

MINUTES

REGULAR MEETING OF THE BOARD OF WATER SUPPLY

December 12, 2019

At 2:00 PM on December 12, 2019, 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
Ross S. Sasamura
Max J. Sword
Jade T. Butay

Also Present: Ernest Lau, Manager and Chief Engineer
Ellen Kitamura, Deputy Manager and Chief Engineer
Mike Fuke
Jadine Urasaki
Jennifer Elflein
Joe Cooper
Kathy Mitchell
Kathleen Pahinui
Kevin Ihu
Henderson Nuuhiwa
Raelynn Nakabayashi
Michele Thomas
Mike Matsuo
Barry Usagawa
Trudy Okazaki
Tracy Burgo

Others Present: Jeff Lau, Deputy Corporation Counsel
Moana A. Yost, Deputy Corporation Counsel
Paul Aoki, Acting Corporation Counsel
Bob Kohn, Corporation Counsel
Tom Myers, Brown and Caldwell

Absent: Kay C. Matsui
Ray C. Soon

**APPROVAL OF
2019.
MINUTES**

Approval of the Minutes of the Regular Meeting held on November 25,

**MOTION
TO APPROVE**

Max J. Sword and Kapua Sproat motioned and seconded, respectively, to approve the Minutes of the Regular Meeting of November 25, 2019. The motion was unanimously carried.

THE MINUTES OF THE REGULAR MEETING HELD ON NOVEMBER 25, 2019 WERE APPROVED AT THE DECEMBER 12, 2019 BOARD MEETING			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
KAY C. MATSUI			ABSENT
RAY C. SOON			ABSENT
MAX J. SWORD	X		
ROSS S. SASAMURA	X		
JADE T. BUTAY	X		

METER
TRANSPONDER
UNIT
REPLACEMENT
PROJECT

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

Chair and Members:

Subject: Meter Transponder Unit (MXU) Replacement Project

Kathleen Elliott-Pahinui, Information Officer, Communications Division,
and Mike Fuke, Program Administrator, Field Operations Division, will
be presenting the presentation for the Meter Transponder Unit
Replacement Project.

Respectfully submitted,

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

Attachment”

The foregoing was for information only.

DISCUSSION:

Kathleen Elliott-Pahinui, Information Officer, Communications Office, and
Mike Fuke, Program Administrator, Field Operations Division, gave the
report.

Mr. Mike Fuke reported on the scope and purpose of the Board of Water
Supply (BWS) Meter Transponder Unit (MXU) Replacement Project. The
MXU is a component of the Automated Meter Drive-by Reading System
(AMR). The AMR allows our water data collection clerks to drive-by meters
and pick up the meter readings. The meter readings are then transferred to
the BWS billing system. The AMR has reduced errors in reading the
meters.

BWS has approximately 160,000 meters throughout the island. In order to
read the meters within the billing cycle, the meters are distributed into 20
geographic cycles with approximately 8,000 meters per cycle. The meter
consists of three components. The first is the meter, where the amount of
water used is measured. Second is the register, which records what the
meter measures, and third is the transponder or the MXU, which transmits
the meter reading to the collection devices. The MXU is the component
that will be changed out for this project. The actual meter will not be
changed. There should be no interruption of water service to the
customers with the MXU replacement project.

Boardmember Max Sword inquired if the MXU will have a rod attached to
the unit for it to be elevated.

Mr. Fuke confirmed that there will be a rod. The purpose of the rod is to keep the MXU upright and close to the meter box cover in order to have a good signal for reading.

Mr. Fuke reported that the MXU change out will take approximately twenty minutes per box. The contractor will take a photo of the meter reading before and after the change out. The bar code for the MXU will be scanned to ensure that the serial part numbers are correctly entered into the work order and minimize human error.

Boardmember Ross Sasamura asked if the MXU unit is operated by battery.

Mr. Fuke responded that the system is battery driven and is covered with a 20-year warranty. The warranty is 10 years at 100 percent then pro-rates down for years 11 to 20. The MXU should last approximately 15 years before BWS has to change it out. The previous units only had a 5-year life.

Boardmember Max Sword asked how long does the battery last?

Mr. Fuke responded that the MXU unit has a 15-year life with a 20-year warranty that sends a 2-watt signal. Currently, there is a 1-watt signal which is subject to interference from other signals.

Manager Ernest Lau shared that Mr. Fuke has the statistics for the pilot BWS did in Chinatown, Cycle 12.

Mr. Fuke indicated that in 2015, the AMR drive-by read rate was declining and many manual follow up reads were needed. Chinatown, in Cycle 12, was chosen as a pilot to troubleshoot the AMR system because it was an area where our data collectors were having the most difficult time getting meter reads. In 2016, BWS changed out 350 MXUs and the drive-by read rate improved from 80% to 98%. From those results, BWS decided to do the entire Cycle 12 area which included Chinatown up to Manoa Valley and completed the MXU change out in 2017. Since then the AMR drive-by read rate for Cycle 12 has improved to 95%. Encouraged by the results for Cycle 12, BWS decided to replace defective MXUs in other cycles and currently have changed out approximately 47,000 MXUs.

BWS decided to hire a contractor to accelerate the MXU replacement pace. There are 8,000 meters per cycle. The MXU replacement project will cover 10 cycles or approximately 80,000 meters across the island.

Upon completion of the MXU replacement project BWS expects an AMR drive-by rate of 98%. The contractor will work only 2 cycles at one time to coordinate the MXU replacement project with the monthly meter reading and billing activities. It will be critical that all divisions, water data collection clerks and contractors are coordinated so that there are no misreads and/or downtime for the contractors. With so many MXUs to change out the contractor will working extended hours from 7:30 am to 10:30 pm, 7 days a week, including holidays. BWS also hired a contract management firm to perform daily quality assurance and quality control work.

Coordination between the contractor, construction manager, and BWS divisions is critical in minimizing impacts to our customers and minimizing estimated billings.

Mr. Fuke introduced Ms. Kathleen Pahinui to speak upon communications with the public.

Ms. Kathleen Pahinui mentioned we will have an extensive community outreach to keep the public informed. There are three concerns that she will share. One is that BWS and contractors will be working from 7:30 am till 10:30 pm, which is outside normal City working hours. Secondly, BWS communicates to the public to be aware of people scamming our customers. Thirdly, the change out is only for the MXU and not the water meter. This will not affect their water bills or the ability to access water.

BWS will be briefing the Cabinet and Mayor and have already started briefing the Council Members. Also, announcements have been made at the Neighborhood Board Meetings. Flyers regarding the MXU change out will be emailed to our Oahu State Senators, Representative and be available at all Satellite City Halls.

A site with communication tools and information has been developed for the BWS employees to view on the MXU changeout. BWS will have internal training for the employees, that interface with the public. Prior to changing out the MXU, one to two weeks, the contractor will walk the neighborhood and place notices on doors to inform residents of the project. This is a standard procedure for any BWS project. BWS has created a business card for the contractors to hand out while conducting the change out so that they can direct any questions that the customer may have to BWS staff. The customer can call the dedicated number, 808-748-6500 on the business card, from 7:30, am till 10:30 pm for the duration of the project. The Fall issue of Water Matters, mailed with the water bill also discussed the project and provided contact information. On our BWS homepage, a button for the MXU project can be clicked on for more information. The project will start on January 10, 2020. The neighborhoods where the MXU changeout will be posted on the BWS website and on social media. The contractors will be wearing a yellow vest with their logo, Royal Construction on the back of the vest as well as a badge.

WATER FOR LIFE

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



Board of Water Supply
City and County of Honolulu

Meter Transponder Unit (MXU) Replacement Project

Board Presentation
December 12, 2019

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Board of Water Supply
City and County of Honolulu

Scope and Purpose of the Project

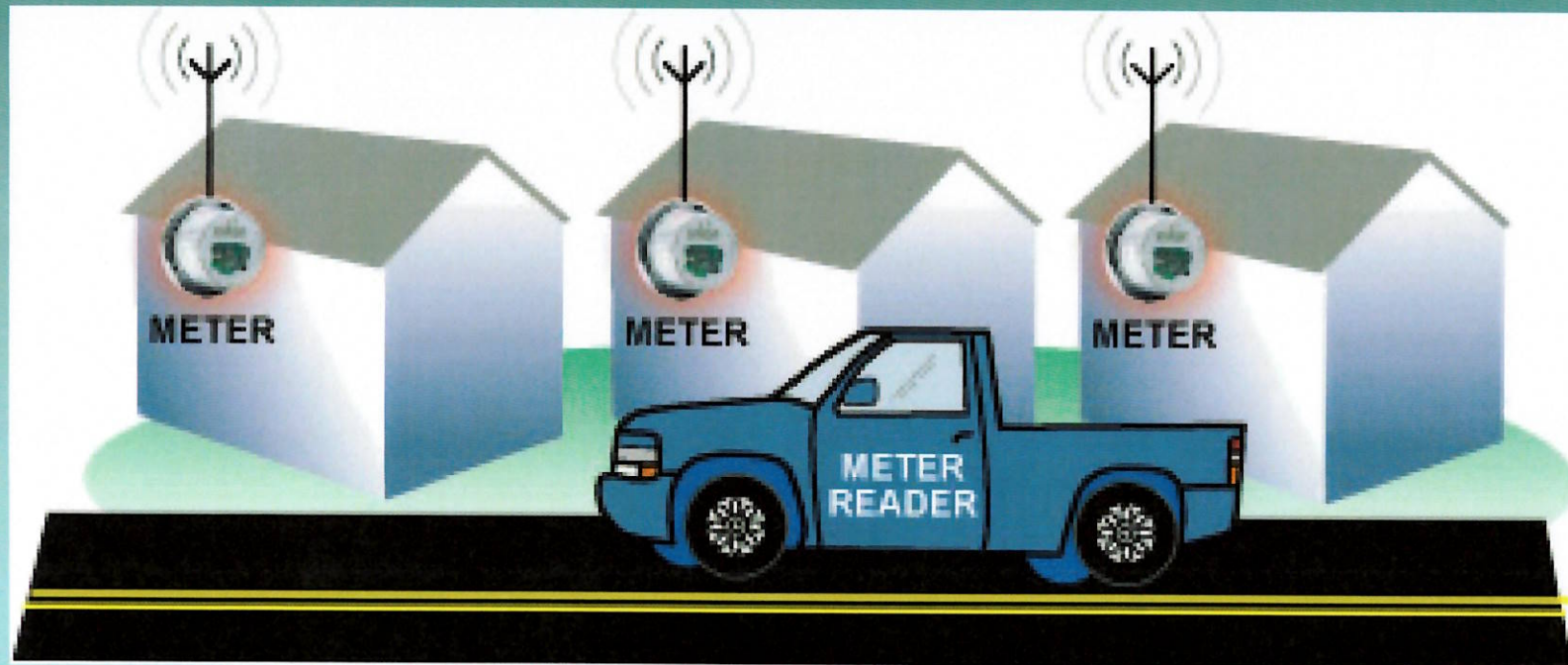
WATER FOR LIFE

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



Board of Water Supply
City and County of Honolulu

What is an Automated Meter Reading System?





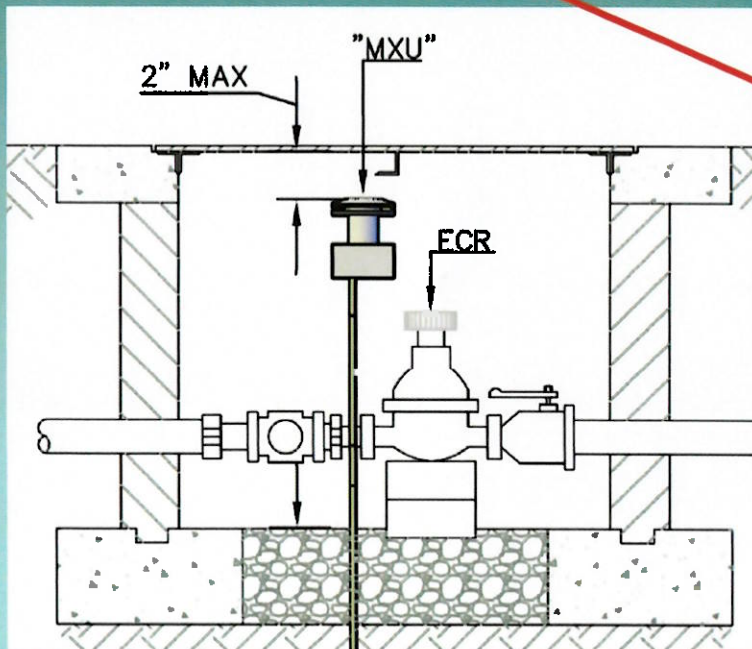
AMR Advantages

- Remotely reads customer's meters and then transfers the data into the billing system
- Reduces the need for personnel to manually gather utility meter reading each month
- Reduces errors in manual readings



Components in an AMR System Meter Box

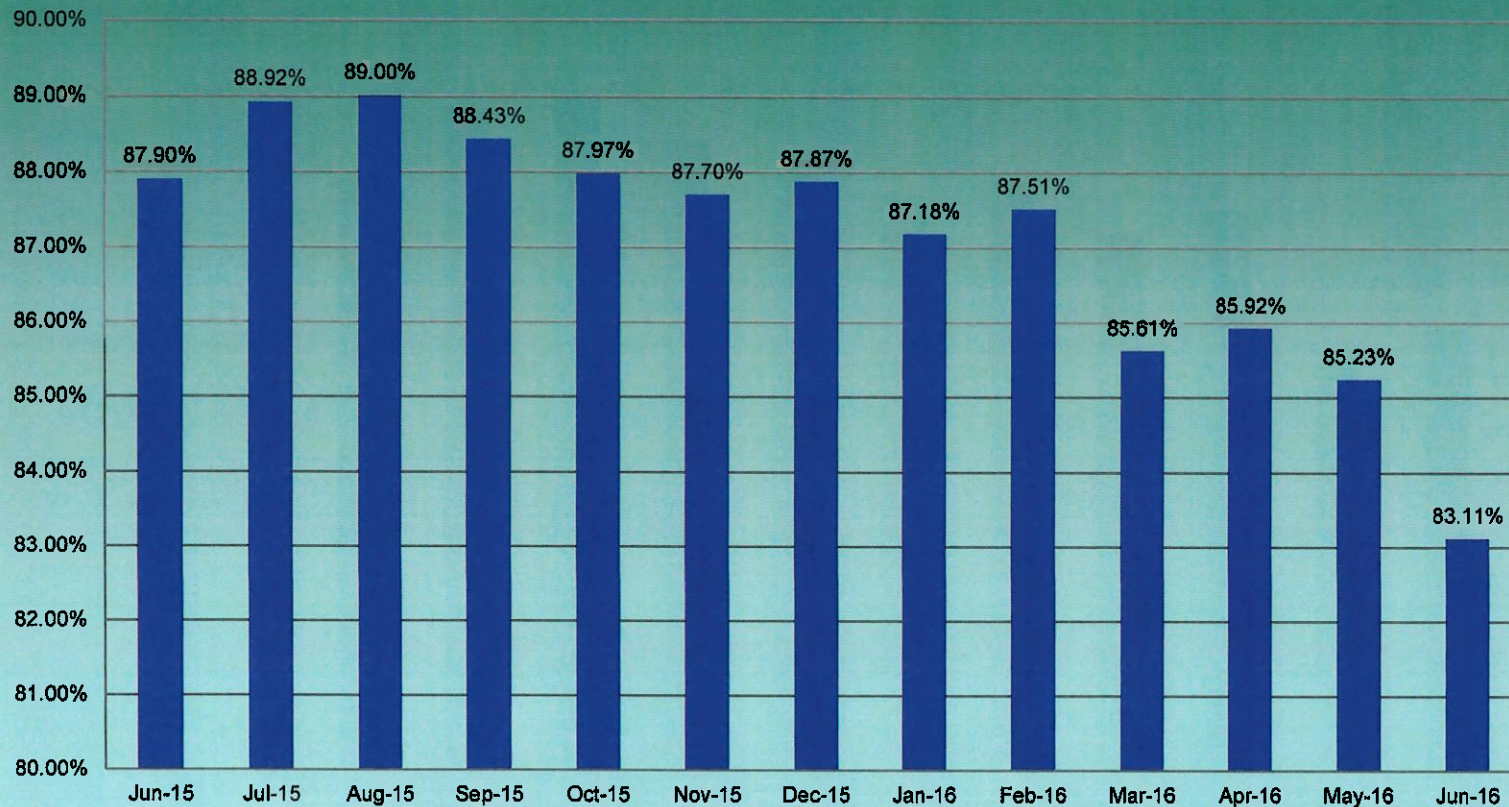
Transponder Unit





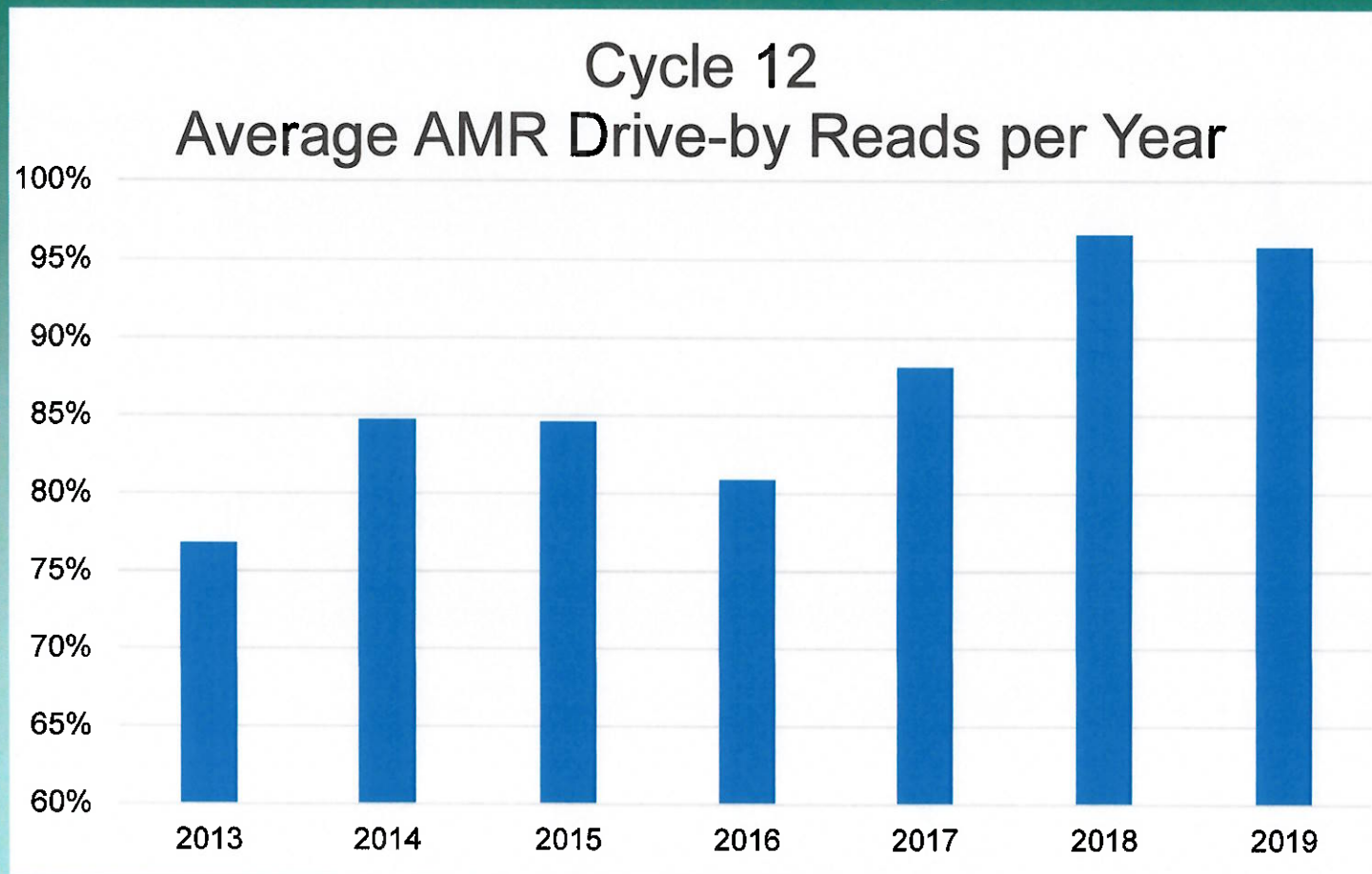
Why This Project

Automated Meter Reading Drive By Reads (%) June 2015 to June 2016





Why This Project



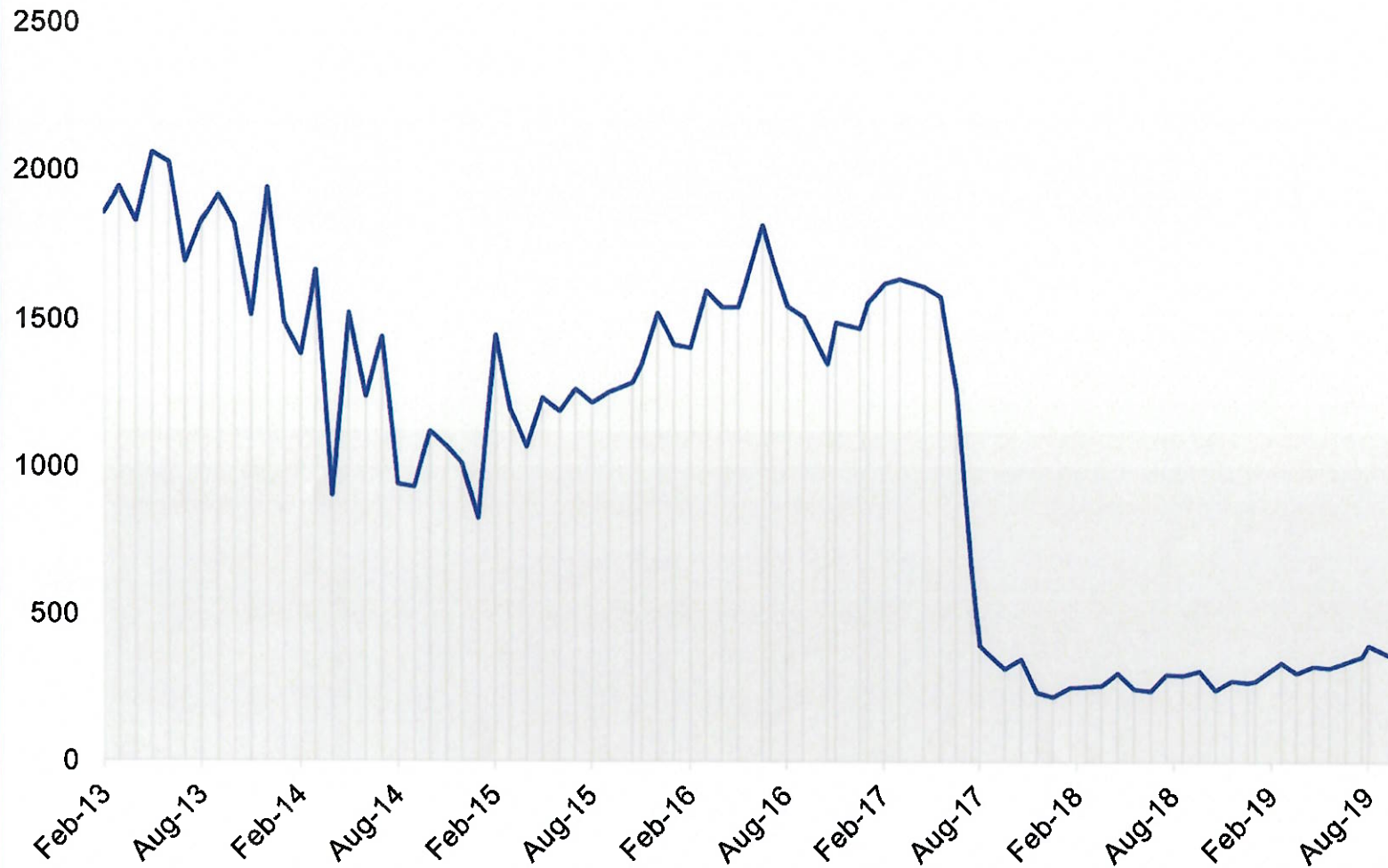
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Cycle 12 Unread Meters per Month





Why this Project?

- Average meters in a cycle – 8,000+
- BWS Field staff focuses on:
 - Waterline breaks
 - Service line leak repairs
 - Regulatory Requirements
- To accelerate the pace to gain the benefits of the change out.

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Board of Water Supply
City and County of Honolulu



IT - Technical Engineering Projects
Honolulu Board of Water Supply
March 2019





Considerations of the Project

- Installation Time
- Read and Billing Cycles
- Performance Project
- Public Perception
- Working with various BWS Divisions



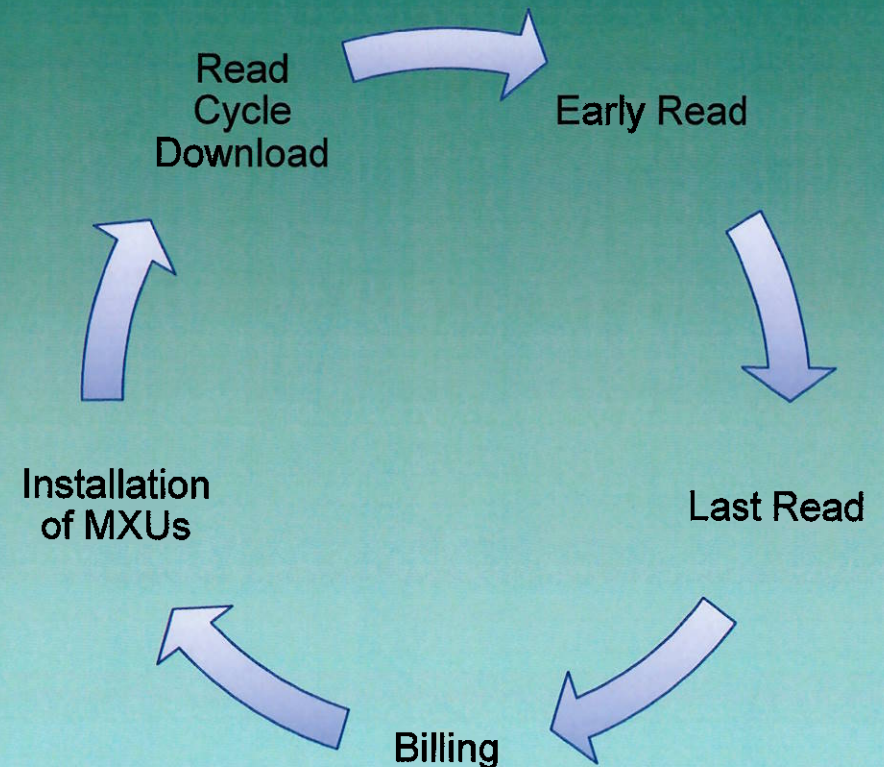
Parameters of the Project

- Achieve 98% drive-by meter reading rate
- Work in no more than two (2) cycles at a time
- No MXU installation during meter reading period
- Coordination between divisions



Addressing the Parameters

- Utilize extended working hours/days
- Cycle Scheduling
 - Overlapping Cycles
 - Read/Billing Schedule
- Perform daily QA/QC work





Addressing the Parameters

- Work must be done per contract schedule
 - Liquidated Damages: work not done in specified time – contractor pays BWS
- Budget Costs – Project must come in on budget per contract
- Communication – Ensuring public understands the project and purpose

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Communications Plan



Purpose of Communications

- Work will occur beyond regular work hours
- Concerns about potential scammers
- Change out is for a part only not the entire meter



Outreach – Government

- **Announcement at Cabinet Meeting**
(November 19, 2019)
- **Briefings with Council Members** (Dec and Jan)
- **Neighborhood Board meetings**
 - Flyer and announcement at November 2019 meetings
 - Follow up flyer distribution and announcement at January 2020 meetings



Outreach - Government

- Flyer to be emailed to all Oahu state senators and representatives in January 2020
- Flyers to be sent to satellite city halls for distribution



Outreach – BWS Employees

- Intranet page for BWS Employees
- Training for all BWS Employees that interface with the public
- Article on ‘News To Use’ internal intranet notification
- Article in Ka Waipuna (newsletter sent to BWS retirees and employees)



Outreach – Contractor

- Contractor Training – January 8, 2020
- Contractor to reach out to residents in work area 1-2 weeks prior to work starting
- Contractor will be given “business cards” with BWS contact information on it
 - Dedicated phone number set up for MXU calls
 - Communications team will field calls



Outreach – Customers and Community

- Article in winter issue of Water Matters Newsletter
 - Mailing with bills started 11/15/19 – 12/12/19
- Dedicated phone number set up for MXU calls – option in phone message
- Dedicated web page with button on home page



Outreach – Media

- News Conference set for January 9, 2020 at BWS
 - Will send media alert on January 3, 2020
 - Manager, Field and Contractor will be on hand to speak and answer questions



Outreach Materials

- Flyer
- “Business Card” with contact information
- Intranet and Internet web pages
- Article in BWS Newsletters
 - Customers, employees and retirees
- Social media messaging and weekly updates

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Outreach Materials



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Questions?

STATUS
UPDATE OF
GROUNDWATER
LEVELS AT ALL
INDEX STATIONS

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

As of December 6, 2019, available data indicate that aquifer index well Kaimuki has come out of Caution status, while Punaluu remains in Caution status. The monthly production average for November 2019 was 134.80 million gallons per day.

As of December 3, 2019, the Hawaii Drought Monitor shows abnormally dry conditions along portions of the southern coast of Oahu. The National Weather Service forecasts above-normal rainfall through May 2020, due to persistent elevated sea surface temperatures predicted by most climate models.

Respectfully submitted,

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

Attachment”

The foregoing was for information only.

DISCUSSION:

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

**INTERIM PRODUCTION, HEAD AND RAINFALL REPORT
MONTH OF NOVEMBER 2019**

POTABLE

STATION	MGD
HONOLULU (1)	
KULIOUOOU	0.07
WAILUPE	0.11
AINA KOA	0.09
AINA KOA II	0.87
MANOA II	0.00
PALOLO	1.17
KAIMUKI HIGH	2.81
KAIMUKI LOW	1.81
WILDER	4.38
BERETANIA HIGH	2.51
BERETANIA LOW	0.85
KALIHI HIGH	3.10
KALIHI LOW	1.92
KAPALAMA	0.91
KALIHI SHAFT	7.83
MOANALUA	1.17
HALAWA SHAFT	13.91
KAAMILO	0.86
KALAUAO	5.65
PUNANANI	7.36
KAAHUMANU	0.25
HECO WAIJU	2.61
MANANA	0.23
WELLS SUBTOTAL:	60.50
MANOA TUNNEL	0.17
PALOLO TUNNEL	0.23
GRAVITY SUBTOTAL:	0.40
HONO. SUBTOTAL:	60.90

STATION	MGD
WINDWARD (2)	
WAIMANALO II	0.51
WAIMANALO III	0.00
KUOU I	1.36
KUOU II	0.05
KUOU III	0.78
LULUKU	0.95
HAIKU	0.00
IOLEKAA	0.00
KAHALUU	0.74
KAHANA	1.00
PUNALUU I	0.00
PUNALUU II	3.84
PUNALUU III	1.05
KALUANUI	1.21
MAAKUA	0.23
HAUULA	0.26
WELLS SUBTOTAL:	11.98
WAIM. TUNNELS I & II	0.00
WAIM. TUNNELS III&IV	0.19
WAIHEE INCL. WELLS	0.17
WAIHEE TUNNEL	4.06
LULUKU TUNNEL	0.08
HAIKU TUNNEL	1.07
KAHALUU TUNNEL	1.37
GRAVITY SUBTOTAL:	6.93
WIND. SUBTOTAL:	18.91

STATION	MGD
NORTH SHORE (3)	
KAHUKU	0.32
OPANA	0.09
WAIALEE I	0.45
WAIALEE II	0.40
HALEIWA	0.00
WAIALUA	1.55
N.SHORE SUBTOTAL:	2.82

STATION	MGD
MILILANI (4)	
MILILANI I	1.67
MILILANI II	0.00
MILILANI III	0.20
MILILANI IV	2.35
MILILANI SUBTOTAL:	4.22

STATION	MGD
WAHIAWA (5)	
WAHIAWA	0.98
WAHIAWA II	1.93
WAHIAWA SUBTOTAL:	2.91

STATION	MGD
PEARL CITY-HALAWA (6)	
HALAWA 277	0.65
HALAWA 550	0.00
AIEA	1.19
AIEA GULCH 497	0.38
AIEA GULCH 550	0.21
KAONOHI I	0.96
WAIMALU I	0.00
NEWTOWN	0.89
WAIJU	0.69
PEARL CITY I	0.81
PEARL CITY II	1.05
PEARL CITY III	0.32
PEARL CITY SHAFT	0.92
PEARL CITY-HALAWA SUBTOTAL:	8.09

STATION	MGD
WAIPAHU-EWA (7)	
WAIPIO HTS.	0.65
WAIPIO HTS. I	0.55
WAIPIO HTS. II	0.28
WAIPIO HTS. III	1.27
WAIPAHU	4.55
WAIPAHU II	2.08
WAIPAHU III	1.62
WAIPAHU IV	2.73
KUNIA I	4.12
KUNIA II	2.21
KUNIA III	1.09
HOAEAE	5.40
HONOULIULI I	0.00
HONOULIULI II	6.91
MAKAKILO	0.39
WAIPAHU-EWA SUBTOTAL:	33.84

STATION	MGD
WAIANAE (8)	
MAKAHA I	0.00
MAKAHA II	0.13
MAKAHA III	0.22
MAKAHA V	0.03
MAKAHA VI	0.00
MAKAHA SHAFT	0.00
KAMAILE	0.07
WAIANAE I	0.23
WAIANAE II	0.26
WAIANAE III	0.61
WELLS SUBTOTAL:	1.55
WAIJA. C&C TUNNEL	1.40
WAIJA. PLANT. TUNNELS	0.16
GRAVITY SUBTOTAL:	1.56
WAIANAE SUBTOTAL:	3.11

NONPOTABLE

NONPOTABLE	MGD
KALAUAO SPRINGS	0.36
BARBERS POINT WELL	1.18
GLOVER TUNNEL NP	0.40
NONPOTABLE TOTAL:	1.95

RECYCLED WATER (OCTOBER 2019)

RECYCLED WATER	MGD
HONOULIULI WRF R-1	6.43
HONOULIULI WRF RO	1.64
RECYCLED WATER TOTAL:	8.08

**INTERIM PRODUCTION, HEAD AND RAINFALL REPORT
MONTH OF NOVEMBER 2019**

PRODUCTION SUMMARIES

TOTAL WATER	MGD
PUMPAGE	125.91
GRAVITY	8.89
POTABLE TOTAL:	134.80
NONPOTABLE	1.95
RECYCLED WATER	8.08
TOTAL WATER:	144.83

CWRM PERMITTED USE AND BWS ASSESSED YIELDS FOR BWS				
POTABLE SOURCES				
WATER USE DISTRICTS		A	B	C
		PERMITTED USE/ BWS YLDS	NOV 2019	DIFF. A-B
1	HONOLULU	82.93	60.50	22.43
2	WINDWARD	25.02	14.68	10.34
3	NORTH SHORE	4.70	2.82	1.88
4	MILILANI	7.53	4.22	3.31
5	WAHIAWA	4.27	2.91	1.36
6	PEARL CITY-HALAWA	12.25	8.09	4.16
7	WAIPAHAU-EWA	50.63	33.84	16.79
8	WAIANA E	4.34	1.55	2.79
TOTAL:		191.67	128.62	63.05

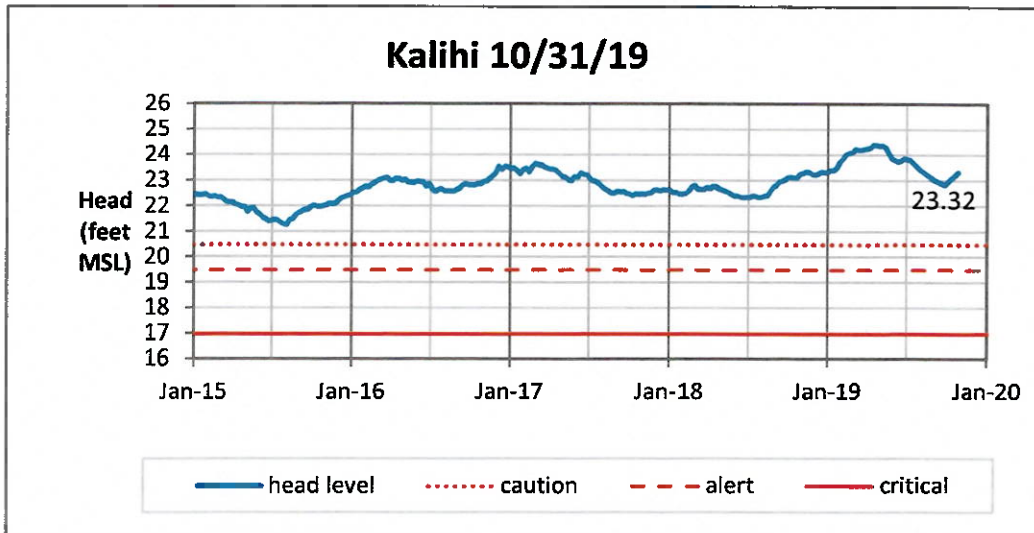
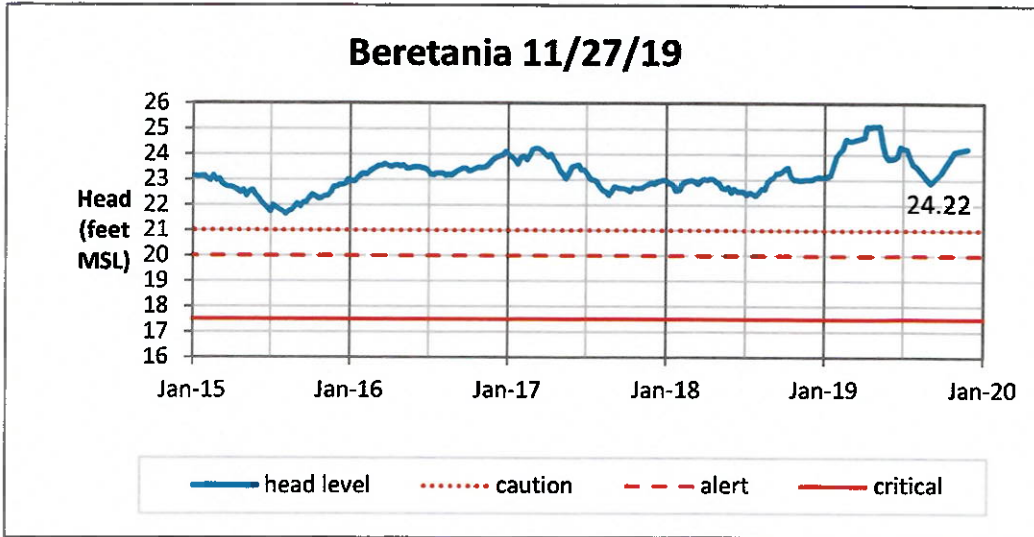
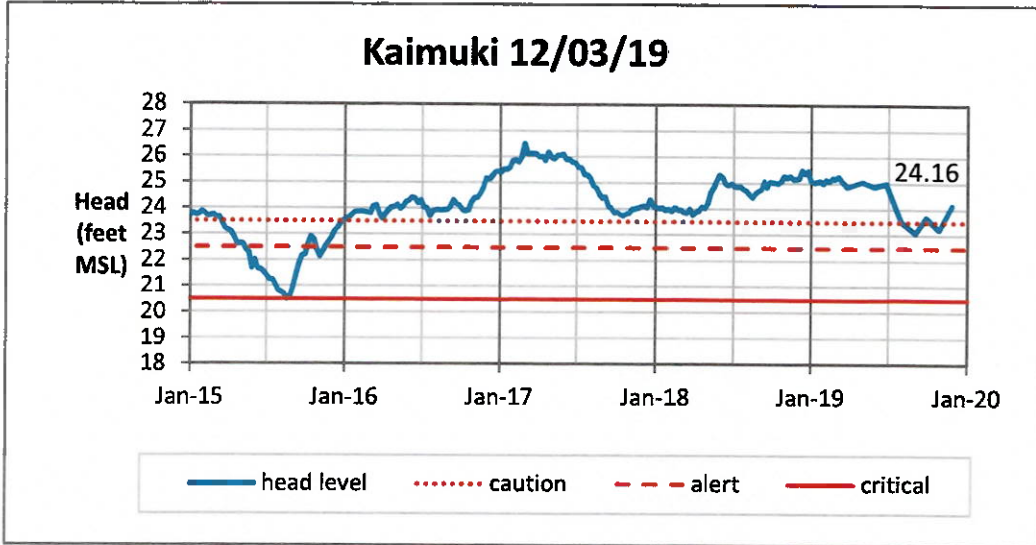
CWRM PERMITTED USE FOR BWS				
NONPOTABLE SOURCES				
WATER USE DISTRICTS		A	B	C
		PERMITTED USE	NOV 2019	DIFF. A-B
7	WAIPAHAU-EWA (BARBERS POINT WELL)	1.00	1.18	-0.18
TOTAL:		1.00	1.18	-0.18

EFFECTIVE WATER DEMAND PER DISTRICT

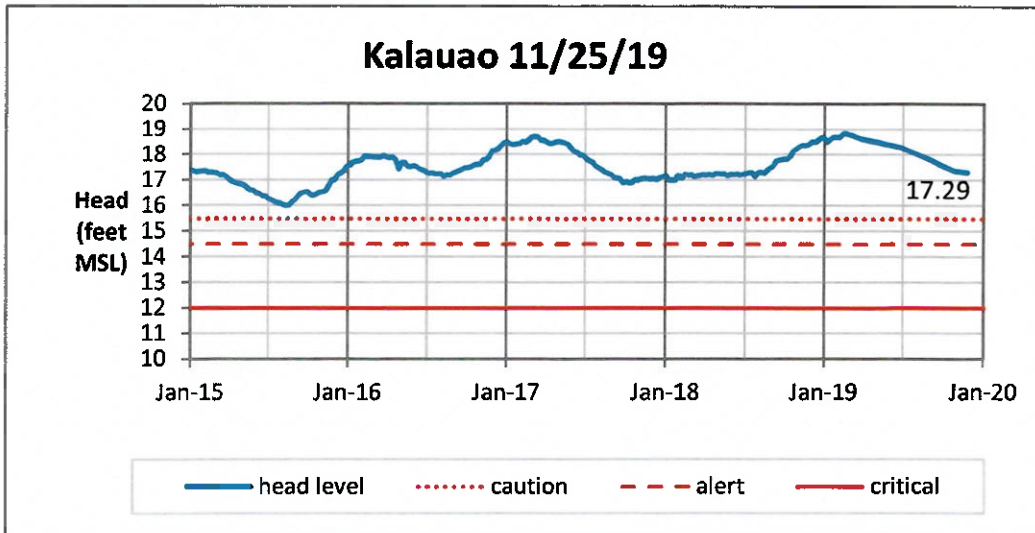
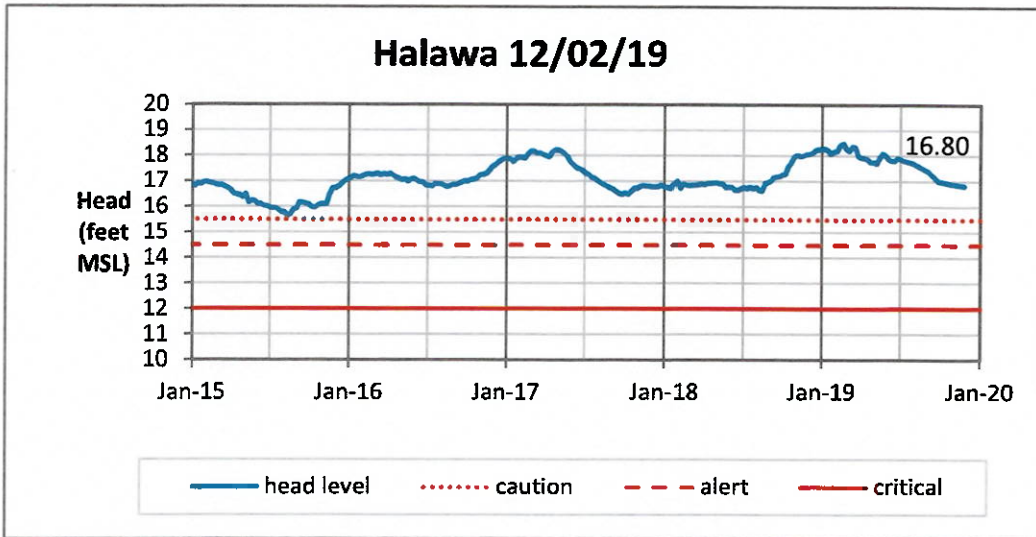
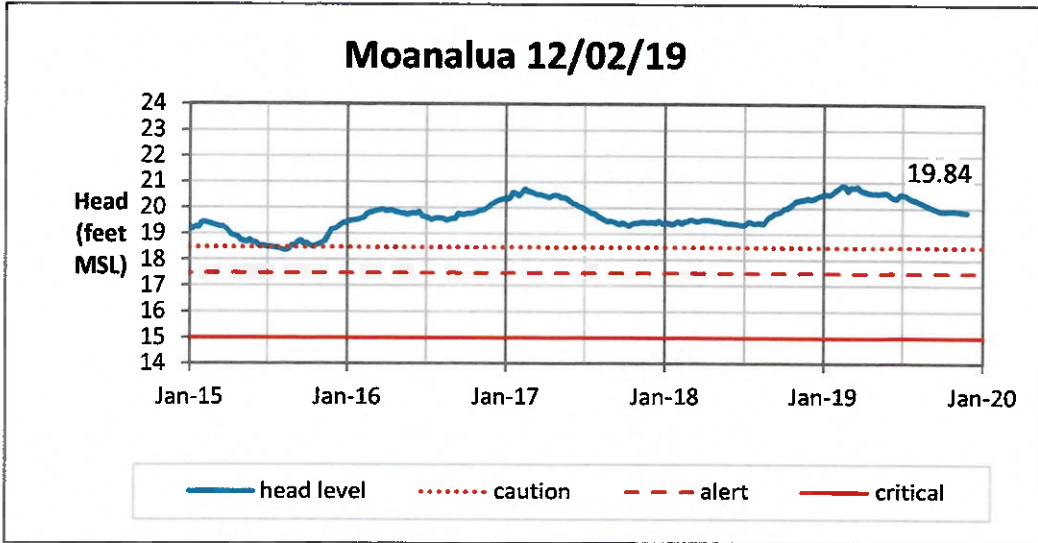
IMPORT/EXPORT BETWEEN WATER USE DISTRICTS			
FROM	TO		MGD
2	1	WINDWARD EXPORT	2.64
7	8	BARBERS PT LB	5.89

WATER USE DISTRICTS		SUBTOTAL	IMPORT	EXPORT	EFFECTIVE WATER DEMAND
1	HONOLULU	60.50	2.64	-	63.14
2	WINDWARD	14.68	-	2.64	12.04
3	NORTH SHORE	2.82	-	-	2.82
4	MILILANI	4.22	-	-	4.22
5	WAHIAWA	2.91	-	-	2.91
6	PEARL CITY-HALAWA	8.09	-	-	8.09
7	WAIPAHAU-EWA	33.84	-	5.89	27.96
8	WAIANA E	1.55	5.89	-	7.44
TOTAL:		128.62	8.53	8.53	128.62

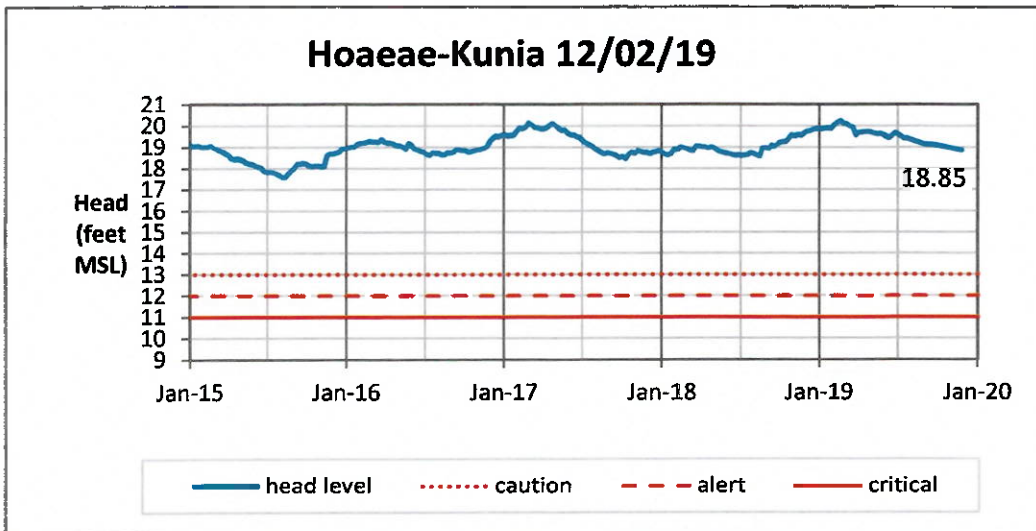
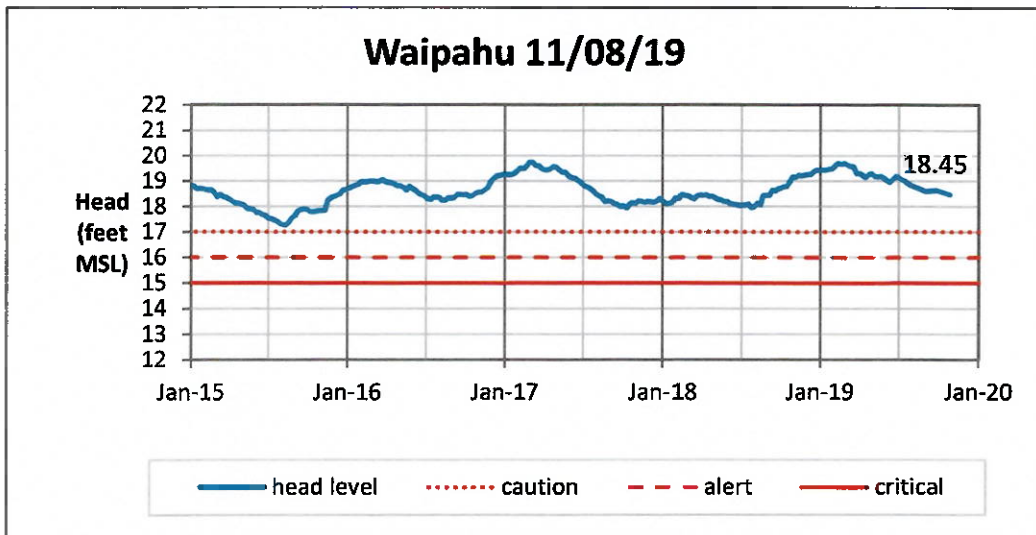
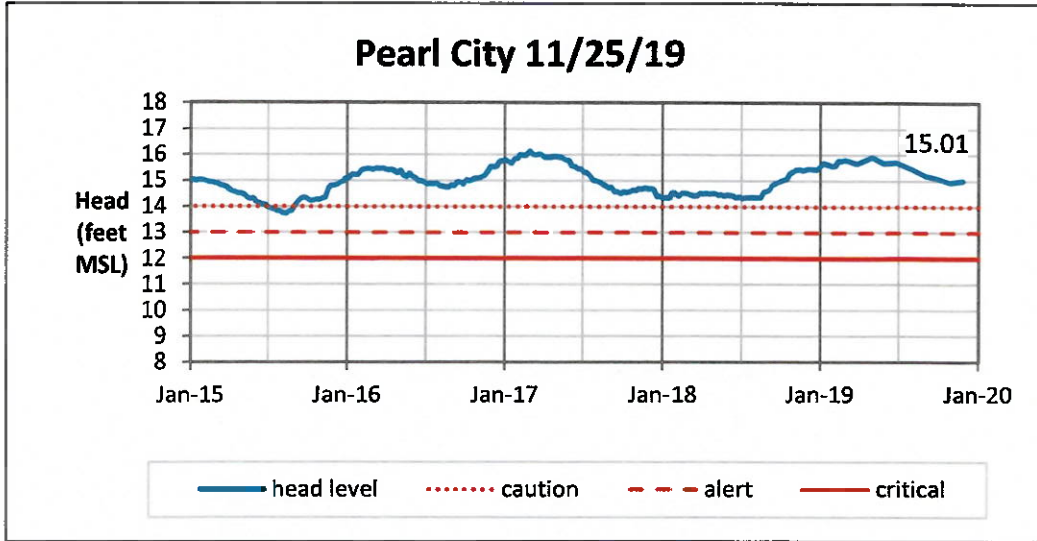
Weekly Head Report



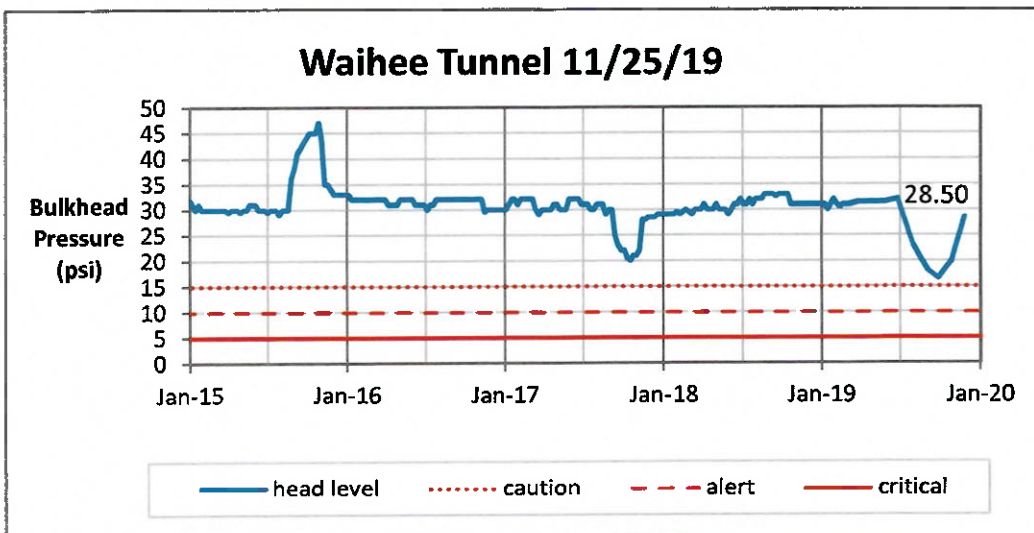
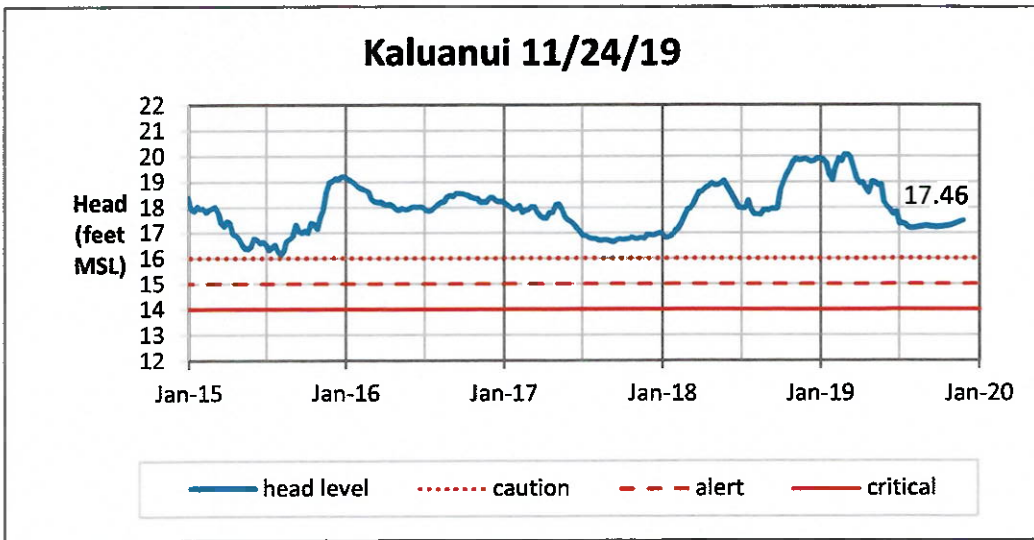
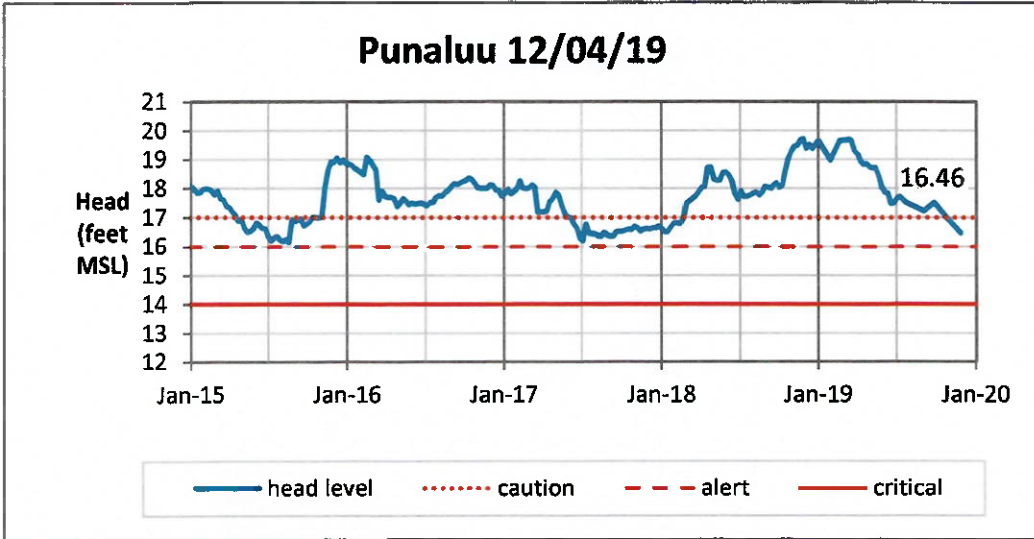
Weekly Head Report



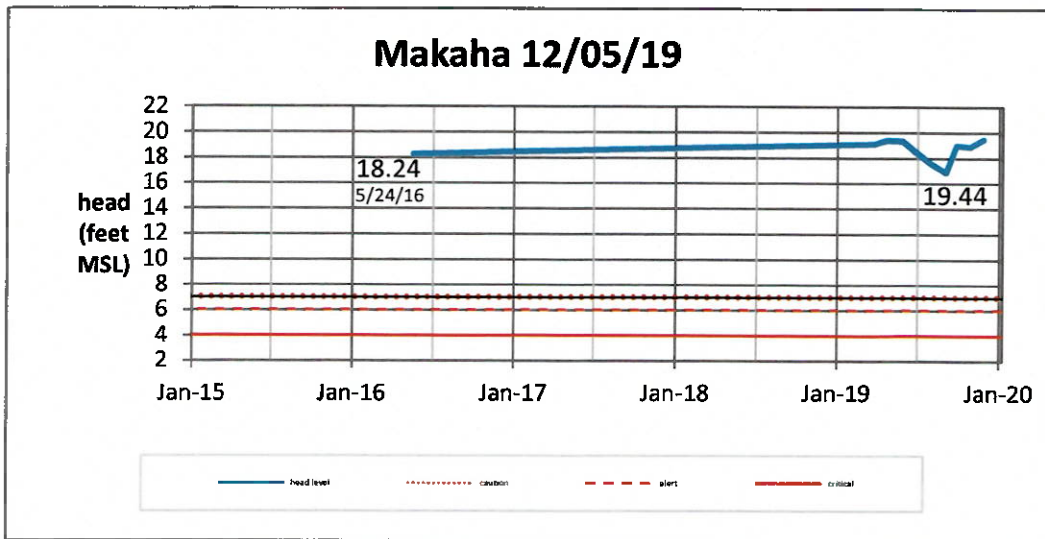
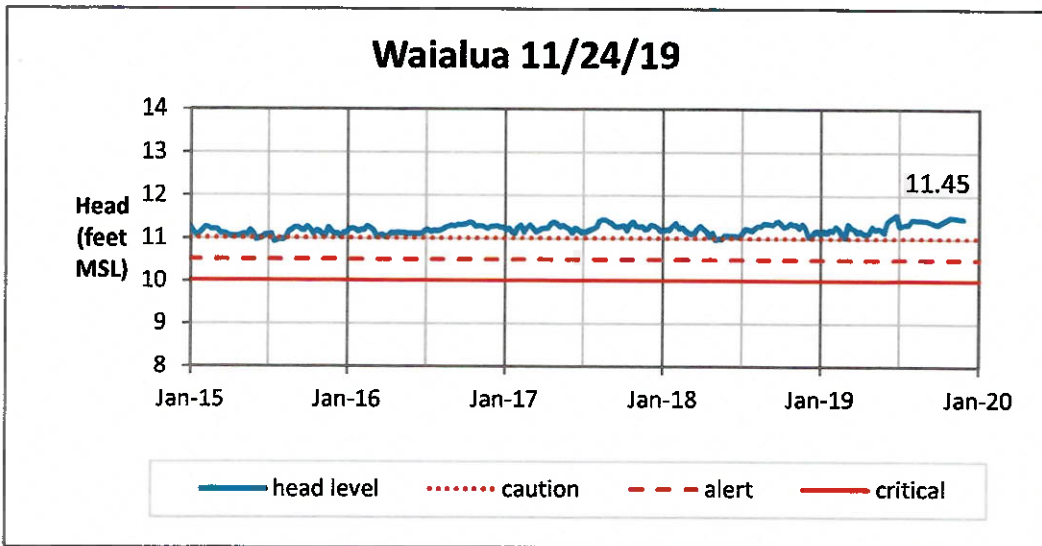
Weekly Head Report

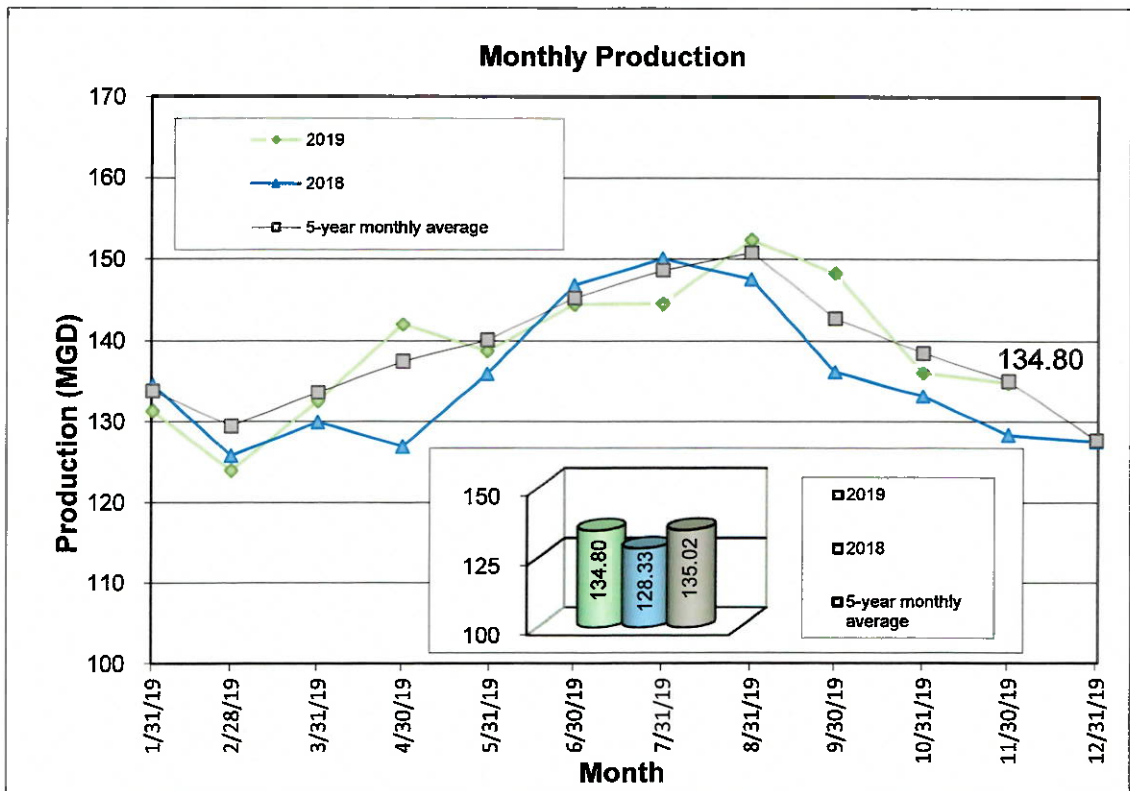
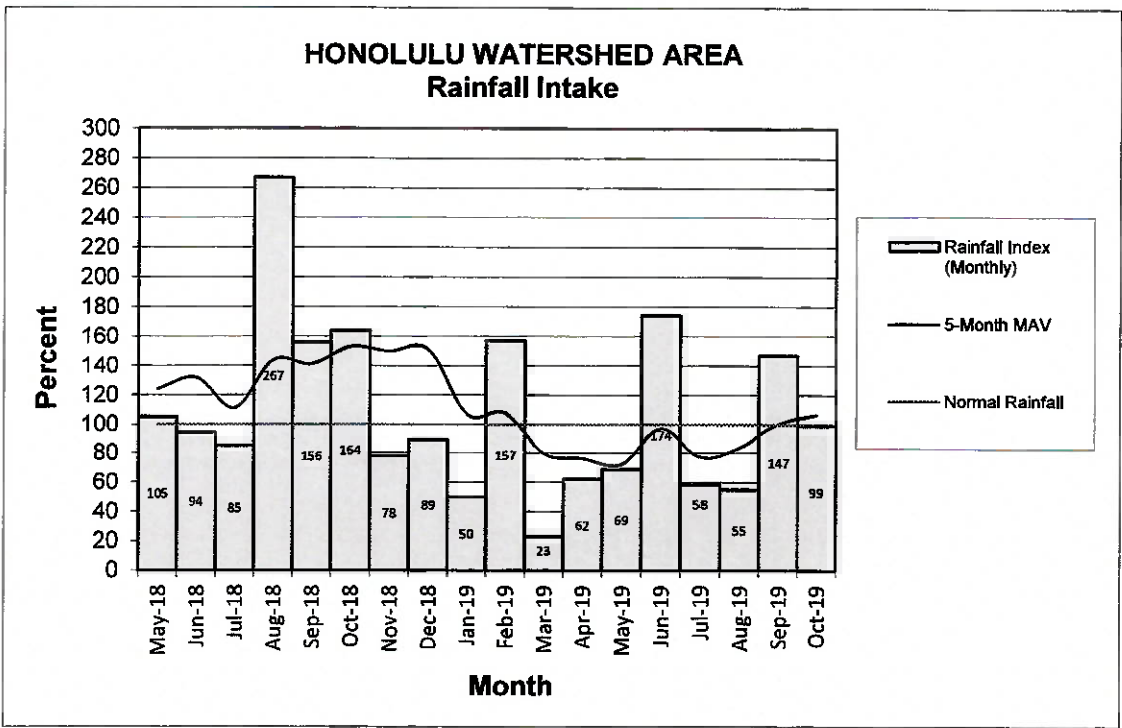


Weekly Head Report



Weekly Head Report





ITEM FOR INFORMATION NO. 3

“December 12, 2019

WATER MAIN
REPAIR REPORT
FOR NOVEMBER
2019

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

Chair and Members:

Subject: Water Main Repair Report for November 2019

Michael Fuke, Program Administrator, Field Operations Division, will report on water main repair work for the month November 2019.

Respectfully submitted,

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

Attachment”

The foregoing was for information only.

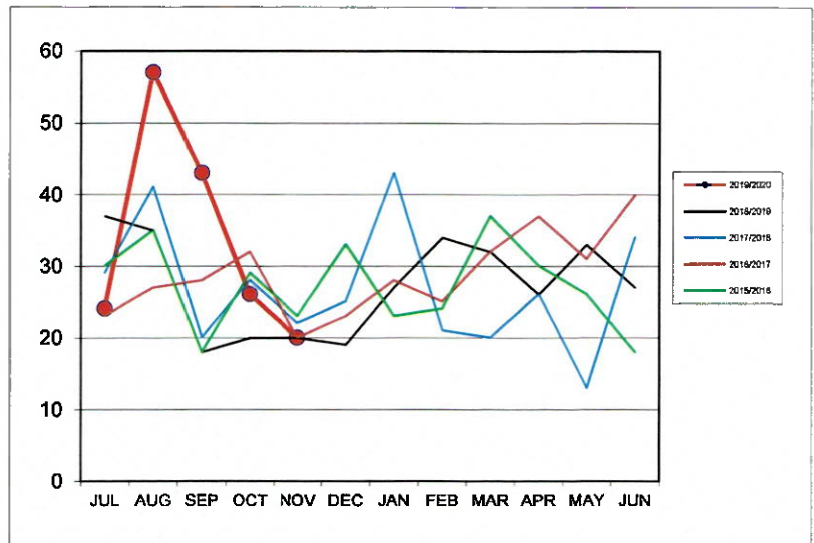
DISCUSSION:

Michael Fuke, Program Administrator, Field Operations Division, gave the report. There were no comments or discussions.

WATER MAIN REPAIR REPORT for November 2019

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	Total
2019/2020	24	57	43	26	20								170
2018/2019	37	35	18	20	20	19	27	34	32	26	33	27	328
2017/2018	29	41	20	28	22	25	43	21	20	26	13	34	322
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

Date	Address	Size (In)	Pipe Type
11/1/2019	2023 Puna St, Honolulu	6	CI
11/5/2019	1209 Puu Kipa St, Pearl City	8	PVC
11/8/2019	1723 Beckley St, Honolulu	42	CI
11/8/2019	2276 Apoepoe St, Pearl City	8	CI
11/10/2019	92-796 Palailai St, Kapolei	8	CI
11/12/2019	2315 Ahakapu St, Pearl City	8	CI
11/15/2019	1461 Akanaha Pl, Kailua	4	CI
11/15/2019	1370 Ala Moana Blvd, Honolulu	12	CI
11/17/2019	99-567 Kahilinai Pl, Aiea	8	CI
11/18/2019	84-516 Upena St, Waianae	8	DI
11/18/2019	86-210 Kawili St, Waianae	8	PVC
11/19/2019	94-1090 Waipahu St, Waipahu	16	CC
11/19/2019	698 Hahaione St, Honolulu	8	CI
11/20/2019	2005 Huake Pl, Honolulu	4	CI
11/20/2019	724 Hoomalu St, Pearl City	8	PVC
11/24/2019	94-464 Hiwahiwa Pl, Waipahu	8	CI
11/26/2019	99-713 Pohue St, Aiea	8	CI
11/27/2019	45-210 Kahanahou Circle, Kaneohe	8	PVC
11/28/2019	2127 Pauloa Pl, Honolulu	4	DI
11/30/2019	1564 Pukele Ave, Honolulu	8	CI



29 miles of pipeline were surveyed by the Leak Detection Team in the month of November.

**MOTION TO
RECESS INTO
EXECUTIVE
SESSION**

Upon unanimously approved motion, the Board recessed into Executive Session Pursuant to [HRS §92-5(a)(4)] at 2:31 PM to Consult with the Board's Attorney and to Consider Issues Pertaining to Matters Posted for Discussion at an Executive Session.

**OPEN
SESSION**

The Board reconvened in Open Session at 3:24 PM.

**MOTION TO
ADJOURN**

There being no further business Chair Andaya at 3:23 PM called for a motion to adjourn the Open Session. Kapua Sproat so moved; seconded by Ross Sasamura and unanimously carried.

The minutes of the Regular Meeting held on November 25, 2019 are respectfully submitted,



DEANNA THYSSEN

THE MINUTES OF THE REGULAR MEETING ON DECEMBER 12, 2019 WERE APPROVED AT THE JANUARY 27, 2020 BOARD MEETING			
	AYE	NO	COMMENT
BRYAN P. ANDAYA			ABSENT
KAPUA SPROAT	X		
KAY C. MATSUJ	X		
RAY C. SOON	X		
MAX J. SWORD	X		
ROSS S. SASAMURA	X		
JADE T. BUTAY	X		

APPROVED:



KAPUA SPROAT
Acting Chair of the Board

JAN 27 2020

Date