

Proposed
**CAPITAL IMPROVEMENT
PROJECTS (CIP)**
for the



"WATER HAS NO SUBSTITUTE - CONSERVE IT"

Request for State Aid

2019

Legislative Session

★ FOREWORD ★

The Kaua'i Department of Water's (DOW) fiscal year 2019 (*July 1, 2019 through June 30, 2020*) request for Capital Improvement Funds is intended to address the needs of our community, including public safety and affordable housing, by providing safe, sufficient, and affordable water to the people of Kaua'i.

1. The **FIRST and TOP PRIORITY** project is to strengthen and maintain a critical water source facility for the Kilauea area. The existing Kilauea wells No.1 and No. 2, which service the entire Kilauea area, are located on the same site. Therefore, should the existing well pumps or the existing motor control center fail to maintain service, there is currently no other means to supply water for the entire Kilauea area and its estimated 1,500 customers, including Kilauea Elementary School. Therefore, the top priority of the Department is to rehabilitate the aging motor control center, replace an aging well pump, and strengthen the existing motor control building at the Kilauea wells No. 1 & No. 2. The project also includes a new emergency generator shelter at the site to improve the Department's ability to maintain service during power outages. The project's design is nearly complete and construction is anticipated to start in 2019. **(Project: MCC, Chlorination Facilities – Kilauea Wells No. 1 & 2);** and
2. The **SECOND PRIORITY** project is to rehabilitate an existing tank structure within the Waimea-Kekaha system, which includes the Kaua'i Veterans Memorial Hospital. The tank is currently out of service due to the discovery of hazardous materials within the tank lining. This project will ensure that water quality is not compromised by removing the hazardous materials from the tank and making all necessary improvements to rehabilitate the tank and restore the Waimea-Kekaha water system to its intended level of service. The project's design is nearly complete and construction is anticipated to start in 2019. **(Project: Rehabilitate Paua Valley Tank #1, 0.5MG Concrete);** and
3. The **THIRD PRIORITY** project is to improve the Kalāheo Water System by replacing and upgrading two aging water storage tanks and connecting water mains in the Kalāheo area. The two existing tanks are deteriorating and in extremely poor condition. The additional storage infrastructure will increase storage capacity for fire protection to Kalāheo Elementary School, businesses, as well as other customers in the area and will provide for future development. The project's design is complete and construction is anticipated to start in 2019. **(Project: Kalāheo 1,111' and 1,222' Water System Improvements);** and
4. The **FOURTH PRIORITY** project is to develop storage infrastructure that will provide adequate domestic and fire flow storage capacity for the Ha'ena-Wainiha water system, including Ha'ena State Park, customers, and businesses in the area. The project will allow the DOW to remove the current water meter restriction that limits water service to three single family dwellings or three 5/8-inch water meters per lot due to inadequate storage facilities. The project's design is nearly complete and construction is anticipated to start in late 2019 or 2020. **(Project: Construct Ha'ena 0.2 MG Storage Tank, 144');** and
5. The **FIFTH PRIORITY** project is to develop new storage infrastructure that will provide adequate fire flow storage capacity for the Kapa'a area including Kapa'a High School and the State's Samuel Mahelona Memorial Hospital. The existing Kapa'a Homesteads 313-foot storage tank is undersized and does not meet the Water System Standards for fire

★ FOREWORD ★

storage capacity. The project is currently under design with construction anticipated to start in late 2019 or 2020. **(Project: Construct Kapa‘a Homesteads 325’ Tanks, Two 0.5 MG Tanks);** and

The Kaua‘i Board of Water Supply and the DOW are committed to operating in a fiscally responsible manner. The DOW’s revenue is derived from water service sales with no direct subsidy from, or contributions to the County General Fund. The DOW’s water service revenue is used for the operation and maintenance of each of our nine (9) public water systems. In efforts to provide for adequate funding in the future, the DOW periodically studies its water service charges and its Facilities Reserve Charge (FRC), which is a fee to be paid by new developers or existing developers seeking additional water supply from the DOW’s water system.

In the meantime, the DOW’s current resources are not sufficient to fully develop the necessary infrastructure to replace aging water systems and satisfy Kaua‘i’s future needs. The DOW’s water systems are not yet highly integrated or interconnected. Most of the water systems rely on less water sources and less storage tanks than are required by Water System Standards, and the majority of the water systems are still separate water systems serving individual communities around the island. Aging pipelines that were originally installed in many of these systems are now undersized, according to current Water System Standards.

The DOW periodically updates its Water Plan 2020, a comprehensive long-range plan to address infrastructure, revenue, and water rate needs of Kaua‘i’s water systems, and the DOW is currently initiating its next Island-Wide Long-Range Water Infrastructure Maintenance and Improvement Plan.

The maintenance and replacement of water infrastructure facilities is a continuous and critical process for ensuring a safe and sufficient public drinking water supply. Ultimately, given the high cost of infrastructure development in Hawai‘i and the DOW’s current fiscal capabilities, financial assistance from the State and Federal grants-in-aid are vital in order to meet the drinking water needs of our community and ensure the long-term viability of our water systems. On behalf of the people of Kaua‘i, mahalo nui loa for your consideration of this request.

Department of Water, County of Kaua'i
SUMMARY REQUEST FOR STATE AID
 CAPITAL IMPROVEMENT PROJECTS (CIP)
 Fiscal Year 2019

Public Water System	Water Plan 2020 No.	Project	TOTAL Estimated Construction Costs 2019-2022	2019-2020 Request	2020-2021	2021-2022
Priority No. 1 Kilauea Water System	WKK-03	MCC, Chlorination Facilities – Kilauea Wells No. 1 & 2	\$2.6M	\$1.3M	\$1.3M	-
Priority No. 2 Waimea-Kekaha Water System	-	Rehabilitate Paua Valley Tank #1, 0.5MG Concrete	\$1.2M	\$1.0M	\$0.2M	-
Priority No. 3 Kalāheo-Lawai-Omao Water System	K-01 and K-14	Kalāheo 1,111' and 1,222' Water System Improvements	\$18.0M	\$2.2M	\$8.0M	\$7.8M
Priority No. 4 Ha'ena-Wainiha Water System	HW-11	Construct Ha'ena 0.2 MG Storage Tank, 144'	\$5.0M	\$2.0M	\$3.0M	-
Priority No. 5 Wailua-Kapa'a Water System	WK-8	Construct Kapa'a Homesteads 325' Tanks, Two 0.5 MG Tanks	\$12.3M	\$1.0M	\$6.0M	\$5.3M
		Total	\$39.1M	\$7.5M	\$18.5M	\$13.1M

PRIORITY NO.	1
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KĪLAUEA WATER SYSTEM

MCC, Chlorination Facilities – Kīlauea Wells No. 1 & 2

Water Plan 2020 Project No. WKK-03

A. PROJECT DESCRIPTION

The Department of Water is requesting State aid for the replacement of the motor control center (MCC), construction of a new emergency generator shelter, hardening of the existing motor control building, the replacement of an existing well pump, and repaving of the access road for the Kīlauea Wells No. 1 & 2 site.

The project's design is nearly complete and construction is anticipated to start in 2019.

B. ESTIMATED COST:

	FISCAL YEAR			
	Total	2019-2020	2020-2021	2021-2022
Construction Cost	\$2.6M	\$1.3M	\$1.3M	-
TOTAL	\$2.6M	\$1.3M	\$1.3M	-

C. IUSTIFICATION:

The existing Kīlauea wells No.1 and No. 2, which service the entire Kīlauea water system, are co-located on the same site with only one transmission line connecting the well site to the Kīlauea service area. Therefore, there is currently no other means to supply water for the entire Kīlauea area and its estimated 1,500 customers, including Kīlauea Elementary School, should the existing well pumps or existing motor control center fail to maintain service.

With the past year bringing a number of natural disasters to or near Hawaii, including the April 2018 flood event, Hurricane Lane, and Hurricane Olivia, it is imperative to strengthen critical water sites in the Department of Water system. The Kīlauea water system is solely dependent on the Kīlauea wells site and is a top priority of the Department to safeguard its survivability during a natural disaster.

The MCC, Chlorination Facilities – Kīlauea Wells No. 1 & 2 project will construct needed improvements to ensure the Department's ability to return water to its customers with minimal down time. The new emergency generator shelter and strengthened motor control building are designed to withstand hurricane force winds to protect the operating pieces of the well site and allow the Department to station a generator at the site during any incoming storms.

PRIORITY NO.	2
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WAIMEA-KEKAHA WATER SYSTEM
Rehabilitate Paua Valley Tank #1, 0.5MG Concrete
Water Plan 2020 Project No. HW-11

A. PROJECT DESCRIPTION

The Department of Water is requesting State aid to rehabilitate an existing 0.5 MG Storage Tank in the Waimea-Kekaha area, which includes the Kaua'i Veterans Memorial Hospital. Rehabilitation efforts include the removal and disposal of hazardous materials containing Polychlorinated biphenyls (PCBs) and lead paint, repairing a leak located at the bottom of the tank, relining the interior coating and repaint the exterior coatings of the tank, and replacement of deteriorated tank hatches, ladders, and water level gage equipment.

The project's design is nearly complete and construction is anticipated to start in 2019

B. ESTIMATED COST:

	FISCAL YEAR			
	Total	2019-2020	2020-2021	2021-2022
Construction Cost	\$1.2 M	\$1.0M	\$0.2 M	-
TOTAL	\$ 1.2 M	\$1.0M	\$0.2 M	-

C. JUSTIFICATION:

The Paua Valley Tank was constructed in the 1970s and has been showing signs of aging and degradation. The tank has also shown evidence of a slow leak located at the bottom of the tank structure. To prevent continual water loss, the Department began the design for the rehabilitation of the tank. During design, it was discovered that materials in the tank coatings contained PCBs and lead, which resulted in the tank being taken offline and lowering the storage capacity of the Waimea-Kekaha water system.

The priority of this project rose when Paua Valley tank was taken offline. Bringing Paua Valley tank back online is essential to safeguarding the Waimea-Kekaha community by removing the hazardous material from the tank and to bring the water system storage capacity back to the level of service previously provided by the Department. It is essential that adequate service be continuously maintained for the Kaua'i Veterans Memorial Hospital.

PRIORITY NO.

3

KALĀHEO WATER SYSTEM

Kalāheo 1,111' and 1,222' Water System Improvements

Water Plan 2020 Project No. K-01 and K-14

A. PROJECT DESCRIPTION

The Department of Water is requesting State aid to construct two (2) new storage tanks and transmission main in the Kalaheo area.

This project includes a new 0.5 million gallon water storage tank at the Yamada site, a new 0.1 million gallon water storage tank at the Clearwell site, new and replacement transmission main pipelines, water services, and associated appurtenances.

The design of this project has been broken up into three (3) packages of separate construction plans, with the intention of constructing Packages A, B, and C together to reduce construction costs:

Package A – Yamada Tank, 0.5 Million Gallons

Package B – Clearwell Tank, 0.1 Million Gallons

Package C – Water Main Improvements

The project's design is complete and construction is anticipated to start in 2019.

B. ESTIMATED COST:

	FISCAL YEAR			
	Total	2019-2020	2020-2021	2021-2022
Construction Cost	\$18.0 M	\$2.2M	\$8.0 M	\$7.8M
TOTAL	\$18.0 M	\$2.2M	\$8.0 M	\$7.8M

C. JUSTIFICATION:

The new storage tanks will serve to replace the existing storage tanks that are in extremely poor condition and need to be replaced. The new storage tanks are also needed to provide adequate storage facilities for the Kalāheo water service area to meet domestic and fire flow demands.

The proposed transmission main portion of the project will replace old, undersized water mains that do not meet current water transmission standards. The new, larger water lines are being designed to meet current standards for transmission and provide adequate fire flows to these areas. The new transmission main will also provide the Department with more flexibility in operating the water system, which in turn increases the reliability of the water system and helps maintain water service to customers.

PRIORITY NO.	4
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HA'ENA/WAINIHA WATER SYSTEM
Construct Ha'ena 0.2 MG Storage Tank, 144'
Water Plan 2020 Project No. HW-11

D. PROJECT DESCRIPTION

The Department of Water is requesting State aid to construct a new 0.2 MG Storage Tank in the Ha'ena-Wainiha area.

The design of the project is nearing completion and includes the new 0.2 million gallon steel water storage tank, site and drainage improvements, and connecting pipeline. Construction is anticipated to start in late 2019 or 2020.

E. ESTIMATED COST:

	FISCAL YEAR			
	Total	2019-2020	2020-2021	2021-2022
Construction Cost	\$5.0 M	\$2.0M	\$3.0 M	-
TOTAL	\$ 5.0 M	\$2.0M	\$3.0 M	-

F. JUSTIFICATION:

The existing storage facilities for the Ha'ena-Wainiha 144' service zone are not adequate to provide the required domestic flow and fire flow demands required by Water System Standards. The proposed Ha'ena 0.2 MG Storage Tank will provide adequate storage facilities to meet the Water System Standards and will provide storage facilities for new development demands in the Ha'ena-Wainiha 144' service area into the future. It is expected that this additional storage capacity will allow for future development and/or expansion of the proposed Ha'ena State Park Master Plan Project, businesses, and residential units which could potentially include affordable housing in the Ha'ena-Wainiha 144' service area. The project would allow the DOW to remove the current water meter restriction that limits water service to three single family dwellings or three 5/8-inch water meters per lot due to inadequate storage facilities.

PRIORITY NO.	5
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WAILUA/KAPA'A WATER SYSTEM
Construct Kapa'a Homesteads 325' Tanks, 1.0 MG
(Two 0.5 MG Tanks)

Water Plan 2020 Project No. WK-08

A. PROJECT DESCRIPTION

The Department of Water is requesting State aid to construct two (2) new 0.5 MG Storage Tanks in the Kapa'a Homesteads area.

This project consists of the construction of two (2) 0.5 million gallon storage tanks, site drainage, site improvements, and connecting pipeline to the Department's 313' water service zone in Kapa'a. The design of this project is nearly complete and the tanks will be constructed following the completion of the ongoing Drill and Test Kapa'a Well No. 4 Project, which is currently under construction at the same site and is anticipated to be completed in 2019.

The project's design is nearly complete and construction is anticipated to start in late 2019 or 2020.

B. ESTIMATED COST:

	FISCAL YEAR			
	Total	2019-2020	2020-2021	2021-2022
Construction Cost	\$12.3 M	\$1.0M	\$6.0 M	\$5.3M
TOTAL	\$12.3 M	\$1.0M	\$6.0 M	\$5.5M

C. JUSTIFICATION:

The lower Kawaihau, Kapa'a area of the Kapa'a Water System (Ornellas tank hydraulic zone) is currently deficient in storage capacity. To address the current storage deficit, the DOW is currently designing two (2), 0.5 million gallon storage tanks. These new storage tanks will provide sufficient storage capacity for fire protection of Kapa'a High School, Kapa'a Middle School, Kapa'a Elementary School, and the State's Samuel Mahelona Memorial Hospital. It is anticipated that these tanks will be constructed following the completion of the ongoing Drill and Test Kapa'a Well No. 4 Project, which is currently under construction at the same site. The drill and test well project is estimated to be completed with construction in late 2019.

County of Kaua'i, Department of Water

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of the



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