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Solid Waste Division

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Wastewater Reclamation Division

TAMARA FARNSWORTH
Environmental Protection &
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OFFICE OF THE
COUNTY COUNCIL

**COUNTY OF MAUI
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT**
2050 MAIN STREET, SUITE 2B
WAILUKU, MAUI, HAWAII 96793

April 8, 2019

Ms. Michele M. Yoshimura 
Budget Director, County of Maui
200 S. High Street
Wailuku, HI 96793

Honorable Michael P. Victorino
Mayor, County of Maui
200 S. High Street
Wailuku, HI 96793

APPROVED FOR TRANSMITTAL


Mayor 4/10/19
Date

For Transmittal to:

Honorable Keani Rawlins-Fernandez
Chair, Economic Development and Budget Committee
Maui County Council
200 S. High Street
Wailuku, HI 96793

Dear Chair Rawlins-Fernandez:

SUBJECT: FISCAL YEAR ("FY") 2020 BUDGET (EM-5) (EDB-1)

The County is in receipt of the above Economic Development and Budget (EDB) Committee requested information dated April 2, 2019. Your request and the corresponding answer is provided below by the Department of Environmental Management (DEM).

- 1. Identify the Department's top three to five strategic goals for FY 2020, the objectives that will be implemented to meet these strategic goals, and the intended results of achieving them.**

SOLID WASTE DIVISION MISSION AND GOALS

"To provide Public Health, Safety and Environmental Protection of Maui County's Air, Land and Water, Through Effective and Sustainable Solid Waste Management Practices, Resources and Dedicated Team"

<p>1) SAFETY Employee safety Public and Environmental safety Facility, Equipment & Infrastructure safety</p> <p>2) REGULATORY COMPLIANCE & ENVIRONMENTAL PROTECTION Meet all State, Federal & County regulatory requirements, permits, mandates, & procedures to maintain compliance</p>	<p>3) RESOURCE MANAGEMENT Meet resource management needs for personnel, budget, equipment & Infrastructure to build & maintain: Reliability, Sustainability & Efficiency</p> <p>4) NON-SAFETY, NON-COMPLIANCE RELATED SERVICES / PROGRAMS Expansion of community services, refuse collections on non-County roads, beautification, grounds keeping, non-critical programs</p>
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STRATEGIC GOALS

- The SWD continues to target environmental protection, community service and identified Goals & Measures as described in our yearly Budget Narrative
- Continue long term sustainability strategies focusing on compliance, maintaining minimum resources, and landfill and refuse capacities
- Continue ownership and empowerment of supervisors and staff and promote achievable career paths to increase retainage of our valued employees
- Ongoing employee development and improving our operations safety and training program
- Maintain fiscal responsibility and fiscal self-funded status
- Continue our transition plan from manual to automated refuse routes to lower costs, improve community service, efficiency and increase employee safety.

COMMUNITY SERVICES TO MEET GOALS

- Serve 26,700 refuse clients & haul over 2,600 refuse routes/yr
- Manage 3 islands, 4 landfills, 6 closed landfills & 1 transfer station
- Maintain residential self haul services at 5 locations
- Receive and process > 220,000 tons/yr
- Construction & Demolition material processing: > 26,000 tons/yr
- Support of non-profit organizations & community events

WASTEWATER RECLAMATION DIVISION MISSION AND GOALS

Goal #1: Provide effective division management

- a. Maintain efficient fiscal management

- b. Maximize throughput efficiency
- c. Conduct timely pretreatment inspections
- d. Minimize adverse impacts to environment
 Results: Minimize costs, meet community expectations

Goal #2: Sustain reliable wastewater infrastructure

- a. Complete CIP projects within schedule
- b. Develop needs assessment for infrastructure improvements to decrease the number of unplanned infrastructure replacement projects greater than \$100,000
- c. Maintain public awareness by conducting public presentations
- d. Minimize adverse impacts to wastewater system from non-county activities
- e. Monitor capacity to meet demands on existing facilities
- f. Provide timely review of permit applications
 Results: environmental protection, community health and safety.

Goal #3: Provide reliable wastewater service

- a. Minimize wastewater impacts to the environment by minimizing the number of non-compliant regulatory days
- b. Satisfy regulatory requirements for treatment plants
- c. Satisfy regulatory requirements for reclaimed water
 Results: Meet customer expectations, environmental protection, community health and safety

Goal #4: Provide timely maintenance of facilities and equipment for long-term efficiency

- a. Complete on-time maintenance of existing mechanical and electrical equipment
- b. Complete on-time maintenance of existing collection system
 Results: Minimize asset downtime, spills and adverse effects on the community

Goal #5: Encourage employee productivity and increase morale by developing employee skills and abilities and minimizing workplace injuries

- a. Conduct professional development sessions for each employee annually
- b. Conduct safety training classes for employees annually
 Results: Safe work environment, Cohesive workforce

2. Prioritize the proposed projects for FY 2020 from highest to lowest and explain their prioritization.

PRIORITY PROJECTS LIST FOR THE SOLID WASTE DIVISION

RANK	PROJECT NAME	JUSTIFICATION
1	Central Maui Landfill Expansion	Existing landfill capacity is anticipated to be exhausted in FY2022. Since the proposed Phase VI property is currently privately owned, it is imperative that Phase III be developed to ensure continued landfill disposal capacity.

2	CML Customer Drop-Off Area Improvements	A limitations in getting customers in and out of Central Maui Landfill is the number of disposal bays available. The proposed project provides for the installation of an additional bay, bringing the total count from ten to twelve. The project is expected to reduce customer wait times and reduce the potential for vehicle queuing onto Pulehu Road to meet the facility's Solid Waste Management Permit requirements and address Pulehu Rd. safety concerns.
3	CML Entrance Facility and Traffic Improvements	The Central Maui Landfill Entrance Facility was designed and built nearly twenty years ago and requires upgrading to meet changes in traffic volumes, receiving capacity demand, and improve disposal wait times.
4	CML Operations Facilities	This project will provide design/construction plans for solid waste management facilities, including refuse and landfill operational infrastructure, materials reclamation area, abandoned vehicle yard, electronic waste and household hazardous waste collection area. Future design and construction of refuse and landfill operations dedicated facilities are necessary to meet regular equipment maintenance requirements. Waste materials reclamation will recover materials that could be recycled, diverting them from the landfill.
5	CML Extension of Primary Litter Screen and Drainage Improvements	In accordance with the Facility Solid Waste Management Permit, the operator shall "minimize free litter in the landfill and prevent its occurrence beyond the property line of the facility".
6	Hana Landfill Office Trailer and PV Expansion	A modular office/break room will provide necessary space and segregation of office, locker room, and eating areas. The current one room wooden structure that serves as a make-shift office/break room for the Hana Landfill staff was built about twenty years ago and needs replacement and up-sizing. Also, its dual use as an office and break room places additional demand on the limited space.

7	CML Phase VB Extension Leachate Recirculation System	The primary benefits to leachate recirculation are enhanced decomposition of waste, increasing landfill gas production & methane quality, and reduced personnel expenses associated with leachate disposal. Two of three leachate disposal options available at CML require personnel to transfer leachate to tanker trucks and deliver it to final disposal locations. The recirculation system will be automated, pumping leachate back into the landfill as required. This project will reduce the potential for accidental discharges related to leachate transfer and transport.
8	Environmental Compliance System Design and Construction	This project will allow the Solid Waste division to address emergency design, construction, construction management, unplanned regulatory compliance improvements at all county landfills and enable operational enhancements for environmental regulatory requirements. This includes mechanical, electrical, and civil design and construction services throughout the county.
9	Central Maui Landfill Land Purchase	The County does not currently have sufficient land for FEMA approved emergency debris management. A permanent solution with larger land area is needed to be prepared for future emergencies, as well as other landfill and refuse related infrastructure facilities.
10	Molokai Landfill Scale-house Replacement and Traffic Optimization	The existing scale-house was built over 20 years ago and has reached the end of its useful life. The structure is leaking and needs major repairs, both internally & externally, and the current scale is not long enough to accommodate commercial trailer loads. This project will provide a new scale-house office and scale able to accommodate all commercial customers. The proposed will also improve site access and exiting reducing traffic conflict points, address related safety concerns.
11	Integrated Solid Waste Management Plan Update	The existing Maui County ISWMP will be updated to provide aligned and obtainable goals for the Department of Environmental Management to provide direction to investment and operational strategy for the Solid Waste Division.
12	CML Storage Facility/Infrastructure	Currently, tools, spare parts and fluids are stored in shipping containers in various areas of the landfill and onsite maintenance is completed on a covered, concrete pad exposed to the elements. This project proposes the design of an area capable of storing tools, critical spare parts, and fluids in a centralized area and a building for immediate servicing of heavy landfill equipment. The proposed will improve efficiency and safety, and minimize the risk of landfill closures due to equipment breakdowns.

Wastewater project prioritization is typically driven by (1) the condition of the facility (is it safe?), (2) has it reached its useful life for reliability, (3) is it mandated by a state or federal entity (DOH or EPA), (4) is the project an expansion of services and (5) is it a goal of the general plan/County of Maui.

No.	Project Name	Division Priority	Reason	Justification
CBS-1119	Countywide Environmental Protection Agency (EPA) Compliance Wastewater Reclamation Facility Renovation Projects (\$1.5M)	1	Reliability	Programmed renovation, improvements and replacements of equipment and assets required to maintain our plant and pump stations and prevent sewer spills or non-compliant effluent discharges
CBS=5548	Lahaina Wastewater Reclamation Facility Emergency Generator Replacement (\$1.0M)	2	Reliability	Replacement of crucial equipment at the end of its useful life. Required to maintain continuous service during power outages.
CBS-1128	Countywide Wastewater System Modifications (\$1.0M)	3	Reliability	Necessary fund to keep projects on schedule and allow flexibility with change orders during construction.
CBS-1131	Wailuku-Kahului Environmental Protection Agency (EPA) Compliance Sewer Rehabilitation (\$4.0M)	4	Reliability	Replacement of existing sewer gravity lines identified in 2005 as being in fair to poor condition and requiring replacement.
CBS-1183	Kuau No. 3 Force Main Replacement (\$0.63M)	5	Reliability	Replacement of an existing key asset near the end of its useful life
CBS-1184	Kuau No. 4 Force Main Replacement (\$0.54M)	6	Reliability	Replacement of an existing key asset near the end of its useful life
CBS-5029	Kihei In Plant/Effluent Pump Station Upgrades (\$0.75M)	7	Reliability	Facilities at the end of their useful life requiring replacement. The effluent pump station requires upgrade to supply water to the new one million gallon storage tank currently in construction.
CBS-1179	Napili Wastewater Pump Station No. 3 Modifications (\$0.40M)	8	Reliability	Rehabilitation/Modifications of an existing facility near the end of its useful life

CBS-5028	Kihei Wastewater Pump Station No. 9 Modification/Upgrade (\$0.20M)	9	Reliability	Replacement of an existing facility near the end of its useful life
CBS-3563	Kihei No. 3 Force Main Replacement (\$0.48M)	10	Reliability	Replacement of an existing major asset near the end of its useful life
CBS-1132	Countywide Environmental Protection Agency (EPA) Compliance Projects (\$0.50M)	11	Reliability	Update and recalibration of fifteen year old hydraulic model used to assess potential upgrades, replacements and additions to the County's collection system (pump stations and gravity collection lines). The model is used to determine effects of changing flow volumes and system alterations that will be required for new developments
CBS-3576	Lahaina Wastewater Reclamation Facility R-1 Process Expansion (\$0.7M)	12	Reliability	Design of facilities that will provide R-1 treatment of peak and future flows in order to comply with our EPA consent agreement
CBS-1124	West Maui Recycled Water System Expansion (\$13.5M)	13	Expansion County Goal	Crucial step in creating a reliable distribution system for recycled water in Lahaina. Increasing reuse and reducing injection well use is not possible without this upgrade.
CBS-5547	Lower Main Street Sewer Upgrade (\$2.5M)	14	Expansion	New affordable housing projects in the Wailuku/Waikapu area require this added capacity in order to develop. Developer is preparing the construction plans.
CBS-4587	Wailuku-Kahului WWRF Facility Plan (\$0.40M)	15	Expansion/ Requirement	A facility plan is required by the Hawaii Administrative Rules Title 11 Chapter 62 when facilities reach 75% capacity. The facility is currently at 69-74% of capacity.
CBS-5033	Wailuku-Kahului Soil Aquifer Treatment (SAT) Basins (\$1.35M)	16	County Goal	Acquisition of a site and design of facility. Alternate disposal method to reduce usage of the injection wells for effluent disposal.
CBS-1171	Wailuku-Kahului Recycled Water Force Main (\$0.50M)	17	County Goal	Force main required to deliver treated effluent to the soil aquifer treatment basins to reduce the usage of injection wells. Project is in the design stage.
CBS-5034	Wailuku-Kahului Recycled Water Pump Station (\$0.60M)	18	County Goal	Pump station required to deliver treated effluent to the soil aquifer treatment basins to reduce the usage of injection wells.

- 3. Relating to CBS-3182, Environmental Compliance System Design and Construction, (Program Budget, page 661), provide a list of the proposed “environmental compliance opportunities and operational improvements,” and related costs for each.**

The proposed CIP allows the Division to react to emergent conditions and supplement critical ongoing operational changes, engineering, design and construction to address immediate regulatory compliance, safety and operational impacts.

Solid waste management is a highly regulated industry, subject to State and Federal inspections, local environmental waste handling changes resulting in the subsequent redirection of the processing, handling, safety, Operations Plan updates, etc. Having the capability to address these requirements is paramount to our continued regulatory compliance and environmental safety.

In accordance with Hawaii Revised Statutes, the State may assess fines of \$25,000 per day per violation. Having the ability to quickly address these emergent circumstances arise saves County taxpayers hundreds of thousands of dollars in potential non-compliance and fines.

- 4. Relating to CBS-3565, Integrated Solid Waste Management Plan Update, (Program Budget, page 662), was the last update to the plan completed in 2009? Please explain when the original plan was developed and how many updates have taken place.**

The Integrated Solid Waste Management Plan was originally developed in 1992 (Parametrix, Inc.). In 2009, a comprehensive update was completed by Gershwin, Brickner & Bratton, Inc. Please refer to CBS 3565 project description and justification for further details.

- 5. Relating to CBS-1119, Countywide Environmental Protection Agency (EPA) Compliance Wastewater Reclamation Facility Renovation Projects (Program Budget, page 664):**
- a. Please explain whether any of these projects are continuations from FY 2019, and if so, the status of the projects.**
 - b. State the cost of each project and their priority from highest to lowest.**
 - c. Provide an update on the status of projects for which FY2019 appropriations were used.**

Project	Did it begin in FY2019 / Status	Estimated Cost	Priority	Update
Wailuku-Kahului Injection Well Piping Rehabilitation –	Yes/ design is in progress	FY19 \$750,000 FY20 \$750,000	1	CCTV and Cleaning completed. Design underway for repairs/reestablishment. Construction in FY20. Critical project required to prevent spills

Project	Did it begin in FY2019 / Status	Estimated Cost	Priority	Update
Kahului/Kihei/Lahaina Disk Filter installation	Yes / designs are complete. Installations in progress	FY19 \$600,000 FY20 \$100,000	2	Equipment has been purchased. Completed 70% of the installations
Wailuku Wastewater Pump Station electrical upgrade –	Design began in FY18	FY20 \$450,000	3	Design 70% completed
Kuau pump station rehabilitation	No	FY20 \$100,000	4	Proposed in FY20 budget waiting for approval
Hauler discharge manhole upgrades	No	FY20 \$50,000	5	Proposed in FY20 budget waiting for approval
Kihei pond liner	No	FY20 \$50,000	6	Proposed in FY20 budget waiting for approval

6. Relating to CBS-1132, Countywide Environmental Protection Agency (EPA) Compliance Projects (Program Budget, page 669):

- a. Provide a breakdown of funds used in FY 2018 and FY 2019, to date, and a justification for use of the appropriations.**

Project	Year	Amount	Justification
Honoapiilani Hwy and Kaahumanu Avenue Sewer Replacement Construction	FY2019	\$196,576	Change order during construction for sewer rehabilitation required under the 1999 EPA/DOH Consent Decree
Hawaiian Homes Force Main	FY2019	\$ 211	Change order during construction for sewer rehabilitation required (force main replacement) under the 1999 EPA/DOH Consent Decree
Oahu Street, Aku Place, Market St. and Naholo Circle sewer replacements	FY2018	\$500,000	Construction contract is in place, contractor to begin upon completion of a current project. Replacement is required under the 1999 EPA/DOH Consent Decree (Additional funds from CBS-1131 FY2018)

b. Provide a list of proposed projects for FY 202 and associated costs.

Project	Amount	Justification
Hydraulic Model Update (Collection of field data and computer modeling)	\$500,000	Update and recalibration of fifteen year old hydraulic model used to assess potential upgrades, replacements and additions to the County's sewer collection system (pump stations and gravity collection lines). The model is used to determine effects of changing flow volumes and system alterations that will be required for future developments

c. Explain the status of the “CCTV” project,” referenced in the project description.

An extensive CCTV project (videotaping of gravity sewer lines to assess condition) was conducted in FY2016. Data from the project is currently being used to determine future replacement/rehabilitation projects required to maintain system integrity. A future CCTV project is being scoped for FY2021 or FY2022.

7. Relating to CBS-1184, Kuau No. 4 Force Main Replacement (Program Budget, page 683):

a. Provide a breakdown of costs for CBS-1955, Kuau No. 1 Force Main Replacement, which was funded in FY 2019, and provide a status update on the project.

This design portion of the project has been awarded and a contract request submitted (\$67,942.34) Construction is planned for FY2021.

b. Explain the appropriation difference between CBS-1955, and CBS-1184. The pipe was slightly longer for Kuau No 1 Force Main Replacement yet the Department appropriated only \$50,000, as opposed to \$540,000 for Kuau No. 4 Force Main Replacement.

The \$50,000 estimate is for the design of the replacement facility while the \$540,000 is for actual construction.

8. Relating to CBS-3567, Central Maui Landfill Land Purchase (Program Budget, page 685):

a. Provide a breakdown of funds used in FY 2019, to date, and a justification for use of the appropriations.

In FY 2019, the Solid Waste Division requested \$1.25M for the 17-acres requested in CBS-3567, which was reduced to \$250k for the following:

PROPOSED EXPENDITURE	EST. COST	JUSTIFICATION
Subdivision	\$ 50,000	Land is part of a larger parcel, requested to be purchased by the County in FY 19 (and again in FY 20)
Environmental Assessment (EA)	\$ 100,000	HRS 343 requires an EA when either County land or funds are used
State Special Permit and County Special Use Permit applications (SP & SUP)	\$ 100,000	HRS and County Code require these permits when agriculturally zoned land has a non-agricultural use.

Previous administrations have also done this with the Central Maui Landfill proposed Phase VI property, for which the County of Maui completed the subdivision and land entitlements, ultimately to be purchased by a private entity.

Therefore, the Solid Waste Division believes that it would be a disservice to taxpayers to have this happen again and has not made any expenditures for this property until funding for property acquisition is secured.

b. Explain the status of the acquisition and provide an update on the effectiveness of this project thus far.

The Department is awaiting funding approval for acquisition. It was, as stated above, requested and cut in 2019, and is now being requested again in FY 20. In 2016, the County of Maui was able to lease the 17-acres from A&B to allow the Division to handle the required emergency debris management processing from the Lao Valley flood. Note - the debris from the 2016 event was relatively small when compared to the potential debris from a Category IV hurricane or tsunami. Should the County not purchase this property, another entity may do so, as has happened with nearby lands surrounding the landfill.

9. Relating to CBS-5019, Central Maui Landfill Expansion (Program Budget, page 686):

a. What is the anticipated timeline for this project?

Please see the attached Gantt Chart for the project timeline.

b. Provide a status update on Phase III, a breakdown of funds used to date, and a justification for use of the appropriations.

CENTRAL MAUI LANDFILL PHASE III

FY2019 Approved Budget	Amount Spent to Date	Project Justification (as submitted in FY19)	Project Status
\$250,000	\$162,000	Existing landfill capacity is anticipated to be exhausted in FY 2022. As the property for proposed Phase VI is currently privately owned, with uncertain County acquisition date. Therefore, Phase III must	Conceptual design complete. Seismic, slope-stability, hydrologic, and leachate generation analysis complete. Phase III Design Report complete and submitted to Department of Health (DOH) for review. Solid Waste Management Permit Modification Application and associated documents including Closure, Operations,

		be developed in order to ensure continuity of solid waste services for the island of Maui.	and Master Plans are being updated and readied for DOH submission.
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c. Provide a list of proposed plans for FY 2020 and associated costs.

Proposed Plan	Estimated Cost
Construction Quality Assurance Plan	350,000
Storm Water Pollution Control Plan	50,000
Spill Prevention Control and Countermeasures Plan	10,000

10. Relating to CBS-1131, Wailuku-Kahului Environmental Protection Agency (EPA) Compliance Sewer Rehabilitation (Program Budget, page 696):

a. Provide a breakdown of funds used in FY 2018 and FY 2019, to date, and a justification for use of the appropriations.

Project	Year	Amount	Status/Justification
Design of Iao Valley Line Replacement	FY2019	\$284,400	Contract requested. Sewer rehabilitation required under the 1999 EPA/DOH Consent Decree
Design of Mokuhan Line, Kaa Manhole Rehabilitation	FY2019	Balance	To be bid out later this year.
Oahu Street, Aku Place, Market St., Naholo Circle Sewer Replacements	FY2018	\$1,000,000	Construction contract is in place, contractor to begin upon completion of a current project. Replacement is required under the 1999 EPA/DOH Consent Decree (Note: Additional funds from CBS-1132 FY2018)

b. Provide a list of proposed plans for FY 2020 and associated costs. Prioritize the proposed projects from highest to lowest and explain their prioritization.

Project	Amount	Priority	Justification
Construction of Iao Valley Line Replacement	\$2,400,000	1	Sewer defects detected during system evaluation study mandated by the 1999 EPA/DOH Consent Decree. Asset replacement is necessary to circumvent failure.
Kaa Manhole Rehabilitation	\$1,200,000	2	Severe corrosion noted in most recent manhole inspections. Rehabilitation required to prevent further deterioration/failure
Construction of Mokuhan Line Replacement	\$600,000	3	Sewer defects detected during system evaluation study mandated by the 1999 EPA/DOH Consent Decree. Asset replacement is necessary.

11. Relating to CBS-1171, Wailuku-Kahului Recycled Water Force Main (Program Budget, page 698), provide a breakdown of proposed plans for FY 2020.

A design contract was awarded in FY 17 for \$499,957 and is approximately 30% complete. Money for FY2020 is for any land/easement acquisition. Construction is expected to begin in FY2021.

12. Relating to CBS-1124, West Maui Recycled Water System Expansion (Program Budget, page 708):

a. Provide a breakdown of funds used in FY 2019, to date, and a justification for use of the appropriations.

No funds have been used thus far in FY2019. The \$500,000 appropriated for FY2019 was intended to secure a reservoir/tank site and any required easements. However, due to siting issues, this project has been stalled and other opportunities are being investigated.

b. Provide a list of proposed plans for FY 2020 and associated costs.

The funds requested for FY2020 are for the construction of improvements (reservoir rehabilitation or 1 million gallon tank, upgrades to the recycled water pump station, construction/repairs to the existing force main to the site, other distribution system modifications as required. Once the site is secured design (FY11 funds) will be resumed and completed.

13. Identify cost-saving measures the Department intends to implement in FY 2020, and the amount to be saved by those measures.

Solid Waste Division:

14. DESCRIPTION	SAVINGS
Transitioning 3 manual refuse collection routes to automated	Changing 3 Routes (1,050 accounts) from manual to automated, @ est. \$214,500/yr savings. Will use manpower savings to form a back-up refuse crew, dedicated cart repair, replacement and white goods pick up crew – all improving community service.
Automated pay stations at CML	1 year pay-back, then est \$140,000/yr savings
Alternative Daily Cover at all active landfills	Approximately \$600,000/yr savings
PV power system requested in FY 20 at the Hana landfill to handle all power requirements at the landfill offices	This system will handle power and lighting requirements at Hana landfill. Est. annual cost savings \$6,000/yr and since no electrical service nearby, cost estimate for MECO connection one time cost savings is > \$100,000.

<p>Proposing assessing tipping fees to all County Departments currently using landfills for free. Will improve fiscal allocation and accountability for the County Departments.</p>	<p>Est. \$300,000/yr increased revenue. Currently other Departments charge Solid Waste Division for their services - the County should be consistent. Will also assist to maintain self-funded status of Division.</p>
<p>Safety & Training Program Continuing to build and sustain our culture of safety and operations job competency.</p>	<p>Improvements in safety and training yields dividends including increased job satisfaction, efficiency of staff, lower insurance premiums, decreased liability, fewer loss time accidents, and improves the health and well being of our most important assets, our employees.</p>

Wastewater Reclamation Division:

Continue to perform preventative/routine maintenance to reduce emergency call outs and repairs, reduce overtime, and increase productivity.

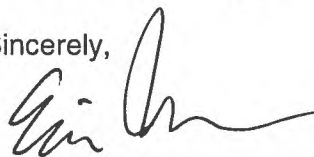
Continue to purchase and stock critical spare parts in order to minimize disruption at plants and to keep emergency costs low.

Continue to lower energy costs by choosing energy efficient models when replacing existing equipment, optimizing our biological process, and seeking more alternative energy sources to lower energy use.

Continue to lower debt service by paying it down with lapsing funds, funding more cash CIP projects and utilizing more federal grants.

Thank you for the opportunity to provide you with information on this matter. Should you have any questions or concerns, please feel free to transmit them to the Department of Environmental Management via transmittal through the Office of the Mayor.

Sincerely,



ERIC A. NAKAGAWA, Acting Director
Department of Environmental Management

(EM-5) (EDB-1) Question #9.a. Central Maui Landfill Capacity Timeline

ID	Task Name	Start	2019												2020												2021												2022						
			2nd Half						1st Half						2nd Half						1st Half						2nd Half						1st Half												
			J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J
1	Existing Remaining Airspace	Sun 7/1/18	[Blue bar from start of 2019 to end of 2020]																																										
2	Ph V-B Ext. Additional Airspace	Fri 3/6/20	[Blue bar from start of 2020 to end of 2021]																																										
3	1 yr Capacity Safety Factor	Thu 3/4/21	[Green bar from start of 2021 to end of 2022]																																										
4																																													
5	Construction of Phase III-A	Mon 5/4/20	[Orange bar from start of 2020 to end of 2021]																																										
6	Ph III Design and Permitting	Tue 1/1/19	[Red bar from start of 2019 to end of 2020]																																										
7	Closure of Composting	Tue 4/30/19	[Dark blue bar from start of 2019 to end of 2020]																																										
8																																													
9	Phase VI Alternative																																												
10	Property Appraisal	Mon 7/1/19	[Cyan bar from start of 2019 to end of 2019]																																										
11	Property Acquisition	Mon 9/2/19	[Cyan bar from start of 2019 to end of 2020]																																										
12	Construct Ph VI	Wed 2/5/20	[Orange bar from start of 2020 to end of 2021]																																										
13	Ph VI Design and Permitting	Tue 1/1/19	[Red bar from start of 2019 to end of 2020]																																										

The Central Maui Landfill will reach capacity in current permitted landfill phases in Quarter 1 of 2022.
 Two options for additional capacity are: Phase VI OR Phase III
 Division is awaiting direction from Administration on how to proceed to ensure capacity