

## MINUTES

### PUBLIC HEARING AND THE REGULAR MEETING OF THE BOARD OF WATER SUPPLY

November 23, 2015

The Public Hearing was held in the Board Room of the Public Service Building at 630 South Beretania Street, Honolulu, Hawaii, to Consider (1) Adoption of the Operating and Capital Improvement Program Budget for Fiscal Year 2015-2016 and Appropriating Funds Therefor and Revision of the Fiscal Year 2015-2016 Capital Improvement Program Budget – Amendment No. 1

Present: Duane R. Miyashiro, Chair  
Bryan P. Andaya  
Ross S. Sasamura  
Ford N. Fuchigami

Also Present: Ernest Lau, Manager and Chief Engineer  
Ellen Kitamura, Deputy Manager and Chief Engineer  
Rommel Mangiliman  
Tracy Burgo  
Erwin Kawata  
Barry Usagawa  
Karen Tom  
Daryl Hiromoto  
Joe Cooper  
Robert Morita  
Henderson Nuuhiwa  
Mike Matsuo  
Kevin Ihu  
Paul Kikuchi  
Jennifer Elflein  
Jason Takaki  
Marc Chun  
Dean Seki  
David Nagamine

Others Present: Krishna Jayaram, Deputy Corporation Counsel  
Barrett Francis, Deputy Corporation Counsel  
Moana Yost, Deputy Corporation Counsel  
Jay Johnson, NORESO  
Craig Von Bargen, CDM Smith  
Tom Myers, Brown and Caldwell

Absent: Adam C. Wong, Vice Chair  
David C. Hulihee  
Kapua Sproat

At 2:00 PM on November 23, 2015, Board Chair Miyashiro called to order the Regular Meeting.

APPROVAL  
OF MINUTES

Approval of the Minutes of the Regular Meeting held on October 26, 2015

MOTION  
TO APPROVE

Ross Sasamura and Bryan Andaya motioned and seconded, respectively, to approve the Minutes of the Regular Session Meeting of October 26, 2015. The motion was unanimously carried.

At 2:01 PM, Chair Miyashiro called to order the Public Hearing and announced that the purpose of the public hearing is to consider amending the previously adopted fiscal year 2015-2016 Operating and Capital Improvement Program (CIP) Budget for the fiscal year beginning July 1, 2015. A notice of public hearing appeared in the November 13, 2015 Honolulu Star Advertiser newspaper.

Before beginning the Public Hearing, Mr. Miyashiro stated that this Board is dedicated to the provision of a safe, dependable, and affordable supply of water to our customers. One of the best ways we can ensure that this occurs is to thoughtfully plan and fund a regular program of water facility replacement and improvement, including the use of efficient and sustainable energy options, as reflected in the annual Operating and CIP Budget we are considering today.

Mr. Miyashiro asked Manager Lau to give a brief statement on the budget being considered today. Mr. Lau stated that the amended budget for fiscal year 2015-2016 consists of the Operating Budget and the CIP Budget. The Operating Budget provides for operational and maintenance costs for continuing water services to our customers; while the CIP Budget provides funding for research and facility replacement costs; as well as funding for major water system additions or expansions.

Combined, these budgets propose total expenditures of \$305.6 million. Approximately 61 percent of the combined budgets are allocated to operating expenditures totaling \$187 million, while 39 percent or \$118.6 million is allocated to the CIP.

Operating budget expenditures of \$187 million was previously adopted and remains unchanged. CIP budget expenditures are proposed at \$118.6 million and funding will be: \$61.5 million by the Operating Fund, \$3.6 million by the Special Expendable Fund, \$50.5 million from the State Revolving Fund and \$3 million by the Reserve Release Fund. Taken together, the total Operating and CIP budget expenditures of \$305.6 million will increase by \$35 million for the CIP budget.

To fund these budgets, revenues from all current sources, with the proposed increases in Quantity Charges, a carry-over balance from prior years and State Revolving Fund loans will allow us to provide an adequate unappropriated fund balance.

The operating budget remains at \$187 million. The CIP represents specific replacement projects for necessary water system facilities. The proposed budget will increase to \$118.6 million, with the breakdown previously stated. The CIP budget primarily provides \$51.4 million for facility renewal and replacement; \$37.9 million for research and development; and \$15.4 million for water system capacity expansion. Funding for pipeline is also needed as our nearly 2100 miles of pipelines continue to age. Major upgrading of water pipeline infrastructure is programmed for such areas as Kaneohe and Waianae.

The proposed increase to the CIP is due to additional funding for the Energy Savings Performance Contracting (ESPC) at about \$35.5 million.

Mr. Lau called Marc Chun of the Water Resources Division to provide a presentation on the cost and benefits of this project and will be available to answer questions.

Mr. Chun gave the presentation. After the presentation, Mr. Lau made clarification to slide no. 4. He explained that BWS will not be borrowing the money from the energy service company (ESCO), but will borrow the money to pay for the whole project and design-build, around \$35 million with about a one percent interest rate, through the State Revolving Loan from the Drinking Water

Revolving Loan Fund through the State Department of Health. BWS will pay the DOH back directly over about a 20-year period. The ESCO, in this case NORESO, will be paid for the design-build project and for the cost of the measurement and verification, annually for the 17-year period. Mr. Chun thanked Mr. Lau for the clarification and noted that the slide just showed a generic example of how the overall process works.

Chair Miyashiro announced that they will now take testimony on the proposed budget. Due to time constraints, Mr. Miyashiro asked those presenting testimonies to limit their presentations to three minutes each. Mr. Miyashiro asked testifiers to come forward, state their name and organization they represent before proceeding with their testimony. There being no testimony, discussion, or questions, Chair Miyashiro closed the Public Hearing and continued on with the Regular Meeting of the Board.

ADOPTION OF  
RESOLUTION  
NO. 861, 2015

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

Chair and Members:

Subject: Adoption of Resolution No. 861, 2015, Adopting the Operating and Capital Improvement Program Budget for Fiscal Year 2015-2016 and Appropriating Funds Therefor and Revision of the Fiscal Year 2015-2016 Capital Improvement Program Budget – Amendment No. 1

We recommend adoption of the amended Operating and Capital Improvement Program (CIP) Budget for the fiscal year beginning July 1, 2015, and ending June 30, 2016, as submitted to the Board on November 23, 2015.

A public hearing to consider the amended budget, as required by the City Charter, was held on November 23, 2015. The affidavit attesting to the publication of the public hearing notice is attached.

We further recommend adoption of the attached Resolution No. 861, 2015, appropriating funds for the Operating and CIP Budget for fiscal year 2015-2016 as follows:

1. The sum of \$186,979,296 from the Operating Fund for Operating Budget expenditures.
2. The sums of \$61,529,290 from the Operating Fund, \$50,510,000 from the State Revolving Fund, \$3,650,000 from the Special Expendable Fund, and \$2,978,210 from the Reserve Release Fund for the CIP Budget expenditures.

We recommend that the current CIP Budget be amended as follows:

	<u>Appropriation</u>
	<u>Present</u> <u>Proposed</u>

1. Increase the appropriation for the following CIP project:

Item No. 1 ENERGY SAVINGS  
PERFORMANCE CONTRACTING  
(ESPC) – BOARD OF WATER SUPPLY  
(BWS) FACILITIES

STATE REVOLVING FUND	CONST	500,000	35,500,000
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The funding for this project will be from the State of Hawaii Department of Health – State Revolving Funds. This ESPC project will implement energy efficiency, renewable energy and operational improvements to the BWS water infrastructure system resulting in guaranteed savings to the BWS' electrical power costs. The guaranteed savings will be leveraged to repay the State Revolving Fund loan while still maintaining a positive cash flow for BWS.

Upon approval, the appropriate pages of the current CIP budget will be revised for distribution.

Respectfully submitted,

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

Attachments”

# AFFIDAVIT OF PUBLICATION

IN THE MATTER OF  
Notice to Public Hearing

STATE OF HAWAII

SS.

City and County of Honolulu

Doc. Date: NOV 13 2015 # Pages: 1  
Notary Name: Patricia K. Reese First Judicial Circuit

Doc. Description: Affidavit of  
Publication

Patricia K. Reese NOV 13 2015  
Notary Signature Date



Lisa Kaukani being duly sworn, deposes and says that she is a clerk, duly authorized to execute this affidavit of Oahu Publications, Inc. publisher of The Honolulu Star-Advertiser, MidWeek, The Garden Island, West Hawaii Today, and Hawaii Tribune-Herald, that said newspapers are newspapers of general circulation in the State of Hawaii, and that the attached notice is true notice as was published in the aforementioned newspapers as follows:

Honolulu Star-Advertiser 1 times on:  
11/13/2015  
MidWeek 0 times on:  
The Garden Island 0 times on:  
Hawaii Tribune-Herald 0 times on:  
West Hawaii Today 0 times on:

Other Publications: 0 times on:

And that affiant is not a party to or in any way interested in the above entitled matter.

Lisa Kaukani  
Lisa Kaukani

Subscribed to and sworn before me this 13th day of November A.D. 2015

Patricia K. Reese  
Patricia K. Reese, Notary Public of the First Judicial Circuit, State of Hawaii

My commission expires: Oct 07, 2018

Ad # 0000815216

## NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the BOARD OF WATER SUPPLY, CITY AND COUNTY OF HONOLULU, will hold a PUBLIC HEARING in the Board Room, Public Service Building, 630 South Beretania Street, on MONDAY, November 23, 2015, at 2:00 p.m. or soon thereafter; to be continued if necessary on MONDAY, December 21, 2015, at 2:00 p.m. or soon thereafter; where all interested persons shall be afforded the opportunity of being heard on the adoption of the proposed Amended Fiscal Year (FY) 2015-2016 Capital Improvement Program Budget of the Board of Water Supply for FY July 1, 2015 to June 30, 2016.

Following the November 23, 2015 public hearing, if no further deliberation is deemed necessary, the December 21, 2015 continuation of the public hearing will be canceled.

Information to be discussed at this public hearing is available at Room 201 of the Public Service Building, Board of Water Supply, 630 South Beretania Street. All comments on or suggested changes to the amended FY 2015-2016 Capital Improvement Program Budget of the Board of Water Supply should be filed in writing before the date of the public hearing by emailing to [board@hws.org](mailto:board@hws.org), or presented in person at the time of the hearing. Persons wishing to speak are requested to register prior to the day of the hearing by emailing [board@hws.org](mailto:board@hws.org) and providing your name and phone number. Testimony is limited to three minutes and shall be presented by the registered speaker only. Any disabled person requiring special assistance who plans to attend the public hearing or its continuation, may contact Mr. Robert Morita at 748-5177, no later than November 18, 2015, and December 14, 2015, respectively, for the initial hearing or its continuation if necessary, so that appropriate accommodations can be provided.

BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU  
(SAB15216 11/13/15)



SP.NO.: \_\_\_\_\_ L.N. \_\_\_\_\_

**DISCUSSION**

There were no comments or discussion.

**MOTION TO  
ADOPT  
RESOLUTION  
NO. 861, 2015**

Ross Sasamura motioned to adopt Resolution No. 861, 2015, Adopting the Operating and Capital Improvement Program Budget for Fiscal Year 2015-2016 and Appropriating Funds Therefor and Revision of the Fiscal Year 2015-2016 Capital Improvement Program Budget – Amendment No. 1. The motion was seconded by Bryan Andaya and unanimously carried.

ADOPTION OF RESOLUTION NO. 861, 2015, ADOPTING THE OPERATING AND CAPITAL IMPROVEMENT PROGRAM BUDGET FOR FISCAL YEAR 2015-2016 AND APPROPRIATING FUNDS THEREFOR AND REVISION OF THE FISCAL YEAR 2015- 2016 CAPITAL IMPROVEMENT PROGRAM BUDGET -- AMENDMENT NO. 1 WAS APPROVED ON NOVEMBER 23, 2015			
	AYE	NO	COMMENT
DUANE R. MIYASHIRO	X		
ADAM C. WONG			ABSENT
DAVID C. HULIHEE			ABSENT
KAPUA SPROAT			ABSENT
BRYAN P. ANDAYA	X		
ROSS S. SASAMURA	X		
FORD N. FUCHIGAMI	X		



BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU

RESOLUTION NO. 861, 2015

**RESOLUTION ADOPTING THE OPERATING AND CAPITAL IMPROVEMENT  
PROGRAM BUDGET FOR FISCAL YEAR 2015-2016 AND APPROPRIATING FUNDS  
THEREFOR AND REVISION OF THE FISCAL YEAR 2015-2016 CAPITAL  
IMPROVEMENT PROGRAM BUDGET – AMENDMENT NO. 1**

BE IT RESOLVED by the Board of Water Supply, City and County of Honolulu, State of Hawaii, that in accordance with the provisions of Article VII of the Charter of the City and County of Honolulu, the sum of ONE HUNDRED EIGHTY-SIX MILLION NINE HUNDRED SEVENTY-NINE THOUSAND TWO HUNDRED NINETY-SIX DOLLARS (\$186,979,296) be and the same is hereby appropriated out of all monies placed to the credit of the Operating Fund for expenditures of the Board of Water Supply Operating Budget for the fiscal year beginning July 1, 2015 and ending June 30, 2016 as follows:

OPERATING BUDGET

OPERATING FUND.....\$186,979,296;

BE IT FURTHER RESOLVED that the said Operating Fund appropriation may be increased to the extent that any State or Federal environmental law, regulation, and/or electric power cost, causes the Board of Water Supply to exceed the cost thresholds as specified in the Schedule of Rates and Charges for the Furnishing of Water and Water Service; and

BE IT FURTHER RESOLVED that the sum of SIXTY ONE MILLION FIVE HUNDRED TWENTY-NINE THOUSAND TWO HUNDRED-NINETY DOLLARS (\$61,529,290) be and the same is hereby appropriated out of all monies placed to the credit of the Operating Fund, the sum of FIFTY MILLION FIVE HUNDRED-TEN THOUSAND DOLLARS (\$50,510,000) be and the same is hereby appropriated out of all monies placed to the credit of the State Revolving Fund, the sum of THREE MILLION SIX HUNDRED-FIFTY THOUSAND DOLLARS (\$3,650,000) be and the same is hereby appropriated out of all monies placed to the credit of the Special Expendable Fund, and the sum of TWO MILLION NINE HUNDRED SEVENTY-EIGHT THOUSAND TWO HUNDRED-TEN DOLLARS (\$2,978,210) be and the same is hereby appropriated out of all monies placed to the credit of the Reserve Release Fund for expenditures of the Board of Water Supply Capital Improvement Program Budget for the fiscal year beginning July 1, 2015 and ending June 30, 2016, as follows:


CAPITAL IMPROVEMENT PROGRAM BUDGET

OPERATING FUND.....	\$61,529,290
STATE REVOLVING FUND.....	\$50,510,000
SPECIAL EXPENDABLE FUND.....	\$ 3,650,000
RESERVE RELEASE FUND.....	\$ 2,978,210;

BE IT FURTHER RESOLVED that any appropriation in this resolution, or any amendment thereto, for the Capital Improvement Program (CIP) Budget shall be valid for the fiscal year beginning July 1, 2015 and ending June 30, 2016, provided that any part of such appropriation which is not expended or encumbered shall lapse on June 30, 2016; and

BE IT FINALLY RESOLVED that the Manager and Chief Engineer, at his discretion, shall have the authority to adjust the method of funding the CIP and that the Manager and Chief Engineer may increase or decrease the amount appropriated out of the Operating Fund, State Revolving Fund, Special Expendable Fund, and Reserve Release Fund in the CIP Budget, provided that the total consolidated appropriation of the CIP Budget remains the same

ADOPTED



DUANE R. MIYASHIRO  
Chair

Honolulu, Hawaii  
November 23, 2015

WATER FOR LIFE

*Safe and dependable water now and into the future*



Board of Water Supply  
City and County of Honolulu

# Energy Savings Performance Contracting (ESPC) – BWS Facilities

FY 2016 CIP – I. Research and Development – Item 1.

An Overview

November 23, 2015





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Board of Water Supply  
City and County of Honolulu

# Budget Amendment Request

	Operating Fund	Special Expendable Fund	State Revolving Fund	Reserve Release Fund	Total
Operating Budget	\$186,979,296				\$186,979,296
Capital Improvement Program Budget	\$61,529,290	\$3,650,000	\$15,510,000	\$2,978,210	\$83,667,500
<b>Budget Amendment No. 1 (Proposed)</b>			<b>\$35,000,000</b>		<b>\$35,000,000</b>
Capital Improvement Program Budget (Amended)	\$61,529,290	\$3,650,000	\$50,510,000	\$2,978,210	\$118,667,500
<b>Total</b>	<b>\$248,508,586</b>	<b>\$3,650,000</b>	<b>\$50,510,000</b>	<b>\$2,978,210</b>	<b>\$305,646,796</b>





## What is an ESPC?

- Energy Savings Performance Contracting
- A contract for comprehensive energy efficiency and operational improvements
- Cost savings pay for the improvements
- Savings are contractually guaranteed (up to 20 years\*)
- Involves a Monitoring and Verification (M&V) phase
- State of Hawaii created procurement process for government agencies (Chapters 36 [Section 36-41] and 196 of the HRS, and SPO Vendor List No. 12-11)
- Currently being used by State DAGS, DOT, PSD, City ENV... to name a few.





# WATER FOR LIFE

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Board of Water Supply  
City and County of Honolulu

## Example:

BWS  
UTILITY COST =  
\$27,000,000/year

ESCO guarantees to reduce-  
utility costs by \$3,000,000/year

ESCO will be paid \$35 M  
For performing work to  
reduce BWS annual utility  
bill by \$3,000,000/year

After ESCO completes construction,  
BWS uses avoided utility costs  
to pay ESCO off in 17 years.

***After 17 years, BWS enjoys utility savings  
of \$3,000,000 per year.***





## The Value of Performance Contracting







## The Value to the BWS

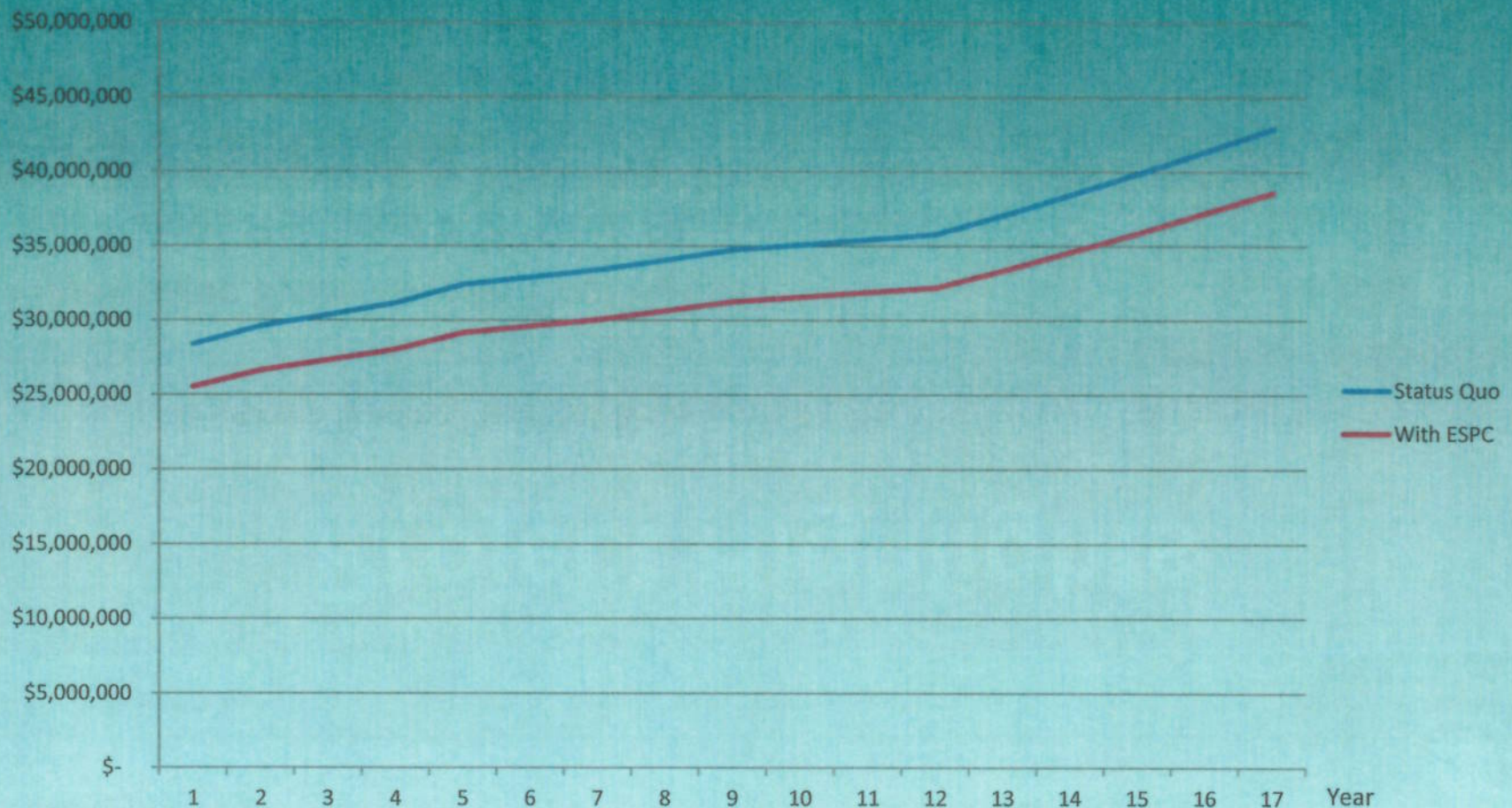
- Leverage savings in electricity budget to finance energy efficiency and renewable improvements
- Insulate part of the BWS electrical needs from future HECO rate increases
- Rapid way to implement via the D/B process
- On-going, long-term performance monitoring
- Financial guarantee on performance goals







## Estimated Electric Costs







## Project Highlights

Energy Conservation Measure (ECM)	Annual Electricity Savings (kWh-AC)
Photovoltaic Systems (with Roof Repair)	5,265,850
Well Pumps Replaced With More Efficient Assemblies	1,348,979
Energy Efficient Lighting	717,027
Energy Efficient HVAC Upgrades/Controls	661,245
Converting Part of Auto Fleet to Hybrids	
Power Factor Correction Equipment	
Time of Use Savings	
Demand Response Measure Potential	





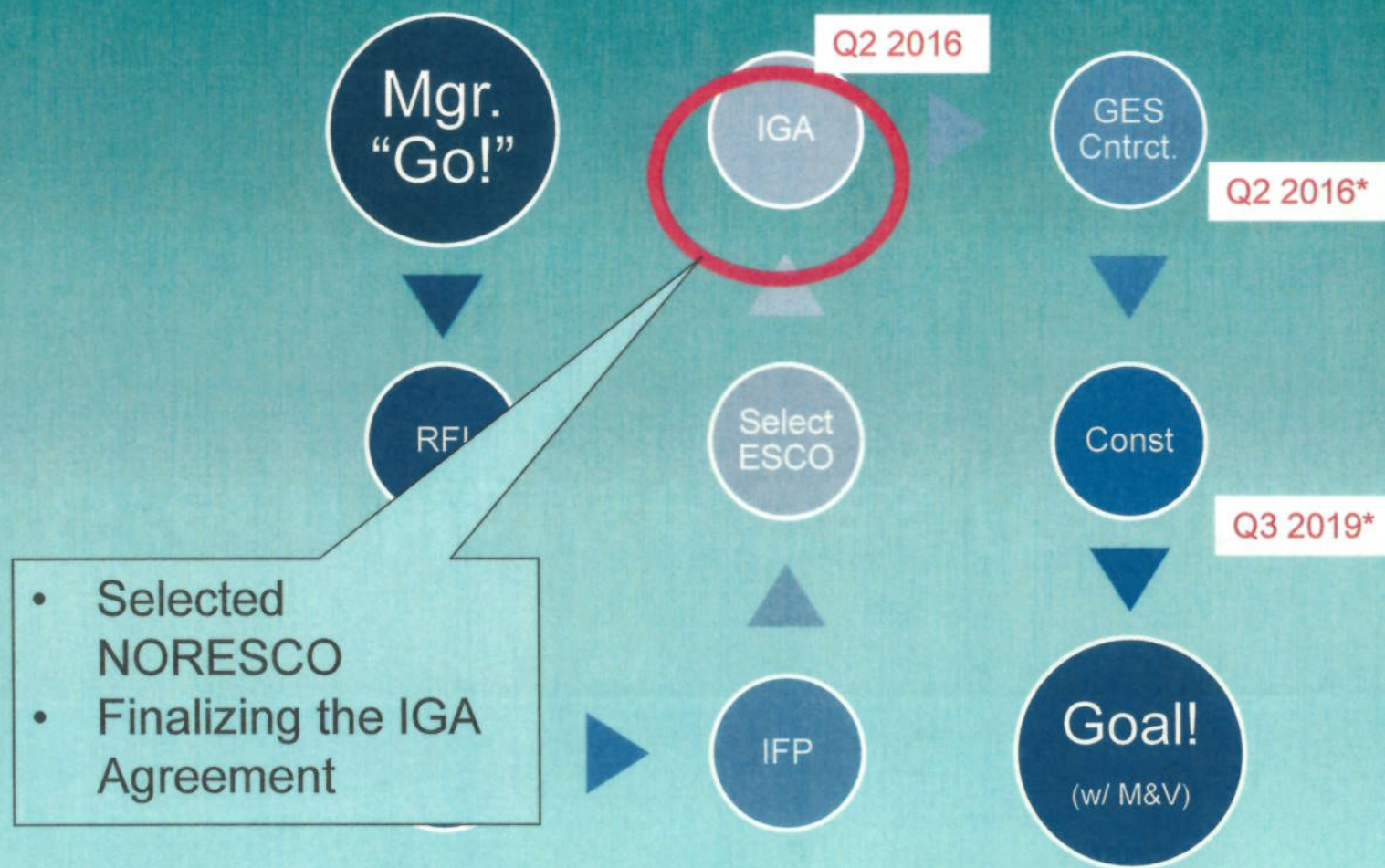
## Green House Gas Reductions

Emission Type	Reductions
CO <sub>2</sub>	12,946,685 lbs.
SO <sub>x</sub>	34,918 lbs.
NO <sub>x</sub>	36,482 lbs.
Equivalent cars removed from the roads	2,105 cars





# Basic ESPC Process





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*Safe and dependable water now and into the future*



Board of Water Supply  
City and County of Honolulu

# Questions?



"November 23, 2015

ADOPTION OF  
RESOLUTION  
NO. 862, 2015

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

Chair and Members:

Subject: Adoption of State Revolving Fund Water System Revenue  
Loan Series 2015 Energy Savings Performance Contract  
Resolution No. 862, 2015, Authorizing Up to \$35,000,000  
Principal Amount of Series 2015 Energy Savings  
Performance Contract Loans

We recommend adoption of State Revolving Fund (SRF) Water System Revenue Loan Series 2015 Energy Savings Performance Contract (ESPC) Resolution No. 862, 2015, authorizing up to \$35,000,000 aggregate principal amount of the Board of Water Supply's (BWS) SRF Water System Revenue Loans, Series 2015 ESPC (Series 2015 ESPC Loans).

The Series 2015 ESPC Loans provide moneys to pay the costs of improvements to the Water System and facilities authorized in the capital budget, as revised, of the BWS as the ESPC, and identified in the SRF 2015 ESPC Loan Agreements, to make a deposit to a SRF Series Reserve Account if applicable, and to pay costs of issuance of the Series 2015 ESPC Loans. The Series 2015 ESPC Loans are the sixth series of SRF Loans to be obtained by the BWS from the State Department of Health under and pursuant to the SRF General Resolution.

Resolution No. 862, 2015 further authorizes any Authorized Officer of the BWS, subject to limitations, the power to determine and carry out certain actions in connection with the issuance and execution of the Series 2015 ESPC Loans.

Respectfully submitted,

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

Attachment"

DISCUSSION:

Mr. Lau stated that concurrently with the adoption of Resolution No. 861, 2015, BWS requests that the Board adopt Resolution No. 862, 2015, giving BWS authority to borrow from the State Revolving Fund from the State Department of Health for the ESPC project. Joe Cooper, Waterworks Controller gave the report. There were no comments or discussion.

MOTION TO  
ADOPT  
RESOLUTION  
NO. 862, 2015

Bryan Andaya motioned to adopt the State Revolving Fund Water System Revenue Loan Series 2015 Energy Savings Performance Contract Resolution No. 862, 2015, Authorizing Up to \$35,000,000 Principal Amount of Series 2015 Energy Savings Performance Contract Loans. The motion was seconded by Ross Sasamura and unanimously carried.



BOARD OF WATER SUPPLY  
CITY AND COUNTY HONOLULU, HAWAII

STATE REVOLVING FUND  
WATER SYSTEM REVENUE LOAN  
SERIES 2015 ESPC RESOLUTION NO. 862, 2015

AUTHORIZING UP TO \$35,000,000  
PRINCIPAL AMOUNT OF SERIES 2015 ESPC LOANS

ADOPTED NOVEMBER 23, 2015

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**STATE REVOLVING FUND  
WATER SYSTEM REVENUE LOAN  
SERIES 2015 ESPC RESOLUTION NO. 862, 2015**

**AUTHORIZING UP TO  
\$35,000,000 PRINCIPAL AMOUNT OF SERIES 2015 ESPC LOANS**

BE IT RESOLVED by the Board of Water Supply of the City and County of Honolulu, Hawaii (the "Board"), as follows:

**ARTICLE I**

**DEFINITIONS AND STATUTORY AUTHORITY**

Section 1.01. Series 2015 ESPC Resolution; Findings and Determination.

(1) This State Revolving Fund Water System Revenue Loan Series 2015 ESPC Resolution authorizing up to \$35,000,000 principal amount of Series 2015 ESPC Loans is supplemental to, and constitutes a Series Resolution within the meaning of and is adopted in accordance with Article IX of, the Resolution, is hereinafter defined.

(2) It is hereby found and determined by the Board that it is necessary and desirable that the Board obtain from the Department of Health at this time one or more Loans to be designated as provided herein to provide monies to carry out one or more purposes of the Board.

Section 1.02. Definitions. (1) All terms which are defined in Section 1.01 of the Resolution shall have the same meanings, respectively, in this Series 2015 ESPC Resolution as such terms are given in said Section 1.01 of the Resolution.

(2) In addition, as used in this Series 2015 ESPC Resolution, unless the context shall otherwise require, the following terms shall have the following respective meanings:

*"Resolution"* means that certain resolution adopted by the Board on February 23, 2004 entitled "A Resolution Authorizing and Providing for State Revolving Fund Loans to be Obtained from time to time from the State of Hawaii Department of Health by the Board of Water Supply of the City and County of Honolulu, Hawaii, for the Purposes of the Water System of the City and County; Covenanting as to Establishment, Maintenance, Revision and Collection of Charges and Rates for the Use and Services of the Water System and the Collection and Disbursement of Revenues Derived therefrom; Pledging on a Junior and Subordinate Basis the Net Revenues Derived from the Water System to the Payment of the Principal of and Interest on such Loans as the same Fall Due; Creating and Establishing Certain Funds and Accounts; Setting Forth the Limitations or Conditions upon the Obtaining of Additional Loans Payable from such Revenues and Making Other Covenants and Agreements in connection with the Foregoing" as amended and supplemented.

*"Series 2015 ESPC Loans"* means the Loans authorized by Article II of this Series 2015 ESPC Resolution.

*"Series 2015 ESPC Project"* means the Improvements authorized in the capital budget, as revised, of the Board and identified in one or more Series 2015 ESPC Loan Agreements to be financed.

*"Series 2015 ESPC Resolution"* means this State Revolving Fund Water System Revenue Loan Series 2015 ESPC Resolution authorizing up to \$35,000,000 principal amount of the Series 2015 ESPC Loans.

*"SRF Series 2015 ESPC Loan Agreements"* means one or more commitment letter or interim and final Loan Agreements to be entered into between the Department of Health and the Board pursuant to which the Department of Health is to make one or more loans to the Board and the Board is to obtain one or more of such loans from the Department of Health to finance the Improvements identified therein constituting a part of the Series 2015 ESPC Project.

(3) Words of any gender shall be deemed and construed to include correlative words of the other genders. Unless the context shall otherwise indicate, words importing the singular number shall include the plural number and vice versa, and words importing persons shall include firms, associations and corporations, including public bodies, as well as natural persons.

(4) The terms "hereby," "hereof," "hereto," "herein," "hereunder," and any similar terms, as used in this Series 2015 ESPC Resolution, refer to this Series 2015 ESPC Resolution.

Section 1.03. Authority for the Series 2015 ESPC Resolution. This Series 2015 ESPC Resolution is adopted pursuant to the provisions of the Act and the Resolution.

## **ARTICLE II**

### **AUTHORIZATION, TERMS AND OBTAINING OF SERIES 2015 ESPC LOANS**

Section 2.01. Authorization of Series 2015 ESPC Loans, Principal Amount, Designation and Title. One or more Loans (collectively, the "Series 2015 ESPC Loans") entitled to the benefit, protection and security of the Resolution is hereby authorized to be obtained from the Department of Health in an aggregate principal amount not to exceed \$35,000,000. The Series 2015 ESPC Loans may be initially obtained on different dates; provided that no Series 2015 ESPC Loan shall be obtained later than six years from the date of adoption of this Series 2015 ESPC Resolution. For purposes of this Series 2015 ESPC Resolution, a Series 2015 ESPC Loan is obtained when the Board signs an agreement to receive money from the Department of Health and the amount of the Series 2015 ESPC Loan is the actual amount that the Board receives.

Section 2.02. Purposes. The purposes for which the Series 2015 ESPC Loans are being issued are (1) to pay the Cost of Improvements constituting the Series 2015 ESPC Project; (2)

to make such deposit to the SRF Series Reserve Account in the SRF Revenue Fund as may be necessary in connection with obtaining the Series 2015 ESPC Loans; and (3) to pay the costs of obtaining of the Series 2015 ESPC Loans.

Section 2.03. Delegation of Authority. (1) There is hereby delegated to any Authorized Officer of the Board, subject to the limitations contained herein and in the Resolution and the Act, the power with respect to the Series 2015 ESPC Loans to determine and carry out the following:

- a) The terms and provisions of each Series 2015 ESPC Loan to be obtained from the Department of Health to finance the cost of one or more Improvements; *provided, however*, that all terms and provisions shall be in the best interest of the Board and shall carry out the purposes of the Board;
- b) The principal amount and designation and title of each Series 2015 ESPC Loan to be obtained; *provided, however*, that the principal amount of all Series 2015 ESPC Loans shall not exceed \$35,000,000 or, together with other bonds and loans of the Board, any applicable limit approved by the City Council to be issued or obtained by the Board;
- c) The specific Improvements constituting the Series 2015 ESPC Project to be financed from the proceeds of the Series 2015 ESPC Loans;
- d) The date or dates, maturity date or dates and principal amount of each maturity of each 2015 ESPC Loan;
- e) The interest rate or rates of each Series 2015 ESPC Loan, the date from which interest on such Series 2015 ESPC Loan shall accrue, the dates on which interest on such Series 2015 ESPC Loan shall be payable, if any; *provided, however*, that the true interest cost (as determined by an Authorized Officer of the Board, which determination shall be conclusive) on the Series 2015 ESPC Loans shall not exceed eight percent (8%) per annum;
- f) The Paying Agent or Paying Agents for the Series 2015 ESPC Loans and the place or places of payments of the principal, Sinking Fund Installments, if any, prepayment price of and interest on the Series 2015 ESPC Loans, if other than the Board;
- g) The prepayment prices, if any, and the prepayment terms, if any, for the Series 2015 ESPC Loans, *provided, however*, that the prepayment price of Series 2015 ESPC Loans at the election or direction of the Board shall not be greater than one hundred three percent (103%) of the principal amount of the Series 2015 ESPC Loans to be prepaid, plus accrued interest thereof to the prepayment date;

- h) Any provisions with respect to funds and accounts and subaccounts therein, if applicable, and the Revenues and application thereof, as provided in Article V of the Resolution;
- i) Whether a SRF Series Reserve Account shall be established for the Series 2015 ESPC Loans, and if so determined to be established, the amount of the SRF Series Reserve Account Requirement and the method of funding or providing for such SRF Series Reserve Account Requirement, and any provisions with respect to subaccounts therein, if applicable, and the Revenues and application thereof, as provided in Article V of the Resolution;
- j) Directions for the application of the proceeds of each Series 2015 ESPC Loan, including the interest on the Series 2015 ESPC Loans to be capitalized from the proceeds thereof, if any, and the date or dates to which such capitalized interest shall accrue; and
- k) Any other provisions deemed advisable by an Authorized Officer of the Board, not in conflict with the provisions hereof or of the Resolution.

(2) Such Authorized Officer shall set forth in the Series 2015 ESPC Loan Agreements the determinations or other actions taken pursuant to the authority granted herein or in the Resolution and any such Series 2015 ESPC Loan Agreements shall be conclusive evidence of the action or determination of such Authorized Officer as to the matters stated therein.

Section 2.04. Authority to Enter into Series 2015 ESPC Loan Agreements. Any Authorized Officer of the Board is hereby authorized to execute, and acknowledge and agree to, one or more Series 2015 ESPC Loan Agreements in the name and on behalf of the Board in substantially the form as presented at the meeting at which this Series 2015 ESPC Resolution is adopted, which form is hereby approved, with such changes, insertions and omissions as may be approved by such Authorized Officers, such execution and acknowledgement and agreement being conclusive evidence of such approval; provided that no Series 2015 ESPC Loan Agreement shall be entered into later than six years from the date of adoption of this Series 2015 ESPC Resolution.

Section 2.05. Execution of Documents. Any Authorized Officer of the Board is hereby authorized to execute and deliver, in the name and on behalf of the Board, any and all documents and instruments, and to do and cause to be done any and all acts and things, such Authorized Officer deems necessary or advisable in connection with obtaining the Series 2015 ESPC Loans from the Department of Health and to carry out the transactions contemplated by this Series 2015 ESPC Resolution.

## **ARTICLE III**

### **APPLICATION OF PROCEEDS**

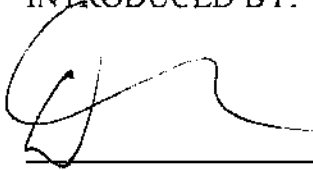
Section 3.01. Application of Proceeds. On the date of each Series 2015 ESPC Loan is obtained, the proceeds of such Series 2015 ESPC Loan shall be applied in accordance with the written direction of any Authorized Officer given pursuant to Section 2.03(1)(j) of this Series 2015 ESPC Resolution.

## **ARTICLE IV**

### **MISCELLANEOUS**

Section 4.01. Effectiveness. The Series 2015 ESPC Resolution shall become effective immediately upon its adoption.

INTRODUCED BY:



(BR)

DUANE R. MIYASHIRO, CHAIR

NOV 23 2015

DATE

ADOPTION OF STATE REVOLVING FUND WATER  
SYSTEM REVENUE LOAN SERIES 2015 ESPC  
RESOLUTION NO. 862, 2015, AUTHORIZING UP TO  
\$35,000,000 PRINCIPAL AMOUNT OF SERIES 2015  
ESPC LOANS WAS APPROVED ON NOVEMBER 23,  
2015

	AYE	NO	COMMENT
DUANE R. MIYASHIRO	X		
ADAM C. WONG			ABSENT
DAVID C. HULIHEE			ABSENT
KAPUA SPROAT			ABSENT
BRYAN P. ANDAYA	X		
ROSS S. SASAMURA	X		
FORD N. FUCHIGAMI	X		

APPROVED AS TO FORM AND LEGALITY THIS

11/17/15 :  
DATE

  
DEPUTY CORPORATION COUNSEL  
BOARD OF WATER SUPPLY



HECO-  
NEXTERA  
MERGER

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

Chair and Members:

Subject: Update on Board of Water Supply Involvement in the Public Utilities Commission's Docket No. 2015-0022 Related to the Application of Hawaiian Electric Company, Incorporated; Hawai'i Electric Light Company, Incorporated; Maui Electric Company, Limited; and NextEra Energy, Incorporated Proposed Change of Control

The Board of Water Supply (BWS) filed a Motion to Intervene on this docket on February 19, 2015 on the following basis:

1. BWS is one of Hawaiian Electric Company's (HECO) customers on Oahu and is heavily dependent on reliable electricity service to provide, on average, 145 million gallons of potable water to serve over one million people each day. Should the change in control be approved by the Public Utilities Commission, NextEra needs to provide reliable or improved service to our facilities.
2. Our concern about the effect on the viability of the energy savings performance contracting (ESPC) project we are currently considering and the impact that a change in control of the electric utility might have on the project.

Subsequent to filing of the Motion to Intervene, we have had extensive discussions with both HECO and NextEra over these and other concerns, such as the quality of electric service, emergency response planning, etc. This effort resulted in the execution of a formal Memorandum of Understanding (MOU) on October 30, 2015 between BWS, HECO, and NextEra. The MOU describes opportunities for improvement and collaboration between HECO and BWS that will continue, regardless of whether or not the Public Utilities Commission approves the proposed Change of Control.

In particular, the MOU covers the following areas:

1. Regularly Scheduled Executive and Staff Meetings  
Continue the quarterly meetings between our staff. It adds executive level meetings quarterly and an annual meeting between HECO's President and the BWS Manager and Chief Engineer.
2. Energy Efficiency/Renewable Energy Projects

- a. Demand Response Opportunities  
Explore the feasibility of developing a custom demand response program that is mutually beneficial to both utilities.
  - b. Distributed Energy Resources  
Work with BWS to support its installation of photovoltaic power (PV) generation at various BWS facilities through our ESPC project.
  - c. Gravity Fed Power Generation  
Explore the feasibility of implementing pumped storage hydropower and micro-hydropower.
  - d. Biogas Generation  
Collaborate with BWS to examine the feasibility of using biogas to generate energy should it become available at the City's Honouliuli Wastewater Treatment Plant.
  - e. Potential PV Facility in the Kalaeloa Area  
Explore the feasibility of locating a facility on five or more acres in the Kalaeloa area that is reserved for future desalination use, should it become necessary.
  - f. Electric Vehicle (EV) Charging Stations  
Explore opportunities to develop charging stations for fleet vehicles operated by BWS and HECO.
  - g. Hardening/Resiliency of BWS Stations  
Explore hardening of various transmission and/or distribution lines to critical BWS pumping facilities needed to respond to emergencies.
  - h. Smart Meter Collaboration  
Explore the potential for BWS use of HECO's proposed Advanced Metering Infrastructure (AMI).
- 3. Emergency Response Plan  
Review HECO's emergency response plans annually with BWS and the City Department of Emergency Management to improve coordination and collaboration of actions.
  - 4. Design Review and Construction Related Processes and Procedures  
Continue collaboration to improve the level of service provided to BWS for its design and construction projects. Also includes entering into a chemical use agreement with BWS on application of herbicides in watershed areas.
  - 5. Power Quality  
Improve the quality of power provided to 14 BWS pumping stations subject to Tariff No. 2.

The MOU between BWS and HECO addresses our original concerns that led to our original decision to file as an Intervenor for this Docket. Therefore, on November 2, 2015, we filed a Motion to Withdraw from this Docket at the Public Utilities Commission.

Respectfully submitted,

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

The foregoing was for information only.

DISCUSSION: Ernest Lau, Manager and Chief Engineer, gave the report. There were no comments or discussion.

ITEM FOR INFORMATION NO. 2

"November 23, 2015

RED HILL  
FINAL AOC  
MEETINGS

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

Chair and Members:

Subject: Red Hill Fuel Facility Final Administrative Order on Consent  
Scoping and Technical Meeting Confidentiality Agreement

Erwin Kawata, Water Quality Division Program Administrator, will present a brief overview of the April 2015 groundwater monitor well results.

The Board of Water Supply (BWS) also received and has been requested to sign the attached Non-Disclosure Agreement (NDA) in order to review documents that contain information determined by the Navy to be procurement, security or legally sensitive during technical meetings with the Navy and the Defense Logistics Agency (DLA) to discuss the work to be performed under the Administrative Order on Consent.

BWS invitation to the technical meetings was received on October 27, 2015 in a letter dated October 20, 2015 from the United States Environmental Protection Agency (EPA) and the State of Hawaii Department of Health (DOH), and is also attached for your reference. According to EPA, initial scoping meetings between EPA, DOH, the Navy, and the DLA were held on October 26 and 27, 2015, and BWS was not invited to these meetings. The next scheduled meetings that BWS has been invited to attend will be held during the week of November 30 – December 4, 2015.

Legal review of the NDA is underway, and we present this matter to keep the Board updated on matters related to Red Hill.

Respectfully submitted,

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

Attachments"

The foregoing was for information only.

DISCUSSION:

Erwin Kawata, Water Quality Program Administrator, gave the report. Following the presentation, Board Member Andaya asked when the next meeting with the Navy, DOH, and EPA will be held. Mr. Lau replied that it is scheduled for next Monday, November 30; however, BWS will not be attending since the NDA is still under legal review and hasn't been signed by

BWS yet. Once the NDA is agreeable to all parties and BWS signs it, then BWS will participate in the meetings. Mr. Andaya asked if there is a timeline for the NDA review. Mr. Lau replied that BWS is currently reviewing the first modified version done by Corporation Counsel. One concern BWS has is that the NDA differs for the different parties, DOH, EPA, and BWS. The other concern is what the confidentiality requirements will be for BWS consultants and whether or not the consultants will be comfortable with it. Mr. Andaya commented that he understands that the NDA is an important document, it is very broadly written, and has potential consequences on the BWS and BWS's obligations on what can and cannot be agreed on, however it is also important that BWS be present at the meetings in order to be effective advocates for their constituents. Mr. Lau stated the he understood, but feels that agreeing with the NDA document is also important and he may even bring it to the Board for discussion in an Executive Session. Mr. Andaya also stated that he hopes the Navy, DOH, and EPA know how strongly BWS feels about participating in the meetings, and the only reason why BWS will not be present is because of the non-settlement of the NDA.

Mr. Miyashiro referred to slide no. 11 and inquired about DOH setting 4,500 parts per billion (ppb) as the Environmental Action Limit and asked if the water is safe to drink at that limit. Mr. Kawata stated that 4,500 ppb is called the site specific risk based level, which means the groundwater at monitor well #2 needs to be at that number all the time for DOH to require corrective action like treatment of the groundwater or the particular drinking water well. DOH looked at potential areas that could be impacted by this particular contamination and put that into a groundwater model to come up with this number. Mr. Kawata replied that there's no threshold for this particular contaminant (total petroleum hydrocarbons) in drinking water, but if this was in the drinking water at these levels, BWS would not recommend drinking the water. Mr. Miyashiro asked how BWS would treat the water. Mr. Lau responded that treatment to remove petroleum could include aeration of the water followed by filtration through activated carbon. Mr. Lau added that the amount of treatment required would depend on the amount of contamination in the water. He stated that in the Navy's study of 2010, to install that kind of treatment system for their Red Hill pumping station, they estimated the cost to be between \$43 - \$51 million, and the annual operating cost was estimated to be between \$6 - \$7 million. Mr. Kawata added that the study was based on the 4,500 ppb number. Mr. Miyashiro noticed the spike in September 2008 and asked if something occurred during that time. Mr. Kawata replied BWS does not know what occurred.

**[Third Party Subject Matter Expert]**  
**CERTIFICATE OF NON-DISCLOSURE & CONFLICT OF INTEREST STATEMENT**  
**For Procurement Related Information and Documents Reviewed Under The Red Hill**  
**Administrative Order on Consent, EPA DKT NO. RCRA 7003-R9-2015-01,**  
**DOH DKT No. 15-UST-EA-01**

I have been invited to participate as a technical advisor or consultant on matters related to the Red Hill Administrative Order on Consent (AOC). These matters are expected to result in contracts for work involving a significant expenditure of public funds. Information and discussions related to these matters may also include details regarding infrastructure that is critical to national defense, which, if disclosed, could adversely affect national interests.

As a technical advisor or consultant, I understand that I will become aware of information that is normally restricted to Government employees. Government employees are obligated under Federal law to avoid conflicts of interest and to not disclose information that would give anyone an unfair advantage in competing for future government contracts. Government employees are also obligated not to disclose critical infrastructure information. My signature on this document ensures that I will comply with the same standards required of Government employees with respect to non-disclosure of information and conflicts of interest.

The information and discussions to which I may have access can include, but are not limited to: technical approaches, trade secrets, critical infrastructure information, government cost estimates, or "Source Selection Information" and "Contractor Bid and Proposal Information" as those terms are defined in Sections 2.101 and 3.104 of the Federal Acquisition Regulations. I understand that such information may be exempt from public disclosure under the Freedom of Information Act, Procurement Integrity Act, and/or Section 10.d. of the AOC. I further understand that if I improperly release information I may be subject to civil and criminal penalties under Federal law (e.g., 41 USC 2105).

I agree not to disclose such information to any outside individuals or entities without the express, written consent of the Project Coordinators designated under Section 6 of the AOC. If documents containing such information are made available to me, I recognize that those documents shall remain the property of the Parties to the AOC, and I agree to return any and all copies upon request or upon the termination of my role as a technical advisor or consultant, whichever occurs first.

I have reviewed my financial interests, and the interests of my spouse and minor children, and, to the best of my knowledge, those interests are not likely to create a real or apparent conflict of interest with my participation in any acquisition related to the AOC. In the event that a real or apparent conflict of interest arises, I will immediately notify the designated AOC Project Coordinators and the Contracting Officer for the acquisition. I further acknowledge that an actual or apparent conflict of interest could result in my disqualification or removal from any further participation as a technical advisor or consultant for matters related to the AOC.

**Name & Organization Printed:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

RECEIVED  
BOARD OF WATER SUPPLY  
2015 OCT 20



UNITED STATES ENVIRONMENTAL  
PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P.O. BOX 3378  
HONOLULU, HI 96801-3378

October 20, 2015

Mr. Ernest Y. W. Lau, P.E.  
Manager and Chief Engineer  
Board of Water Supply  
City and County of Honolulu  
630 South Beretania Street  
Honolulu, Hawaii 96843

Dear Mr. Lau:

As you are aware, U.S. Navy ("Navy") and Defense Logistics Agency ("DLA") entered into an Administrative Order on Consent ("AOC") for the Red Hill Bulk Fuel Storage Facility ("Facility") with U.S. Environmental Protection Agency ("EPA") and Hawaii Department of Health ("DOH") on September 28, 2015. Navy, DLA, EPA and DOH are collectively the "Parties" to the AOC. Navy and DLA are starting some of the important work described in the AOC, and the Parties will be seeking the technical advice of subject matter experts, such as the Honolulu Board of Water Supply ("BWS") for the scoping and review of key deliverables. Section 1.1 of Attachment A, *Statement of Work* of the AOC specifically recognizes BWS as a subject matter expert.

In order to fulfill the AOC commitment to involve subject matter experts, EPA and DOH ("the Regulatory Agencies") on behalf of the Parties will invite BWS representatives to technical meetings with Navy and DLA to discuss the work to be performed under the AOC. The Regulatory Agencies intend to provide BWS written notification via electronic mail at least 14 calendar days in advance of these scheduled technical meetings. We will make a good faith effort to avoid scheduling conflicts with BWS representatives.

The Parties will provide BWS with Navy and DLA technical reports and documents for review and comment. BWS representatives will also be provided sufficient time to thoughtfully review these deliverables. The Parties will carefully consider the input and comments of subject matter experts, such as BWS, as the important work under the AOC proceeds.

Navy and DLA may require your representatives to enter into a confidentiality agreement in order to review those documents that include information that is procurement sensitive or a security concern or a legally privileged disclosure. The Parties will be responsible for providing


documents to the public and we request that you not share documents beyond your designated representatives until documents are posted for the public. Similarly, the content of discussions during AOC technical meetings should only be shared with your designated representatives.

Please provide us with the appropriate BWS contact for receiving AOC documents and meeting notifications by November 6, 2015, along with a list of individuals who will serve as BWS representatives and their relevant expertise. We appreciate BWS's continued interest in the AOC and look forward to working with BWS to ensure that the Facility is operated in an environmentally protective manner that safeguards Honolulu's vital drinking water resources. Should you have any questions or comments on this arrangement, feel free to contact either of us (Bob Pallarino at 415-947-4128 or Steven Chang at 808-586-4226).

Sincerely



Bob Pallarino  
Red Hill AOC Project Coordinator  
EPA Region 9



Steven Chang  
Red Hill AOC Project Coordinator  
Hawaii Department of Health

cc: Jimmy Miyamoto, U.S. Navy  
Wade Hargrove III, Department of the Attorney General



**WATER FOR LIFE**

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

## **Waimalu – Moanalua Aquifer Update**

### **Red Hill Bulk Fuel Storage Facility**

**Board Meeting**  
**November 23, 2015**





## Today's Discussion

- Terms used when discussing Red Hill
- Red Hill monitor well results as of April 2015
- Red Hill AOC non-disclosure agreement (NDA)





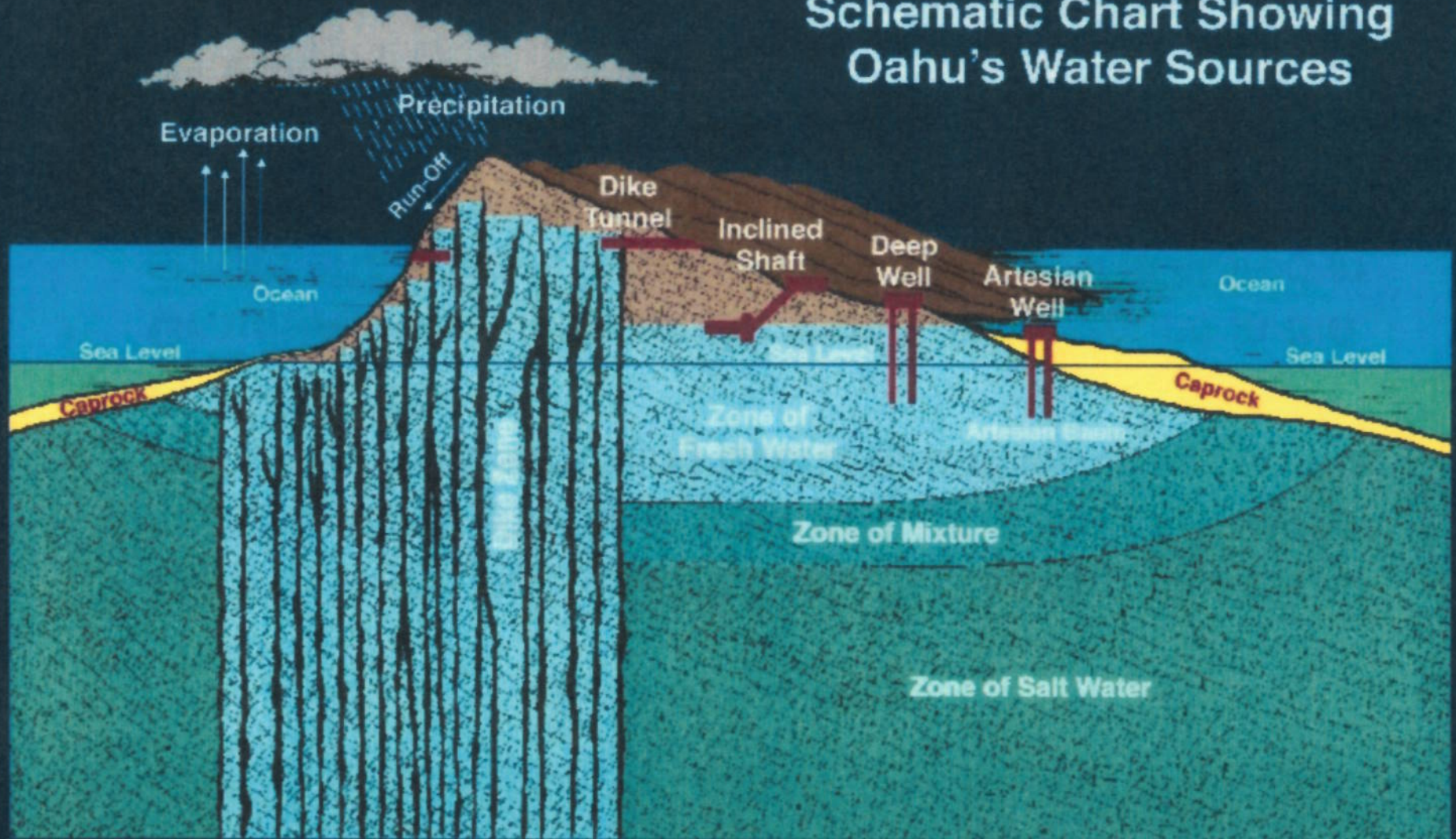
## Definitions

- **Aquifer** – An underground body of porous materials, such as sand, gravel, or fractured rock, filled with water and capable of supplying useful quantities of water to a well or spring.
- **Groundwater** – Is the water found underground in the cracks and spaces in soil, sand and rock. It is stored in and moves through geologic formations called aquifers.
- **Drinking water well** – provides drinking water for people.
- **Monitor well** – A well designed and installed to obtain representative groundwater quality samples and hydrogeologic information.



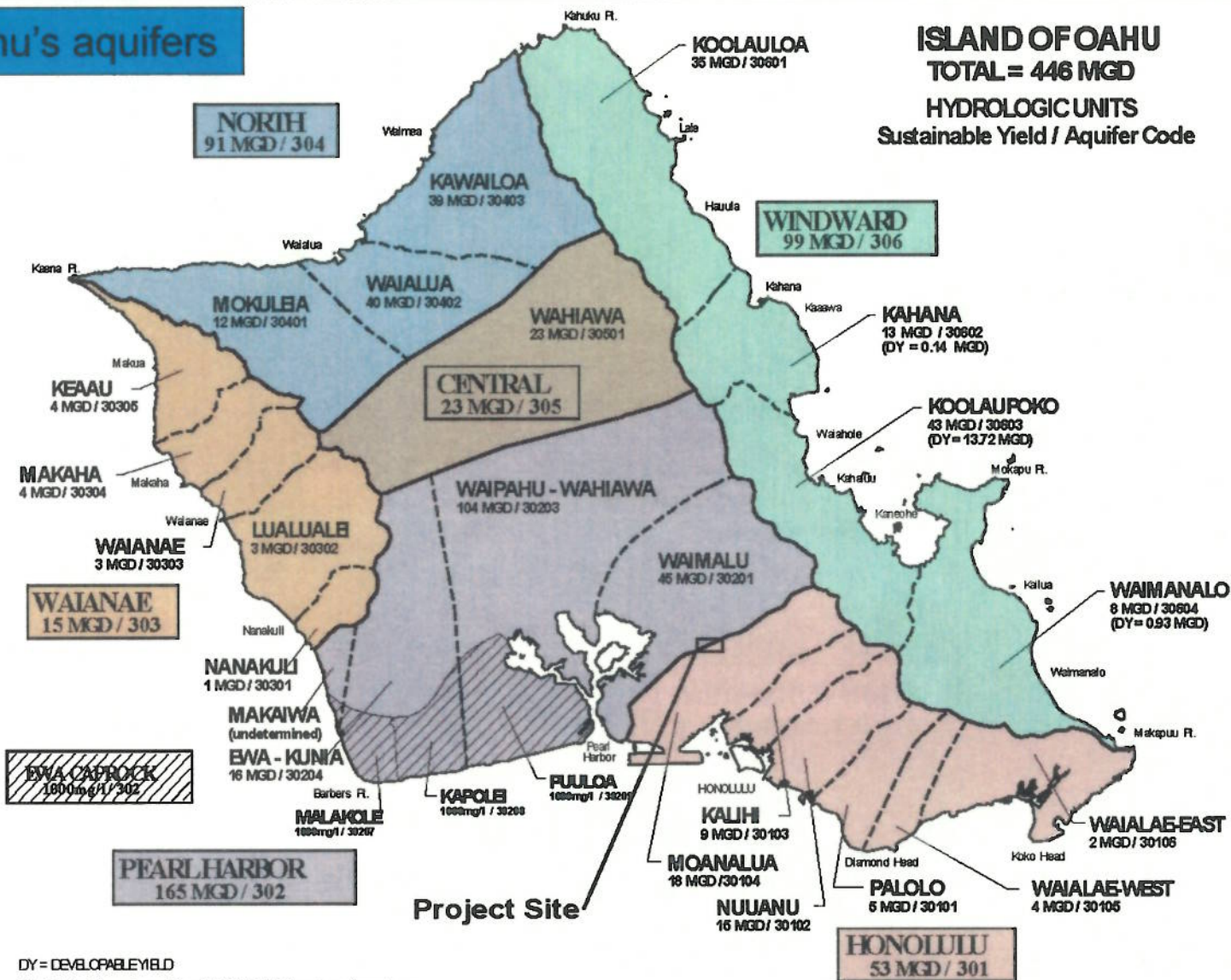


## Schematic Chart Showing Oahu's Water Sources





# Oahu's aquifers



03/31/2000 (Modified from USGS 2003)

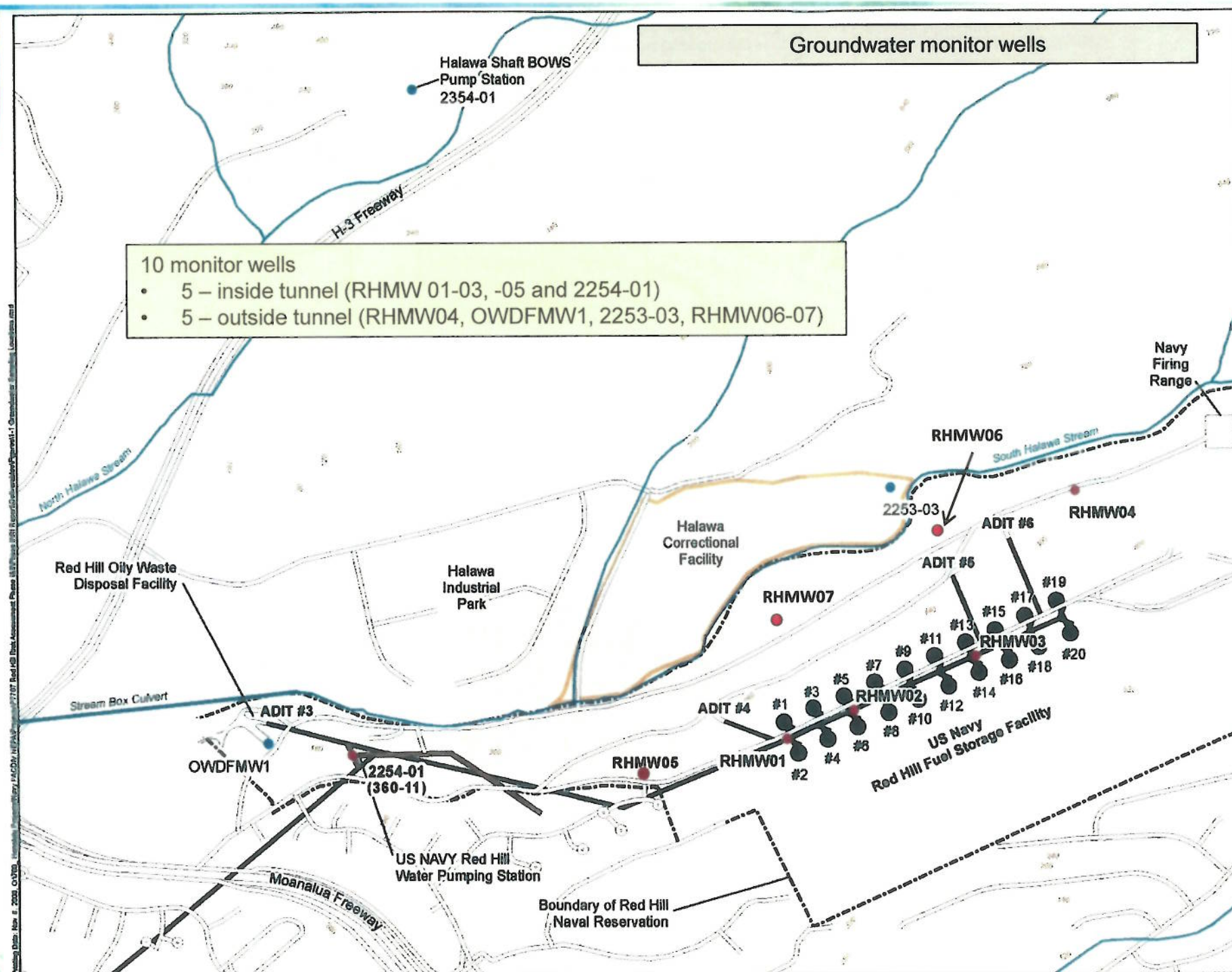
**Figure 1-7**  
Regional Hydrologic Units and Sustainable Yields  
Red Hill Fuel Storage Facility  
Oahu, Hawaii















GW underneath Red Hill sampled April 20-23, 2015

Halawa Shaft BOWS  
Pump Station  
2354-01

CWRM 2253-03  
13 ppb TPH diesel  
55 ppb TPH oil  
<0.005 ppb Naphthalene  
0.078 ppb Lead

RHWMW04  
25 ppb TPH oil  
0.006 ppb Fluorene  
0.0069 ppb Phenanthrene  
0.006 ppb dissolved lead

RHWMW06  
20 ppb TPH diesel  
47 ppb TPH oil  
0.006 ppb dissolved lead

OWDFMW01  
120 ppb TPH diesel  
140 ppb TPH oil  
0.020 ppb 1-methylnaphthalene  
0.015 ppb 2-methylnaphthalene  
0.023 ppb Naphthalene  
25 ppb Acetone  
0.038 ppb dissolved lead

RHWMW07  
26 ppb TPH diesel  
47 ppb TPH oil  
0.0042 ppb Fluorene  
0.0072 ppb Phenanthrene  
0.006 ppb dissolved lead

Red Hill Oily Waste  
Disposal Facility

Halawa  
Industrial  
Park

Halawa  
Correctional  
Facility

Navy  
Firing  
Range

RHWMW06

2253-03

ADIT #6

RHWMW04

1000 FT

#19  
#17  
#15  
#13  
#11  
#9  
#7  
#5  
#3  
#1

#20  
#18  
#16  
#14  
#12  
#10  
#8  
#6  
#4  
#2

US Navy  
Red Hill Fuel Storage Facility

Stream Box Culvert

ADIT #3

OWDFMW01

2254-01  
(360-11)

US NAVY Red Hill  
Water Pumping Station

Moanalua Freeway

Boundary of Red Hill  
Naval Reservation

RHWMW05

RHWMW01

RHWMW02

RHWMW03

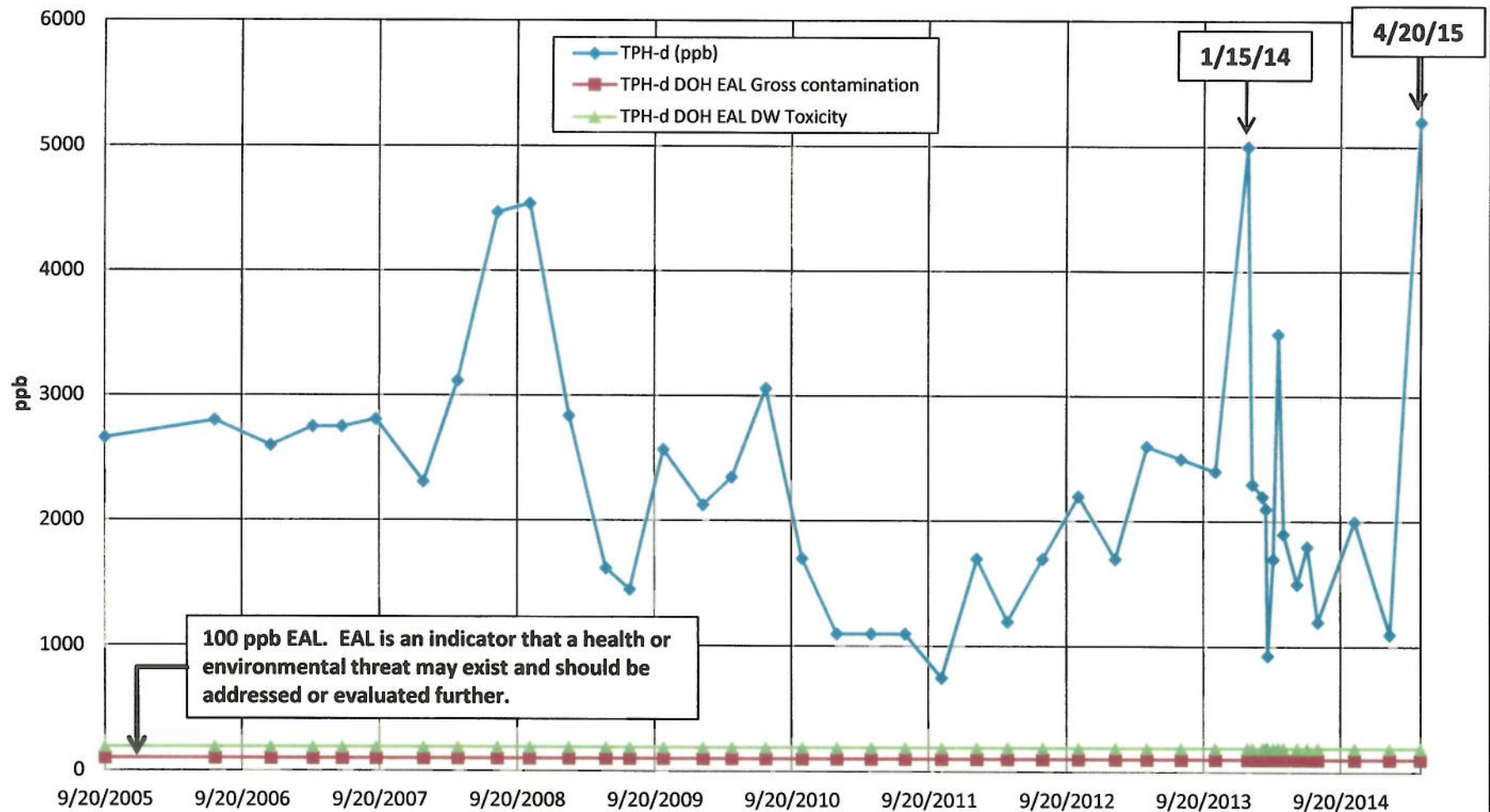
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Board of Water Supply  
City and County of Honolulu

RHMW02 as of April 2015





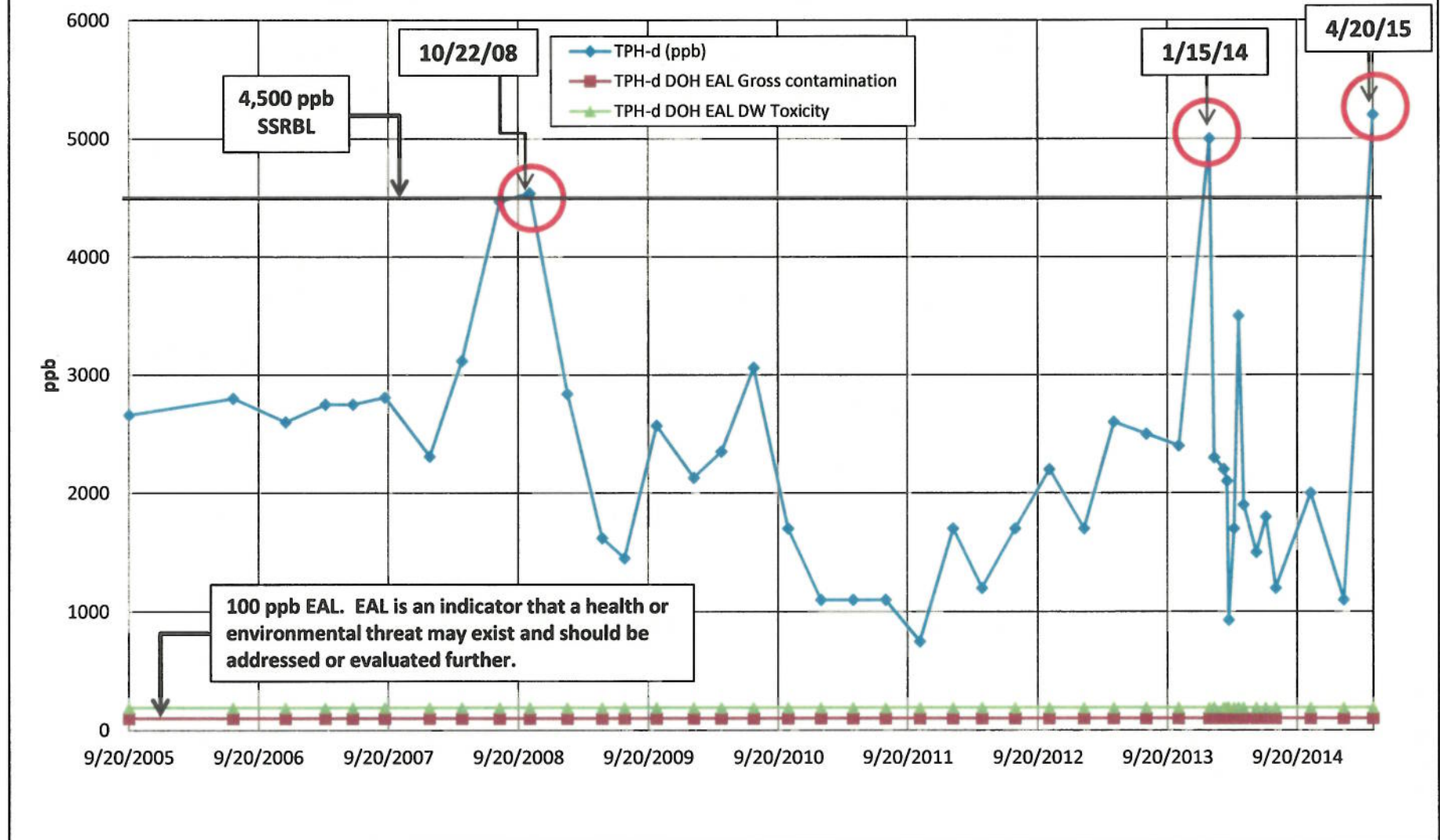
# WATER FOR LIFE

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



Board of Water Supply  
City and County of Honolulu

RHMW02 as of April 2015





## EALs and SSRBLs

- Environmental Action Levels (EALs)
  - EAL is an indicator that a health or environmental threat may exist and should be addressed or evaluated further.
- Site Specific Risk Based Level (SSRBL)
  - Site specific clean up level determined from evaluating the risks to health and/or environmental receptors using groundwater models and tests.
- For Red Hill
  - SSRBL set at 4,500 ppb TPH-d at RHMW01, RHMW02 and RHMW03 with coincides with solubility limits of TPH-d in water is 4.5 mg/L
  - The Groundwater action levels at Red Hill Shaft are the HDOH drinking water EALs.





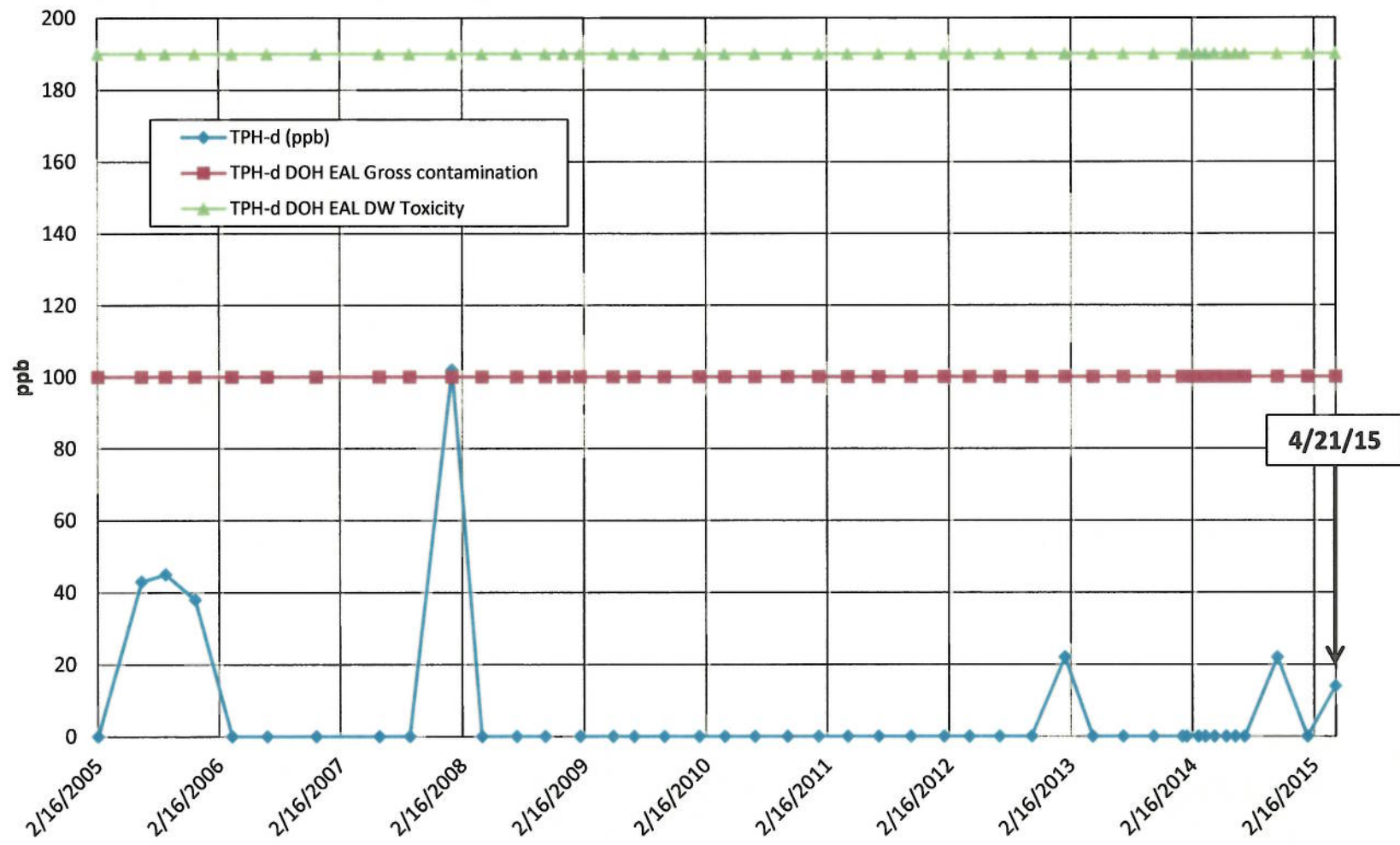
# WATER FOR LIFE

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Board of Water Supply  
City and County of Honolulu

**Navy Red Hill Shaft results 2005 - 2015**





## Red Hill AOC NDA

- Administrative Order on Consent (AOC) non-disclosure agreement (NDA)
- Confidential
  - Procurement, cost estimate documents reviewed under the Red Hill AOC
  - Technical approaches
  - Trade secrets
  - Critical infrastructure information
- NDA is broadly written
- Corp. Counsel and BWS special legal counsel working with Navy to develop NDA acceptable to BWS



# WATER FOR LIFE

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Board of Water Supply  
City and County of Honolulu

## Discussion / Questions



ITEM FOR INFORMATION NO. 3

QUARTERLY CAPITAL IMPROVEMENT PROGRAM STATUS REPORT  
ALL DIVISIONS

Quarter Awarded	JUL - SEP		OCT - DEC		JAN - MAR		APR - JUN		Awarded to Date	Total Budgeted
Design Contracts Awarded (#/\$)	0	\$0.00		\$0.00		\$0.00		\$0.00	\$0.00	\$17,805,000.00
Construction Contracts Awarded (#/\$)	0	\$0.00		\$0.00		\$0.00		\$0.00	\$0.00	\$51,875,000.00
Project Totals	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	\$0.00	\$69,680,000.00

Quarter Completed	JUL - SEP		OCT - DEC		JAN - MAR		APR - JUN		Totals
Design Contracts Completed (#/\$)	3	\$748,430.04		\$0.00		\$0.00		\$0.00	\$0.00
Construction Contracts Completed (#/\$)	1	\$684,648.68		\$0.00		\$0.00		\$0.00	\$0.00
Totals	4	\$1,433,078.72	0	\$0.00	0	\$0.00	0	\$0.00	\$0.00

Ongoing Projects	
Ongoing Design Projects (#)	189
Ongoing Design Projects (\$)	\$66,862,973.05
Ongoing Construction Projects (#)	103
Ongoing Construction Projects (\$)	\$225,613,915.86



CAPITAL IMPROVEMENT PROGRAM QUARTERLY UPDATE  
ALL DIVISIONS

**DESIGN AND CONSTRUCTION PROJECTS COMPLETED - FIRST QUARTER FY 2016**

<b>Job #</b>	<b>Project Title</b>	<b>Completion Date</b>	<b>Contract Amount</b>
05-047G	Woodlawn 705 Reservoir Repair	8/3/2015	\$684,648.68
2002-039	Kona Street 8-Inch Main	8/5/2015	\$449,058.00
2014-040	Pipe Tunnels Assessment Study: Keanu Tunnel, Fort Ruger Tunnel, Makapuu Tunnel, Quarry Tunnel and Moanalua Tunnel	7/7/2015	\$236,544.84
2014-056H	Microsoft Access Database Design	9/11/2015	\$62,827.20
	<b>1st Quarter totals</b>		<b>\$1,433,078.72</b>

DISCUSSION:

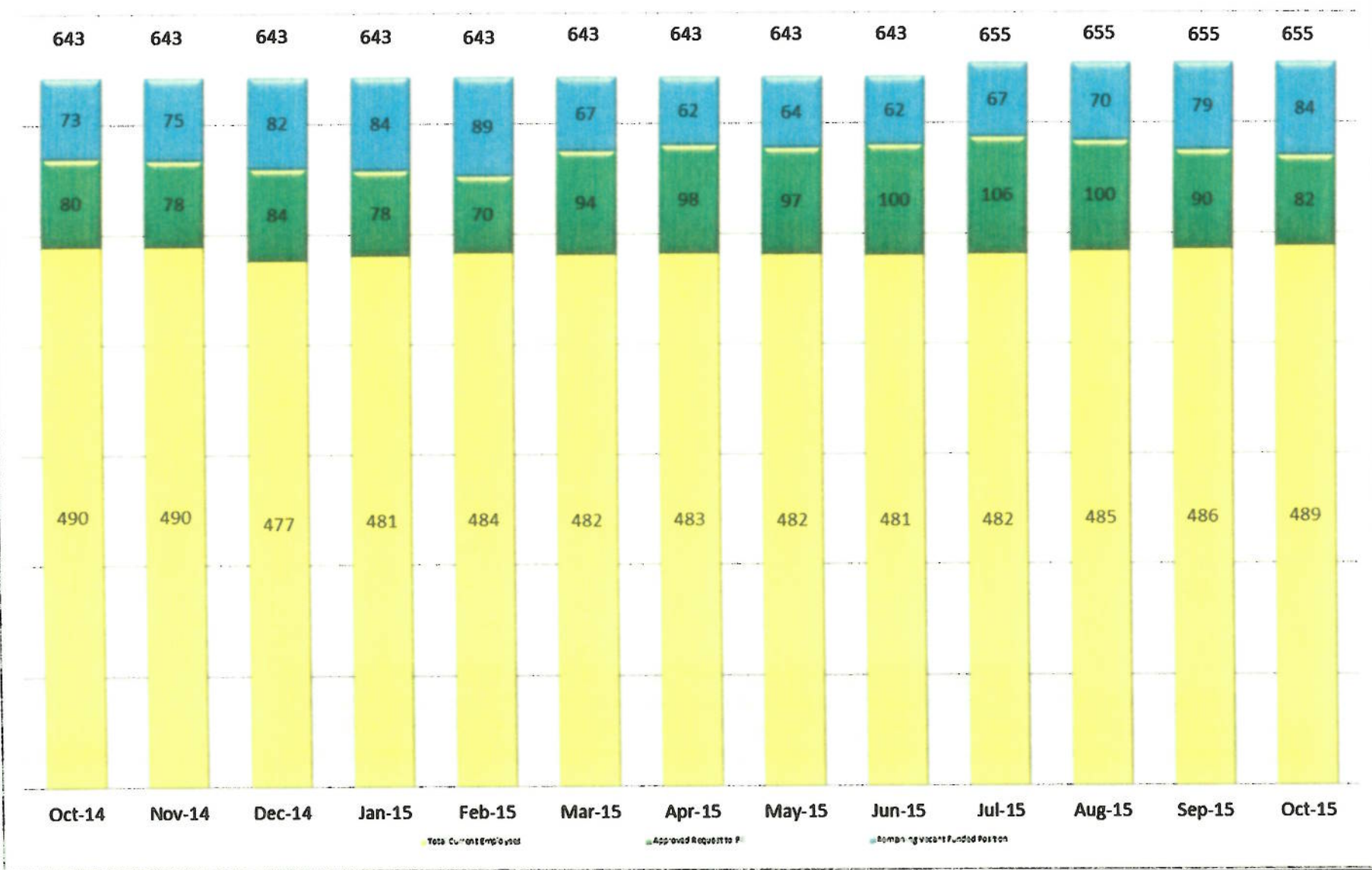
Jason Takaki, Program Administrator of the Capital Projects Division, gave the report. No awards were recorded by any of the divisions in the first quarter. Mr. Miyashiro asked how the numbers are looking in November. Mr. Takaki reported that for the Capital Projects Division, awards have already been recorded and one is on his desk. Mr. Lau added that he just signed one today.

**ITEM FOR INFORMATION NO. 4**

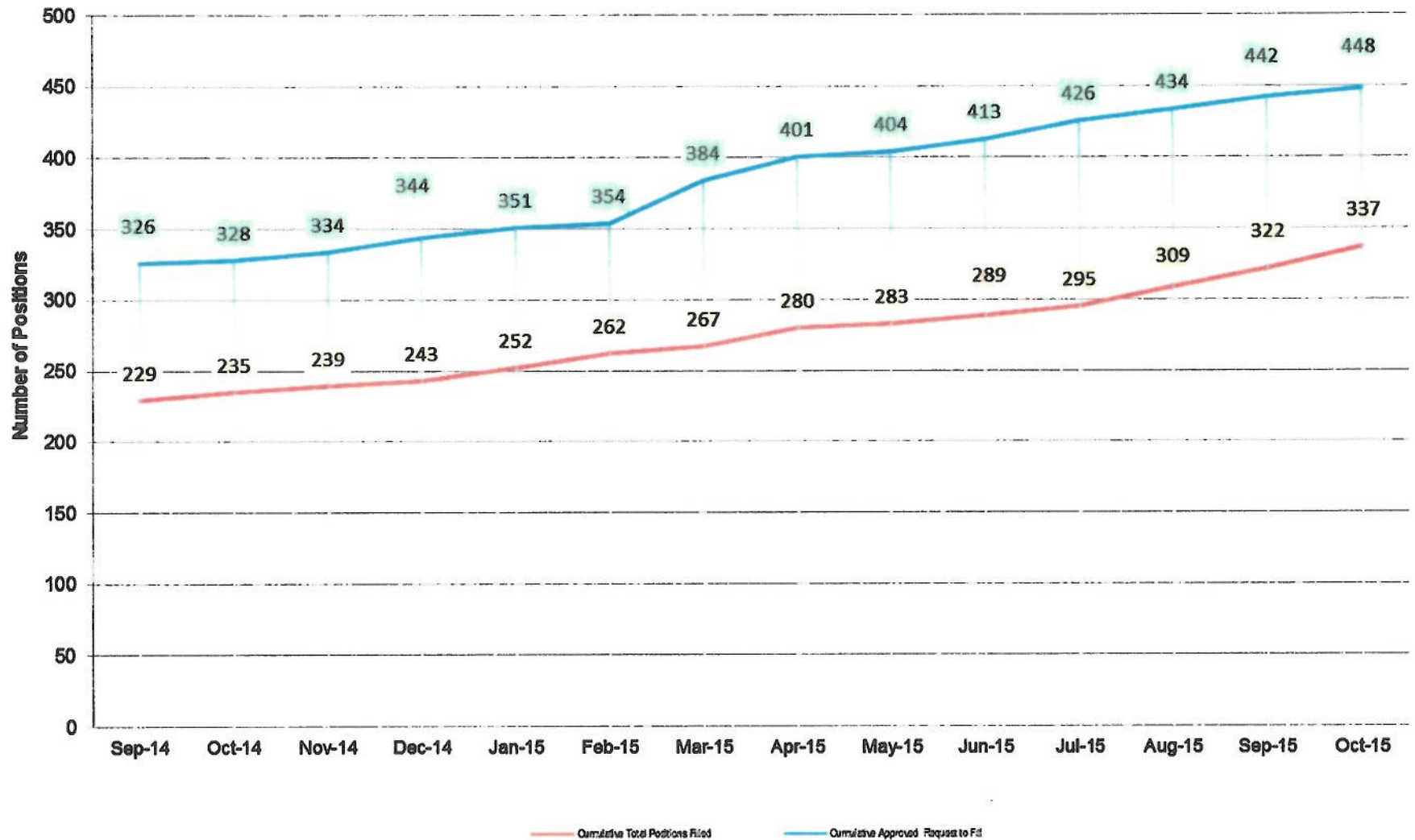
For the Quarter August 15 – October 15:

Actions: 23 New Hires, 9 Promotions, 8 Transfers, 2 Demotions, 16 Separations, 23 New Approvals to Fill, 5 Cancelled Requests

**Positions Filled  
October 1, 2014 through October 31, 2015**



## Cumulative Totals October 1, 2014 through October 31, 2015





DISCUSSION:

Karen Tom of the Human Resources Office gave the report. There were no comments or discussion.

ITEM FOR INFORMATION NO. 5

"November 23, 2015

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 are two aquifer index wells within low groundwater status for the production week that ended on October 31, 2015. Kaimuki and Punaiuu are under Caution status. The weekly production average for the period was 142.83 million gallons per day.

The Board of Water Supply rainfall index for the month of October 2015 was 149 percent of normal, with a 5-month moving average of 162 percent. As of November 10, 2015, the Hawaii Drought Monitor shows abnormally dry conditions for western Oahu.

Per the National Weather Service, there is no prediction of either above or below normal rainfall for November 2015. Climate models indicate El Niño conditions may continue through the winter season, yielding possible below-normal rainfall from December 2015 through April 2016.

Most index monitor wells exhibit slightly increasing or static trends due to the increased rainfall from the months of August through October 2015.

Respectfully submitted,

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

Attachments"

The foregoing was for information only.

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

# PUMPAGE, HEAD, AND RAINFALL REPORT

Week of 10/25/15 to 10/31/15

STATION		HEAD	STATION	MGD	HEAD	STATION	MGD	HEAD		MGD	HEAD
METRO			WINDWARD			EWA-WAIAANAE (CONT)			PH (CONT)		
KULIQUOU	0.00					MAKAHA IV	0.00		PEARL CITY II	0.97	
WAILUPE	0.00		WAIMANALO II	0.27		MAKAHA V	0.00		PEARL CITY III	0.48	
WAIALAE-IKI	0.00		WAIMANALO III	0.37		MAKAHA VI	0.00		WAIU	0.65	
AINA KOA	0.48		KUOU I	0.00		MAKAHA SHAFT	0.00	nodata	NEWTOWN	2.17	
AINA KOA II	0.91		KUOU II	0.11		KAMAILE	0.38		KAONOHI I	0.79	
WAIALAE SHAFT	0.00		KUOU III	0.41		WAIAANAE I	0.34		WAIMALU I	0.46	
MANOA II	0.00		LULUKU	1.01		WAIAANAE II	0.63		AIEA	0.23	
PALOLO	1.01		HAIKU	0.35		WAIAANAE III	0.63		AIEA GULCH 497	0.46	
KAIMUKI HIGH	2.44	22.79	IOLEKAA	0.00		MAKAKILO	0.30		AIEA GULCH 550	0.22	
KAIMUKI LOW	3.13		KAHALUU	0.92		HONOULIULI I	4.31		HALAWA 277	1.99	
WILDER	7.37		WAIHEE	0.00		HONOULIULI II	5.98		HALAWA 550	0.00	
BERETANIA HIGH	4.82	22.24	KAHANA	0.80		SUBTOTAL:	14.43		KAAHUMANU MTR (-)	0.00	
BERETANIA LOW	2.19		PUNALUU I	0.00	17.00	IMPORT FROM PH			KAAMILO FLO MTR (-)	0.00	
KALIHI HIGH	0.00	21.97	PUNALUU II	3.77		KAPOLEI LINE BSTR	15.81		KUNIA I	5.02	18.13
KALIHI LOW	0.00		PUNALUU III	1.52		HONOULIULI LB FLOW	0.00		KUNIA II	1.99	
KAPALAMA	1.46		KALUANUI	1.31		EWA BEACH FLOW	0.00		KUNIA III	1.33	
KALIHI SHAFT	8.38		MAAKUA	0.27		HONOULIULI I (-)	-4.31		HOAEAE	6.77	
MOANALUA	2.55	18.58	HAUULA	0.00		HONOULIULI II (-)	-5.98		EWA SHAFT	0.00	
SUBTOTAL:	34.74					SUBTOTAL:	5.52		WAIPAHU INTCON. (-)	-3.04	
			KAHUKU	0.27					EWA-WAIAANAE (-)	-5.52	
IMPORT FROM PH			OPANA	1.03		PEARL HARBOR			PH LOCAL USE:	36.69	
HALAWA SHAFT	8.58	16.02	WAIALEE I	0.00		WAIHAWA	1.97		TOTAL SUBURBAN:	71.22	
KAAMILO	0.00		WAIALEE II	0.00		WAIHAWA II	1.66				
KALAUAO	9.08	16.44	SUNSET BEACH	0.00		MILILANI I	3.13		KALAUAO SPRINGS	0.65	
PUNANANI	10.83		SUBTOTAL:	12.51		MILILANI II	0.00		BARBERS POINT (NP)	1.35	
KAONOHI II	0.00					MILILANI III	0.77		GLOVER TUNNEL (NP)	0.49	
WAIMALU II	0.00	14.56	WIND. EXPORT	0.14		MILILANI IV	1.32				
KAAHUMANU	1.01					WAIPIO HTS.	0.29		HEAD CONDITION		
HECO WAIU	0.00		HALEIWA-WAIALUA			WAIPIO HTS. I	0.13		CAUTION	ALERT	CRITICAL
MANANA	0.49		HALEIWA	0.00		WAIPIO HTS. II	0.42		KAIMUKI		
KAAHUMANU FLOW MT	0.00		WAIALUA	2.21		WAIPIO HTS. III	1.29		PUNALUU		
KAAMILO FLOW MTR	0.00		SUBTOTAL:	2.21		WAIPAHU	3.04	17.81			
TOTAL IMPEXP WAI. INT:	0.00					WAIPAHU II	1.09				
IMPORT FRM WIND:	0.14		EWA-WAIAANAE			WAIPAHU III	1.49				
SUBTOTAL:	30.13		MAKAHA I	0.89		WAIPAHU IV	3.38				
			MAKAHA II	0.43		PEARL CITY SHAFT	1.18	14.28			
TOTAL METRO:	64.87		MAKAHA III	0.54		PEARL CITY I	0.56				

CWRM PERMITTED USE FOR BWS POTABLE SOURCES						PUMPAGE	2015	2014	GRAVITY	2015	2014
	A	B	C	D	E	SUBURB.	71.22	59.80	SUBURB.	6.34	7.18
WATER DISTRICTS	PERMITTED USE	2015	DIFF. B-A	YEAR/ DATE	DIFF. D-A	METRO	64.87	63.59	METRO	0.40	0.31
HONOLULU	45.27	35.14	-10.13			TOTAL:	136.09	123.39	TOTAL:	6.74	7.49
WINDWARD	25.21	15.99	-9.22						Manoa	0.17	
NORTH SHORE	4.08	3.51	-0.57			NUUANU #5 (rainfall)	0.92"	2.79"	Palolo	0.23	
WAIHAWA	4.27	3.63	-0.64						Waim. I&II	0.08	
WAIAANAE	4.34	4.86	0.52						Waim. III&IV	0.19	
EWA-KUNIA	15.88	10.59	-5.29						Waihee incl.	0.96	
PEARL HARBOR	92.66	71.61	-21.05						Waihee tun.	0.00	
TOTAL:	191.71	145.33	-46.38						Luluku	0.06	
									Haiku	1.60	
									Kahaluu	1.89	
									Wais. C&C	1.40	
									Waia plant.	0.16	

DROUGHT STATUS REPORT  
DRAFT IN MGD

WATER USE DISTRICT	AUTHORIZED USE		10/25-10/31 2015						
HONOLULU	45.27		35.28						
WINDWARD	25.21		15.85						
NORTH SHORE	4.08		3.51						
WAHIAWA	4.27		3.63						
EWA-WAIAANAE	20.22		21.51						
PEARL HARBOR	92.66		63.05						
TOTAL	191.71		142.83						

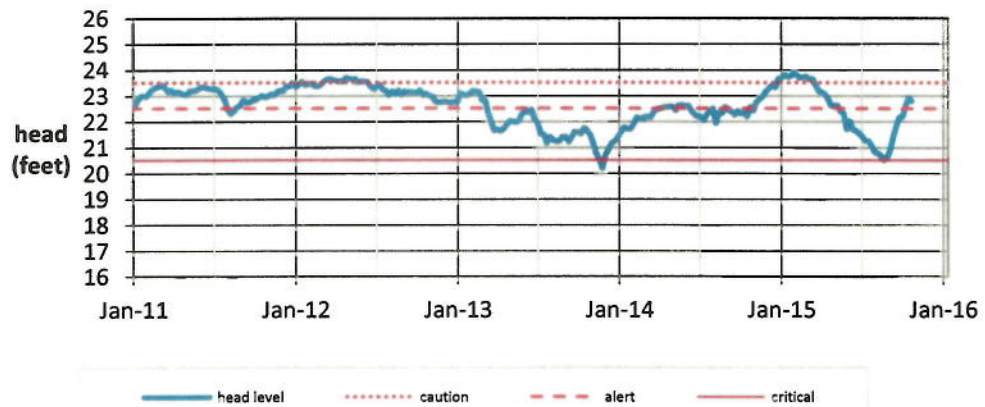
Accounts for in-district pumpage and transfers

HEAD IN FEET

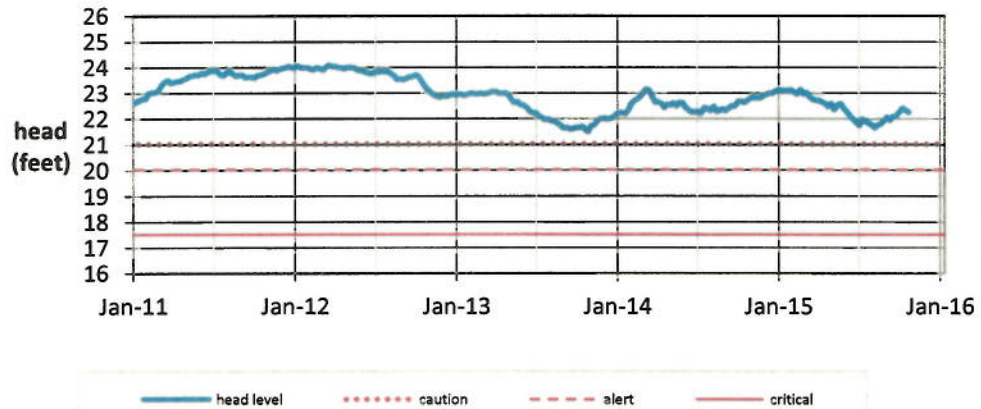
		2014	10/04-10/10 2015	2014	10/11-10/17 2015	2014	10/18-10/24 2015	2014	10/25-10/31 2015
HONOLULU									
KAIMUKI		22.30	22.20	22.33	22.59	22.20	22.91	22.56	22.79
BERETANIA		22.66	22.26	22.66	22.39	22.61	22.31	22.70	22.24
KALIHI		21.92	21.94	21.97	22.01	22.08	21.97	22.13	21.97
MOANALUA		18.81	18.65	18.92	18.57	19.05	18.53	19.14	18.58
PEARL HARBOR									
HALAWA		16.28	16.07	16.37	15.97	16.63	15.94	16.69	16.02
KALAUAO		16.92	16.54	16.96	16.41	17.13	16.38	17.22	16.44
PEARL CITY		14.66	14.31	14.73	14.23	14.91	14.24	14.89	14.28
WAIPAHU		18.32	17.88	18.34	17.80	18.59	17.78	18.63	17.81
KUNIA		18.64	18.21	18.66	18.13	18.97	18.08	18.93	18.13
EWA-WAIAANAE									
MAKAHA		12.80	NO DATA	12.70	NO DATA	12.65	NO DATA	12.60	NO DATA
WINDWARD									
PUNALUU		17.57	16.78	17.71	16.86	17.64	17.02	17.96	17.00
KALUANUI		17.20	17.08	17.58	16.98	17.63	17.38	18.17	17.31
NORTH SHORE									
WAIALUA		11.30	11.26	11.29	11.20	11.35	11.09	11.23	11.16



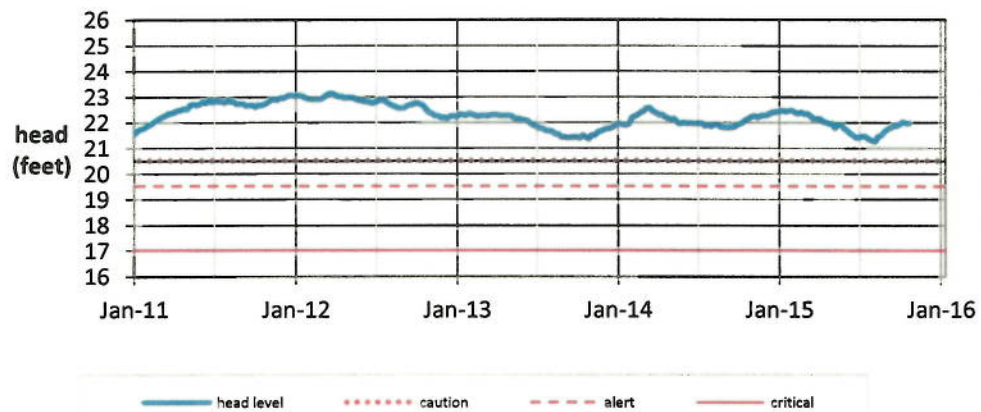
### Kaimuki



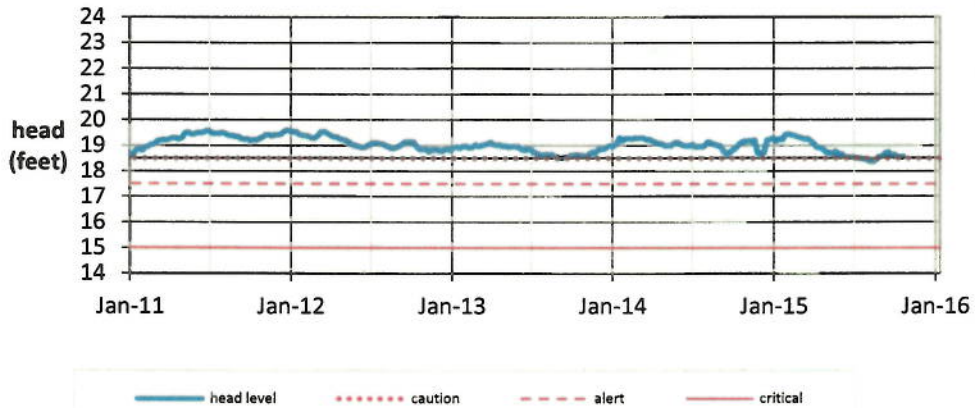
### Beretania



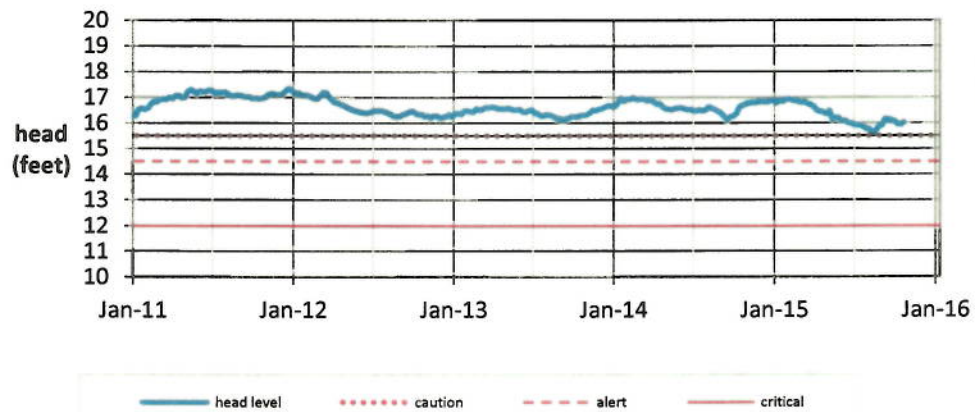
### Kalihi



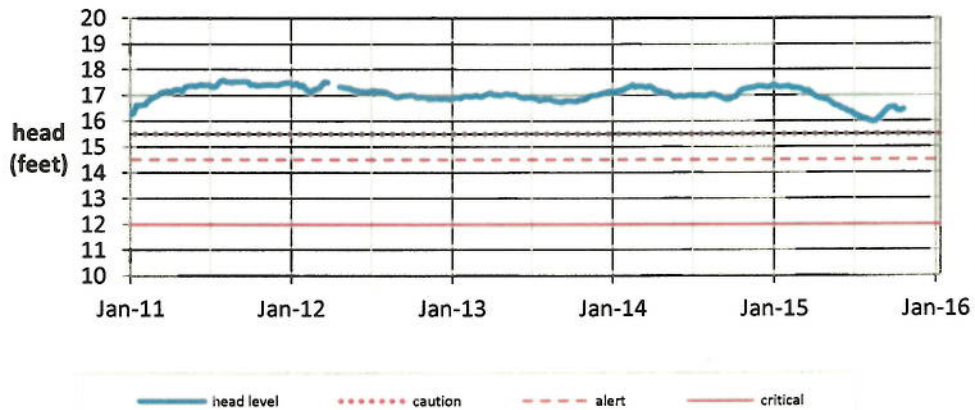
### Moanalua



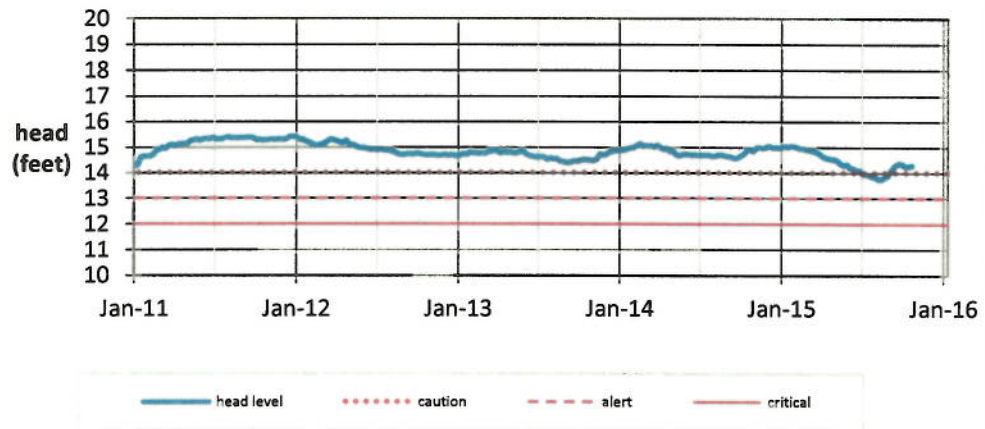
### Halawa



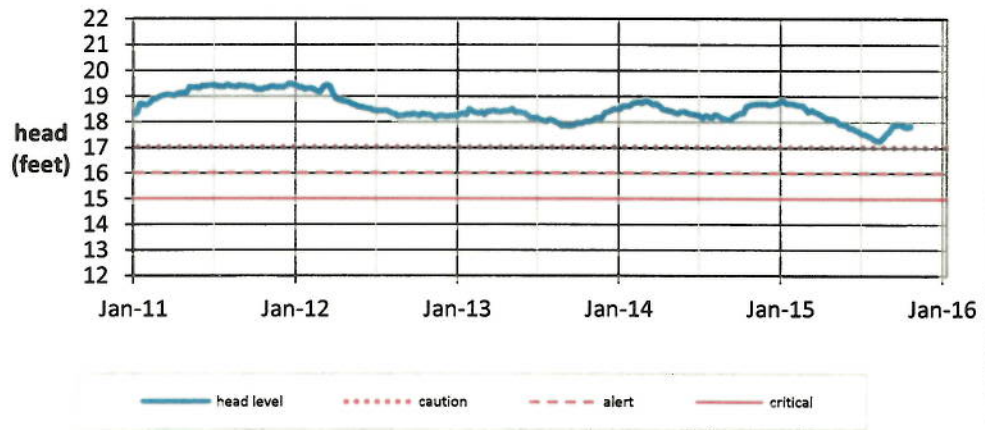
### Kalauao



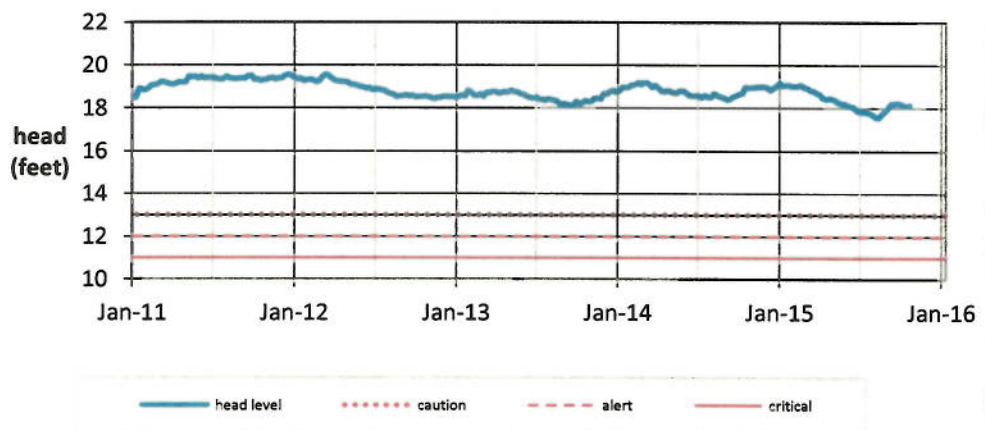
### Pearl City



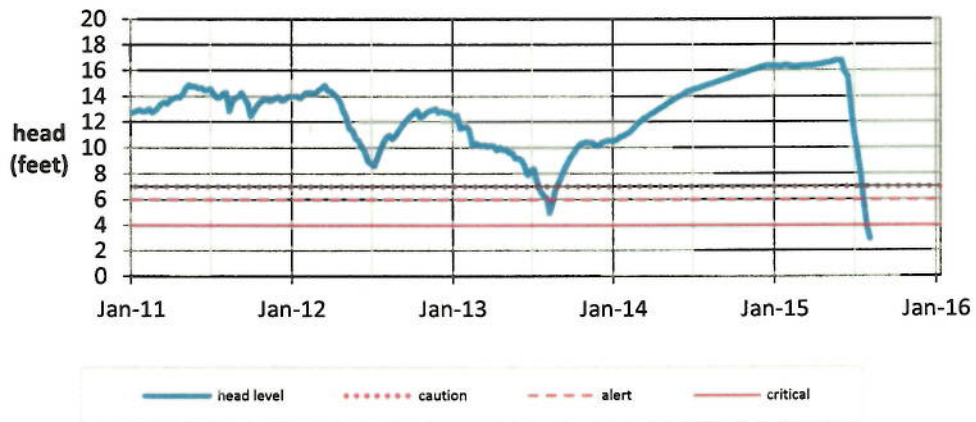
### Waipahu



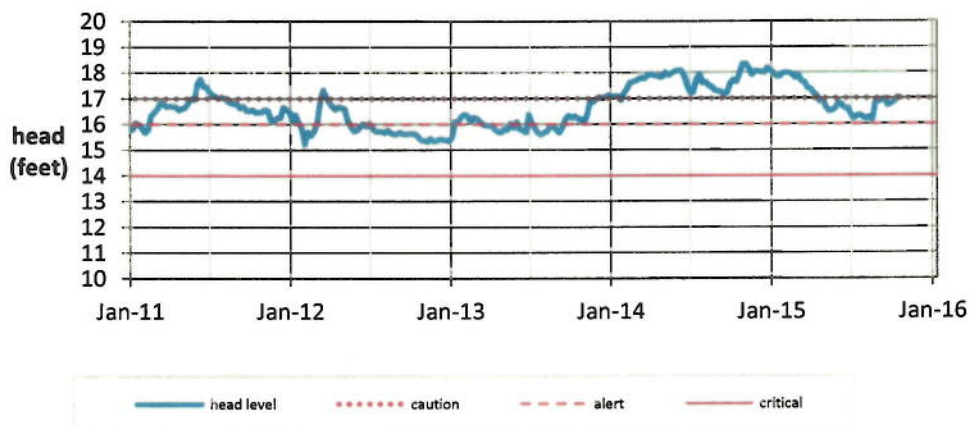
### Hoeae-Kunia



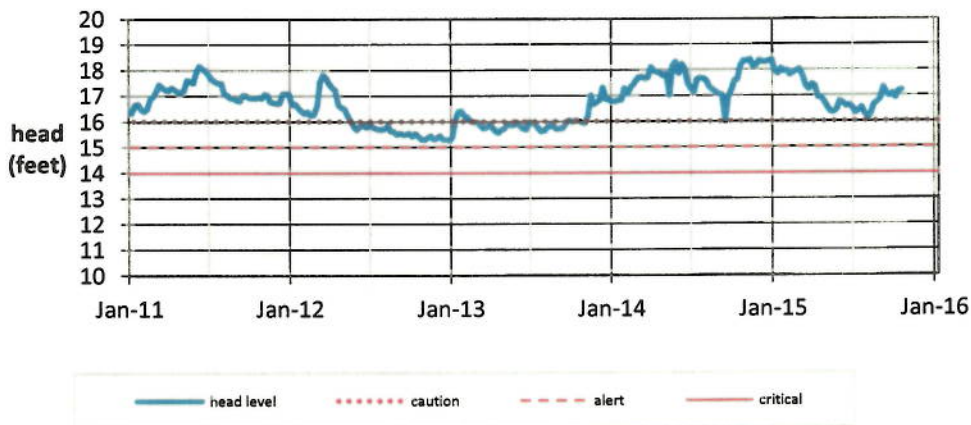
### Makaha Out of Service since 8/17/15



### Punaluu

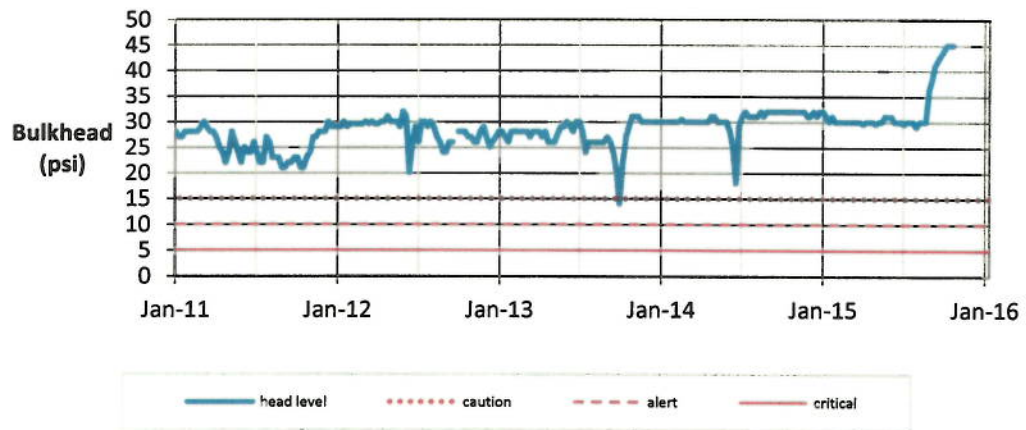


### Kaluanui

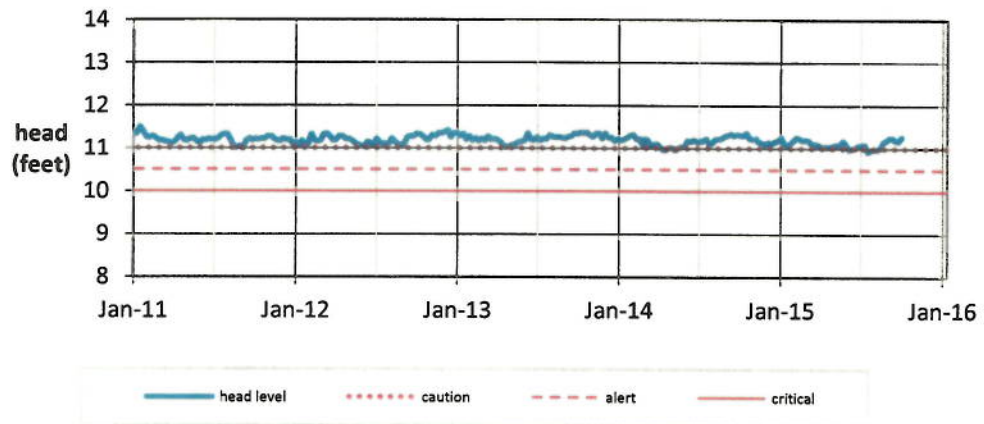


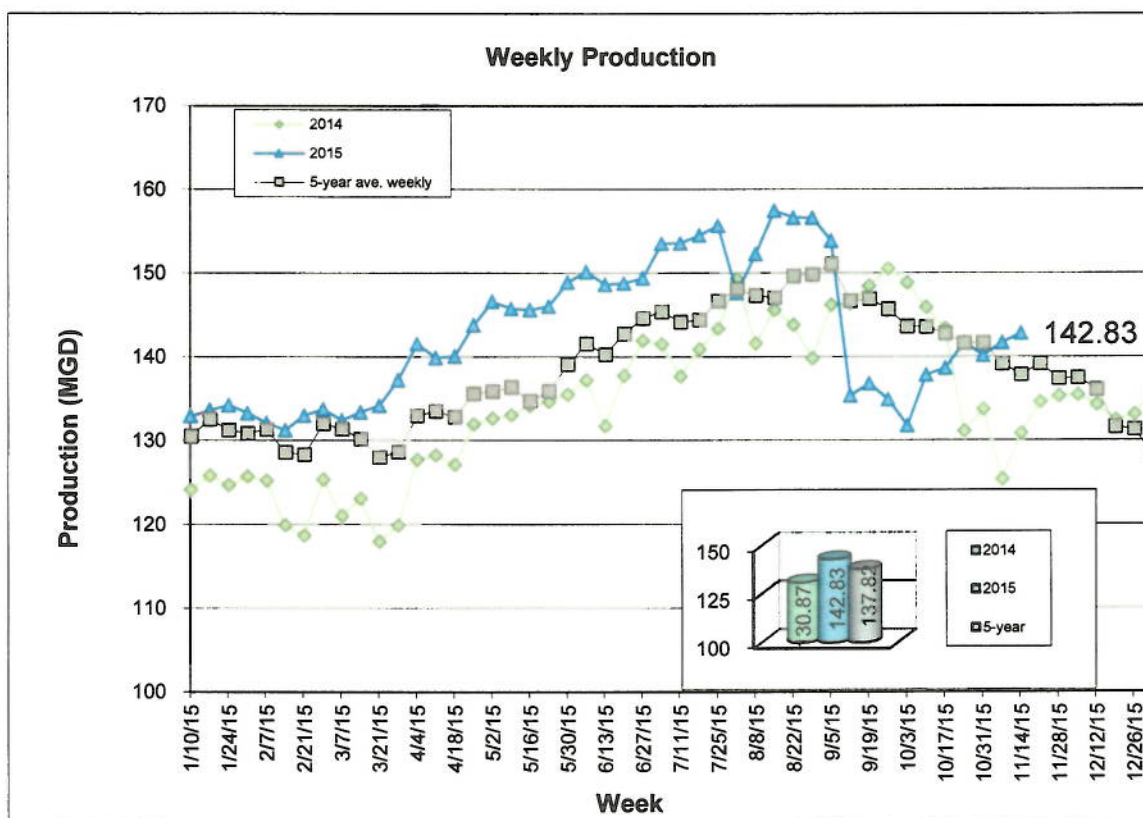
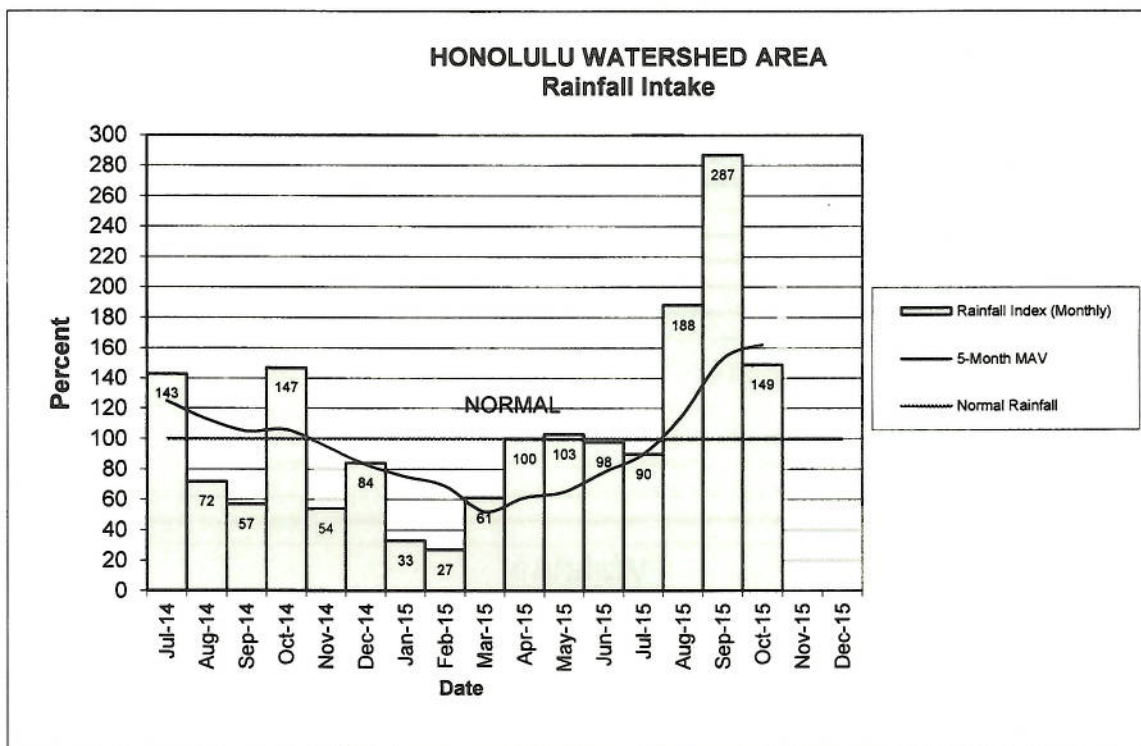


## Waihee Tunnel



## Waialua





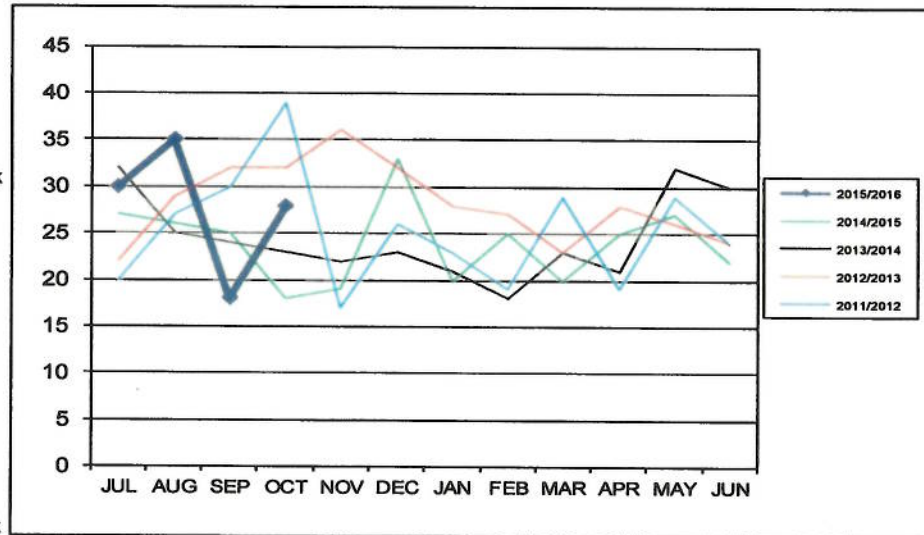
ITEM FOR INFORMATION NO. 6

## WATER MAIN REPAIR REPORT

for October 2015

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	Total
2015/2016	30	35	18	28									111
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
2012/2013	22	29	32	32	36	32	28	27	23	28	26	24	339
2011/2012	20	27	30	39	17	26	23	19	29	19	29	24	302

Date	Address	Size	Cause
10/3	2331 Kuaheha St. 195208	8" C.I.	Settlement
10/4	615 22nd Ave. 195555	12" C.I.	Corrosion
10/4	2120 Puna St. 196245	6" C.I.	Settlement
10/8	Kakaina St. near Hihimanu St.	8" C.I.	Corrosion
10/8	Waialae Ave. & 14th Ave. 198068	6" C.I.	Corrosion
10/9	91-228 Ewa Beach Rd. 198580	12" P.V.C.	Bear on Rock
10/10	1020 Mokulua Dr. 199165	8" P.V.C.	Unknown
10/11	2629 Pamoia St. 199480	6" C.I.	Corrosion
10/14	Nuuanu Ave. & Beretania St. 20107	18" C.I.	Damage
10/14	84 Kilela Pl. 201085	6" C.I.	Corrosion
10/16	94-730 Kuhaulua Pl. 209340	4" D.I.	Corrosion
10/17	59-510 Akanoho Pl. 209917	4" C.I.	Corrosion
10/19	1920 Awapuhi St. 211134	6" C.I.	Unknown
10/19	68-031 Aweoweo St. 211162	8" C.I.	Corrosion
10/19	3472 Hinahina St. 211170	16" C.I.	Corrosion
10/19	5545 Haleola St. 211189	8" C.I.	Unknown
10/20	2880 Komaia Pl. 212649	4" C.I.	Bear on Rock
10/21	1286 Kalani St. 213119	12" D.I.	Corrosion
10/21	2197 10th Ave. 213165	12" C.I.	Corrosion
10/21	Manuwa Dr. near Likini St. 213221	8" C.I.	Corrosion
10/21	3472 Hinahina St. 213227	6" C.I.	Corrosion
10/24	4271 Halupa St. 214844	12" P.V.C.	Bear on Rock
10/24	2437 10th Ave. 214851	8" C.I.	Corrosion
10/24	2135 Hillcrest St. 214858	6" C.I.	Unknown
10/25	41-1640 Kalanianaʻole Hwy. 21518	4" C.I.	Unknown
10/26	91-018 Pohakupuna Pl. 215651	8" C.I.	Corrosion
10/26	2135 Hillcrest St. 215662	6" C.I.	Corrosion
10/30	85-175 McArthur St. 221610	8" P.V.C.	Corrosion



**Bold \* - Pro-active Leak Repair**

21.08 miles of pipelines were surveyed by the Leak Detection Team in the month of October.

DISCUSSION: Daryl Hiromoto, Field Operations Program Administrator, gave the report. Mr. Miyashiro asked if the 18" break on Nuuanu Avenue and Beretania Street was damaged by a contractor. Mr. Hiromoto replied, yes, it was damaged by a contractor.



MOTION TO  
RECESS INTO  
EXECUTIVE  
SESSION

Upon unanimously approved motion, the Board recessed into Executive Session Pursuant to [HRS §92-5(a)(4)] at 2:43 PM to Consult with the Board's Attorney on Questions and Issues Pertaining to Matters Posted for Discussion at an Executive Session

OPEN  
SESSION

The Board reconvened in Open Session at 2:57 PM

MOTION TO  
ADJOURN

There being no further business Chair Miyashiro at 2:57 PM called for a motion to adjourn the Open Session. Ross Sasamura so moved; seconded by Bryan Andaya and unanimously carried.

THE MINUTES OF THE PUBLIC HEARING AND REGULAR SESSION BOARD MEETING ON NOVEMBER 23, 2015 WERE APPROVED AT THE DECEMBER 21, 2015 BOARD MEETING			
	AYE	NO	COMMENT
DUANE R. MIYASHIRO	X		
ADAM C. WONG	X		
DAVID C. HULIHEE	X		
KAPUA SPROAT			ABSENT
BRYAN P. ANDAYA			ABSENT
ROSS S. SASAMURA	X		
FORD N. FUCHIGAMI			ABSENT

Respectfully submitted,



LISA K. KIM

APPROVED:



DUANE R. MIYASHIRO  
Chair of the Board

DEC 21 2015

Date