

# BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU  
630 SOUTH BERETANIA STREET  
HONOLULU, HI 96843  
www.boardofwatersupply.com



January 16, 2018

KIRK CALDWELL, MAYOR

BRYAN P. ANDAYA, Chair  
KAPUA SPROAT, Vice Chair  
DAVID C. HULIHEE  
KAY C. MATSUI  
RAY C. SOON

ROSS S. SASAMURA, Ex-Officio  
JADE T. BUTAY, Ex-Officio

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

ELLEN E. KITAMURA, P.E.  
Deputy Manager and Chief Engineer

RECEIVED  
CITY CLERK  
C & C OF HONOLULU  
JAN 16 PM 12:15

## NOTICE

The Regular Meeting of the Board of Water Supply, will convene on Monday, January 22, 2018, at 2:00 p.m. in the Board Room, Public Service Building, 630 South Beretania Street, Honolulu, Hawaii.

### SPEAKER REGISTRATION

The Board of Water Supply is committed to allowing public testimony at open meetings of the Board.

Please provide your name, phone number and subject matter of testimony when registering **prior to the day of the meeting** by one of the following options:

1. Emailing to [board@hbws.org](mailto:board@hbws.org);
2. Faxing to 748-5079;
3. Calling 748-5172;
4. In person – 630 S. Beretania Street, Room 311

Persons wishing to testify may also register by filling out the registration form **on-site on the day of the meeting**.

Persons who have not registered to testify will be given an opportunity to speak on an item following the oral testimonies of the registered speakers.

Testimony is limited to three minutes and shall be presented by the registered speaker only.

### WRITTEN TESTIMONY

Written testimony may be emailed to [board@hbws.org](mailto:board@hbws.org) or faxed to 748-5079, **prior to the day of the meeting**, for distribution at the meeting.

13 copies are requested if written testimony is submitted **on-site on the day of the meeting**.

If submitted, written testimonies, including the testifier's address, email address, and phone number may be posted on the Board of Water Supply website.

### PHYSICALLY CHALLENGED REQUESTS

If you require special assistance, auxiliary aid and/or service to participate in this meeting (i.e. sign language interpreter; interpreter for language other than English, or wheelchair accessibility), please contact 748-5172 or email your request to [board@hbws.org](mailto:board@hbws.org) **at least three business days prior to the meeting date**.

The agenda for the January 22, 2018 Regular Meeting of the Board of Water Supply is as follows:

#### ITEMS REQUIRING BOARD ACTION

1. Approval of the Minutes of the Regular Meeting Held on December 18, 2017
2. Approval of the Minutes of the Water Rates Workshop Held on January 5, 2018
3. Adoption of Resolution No. 882, 2018, Acceptance of Gift to the Board of Water Supply from Mrs. George Yuen, in Honor of George Yuen
4. Adoption of Resolution No. 883, 2018, Recommending to the City Council, City and County of Honolulu the Disposal via Negotiated Sale of Surplus Real Property and Certain Real Property Interests for Sunset Beach Well and Sunset Beach 206' Reservoir Real Property to Bob's Paumalu, LLC, Provided the New Access Easement to Sunset Beach Well is Designated and Approved

#### ITEMS FOR INFORMATION

1. Financial Statements and Supplemental Information with Independent Auditors' Report, Fiscal Years Ended June 30, 2017 and 2016
2. Board of Water Supply Financial Plan and Rate Study Update
3. Financial Update for the Quarter Ended December 31, 2017
4. Enterprise Organizational Update
5. Status Update of Groundwater Levels at All Index Stations
6. Water Main Repair Report for December 2017

#### EXECUTIVE SESSION

1. Approval of the Minutes of the Executive Session Meeting Held on November 27, 2017
2. To Consider the Evaluation of the Chief Engineer, Where Consideration of Matters Affecting Privacy Will Be Involved [HRS § 92-5(a)(2)]

MINUTES  
REGULAR MEETING  
OF THE  
BOARD OF WATER SUPPLY

January 22, 2018

At 1:59 PM on January 22, 2018 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  
Kapua Sproat, Vice Chair  
David C. Hulihee  
Kay C. Matsui  
Ray C. Soon  
Ross S. Sasamura

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

Others Present: Jessica Wong, Deputy Corporation Counsel  
David Ebersold, CDM Smith  
Audrey Harris, CDM Smith  
Lawrence Chew, N&K CPAs  
Ryan Iwane, N&K CPAs  
Chris Cleveland, Brown & Caldwell  
Tom Meyers, Brown & Caldwell  
Susan Uyesugi, SSFM International  
Kalei Schoenstein  
Ikaika Hussey

Absent: Jade T. Butay

APPROVAL OF  
MINUTES

Approval of the Minutes of the Regular Meeting held on December 18, 2017

MOTION  
TO APPROVE

Ray Soon and Ross Sasamura motioned and seconded, respectively, to approve the Minutes of the Regular Meeting of December 18, 2017. The motion was unanimously carried.

APPROVAL OF  
MINUTES

Approval of the Minutes of the Water Rates Workshop held on January 5, 2018.

MOTION  
TO APPROVE

David Hulihee and Ross Sasamura motioned and seconded, respectively, to approve the Minutes of the Water Rates Workshop held on January 5, 2018. The motion was unanimously carried.



"January 22, 2018

ADOPTION OF  
RESOLUTION  
NO. 882, 2018

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

Chair and Members:

Subject: Adoption of Resolution No. 882, 2018, Acceptance of Gift to  
the Board of Water Supply from Mrs. George Yuen, in Honor  
of George Yuen

A report will be provided to the Board at the meeting.

Respectfully submitted,

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

DISCUSSION:

Manager Lau recognized Mr. George Yuen as the Honolulu Board of Water Supply's third Manager and Chief Engineer. Due to the reconsideration of the donation, Mr. Lau requested that Resolution No. 882, 2018 be deferred. Chair Andaya deferred the Resolution.

"January 22, 2018

ADOPTION OF  
RESOLUTION  
NO. 883, 2018

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

Chair and Members:

Subject: Adoption of Resolution No. 883, 2018, Recommending to the City Council, City and County of Honolulu the Disposal via Negotiated Sale of Surplus Real Property and Certain Real Property Interests for Sunset Beach Well and Sunset Beach 206' Reservoir Real Property to Bob's Paumalu, LLC, Provided the New Access Easement to Sunset Beach Well is Designated and Approved

---

We recommend adoption of Resolution No. 883, 2018, which recommends to the City Council the disposal via negotiated sale of the subject surplus Sunset Beach Well and Sunset Beach 206' Reservoir real property and certain real property interests to Bob's Paumalu, LLC, provided that the new Sunset Beach access easement is designated and approved.

BACKGROUND:

Sunset Beach Well was developed in 1948 and had a yield of approximately 0.06 million gallons per day (mgd). The well was intended to supplement the Waialeale I and II Wells, to adequately serve the area from Waialeale to Kawela. In 1960, the Board of Water Supply (BWS) acquired the title to 0.124-acre Lot 2 and 0.689-acre Lot 3, and non-exclusive rights in the nature of easements for road and pipeline purposes over and along Easements A, C, D and E from Hawaiian Pineapple Company, Limited. Lot 2 was for the Sunset Beach Well and Lot 3 was for Sunset Beach 206' Reservoir, a 300,000-gallon storage reservoir with a spillway elevation of 206 feet. Easements A and E was for access to Sunset Beach 206' Reservoir, Easement D was for the pipeline and access between Sunset Beach Well and Sunset Beach 206' Reservoir, and Easement C was for access from Kamehameha Highway to Sunset Beach Well and for the pipeline connecting Sunset Beach Well to the BWS water system along Kamehameha Highway. A map showing the lots and easements is attached for your reference.

In 1984, Sunset Beach Well was shut-down due to water quality issues. In 1990, a capital improvement project was implemented to replace the existing pump and renovate the existing pump station. Unfortunately, after several months of flushing and water quality testing, Sunset Beach Well was not placed back in service due to on-going bacterial presence (possibly due to the many cesspools in the area) and possible surface water influence. At around the same time, it was decided to pursue the development of the Opana Wells.

In 2012, the Opana Wells were completed and conveyed to BWS by Turtle Bay Resorts LLC. Opana Wells provides BWS with approximately 0.35 mgd of potable water. At approximately the same time, Water Systems Operations Division was able to bring the 2 million gallon Kawela 228' Reservoir back on-line. It should be noted that the Waialeale to Kawela system operates at a spillway elevation of 228 feet. With a spillway of 206 feet, the Sunset Beach 206' Reservoir is incompatible with the Waialeale-Kawela 228' system. Thus, the disposal of both facilities will not affect BWS operations or BWS's ability to provide adequate water service to the community.

City and State agencies were contacted and indicated they have no interest in acquiring the surplus real property and real property interests for Sunset Beach Well and Sunset Beach 206' Reservoir.

Thus, the Board approved the disposal of the surplus real property and real property interests for Sunset Beach Well and Sunset Beach 206' Reservoir at its June 22, 2015 meeting.

BWS commissioned an appraisal of the surplus BWS real property and real property interests for Sunset Beach Well and Sunset Beach 206' Reservoir. The total appraised value came out to \$99,000.

Bob's Paumalu, LLC, who owns the property surrounding Sunset Beach Well and Sunset Beach 206' Reservoir, expressed an interest in acquiring the surplus BWS real property and real property interests for Sunset Beach Well and Sunset Beach 206' Reservoir for agricultural use. After negotiations with BWS, Bob's Paumalu, LLC has agreed to purchase the surplus BWS real property and certain real property interests, specifically Easements D and E, for the Sunset Beach Well and Sunset Beach 206' Reservoir for \$82,495.13.

The sale of the surplus BWS real property and certain real property interests, however, is contingent on the designation and approval of a new access easement to Sunset Beach Well, to replace existing Easement C. Currently, Easement C crosses over, through and across several privately owned properties. The new access easement will be located solely within Bob's Paumalu property. BWS, acting with Bob's Paumalu's permission and as their agent, submitted an application to designate the new access easement to the City Department of Planning and Permitting (DPP) and has already been granted tentative approval. Having complied with DPP requirements for the tentative approval, we anticipate receiving final approval shortly. The next step will be to petition Land Court, State of Hawaii to designate and approve the access easement. We anticipate, however, that Land Court will take some time to grant our petition and to designate the new access easement.

Thus, we are requesting the Board recommend to the City Council the disposal via negotiated sale to Bob's Paumalu, but with the condition that the disposal be contingent on the official designation and approval of the new access easement to Sunset Beach Well.

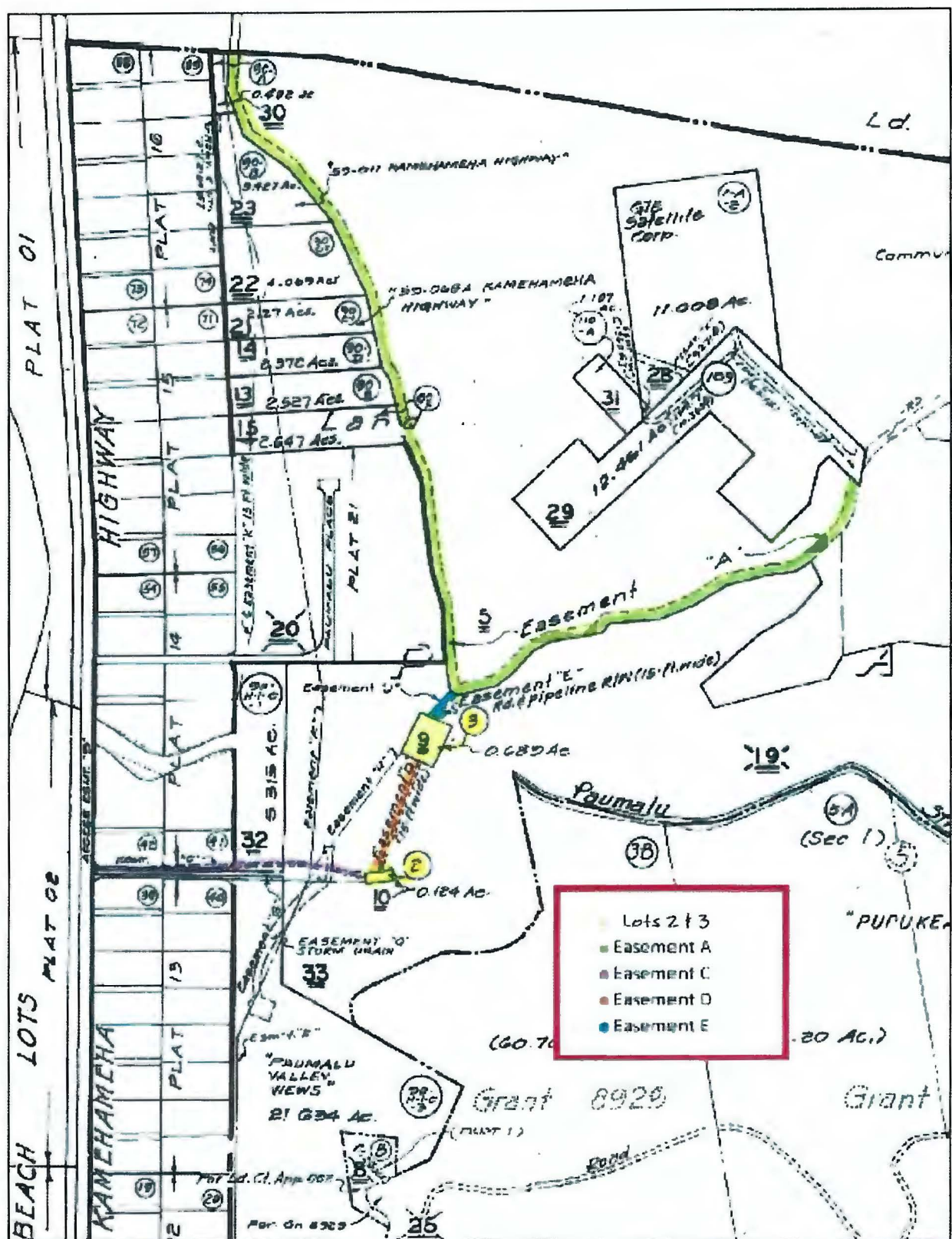
Respectfully submitted,

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

Attachment"

DISCUSSION: Mr. Lau stated that the matter was brought before the Board previously, and that both facilities – Sunset Beach Well and Sunset Beach 206' Reservoir are no longer needed. Mike Matsuo, head of the Land Division, provided the report and read Resolution No. 883, 2018. Mr. Lau requested an amendment to the Resolution in paragraph one. The Resolution should state that the area of Lot 3 is 0.689 acres, not 0689 acres.

MOTION TO ADOPT David Hulihee motioned to adopt Resolution No. 883, 2018, as amended, Recommending to the City Council, City and County of Honolulu the Disposal via Negotiated Sale of Surplus Real Property and Certain Real Property Interests for Sunset Beach Well and Sunset Beach 206' Reservoir Real Property to Bob's Paumalu, LLC, Provided the New Access Easement to Sunset Beach Well is Designated and Approved, seconded by Kapua Sproat. The motion was unanimously carried as amended.



BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU

RESOLUTION NO. 883, 2018

RECOMMENDING TO THE CITY COUNCIL, CITY AND COUNTY OF HONOLULU  
THE DISPOSAL VIA NEGOTIATED SALE OF SURPLUS REAL  
PROPERTY AND CERTAIN REAL PROPERTY INTERESTS FOR  
SUNSET BEACH WELL AND SUNSET BEACH 206' RESERVOIR REAL PROPERTY  
TO BOB'S PAUMALU, LLC, PROVIDED THE NEW ACCESS EASEMENT TO  
SUNSET BEACH WELL IS DESIGNATED AND APPROVED

WHEREAS, Hawaiian Pineapple Company, Limited, a Hawaii corporation, conveyed to the City and County of Honolulu those certain real property situate at Paumalu, Koolauloa, Oahu, Hawaii, described as Lot 2, area 0.124 acres and Lot 3, area 0.689 acres, described in Owner's Transfer Certificate of Title No. 80,507 dated July 8, 1960 and bearing Tax Map Keys (1) 5-9-006:010 and (1) 5-9-006:009, respectively, for the use of the Board of Water Supply (hereinafter the "BWS"); and real property interests in the form of non-exclusive rights in the nature of an easement for road purposes over and along Easement "A" and Easement "E" and for road and pipeline purposes over and along Easement "C" and Easement "D," to be exercised and enjoyed by BWS, by that certain recorded indenture filed with the Office of the Assistant Registrar of the Land Court, State of Hawaii as Document No. 259548, dated May 27, 1960; and

WHEREAS, Easement "A" provides access to Lot 3 from a private road, Easement "E" provides access to Lot 3 from Easement "A," Easement "C" provides access to Lot 2 over, across and through several privately owned real properties, and Easement "D" provides access to Lot 3 from Lot 2; and

WHEREAS, BWS constructed a well, control building, piping, valves, pumps, controls, treatment equipment, electrical utilities and drainage improvements (hereinafter collectively "Sunset Beach Well") on Lot 2 and a 300,000-gallon concrete storage tank, piping, valving, drainage improvements, telemetry equipment and electrical utilities (hereinafter collectively the "Sunset Beach 206' Reservoir") on Lot 3 to provide water serve to the area from Waialeale to Kawela; and

WHEREAS, BWS abandoned the Sunset Beach Well due to water quality issues, and the Sunset Beach 206' Reservoir because it is no longer compatible with the water system that is currently serving the Waialeale-Kawela area, which is operating at a higher spillway elevation than the Sunset Beach 206' Reservoir, and declared them as surplus; and

WHEREAS, the BWS approved the disposal of the surplus real property and real property interests for Sunset Beach Well and Sunset Beach 206' Reservoir at its June 22, 2015 meeting; and

WHEREAS, Bob's Paumalu, LLC, owner of the surrounding real property bearing Tax Map Key (1) 5-9-006:033 expressed an interest in acquiring the surplus real property and real property interests for Sunset Beach Well and Sunset Beach 206' Reservoir for agricultural purposes; and

WHEREAS, Bob's Paumalu, LLC agreed to allow BWS to designate a new access easement to Lot 2 that would be located completely in its property; and

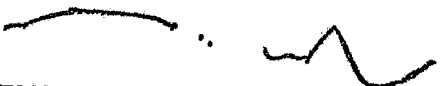
WHEREAS, the newly designated access easement to Lot 2 would eliminate the need to use Easement "C" to access Lot 2; and

WHEREAS, after negotiations with BWS, Bob's Paumalu, LLC agreed to purchase the surplus real property and certain real property interests, specifically Easements "D" and "E," for Sunset Beach Well and Sunset Beach 206' Reservoir for \$82,495.13; and

WHEREAS, Bob's Paumalu, LLC understood and agreed that the sale of the surplus real property and certain real property interests for Sunset Beach Well and Sunset Beach 206' Reservoir will be contingent not only on the approval of the City Council, City and County of Honolulu, but also on the designation and approval of the new access easement to Lot 2; now, therefore

BE IT RESOLVED by the members of the Board of Water Supply, City and County of Honolulu, that BWS recommends to the City Council, City and County of Honolulu, the disposal via negotiated sale of the surplus real property and certain real property interests for the Sunset Beach Well and Sunset Beach 206' Reservoir to Bob's Paumalu, LLC, provided that the new access easement to Sunset Beach Well is designated and approved.

ADOPTED:

  
BRYAN P. ANDAYA  
Chair

Honolulu, Hawaii  
January 22, 2018

RESOLUTION NO. 883, 2018, RECOMMENDING TO THE CITY COUNCIL, CITY AND COUNTY OF HONOLULU THE DISPOSAL VIA NEGOTIATED SALE OF SURPLUS REAL PROPERTY AND CERTAIN REAL PROPERTY INTERESTS FOR SUNSET BEACH WELL AND SUNSET BEACH 206' RESERVOIR REAL PROPERTY TO BOB'S PAUMALU, LLC, PROVIDED THE NEW ACCESS EASEMENT TO SUNSET BEACH WELL IS DESIGNATED AND APPROVED WAS ADOPTED ON JANUARY 22, 2018, AS AMENDED			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
DAVID C. HULIHEE	X		
KAPUA SPROAT	-X		
KAY C. MATSUI	X		
ROSS S. SASAMURA	X		
JADE T. BUTAY			ABSENT

ITEM FOR INFORMATION NO. 1

"January 22, 2018

FINANCIAL  
STATEMENTS  
AND  
SUPPLEMENTAL  
INFORMATION

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

Chair and Members:

Subject: Financial Statements and Supplemental Information with  
Independent Auditors' Report, Fiscal Years Ended  
June 30, 2017 and 2016

Our auditors, N&K CPAs, Inc., have completed the audit of the financial statements and federal awards of the Board of Water Supply and issued an unmodified opinion. They have indicated that there are no weaknesses on internal control over financial reporting.

Attached are copies of the financial statements of the Board of Water Supply and the reports thereon by N&K CPAs, Inc., covering the results of their examination of the accounts and financial status of the Board of Water Supply for the years ended June 30, 2017 and 2016, as required under Article VII, Section 7-108 of the Revised Charter. The auditors' required communication letter dated December 11, 2017 is also attached.

Lawrence Chew and Ryan Iwane from N&K CPAs, Inc. will present highlights from the auditors' report.

Respectfully submitted,

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

Attachments"

The foregoing was for information only.

DISCUSSION:

Lawrence Chew and Ryan Iwane of N&K CPAs, Inc., provided the report. They thanked the Board for the opportunity to meet and thanked BWS for its help and coordination during the audit process. Mr. Lau thanked N&K CPAs, and complimented them on a job well done. There were no other comments or discussion.





N&K CPAs, Inc.  
ACCOUNTANTS | CONSULTANTS



# Board of Water Supply

City and County of Honolulu

---

Single Audit for the Fiscal Year Ended  
June 30, 2017

## Scope of Services

---

- To express an opinion on the fair presentation of the Board of Water Supply's financial statements as of and for the fiscal year ended June 30, 2017.
- To express an opinion on compliance with applicable federal requirements that could have a direct and material effect on each of the Board of Water Supply's major federal programs for the fiscal year ended June 30, 2017.
- Our audit was performed in accordance with auditing standards generally accepted in the United States of America, the standards applicable to financial audits contained in *Government Auditing Standards*, and the audit requirements of the Uniform Guidance (Title 2 CFR Part 200)

# Summary of Auditor's Results

---

## **Financial Statements**

Type of report the auditor issued on whether the financial statements audited were prepared in accordance with GAAP:

Unmodified

Internal control over financial reporting:

Material weakness(es) identified?

\_\_\_ yes

✓ no

Significant deficiency(ies) identified?

\_\_\_ yes

✓ none reported

Noncompliance material to financial statements noted?

\_\_\_ yes

✓ no

## **Federal Awards**

Internal control over major federal programs:

Material weakness(es) identified?

\_\_\_ yes

✓ no

Significant deficiency(ies) identified?

\_\_\_ yes

✓ none reported

Type of auditor's report issued on compliance for major federal programs:

Unmodified

Any audit findings disclosed that are required to be reported in accordance with 2 CFR 200.516(a)?

\_\_\_ yes

✓ no

## Summary of Auditor's Results (Continued)

---

Identification of major federal programs:

CFDA Number

66.468

Name of Federal Program or Cluster

Capitalization Grants for Drinking  
Water State Revolving Funds

Dollar threshold used to distinguish between type A  
and type B programs:

\$750,000

Auditee qualified as a low-risk auditee?

☒ yes      ☐ no

### **SECTION II - FINANCIAL STATEMENT FINDINGS**

No matters were reported.

### **SECTION III - FEDERAL AWARD FINDINGS AND QUESTIONED COSTS**

No matters were reported.

## Status Report: Prior Audit Findings

---

### 2016-001: Improve Internal Controls Over Accounting for Significant Nonroutine Transactions

- **Condition (as of June 30, 2016):** The 2015 financial statements of the BWS were restated to correct errors for the deferred loss on refunding of debt and state revolving fund notes payable.
- **Recommendation (as of June 30, 2016):** Management should proactively identify significant nonroutine transactions and be actively involved in both the determination of the accounting treatment and the timely review of recorded transactions.
- **Status:** Accomplished during the fiscal year 2017

## Required Communication with Those Charged with Governance at the Conclusion of the Audit

---

- Auditor's views about the BWS's significant accounting policies, sensitive accounting estimates and financial statement disclosures.
- Significant difficulties, if any, encountered during the audit.
- Disagreement with management, if any.
- Material, corrected misstatements that were brought to the attention of management as a result of audit procedures.
- Uncorrected misstatements considered by management of BWS to be immaterial to the financial statements, both individually and in the aggregate.
- Other findings or issues, if any.

## Adoption of New Accounting Principle in FY 2017

---

- GASB Statement No. 82, *Pension Issues an Amendment to GASB Statements No. 67, No. 68, and No. 73*
  - The requirements of this statement apply to financial reports of state and local governmental entities.
  - Resulted in the reclassification of payments made by BWS to satisfy employee (plan member) contribution requirements that were previously deferred in the period for which contributions were assessed and recorded as expense in the subsequent fiscal year.
  - Changes have been applied retroactively by restating the financial statements of the BWS as of June 30, 2016:
    - Beginning net position (7/1/15) was reduced by \$1,732,405
    - The change in net position for the fiscal year ended June 30, 2016 was reduced by \$96,523
    - As of 6/30/16, deferred outflows of resources and net position both decreased by \$1,828,928
  - For the fiscal year ended June 30, 2017, the effect of the change decreased the change in net position by \$126,880



N&K CPAs, Inc.

ACCOUNTANTS|CONSULTANTS

---



To the Board of Directors  
Board of Water Supply  
City and County of Honolulu

We have audited the financial statements of the Board of Water Supply ("BWS"), a component unit of the City and County of Honolulu, as of and for the fiscal year ended June 30, 2017. Professional standards require that we provide you with information about our responsibilities under auditing standards generally accepted in the United States of America, *Government Auditing Standards* and the Uniform Guidance, as well as certain information related to the planned scope and timing of our audit. We have communicated such information in our letter to you dated August 24, 2017. Professional standards also require that we communicate to you the following information related to our audit.

#### Significant Audit Findings

##### *Qualitative Aspects of Accounting Practices*

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by the BWS are described in Note B to the financial statements. As described in Note P to the financial statements, the BWS adopted the provisions of Government Accounting Standards Board Statement No. 82, *Pension Issues an amendment of GASB Statements No. 67, No. 68, and No. 73* (GASB Statement No. 82) in 2017. The adoption of GASB Statement No. 82 resulted in the reclassification of payments made by BWS to satisfy employee contribution requirements that were previously deferred in the period for which the contributions were assessed and recorded as expenses in the subsequent fiscal year. These changes have been applied by retroactively restating the financial statements of the BWS as of June 30, 2016. We noted no transactions entered into by the Board of Water Supply during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most sensitive estimates affecting the BWS's financial statements were:

1. Valuation allowance for receivables
2. Depreciation of capital assets
3. Other postemployment benefit (other than pensions) asset
4. Net pension liability
5. Accrued workers' compensation liability

Management's estimate of the valuation allowances for receivables is based on historical collection experience and the length of time individual receivables are past due. We evaluated the key factors and assumptions used for the valuation allowance in determining that it is reasonable in relation to the financial statements taken as a whole.

Management's estimate of depreciation recorded on capital assets is based in part on the estimated useful lives of those capital assets. We evaluated the key factors and assumptions used to estimate

depreciation of the Board of Water Supply's capital assets in determining that it is reasonable in relation to the financial statements taken as a whole.

Management's estimate of the other postemployment benefit (other than pensions) asset was determined using an actuarial valuation study performed by a third-party specialist. We evaluated the key factors and assumptions used to estimate the other postemployment benefit asset in determining that it is reasonable in relation to the financial statements taken as a whole.

The collective net pension liability, deferred inflows of resources, and deferred outflows of resources of the cost-sharing multiple employer defined pension plan administered by the State of Hawai'i's Employee Retirement System was determined by an actuarial valuation. The BWS's proportionate share of the collective net pension liability, deferred inflows of resources, deferred outflow of resources was based on the BWS's contributions to the pension plan relative to the contributions of all participating employers during the measurement period. We evaluated the key factors and assumptions used to estimate the BWS's proportionate share of the collective net pension liability, deferred inflows of resources, deferred outflow of resources in determining that it is reasonable in relation to the financial statements taken as a whole.

The accrued workers' compensation liability was determined using an actuarial analysis performed by a third-party specialist. We evaluated the key factors and assumptions used to estimate the accrued workers' compensation liability in determining that it is reasonable in relation to the financial statements taken as a whole.

Certain financial statement disclosures are particularly sensitive because of their significance to financial statement users. The most sensitive disclosure affecting the financial statements was the disclosure of the adoption of GASB Statement No. 82 in Note P to the financial statements and the effect the change had on the presentation of the BWS's financial statements as of June 30, 2017 and 2016. The effect of the change reduced beginning net position by \$1,732,405 and decreased the change in net position for the fiscal year ended June 30, 2016 by \$96,523. As of June 30, 2016, deferred outflows of resource related to pension and net position both decreased by \$1,828,928. For fiscal year ended June 30, 2017, the effect of the change decreased the change in net position by \$126,880.

The financial statement disclosures are neutral, consistent, and clear.

#### *Difficulties Encountered in Performing the Audit*

We encountered no significant difficulties in dealing with management in performing and completing our audit.

#### *Corrected and Uncorrected Misstatements*

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are clearly trivial, and communicate them to the appropriate level of management. The attached schedule summarizes uncorrected misstatements of the financial statements. Management has determined that their effects are immaterial, both individually and in the aggregate, to the financial statements taken as a whole. In addition, none of the misstatements detected as a result of audit procedures and corrected by management were material, either individually or in the aggregate, to the BWS's financial statements taken as a whole.

*Disagreements with Management*

For purposes of this letter, a disagreement with management is a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

*Management Representations*

We have requested certain representations from management that are included in the management representation letter dated December 11, 2017.

*Management Consultations with Other Independent Accountants*

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to the BWS's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

*Other Audit Findings or Issues*

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the BWS's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

Other Matters

We applied certain limited procedures to management's discussion and analysis and the schedules of proportionate share of the net pension liability, contributions and funding progress, which are required supplementary information (RSI) that supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.

We were engaged to report on the schedules of expenditures of federal awards, bonds payable and net revenue requirement, which accompany the financial statements but are not RSI. With respect to this supplementary information, we made certain inquiries of management and evaluated the form, content, and methods of preparing the information to determine that the information complies with accounting principles generally accepted in the United States of America, the method of preparing it has not changed from the prior period, and the information is appropriate and complete in relation to our audit of the financial statements. We compared and reconciled the supplementary information to the underlying accounting records used to prepare the financial statements or to the financial statements themselves.

We were not engaged to report on the introductory section, which accompanies the financial statements but is not RSI. Such information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

N&K CPAs, Inc.

ACCOUNTANTS | CONSULTANTS

Restriction on Use

This information is intended solely for the information and use of the board of directors and management of the BWS and is not intended to be, and should not be, used by anyone other than these specified parties.

*N + K CPAs, INC.*

Honolulu, Hawai'i  
December 11, 2017

N&K CPAs, Inc.  
ACCOUNTANTS | CONSULTANTS

Client: **Board of Water Supply**  
Period Ending: **June 30, 2017**  
Workpaper: **Summary of passed adjustments**

Account	Description	Debit	Credit
<b>Proposed JE # 201</b>			
To pass on properly reclassify loan fees as interest expense.			
7071	INTEREST EXPENSE	695,846.00	
4915	MISCELLANEOUS FINANCIAL		695,846.00
<b>Total</b>		<b>695,846.00</b>	<b>695,846.00</b>
<b>Proposed JE # 202</b>			
To pass on adjustment of AP and CIP balances as of 6/30/17 due to the same Contractor CIP invoice erroneously capitalized twice.			
1625	CONTR PAY YR END ACCRUAL	1,573,516.00	
1340-104	CONTRACTS		1,573,516.00
<b>Total</b>		<b>1,573,516.00</b>	<b>1,573,516.00</b>
<b>Proposed JE # 203</b>			
To pass on recording adjustment to Net Position and Water Sales for a revenue adjustment made in the current year to correct FY16 water sales.			
2910	RETAINED EARNINGS	250,000.00	
3053	METERED SALES- GENERAL CU		250,000.00
<b>Total</b>		<b>250,000.00</b>	<b>250,000.00</b>
<b>Proposed JE # 204</b>			
To pass on properly reversing outdated contract retainage balance outstanding as of 6/30/2017.			
1530	CONTRACT RETAINAGE	328,475.00	
8075	PROJECT COSTS EXPENSED		328,475.00
<b>Total</b>		<b>328,475.00</b>	<b>328,475.00</b>
<b>Proposed JE # 205</b>			
To pass on the reversal of a client entry posted in FY17 to correct a prior period misstatement related to insurance.			
5700	INSURANCES	570,146.00	
2910	RETAINED EARNINGS		570,146.00
<b>Total</b>		<b>570,146.00</b>	<b>570,146.00</b>

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

FINANCIAL STATEMENTS AND SUPPLEMENTARY INFORMATION  
WITH INDEPENDENT AUDITOR'S REPORT

Fiscal Years Ended June 30, 2017 and 2016

**BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU**

**TABLE OF CONTENTS**

	<u><b>Page</b></u>
<b>INTRODUCTION</b>	3 - 6
<b>INDEPENDENT AUDITOR'S REPORT</b>	7 - 9
<b>MANAGEMENT'S DISCUSSION AND ANALYSIS</b>	10 - 15
<b>FINANCIAL STATEMENTS</b>	
Statements of Net Position	16 - 17
Statements of Revenues, Expenses, and Changes in Net Position	18
Statements of Cash Flows	19 - 20
Notes to Financial Statements	21 - 50
<b>REQUIRED SUPPLEMENTARY INFORMATION</b>	
Schedule of Proportionate Share of the Net Pension Liability	52
Schedule of Contributions	53
Notes to Required Supplementary Information Required by GASB Statement No. 68	54
Schedule of Funding Progress	55
<b>SUPPLEMENTARY INFORMATION</b>	
Schedule of Bonds Payable	57 - 58
Schedules of Net Revenue Requirement	59

**Board of Water Supply  
City and County of Honolulu  
INTRODUCTION  
Fiscal Year Ended June 30, 2017**

The Board of Water Supply of the City and County of Honolulu (BWS) is pleased to present its Annual Financial Report for Fiscal Year 2017. This introduction provides a brief overview of the mission, organization, and operations of the BWS. The following management's discussion and analysis is intended to provide the reader with an easily understandable analysis of the BWS's financial performance and all aspects of its financial position. Financial statements presenting the financial position and results of operations and cash flows of the BWS in conformity with accounting principles generally accepted in the United States of America, accompanied by the independent auditor's report, follows the management's discussion and analysis.

## **HISTORY OF THE BOARD OF WATER SUPPLY**

The BWS was created in 1929 by the Territorial Legislature in response to public outcry for a truly effective water management system that was above politics. The 1929 Legislature passed Act 96 to create and define the powers and duties of the Honolulu Board of Water Supply. Although it remained as a department of the City and County of Honolulu (City), the BWS was designed to be a semi-autonomous and self-supporting agency 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.

## **POWERS, DUTIES, AND FUNCTIONS**

The BWS manages Oahu's municipal water resources and distribution system, providing residents with a safe, dependable, and affordable drinking water supply.

The BWS is the largest municipal water utility in the state of Hawaii. In Fiscal Year 2017, the BWS delivered potable and non-potable water to approximately one million customers on Oahu. The BWS carefully and proactively manages and invests in its intricate system, consisting of 94 active potable water sources, 171 reservoirs, and over 2,100 miles of pipeline.

The BWS is a financially self-sufficient, semi-autonomous agency of the City and County of Honolulu. Its operations and projects are financed with revenues generated by water transmission and distribution fees. It receives no tax money from the City. The BWS also pursues federal and state grants to help subsidize BWS projects.

The BWS is governed by a Board of Directors (Board), consisting of seven members. Five members are appointed by the Mayor and are confirmed by the Honolulu City Council. The remaining two serve in their capacities as the Director of the State Department of Transportation, and the Director and Chief Engineer of the City's Department of Facility Maintenance. The Board appoints the BWS Manager and Chief Engineer to administer the BWS.

The BWS consists of the following 10 divisions: Capital Projects Division, Customer Care Division, Field Operations Division, Finance Division, Information Technology Division, Land Division, Office of the Manager and Chief Engineer, Water Quality Division, Water Resources Division, and Water System Operations Division.



**Board of Water Supply  
City and County of Honolulu  
INTRODUCTION  
Fiscal Year Ended June 30, 2017**

**MISSION**

The BWS mission is to provide a safe, dependable, and affordable water supply now and into the future, focusing in three strategic areas: resource, operational, and financial sustainability.

- **Resource sustainability.** Protect and manage our groundwater supplies and watersheds through adaptive and integrated strategies.
- **Operational sustainability.** Foster a resilient and collaborative organization utilizing effective and proactive operational practices consistent with current industry standards.
- **Financial sustainability.** Implement sound fiscal strategies to finance our operating and capital needs to provide dependable and affordable water service.

**ACCOMPLISHMENTS**

BWS employees work diligently to provide safe, dependable, and affordable water service to customers by concentrating their efforts to achieve the BWS's strategic goals:

**Resource Sustainability (Safe)**

- The BWS conducted 59,862 chemical tests, 10,843 microbiological tests, and 15,114 chlorine residual and other quality tests on samples collected from its sources, distribution systems, and treatment facilities to ensure all water served is safe to drink. Chemical tests performed this fiscal year include monitoring BWS wells near the Navy Red Hill Bulk Fuel Facility in response to a fuel leak reported by the Navy in January 2014. BWS is conducting its own studies to assess the impact the leak may have on the groundwater aquifer.
- In June 2017, BWS completed its annual production and delivery of the Consumer Confidence Report (CCR), also known as the Water Quality Report, to all BWS customers. The report provides information on the quality of the water delivered from the BWS system and was mailed to all customers on record and is also available at [www.boardofwatersupply.com](http://www.boardofwatersupply.com). The BWS also placed ads in Honolulu newspapers, including various ethnic language publications, to inform community members of the distribution.
- Potable water demand continues its downward trend of approximately 10% from 1990 to 2017 due to advanced water conservation efforts, economic incentives from sewer and water rate increases, recycled water, public education, and leak detection and repair programs in the BWS water system.
- The North Shore Watershed Management Plan (WMP) was adopted in FY 2017. The WMPs for the Ewa and Central Oahu districts are on-going. Work on the Primary Urban Core WMPs has started with the first community meeting in May 2017. These are long-range water resource protection and water use and development plans for the City that are concurrent with and support the City's Development and Sustainable Communities Plans for Oahu. The WMPs guide the BWS's long-range capital improvement program, ensuring that adequate natural and alternative water supplies are available to meet Oahu's future water growth.

**Board of Water Supply  
City and County of Honolulu  
INTRODUCTION  
Fiscal Year Ended June 30, 2017**

- Recycled water is an important conservation strategy to reduce potable water consumption to extend our high-quality water supplies. Recycled water use from the Honouliuli Water Recycling Facility provides an alternative water supply in Ewa for irrigation and industrial purposes. Recycled water production from the BWS Honouliuli Water Recycling Facility averaged approximately eight million gallons per day. BWS is seeking State of Hawaii land to construct an elevated recycled water reservoir, which will increase recycled water use in Ewa.
- BWS staff held 41 outdoor water conservation classes at the Halawa Xeriscape Garden. 525 community members attended these classes focused on reducing water use through efficient landscaping.
- The BWS sponsored its 39th annual Water Conservation Week Poster Contest and the 9th annual Water Conservation Week Poetry Contest, receiving more than 870 posters and 300 poems from more than 50 Oahu schools, focused on the theme "Water Matters -- Conserve It." All winning entries will be featured in the 2018 Water Conservation Calendar scheduled for distribution in December 2017.
- The BWS started efforts to implement a pilot Water Conservation program, to begin in FY17, leveraging mobile app and web technologies to encourage water savings through targeted, direct customer engagements and the use of data analytics.

**Operational Sustainability (Dependable)**

- The Water Master Plan (WMP), which is a comprehensive evaluation of our water supplies, needs, and infrastructure over a 30-year period was adopted in October 2016. The 30-year CIP will follow as well as the financial plan and water rate study thereafter. In May of 2017, we celebrated the two-year anniversary of the formation of the BWS Stakeholder Advisory Group (SAG). The group comprises nearly 30 highly respected local residents, civic organization leaders, and environmental and business professionals with a sustained interest in water issues, with representation covering all City Council districts. The SAG effort demonstrates BWS's commitment to increase our responsiveness and transparency of our communications and public engagement.
- In January of FY 2017, BWS launched a complete redesign of their intranet. It now matches the updated website and allows for easier access of documents and other important information for BWS employees. Also part of this is a section that provides regular updates on information and news of importance to BWS employees. All departments work with Communications to issue these News to Use bulletins.
- The development of a new Customer Self-Service web portal, and an Interactive Voice Response (IVR) capability integrated with our Customer Care and Billing system was initiated in FY 2017 and is on-going. This will provide our customers the ability to initiate actions and interactions with the BWS, at their convenience, without having to call in and speak with a Customer Service Representative.
- BWS staff responded to 346 main breaks, or about 16 breaks per 100 miles of pipeline.
- BWS staff helped protect Oahu's water resources and prevent damage to BWS infrastructure by handling 9,327 One Call locate requests and providing in-field support for 838 water line leaks and breaks. The BWS staff proactively investigated 26,903 meters to ensure accurate and timely billing and assisted 4,139 customers with concerns about bills reflecting high water consumption.

**Board of Water Supply  
City and County of Honolulu  
INTRODUCTION  
Fiscal Year Ended June 30, 2017**

- BWS staff assisted 167,072 customers: 150,993 (90.3%) by phone; 4,559 (2.7%) in-person; 11,316 (6.8%) via online forms; 264 (0.2%) through email, by mail and fax.

**Financial Sustainability (Affordable)**

- A total of over \$52.3 million in construction contracts and over \$14.2 million in professional services contracts were awarded as of June 30, 2017. The major programs include the following:
  - **Water Main Replacement Program:** Aging and corroded water mains are systematically identified and replaced throughout the municipal water system to improve system reliability, reduce main breaks, and to ensure sufficient system pressure during periods of peak demand. In conjunction with main replacement projects, existing fire hydrants are replaced and new hydrants are installed to improve fire protection and ensure that current standards are met. Over \$14.7 million in design contracts were awarded by the BWS for water main replacements in Aiea, Manoa, Wilhemina Rise, Hawaii Kai, Wahiawa, and Kaneohe.
  - **Water Facility Improvement Program:** Identification and improvements of deficiencies to the appearance and integrity of aging BWS water facilities continues. These facilities include water reservoirs, wells and booster stations, and administrative offices belonging to the BWS. New construction contracts were awarded to repair, renovate, repaint and/or reroof the Wahiawa 1361 Reservoirs No. 1 and No. 2, Makakilo 920 and Waipahu 228 Reservoirs, Kalihi Corporation Yard Lighting, Beretania Engineering Building, Beretania Public Service Building, and security fencing at various locations.
  - **Mechanical and Electrical Renovation Projects:** Renovation projects ensure the dependable service and operational efficiency of the BWS's pump and booster stations. Construction contracts were awarded for the renovation of the mechanical and/or electrical systems at Mililani Wells I, Honouliuli Wells Unit 2, Kamaile Wells, Waialae Iki Well, and the Diamond Head Line Booster.
- BWS executed and began its 20-year, \$33 million Energy Savings Performance Contract (ESPC) with NORESO LLC. The partnership allows BWS to implement comprehensive energy efficiency, renewable energy, and operational improvements which guarantees enough energy savings over the next 20 years to pay for the contract. The project is financed by a loan from the Drinking Water State Revolving Fund, managed by the State of Hawaii Department of Health.
- BWS staff received mail-in payments via lockbox, which continued to be the most popular method of payment for BWS customers, with 36% using the service, down 3% from last fiscal year. Automatic bill payments account for 31% of the BWS' total bill collections. Credit card payments account for 16% of payments, a 16% increase over last fiscal year. Online payments account for 9%, walk-in customers for 4%, payments made at satellite city hall locations for 3%, and other accounts for 1% of payments received.

## INDEPENDENT AUDITOR'S REPORT

To the Board of Directors  
Board of Water Supply  
City and County of Honolulu

### Report on the Financial Statements

We have audited the accompanying financial statements of the Board of Water Supply (the "BWS"), a component unit of the City and County of Honolulu (the "City"), as of and for the fiscal years ended June 30, 2017 and 2016, and the related notes to the financial statements, which collectively comprise the BWS's basic financial statements as listed in the table of contents.

### Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion

on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### **Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the BWS as of June 30, 2017 and 2016, and the changes in its financial position and its cash flows for the fiscal years then ended in accordance with accounting principles generally accepted in the United States of America.

### **Emphasis of Matter**

As discussed in Note B, the financial statements of the BWS are intended to present the financial position, the changes in financial position, and cash flows of only that portion of the governmental activities, the business-type activities, each major fund, and the aggregate remaining fund information of the City that is attributable to the transactions of the BWS. They do not purport to, and do not, present fairly the financial position of the City as of June 30, 2017 and 2016, the changes in its financial position, or its cash flows for the fiscal years then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

### **Adoption of New Accounting Principle**

As discussed in Note P to the basic financial statements, the BWS adopted new accounting guidance that clarifies standards for accounting and financial reporting for pensions that are provided to the employees of state and local governmental employers. Our opinion is not modified with respect to this matter.

### **Other Matters**

#### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that management's discussion and analysis on pages 10 through 15 and the schedules of proportionate share of the net pension liability, contributions, and funding progress on pages 52 to 55 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of

management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

*Other Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the BWS's basic financial statements. The introductory section and schedules of bonds payable and net revenue requirement are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The schedules of bonds payable and net revenue requirement are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedules of bonds payable and net revenue requirement are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The introductory section has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on it.

**Other Reporting Required by Government Auditing Standards**

In accordance with *Government Auditing Standards*, we have also issued our report dated December 11, 2017 on our consideration of the BWS's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the BWS's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the BWS's internal control over financial reporting and compliance.

*N + K CPAs, INC.*

Honolulu, Hawaii  
December 11, 2017

**Board of Water Supply  
City and County of Honolulu  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
Fiscal Years Ended June 30, 2017 and 2016**

This section presents management's discussion and analysis of the BWS's financial condition and activities for the fiscal year ended June 30, 2017. This information should be read in conjunction with the financial statements.

**Financial Highlights**

The BWS still maintains a relatively strong financial performance with a manageable capital program. Meanwhile, management continues to carefully evaluate the BWS's finances to ensure optimum performance. In addition to meeting all debt covenants, outstanding debt and cash reserves were kept at levels appropriate for maintaining favorable bond ratings. Key financial highlights are listed below:

- Net position increased \$60.4 million in fiscal year 2017 compared to the \$72.8 million increase in fiscal year 2016.
- Total assets were \$1.6 billion and \$1.5 billion at June 30, 2017 and 2016, respectively, which exceeded liabilities by \$1.1 billion at June 30, 2017 and 2016.
- The BWS's current assets at June 30, 2017 were 3.7 times its related current liabilities compared to 2.6 times at June 30, 2016.
- The BWS's debt to equity ratio was 26.7% and 28.3% at June 30, 2017 and 2016, respectively, indicating the continuance of capacity to issue additional debt.

**Overview of Financial Report**

The BWS is a semi-autonomous agency of the City. The financial statements are presented using the economic resources measurement focus and the accrual basis of accounting, whereby revenues and expenses are recognized in the period earned or incurred.

Management's discussion and analysis ("MD&A") represents management's analysis and comments on the BWS's financial condition and performance. Summary financial data, key financial and operational indicators used in the BWS's annual report, budget, bond resolutions, and other management tools were used for this analysis.

The basic financial statements include statements of net position, statements of revenues, expenses and changes in net position, statements of cash flows, and notes to the financial statements. The statements of net position present the resources and obligations of the BWS at June 30, 2017 and 2016. The statements of revenues, expenses and changes in net position presents the changes in net position for the fiscal years then ended, and the resultant ending net position balances.

**Board of Water Supply  
City and County of Honolulu  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
Fiscal Years Ended June 30, 2017 and 2016**

The statements of cash flows present changes in cash and cash equivalents (short-term investments with original maturities of three months or less from the date of acquisition), resulting from operating, investing, capital and related financing activities, and non-capital financing activities.

***Results of Operations***

**CONDENSED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION  
(Amounts in thousands)**

	<u>2017</u>	<u>2016</u> <u>(as restated)</u>	<u>% Change</u>
Operating revenues	\$ 231,445	\$ 238,696	-3.0%
Operating expenses			
Administrative and general	63,861	61,723	3.5%
Depreciation	47,938	45,581	5.2%
Power and pumping	29,899	30,190	-1.0%
Other operating expenses	<u>45,826</u>	<u>46,315</u>	-1.1%
Total operating expenses	<u>187,524</u>	<u>183,809</u>	2.0%
Operating income	<u>43,921</u>	<u>54,887</u>	-20.0%
Nonoperating revenues (expenses)			
Interest income	4,617	4,151	11.2%
Interest expense	(7,641)	(7,821)	-2.3%
Others	<u>(6,283)</u>	<u>2,672</u>	-335.1%
Total nonoperating expenses	<u>(9,307)</u>	<u>(998)</u>	832.6%
Contributions in aid of construction	<u>25,757</u>	<u>18,916</u>	36.2%
Change in net position	\$ <u>60,371</u>	\$ <u>72,805</u>	

The increase in net position for the year ended June 30, 2017 was \$60.4 million, compared to an increase of \$72.8 million for the year ended June 30, 2016.

Operating revenues for the year ended June 30, 2017 totaled \$231.4 million, a decrease of \$7.3 million or 3.0% from the year ended June 30, 2016 revenues. Operating revenues for the year ended June 30, 2016 totaled \$238.7 million, an increase of \$22.1 million or 10.2% from the year ended June 30, 2015 revenues, due to water rate increases that were implemented on July 1, 2015.

Total operating expenses increased by \$3.7 million and \$0.2 million in fiscal years 2017 and 2016, respectively. Factors contributing to this change are explained below:

- Administrative and general expenses increased by \$2.1 million in fiscal year 2017, mainly due to increases in salaries and professional services. Administrative and general expense increased by \$3.2 million in fiscal year 2016, mainly due to increases in salaries, pension, and supplies.

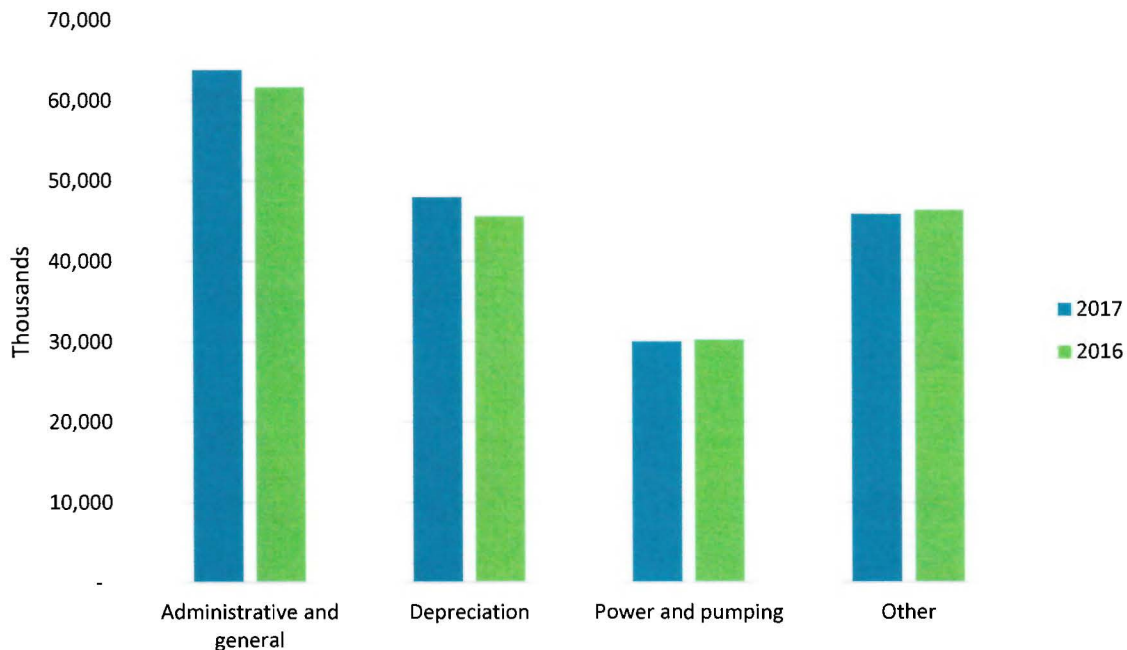


**Board of Water Supply  
City and County of Honolulu  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
Fiscal Years Ended June 30, 2017 and 2016**

- Power and pumping expenses decreased slightly by \$0.3 million in fiscal year 2017.
- Other operating expenses decreased slightly by \$0.5 million during fiscal year 2017. Other operating expenses increased by \$1.9 million during fiscal year 2016, mainly due to an increase in transmission and distribution costs.

For the year ended June 30, 2017, net nonoperating revenues (expenses) decreased by \$8.3 million, due primarily to an increase in realized and unrealized loss on investments. Net nonoperating revenues (expenses) increased by \$3.1 million for the year ended June 30, 2016.

### Expenditures by Functional Class



Contributions in aid of construction result from water system facilities charges that are levied against all new developments and residential properties requiring water from the BWS's systems, except those developments that have paid for and installed a complete water system, including sources, transmission, and daily storage facilities. In addition, contributions of capital assets from governmental agencies, developers and customers are recorded as contributions in aid of construction at their cost. The BWS realized contributions in aid of construction of \$25.8 million in fiscal year 2017 compared to \$18.9 million in fiscal year 2016. The increase in contributions in aid of construction of \$6.9 million was due to an increase in Water System Facilities Charge revenue ("WSFC") of \$3.2 million and increases in projects completed by governmental funds and private development contributions of \$4.3 million. During the year ended June 30, 2017 the major developments were East Kapolei II Development, Increment 2B and Keone'ula Boulevard Extension.

**Board of Water Supply  
City and County of Honolulu  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
Fiscal Years Ended June 30, 2017 and 2016**

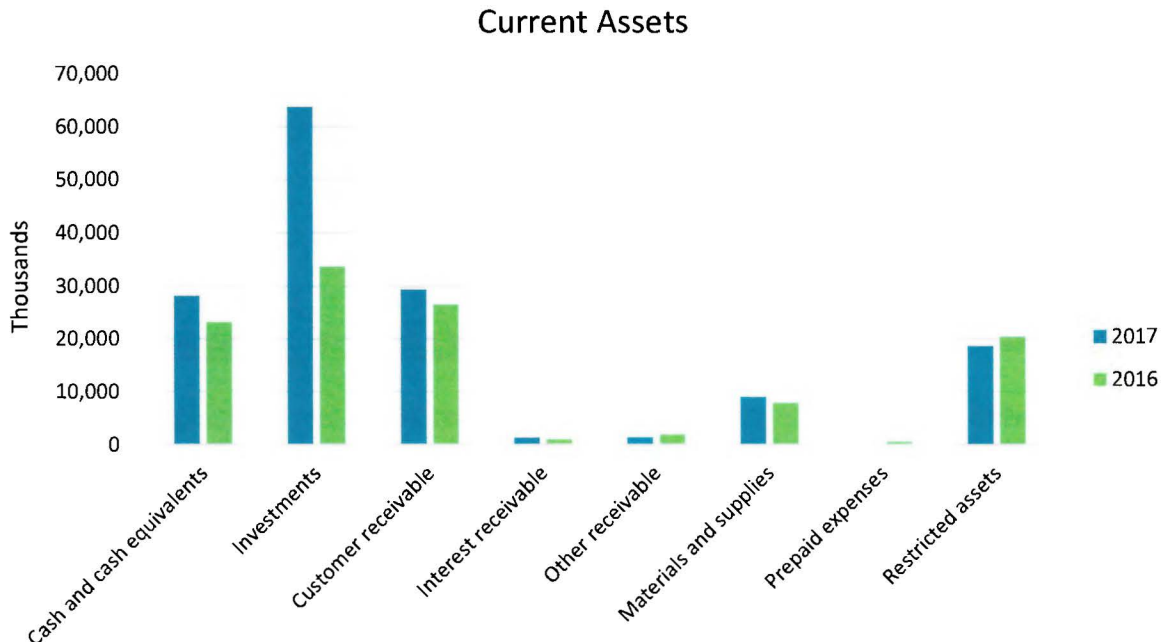
***Financial Condition***

**CONDENSED STATEMENTS OF NET POSITION  
(Amounts in thousands)**

	<u>2017</u>	<u>2016 (as restated)</u>	<u>% Change</u>
Current assets	\$ 151,694	\$ 114,984	31.9%
Noncurrent assets			
Capital assets, net	1,139,003	1,121,711	1.5%
Investments	268,759	260,656	3.1%
Restricted and other assets	<u>41,132</u>	<u>39,494</u>	4.1%
Total assets	<u>1,600,588</u>	<u>1,536,845</u>	4.1%
Deferred outflows of resources	<u>62,984</u>	<u>38,039</u>	65.6%
Total assets and deferred outflows of resources	\$ <u>1,663,572</u>	\$ <u>1,574,884</u>	5.6%
Current liabilities	\$ 41,385	\$ 44,388	-6.8%
Noncurrent liabilities			
Bonds payable, noncurrent	234,758	244,799	-4.1%
Notes payable, noncurrent portion	69,746	61,000	14.3%
Net pension liability	116,343	81,526	42.7%
Other liabilities	<u>10,576</u>	<u>12,975</u>	-18.5%
Total liabilities	<u>472,808</u>	<u>444,688</u>	6.3%
Deferred inflows of resources	<u>5,260</u>	<u>5,063</u>	3.9%
Net position			
Net investment in capital assets	859,696	839,033	2.5%
Restricted for capital activity and debt service	18,770	24,292	-22.7%
Unrestricted	<u>307,038</u>	<u>261,808</u>	17.3%
Total net position	<u>1,185,504</u>	<u>1,125,133</u>	5.4%
Total liabilities, deferred inflows of resources and net position	\$ <u>1,663,572</u>	\$ <u>1,574,884</u>	5.6%

**Board of Water Supply  
City and County of Honolulu  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
Fiscal Years Ended June 30, 2017 and 2016**

The BWS's current assets were 3.7 and 2.6 times its related current liabilities as of June 30, 2017 and 2016, respectively. The ratio increase at June 30, 2017 was due to a decrease in accounts payable and contracts payable. The ratio decrease at June 30, 2016 was due to an increase in accounts payable and contracts payable.



As of June 30, 2017 and 2016, capital assets, net increased by \$17.3 million and \$9.3 million, respectively. The increase in fiscal year 2017 and 2016 was primarily due to the completion of various distributions mains projects and additions to construction work in progress, offset by dispositions and depreciation charges.

The BWS's noncurrent bonds payable decreased by \$10.0 million and \$9.8 million as of June 30, 2017 and 2016, respectively. The decrease at June 30, 2017 represents the current bonds payable due within one year. The decrease at June 30, 2016 was due to the Series 2006A and 2006B bonds maturing on July 1, 2016.

Noncurrent notes payable increased by \$8.7 million. The increase is primarily due to projects utilizing financing from the state revolving fund loan program.

The net pension liability increased by \$34.8 million which was primarily due to the changes in actuarial assumptions. The nominal investment return assumption decreased from 7.65% to 7.00%.

Net position increased by \$60.4 million and \$72.8 million as of June 30, 2017 and 2016, respectively. The increase in fiscal year 2017 was primarily due to an increase in contributions in aid of construction. The increase in fiscal year 2016 was primarily due to an increase in operating revenue.

**Board of Water Supply  
City and County of Honolulu  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
Fiscal Years Ended June 30, 2017 and 2016**

**Capital Assets and Long-Term Debt**

During fiscal years 2017 and 2016, the BWS capitalized \$56.3 million and \$32.6 million, respectively, to its utility plant in service. Major assets added in fiscal year 2017 were Kapiolani Boulevard 12" Main, \$5.2 million; Kunia Wells II Renovation, \$4.3 million; Water Main Replacements at Various Streets, \$4.1 million, Pensacola Street Water System Improvements, \$3.2 million; Liliha Water System Improvements; Phase A, \$2.8 million; and Slope Stabilization at Waialae Iki 1080, Kamehame 500, Hahaione 500, and Kalama 170 Reservoirs, \$2.7 million.

The BWS issues long-term bonds to finance part of its capital improvement program. The BWS's debt to equity ratio has remained fairly constant at 26.7%, 28.3% and 30.6% for fiscal years 2017, 2016 and 2015, respectively.

All outstanding bonds have been assigned underlying ratings of Aa2 from Moody's Investors Service and AA+ from Fitch Ratings.

**Rate Covenant**

The BWS is required under its bond indenture, among other things, to fix, charge and collect such rates and other charges in each fiscal year to meet the net revenue requirement for such fiscal year. The net revenue requirement is the greater of 1) the sum of the aggregate debt service and all deposits required by bond resolution to be made, or 2) 1.20 times the aggregate debt service. The BWS met the net revenue requirements for the fiscal years ended June 30, 2017 and 2016.

**Request for Information**

This financial report is designed to provide a general overview of the BWS's finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the Board of Water Supply, City and County of Honolulu, 630 S. Beretania Street, Honolulu, Hawaii 96813.

**Board of Water Supply  
City and County of Honolulu  
STATEMENTS OF NET POSITION  
June 30, 2017 and 2016**

	<b>2017</b>	<b>2016 (as restated)</b>
<b>ASSETS</b>		
Current assets		
Cash and cash equivalents	\$ 28,092,101	\$ 23,084,857
Investments	63,806,798	33,721,976
Interest receivable	1,263,738	969,013
Customer receivables		
Billed, less allowances for uncollectible accounts of \$2,529,056 in 2017 and \$2,615,737 in 2016	17,238,263	14,188,771
Unbilled	12,070,707	12,299,162
Other receivables, less allowances for uncollectible accounts of \$510,868 in 2017 and 2016	1,335,080	1,891,233
Materials and supplies	8,989,621	7,900,769
Prepaid expenses	204,367	461,200
Restricted assets		
Cash and cash equivalents	18,693,705	14,571,741
Investments	--	5,895,469
Total current assets	<u>151,694,380</u>	<u>114,984,191</u>
Noncurrent assets		
Capital assets		
Infrastructure	1,504,279,618	1,469,794,915
Building and improvements	169,870,257	164,492,090
Equipment and machinery	317,240,982	305,454,875
	1,991,390,857	1,939,741,880
Less accumulated depreciation	(983,717,510)	(937,722,307)
	1,007,673,347	1,002,019,573
Land	32,373,064	32,373,064
Construction work in progress	98,956,663	87,318,572
Net capital assets	1,139,003,074	1,121,711,209
Investments	268,759,415	260,655,703
Restricted assets		
Cash and cash equivalents	2,344,009	--
Investments	23,022,759	27,300,443
Other postemployment benefits asset	15,734,883	12,162,155
Other assets	29,525	31,370
Total noncurrent assets	<u>1,448,893,665</u>	<u>1,421,860,880</u>
Total assets	<u>1,600,588,045</u>	<u>1,536,845,071</u>
<b>DEFERRED OUTFLOWS OF RESOURCES</b>		
Deferred loss on refunding of debt	18,599,198	20,112,402
Deferred outflows of resources related to pensions	44,384,811	17,926,992
Total deferred outflows of resources	<u>62,984,009</u>	<u>38,039,394</u>
Total assets and deferred outflows of resources	<u>\$ 1,663,572,054</u>	<u>\$ 1,574,884,465</u>

See accompanying notes to financial statements.

**Board of Water Supply  
City and County of Honolulu  
STATEMENTS OF NET POSITION (Continued)  
June 30, 2017 and 2016**

	<u>2017</u>	<u>2016</u> (as restated)
<b>LIABILITIES</b>		
Current liabilities		
Payable from current assets		
Accounts payable	\$ 9,798,139	\$ 11,465,798
Contracts payable, including retainages	5,989,963	6,389,575
Accrued vacation, current portion	3,029,874	2,492,417
Accrued workers' compensation, current portion	741,279	916,000
Other	3,131,876	2,657,135
Total payable from current assets	<u>22,691,131</u>	<u>23,920,925</u>
Payable from restricted assets		
Contracts payable, including retainages	2,222,787	3,007,142
Accrued interest payable	4,844,139	5,113,740
Bonds payable, current portion	8,365,000	8,135,000
Notes payable, current portion	3,261,779	4,211,328
Total payable from restricted assets	<u>18,693,705</u>	<u>20,467,210</u>
Total current liabilities	<u>41,384,836</u>	<u>44,388,135</u>
Noncurrent liabilities		
Bonds payable, noncurrent	234,757,539	244,798,748
Notes payable, noncurrent portion	69,746,122	61,000,319
Net pension liability	116,342,916	81,526,553
Accrued vacation, noncurrent portion	3,946,625	4,302,997
Accrued workers' compensation	1,525,876	1,880,735
Customer advances	1,529,622	3,335,490
Other	3,574,344	3,455,480
Total noncurrent liabilities	<u>431,423,044</u>	<u>400,300,322</u>
Total liabilities	<u>472,807,880</u>	<u>444,688,457</u>
<b>DEFERRED INFLOWS OF RESOURCES</b>		
Deferred inflows of resources related to pensions	<u>5,260,154</u>	<u>5,063,424</u>
Total deferred inflows of resources	<u>5,260,154</u>	<u>5,063,424</u>
<b>NET POSITION</b>		
Net investment in capital assets	859,695,807	839,032,962
Restricted for capital activity and debt service	18,769,572	24,292,025
Unrestricted	307,038,641	261,807,597
Total net position	<u>1,185,504,020</u>	<u>1,125,132,584</u>
Total liabilities, deferred inflows of resources and net position	<u>\$ 1,663,572,054</u>	<u>\$ 1,574,884,465</u>

See accompanying notes to financial statements.

**Board of Water Supply  
City and County of Honolulu  
STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION  
Fiscal Years Ended June 30, 2017 and 2016**

	<u>2017</u>	<u>2016</u> (as restated)
<b>OPERATING REVENUES</b>		
Water sales	\$ 229,083,940	\$ 234,725,808
Other, principally contract and service fees	<u>2,361,340</u>	<u>3,970,520</u>
Total operating revenues	<u>231,445,280</u>	<u>238,696,328</u>
<b>OPERATING EXPENSES</b>		
Administrative and general	63,860,738	61,722,651
Depreciation	47,937,866	45,581,460
Power and pumping	29,899,130	30,189,514
Transmission and distribution	21,780,311	20,745,074
Maintenance	12,033,589	12,440,083
Customers' accounting and collection	4,686,863	5,249,768
Water reclamation	3,975,033	4,553,447
Central administrative services expense fees	3,300,000	3,300,000
Source of supply	<u>50,032</u>	<u>27,037</u>
Total operating expenses	<u>187,523,562</u>	<u>183,809,034</u>
Operating income	<u>43,921,718</u>	<u>54,887,294</u>
<b>NONOPERATING REVENUES (EXPENSES)</b>		
Interest income	4,616,741	4,150,911
Interest expense, net of interest capitalized and amortization of bond premiums of \$3,500,348 in 2017 and \$3,750,860 in 2016	<u>(7,641,223)</u>	<u>(7,821,072)</u>
Loss from disposal of capital assets	(1,229,062)	(297,165)
Realized and unrealized gain (loss) on investments	(5,322,328)	2,662,097
Other	<u>268,021</u>	<u>307,227</u>
Total nonoperating expenses	<u>(9,307,851)</u>	<u>(998,002)</u>
<b>CONTRIBUTIONS IN AID OF CONSTRUCTION</b>	<u>25,757,569</u>	<u>18,915,888</u>
Change in net position	60,371,436	72,805,180
<b>NET POSITION</b>		
Beginning of year, as previously reported	1,125,132,584	1,054,059,809
Restatement adjustment: cumulative effect of implementation of new accounting standard	<u>--</u>	<u>(1,732,405)</u>
Beginning of year, as restated	<u>1,125,132,584</u>	<u>1,052,327,404</u>
End of year	\$ <u>1,185,504,020</u>	\$ <u>1,125,132,584</u>

See accompanying notes to financial statements.

**Board of Water Supply  
City and County of Honolulu  
STATEMENTS OF CASH FLOWS  
Fiscal Years Ended June 30, 2017 and 2016**

	<u>2017</u>	<u>2016</u>
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Cash received from customers	\$ 229,847,364	\$ 239,462,367
Payments to suppliers for goods and services	(77,977,910)	(76,679,532)
Payments to employees for services	(57,935,145)	(56,102,891)
Net cash provided by operating activities	<u>93,934,309</u>	<u>106,679,944</u>
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES</b>		
Acquisition and construction of capital assets	(55,736,894)	(46,046,346)
Customer payments for capital projects	12,526,364	12,678,171
Principal paid on bonds	(8,135,000)	(7,810,000)
Interest paid on bonds	(9,588,890)	(9,913,722)
Proceeds from notes payable	26,589,160	9,494,429
Interest paid on notes payable	(307,233)	(203,353)
Principal paid on notes payable	(18,792,906)	(3,978,979)
Net cash used in capital and related financing activities	<u>(53,445,399)</u>	<u>(45,779,800)</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Purchase of investments	(131,437,507)	(149,139,191)
Proceeds from maturity of investments	98,099,798	83,610,596
Interest on investments	4,322,016	3,264,692
Net cash used in investing activities	<u>(29,015,693)</u>	<u>(62,263,903)</u>
Net increase (decrease) in cash and cash equivalents	11,473,217	(1,363,759)
<b>CASH AND CASH EQUIVALENTS</b>		
Beginning of year	37,656,598	39,020,357
End of year	\$ <u>49,129,815</u>	\$ <u>37,656,598</u>
Reconciliation of cash and cash equivalents to the statement of net position		
Unrestricted	\$ 28,092,101	\$ 23,084,857
Restricted	21,037,714	14,571,741
	<u>\$ 49,129,815</u>	<u>\$ 37,656,598</u>

See accompanying notes to financial statements.



**Board of Water Supply  
City and County of Honolulu  
STATEMENTS OF CASH FLOWS (Continued)  
Fiscal Years Ended June 30, 2017 and 2016**

	<u>2017</u>	<u>2016</u> (as restated)
<b>RECONCILIATION OF OPERATING INCOME TO NET CASH PROVIDED BY OPERATING ACTIVITIES</b>		
Operating income	\$ 43,921,718	\$ 54,887,294
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	49,377,055	47,165,935
Provision for doubtful accounts	361,069	585,825
Change in assets, deferred outflows of resources, liabilities and deferred inflows of resources:		
Customer receivables	(3,182,106)	(259,709)
Materials and supplies	(1,088,852)	(390,759)
Other receivables	824,174	1,158,544
Prepaid expenses and other	256,833	7,648
Other postemployment benefits	(3,572,728)	(2,945,539)
Deferred outflows of resources related to pensions	(26,457,819)	(2,886,723)
Accounts and contracts payable	(1,763,238)	2,348,895
Accrued vacation	181,085	87,305
Accrued workers' compensation	(529,580)	224,858
Net pension liability	34,816,363	8,384,729
Other liabilities	593,605	1,736,726
Deferred inflows of resources	196,730	(3,425,085)
Net cash provided by operating activities	\$ <u>93,934,309</u>	\$ <u>106,679,944</u>
<b>SUPPLEMENTAL DISCLOSURE OF NONCASH CAPITAL AND RELATED FINANCING ACTIVITIES</b>		
Contributions of capital assets from government agencies, developers and customers that are recorded as contributions in aid of construction	\$ 11,420,958	\$ 7,969,129
Amortization of other costs	\$ 1,845	\$ 22,750
Amortization of bond premium, net	\$ 1,676,209	\$ 1,712,455
Amortization of deferred loss on refunding	\$ 1,513,204	\$ 1,587,523
Forgiveness of principal due on notes payable	\$ --	\$ 750,000

See accompanying notes to financial statements.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE A - OPERATIONS**

The Revised Charter of the City and County of Honolulu provides for the operation of the Board of Water Supply (the "BWS") as a semi-autonomous body of the City and County of Honolulu government (the "City"). The BWS has full and complete authority to manage, control and operate the City's water system and related properties.

Article VII of the Revised Charter of the City and County of Honolulu states that the BWS's seven-member Board of Directors has the authority to establish and adjust water rates and charges so that the revenues derived shall be sufficient to make the BWS self-supporting. The Board of Directors is required to follow certain procedures that include holding public hearings before implementing changes in the water rate schedules.

**NOTE B - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

- (1) ***Financial Statement Presentation*** - The BWS is a component unit of the City (the "primary government"). The accompanying financial statements present only the financial position and activities of the BWS and do not purport to, and do not present the financial position of the City, the changes in its financial position, or its cash flows.
- (2) ***Measurement Focus and Basis of Accounting*** - The accompanying financial statements are presented using the economic resources measurement focus and the accrual basis of accounting. Under this method, revenues are recorded when earned and expenses are recorded at the time liabilities are incurred.
- (3) ***Use of Estimates*** - The preparation of the financial statements in accordance with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows of resources, liabilities, deferred inflows of resources and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant items subject to such estimates and assumptions include the carrying amount of capital assets, valuation allowances for receivables, accrued workers' compensation, and pensions and postretirement benefits. Actual results could differ from those estimates.
- (4) ***Cash and Cash Equivalents*** - The BWS considers all cash on hand, demand deposits, and short-term investments (including restricted assets) with original maturities of three months or less from the date of acquisition to be cash and cash equivalents.
- (5) ***Investments*** - Investments are measured at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The cost of securities sold is generally determined by the weighted average method.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE B - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)**

- (6) **Receivables** - Receivables are recorded at the invoiced amount and do not bear interest. The allowance for doubtful accounts is the BWS's best estimate of the amount of probable credit losses in the BWS's existing receivables. The BWS determines the allowance based on past collection experience and the length of time individual receivables are past due. Account balances are charged off against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote.
- (7) **Materials and Supplies** - Materials and supplies are stated at weighted average cost (which approximates the first-in, first-out method). The cost of materials and supplies are recorded as expenses when consumed rather than when purchased.
- (8) **Restricted Assets** - Restricted assets are comprised of cash and cash equivalents and investments maintained in accordance with bond resolutions and other agreements for the purpose of funding certain debt service payments, construction, improvements, and renewal and replacements of the water system. When both restricted and unrestricted assets are available for use, it is the BWS's policy to use restricted assets first, then unrestricted assets as they are needed. Restricted assets comprise the following:
- The debt service account accumulates transfers from the operating account throughout the fiscal year to make principal and interest payments on the outstanding water system revenue bonds and other notes payable.
  - The renewal and replacement account and the reserve release fund provides funding for improvements, reconstruction, emergency or extraordinary repairs, and renewals or replacements of the water system.
  - The improvement account holds the proceeds of the series bond issuance pursuant to the series resolution or series certificates. These proceeds are only applied to costs specified in the applicable series resolution or series certificates.
  - The extramural account holds reimbursements received from any governmental agency or private entity, pursuant to negotiated agreements, contracts and/or grants.
- (9) **Capital Assets** - Capital assets include those assets in excess of \$5,000 for buildings, infrastructure, and equipment and machinery with a useful life of more than one year. Capital assets are stated at cost and include contributions by governmental agencies, private subdividers and customers at their cost or estimated cost of new construction.

Major replacements, renewals and betterments are capitalized. Interest costs are capitalized during the construction period of major capital projects. Interest costs incurred in the fiscal years ended June 30, 2017 and 2016 totaled approximately \$11,142,000 and \$11,572,000, respectively.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE B - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)**

Capitalized interest costs approximated \$1,824,139 and \$2,038,000 for the fiscal years ended June 30, 2017 and 2016, respectively. The BWS also capitalizes certain indirect costs to construction work based upon actual construction direct labor. Maintenance, repairs and replacements that do not improve or extend the lives of the assets are charged to expense.

Assets are depreciated over the individual assets' estimated useful lives using the straight-line method. Depreciation on both purchased and contributed assets is charged against operations.

The estimated useful lives of capital assets are as follows:

Source of supply plant	20 to 100 years
Pumping plant	20 to 50 years
Water treatment plant	20 to 30 years
Transmission and distribution plant	13-1/3 to 50 years
General plant	5 to 50 years

Gains or losses resulting from the sale, retirement or disposal of capital assets in service are charged or credited to operations.

- (10) ***Bond Issue Prepaid Insurance Costs, Original Issue Discount or Premium and Deferred Loss on Refunding of Debt*** - Bond issue costs are expensed when incurred, except for prepaid insurance, which are amortized over the life of the respective issue on a straight-line basis. Bond issue prepaid insurance costs are presented as other assets in the statements of net position.

Original issue discounts or premiums are amortized using the straight-line method over the terms of the respective issues. Original issue discounts or premiums are offset against or added to bonds payable in the statements of net position.

Deferred loss on refunding of debt is amortized using the straight-line method over the remaining life of the refunded debt or the life of the new debt, whichever is shorter. The deferred loss on refunding of debt is presented as deferred outflows of resources in the statements of net position.

- (11) ***Accrued Vacation and Compensatory Pay*** - Vacation is earned at the rate of one and three-quarters working days for each month of service. Vacation days may be accumulated to a maximum of ninety days as of the end of the calendar year and are convertible to pay upon termination. The BWS accrues a liability for compensated absences and additional amounts for certain salary-related payments including payroll taxes and fringe benefits.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE B - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)**

As of June 30, 2017 and 2016, accumulated sick leave aggregated approximately \$19,203,000 and \$19,163,000, respectively. Sick leave accumulates at the rate of one and three-quarters working days for each month of service without limit, but can be taken only in the event of illness and is not convertible to pay upon termination of employment. However, an employee who retires or leaves government service in good standing with 60 or more unused sick days is entitled to additional service credit in the State of Hawaii's Employees' Retirement System.

- (12) **Net Position** - Net position represents the difference between assets and deferred outflows of resources less liabilities and deferred inflows of resources. Net position is classified in the following three components: net investment in capital assets, restricted for capital activity and debt service, and unrestricted net position. Net investment in capital assets consists of capital assets, net of accumulated depreciation and reduced by outstanding debt that is attributable to the acquisition, construction or improvement of those assets. Debt related to unspent proceeds or other restricted cash and investments at year-end is not included in the calculation of net investment in capital assets. Restricted for capital activity and debt service consists of net position for which constraints are placed thereon by external parties, such as lenders, grantors, contributors, laws, regulations or enabling legislation. Unrestricted consists of the remaining balance not included in the above categories.
- (13) **Operating Revenues and Expenses** - The BWS distinguishes operating revenues and expenses from nonoperating items. Operating revenues and expenses generally result from providing services in connection with the BWS's principal ongoing water operations. The principal operating revenues are derived from charges for water usage, while operating expenses include cost of services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.
- (14) **Revenue Recognition** - Charges for water sales are based on usage. The BWS's policy is to bill customers on a cyclical monthly basis. The accrual for unbilled water revenues and related receivables reflected in the accompanying financial statements is based on estimated usage from the latest meter reading date to the end of the fiscal year.
- (15) **Contributions in Aid of Construction** - Contributions in aid of construction represent cash or capital assets received by the BWS to aid in the construction of infrastructure assets. Contributions in aid of construction are recognized when they are accepted by the BWS and when all applicable eligibility requirements have been met.
- (16) **Water System Facilities Charge** - A water system facilities charge is levied against all new developments and residential properties requiring water from the BWS's systems, except those developments that have paid for and installed a complete water system, including source, transmission and daily storage facilities. The amounts collected are initially recorded as customer advances and are recognized as contributions in aid of construction when water service is made available to the customer. The use of these funds is designated for the construction of water facilities.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE B - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)**

- (17) **Pensions** - For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions and pension expense, information about the fiduciary net position of the Employees' Retirement System of the State of Hawaii (the "ERS") and additions to/deductions from the ERS's fiduciary net position have been determined using the accrual basis of accounting, which is the same basis as they are reported by the ERS. For this purpose, employer and member contributions are recognized in the period in which the contributions are legally due and benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with benefit terms. Investments are reported at fair value.
- (18) **Deferred Compensation Plan** - All full-time employees are eligible to participate in the City and County of Honolulu's Public Employees' Deferred Compensation Plan (the "Plan"), adopted pursuant to Internal Revenue Code Section 457. The Plan permits eligible employees to defer a portion of their salary until future years. The deferred compensation amounts are not available to employees until termination, retirement, death or unforeseeable emergency.

A trust fund was established to protect plan assets from claims of general creditors and from diversion to any uses other than paying benefits to participants and beneficiaries. Accordingly, the BWS has excluded the Plan's assets and liabilities from the financial statements because the BWS and the City do not have significant administrative involvement in the Plan or perform the investment function for the Plan.

- (19) **Risk Management** - The BWS is exposed to various risks of loss from: (1) torts, (2) theft of, damage to, and destruction of assets, (3) employee injuries and illnesses, (4) natural disasters, and (5) employee health, dental, and accident benefits. Commercial insurance coverage is purchased for claims arising from such matters.

The ranges of insurance limits and deductibles are as follows:

Policy	Limits (Millions)	Deductibles
Property	\$ 60	\$ 50,000
Public entity liability	\$ 15	\$ 750,000
Excess workers' compensation	\$ 25	\$ 600,000
Employment practices	\$ 5	\$ 75,000
Storage tank liability	\$ 2	\$ 10,000
Pollution legal liability	\$ 5	\$ 250,000
Crime	\$ 5	\$ 25,000
Cyber liability	\$ 3	\$ 50,000

There have been no significant reductions in insurance coverage's from the prior fiscal year.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE B - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)**

- (20) **Reclassification** - Certain balances in the prior year financial statements have been reclassified for comparative purposes to conform with the current year presentation. Such reclassifications had no effect on the previously reported change in net position.
- (21) **New Accounting Pronouncements** - The Government Accounting Standards Board (the "GASB") issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. The Statement replaces GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*. The Statement will require the liability of employers for defined benefit OPEB to be measured as the portion of the present value of projected benefit payments to be provided to current active and inactive employees that is attributed to those employees' past periods of service, less the amount of the OPEB plan's fiduciary net position. The requirements of this Statement are effective for fiscal years beginning after June 15, 2017. Management has not yet determined the effect this Statement will have on the BWS's financial statements, but anticipate that it will materially impact the BWS's financial statements.

The GASB issued Statement No. 82, *Pension Issues an amendment of GASB Statements No. 67, No. 68, and No. 73*. This Statement addresses issues regarding (1) the presentation of payroll-related measures in required supplementary information, (2) the selection of assumptions and the treatment of deviations from the guidance in an Actuarial Standard of Practice for financial reporting purposes, and (3) the classification of payments made by employers to satisfy employee (plan member) contribution requirements. The requirements of this Statement are effective for reporting periods beginning after June 15, 2016, except for the requirements of this Statement for the selection of assumptions in a circumstance in which an employer's pension liability is measured as of a date other than the employer's most recent fiscal year-end. In that circumstance, the requirements for the selection of assumptions are effective for that employer in the first reporting period in which the measurement date of the pension liability is on or after June 15, 2017. Management has adopted the applicable requirements of the new standards as presented in the BWS's financial statements.

The GASB issued Statement No. 83, *Certain Asset Retirement Obligations*. This Statement addresses accounting and financial reporting for certain asset retirement obligations ("AROs"). An ARO is a legally enforceable liability associated with the retirement of a tangible capital asset. A government that has legal obligations to perform future asset retirement activities related to its tangible capital assets should recognize a liability based on the guidance in this Statement. The requirements of this Statement are effective for reporting periods beginning after June 15, 2018. Management has not yet determined the effect this Statement will have on the BWS's financial statements.

The GASB issued Statement No. 85, *Omnibus 2017*. This Statement addresses a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and postemployment benefits (pensions and other postemployment benefits [OPEB]). The requirements of this Statement are effective for reporting periods beginning after June 15, 2017. Management has not yet determined the effect this Statement will have on the BWS's financial statements.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE B - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)**

The GASB issued Statement No. 87, *Leases*. This Statement requires the recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources. The requirements of this Statement are effective for reporting periods beginning after December 15, 2019. Management has not yet determined the effect this Statement will have on the BWS's financial statements.

**NOTE C - CASH AND INVESTMENTS**

Cash deposited with the City is maintained by the Department of Budget and Fiscal Services of the City. The City maintains a cash and investment pool that is used by all of the City's Funds and the BWS. The Hawaii Revised Statutes ("HRS") provide for the City's Director of Finance to deposit the cash with any national or state bank or federally insured financial institution authorized to do business in the State of Hawaii, provided that all deposits are fully insured or collateralized. The City's demand deposits are fully insured or collateralized with securities held by the City or its agents in the City's name.

The HRS authorizes the BWS to invest, with certain restrictions, in obligations of the State of Hawaii or the United States of America, in federally insured savings accounts, time certificates of deposit, and bank repurchase agreements with federally insured financial institutions authorized to do business in the State of Hawaii. The BWS's portfolio is managed by various investment managers. These investments consist of U.S. government and U.S. government agencies securities.

**Interest Rate Risk** - Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Generally, the longer the term of an investment, the greater the sensitivity of its fair value to changes in market interest rates. As a means of limiting its exposure to fair value losses, the BWS invests operating funds primarily in shorter-term securities, money market mutual funds, or similar investment pools.

**Custodial Credit Risk** - The custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, a government will not be able to recover deposits or will not be able to recover collateral securities that are in the possession of an outside party. The custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, a government will not be able to recover the value of investment or collateral securities that are in the possession of an outside party. Excluding cash deposited with the City, all cash, money market mutual funds and investment securities as of June 30, 2017 and 2016 were held in trust by two financial institutions in the State of Hawaii.



**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE C - CASH AND INVESTMENTS (Continued)**

All investment securities are registered in the name of the BWS and are not exposed to custodial credit risk. Money market mutual funds are not considered investment securities for purposes of custodial credit risk classification and are not exposed to custodial credit risk. Cash held in trust with these financial institutions are uncollateralized, however, amounts in excess of depository insurance are covered by commercial insurance obtained by each financial institution designed to insure against losses resulting from errors and omissions or fraud.

**Credit Risk and Concentration of Credit Risk** - Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation to the holder of the investment. Concentration of credit risk is the risk of a loss attributed to the magnitude of a government's investment in a single issuer. As of June 30, 2017, all investment securities and money market mutual funds were rated Aaa and Aaa-mf, respectively, by Moody's Investors Services. The BWS's concentration of credit risk related to investments in debt securities has been mitigated by limiting such investments to only debt obligations of the U.S. government and U.S. government agencies.

The historical cost and estimated fair value of investments at June 30, 2017 and 2016 consisted of the following:

	2017		2016	
	Cost	Fair Value	Cost	Fair Value
U. S. Treasury obligations	\$ 291,330,737	\$ 290,061,845	\$ 254,228,048	\$ 257,167,987
U. S. government agencies	65,928,234	65,527,127	70,131,159	70,405,604
	<u>\$ 357,258,971</u>	<u>\$ 355,588,972</u>	<u>\$ 324,359,207</u>	<u>\$ 327,573,591</u>

As of June 30, 2017 and 2016, the credit exposure as a percentage of total investments were as follows:

	2017		2016	
	Percent of Total	Fair Value	Percent of Total	Fair Value
U. S. Treasury obligations	82%	\$ 290,061,845	79%	\$ 257,167,987
U. S. government agencies				
Federal National				
Mortgage Association	9%	30,686,283	13%	43,052,108
Federal Home Loan				
Mortgage Corporation	5%	18,872,139	5%	17,314,197
Federal Home Loan Bank	4%	15,968,705	3%	10,039,299
	<u>100%</u>	<u>\$ 355,588,972</u>	<u>100%</u>	<u>\$ 327,573,591</u>

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE C - CASH AND INVESTMENTS (Continued)**

The fair value of investments at June 30, 2017 by contractual maturity is shown below:

	Fair Value	Investment Maturities (In Years)	
		Less Than 1	1 - 5
U. S. Treasury obligations	\$ 290,061,845	\$ 57,178,004	\$ 232,883,841
U. S. government agencies	65,527,127	14,838,618	50,688,509
	<u>\$ 355,588,972</u>	<u>\$ 72,016,622</u>	<u>\$ 283,572,350</u>

**NOTE D - RESTRICTED ASSETS**

At June 30, 2017 and 2016, the BWS's restricted assets were comprised of cash, cash equivalents and investments and were held for the following purposes:

	2017	2016
Construction, renewals and replacements	\$ 6,954,933	\$ 5,927,984
Debt service	37,105,540	41,839,669
	<u>\$ 44,060,473</u>	<u>\$ 47,767,653</u>

**NOTE E - FAIR VALUE MEASUREMENTS**

The framework for measuring fair value provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1) and the lowest priority to unobservable inputs (level 3). The three levels of the fair value hierarchy are described as follows:

**Level 1** - Inputs to the valuation methodology are quoted prices (unadjusted) in active markets for identical assets or liabilities that a government has the ability to access at the measurement date.

**Level 2** - Inputs other than quoted prices included within level 1 that are observable for an asset or liability, either directly or indirectly. If the asset or liability has a specified (contractual) term, the level 2 input must be observable for substantially the full term of the asset or liability. Level 2 inputs include:

- Quoted prices for similar assets or liabilities in active markets,
- Quoted prices for identical or similar assets or liabilities in markets that are not active,
- Inputs other than quoted prices that are observable for the asset or liability,
- Inputs that are derived principally from or corroborated by observable market data by correlation or other means.

**Level 3** - Inputs that are unobservable for an asset or liability.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE E - FAIR VALUE MEASUREMENTS (Continued)**

Following is a description of the valuation techniques used by the BWS to measure fair value:

U.S. Treasury obligations: Valued using quoted prices in active markets for identical assets.

U.S. government agencies obligations: Valued using quoted prices for identical or similar assets in markets that are not active.

The following table sets forth by level, within the fair value hierarchy, assets measured at fair value on a recurring basis as of June 30, 2017 and 2016:

	Assets at Fair Value at June 30, 2017			
	Total	Level 1	Level 2	Level 3
U. S. Treasury obligations	\$ 290,061,845	\$ 290,061,845	\$ --	\$ --
U. S. government agencies	65,527,127	--	65,527,127	--
	<u>\$ 355,588,972</u>	<u>\$ 290,061,845</u>	<u>\$ 65,527,127</u>	<u>\$ --</u>

	Assets at Fair Value at June 30, 2016			
	Total	Level 1	Level 2	Level 3
U. S. Treasury obligations	\$ 257,167,987	\$ 257,167,987	\$ --	\$ --
U. S. government agencies	70,405,604	--	70,405,604	--
	<u>\$ 327,573,591</u>	<u>\$ 257,167,987</u>	<u>\$ 70,405,604</u>	<u>\$ --</u>

**NOTE F - CAPITAL ASSETS**

Capital assets activity during the fiscal years ended June 30, 2017 and 2016, were as follows:

	Balance July 1, 2016	Additions	Transfers	Retirements	Balance June 30, 2017
Depreciable assets					
Infrastructure	\$ 1,469,794,915	\$ 11,506,650	\$ 26,066,196	\$ (3,088,143)	\$ 1,504,279,618
Building and improvements	164,492,090	--	5,378,167	--	169,870,257
Equipment and machinery	305,454,875	4,899,736	8,416,180	(1,529,809)	317,240,982
Total depreciable assets	1,939,741,880	16,406,386	39,860,543	(4,617,952)	1,991,390,857
Less: Accumulated depreciation	(937,722,307)	(49,377,055)	--	3,381,852	(983,717,510)
Total depreciable assets - net	1,002,019,573	(32,970,669)	39,860,543	(1,236,100)	1,007,673,347
Land	32,373,064	--	--	--	32,373,064
Construction work in progress	87,318,572	62,862,666	(51,224,575)	--	98,956,663
Net capital assets	<u>\$ 1,121,711,209</u>	<u>\$ 29,891,997</u>	<u>\$ (11,364,032)</u>	<u>\$ (1,236,100)</u>	<u>\$ 1,139,003,074</u>

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE F - CAPITAL ASSETS (Continued)**

	Balance July 1, 2015	Additions	Transfers	Retirements	Balance June 30, 2016
Depreciable assets					
Infrastructure	\$ 1,450,128,280	\$ 7,344,904	\$ 13,125,939	\$ (804,208)	\$ 1,469,794,915
Building and improvements	162,673,567	--	1,847,678	(29,155)	164,492,090
Equipment and machinery	304,512,242	1,842,123	8,458,811	(9,358,301)	305,454,875
Total depreciable assets	1,917,314,089	9,187,027	23,432,428	(10,191,664)	1,939,741,880
Less: Accumulated depreciation	(900,416,227)	(47,165,935)	--	9,859,855	(937,722,307)
Total depreciable assets - net	1,016,897,862	(37,978,908)	23,432,428	(331,809)	1,002,019,573
Land	32,373,064	--	--	--	32,373,064
Construction work in progress	63,122,418	65,063,334	(40,867,180)	--	87,318,572
Net capital assets	\$ 1,112,393,344	\$ 27,084,426	\$ (17,434,752)	\$ (331,809)	\$ 1,121,711,209

Depreciation charges allocated to various functions for the fiscal years ended June 30, 2017 and 2016 totaled \$1,439,189 and \$1,584,475 respectively.

**NOTE G - BONDS PAYABLE**

At June 30, 2017 and 2016, bonds payable consisted of the following:

	2017	2016
Water System Revenue Bonds, Series 2006A, with principal of \$2,795,000 due July 1, 2016, with interest at 4.25%. These bonds were partially refunded by Series 2014A bonds.	\$ --	\$ 2,795,000
Water System Revenue Bonds, Series 2006B, with principal of \$3,605,000 due July 1, 2016, with interest at 5.00%. These bonds were partially refunded by Series 2014B bonds.	--	3,605,000
Water System Revenue Bonds, Series 2012A, annual principal due ranging from \$970,000 to \$8,535,000 through July 1, 2033, with interest ranging from 2.00% to 5.00%.	79,800,000	80,740,000
Water System Revenue Bonds, Series 2014A, annual principal due commencing from July 1, 2023, ranging from \$410,000 to \$9,205,000 through July 1, 2036, with interest ranging from 3.00% to 5.00%.	101,655,000	101,655,000
Balance forward	\$ 181,455,000	\$ 188,795,000

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE G - BONDS PAYABLE (Continued)**

	<u>2017</u>	<u>2016</u>
Balance carried forward	\$ 181,455,000	\$ 188,795,000
Water System Revenue Bonds, Series 2014B, annual principal due ranging from \$1,540,000 to \$7,395,000 through July 1, 2031, with interest ranging from 1.34% to 3.86%.	<u>41,750,000</u>	<u>42,545,000</u>
	223,205,000	231,340,000
Add: unamortized premium	<u>19,917,539</u>	<u>21,593,748</u>
	243,122,539	252,933,748
Less: current portion	<u>8,365,000</u>	<u>8,135,000</u>
Noncurrent portion	\$ <u>234,757,539</u>	\$ <u>244,798,748</u>

Principal and interest payments on water system revenue bonds are to be paid from the BWS's revenue. Water system revenue bonds are subject to redemption on and after specific dates prior to maturity at the option of the BWS. The redemption amount equals the outstanding principal amount plus accrued interest without premium on the date of redemption.

At June 30, 2017, future bond principal and interest payments are as follows:

<u>Fiscal Year Ending June 30,</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2018	\$ 8,365,000	\$ 9,358,000	\$ 17,723,000
2019	8,550,000	9,175,000	17,725,000
2020	8,820,000	8,902,000	17,722,000
2021	9,110,000	8,613,000	17,723,000
2022	9,450,000	8,273,000	17,723,000
2023 - 2027	56,340,000	34,001,000	90,341,000
2028 - 2032	71,330,000	19,183,000	90,513,000
2033 - 2037	<u>51,240,000</u>	<u>4,850,000</u>	<u>56,090,000</u>
Total	\$ <u>223,205,000</u>	\$ <u>102,355,000</u>	\$ <u>325,560,000</u>

In December 2014, the BWS issued \$144,985,000 in water system revenue bonds which consisted of \$101,655,000 of Series 2014A and \$43,330,000 of Series 2014B bonds. The proceeds of the issuance and the proceeds from certain state revolving fund loans were used to advance refund a portion of the outstanding 2006A Series and 2006B Series bonds. Consequently, a portion of the 2006A Series and 2006B Series bonds were considered defeased and were removed from the BWS's financial statements in 2015. This refunding was undertaken to reduce total debt service payments by approximately \$24,667,000 and resulted in an economic gain of approximately \$19,182,000. At June 30, 2017 and 2016, defeased bonds totaled \$-0- and \$174,515,000, respectively.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE H - NOTES PAYABLE**

At June 30, 2017 and 2016, notes payable consisted of the following:

	<u>2017</u>	<u>2016</u>
Notes payable to Department of Health		
Note payable in semi-annual installments of approximately \$60,100, including interest at .10%, repaid in fiscal year 2017.	\$ --	\$ 1,127,975
Non-interest bearing note payable in semi-annual installments of approximately \$75,000, repaid in fiscal year 2017.	--	1,424,109
Note payable in semi-annual installments of approximately \$104,400, including interest at .31%, repaid in fiscal year 2017.	--	1,953,944
Note payable in semi-annual installments of approximately \$328,700 including interest at .10%, repaid in fiscal year 2017.	--	6,540,050
Note payable in semi-annual installments of approximately \$10,200, including interest at .10%, repaid in fiscal year 2017.	--	213,598
Note payable in semi-annual installments of approximately \$70,200, including interest at .01%, repaid in fiscal year 2017.	--	1,614,199
Note payable in semi-annual installments of approximately \$32,500, including interest at .01%, repaid in fiscal year 2017.	--	779,698
Note payable in semi-annual installments of approximately \$49,700, including interest at .01%, repaid in fiscal year 2017.	--	1,192,225
Note payable in semi-annual installments of approximately \$36,100, including interest at .36%, repaid in fiscal year 2017.	--	845,796
Note payable in semi-annual installments of approximately \$30,400, including interest at 1.0%, due April 2033.	896,523	947,969
Note payable in semi-annual installments of approximately \$66,100, including interest at 1.0%, due April 2033.	<u>1,951,528</u>	<u>2,063,496</u>
Balance forward	\$ <u>2,848,051</u>	\$ <u>18,703,059</u>

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE H - NOTES PAYABLE (Continued)**

	<u>2017</u>	<u>2016</u>
Balance carried forward	\$ 2,848,051	\$ 18,703,059
Note payable in semi-annual installments of approximately \$73,200, including interest at .50%, due April 2033.	2,249,163	2,383,869
Note payable in semi-annual installments of approximately \$29,200, including interest at 1.0%, January 2034.	908,788	933,280
Non-interest bearing note payable in semi-annual installments of approximately \$676,900, due April 2034.	23,016,178	24,370,071
Note payable in semi-annual installments of approximately \$21,600, including interest at .50%, due May 2034.	704,406	744,001
Note payable in semi-annual installments of approximately \$97,100, including interest at 1.0%, due May 2034.	3,029,464	3,192,231
Note payable in semi-annual installments of approximately \$130,500, including interest at .50%, due May 2034.	4,248,697	3,755,205
Note payable in semi-annual installments of approximately \$130,000, including interest at .50%, due May 2034.	4,220,859	3,049,253
Non-interest bearing note payable in semi-annual installments of approximately \$178,000, due November 2034.	6,229,364	6,150,200
Note payable in semi-annual installments of approximately \$91,000, including interest at .50%, due November 2034.	3,045,268	91,091
Non-interest bearing note payable in semi-annual installments of approximately \$190,800, due December 2037.	<u>5,539,875</u>	<u>474,946</u>
Balance forward	\$ <u>56,040,113</u>	\$ <u>63,847,206</u>

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE H - NOTES PAYABLE (Continued)**

	<u>2017</u>	<u>2016</u>
Balance carried forward	\$ 56,040,113	\$ 63,847,206
Non-interest bearing note payable in semi-annual installments of approximately \$301,800, due February 2039.	10,723,695	--
Note payable in semi-annual installments of approximately \$146,900, including interest at .50%, due October 2036.	5,000,000	--
Notes payable to other lenders		
Note payable in monthly installments of approximately \$15,700, including interest at 5.0%, due September 2025	<u>1,244,093</u> 73,007,901	<u>1,364,441</u> 65,211,647
Less current maturities	<u>3,261,779</u>	<u>4,211,328</u>
	\$ <u>69,746,122</u>	\$ <u>61,000,319</u>

The notes payable to the Department of Health are state revolving fund loans and are collateralized by net revenue of the BWS.

At June 30, 2017, future principal and interest payments for notes payable are as follows:

<u>Fiscal Year Ending June 30,</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2018	\$ 3,262,000	\$ 221,000	\$ 3,483,000
2019	3,534,000	210,000	3,744,000
2020	3,805,000	194,000	3,999,000
2021	4,079,000	178,000	4,257,000
2022	4,106,000	161,000	4,267,000
2023-2027	20,603,000	550,000	21,153,000
2028-2032	20,568,000	247,000	20,815,000
2033-2037	11,697,000	35,000	11,732,000
2038-2039	<u>1,354,000</u>	<u>--</u>	<u>1,354,000</u>
	\$ <u>73,008,000</u>	\$ <u>1,796,000</u>	\$ <u>74,804,000</u>

Subsequent to June 30, 2017, the BWS made principal and interest prepayments of approximately \$9,781,000 to the Department of Health for certain state revolving fund loans.



**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE I - LONG-TERM LIABILITIES**

The following is a summary of changes in long-term liabilities for the fiscal years ended June 30, 2017 and 2016:

	Balance July 1, 2016	Additions	Reductions	Balance June 30, 2017	Current Portion
Bonds payable	\$ 231,340,000	\$ --	\$ (8,135,000)	\$ 223,205,000	\$ 8,365,000
Add: unamortized premium	<u>21,593,748</u>	<u>--</u>	<u>(1,676,209)</u>	<u>19,917,539</u>	<u>--</u>
Total bonds payable	252,933,748	--	(9,811,209)	243,122,539	8,365,000
Notes payable	65,211,647	26,589,160	(18,792,906)	73,007,901	3,261,779
Accrued vacation	6,795,414	3,210,959	(3,029,874)	6,976,499	3,029,874
Accrued workers' compensation	2,796,735	594,366	(1,123,946)	2,267,155	741,279
Customer advances	3,335,490	14,332,232	(16,138,100)	1,529,622	--
Other	<u>3,455,480</u>	<u>651,098</u>	<u>(532,234)</u>	<u>3,574,344</u>	<u>--</u>
	<u>\$ 334,528,514</u>	<u>\$ 45,377,815</u>	<u>\$ (49,428,269)</u>	<u>\$ 330,478,060</u>	<u>\$ 15,397,932</u>

	Balance July 1, 2015	Additions	Reductions	Balance June 30, 2016	Current Portion
Bonds payable	\$ 239,150,000	\$ --	\$ (7,810,000)	\$ 231,340,000	\$ 8,135,000
Add: unamortized premium	<u>23,306,203</u>	<u>--</u>	<u>(1,712,455)</u>	<u>21,593,748</u>	<u>--</u>
Total bonds payable	262,456,203	--	(9,522,455)	252,933,748	8,135,000
Notes payable	60,446,197	9,494,429	(4,728,979)	65,211,647	4,211,328
Accrued vacation	6,708,109	2,579,722	(2,492,417)	6,795,414	2,492,417
Accrued workers' compensation	2,571,877	1,054,492	(829,634)	2,796,735	916,000
Customer advances	1,693,846	12,643,527	(11,001,883)	3,335,490	--
Accrued arbitrage rebate liability	65,888	--	(65,888)	--	--
Other	<u>1,094,266</u>	<u>2,445,989</u>	<u>(84,775)</u>	<u>3,455,480</u>	<u>--</u>
	<u>\$ 335,036,386</u>	<u>\$ 28,218,159</u>	<u>\$ (28,726,031)</u>	<u>\$ 334,528,514</u>	<u>\$ 15,754,745</u>

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE J - NET POSITION**

The BWS's net position consisted of the following as of June 30, 2017 and 2016:

	2017	2016 (as restated)
Net investment in capital assets		
Capital assets, net	\$ 1,139,003,074	\$ 1,121,711,209
Deferred loss on refunding	18,599,198	20,112,402
Less: noncurrent portion of water system revenue bonds payable	(234,757,539)	(244,798,748)
Less: noncurrent portion of notes payable	(69,746,122)	(61,000,319)
Unspent debt proceeds	6,597,196	3,008,418
	<u>859,695,807</u>	<u>839,032,962</u>
Restricted for capital activity and debt service		
Restricted cash and cash equivalents	21,037,714	14,571,741
Restricted investments	23,022,759	33,195,912
Less: unspent debt proceeds	(6,597,196)	(3,008,418)
Less: contracts payable, including retainages	(2,222,787)	(3,007,142)
Less: accrued interest payable	(4,844,139)	(5,113,740)
Less: bonds payable, current portion	(8,365,000)	(8,135,000)
Less: notes payable, current portion	(3,261,779)	(4,211,328)
	<u>18,769,572</u>	<u>24,292,025</u>
Unrestricted	<u>307,038,641</u>	<u>261,807,597</u>
	<u>\$ 1,185,504,020</u>	<u>\$ 1,125,132,584</u>

**NOTE K - LEASES**

The BWS leases space for its deep seawater cooling project on Oahu under an operating lease that extends through September 2025. The lease is subject to early cancellation contingent on mutual agreement between the BWS and the lessor. Rent expense under this lease for the fiscal years ended June 30, 2017 and 2016 totaled \$159,000.

The BWS also leases certain properties to other users, primarily utility and telecommunications companies, under multi-year license agreements. The terms of these agreements range from 5 to 30 years through December 2031. The agreements are generally based on fixed annual amounts, with provisions for increases.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE K - LEASES (Continued)**

The future minimum rental payments and revenue from these operating leases at June 30, 2017 were as follows:

Fiscal Year Ending June 30,	Future Minimum Rental Payments	Future Minimum Rental Revenue
2018	\$ (159,000)	\$ 138,000
2019	(159,000)	115,000
2020	(159,000)	115,000
2021	(159,000)	115,000
2022	(159,000)	107,000
2023-2027	(509,000)	500,000
2028-2032	--	400,000
	<u>\$ (1,304,000)</u>	<u>\$ 1,490,000</u>

**NOTE L - RELATED PARTY TRANSACTIONS**

The BWS has an agreement with the Department of Environmental Services, City and County of Honolulu to provide certain services relating to the billing and collection of sewer service charges. Fees related to these services were negotiated at approximately \$2,896,609 and \$3,738,000 for the fiscal years ended June 30, 2017 and 2016, respectively.

The BWS has an agreement with the City to pay a central administrative services expense ("CASE") fee for treasury, personnel, purchasing and other services that the City provides to the BWS on an on-going basis. The BWS's Charter allows for CASE fees to the extent that it represents a reasonable charge for services necessary for the BWS to perform its duties. CASE fees totaled \$3,300,000 for each of the fiscal years ended June 30, 2017 and 2016.

Amounts due from the City totaled approximately \$623,000 and \$535,000 as of June 30, 2017 and 2016, respectively, and are included in other receivables in the statements of net position.

The BWS has entered into agreements with the City for joint capital projects. Unexpended advanced funds totaled \$826,000 as of June 30, 2017 and 2016, and are included in other liabilities in the statements of net position.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE M - EMPLOYEE BENEFIT PLANS**

**Defined Benefit Pension Plan**

The ERS is a cost-sharing, multiple-employer public employee retirement system established as a defined benefit pension plan to administer a pension benefits program for all eligible employees of the State and counties of Hawaii. Benefit terms, eligibility, and contribution requirements are established by Chapter 88 of the Hawaii Revised Statutes and can be amended through legislation.

The ERS provides retirement, disability and death benefits that are covered by the provisions of the noncontributory, contributory and hybrid retirement membership classes. The three classes provide a monthly retirement allowance equal to the benefit multiplier (generally 1.25% or 2%) multiplied by the average final compensation multiplied by years of credited service. Average final compensation is an average of the highest salaries during any three years of credited service, excluding any salary paid in lieu of vacation for employees hired January 1, 1971 or later and the average of the highest salaries during any five years of credited service including any salary paid in lieu of vacation for employees hired prior to January 1, 1971.

For members hired before July 1, 2012, the original retirement allowance is increased by 2.5% each July 1 following the calendar year of retirement. This cumulative benefit is not compounded and increases each year by 2.5% of the original retirement allowance without a ceiling (2.5% of the original retirement allowance the first year, 5.0% the second year, 7.5% the third year, etc.). For members hired after June 30, 2012, the post-retirement annuity increase was decreased to 1.5% per year.

**Noncontributory Class**

- **Retirement Benefits** - General employees' retirement benefits are determined as 1.25% of average final compensation multiplied by the years of credited service. Employees with 10 years of credited service are eligible to retire at age 62. Employees with 30 years of credited service are eligible to retire at age 55.
- **Disability Benefits** - Members are eligible for service-related disability benefits regardless of length of service and receive a lifetime pension of 35% of their average final compensation. Ten years of credited service is required for ordinary disability. Ordinary disability benefits are determined in the same manner as retirement benefits but are payable immediately, without an actuarial reduction, and at a minimum of 12.5% of average final compensation.
- **Death Benefits** - For service-connected deaths, the surviving spouse/reciprocal beneficiary receives a monthly benefit of 30% of the average final compensation until remarriage or re-entry into a new reciprocal beneficiary relationship. Additional benefits are payable to surviving dependent children up to age 18. If there is no spouse/reciprocal beneficiary or dependent children, no benefit is payable.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE M - EMPLOYEE BENEFIT PLANS (Continued)**

Ten years of credited service is required for ordinary death benefits. For ordinary death benefits, the surviving spouse/reciprocal beneficiary (until remarriage/re-entry into a new reciprocal beneficiary relationship) and dependent children (up to age 18) receive a benefit equal to a percentage of member's accrued maximum allowance unreduced for age or, if the member was eligible for retirement at the time of death, the surviving spouse/reciprocal beneficiary receives 100% joint and survivor lifetime pension.

Contributory Class for Employees Hired Prior to July 1, 2012

- Retirement Benefits - General employees' retirement benefits are determined as 2% of average final compensation multiplied by the years of credited service. General employees with five years of credited service are eligible to retire at age 55.
- Disability Benefits - Members are eligible for service-related disability benefits regardless of length of service and receive a one-time payment of the member's contributions and accrued interest plus a lifetime pension of 50% of their average final compensation. Ten years of credited service is required for ordinary disability. Ordinary disability benefits are determined as 1.75% of average final compensation multiplied by the years of credited service but are payable immediately, without an actuarial reduction, and at a minimum of 30% of average final compensation.
- Death Benefits - For service-connected deaths, the surviving spouse/reciprocal beneficiary receives a lump sum payment of the member's contributions and accrued interest plus a monthly benefit of 50% of the average final compensation until remarriage or re-entry into a new reciprocal beneficiary relationship. If there is no surviving spouse/reciprocal beneficiary, surviving children (up to age 18) or dependent parents are eligible for the monthly benefit. If there is no spouse/reciprocal beneficiary or dependent children/parents, the death benefit is payable to the designated beneficiary.

Ordinary death benefits are available to employees who were active at time of death with at least one year of service. Ordinary death benefits consist of a lump sum payment of the member's contributions and accrued interest plus a percentage of the salary earned in the 12 months preceding death, or 50% Joint and Survivor lifetime pension if the member was not eligible for retirement at the time of death but was credited with at least 10 years of service and designated one beneficiary, or 100% Joint and Survivor lifetime pension if the member was eligible for retirement at the time of death and designated one beneficiary.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE M - EMPLOYEE BENEFIT PLANS (Continued)**

Contributory Class for Employees Hired After June 30, 2012

- Retirement Benefits - General employees' retirement benefits are determined as 1.75% of average final compensation multiplied by the years of credited service. General employees with 10 years of credited service are eligible to retire at age 60.
- Disability and Death Benefits - Disability and benefits for contributory class members hired after June 30, 2012 are generally the same as those for contributory class members hired June 30, 2012 and prior.

Hybrid Class for Employees Hired Prior to July 1, 2012

- Retirement Benefits - General employees' retirement benefits are determined as 2% of average final compensation multiplied by the years of credited service. General employees with five years of credited service are eligible to retire at age 62. General employees with 30 years of credited service are eligible to retire at age 55.
- Disability Benefits - Members are eligible for service-related disability benefits regardless of length of service and receive a lifetime pension of 35% of their average final compensation plus refund of their contributions and accrued interest. Ten years of credited service is required for ordinary disability. Ordinary disability benefits are determined in the same manner as retirement benefits but are payable immediately, without an actuarial reduction, and at a minimum of 25% of average final compensation.
- Death Benefits - For service-connected deaths, the designated surviving spouse/reciprocal beneficiary receives a lump sum payment of the member's contributions and accrued interest plus a monthly benefit of 50% of the average final compensation until remarriage or re-entry into a new reciprocal beneficiary relationship. If there is no surviving spouse/reciprocal beneficiary, surviving children (up to age 18) or dependent parents are eligible for the monthly benefit. If there is no spouse/reciprocal beneficiary or dependent children/parents, the death benefit is payable to the designated beneficiary.

Ordinary death benefits are available to employees who were active at time of death with at least five years of service. Ordinary death benefits consist of a lump sum payment of the member's contributions and accrued interest plus a percentage multiplied by 150%, or 50% Joint and Survivor lifetime pension if the member was not eligible for retirement at the time of death but was credited with at least 10 years of service and designated one beneficiary, or 100% Joint and Survivor lifetime pension if the member was eligible for retirement at the time of death and designated one beneficiary.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE M - EMPLOYEE BENEFIT PLANS (Continued)**

Hybrid Class for Employees Hired After June 30, 2012

- Retirement Benefits - General employees' retirement benefits are determined as 1.75% of average final compensation multiplied by the years of credited service. General employees with 10 years of credited service are eligible to retire at age 65. Employees with 30 years of credited service are eligible to retire at age 60.
- Disability and Death Benefits - Provisions for disability and death benefits generally remain the same except for ordinary death benefits. Ordinary death benefits are available to employees who were active at time of death with at least 10 years of service. Ordinary death benefits consist of a lump sum payment of the member's contributions and accrued interest, or 50% Joint and Survivor lifetime pension if the member was not eligible for retirement at the time of death and designated one beneficiary, or 100% Joint and Survivor lifetime pension if the member was eligible for retirement at the time of death and designated one beneficiary.

**Contributions** - The employer contribution rate is a fixed percentage of compensation. The employer contribution rate was 17% for each of the fiscal years ended June 30, 2017 and 2016. For the fiscal years ended June 30, 2017 and 2016, contributions to the pension plan from the BWS totaled \$6,879,511 and \$5,871,134, respectively.

The employer is required to make all contributions for noncontributory members. For contributory class employees hired prior to July 1, 2012, general employees are required to contribute 7.8% of their salary. For contributing class employees hired after June 30, 2012, general employees are required to contribute 9.8% of their salary. Hybrid class members hired prior to July 1, 2012 are required to contribute 6.0% of their salary. Hybrid class members hired after June 30, 2012 are required to contribute 8.0% of their salary.

**Pension Liabilities, Pension Expense, Deferred Outflows of Resources, and Deferred Inflows of Resources Related to Pensions** - At June 30, 2017 and 2016, the BWS reported a liability of \$116,342,916 and \$81,526,553, respectively, for its proportionate share of the net pension liability. The net pension liability was measured as of June 30, 2016 and 2015, respectively, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of those dates. The BWS's proportion of the net pension liability was based on the actual employer contributions to the pension plan relative to the contributions of all participating employers. At June 30, 2016 and 2015, the BWS's proportion was 0.87% and 0.93%, respectively, which was a change of -0.06% and 0.02% from its proportion measured as of June 30, 2015 and 2014, respectively.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE M - EMPLOYEE BENEFIT PLANS (Continued)**

For the fiscal years ended June 30, 2017 and 2016, the BWS recognized pension expense of \$15,437,218 and \$9,118,964, respectively. At June 30, 2017 and 2016, the BWS reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	June 30, 2017	
	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 2,316,873	\$ 1,683,977
Changes of assumptions	21,852,328	--
Net difference between projected and actual earnings on pension plan investments	7,117,333	--
Changes in proportion and differences between employer contributions and proportionate share of contributions	6,993,084	3,576,177
Employer contributions subsequent to the measurement date	6,105,193	--
	<u>\$ 44,384,811</u>	<u>\$ 5,260,154</u>
	June 30, 2016 (as restated)	
	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 763,598	\$ 2,281,473
Changes of assumptions	1,924,472	--
Net difference between projected and actual earnings on pension plan investments	--	2,781,951
Changes in proportion and differences between employer contributions and proportionate share of contributions	9,367,788	--
Employer contributions subsequent to the measurement date	5,871,134	--
	<u>\$ 17,926,992</u>	<u>\$ 5,063,424</u>



**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE M - EMPLOYEE BENEFIT PLANS (Continued)**

The \$6,105,193 of deferred outflows of resources related to pensions at June 30, 2017 resulting from the BWS's contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the fiscal year ended June 30, 2018. Other amounts reported as deferred outflows of resources and deferred inflows of resources at June 30, 2016 will be recognized in pension expense as follows:

<u>Fiscal Year Ending June 30,</u>	<u>Amount</u>
2018	\$ 7,366,831
2019	7,366,831
2020	8,991,075
2021	6,309,939
2022	<u>2,984,788</u>
	<u>\$ 33,019,464</u>

***Actuarial Assumptions***

The following actuarial assumptions were used in the actuarial valuations as of June 30, 2016 and 2015:

	<u>2016</u>	<u>2015</u>
Inflation	2.50%	3.00%
Payroll growth rate	3.50%	3.50%
Investment rate of return, including inflation	7.00%	7.65%
Salary increases, including inflation		
Police and fire employees	5.00% to 7.00%	5.00% to 19.00%
General employees	3.50% to 6.50%	4.00% to 8.00%
Teachers	3.75% to 5.75%	4.50% to 8.50%

Mortality rates used in the actuarial valuation as of June 30, 2016 were based on the following:

Active members - Multiples of the RP 2014 mortality table for active employees based on the occupation of the member.

Healthy retirees - The 2016 Public Retirees of Hawaii mortality table, generational projection using the BB projection table from the year 2016 and with multipliers based on plan and group experience.

Disabled retirees - Base table for healthy retirees' occupation, set forward five years, generational projection using the BB projection table from the year 2016. Minimum mortality rate of 3.5% for males and 2.5% for females.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE M - EMPLOYEE BENEFIT PLANS (Continued)**

Mortality assumptions used in the actuarial valuations as of June 30, 2015 included post-retirement mortality rates that were based on either the Client Specific Tables or the 1994 US Group Annuity Mortality Static Tables. Pre-retirement mortality rates were based on the RP-2000 Mortality Tables.

The actuarial assumptions used in the actuarial valuation as of June 30, 2016 were based on the results of an actuarial experience study for the five-year period ended June 30, 2015. The major changes to assumptions resulting from the 2015 actuarial experience study were (1) a decrease in the investment return assumption from 7.65% to 7.00% and (2) the mortality assumptions were modified to assume longer life expectancies as well as to reflect continuous mortality improvement. The actuarial assumptions used in the actuarial valuation as of June 30, 2015 were based on the results of an actuarial experience study for the five-year period ended June 30, 2010. ERS updates their experience studies every five years.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of rates of return on pension plan investments as of June 30, 2016 and 2015 are summarized in the following tables:

2016		
Strategic Allocation (Risk-Based Classes)	Target Allocation	Long-Term Expected Geometric Rate of Return
Broad growth	63.00%	8.35%
Principal protection	7.00%	2.20%
Real return	10.00%	6.15%
Crisis risk offset	20.00%	5.50%
	<u>100.00%</u>	

2015		
Asset Class	Target Allocation	Long-Term Expected Arithmetic Rate of Return
Domestic equity	30.00%	8.50%
International equity	26.00%	9.25%
Total fixed-income	20.00%	3.10%
Real estate	7.00%	9.20%
Private equity	7.00%	11.85%
Real return	5.00%	6.65%
Covered calls	5.00%	7.65%
	<u>100.00%</u>	

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE M - EMPLOYEE BENEFIT PLANS (Continued)**

***Discount Rate***

The discount rate used to measure the total pension liability at June 30, 2017 and 2016 was 7.00% and 7.65%, respectively. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that contributions from employers will be made at statutorily required rates, actuarially determined. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

***Sensitivity of the BWS's Proportionate Share of the Net Pension Liability to Changes in the Discount Rate***

The following presents the BWS's proportionate share of the net pension liability calculated as of the fiscal years ended June 30, 2017 and 2016 using the applicable discount rate, as well as what the BWS's proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage point higher than the applicable rate:

June 30, 2017			
	1% Decrease (6.00%)	Discount Rate (7.00%)	1% Increase (8.00%)
Proportionate share of the net pension liability	\$ <u>148,774,341</u>	\$ <u>116,342,916</u>	\$ <u>89,506,979</u>
June 30, 2016			
	1% Decrease (6.65%)	Discount Rate (7.65%)	1% Increase (8.65%)
Proportionate share of the net pension liability	\$ <u>102,639,120</u>	\$ <u>81,526,553</u>	\$ <u>60,413,986</u>

***Plan Fiduciary Net Position***

Detailed information about the pension plan's fiduciary net position is available in the separately issued ERS financial report. ERS's complete financial statements are available at <http://www.ers.ehawaii.gov>.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE M - EMPLOYEE BENEFIT PLANS (Continued)**

***Payable to the Pension Plan***

At June 30, 2017 and 2016, the amount payable to the ERS totaled \$503,150 and \$487,947, respectively. The amount payable at June 30, 2017 and 2016 consists of statutorily required employer contributions for the month of June 2017 and 2016, respectively.

**Post-Retirement Health Care and Life Insurance Benefits**

In addition to providing pension benefits, the State of Hawaii Employer-Union Health Benefits Trust Fund ("EUTF"), an agent multiple-employer plan provides certain health care (medical, prescription, vision and dental) and life insurance benefits for retired BWS employees. Act 88 established the EUTF during the 2001 State legislative session and is codified in HRS 87A. Contributions are based on negotiated collective bargaining agreements and are limited by State statute to the actual cost of benefit coverage.

For employees hired on or before July 1, 1996, the BWS pays 100% of the monthly health care premium for employees retiring with 10 or more years of credited service, and 50% of the monthly premium for employees retiring with fewer than 10 years of credited service.

For employees hired after June 30, 1996 but before July 1, 2001, and retiring with 25 years or more of service, the BWS pays the entire health care premium. For employees retiring with at least 15 years but fewer than 25 years of service, the BWS pays 75% of the monthly Medicare or non-Medicare premium. For those retiring with at least 10 years but fewer than 15 years of service, the BWS pays 50% of the retired employees' monthly Medicare or non-Medicare premium. For those retiring with fewer than 10 years of service, the BWS makes no contributions.

For employees hired on or after June 30, 2001 and retiring with over 25 years of service, the BWS pays 100% of the monthly premium based on the self plan. For those who retire with at least 15 years but fewer than 25 years of service, the BWS pays 75% of the retired employees' monthly Medicare or non-Medicare premium based on the self plan. For those retiring with at least 10 years but fewer than 15 years of service, the BWS pays 50% of the retired employees' monthly Medicare or non-Medicare premium based on the self plan. For those retiring with fewer than 10 years of service, the BWS makes no contributions.

The BWS also reimburses 100% of Medicare premium costs for retirees and qualified dependents (through the State of Hawaii), who are at least 65 years of age and have at least 10 years of service.

The BWS is required to contribute the annual required contribution ("ARC") of the employer, an amount actuarially determined for the other postemployment benefits ("OPEB"). The ARC represents a level of funding that, if paid on an on-going basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities or funding excess over a period not to exceed 30 years.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE M - EMPLOYEE BENEFIT PLANS (Continued)**

For the fiscal years ended June 30, 2017, 2016 and 2015, the components of the BWS's annual OPEB costs, the amounts contributed to the plan and the changes to the BWS's net OPEB asset (obligation) are summarized as follows:

	2017	2016	2015
Annual required contribution	\$ 8,181,000	\$ 8,826,000	\$ 8,528,000
Interest on net OPEB obligation	(851,000)	(645,000)	493,000
Adjustments to annual required contribution	822,000	602,000	(446,000)
Annual OPEB cost	8,152,000	8,783,000	8,575,000
Contributions made	(11,724,728)	(11,728,539)	(10,750,399)
Change in net OPEB asset (obligation)	3,572,728	2,945,539	2,175,399
Net OPEB asset (obligation)			
Beginning of year	12,162,155	9,216,616	7,041,217
End of Year	\$ 15,734,883	\$ 12,162,155	\$ 9,216,616
Percentage of annual OPEB cost contributed	144%	134%	125%

The funded status of the plan as of the most recent valuation dates are as follows:

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll
July 1, 2015	\$ 50,689,000	\$ 137,018,000	\$ 86,329,000	37%	\$ 34,218,000	252%
July 1, 2013	\$ 25,638,000	\$ 122,886,000	\$ 97,248,000	21%	\$ 31,677,000	307%

The schedule of funding progress presented as required supplementary information following the notes to the financial statements presents multiyear trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future.

Projections of benefits for financial reporting purposes are based on the substantive plan and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE M - EMPLOYEE BENEFIT PLANS (Continued)**

In the July 1, 2015 actuarial valuation, the entry age normal actuarial cost method was used. The actuarial assumptions included a discount rate of 7.0%, projected payroll growth of 3.5%, and an annual health cost trend rates of 9.0% and 7.5% for PPO and HMO, respectively, reduced by decrements to an ultimate rate of 5.0% after 8 years. The initial unfunded actuarial accrued liability is amortized as a level percentage of projected payroll over a thirty-year closed period ending June 30, 2037.

The EUTF issues a stand-alone financial report that includes financial statements and required supplementary information, which may be obtained at the following address: State of Hawaii Employer-Union Health Benefits Trust Fund, P.O. Box 2121, Honolulu, Hawaii 96805.

**NOTE N - COMMITMENTS**

Commitments, primarily for capital improvements, approximated \$196,224,000 and \$217,450,000 as of June 30, 2017 and 2016, respectively. Such amounts are to be funded by operating revenues, contributed capital, cash and investments on hand.

**NOTE O - CONTINGENCIES**

**Workers' Compensation Self-Insurance Liability**

The BWS is self-insured for workers' compensation and disability claims up to \$600,000 and in excess of \$25,000,000. The BWS has obtained excess insurance coverage for claims that are not self-insured. The BWS provides reserves for claims not covered by insurance that in the opinion of management will result in probable judgment against the BWS.

The liability for losses and loss adjustment expenses is comprised of case reserves and incurred but not reported loss reserves ("IBNR"). Case or outstanding loss reserves represent estimates of ultimate costs to settle reported claims.

Determination of a reserve account for workers' compensation is a significant estimate. It is reasonably possible that one or more future events could result in a material change in the estimated claims loss in the near term.

**Safe Drinking Water**

The BWS is subject to the requirements of the Safe Drinking Water Act (the "Act"), which is administered by the State Department of Health on behalf of the U.S. Environmental Protection Agency. Management believes that the BWS is in full compliance with the requirements of the Act and is not aware of any matters under the Act that may materially affect the BWS's customer service area.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO FINANCIAL STATEMENTS  
June 30, 2017 and 2016**

**NOTE O - CONTINGENCIES (Continued)**

**Other Legal Matters**

The BWS is party to various legal proceedings arising in the normal course of business. The outcome of individual matters is not predictable. However, management believes that the ultimate resolution of all such matters, after considering insurance coverage, will not have material adverse effect on the BWS's financial position, results of operations, or liquidity.

**NOTE P - ADOPTION OF NEW ACCOUNTING PRINCIPLE**

BWS has adopted certain requirements of GASB Statement No. 82, *Pension Issues an amendment of GASB Statements No. 67, No. 68, and No. 73* (GASBS 82), which are effective for reporting periods beginning after June 15, 2016. The adoption of GASBS 82 resulted in the reclassification of payments made by BWS to satisfy employee (plan member) contribution requirements that were previously deferred in the period for which the contributions were assessed and recorded as expenses in the subsequent fiscal year. These changes have been applied retroactively by restating the financial statements of the BWS as of June 30, 2016.

For the fiscal year ended June 30, 2016, the effect of the change reduced beginning net position by \$1,732,405 and decreased the change in net position for the fiscal year ended June 30, 2016 by \$96,523. As of June 30, 2016, deferred outflows of resources related to pensions and net position both decreased by \$1,828,928. For the fiscal year ended June 30, 2017, the effect of the change decreased the change in net position by \$126,880.

## **REQUIRED SUPPLEMENTARY INFORMATION**



**Board of Water Supply  
City and County of Honolulu  
SCHEDULE OF PROPORTIONATE SHARE  
OF THE NET PENSION LIABILITY  
Last Ten Fiscal Years \***

<b>Measurement Period Ended</b>	<b>Proportion of the Net Pension Liability</b>	<b>Proportionate Share of the Net Pension Liability</b>	<b>Covered Payroll</b>	<b>Proportionate Share of the Net Pension Liability as a %age of Covered Payroll</b>	<b>Plan Fiduciary Net Position as a %age of the Total Pension Liability</b>
June 30, 2016	0.87%	\$ 116,342,916	\$ 34,536,085	337%	51.28%
June 30, 2015	0.93%	\$ 81,526,553	\$ 33,412,761	244%	62.42%
June 30, 2014	0.91%	\$ 73,141,824	\$ 32,202,276	227%	63.92%
June 30, 2013	0.78%	\$ 69,992,291	\$ 29,761,149	235%	57.96%

\* This schedule is intended to present information for ten years, as of the measurement date of the collective net pension liability for each respective fiscal year. Additional years will be built prospectively as information becomes available.

See accompanying notes to required supplementary information.

**Board of Water Supply  
City and County of Honolulu  
SCHEDULE OF CONTRIBUTIONS  
Last Ten Fiscal Years**

<b>Fiscal Year Ended</b>	<b>Statutorily Required Contribution</b>	<b>Contributions in Relation to Statutorily Required Contributions</b>	<b>Contribution Deficiency (Excess)</b>	<b>Covered Payroll</b>	<b>Contributions as a %age of Covered Payroll</b>
June 30, 2017	\$ 6,105,193	\$ 6,105,193	\$ --	\$ 35,912,898	17.0%
June 30, 2016	\$ 6,647,884	\$ 6,647,884	\$ --	\$ 34,536,085	19.2%
June 30, 2015	\$ 6,686,641	\$ 6,686,641	\$ --	\$ 33,412,761	20.0%
June 30, 2014	\$ 5,931,238	\$ 5,931,238	\$ --	\$ 32,202,276	18.4%
June 30, 2013	\$ 4,604,149	\$ 4,604,149	\$ --	\$ 29,761,149	15.5%
June 30, 2012	\$ 4,404,845	\$ 4,404,845	\$ --	\$ 29,353,916	15.0%
June 30, 2011	\$ 4,497,292	\$ 4,497,292	\$ --	\$ 29,981,949	15.0%
June 30, 2010	\$ 4,850,928	\$ 4,850,928	\$ --	\$ 32,339,522	15.0%
June 30, 2009	\$ 4,804,377	\$ 4,804,377	\$ --	\$ 32,881,432	14.6%
June 30, 2008	\$ 4,273,765	\$ 4,273,765	\$ --	\$ 31,081,925	13.8%

See accompanying notes to required supplementary information.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO REQUIRED SUPPLEMENTARY INFORMATION  
REQUIRED BY GASB STATEMENT NO. 68  
Fiscal Year Ended June 30, 2017**

**NOTE A - CHANGES OF ASSUMPTIONS**

Amounts reported in the schedule of the proportionate share of the net pension liability as of the measurement period ended June 30, 2016 (fiscal year ended June 30, 2017) were significantly impacted by the following changes of actuarial assumptions:

- The investment return assumption decreased from 7.65% to 7.00%
- Mortality assumptions were modified to assume longer life expectancies as well as to reflect continuous mortality improvement

Prior to the measurement period ended June 30, 2016 (fiscal year ended June 30, 2017), there were no other factors, including the use of different assumptions that significantly affect trends reported in these schedules.

**Board of Water Supply  
City and County of Honolulu  
SCHEDULE OF FUNDING PROGRESS  
June 30, 2017**

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a %age of Covered Payroll
July 1, 2015	\$ 50,689,000	\$ 137,018,000	\$ 86,329,000	37%	\$ 34,218,000	252%
July 1, 2013	\$ 25,638,000	\$ 122,886,000	\$ 97,248,000	21%	\$ 31,677,000	307%
July 1, 2011	\$ 14,557,000	\$ 127,154,000	\$ 112,597,000	11%	\$ 29,900,000	377%

## **SUPPLEMENTARY INFORMATION**

**Board of Water Supply  
City and County of Honolulu  
SCHEDULE OF BONDS PAYABLE  
June 30, 2017**

	<u>Interest Rate</u>	<u>Bond Dated</u>	<u>Maturing Serially From</u>	<u>Call Dates (1)</u>	<u>Outstanding June 30, 2017</u>
<b>Water System Revenue Bonds Series 2012A</b>					
Insured Serial Bonds	3.000%	3/29/2012	7/1/2017	(2)	\$ 970,000
Insured Serial Bonds	4.000%	3/29/2012	7/1/2018	(2)	3,960,000
Insured Serial Bonds	5.000%	3/29/2012	7/1/2019	(2)	4,140,000
Insured Serial Bonds	5.000%	3/29/2012	7/1/2020	(2)	2,320,000
Insured Serial Bonds	5.000%	3/29/2012	7/1/2021	(2)	6,865,000
Insured Serial Bonds	5.000%	3/29/2012	7/1/2022	(2)	8,535,000
Insured Serial Bonds	5.000%	3/29/2012	7/1/2023	7/1/2022	3,605,000
Insured Serial Bonds	5.000%	3/29/2012	7/1/2024	7/1/2022	3,790,000
Insured Serial Bonds	5.000%	3/29/2012	7/1/2025	7/1/2022	3,980,000
Insured Serial Bonds	5.000%	3/29/2012	7/1/2026	7/1/2022	4,185,000
Insured Serial Bonds	4.500%	3/29/2012	7/1/2027	7/1/2022	4,390,000
Insured Serial Bonds	4.500%	3/29/2012	7/1/2028	7/1/2022	4,595,000
Insured Serial Bonds	4.500%	3/29/2012	7/1/2029	7/1/2022	4,805,000
Insured Serial Bonds	4.500%	3/29/2012	7/1/2030	7/1/2022	5,025,000
Insured Serial Bonds	5.000%	3/29/2012	7/1/2031	7/1/2022	5,270,000
Insured Serial Bonds	5.000%	3/29/2012	7/1/2032	7/1/2022	5,540,000
Insured Serial Bonds	5.000%	3/29/2012	7/1/2033	7/1/2022	5,825,000
Bifurcated Serial Bonds	2.000%	3/29/2012	7/1/2020	(2)	2,000,000
					<u>\$ 79,800,000</u>

(1) Call dates indicated are optional.

(2) Noncallable.

**Board of Water Supply  
City and County of Honolulu  
SCHEDULE OF BONDS PAYABLE (Continued)  
June 30, 2017**

	<u>Interest Rate</u>	<u>Bond Dated</u>	<u>Maturing Serially From</u>	<u>Call Dates (1)</u>	<u>Outstanding June 30, 2017</u>
<b>Water System Revenue Bonds</b>					
<b>Series 2014A (Non-AMT)</b>					
<b>Tax-Exempt Serial Bonds</b>					
Insured Serial Bonds	5.000%	12/9/2014	7/1/2023	(2)	\$ 5,585,000
Insured Serial Bonds	3.000%	12/9/2014	7/1/2024	(2)	410,000
Insured Serial Bonds	5.000%	12/9/2014	7/1/2024	(2)	5,455,000
Insured Serial Bonds	5.000%	12/9/2014	7/1/2025	7/1/2024	6,165,000
Insured Serial Bonds	5.000%	12/9/2014	7/1/2026	7/1/2024	6,480,000
Insured Serial Bonds	5.000%	12/9/2014	7/1/2027	7/1/2024	6,810,000
Insured Serial Bonds	3.000%	12/9/2014	7/1/2028	(2)	930,000
Insured Serial Bonds	5.000%	12/9/2014	7/1/2028	7/1/2024	6,215,000
Insured Serial Bonds	5.000%	12/9/2014	7/1/2029	7/1/2024	7,505,000
Insured Serial Bonds	5.000%	12/9/2014	7/1/2030	7/1/2024	7,930,000
Insured Serial Bonds	3.250%	12/9/2014	7/1/2031	(2)	4,470,000
Insured Serial Bonds	5.000%	12/9/2014	7/1/2031	7/1/2024	3,825,000
Insured Serial Bonds	4.000%	12/9/2014	7/1/2032	7/1/2024	6,575,000
Insured Serial Bonds	4.000%	12/9/2014	7/1/2033	7/1/2024	6,840,000
Insured Serial Bonds	4.000%	12/9/2014	7/1/2034	7/1/2024	8,500,000
Insured Serial Bonds	4.000%	12/9/2014	7/1/2035	7/1/2024	8,755,000
Insured Serial Bonds	4.000%	12/9/2014	7/1/2036	7/1/2024	9,205,000
					<u>101,655,000</u>
<b>Water System Revenue Bonds</b>					
<b>Series 2014B (AMT)</b>					
<b>Taxable Serial Bonds</b>					
Insured Serial Bonds	1.335%	12/9/2014	7/1/2017	(2)	7,395,000
Insured Serial Bonds	1.744%	12/9/2014	7/1/2018	(2)	4,590,000
Insured Serial Bonds	2.144%	12/9/2014	7/1/2019	(2)	4,680,000
Insured Serial Bonds	2.389%	12/9/2014	7/1/2020	(2)	4,790,000
Insured Serial Bonds	2.619%	12/9/2014	7/1/2021	(2)	2,585,000
Insured Serial Bonds	2.755%	12/9/2014	7/1/2022	(2)	1,540,000
Insured Serial Bonds	2.915%	12/9/2014	7/1/2023	(2)	1,585,000
Insured Serial Bonds	3.135%	12/9/2014	7/1/2024	(2)	1,625,000
Insured Serial Bonds	3.285%	12/9/2014	7/1/2025	(2)	1,670,000
Insured Serial Bonds	3.385%	12/9/2014	7/1/2026	(2)	1,730,000
Insured Serial Bonds	3.485%	12/9/2014	7/1/2027	(2)	1,785,000
Insured Serial Bonds	3.585%	12/9/2014	7/1/2028	(2)	1,845,000
Insured Serial Bonds	3.685%	12/9/2014	7/1/2029	(2)	1,910,000
Insured Serial Bonds	3.760%	12/9/2014	7/1/2030	(2)	1,975,000
Insured Serial Bonds	3.860%	12/9/2014	7/1/2031	(2)	2,045,000
					<u>41,750,000</u>
					<u>\$ 223,205,000</u>

(1) Call dates indicated are optional.

(2) Noncallable.

**Board of Water Supply  
City and County of Honolulu  
SCHEDULES OF NET REVENUE REQUIREMENT  
Fiscal Years Ended June 30, 2017 and 2016**

	<u>2017</u>	<u>2016</u>
<b>REVENUES</b>		
Water sales	\$ 229,083,940	\$ 234,725,808
Interest	4,616,741	4,150,911
Other	<u>2,629,361</u>	<u>4,277,747</u>
Total revenues	<u>236,330,042</u>	<u>243,154,466</u>
<b>DEDUCTIONS</b>		
Operating expenses	187,523,562	183,809,034
Less: depreciation expense	(47,937,866)	(45,581,460)
Less: allocated depreciation charges	<u>(1,439,189)</u>	<u>(1,584,475)</u>
Total deductions	<u>138,146,507</u>	<u>136,643,099</u>
Net revenues	\$ <u>98,183,535</u>	\$ <u>106,511,367</u>
<b>NET REVENUE REQUIREMENT</b>		
Greater of:		
1) Aggregate debt service	\$ 17,787,071	\$ 17,890,708
Required deposits	<u>--</u>	<u>--</u>
	\$ <u>17,787,071</u>	\$ <u>17,890,708</u>
2) Aggregate debt service	\$ 17,787,071	\$ 17,890,708
Minimum required debt service ratio	x <u>1.20</u>	x <u>1.20</u>
Net revenue requirement	\$ <u>21,344,485</u>	\$ <u>21,468,850</u>
Net revenue to aggregate debt service ratio	<u>5.52</u>	<u>5.95</u>



**BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU**

**SINGLE AUDIT REPORTS**

Fiscal Year Ended June 30, 2017

December 11, 2017

To the Board of Directors  
Board of Water Supply  
City and County of Honolulu

We have completed our audit of the basic financial statements of the Board of Water Supply (the "BWS"), a component unit of the City and County of Honolulu, as of and for the fiscal year ended June 30, 2017. Our report containing our opinion on those basic financial statements is included under a separate cover. We submit herein our reports on the BWS's internal control over financial reporting and compliance, compliance for each major federal program, internal control over compliance, and on the schedule of expenditures of federal awards.

## OBJECTIVES OF THE AUDIT

The primary objectives of the audit were as follows:

1. To express an opinion as to whether the financial statements are fairly presented, in all material respects, in accordance with accounting principles generally accepted in the United States of America and to report on the fairness of the schedules of expenditures of federal awards, bonds payable and net revenue requirement when considered in relation to the financial statements as a whole.
2. To report on internal control over financial reporting and compliance with provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements in accordance with *Government Auditing Standards*.
3. To report on internal control related to major federal programs and an opinion on compliance with federal statutes, regulations, and the terms and conditions of federal awards that could have a direct and material effect on each major program in accordance with the Single Audit Act Amendments of 1996 and Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance).

## SCOPE OF THE AUDIT

Our audit was performed in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of the Uniform Guidance.

## ORGANIZATION OF THE REPORT

This report is presented in four parts as follows:

- Part I - Report on internal control over financial reporting and on compliance and other matters.
- Part II - Report on compliance for each major federal program; report on internal control over compliance; and report on the schedule of expenditures of federal awards required by the Uniform Guidance.
- Part III - The schedule of findings and questioned costs.
- Part IV - The summary schedule of prior audit findings.

We wish to express our sincere appreciation for the excellent cooperation and assistance extended by the staff of the BWS.

Sincerely,

*N + K CPAs, INC.*

N&K CPAs, Inc.

## BOARD OF WATER SUPPLY

### TABLE OF CONTENTS

	<u>Page</u>
<b>PART I REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS</b>	
Report on Internal Control over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with <i>Government Auditing Standards</i>	6 - 7
<b>PART II REPORT ON COMPLIANCE FOR EACH MAJOR FEDERAL PROGRAM; REPORT ON INTERNAL CONTROL OVER COMPLIANCE; AND REPORT ON SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS REQUIRED BY THE UNIFORM GUIDANCE</b>	
Report on Compliance for Each Major Federal Program; Report on Internal Control over Compliance; and Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance	9 - 11
Schedule of Expenditures of Federal Awards	12
Notes to Schedule of Expenditures of Federal Awards	13
<b>PART III SCHEDULE OF FINDINGS AND QUESTIONED COSTS</b>	15
<b>PART IV SUMMARY SCHEDULE OF PRIOR AUDIT FINDINGS</b>	
Status Report	17

**PART I**

**REPORT ON INTERNAL CONTROL OVER FINANCIAL  
REPORTING AND ON COMPLIANCE AND OTHER MATTERS**

**REPORT ON INTERNAL CONTROL OVER  
FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS  
BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN  
ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS**

**INDEPENDENT AUDITOR'S REPORT**

To the Board of Directors  
Board of Water Supply  
City and County of Honolulu

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Board of Water Supply (the "BWS"), a component unit of the City and County of Honolulu, as of and for the fiscal year ended June 30, 2017, and the related notes to the financial statements, and have issued our report thereon dated December 11, 2017.

**Internal Control over Financial Reporting**

In planning and performing our audit of the financial statements, we considered the BWS's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the BWS's internal control. Accordingly, we do not express an opinion on the effectiveness of the BWS's internal control.

*A deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

### **Compliance and Other Matters**

As part of obtaining reasonable assurance about whether the BWS's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

### **Purpose of this Report**

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

*N + K CPAs, INC.*

Honolulu, Hawai'i  
December 11, 2017

**PART II**

**REPORT ON COMPLIANCE FOR EACH MAJOR FEDERAL  
PROGRAM; REPORT ON INTERNAL CONTROL OVER COMPLIANCE; AND  
REPORT ON SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS  
REQUIRED BY THE UNIFORM GUIDANCE**



**REPORT ON COMPLIANCE FOR EACH MAJOR FEDERAL PROGRAM;  
REPORT ON INTERNAL CONTROL OVER COMPLIANCE; AND  
REPORT ON SCHEDULE OF EXPENDITURES OF FEDERAL  
AWARDS REQUIRED BY THE UNIFORM GUIDANCE**

**INDEPENDENT AUDITOR'S REPORT**

To the Board of Directors  
Board of Water Supply  
City and County of Honolulu

**Report on Compliance for Each Major Federal Program**

We have audited the Board of Water Supply's (the "BWS") compliance with the types of compliance requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on each of the BWS's major federal programs for the fiscal year ended June 30, 2017. The BWS's major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

**Management's Responsibility**

Management is responsible for compliance with federal statutes, regulations, and the terms and conditions of its federal awards applicable to its federal programs.

**Auditor's Responsibility**

Our responsibility is to express an opinion on compliance for each of the BWS's major federal programs based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements

referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the BWS's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major federal program. However, our audit does not provide a legal determination of the BWS's compliance.

### **Opinion on Each Major Federal Program**

In our opinion, the BWS, complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the fiscal year ended June 30, 2017.

### **Report on Internal Control over Compliance**

Management of the BWS is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the BWS's internal control over compliance with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the BWS's internal control over compliance.

*A deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

#### **Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance**

We have audited the financial statements of the BWS, as of and for the fiscal year ended June 30, 2017, and have issued our report thereon dated December 11, 2017, which contained an unmodified opinion on those financial statements. Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the Uniform Guidance and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated in all material respects in relation to the basic financial statements as a whole.

*N + K CPAs, INC.*

Honolulu, Hawai'i  
December 11, 2017

**Board of Water Supply  
City and County of Honolulu  
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS  
Fiscal Year Ended June 30, 2017**

Federal Grantor/Pass-Through Grantor/Program or Cluster Title	Federal CFDA Number	Pass-Through Entity Identifying Number	Total Federal Expenditures
<b>ENVIRONMENTAL PROTECTION AGENCY</b>			
Pass-through Department of Health, State of Hawai'i			
Capitalization Grants for Drinking Water State			
Revolving Funds	66.468	ASO Log 15-059	\$ 2,874,738
	66.468	ASO Log 15-079	<u>423,368</u>
<b>TOTAL EXPENDITURES OF FEDERAL AWARDS</b>			<b>\$ <u>3,298,106</u></b>

The accompanying notes are an integral part of this schedule.

**Board of Water Supply  
City and County of Honolulu  
NOTES TO SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS  
Fiscal Year Ended June 30, 2017**

**NOTE A - BASIS OF PRESENTATION**

The accompanying schedule of expenditures of federal awards (the "Schedule") includes the federal award activity of the BWS under programs of the federal government for the fiscal year ended June 30, 2017. The information in this Schedule is presented in accordance with the requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Because the Schedule presents only a selected portion of the operations of the BWS, it is not intended to and does not present the financial position, changes in net position, or cash flows of the BWS.

**NOTE B - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

Expenditures reported on the Schedule are reported on a modified accrual basis of accounting under which expenditures are reported when incurred and when reimbursed by federal loan proceeds received from the pass-through entity during the audit period. Such expenditures are recognized following the cost principles contained in Office of Management and Budget Circular A-87, *Cost Principles for State, Local and Indian Tribal Governments*, wherein certain types of expenditures are not allowable or are limited as to reimbursement.

**NOTE C - INDIRECT COST RATE**

The BWS has elected not to use the 10-percent de minimis indirect cost rate allowed under the Uniform Guidance.

**PART III**  
**SCHEDULE OF FINDINGS AND QUESTIONED COSTS**

**Board of Water Supply  
City and County of Honolulu  
SCHEDULE OF FINDINGS AND QUESTIONED COSTS  
Fiscal Year Ended June 30, 2017**

**SECTION I - SUMMARY OF AUDITOR'S RESULTS**

**Financial Statements**

Type of report the auditor issued on whether the financial statements audited were prepared in accordance with GAAP:

Unmodified

Internal control over financial reporting:

Material weakness(es) identified?

☐ yes

☒ no

Significant deficiency(ies) identified?

☐ yes

☒ none reported

Noncompliance material to financial statements noted?

☐ yes

☒ no

**Federal Awards**

Internal control over major federal programs:

Material weakness(es) identified?

☐ yes

☒ no

Significant deficiency(ies) identified?

☐ yes

☒ none reported

Type of auditor's report issued on compliance for major federal programs:

Unmodified

Any audit findings disclosed that are required to be reported in accordance with 2 CFR 200.516(a)?

☐ yes

☒ no

Identification of major federal programs:

CFDA Number

66.468

Name of Federal Program or Cluster

Capitalization Grants for Drinking Water State Revolving Funds

Dollar threshold used to distinguish between type A and type B programs:

\$750,000

Auditee qualified as a low-risk auditee?

☒ yes

☐ no

**SECTION II - FINANCIAL STATEMENT FINDINGS**

No matters were reported.

**SECTION III - FEDERAL AWARD FINDINGS AND QUESTIONED COSTS**

No matters were reported.

**PART IV**  
**SUMMARY SCHEDULE OF PRIOR AUDIT FINDINGS**  
**(Provided By The Board Of Water Supply)**



**Board of Water Supply  
City and County of Honolulu  
STATUS REPORT  
Fiscal Year Ended June 30, 2017**

This section contains the current status of the prior audit recommendation provided by the Board of Water Supply. The recommendation is referenced to the page of the previous audit report for the fiscal year ended June 30, 2016, dated January 10, 2017.

Reference Number	Recommendation	Current Status
2016-001	<b>Improve Internal Controls Over Accounting for Significant Nonroutine Transactions</b>  Management should proactively identify significant, nonroutine accounting transactions and ensure that a process is established whereby management-level fiscal personnel are actively involved in both the determination of the proper accounting treatment and the timely review of the transactions posted to the BWS's accounting system.	Accomplished.

ITEM FOR INFORMATION NO. 2

"January 22, 2018

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

David Ebersold of CDM Smith, will present an update of our Water Master Plan Financial Plan and Rate Study.

Respectfully submitted,

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

Attachment"

The foregoing was for information only.

DISCUSSION:

Joe Cooper, Waterworks Controller, and David Ebersold of CDM Smith provided the report. Mr. Cooper's presentation focused on the first ten years of BWS's long range financial plan. He gave a brief overview of BWS's financial planning process.

Mr. Cooper went over financial policies. He stated that the Board adopted four financial policies in May, to help guide BWS in its financial planning. The first policy is to maintain a minimum working capital of 60 days with a target of 180 days. The second policy is to have a debt service coverage ratio for senior debt of 1.7 and an all-in coverage of 1.6. The third is to have a debt to net asset ratio of 50 percent or less. Finally, the fourth policy is that long term debt should be used to finance long term assets, while short term debt be used to finance the cash flow for emergencies.

Mr. Cooper went over capital expenditures. He explained that BWS has several capital improvement plans – a 30-year plan, a 10-year plan, a 5-year plan, and a 1-year plan. He stated that as BWS moves closer to implementation, the models can be refined.

Mr. Cooper also spoke about operating expenditures. Mr. Hulihee asked why there are no numbers displayed on the chart on Slide 5 of the presentation. Mr. Cooper pointed out that the numbers are shown on previous slides of the presentation, and will make sure to correct that in future presentations.

Mr. Ebersold's presentation focused on the long range financial plan extended to a 30-year period. He covered long range assumptions, 30-year revenue trends with existing rates, additional revenue needs trend, and long range planning scenarios: aggressive conservation, aggressive growth, major natural disaster, major source water contamination, climate change, and economic downturn. For each scenario, Mr. Ebersold went over the revenue effects, the revenue adjustment trend, and financial mitigation strategies.

Board Member Sproat asked what kind of treatment was looked at in regards to the example of the effect of major water source contamination. Mr. Ebersold responded that there was no specific treatment, and that the numbers in the chart are only ball park examples.

**WATER FOR LIFE**

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



Board of Water Supply  
City and County of Honolulu

## **Board Update**

**Long Range Financial Plan**

**Joe Cooper, Waterworks Controller**

**David Ebersold, CDM Smith**

**BWS Water Master Plan Project**

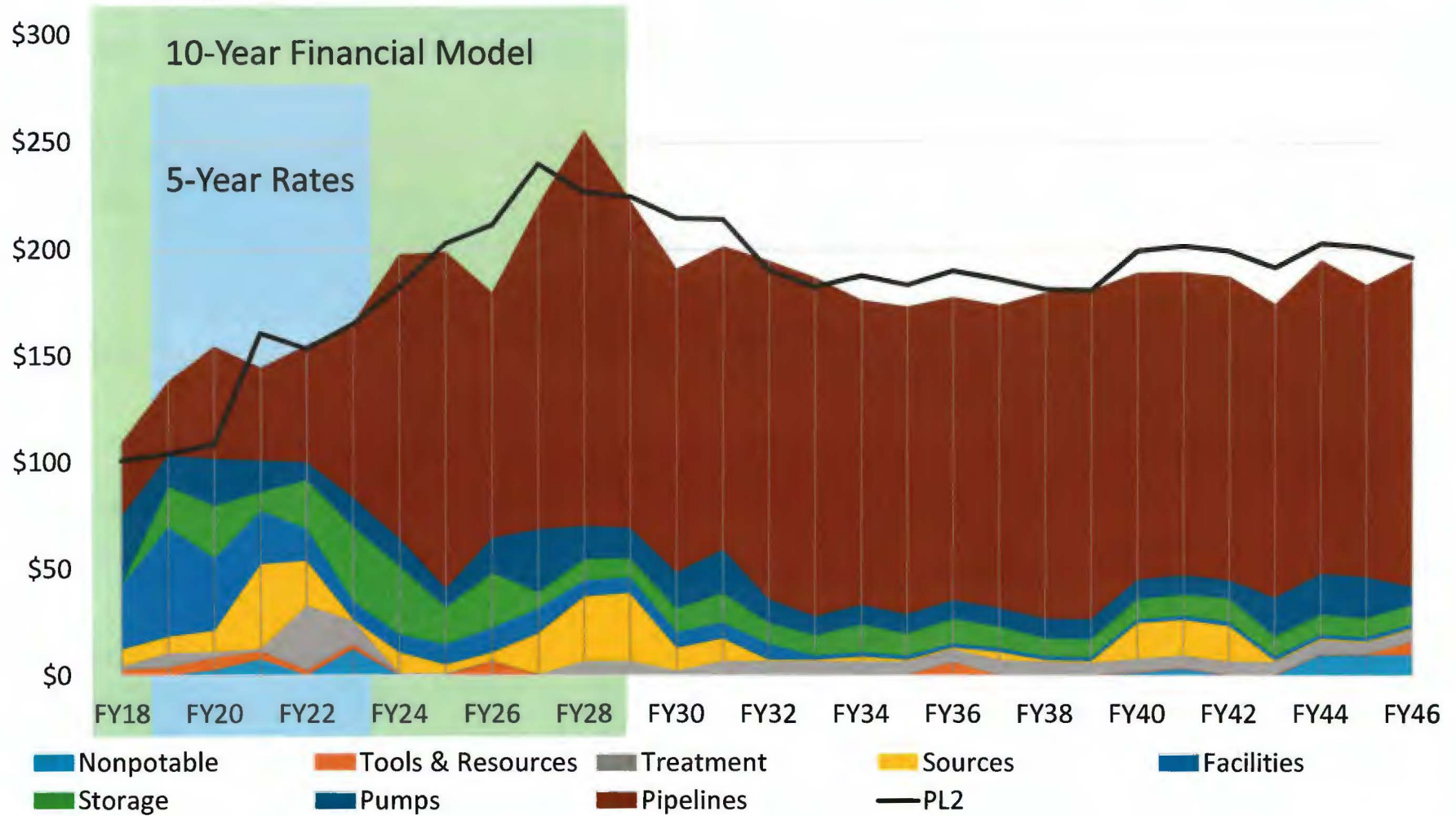
**January 22, 2018**

# Long Range Financial Plan Contents

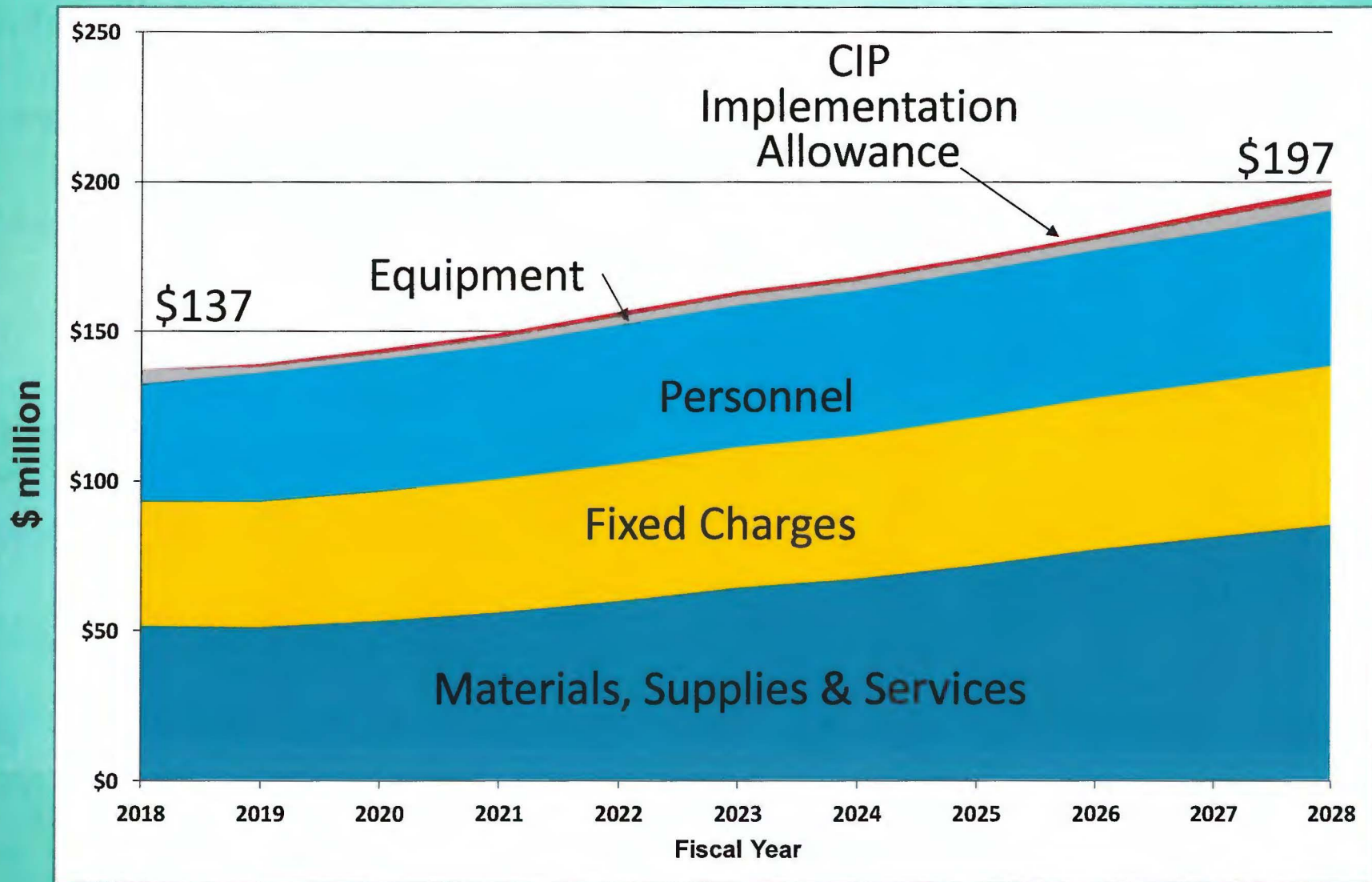
- ◆ Section 1 – Introduction and Overview
- ◆ Section 2 – Capital Expenditures
- ◆ Section 3 – Operating Expenditures
- ◆ Section 4 – Financial Policies
- ◆ Section 5 – Ten-year Financial Forecast
- ◆ Section 6 – Long Range Financial Forecast and Sensitivity Analysis



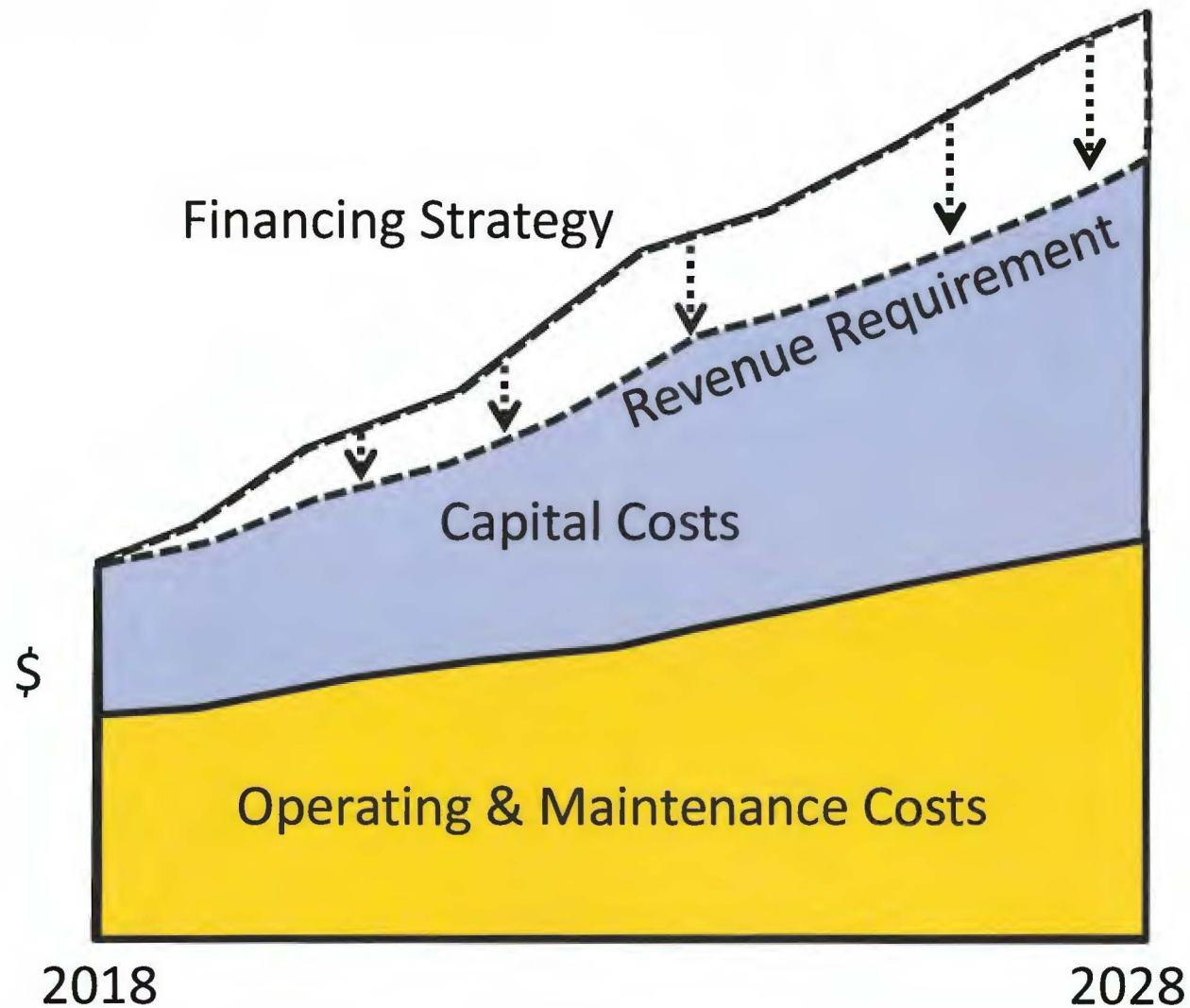
# 30-year Capital Improvement Program



# Operating expenses forecast

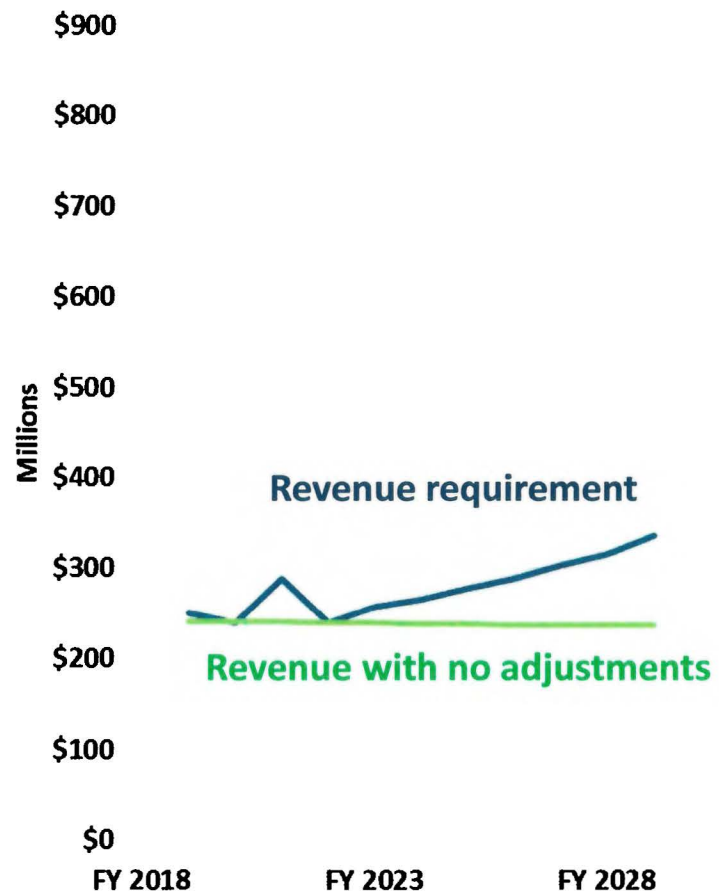


# Building the revenue requirement

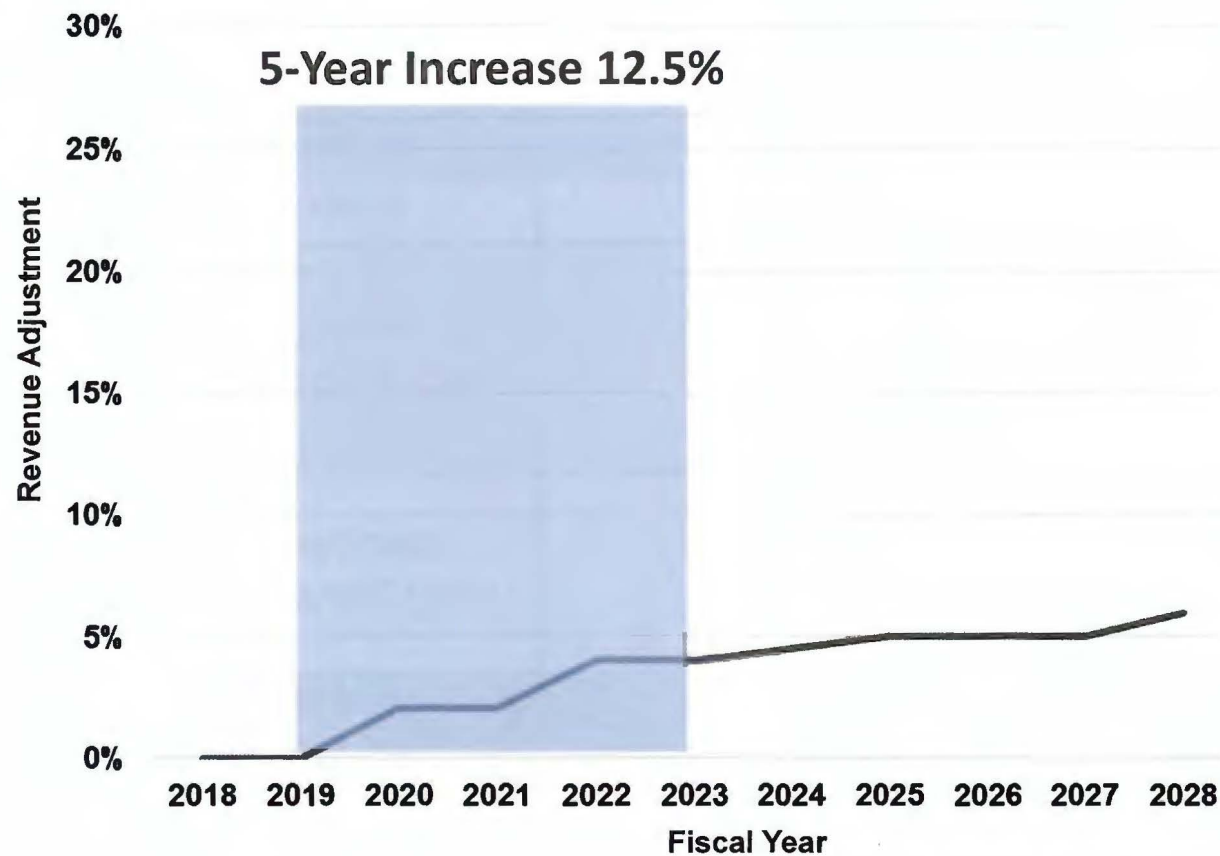




# 10-year revenue requirement



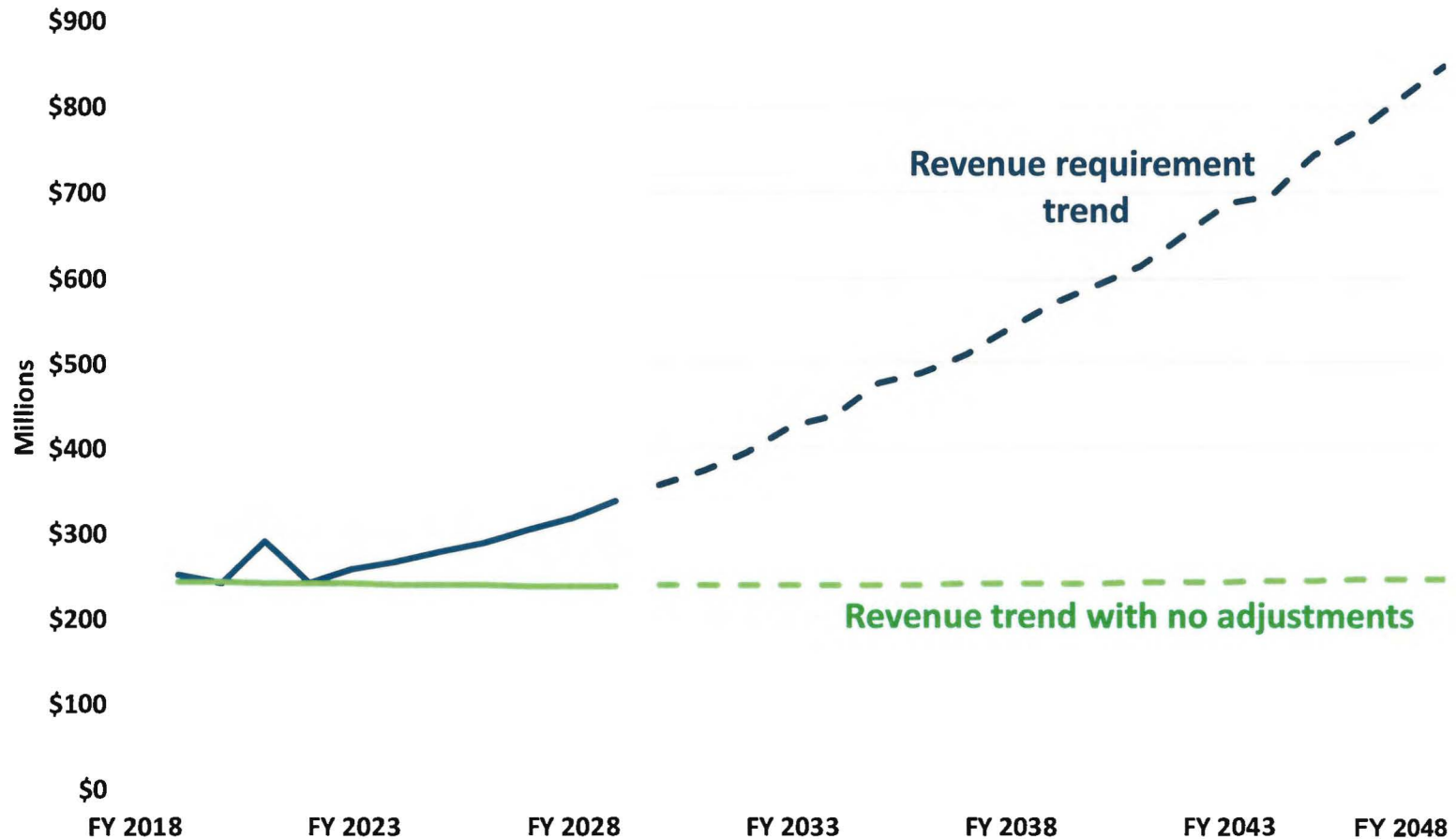
# Revenue adjustment scenarios summary



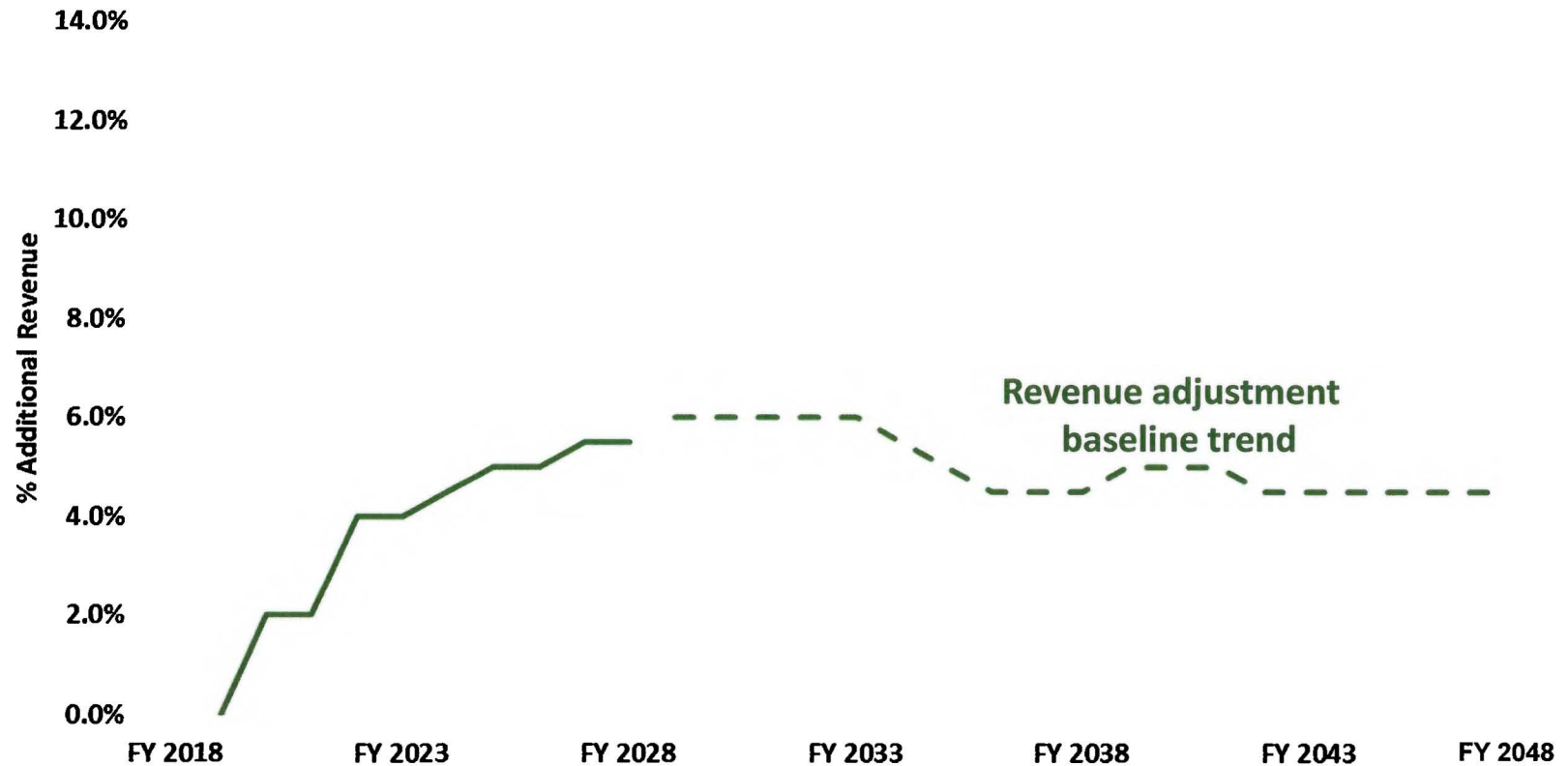
# Long range assumptions

Item	Assumption
State Revolving Fund Loan Amounts	FY 2029: \$10M FY 2030 – 2035: \$12M/year FY 2030 – 2040: \$15M per year
State Revolving Fund Loan Terms	FY 2018 – 2021: 0% FY 2022+: 0.5% Energy Savings Performance Contract: 0% Annual fees 1% of outstanding balance
Debt issues	Varies by year, overall 50/50 debt/cash
Bond terms	FY 2018 – 2021: 4% FY 2022+: 4.5% Issuance cost: 0.5% 30 years
O&M Escalation	3.5 percent per year
Days of Working Capital	Minimum of 60 days, target of 180 days
Water Demand	0.1% per year growth in customers 5-year GPCD reduction from WMP

# 30-year revenue trends with existing rates



# Additional revenue needs trend (percent of existing rate-based revenue)





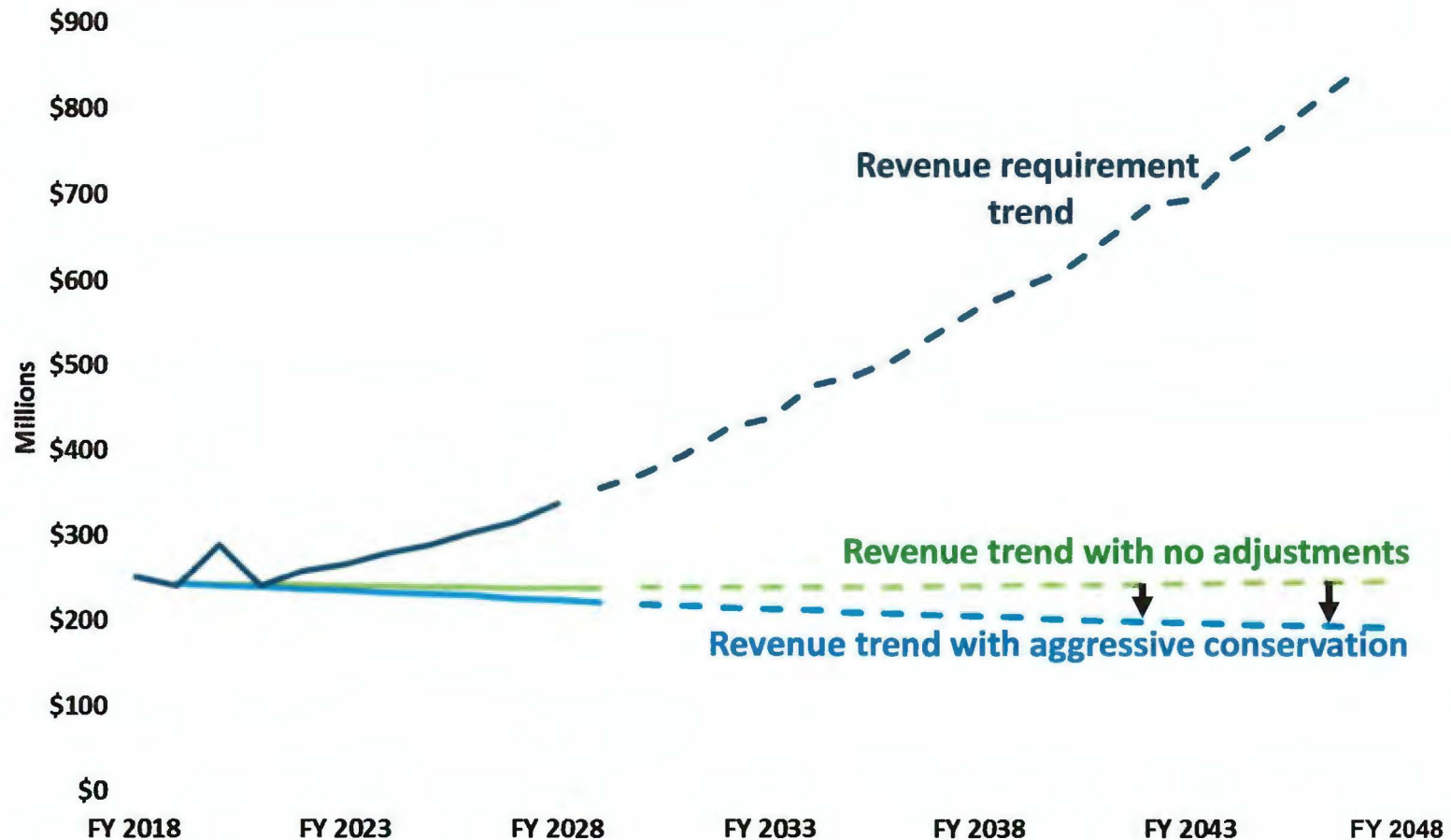
# Long range planning scenarios

Scenario	Uncertainties Considered
Aggressive conservation	Water demands
Aggressive growth	Water demands, water quality
Major natural disaster	Water demands, water quality, economic factors
Major source water contamination	Regulatory requirements, water quality
Climate change	Climate change, water demands, water quality, economic factors
Economic cycle	Economic factors

## Aggressive conservation

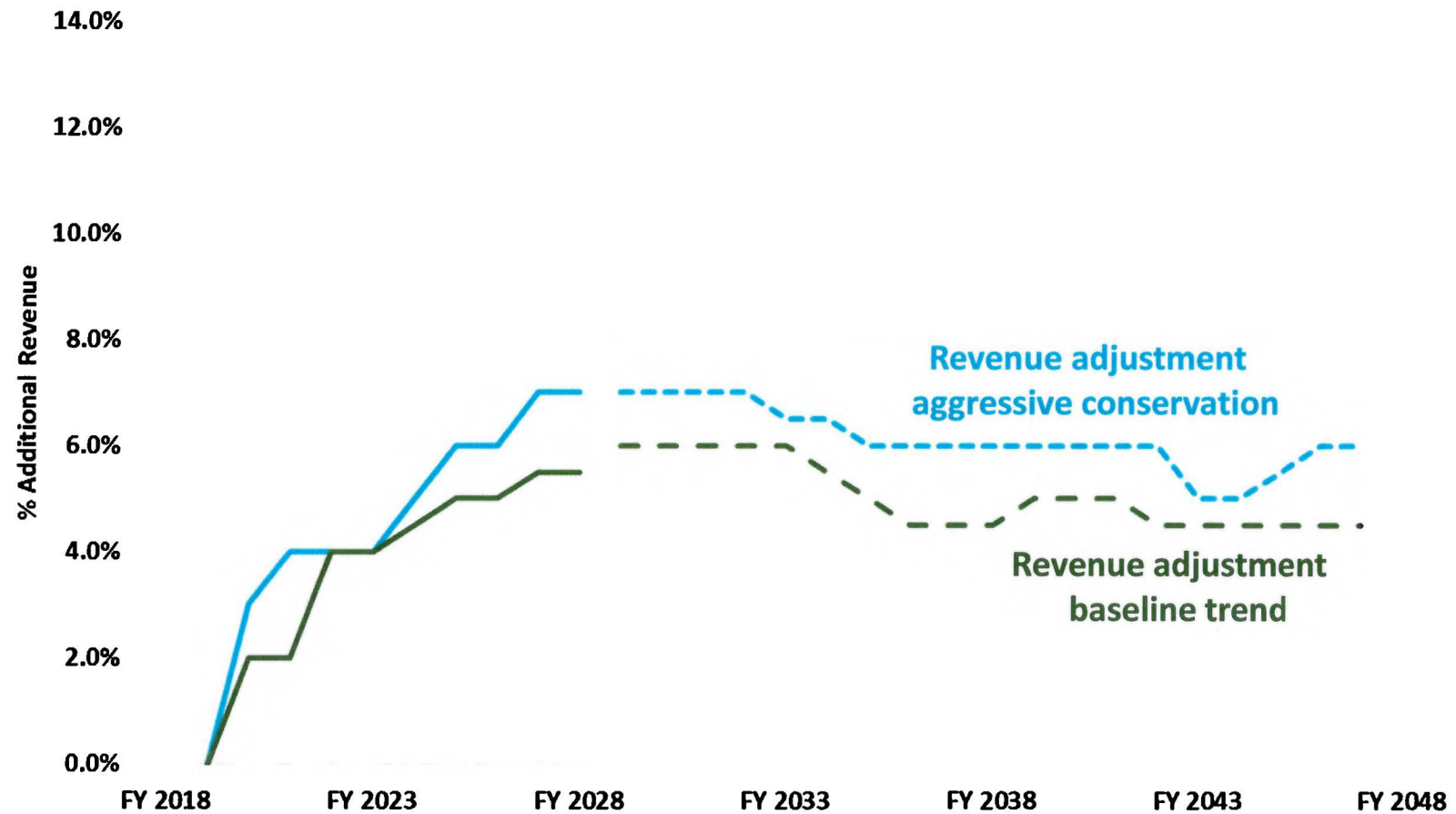
- 💧 Per capita demand decreases 1% per year
- 💧 Across-the-board drop, no expectation that only high users conserve

# Revenue effect due to aggressive conservation





# Aggressive conservation revenue adjustment trend



# Aggressive conservation financial mitigation strategies

Access Working Capital	Defer Expenses	Raise/Restructure Rates	Issue Debt	Public Private Partnerships
--	X	X	X	--

# Aggressive growth considered two alternatives

## 1. WMP High Range Demand Projection Assumptions

- 0.6 percent per year growth in usage through 2025
- 0.4 percent per year through 2026 – 2040
- 0.5 percent per year 2041 – 2047
- No change in usage between existing tiers

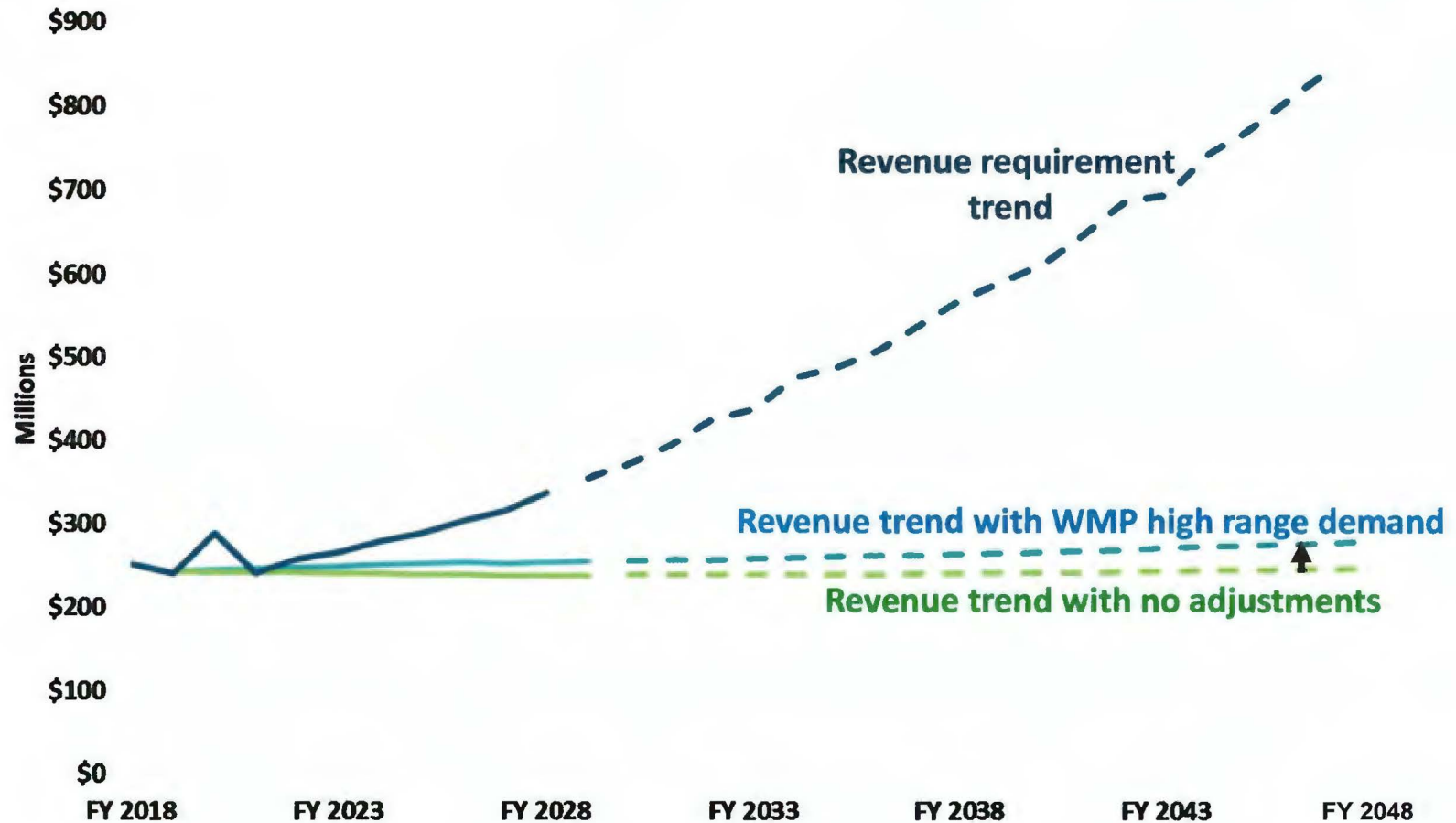
## 2. Aggressive Growth above WMP Assumptions

- 1% per year in usage

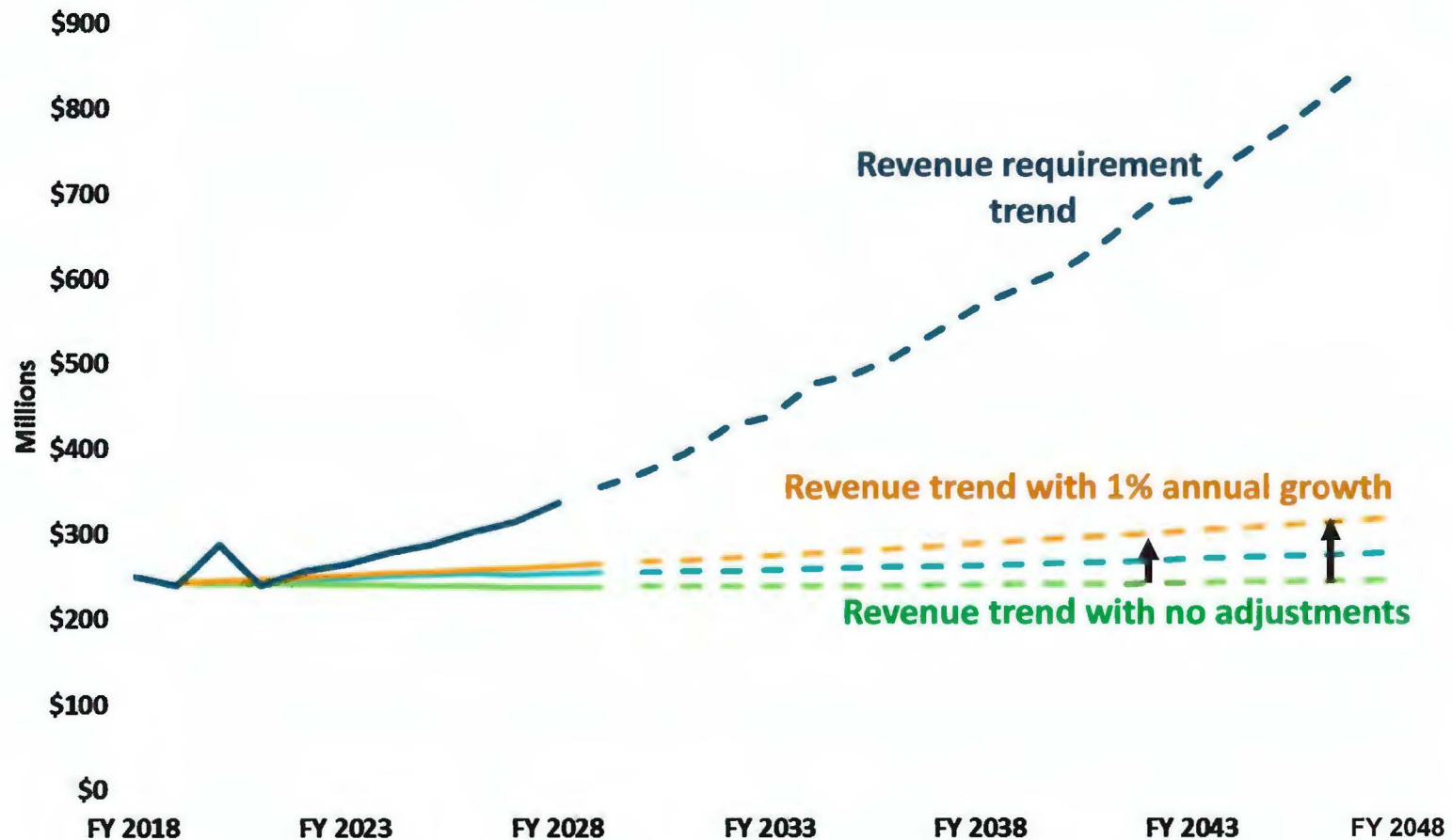
- 💧 Expected changes in O&M costs are offset by additional rate-based revenue



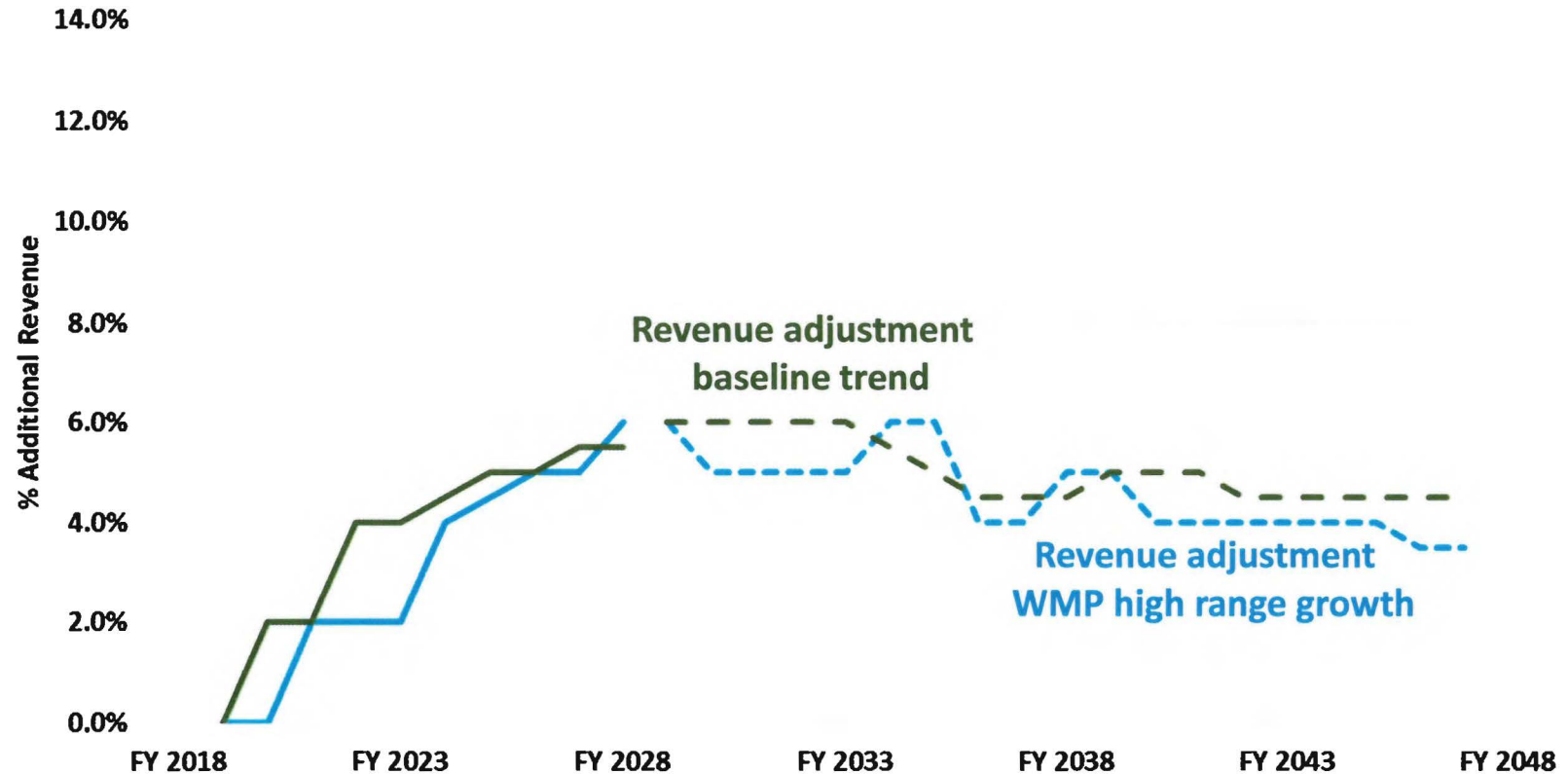
# Revenue effect due to aggressive growth



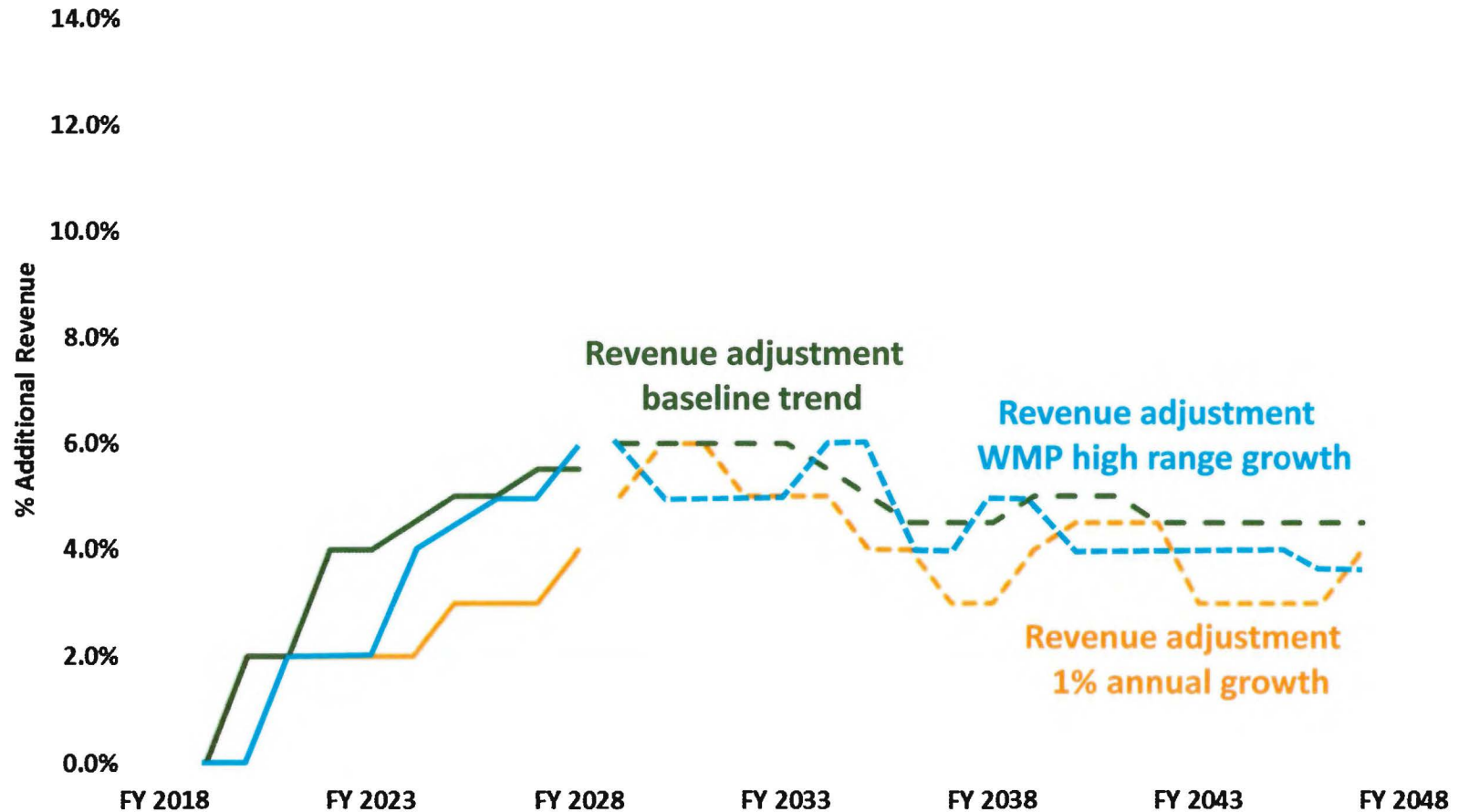
# Revenue effect due to aggressive growth



# Revenue adjustment with WMP high range growth



# Revenue adjustment with 1% annual growth



# Aggressive growth financial mitigation strategies

Access Working Capital	Defer Expenses	Raise/ Restructure Rates	Issue Debt	Public Private Partnerships
X	--	X	X	X



A satellite image of Earth's clouds, showing swirling patterns of white and light blue against a darker blue background, representing the atmosphere and oceans. The image is used as a background for the slide.

## **Major natural disaster**

- ◆ **Damage to infrastructure causing capital needs**
- ◆ **Revenue loss from water service interruption or reductions in rate collection**
- ◆ **Over the first year following the event, sampled disaster events caused**
  - **Capital damage ranging from 1.3 to 4.8% of net assets**
  - **Revenue loss of 1.9 to 24%**

# BWS disaster recovery scenarios

	Scenario A		Scenario B		Scenario C	
Item	Rate	\$ M	Rate	\$ M	Rate	\$ M
Damages % of net assets	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	

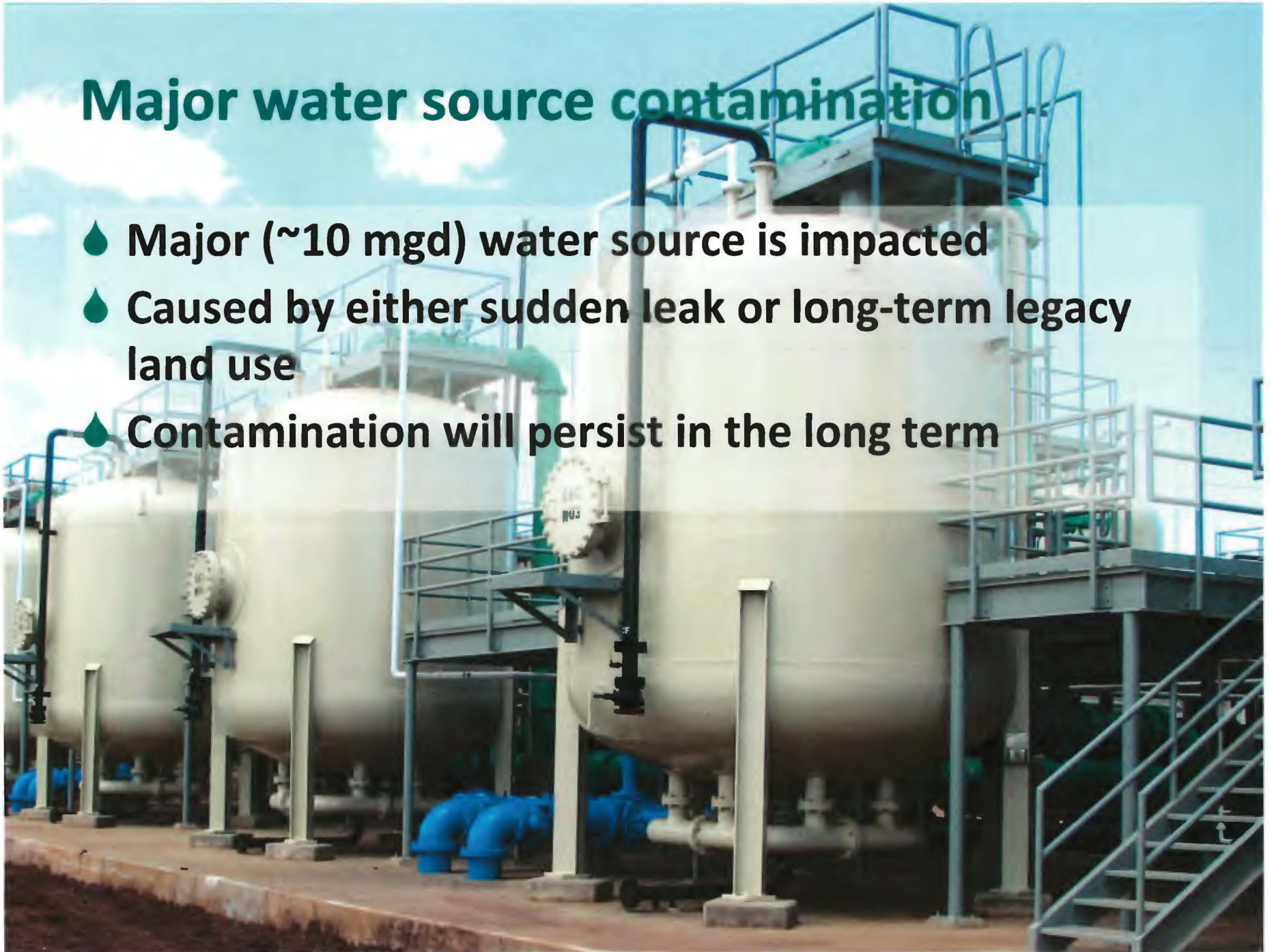
# Major natural disaster financial mitigation strategies

Access Working Capital	Defer Expenses	Raise/ Restructure Rates	Issue Debt	Public Private Partnerships
X	X	--	X	X



# Major water source contamination

- Major (~10 mgd) water source is impacted
- Caused by either sudden leak or long-term legacy land use
- Contamination will persist in the long term



## Effect of major water source contamination example

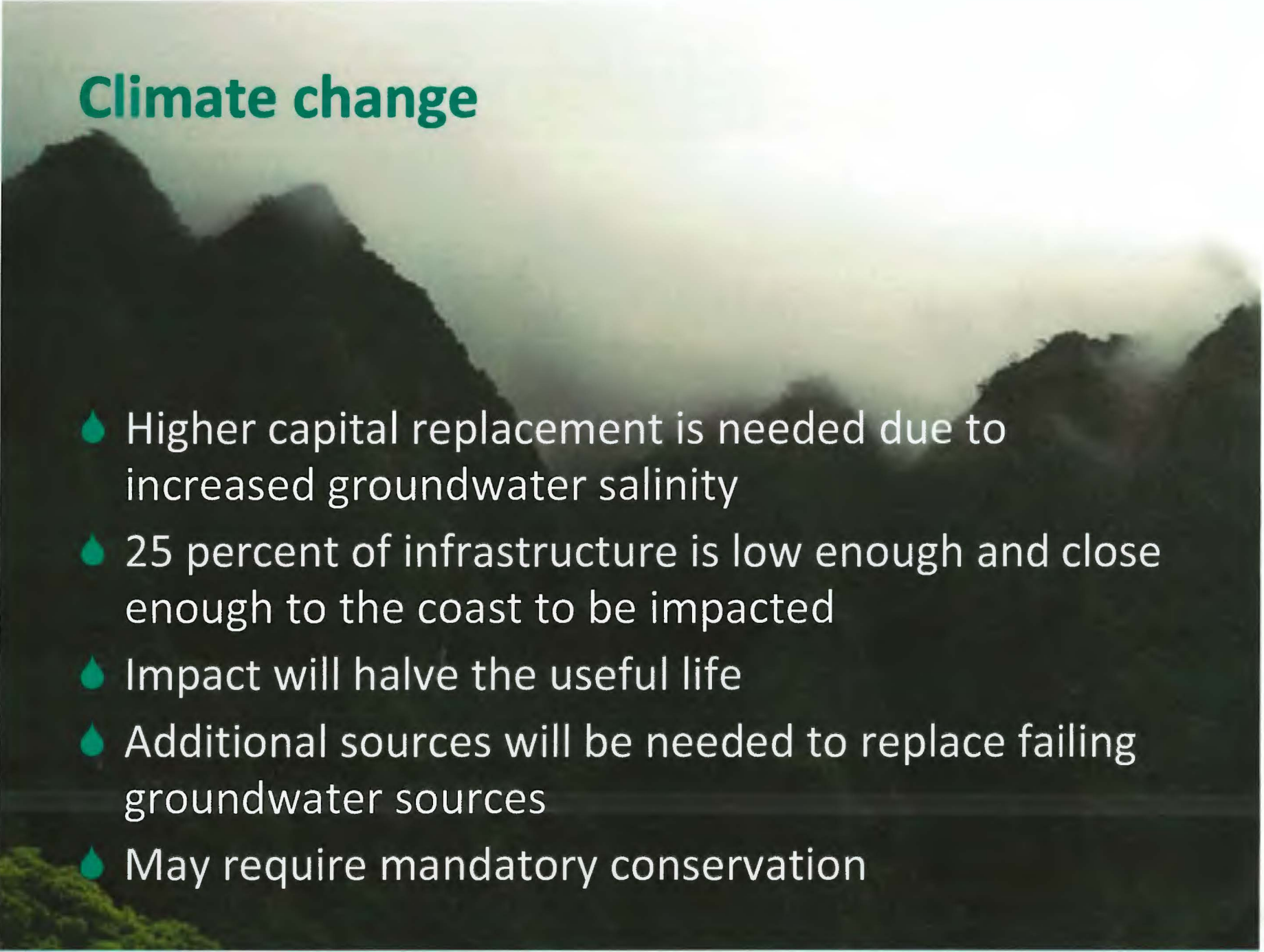
	Develop New 10mgd Source + 1 mile of 36in Pipeline	5 miles of 36-inch Pipeline	Install 10 mgd Treatment
Capital Cost	\$85M	\$125M	\$30M
Annual Additional O&M Cost	\$500k	\$1.25M	\$3M



# Major water source contamination financial mitigation strategies

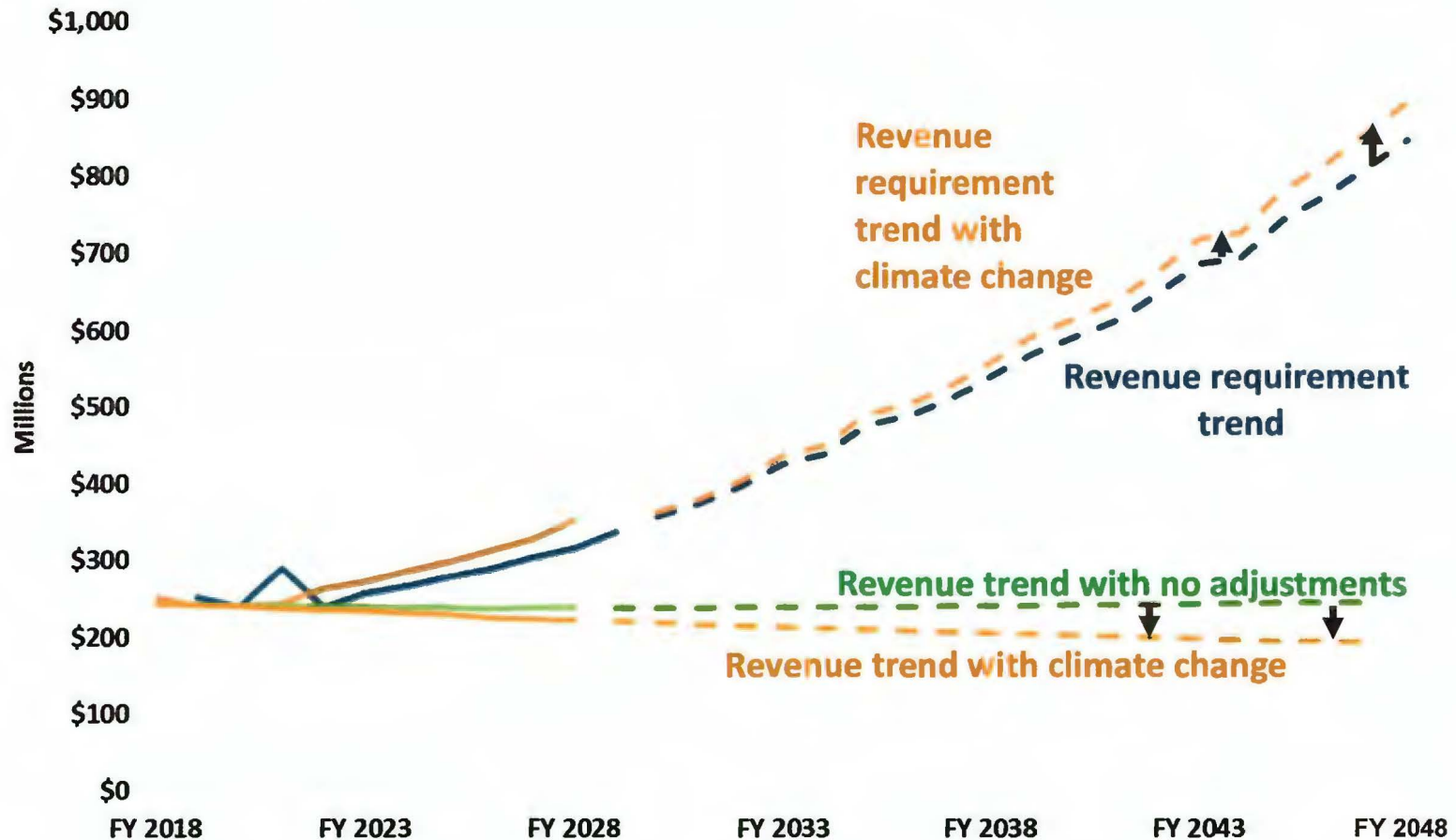
Access Working Capital	Defer Expenses	Raise/ Restructure Rates	Issue Debt	Public Private Partnerships
X	X	X	X	X

# Climate change



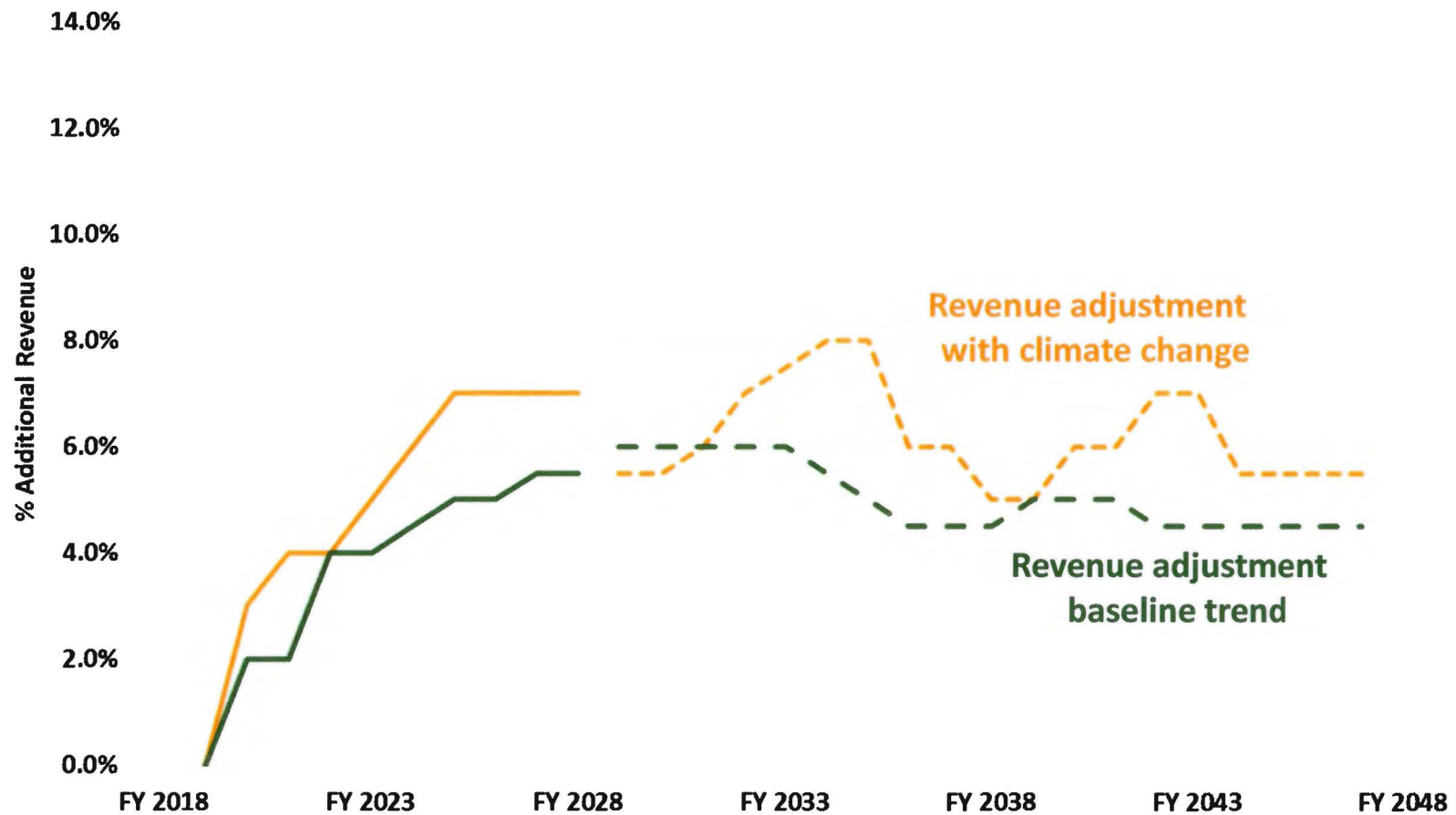
- Higher capital replacement is needed due to increased groundwater salinity
- 25 percent of infrastructure is low enough and close enough to the coast to be impacted
- Impact will halve the useful life
- Additional sources will be needed to replace failing groundwater sources
- May require mandatory conservation

# Revenue effect due to climate change





# Additional revenue needs trend with climate change



# Climate change financial mitigation strategies

Access Working Capital	Defer Expenses	Raise/ Restructure Rates	Issue Debt	Public Private Partnerships
X	--	X	X	X

# BWS plans for climate change adaptation

- ◆ Hawai'i Climate Change Mitigation & Adaptation Commission
- ◆ City Climate Change, Sustainability and Resiliency Office
  - City Resilience Team
- ◆ UH Manoa research on climate change modeling forecasts
- ◆ Assessing Infrastructure Vulnerability to Climate Change, Water Research Foundation
- ◆ Pearl Harbor-Honolulu groundwater modeling to understand groundwater quantity and quality
- ◆ BWS Watershed (Ahupua`a) Management Plans
- ◆ Stormwater capture from Nuuanu Reservoir to supplement aquifer recharge

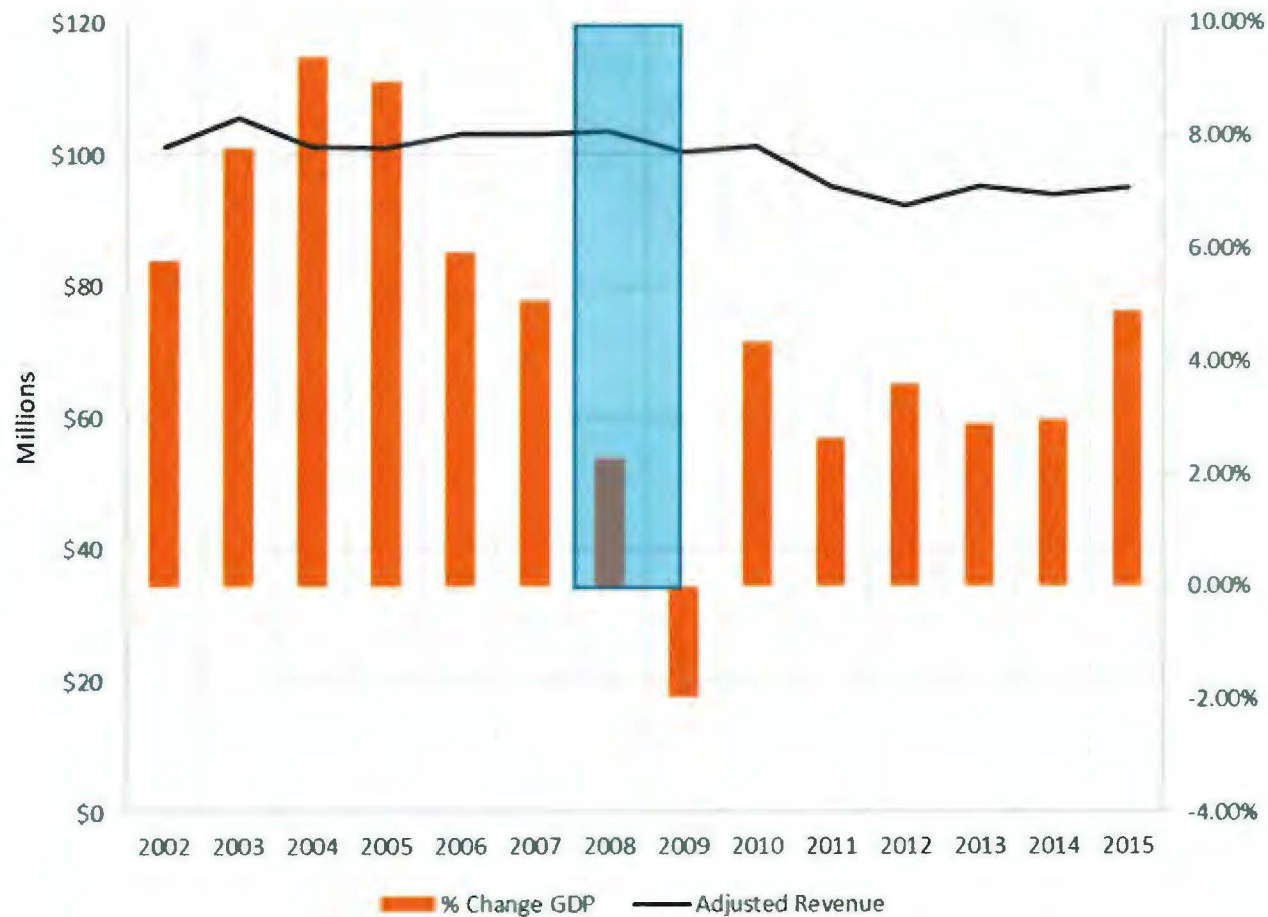


# Economic downturn

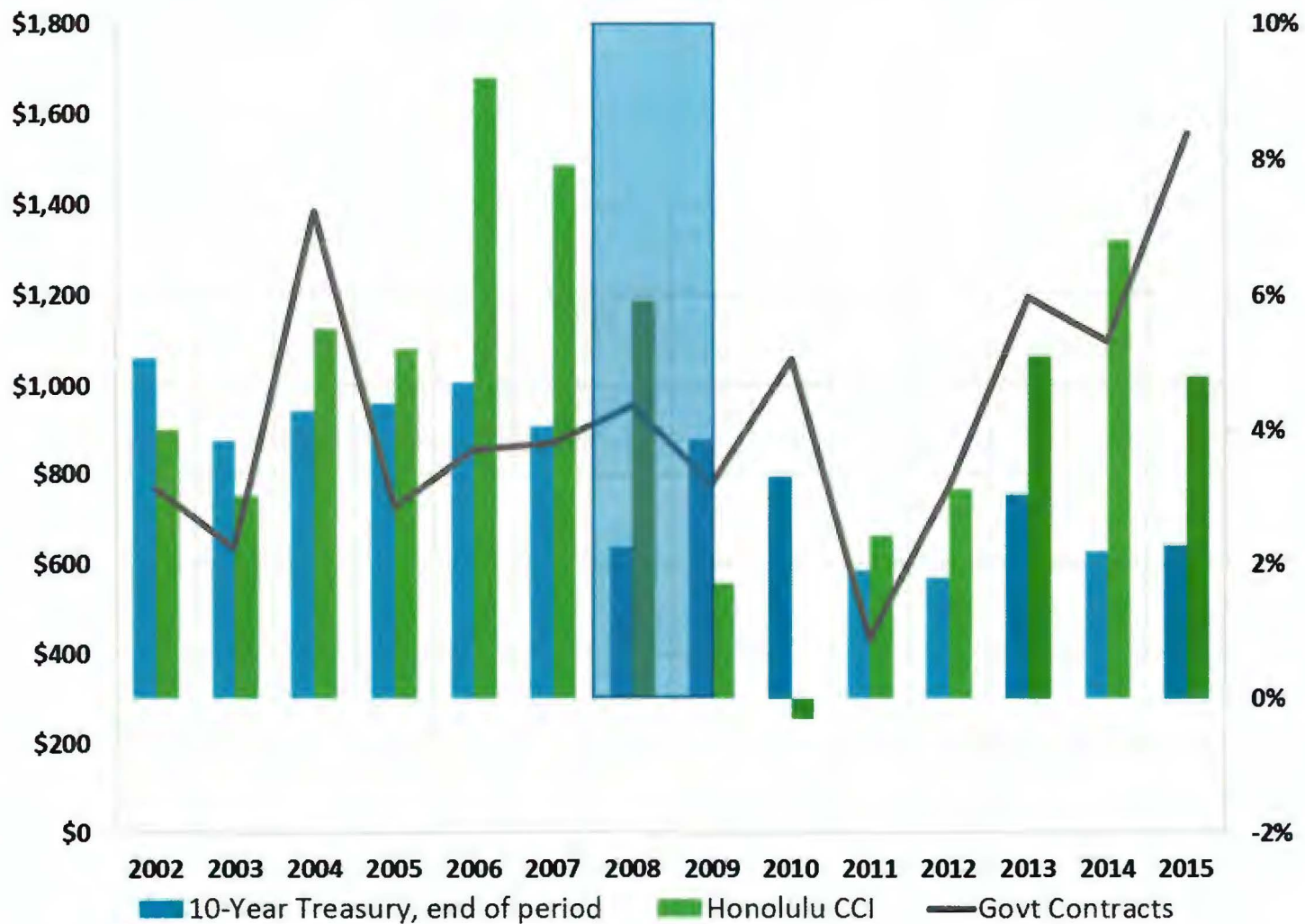
- Assume economic downturn similar to the Great Recession of 2008-2009 that lasted 18 months



# Adjusted revenue before and after recession



# Key capital-related economic indicators



# Economic downturn financial mitigation strategies

Access Working Capital	Defer Expenses	Raise/Restructure Rates	Issue Debt	Public Private Partnerships
X	--	--	X	--



## Conclusions from long range trend analysis

- 💧 Monitoring using Water Master Plan scorecard and other available metrics important to assessing changing conditions
- 💧 Financial tools available to BWS appear adequate
- 💧 With commitment to Water Master Plan implementation and BWS's financial policies, high rate shock under any scenario not anticipated



# 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**



ITEM FOR INFORMATION NO. 3

"January 22, 2018

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

Attachment"

The foregoing was for information only.

DISCUSSION:

Joe Cooper, Waterworks Controller, provided the report. Mr. Andaya asked if being under budget in the materials, supplies, and services category was due to a delay in contracts being awarded. Mr. Cooper responded that he believes it is due to a timing issue. Many of the contracts are awarded later in the year and BWS also budgets for unexpected emergencies and contingencies, so sometimes there are variances in the budget in this area. Mr. Lau added that they will be taking a closer look at that category for the Fiscal Year 2019 budget. He stated that currently the budget for materials, supplies, and services is divided uniformly across the whole year. However, the acquisition of a purchase occurs in a certain quarter. Mr. Cooper added that BWS has been continuously trying to improve its budgeting process and allow for the needs to serve customers as well as becoming a more well-run company.

Mr. Soon asked when the Board will see the budget for the next fiscal year. Mr. Lau responded that BWS will prepare a draft budget to present to the Board at the scheduled Budget Workshop in May.

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

	YTD Actuals	YTD Budget	Favorable/ (Unfavorable) Variance
Revenues	67,520,000	59,137,000	8,383,000
Operating Expenses	(39,086,000)	(50,048,000)	10,962,000
Net Revenues (expenditures)	<u>28,434,000</u>	<u>9,089,000</u>	<u>19,345,000</u>



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

Current Month	%	Last Year	%	Description	Year to Date	%	Last Year to Date	%	%
Actual	Revenue	Actual	Revenue		Actual	Revenue	Actual	Revenue	Change
				REVENUE					
19,308,631.33	100.00	18,659,652.12	100.00	OPERATING REVENUE	125,568,143.49	100.00	118,774,982.08	100.00	5.72
19,308,631.33	100.00	18,659,652.12	100.00	REVENUE	125,568,143.49	100.00	118,774,982.08	100.00	5.72
				OPERATING EXPENSES					
2,935,885.09-	15.21	2,929,733.32-	15.70	LABOR COSTS	18,043,840.31-	14.37	17,342,927.74-	14.60	4.04
2,363,700.01-	12.24	1,516,076.23-	8.12	SERVICES	10,607,590.59-	8.45	8,657,720.96-	7.29	22.52
375,416.42-	1.94	265,173.92-	1.42	SUPPLIES	1,913,198.82-	1.52	1,941,371.65-	1.63	1.45-
3,555.50-	.02	19,502.25-	.10	EDUCATION & TRAINING	72,956.65-	.06	88,548.78-	.07	17.61-
2,191,991.90-	11.35	2,423,146.33-	12.99	UTILITIES	9,944,510.49-	7.92	8,703,250.64-	7.33	14.26
242,578.45-	1.26	136,327.04-	.73	REPAIR AND MAINTENANCE	950,062.64-	.76	658,859.43-	.55	44.20
989,901.09-	5.13	1,417,771.21-	7.60	MISC	8,151,738.58-	6.49	9,224,714.67-	7.77	11.63-
1,572,034.25-	8.14	1,939,401.00-	10.39	RETIREMENT SYSTEM CONTRIBUTIO	11,716,853.27-	9.33	14,151,408.27-	11.91	17.20-
73,848.38	.38	121,450.78-	.65	MISC EMPLOYEES' BENEFITS	30,131.09-	.02	104,398.24-	.09	71.14-
10,601,214.33-	54.90	10,768,582.08-	57.71	OPERATING EXPENSES	61,430,882.44-	48.92	60,873,200.38-	51.25	.92
1,392,083.77-	7.21	3,105,572.47-	16.64	NON OPERATING REVENUE AND EXPE	3,327,750.91-	2.65	7,285,284.43-	6.13	54.32-
1,504,803.25	7.79	924,315.55	4.95	CONTRIBUTION IN AID	5,891,852.25	4.69	10,800,505.85	9.09	45.45-
4,091,979.56-	21.19	4,639,504.00-	24.86	OTHER EXPENSES	24,764,667.37-	19.72	24,909,564.27-	20.97	.58-
4,728,156.92	24.49	1,070,309.12	5.74	Change In Net Assets	41,936,695.02	33.40	36,507,438.85	30.74	14.87

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

*****		Amounts		*****		***** Change		*****	
Description	Current	Last Month End	Last Year End	This Month	This Year				
ASSETS									
CURRENT ASSETS	60,797,329.72	69,515,021.25	66,232,287.71	-8,717,691.53	-5,434,957.99				
RESTRICTED ASSETS	10,770,691.35	8,457,014.38	21,443,602.94	2,313,676.97	-10,672,911.59				
INVESTMENTS	400,933,739.81	390,360,119.70	371,646,464.94	10,573,620.11	29,287,274.87				
OTHER ASSETS	16,460,133.43	16,649,402.45	18,474,845.62	-189,269.02	-2,014,712.19				
PROPERTY / PLANT	1,139,956,923.02	1,139,236,137.55	1,139,003,077.06	720,785.47	953,845.96				
DEFERRED OUTFLOWS OF RESOURCES	48,567,073.00	48,567,073.00	48,567,073.00	0.00	0.00				
TOTAL ASSETS	1,677,485,890.33	1,672,784,768.33	1,665,367,351.27	4,701,122.00	12,118,539.06				
LIABILITIES									
CURRENT LIABILITIES	14,217,588.37	15,432,814.08	31,220,027.07	-1,215,225.71	-17,002,438.70				
OTHER LIABILITIES	35,252,762.19	35,397,893.10	36,254,164.37	-145,130.91	-1,001,402.18				
BONDS PAYABLE, NONCURRENT	274,789,493.11	273,456,171.41	286,603,808.19	1,333,321.70	-11,814,315.08				
NET PENSION LIABILITY	116,342,916.00	116,342,916.00	116,342,916.00	0.00	0.00				
DEFERRED INFLOWS OF RESOURCES	9,442,416.00	9,442,416.00	9,442,416.00	0.00	0.00				
LIABILITIES	450,045,175.67	450,072,210.59	479,863,331.63	-27,034.92	-29,818,155.96				
NET ASSETS									
RETAINED EARNINGS	376,198,321.21	378,763,988.12	590,870,187.98	-2,565,666.91	-214,671,866.77				
FUND BALANCE	594,633,831.66	594,633,831.66	594,633,831.66	0.00	0.00				
RESERVE FOR ENCUMBRANCES	214,671,866.77	212,106,199.86		2,565,666.91	214,671,866.77				
CURRENT YEAR CHANGES TO FU	41,936,695.02	37,208,538.10		4,728,156.92	41,936,695.02				
NET ASSETS	1,227,440,714.66	1,222,712,557.74	1,185,504,019.64	4,728,156.92	41,936,695.02				
TOTAL LIABILITIES AND NET ASSETS	1,677,485,890.33	1,672,784,768.33	1,665,367,351.27	4,701,122.00	12,118,539.06				

## Budget vs Actual Appropriation Budget - Total BWS Summary

Page -

1

(\$000's)

CIFIS 18820-3021

AS OF 12/31/2017

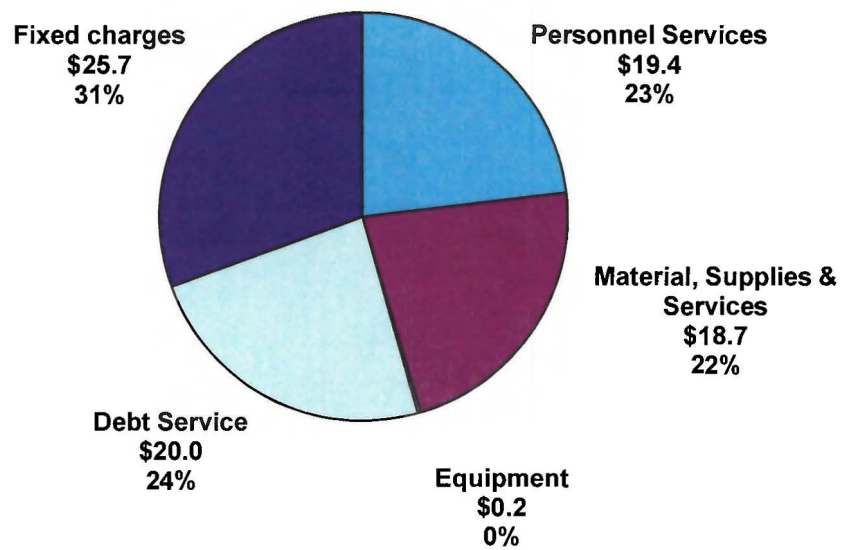
OPER UNIT ALL

BUSINESS UNIT ALL

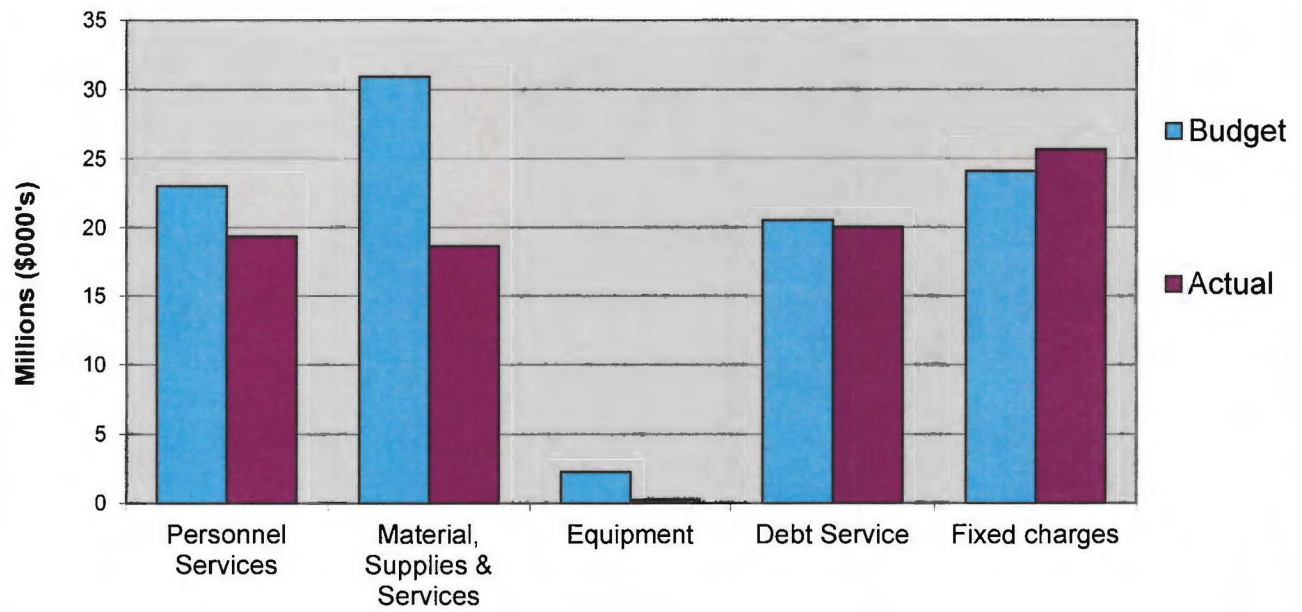
YTD-TO-DATE				Object Description	FOR THE FISCAL YEAR				
YTD Actuals	YTD Budget	Avail/ (Over)	%		Revenues/ Expend	Open Encumb	Annual Budget	Avail/ (Over)	%
<u>127,601</u>	<u>118,275</u>	<u>(9,326)</u>	<u>7.89-</u>	<u>REVENUE</u>	<u>127,601</u>		<u>236,550</u>	<u>108,949</u>	<u>46.06</u>
				OPERATING EXPENSES:					
19,365	23,056	3,691	16.01	Personnel Services	19,365		46,117	26,752	58.01
				MATERIALS AND SUPPLIES					
9,686	14,590	4,904	33.61	Services	6,116	3,570	28,471	18,785	65.98
3,493	8,029	4,536	56.50	Supplies	2,529	964	15,396	11,903	77.31
198	373	175	46.92	Education & Training	159	39	789	591	74.90
	6	6	100.00	Utilities			13	13	100.00
822	1,943	1,121	57.69	Repairs & Maint	604	218	3,709	2,887	77.84
4,456	5,977	1,521	25.45	Misc	3,941	515	11,733	7,277	62.02
246	2,256	2,010	89.10	Equipment	155	91	5,428	5,182	95.47
20,037	20,517	480	2.34	Debt Service	20,037		31,648	11,611	36.69
				FIXED CHARGES:					
11,118	11,005	(113)	1.03-	Utilities	11,118		22,010	10,892	49.49
1,650	1,650			Case Fees	1,650		3,300	1,650	50.00
4,687	5,400	713	13.20	Retirement System Contribution	4,687		10,800	6,113	56.60
8,211	6,056	(2,155)	35.58-	Misc Employees' Benefits	7,960	251	12,056	3,845	31.89
<u>83,969</u>	<u>100,858</u>	<u>16,889</u>	<u>16.75</u>	<u>TOTAL OPERATING EXPENDITURES</u>	<u>78,321</u>	<u>5,648</u>	<u>191,470</u>	<u>107,501</u>	<u>56.15</u>
<u>43,632</u>	<u>17,417</u>	<u>(26,215)</u>		<u>NET REVENUES (EXPENDITURES)</u>	<u>49,280</u>	<u>(5,648)</u>	<u>45,080</u>	<u>1,448</u>	



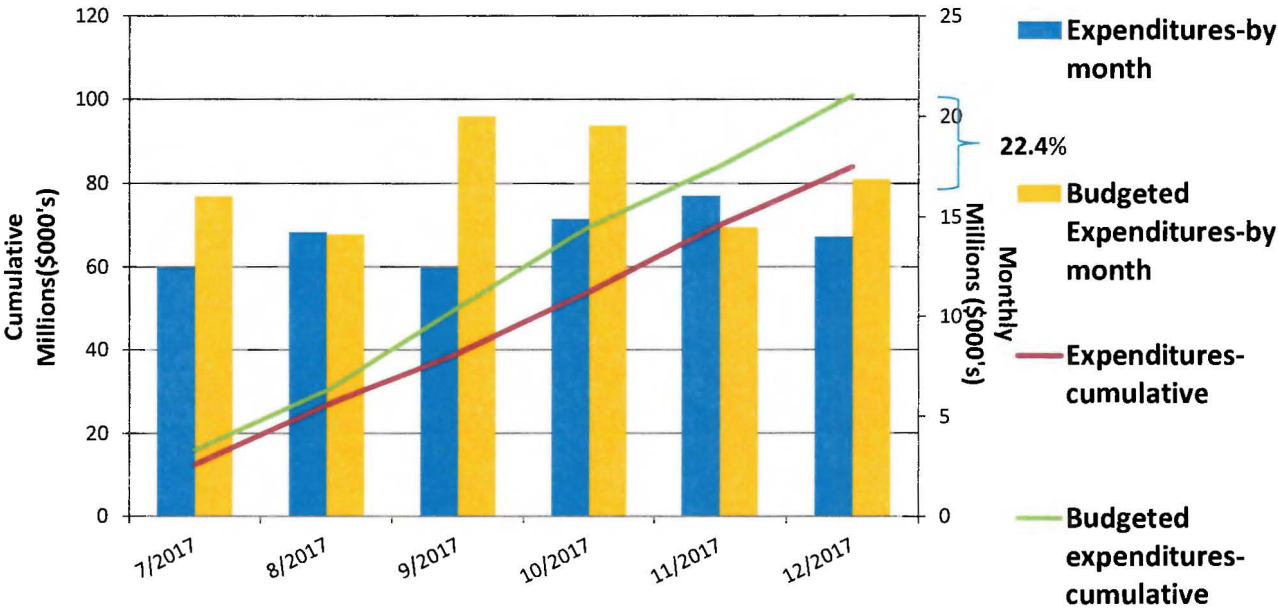
**Total Operating Expenditures - \$84.0**  
**As of December 31, 2017**  
(millions of dollars)



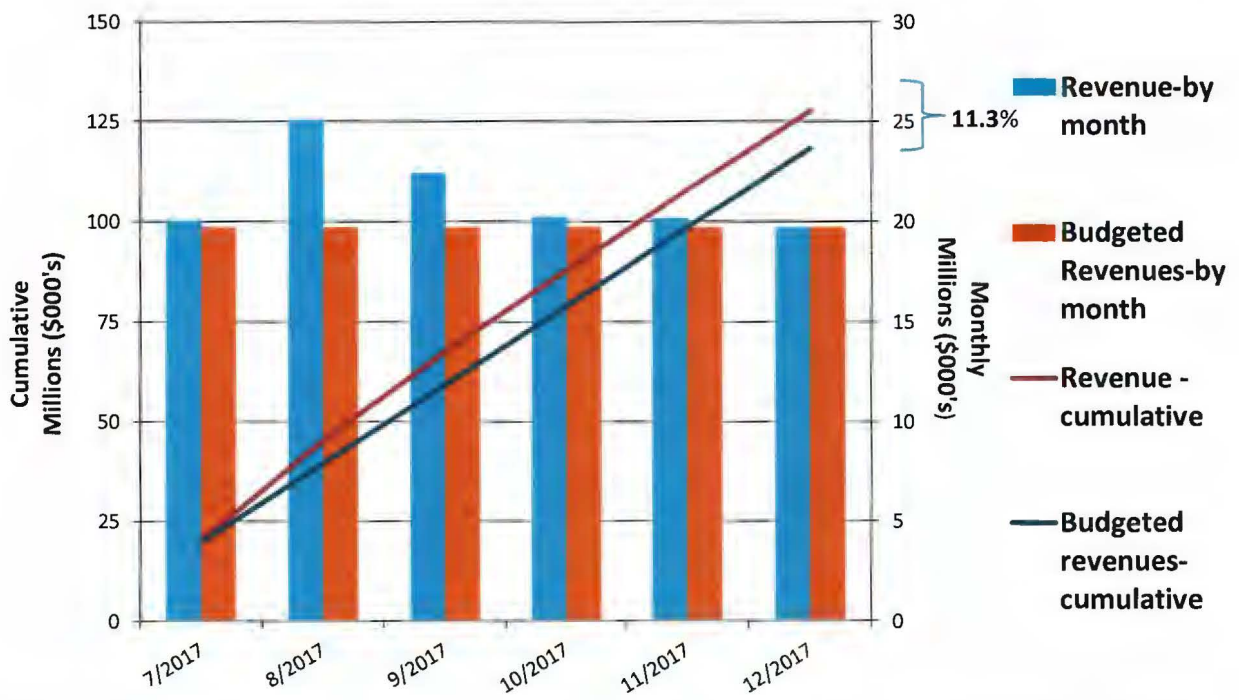
**Operating Expenditures by Category (Budget vs. Actual)**  
as of December 31, 2017 (millions of dollars)



**BUDGETED OPERATING EXPENDITURES FY 2018**



### BUDGETED OPERATING REVENUES FY 2018



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 2017 – December 2017







## Budget to Actual July 2017 – December 2017

- Actual Revenue \$128 million vs.  
Budgeted Revenue \$118 million
- Operating costs are \$84 million vs.  
Budgeted costs of \$101 million
- Actual Net Revenue \$44 million vs.  
Budgeted Net Revenue \$17 million



## Cost Drivers

Year to Date December 2017

	Actual (millions)	Budget (millions)
• Personnel	\$19	\$23
• Services/Supplies	\$13	\$23
• Repairs & Misc.	\$ 5	\$ 8
• Equipment	\$ 0.2	\$ 2
• Utilities	\$11	\$11



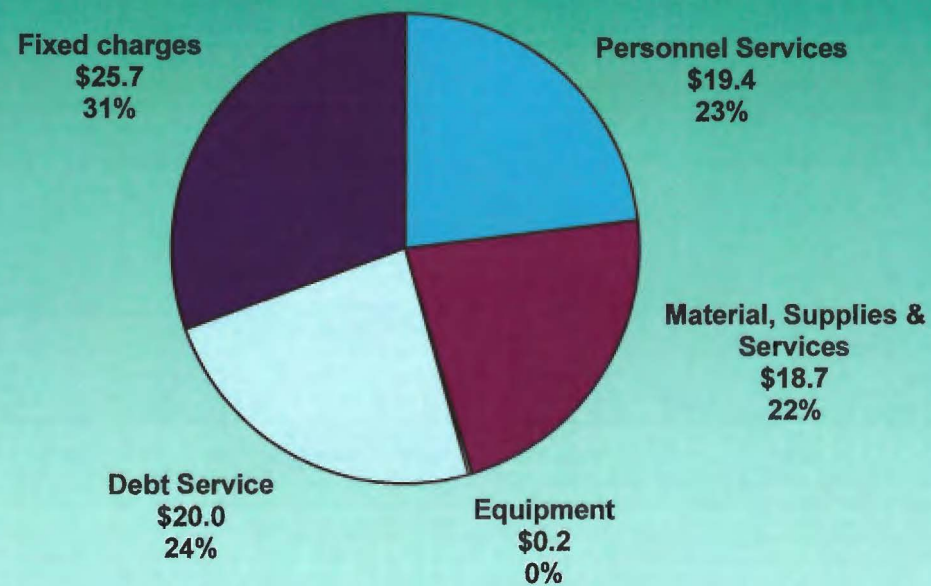
# WATER FOR LIFE

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



Board of Water Supply  
City and County of Honolulu

**Total Operating Expenditures - \$84.0**  
**As of December 31, 2017**  
(millions of dollars)





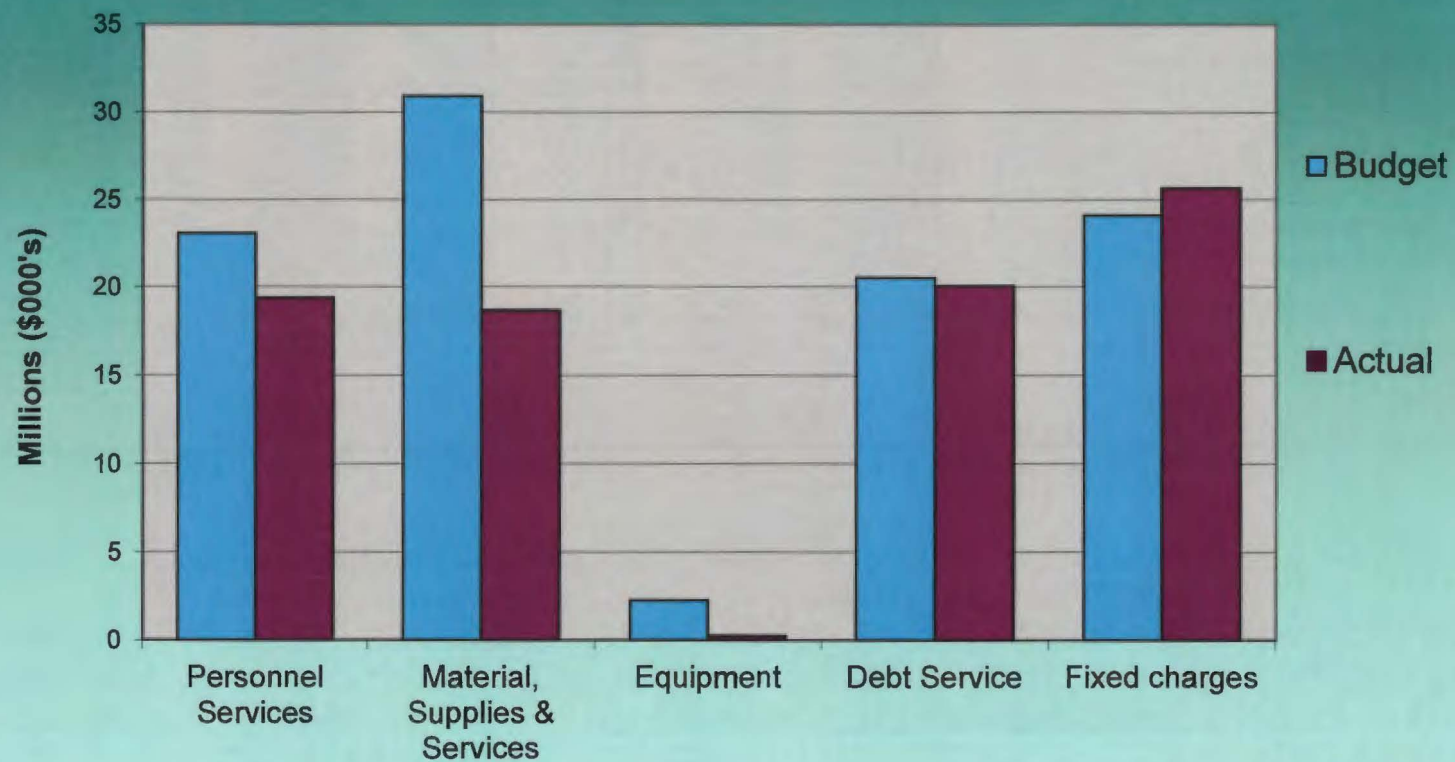
# WATER FOR LIFE

*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 December 31, 2017 (millions of dollars)**



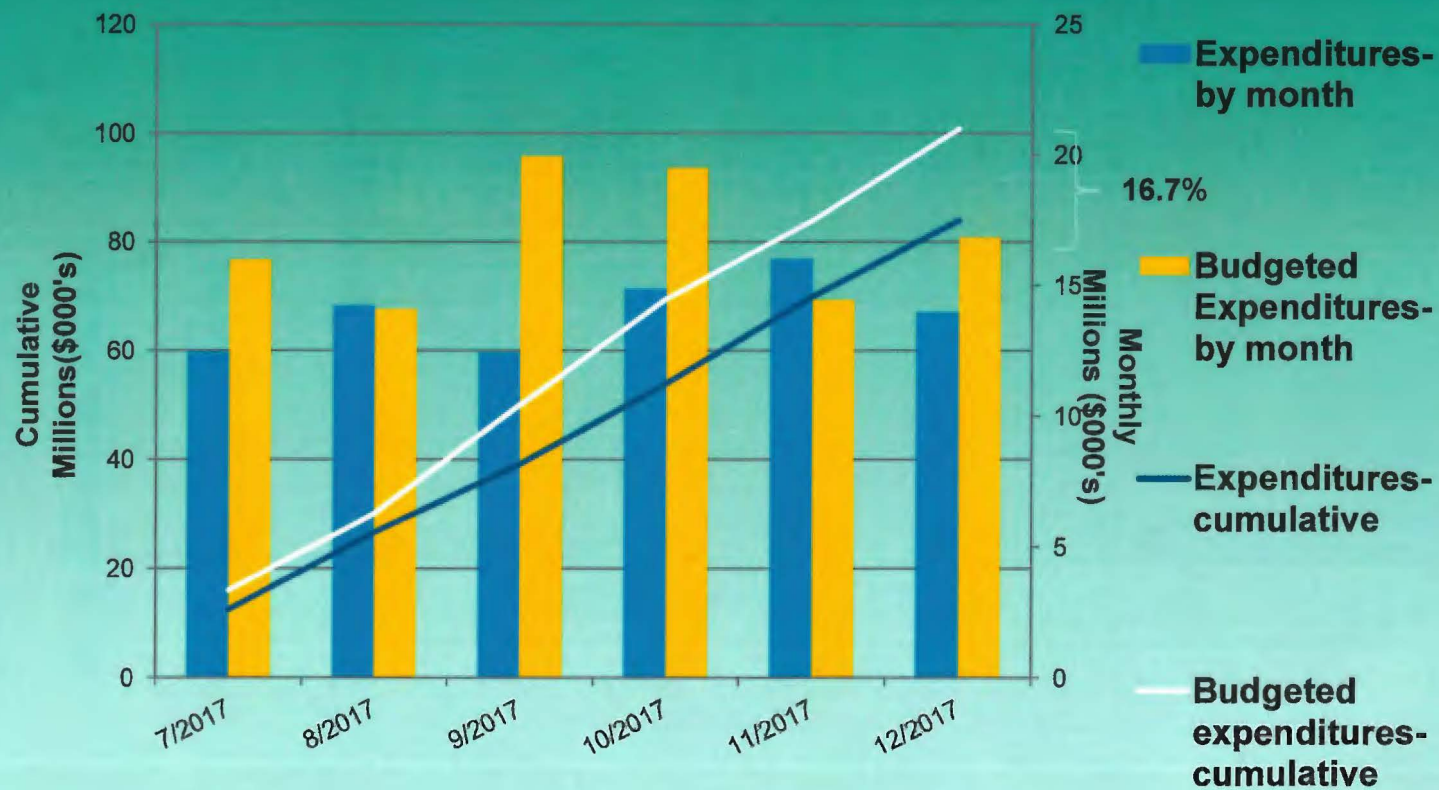
# WATER FOR LIFE

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



Board of Water Supply  
City and County of Honolulu

## BUDGETED OPERATING EXPENDITURES FY 2018





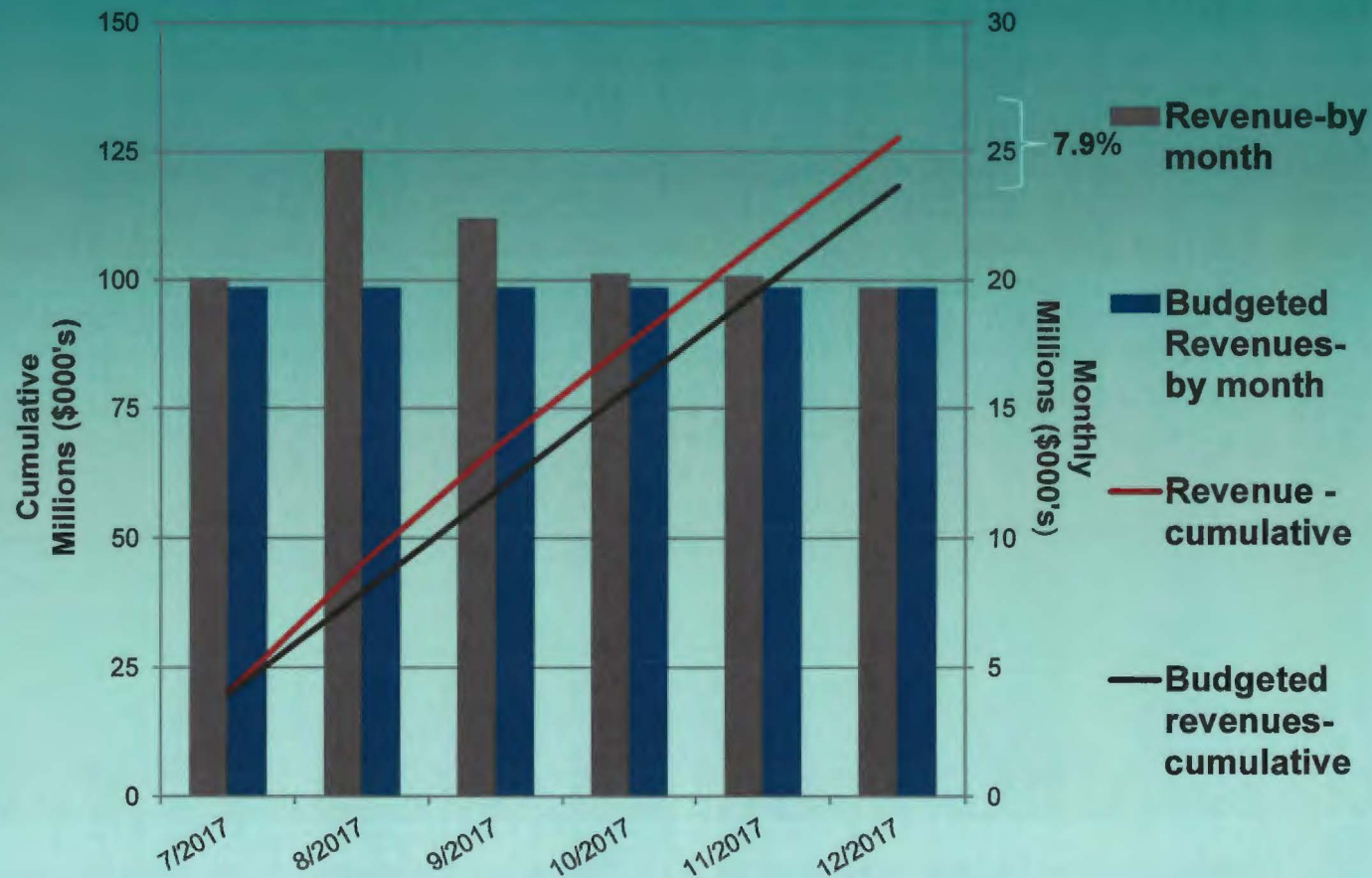
# WATER FOR LIFE

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



Board of Water Supply  
City and County of Honolulu

## BUDGETED OPERATING REVENUES FY 2018



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

ITEM FOR INFORMATION NO. 4

"January 22, 2018

ENTERPRISE  
ORGANIZATIONAL  
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.

BWS worked with Glenn Hamamura of Systems Excellence 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.

All the recommendations were grouped into related categories and the two categories were chosen to explore for feasibility of implementation: 1) Development Review that looks at organizing the different plan review sections to gain operational efficiency; and 2) Facilities Management that will look at the reorganization of facilities maintenance functions found in multiple organizational units that would allow divisions to focus on core functions.

Both categories received a great deal of input from the various divisions within BWS. In the end, it was determined that consolidation of the development review functions was not feasible as the different groups view plans much differently from the others due to the focus of their operations and the timelines that each works under. The facilities management proposal will be considered following the implementation of the Field Operations reorganization plan. Major organizational changes to Field Operations could delay the final adoption of the multi-skilled worker program.

A summary of the organizational study that captures the major recommendations and findings from the Matrix Consulting Group is attached.

Respectfully submitted,

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

Attachment"

The foregoing was for information only.

DISCUSSION: Robert Morita, Executive Support Office, Executive Assistant, provided the report. Mr. Andaya spoke on behalf of the Board and expressed that the Board will support BWS in any way to maintain enterprise organization status quo. Mr. Morita stated that they will start to see some of the recommendations coming through in the budget. Mr. Lau added that it is a matter of how much capacity BWS has to carry out the changes and that prioritization is important.

Mr. Andaya asked if the first step in the process is the Field Operations reorganization plan. Mr. Lau answered, yes, and added that the reorganization plan is taking BWS's multi-skilled worker program and making it a permanent part of the organization. Mr. Morita added that more of this will be discussed in the upcoming budget workshop.

Mr. Soon asked how critical the shortage of employees is in the organization. Mr. Lau answered that it is very critical. He added that BWS is still suffering through the after effects of the hiring freezes that took place a number of years ago. He also noted that finding qualified people to replace the many retirees has been a challenge.

Mr. Soon asked if the shortage of employees is going to affect how BWS delivers its capital program. Mr. Lau responded that BWS will have to look at different ways to handle that. He stated that the Capital Projects Division has developed an implementation plan to help implement the larger capital program.

Mr. Lau stated that the erosion of some benefits has eliminated some of the competitive edge government had in attracting qualified applicants. Mr. Andaya expressed that he looks forward to further discussion on this matter. Mr. Lau responded that there will be more discussion in the budget process, and that the Board's support will be needed.





# **Honolulu Board of Water Supply**

## **Enterprise Organization Study**







# Enterprise Organizational Study

- Enterprise Organizational Study initiated to analyze the current BWS organizational structure and work processes, recommend improvements to increase operational efficiencies and develop an implementation plan. The plan looked at organizational structure, span of control, staffing levels, competencies and training programs.
- Comparisons were made to other water utilities including: Albuquerque Bernalillo County Water, City of Austin, Denver Water, East Bay Municipal Utility District, Cities of Phoenix, Portland, San Diego and others.
- 138 comments and recommendations





# Enterprise Organization Study

BWS engaged the Matrix Consulting Group to conduct an Enterprise Organizational Study. The Enterprise Organizational Study was the initial phase to achieve the operational sustainability goal in the Board of Water Supply's strategic plan by:

- Analyzing the current organizational structure and work processes;
- The plan looked at organizational structure, span of control, staffing levels, competencies and training programs.
- Recommended improvements to increase operational and organizational efficiencies; and
- Recommend appropriate organizational structures, work processes, spans of control, staffing levels, competencies and training programs to carry out the mission of BWS.





# Enterprise Organization Study

- Comparisons were made to other water utilities including: Albuquerque Bernalillo County Water, City of Austin, Denver Water, East Bay Municipal Utility District, Cities of Phoenix, Portland, San Diego and others.
- 138 comments and recommendations





## Findings

- Adopted a strategic plan in 2014
- Adopted a 30-year Water Master Plan in 2017 and corresponding Capital Improvement Program.
- Capital Projects Division working on programs to enhance its capital project delivery process to meet the 30-year plan
- Initiated the Multi-Skilled Worker program to reduce costs and improve flexibility and productivity.
- Completed a condition assessment of pumping and chlorination facilities.
- Maintains high credit ratings from Fitch (AA+) and Moody's (Aa2)
- Matrix survey of BWS employees revealed high positive responses to questions regarding working relationships, supervision, attitude towards work and impact on people's lives.







# Findings

Areas of improvement included:

- Enhancing the training and development opportunities for employees.
- Challenges with recruiting and hiring employees.
- Encouraging employee engagement to proactively participate in identifying future challenges and opportunities for BWS.
- Improving communication between managers, supervisors, and employees.





# Organization Recommendations

Opportunities for improvement that were identified by the study included:

- Developing better functional cohesion or grouping of similar functions and services within the Board of Water Supply; and
- Centralizing support services within the Board of Water Supply, aligning the right functions to support service delivery.
- Analyze recruitment, retention and succession planning to keep position vacancies at reasonable levels to achieve future goals.
- Analyze training requirements to ensure a proficient and engaged workforce.
- Analyze information flow and use, benchmarks, and performance metrics to improve operations.





## Discussions

- All divisions were invited to participate in sessions to narrow down the comments and recommendations into manageable groupings.
- Recommendations were grouped into categories of high/low complexity and high/low benefit. It was agreed to that the recommendations that had the highest benefit with the lowest complexity would be targeted.
- With the assistance from Glenn Hamamura of Systems Excellence, the listing of groups was distilled to the following two:
  - Creation of a Facilities Management group
  - Consolidation of the Developer Review function







# Facilities Management

- Facilities management is performed through multiple operational units. There is no specific coordinated functional responsibility for facilities. The placement of different functions are historically skill based, workload based, or other factors. These non-core functions are not the priority of operational units, but potentially affect other operational units when response or repair actions are required.
  - Physical Security
  - Custodial Services
  - Building repair and maintenance, including electrical and plumbing
  - Baseyards and Beretania
  - Parking Lots
  - Access Roads
  - Elevators and HVAC
  - Chicken, Cat and Goat Management





# Facilities Management

- Elements of the Enterprise Organizational Study (Grounds and Maintenance and Automotive) can be considered (these are primarily position changes) when the short-term strategy is evaluated, and a long-term strategy is developed in detail.

## **BWS RECOMMENDATION:**

- Strong interest by several divisions in pursuing the Facilities Management recommendation, but needs to be piloted on a small scale to gauge the impact to the organization and personnel.
- Due to its high priority, the Field Operations reorganization request will need to be completed first, before pursuing this recommendation.





## Plans Review

“The Board of Water Supply fragments development services in three divisions. ... This fragmentation of development services fragments accountability, results in unnecessary managerial overhead, increases the number of customer handoffs / exchanges required, and impedes the ability of the Board of Water Supply to shift staff to manage peaks and valleys in workload and adapt staff to offer cross-functional capabilities.”

- The primary BWS interface for Zoning and Water Availability is the Project Review Branch in Water Resources.
- The primary BWS interface for Design and Construction is the Plans Review Section in Capital Projects.
- The primary BWS interface for Permits and Infrastructure is Service Engineering in Customer Care.





# Development Plans Review

## **BWS RECOMMENDATION:**

- Do not consolidate the private development project review function
- The stakeholder interactions and specific skills differ between the water planning function (Project Branch) and design, construction, and activation functions (Plans, Service Engineering)
- Time frames and response times differ between the functions
- The flow of work is determined primarily by the Department of Planning and Permitting process for development
- Consider a follow-on project to develop a coordinated information system that would maintain the history of BWS water commitments across the process.







## Conclusion

- Though some of the recommendations are not yet actionable, the study by Matrix Consulting and the process workshops by Systems Excellence provides a framework and library of recommendations that can potentially be implemented on smaller scales.
- The conclusion from Matrix is that the BWS organization and span of control is sound and is similar in structure to several of its peers.
- There are opportunities to take advantage of technology, data and performance metrics to improve operations and that processes and procedures should be implemented in phases to leverage the information being gathered.
- Many of the pieces will likely be implemented via the annual budget in smaller increments in lieu of the big bang approach. This will assist with change management and increase the likelihood of success.



ITEM FOR INFORMATION NO. 5

"January 22, 2018

GROUNDWATER  
LEVELS

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

Chair and Members:

Subject: Status Update of Groundwater Levels at All Index Stations

There was one aquifer index well within low groundwater status for the production month of December 2017. Punaluu has been in caution status since the week of June 18, 2017. The monthly production average for December 2017 was 130.55 million gallons per day.

The Board of Water Supply rainfall index for the month of December 2017 was 102 percent of normal; with a 5-month moving average of 93 percent. As of January 9, 2018, the Hawaii Drought Monitor shows abnormally dry conditions for most of Leeward Oahu.

The National Weather Service (NWS) is forecasting above normal rainfall for January 2018. Because of La Niña conditions in the equatorial Pacific Ocean, NWS is forecasting above normal rainfall this winter and into spring 2018.

Most monitoring wells are continuing to exhibit static head level trends due to the decreased pumpage in the winter months.

Respectfully submitted,

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

Attachment"

The foregoing was for information only.

DISCUSSION:

Barry Usagawa, Water Resources Division Program Administrator, gave the report. There were no comments or discussion.

**PRODUCTION, HEAD AND RAINFALL REPORT  
MONTH OF DECEMBER 2017**

**POTABLE**

STATION	MGD
HONOLULU (1)	
KULIOUOU	0.06
WAILUPE	0.11
AINA KOA	0.25
AINA KOA II	1.00
MANOA II	0.00
PALOLO	1.11
KAIMUKI HIGH	2.07
KAIMUKI LOW	1.51
WILDER	7.03
BERETANIA HIGH	5.26
BERETANIA LOW	1.48
KALIH HIGH	0.00
KALIH LOW	2.14
KAPALAMA	1.27
KALIH SHAFT	8.69
MOANALUA	1.16
HALAWA SHAFT	6.53
KAAMILO	0.00
KALAUAO	6.46
PUNANANI	11.90
KAHUMANU	0.10
HECO WAIU	2.76
MANANA	0.42
WELLS SUBTOTAL:	61.35
MANOA TUNNEL	0.17
PALOLO TUNNEL	0.23
GRAVITY SUBTOTAL:	0.40
HONO. SUBTOTAL:	61.75

STATION	MGD
WINDWARD (2)	
WAIMANALO II	0.30
WAIMANALO III	0.13
KUOU I	0.80
KUOU II	0.05
KUOU III	0.39
LULUKU	1.14
HAIKU	0.00
IOLEKAA	0.00
KAHALUU	0.82
KAHANA	0.84
PUNALUU I	0.00
PUNALUU II	2.36
PUNALUU III	1.27
KALUANUI	0.00
MAAKUA	0.24
HAUULA	0.17
WELLS SUBTOTAL:	8.51
WAIM. TUNNELS I & II	0.00
WAIM. TUNNELS III&IV	0.19
WAIHEE INCL. WELLS	0.20
WAIHEE TUNNEL	4.26
LULUKU TUNNEL	0.19
HAIKU TUNNEL	0.87
KAHALUU TUNNEL	1.72
GRAVITY SUBTOTAL:	7.43
WIND. SUBTOTAL:	15.94

STATION	MGD
NORTH SHORE (3)	
KAHUKU	0.33
OPANA	0.48
WAIALEE I	0.00
WAIALEE II	0.50
HALEIWA	0.00
WAIALUA	1.09
N.SHORE SUBTOTAL:	2.41

STATION	MGD
MILILANI (4)	
MILILANI I	2.67
MILILANI II	0.00
MILILANI III	0.00
MILILANI IV	1.51
MILILANI SUBTOTAL:	4.18

STATION	MGD
WAIHAWA (5)	
WAIHAWA	2.85
WAIHAWA II	0.00
WAIHAWA SUBTOTAL:	2.85

STATION	MGD
PEARL CITY-HALAWA (6)	
HALAWA 277	0.95
HALAWA 550	0.00
AIEA	1.09
AIEA GULCH 497	0.00
AIEA GULCH 550	0.21
KAONOHI I	1.05
WAIMALU I	0.00
NEWTOWN	0.90
WAIU	0.67
PEARL CITY I	0.51
PEARL CITY II	1.02
PEARL CITY III	0.33
PEARL CITY SHAFT	0.92
PEARL CITY-HALAWA SUBTOTAL:	7.65

STATION	MGD
WAIPAHU-EWA (7)	
WAIPIO HTS.	0.29
WAIPIO HTS. I	0.22
WAIPIO HTS. II	0.14
WAIPIO HTS. III	1.25
WAIPAHU	5.33
WAIPAHU II	1.93
WAIPAHU III	1.64
WAIPAHU IV	2.11
KUNIA I	2.78
KUNIA II	1.75
KUNIA III	1.53
HOAEAE	3.61
HONOULIULI I	1.28
HONOULIULI II	7.58
MAKAKILO	0.29
WAIPAHU-EWA SUBTOTAL:	31.73

STATION	MGD
WAIANAE (8)	
MAKAHA I	0.83
MAKAHA II	0.31
MAKAHA III	0.48
MAKAHA V	0.20
MAKAHA VI	0.00
MAKAHA SHAFT	0.00
KAMAILE	0.00
WAIANAE I	0.20
WAIANAE II	0.03
WAIANAE III	0.44
WELLS SUBTOTAL:	2.48
WAI. C&C TUNNEL	1.40
WAI. PLANT. TUNNELS	0.16
GRAVITY SUBTOTAL:	1.56
WAIANAE SUBTOTAL:	4.04

**NONPOTABLE**

NONPOTABLE	MGD
KALAUAO SPRINGS	0.50
BARBERS POINT WELL	1.04
GLOVER TUNNEL NP	0.40
NONPOTABLE TOTAL:	1.95

**RECYCLED WATER (NOVEMBER 2017)**

RECYCLED WATER	MGD
HONOULIULI WRF R-1	6.94
HONOULIULI WRF RO	1.60
RECYCLED WATER TOTAL:	8.54



**PRODUCTION, HEAD AND RAINFALL REPORT  
MONTH OF DECEMBER 2017**

**PRODUCTION SUMMARIES**

TOTAL WATER	MGD
PUMPAGE	121.16
GRAVITY	9.39
POTABLE TOTAL:	130.55
NONPOTABLE	1.95
RECYCLED WATER	8.54
TOTAL WATER:	141.04

CWRM PERMITTED USE AND BWS ASSESSED YIELDS FOR BWS POTABLE SOURCES				
WATER USE DISTRICTS		A	B	C
		PERMITTED USE/ BWS YLDS	DEC 2017	DIFF. A-B
1	HONOLULU	82.93	61.35	21.58
2	WINDWARD	25.02	11.48	13.54
3	NORTH SHORE	4.74	2.41	2.33
4	MILILANI	7.53	4.18	3.35
5	WAHIAWA	4.27	2.85	1.42
6	PEARL CITY-HALAWA	12.25	7.65	4.60
7	WAIPAHU-EWA	50.63	31.73	18.90
8	WAIAANAE	4.34	2.48	1.86
TOTAL:		191.71	124.13	67.58

CWRM PERMITTED USE FOR BWS NONPOTABLE SOURCES				
WATER USE DISTRICTS		A	B	C
		PERMITTED USE	DEC 2017	DIFF. A-B
7	WAIPAHU-EWA (BARBERS POINT WELL)	1.00	1.04	-0.04
TOTAL:		1.00	1.04	-0.04

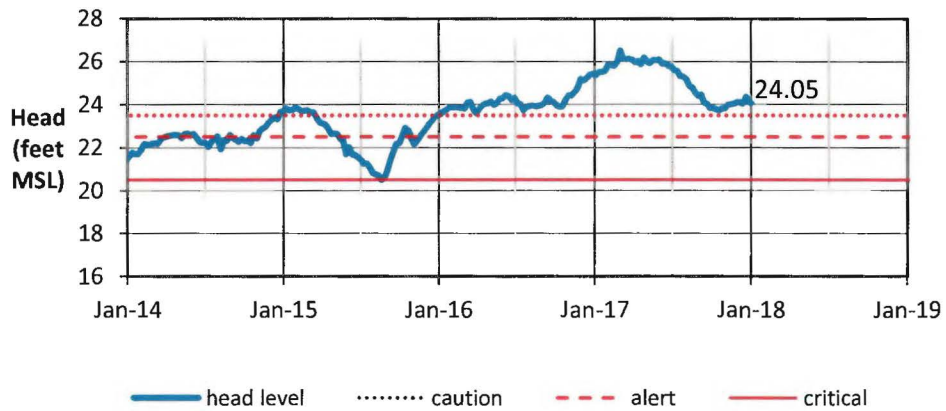
**EFFECTIVE WATER DEMAND PER DISTRICT**

IMPORT/EXPORT BETWEEN WATER USE DISTRICTS			
FROM	TO		MGD
2	1	WINDWARD EXPORT	1.15
7	8	BARBERS PT LB	4.94

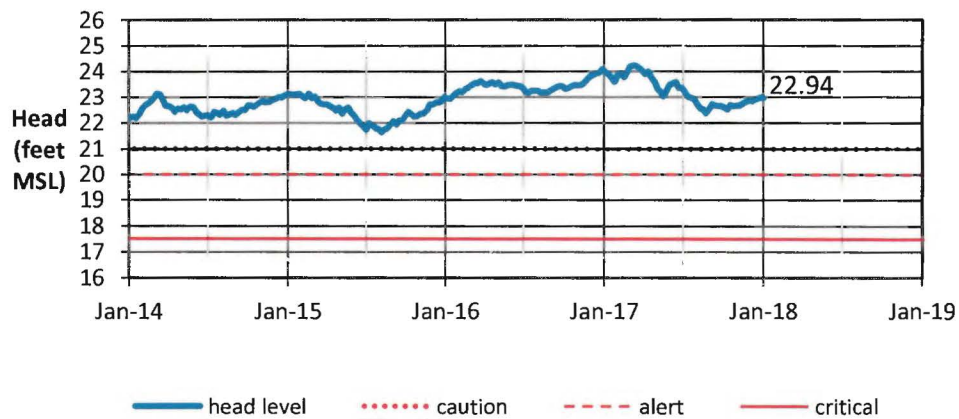
WATER USE DISTRICTS		SUBTOTAL	IMPORT	EXPORT	EFFECTIVE WATER DEMAND
1	HONOLULU	61.35	1.15	-	62.50
2	WINDWARD	11.48	-	1.153	10.33
3	NORTH SHORE	2.41	-	-	2.41
4	MILILANI	4.18	-	-	4.18
5	WAHIAWA	2.85	-	-	2.85
6	PEARL CITY-HALAWA	7.65	-	-	7.65
7	WAIPAHU-EWA	31.73	-	4.94	26.79
8	WAIAANAE	2.48	4.94	-	7.43
TOTAL:		124.13	6.10	6.10	124.13

## Weekly Head Report

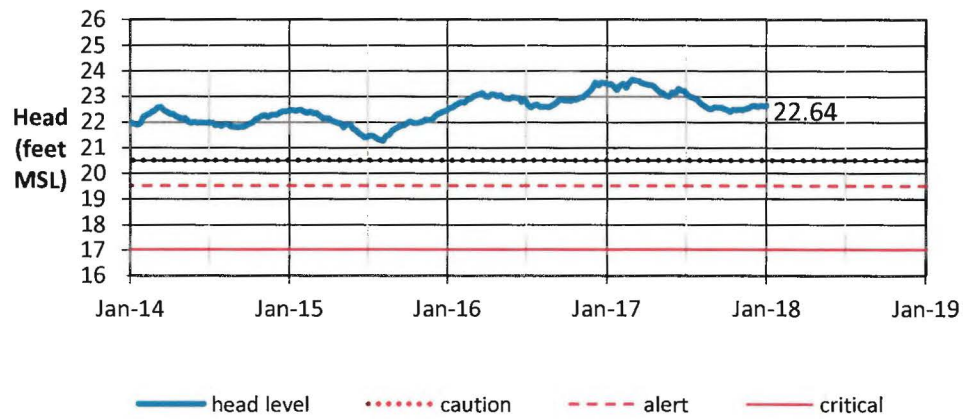
### Kaimuki 01/11/18



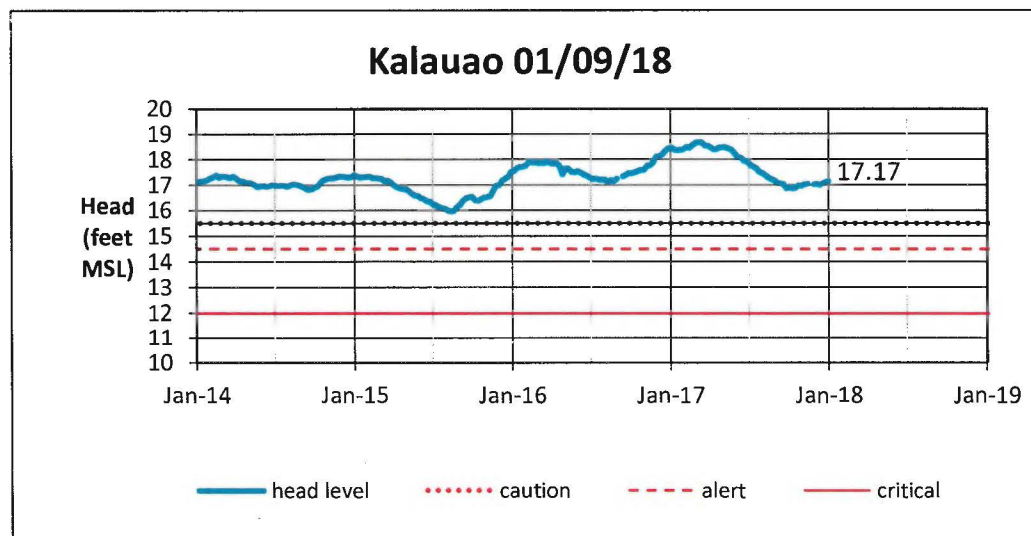
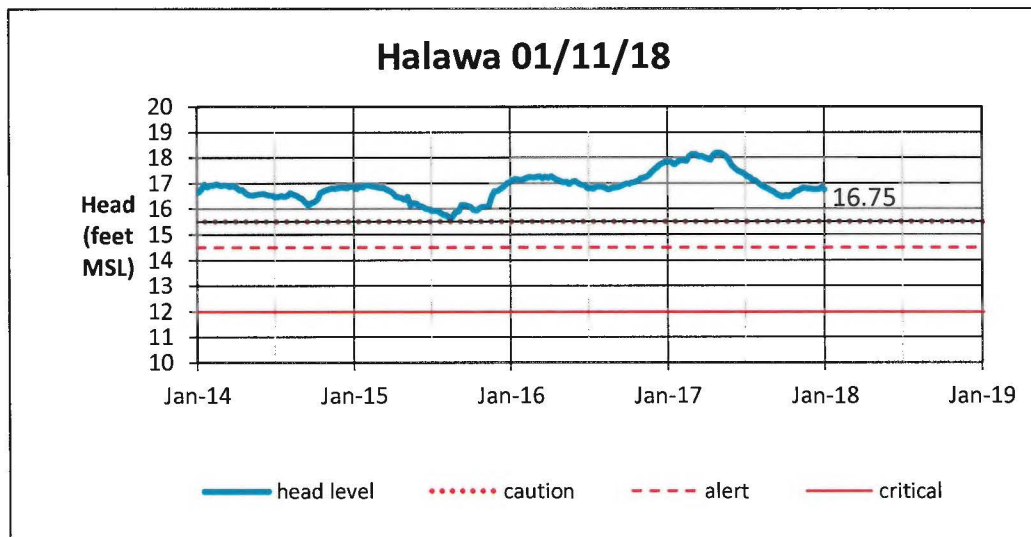
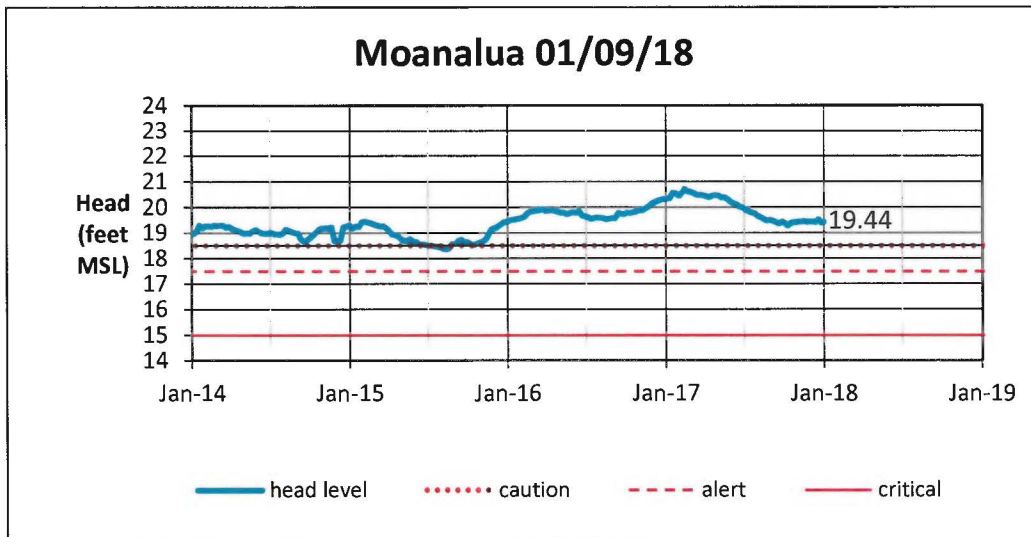
### Beretania 01/09/18



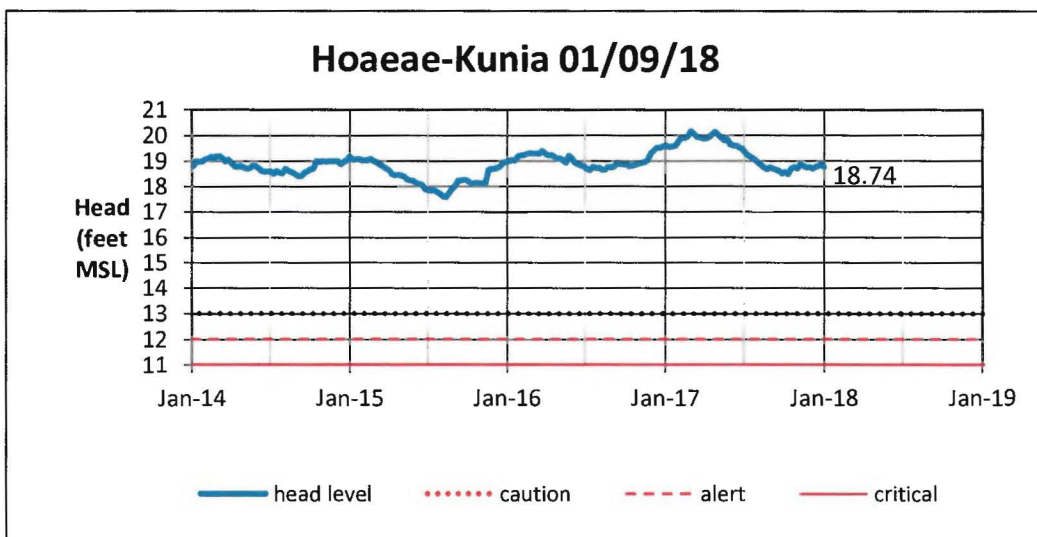
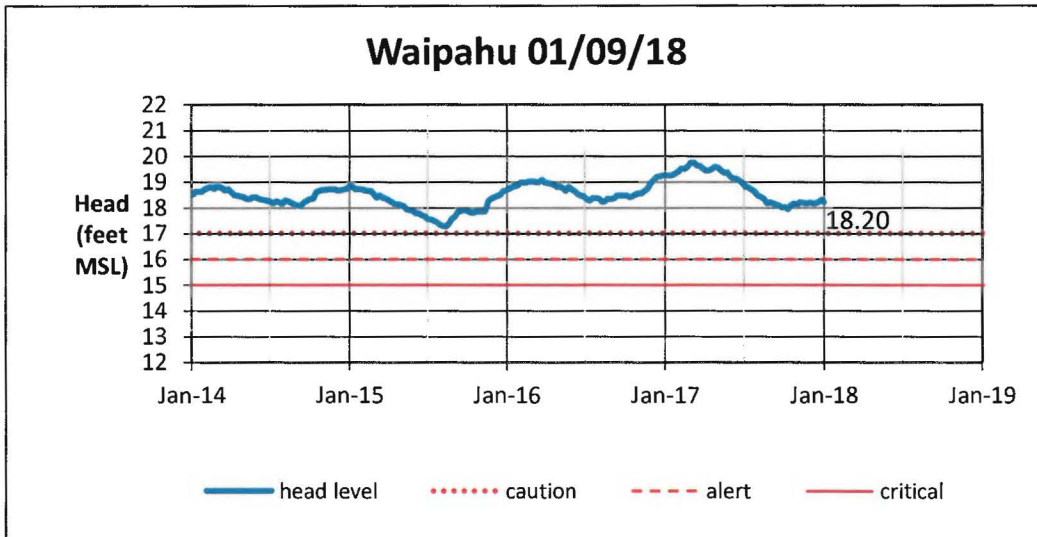
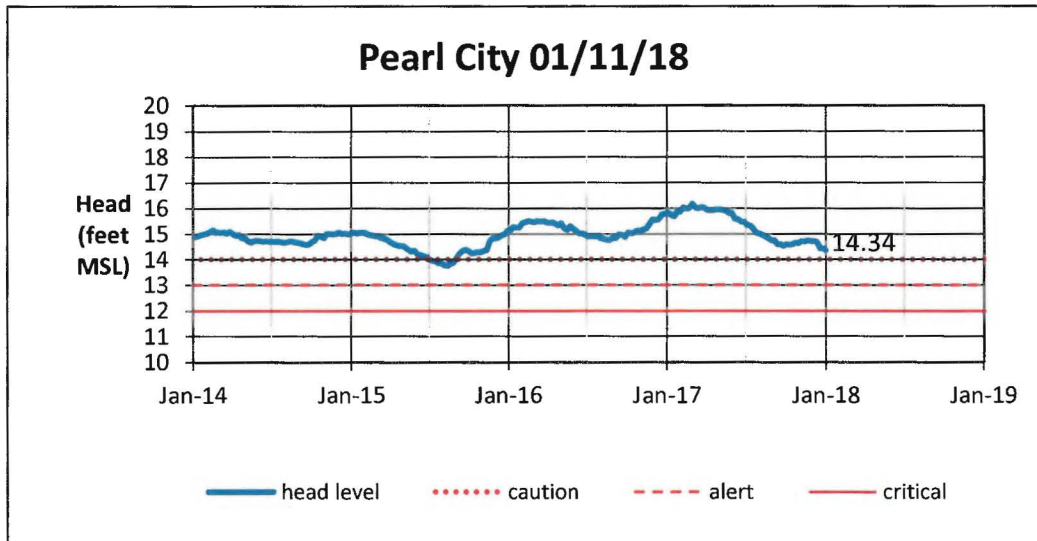
### Kalihi 01/09/18



## Weekly Head Report

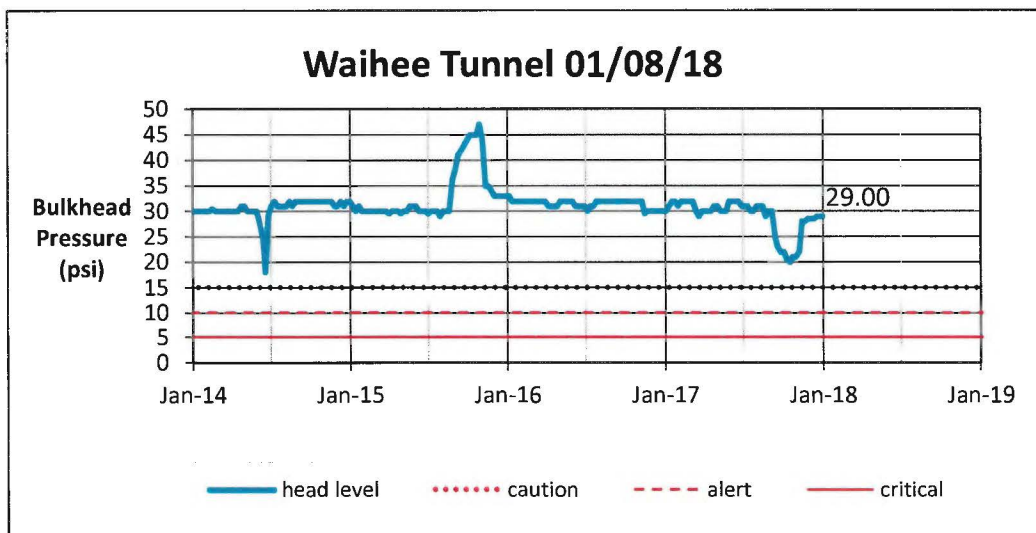
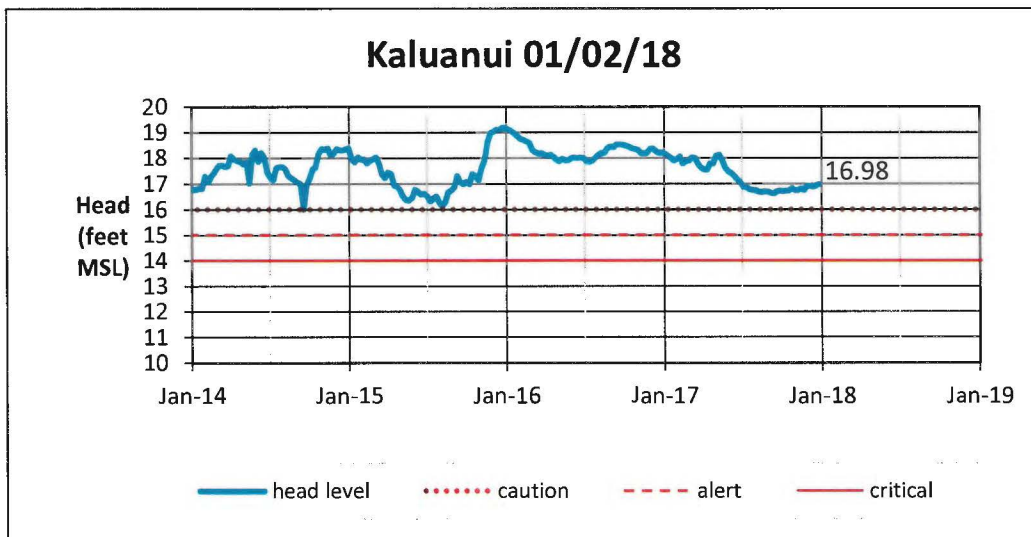
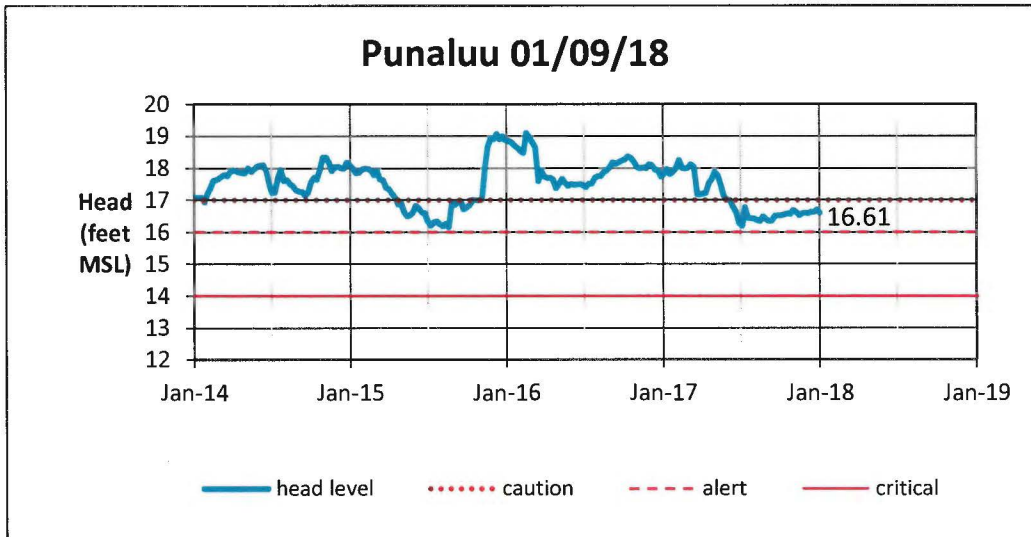


## Weekly Head Report

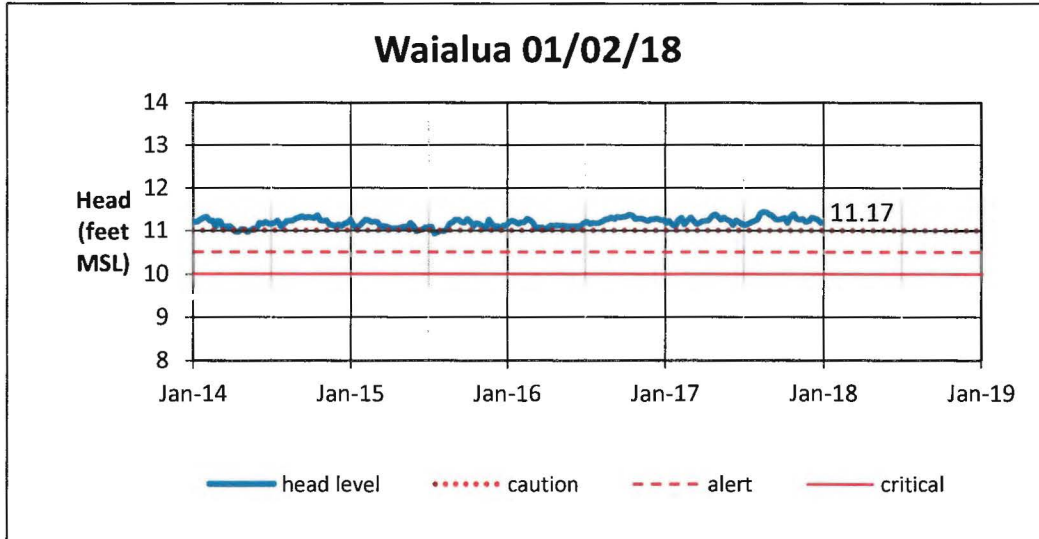




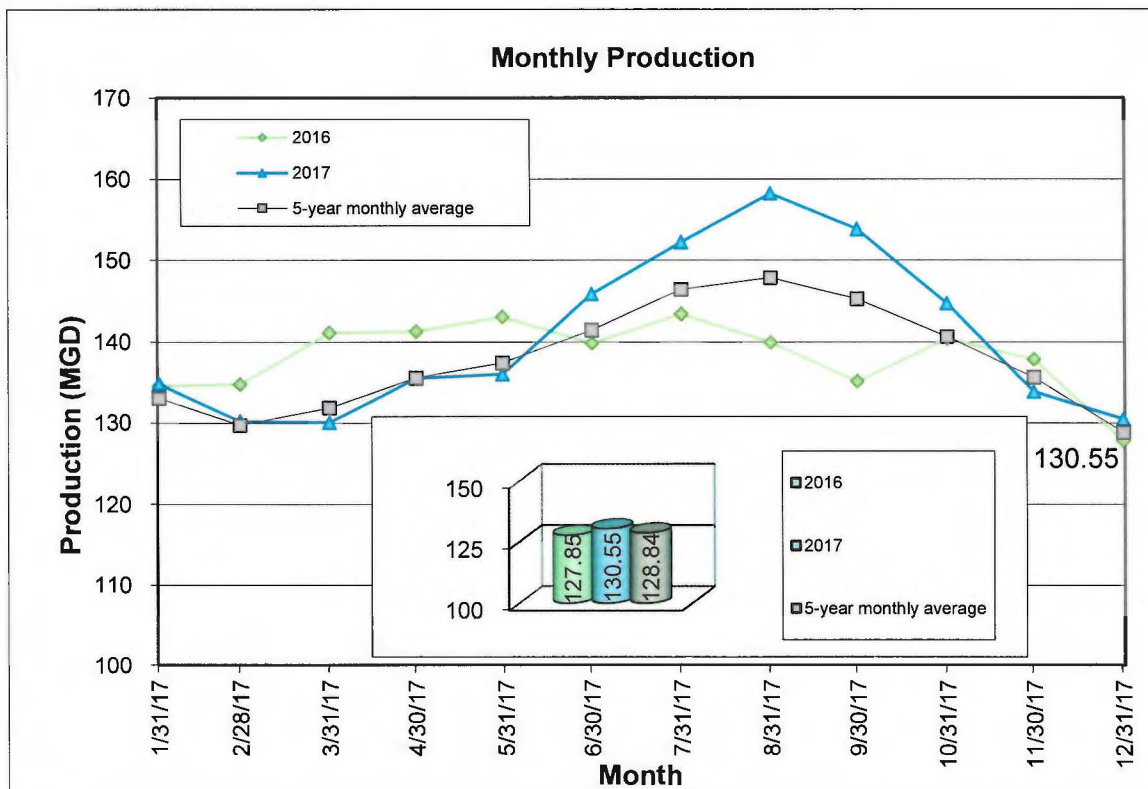
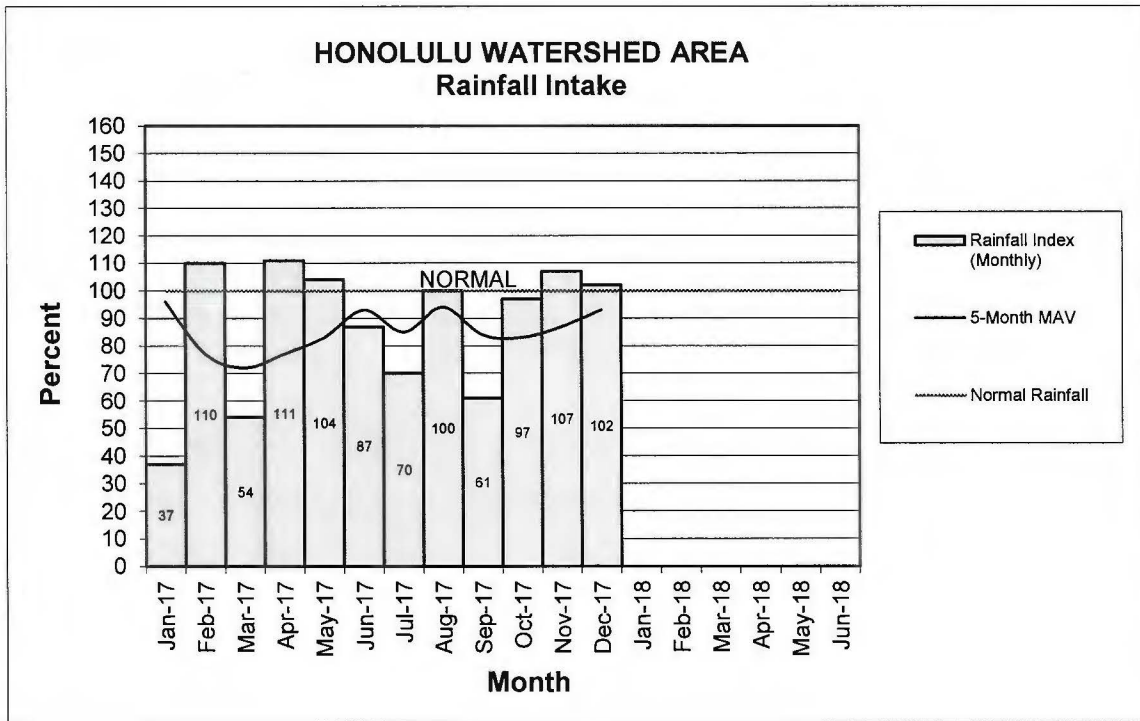
## Weekly Head Report



## Weekly Head Report





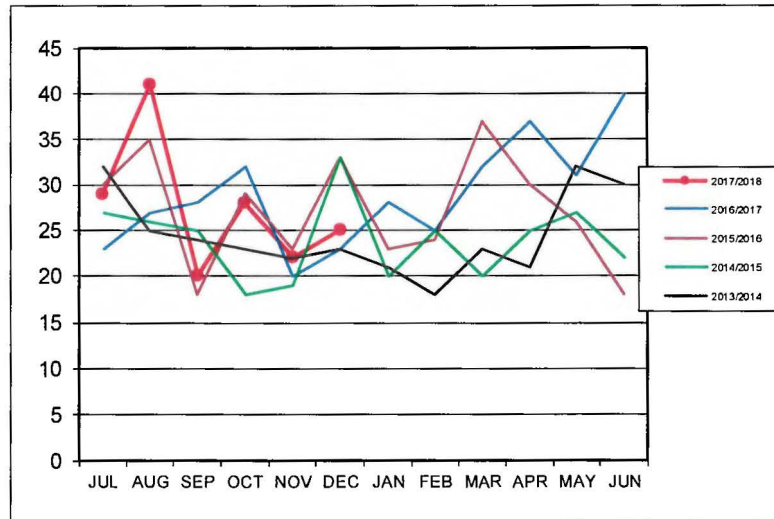


ITEM FOR INFORMATION NO. 6

# **WATER MAIN REPAIR REPORT** **for December 2017**

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	Total
2017/2018	29	41	20	28	22	25							165
2016/2017	23	27	28	32	20	23	28	25	32	37	31	40	346
2015/2016	30	35	18	29	23	33	23	24	37	30	26	18	326
2014/2015	27	26	25	18	19	33	20	25	20	25	27	22	287
2013/2014	32	25	24	23	22	23	21	18	23	21	32	30	294

Date	Address	Size (In)	Pipe Type
12/2/2017	91-1129 KUMUIKI ST, KAPOLEI	12	DI
12/3/2017	2318 BECKWITH ST, HONOLULU	4	CI
12/3/2017	2312 BECKWITH ST, HONOLULU	4	CI
12/4/2017	91-721 ONEULA PL, EWA BEACH	8	PVC
12/4/2017	1762 ALEWA DR, HONOLULU	8	CI
12/4/2017	91-721 ONEULA PL, EWA BEACH	8	PVC
12/4/2017	KALAELOA	14	PVC-RO
12/7/2017	2251 WAIOMAO RD, HONOLULU	8	CI
12/9/2017	3536 SALT LAKE BLVD	6	CI
12/10/2017	2217 KOMO MAI DR, PEARL CITY	8	CI
12/11/2017	87-136 MAALOA ST, WAIANAE	8	CI
12/13/2017	45-414 PUA MAKAHALA ST, KANEOHE	6	CI
12/13/2017	2227 KOMO MAI DR, PEARL CITY	8	CI
12/14/2017	5001 MAUNALANI CIR, HONOLULU	8	CI
12/17/2017	136 HANO HANO PL, HONOLULU	4	DI
12/17/2017	91-115 AKEKEE PL, EWA BEACH	4	DI
12/18/2017	2058 S BERETANIA ST, HONOLULU	6	CI
12/18/2017	67-441 HAONA ST, WAIALUA	8	CI
12/19/2017	2120 MANOA RD, HONOLULU	8	CI
12/19/2017	509 UNIVERSITY AVE, HONOLULU	4	CI
12/20/2017	3648 SALT LAKE BLVD, HONOLULU	6	CI
12/23/2017	1610 MAKALOA ST, HONOLULU	8	CI
12/27/2017	1501 KOKEA ST, HONOLULU	8	CI
12/28/2017	604 11TH AVE, HONOLULU	6	CI
12/28/2017	2652 PETER ST, HONOLULU	8	CI



18.3 miles of pipelines were surveyed by the Leak Detection Team in the month of December.

**DISCUSSION:**

Mike Fuke, Field Operations Division Acting Program Administrator, provided the report. Mr. Fuke stated that the December 4<sup>th</sup> 14-inch PVC Kalaeloa RO (Reverse Osmosis) main break was significant because they learned of the urgency to repair the RO main in a timely manner. Should the RO main be out of service for an extended period, Hawaiian Electric will lose some of their ability to generate power. The 14-inch PVC took some time to repair because of its odd size and its non-conformance with BWS Standards.

Mr. Fuke also reported that two service clamp leaks were found by the Leak Detection team and were repaired before they became major problems.

MOTION TO  
RECESS INTO  
EXECUTIVE  
SESSION

Upon unanimously approved motion, the Board recessed into Executive Session Pursuant to [HRS §92-5(a)(2)] at 3:28 PM to Consider Issues Pertaining to Matters Posted for Discussion at an Executive Session

OPEN  
SESSION

The Board reconvened in Open Session at 3:36 PM

MOTION TO  
ADJOURN

There being no further business Chair Andaya at 3:37 PM called for a motion to adjourn the Open Session. Ray Soon so moved; seconded by Kapua Sproat and unanimously carried.

Respectfully submitted,

THE MINUTES OF THE REGULAR SESSION BOARD MEETING ON JANUARY 22, 2018 WERE APPROVED AT THE FEBRUARY 26, 2018 BOARD MEETING			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT			ABSENT
DAVID C. HULIHEE			ABSENT
KAY C. MATSUI	X		
RAY C. SOON			ABSENT
ROSS S. SASAMURA	X		
JADE T. BUTAY	X		

  
LESLEY C. COON

APPROVED:

  
BRYAN P. ANDAYA  
Chair of the Board

FEB 26 2018  
Date