



BEST MANAGEMENT PRACTICES

PROPERTY MAINTENANCE



PLEASE HELP PROTECT OUR WATERS...FOR LIFE

hotels • condominiums • apartments • retail shops • shopping complexes • commercial buildings

March 2011

AGENDA

Introduction

The Law

National Pollutant Discharge Elimination System (NPDES)

The City's Storm Water Management Plan (SWMP)

Best Management Practices (BMPs)
for Property Maintenance

Summary

INTRODUCTION



INTRODUCTION



collect



CATCH BASIN

drain



(MS4)

discharge



RECEIVING WATERS

Illicit Discharge

ILLCIT DISCHARGE: Any disposal, either intentionally or unintentionally, of material(s) or waste(s) that can pollute storm water or urban runoff.



collect



ILLCIT DISCHARGE



collect



CATCH BASIN

drain



Illegal Connections

ILLEGAL CONNECTION: unauthorized discharge into the City Municipal Separate Storm Sewer System.



collect



ILLEGAL CONNECTION

collect



CATCH BASIN

drain



ILLEGAL CONNECTION



drain



Receiving Waters



discharge



Water Pollution



One gallon of oil has the potential to contaminate up to one million gallons of water
Storm Water/Clean Water protection program



Water Pollution



3,904 miles of streams



Water Pollution



1,200 miles meet State
Water Quality Standards

(3,904 miles of streams)

*Storm Water/Clean Water
protection program*



Water Pollution



1,052 miles of coastline



Water Pollution



102 miles substandard
Water Quality

(1,052 miles of coastline)

*Storm Water/Clean Water
protection program*



THE CLEAN WATER ACT (CWA)

“...employed to achieve the broader goal of restoring and maintaining the chemical, physical and biological integrity of the nations waters so they can support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water...”

EPA Website



CWA Regulatory & Non-regulatory Tools:

- Reduce direct pollutant discharges into waterways
- Finance municipal wastewater treatment facilities
- Manage polluted runoff



State Legislation

“No person, including any public body, shall discharge any water pollutant into State waters, or cause or allow any water pollutant to enter State waters”

[Hawaii Revised Statutes (HRS) 342D-50(a)]



Hawaii Administrative Rules:

- Hawaii Water Quality Standards
- Hawaii Pollution Control

Hawaii Revised Statutes

- Hawaii Water Pollution



Enforcement



City and County of Honolulu
\$1,000 to \$25,000
Per violation/day



State Department of Health
\$25,000/violation/day
(Administrative/Civil Penalties)
\$50,000/violation/day
(Criminal Violation)
Criminal Prosecution



Environmental Protection Agency
\$32,500/day/violation
Criminal Prosecution



Violations



U.S. Environmental Protection Agency

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Hawai'i DOT agrees to pay \$1 million to resolve storm water violations

Release date: 10/6/2005

Contact Information: Dean Higuchi, 808-541-2711, higuchi.dean@epa.gov

Released jointly by the U.S. EPA, U.S. DOJ and Hawai'i Department of Health

Department fined \$1 million, will spend over \$50 million on compliance

HONOLULU - The Department of Justice, the U.S. Environmental Protection Agency, and the Hawai'i Department of Health have reached an agreement with the Hawai'i Department of Transportation that requires the department to pay a \$1 million penalty and spend an estimated \$50 million to address Clean Water Act storm water violations at highways and airports in Hawai'i.

"Storm water discharges pollute Hawaii's streams, coastal waters, and coral reefs," said Wayne Nastri, administrator of the EPA's Pacific Southwest region. "By agreeing to make long-lasting



Violations



U.S. Environmental Protection Agency

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Hawaii landowner agrees to pay \$7.5 million for stormwater pollution

Release date: 03/09/2006

Contact Information: Dean Higuchi, 808-541-2711, higuchi.dean@epa.gov

(Honolulu - March 9, 2006) The United States government and its partners announced today that James Pflueger will pay more than \$7.5 million for Clean Water Act violations associated with construction activities on Pflueger's property at Pila'a on Kaua'i.

The Department of Justice, U.S. Environmental Protection Agency, Hawai'i Department of Health, Kauai County, Earthjustice, Limu Coalition and Kilauea Neighborhood Association are all part of the largest storm water settlement for violations at a single site, by a single landowner, in the United States.

The settlement calls for the payment of \$2 million in penalties to the state of Hawai'i and the United States, and Pflueger will spend approximately \$5.3 million to prevent erosion and restore streams, at areas damaged by the construction activity. The settlement also requires Pflueger to spend \$200,000 to replace cesspools with improved wastewater systems at residences in a nearby coastal community.



NPDES

MUNICIPAL SEPARATE STORM SEWER SYSTEM



(MS4)

discharge



RECEIVING WATERS



MS4 PERMIT

Issued to CITY by DOH
Feb 28, 2006

Effective March 31,
2006



MS4 Permit Requirements

- ✓ Effectively prohibit non-storm water discharges through its storm drain system to state waters
- ✓ Comply with Water Quality Standards
- ✓ Develop, implement and enforce a Storm Water Management Plan (SWMP)
- ✓ Submit an Annual Monitoring Plan
- ✓ Submit an Annual Report



STORM WATER MANAGEMENT PROGRAM

REQUIRED ELEMENTS

Public Participation & Outreach



Pollution Prevention and Good Housekeeping

Construction Site Runoff Control



Post Construction Storm Water Management



Illicit Discharge Detection & Elimination



Monitoring & Implementation Plans



Industrial & Commercial Discharge





Public Participation & Outreach

Understanding the importance of preventing and reducing storm water pollution

- Brochures
- Workshops Adopt-a-Block & Adopt-a-Stream
- Environmental Hero
- Good Neighborhood and Good Business Award



Be an Everyday Environmental Hero!
The best way to protect our water is to prevent pollution from entering our waterways. You can help by:



Be an Everyday Environmental Hero!
Proper car washing is an important part of keeping our waterways clean. You can help by:



Be an Everyday Environmental Hero!
Proper disposal of automotive fluids is an important part of keeping our waterways clean. You can help by:

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City and County of Honolulu Storm Water Quality Branch of the Department of Environmental Services
1330 Kalia Road, Suite 3023, Kalia, HI 96817

I WILL PLEDGE TO...

- Choose the right products, fertilizers or other household product for my needs (e.g. directions for use, storage and disposal, list ad, phone numbers to call for help and more).
- Keep myself, my children, and my pets safe.
- Save money.
- Take action to protect the environment.

Name (print): _____ Email: _____
Address: _____ Date: _____
City: _____

Submit your pledge card today for a chance to win a \$250 gift certificate. For more information, go to www.cleanwaterhawaii.com. Offer valid October 31, 2007.

City and County of Honolulu Department of Environmental Services has teamed up with City ME, the State of Hawaii Department of Agriculture and the State Department of Food to encourage everyone to help protect the most precious resource of Hawaii: water.

IT'S THE LAW

READ LABEL FIRST

October 2007
Home Safety Month 2007 | Pesticides and Fertilizers

BE AN EVERYDAY ENVIRONMENTAL HERO





Pollution Prevention & Good Housekeeping

Minimizing the amount of pollutants generated by City operations and maintenance activities



Programs & Training



Regular Maintenance & Inspections

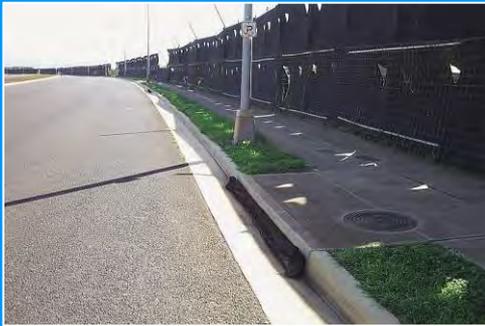




Construction Site Runoff Control

Reducing pollutant discharge from private & public construction sites

Planning
Permitting
Construction



Wind erosion control



Tracking Control



Sediment control



Waste management & material pollution control



Non storm water management



Erosion control





Post Construction Storm Water Management

Reducing pollutant discharge from new development & redevelopment construction sites



Pollution Prevention BMPs



Structural Source Control BMPs



Site Design BMPs



Treatment BMPs

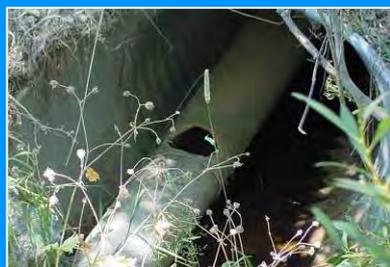




Illicit Discharge Detection & Elimination

Detecting & eliminating illicit connections & illegal discharge into the City MS4

Detection & Elimination



Enforcement & Response



Field Investigations

Response Plan Agency Coordination





Industrial & Commercial Discharge

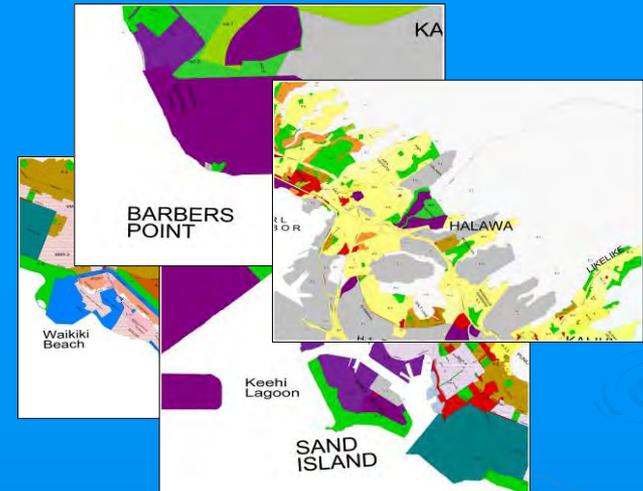
Reducing pollutant discharge from industrial & commercial facilities & activities to the City MS4

Inspections

Commercial
Facilities



Inventory & Tracking



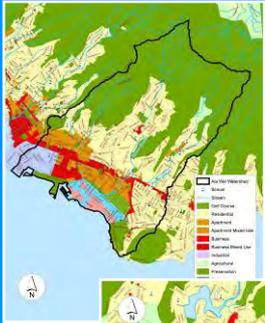
Industrial Facilities



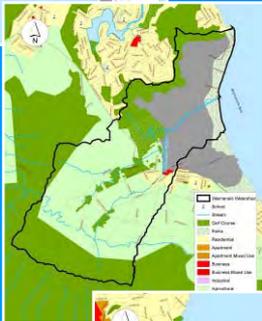


Monitoring & Implementation Plans

Tracking & reporting monitoring activities



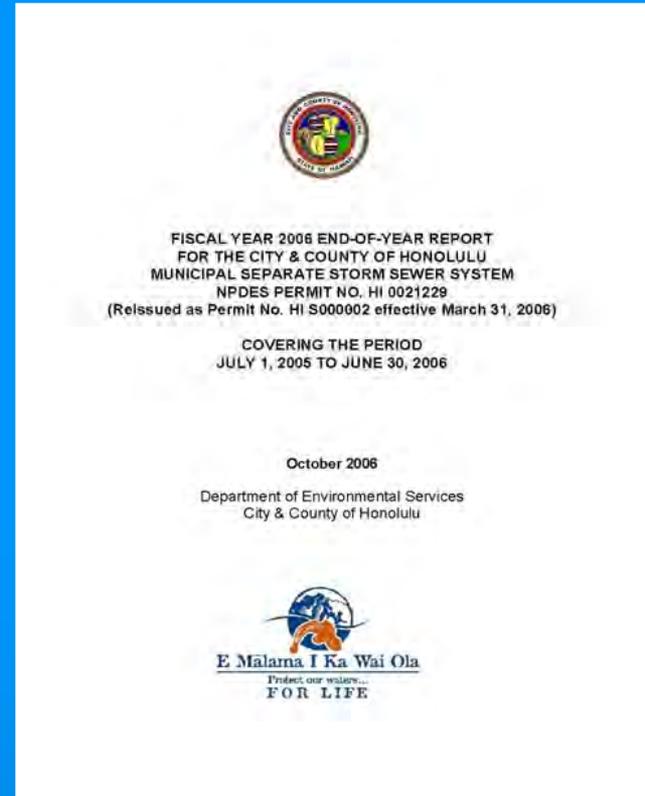
Ala Wai Canal Watershed



Waimanalo Stream Watershed



Kawa Stream Watershed





Our Goals

- ✓ Reduce storm water pollution
- ✓ Educate the public & city employees & contractors on storm water
- ✓ Maintain storm water infrastructure and Best Management Practices
- ✓ Develop a proactive process through which the City's SWMP can evolve to meet changing future needs
- ✓ Ensure compliance with permit requirements
- ✓ Meet the seven program elements required by EPA



PROPERTY MAINTENANCE



Property maintenance activities involve the regular maintenance of areas with direct exposure to rainfall and storm water runoff



Avoid being a source of water pollution by incorporating **BEST MANAGEMENT PRACTICES** to prevent water pollution



Best Management Practices (BMPs)



Any program, technology, process, siting criteria, operating method, measure, or device that controls, prevents, removes, or reduces pollution



Best Management Practices (BMPs)

Facility

Employees

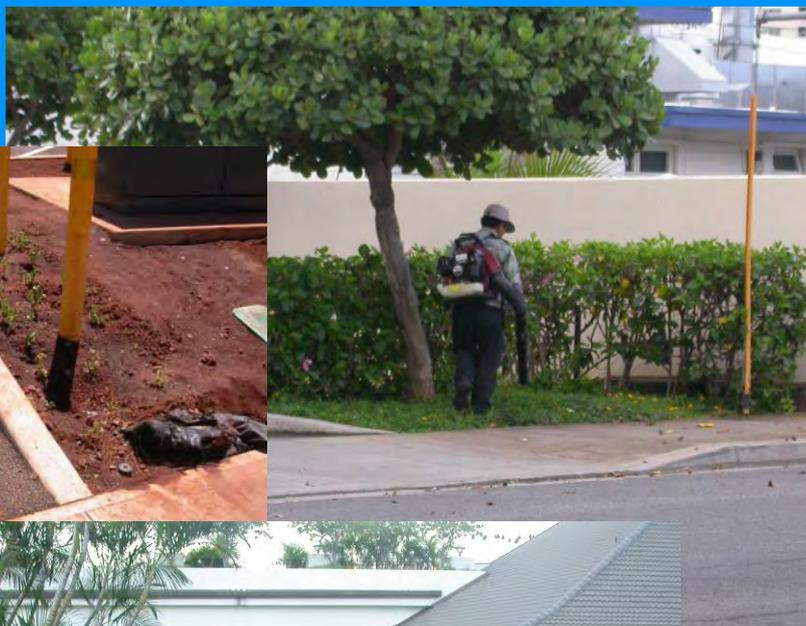
Good Housekeeping

Special Tasks

Spills



Facility



Do you know the storm water flow pattern on your site?



Are there any illegal connections on your site?





Connection License

REQUIRED

Private storm drain
connection to City MS4

Discharge must meet the
requirements of the City's MS4
Permit and State Water Quality
Standards

Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street, HMB, 7th Floor
Honolulu, Hawaii 96813

Dear Madam/Sir:

Application for a New/Existing/Temporary Private Storm Drain Connection(s) to the City and County Separate Storm Sewer System

I. Project Information:

Project Title: _____

Street Address: _____

Tax Map Key: _____ Total Area: _____

II. Brief Description of Connection(s) serving this property. For each connection, provide size, inflow type, flow rate, and location. (Attach 3 copies of the drainage plan showing the location of the drain connection(s).)

III. Pursuant to Section II – Storm Water Quality of the Rules Related to Storm Drainage Standard the follow is required:

A. For development/redevelopment projects with a total area of one acre and less than five acres, list permanent post construction Best Management Practices (BMP) including maintenance schedule. (Attach 2 copies of the permanent post construction BMP plan, if not shown on the drainage plan.)

B. For nonresidential subdivision development/redevelopment projects with total area of 5 acres or more and residential subdivision development projects with total area of 10 acres or more, attach 2 copies of the Storm Water Quality Report.





Investigations & Enforcement

Small commitments



E Mālama I Ka Wai OI
Protect our waters...
FOR LIFE

To report illegal discharge or dumping or
participate in volunteer programs on O'ahu.
One phone call ... One website.

768-3300
www.cleanwaterhonolulu.com



"This is our home, our island, our responsibility
to care for it's health and beauty."
- *Mufi Hannemann, Mayor*

To report illegal discharge or dumping or to
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- ❑ Informational Letter or Letter of Warning (minor first-time offenders)
- ❑ Notice of Violation (major or repeat offenses)
- ❑ 90 days to obtain Connection License from DPP
- ❑ Fines from **\$1,000 to \$25,000**



Do you have adequate BMPs in-place?

Any program, technology, process, siting criteria, operating method, measure, or device that controls, prevents, removes, or reduces pollution



Types of BMPs



(secondary containment)

PREVENTION

Source Controls:
Keep pollutants from coming into contact with storm water



(oil/water)

REMOVAL

Treatment Controls:
Capture and Remove pollutants from storm water



Employees - Training

- ❑ Standard Facility Procedures
- ❑ Pesticides
- ❑ Hazardous Materials
- ❑ Material Safety Data Sheets (MSDS)
- ❑ Spills
- ❑ Emergencies



Paved Surfaces



Use dry methods to maintain these areas

- ❑ Walkways
- ❑ Gutters fronting property
- ❑ Parking facilities
- ❑ Driveways



Paved Surfaces

- ❑ Sweep before washing
- ❑ Provide inlet protection
- ❑ Contain/collect wash water
- ❑ Use mop or wet vacuum
- ❑ Direct wash water to landscape areas
- ❑ Pressure wash in designated areas



Drain Wash Water to Utility Sink



Storage Areas



Keep Clean & Organized

- ❑ Display proper storage instructions
- ❑ Provide secondary containment
- ❑ Provide separation between materials for maintenance access
- ❑ Separate incompatible materials
- ❑ Provide easily accessible spill kits



Storage Areas – Materials



- ❑ Funnels
- ❑ Absorbent materials
- ❑ Measuring devices
- ❑ Less hazardous cleaning supplies



Storage Areas - Trash



- ❑ Provide lids on trash cans
- ❑ Maintain trash storage areas
- ❑ Locate in covered area
- ❑ Use water-tight dumpsters
- ❑ Inspect for leaks and repair
- ❑ Reserve dumpster cleaning for trash hauling Contractor
- ❑ Recycle used batteries



Landscaped Areas

- ❑ Avoid over-watering
- ❑ Use drip-irrigation, soaker hoses or micro-spray systems
- ❑ Direct sprinkler heads to prevent runoff
- ❑ Minimize areas of bare soil
- ❑ Establish adequate vegetation to prevent erosion
- ❑ Do not blow or rake leaves into the streets or catch basins
- ❑ Dispose of green waste appropriately



Landscaped Areas – Chemical Application



- ❑ Follow recommended usage instructions for fertilizers, herbicides and pesticides
- ❑ Prepare only amount needed
- ❑ Avoid over-applying
- ❑ Use slow or time-release fertilizers
- ❑ Do not apply just before it rains
- ❑ Train personnel who use pesticides



Pools



- ❑ Obtain permit from City if discharging pool water to storm drain system
- ❑ De-chlorinate pool water if discharging to storm drain system





Dechlorinated Pool Water Discharge Permit

REQUIRED

Discharge Dechlorinated Swimming Pool Water into MS4

Discharge must meet the requirements of the City's MS4 Permit and State Water Quality Standards

Date: _____

Director
Department of Environmental Services

Application for a Permit to Discharge Dechlorinated Swimming Pool Water into the City and County Separate Storm Sewer System

Pursuant to Section 14-12.22, Revised Ordinance of Honolulu 1990, as amended, applicant hereby requests a permit to discharge effluent into the City and County separate storm sewer system. The pertinent information is as follows:

Name or Entity of Applicant: _____

Street Address of Applicant: _____

Location of Site: _____

Tax Map Key of Site: _____

Brief Description of Effluent to be Discharged and the Discharge Operation:

Discharge Quantity (gallons) _____

Rate of Discharge into the Storm Sewer System (gpm) _____

Method of Discharge _____

Location of the Point of Discharge into the City Storm Sewer System _____

Estimated Duration of the Discharge: _____

Hours of Operation _____

Method of Treatment or Best Management Practices to Meet State Water Quality Standards as Identified in Section 11-54-4, Hawaii Administrative Rules _____



Water Features



Without Fish or Plants

Contact City Department of Environmental Services (ENV), Clean Water Branch



With Fish and Plants

Contact City Department of Environmental Services (ENV), Clean Water Branch
&
Contact State Department of Health



Pressure Washing



- ❑ Use dry methods to remove debris prior to pressure washing
- ❑ Perform pressure washing in designated areas where wash water containment can be set-up
- ❑ Use water only when cleaning exterior of buildings
- ❑ Provide inlet protection
- ❑ Do not allow cleaning solutions or wash water to enter storm drain
- ❑ Direct wash water to landscape areas
- ❑ Collect wash water



Pressure Washing



- ❑ Filter out any solids (filter fabric or containment tank)
- ❑ Direct wash water to sanitary sewer*
- ❑ Dispose of collected wash water to sanitary sewer*

* Contact City, ENV – Regulatory Control Branch for Industrial Wastewater Discharge Permit (IWDP)



Painting



- ❑ Contain work area
- ❑ Provide inlet protection
- ❑ Use dry methods for surface preparation
- ❑ Collect wastes in sealed bags
- ❑ Prevent paint chips from entering storm drain
- ❑ Have absorbent materials available for spills



Painting



- ❑ Mix paint indoors or in contained area
- ❑ Use water-based paints whenever possible
- ❑ “Paint out” brushes as much as possible
- ❑ Never allow paint products into storm drain
- ❑ Clean paint brushes and equipment in a contained area



Painting

- ❑ Rinse water-based paint brushes into sanitary sewer
 - ❑ Filter and reuse thinners and solvents
 - ❑ Recycle residual paints and solvents
- * Contact City, ENV – Regulatory Control Branch for Industrial Wastewater Discharge Permit (IWDP)
- ❑ Dispose of unrecycleable waste paints, thinners, solvents, residues and sludge as hazardous waste
 - ❑ Ensure thoroughly dry before disposing of paint, paint cans, used brushes, rags, absorbent material and drop cloths as solid waste



Fire Sprinkler Testing



- ❑ Prepare test area
- ❑ Protect drain inlets
- ❑ Contain & collect water
- ❑ Divert to authorized sanitary sewer drain
- ❑ Ensure tester is aware of facility emergency spill response plan and can identify emergency contact of your facility



Hazardous Materials & Waste



- ❑ Store hazardous materials and waste indoors in a secure area under lock and key
- ❑ Display proper storage instructions
- ❑ Provide secondary containment
- ❑ Provide separation between materials for maintenance access
- ❑ Provide easily accessible spill kits
- ❑ Separate incompatible materials



Hazardous Materials & Waste

- ❑ Do not remove original product labels: contains safety & disposal information
- ❑ Dispose of materials through a licensed hazardous waste transporter
- ❑ Recycle through authorized and licensed recycling facility



Spill Management

- ❑ Prepare a spill response plan
- ❑ Secure lids and caps on containers
- ❑ Place spill kit in easily accessible areas
- ❑ Clean up spills immediately
- ❑ Do not hose down area



Spill Kit



Spill Management



- ❑ Prevent spill from spreading
- ❑ Protect spill from exposure to storm water runoff
- ❑ Use dry methods:
 - Rags
 - Mop
 - Absorbent
- ❑ Sweep up absorbent promptly



Spill Management - Reporting

Report spills that cannot be completely contained or cleaned prior to entering the storm drain system



City and County of Honolulu
768-3300



Department of Health
247-2191



Emergency
911



Self-Inspections

Sample BMPs Site Survey Inspection Sheet

Inspection By _____

Title: _____

Date: _____

Phone Number _____

1. Landscaping and Grounds Maintenance (e.g. fertilizers, irrigation, trash disposal)
Deficiencies/ Accomplishments:

Recommendations:

2. Painting Contractors and/or Paint Wash Water (e.g. chemical storage)
Deficiencies/ Accomplishments:

Recommendations:

3. Vehicle and Equipment Maintenance (e.g. washing, oil storage)
Deficiencies/ Accomplishments:

Recommendations:

4. Exterior Building and/or Pool Maintenance (e.g. pressure wash, draining pool)
Deficiencies/ Accomplishments:

Recommendations:

5. Parking Lot Maintenance (e.g. cleaning)
Deficiencies/ Accomplishments:

Recommendations:

6. Storm Water / Drainage Plan (e.g. connections)
Deficiencies/ Accomplishments:

Recommendations:

REMARKS:



SUMMARY



QUESTIONS



E Mālama I Ka Wai Ola
"Protect our waters... FOR LIFE"

To report illegal discharge or dumping or to participate in volunteer programs on O'ahu, One phone call ... One website.
692-5656
www.cleawaterhawaii.org

"This is our home, our island, our responsibility to care for it's health and beauty"
 - Mufi Hannemann, Mayor



U.S. Environmental Protection Agency

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 EPA Home > EPA Newsroom > Hawaii landowner agrees to pay \$7.5 million for st...

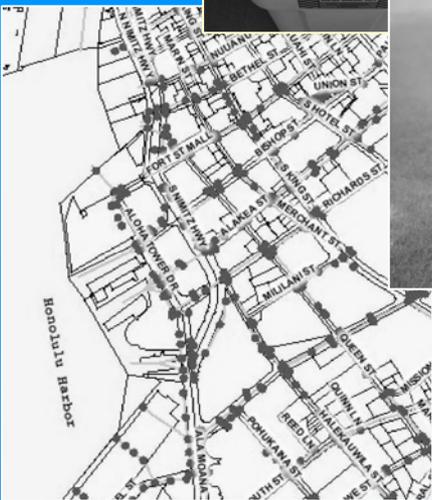
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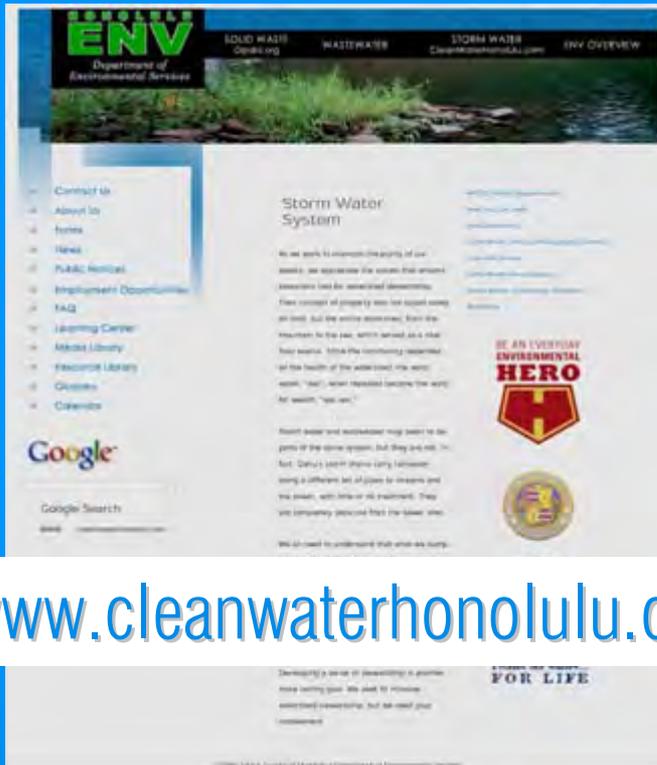
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THANK YOU

For More Information:



www.cleanwaterhonolulu.com

City & County of Honolulu
Department of Environmental Services



**Environmental Concern
Hotline**

768-3300