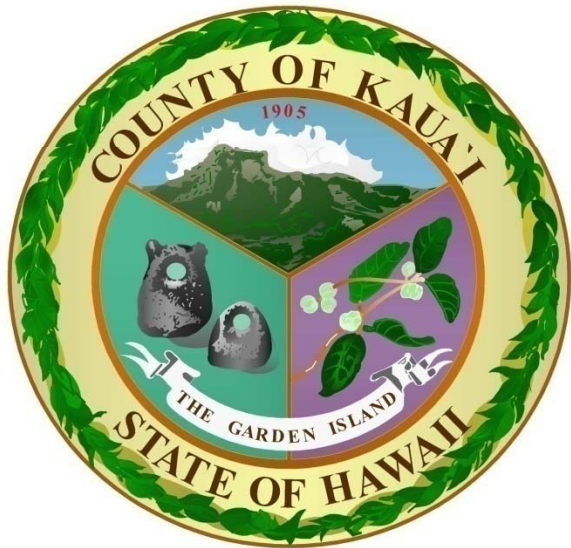


KAUA'I COUNTY'S WASTEWATER COLLECTION SYSTEMS

HWEA

COLLECTION SYSTEM CONFERENCE

NOVEMBER 2009



OVERVIEW – WASTEWATER COLLECTION SYSTEMS ON KAUA‘I

The County owns and operates 4 collection systems in County service areas. There are also several private wastewater utilities on Kaua‘i.

Kauai, Hawaii

"The Garden Isle"





Statistics

- 4 County-owned systems
- 19 Sewage Pump Stations (SPS's)
- 43 miles of Gravity sewer lines
- 7 miles of force mains
- 1200 manholes
- Approximately 5,500 service connections



Organization and Resources

- The collection systems operations are an integral part of the Wastewater Management Division, part of Department of Public Works (DPW).
- Division staffing is 34 positions, primarily WWTP operations. SPS's are operated by plant operators, with centralized, island-wide support by Division.
- One (1) line crew, one Vactor truck, one Manatec crane
- Support includes DPW administration, Division staff (mechanics, operators, engineers, bureaucrats)
- Division-owned mobile generators, mobile pumps etc. provide emergency response capabilities.



Capacity and Condition Issues

- Vast majority of the County's systems were constructed after 1960, so County has experienced relatively few collection system emergencies.
- Recent emergencies include 2005 manhole failure in Līhu'e (\$350K) and 2008 Eleele Shopping Center sewer line blockage (\$50K)
- Collection system capacity constraints are localized, and mostly manageable. In Wailua, Leho Dr. 15-inch main replaced (2007). Līhu'e trunk sewer line capacity constraint solution identified.
- Very few collection system spills have occurred.

EMERGENCY REPAIRS



Bypass Pumping



Excavation

EMERGENCY REPAIRS



Rotten Concrete Pipe



Replacement under Lyle's expert supervision



Capacity and Condition Issues

- Older collection system in Eleele (1950's) is a current problem. County has completed a video condition assessment of the subdivision system, and has recommendations for rehab/replacement based on the condition assessment. Will be doing more condition assessments in the future.
- Several pump stations are nearing the end of their service life. County has done major rehab work at two SPS's in 2007.
- I & I not perceived to be major problem, but locally can be significant. More I & I studies needed.



Asset Management tools and trends

- Facility Plans were completed in 2008-2009 for all four County Wastewater Systems.
 - Included GIS mapping of the collection systems
 - Provided long-term identification of capital improvement needs and collection system capacity constraints
- Most Record Drawings for collection systems have been scanned and are available in electronic format.
- County implementing Maintenance Management database, which includes pump station assets and can be expanded to incorporate collection system data.
- County starting to employ new tools such as video surveys and I & I assessments.

Wastewater System Planning - ELEELE

- Facility Plan identified improvements needed over a 20 year period
 - Pump Station Replacements
 - Future Relief Lines
- Basic system information and mapping completed

