'25JUL22 PM 3:41 CITY CLERK



Stream Maintenance & Stormwater Management
Public Infrastructure, Transportation and Technology

Wednesday, July 23, 2025

Submitted by the Department of Facility Maintenance for Informational Briefing No. 2
Committee on Infrastructure, Transportation & Technology | July 23, 2025

DEPT. COM. 582
ITT

Department of Facility Maintenance

Division of Road Maintenance

STREAM MAINTENANCE

U.S. Army Permit (Stream Maintenance)

POH-2017-00198

DEPARTMENT OF THE ARMY
HONOLULU DISTRICT, U.S. ARMY CORPS OF ENGINEERS
FORT SHAFTER, HAWAII 96858-5440

September 25, 2019

SUBJECT: Final Standard Permit Authorization for Stream Maintenance Activities at Various Locations, Island of Oahu, HI, DA File No. POH-2017-00198

Mr. Ross Sasamura
City and County of Honolulu
Department of Facilities Maintenance
1000 Uluohia Street, #215
Kapolei, Hawaii 96707

Dear Mr. Sasamura:

We determined your proposed work complies with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Enclosed is your fully executed Department of the Army Permit.

Please carefully read the permit and its conditions. In addition, if you have a contractor and/or agent, please review these conditions with them to ensure that the work is performed in accordance with the permit terms. Also be aware that other authorizations from Federal, state, or local governments may be required by law. If the work is not completed prior to the permit expiration date, you may apply for a time extension. We recommend you apply for a time extension at least 90 days before the expiration date of the permit.

Thank you for your cooperation with the Honolulu District Regulatory Branch. Should you have any questions related to this permit, please contact Ms. Vera Koskelo of my staff at 808-835-4310 or via e-mail at Vera.B.Koskelo@usace.army.mil. You are encouraged to provide comments on your experience with the Honolulu District Regulatory Branch by accessing our web-based customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Sincerely,

Linda Speerstra

Linda Speerstra
Chief, Regulatory Branch

Enclosure

Cc: State of Hawaii DBEDT Office of Planning (John Nakagawa)
State of Hawaii DOH-CWB (Darryl Lum)

US Army Corps of Engineers, Honolulu District

DEPARTMENT OF THE ARMY PERMIT

File Number: POH-2017-00198
Project Title: Stream Maintenance Activities at Various Locations, Island of Oahu, HI
Subject: **Department of the Army Permit**

PERMITTEE: **Mr. Ross Sasamura,**
City and County of Honolulu

PERMIT NO.: **POH-2017-00198**
ISSUING OFFICE: **U.S. Army Corps of Engineers Honolulu District**
Regulatory Branch (CEPOH-RO)

Note: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

PROJECT DESCRIPTION:
The City and County of Honolulu Department of Facilities Maintenance (DFM) is proposing to conduct repeated stream maintenance activities at 92 locations around the Island of Oahu for the next five years. The stream maintenance activities are generally divided into three main categories of work: stream mouth dredging, stream mouth breach opening, and stream maintenance in reaches of streams located mauka of the stream mouth. Of the 92 total stream maintenance activity locations, the DFM plans to apply for a separate Corps permit to conduct stream mouth dredging in 13 of the locations. The subject project currently under review by the Corps is for the remaining 78 stream maintenance projects, including 16 stream mouth breach opening locations and 62 stream maintenance locations in mauka reaches.

The proposed stream mouth breach opening activities for 16 of the 78 locations will involve using heavy equipment (e.g. excavator, bulldozer, backhoe, or loader) to dredge an approximately one to three-foot wide channel through the natural sand berm at the stream mouth, allowing the force of the water backed up behind the berm to naturally widen the created channel. The sand dredged from the berm will be placed in the uplands outside the channel. Green waste, silt, debris, or other unsuitable materials if encountered will be handled separately, removed and disposed of at the City-owned Waimanalo Gulch Landfill or other approved upland disposal site. All of the 16 stream mouth breach opening activities will be located in the DFM's Laie District. Of the 16 locations where stream mouth breach opening activities are proposed, the sand berm at the stream mouths of three of the locations will be breached on a monthly basis, four breached every other month, four breached quarterly, three breached biannually, and one breached immediately prior to storms and routinely every two to three years. The frequency of stream mouth breach opening activities at each of the locations is listed in the "Stream Maintenance Projects" table (Enclosure 2). The current condition of some portion of the stream channels may include hardening (e.g. concrete lining); however, none of the 16 locations with proposed stream mouth breach opening activities are completely concrete-lined on both the stream bed and banks.

The remaining 62 stream maintenance activities (as listed in Enclosure 2) will primarily consist of removal of accumulated sediment, trash, and debris by heavy equipment staged in the channel or in the uplands next to the channel. Two of the stream maintenance activities will consist of clearing of one existing boulder basin and one existing catchment basin, respectively, that were constructed in-line with the channel for water and sediment detention. The proposed stream maintenance will involve using an assortment of heavy equipment (e.g. crane, excavator, skid steer, track loader, bulldozer, backhoe, boom truck, tire loader, or tractor loader) staged primarily on the stream banks. Of the 62 locations where stream maintenance activities are proposed, the maintenance dredging will occur for two locations on a monthly basis, 12 locations on a quarterly basis, 21 locations on an annual basis, 11 locations on a biannual basis, four locations dredged every two to three years, nine locations dredged every three to five years, and three locations dredged as needed. The frequency of stream maintenance activities at each of the 62 locations is listed Enclosure 2.

Over the five year duration of work, the proposed dredging with heavy equipment at the 16 stream mouth breach opening and 62 stream maintenance projects will result in the removal of approximately 471,450 cubic yards of dredged sediment, temporarily disturbing the sediment in a total of 152,200 linear feet of stream.

Equipment operators will be required to comply with the Best Management Practices (BMPs) in the October 2018 Department of Facilities Maintenance Stream Maintenance Manual (Enclosure 4). Equipment will only be used in the stream channel if there is no other practical way to perform the maintenance activity and if the water level is low enough to insure the axels and all oil and grease-containing parts remain above the water level. Equipment will be temporarily staged in uplands for all 78 project locations. Equipment will access the stream via existing ramps or other access routes at 71 of the project locations. At the remaining eight project locations, the DFM will construct a temporary rock or gravel access ramp, which will be removed following the maintenance activity and any disturbed stream banks restored to pre-maintenance conditions.

Project isolation BMPs will be used in 30 of the 78 project locations. Bulk sand bags will be temporarily installed for stream diversion in five tidally-influenced stream maintenance project locations in the Waianae DFM District. The bulk bags filled with clean sand or gravel will be installed in the stream channel at low tide on the downstream side of the work area to isolate the project area from the incoming tide and will be removed following the completion of each dredging event. Turbidity curtains will be temporarily installed during dredging at 27 stream maintenance project locations and the stream maintenance portion of the joint stream maintenance and stream mouth breach opening location at Aiea Stream. Turbidity curtains will only be deployed in slow moving streams. In streams that are greater than 3.5 feet deep, turbidity curtains with 3-foot long skirts below the water surface may be used to contain sediment suspended in the upper part of the water column. Turbidity curtains without skirts may be used to collect floatable trash and debris. The temporary installation of turbidity curtains will not completely block the flow of the stream and will not inhibit the movement of aquatic

U.S. Army Permit (Stream Mouth Maintenance)

POH-2020-00123, POH-2020-00124, POH-2020-00125, POH-2020-00126, POH-2020-00127, POH-2020-00128, POH-2020-00129, POH-2020-00131, POH-2020-00132, POH-2020-00133, POH-2020-00134

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, HONOLULU DISTRICT
230 OTAKE STREET
FORT SHAFTER, HAWAII 96858-5440

September 1, 2022

SUBJECT: Nationwide Permit Verification for 11 Stream Mouth Dredge Opening Projects; Department of the Army File No. POH-2020-00123, POH-2020-00124, POH-2020-00125, POH-2020-00126, POH-2020-00127, POH-2020-00128, POH-2020-00129, POH-2020-00131, POH-2020-00132, POH-2020-00133, and POH-2020-00134

Ms. Dawn Szewczyk
City and County of Honolulu
Department of Facility Maintenance (DFM)
1000 Uluohia Street, Suite 2015
Kapolei, Hawaii 96707

Dear Ms. Szewczyk:

The Honolulu District, U.S. Army Corps of Engineers (Corps), Regulatory Office has completed review of your Pre-Construction Notifications requesting authorization for the proposed excavation of accumulated sediment in 11 streams around the Island of Oahu, Hawaii. Please reference Department of the Army (DA) file numbers POH-2020-00123, POH-2020-00124, POH-2020-00125, POH-2020-00126, POH-2020-00127, POH-2020-00128, POH-2020-00129, POH-2020-00131, POH-2020-00132, POH-2020-00133, and POH-2020-00134 in any future correspondence related to this permit.

This letter verifies your activities comply with the terms and conditions of Nationwide Permit (NWP) # 3 (Maintenance) issued on February 25, 2022. This NWP verification letter is being issued pursuant to Section 404 of the Clean Water Act for discharge of dredged or fill material in waters of the U.S. and Section 10 of the Rivers and Harbors Act for work in navigable waters of the U.S. You are authorized to conduct the following work below the High Tide Line (HTL) as depicted on the enclosed drawings (Enclosures 1 – 11) at the 11 project locations on the Island of Oahu, Hawaii with the impacts for each project location listed in the table below:

Project number and name	Coordinates	TMKs	Waterway	Town	Impact Acres (ac) / Stream linear feet (lf)	Volume (cubic yards) removed over 5-year 2021 NWPs duration	Excavation Frequency over 5-year 2021 NWPs duration



Key Map



Legend

- Stream Mouth Dredge Opening Site (POH-2018-00185)
- Stream Mouth Breach Opening Site (POH-2017-00198)
- Stream Maintenance Site (POH-2017-00198)
- Stream/Channel
- DFM District

Notes

1. Base Map Source: Esri World Imagery
2. Map Projection: NAD83 HARN StatePlane Hawaii 3.
3. Stream/Channel: National Hydrography Dataset features for Hawaii as of December, 2012.



Figure 7.1
DFM Oahu Districts
Site Location Map
City and County of Honolulu
DFM Stream Mantenance

Permitted Stream Maintenance

EXAMPLES







Non-Permitted Stream Maintenance

EXAMPLES




420E
CAT

DEM Authorized Stream Mouth Openings

1. Predicted adverse weather approaching.
2. Division of Road Maintenance (DRM) staff inspects City-maintained stream mouths and take photos. Staff reports to Drainage Engineer of stream mouth conditions.
3. If stream mouths are plugged with sand, Drainage Engineer seeks DEM emergency authorization to remove the sand plugs prior to adverse weather to prevent potential flooding.
4. Drainage Engineer informs the U.S. Army Corps of Engineers and State of Hawaii Department of Health's Clean Water Branch of DRM's intention to remove the sand plugs and instructs DRM Yards to remove the sand plugs.

Emergency Stream Mouth Openings

EXAMPLES






VO

Stream Maintenance Issues

1. Limited equipment access.
2. Limited equipment and operator resources.
3. Limited manpower resources.
4. Equipment downtime due to equipment breakdown and acquisition of parts.

Department of Facility Maintenance

Storm Water Quality Division

STORM WATER MANAGEMENT





Managing Oahu's Storm Water: Environmental Challenges

- ***Aging Infrastructure –*** Much of Oahu's system is near its 50 year design life
- ***Localized Flooding*** – Becoming more frequent with a changing climate and increased development
- ***Water Supply Security*** – Capturing, cleaning & re-charging our fresh water supplies
- ***Sea Level Rise –*** affects coastal storm drainage infrastructure, especially pipe outfalls

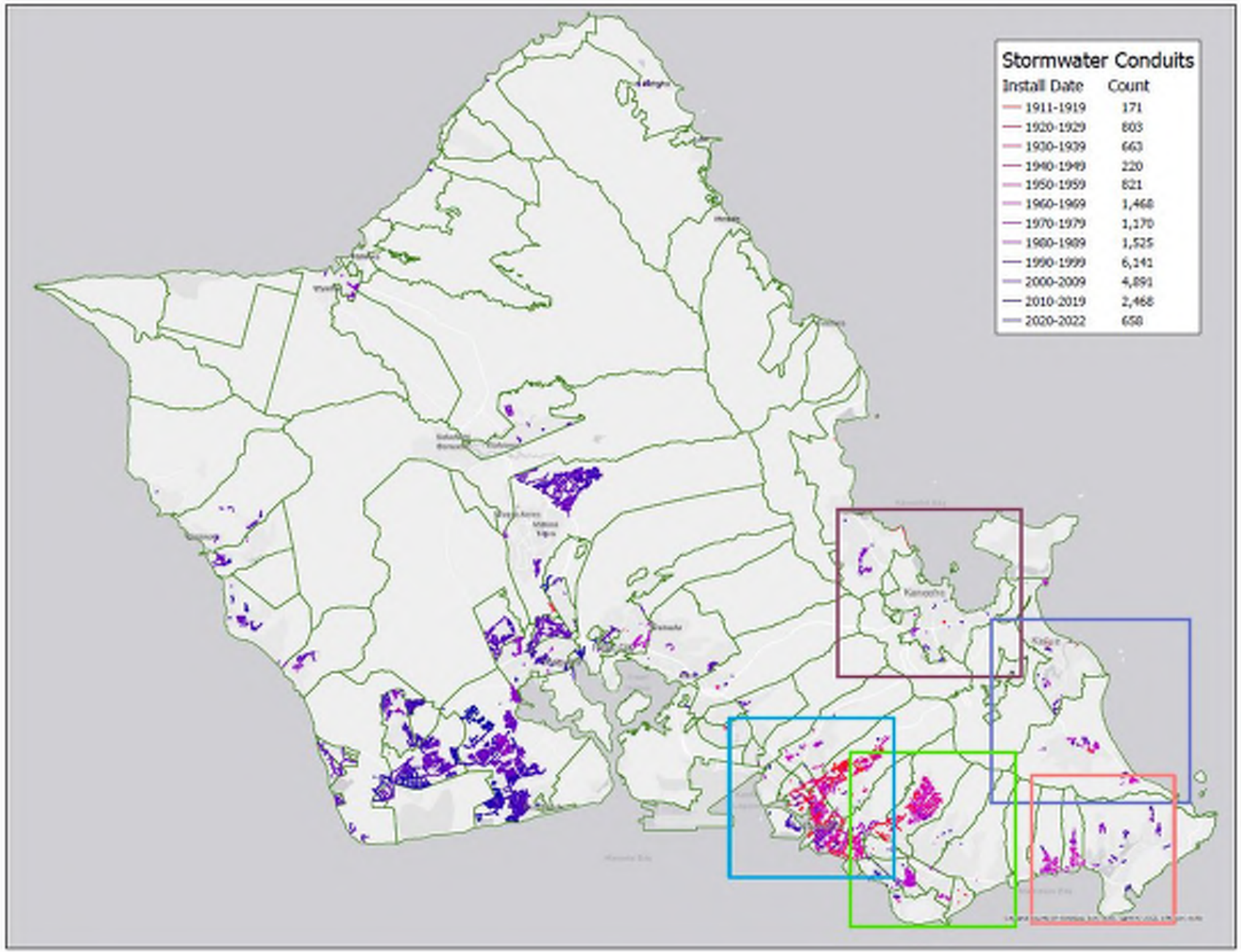




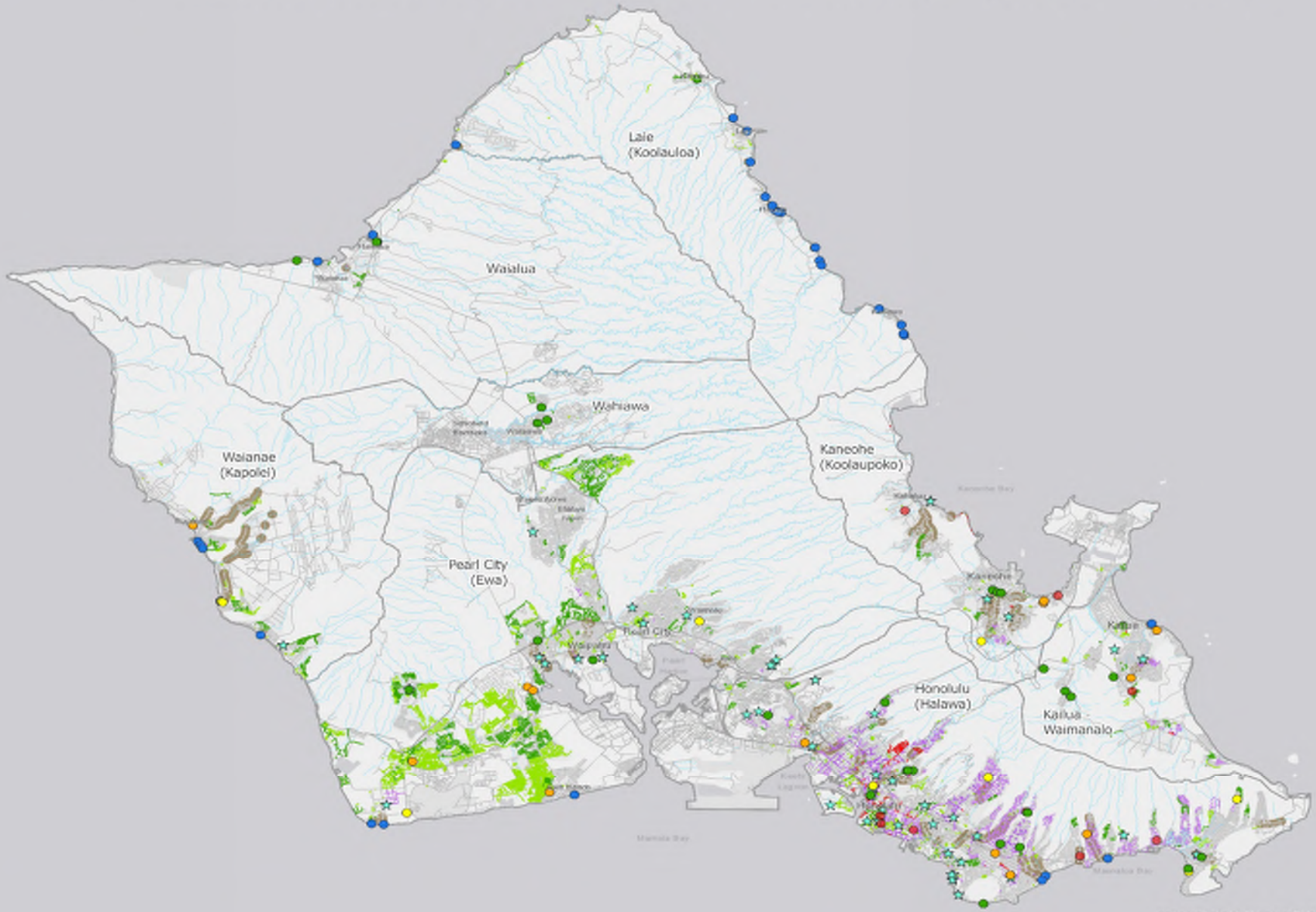







Stormwater Conduits
Install Date Count
1911-1919 171
1920-1929 803
1930-1939 663
1940-1949 220
1950-1959 821
1960-1969 1,468
1970-1979 1,170
1980-1989 1,525
1990-1999 6,141
2000-2009 4,891
2010-2019 2,468
2020-2022 658

Stormwater Conduit Age and stormwater-related City Projects (2018-2025)



Legend

Stormwater Conduit Age
- Less than 25 years old
- 25 - 50 years old
- 51 - 80 years old
- 81 - 100 years old
- Over 100 years old
- Age unknown

DDC Projects
- Emergency Repair/Improvement (9)
- Drainage Improvement (13)
- Flood Control Improvement (9)
- NPDES/Erosion Control Improvement (31)
- DFM-Roads Stream Mouth Cleaning Site

DFM-SWQ Projects
- DFM-SWQ Projects (48)
- DFM-Roads Stream Cleaning Site (115)
- DFM District

N

Note: Information shown on this map is derived from public records that are constantly undergoing change.

0 1 2 4 6 8 Miles

Prepared by: Stormwater Quality Division
Department of Facility Maintenance

Date Prepared: April 2025

Copyright City & County of Honolulu
All Rights Reserved 2025

Developing a Plan
Laying the Foundation



Current Cost of Service

Current cost of service + Highway Fund Use = **$116M**

Funding	Expenses *(Storm Water Operating & Capital)*
Highway Funds $30M	DFM Roadway Maintenance $40M
Real Property Taxes $86M	DFM Core Storm Water Services $50M
	Eight Other Departments $26M





What are the critical needs?

- **Increase** stream maintenance crews (over 3x FTE positions) + equipment (e.g., additional cranes, long reach excavators)
- **Expand** successful, effective green infrastructure programs
- **Fill** existing vacant positions
- **Start** debt-funded asset renewal

$12.6M/year leverages a new $25M/year investment in storm water asset renewal projects, through debt financing

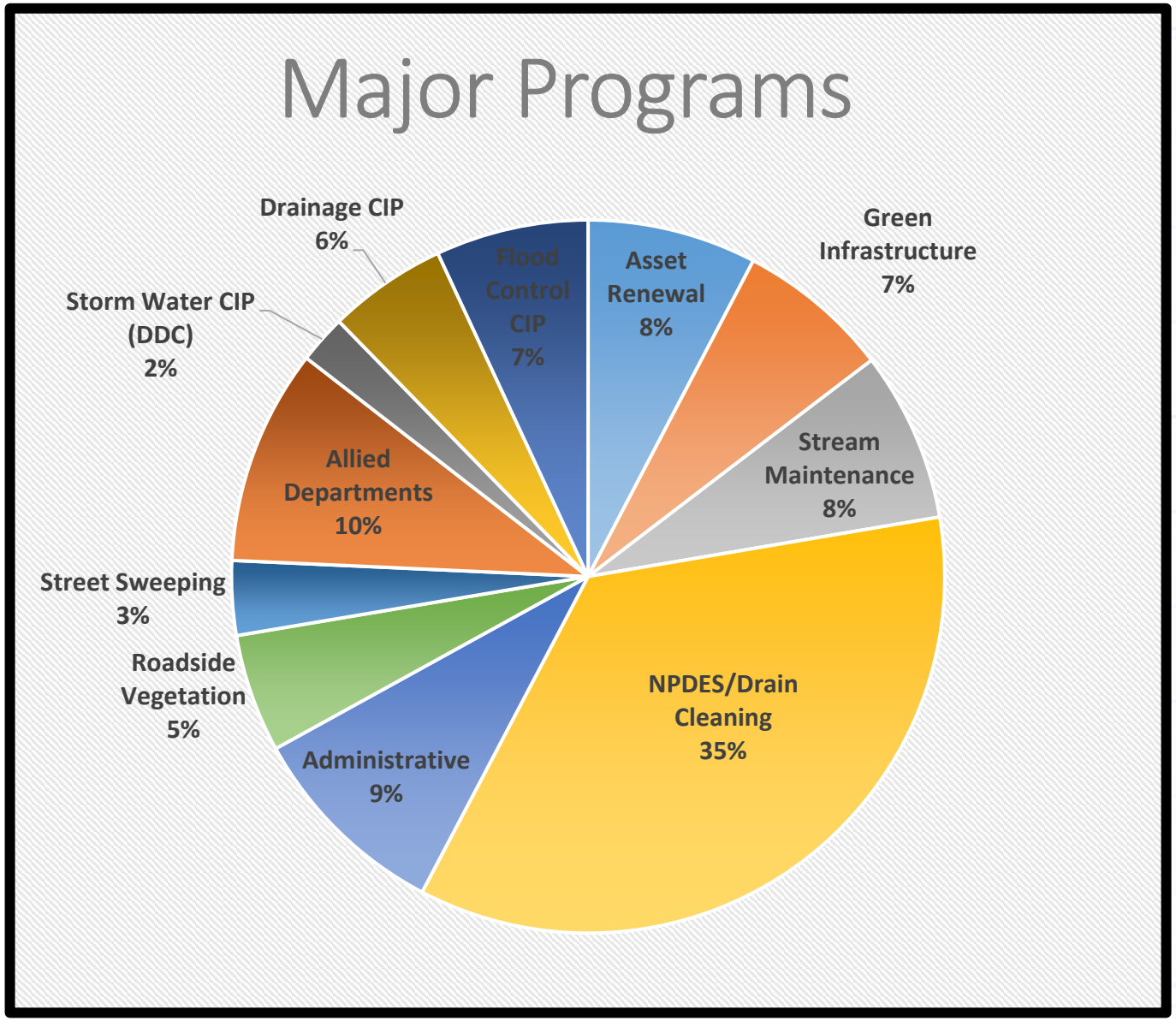


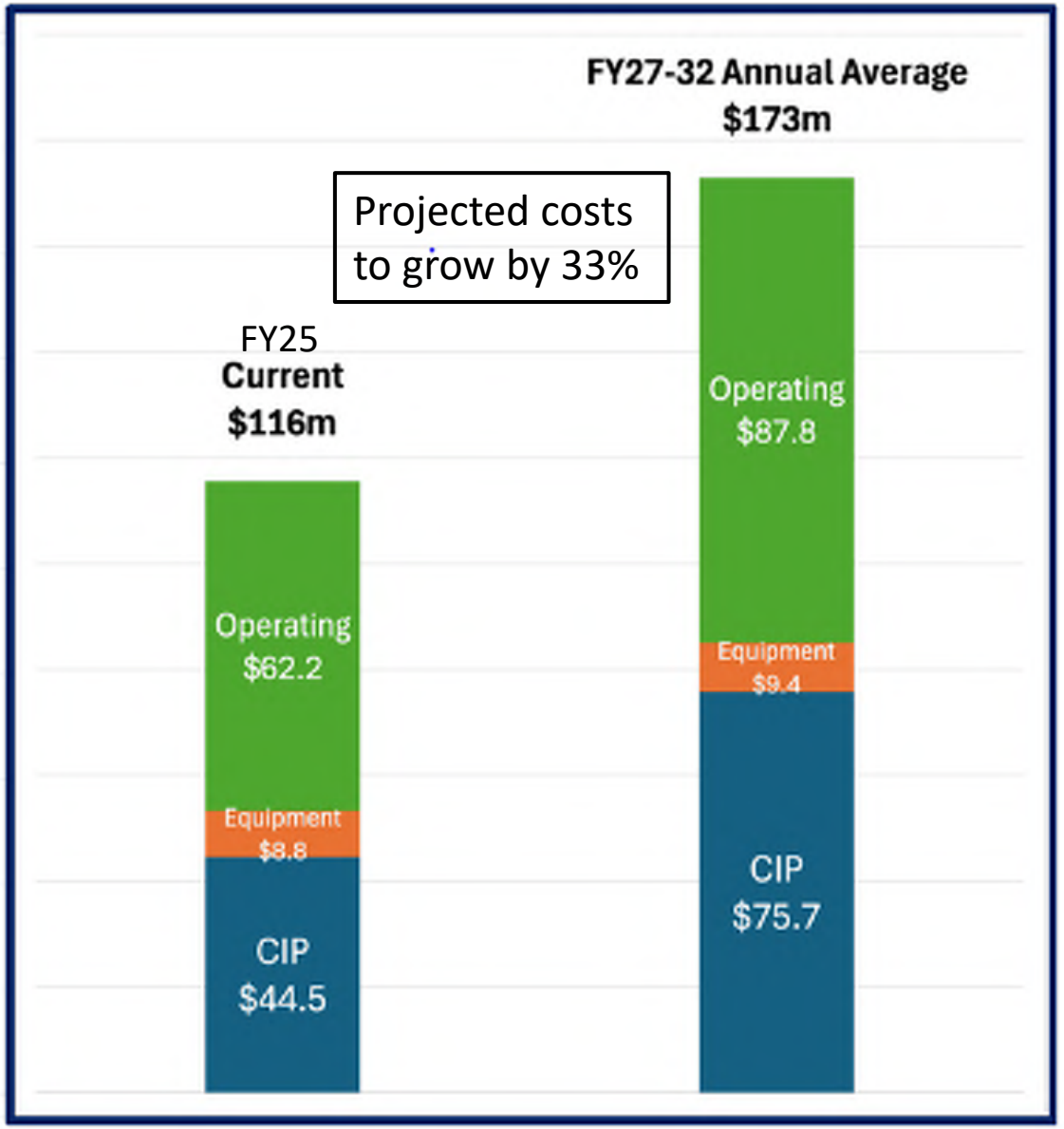
Aging Infrastructure

Proactive asset management (e.g., pipe lining, sealing) is **7-8 times *less* expensive than emergency repairs**



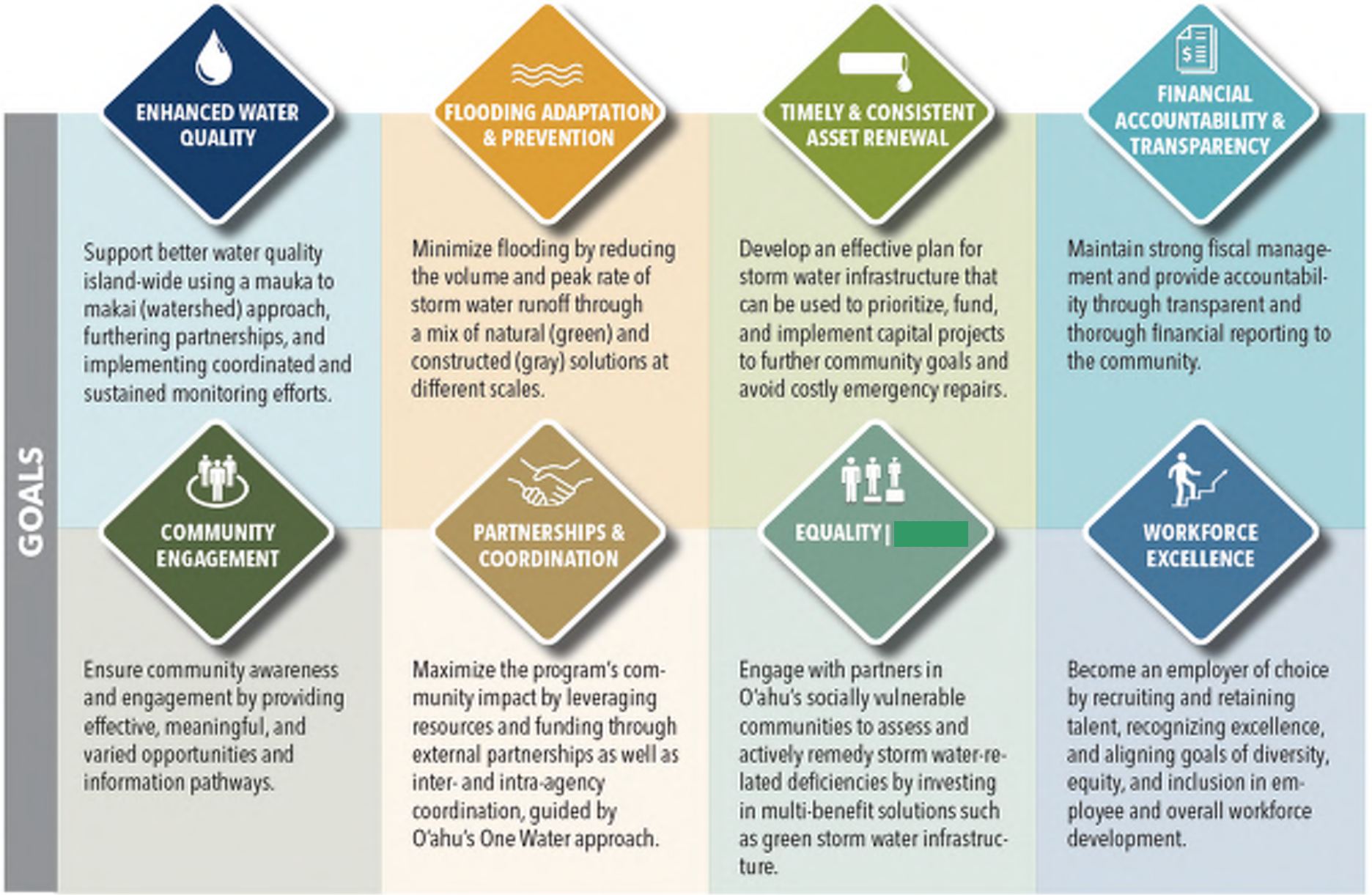
Projected Storm Water Cost of Services






DFM
STORM WATER
STRATEGIC PLAN
2023-2028
August 2023

Storm Water Strategic Plan (2023-2028)

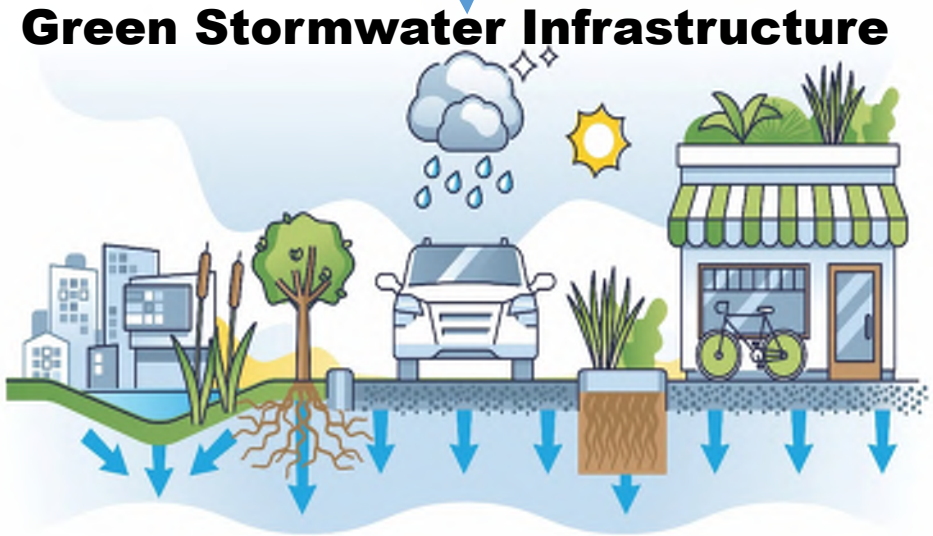


STORM WATER MASTER PLAN

(50+ Years)









Stock Images courtesy of Shutterstock

STORM WATER PROGRAM
CITY AND COUNTY OF HONOLULU

Storm Water Asset Management/Master Plan Study



Storm Water Master Plan Funding Approach

Drainage, Flooding, Climate Adaptation Asset Renewal Replacement

- Funding provided via Climate Resiliency Fund
- Contract execution by June 2026

Storm Water Condition Assessment

- Funding provided through DFM-SWQ Operating Budget
- Contract execution by June 2026

Green Stormwater Infrastructure

- Funded through EPA Clean Water State Revolving Funds (SRF)
- Administered by State DOH Wastewater Branch under their additional subsidization grant program
- Final Loan Agreement execution by October 2026

THANK YOU



City & County of Honolulu
Department of Facility Maintenance

Division of Road Maintenance
Thomas Takeuchi, P.E., Drainage Engineer
Ph: (808) 768-3608
Email: ttakeuchi@honolulu.gov

Storm Water Quality Division
Randall Wakumoto, P.E., Program Administrator
Ph: (808) 768-3242
Email: rwakumoto@honolulu.gov

Environmental Concern Line

(808) 768-3300


Mahalo!
Stream Maintenance and Stormwater Management
Public Infrastructure, Transportation and Technology
July 23, 2025
DEPARTMENT OF FACILITY MAINTENANCE
DFM
CITY AND COUNTY OF HONOLULU
CITY AND COUNTY OF HONOLULU
STATE OF HAWAII