

MINUTES  
REGULAR MEETING  
OF THE  
BOARD OF WATER SUPPLY

April 24, 2017

At 2:02 PM on April 24, 2017 in the Board Room of the Public Service Building at 630 South Beretania Street, Honolulu, Hawaii, Board Chair Andaya called to order the Regular Meeting.

Present: Bryan P. Andaya, Chair  
Adam C. Wong, Vice Chair  
Ross S. Sasamura  
Kapua Sproat

Also Present: Ernest Lau, Manager and Chief Engineer  
Ellen Kitamura, Deputy Manager and Chief Engineer  
Erwin Kawata  
Barry Usagawa  
Mike Fuke  
Jason Takaki  
Joe Cooper  
Mike Matsuo  
Kevin Ihu  
Kathleen Pahinui  
Henderson Nuuhiwa  
Jennifer Elflein  
Garon Hamasaki  
Robert Morita

Others Present: Jeff Lau, Deputy Corporation Counsel  
Duane Pang, Deputy Corporation Counsel  
Mayor Kirk Caldwell  
Kathy Sokugawa, Department of Planning and Permitting  
Caterine Picardo, Department of Planning and Permitting  
Chris Harris, CDM Smith

Absent: David C. Hulihee  
Kay C. Matsui  
Ford N. Fuchigami

APPROVAL OF  
MINUTES

Approval of the Minutes of the Regular Meeting held on February 27,  
2017

MOTION  
TO APPROVE

Ross Sasamura and Adam Wong motioned and seconded, respectively,  
to approve the Minutes of the Regular Session Meeting of February 27,  
2017. The motion was unanimously carried.

"April 24, 2017

ADOPTION OF  
RESOLUTION  
NO. 871, 2017

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96834

Chair and Members:

Subject: Adoption of Resolution No. 871, 2017, Acceptance of  
Gifts to the Board of Water Supply from Various  
Donors in Support of the 2017 Water Conservation  
Week Program

We recommend the adoption of the attached Resolution No. 871, 2017, that accepts the proposed gifts to the Board of Water Supply (BWS), City and County of Honolulu, in support of the 2017 Water Conservation Week (WCW) Program. The donors' total value of these gifts is \$12,250.00.

<u>Donor Name</u>	<u>Amount</u>
Sodexo (Refreshments for awards ceremony reception)	\$ 2,500.00 (in-kind)
Friends of Halawa Xeriscape Garden	\$ 2,000.00
Times Supermarkets	\$ 2,000.00
Hard Rock Café Honolulu (Cookies for awards ceremony reception, and gift cards for award recipients' and teachers' gift bags)	\$ 2,000.00 (in-kind)
Alexander and Baldwin, Incorporated	\$ 1,000.00
Hawaii Energy	\$ 1,000.00
Board of Water Supply/Hawaiian Tel Federal Credit Union	\$ 750.00
Aloha Pacific Federal Credit Union	\$ 500.00
Pasha Hawaii	\$ 500.00
TOTAL	\$12,250.00

The WCW program is a successful, long-running public education program for Oahu's students in grades Kindergarten through 12 that teaches the value of drinking water and careful use of it. Studies have shown that when youth embrace water conservation practices at an early age, they are more likely to encourage their parents to be water-efficient and later raise water-smart families. Through this program, the BWS hopes to inspire more customers to adopt behaviors that support water conservation, which is a key objective of the BWS's recently adopted Water Master Plan.

Sponsor gifts will help the BWS offset program costs that include the printing of 20,000 copies of the 2018 Water Conservation Calendars that feature the 2017 winning entries, as well as an awards ceremony for place winners and honorable mentions of the 2017 WCW Poster and Poetry contests. The calendars are distributed to all Oahu schools, elected officials, and the general public.

We deeply appreciate the continued support of this Board for this very valuable and worthwhile public education program. All participants in our WCW program are encouraged to always embrace their roles as responsible stewards of our precious water resource.

Respectfully submitted,

/s/ for ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer

Attachment”

DISCUSSION: Kathleen Pahinui, Information Officer, gave the report. There were no comments or discussion.

MOTION TO  
ADOPT  
RESOLUTION  
NO. 871, 2017

Ross Sasamura motioned to adopt Resolution No. 871, 2017, Acceptance of Gifts to the Board of Water Supply from Various Donors in Support of the 2017 Water Conservation Week Program. The motion was seconded by Adam Wong and unanimously carried.



BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU

RESOLUTION NO. 871, 2017

ACCEPTANCE OF GIFTS TO THE BOARD OF WATER SUPPLY  
FROM VARIOUS DONORS IN SUPPORT OF THE  
2017 WATER CONSERVATION WEEK PROGRAM

WHEREAS, the Board of Water Supply's (BWS) Water Conservation Week program is an annual activity that features a poster and poetry contest to educate Oahu's youth about the importance of using water efficiently and features the winning and honorable mention entries in an annual Water Conservation Calendar; and

WHEREAS, the BWS may solicit gifts to the Department as long as it does not provide special consideration, treatment, advantage, privilege, or exemption for or coerces a potential donor; and

WHEREAS, the BWS will solicit for gifts on its agency website, which is available for access by any interested person or business; and

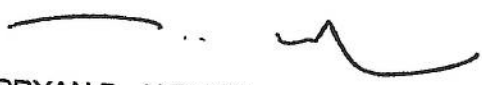
WHEREAS, Friends of Halawa Xeriscape Garden; Times Supermarkets; Alexander and Baldwin, Incorporated; Hawaii Energy; Aloha Pacific Federal Credit Union; Board of Water Supply/Hawaiian Tel Federal Credit Union; and Pasha Hawaii are offering monetary gifts totaling \$8,250.00; and Sodexo and Hard Rock Café Honolulu are offering in-kind gifts valued at \$4,500.00 in support of the 2017 Water Conservation Week program; and

WHEREAS, a gift to the BWS benefits the Department because it assists endeavors such as the BWS's Water Conservation Week public education program and reduces the need for ratepayer funds to support the program's key components; and

WHEREAS, the gifts will be used to offset reasonable and necessary costs of the printing and delivery of 20,000 Water Conservation Calendars featuring the contests' winning entries, as well as an awards ceremony to reveal and recognize the student winners and honorable mentions; now, therefore,

BE IT RESOLVED that the Board of Water Supply hereby accepts the various gifts valued at \$12,750.00 and directs the Manager and Chief Engineer, or his delegate, to accept and thank the various donors for these gifts.

ADOPTED:

  
BRYAN P. ANDAYA  
Chair

Honolulu, Hawaii  
April 24, 2017

RESOLUTION NO. 871, 2017, ADOPTING THE ACCEPTANCE OF GIFTS TO THE BOARD OF WATER SUPPLY FROM VARIOUS DONORS IN SUPPORT OF THE 2017 WATER CONSERVATION WEEK PROGRAM, ADOPTED ON APRIL 24, 2017			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
ADAM C. WONG	X		
DAVID C. HULIHEE			ABSENT
KAPUA SPROAT	X		
KAY C. MATSUI			ABSENT
ROSS S. SASAMURA	X		
FORD N. FUCHIGAMI			ABSENT

"April 24, 2017

ADOPTION OF  
RESOLUTION  
NO. 872, 2017

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: Adoption of Resolution No. 872, 2017, Adopting the  
2018 – 2022 Board of Water Supply Strategic Plan

At the Board meeting held on January 30, 2017, the Board of Water Supply Management and the Permitted Interaction Group submitted a report and draft of the 2018 – 2022 Board of Water Supply Strategic Plan. We submit and recommend for adoption the final 2018 – 2022 Board of Water Supply Strategic Plan.

**Overview:**

On September 26, 2016, the Board of Water Supply (BWS) senior management team chartered a project to update the Strategic Plan and document the ongoing work of the BWS in providing water to the citizens of the City and County of Honolulu.

This project was a collaboration with the BWS Board of Directors (Board) in their role of providing oversight and foresight into the direction of the BWS. Members of the Board and the senior management team participated in a series of facilitated workshops between October to December 2016, to review and reconfirm the Vision, Mission, Values, Strategic Goals, and the Strategic Objectives and develop Key Action Plans for the agency.

The intent of this Strategic Plan is to provide an internal and external perspective of the commitment of the BWS employees to deliver safe, dependable, and affordable water, now and into the future. The plan's timeframe is five years.

This document formalizes the BWS's Vision, Mission, Values, Strategic Goals, Strategic Objectives, and Key Action Plans.

**Key Elements of the Plan:**

BWS Vision:

**'Ka Wai Ola – Water for Life'**

The vision of the BWS captures the critical need of water, that water is the basis for life. With this vision comes the responsibility of the BWS's stewardship of, and the duty to manage, our natural water resources for the present and future generations.



BWS Mission:

**The Board of Water Supply provides safe, dependable, and affordable water now and into the future.**

**Safe** addresses the multiple areas of individual and community needs.

- Our water must meet all statutory and regulatory compliance standards in providing water for consumption and other uses.
- Our water must provide for public health and safety such as for firefighting and sanitation needs.

**Dependable** relies upon three factors:

- The **source of our water** must be sufficient and available now and into the future. The BWS ensures this through management of the watershed and groundwater supply, long-range planning, and possible development of alternative sources of water.
- A **water system** that is designed, constructed, and operated with system redundancy that continues delivery of water even with disruptions in the system.
- The **employees of BWS** who are committed to providing our customers with high quality water and excellent service.

**Affordable** water delivery that is safe and dependable is primary. We establish programs for efficiency in water use via conservation, infrastructure installation, and water system operations and maintenance. We continually implement changes to our systems to deliver water at the most responsible cost to the customer.

BWS Values:

These values guide our employees, teams, and the organization in how we work together to accomplish our mission. The values reflect and reinforce our culture in our delivery of water service to our customers.

BWS Sustainability Goals:

For many years, BWS has communicated its efforts through three strategic goals: Resource Sustainability, Operational Sustainability, and Financial Sustainability. These over-arching agency goals create alignment with the vision and mission, program priorities, and action plans.

#### Section 1.01. **Resource Sustainability (Safe)**

Protect, conserve and manage Oahu's water supplies and watersheds now and into the future through adaptive and integrated strategies.

#### Section 1.02. **Operational Sustainability (Dependable)**

Build an effective organization that continuously works to improve dependable service.

### Section 1.03. **Financial Sustainability (Affordable)**

Implement sound fiscal strategies to provide safe, dependable and affordable water service.

#### BWS Strategic Objectives and Key Action Plans:

With the validation of the three strategic goals, the Board Members and senior management team participated in a workshop to review the strategic objectives and identify potential strategic actions to support the three overarching sustainability goals.

Periodic progress reports to the Board and an annual review by the senior management team will ensure that BWS meets these strategic objectives and actions to reaffirm their alignment to the agency's strategic sustainability goals.

#### Stakeholder Analysis:

The BWS serves and interacts with many stakeholders in its actions to fulfill its mission to provide safe, dependable, and affordable water to the Citizens of the City and County of Honolulu. The strategic planning process included a discussion on the key stakeholders and considerations for support and collaboration were listed that could be included in future strategies of the BWS based on future assessment and prioritization.

#### BWS Water Master Plan:

The Board of Directors adopted the BWS 30-Year Water Master Plan (WMP) on October 24, 2016. The WMP is an essential component of the strategic plan as it serves the visionary 30-year road map for the department.

The WMP is a comprehensive, broad-based technical plan that determines the necessary water system improvements to support projected growth and provide safe, dependable and affordable water service to our customers. The development of the plan included a rigorous condition assessment of the existing water system to prioritize investment in renewal and replacement projects and the use of sophisticated computer modeling and statistical tools to identify capacity expansion projects to support areas of growth. The plan is also taking into consideration the effects of climate change with recommended active collaboration with industry experts on climate change research to determine its impacts on water infrastructure and watershed sustainability.

The BWS is currently developing a 30-Year Capital Improvement Program, financial plan and rate study to finance the infrastructure projects, programs, and recommendations identified in the plan. Several action plans in this strategic plan were the result of the findings and recommendations from the WMP.

#### Performance Metrics:

Nine (9) high level performance metrics were developed and incorporated into the plan to help assess the progress of the BWS towards meeting the Sustainability Goals, Strategic Objectives and Action Plans. These metrics will be reported to Board annually.

We respectfully recommend that the Board adopt the 2018 – 2022 Board of Water Supply Strategic Plan, direct staff to implement the plan and require annual updates on the status of the Key Action Plans and Performance Metrics.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer

Attachments”

DISCUSSION: Ellen Kitamura, Deputy Manager, gave the report. Mr. Andaya handed out the Permitted Interaction Group report and Mr. Lau stated that it will be posted onto the BWS website.

MOTION TO  
ADOPT  
RESOLUTION  
NO. 872, 2017

Adam Wong motioned to adopt Resolution No. 872, 2017, Adopting the 2018 – 2022 Board of Water Supply Strategic Plan. The motion was seconded by Kapua Sproat and unanimously carried.



BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU

RESOLUTION NO. 872, 2017

RESOLUTION ADOPTING THE BOARD OF WATER SUPPLY  
2018-2022 STRATEGIC PLAN

WHEREAS, the Board of Water Supply, City and County of Honolulu takes to heart and is committed to its vision of 'Ka Wai Ola – Water for Life' which captures the critical need of water as the basis of life; and

WHEREAS, the Board of Water Supply's mission is to provide safe, dependable, and affordable water to our customers now and into the future; and

WHEREAS, the Board of Water Supply's core values begins with our personal responsibility as water professionals to earn and uphold the community's trust as we perform our daily work and culminates in our fundamental responsibility as public servants to uphold the constitutional mandate of the Public Trust that "...All public natural resources are held in trust by the State for the benefit of the people"; and

WHEREAS, the Board of Water Supply's core values affirm our awareness of and attention to the impacts that our decision and operations have on the community and will actively pursue opportunities to engage the community to understand their needs and provide a quality experience with every customer interaction; and

WHEREAS, the Board of Water Supply has established three overarching Strategic Goals to align with our vision, mission and core values: Resource Sustainability – Protect, conserve, and manage Oahu's water supplies and watersheds now and into the future through adaptive and integrated strategies; Operational Sustainability – Build an effective organization that continuously works to improve dependable service; and Financial Sustainability – Implement sound fiscal strategies to provide safe, dependable, and affordable water service; and

WHEREAS, the Board of Water Supply has developed Strategic Objectives, Key Action Plans and Performance Metrics to support the three Strategic Goals; and


WHEREAS, the Board of Water Supply's 30-Year Water Master Plan adopted by the Board of Directors on October 24, 2016 is an essential component of the Strategic Plan; and

WHEREAS, the Board of Water Supply Management Team comprised of the heads of the Department's Divisions and Staff Offices and a Board of Directors Permitted Interaction Group comprised of Chair Bryan P. Andaya, Board Member Kapua Sproat and Board Member Kay C. Matsui submitted a report and draft of the Board of Water Supply 2018 – 2022 Strategic Plan at the Board meeting held on January 30, 2017; now, therefore,

BE IT RESOLVED by the Members of the Board of Water Supply, City and County of Honolulu, that the Board of Water Supply 2018 – 2022 Strategic Plan be adopted, to provide the five-year strategic road map for the Department; and

BE IT FURTHER RESOLVED that the Board of Water Supply proceed with implementation of the Strategic Plan and empower the Manager and the Board of Water Supply Senior Management Team to carry out the Strategic Objectives and Key Action Plans. The Manager shall report to the Board on an annual basis the status of the Key Action Plans and Performance Metrics.

ADOPTED:

  
BRYAN P. ANDAYA  
Chair

Honolulu, Hawaii  
April 24, 2017

RESOLUTION NO. 872, 2017, ADOPTING THE BOARD OF WATER SUPPLY 2018-2022 STRATEGIC PLAN, ADOPTED ON APRIL 24, 2017			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
ADAM C. WONG	X		
DAVID C. HULIHEE			ABSENT
KAPUA SPROAT	X		
KAY C. MATSUI			ABSENT
ROSS S. SASAMURA	X		
FORD N. FUCHIGAMI			ABSENT



# BWS Draft Strategic Plan 2018 - 2022

UWE KA LANI OLA KA HONUA

Board of Director's Meeting  
April 24, 2017



**WATER FOR LIFE**

*Safe, dependable, and affordable water now and into the future*



Board of Water Supply  
City and County of Honolulu

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**BWS Strategic Objectives and Key Action Plans**

**Stakeholder Analysis**

**BWS Water Master Plan**

**Performance Metrics**

# WATER FOR LIFE

*Safe, dependable, and affordable water now and into the future*

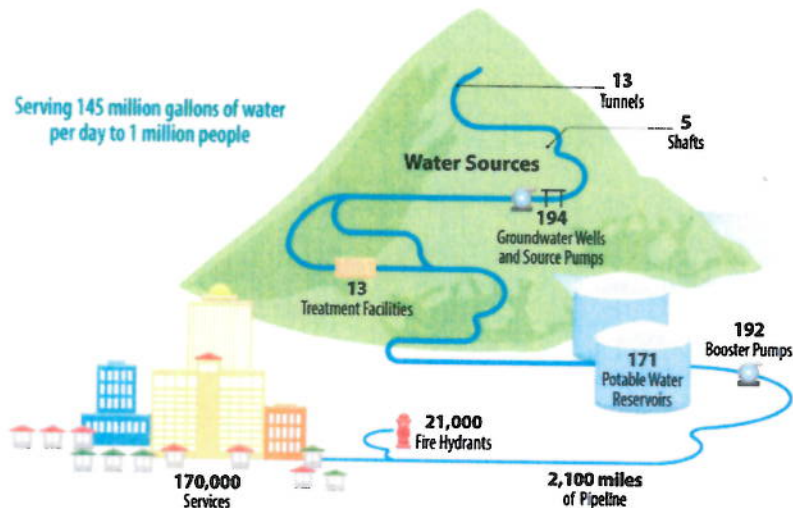


Board of Water Supply  
City and County of Honolulu

## BWS System

### BWS Water System

For decades, the BWS has built, operated and maintained a complex infrastructure to provide safe, dependable and affordable service to our customers.



Source: BWS Water Master Plan, adopted October 2016

Six primary steps provide water from source to tap. These primary steps are managed and enabled on a daily basis through the water system infrastructure and workforce of the BWS.



Groundwater is O'ahu's only current supply source for potable water, coming from high quality, naturally filtered, reliable aquifer storage. The BWS manages thousands of acres of watershed area on O'ahu to protect and preserve underlying water sources. Efforts to manage and protect the watersheds include limiting access and development, combating invasive plants and animals, promoting healthy forests, and encouraging customer water conservation. The BWS also owns and maintains 5 dams or open reservoirs, 4 of which currently provide flood control and the other storing non-potable water for irrigation.

Several approaches are used to capture groundwater. The BWS operates 194 groundwater wells. Each well requires drilling into the ground, sometimes hundreds of feet below the surface. In addition, 5 water shafts provide access to groundwater. Unlike wells that penetrate deeply with small-diameter holes, shafts are dug out of rock to reach groundwater. The BWS also maintains and operates 13 tunnels, dug horizontally into the mountains to access stored groundwater.



The majority of the island's groundwater is exceptionally pure, requiring treatment only to assure it remains ready to drink as it travels through the distribution system that takes it from source to use. Some sources, particularly in Central O'ahu, require treatment primarily to address legacy agricultural contamination. The BWS operates 13 granular activated carbon facilities to remove these contaminants. The BWS also operates the Honolulu Water Recycling Facility that treats and supplies non-potable recycled water for industrial and irrigation uses.

Water sources on the island are sufficient, but are not always located where the supply is needed. Large transmission pipelines have been installed by the BWS to carry water from the source to the general area where it will be used. The 360 miles of transmission pipelines vary from 16 to 42 inches in diameter. The BWS maintains 192 booster pumps that keep the water moving through the piping system. This is in addition to 194 pumps, one at each well.



Reservoirs (large covered tanks) have been built by the BWS at varied locations throughout the system to store water close to the point of use. The reservoirs store water for high demand periods and fire protection, and add dependability to the system. There are 171 potable water reservoirs across O'ahu, together capable of storing about 196.5 million gallons. In addition, 7 non-potable reservoirs can store approximately 15 million gallons of recycled or brackish water, used for irrigation or industrial purposes.

Once the water has been carried to the general area where it is needed, it moves into the distribution system to be delivered to its point of use through distribution pipelines that are less than 16 inches in diameter. In total, the BWS system includes 2,100 miles of pipeline, necessary to serve water to nearly 1 million people across O'ahu through about 170,000 services. The BWS's customers include residential, commercial, and industrial users. In addition to these potable water customers, the BWS serves non-potable water for use in golf course irrigation and industrial processes.



Source: BWS Water Master Plan, adopted October 24 2016





## Strategic Goals



Goal	Old Description	New Description
<b>Resource</b>	Protect and manage our groundwater supplies and watersheds through adaptive and integrated strategies.	Protect, conserve and manage Oahu's water supplies now and into the future through adaptive and integrated strategies.
<b>Operational</b>	Foster a resilient and collaborative organization utilizing effective and proactive operational practices consistent with current industry standards.	Build an effective organization to continuously improve dependable service.
<b>Financial</b>	Implement sound fiscal strategies to finance our operating and capital needs to provide dependable and affordable water service.	Implement sound fiscal strategies to provide safe, dependable and affordable water service.



## Strategic Objectives

Strategic Goals	Category	Strategic Objective
Resource	Climate Change	We will increase our understanding and adapt to climate change to manage Oahu's water resources and protect the limited water supply.
Resource	Water Quality	We will protect, preserve, and collaborate to ensure the safety and quality of Oahu's fresh water resource.
Resource	Watershed Management	We will ensure healthy forests, recognizing the essential role of watersheds for a sustainable water supply (capture and recharge).
Resource	Water Conservation	We will conserve supply and system capacity by reducing per capita demand and increasing water efficiency.
Operational	Organization	We will ensure the necessary workforce, competencies, tools and resources to support current and future needs.
Operational	Infrastructure	We will renew and improve the water system to ensure water system adequacy, dependable service, and operational efficiency.
Operational	Customer Service	We will proactively and consistently provide a quality experience in every customer interaction.
Operational	Technology	We will ensure that our technology systems are current and leverage opportunities in technology to effectively support current and future BWS needs.
Financial	Financial Opportunities	We will pursue and leverage financial opportunities.
Financial	Financial Planning	We will develop and implement short and long term financial plans and policies.





## Key Action Plans

Strategic Objective	Action Plans
<b>Climate Change: We will increase our understanding and adapt to climate change to manage Oahu's water resources and protect the limited water supply.</b>	<ul style="list-style-type: none"> <li>• Incorporate vulnerability assessment research to increase infrastructure resiliency.</li> <li>• Complete hydro-geologic research on climate change impacts to the water supply.</li> <li>• Continue active collaboration with water organizations and agencies on adapting to climate change. (Water Master Plan - WMP)</li> </ul>
<b>Water Quality: We will protect, preserve, and collaborate to ensure the safety and quality of Oahu's fresh water resource.</b>	<ul style="list-style-type: none"> <li>• <b>Complete the Kalaeloa seawater desalination plant – 1.0 MGD.</b></li> <li>• Perform water quality monitoring and reporting.</li> <li>• Formalize the source water protection program.</li> <li>• <b>Monitor the Red Hill situation and take action to protect and preserve the groundwater resource, including, but not limited to participating in the Red Hill Underground Fuel Storage Facility Administrative Order on Consent.</b></li> </ul>
<b>Watershed Management – We will ensure healthy forests, recognizing the essential role of watersheds for a sustainable water supply (capture &amp; recharge).</b>	<ul style="list-style-type: none"> <li>• <b>Appropriate up to 4% of annual Capital Improvement Program funding for watershed management and invasive species control. (WMP)</b></li> <li>• <b>Complete Watershed Management Plans for Ewa, Central Oahu, Primary Urban Center, and East Honolulu.</b></li> <li>• <b>Promote Low Impact Development (LID) and stormwater capture for aquifer recharge.</b></li> <li>• <b>Revisit sustainable yields for all major aquifer systems with Commission on Water Resource Management.</b></li> </ul>
<b>Water Conservation – We will conserve supply and system capacity by reducing per capita demand and increasing water efficiency.</b>	<ul style="list-style-type: none"> <li>• <b>Appropriate up to 4% of annual Capital Improvement Program funding for conservation to reduce per capita demand toward 2040 goal of 145 GPCD. (WMP)</b></li> <li>• <b>Reduce water loss (from 10% to 8%). (WMP)</b></li> <li>• <b>Increase use of non-potable/recycled water. (WMP)</b></li> <li>• <b>Establish mandatory and incentive-based rules for conservation/recycled water for all customers.</b></li> <li>• <b>Continue consumer education and expand partnerships with government agencies and private entities.</b></li> </ul>





## Key Action Plans (cont'd)

Strategic Objective	Action Plans
<b>Organization:</b> We will ensure the necessary workforce, competencies, tools and resources to support current and future needs.	<ul style="list-style-type: none"> <li>Establish and implement leadership development program.</li> <li>Incorporate the Field Operations Multi-Skilled Worker program into City civil service.</li> <li>Incorporate workforce improvements and technology efficiencies into the organization.</li> </ul>
<b>Infrastructure:</b> We will renew and improve the water system to ensure water system adequacy, dependable service, and operational efficiency.	<ul style="list-style-type: none"> <li>Expand preventative and predictive maintenance programs.</li> <li>Initiate implementation of findings and recommendations of the BWS Water Master Plan and 30-Year Capital Improvement Program. (WMP)</li> </ul>
<b>Customer Service:</b> We will proactively and consistently provide a quality experience in every customer interaction.	<ul style="list-style-type: none"> <li>Continue process improvement and quality assurance program in the Customer Care Division.</li> <li>Improve accuracy and efficiency in meter reads collection.</li> </ul>
<b>Technology:</b> We will ensure that our technology systems are current and leverage opportunities in technology to effectively support current and future BWS needs.	<ul style="list-style-type: none"> <li>Adopt user friendly technologies, tools, and applications to support the action plans in the BWS Strategic Plan.</li> <li>Increase customer satisfaction with IT Services rendered.</li> </ul>
<b>Financial Opportunities:</b> We will pursue and leverage financial opportunities.	<ul style="list-style-type: none"> <li>Effectively leverage debt and governmental funding for infrastructure investments.</li> <li>Develop other sources of revenue to supplement BWS water rate revenue.</li> <li>Execute RFP for the Beretania Complex property development.</li> </ul>
<b>Financial Planning – We will develop and implement short and long term financial plans and policies.</b>	<ul style="list-style-type: none"> <li>Develop 10-Year operating budget plan. (WMP)</li> <li>Complete 30-Year Long Range Financial Plan and water rate study in collaboration with BWS Stakeholder Advisory Group. (WMP)</li> <li>Update financial policies to support the financial plan.</li> </ul>





## Performance Metrics

2014-2017	2018-2022	Remarks
<b>Resource Sustainability</b>		
Stable Head Levels at Index Wells	Stable Head Levels at Index Wells	Retained
Regulatory Compliance	Days in Regulatory Compliance	Retained
Resident Satisfaction (% Strong Sat)	Area of Watershed Surveyed	New metric
	Per Capita Water Consumption	New metric
<b>Operational Sustainability</b>		
Training hours/FTE	Resident Satisfaction (% Strong Sat)	Moved from Resource
Employee Turn-Over Rate	Employee Turn-Over Rate	Retained
CIP Encumbrance Rate	Pipeline Leak Detection	New metric
Mainbreaks per 100 Miles of Pipe	Main Breaks Breaks per 100 Miles of Pipe	Retained
Call Center Average Wait Time (min)		Covered with
Call Center Abandon Rate		Satisfaction Survey
<b>Financial Sustainability</b>		
Estimated Bills Rate	Bond Rating	New metric - Bond
Operating Ratio		rating describes overall
Debt Coverage Ratio		financial health of
		agency.





## Performance Metrics

### RESOURCE SUSTAINABILITY

Protect, conserve and manage Oahu's water supplies now and into the future through adaptive and integrated strategies.

METRIC	DESCRIPTION	PURPOSE
Stable Head Levels at Index Wells (%)	(Number of Index Wells above Low Ground Water Levels) (Total Number of Index Wells)	Measures the water level at the index wells and which are stable above Low Ground Water Levels. The purpose of this metric is to monitor the health of the ground water aquifer and prevent detrimental impact to the ground water sources.
Days in Regulatory Compliance (%)	(Number of Days in Compliance) Total Days in Fiscal Year	Measures the compliance with water quality regulations. The purpose of this metric is to ensure supply of water that is safe for intended use
Area of Watershed Surveyed	Area of watershed surveyed for invasive plant species removal per year	Measures the area of BWS priority watersheds (26,085 acres) surveyed for invasive plant species per year. This purpose of this metric is to monitor invasive plant species removal.
Per Capita Water Consumption	(Annual Gallons of Water Delivered/365) Total Population Served	Measures the effect of conservations programs on per capita consumption. The purpose of this metric is to determine if the target goal of 145 gpcd by year 2040 is being realized.





## Performance Metrics

### OPERATIONAL SUSTAINABILITY

Build an effective organization that continuously works to improve dependable services.

METRIC	DESCRIPTION	PURPOSE
Resident Overall Satisfaction with BWS (%)	% Strong Overall Satisfaction with BWS	Measures the percentage of residents that are strongly satisfied with overall services provided by BWS. The purpose of this metric is to measure the perceived satisfaction of residents with BWS and determine areas for improvement in delivery of BWS services
Employee Turn-Over Rate (%)	(Total number of Employee Departures) (Average number of Regular FTE)	Measure the rate of regular employee departure through voluntary, involuntary or retirement. The purpose of this metric to determine the rate of employee departs and develop strategies to retain employees.
Pipeline Leak Detection	(Miles of Pipes Tested for Leaks) (Total Miles of Pipe)	Measures the percentage of pipelines that were checked for leaks. The purpose of this metric is to track progress toward the goal for leak detection.
Main Breaks per 100 miles of pipeline	(Total Number of Annual Mainbreaks) (Total Miles of Pipe/100)	Measures the annual number of main breaks per 100 miles of pipe. The purpose of this metric is to track the overall condition of the pipelines.

### FINANCIAL SUSTAINABILITY

Implement sound fiscal strategies to provide safe, dependable and affordable water service.

METRIC	DESCRIPTION	PURPOSE
Bond Rating	AA+ – Fitch Aa2 – Moody's	Monitor and maintain the current ratings by the bond agencies. The purpose of this metric is to measure the financial strength and stability of the department.



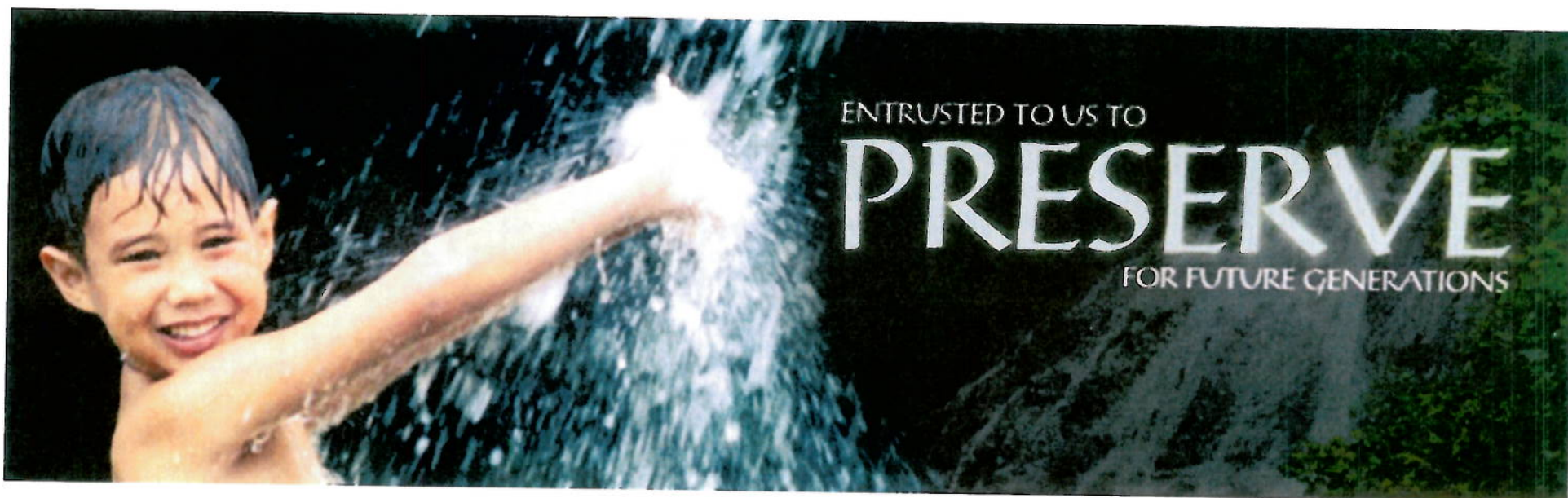


# WATER FOR LIFE

*Safe, dependable, and affordable water now and into the future*



Board of Water Supply  
City and County of Honolulu





# Acknowledgements

Board Members

Senior Management Team

Glenn Hamamura – Systems Excellence, LLC





# Board of Water Supply

STRATEGIC PLAN 2018 – 2022



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## Introduction

On September 26, 2016, the Board of Water Supply (BWS) senior management team chartered a project to update the Strategic Plan and document the ongoing work of the BWS in providing water to the citizens of the City and County of Honolulu.

This project was a collaboration with the BWS Board of Directors (Board) in their role of providing oversight and foresight into the direction of the BWS. Members of the Board and the senior management team participated in a series of facilitated workshops between October to December 2016, to review and reconfirm the Vision, Mission, Values, Strategic Goals, and the Strategic Objectives and develop Key Action Plans for the agency.

The intent of this Strategic Plan is to provide an internal and external perspective of the commitment of the BWS employees to deliver safe, dependable, and affordable water, now and into the future. The plan's timeframe is five years.

This document formalizes the BWS's Vision, Mission, Values, Strategic Goals, Strategic Objectives, and Key Action Plans.



## Letter from the Chair of the Board and the Chief Engineer

We, at the Honolulu Board of Water Supply, recognize and embrace our stewardship of Oahu's most precious resource – water. Our vision – *Ka Wai Ola* or Water for Life, captures the essence of our responsibility to the community to preserve and protect our water resources as well as our duty to provide water today and for generations to come.

The Board of Water Supply has adopted an updated five-year strategic plan to reaffirm our commitment to our mission of providing our Oahu water customers with safe, dependable, and affordable water now and into the future. The revised plan reviewed and revised our three overarching strategic goals – Resource Sustainability, Operational Sustainability and Financial Sustainability – and our key action plans to meet these goals.

Resource Sustainability addresses the need to protect, conserve, and manage Oahu's water supplies and watersheds through adaptive and integrated strategies. Operational Sustainability focuses on the need to build an effective organization that continuously works to improve dependable service. Financial Sustainability confirms the need to implement sound fiscal strategies to provide safe, dependable, and affordable water service.

Our strategic plan expresses our core values that start with our personal responsibility as water professionals to earn and uphold the community's trust as we perform our daily work. Through our core values, the strategic plan reinforces our all-encompassing responsibility as public servants to uphold the constitutional mandate of the Public Trust that "...all public natural resources are held in trust by the State for the benefit of the people."

Our core values affirm our awareness of and attention to the impacts that our decisions and operations have on the community. As we execute our strategic plan, we will actively pursue opportunities to engage the community to understand their needs and provide a quality experience in every customer interaction.

The five-year strategic plan we adopt today implements our long-term Water Master Plan, adopted October 2016 by the Board of Water Supply Board of Directors, by ensuring that our action plans mirror recommendations and actions in the Water Master Plan.

Providing Water for Life to the citizens of the City and County of Honolulu is a uniquely vital responsibility. With the adoption and publication of our strategic plan, we establish the direction for our organization going forward. We are committed to our mission, and we ask that you join us in creating a strong and lasting shared stewardship of Oahu's water resources.

Mahalo,

ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer

BRYAN P. ANDAYA  
Chair



## History of the Board of Water Supply

The Honolulu Board of Water Supply (BWS) was created in 1929. It was an action taken by the then-State Territorial Legislature in response to public outcry for a need for a truly effective water management system that was above politics.

In the previous years, droughts and the failure of the City Water Works Department to effectively manage uncontrolled drilling, led to drastically decreasing aquifer levels and water shortages. Several important meetings were held in Honolulu during this time, with citizens, legislators, engineering experts, and water works officials all working together to solve the critical water problem.

Local citizens and experts alike recommended the establishment of a commission to manage the municipal water system. A prime consideration in the creation of this commission was to remove the operation and management of the waterworks from direct political influence and control. Both groups agreed that proper management of the water system would be most effectively accomplished through the establishment of an independent, non-political commission whose members would be responsible citizens serving overlapping terms to assure continuity.

The 1929 Legislature considered these recommendations and passed Act 96 that created and defined the powers and duties of the Honolulu BWS. With this Act, the Legislature took the control of water away from the City and turned it over to the newly-created, semi-autonomous City agency, the Honolulu BWS.

Although it remained with the City and County, it was designed to be semi-autonomous and self-supporting with the authority to charge for water usage to support its capital improvement and operating expenses and set long term plans for Oahu's water future.

Today, a seven-member Board of Directors (Board) presides over the agency and sets its policies. Five at-large members are nominated by the Mayor and approved by the City Council. Two serve as ex-officio members, the Director of the State Department of Transportation and the Chief Engineer of the City Department of Facility Maintenance.

This Board sets the policy of the BWS. It also appoints the Manager and Chief Engineer who is responsible to administer the water department and its operation.

The monies collected from water usage are used to finance the Department's operations and projects. The BWS does not receive nor request money collected from property or other county taxes or fees, or from the State, to manage and operate the water supply.

Its semi-autonomous operations allow the BWS to continue to successfully fulfill its mission to provide Oahu water users with a safe, dependable, and affordable drinking water supply now and into the future.

## BWS Vision

### ‘Ka Wai Ola – Water for Life’

The vision of the BWS captures the critical need of water, that water is the basis for life. With this vision comes the responsibility of the BWS’s stewardship of, and the duty to manage, our natural water resources for the present and future generations.

The ancient Hawaiians valued water as one of nature’s greatest gifts and they lived in harmony with water. Land divisions (ahupua’a) mirrored the natural ecosystem – from the mountain top through upland forests to flatlands and the shore. Formal rules governed the use of water, and regulations were established and enforced over water use in upland areas so that a pure flow was always available to those who lived at lower elevations.

## BWS Mission

**The Board of Water Supply provides safe, dependable, and affordable water now and into the future**

**Safe** addresses the multiple areas of individual and community needs.

- Our water must meet all statutory and regulatory compliance standards in providing water for consumption and other uses.
- Our water must provide for public health and safety such as for firefighting and sanitation needs.

**Dependable** relies upon three factors:

- The **source of our water** must be sufficient and available now and into the future. The BWS ensures this through management of the watershed and groundwater supply, long-range planning, and possible development of alternative sources of water.
- A **water system** that is designed, constructed, and operated with system redundancy that continues delivery of water even with disruptions in the system.
- The **employees of BWS** who are committed to providing our customers with high quality water and excellent service.

**Affordable** water delivery that is safe and dependable is primary. We establish programs for efficiency in water use via conservation, infrastructure installation, and water system operations and maintenance. We continually implement changes to our systems to deliver water at the most responsible cost to the customer.



## BWS Values

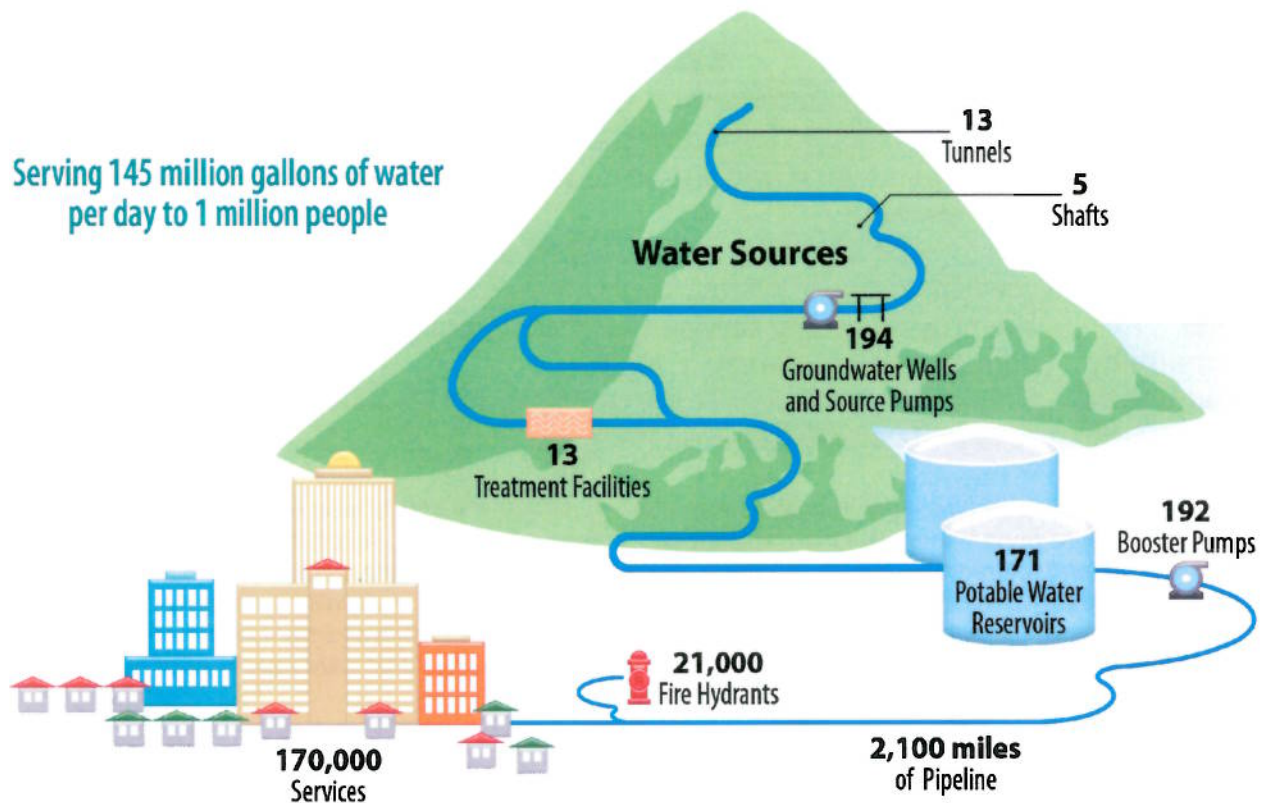
These values guide our employees, teams, and the organization in how we work together to accomplish our mission. The values reflect and reinforce our culture in our delivery of water service to our customers.

BWS Values	
<b>Personal Responsibility</b>	We are water professionals who earn and uphold the community's trust everyday through our actions and in doing our jobs right.
<b>Team Responsibility</b>	We depend upon and support each other and treat each other with dignity and respect.
<b>Organizational Responsibility</b>	We provide a healthy and safe work environment through cooperation, participation, and shared decision-making.
<b>Societal Responsibility</b>	We provide quality service to our customers with the highest level of courtesy and efficiency.
<b>Environmental Responsibility</b>	We uphold the Public Trust* as thoughtful stewards of Oahu's water resources and the environment.

*\*Public Trust – Principle embedded in Hawaii Law that recognizes that water is held in trust by the State of Hawaii for present and future generations. Pursuant to the Hawaii State Constitution, Article XI, Section 1, "For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals, and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State. All public natural resources are held in trust by the State for the benefit of the people."*

## BWS Water System

For decades, the BWS has built, operated and maintained a complex infrastructure to provide safe, dependable and affordable service to our customers.



Source: BWS Water Master Plan, adopted October 2016



Six primary steps provide water from source to tap. These primary steps are managed and enabled on a daily basis through the water system infrastructure and workforce of the BWS.



Groundwater is O'ahu's only current supply source for potable water, coming from high quality, naturally filtered, reliable aquifer storage. The BWS manages **thousands acres of watershed area** on O'ahu to protect and preserve underlying water sources. Efforts to manage and protect the watersheds include limiting access and development, combatting invasive plants and animals, promoting healthy forests, and encouraging customer water conservation. The BWS also owns and maintains **5 dams or open reservoirs**, 4 of which currently provide flood control and the other storing non-potable water for irrigation.

Several approaches are used to capture groundwater. The BWS operates **194 groundwater wells**. Each well requires drilling into the ground, sometimes hundreds of feet below the surface. In addition, **5 water shafts** provide access to groundwater. Unlike wells that penetrate deeply with small-diameter holes, shafts are dug out of rock to reach groundwater. The BWS also maintains and operates **13 tunnels**, dug horizontally into the mountains to access stored groundwater.



The majority of the island's groundwater is exceptionally pure, requiring treatment only to assure it remains ready to drink as it travels through the distribution system that takes it from source to use. Some sources, particularly in Central O'ahu, require treatment primarily to address legacy agricultural contamination. The BWS operates **13 granular activated carbon facilities** to remove these contaminants. The BWS also operates the Honouliuli Water Recycling Facility that treats and supplies non-potable recycled water for industrial and irrigation uses.

Water sources on the island are sufficient, but are not always located where the supply is needed. Large transmission pipelines have been installed by the BWS to carry water from the source to the general area where it will be used. The **360 miles of transmission pipelines** vary from 16 to 42 inches in diameter. The BWS maintains **192 booster pumps** that keep the water moving through the piping system. This is in addition to **194 pumps, one at each well**.



Reservoirs (large covered tanks) have been built by the BWS at varied locations throughout the system to store water close to the point of use. The reservoirs store water for high demand periods and fire protection, and add dependability to the system. There are **171 potable water reservoirs** across O'ahu, together capable of storing about 196.5 million gallons. In addition, **7 non-potable reservoirs** can store approximately 15 million gallons of recycled or brackish water, used for irrigation or industrial purposes.

Once the water has been carried to the general area where it is needed, it moves into the distribution system to be delivered to its point of use through distribution pipelines that are less than 16 inches in diameter. In total, the BWS system includes **2,100 miles of pipeline**, necessary to serve water to nearly 1 million people across O'ahu through about **170,000 services**. The BWS's customers include residential, commercial, and industrial users. In addition to these potable water customers, the BWS serves non-potable water for use in golf course irrigation and industrial processes.



Source: BWS Water Master Plan, adopted October 24 2016

## BWS Sustainability Goals

For many years, BWS has communicated its efforts through three strategic goals: Resource Sustainability, Operational Sustainability, and Financial Sustainability. These over-arching agency goals create alignment with the vision and mission, program priorities, and action plans.

### Resource Sustainability (Safe)

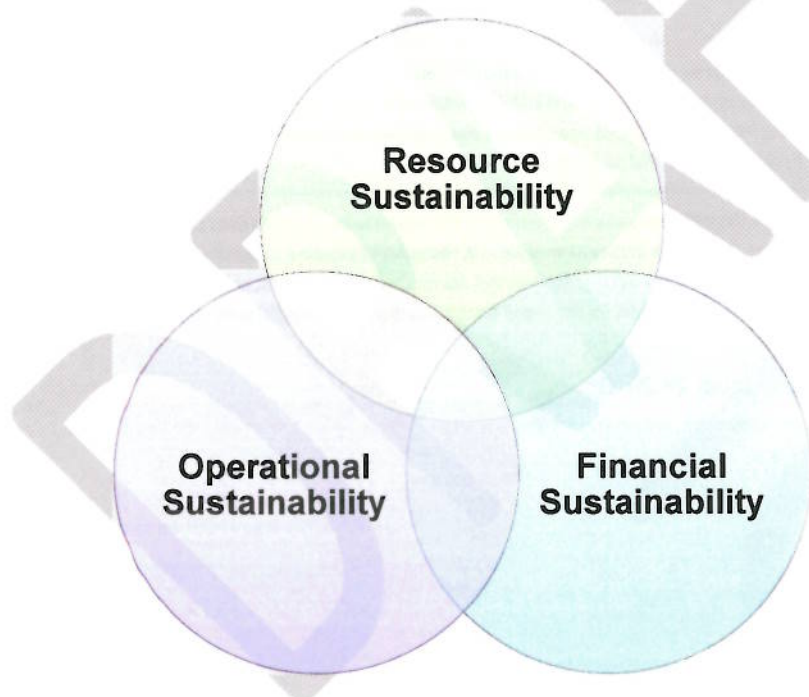
Protect, conserve and manage Oahu's water supplies and watersheds now and into the future through adaptive and integrated strategies.

### Operational Sustainability (Dependable)

Build an effective organization that continuously works to improve dependable service.

### Financial Sustainability (Affordable)

Implement sound fiscal strategies to provide safe, dependable and affordable water service.





## BWS Strategic Objectives and Key Action Plans

With the validation of the three strategic goals, the Board Members and senior management team participated in a workshop to review the strategic objectives and identify potential strategic actions to support the three overarching sustainability goals.

Periodic progress reports to the Board and an annual review by the senior management team will ensure that BWS meets these strategic objectives and actions to reaffirm their alignment to the agency's strategic sustainability goals.

### Sustainability Goals and Strategic Objectives

Sustainability Goals	Category	Strategic Objective
Resource	Climate Change	We will increase our understanding and adapt to climate change to manage Oahu's water resources and protect the limited water supply.
Resource	Water Quality	We will protect, preserve, and collaborate to ensure the safety and quality of Oahu's fresh water resource.
Resource	Watershed Management	We will ensure healthy forests, recognizing the essential role of watersheds for a sustainable water supply (capture and recharge).
Resource	Water Conservation	We will conserve supply and system capacity by reducing per capita demand and increasing water efficiency.
Operational	Organization	We will ensure the necessary workforce, competencies, tools and resources to support current and future needs.
Operational	Infrastructure	We will renew and improve the water system to ensure water system adequacy, dependable service, and operational efficiency.
Operational	Customer Service	We will proactively and consistently provide a quality experience in every customer interaction.
Operational	Technology	We will ensure that our technology systems are current and leverage opportunities in technology to effectively support current and future BWS needs.
Financial	Financial Opportunities	We will pursue and leverage financial opportunities.



Financial	Financial Planning	We will develop and implement short and long term financial plans and policies.
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## Strategic Objectives and Action Plans

Strategic Objective	Action Plans
<b>Climate Change: We will increase our understanding and adapt to climate change to manage Oahu's water resources and protect the limited water supply.</b>	<ul style="list-style-type: none"> <li>• Incorporate vulnerability assessment research to increase infrastructure resiliency.</li> <li>• Complete hydro-geologic research on climate change impacts to the water supply.</li> <li>• Continue active collaboration with water organizations and agencies on adapting to climate change. (Water Master Plan - WMP)</li> <li>• Complete the Kalaeloa seawater desalination plant – 1.0 MGD. (WMP)</li> </ul>
<b>Water Quality: We will protect, preserve, and collaborate to ensure the safety and quality of Oahu's fresh water resource.</b>	<ul style="list-style-type: none"> <li>• Perform water quality monitoring and reporting.</li> <li>• Formalize the source water protection program.</li> <li>• Monitor the Red Hill situation and take action to protect and preserve the groundwater resource, including, but not limited to participating in the Red Hill Underground Fuel Storage Facility Administrative Order on Consent.</li> </ul>
<b>Watershed Management – We will ensure healthy forests, recognizing the essential role of watersheds for a sustainable water supply (capture &amp; recharge).</b>	<ul style="list-style-type: none"> <li>• Appropriate up to 4% of annual Capital Improvement Program funding for watershed management and invasive species control. (WMP)</li> <li>• Complete Watershed Management Plans for Ewa, Central Oahu, Primary Urban Center, and East Honolulu. (WMP)</li> <li>• Promote Low Impact Development (LID) and stormwater capture for aquifer recharge. (WMP)</li> <li>• Revisit sustainable yields for all major aquifer systems with Commission on Water Resource Management.</li> </ul>
<b>Water Conservation – We will conserve supply and system capacity by reducing per capita demand and increasing water efficiency.</b>	<ul style="list-style-type: none"> <li>• Appropriate up to 4% of annual Capital Improvement Program funding for conservation to reduce per capita demand toward 2040 goal of 145 GPCD. (WMP)</li> <li>• Reduce water loss to less than 10%. (WMP)</li> <li>• Increase use of non-potable/recycled water. (WMP)</li> <li>• Establish mandatory and incentive-based rules for conservation/recycled water for all customers.</li> <li>• Continue consumer education and expand partnerships with government agencies and private entities.</li> </ul>
<b>Organization: We will ensure the necessary workforce, competencies, tools and resources to support current and future needs.</b>	<ul style="list-style-type: none"> <li>• Establish and implement leadership development program.</li> <li>• Incorporate the Field Operations Multi-Skilled Worker program into City civil service.</li> <li>• Incorporate workforce improvements and technology efficiencies into the organization.</li> </ul>
<b>Infrastructure: We will renew and improve the water system to ensure water system adequacy, dependable service, and operational efficiency.</b>	<ul style="list-style-type: none"> <li>• Expand preventative and predictive maintenance programs.</li> <li>• Initiate implementation of findings and recommendations of the BWS Water Master Plan and 30-Year Capital Improvement Program. (WMP)</li> </ul>
<b>Customer Service: We will proactively and consistently provide a quality experience in every customer interaction.</b>	<ul style="list-style-type: none"> <li>• Continue process improvement and quality assurance program in the Customer Care Division.</li> <li>• Improve accuracy and efficiency in meter reads collection.</li> </ul>
<b>Technology: We will ensure that our technology systems are current and leverage opportunities in technology to effectively support current and future BWS needs.</b>	<ul style="list-style-type: none"> <li>• Adopt user friendly technologies, tools, and applications to support the action plans in the BWS Strategic Plan. (customer improvements)</li> <li>• Increase customer satisfaction with IT Services rendered.</li> </ul>



Financial Opportunities: We will pursue and leverage financial opportunities.	<ul style="list-style-type: none"><li>• Effectively leverage debt and governmental funding for infrastructure investments.</li><li>• Develop other sources of revenue to supplement BWS water rate revenue.</li><li>• Execute RFP for the Beretania Complex property development.</li></ul>
Financial Planning – We will develop and implement short and long term financial plans and policies.	<ul style="list-style-type: none"><li>• Develop 10-Year operating budget plan.</li><li>• Complete 30-Year Long Range Financial Plan and water rate study in collaboration with BWS Stakeholder Advisory Group.</li><li>• Update financial policies to support the financial plan.</li></ul>

## Stakeholder Analysis

The BWS serves and interacts with many stakeholders in its actions to fulfill its mission to provide safe, dependable, and affordable water to the Citizens of the City and County of Honolulu. The strategic planning process included a discussion on the key stakeholders and considerations for support and collaboration were listed that could be included in future strategies of the BWS based on future assessment and prioritization.

## BWS Water Master Plan

The Board of Directors adopted the BWS 30-Year Water Master Plan (WMP) on October 24, 2016. The WMP is an essential component of the strategic plan as it serves the visionary 30-year road map for the department.

The WMP is a comprehensive, broad-based technical plan that determines the necessary water system improvements to support projected growth and provide safe, dependable and affordable water service to our customers. The development of the plan included a rigorous condition assessment of the existing water system to prioritize investment in renewal and replacement projects and the use of sophisticated computer modeling and statistical tools to identify capacity expansion projects to support areas of growth. The plan is also taking into consideration the effects of climate change with recommended active collaboration with industry experts on climate change research to determine its impacts on water infrastructure and watershed sustainability.

The BWS is currently developing a 30-Year Capital Improvement Program, financial plan and rate study to finance the infrastructure projects, programs, and recommendations identified in the plan. Several action plans in this strategic plan were the result of the findings and recommendations from the WMP.



## Performance Metrics

The following performance metrics help assess the progress of the BWS towards meeting the Sustainability Goals, Strategic Objective and Action Plans identified in the new Strategic Plan.

<b>RESOURCE SUSTAINABILITY</b>		
<b>Protect, conserve and manage Oahu's water supplies now and into the future through adaptive and integrated strategies.</b>		
METRIC	DESCRIPTION	PURPOSE
Stable Head Levels at Index Wells (%)	(Number of Index Wells above Low Ground Water Levels) (Total Number of Index Wells)	Measures the water level at the index wells and which are stable above Low Ground Water Levels. The purpose of this metric is to monitor the health of the ground water aquifer and prevent detrimental impact to the ground water sources.
Days in Regulatory Compliance	(Number of Days in Compliance) Total Days in Fiscal Year	Measures the compliance with water quality regulations. The purpose of this metric is to ensure supply of water that is safe for intended use
Area of Watershed Surveyed	Area of watershed surveyed for invasive plant species removal per year	Measures the area of BWS priority watersheds (26,085 acres) surveyed for invasive plant species per year. This purpose of this metric is to monitor invasive plant species removal.
Per Capita Water Consumption	(Annual Gallons Water Delivered/365) Total Population Served	Measures the effect of conservations programs on per capita consumption. The purpose of this metric is to determine if the target goal of 145 gpcd by year 2040 is being realized.
<b>OPERATIONAL SUSTAINABILITY</b>		
<b>Build an effective organization that continuously works to improve dependable services.</b>		
METRIC	DESCRIPTION	PURPOSE
Resident Overall Satisfaction with BWS (%)	% Strong Overall Satisfaction with BWS	Measures the percentage of residents that are strongly satisfied with overall services provided by BWS. The purpose of this metric is to measure the perceived satisfaction of residents with BWS and determine areas for improvement in delivery of BWS services
Employee Turn-Over Rate (%)	(Total number of Employee Departures) (Average number of Regular FTE)	Measure the rate of regular employee departure through voluntary, involuntary or retirement. The purpose of this metric to determine the rate of employee departs and develop strategies to retain employees.
Pipeline Leak Detection	(Miles of Pipes Tested for Leaks) (Total Miles of Pipe)	Measures the percentage of pipelines that were checked for leaks. The purpose of this metric is to track progress toward the goal of surveying 25% of the water system pipelines annually.
Main Breaks (count per 100 miles of pipeline)	Total Number of Annual Mainbreaks (Total Miles of Pipe/100)	Measures the annual number of main breaks per 100 miles of pipe. The purpose of this metric is to track the overall condition of the pipelines.
<b>FINANCIAL SUSTAINABILITY</b>		
<b>Implement sound fiscal strategies to provide safe, dependable and affordable water service.</b>		
METRIC	DESCRIPTION	PURPOSE
Bond Rating	AA+ - Fitch Aa2 – Moody's	Monitor and maintain the current ratings by the bond agencies. Measures financial strength and stability of the department.





# Report of the Permitted Interaction Group

Honolulu Board of Water Supply  
Draft Strategic Plan  
FY 2018 - 2022  
January 30, 2017

## Members:

Bryan P. Andaya, Chair

Kapua Sproat

Kay C. Matsui



## Background

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In 2014, the Board of Water Supply (BWS) senior management team and a Permitted Interaction Group comprised of three Board members (Duane R. Miyashiro - Chair, Mahealani Cypher, and David C. Hulihee) developed a strategic plan for Fiscal Year (FY) 2014-2017. This strategic plan was adopted by the Board on August 25, 2014. Since then, the BWS senior management directed and managed operations to execute the BWS strategic objectives and actions plans as described in the plan.

During the past 3 years, senior management team provided regular updates to the Board on the status of the Strategic Plan. On August 22, 2016 a final update report was presented to the Board to summarize the accomplishments of the FY 2014 -2017 Strategic Plan and lay the groundwork to develop the next 5-Year Strategic Plan for FY 2018 - 2022.

On September 26, 2016, a new Permitted Interaction Group comprised of three Board members (Bryan P. Andaya - Chair, Kapua Sproat, and Kay C. Matsui) was approved by the Board. This Permitted Interaction Group collaborated with the BWS senior management team to prepare the new FY 2018 - 2022 Strategic Plan. Three (3) workshops were held to prepare a draft Strategic Plan for Board review by January 2017 and possible adoption in February 2017.

## Workshop Schedule and Activities

---

From October to December 2016, three workshops were conducted to develop the draft strategic plan. Below is the workshop schedule and activities conducted during each workshop.

### Workshop 1 - October 26, 2016

#### Activity 1: Vision/Mission Review

The purpose of this activity was to review the BWS's mission and vision and discuss what these organizational elements mean individually and collectively to the workshop participants.

#### Activity 2: Stakeholder Analysis

The purpose of this activity was to collect ideas and have discussions around the current and future needs of key stakeholders that have interests in BWS.

#### Activity 3: Sustainability Goals Analysis





The purpose of this activity was to identify possible strategic actions that might be taken to support the accomplishment each of the three Sustainability Goals - Resource Sustainability, Operational Sustainability and Financial Sustainability.

#### Workshop 2: November 17, 2016

##### Activity 1: Sustainability Goals Review

The purpose of this activity was to review and revise, if necessary the description of the three Sustainability Goals - Resource Sustainability, Operational Sustainability and Financial Sustainability.

##### Activity 2: Strategic Objectives and Action Plans Development (Part 1)

The purpose of this activity was to review strategic objectives and identify potential strategic actions to accomplish each of these objectives to support the three overarching strategic goals.

#### Workshop 3: December 12, 2016

##### Activity 1: Strategic Objectives and Actions Plans Development (Part 2)

The purpose of this activity was to complete the review and development of the strategic objectives and action plans from Workshop 2.

##### Activity 2: Stakeholder Analysis Review and Needs Assessment

The purpose of this activity was to have a collective discussion about stakeholder expectation and develop action plans to address their service expectations and needs.

##### Activity 3: Key Measures Identification

The purpose of this activity is to identify key measures that are meaningful to the public and can be used to demonstrate the effectiveness of BWS is meeting the Sustainability Goals, Strategic Objectives and Actions plans identified in the new Strategic Plan.

## Findings and Recommendations

### **SUSTAINABILITY GOALS**

The description of three overarching Sustainability Goals were amended as follows:

Goal	Old Description	New Description
Resource	Protect and manage our groundwater supplies and watersheds through adaptive and integrated strategies.	Protect, conserve and manage Oahu's water supplies now and into the future through adaptive and integrated strategies.
Operational	Foster a resilient and collaborative organization utilizing effective and proactive operational practices consistent with current industry standards.	Build an effective organization to continuously improve dependable service.
Financial	Implement sound fiscal strategies to finance our operating and capital needs to provide dependable and affordable water service.	Implement sound fiscal strategies to provide safe, dependable and affordable water service.

### **STRATEGIC OBJECTIVES AND ACTION PLANS**

The Strategic Objectives and Action Plans to support the three overarching Sustainability Goals are as follows:

#### **Resource Sustainability:**

**Strategic Objective:** Climate Change - We will increase our understanding and adapt to climate change to manage Oahu's water resources and protect the limited water supply.

#### **Action Plans:**

- Incorporate vulnerability assessment research to increase infrastructure resiliency.





- Complete hydro-geologic research on climate change impacts to the water supply.
- Continue active collaboration with water organizations and agencies on adapting to climate change.
- Complete the Kalaeloa seawater desalination plant - 1.0 MGD.

**Strategic Objective:** Water Quality - We will protect, preserve and collaborate to ensure the safety and quality of Oahu's fresh water resource.

**Action Plans:**

- Perform water quality monitoring and reporting.
- Formalize the source water protection program.
- Monitor the Red Hill situation and take action to protect and preserve the groundwater resource, including, but not limited to participating in the Red Hill Underground Fuel Storage Facility Administrative Order on Consent.

**Strategic Objective:** Watershed Management - We will ensure healthy forests, recognizing the essential role of watersheds for a sustainable water supply (capture & recharge).

**Action Plans:**

- Appropriate up to 4% of annual Capital Improvement Program funding for watershed management and invasive species control.
- Complete Watershed Management Plans for Ewa, Central Oahu, Primary Urban Center, and East Honolulu.
- Promote Low Impact Development (LID) and stormwater capture for aquifer recharge.
- Revisit sustainable yields for all major aquifer systems with Commission on Water Resource Management.

**Strategic Objective:** Water Conservation - We will conserve supply and system capacity by reducing per capita demand and increasing water efficiency.

**Action Plans:**

- Appropriate up to 4% of annual Capital Improvement Program funding for conservation to reduce per capita demand toward 2040 goal of 145 GPCD.



- Reduce water loss (from 10% to 8%).
- Increase use of non-potable/recycled water.
- Establish mandatory and incentive-based rules for conservation/recycled water for all customers.
- Continue consumer education and expand partnerships with government agencies and private entities.

#### **Operational Sustainability:**

**Strategic Objective:** Organization - We will ensure the necessary workforce, competencies, tools and resources to support current and future needs.

##### **Action Plans:**

- Establish and implement leadership development program.
- Incorporate the Field Operations Multi-Skilled Worker program into City civil service.
- Incorporate workforce improvements and technology efficiencies into the organization.

**Strategic Objective:** Infrastructure - We will renew and improve the water system to ensure adequacy, dependable service, and operational efficiency.

##### **Action Plans:**

- Expand preventative and predictive maintenance programs.
- Initiate implementation of findings and recommendations of the BWS Water Master Plan and 30-Year Capital Improvement Program.

**Strategic Objective:** Customer Service - We will proactively and consistently provide a quality experience in every customer interaction.

##### **Action Plans:**

- Continue process improvement and quality assurance program in the Customer Care Division.
- Improve accuracy and efficiency in meter reads collection.

**Strategic Objective:** Technology - We will ensure that our technology systems are current and leverage opportunities in technology to effectively support current and future BWS needs.





**Action Plans:**

- Adopt user friendly technologies, tools, and applications to support the action plans in the BWS Strategic Plan.
- Increase customer satisfaction with IT services rendered.

**Financial Sustainability:**

**Strategic Objective:** Financial Opportunities - We will pursue and leverage financial opportunities.

**Action Plans:**

- Effectively leverage debt and governmental funding for infrastructure investments.
- Develop other sources of revenue to supplement BWS water rate revenue.
- Execute RFP for the Beretania Complex property development.

**Strategic Objective:** Financial Planning - We will develop and implement short and long term financial plans and policies.

**Action Plans:**

- Develop 6-Year operating budget plan.
- Complete 30-Year Long Range Financial Plan and water rate study in collaboration with BWS Stakeholder Advisory Group.
- Update financial policies to support the financial plan.

**STAKEHOLDER ANALYSIS**

The strategic planning process included a discussion of the key stakeholders that BWS serves and interacts with to accomplish its mission. Key stakeholders were identified and considerations for support and collaboration were listed that could be included in future strategies of the BWS based on further assessment and prioritization.



## PERFORMANCE MEASURES

The following performance measures were identified to help assess the progress of the BWS towards meeting the Sustainability Goals, Strategic Objectives and Actions plans identified in the new Strategic Plan.

RESOURCE SUSTAINABILITY		
Protect, conserve and manage Oahu's water supplies now and into the future through adaptive and integrated strategies.		
METRIC	DESCRIPTION	PURPOSE
Stable Head Levels at Index Wells (%)	(Number of Index Wells above <u>Low Ground Water Levels</u> ) (Total Number of Index Wells)	Measures the water level at the index wells and which are stable above Low Ground Water Levels. The purpose of this metric is to monitor the health of the ground water aquifer and prevent detrimental impact to the ground water sources.
Days in compliance with DOH-EPA Drinking Water Standards (%)	( <u>Number of Days in Compliance</u> ) Total Days in Fiscal Year	Measures the compliance with water quality regulations. The purpose of this metric is to ensure supply of water that is safe for intended use
Watershed Management	Area of watershed surveyed for invasive plant species removal per year	Measures the area of BWS priority watersheds (26,085 acres) surveyed for invasive plant species per year. This purpose of this metric is to monitor invasive plant species removal.
Water Conservation	Per capita consumption	Measures the effect of conservations programs on per capita consumption. The purpose of this metric is to determine if the target goal of 145 gpcd by year 2040 is being realized.
OPERATIONAL SUSTAINABILITY		
Build an effective organization to continuously improve dependable services.		
METRIC	DESCRIPTION	PURPOSE
Resident Overall Satisfaction with BWS (%)	% Strong Overall Satisfaction with BWS	Measures the percentage of residents that are strongly satisfied with overall services provided by BWS. The purpose of this metric is to measure the perceived satisfaction of residents with BWS and determine areas for improvement in delivery of BWS services
Employee Turn-Over Rate (%)	(Total number of Employee <u>Departures</u> ) (Average number of Regular FTE)	Measure the rate of regular employee departure through voluntary, involuntary or retirement. The purpose of this metric to determine the rate of employee departures and develop strategies to retain employees.





Pipeline Leak Detection and Monitoring	<u>(Miles of Pipes Tested for Leaks)</u> <u>(Total Miles of Pipe)</u>	Measures the percentage of pipelines that were checked for leaks. The purpose of this metric is to track progress toward the goal of surveying 25% of the water system pipelines annually.
Pipeline Breaks (count per 100 miles of pipeline)	Total Number of Annual <u>Mainbreaks</u> (Total Miles of Pipe/100)	Measures the 3-Year annual average total mainbreak count across the BWS water system. The purpose of this metric is to track the overall condition of the pipelines.
<b>FINANCIAL SUSTAINABILITY</b>		
Implement sound fiscal strategies to provide safe, dependable and affordable water service.		
METRIC	DESCRIPTION	PURPOSE
Bond Rating	AA+ - Fitch Aa2 - Moody's	Monitor and maintain the current ratings by the bond agencies. Measures financial strength and stability of the department.

## Next Steps

To comply with Hawaii Revised Statutes (HRS), Section 92.2.5(b)(1)(B), the Permitted Interaction Group report describing their findings and recommendations will be presented at the January 30, 2017 Board Meeting. The findings will include a draft of the proposed Strategic Plan for FY 2018 - 2022. The Board may ask questions regarding the Permitted Interaction Group report to help get an understanding of the report and draft strategic plan. However, HRS, Section 92-2.5.(b)(1)(C) requires that Board discussion, deliberation and decision-making occur at a subsequent meeting, tentatively scheduled for the next monthly Board meeting.

We are planning to finalize the new 5-Year Strategic Plan for FY 2018 - 2022 and present it for Board adoption in FY 2017 to allow implementation of the plan beginning in July 2017.

MEETING TAKEN OUT OF ORDER

ITEM FOR INFORMATION NO. 1

"April 24, 2017

INCENTIVES  
FOR AFFORDABLE  
HOUSING

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: Discussion by Mayor Kirk Caldwell on Incentives for  
Affordable Housing Units

The City Administration will be introducing various policy changes and incentives to the City Council to address the shortage of affordable housing on Oahu. As stated in the attached letter, a proposed ordinance will provide a ten-year waiver of building and plan review fees, wastewater system facility charges, park dedication requirements, and select real property tax waivers.

The Honorable Mayor Kirk Caldwell would like to address the Board today to discuss potential incentives for affordable housing development as it pertains to water rates and fees.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer

Attachment"

The foregoing was for information only.

DISCUSSION: Mayor Caldwell made a personal plea to BWS to look at waiving water hook-up fees for affordable housing units. Mr. Caldwell mentioned that housing has been unaffordable, since before 1950. The City has tried to change the land reform act, break up the alii trust and anything else in between, but it hasn't made a difference. However, the Mayor has gotten agreements from the Departments of Planning and Permitting and Environmental Services to waive some of the fees.

Mayor also thanked BWS for having the best water.



**OFFICE OF THE MAYOR**  
**CITY AND COUNTY OF HONOLULU**

530 SOUTH KING STREET, ROOM 300 • HONOLULU, HAWAII 96813  
PHONE: (808) 768-4141 • FAX: (808) 768-4242 • INTERNET: [www.honolulu.gov](http://www.honolulu.gov)



KIRK CALDWELL  
MAYOR

ROY K. AMEMIYA, JR.  
MANAGING DIRECTOR

GEORGETTE T. DEEMER  
DEPUTY MANAGING DIRECTOR

April 5, 2017

Chair Bryan P. Andaya and Members  
Board of Water Supply  
630 South Beretania Street  
Honolulu, Hawaii 96843

Dear Chair Andaya and Members:

SUBJECT: Incentives for affordable housing units

The demand for affordable housing on Oahu is high, and the marketplace is not building enough affordable housing to keep up with demand. Following the strategies identified in my Affordable Housing Strategy (September 2015), the City is updating policies, programs, regulations, investments and incentives to address the critical shortage of affordable housing on Oahu.

The City is developing several temporary financial incentives that will waive certain City fees for affordable housing units. The intent is to stimulate affordable housing production, especially rental housing, while helping to offset new affordable housing requirements that are being introduced by the City. The agencies directly involved with this effort are the Department of Planning and Permitting, the Department of Environmental Services, the Department of Parks and Recreation, and the Department of Budget and Fiscal Services. I will be introducing an ordinance to Council shortly to provide a ten-year waiver of building and plan review fees, wastewater system facility charges, park dedication requirements, and select real property tax waivers.

I understand that the Board of Water Supply is considering updating its rates and fees. I encourage the Board to join this citywide effort by discussing potential incentives for affordable housing units at the April Board meeting. I would appreciate time on your agenda to discuss this topic, and look forward to your suggestions and ideas. Please contact Harrison Rue, Community Building and TOD Administrator, with any questions at 768-8294 or [hrue@honolulu.gov](mailto:hrue@honolulu.gov). I look forward to our discussion.

Sincerely,

A handwritten signature in black ink, appearing to read "Kirk Caldwell", is written over a horizontal line.

Kirk Caldwell  
Mayor

APPROVAL OF  
ABOLISHMENT  
OF POSITIONS

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: Approval of Abolishment of Positions

Introduction

We request the Board's approval to abolish the vacant, permanent positions listed below. Under section 7-105(c) of the Revised Charter of the City and County of Honolulu, the powers, duties and functions of the Board shall, "Have the authority to create and abolish positions."

The Board of Water Supply (BWS) currently has 714 authorized positions which has been the authorized total for at least the past 10 years. It is the practice of BWS to remain within its existing position authorization to avoid unnecessarily increasing the size of the department's authorized workforce.

A recent interpretation by the City Department of Corporation Counsel determined that abolishing, in addition to creating positions, is the purview of the Board of Directors and must be approved by Board action.

Background

Over time, changes to the original purpose and need for certain positions have occurred due to reorganization and evolving program direction over the years. For example, the majority of the positions on this list have been deemed to be surplus after the pilot program for the multi-skilled worker (MSW) program was initiated. The MSW classification was used in lieu of the traditional trades classification to better utilize existing employees. Rather than having employees limited to only perform one trade skill due to their job classification, MSW employees are able to perform different tasks such as pipefitting, masonry, carpentry, welding, and heavy machine operation as part of their duties. The MSW program provided added flexibility to better utilize personnel when responding to main breaks and other emergencies.

The single trades positions listed on this memo were "unfunded" and are now being requested to be abolished to accommodate other needed positions.

Need for Additional Positions

Additional positions are required to meet current and anticipated program growth. New positions are requested through the annual budget process, and though not specified in the budget, the current practice of the



department is to identify existing vacancies to better utilize authorized positions to meet current and future needs. New positions, as requested and approved in the annual operating budget, are now being created to meet these new needs. Below are 18 positions that have been or are in the process of being created. These positions were authorized in the fiscal year 2017 operating budget.

<b>Division</b>	<b>Position Title</b>
Water System Operations	Mechanical Engineer IV
Water System Operations	Engineering Support Technician II
Water System Operations	Assistant Water Treatment Worker (12)
Communications	Information Specialist II
Water Quality	Laboratory Technician II
Water Quality	Environmental Management Specialist
Water Quality	Lab Quality Assurance Officer

#### Requested Action

To remain within the department's authorized position count ceiling and to avoid increasing the size of the department's authorized workforce, the 18 positions listed in the following table will be abolished to make room for the new positions approved in the budget.

#### **Positions to be Abolished**

<b>Position Number</b>	<b>Division</b>	<b>Position Title</b>
592	Field Operations	Trades Apprentice I
157	Field Operations	Lead Carpenter
504, 505, 803	Field Operations	Water Service Supervisor III
216, 567, 793	Field Operations	Water Service Supervisor IV
553	Field Operations	Construction Equipment Operator I
677	Field Operations	Masonry Supervisor I
818	Field Operations	Pipefitter
671	Field Operations	Chemical Treatment Worker II
323	Executive Support Office	Assistant Chief of Data Processing
109	Office of the Manager and Chief Engineer	Civil Engineer VII
128	Water System Operations	Telemetry and Supervisory Control Technician I
378, 564	Water System Operations	Plant Electrical/Electronic Equipment Repairer
623	Water System Operations	Water Systems and Technical Services Supervisor

The outcome of the MSW program may not be determined for several more months or years due to discussions with the City and County of Honolulu Department of Human Resources, as well as negotiations with labor unions. Should the effort to make the MSW program permanent be unsuccessful, depending on the ultimate outcome of the program, the department may need to return to the Board to request for the creation of the various single trades positions that were used prior to the MSW program.

The department will continue to evaluate vacant positions that may be used in lieu of creating additional positions to not increase the authorized position count of the department.

Respectfully submitted,

/s/ for ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer"

**DISCUSSION:** Robert Morita, Executive Assistant of Executive Support Office, gave the report.

In response to Mr. Wong's question about whether these abolished positions were part of the personnel budget and how many positions were budgeted, Mr. Morita stated these salaries were not part of the annual budget and BWS has 714 minus 18 positions budgeted. BWS also reduced the salary budget by matching the anticipated fill dates for the vacant positions.

Mr. Morita responded yes to Ms. Sproat's question about the 18 positions being unfunded.

**MOTION TO  
APPROVE  
ABOLISHMENT  
OF POSITIONS**

Ross Sasamura and Adam Wong motioned and seconded, respectively, to approve the abolishment of positions. The motion was unanimously carried.

ABOLISHMENT OF POSITIONS WAS APPROVED AT THE APRIL 24, 2017 BOARD MEETING			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
ADAM C. WONG	X		
DAVID C. HULIHEE			ABSENT
KAPUA SPROAT	X		
KAY C. MATSUI			ABSENT
ROSS S. SASAMURA	X		
FORD N. FUCHIGAMI			ABSENT



ITEM FOR INFORMATION NO. 2

"April 24, 2017

FINANCIAL  
PLAN AND  
RATE STUDY  
UPDATE

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: Board of Water Supply Financial Plan and Rate Study  
Update

Joe Cooper, Waterworks Controller, will present an update of our Water Master Plan Financial Plan and Rate Study.

Respectfully submitted,

/s/ for ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer

Attachments"

The foregoing was for information only.

DISCUSSION:

Joe Cooper, Waterworks Controller, gave the presentation.

Mr. Andaya encouraged the Board Members to review the monthly Stakeholder Advisory Group's meeting minutes and presentations. They have excellent background information, including how the recommendations were formulated, and discussions on disaster planning and comparisons from other jurisdictions.

Mr. Cooper answered Mr. Andaya's question that the total revenue requirement would increase 3 ½ % a year over the next 10 years if BWS goes from 45 days to 180 days of working capital. BWS doesn't have the figure of total dollar amount because it depends on BWS Capital Improvement budgets.

Mr. Lau said BWS will have a better estimation of operating budget costs at the upcoming budget workshop.

Mr. Cooper said BWS's current coverage ratio is 5.9 percent. Mr. Andaya asked whether debt coverage ratio will require additional revenues. Mr. Lau stated BWS may incur debt through revenue bonds and the State Revolving Fund to fund capital projects.

Mr. Lau asked the Board Members to let Lisa Kim know if they have any questions so BWS can incorporate them and bring them to the next meeting on May 8 for discussion.

**WATER FOR LIFE**

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**Board of Water Supply**  
City and County of Honolulu

# **Board Update**

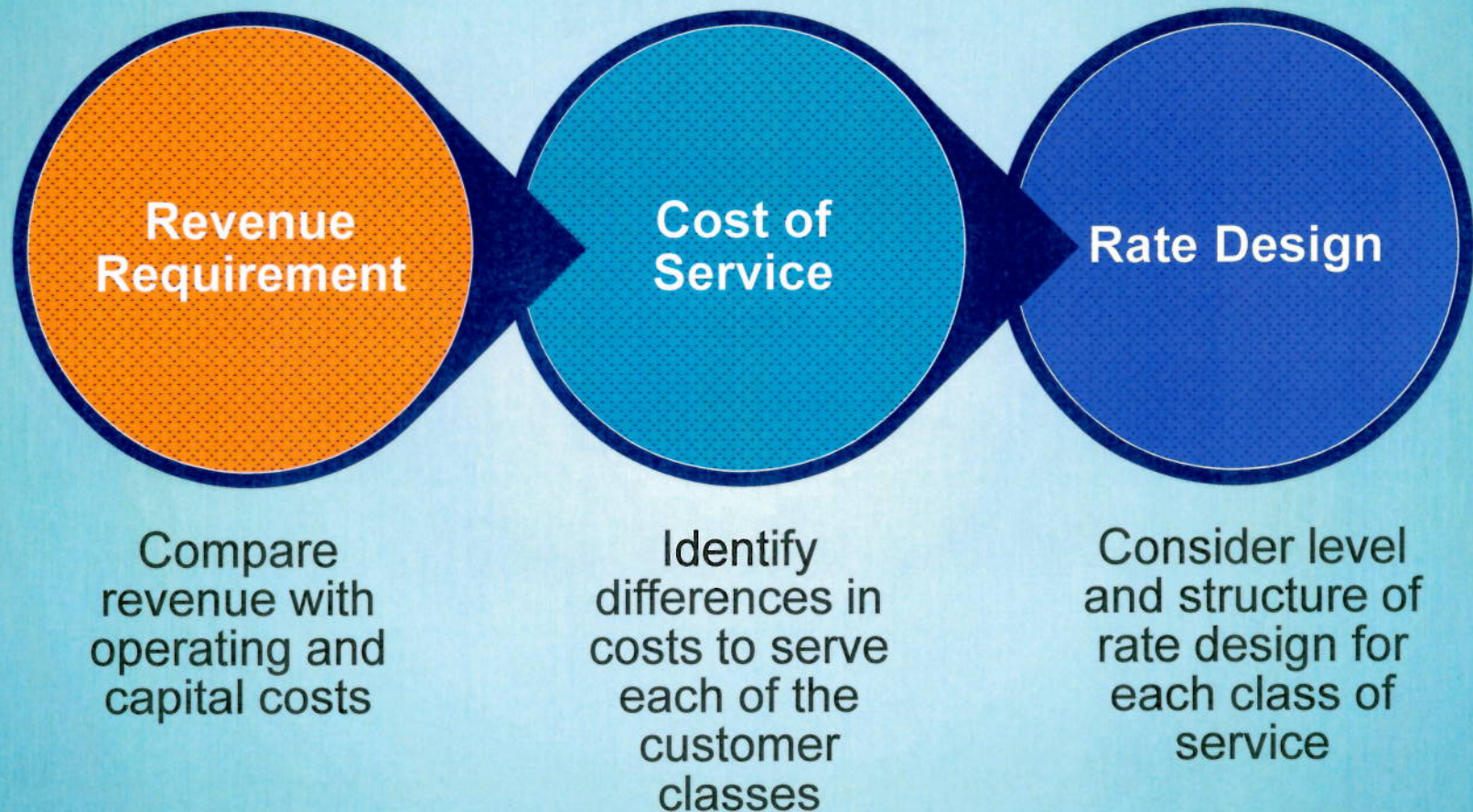
## **Updating Financial Policies**

**April 24, 2017**





# Three Primary Steps of Rate Making





# 4 Major Drivers of Revenue Requirements and Rates

Operations &  
Maintenance

Operations and maintenance costs

Capital  
Expenses Paid  
in Cash vs.  
Debt

How the Capital Improvement Program  
is financed

Reserves and  
Working Capital

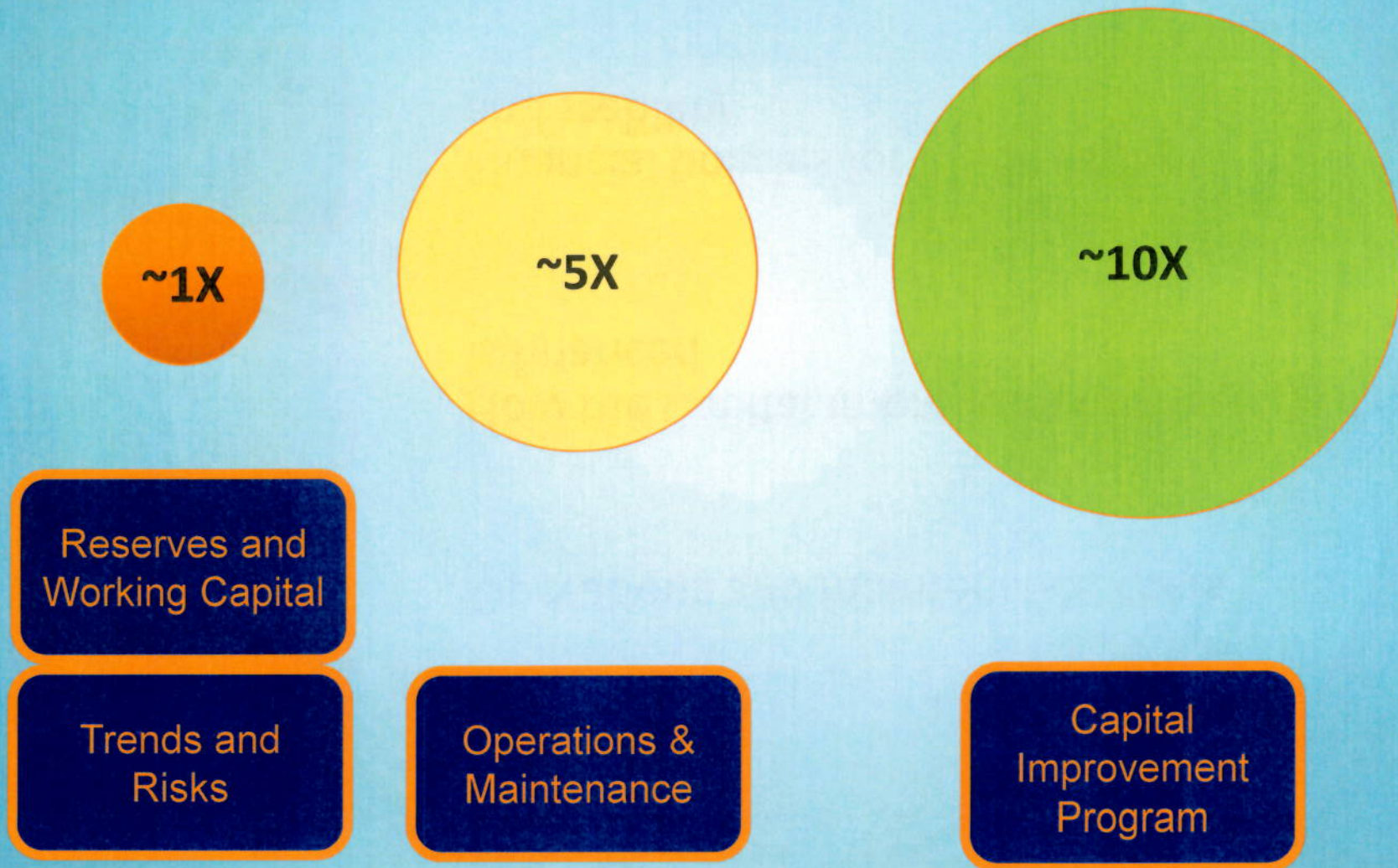
Financial policies for credit ratings  
and stability

Trends and  
Risks

Preparedness to respond to changing  
trends and risks



# Drivers have Different Potential Impacts on Revenue Requirement





# Proposed Updated Policy Framework

## 1. **Fund balance / working capital**

Amount of Cash on Hand

## 2. **Purposes and uses of debt**

When and Why to Borrow

## 3. **Debt to net assets ratio**

How Much can be Borrowed

## 4. **Debt service coverage ratio**

Ability to Make Loan Payments



# 1. Fund Balance / Working Capital (Amount of Cash on Hand)



## Current

- Unrestricted fund balance = 45 days of operating expenses
- Includes annual debt service
- Allows setting aside net revenues that exceed budget for general contingencies (no limits)



## Draft

- Target 180 days, never less than 60 days
- Exclude annual debt service (for consistency)
- Achieve gradually over 10 years to minimize rate impacts
- Supplement cash with other cost-effective financial tools, e.g. insurance, lines of credit, commercial paper
- >180 days may be re-programmed to fund CIP

# BWS Disaster Recovery Scenarios

	Scenario A		Scenario B		Scenario C	
Item	Rate	\$ M	Rate	\$ M	Rate	\$ M
Damages	2%	\$22.4	4%	\$44.8	4%	\$44.8
Revenue Loss	50% Months 1-3	\$28.9	25% Months 1-3	\$14.4	100% Month 1	\$19.2
Revenue Loss	25% Months 4-12	\$43.3	10% Months 4-12	\$17.3	50% Months 2-3	\$19.2
Days Cash	201		163		177	



# Revenue Requirement Impacts of Different Working Capital Levels

	Cumulative 10 Year Total From 2017 to 2026
90 Days	1.5%
120 Days	2.5%
150 Days	3.0%
180 Days	3.5%

- Only shows changes resulting from changes in days cash
- Does not reflect potential changes in revenues for future capital and operating costs
- Assumes status quo CIP of \$80 million escalated by CPI

## 2. Purposes and Uses of Debt (When and Why to Borrow)



### Current

- Select most economical financing source
- Term of debt limited to life of facility it is funding
- Cannot fund operations & maintenance
- No more than 20% variable rate debt
- Pay-as-you-go funding "...in a range in conjunction with debt to net assets ratio."



### Draft

- Select most economical financing source
- Term of debt limited to life of facility it is funding
- Cannot fund operations & maintenance
- No more than 20% variable rate debt



### 3. Debt to Net Assets Ratio (How Much Can be Borrowed)



#### Current

- 40% to 50% debt to net assets ratio



#### Draft

- No more than 50% debt to net assets ratio

## 4. Debt Service Coverage Ratio (Ability to Make Loan Payments)



### Current

- 1.6x senior annual debt service
- 1.3x junior annual debt service

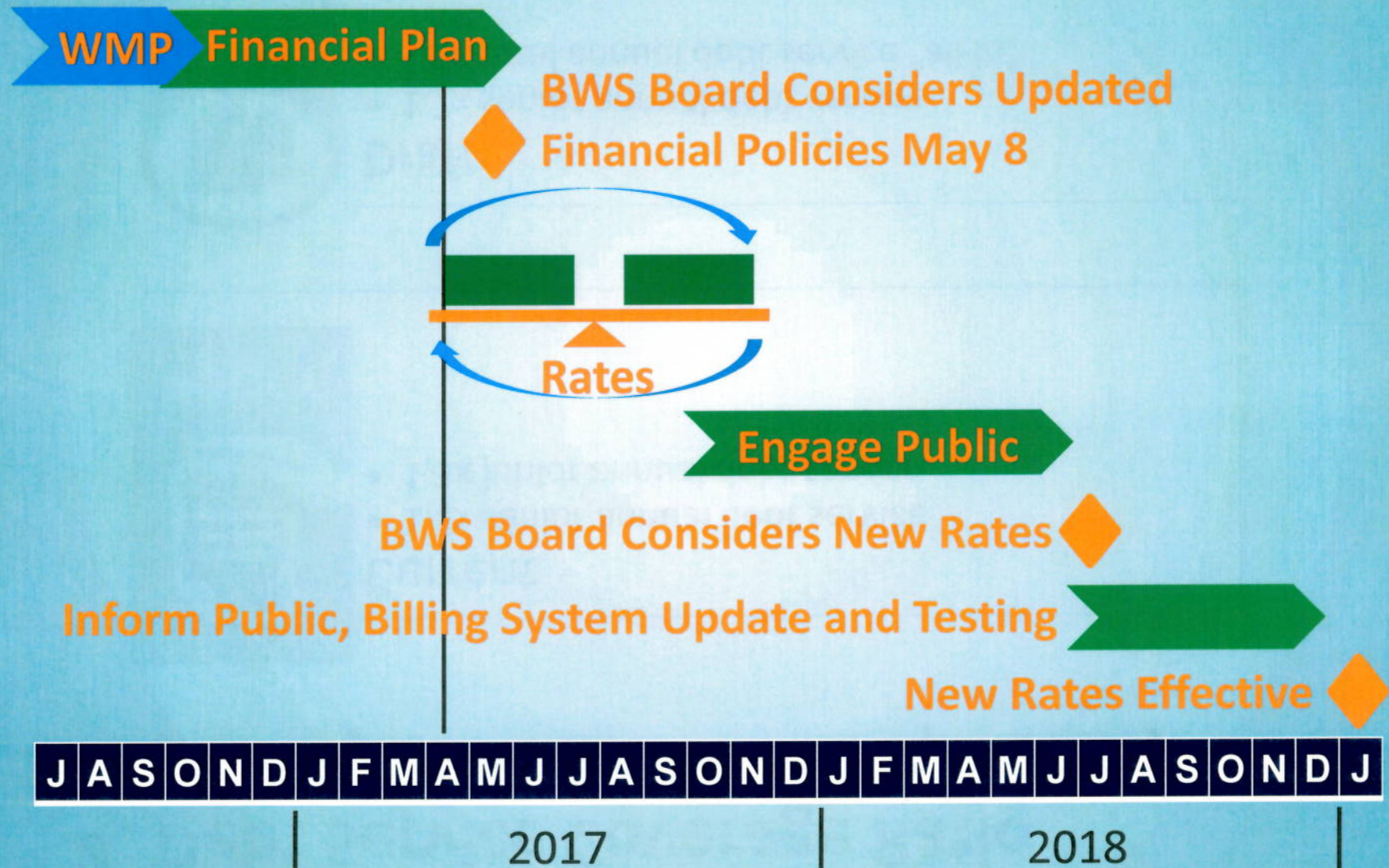


### Draft

- 1.7x senior annual debt service
- 1.6x total annual debt service “all in”



# Financial Plan and Rates Schedule





# WATER FOR LIFE

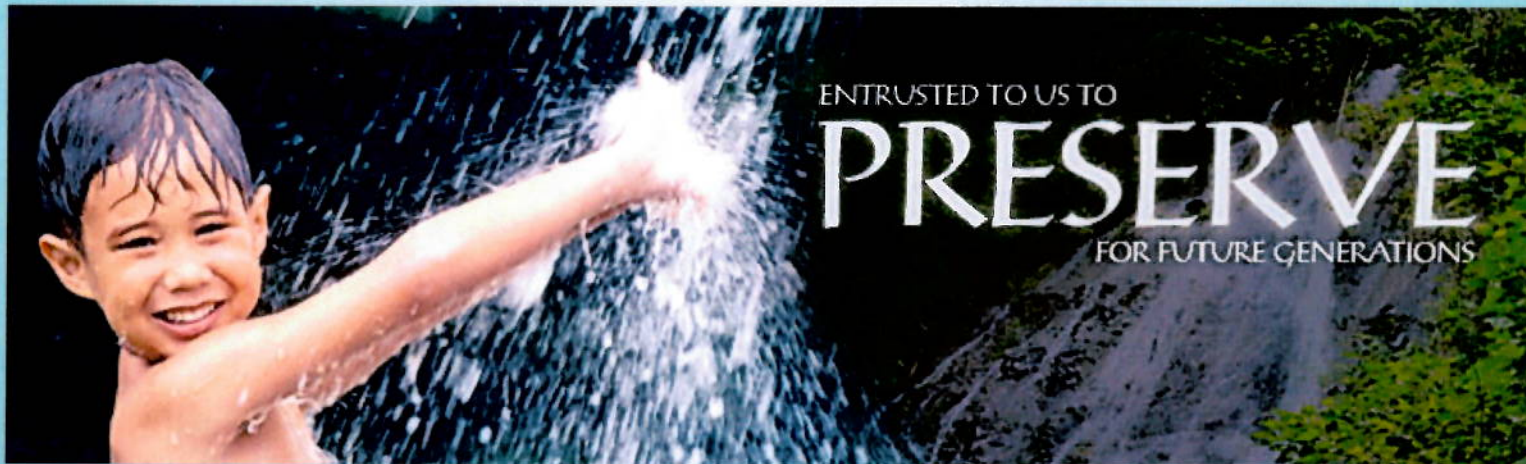
*Safe, dependable, and affordable water now and into the future*



Board of Water Supply  
City and County of Honolulu

**Mahalo!**

**Questions & Answers**





## Board of Water Supply

### Debt Management and Reserve Policies

DRAFT April 7, 2017

**Purpose:** The financial policies are developed to ensure the financial integrity of the Board of Water Supply, support strong credit ratings, reduce and mitigate rate increases in the future and to support the Board of Water Supply's long range financial planning objectives.

#### 1. Working Capital

- a. Description. Working Capital (also called Uncommitted Operating Fund Balance) is needed to ensure the Board of Water Supply's ongoing ability to fund operating and maintenance expenses, debt service and construction payments in a timely manner. Sufficient funds should be committed to enable the Board of Water Supply to reliably meet its obligations, accounting for differences between when costs are incurred and revenues are received. Working Capital should be sufficient to cover contingencies, including disasters and other unforeseen events. Finally, Working Capital should provide sufficient flexibility and strength to support the Board of Water Supply's credit rating objectives.
- b. Working Capital Target. The Board of Water Supply's objective will be to maintain 180 days cash on hand, where days cash on hand is defined as the number of days of operating expenses that could be covered by Working Capital (exclusive of those funds committed to capital projects or construction contracts). The 180 days cash target is to provide funds for unplanned events such as disaster recovery, and rate stabilization. The 180 days cash target is intended to be achieved gradually over an approximately 10-year period from the adoption of this policy in order to minimize rate impacts. The Board of Water Supply will maintain a minimum of 60 days cash on hand. The Board of Water Supply may use financial tools such as cost-effective lines of credit, commercial paper, and insurance for use in emergencies and natural disaster recovery to supplement cash and investments to provide financial capacity of more than 180 days cash on hand.
- c. Working Capital greater than 180 days may be re-programmed to fund long-term capital projects in future years.

#### 2. Purposes and Use of Debt

- a. Description. Debt may be issued as fixed or variable-rate obligations, and may be used to finance long-term capital projects. The Board of Water Supply may incur debt through state or federal programs such as the State Revolving Fund (SRF) and Water Infrastructure Finance and Investment Act (WIFIA), by issuing debt in the public market, or through a private placement or direct borrowing.

- b. Use of Debt. The Board of Water Supply will issue debt to fund long-lived capital projects. By issuing debt to fund capital projects, the Board of Water Supply can better align the costs (through annual debt service payments) with the effective useful life of a facility or project, more effectively allocating the cost of facilities to those customers who benefit from the facilities over time. In addition, the use of debt is a valuable tool to mitigate spikes in capital spending resulting from large project expenditures, helping to reduce needed rate increases.

The longest maturity of any debt issuance will be no longer than the expected useful life of the facility to be constructed. Debt will be issued in compliance with all tax and other federal and state regulations.

Short-term debt may be issued from time to time to fund projects in anticipation of a future long-term bond issue (e.g., a Bond Anticipation Note) or future revenues (e.g., Revenue Anticipation Note). The Board of Water Supply may also utilize revolving credit loans, commercial paper, or similar programs to provide interim construction financing in anticipation of future long-term bond issues, revenue inflow, or to provide funding during unplanned events such as natural disasters as described under Working Capital.

- c. Debt Structure. The Board of Water Supply will use a mix of fixed and variable rate debt that is expected to yield the lowest cost of borrowing, but will limit the percent of variable rate debt to no more than 20% of outstanding debt. The Board of Water Supply may issue debt on either a senior lien or a subordinate lien. Senior lien debt will have the highest claim on Net Revenues, followed by subordinate lien debt.

### **3. Debt to Net Asset Ratio**

- a. Description. The debt to net asset ratio is a measure of financial leverage, and is defined as the ratio of total outstanding debt, including SRF loans and any other borrowing (including both senior and subordinate debt) to net assets.
- b. Debt to Net Asset Ratio Target. To ensure financial flexibility in the future, as well as maintain strong credit ratings, the Board of Water Supply will target a Debt to Net Asset Ratio of no more than 50%.

### **4. Debt Service Coverage Ratio**

- a. Description. The Debt Service Coverage Ratio is a measure of financial margin or the amount of funds available to pay debt service, including all borrowings such as SRF loans, after paying for all operating and maintenance expenses. It is computed as the ratio of net revenues (total revenues less operating and maintenance expenses, plus depreciation) to annual debt service.



- b. Debt Service Coverage Target. The Board of Water Supply may issue debt on either of its senior or subordinate liens. As the senior lien has the first claim on Net Revenues, the Board of Water Supply will maintain a Debt Service Coverage Ratio on senior lien debt equal to or greater than 1.7, with an “all-in” (that is, a Debt Service Coverage Ratio equal to Net Revenues divided by all outstanding debt, regardless of lien) equal to or greater than 1.6.

DRAFT



**Financial Policies**  
**Approved September 27, 2004**

The financial policies enumerated below are designed to ensure the financial integrity of Board operations, protect Board lenders, and ensure adequate financial strength and flexibility to support the Board's strategic initiatives.

**1. FUND BALANCE/WORKING CAPITAL RESERVE:**

**Description:** The amount of Unrestricted Operating Funds maintained to meet fluctuating cash flow requirements and respond to emergency situations.

**Proposed Policy:** Maintain an Unrestricted Operating Fund Balance of 45 days of annual operating budget expenditures, inclusive of debt service requirements.

**2. DEBT SERVICE COVERAGE:**

**Description:** The ratio of Net Operating Revenues divided by annual Debt Service requirements. This is indicative of the amount of net revenues available to meet debt service requirements.

**Proposed Policy:** Targeted coverage of **1.60x** annual debt service on **senior** lien debt. Targeted coverage of **1.30x** annual debt service on **junior** lien debt. (NOTE: The bond covenant requirement is 1.20x for senior lien debt)

**3. DEBT TO NET ASSETS RATIO:**

**Description:** The debt to net asset ratio defines, in part, the Board's capital structure, a policy for which guides capital financing by establishing a targeted balance of borrowing versus use of current revenues.

**Proposed Policy:** 40% to 50% (Currently at 26%)

**4. PURPOSES AND USES OF DEBT:**

**Description:** Determine the type of expenditures debt financing can fund.

**Proposed Policy:** Employ debt to finance long-term capital improvements. Issue debt in compliance with all arbitrage and tax regulations relating to remaining useful life. When appropriate, strive to issue debt with a weighted average life that is shorter than or equal to the useful life of the financed assets. Current revenues are to be used for financing operating expenses.





**Financial Policies**  
**Approved September 27, 2004**

**5. PAY-AS-YOU-GO FUNDING FOR CAPITAL IMPROVEMENTS:**

**Description:** Defines the approach to capital project financing that is intended to balance the Board's cost structure and limit borrowing to optimal levels.

**Proposed Policy:** Should be in a range in conjunction with the debt to net assets ratio.

**6. DEBT STRUCTURE:**

**Description:** Establish general parameters related to debt structure to guide the selection of debt instruments at the time of capital investment.

**Proposed Policy:** Select the source that provides the most economical financing cost given the specific circumstances (type of projects being financed, current market conditions, etc.). Limit the amount of net unhedged variable debt to no more than 20% of overall debt. Analysis of the available instruments should include the following:

- Objectives and purpose.
- Applicability (tax-exempt, taxable, SRF).
- Contingency plans for rising interest rates (variable rate debt).
- Total costs, including fees and commissions.
- Evaluation of risks, limitations, and legal requirements.

**7. CONTINGENCY RESERVE:**

**Purpose:** Designate a portion of the fund balance to cover contingencies in order to protect the Board from an unforeseen event has a significant negative impact on operations.

**Proposed Policy:** Establish a general contingency reserve funded by setting aside net revenues that exceed budget.

**8. RELATIONS WITH RATING AGENCIES:**

**Description:** Establish approach to, frequency, and procedures for communications with Bond Rating agencies.

**Proposed Policy:** Maintain regular communications with rating agencies. Apprise agencies of significant developments that may impact the Board's credit rating or financial position. Provide audited financial statements, annual budget, and strategic plan annually. Meet at least annually to review ratings and ratings process.



**Financial Policies**  
**Approved September 27, 2004**

**9. USE OF RATE STUDIES – UPDATES AND USE OF COST OF SERVICE ANALYSIS**

**Description:** Define frequency that rate studies are updated and the use of rate study results for establishment of Board rates.

**Proposed Policy:** Complete cost-of-service rate study every 3 years and use cost-of-service results as a criterion for establishing new rates and rate structures. The amount of any subsidy should be reviewed during this process. Review revenue requirements and rates annually as part of the budget process and adjust rates as appropriate.



ITEM FOR INFORMATION NO. 3

"April 24, 2017

FINANCIAL  
UPDATE

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: Financial Update for the Quarter Ended March 31, 2017

The following Board of Water Supply's financial reports and graphs are attached:

- Budget vs Actual Revenue and Expense Totals
- Statement of Revenues, Expenses and Change in Net Assets
- Current Quarter Statement of Revenues, Expenses and Change In Net Assets
- Balance Sheet
- Budget vs Actual Appropriation Budget – Total BWS Summary
- Graph Representing Operating Expenditures by Category
- Graphs of Total Budgeted Operating Expenditures and Total Budgeted Operating Revenues

Respectfully submitted,

/s/ for ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer

Attachments"

The foregoing was for information only.

DISCUSSION: Joe Cooper, Waterworks Controller, gave the presentation.

In response to Mr. Wong's question of what the end of the year net revenues will be, Mr. Cooper replied it will probably be up \$70 million. Mr. Wong also asked if it is possible to put \$70 million to cash on hand, at 180 days, Mr. Cooper replied it is possible, but BWS's current policy is 45 days. BWS currently has over 180 days of cash on hand.

In response to Mr. Wong's question of what covenants are required to be covered (by our bond documents) as opposed to going to the rate payers, Mr. Cooper replied that we have developed a model to adjust BWS revenue requirements and that spends cash on hand over the next 10 years to reach our days cash on hand target.

Mr. Lau said BWS wants to insure reliable operations, have a good bond rating so that BWS can borrow money and not have a big cash reserve, just

enough to keep the system running and address BWS long term needs and financial strength.

Mr. Wong asked about a report that bond rating agencies can provide BWS that shows BWS's rating. Mr. Cooper will provide Mr. Wong with the latest report.

Mr. Andaya questioned the services and supplies budget in which BWS budgeted \$34.7 million and spent \$21 million. Mr. Lau said BWS is trying to narrow that gap in the fiscal year 2018 budget. Detailed discussions will be held at the upcoming budget workshop.



WATER FOR LIFE

*Safe, dependable, and affordable water now and into the future*



Board of Water Supply  
City and County of Honolulu

# Financial Performance

July 2016 – March 2017







## Budget to Actual July 2016 – March 2017

- Actual Revenue \$177.3 million vs. Budgeted Revenue \$173.1 million
- Operating costs are \$127.7 million vs. Budgeted costs of \$162.1 million
- Actual Net Revenue \$49.6 million vs. Budgeted Net Revenue \$11.0 million





## Cost Drivers

Year to Date March 2017

	Actual (millions)	Budget (millions)
• Personnel	\$28.0	\$35.8
• Services/Supplies	\$21.0	\$34.7
• Repairs & Misc.	\$ 8.8	\$ 11.5
• Equipment	\$ 0.5	\$ 3.6
• Utilities	\$ 14.8	\$22.7



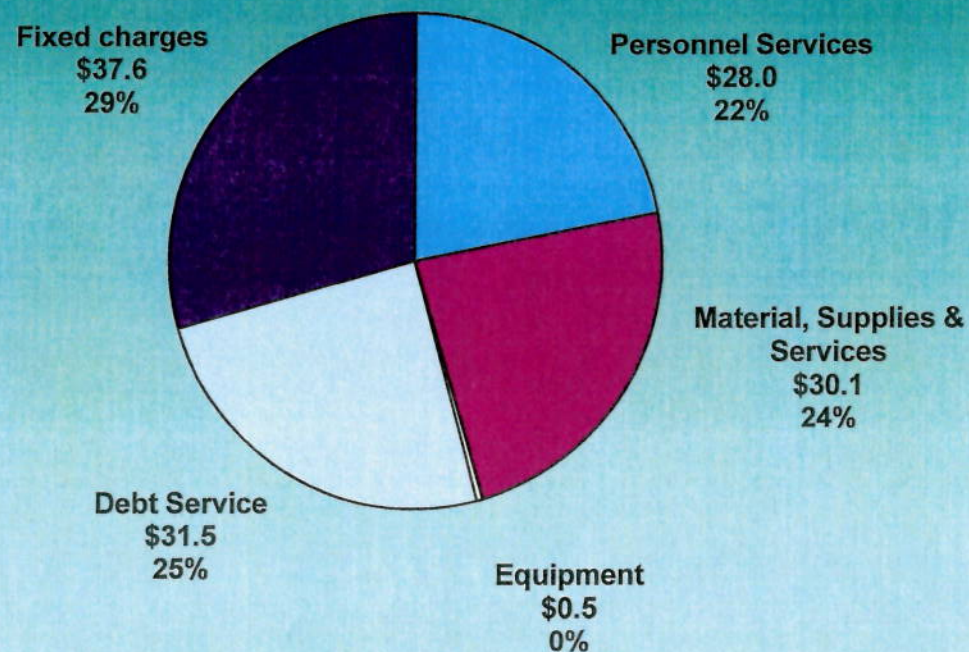
# WATER FOR LIFE

*Safe, dependable, and affordable water now and into the future*



Board of Water Supply  
City and County of Honolulu

**Total Operating Expenditures - \$127.7**  
**As of March 31, 2017**  
(millions of dollars)





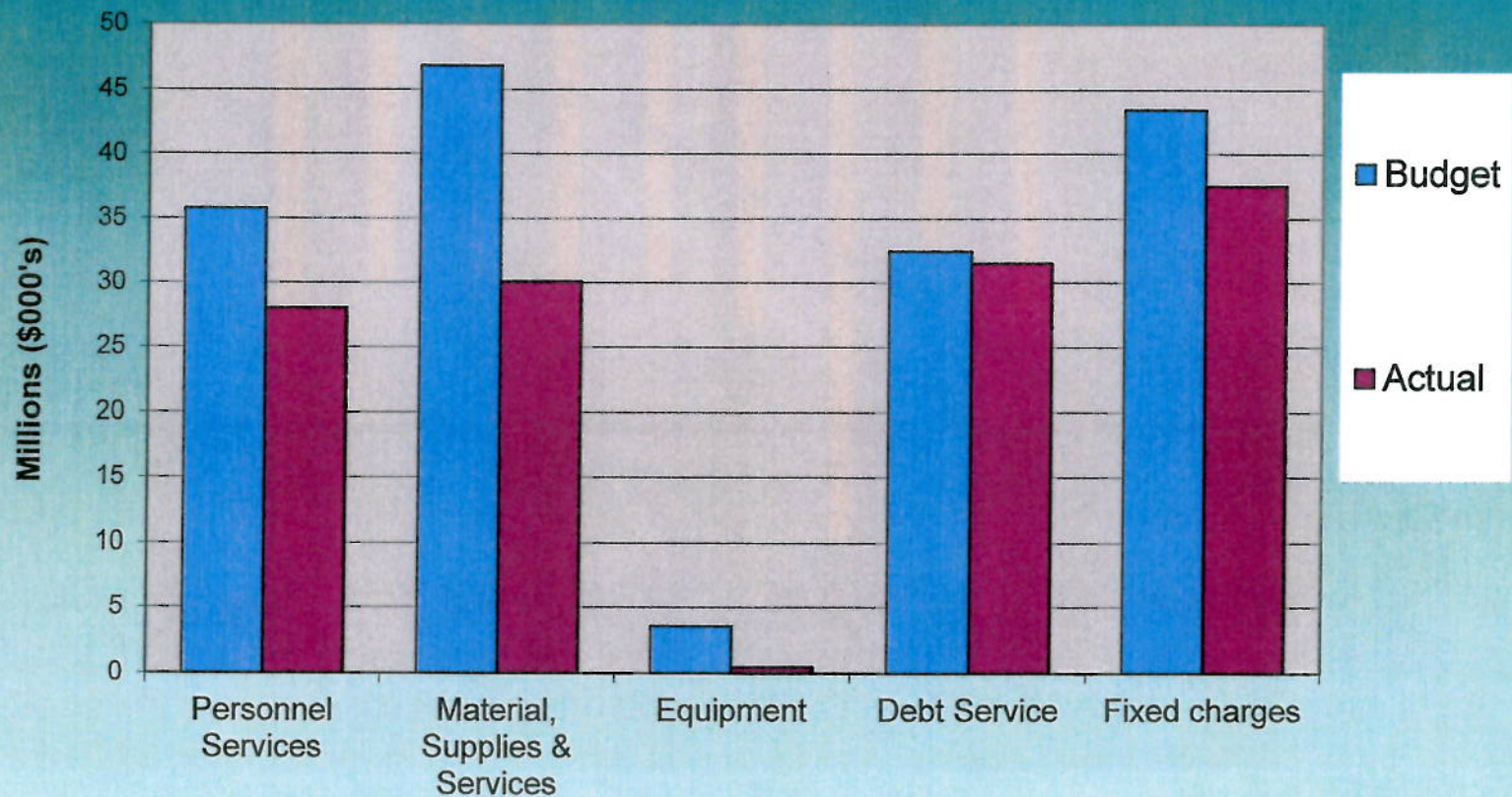
# WATER FOR LIFE

*Safe, dependable, and affordable water now and into the future*



Board of Water Supply  
City and County of Honolulu

**Operating Expenditures by Category (Budget vs. Actual)  
as of March 31, 2017 (millions of dollars)**





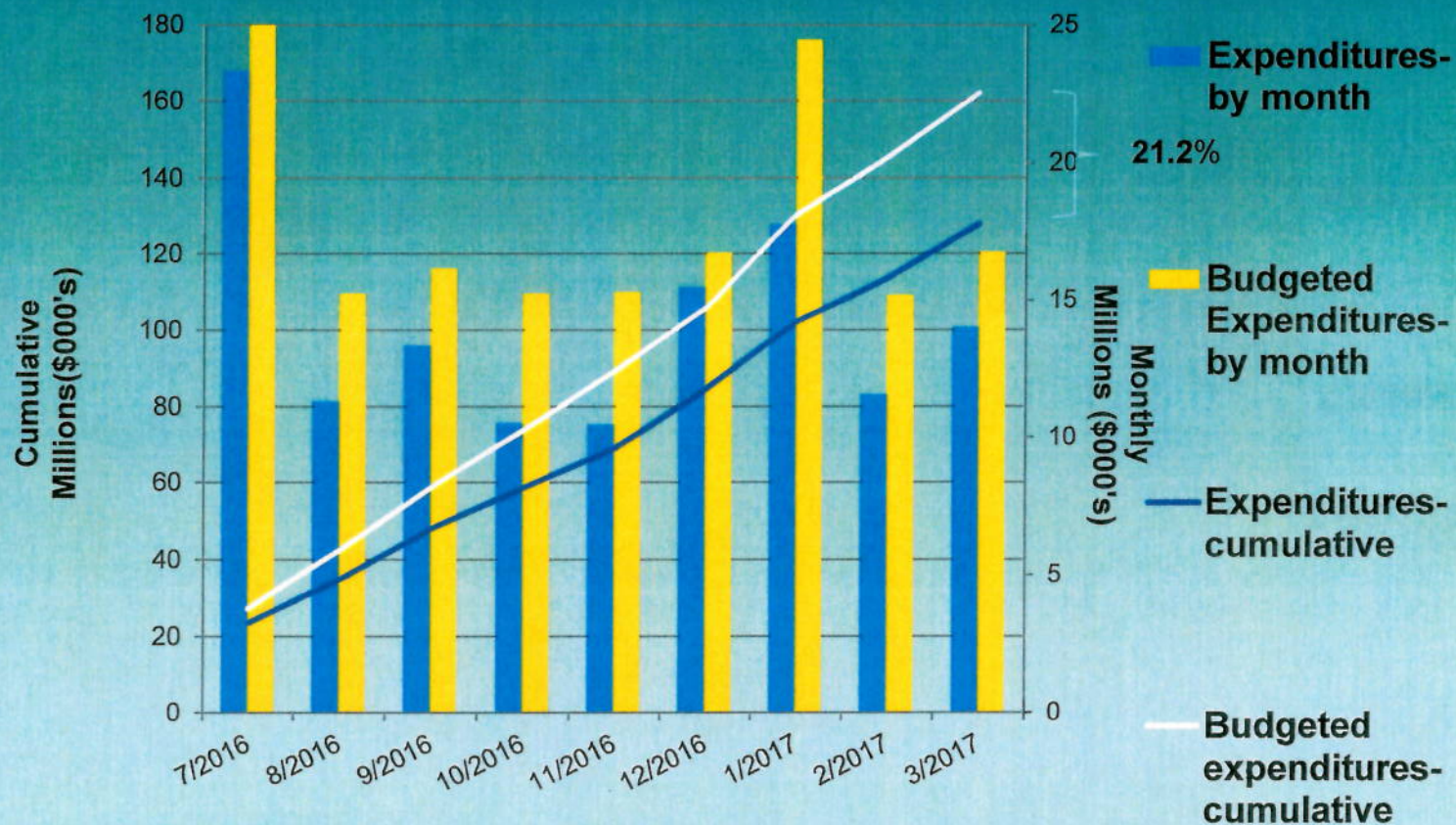
# WATER FOR LIFE

*Safe, dependable, and affordable water now and into the future*



Board of Water Supply  
City and County of Honolulu

## BUDGETED OPERATING EXPENDITURES FY 2017





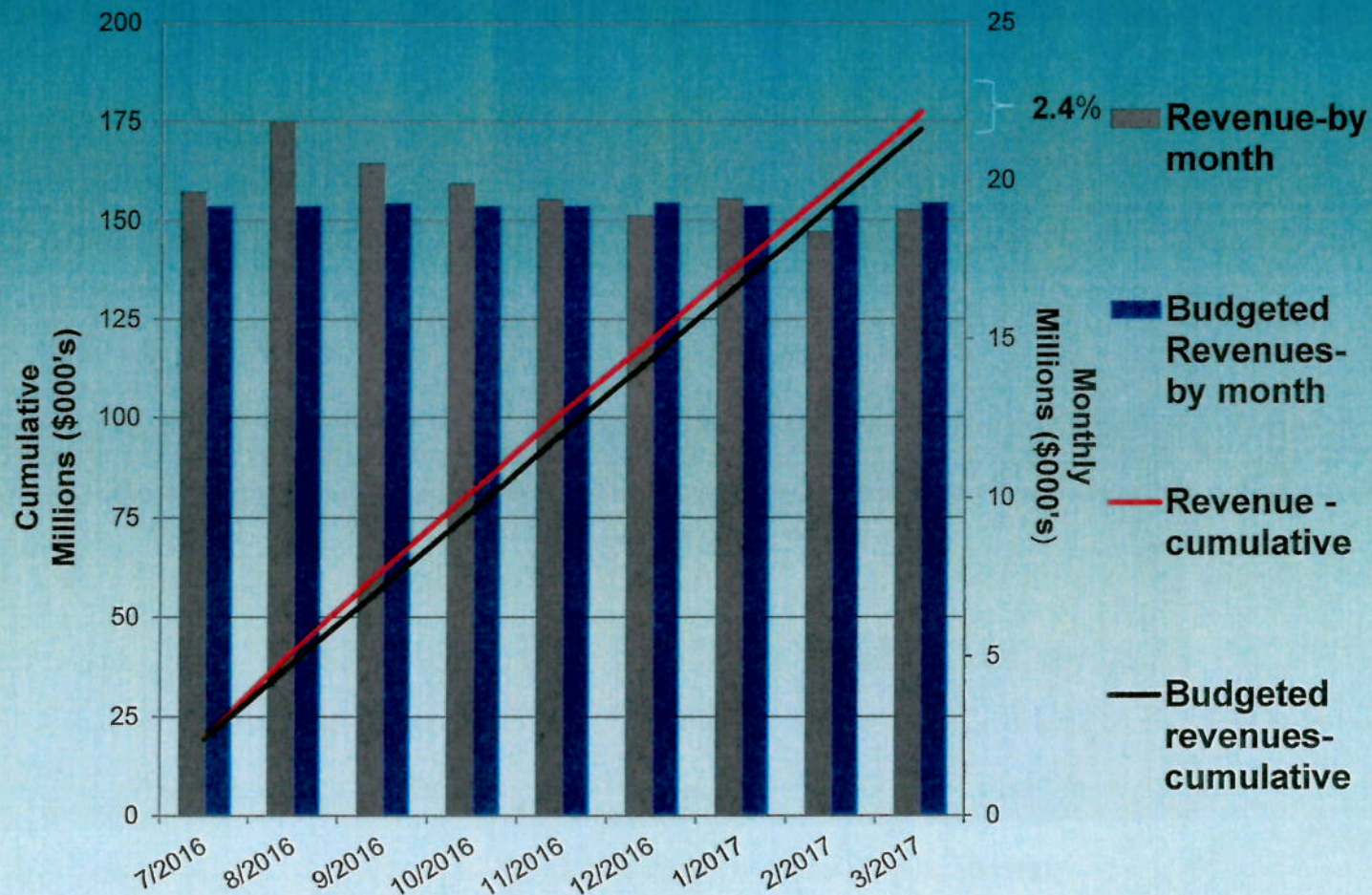
# WATER FOR LIFE

*Safe, dependable, and affordable water now and into the future*



Board of Water Supply  
City and County of Honolulu

## BUDGETED OPERATING REVENUES FY 2017





# WATER FOR LIFE

*Safe, dependable, and affordable water now and into the future*



Board of Water Supply  
City and County of Honolulu

Questions  
or  
Comments





Budget vs. Actual  
Revenue and Expense Totals  
As of March 31, 2017

	YTD Actuals	YTD Budget	Favorable/ (Unfavorable) Variance
Revenues	177,294,000	173,101,000	4,193,000
Operating Expenses	(127,656,000)	(162,085,000)	34,429,000
Net Revenues (expenditures)	<u>49,638,000</u>	<u>11,016,000</u>	<u>38,622,000</u>

Board Of Water Supply  
Statement of Revenues, Expenses And Change In Net Assets  
As of March 31, 2017

Current Month	%	Last Year	%	Description	Year to Date	%	Last Year to Date	%	%
Actual	Revenue	Actual	Revenue		Actual	Revenue	Actual	Revenue	Change
REVENUE									
18,817,149.62	100.00	20,004,094.62	100.00	OPERATING REVENUE	174,989,511.97	100.00	178,506,959.47	100.00	1.97
18,817,149.62	100.00	20,004,094.62	100.00	REVENUE	174,989,511.97	100.00	178,506,959.47	100.00	1.97
OPERATING EXPENSES									
2,648,336.87-	14.07	2,633,616.25-	13.17	LABOR COSTS	26,022,536.14-	14.87	24,156,416.77-	13.53	7.73
1,555,026.38-	8.26	1,326,278.34-	6.63	SERVICES	14,147,696.36-	8.08	12,301,571.04-	6.89	15.01
155,533.25-	.83	211,456.92-	1.06	SUPPLIES	3,065,355.79-	1.75	4,306,384.04-	2.41	28.82
28,131.40-	.15	6,221.23-	.03	EDUCATION & TRAINING	127,809.99-	.07	113,907.80-	.06	12.20
2,295,997.70-	12.20	2,190,741.93-	10.95	UTILITIES	13,674,150.54-	7.81	14,162,727.20-	7.93	3.45
202,855.75-	1.08	206,100.66-	1.03	REPAIR AND MAINTENANCE	1,259,524.16-	.72	1,655,708.97-	.93	23.93
1,500,644.19-	7.97	3,302,756.66-	16.51	MISC	13,144,742.50-	7.51	16,325,884.19-	9.15	19.49
1,481,765.46-	7.87	1,409,394.77-	7.05	RETIREMENT SYSTEM CONTRIBUTIO	19,371,078.54-	11.07	18,312,435.88-	10.26	5.78
142,650.73-	.76	59,315.71-	.30	MISC EMPLOYEES' BENEFITS	573,965.81-	.33	208,016.20	.12	375.92
10,010,941.73-	53.20	11,345,882.47-	56.72	OPERATING EXPENSES	91,386,859.83-	52.22	91,127,019.69-	51.05	.29
115,676.07-	.61	792,073.16-	3.96	NON OPERATING REVENUE AND EXPE	8,336,528.86-	4.76	9,153,341.07-	5.13	8.92
2,415,780.65	12.84	419,254.65	2.10	CONTRIBUTION IN AID	15,979,536.72	9.13	8,670,019.49	4.86	84.31
4,341,239.31-	23.07	3,752,369.62-	18.76	OTHER EXPENSES	39,314,165.84-	22.47	33,554,316.04-	18.80	17.17
6,765,073.16	35.95	4,533,024.02	22.66	Change In Net Assets	51,931,494.16	29.68	53,342,302.16	29.88	2.64



Board Of Water Supply  
Statement of Revenues, Expenses And Change In Net Assets  
As of March 31, 2017

Current Quarter Actual	% Revenue	Last Year Quarter Actual	% Revenue	Description	Year to Date Actual	% Revenue	Last Year to Date Actual	% Revenue	% Change
REVENUE									
56,214,530	100.00	57,203,001	100.00	OPERATING REVENUE	174,989,512	100.00	178,506,959	100.00	-1.97
56,214,530	100.00	57,203,001	100.00	REVENUE	174,989,512	100.00	178,506,959	100.00	-1.97
OPERATING EXPENSES									
-8,679,608	15.44	-8,216,642	14.36	LABOR COSTS	-26,022,536	14.87	-24,156,417	13.53	7.73
-5,489,975	9.77	-4,167,811	7.29	SERVICES	-14,147,696	8.08	-12,301,571	6.89	15.01
-1,123,984	2.00	-2,526,187	4.42	SUPPLIES	-3,065,356	1.75	-4,306,384	2.41	-28.82
-39,261	0.07	-31,564	0.06	EDUCATION & TRAINING	-127,810	0.07	-113,908	0.06	12.20
-4,970,900	8.84	-5,033,593	8.80	UTILITIES	-13,674,151	7.81	-14,162,727	7.93	-3.45
-600,665	1.07	-680,225	1.19	REPAIR AND MAINTENANCE	-1,259,524	0.72	-1,655,709	0.93	-23.93
-3,920,028	6.97	-6,352,382	11.10	MISC	-13,144,743	7.51	-16,325,884	9.15	-19.49
-5,219,670	9.29	-7,442,301	13.01	RETIREMENT SYSTEM CONTRIBUTIO	-19,371,079	11.07	-18,312,436	10.26	5.78
-469,568	0.84	-9,379	0.02	MISC EMPLOYEES' BENEFITS	-573,966	0.33	208,016	-0.12	-375.92
-30,513,659	54.28	-34,460,084	60.24	OPERATING EXPENSES	-91,386,860	52.22	-91,127,020	51.05	0.29
-1,051,244	1.87	-1,251,292	2.19	NON OPERATING REVENUE AND EXPE	-8,336,529	4.76	-9,153,341	5.13	-8.92
5,179,031	-9.21	2,778,564	-4.86	CONTRIBUTION IN AID	15,979,537	-9.13	8,670,019	-4.86	84.31
-14,404,602	25.62	-11,496,636	20.10	OTHER EXPENSES	-39,314,166	22.47	-33,554,316	18.80	17.17
15,424,055	27.44	12,773,553	-22.33	Change In Net Assets	51,931,494	29.68	53,342,302	29.88	-2.64

Board Of Water Supply  
Balance Sheet  
As of March 31, 2017

Description	Amounts				Change
	Current	Last Month End	Last Year End	This Month	This Year
ASSETS					
CURRENT ASSETS	65,289,729.01	65,354,115.34	57,515,504.80	-64,386.33	7,774,224.21
RESTRICTED ASSETS	2,602,476.75	3,435,381.43	17,400,189.89	-832,904.68	-14,797,713.14
INVESTMENTS	353,113,324.96	350,973,992.36	338,648,776.43	2,139,332.60	14,464,548.53
OTHER ASSETS	15,963,641.40	16,230,901.63	19,731,067.69	-267,260.23	-3,767,426.29
PROPERTY / PLANT	1,133,561,093.01	1,127,890,363.31	1,121,711,210.90	5,670,729.70	11,849,882.11
DEFERRED OUTFLOWS OF RESOURCE	23,588,492.00	23,588,492.00	23,588,492.00	0.00	0.00
TOTAL ASSETS	<u>1,594,118,757.13</u>	<u>1,587,473,246.07</u>	<u>1,578,595,241.71</u>	<u>6,645,511.06</u>	<u>15,523,515.42</u>
LIABILITIES					
CURRENT LIABILITIES	14,704,310.61	13,151,648.41	34,111,255.10	1,552,662.20	-19,406,944.49
OTHER LIABILITIES	38,654,273.46	38,803,079.74	37,964,054.97	-148,806.28	690,218.49
BONDS PAYABLE, NONCURRENT	271,444,619.03	272,968,037.05	287,052,205.77	-1,523,418.02	-15,607,586.74
NET PENSION LIABILITY	81,526,553.00	81,526,553.00	81,526,553.00	0.00	0.00
DEFERRED INFLOWS OF RESOURCES	8,895,996.00	8,895,996.00	8,895,996.00	0.00	0.00
LIABILITIES	<u>415,225,752.10</u>	<u>415,345,314.20</u>	<u>449,550,064.84</u>	<u>-119,562.10</u>	<u>-34,324,312.74</u>
NET ASSETS					
RETAINED EARNINGS	341,004,313.84	336,961,127.26	301,398,811.67	4,043,186.58	39,605,502.17
FUND BALANCE	594,633,831.66	594,633,831.66	594,633,831.66	0.00	0.00
RESERVE FOR ENCUMBRANCES	191,323,365.37	195,366,551.95	230,928,867.54	-4,043,186.58	-39,605,502.17
CURRENT YEAR CHANGES TO FU	51,931,494.16	45,166,421.00	0.00	6,765,073.16	51,931,494.16
NET ASSETS	<u>1,178,893,005.03</u>	<u>1,172,127,931.87</u>	<u>1,126,961,510.87</u>	<u>6,765,073.16</u>	<u>51,931,494.16</u>
TOTAL LIABILITIES AND NET ASSETS	<u>1,594,118,757.13</u>	<u>1,587,473,246.07</u>	<u>1,576,511,575.71</u>	<u>6,645,511.06</u>	<u>17,607,181.42</u>



## Budget vs Actual Appropriation Budget - Total BWS Summary

Page -

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(\$000's)

CIFIS 17820-3021

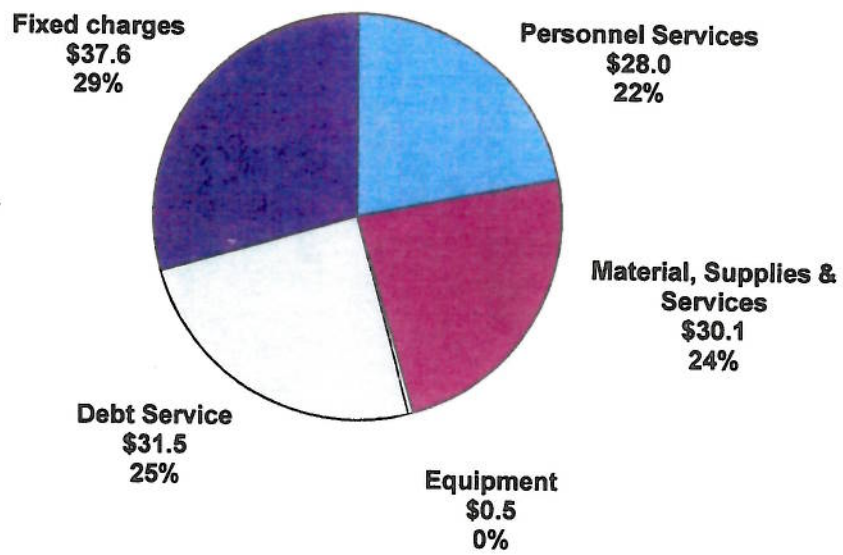
AS OF 3/31/2017

OPER UNIT ALL

BUSINESS UNIT ALL

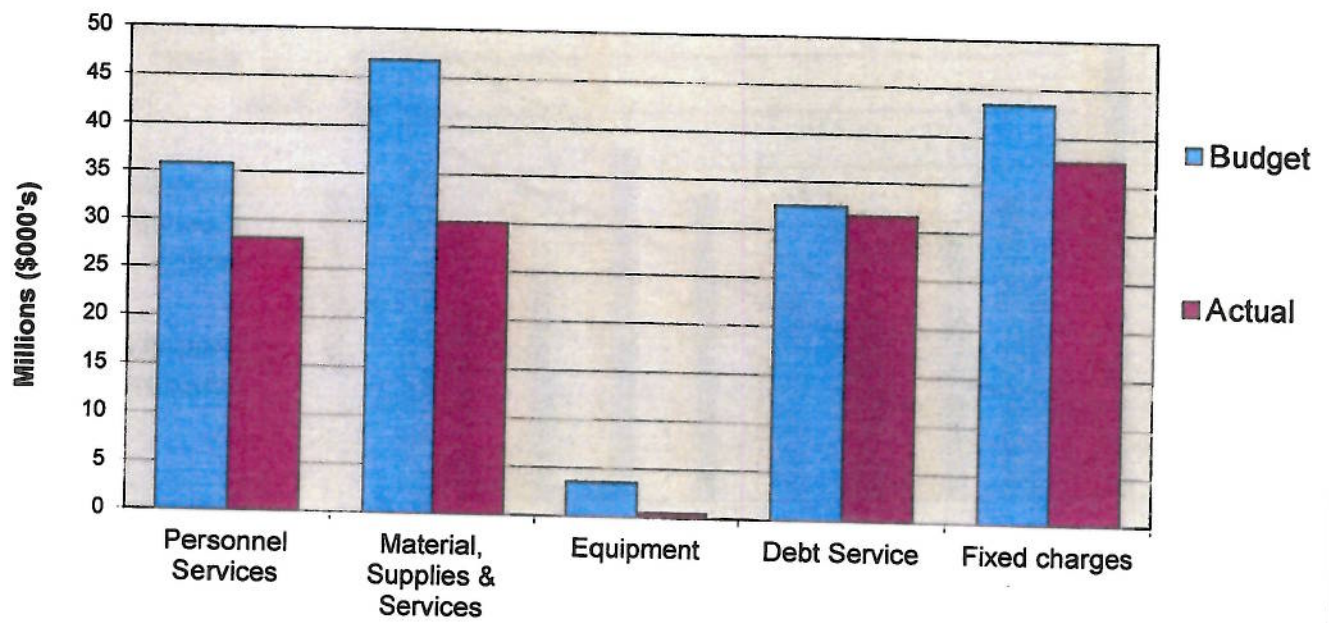
YTD-TO-DATE				Object Description	FOR THE FISCAL YEAR				
YTD Actuals	YTD Budget	Avail/ (Over)	%		Revenues/ Expend	Open Encumb	Annual Budget	Avail/ (Over)	%
<u>177,294</u>	<u>173,101</u>	<u>(4,193)</u>	<u>2.42-</u>	<u>REVENUE</u>	<u>177,294</u>		<u>230,802</u>	<u>53,508</u>	<u>23.18</u>
OPERATING EXPENSES:									
28,045	35,781	7,736	21.62	Personnel Services	28,045		47,687	19,642	41.19
MATERIALS AND SUPPLIES									
14,076	20,198	6,122	30.31	Services	8,685	5,391	26,299	12,223	46.48
6,924	14,500	7,576	52.25	Supplies	5,818	1,106	19,346	12,422	64.21
238	625	387	61.92	Education & Training	206	32	882	644	73.02
	9	9	100.00	Utilities			13	13	100.00
1,514	2,295	781	34.03	Repairs & Maint	1,147	367	2,972	1,458	49.06
7,321	9,204	1,883	20.46	Misc	6,056	1,265	12,123	4,802	39.61
458	3,566	3,108	87.16	Equipment	55	403	4,807	4,349	90.47
31,530	32,469	939	2.89	Debt Service	31,530		38,865	7,335	18.87
FIXED CHARGES:									
14,752	22,670	7,918	34.93	Utilities	14,749	3	30,227	15,475	51.20
2,475	2,475			Case Fees	2,475		3,300	825	25.00
7,297	6,525	(772)	11.83-	Retirement System Contribution	7,297		8,700	1,403	16.13
13,026	11,768	(1,258)	10.69-	Misc Employees' Benefits	13,026		15,691	2,665	16.98
<u>127,656</u>	<u>162,085</u>	<u>34,429</u>	<u>21.24</u>	<u>TOTAL OPERATING EXPENDITURES</u>	<u>119,089</u>	<u>8,567</u>	<u>210,912</u>	<u>83,256</u>	<u>39.47</u>
<u>49,638</u>	<u>11,016</u>	<u>(38,622)</u>		<u>NET REVENUES (EXPENDITURES)</u>	<u>58,205</u>	<u>(8,567)</u>	<u>19,890</u>	<u>(29,748)</u>	

**Total Operating Expenditures - \$127.7**  
**As of March 31, 2017**  
(millions of dollars)

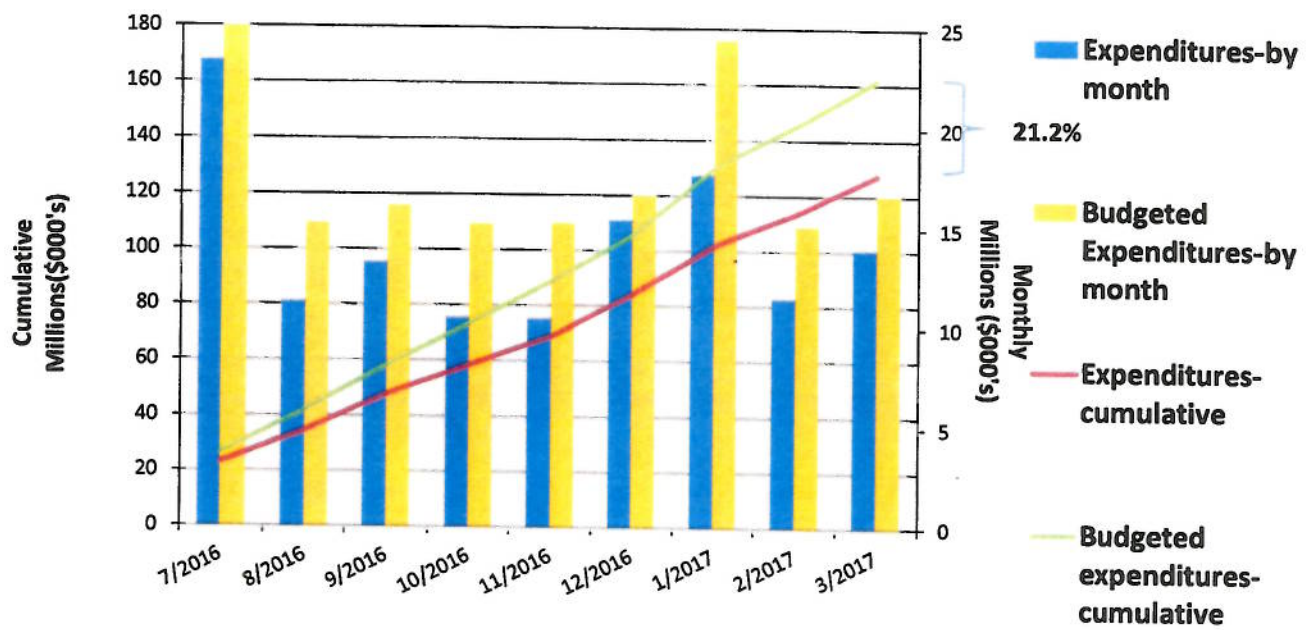




**Operating Expenditures by Category (Budget vs. Actual)**  
as of March 31, 2017 (millions of dollars)



# **BUDGETED OPERATING EXPENDITURES FY 2017**





ITEM FOR INFORMATION NO. 4

"April 24, 2017

REVISIONS TO  
CIP BUDGET

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: Revisions to the Fiscal Year (FY) 2016-2017 Capital  
Improvement Program (CIP) Budget

This is to inform the Board that Reserve Release funds budgeted for the Hauula Well Replacement (FY 2017 CIP Item No. 2) will be used to fund the Fire Hydrant Installations at various locations (FY 2017 CIP Item No. 20). It has been the past practice, based upon the recommendation of Bond Counsel, that Reserve Release funds be expended timely to avoid arbitrage and tax implications involving accrued interest.

The Hauula Wells project was to install a replacement well for the existing, older well (which is still functioning.) However, the project is being deferred and reprogrammed for the future in accordance with the 30-year master plan and the priorities that it identifies regarding projected demands and new source needs. No additional growth has been identified in the windward area; in contrast, increased demand is projected in the Ewa area and primary urban center. To meet these demands, resources are being focused on projects to identify potential new sources, e.g. Waikele Gulch Investigation and Waialae Nui Investigation. In addition, our resources are focusing on evaluating and addressing potential impacts to the water system from contamination threats such as Red Hill.

By transferring Reserve Release funds to the Fire Hydrant project, the Reserve Release funds will be expended within a short period as required. The original funds (Operating Funds) for the Fire Hydrant Installations project will be transferred to the Contract Adjustment Account and will not increase the overall appropriation of the FY 2017 CIP budget.

<u>FY 2017 Capital Improvement Program</u>	<u>Reserve Release Fund</u>	<u>Operating Fund</u>
Current Appropriation	\$ 4,033,700	\$ 74,396,800
Item No. 2 Project name: Hauula Well Replacement Description: Drill and case replacement exploratory well at existing Hauula Wells Station	(350,000)	
Item No. 20 Project name: Fire Hydrant Installations at various locations Description: Installation of fire Hydrants at various locations	350,000	(350,000)
Contract Adjustment Account		350,000
Amended Appropriation	\$ 4,033,700	\$ 74,396,800

Sufficient funds are available within each fund to effect the change, and the total consolidated appropriation of the CIP Budget remains the same.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer"

The foregoing was for information only.

DISCUSSION: Robert Morita, Executive Assistant, of the Executive Support Office gave the presentation. There were no comments or discussion.



ITEM FOR INFORMATION NO. 5

"April 24, 2017

ENTERPRISE  
ORGANIZATIONAL  
STUDY  
UPDATE

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: Enterprise Organizational Study Update

An Enterprise Organizational Study was initiated to analyze the current Board of Water Supply (BWS) organizational structure and work processes, recommend improvements to increase operational efficiencies and develop an implementation plan. The implementation plan includes the appropriate organizational structure, span of control, staffing levels, competencies and training programs specifically for BWS. The selected consultant, Matrix Consulting Group, from Mountain View, California, began their work on June 29, 2015.

We are working with Glenn Hamamura of Systems Excellence, LLC, to conduct a peer review of the recommendations to ensure that the recommendations are feasible and that the benefits outweigh the level of effort required. There are several dozen recommendations from very small to sizable reorganization suggestions that need to be carefully vetted to maintain consistency with the current strategic planning process and the recently adopted 30-year master plan.

The peer review should take about three to four months to complete as it requires a number of meetings with the divisions and a resulting implementation plan and strategy that will result in greater efficiencies in operations.

Respectfully submitted,

/s/ for ERNEST Y. W. LAU, P.E.  
Manager and Chief Engineer"

The foregoing was for information only.

DISCUSSION: Robert Morita, Executive Assistant of the Executive Support Office, gave the presentation.

Ms. Kitamura added that BWS had over 130 recommendations; Mr. Hamamura organized it into six potential projects. BWS will be prioritizing the projects. At the next quarter, BWS will present project proposals for implementation, and discuss what projects were selected, how it was prioritized, and the benefits to the organization.

MOTION TO  
RECESS INTO  
EXECUTIVE  
SESSION

Upon unanimously approved motion, the Board recessed into Executive Session Pursuant to [HRS §92-5(a)(2)] at 3:24 PM to Consider Issues Pertaining to Matters Posted for Discussion at an Executive Session

OPEN  
SESSION

The Board reconvened in Open Session at 3:27 PM

MOTION TO  
ADJOURN


There being no further business Chair Andaya at 3:28 PM called for a motion to adjourn the Open Session. Ross Sasamura so moved; seconded by Adam Wong and unanimously carried.

THE MINUTES OF THE REGULAR SESSION BOARD MEETING ON APRIL 24, 2017 WERE APPROVED AT THE MAY 22, 2017 BOARD MEETING			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
ADAM C. WONG			ABSENT
DAVID C. HULIHEE	X		
KAPUA SPROAT	X		
KAY C. MATSUI			ABSENT
ROSS S. SASAMURA	X		
FORD N. FUCHIGAMI			ABSENT

Respectfully submitted,

  
LORRAINE H. LEE

APPROVED:

  
BRYAN P. ANDAYA  
Chair of the Board  
MAY 22 2017

Date