Stakeholder Advisory Group

Board of Water Supply
City & County of Honolulu

Thursday, October 15, 2020

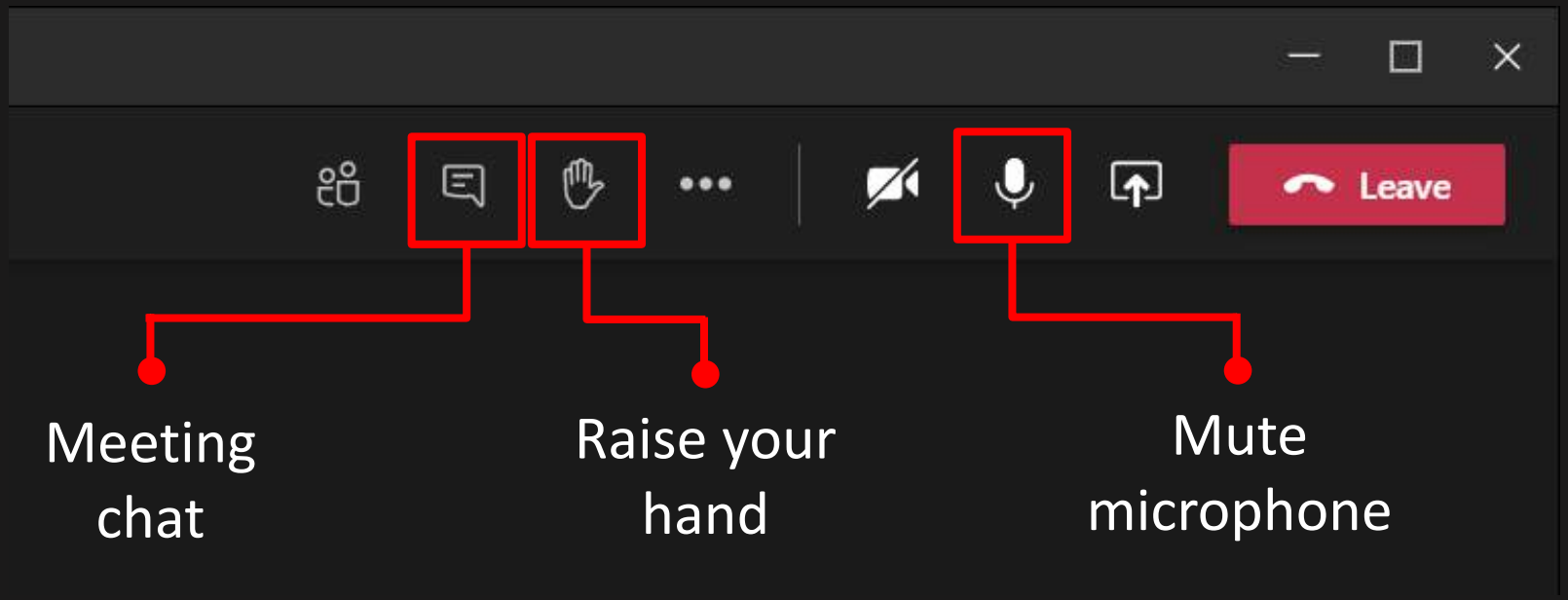
Meeting 36 - Virtual

Dave Ebersold

Facilitator

WELCOME

3 Important Controls



Virtual Meeting Best Practices

- Please stay muted unless you are speaking
- Use 

  or meeting chat to let us know you want to ask a question
- If you don't have the "raise hand" function or meeting chat, unmute your mic/phone and speak
- Speak one person at a time
- Expect something to go wrong
- Remember that patience is a virtue

Meeting Objectives

- Discuss the Long Range Financial Plan Update and get your input
- Accept notes from meeting #35
- Watch the new storm water training videos developed by BWS Water Quality
- Hear about efforts to form a Storm Water Utility get your feedback

Public Comments on Agenda Items

Ernest Lau
BWS Manager and Chief Engineer

BWS UPDATES

Mahalo!

Questions & Answers

Dave Ebersold
Facilitator, CDM Smith

BWS FINANCIAL PLAN UPDATE

Updating the Long Range Financial Plan

- Provides the financial framework to support the BWS's 30-year Water Master Plan
- Developed with extensive input from Stakeholder Advisory Group
- Adopted by BWS Board February 2018

Long range planning scenarios

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

Aggressive conservation

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

Aggressive growth considered two alternatives

1. WMP High Range Demand Projection Assumptions
   - 0.6 percent per year growth in usage through 2025
   - 0.4 percent per year 2026 – 2040
   - 0.5 percent per year 2041 – 2047
   - No change in usage between existing tiers
2. Aggressive Growth above WMP Assumptions
   - 1% per year in usage

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

Major natural disaster

- Damage to infrastructure causing capital needs
- Revenue loss from water service interruption or reductions in rate collection
- Over the first year following the event, sampled disaster events caused
  - Capital damage ranging from 1.3 to 4.8% of net assets
  - Revenue loss of 1.9 to 24%
- Impacts to days cash varied from 163 to 201

Major water source contamination

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

Climate change

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

Economic downturn

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

Evaluated each scenario against financial mitigation strategies

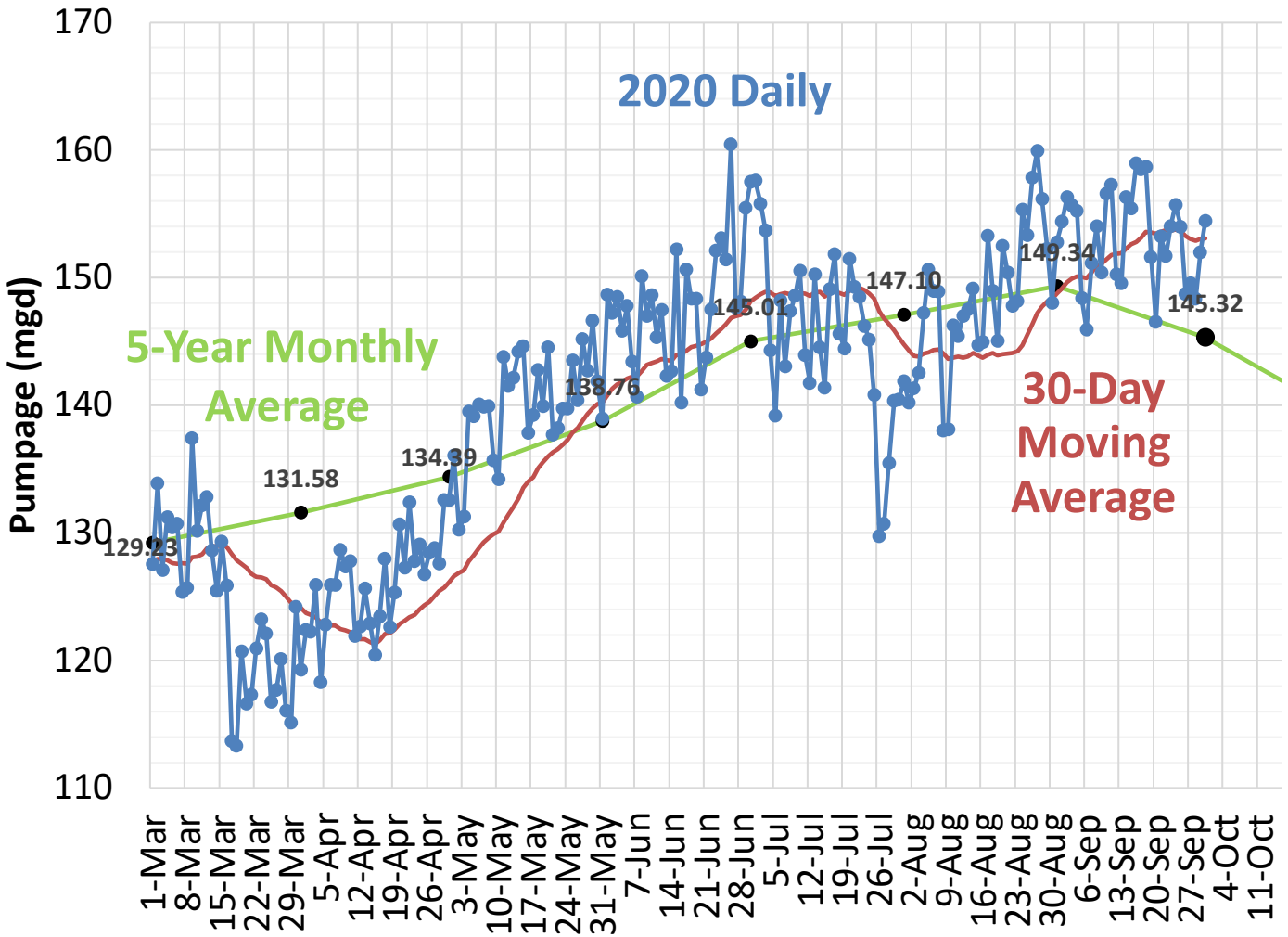
Access Working Capital	Defer Expenses	Raise/ Restructure Rates	Issue Debt	Public Private Partnerships

Conclusions from long range trend analysis

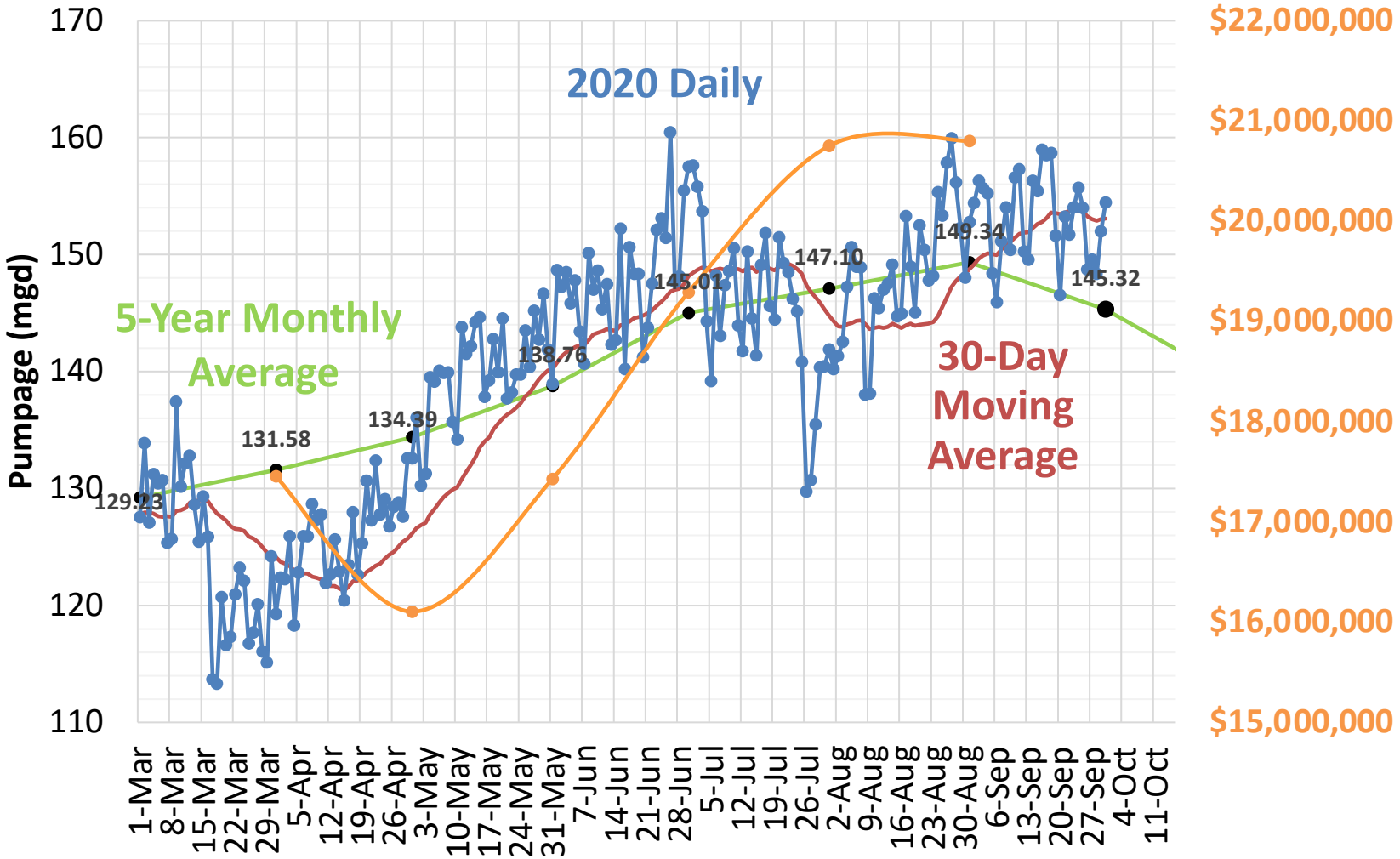
- Monitoring using Water Master Plan scorecard and other available metrics important to assessing changing conditions
- Financial tools available to BWS appear adequate
- With commitment to Water Master Plan implementation and BWS's financial policies, high rate shock under any scenario not anticipated


CORONAVIRUS (COVID-19)

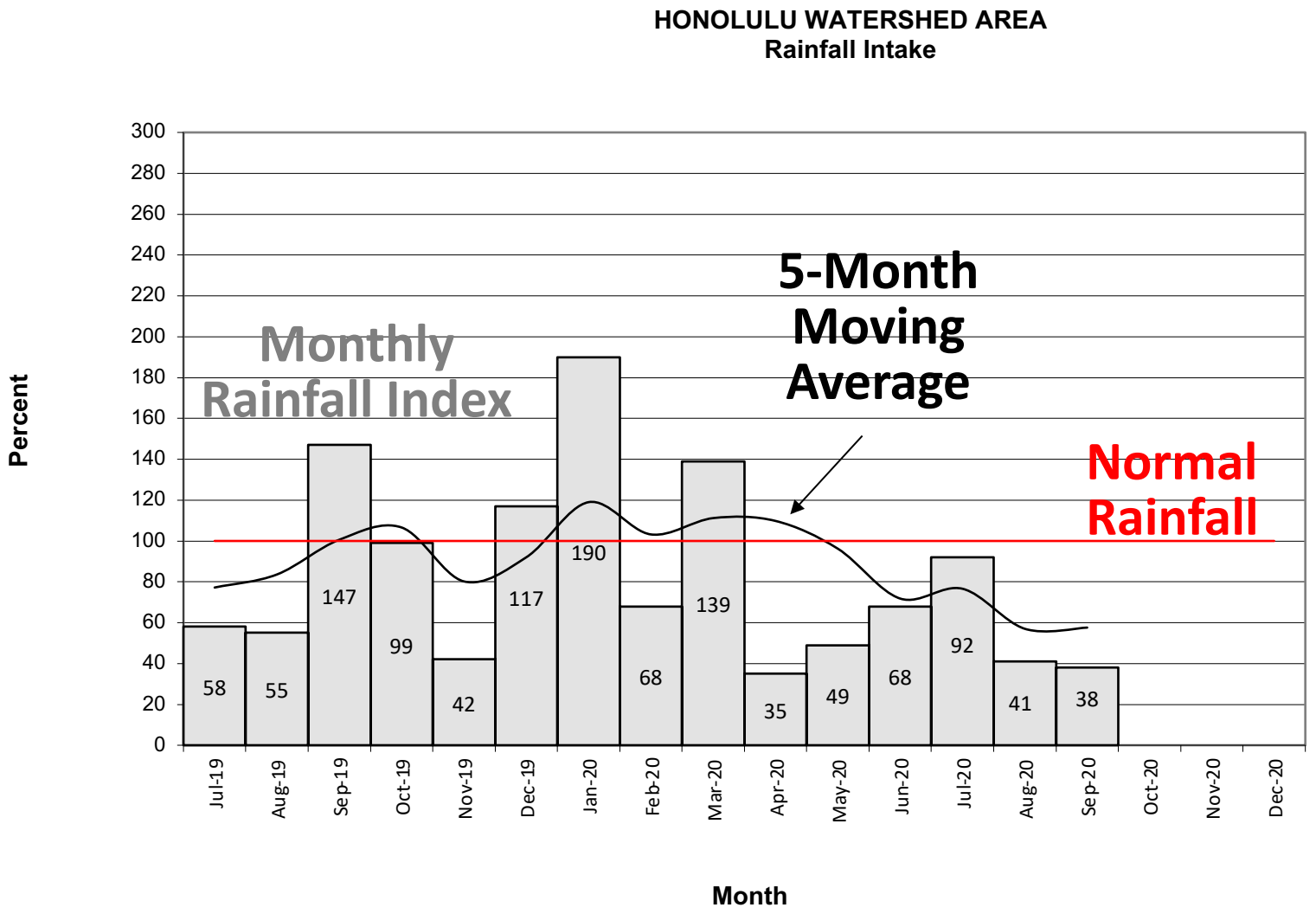
Total Island Potable Water Production Since March 1, 2020



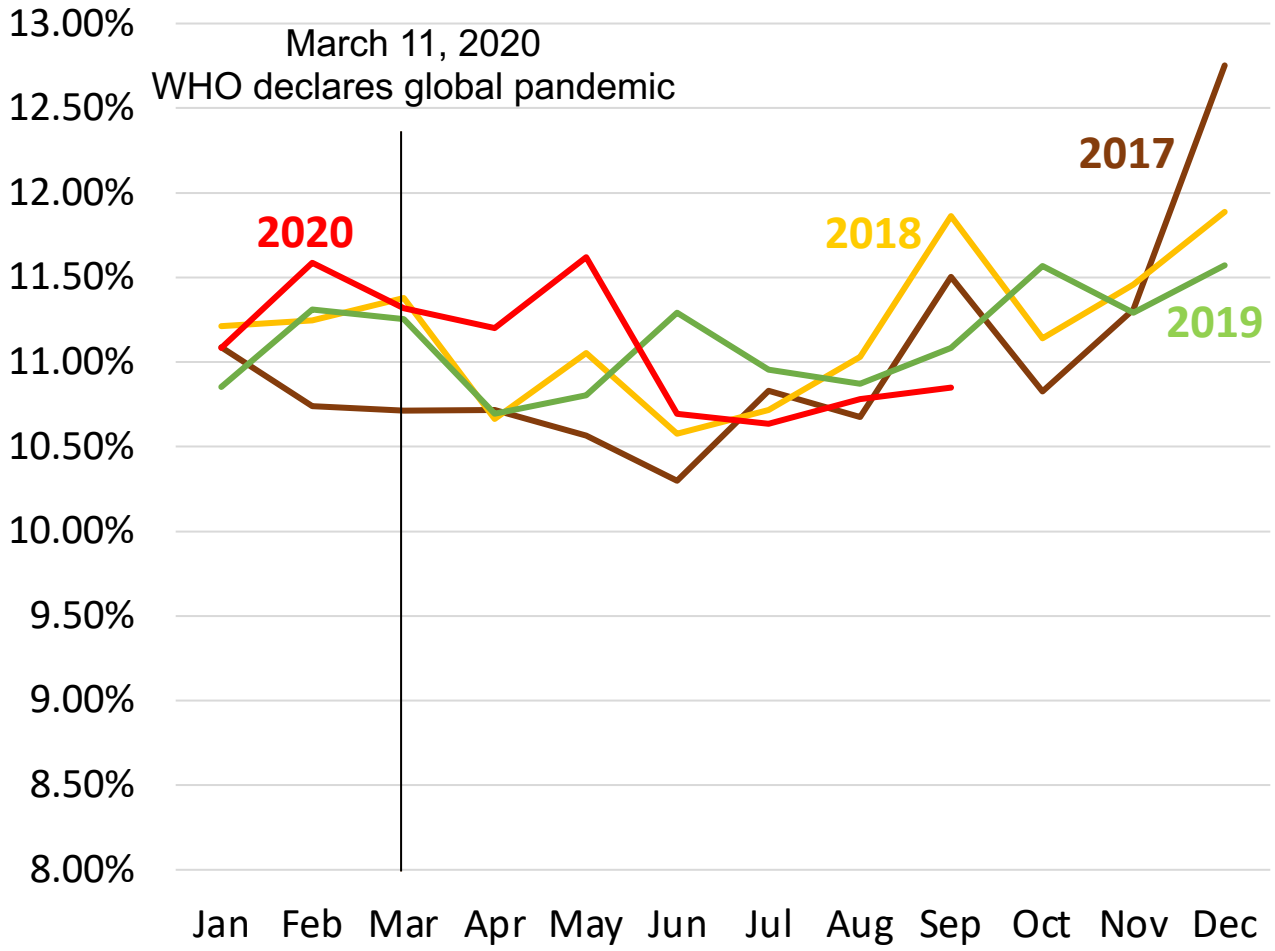
Total Island Potable Water Production Since March 1, 2020, With Revenue



Water Demands are Very Dependent Upon Weather

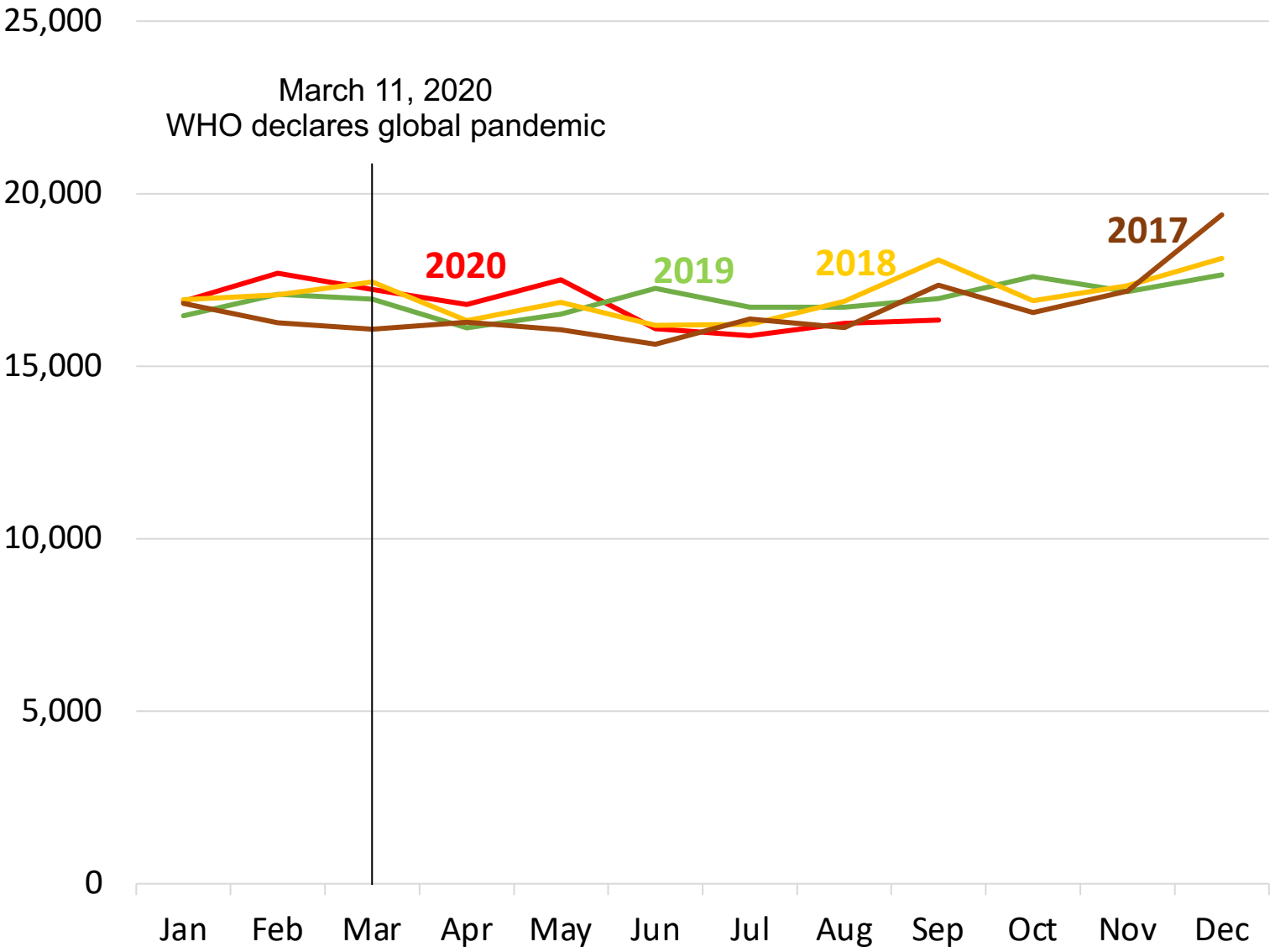


Percentage of Water Accounts 30 Days Past Due – 2017 to Present

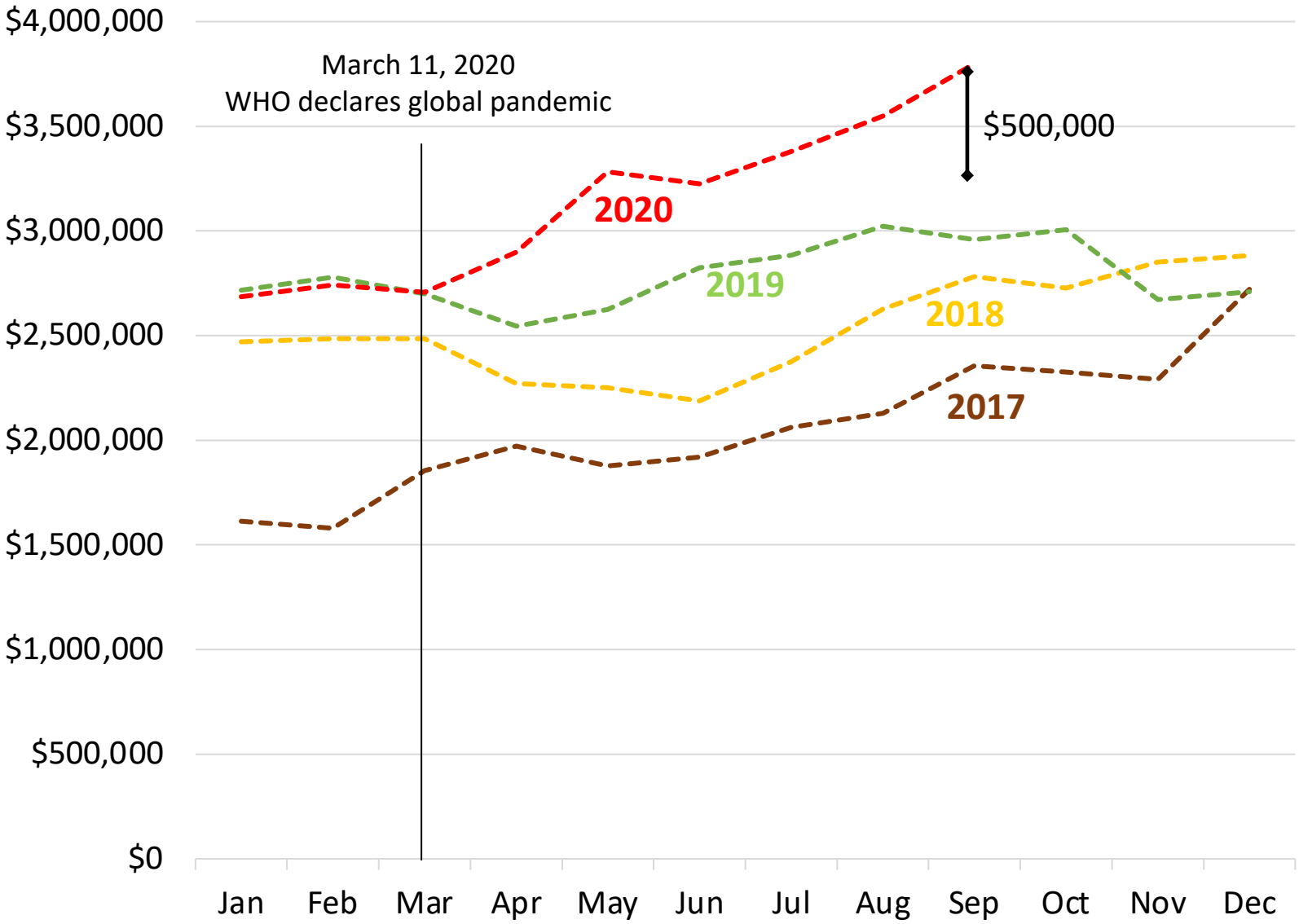


Note: BWS uncollectable accounts average 2015-2019 = 0.2% of operating revenue ($459,490 annually)

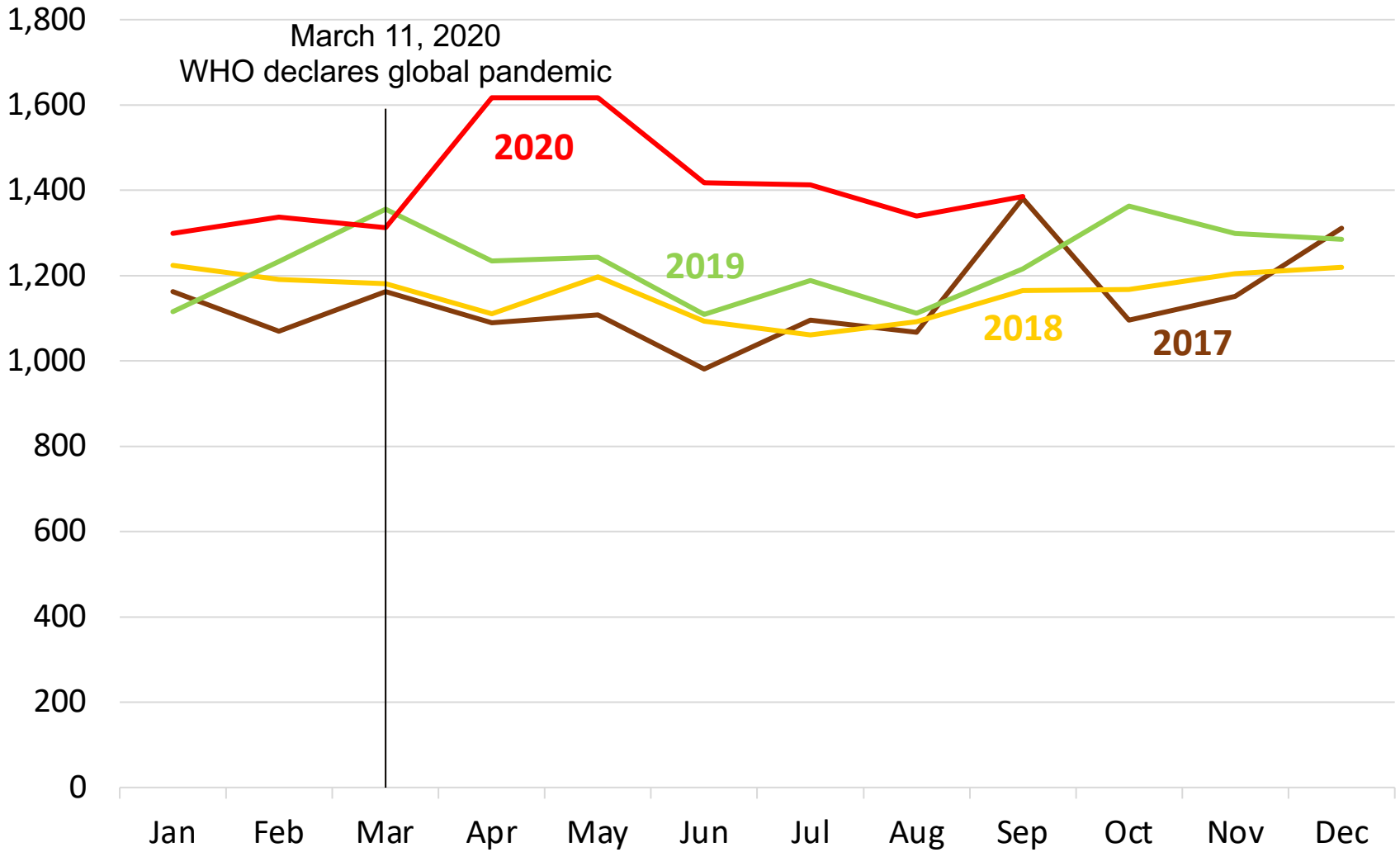
Monthly Residential Water Customer Delinquency – 2017 to Present (Number)



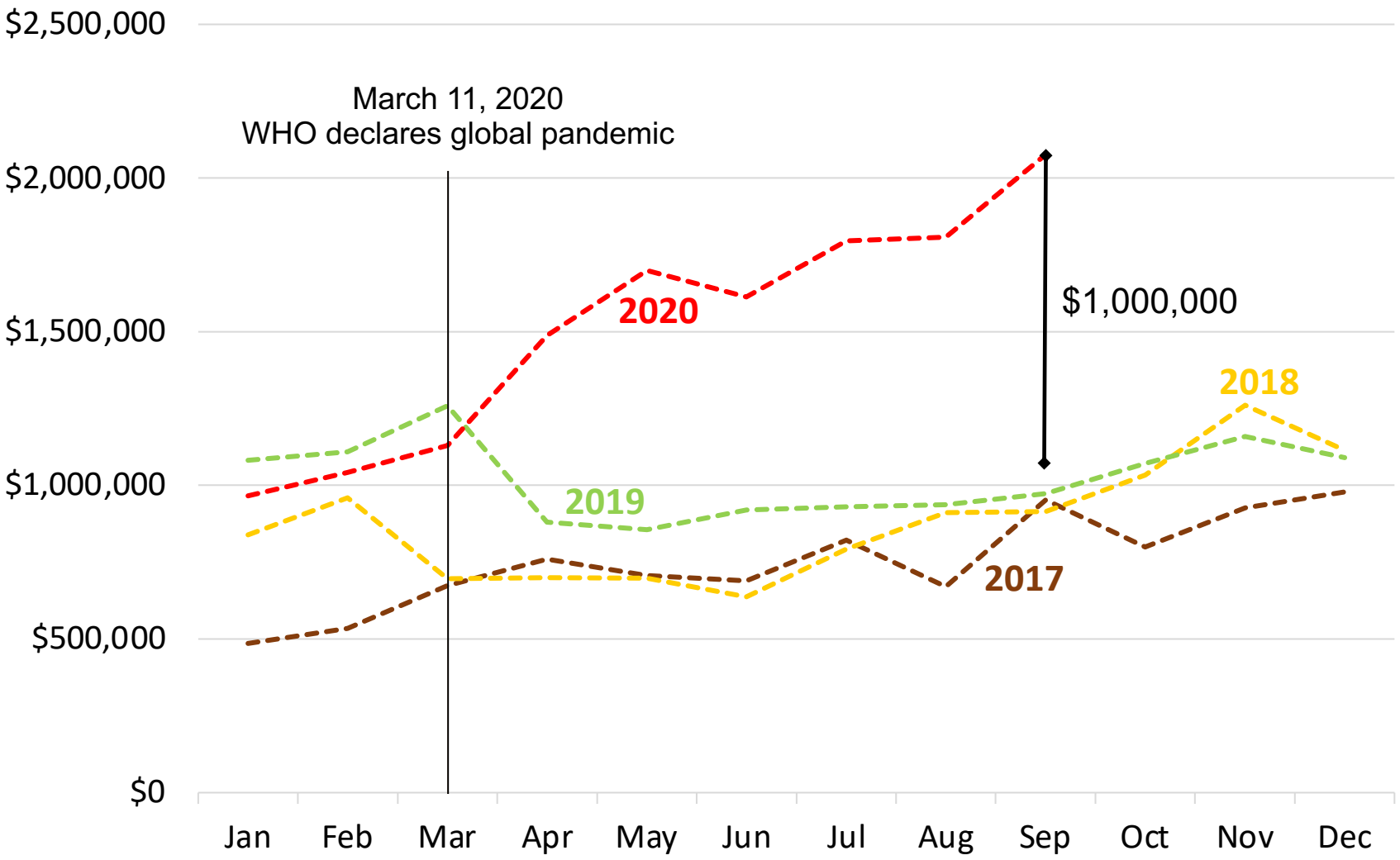
Monthly Residential Water Customer Delinquency – 2017 to Present ($)



Monthly Commercial Water Customer Delinquency – 2017 to Present (Number)



Monthly Commercial Water Customer Delinquency – 2017 to Present ($)



Variables to Consider in New Pandemic Scenario

Revenue	Expense
Water sales	Operations & Maintenance
Account growth (contraction)	Fixed
Usage per account	Variable
Delinquencies	Capital Improvement Program
$ Amount	Cash
Duration of repayment	Debt
Uncollectable accounts	Timing
Stimulus Funding	

Considering a range of 3 scenarios based on ability to "reopen" tourism

Element	Optimistic	Moderate	Pessimistic
Test-based Reopening	Yes	Yes	Yes
Rapid Testing and Effective Contract Tracing	Yes	No	No
3rd Wave	No	No	Yes
Vaccine	No	Widely available Summer 2021	Available late 2021

After UHERO State Forecast Update, September 2020

Mahalo!

Questions & Answers

Action

Review and accept notes from

- Stakeholder Advisory Group Meeting #35 held on Thursday, July 16, 2020

Erwin Kawata
BWS Water Quality Program Administrator

STORM WATER TRAINING VIDEOS BEST MANAGEMENT PRACTICES

Ross S. Sasamura, Director and Chief Engineer, Department of Facilities Maintenance

Randall Wakumoto, Branch Head, Department of Facilities Maintenance

Juli Beth Hinds, Birchline Planning LLC

Laurens van der Tak, Jacobs Engineering Group

STORM WATER UTILITY UPDATE

O'ahu Storm Water Utility Feasibility Study

Update for the
Honolulu Board of Water Supply
Stakeholder Advisory Group

Thursday, October 15th, 2020

Presenting Today

Ross S. Sasamura

Director and Chief Engineer

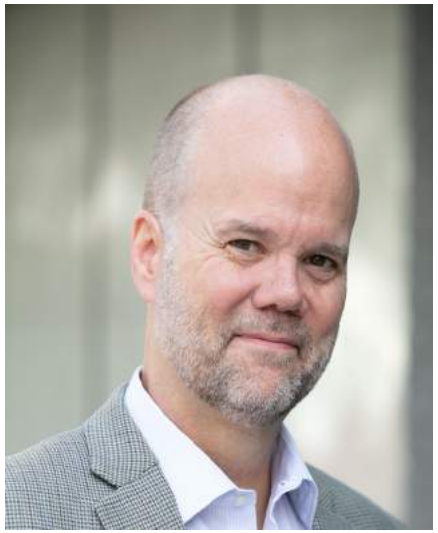
Honolulu Department of Facility Maintenance

Randall Wakumoto

Branch Head

Storm Water Quality Division

Honolulu Department of Facility Maintenance



Laurens van der Tak

Water Resilience Director for the Americas

Jacobs

Juli Beth (JB) Hinds

Principal

Birchline Planning LLC

Staff Research Associate & Instructor, UC San Diego

HAWAIʻI COMMUNITY FOUNDATION

Amplify the Power of Giving

O'ahu's Storm Water System

- **10** City & County Departments
- **309** current FTEs plus @154 unfilled positions
- Large and complex system
- Federal, state & local responsibilities including homeless encampment clean-up; erosional area repair; federal MS4 permit compliance
- $25 million/year estimated capital asset renewal & replacement need

OAHU'S STORM WATER SYSTEM BY THE NUMBERS

190,000 linear feet/yr of drainline inspections and maintenance

36,000 miles/yr of street sweeping

27,946 catch basins

~4,000 green infrastructure features to maintain – with more to come

>2,000 construction projects inspected

1,563 miles of culverts

1,553 miles of drainage pipe

361 enforcement actions in 2019

~100 streams require cleaning

97 City industrial facilities

AVERAGE ANNUAL PROGRAM COST: $91.6 MILLION

FUNDING: $70 mil. property tax + $22 mil. Highway Fund

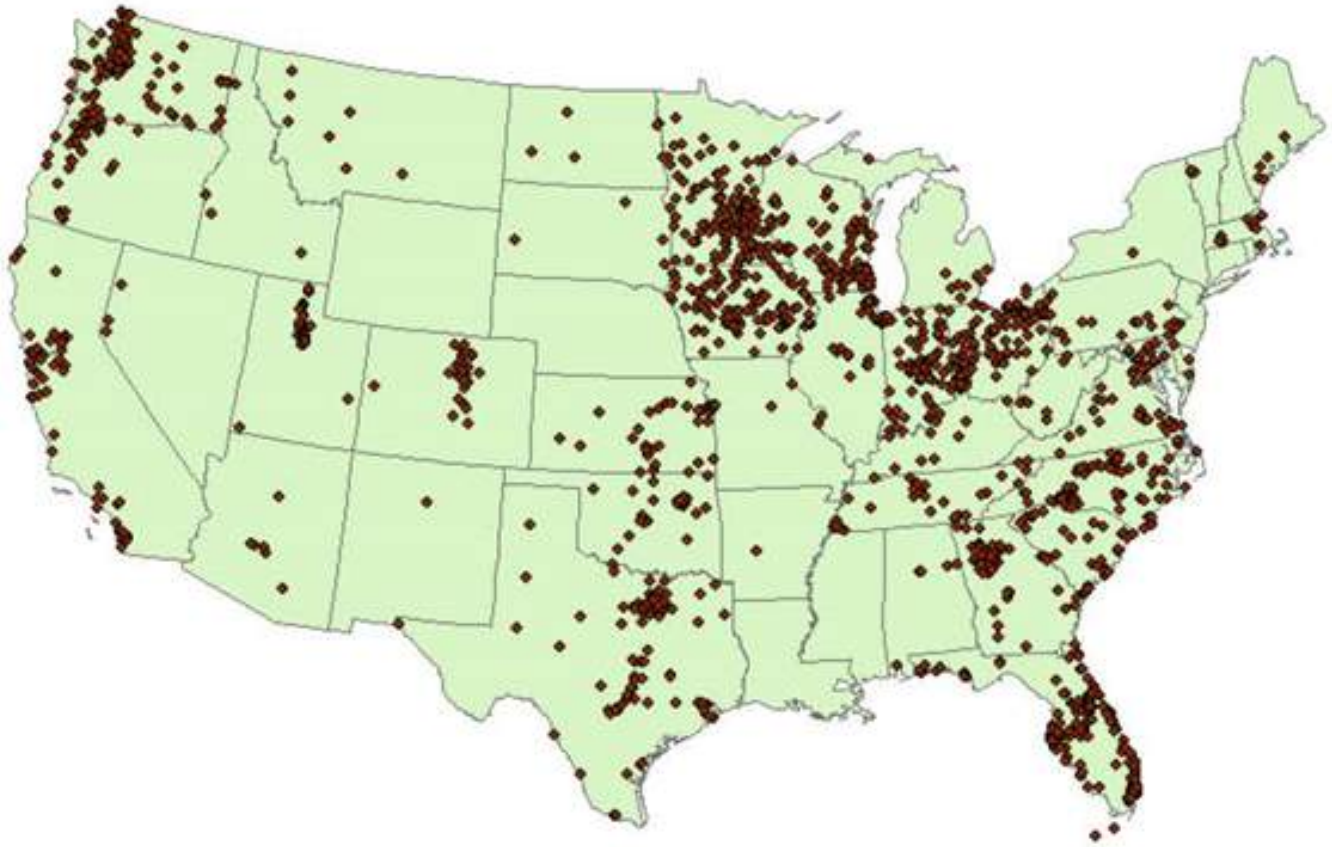
AECOM Cost of Service Study, 2019

What is a “Storm Water Utility”?

- Method of funding storm water management through ***fees*** instead of taxes (i.e. property taxes/ general fund revenues)
- Bills are based on the ***square feet of impervious area*** (buildings + parking + other hard surface) on a parcel
- Runoff from impervious area = proxy for demand on the storm water system
- Fees per unit of impervious area must reflect the cost of storm water services
- This method of assessing fees has been upheld by courts across the United States

Storm Water Utilities Are Well-Established:

Roughly 2000+ municipal jurisdictions use storm water fees



Jurisdictions with Storm Water Fees:

- Philadelphia, PA
- Montgomery County, MD
- San Antonio, TX
- Portland, OR
- Miami-Dade County, FL
- Detroit, MI

Source: Western Kentucky University 2018 Stormwater Utility Survey

Why Adopt a Storm Water Fee?

- Predictable & **stable funding** to address challenges with sufficient year-over-year staffing, equipment
- Facilitates current and future **permit compliance**, long-range **planning**, & leveraging **grants**
- Supports **debt service** to make consistent investments in capital projects, asset renewal
- **Transparency**; Special Fund can be separately audited & reported
- Creates **public awareness** of storm water services and impacts
- Creates clear **links** between water-related actions and associated costs, through fees, credits, and other incentives

Evaluating the Feasibility of a Storm Water Utility

2019 – 2020 Process to evaluate:

- Is the formation of a storm water utility ***feasible*** and ***desirable***?
- What ***rate*** would be required to fund a desired storm water program?

Feasibility Study followed 8+ years of evaluation and action:

- 2011-13 DFM's initial feasibility studies
- 2015 passage of Act 42 – authorized Hawaii's counties to establish storm water utilities and charge fees
- 2017 Fresh Water Initiative & HPU/OWOW storm water utility study, funded by the Hawaii Community Foundation
- 2019 Needs Assessment & Cost of Service Study, prepared by AECOM

Stakeholder Advisory Group: 18 Organizations + 9 Neighborhood Boards

Meeting since August 2019 – moving to Quarterly meetings after October 2020

- AARP Hawai‘i
- Amer. Council of Engineering Companies – HI
- Appleseed Policy Center
- Building Owners & Managers Association (BOMA)
- Fresh Water Council
- Hawai‘i Association of Watershed Partnerships
- Hawai‘i Auto Dealers Association
- Hawai‘i Reserves, Inc.
- Honolulu Board of Water Supply
- I‘olani School (Student Member)
- Kamehameha Schools
- Kua‘Aina Ulu ‘Auamo (KUA)
- NAIOP Commercial Real Estate Development Association - HI
- O‘ahu Resource Conservation and Development Council
- Sustainable Coastlines
- The Nature Conservancy – HI
- University of Hawai‘i – Manoa Dept. of Civil Engineering
- Waikiki Business Improvement District

Feasibility Study Process:

2019

Technical Studies

Develop Initial Storm Water Utility Proposal

Jan-Feb 2020

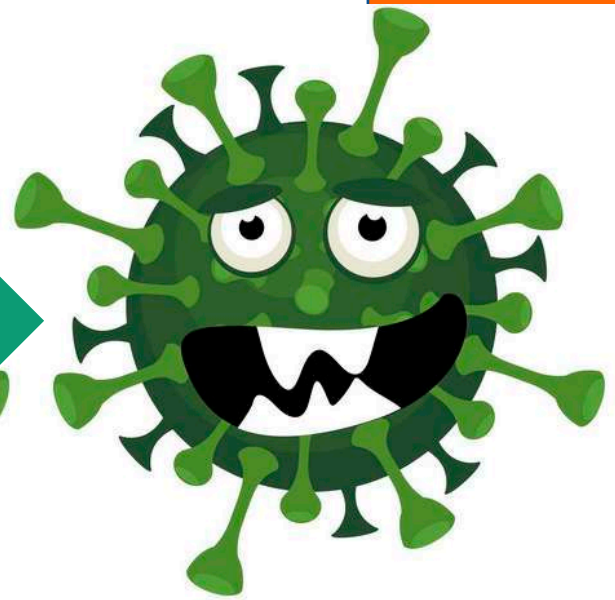
Round 1 Public Outreach

Refine Storm Water Utility Proposal

March – June 2020

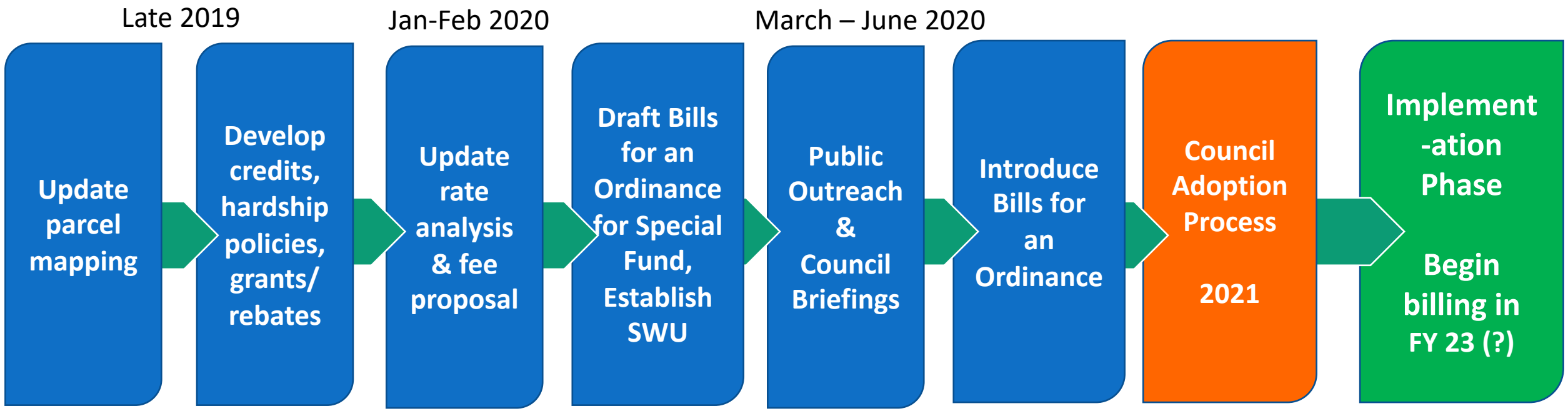
Round 2 Public Outreach

Refine Rate Structure & Credits & Policies



Stakeholder Advisory Group Meetings

Revised Process:



Stakeholder Advisory Group Meetings

Study Findings
& Core Recommendations
for a Storm Water Utility

1. Advance a proposal for a Storm Water Utility

Two City Council actions (Bills for an Ordinance) are required:

#1 – Ordinance to establish a ***Special Fund*** of the City & County of Honolulu for Storm Water Management

#2 – Ordinance to ***charge storm water fees*** + set key credit, exemption, and hardship policies

This process would NOT establish a separate agency/authority - Storm Water responsibilities remain with DFM's Storm Water Quality team

1. Advance a Proposal for a Storm Water Utility: Key Considerations for City Council

PHASING and TIMING

- When should fees take effect? *(earliest likely feasible date is FY 2023)*
- Should fees be delayed until economic recovery indicators are achieved
- Should fees for some rate payer groups be phased in?

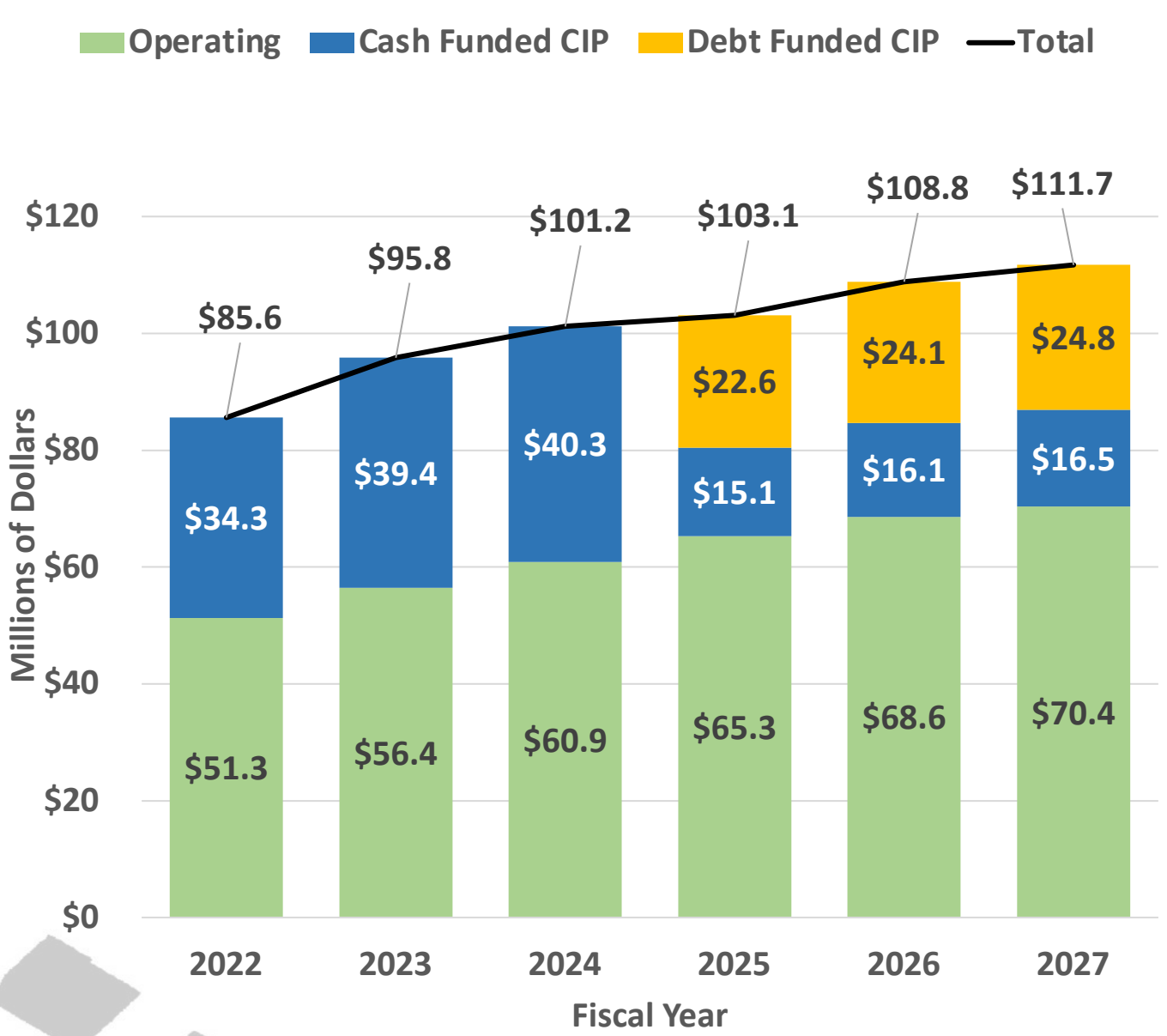
"REVENUE NEUTRALITY"

- Storm water fees would represent new revenue to the City and County
- Should property tax payers receive a partial or full rebate of what they would have paid in property taxes to fund the storm water program?

2. Set a storm water fee sufficient to fund the "Plan C" budget for the first six fiscal years

- Phases in hiring and program expenses over first 6 fiscal years
- Includes start-up and ongoing administrative costs
- Includes allowance for credits, non-payment
- **Issuance of $73 million in revenue bonds for capital projects in Year 4, once sufficient fund balance achieved

Annual average, first 6 FY = $96.7m
"Steady State" budget at full hiring: $101.7m *(2020 dollars)*



Assumes Rates Are Fixed for First 6 Fiscal Years & Employment Vacancies Filled over Time

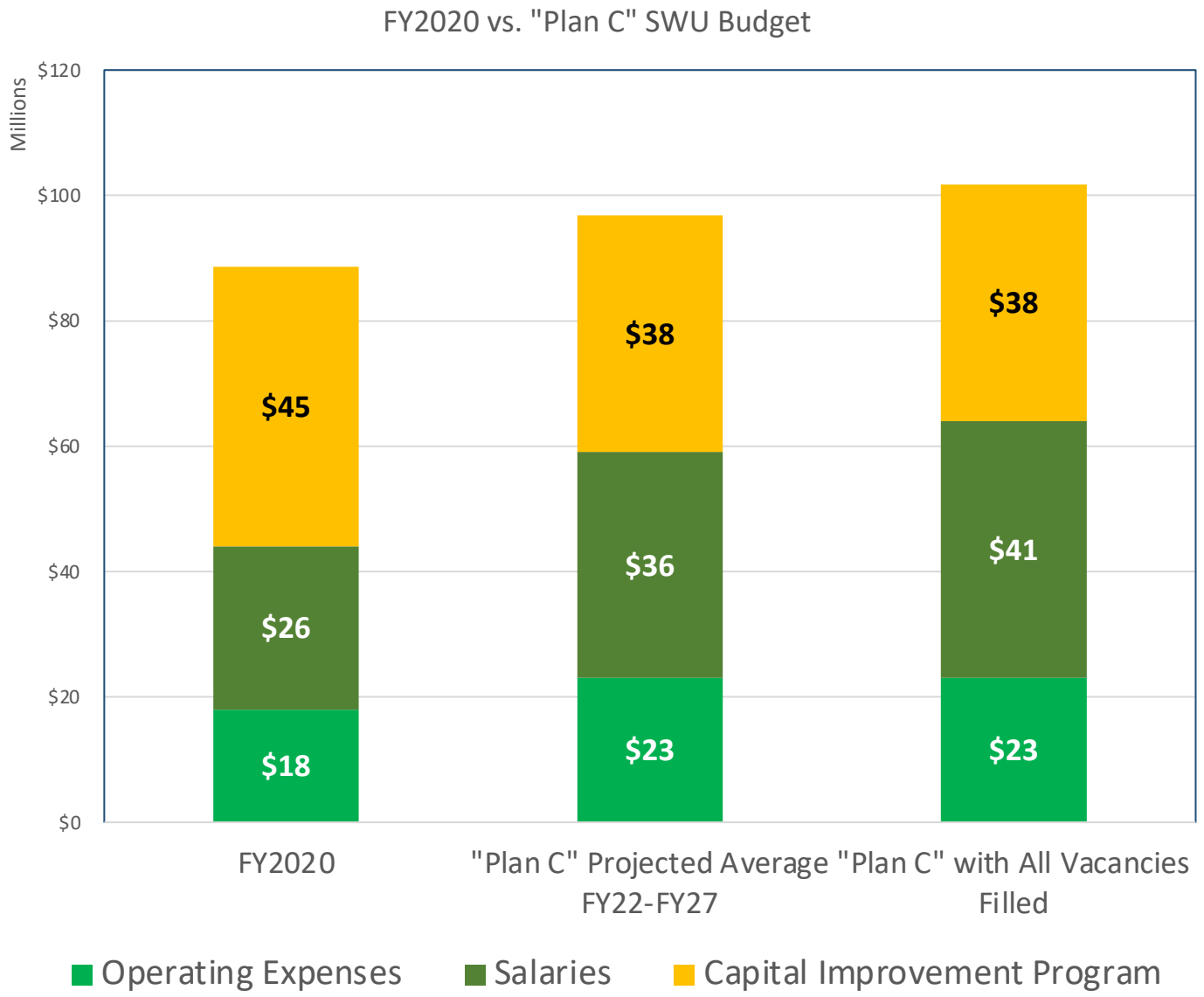
What Benefits Will Citizens See from this Change?

Increased operational spending in desired areas:

- Fee administration & billing – *included in budgets and projected fee*
- Stream Channel Cleaning
- Green Infrastructure Maintenance
- Proactive Drain Line Inspection, Cleaning & Repair
- Funding to secure grants & partnerships

Reduced cost of capital projects:

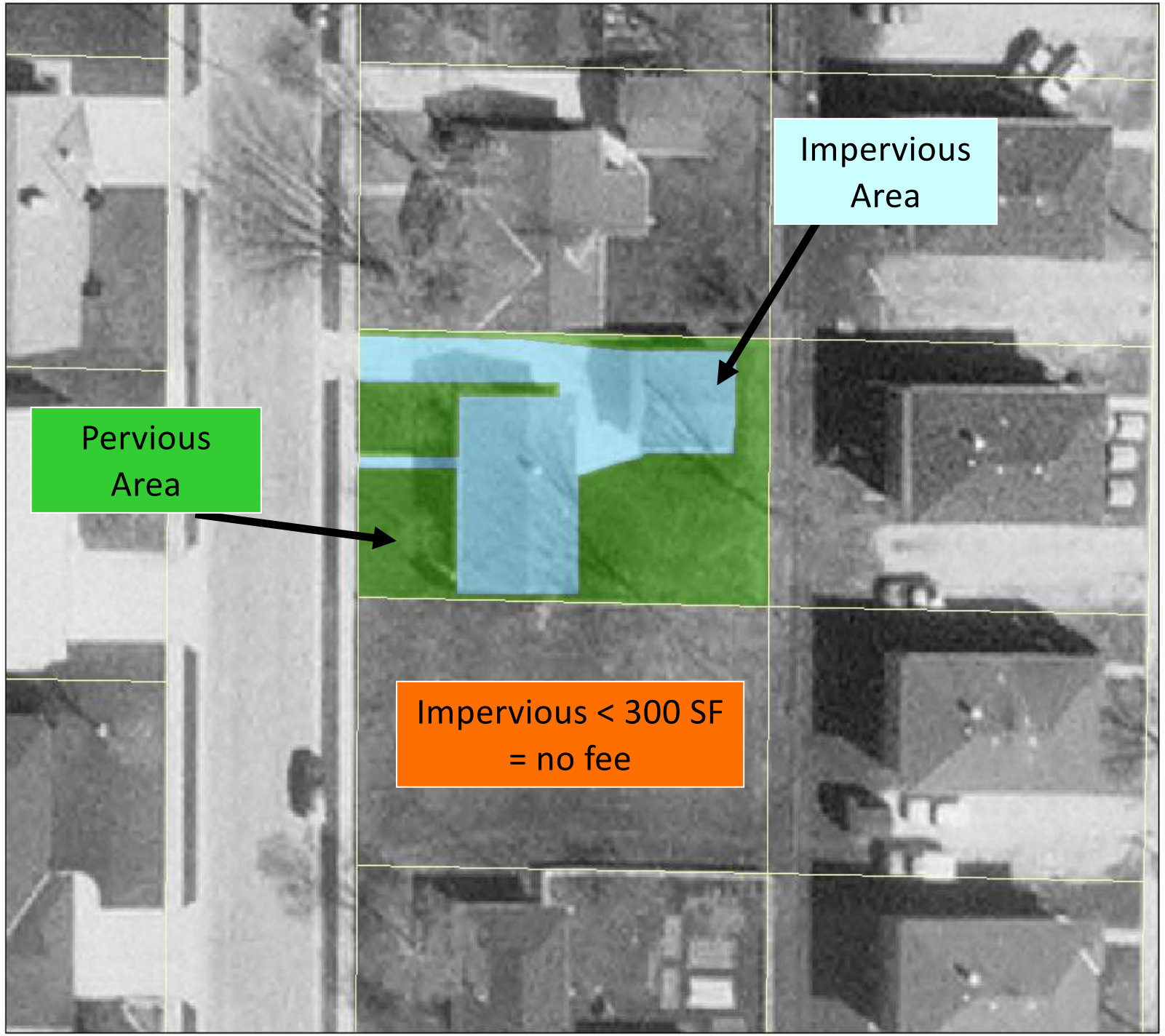
A fee-based utility can access low-cost capital and grants



How are storm water fees calculated?

Fees reflect the amount (measured square feet, not percentage) of ***Impervious Area*** *on each parcel*

Vacant parcels *and sites with less than 300 SF of impervious area do not pay a fee, regardless of taxable value*



How Much Would Different Size Parcels Pay?
DRAFT Storm Water Rates per 1,000 SF of Impervious Area

Base Rate:
$4.85/month
per 1,000 SF of Impervious Area

Median single-family residence:
3,900 SF IA =
$16.98/month

	Square Feet of Impervious Area	Multiple of Storm Water Rate	Base Monthly Fee (before credits)	Annual Equivalent	Number of Properties
Tier 1	300 – 1,000 SF	0.5	$2.43	$29.16	2,199
Tier 2	>1,000 – 2,000 SF	1.5	$7.28	$87.36	10,810
Tier 3	>2,000 – 3,000 SF	2.5	$12.13	$145.56	31,124
Tier 4	>3,000 – 4,000 SF	3.5	$16.98	$203.76	38,239
Tier 5	>4,000 – 5,000 SF	4.5	$21.83	$261.96	31,209
Tier 6	>5,000 – 6,000 SF	5.5	$26.68	$320.16	18,211
Tier 7	>6,000 – 7,000 SF	6.5	$31.53	$378.36	8,774
Tier 8	≥7,000 SF	n/a	$4.85 x 1,000 SF/IA	$58.20 x 1,000 SF/IA	18,487

How would Honolulu's fees stack up with other storm water utilities?

Monthly rates for typical residential property in 2018, from the Western Kentucky University Storm Water Utility Survey

Detroit, MI	$125.00
Winston-Salem, NC	$69.25
Mecklenburg County (Charlotte, NC)	$49.85
Seattle, WA	$36.00
Tacoma, WA	$23.25
Mission, KS	$19.00
Boulder, CO	$16.82
Philadelphia, PA	$13.48
Virginia Beach, VA	$12.99
Eugene, OR	$12.27
Minneapolis, MN	$11.42
Chattanooga, TN	$9.60

Monthly Fee Range for Median Single Family Residential (@3900 SF)

3. Make *all* properties eligible for credits of up to 60% off the applicable storm water fee

4. Incentivize water capture, reuse, and infiltration in credit, rebate, and grant policies

- **Eligibility**: Make all properties eligible to apply for credits for installing storm water capture & treatment
- **"Non-Structural" Credits**: Additional credit for holders of other stormwater NPDES permits, education, in-kind education or activity
- **Maximum**: Up to 60% of the total fee including all credits; must treat water quality volume (next slide) for all impervious area to receive max. credit
- **Renewal**: Credits require application and periodic renewal (1 year for non-residential properties, 3 years for residential)
- **Additional Credit**: Consider additional credit above 60% maximum for properties treating runoff from impervious area outside parcel boundaries

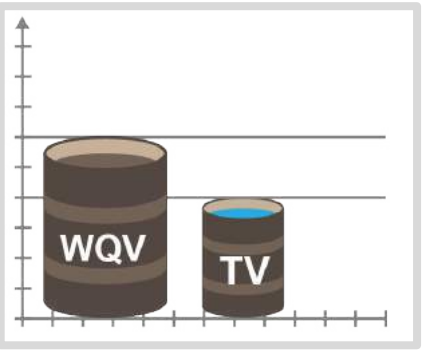
Incentivizing Water Capture & Recharge: WQv-Based Credits

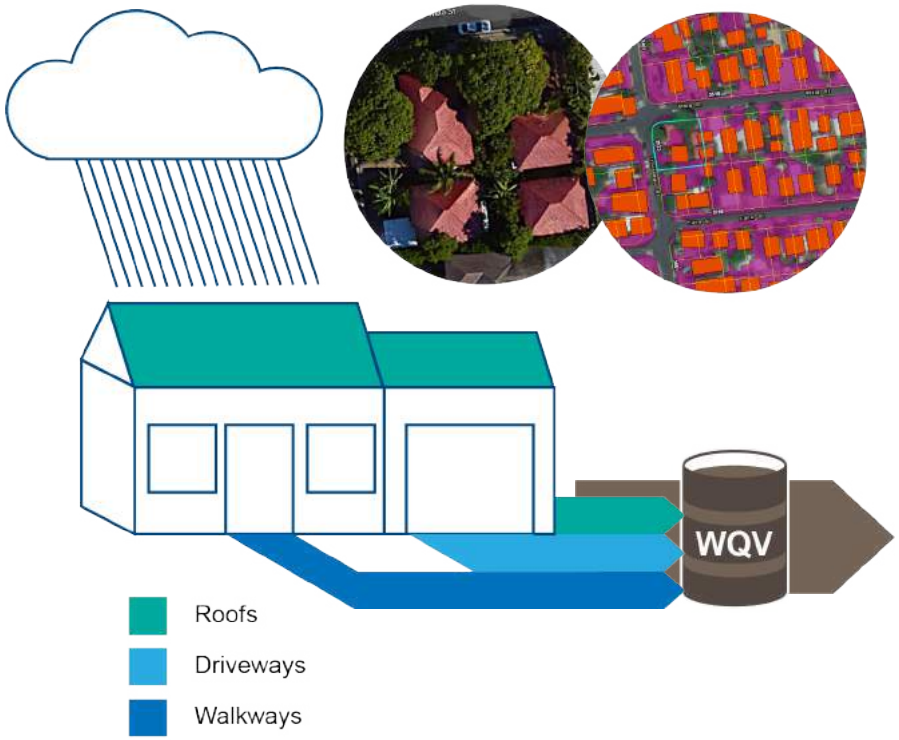
**Target specific credits/rebates for recharge zones? Supplemental irrigation?*

Step 1
For each property calculate the WQV required for the site (the volume of runoff from 1 inch of rainfall).

Step 2
Determine TV (treatment volume), the total volume that is captured by stormwater devices on the site.

Step 3
Determine credit for your site, as a ratio of total treatment volume provided to water quality volume required (TV/WQV) times the maximum credit allowed (60%).





TV = Treatment Volume
= total volume treated by various stormwater devices on your site


Rain Garden


Bioretention


Downspout disconnect or Pier & Post


Rain Barrels

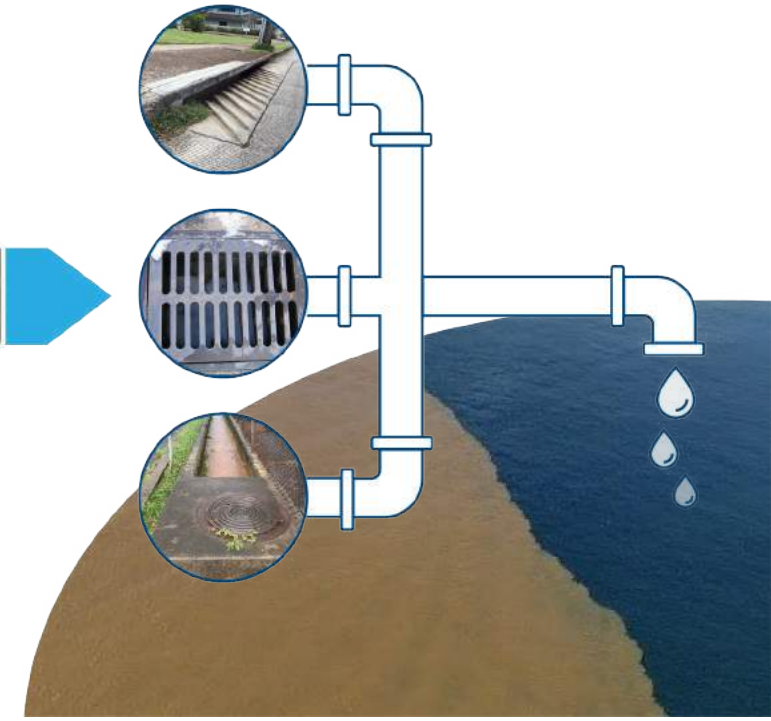

Filtration Planters


Porous Pavement


Tree Box Filters


Green Roofs


Infiltration Trenches



WQV = Water Quality Volume
= 1-inch of runoff from all impervious area
= Required Volume for your site to receive maximum credit

Additional Credits Under Consideration
to be defined in a Credit Manual

“Non-Structural” Credits

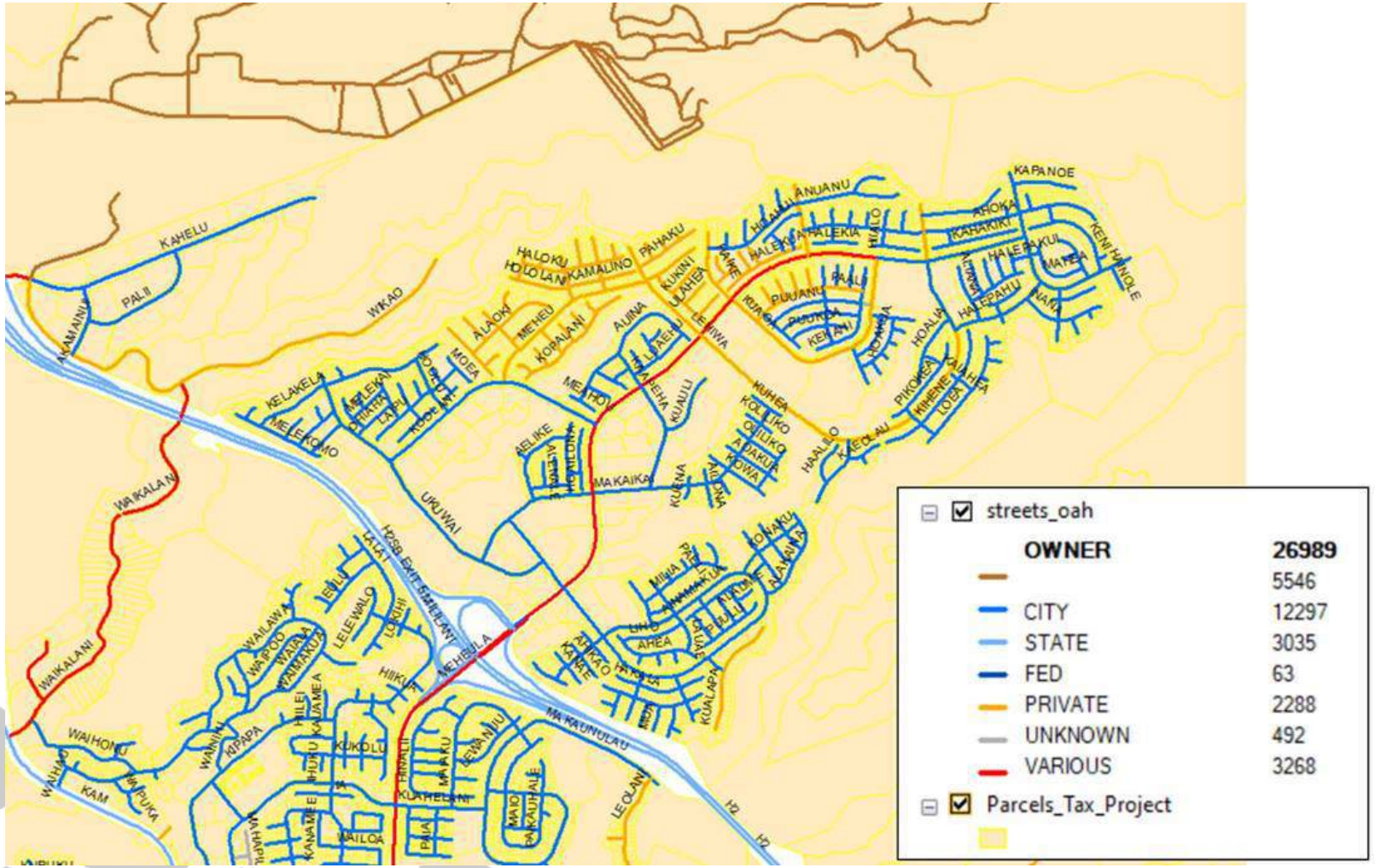
- 15% reduction for valid compliance with an industrial NPDES storm water permit (HI DOT, Harbors, Hawaii Pacific, UH-Manoa, etc.)
- Reduction for “pier & post” construction
- Tree canopy enhancement
- Integrated pest management

“Activity-Based” Credits: Actions that reduce DFM’s total program cost, such as:

- Hosting approved education/ outreach events
- Trash clean-ups
- Approved in-kind labor (e.g. green infrastructure maintenance, etc.)
- Ongoing, verified education curriculum

5. Provide hardship relief to low-income households and small non-profit organizations

6. Exempt public and quasi-public roads, and parcels with <300 SF of impervious area



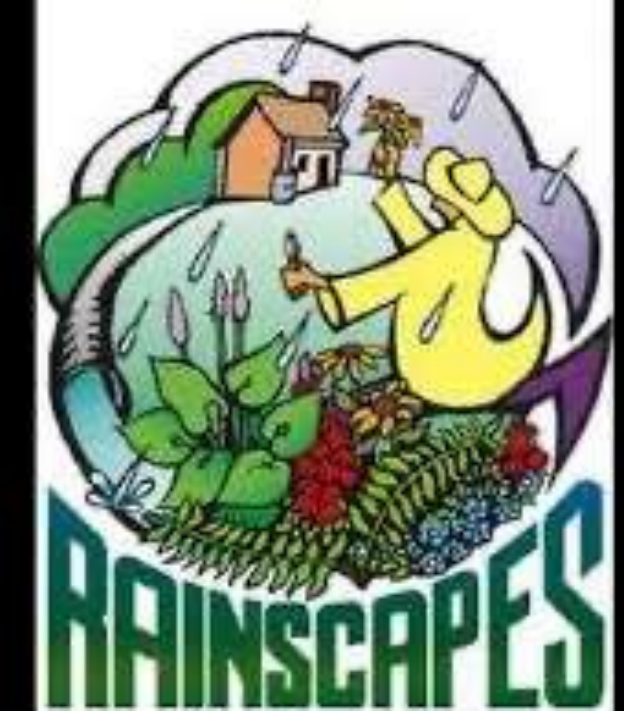
Hardship/Exemption Draft Recommendations

Hardship Provisions:

- **Households qualifying for HI LIHEAP** (<150% of poverty) pay Tier 1 rate – similar to BWS essential service approach
- Storm water **fees to non-profits capped** at 0.5% (one half of one percent) of demonstrated annual revenue; based on individual parish/site, not umbrella organization
- Recommend **adjustments for ongoing hardship** where water services >4% of income
- *Recommend discussion with ENV about overall affordability of wastewater + storm water

Exemptions:

- **Exempt**: Properties with less than 300 SF of impervious surface
- **Exempt**: Public and "quasi-public" roads – functionally public & cannot be closed off
- ***Not exempt***: Federal, state, and local government facilities

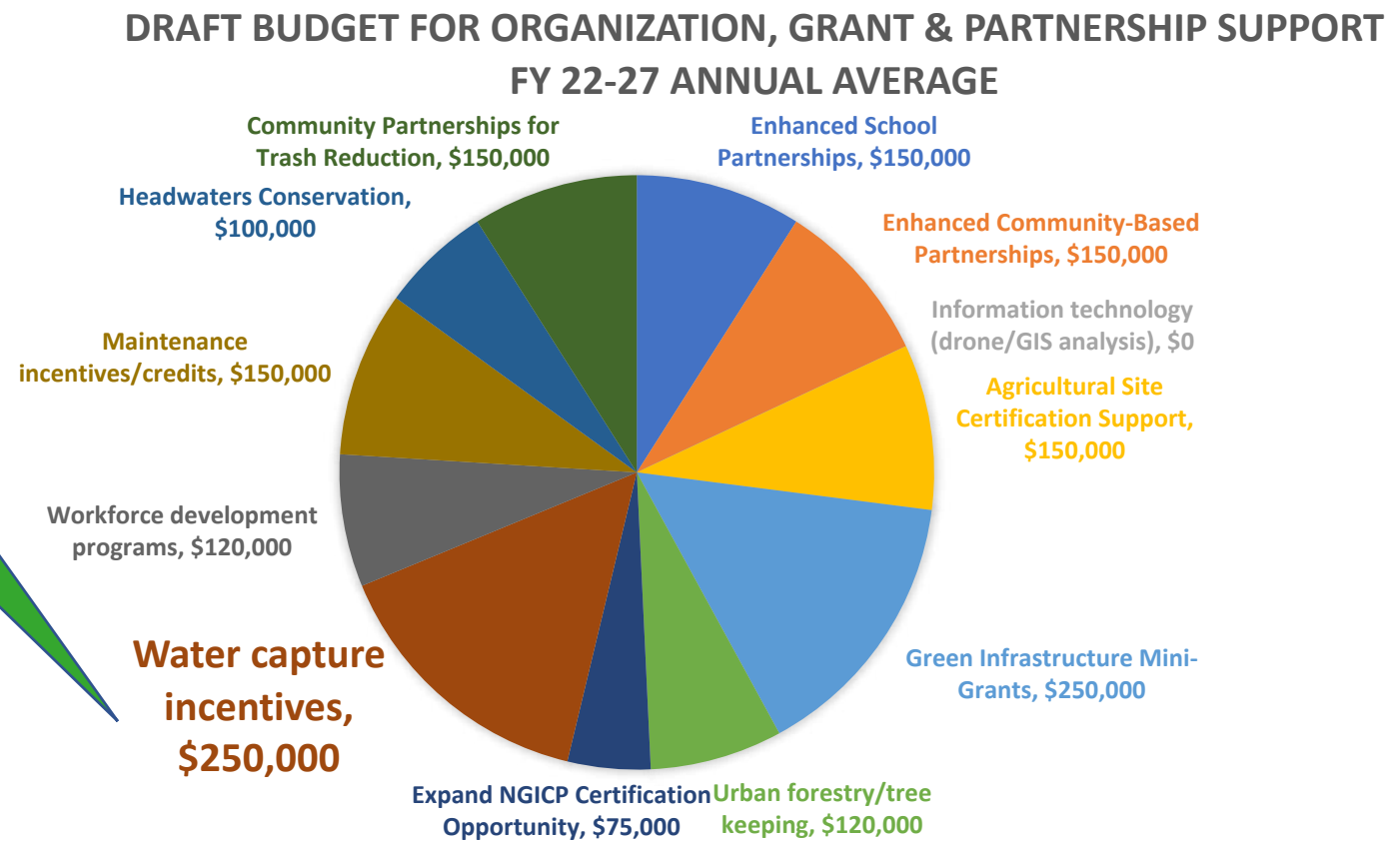


7. Develop Partnerships and ensure investments reach all Oahu communities

8. Establish an ongoing stakeholder advisory process, including annual financial reports

Important Opportunity with BWS: Grants, Rebates, and Partnerships

The “Plan C” budget includes allocation for matching funds & annual budget for Water Capture incentives



Mahalo!

www.stormwaterutilityoahu.org