommends that the applicant consider constructing a new well that meets quality and quantity standards to replace it; it is unlikely that a new well would necessitate a disinfection system. Water quality and source capacity testing would be required to demonstrate the new well meets current standards. However, recognizing that Well No. 1 has been shown to meet current quality and capacity standards and that Well No. 2 is capable of meeting current quality (with treatment incorporated) and quantity standards, replacing Well No. 1 is not a requirement at this time.

Pura Ranch water entitlement

The hydrogeologic report does not satisfactorily address potential impacts to the spring that serves the Pura Ranch. Please address the following concerns:

1. Determine if hydrologic connectivity exists between the referenced spring and Wells No. 1 or No. 2. In the event interconnectivity exists, an analysis of whether the aquifer would receive adequate recharge to offset the increased pumping must be completed.
2. Evaluate the size and location of the proposed wastewater treatment system undergoing storage tank and potential impacts to the Pura Spring Source.
3. Per the Balance Hydrologic recommendation, a baseline of water diversions should be collected at the spring so that compensatory water may be provided in the event negative impacts are confirmed once the project is operational. Impacts of the compensatory water must be evaluated since it would increase the overall water demand for the project.