



# *Welcome*

**Aloha and thank you for attending today!**

**City and County of Honolulu  
Storm Water of O'ahu Stakeholder Hui (SWOOSH) Meeting  
Tuesday, August 8, 2023 4:15-6:45 PM**



# *Today's Agenda*



# Today's Agenda

| Time           | Topic  |
|----------------|--|
| 4:15 – 4:25 PM | Welcome, Agenda Overview   |
| 4:25 – 4:30    | Public Comment   |
| 4:30 – 4:40    | New Member and DFM Director Introductions   Attendance Check-in  |
| 4:40 – 5:20    | <div>Update on Water Utility Fees and Timeframes<ul style="list-style-type: none"><li>• Water Utilities (BWS)</li><li>• Sewer Utilities (ENV)</li><li>• Storm Water Utility Fee Status and Schedule</li></ul></div>  |
| 5:20 – 5:40    | Credit/Rebate Manual Outline   |
| 5:40 – 5:55    | SWOOSH Member Presentation:<br>Kailua Neighborhood Board Subcommittee – Levani Lipton  |
| 5:55 – 6:20    | <div>Additional News and Updates<ul style="list-style-type: none"><li>• Environmental Finance Center Designation of Hawai'i Community Foundation</li><li>• Public Engagement and Outreach Update</li><li>• City Staffing and Job Openings for Storm Water Quality Work</li></ul></div> |
| 6:20 – 6:30    | Wrap Up and Next Meeting   |

# Tips for Productive Discussions



**Keep input  
focused and  
concise**



**Commit to everyone  
participating equally**



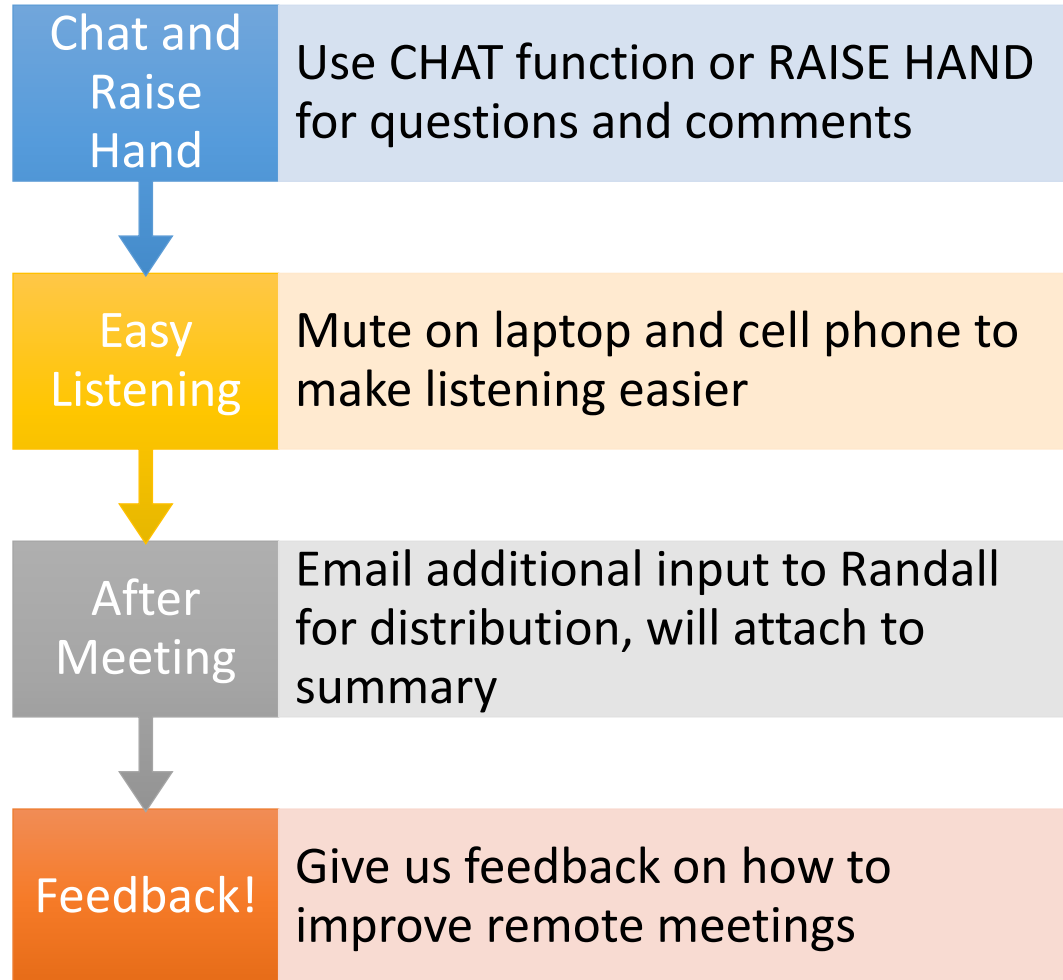
**Listen for understanding –  
avoid quick opinions**



**Help identify  
solutions**



# Participating Online



# *Public Comment*



# Please Share Your Perspectives!

The public was invited and encouraged to submit comments before this meeting and to observe the meeting. The public may make comments at this time in the meeting and is also invited to submit written comments by email or US Mail, preferably by Tuesday, August 15, 2023. All comments from the public will be distributed to the Stakeholder Advisory Group members and project team.

## Email

[stormwater@honolulu.gov](mailto:stormwater@honolulu.gov)

*Mahalo*

## US Mail

City and County of Honolulu  
Department of Facility Maintenance  
Storm Water Quality Branch  
1000 Uluohia Street, Suite 212  
Kapolei, HI 96707





# *New Member Introductions & Roundtable Alohas*



# Welcome DFM Director Albano!



***Gene C. Albano, P.E.***  
*Director and Chief  
Engineer Designate*

Gene grew up in Honolulu, graduated from Moanalua High School and received his Bachelor of Science degree in Electrical Engineering from California State University Long Beach. He started his built environment engineering career with a local electrical engineering consulting firm, Nakamura Oyama and Associates, for 15 years. He then moved on to a global engineering firm, WSP, becoming Senior Vice President and the Honolulu Property and Buildings Business Line Leader for the last 17 years.

Through his 30 plus years career, he has attained extensive and diverse design engineering and project management experience working with various Federal, State and County agencies; and private sector clients. His projects have spanned throughout the Asia Pacific and USA regions including Hawai'i, the Continental USA, Japan, Korea, the Philippines, China, Singapore, and various Pacific islands.

His professional credentials include being a licensed professional engineer in Hawai'i, California, the territory of Guam and the Commonwealth of the Northern Marianas Islands; a LEED AP and an International Code Council certified electrical plans reviewer.

# *Update on Water Utility Fees & Timeframes*

*Board of Water Supply (BWS) Rate Update*

*Sewer Utilities (ENV) Rate Update*

*Storm Water Utility Fee Status & Schedule*





# *Board of Water Supply (BWS) Rate Update*

*Barry Usagawa, Board of Water Supply Program Administration*



# Board of Water Supply (BWS ) Rate Update

## *BWS Board of Directors Meeting*

### Rate Presentation

Start: 57:30:00

End: 3:02:00

<https://vimeo.com/839900149>





**KA WAI OLA**

**ALL LIFE  
DEPENDS  
ON WATER**

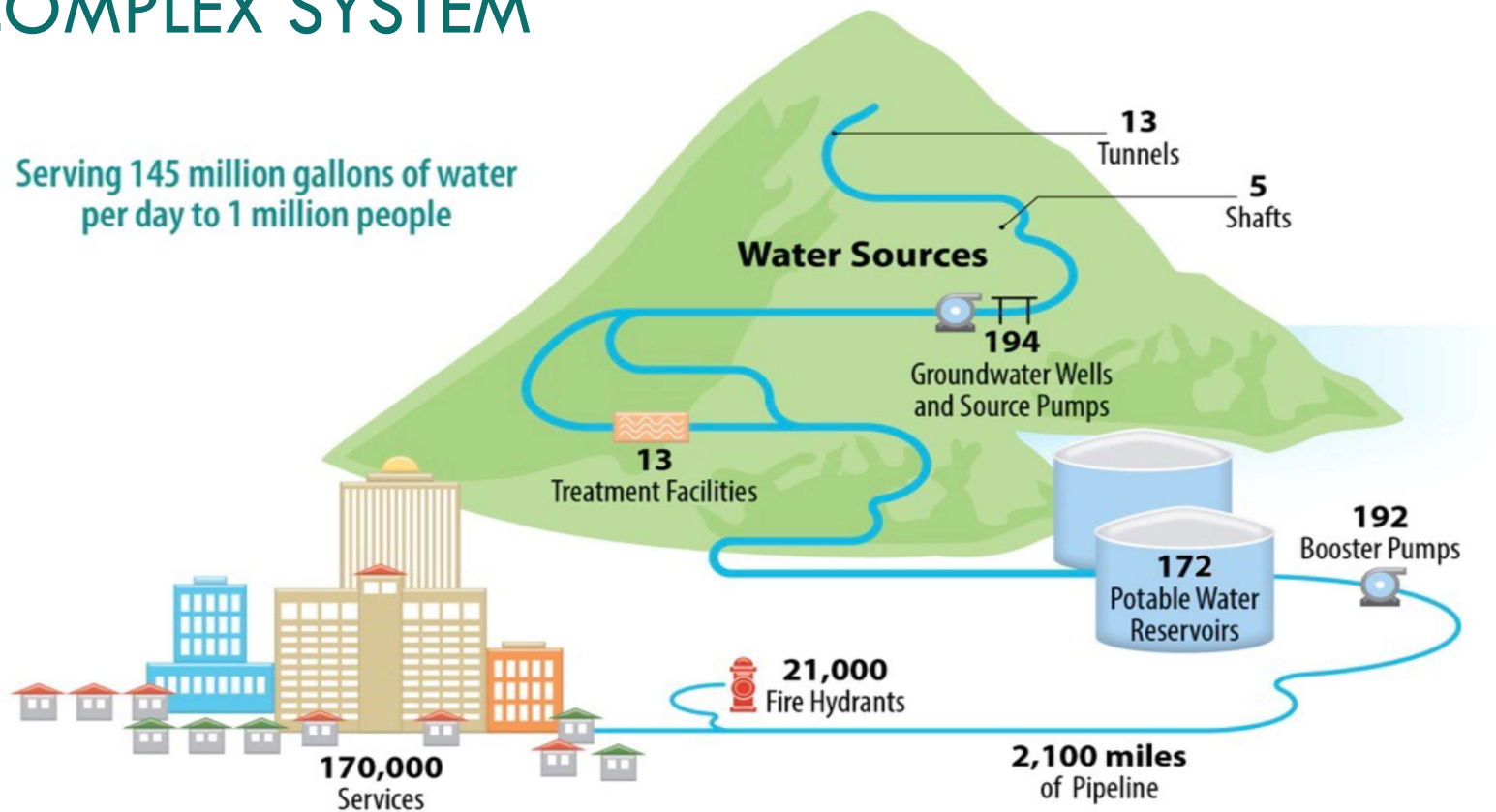
**Proposed  
Updates to Water  
Rates and Charges**

[boardofwatersupply.com](http://boardofwatersupply.com)





# DELIVERING WATER FROM UNDERGROUND WATER SOURCES TO YOUR HOME REQUIRES A LARGE AND COMPLEX SYSTEM



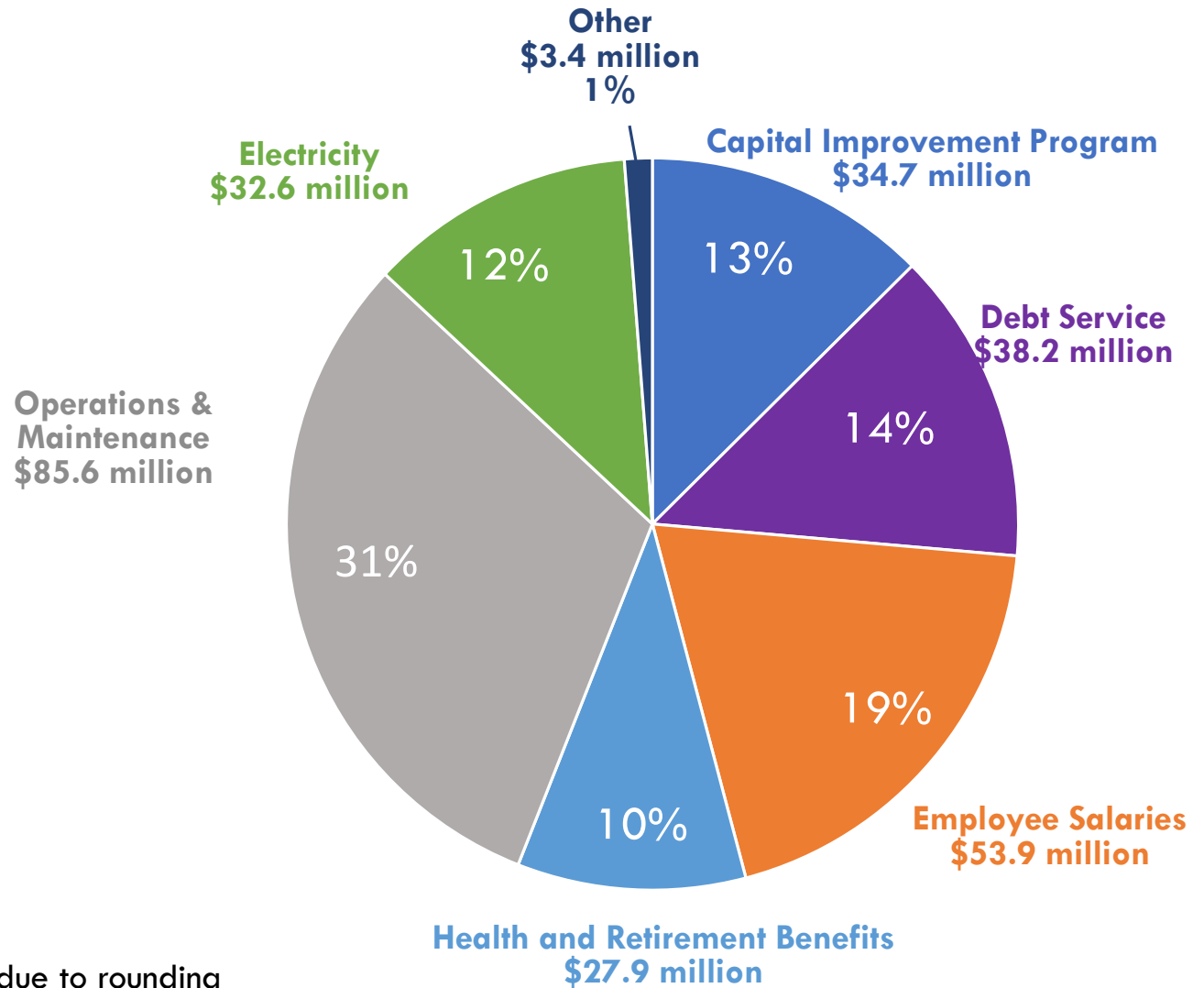
# BOARD OF WATER SUPPLY RATES

- The **Board of Water Supply** is
  - **Semi-autonomous** agency of the City and County of Honolulu.
  - Solely **funded by ratepayers**
  - Receives **no funding** from property taxes.
- Rates:
  - **Only apply to water**, not sewer.
  - Are approved by our board.
- Wastewater charges are determined by the Dept of Environmental Services and approved by the City Council.



# WHERE YOUR MONEY GOES

Operating Fund  
Expenditures  
Fiscal Year 2024  
\$276.4 million\*



\* Individual amounts may not total due to rounding



# TOTAL CAPITAL IMPROVEMENT PROJECTS (2018-2023)

|                       |                     |                      |
|-----------------------|---------------------|----------------------|
| Planning/Design Phase | 196 PROJECTS        | \$134,472,236        |
| Construction Phase    | 298 PROJECTS        | \$635,069,548        |
| <b>Total</b>          | <b>494 PROJECTS</b> | <b>\$769,541,784</b> |



A black and white photograph of a beach scene. Several tall palm trees are scattered across the foreground and middle ground. In the background, a city skyline is visible on the left, and a pier or breakwater extends into the ocean on the right. A few small figures of people can be seen on the beach and near the pier. The sky is filled with clouds.

# COVID-19 CAUSED CHANGES IN CUSTOMER WATER USE PATTERNS



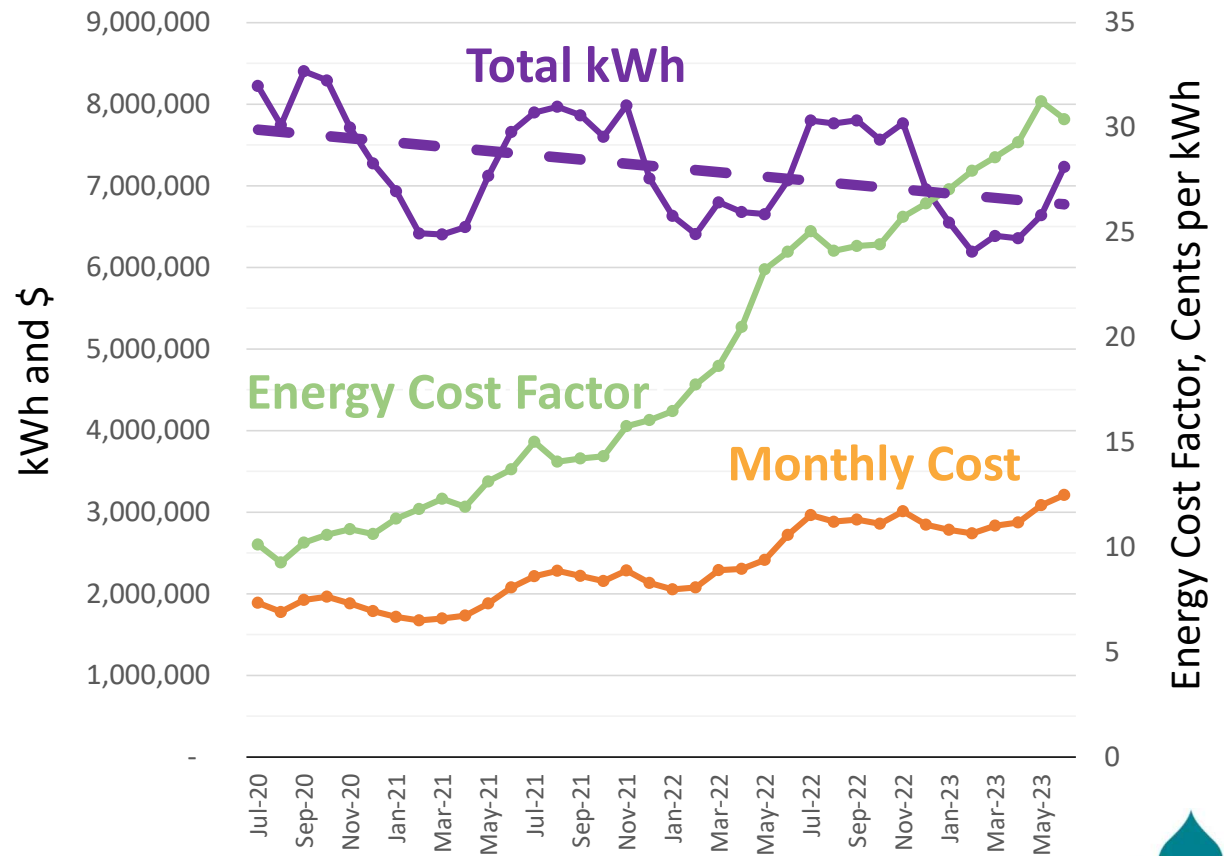
# INFLATION HAS DECREASED OUR PURCHASING POWER



# POWER COSTS TRENDING SHARPLY UPWARD

FY 2023 electricity costs \$33 million

\$5.5 million (20%)  
**over budget**





## RED HILL RESPONSE REQUIRES LARGE INVESTMENTS IN NEW BWS FACILITIES

- **Monitoring wells** for information on how the contamination is moving and **exploratory wells** to find new sources outside of its path
- Replace **17.5 million gallons per day** of potable water well pumping capacity
- **Undetermined:** Full impact to water quality and supply, impact to Operations & Maintenance costs, and cost recovery from Navy



# BWS HAS TIGHTENED ITS BELT

## Actions

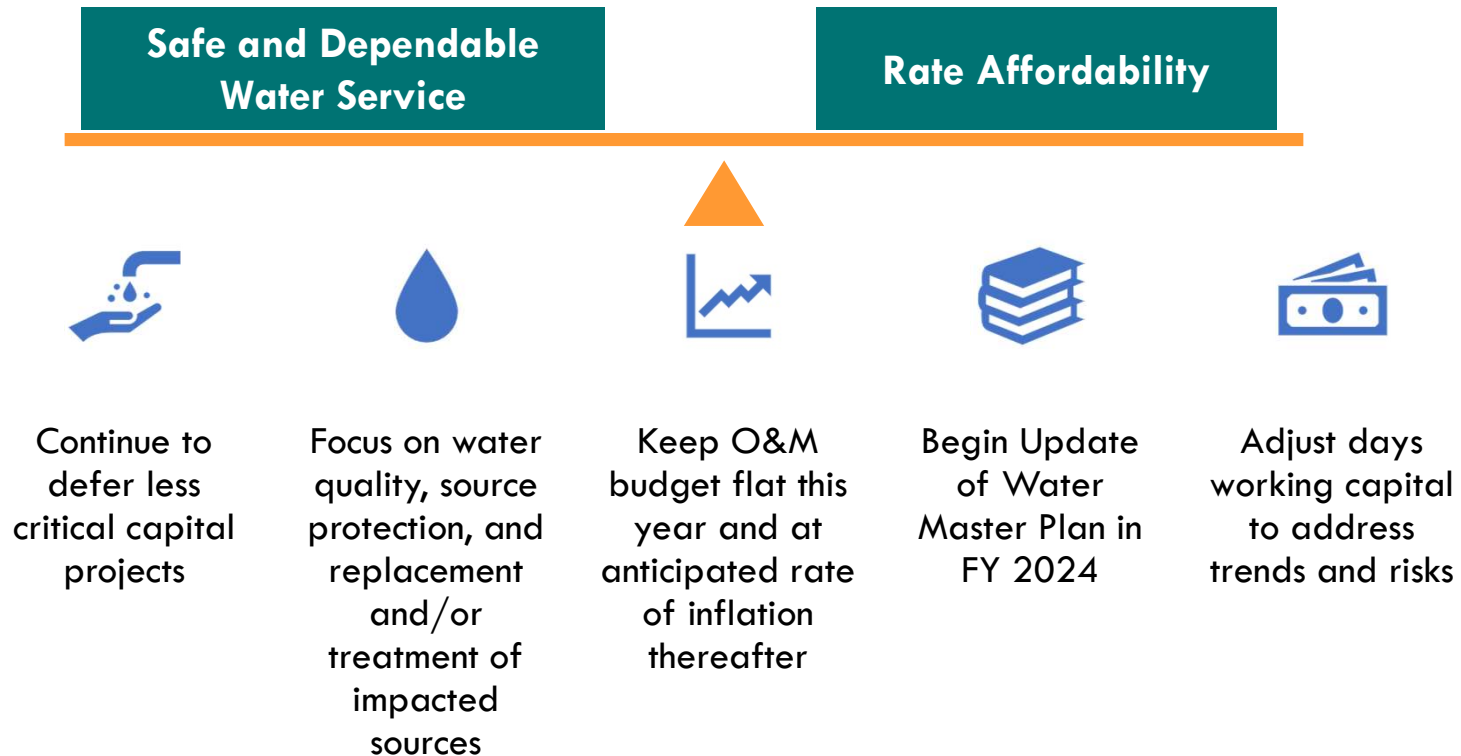
- Chose to not pass on energy cost increases to customers
- Deferred purchases of replacement vehicles and other equipment
  - Deferred less-critical capital projects

## Benefits

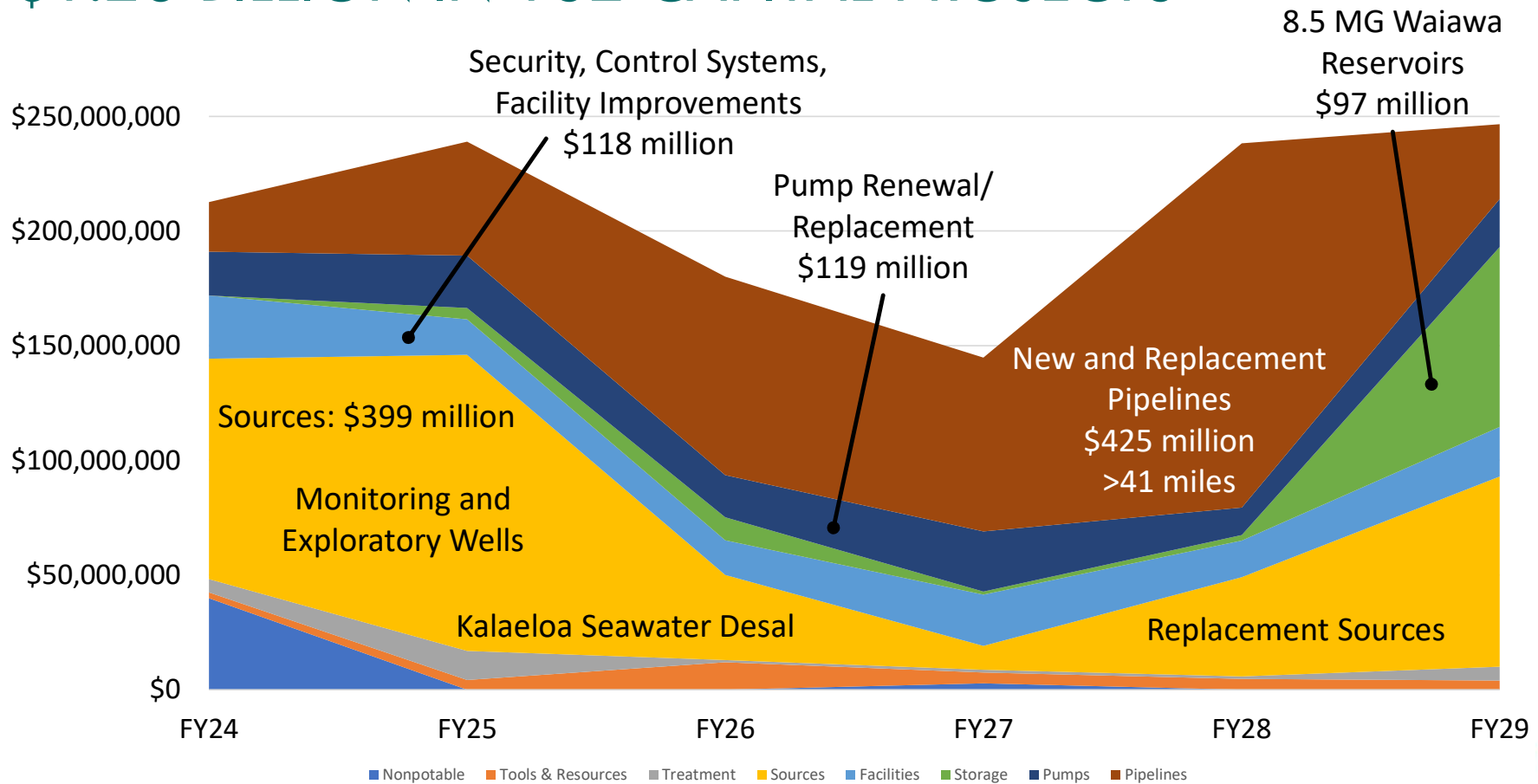
- Held to already-approved rate increases 2018-2023
  - 0.2% increase to 2024 Operations & Maintenance budget despite high inflation



# OUR STRATEGY FOR RATE INCREASES STRIVES TO STRIKE A BALANCE



# WHAT THE RATE INCREASES WILL PAY FOR \$1.26 BILLION IN 132 CAPITAL PROJECTS





# BWS CUSTOMER CLASSES



Single-family residential



Multi-unit residential



Agricultural



Non-residential



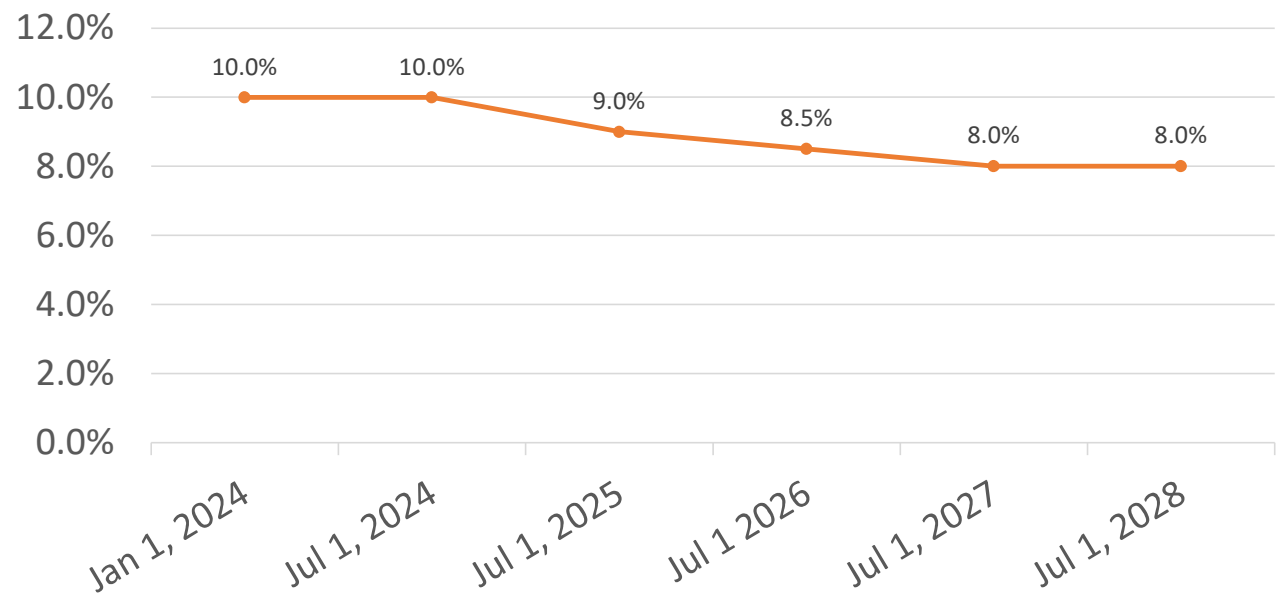
Non-potable and recycled

| % of Customer Accounts* | % Usage* | Cost of Service Recovery |
|-------------------------|----------|--------------------------|
| 90%                     | 35.4%    | 95%                      |
| 4%                      | 20.7%    | 100%                     |
| <1%                     | 2.4%     | 60%                      |
| 5%                      | 33.9%    | 117%                     |
| <1%                     | 6.3%     | Varies from 32% to 94%   |

\* May not equal 100% due to rounding

# WATER RATES BEING PROPOSED FOR 5 ½-YEAR PERIOD BEGINNING JANUARY 2024 JANUARY 2024 – JUNE 2029

BWS planned  
for rate  
increases every  
year



# ALL CUSTOMER CLASSES WILL HAVE SAME RATE INCREASE



**Single-family residential**

Tiered



**Multi-unit residential**

Tiered



**Agricultural**

Tiered



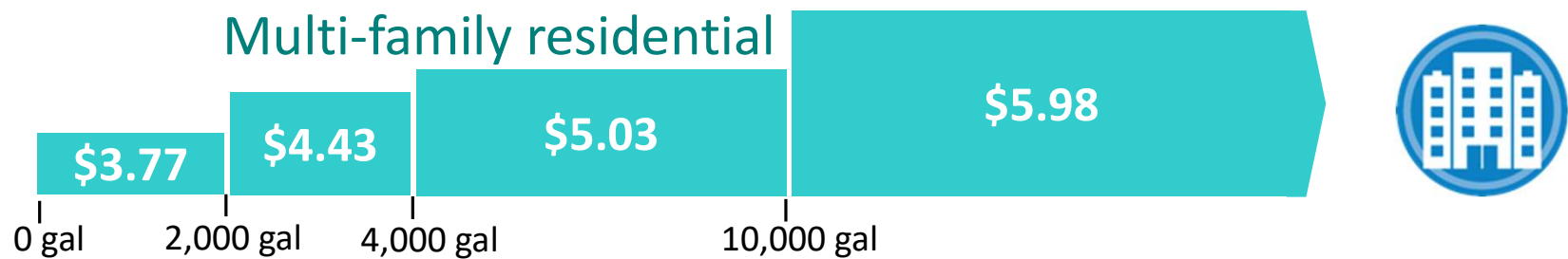
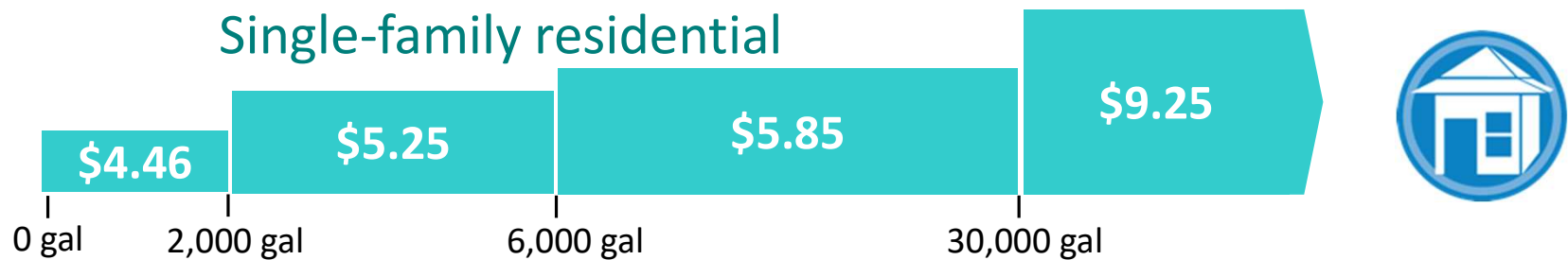
**Non-residential**



**Non-potable and recycled**

Changes may vary by tier,  
but are consistent across  
the class

# RESIDENTIAL CUSTOMERS PAY MORE AS WATER USE INCREASES – CURRENT RATES



Current Charges per 1,000 gallons





## INCREASE FOR ESSENTIAL NEEDS TIER LIMITED TO 2.5% PER YEAR

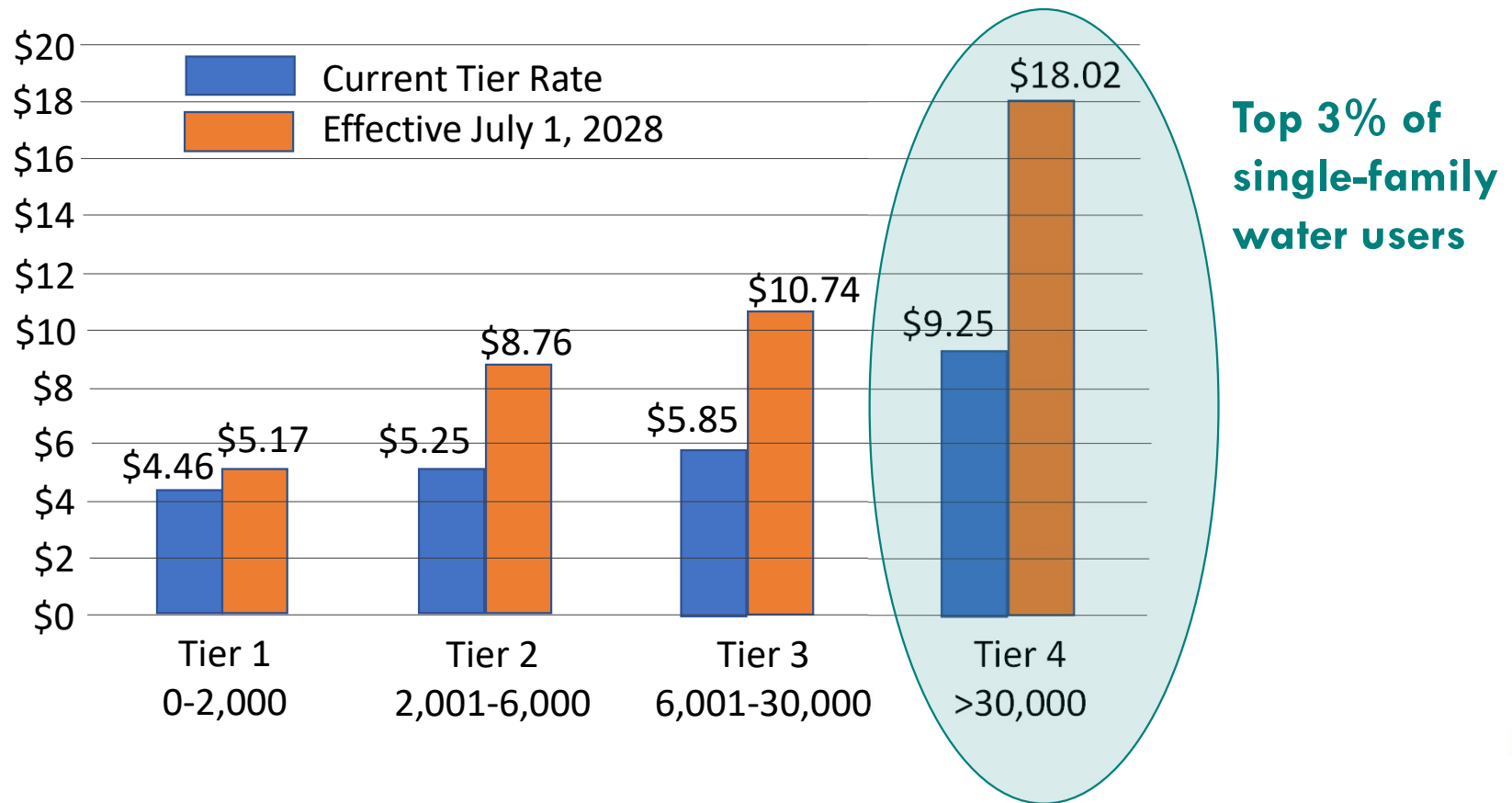
Below-cost rate for first  
2,000 gallons per month

All residential customers  
get this rate

10% of BWS residential  
customers use 2,000  
gallons or less



# RATES DESIGNED TO ENCOURAGE CONSERVATION BY HIGHEST WATER USERS



# SINGLE-FAMILY RESIDENTIAL WATER RATES 2024 - 2029



| Tier           | Gallons/<br>du/month | Current | Proposed Rates, Effective Dates |                 |                 |                 |                 |                 |
|----------------|----------------------|---------|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                |                      |         | Jan 1,<br>2024                  | July 1,<br>2024 | July 1,<br>2025 | July 1,<br>2026 | July 1,<br>2027 | July 1,<br>2028 |
| <b>EssN: 1</b> | 0 to 2,000           | \$4.46  | \$4.57                          | \$4.69          | \$4.80          | \$4.92          | \$5.05          | \$5.17          |
| <b>2</b>       | 2,001 to 6,000       | \$5.25  | \$5.78                          | \$6.35          | \$6.92          | \$7.51          | \$8.11          | \$8.76          |
| <b>3</b>       | 6,001 to 30,000      | \$5.85  | \$6.53                          | \$7.34          | \$8.15          | \$8.98          | \$9.82          | \$10.74         |
| <b>4</b>       | More than 30,000     | \$9.25  | \$10.95                         | \$12.32         | \$13.67         | \$15.06         | \$16.48         | \$18.02         |

EssN – Essential needs

Rates are in \$ per thousand gallons

du – dwelling unit



**PROPOSED: For Discussion Only**

# HOW TO CALCULATE YOUR WATER BILL



| Tier  | Gallons/<br>du/month | Current<br>Water<br>Rate | Thousands of<br>Gallons of<br>Usage (k-gal) | Extended<br>Amount \$ |
|---|----------------------|--------------------------|---|-----------------------|
| <b>EssN: 1</b>  | 0 to 2,000           | \$4.46                   | X 2   | = \$8.92              |
| <b>2</b>  | 2,001 to 6,000       | \$5.25                   | X 4   | = \$21.00             |
| <b>3</b>  | 6,001 to 30,000      | \$5.85                   | X 2   | = \$11.70             |
| <b>4</b>  | More than 30,000     | \$9.25                   | X 0   | = \$0                 |
| <b>Monthly Customer Charge<br/>(5/8 and 3/4-inch Meter)</b> |                      | \$12.09                  |   | + \$12.09             |
| <b>Total Bill Amount</b>                                    |                      |                          |   | <b>\$53.71</b>        |

Example:  
 Single-family residence  
 3/4-inch meter  
 Usage amount 8,510 gallons  
 Usage is rounded down to the  
 nearest 1,000 gallons (k-gal)  
 = 8 k-gals



PROPOSED: For Discussion Only



# COMPARING WATER BILLS – ESSENTIAL NEEDS TIER – 10% OF SINGLE-FAMILY RESIDENTIAL

## The Low Water User (2,000 gallons per month)

| Current Bill | Future Bill at Proposed Rates |              |              |              |              |              |
|--------------|-------------------------------|--------------|--------------|--------------|--------------|--------------|
|              | Jan 1, 2024                   | July 1, 2024 | July 1, 2025 | July 1, 2026 | July 1, 2027 | July 1, 2028 |
| \$21.01      | \$22.44                       | \$24.00      | \$25.55      | \$27.15      | \$28.78      | \$30.52      |
| \$ Change    | \$1.43                        | \$1.56       | \$1.55       | \$1.60       | \$1.63       | \$1.75       |
| % Change     | 6.8%                          | 6.9%         | 6.5%         | 6.2%         | 6.0%         | 6.1%         |



PROPOSED: For Discussion Only

# COMPARING WATER BILLS – AVERAGE WATER USER SINGLE-FAMILY RESIDENTIAL

**The Average Water User**  
(9,000 gallons per month)

| Current Bill | Future Bill at Proposed Rates |              |              |              |              |              |
|--------------|-------------------------------|--------------|--------------|--------------|--------------|--------------|
|              | Jan 1, 2024                   | July 1, 2024 | July 1, 2025 | July 1, 2026 | July 1, 2027 | July 1, 2028 |
| \$59.56      | \$65.12                       | \$71.44      | \$77.69      | \$84.13      | \$90.70      | \$97.80      |
| \$ Change    | \$5.56                        | \$6.32       | \$6.25       | \$6.44       | \$6.57       | \$7.10       |
| % Change     | 9.3%                          | 9.7%         | 8.8%         | 8.3%         | 7.8%         | 7.8%         |



PROPOSED: For Discussion Only

# COMPARING WATER BILLS – **HIGH WATER USER – TOP 3% OF SINGLE-FAMILY RESIDENTIAL**

**The High Water User**  
(35,000 gallons per month)

| Current Bill | Future Bill at Proposed Rates |              |              |              |              |              |
|--------------|-------------------------------|--------------|--------------|--------------|--------------|--------------|
|              | Jan 1, 2024                   | July 1, 2024 | July 1, 2025 | July 1, 2026 | July 1, 2027 | July 1, 2028 |
| \$228.66     | \$256.94                      | \$287.22     | \$317.15     | \$347.96     | \$379.42     | \$413.49     |
| \$ Change    | \$28.28                       | \$30.28      | \$29.93      | \$30.81      | \$31.46      | \$34.07      |
| % Change     | 12.4%                         | 11.8%        | 10.4%        | 9.7%         | 9.0%         | 9.0%         |



**PROPOSED: For Discussion Only**

# MULTI-UNIT RESIDENTIAL WATER RATES 2024 - 2029



| Tier           | Gallons/<br>du/month | Current | Proposed Rates, Effective Dates |                 |                 |                 |                 |                 |
|----------------|----------------------|---------|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                |                      |         | Jan 1,<br>2024                  | July 1,<br>2024 | July 1,<br>2025 | July 1,<br>2026 | July 1,<br>2027 | July 1,<br>2028 |
| <b>EssN: 1</b> | 0 to 2,000           | \$3.77  | \$3.86                          | \$3.96          | \$4.06          | \$4.16          | \$4.27          | \$4.37          |
| <b>2</b>       | 2,001 to 4,000       | \$4.43  | \$4.87                          | \$5.36          | \$5.84          | \$6.34          | \$6.85          | \$7.39          |
| <b>3</b>       | 4,001 to 10,000      | \$5.03  | \$5.70                          | \$6.52          | \$7.33          | \$8.16          | \$9.01          | \$9.93          |
| <b>4</b>       | More than 10,000     | \$5.98  | \$7.21                          | \$8.25          | \$9.27          | \$10.33         | \$11.40         | \$12.57         |

EssN – Essential needs

Rates are in \$ per thousand gallons

du – dwelling unit



PROPOSED: For Discussion Only

# MULTI-UNIT RESIDENTIAL SAMPLE WATER BILLS



| Dwelling<br>Units (du) | Meter<br>Size | Monthly<br>Usage<br>k-gals/du | Current  | Proposed Rates, Effective Dates |                 |                 |                 |                 |                 |
|------------------------|---------------|-------------------------------|----------|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                        |               |                               |          | Jan 1,<br>2024                  | July 1,<br>2024 | July 1,<br>2025 | July 1,<br>2026 | July 1,<br>2027 | July 1,<br>2028 |
| 272                    | 3"            | 7                             | \$8,619  | \$9,462                         | \$10,454        | \$11,436        | \$12,446        | \$13,478        | \$14,593        |
| 144                    | 8"            | 9                             | \$6,260  | \$6,924                         | \$7,712         | \$8,492         | \$9,294         | \$10,113        | \$11,000        |
| 277                    | 8"            | 14                            | \$19,805 | \$22,610                        | \$25,474        | \$28,303        | \$31,216        | \$34,189        | \$37,413        |

**PROPOSED: For Discussion Only**  
**Bill amounts rounded to nearest \$1**  
**Excludes Fire Meter Standby Charge**





# NON-RESIDENTIAL CUSTOMERS DRIVE OUR ISLAND'S ECONOMY – CURRENT RATES



Non-residential customers pay 117% of their cost of service

**\$5.27 per 1,000 gallons**



# NON-RESIDENTIAL WATER RATES

## 2024 - 2029



| Current  | Proposed Rates, Effective Dates |                 |                 |                 |                 |                 |
|----------|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|          | Jan 1,<br>2024                  | July 1,<br>2024 | July 1,<br>2025 | July 1,<br>2026 | July 1,<br>2027 | July 1,<br>2028 |
| \$5.27   | \$5.80                          | \$6.38          | \$6.95          | \$7.54          | \$8.14          | \$8.80          |
| % Change | 10.0%                           | 10.0%           | 9.0%            | 8.5%            | 8.0%            | 8.0%            |

Rates are in \$ per thousand gallons

Examples: hotels, restaurants, government, shopping centers,  
hospitals, retail



PROPOSED: For Discussion Only

# NON-RESIDENTIAL SAMPLE WATER BILLS

PROPOSED: For Discussion Only  
Bill amounts rounded to nearest \$1



| Business Type         | Meter Size | Monthly Usage k-gals | Current   | Proposed Rates, Effective Dates |              |              |              |              |              |
|-----------------------|------------|----------------------|-----------|---------------------------------|--------------|--------------|--------------|--------------|--------------|
|                       |            |                      |           | Jan 1, 2024                     | July 1, 2024 | July 1, 2025 | July 1, 2026 | July 1, 2027 | July 1, 2028 |
| Restaurant            | 1.5"       | 230                  | \$1,230   | \$1,352                         | \$1,488      | \$1,622      | \$1,759      | \$1,900      | \$2,052      |
| Hotel                 | 6"         | 1,526                | \$8,224   | \$9,046                         | \$9,951      | \$10,846     | \$11,768     | \$12,710     | \$13,726     |
| Church                | 2"         | 233                  | \$1,271   | \$1,399                         | \$1,538      | \$1,677      | \$1,819      | \$1,965      | \$2,122      |
| Office Building       | 3"         | 458                  | \$2,467   | \$2,714                         | \$2,985      | \$3,254      | \$3,531      | \$3,813      | \$4,118      |
| Large Industrial User | 8"         | 31,233               | \$164,780 | \$181,258                       | \$199,383    | \$217,328    | \$235,801    | \$254,665    | \$275,038    |
| Large Shopping Center | 3"         | 4,907                | \$25,913  | \$28,505                        | \$31,355     | \$34,177     | \$37,082     | \$40,049     | \$43,253     |



# CURRENT REDUCED RATES WILL BE CONTINUED



Lower rates for  
**local agriculture**

**and recycled  
water**







**For affordable  
housing**

CONTINUING  
EXISTING FEE  
WAIVERS TOO!



**For homeless  
housing**



**And to retrofit  
fire sprinklers**



# BWS IS CONSIDERING WAIVERS FOR NEW FARMERS

Waive installation fee and Water System Facilities charge for new  $\frac{3}{4}$ -inch and 1-inch meters connecting to BWS system for the first time

Limited to \$1 million granted by State of Hawaii for new exploratory well in Kunia (Memorandum of Understanding dated March 30, 2021)

Require proof of commercial agricultural operation and water use plan



# BWS OFFERS WATER CONSERVATION DEVICE REBATES



For more information go to the conservation menu tab at [boardofwatersupply.com](http://boardofwatersupply.com)

## AND CONSIDERING NEW WATER CONSERVATION PROGRAMS

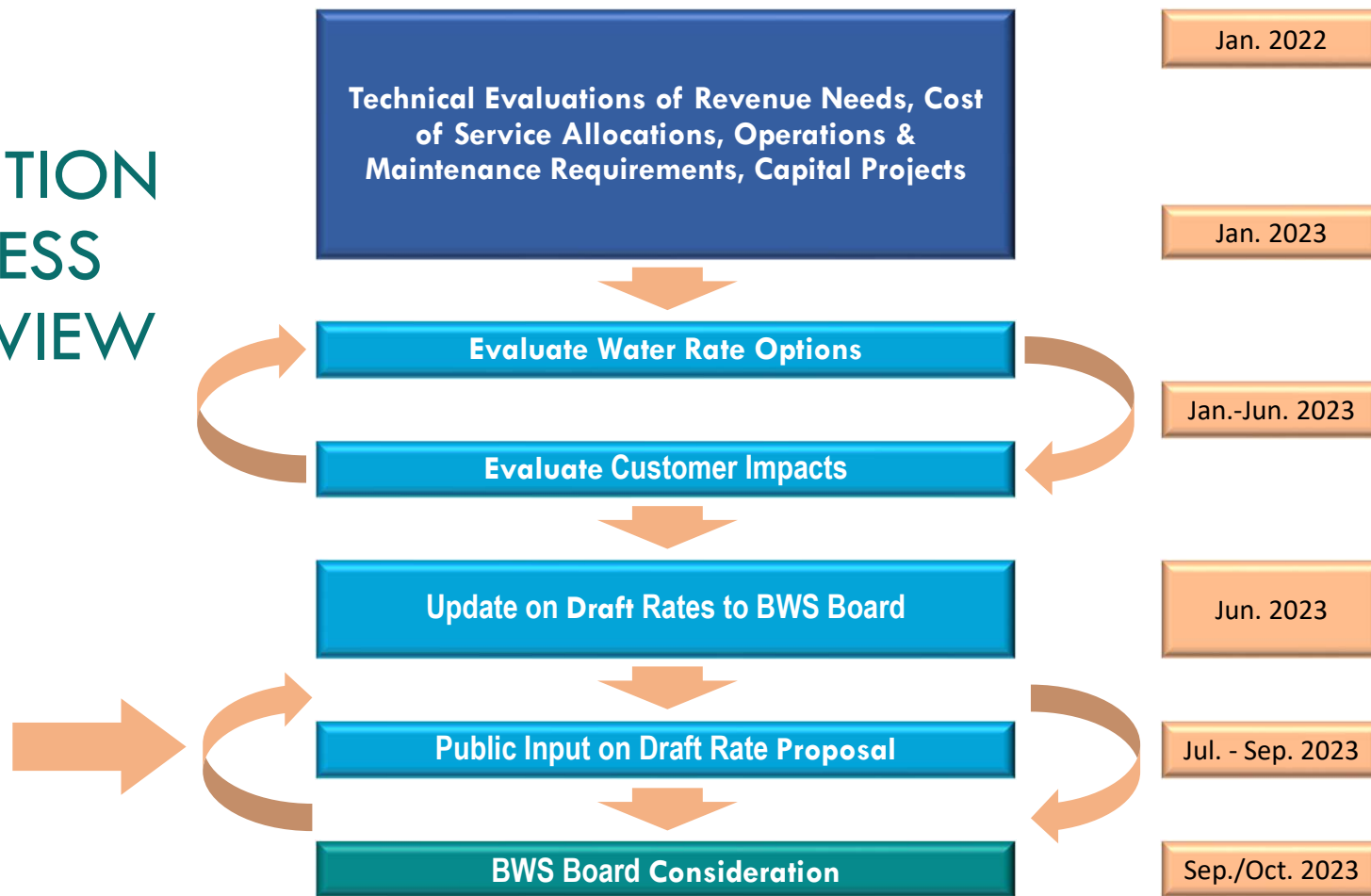
### **Top water user outreach**

- Hotels, other businesses, condos and townhomes

### **Direct install for Kupuna living on their own**

- Free low flow showerheads and faucet aerators
- Water audits of homes
- Ensure Kupuna are getting appropriate rebates

# RATE ADOPTION PROCESS OVERVIEW





## LEARN MORE AT A COMMUNITY INFORMATION MEETING NEAR YOU

| All Meetings: 6:00 – 8:30 PM |  |
|------------------------------|--|
| Kaneohe                      | <b>Monday, August 14</b><br><b><i>Benjamin Parker Elementary School Cafeteria</i></b><br>45-259 Waikalua Road, Kaneohe 96744 |
| Honolulu                     | <b>Tuesday, August 15</b><br><b><i>Japanese Cultural Center of Hawaii</i></b><br>2454 S Beretania St., Honolulu 96826        |
| Kapolei                      | <b>Wednesday, August 16</b><br><b><i>Kapolei Hale, Conference Rooms A/B/C</i></b><br>1000 Uluohia Street, Kapolei 96707      |



# GIVE YOUR INPUT ON PROPOSED RATES

## Send a letter or an email to:

### Board of Water Supply

Attn: Proposed Water Rates

630 South Beretania, Honolulu 96843

Email: [bwsrates@hbws.org](mailto:bwsrates@hbws.org)

**Sept. 30, 2023**



For more information, visit  
our website or scan this QR  
code with your mobile  
device.

## Questions?

**Call: (808) 748-5041**

BWS Website: [www.boardofwatersupply.com](http://www.boardofwatersupply.com)

Twitter: [@BWSHonolulu](https://twitter.com/BWSHonolulu)

Facebook: <http://www.facebook.com/BWSHonolulu>



# *Sewer Utilities (ENV) Rate Update*

*Dr. Roger Babcock, Director of ENV*



# *Storm Water Utility Fee Status & Schedule*





# Storm Water Utility Fee Status & Schedule

- Working to present dedicated storm water funding options to Mayor
- Desire to fund as much of storm water program as possible via a dedicated fee, including:
  - green stormwater infrastructure
  - system maintenance
  - channel clean outs
  - grants
  - rebates
- Need to understand cumulative citizen impact with BWS & ENV
- Fee added to sewer could be short-term option (i.e., flat fee)
- Options for phase in/transition to full impervious cover-based fee
- Billing system is a key consideration

# *Credit / Rebate Manual Outline*

*Credits & Rebates*

*Purposes of the Manual*

*Initial Outline*

*Questions for SWOOSH Members*



# *Credits & Rebates*





In ancient times, we heard about storm water fee credits...





# Credits & Rebates

Permanent features that capture or reduce runoff on a property may be eligible for credits and rebates.



*Rainwater Capture*



*Depaving*



*Rain Gardens/Bioretention*



*Permeable Pavers*



# Credits vs. Rebates

## CREDITS

**A reduction in an ONGOING CHARGE** based on actions taken to reduce demand on the system.

Credits must be periodically **RENEWED**.



Ongoing fee reduction if a property owner can reduce the **AMOUNT** or **IMPACT** of impervious surfaces.

## REBATES

**A ONE-TIME PAYMENT** to a system user who purchases and installs a specific practice/ appliance that reduces demand on the system.



A one-time payment for installing a rainwater capturing device (cistern, 'rain barrel') OR installing green infrastructure (e.g., permeable driveway, rain garden, etc.)



# Honolulu's Credit Manual

- **Essential component of the storm water fee program**

Credit Manual is part of the *“if you pave less, you pay less”* principle for storm water utilities.

- **Part of the Ordinance that City Council would adopt**

Ordinance draft refers to the Manual as the basis for reduced fees.

- **Must provide objective standards for determining fee credits**

- Design of storm water control measures
- Standards for non-structural credits (i.e., education, NPDES compliance)
- How compliance is demonstrated (i.e., frequency of credit renewal, information required)

- **Available BEFORE any bills come due to facilitate use**

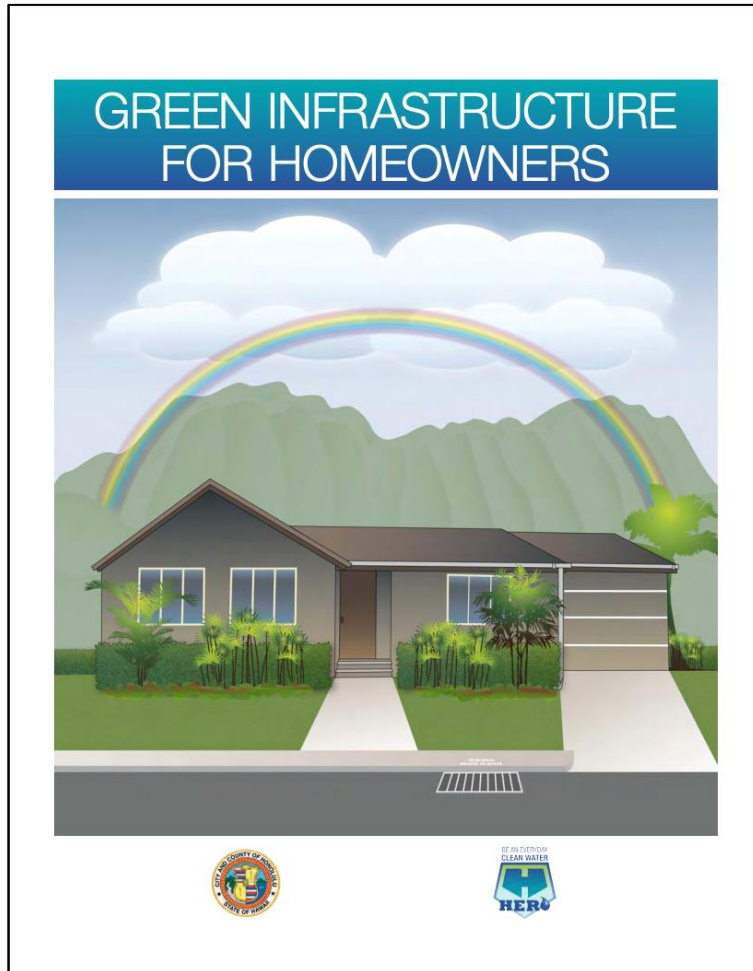
This point was stressed by the public during outreach.

# *Purposes of the Credit Manual*



# Different design manuals, different purposes

*voluntary*



*regulation*

Minnesota Stormwater Manual

Calculating credits for stormwater and rainwater harvest and use/reuse

**Green Infrastructure:** Stormwater and rainwater harvest and use systems can improve or maintain watershed hydrology, reduce pollutant loading to receiving waters, increase water conservation, reduce stress on existing infrastructure, and reduce energy consumption.

**Information:** This manual currently does not contain information on models and calculators developed specifically for rainwater/stormwater harvest and use/reuse systems. Once that information is developed it will be incorporated into this page.

**Credit** refers to the quantity of stormwater or pollutant reduction achieved either by an individual **best management practice (BMP)** or cumulatively with multiple BMPs. Stormwater credits are a tool for local stormwater authorities who are interested in:

- providing incentives to site developers to encourage the **preservation of natural areas** and the **reduction of the volume of stormwater** runoff being conveyed to a best management practice (BMP);
- complying with permit requirements, including antidegradation (see **Construction permit; Municipal (MS4) permit**);
- meeting the **MIDS performance goal**; or
- meeting or complying with water quality objectives, including **total maximum daily load (TMDL) wasteload allocations (WLAs)**.

This page provides a discussion of how harvest and use/reuse practices can achieve stormwater credits. It is assumed that captured water is applied as irrigation and that all irrigation water infiltrates. To view the credit articles for other BMPs, see the **Related pages** section.

**Overview**

Stormwater and rainwater harvest and use/reuse systems capture and store runoff. The stored water is typically utilized for irrigation. This water is assumed to infiltrate. Credits for these BMPs are therefore similar to credits for other **infiltration** practices in that all water applied for irrigation and pollutants in that water are credited. The methodology differs, however, in that the water is captured **instantaneously**, but use of the water is dependent on the irrigation rate rather than the soil **infiltration rate**, as is the case with infiltration **best management practice (BMPs)**. The period of use is also during the growing season, meaning the generated credits only apply at that time. If harvested water is used indoors, it may be discharged to a sewer system, to a septic drainfield, or to another stormwater BMP. Credits for these vary and are discussed below.

**Pollutant removal mechanisms**

Harvest and use/reuse practices reduce stormwater volume and pollutant loads through infiltration of the captured and stored stormwater runoff into the native soil. All pollutants in infiltrated water are considered to be removed from the stormwater conveyance system. Because infiltration typically occurs on turf or other vegetated media, a wide variety of stormwater pollutants will be retained through secondary removal mechanisms including **filtration**, biological uptake, and **soil adsorption** through plantings and soil media (WEF Design of Urban Stormwater Controls, 2012). See **Other Pollutants**, for a complete list of other pollutants retained by filtration practices.

**Location in the treatment train**

**Recommended pollutant removal efficiencies, in percent, for infiltration BMPs. Sources:**

TSS-total suspended solids; TP-total phosphorus; PP-particulate phosphorus; DP-dissolved phosphorus; TN-total nitrogen

| TSS   | TP | PP | DP | TN | Metals | Bacteria | Hydrocarbons |
|---|----|----|----|----|--------|----------|--------------|
| Pollutant removal is 100 percent for the volume that is captured and infiltrated. If captured water is routed to a non-infiltrating bmp, removal is determined by that bmp. |    |    |    |    |        |          |              |

**Schematic illustrating the basic concepts for a harvest and use-reuse system.** Stormwater or rainwater is stored in a cistern or pond and delivered outdoors or indoors through a distribution system.

*fee credits*

South Burlington Stormwater Utility

**Credit Manual for Stormwater Fees**

This credit manual suffers from Graphic Deficit Disorder

Prepared By:  
Hoyle, Tanner & Associates, Inc.  
AMEC Earth and Environmental, Inc.

South Burlington Stormwater Utility  
User Fee Credit Manual

February 2006  
Page - i -



# Other Considerations for Honolulu's Credit Manual

What are the Manual's uses, since an impervious cover-based fee is not yet in place?

How can the Manual support other desired programs?

- **Grants** for green infrastructure
- Enhanced **rebates**, especially for rainwater capture
- Education and **demonstration projects**





# Integration with Follow the Drop!



# *Initial Outline*



# Manual Outline

## Credit Procedures

- Eligibility
- Maximum credits
  - Recommended: Max. 60% credit for 100% retention of 1 year storm
  - Can be combined for max. of 60% with non-structural credits such as NPDES compliance, education
- Credit calculation
  - Impervious area-based credits
  - Non-structural credits
- Application process
- Application assistance
- Appeals
- Renewal

## Grant & Rebate Projects

- Process for credits can be adapted to support a grant and rebate program
- Many elements (i.e., application, calculation, application assistance) are very similar to credit procedures
- Will need to address eligibility, process for reimbursement

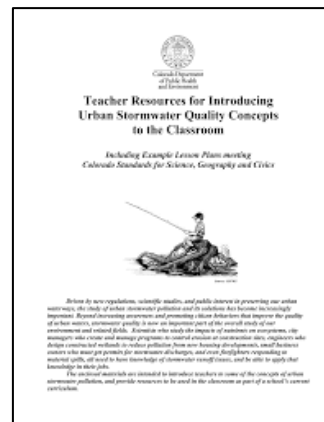
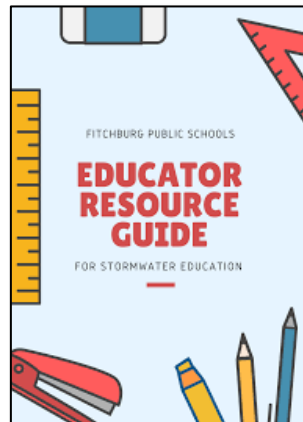
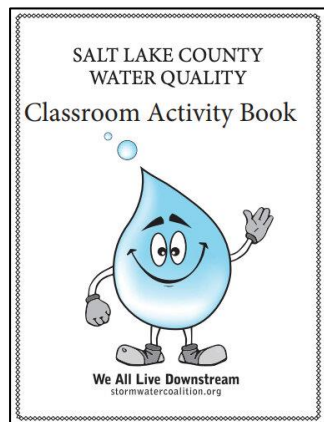


# Example Credits: Educational Programs

## NEORSD Stormwater Fee Credit Policy Manual

### 4. **Education Credit:** Flat Reduction of 25%

The Education Credit is available to all public and private primary, elementary, and secondary school account holders that are recognized in the State of Ohio and that provide District-approved stormwater pollution prevention curricula to at least 25% of the grade levels across the school or school district. The Education Credit is 25% of the stormwater fee for all the properties at which education curricula are delivered. An Education Credit can be combined with the Stormwater Quality and/or Quantity Credit for a maximum of 100% credit for a particular school property.



# Example Credits: Water Quality Volume

- **Renewal:** Credits require application and periodic renewal (e.g., 3 years for residential and 1 year for non-residential).
- **Additional Credit:** Consider additional credit above 60% maximum for treating runoff from adjacent properties.
- **Compliance:** BMPs installed for compliance with City Water Quality Rules will be eligible for credit.





# *Questions for SWOOSH Members*



# Questions for the SWOOSH

1. What questions would your organization or constituents have about credits and rebates that should be highlighted in a “Credits FAQ”?
2. Would your organization consider implementing a water capture/green stormwater infrastructure project? If so, which kind(s)?
3. What resources would you need to pursue these projects?



Scan the QR code OR  
visit [Menti.com](https://www.menti.com)  
and enter **3262 1694**

# *SWOOSH Member Presentation*

## *Kailua Neighborhood Board Subcommittee*





# *Public Engagement and Outreach Update*



# 2023 Stormwater Quality BMPs Workshops

## *Stormwater Quality BMPS Workshops*

August 10 and 11

8 AM - 3 PM

Hawai'i Convention Center  
and Online via InEvent



[HonoluluStormWaterWorkshops.com](https://HonoluluStormWaterWorkshops.com)

~400 registered

40+ presenters from Hawai'i and  
across the nation

Virtual registration open until  
**August 11th**

Recordings available to  
registrants until the end of 2023



# Kailua Neighborhood Board

## Kailua Water Quality PSPHCD Subcommittee

Presentation for:  
Storm Water of Oahu Stakeholder Hui /  
Stormwater Utility Advisory Group

August 8, 2023  
Levani Lipton, Chair





# What is the future of Kailua Bay?



# What is the future of the waterway closest to your community?





Viator  
tours - Kailua Beach Park, Oahu ...



Hawaii Travel Guide  
Kailua Beach Park Information ...



Best of Oahu  
Discover Kailua Beach Park



iStock  
Lanikai Beach In Kailua Hawaii Stock ...



Hawaii Magazine  
Oahu's Kailua Beach Park Awarded ...



Tripadvisor  
Kailua Beach Adventures - All...



Tripadvisor  
Kailua Beach Park - All You



portAloha.com  
ets of Hawaii- Lanikai and Kail...



Hawaiian Beach Rentals  
Kailua Beach Park in Kailua, Oahu ...



Planet of Hotels  
Kailua Beach Park in Mililani Town ...



Avenly Lane Travel  
Kailua Beach Park: Oahu's Best All ...



Avenly Lane Travel  
Kailua Beach Park: Oahu's Best All ...



Oahu Activities  
Lanikai Beach - Ka'hao The Heavenly...



Hawaii Tribune-Herald  
Oahu's Kailua beach is named



Travel Guide  
Oahu Hawaii



Tripadvisor  
Lanikai Beach (Kailua) - All You ...



Fodors Travel Guide  
Kailua Beach Park Review - Oahu Hawaii ...



Flickr  
Kailua Beach Sunrise | The ...



Hawaii Family Life  
Kailua Beach Adventures - Hawaii Family ...



Hawaiian Beach Rentals  
Kailua Beach Park in Kailua, Oahu ...



iStock  
410+ Kailua Beach Stock Photo...



Hawaii activities  
Kailua Beach | Boc



Expedia.com  
Visit Kailua: 2023 Travel Guide for ...



BringFido  
Kailua Beach Park



Booking.com  
Kailua Beach Cottage, Kailua – Up...



Hotels.com Philippines  
10 Best Beaches in Hawaii - What Is th...



Hawaii Living  
Top 10 Reasons to Love Kailua | Hawaii ...



U.S. News Travel  
Kailua Beach Reviews | U.S. News Travel



Trip Advisor  
Kailua Beach Park ...



Best  
Kailua Beach Park is one of the very ...



Wallpaper Flare  
Clear watered beach during sunset ...



Kailua Beach Adventures  
Discover Kailua Beach Park: Oahu'...



KHON2  
Kailua Beach fireworks show ...



YouTube  
Kailua Beach Park - Spectacular Aerial ...



SpeediShuttle  
Things to do in Kailua | SpeediShuttle ...

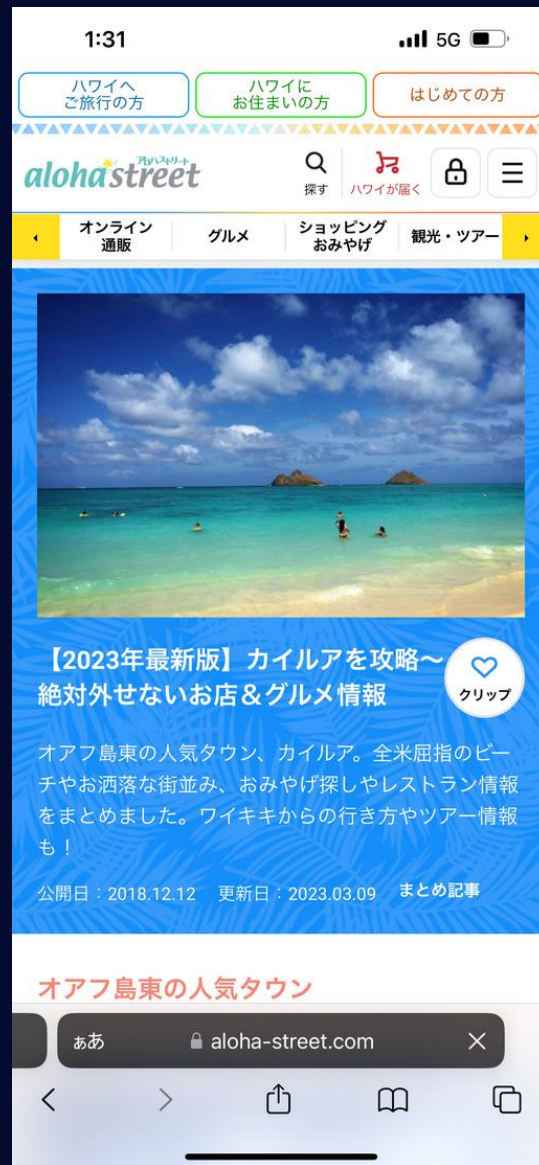


Piccolo Explorer  
Kailua Beach Park Oa



# KAILUA BEACH





1.49K  
views



3.3K  
views



3.4K  
views



Virtual walk  
2.18K  
views

















**Hamakua  
Wetland**



**Kawainui  
Wetland**





*Oneawa canal near  
Niccós*



Our role as the Kailua Water Quality Subcommittee of the Kailua Neighborhood Board is:  
to **inform**, **engage** and **empower**  
the public to **protect** our  
waterways Mauka to Makai





# KNB Motions and Resolutions Relating to Water Quality











- May 2023 - Renaming from (Pollution of Kailua's Waterways and Beaches Subcommittee) to Kailua Water Quality Subcommittee
- Nov. 2022 - Support the draining of Red Hill Fuel Tanks
- Oct. 2022 - Request for cleaning of hardened channels
- Aug. 2022 - Request to participate in C&C DFM annual stormwater BMP conference
- June 2022 - Support permit application for to Army Corp of Engineers for Kaelelpulu Berm opening (promotes water exchange)
- March 2022 - Support legislative action that requires underground fuel tanks contain plans when submitting applications, gives State authority to revoke permit for underground storage tanks, no permits for storage tanks with close proximity to aquifers....(PZE motion)
- Aug. 2021 - Requests inspection report for Keopa flood control basin
- June 2021 - Relates to ending commercial harvesting of reef wildlife for aquarium pet trades
- Apr 2021 - Requests investigation from DOH & C&C on wastewater discharge events during Feb 18th - March 1, 2021.
- April 2021 - Requests for enforcement of BMPs on construction sites
- Feb. 2021 - Requests scheduled street sweeping
- Feb. 2020 - Slope stabilization for Kaelepulu Stream
- Dec. 2019 - Requests C&C to reduce stormwater pollution
- Sept. 2019 - Relates to dredging Kaelepulu Pond
- Sept. 2019 - Requests DFM to come up with plan of actionb for sea level rise and impact on Kailua Bay.
- July 2008 - Creation of water quality subcommittee





# Education and Outreach - I love Kailua Town Party (April 2023)

## WATER QUALITY DID YOU KNOW?

-  That Kailua is home to the largest wetland in the State (Kawainui) which is home to four endangered waterbirds: The 'Alae 'Ula (Hawaiian Gallinule), 'Alae Ke'oke'o (Hawaiian Coot), Ae'o (Hawaiian stilt) and Koloa Maoli (Hawaiian Duck).
-  That there are homes in Kailua that are still connected to cesspools. During big rain events cesspools often overflow causing a spike in bacterial levels in Kailua Bay.
-  That stormwater runoff from streets and impervious surfaces is a major contributor to pollution in our streams and waterways.
-  That Kaelepulu Pond (Enchanted Lake) is the receiver of pollution that flows from upland developments, under Kalaniana'ole Highway, and into the Keolu Channel (near the skateboard park) and empties into Kaelepulu Pond to Kaelepulu Canal and empties into Kailua Bay.
-  That Kawaiinui Wetland receives water from three streams - Kapa'a Stream, which runs through Kapa'a Valley where the quarry and industrial park are located, Kahanaiki Stream and Maunawili Stream, which run through Maunawili Valley.
-  That there are 700 City owned storm drains that empty into Kaelepulu Pond? 110 of them have storm drain screens which helps to keep debris and trash out of the water but 590 still need screens.
-  That single use plastics and plastic bottles often end up in Kaelepulu Pond, Kailua streams, canals and Kailua Bay.
-  That when there is an increase in nutrients - (nitrates and nitrites from fertilizer, insecticides, sediment and road runoff) in Kaelepulu Pond - it reduces oxygen in the lake, unbalancing the ecosystem, leading to algae blooms, fish-dieoffs, and a "bad smell."
-  That mangroves that grow along our waterways and clog the streams prevent steady water flow and are a major cause of pollution and stagnant water.
-  That BMP stands for Best Management Practices - which are guidelines that developers are required to follow on construction sites to help prevent runoff like dirt from entering the waterways.

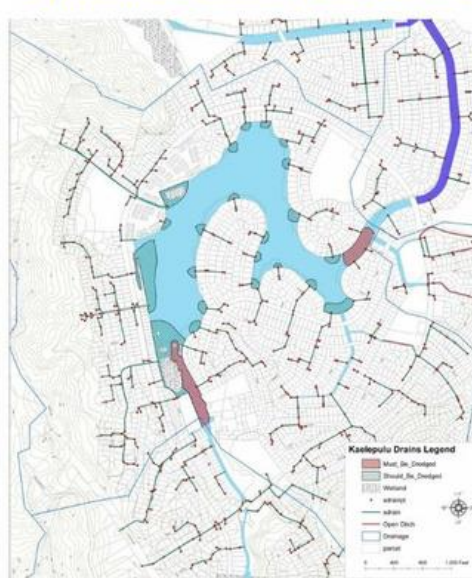
## WATER QUALITY DID YOU KNOW?

- That there have been more than five sewage discharges from the Kailua sewage treatment plant since 2020, with the Department of Health advising the public “to avoid waters near the C&C Kailua Wastewater Treatment Plants ocean outfall due to a discharge that exceeded permitted fecal indicator bacteria levels.”
- That a 2022 EPA consent decree states: “This order ensures that the Kailua Treatment Plant takes steps to prevent any further bacteria exceedances in what the plant discharges into the ocean,” and requires the City and County of Honolulu to: Increase monitoring for bacteria to ensure water quality is protected and the facility complies with its Clean Water Act permit. Perform a condition assessment and maintenance evaluation of wastewater treatment units to prevent additional failures. Develop and implement an operations manual to optimize bacteria removal treatment.
- That the Kailua Neighborhood Board has a committee that focuses on issues affecting water quality in our watershed, waterways and ocean?

## Kailua's Waterways



### City Stormdrains entering Kaelepulu Pond



Source: [kailuawaterways.com](http://kailuawaterways.com)

Map Created by:  
KBAC  
Christina Speed  
February 2007

Figure 10 City storm drain map of Kaelepulu Pond showing areas with sediment buildup at mouths of drain outlets.



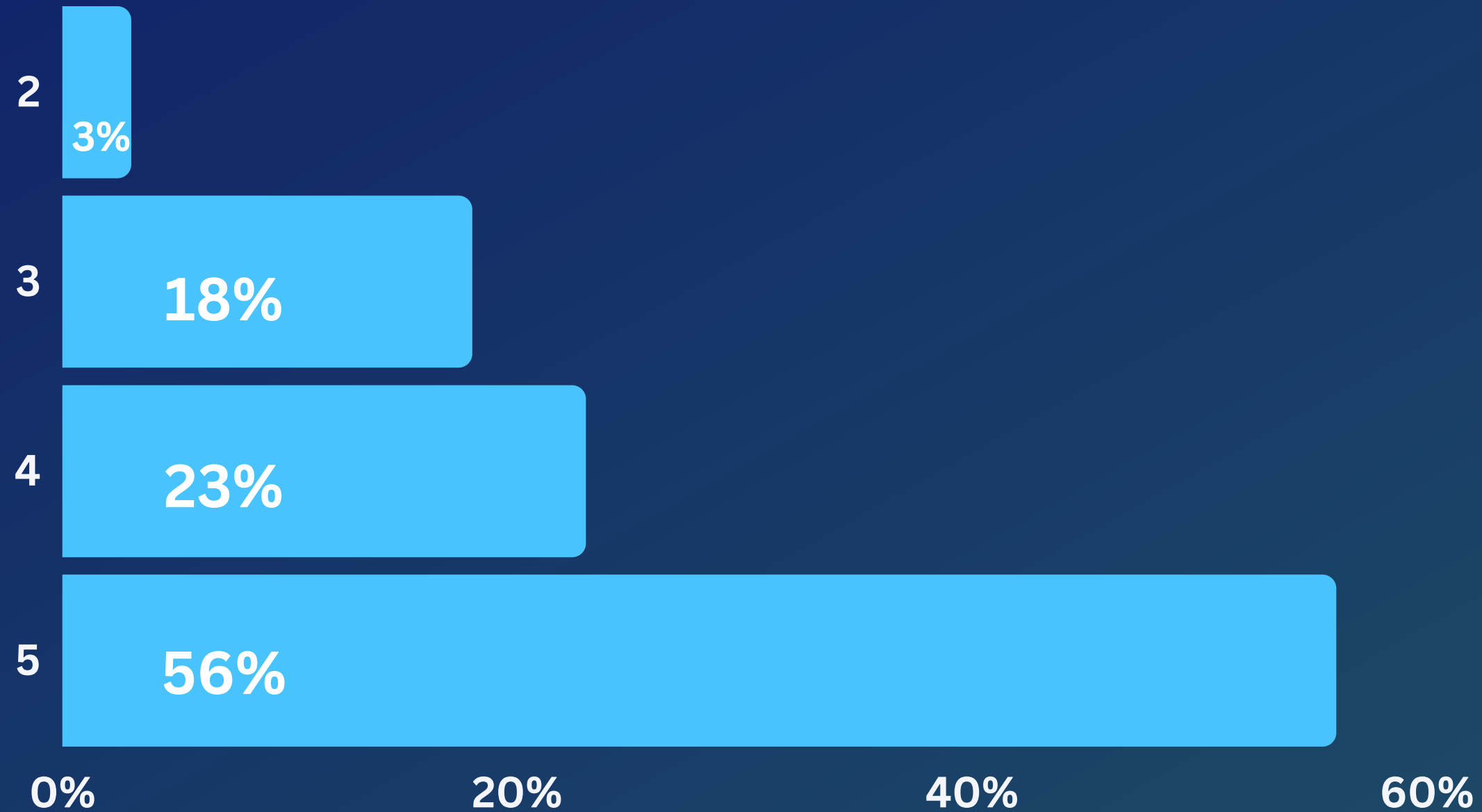
## Kailua Neighborhood Board



# WATER QUALITY

Q16. How concerned are you with pollution in Kailua's streams and ocean?

1  
1= least concerned, 5 = most concerned





# WATER QUALITY

Q16. How concerned are you with pollution in Kailua's streams and ocean? (Narrative)

- **Wastewater Exceedences 18**
- **Kaelepulu Stream 13**
- **Storm Water/Brown Water Runoff 10**
- **Canal by Buzz's 6**
- **Kailua Beach Park 6**
- **Enchanted Lake 4**
- **Berm: Open It More 3**
- **Kawainui Marsh Trash 2**
- **Lanikai 2**
- **Ocean Microplastics 2**
- **Auloa Road 1**
- **Berm: Don't Open It 1**
- **Hamakua 1**
- **Kapaa Quarry Road 1**
- **Midpac Golf Course Chemical Runoff 1**
- **Olomana Mountain Bulldozing 1**
- **Windward Boats Hazmat 1**

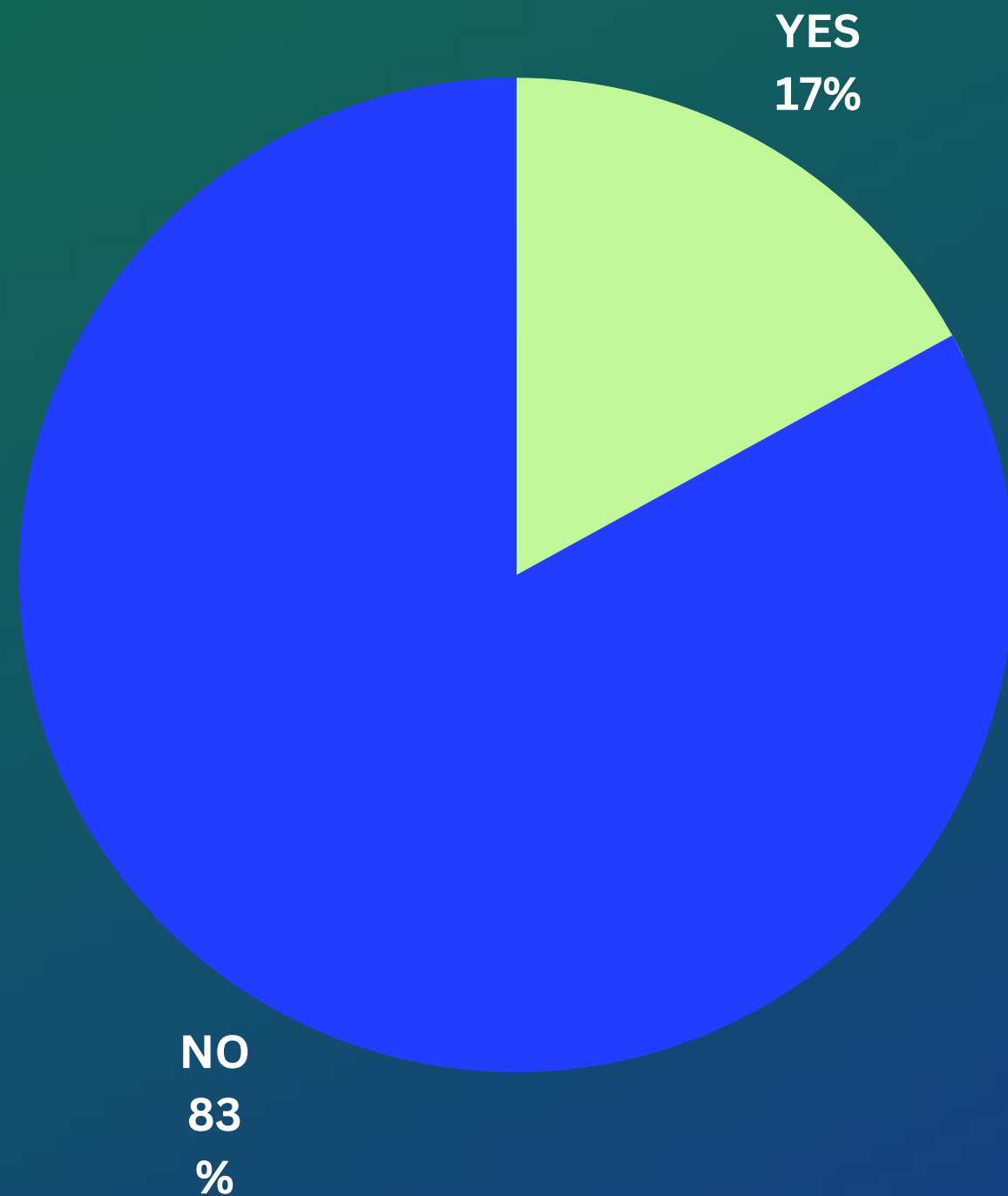
KNB 2023 Community





# WATER QUALITY

Q17. Do you believe the city and state are doing an adequate job of maintaining the cleanliness of our waterways?



KNB 2023 Community  
Survey





# Community

## Concerns

"The water smells different."

"It tastes different."

"I avoid Kailua Beach."

"I have a cut, I'm not going in the water."

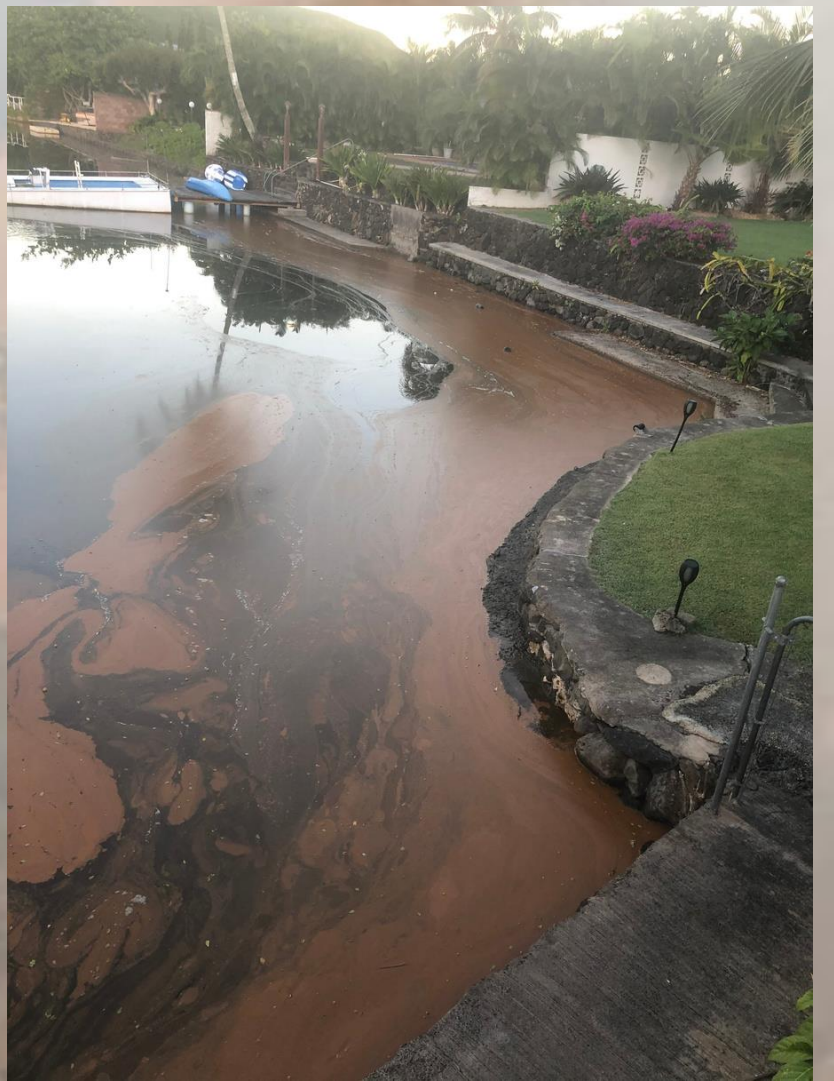
"You can see sediment on the coral."

"There's poop in the water."

"My daughter and I got a rash and yeast infections after we swam, I think it was from the water. My daughter is terrified to go back."









# Community Led Action

## Maki – Business Owner



## Clean Waters Kailua

## Hamakua Cleanup





### Fourth Community Clean-Up of Hāmākua Canal

Saturday, July 15, 2023, 8:00–11:00 a.m.

**Hāmākua Marsh State Wildlife Sanctuary** is a little-known gem, located in the heart of Kailua just mauka of Hāmākua Drive. The beautiful canal and adjacent marshlands are home to endemic endangered water birds and a native forest planted by school groups and volunteers.

All are welcome to a community clean-up of the canal and shoreline cosponsored by Healthy Climate Communities and the Hawai'i State Department of Land and Natural Resources, Division of Forestry and Wildlife. This event provides a rare opportunity to take kayaks on the canal, but there is also plenty of trash to pick up on the shore. The organizers will give out certificates of participation to everyone who takes part.

**Bring:** Water bottle, sun protection, covered shoes or waders.

**Optional:** Heavy gloves, rakes, trash pickers, kayaks.

**Provided:** Disposable gloves, trash bags.




**Meeting location:** Chain link gate next door to 268 Hamakua Drive, just before the first house on the right going from Safeway/Firestone toward Enchanted Lake. Parking available inside.

**Questions?**  
Contact: [sbwestley@gmail.com](mailto:sbwestley@gmail.com)



# Community Led

## Action



**ELRA  
Algae Harvester  
Kaelepulu Pond Cleanups**



**Cindy and Hugo  
Kaelepulu Wetland  
Preservation of Bird Habitat and  
Ecosystem**



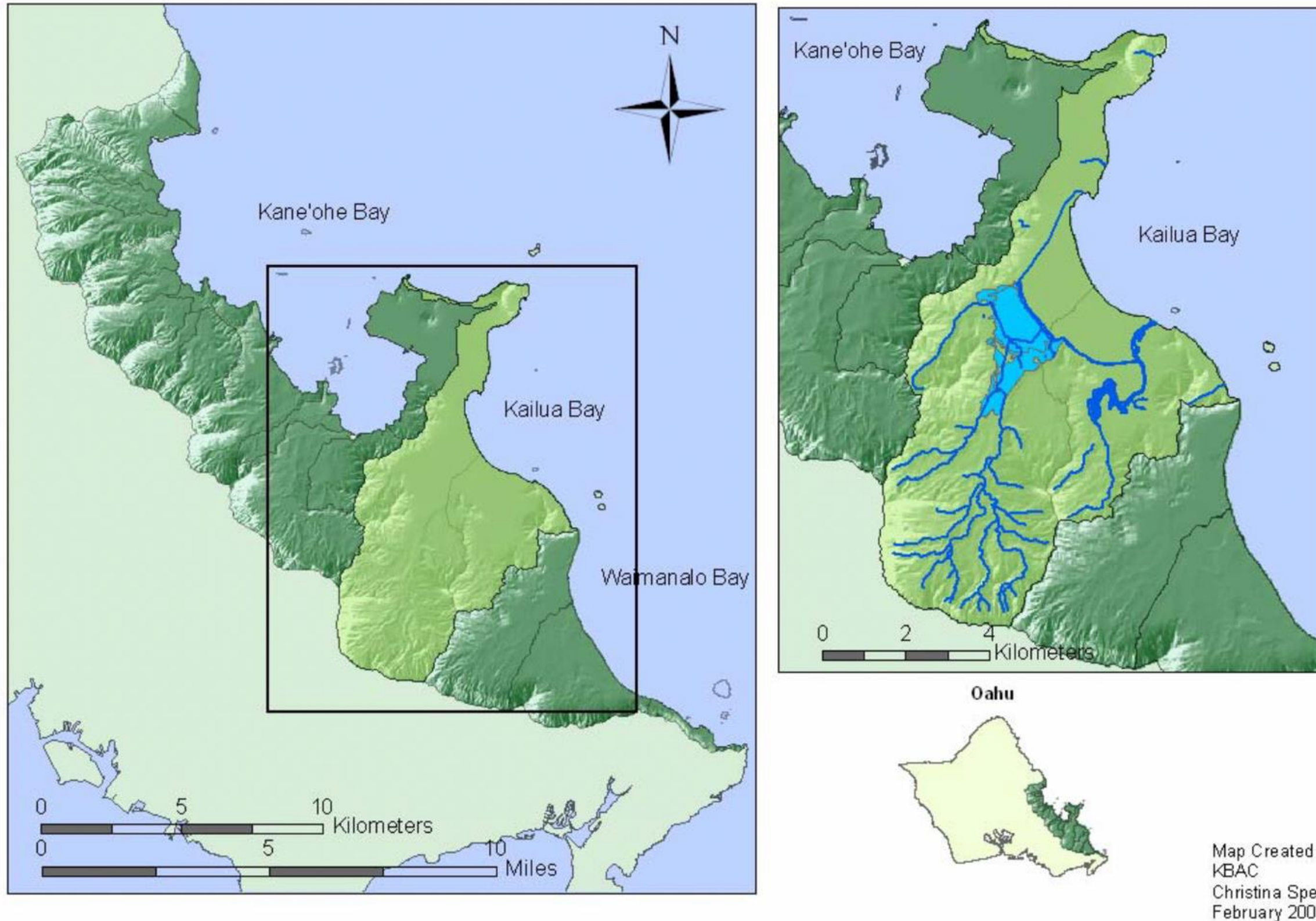
**Dr. Eileen Hilton  
Volunteer water quality  
monitoring  
Blue Water Taskforce**





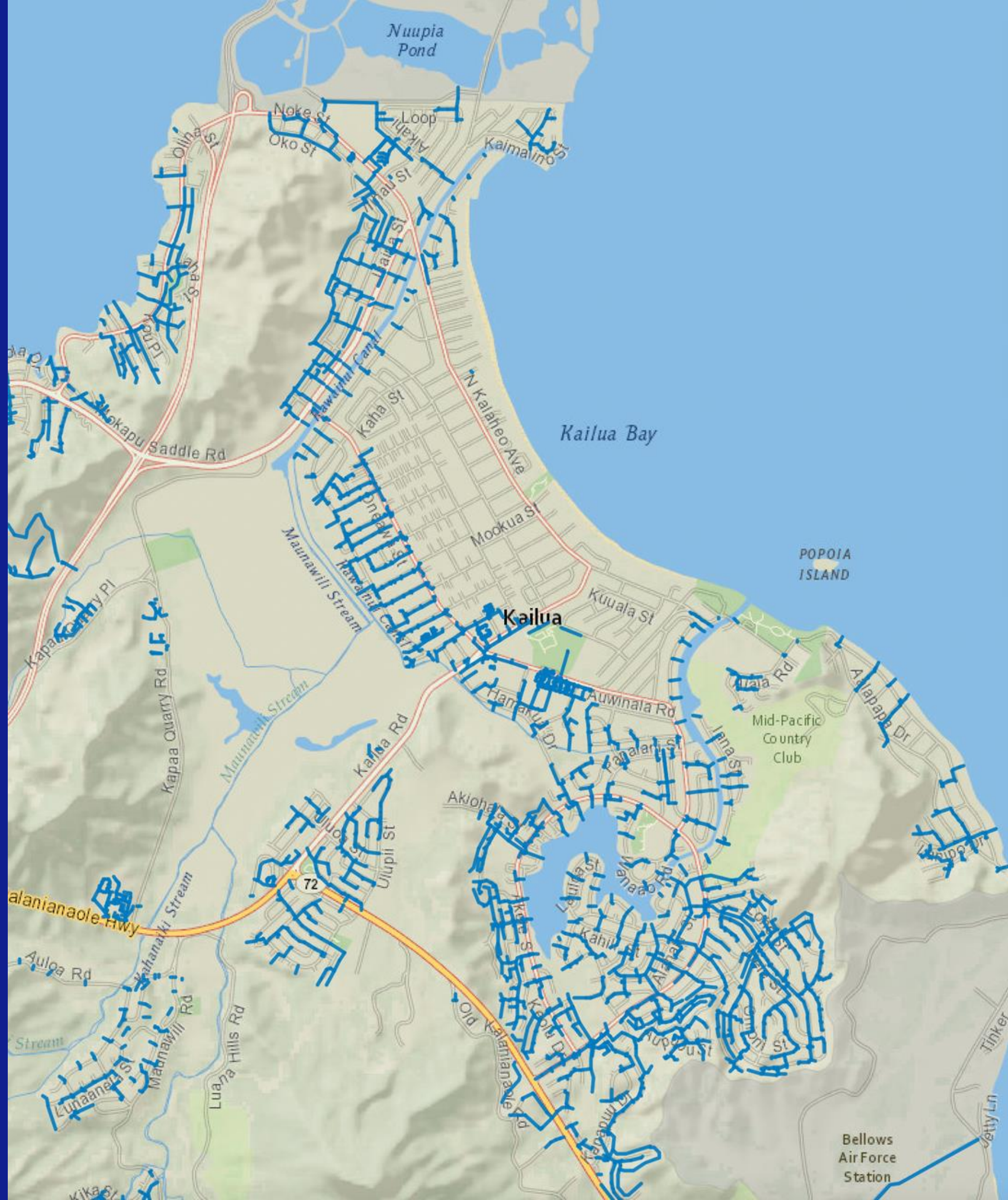
# Many waterways, one ocean

## Ko'olaupoko Moku: Kailua



Source: Ko'olaupoko Watershed Restoration Action Strategy  
Kailua Bay Advisory Council (Hui O Ko'olaupoko Website)





# Kailua Stormdrains



Source: Stormwater Conduit - Honolulu GIS  
[https://geoportal.hawaii.gov/datasets/4cc96099dcd94132b42393f61805e44d\\_4/explore?location=21.401866%2C-157.752099%2C14.00](https://geoportal.hawaii.gov/datasets/4cc96099dcd94132b42393f61805e44d_4/explore?location=21.401866%2C-157.752099%2C14.00)



# Overview of Kaelepulu Waterway System





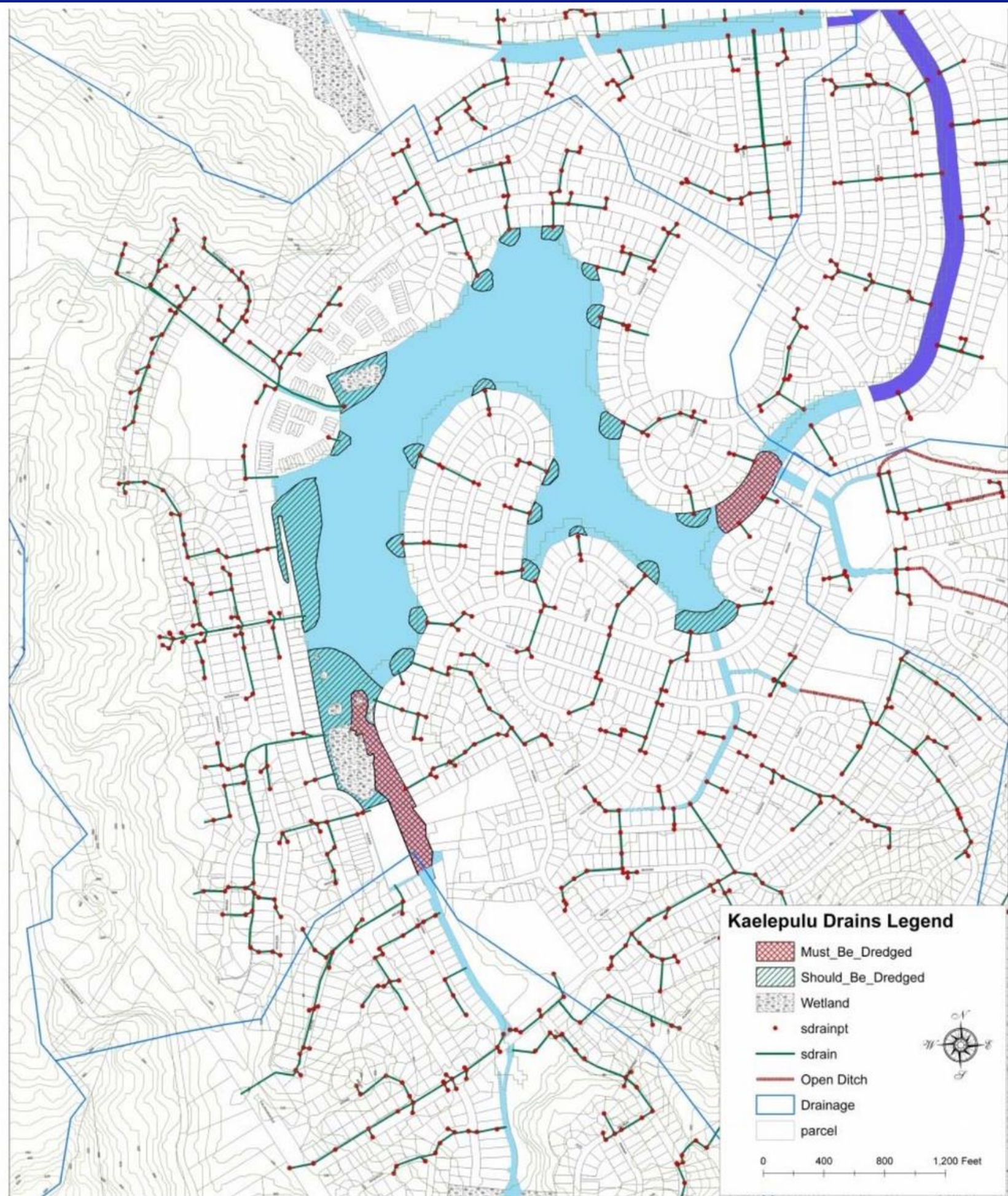


Figure 10 City storm drain map of Kaelepu Pond showing areas with sediment buildup at mouths of drain outlets.

# Kaelepu Stormdrains

@ 700 stormdrains empty into Kaelepu Pond

110 have screens BUT  
no regular streetsweeping  
AND

+ 1 storm drain staff  
+ 1 storm drain cleaning machine  
(responsible for Kaiona Beach - Aikahi Park)

=

insufficient maintenance  
pollution



# BMPS





# Can we prevent this?





# Opportunities to improve water quality

## We must act now.

Shout out to DFM and Stormwater Management Division!

- **Hardened Channels** should be outfitted with trash collection systems - (Catchment Nets)\*
- **Scheduled Cleaning of Priority Stormdrains**
- WaterAmbassadors (to keep an eye on trouble areas)
- Regular scheduled **street sweeping** on all Kailua streets with curb inlets to minimize non-point-source pollutants entering waterways
- **Recruit and hire more staff** for stormdrains and stormwater infrastructure
- **Maintenance of Kaopa Silt Basin** and creation of a small berm
- **Clearing of baskets on curb inlets** prior to heavy rains and at timed intervals (every 2-3 months).
- **Enforcement of fines** on developers who fail to follow and implement best management practices on construction sites.

- \*Keolu Lined Channel -  
- empties into Wetland
- Akiahala Lined Channel -- empties into Wetland
- Akipola Lined Chanel -- empties into lake, in front of Kukilakila townhouses
- Hele Channel -- by Starbucks empties into Enchanted Lake
- Akiahala Ditch -- interior of Enchanted Lake subdivision, near the pumping substation



\*Hardened Channels lead to our waterways and empty into Kailua Bay









# **Mahalo**

**Let's work together to protect  
our waterways!**

**Levani Lipton**

**Email: [Levani.knb@gmail.com](mailto:Levani.knb@gmail.com)**

**Ph: 808-779-7011**



# *Additional Updates*

*Environmental Finance Center Designation of  
Hawai'i Community Foundation*

*Public Engagement and Outreach Update*

*City Staffing and Job Openings for Storm Water Quality Work*



*Environmental Finance Center  
Designation of Hawai'i Community  
Foundation*







**Being surrounded by water doesn't mean we have a lot of it.**  
**Please treat every drop of fresh water like a gift.**



# *Public Engagement and Outreach Update*





# October is Make a Difference Month!

***A number of cleanups will be scheduled in October-  
check the web calendar for the latest events!***

[honolulu.gov/dfmswg/](https://honolulu.gov/dfmswg/)



# Imagine a Day Without Water

October 20, 2022



# Now Playing: Healthy Yard Care Program

*Thanks for Your Input!*

*Revisions to the Healthy Yard Care booklet were made accordingly.*

## Please share about upcoming Healthy Yard Care Demonstration Fairs!

Want healthy beautiful yards and ocean?  
Come learn how yard care can affect waters.

**Saturday, August 19 & Saturday, September 23**  
**9am – 12pm**

- Informational tables focused on understanding soils, nutrients, and plants
- Free information and materials
  - Soil test kits
  - Native plants (one per household), while supplies last
- Enter to win a yard care kit!

A flyer for the Healthy Yard Care Program. At the top, it says "STORM WATER PROGRAM CITY AND COUNTY OF HONOLULU" with a logo of a water drop. Below that, the title "Healthy Yard Care Program" is in large green letters. A purple banner says "FREE DEMONSTRATION FAIRS". The text says "Join us for our upcoming demonstration fairs to learn more about the program and tips on how you can help to keep our waters clean." There are two boxes for the fairs: "Saturday, August 19 9 a.m. to 12 p.m. Pohakea Elementary School Cafeteria" and "Saturday, September 23 9 a.m. to 12 p.m. Waipahu District Park Multi-Purpose Room". At the bottom, it says "Visit bit.ly/YardCareOahu for more information" and shows a small green seedling growing from soil. A small line of text at the very bottom says "This ad is paid for by the taxpayers of the City & County of Honolulu." data-bbox="620 156 962 910"/>

**STORM WATER PROGRAM**  
CITY AND COUNTY OF HONOLULU

## Healthy Yard Care Program

**FREE DEMONSTRATION FAIRS**

Join us for our upcoming demonstration fairs to learn more about the program and tips on how you can help to keep our waters clean.

**Saturday, August 19**  
9 a.m. to 12 p.m.  
Pohakea Elementary School  
Cafeteria


**Saturday, September 23**  
9 a.m. to 12 p.m.  
Waipahu District Park  
Multi-Purpose Room

Visit [bit.ly/YardCareOahu](https://bit.ly/YardCareOahu) for more information

*This ad is paid for by the taxpayers of the City & County of Honolulu.*



# Car Washing Guidance



## NEW GUIDANCE ON CAR WASH FUNDRAISERS

Wash water from car wash fundraisers is **no longer allowed** to enter City storm drains.

The National Pollutant Discharge and Elimination System Permit issued August 7, 2020 by the State Department of Health under the Clean Water Act no longer provides an exemption to allow wash water from charity car washes into City and County of Honolulu streets and storm drains.

Penalties for all unauthorized discharges to the street or storm drain, including vehicle wash water, range from **\$1,000 to \$25,000 per violation, per day**.

Revised Ordinances of Honolulu §43-11.23

### CAN I STILL HOLD A CAR WASH FUNDRAISER?


Car wash fundraisers are still allowed however, the host site and car wash organizers are responsible for appropriately disposing of wash water to avoid potential fines.

The reverse side of this handout outlines the acceptable options for wash water disposal and the use of car wash kits.


#### ALTERNATIVE FUNDRAISERS

Instead of a traditional car wash, consider one of these alternative fundraisers:

- **Commercial car wash coupons**  
Commercial car washes may offer coupons for their services at a discount to fundraising groups. These businesses are prohibited from disposing of wash water in the City's storm drain system and their facilities are designed to recapture, filter and recycle wash water.
- **Waterless car washes**  
Specially designed products for cleaning both vehicle exteriors and interiors are commercially available and work well when correctly applied.
- **Auctions, walk-a-thons, coupon books, rummage sales**  
No water required!




**CAR WASH FUNDRAISER**  
Support the local soccer team. Fundraiser for their upcoming season!  
GOOD FOR ONE (1) CAR WASH - EXPIRES ON: 02/28/2020  
Open daily 9AM to 5PM at two locations:  
Soccer City Park, 1000 S. Kalia Rd., Honolulu, HI 96813  
Soccer City Park, 1000 S. Kalia Rd., Honolulu, HI 96813



**STORM WATER PROGRAM**  
CITY AND COUNTY OF HONOLULU

For more information visit  
[StormWaterHonolulu.com](http://StormWaterHonolulu.com)

## Car Wash Fundraiser flyer




## NEW GUIDANCE ON CAR WASH FUNDRAISERS

### HOW SHOULD WASH WATER BE DISPOSED OF?

**OPTION 1**  
Divert wash water away from storm drains to a landscaped area for infiltration. Landscaped areas must be large enough to contain the all water generated from washing.

**OPTION 2**  
Collect and dispose of wash water via a sanitary sewer connection.\* Majority of car wash fundraisers will use this option as most host sites do not have adjacent landscaping.

Car wash kits can be used to help with either option (see box at right).



Using a car wash kit can prevent wash water discharge to the storm drain system.

#### CAR WASH KITS

Wash water is required to be disposed of correctly when holding a traditional car wash fundraiser.


Organizers can assemble the materials for a car wash kit to effectively keep wash water out of the City's storm drain system.

A typical car wash kit consists of:

- Hoses with spray nozzles to conserve water usage;
- Dams or barriers to direct the flow of wash water;
- Water containment mats and storm drain inlet covers to catch wash water runoff for collection;
- Submersible pumps or vacuum systems to pump water to a holding tank or landscaped area for disposal; and
- Outdoor extension cords and access to a power source to run pumps and vacuums.

Instructions for car wash kit assembly and video tutorials demonstrating their use can be found online.

\*Disposal via sanitary sewer must be authorized by the City and County of Honolulu Department of Environmental Services (ENS). Call the ENS Regulatory Control Branch at 808-768-4108 for information on discharges to the City sewer system.





**STORM WATER PROGRAM**  
CITY AND COUNTY OF HONOLULU

For more information visit  
[StormWaterHonolulu.com](http://StormWaterHonolulu.com)

## Commercial Car Washing brochure





### WASH WATER DISPOSAL FOR COMMERCIAL VEHICLE WASHING SERVICES

**STORM WATER PROGRAM**  
CITY AND COUNTY OF HONOLULU

07.2023

### Vehicle Wash Water Disposal

Businesses are required to properly handle and dispose of vehicle wash water to prevent contaminants from entering the City's streets and stormwater system.

| Washing Indoors   | Washing Outdoors   |   |  |
|---|--|---|--|
| Some facilities are equipped with in-floor drains or oil-water separators that connect directly to the City sewer system. These facilities meet the requirements for properly disposing of vehicle wash water.<br>If the facility does not have these features, one of the washing outdoors options (at right) will need to be followed to ensure that no wash water runs off the property to reach City streets or storm drains. | Businesses that conduct washing activities outdoors must ensure that wash water does not leave the property. This also applies to mobile businesses doing work at private residences.<br>The following options are acceptable methods of disposal:<br><table><tbody><tr><td>Option 1. Diversion to Landscape<br/>Wash water may be directed to landscaped areas where it can infiltrate into the ground. The landscaped area must be large enough to contain all the water generated from washing. Property owners permission is needed for this option.</td><td>Option 2. Collection and Disposal<br/>Wash water that cannot be directed to a landscaped area should be collected and disposed of via a sanitary sewer connection.*</td></tr></tbody></table> | Option 1. Diversion to Landscape<br>Wash water may be directed to landscaped areas where it can infiltrate into the ground. The landscaped area must be large enough to contain all the water generated from washing. Property owners permission is needed for this option. | Option 2. Collection and Disposal<br>Wash water that cannot be directed to a landscaped area should be collected and disposed of via a sanitary sewer connection.* |
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\*Disposal via sanitary sewer must be authorized by the City and County of Honolulu Department of Environmental Services (ENS). Call the ENS Regulatory Control Branch at 808-768-4108 for information on discharges to the City sewer system.

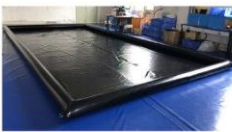
### Outdoor Washing Supplies

Assembling supplies is useful for businesses that regularly conduct their vehicle washing services outdoors. The following materials are suggested


- Hoses with spray nozzles to conserve water usage;
- Dams or barriers to direct the flow of wash water;
- Catchment systems such as water containment mats or storm drain inlet covers (plastic insert which fits into a catch basin) where wash water runoff can accumulate for collection;
- Submersible pumps or vacuum systems to pump or suction the wash water from the catchment system into a holding tank

for disposal or a hose to divert flow to a landscaped area;

- Outdoor extension cords and access to a power source are needed to run pumps and vacuums. A waterproof cord protection box should also be used for safety.



Water containment mats with berms are effective catchment systems for vehicle wash water. Several options are available for purchase online.



Selected materials should be compatible with the wash site. Further instructions and videos demonstrating use may be available online.

Basic car wash kit materials include hoses, pumps and barriers

# Restaurant Wash Water Guidance

## RESTAURANTS

### Washing Floor Mats

Floor mats accumulate deposits of fats, oils, grease, and dirt. Prevent impacts to stormwater by cleaning mats according to the practices outlined below.



#### GENERAL BEST MANAGEMENT PRACTICES

- Do not allow wash water to leave the property or enter storm drains.
- Do not pour wash water on the ground outside where it cannot be absorbed into the landscape.
- Keep the areas around storm drains clean.

#### HOW SHOULD I DISPOSE OF FLOOR MAT WASH WATER?

- Wash floor mats directly in a janitorial/mop sink or where wash water can be contained and collected. Dispose of wash water in the janitorial/mop sink or via a floor drain that connects to the City sanitary sewer system.
- If washing floor mats outdoors, wash water must be disposed of according to one of the following options:

##### WASHING FLOOR MATS OUTDOORS




Direct wash water flow away from storm drains to a nearby landscaped area on the property that can completely absorb the water.

or

Collect and dispose of wash water in the City's sanitary sewer.<sup>1</sup>

Refer to the Wash Water Disposal Supplies for Storm Water Compliance list at [StormWaterHonolulu.com](http://StormWaterHonolulu.com).

<sup>1</sup> Authorization for Disposal via Sanitary Sewer  
A permit may be required for discharges of wash water to the City sanitary sewer system. For information on discharges to the City sanitary sewer system, please call the City and County of Honolulu Department of Environmental Services (DES) Regulatory Control Branch at 808-768-4108.




**Storm drain water flows untreated into our streams and ocean.**

**Wash water is prohibited from entering the street and storm drains.**

R.O.H. 43-11.23

RESTAURANTS

WASHING FLOOR MATS



PROPERTY MAINTENANCE FOR STORM WATER COMPLIANCE  
and our island home

Floor mat washing

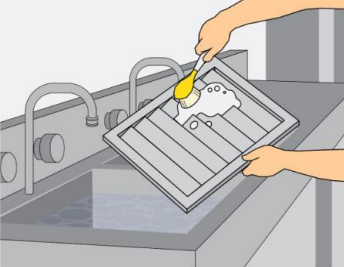
## RESTAURANTS

### Washing Commercial Exhaust Hood Filters

Commercial exhaust hood filters accumulate significant deposits of grease if not cleaned regularly. Prevent impacts to stormwater by cleaning these items according to the practices outlined below.

#### WASHING COMMERCIAL EXHAUST HOOD FILTERS

- Dry-wipe and scrape grease off exhaust hood filter surfaces before washing.
- Soak and wash exhaust hood filters by hand in a kitchen sink or use a commercial dishwasher.




**Storm drain water flows untreated into our streams and ocean.**

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R.O.H. 43-11.23

<sup>1</sup> Dispose of wash water from cleaning and degreasing in a sink connected to the sanitary sewer. Do not wash outside where wash water can reach the street or storm drain system.

<sup>2</sup> Alternatively, hood filters can be professionally cleaned using a contractor service that adheres to stormwater Best Management Practices.




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R.O.H. 43-11.23




RESTAURANTS

WASHING COMMERCIAL EXHAUST HOOD FILTERS








PROPERTY MAINTENANCE FOR STORM WATER COMPLIANCE  
and our island home

Washing commercial exhaust hood filters




## PROPERTY MAINTENANCE for Storm Water Compliance





*A Toolkit for Property Managers*

April 2021



STORM WATER OF O'AHU STAKEHOLDER HUI

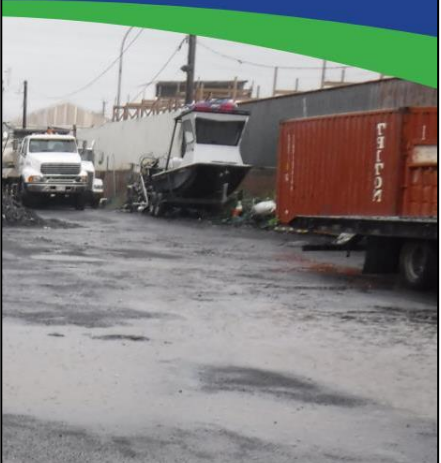
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# Wet Weather Inspections brochure

INDUSTRIAL AND COMMERCIAL BUSINESS

WET WEATHER INSPECTIONS






STORM WATER PROGRAM  
CITY AND COUNTY OF HONOLULU


06.2023

What do inspectors look for?

During wet weather inspections City inspectors look for signs of oil and dirt in the water running off the property. If oil sheens, suspended solids, or other pollutants are detected, inspectors will trace the runoff to the source.



Oil sheen in runoff



Suspended solids in tire tracks and runoff

If a discharge to the street or another part of the City's storm drain system is observed, the business will receive a Notice of Violation.

Failure to address issues in a timely manner could lead to enforcement actions and fines. Businesses can also be instructed to create a Best Management Practices (BMP) Plan.

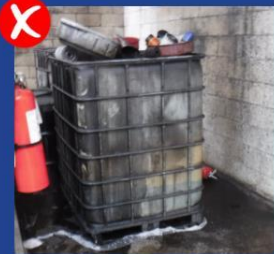
How do I prevent polluted runoff?

Follow the practices depicted at right. Additional BMPs and instructions for developing a BMP Plan are provided at [StormWaterHonolulu.com](http://StormWaterHonolulu.com).


POLLUTED RUNOFF SOURCES

HOW TO PREVENT POLLUTED RUNOFF

OIL




Uncovered oil container with no secondary containment.




Keep oil and other fluids in containers with leak proof lids. Use secondary containment devices and store in a covered area.


SEDIMENTS




Uncovered stockpile.



Cover stockpiles and secure covers to protect from rain and high winds.



Bare soil vehicle travel area.



Pave or use gravel for areas where vehicles regularly travel.

# *City Staffing and Job Openings for Storm Water Quality Work*





# Storm Water Quality – Job Updates

- Positions Filled

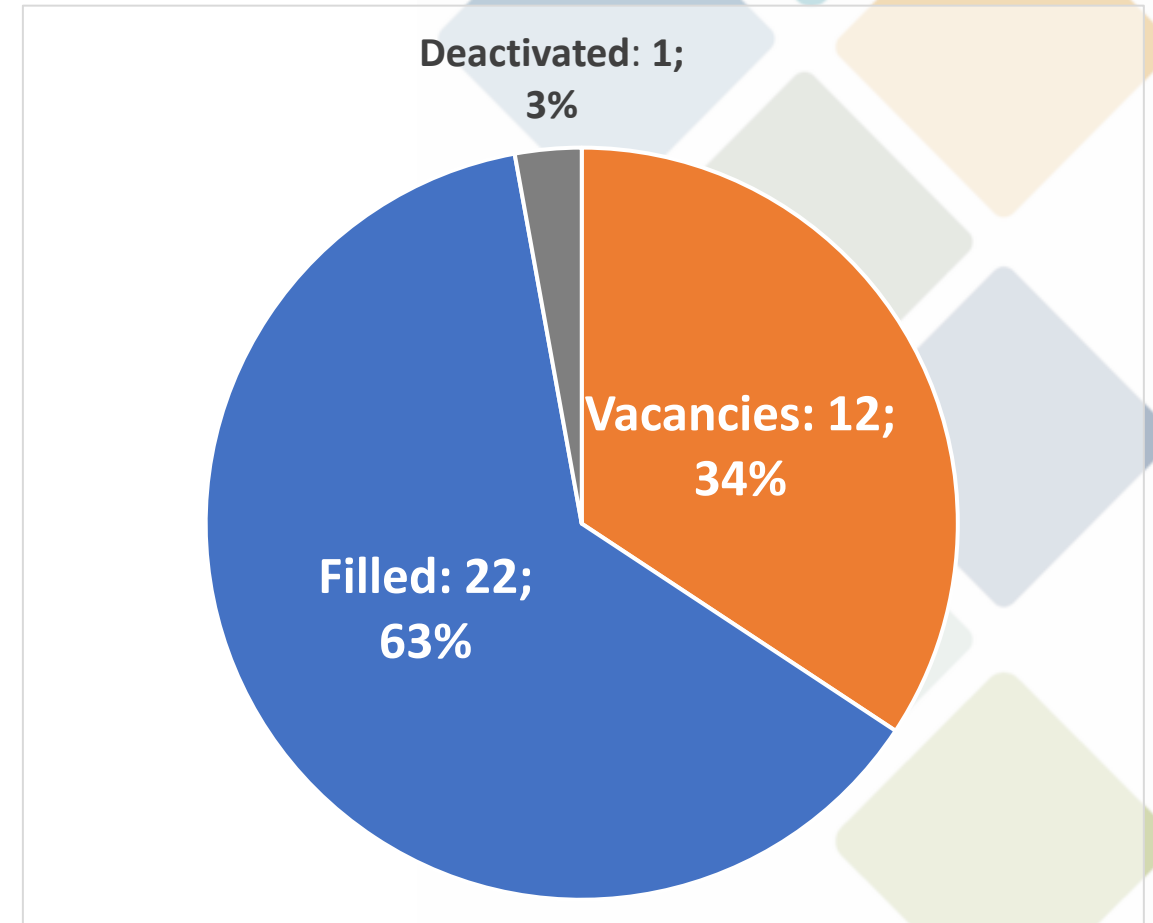
- Environmental Technician I (8/2/23)
- Secretary III (6/16/23)
- GIS Analyst I (5/10/23)
- Civil Engineer I (3/29/23)
- Contracts Officer (1/9/23)

*\*Offer made for a Civil Engineer I on 8/7/23*

- Hiring Efforts

- Conducted 17 rounds of interviews since July 2022
  - Positions interviewed: Engineers, Planners, Environmental Technicians, Administrative Specialist, Contracts Officer, GIS Analysts, Planners and Assistant Program Administrator
- Participated in two (2) job fairs in 2023 (January, August)
- New recruitment postings– July 2023

## SWQ Division Staffing



# *Wrap Up*





# Next Meeting

*It's time for our annual in-person meeting!*

***Proposed Date: Tuesday, November ??***



*Mahalo*

