WATER RESOURCES AGENCY

M E M O R A N D U M

Monterey County

DATE: November 7, 2016

TO: Nicole Fowler

FROM: Peter Kwiek, PG

SUBJECT: Paraíso Springs Resort: Todd Groundwater's Response to EHB Memo

As requested by the Environmental Health Bureau (EHB), the Water Resources Agency (WRA) has reviewed Todd Groundwater's October 5, 2016 response to EHB's comments in its August 22, 2016 memo.

Paraíso Springs Resort Recent Review Document History

For reference, below is a list of documents relevant to this review:

1. August 26, 2014: Todd Groundwater's Comprehensive Hydrogeologic Report
2. May 25, 2016: Balance Hydrologic's Peer Review of 1.
3. July 25, 2016: Todd Groundwater's Response to 2.
4. August 22, 2016: EHB's response to 2 &3.
5. October 5, 2016: Todd Groundwater's Response to 4.
6. November 7, 2016: WRA Comments on 5 (this document, below).

EHB Comments to Todd Groundwater

Todd Groundwater's October 5, 2016 Memo addresses the following three comments submitted by EHB (Nicki Fowler) in an August 22, 2016 memo reviewing Balance Hydrologic's peer review of Todd's Comprehensive Hydrogeologic Report.

Comment 1. Determine if hydrologic connectivity exists between the referenced [Pura] spring and [Project] 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.

Comment 2. Evaluate the size and location of the proposed wastewater treatment system underground storage tank and potential impacts to the Pura Spring source.

Comment 3. Per the Balance Hydrologics recommendation, a baseline of water diversions should be collected at Pura 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 demand for the project.

WRA Review of Todd Groundwater's Response to EHB Comments

Below is a summary of Todd's responses to each of EHB's comments. In general, Todd has presented direct and reasonable answers to all three comments, with the notable exception of one omission (2c below).

Comment 1:

a. Todd states that hydrologic connectivity does exist between the Pura Spring and well number 1. Todd has added the more conservative assumption that connectivity exists between the spring and deeper well number 2.
b. Both Todd's and Balance's much lower estimates of aquifer recharge reasonably suggest an ample supply of water (797 AFY or 216 AFY, respectively), well above both needs of the proposed project (12.7 afy) and a theoretically impacted downstream spring (1.6 afy).

Comment 2:

a. Todd has specified the size, shape and location of the proposed wastewater treatment underground storage tank as well as its proximity to the Pura Spring.
b. Todd has presented a recommended method of hydraulic attenuation, to neutralize the hydraulic impact and local water table changes resulting from groundwater flow obstruction caused by installation of the tank.
c. Although the proximity to the Pura Spring is specified, Todd omits to discuss potential water quality impacts to the spring, in the event of tank leakage or failure.

Comment 3:

a. Todd has estimated annual spring flow, based on limited available flow meter data of unspecified duration. We recommend utilizing a full summer (June through September) of data collection as the basis for annualized flow. Such an approach would result in a more conservative and defensible pre-development baseline value.
b. Todd has addressed the question of impacts of "compensatory water" by comparing the quantities of estimated recharge (at least 216 AFY) to total project [plus compensatory] demand (14.7 AFY) and combined well capacities, noting a hypothetical worst-case peak demand scenario in which demands could exceed credited pumping yield. In such a case, Todd suggests that, in the event of impacted downstream spring flows, resort irrigation could be curtailed. Such an approach would be reasonable, provided that the water made available through such a reduction in irrigation meets needed compensatory demands.

Cc: Jacqueline Onciano, Howard Franklin, Mike Novo