

WRITTEN TESTIMONY OF
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LAND USE COMMISSION
STATE OF HAWAII

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I am Daniel Lum, principal and owner of Water Resource Associates, a geology and hydrology consulting firm. I prepared the groundwater resources and supply report for the Kihei High School Project, Kihei, Maui, Hawaii. I offer the following written testimony regarding Kihei High School's water requirements and its impact on the underlying Kamaole Aquifer system.

Potable Water Source and Demand

Phase I of Kihei High School will initially require an estimated average of 4,900 gallons per day (GPD) of potable water in the year 2015, 9,000 GPD in 2016, 14,300 GPD in 2017, and 18,800 GPD in 2018. By 2025, at full build out, Kihei High School will require an estimated 37,450 GPD. The Project's potable water requirement will be met by connecting to the nearby Central Maui Water System of the County of Maui Department of Water Supply (DWS). The very modest 37,450 GPD of potable water required at full build out in 2025 is anticipated to have no adverse impact on the Central Maui Water System or its existing sources of supply.

There are no potable water resources, either surface or ground water, available within a two-mile radius of the Petition Area that could be economically or feasibly developed for the Project. The Project qualifies for an exemption from DWS's Water Availability Policy under §14.12.030, Maui County Code. Specifically, Petitioner plans to connect to an existing 18-inch transmission water main across Pi'ilani Highway on Liloa Drive. The Project will also utilize the DWS source of supply to meet County fire protection requirements.

Non-Potable Water Source and Demand

The Petition Area is underlain by brackish groundwater situated within the Kamaole Aquifer System as designated by the State Commission on Water Resource Management (CWRM). This aquifer system is recharged by rainfall which occurs at higher interior elevations and correspondingly averages from 10 to 40 inches a year. CWRM has estimated Kamaole Aquifer System's groundwater recharge at 25 million gallons per day (MGD) and its sustainable yield at 11 MGD. CWRM has also estimated existing groundwater use within the system at 1.859 MGD, primarily for non-potable golf course and other landscape irrigation purposes.

Kihei High School will require 185,000 GPD of non-potable groundwater to be developed for landscape irrigation use. Development of this amount of non-potable groundwater represents only 1.7% of Kamaole Aquifer's 11 MGD sustainable yield.

Petitioner proposes to drill two brackish water wells within the Petition Area to serve as the source of non-potable water for the Project. The two brackish wells are each expected to have a pumping capacity in the range of 250 to 350 gallons per minute (GPM), and are not anticipated to have any adverse impact on any existing wells or the underlying aquifer.