

**COUNCIL OF THE COUNTY OF MAUI**  
**WATER AND INFRASTRUCTURE**  
**COMMITTEE**

August 23, 2019

**Committee**  
**Report No. 19-99**

Honorable Chair and Members  
of the County Council  
County of Maui  
Wailuku, Maui, Hawaii

Chair and Members:

Your Water and Infrastructure Committee, having met on August 5, 2019, makes reference to a Miscellaneous Communication dated May 21, 2019, from the County Clerk, relating to the Kihei-Makena Sewer Expansion Project ("Project").

Your Committee notes the Council appropriated \$7,500,000 to the Project in the Fiscal Year 2020 Budget, but withheld the bond authorization and referred the matter to your Water and Infrastructure Committee.

The Civil Engineer provided an overview of the Department of Environmental Management's Kihei recycled water program, including the treatment process to produce R-1 recycled water, the history of reuse, the current uses of recycled water, the amount of reuse, and future projects.

He said the Department has built up a network of recycled water users over the past 25 years; on average, 45 percent of the treated wastewater is reused. Most of the recycled water is used for landscape irrigation, but other uses include seed corn irrigation, fire protection, toilet flushing, composting, construction dust control, wildlife habitat restoration, and drinking water for cattle.

He further explained recycled water usage varies seasonally, with approximately 55 percent reuse in the summer and 25 percent reuse in the winter. He noted using summer as the target to attain 100 percent reuse would ensure recycled water supply reliability.

**COUNCIL OF THE COUNTY OF MAUI**  
**WATER AND INFRASTRUCTURE**  
**COMMITTEE**

Page 2

**Committee**  
**Report No. 19-99**

The Civil Engineer reported smart meters have been installed at 38 of 48 locations; they enable staff to monitor customer usage, which can reveal leaks and backflow issues. He said the remaining meters to be replaced with smart meters are large and expensive, and bond funds could support this effort.

The Civil Engineer stated the following infrastructure improvements are planned for the Kihei recycled water system:

1. 2019: Second Recycled Water Storage Tank
2. 2020: Effluent Pump Station Upgrade
3. 2020: Ultraviolet Disinfection Facility Upgrades
4. 2023: Liloa Drive Distribution Line Extension
5. 2025: North Kihei Sewer System Expansion

These projects are estimated to collectively achieve 70-75 percent reuse in the summer.

The Civil Engineer said the Department is also planning a land application project to dispose of excess recycled water by irrigating unused land, and will conduct a pilot project in the next year to determine feasibility. He said the Department has identified a 140-acre, County-owned site behind the Kihei Police Station. If the project moves forward, it will involve grading, retention basins, and pump stations.

The Civil Engineer summarized the goals of the Kihei recycled water system expansion: upgrade storage and production capability; increase reliability for existing customers; increase consumption by existing customers; expand the distribution system to develop new customers; and design and build the land application system.

**COUNCIL OF THE COUNTY OF MAUI**  
**WATER AND INFRASTRUCTURE**  
**COMMITTEE**

Page 3

**Committee**  
**Report No. 19-99**

Your Committee asked if it would be more cost-effective to treat wastewater to potable levels, rather than expanding the recycled water system. The Director of Environmental Management said potable water could be produced by treating R-1 water through reverse osmosis. Based on his most recent estimate, the Director said \$40,000,000 was the additional cost for one wastewater reclamation facility treating 5-6 million gallons per day, but added, technology improvements may have lowered this cost. Currently, the Director said the State Department of Health does not have regulations governing potable recycled water reuse.

When asked about recycled water use in homes, the Director said retrofits to enable this could be cost-prohibitive. Your Committee notes the State Department of Health's document entitled "Reuse Guidelines for Recycled Water Projects" states: "Irrigation of single family residential homes without a recycled water manager is prohibited."

Your Committee notes further review of the Project would be more appropriately done by your Economic Development and Budget Committee, which can consider recommending approval of the bond authorization.

Your Committee voted 7-0 to recommend referral of the communication to your Economic Development and Budget Committee. Committee Chair Lee, Vice-Chair Paltin, and members Hokama, Kama, Molina, Rawlins-Fernandez, and Sinenci voted "aye."

Your Water and Infrastructure Committee **RECOMMENDS** that the Miscellaneous Communication be **REFERRED** to your Economic Development and Budget Committee.

COUNCIL OF THE COUNTY OF MAUI  
**WATER AND INFRASTRUCTURE  
COMMITTEE**

Page 4

**Committee**  
**Report No.** 19-99

This report is submitted in accordance with Rule 8 of the Rules of the Council.

A handwritten signature in black ink, appearing to read 'Alice L. Lee', is written over a horizontal line.

ALICE L. LEE, Chair

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