

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



"WATER HAS NO SUBSTITUTE - CONSERVE IT"

Request for State Aid

2017

Legislative Session

★ FOREWORD ★

The Kaua'i Department of Water's (DOW) fiscal year 2017 *(July 1, 2017 through June 30, 2018)* request for Capital Improvement Funds are designed to address the needs of our community, including public safety and affordable housing.

1. The **FIRST and TOP PRIORITY** project is to develop new source facilities for the Kīlauea area. The Kīlauea area source and storage facilities are currently operating at max capacity and are not adequate to allow for substantial new development in the area. Additional source and storage facilities for this area including Kīlauea School are needed to meet the current Water System Standards of the DOW. Upon successful drilling and development of the well, the Department will pursue developing the well site and connecting pipeline. **(Project: Drill and Develop Kīlauea Well No. 3);** and
2. The **SECOND PRIORITY** project is to develop storage infrastructure that will provide adequate domestic and fire flow storage capacity for the Ha'ena State Park, businesses and customers serviced in this 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. **(Project: Construct Ha'ena 0.2 MG Storage Tank, 144');** and
3. The **THIRD PRIORITY** project is to develop new storage infrastructure that will provide the 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 storage capacity. **(Project: Construct Kapa'a Homesteads 313' Tanks, 1.0 MG (Two 0.5 MG Tanks));** and
4. The **FOURTH PRIORITY** project is to improve the Kalāheo Water System by developing new storage facilities, connecting water lines and to drill and test a new well. The Kalāheo community experienced a water outage when the DOW's existing well pumps were unexpectedly out of service. The new storage infrastructure is necessary to provide more storage capacity for the area. The additional storage infrastructure will increase storage capacity for fire protection to Kalāheo Elementary School, businesses, as well as other customers in the area including the ability to provide water for future development. **(Project: Kalāheo 1,111' and 1,222' Water System Improvements and Kalāheo Well No. 3);** and
5. The **FIFTH PRIORITY** project is to develop the site and connecting pipeline for Kapa'a Homesteads Well No. 4, contingent on successful results of drilling and developing Kapa'a Homesteads Well No. 4. The area currently does not have adequate source capacity and water service is currently limited. The new well, if successful will provide adequate source facilities for the area. The new well in addition to additional storage facilities (currently in design to be constructed), should allow the currently limited water service to be lifted. **(Project: Kapa'a Homesteads Well No. 4 Site Development and Connecting Pipeline).**

★ **FOREWORD** ★

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 form, or contributions to the County General Fund. The DOW's water service revenue is used for the operation and maintenance of each water system. In efforts to provide for adequate funding in the future, the DOW will periodically studies its Facilities Reserve Charge (FRC), which is a fee to be paid by new developers or existing developers needing additional water supply from the DOW's water system.

In the meantime, the DOW's current resources are not enough to develop the necessary infrastructure to replace aging water systems and satisfy Kauai's future needs. The DOW's water systems are not highly integrated and typically rely on a few water sources and storage tanks within separate water systems serving individual communities around the island. 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.

Ultimately, given the high cost of infrastructure development and the DOW's current fiscal capability, assistance from the State and Federal grants-in-aid is vital in order to meet the drinking water needs of our community and ensure the long-term viability of our water systems.

Department of Water, County of Kaua'i
SUMMARY REQUEST FOR STATE AID
 CAPITAL IMPROVEMENT PROJECTS (CIP)
 Fiscal Year 2017

System	Water Plan 2020 No.	Project	TOTAL 2017-2022	FISCAL YEAR				
				2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Priority No. 1 Kilauea Water System	WKK-02	Drill and Develop New Kilauea Well (No. 3 or No. 4)	1,550,000	400,000	300,000	850,000	--	
Priority No. 2 Haena /Wainiha Water System	HW-11	Construct Ha'ena 0.2 MG Storage Tank, 144'	2,600,000	--	1,000,000	1,600,000	--	
Priority No. 3 Lihu'e / Kapa'a Water System	WK-8	Construct Kapa'a Homesteads 313' Tanks, 1.0 MG (Two 0.5 MG Tanks)	8,000,000	8,000,000	--	--	--	
Priority No. 4 Kalāheo-Lawai-Omao Water System	K-01 and K-14	Kalāheo 1,111' and 1,222' Water System Improvements and Kalāheo Well No. 3	10,000,000	10,000,000	--	--	--	
Priority No. 5 Lihu'e / Kapa'a Water System	WK-39	Kapaa Homesteads Well No. 4 Site Development and Connecting Pipeline	1,700,000	--	200,000	--	1,500,000	
			23,850,000	18,400,000	1,500,000	2,450,000	1,500,000	-0-

PRIORITY NO.	1
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KĪLAUEA WATER SYSTEM
Drill and Develop New Kīlauea Well No. 3
Water Plan 2020 Project No. WKK-02

A. PROJECT DESCRIPTION

The Department is requesting State aid for the drilling and development (testing) of Kīlauea Well No. 3. Upon successful development/testing of the well, the well site will be developed. The well site development includes the installation of a permanent pump in the well, motor control building, SCADA, disinfection system, site drainage, site paving, security fencing, connecting pipeline and other associated improvements that are needed to incorporate the new source into the Kīlauea Water System.

The Department has budgeted for the design to drill and develop Kīlauea Well No. 3. The design is expected to begin in fiscal year 2016-2017.

B. ESTIMATED COST:

	FISCAL YEAR				
	5-Year Total	2017-2018	2018-2019	2019-2020	2020-2021
A. Land	100,000	--	--	100,000	
B. Plans	300,000	--	300,000	--	
C. Construction	1,150,000	400,000	--	750,000	
TOTAL	1,550,000	400,000	300,000	850,000	

C. IUSTIFICATION:

The existing source and storage facilities for Kīlauea are at capacity. The Department is currently limiting water service for new development in Kīlauea until adequate source and storage facilities are available.

If the well development results are good, the Department will proceed with developing the well site to incorporate the new source into the Kīlauea Water System. In conjunction with the DOW's current project to design and construct a new 1 million gallon storage facilities for the area, additional source will allow for further development of the Kīlauea area including the expansion of the Kīlauea School, if applicable. The additional source would also provide much needed source that may be used for further development for businesses, agricultural use and additional housing in the area.

The existing wells servicing the Kīlauea area are located on the same site with one transmission line from the well site to the Kīlauea service area. The new source is expected to be located on a different site from the existing wells. This would allow the new source to also serve as an emergency back-up source to the 1,466 customers in this service area in the event that the existing wells or transmission line from the existing wells become unexpectedly inoperable or out of service.

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PRIORITY NO.	2
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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

A. PROJECT DESCRIPTION

The Department is requesting State aid to design and construct a new 0.2 MG Storage Tank in the Hā'ena/Wainiha area.

The project includes the selection of a suitable site and the design of the new 0.2 million gallon tank, site improvements and connecting pipeline. The Department has contracted a consultant to design the project and the Department is in the process of negotiating the selected tank site with the landowner. The Department is hopeful that negotiation with the land owner will be completed in 2016 and the design of the new tank can proceed.

B. ESTIMATED COST:

	FISCAL YEAR				
	4-Year Total	2017-2018	2018-2019	2019-2020	2020-2021
A. Land	100,000	--	--	100,000	--
B. Plans			--	--	--
C. Construction	2,500,000		1,000,000	1,500,000	--
TOTAL	2,600,000	-0-	1,000,000	1,600,000	-0-

C. JUSTIFICATION:

The existing storage facilities are not adequate to provide the required domestic and fire flow demands required for the Ha'ena/Wainiha 144' service zone. The proposed Ha'ena 0.2 MG Storage Tank will provide adequate storage facilities to meet the current Standards and provide storage facilities for new development demands in the Haena/Wainiha 144' service area for a number of years. 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 (including affordable housing, if applicable) in the Ha'ena/Wainiha 144' service area.

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PRIORITY NO.	3
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WAILUA/KAPA'A WATER SYSTEM
Construct Kapa'a Homesteads 313' Tanks, 1.0 MG
(Two 0.5 MG Tanks)
Water Plan 2020 Project No. WK-08

A. PROJECT DESCRIPTION

This project It consists of the design and construction of two (2), 0.5 million gallon storage tanks, drainage, site improvements and connecting pipeline to the Department's Ornellas tank hydraulic zone.

B. ESTIMATED COST:

	FISCAL YEAR				
	2-Year Total	2017-2018	2018-2019	2019-2020	2020-2021
A. Land	--	--	--	--	--
B. Plans	--	--	--	--	--
C. Construction	8,000,000	8,000,000	--	--	--
TOTAL	8,000,000	8,000,000	-0-	-0-	-0-

C. JUSTIFICATION:

The lower Kawaihau, Kapa'a area of the Kapa'a Water System (Ornellas tank hydraulic zone) is deficient in storage capacity. This new storage tanks will provide sufficient storage capacity for fire protection of Kapa'a High School, Kapa'a Middle School and the State's Samuel Mahelona Memorial Hospital. To address this storage deficit, the DOW is currently designing two (2), 0.5 million gallon storage tanks. The design is expected to be completed in fiscal year 2016-2017.

Funds for the construction of this tank and possible associated land acquisitions (easements) are being requested to construct this project. A drainage easement may be determine to be required for the new tank. At this time, a determination on the drainage easement requirement has not been made. Completion of this project will provide adequate storage capacity for fire protection for the high school, middle school, and state hospital in this service area.

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PRIORITY NO.	4
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KALĀHEO WATER SYSTEM

**Kalāheo 1,111' and 1,222' Water System Improvements
and Kalāheo Well No. 3**

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

A. PROJECT DESCRIPTION

This project includes two (2) new 0.5 million gallon storage tanks, new and replacement pipelines, and to drill and develop (test) a new well.

The project has been broken up into four (4) packages or separate construction plans.

B. ESTIMATED COST:

	FISCAL YEAR				
	2-Year Total	2017-2018	2018-2019	2019-2020	2020-2021
A. Land	--	--	--	--	--
B. Plans	--	--	--	--	--
C. Construction	10,000,000	10,000,000	--	--	--
TOTAL	10,000,000	10,000,000	--	--	--

C. JUSTIFICATION:

The new storage tanks are replacing smaller storage tanks that need to be replaced and at the same time are needed to provide adequate storage facilities for Kalāheo.

The proposed pipeline is to replace old, undersized lines that do not meet current water transmission standards with new, larger water lines that will meet current standards for transmission. The new water lines will be able to provide adequate fire flows to these areas and also provide the Department with more flexibility in operating the water system to help keep customers with water service.

The drilling and development (testing) of the new well is successful, and subsequent development of the well site will provide additional source facilities which may be used for new development and growth of the area. The additional well source will also provide a redundant source of water, should the Department's other wells unexpectedly become out of service, as the area experienced in the recent past.

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PRIORITY NO.	5
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WAILUA/KAPAA WATER SYSTEM
Kapaa Homesteads Well No. 4 Site Development and
Connecting Pipeline

Water Plan 2020 Project No. WK-39

A. PROJECT DESCRIPTION

The Department is requesting State aid for the Kapaa Homesteads Well No. 4 site development and connecting pipeline. In anticipation of the drill and development of Kapaa Homesteads Well No. 4 resulting in favorable test results, the Department of Water plans on developing the well site to incorporate the new source into the Kapaa Homestead water system. Installing motor controls, SCADA, electrical lines, disinfection system and connecting pipeline will be needed to develop the site for use. The Department is projecting that 500 gallons per minute (0.7 million gallons per day) will be able to be pumped from the new well. The actual amount of water that the well can produce will be determined by the well testing (drill and development) project.

B. ESTIMATED COST:

	FISCAL YEAR				
	5-Year Total	2017-2018	2018-2019	2019-2020	2020-2021
A. Land		--	--		
B. Plans	200,000	--	200,000	--	--
C. Construction	1,500,000	--	--		1,500,000
TOTAL	1,700,000	-0-	200,000	-0-	1,500,000

C. JUSTIFICATION:

The Department is currently limiting water service in the Kapaa Homesteads area due to inadequate source facilities. The Kapaa Homesteads Well No. 4 is expected to provide adequate source facilities for the Kapaa Homesteads area, which would allow the Department to remove the limit to water service for new development.

In addition to the Kapaa Homesteads area, the project will allow the Department to provide additional source facilities for the Kapaa Town area, if needed in the future.

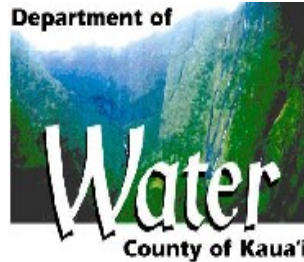
The Department is planning to drill and develop Kapaa Homesteads well No. 4 in conjunction with the construction of the new storage facilities currently in the design process. Upon satisfactory testing of the well, the Department will proceed with the design and construction for the well site development. Upon completion, the new source will be incorporated into the Department's Kapaa Homesteads water system.

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County of Kaua'i, Department of Water

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