

Department of Water Supply

Proposed

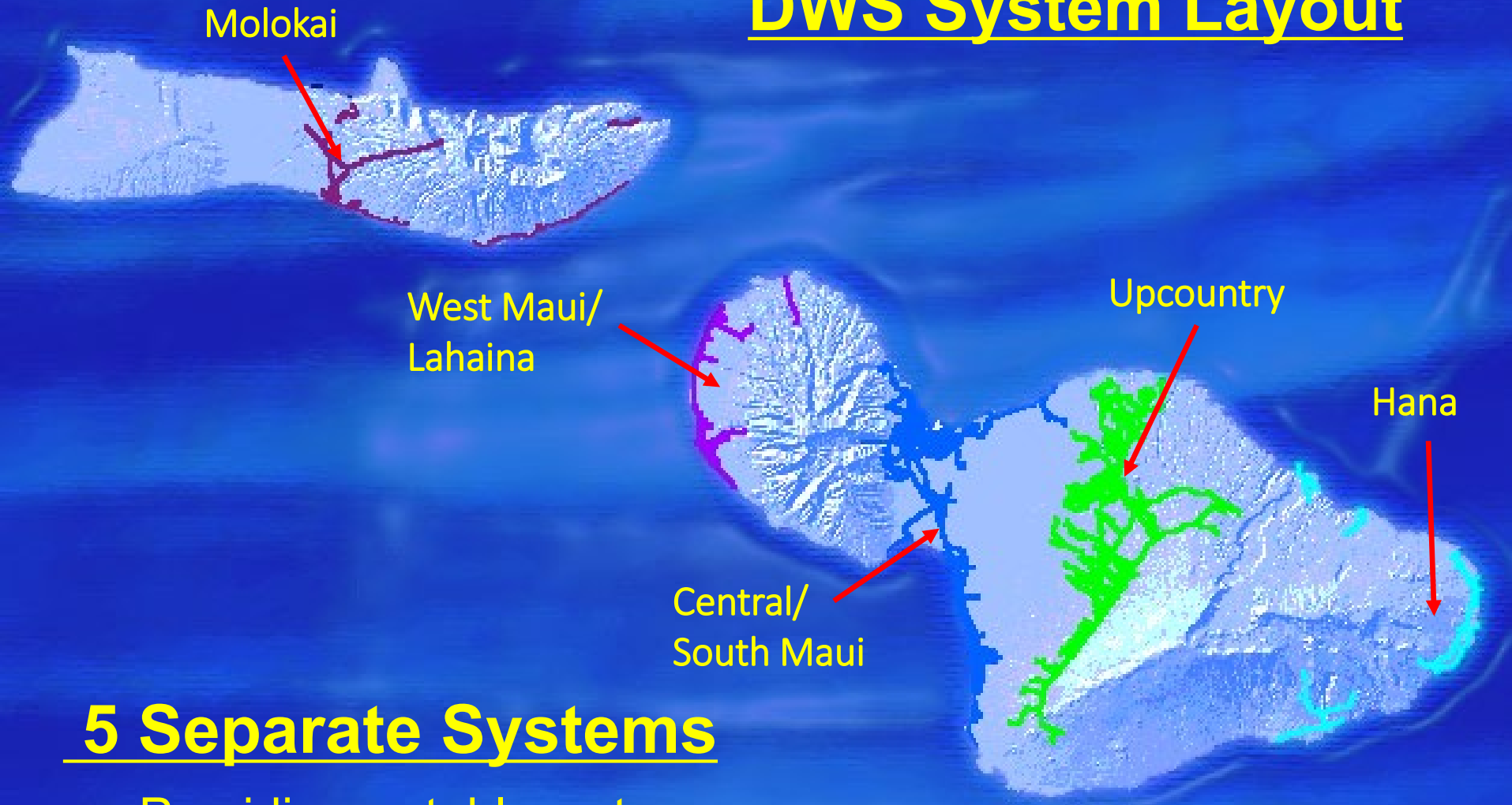
Capital Improvement Projects

Fiscal Year 2024

By Water All Things Find Life



DWS System Layout



5 Separate Systems

- Providing potable water
 - From Groundwater and Surface Water Sources

Capital Improvement Program Purpose

- ★ **DEVELOP NEW WATER SOURCES**
- ★ **MAINTAIN / IMPROVE FACILITY RELIABILITY**
- ★ **INFRASTRUCTURE REPLACEMENT**

SOURCE DEVELOPMENT



POTABLE WATER SOURCES

**39 Active Groundwater
Source Wells**



**6 Surface Water
Treatment Facilities**



38.6 million gallons daily (avg.)

(per 2022 Annual Report)

Waiehu Heights Well #1 Replacement - Exploratory Phase – Central District

Budget: \$1.0 Million

Estimated Budget Development Phase: \$3.0 Million



- **Waiehu Height Well #1 is to replace the existing “Well #1” which was abandoned in 2012 due to high chloride levels.**
- **It provides a reliable back-up source for “Well #2” in the same location.**
- **Estimated In-service date: June 2025**
- **Estimated Source capacity: 1.0 Million Gallons per Day**

West Maui Well #1 (aka – Kahana Well)

Construction Budget \$ 15,886,000



- **Design Development Phase FY17-18.**
- **Construction Phase FY23**
- **1390 ft Deep Well**
- **2.4 Miles of Waterline**
- **0.5 Mil. Gallon Water Tank**
- **Emergency Generator**
- **Estimated Capacity: 0.96 Million Gallons per Day (MGD)**

Pookela Well 'B'

Construction Budget: \$ 3,136,000



- Development Construction Phase to be completed June 2023
- Estimated Capacity: 1.3 Million Gallon per Day
- Back-up Well for Pookela Well 'A'



Iao Water Treatment Plant Upgrades

Budget \$20.7 Million

A “Surface” Water Source



DWS Water Treatment Plant
Photos taken 18-10-05

- **Completed In-service:
January 2019**
- **New Water Treatment
Plant production ranges
from 1.7 Million Gallons
per Day (MGD) to 3.2
MGD**

FACILITY RELIABILITY



FACILITY RELIABILITY



**49 Groundwater
Sources – Wells
- Not all Active -**



**6 Surface Water
Treatment Facilities**



34 Booster Pump Stations

Wailuku Hts Booster Pump Station Replacements

-Kuikahi & Waiale Sites-

Construction Budget: \$3,268,000



- **Kuikahi Site** was completed in service April 2016 - Replaced old above ground pump motors with newer efficient submersible motors
- **Waiale Site** completed March 2022 - New Motor Control Center and building. Replaced Pumps and above ground motors, added one additional back-up pump and motor (3 total)

Mokuhau Motor Control Center Upgrades

Construction Budget: \$3,469,000



- Part of Central-Wailuku District
- Replaced existing Motor Control Center (MCC) for 2 wells with new MCCs
- The MCCs will increase the reliability and efficiency of our two Mokuhau Wells
- Included new MCC Building and new On-site Chlorination Generation System (OSG)
- Completed In Service: Sept. 2022

Upcountry Phase 10 Pump Stations Upgrades

Construction Budget – \$ 6.86 Million

**MALUHIA
TANK
BP STATION**



**WEST OLINDA
TANK**

Part of Upcountry Reliability

Replacing old booster pumps
with newer efficient pumps

and motors and advanced Motor
Control Centers will increase the
reliability of our “Phase 10” Booster
Pump Stations in the Upper Kula
water system.

Completion In Service – August 2023



POOKELA TANK

INFRASTRUCTURE REPLACEMENT



Infrastructure Replacement



145 Storage Tanks



750 Miles of Pipeline

Lahaina WTP - 1.0 Million Gallon Concrete Tank Refurbishment

Construction Budget – \$ 1,579,000

- Built in the 1996 with the Water Treatment Plant - Completion In-Service: March 2022
- Experienced cracking, corrosion, delamination, and spalling.
- Required construction of a Temporary Tank (72,000 Gallon)



Lower Kula 200 – Water Tank Replacement

Budget \$ 1.70 Million



- Another one of our existing water tanks that is past its service life (built 1975).
- This existing tank is also undersized (60,000 gal) due to growth in the tank service area: Kula 200 Subdivision
- Increase to 250,000 gal
- Completed In-service: October 2021

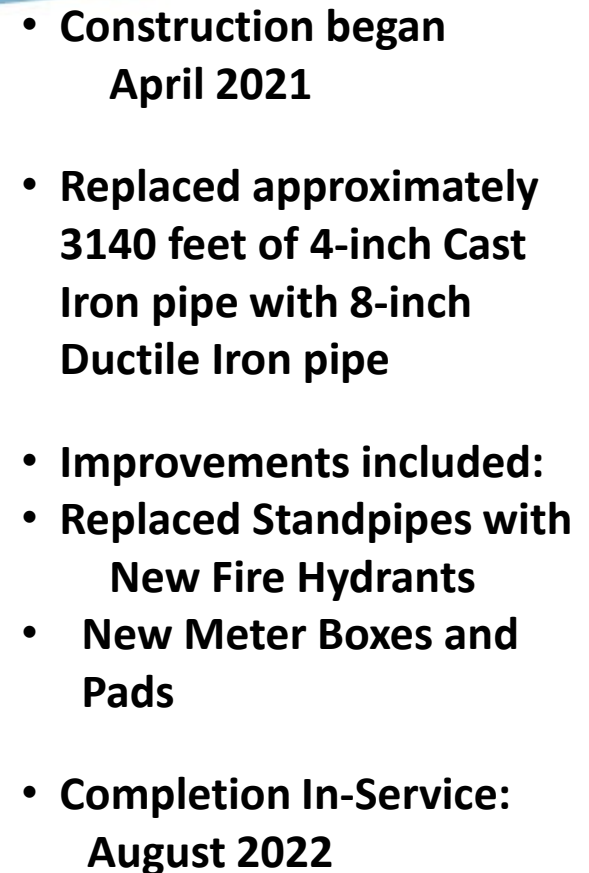
Omaopio 2-Million Gallon Concrete Tank Replacement

Budget \$6.7 Million



- **Construction began February 2016**
- **Pre-stressed Concrete Water Tank**
- **Completion In-Service: July 2019**
- **Replaces an existing 2-Million Gallon Steel Water Tank built in 1977**

Budget \$ 1.67 Million



DEPARTMENT OF WATER SUPPLY

CIP BUDGET SUMMARY

FISCAL YEAR 2022

APPROPRIATED vs LAPSED
PROJECT FUNDS



DWS' FY2022 CIP BUDGET SUMMARY

Project Name:	Appropriated	Lapsed
- Countywide Facility Improvements.. - Lahaina WTP Waterline-Cancelled - Sanitary Survey Funds - Unforeseen Costs (\$ 0.80 mil not needed)	\$ 1.050 mil	\$ 0.956 mil
- Countywide Water System Modifications..... - Change Orders & Add'l Fees	\$ 0.500 mil	\$ 0.021 mil
- Countywide Upgrades and Replacements..... - Plant Operations – Pump & Motor Replacement Program	\$ 4.550 mil	\$ 2.559 mil

DWS' FY2022 CIP BUDGET SUMMARY (cont'd)

Project Name:	Appropriated	Lapsed
- West Maui Reliable Capacity SRF Funding..... - Kahana Well Development-Const	\$ 4.250 mil	\$4.250 mil
- West Maui Reliable Capacity..... ❖ Restricted Funding..... ❖ Unrestricted Funding..... - Kahana Well Development-Const - Needed Add'l SHPD Requirements - BID Protest delayed Contract	<u>\$ 9.800 mil</u> \$ 6.050 mil \$ 3.750 mil	<u>\$ 9.726 mil</u> \$ 5.976 mil \$ 3.750 mil
- Wailuku Water Company Water System – Acquisition..... - Still in Negotiations	\$ 2.000 mil	\$ 2.000 mil

DWS' FY2022 CIP BUDGET SUMMARY (cont'd)

Project Name:

Appropriated Lapsed

• New Waihee Tank #2..... • Land issues unresolved • Kahului Tank #2..... • Dev. Agreement still in negotiations	\$ 0.415 mil	\$ 0.415 mil
FY 2022 CIP BUDGET TOTAL * Does not include Bond Funds	\$ 23,425,000	\$ 20,787,000

DEPARTMENT OF WATER SUPPLY

CURRENT ACTIVE CIP

PROJECTS



Current Active CIP Projects

Not Including FY 2023

CAPITAL IMPROVEMENT PROGRAM ACTIVE PROJECTS	CURRENT PHASE
SOURCE DEVELOPMENT - WELLS	
West Maui Source Development Phase – aka: Kahana Well #1	Design/Const Services
Pookela Well "B" Development Phase	Construction
Launiupoko Aquifer Source - Exploratory Phase - Well Drilling	Design
Waihee Aquifer Source - Exploratory Phase - Well Drilling	Design
MAINTAIN FACILITY RELIABILITY - WATER TREATMENT PLANTS DIVISION	
Olinda WTP Sludge Basin - Underdrain Repair	Construction
Olinda WTP Clearwell Roof Refurbishment	Design
Mahinahina WTP - Filter 4 - Underdrain Repair	Design
MAINTAIN FACILITY RELIABILITY – PLANT OPERATIONS DIVISION	
Kaupakalua Well & Booster Pump - Motor Control Center Upgrade	Construction
Koali Booster Pump - Motor Control Center Upgrade and Pump Replacement	Design
Kalae Booster Pump - Motor Control Center Upgrade	Design
Kanoa Well - Motor Control Center Upgrade	Design
Waipuka-Kanaha Motor Control Center Replacement	Design

Current Active CIP Projects

Not Including FY 2023

CAPITAL IMPROVEMENT PROGRAM ACTIVE PROJECTS	CURRENT PHASE
INFRASTRUCTURE REPLACEMENTS - BOOSTER PUMP STATIONS	
Phase 10 Booster Pump Replacements	Construction
Kula Ag Park Booster Pump Relocation (Project under Mayor's Office of Economic Development & Newly formed Department of Agriculture)	Design
INFRASTRUCTURE REPLACEMENTS – WATER TANKS	
Haiku Well Control Tank Replacement	Design
Old Wailuku Hts Tank Replacement	Design
Holomakani Tank Replacement	Design
INFRASTRUCTURE REPLACEMENTS - WATERLINE REPLACEMENTS	
North Kihei Road Waterline Replacement	Design
Wili Place Waterline Replacement	Design
Kenolio Road Waterline Replacement	Design
WATER SYSTEM ANALYSIS	
East Maui Source Development Feasibility Study	Study

Current Active CIP Projects

Not Including FY 2023

CAPITAL IMPROVEMENT PROGRAM ACTIVE PROJECTS	CURRENT PHASE
DAM SAFETY COMPLIANCE	
Piiholo Reservoir	Study/Analysis
Olinda Reservoir	Study/Analysis
Kahakapao Reservoir	Study/Analysis
Mahinahina Reservoir	Study/Analysis
Waikamoi (Twin) Reservoirs	Study/Analysis
Waikamoi Arch Dam	Study/Analysis
LAND MATTERS (NO DESIGN - NO CONSTRUCTION)	
Upcountry Maui Well Development (Project under State DLNR) - DWS Land Acquisition Only	Land
Kualapuu Well - Subdivision	Land
Omaopio Tank - Subdivision	Land
Lahaina WTP - Land Matters - DLNR	Land
Kanaha Valley - Land Matters - DLNR and Hans Michel	Land

DEPARTMENT OF WATER SUPPLY

DEPARTMENT CIP BUDGET

CURRENT FISCAL YEAR 2023

PROJECT STATUS



FY 2023 - Current Projects

In Design

Studies/Planning/Design Projects:

Funding / Actual Start Date:

• Upper Kula Transmission Improvements.....	\$ 1,500,000 / \$ 725,305 Spring 2023
• Central Maui & West Maui Water System Analyses (Modeling).....	\$ 500,000 / TBD Spring 2023
• East Maui Source Development Feasibility Study (Phases 3 & 4)...	\$ 800,000 / TBD Summer 2023
• Compliance with Lead & Copper Rules Revisions.....	\$ 200,000 / \$ 161,644 Summer 2023
• Dam Safety Improvements – Piiholo & Kahakapao Reservoirs..	\$ 1,500,000 / TBD Summer 2023

FY 2023 - Current Projects to Start Construction

Source Projects:

Funding / Actual Start Date:

- **West Maui Source - Kahana Well #1
Development Phase.....**
- **Waiehu Heights Well #1
Exploratory Phase.....**

**\$ 17.2 mil / \$ 16.3 mil
Spring 2023**

**\$ 1.0 mil / \$ 0.98 mil
Winter 2022**

FY 2023 - Current Projects to Start Construction (cont'd)

**Funding / Actual
Start Date:**

Reliability Projects:

• Kanoa Well #1 - Motor Control Center (MCC) Upgrade.....	\$ 700,000 / \$ 251,789 Spring 2023
• Koali Boosters MCC Upgrade.....	\$ 1.20 mil / TBD Fall 2023
• Kanaha Wells MCC Upgrades.....	\$ 1.00 mil / TBD Fall 2023
• Waipuka Wells MCC Upgrades.....	\$ 1.00 mil / TBD Fall 2023

FY 2023 - Current Projects to Start Construction (cont'd)

Infrastructure/Replacement Projects:

Funding / Actual Start Date:

- Wailuku Waterline Replacements....
- Haiku-Kauhikoa Tank Replacement.
- Kamole WTP - Operations and Chemical Building Painting.....
- Olinda WTP-Clearwell Tank Roof Refurbishment/Replacement.....

\$ 4.45 mil / \$ 4.02 mil
Spring 2023

\$1.5 mil / TBD
Summer 2023

\$ 300,000 / \$ 255,000
Winter 2022

\$ 2.00 mil / TBD
Summer 2023

DEPARTMENT OF WATER SUPPLY

DEPARTMENT PROPOSED

CIP BUDGET

FISCAL YEAR 2024



Capital Improvement Program

FY 2024

★ **PROJECT MANAGEMENT**

- **CONSULTANT ASSISTANCE DUE TO CURRENT SHORTAGE OF ENGINEERING STAFF**

★ **DEVELOP NEW WATER SOURCES**

- **2 - WEST MAUI WELLS ARE PROPOSED: IN THE PLANNING, DESIGN AND CONSTRUCTION PHASES**
- **1 - CENTRAL MAUI WELL IS PROPOSED: IN THE PLANNING, DESIGN AND CONSTRUCTION PHASES**
- **1 - UPCOUNTRY WELL IS PROPOSED (PARTNERED WITH THE STATE)**

Capital Improvement Program

FY 2024 (Cont'd)

★ **MAINTAIN / IMPROVE FACILITY RELIABILITY**

- 5 – WELL & BOOSTER PUMP REPLACEMENTS THROUGHOUT THE COUNTY (INCLUDING 1 IN HANA)
- VARIOUS WATER TREATMENT PLANT REPAIRS AND MAINTENANCE PROJECTS

★ **INFRASTRUCTURE REPLACEMENT**

- VARIOUS WATERLINE AND WATERLINE LATERAL REPLACEMENT PROJECTS – RELATED TO THE DEPT. OF PUBLIC WORKS RESURFACING SCHEDULE
- UPPER KULA TRANSMISSION WATERLINE IMPROVEMENTS

Capital Improvement Program

FY 2024 (Cont'd)

★ **PLANNING AND STUDIES**

- **USGS STUDY ON THE HAIKU AQUIFER**
- **PLANNING – MAKAWAO AQUIFER WELL SITES (2) – ENVIRONMENTAL ASSESSMENTS**

★ **LAND ACQUISITION**

- **NEW OMAOPIO CONCRETE TANK (1-MILLION GALLON)
1.8 ACRES ON HALEAKALA RANCH LAND**

★ **ADDITIONAL FUNDING RELATED TO CURRENT CIP PROJECTS**

- **“UNFORESEEN” SITE CONDITIONS & ADDITIONAL SERVICES BY
CONSULTANTS FOR CHANGES IN SCOPE OF WORK**

CURRENT CIP BUDGET 6-YEAR GOAL

Actual amounts will depend on the projected revenues and operating cost.

FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
\$ 29.35 mil	\$ 10.40 mil	\$ 18.44 mil	\$ 25.56 mil	\$ 22.44 mil	\$ 26.10 mil

**FY 2024 Budget will include project
management consultant assistance**

POTENTIAL STATE AND FEDERAL FUNDING OF CIP PROJECTS

Project Name	Funding Source	Funding Amount	Fiscal Year
Mahinahina Well #1 Development Phase	DOH-SDWB STATE REVOLVING FUND	\$ 5,000,000	FY - 2025
Waiehu Heights Well 1 Replacement – Dev. Phase	DOH-SDWB STATE REVOLVING FUND	\$ 2,000,000	FY - 2025
Launiupoko Well “L-1” Development Phase	DOH-SDWB STATE REVOLVING FUND	\$ 12,000,000	FY - 2026
Waihee Aquifer Source Dev. aka - Kupaa Well #2 Development Phase	DOH-SDWB STATE REVOLVING FUND	\$ 5,000,000	FY - 2028
Launiupoko Well “L-3” Development Phase	DOH-SDWB STATE REVOLVING FUND	\$ 10,500,000	FY - 2026

POTENTIAL STATE AND FEDERAL FUNDING OF CIP PROJECTS

Project Name	Funding Source	Funding Amount	Fiscal Year
Compliance with Lead and Copper Rule Revisions – Gap Assessment	DOH-SDWB STATE REVOLVING FUND	\$ 1,400,000	FY - 2024 FY - 2025 FY - 2026
West Maui Source Dev. Aka – Kahana Well #1 Construction	CDS-CPF FEDERAL FUND	\$ 15,886,305	FY - 2023
Upper Kula Transmission Improvements Design & Construction	CDS-CPF FEDERAL FUND/ FEMA FUND	\$ 725,305	FY - 2023 FY - 2024
Haiku-Kauhikoa Tank Replacement (150,000 gal) Construction	CDS-CPF FEDERAL FUND	2,000,000	FY - 2023
Olinda WTP 3-MG Steel Clearwell Roof Refurbishment Construction	CDS-CPF FEDERAL FUND	2,000,000	FY - 2023

POTENTIAL STATE AND FEDERAL FUNDING OF CIP PROJECTS

Project Name	Funding Source	Funding Amount	Fiscal Year
Mahinahina Well # 1 Design & Construction	CDS-CPF FEDERAL FUND	5,100,000	FY - 2025
Dam Safety - Reservoir Improvements – Piipholo Water Treatment Plant 50-MG Reservoir Design & Construction	CDS-CPF FEDERAL FUND	\$ 6,850,000	FY - 2023 FY - 2026
CDS-CPF FEDERAL FUND TOTAL:		\$ 32,561,610	
DOH-SDWB STATE REVOLVING FUND TOTAL:		\$ 35,900,000	

County of Maui

Department of Water Supply



WAI Committee

From: Linda Kimura <Linda.Kimura@co.maui.hi.us>
Sent: Monday, March 20, 2023 11:41 AM
To: WAI Committee
Subject: RE: WAI Committee Meeting of March 20 - CIP Projects Presentation
Attachments: 2023-03-20 CIP Pre-Budget_FY 2024 (WAI version 3-20) FINAL VERSION.pdf

Attached is Department of Water Supply's presentation for today's WAI Committee.

Thank you~

Linda K. Kimura, Secretary to

John Stufflebean, Director

James A. Landgraf, Deputy Director

Department of Water Supply

County of Maui

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