2017 Annual Compliance Report for Honolulu Harbor and Kalaeloa Barbers Point Harbor





Small Municipal Separate Storm Sewer System (Small MS4) General Permit Program for

- Honolulu Harbor NGPC Permit: HI 03KB482
- Kalaeloa Barbers Point Harbor NGPC Permit: HI 03KB488

State of Hawaii Department of Transportation, Harbors Division 79 South Nimitz Highway Honolulu, Hawaii 96813



NPDES Small MS4 General Permit 2017 Annual Compliance Report for Honolulu Harbor and Kalaeloa Harbers Point Harbor

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TABLE OF CONTENTS

1	GENE	RAL NPDES PERMIT INFORMATION	1
	1.1	Permit Compliance Assistance	2
	1.2	Stormwater Management Plan	3
2	NPDES	S PERMIT	4
	2.1	SWMP Core Progress Evaluation	5
		2.1.1 Challenges	6
		2.1.2 Effectiveness of the Program	7
		2.1.3 Proposed Modifications for 2018.	
		2.1.4 Consent Decree Timelines	
		2.1.5 Water Quality Monitoring Data	
		2.1.6 Stormwater Messages	9
3		MWATER MINIMUM CONTROL MEASURES	
	3.1	General Program Requirements	
	3.2	Public Education and Outreach	
	3.3	Public Involvement and Participation.	
	3.4	Illicit Discharge Detection and Elimination (IDDE) Program	
	3.5	Construction Site Stormwater Runoff Control	
	3.6	Post-Construction Stormwater Management in New Development and Redevelopment.	
	3.7	Pollution Prevention and Good Housekeeping.	
4		RAM OUTPUTS AND ACCOMPLISHMENTS	
	4.1	MS4 Program Expenses	
	4.2	Education, Involvement, and Training	
	4.3	Legal/Regulatory	
	4.4	Mapping and Illicit Discharges	
	4.5	Harbors Tenants.	
	4.6	Construction	
	4.7	Post-Construction Stormwater Management	
	4.8	Operations and Maintenance	. 60
		LIST OF TABLES	
Table	1. NPD	ES Permit Compliance Assistance	2
Table 2	2. Statu	s of NPDES Permit Compliance	4
		s of BMPs	
Table 4	4. Gene	ral Program Requirements	.11
		c Education and Outreach	
		c Involvement and Participation	
		Discharge Detection and Elimination (IDDE) Program	
		truction Site Stormwater Runoff Control	
		Construction Stormwater Management in New Development and Redevelopment	
		ution Prevention and Good Housekeeping	
Table	11. MS ²	4 Program Expenses	.51
		cation, Involvement, and Training	
		al and Regulatory	
		oping and Illicit Discharges	
		bors Tenants	
		struction	
Table	17. Post	-Construction Stormwater Management	. 60

Table 18. Operat	tions and Maintenance	61
1	LIST OF FIGURES	
Figure 2. Program Figure 3. Number Figure 4. Illicit I Figure 5. 2017 T Figure 6. Constru	rogram Expenditures m Expenditures from 2014 - 2017 er of People Trained from 2009 - 2017 Discharge Investigations from 2010 - 2017 enant Risk Ranking Distribution uction Inspections and Enforcement from 2009 - 2017 Maintenance and Debris Removal from 2009- 2017	53 54 57 58
	LIST OF ATTACHMENTS	
Attachment 1. Attachment 2. Attachment 3. Attachment 4. Attachment 5. Attachment 6. Attachment 7. Attachment 8. Attachment 10. Attachment 11. Attachment 12. Attachment 13. Attachment 14. Attachment 15. Attachment 16. Attachment 17. Attachment 18. Attachment 19. Attachment 19. Attachment 19. Attachment 20.	Newspaper Advertisement Describing Harbors Pollution Prevention Efforts DOT Harbors Division 2018 Poster Calendar Volunteer Information and Waste Removal Statistics Outreach Handouts Tenant Training Construction and Post Construction Training Harbors Employee Survey and Results Summary IDDE Training Inspector Training Tenant Inventory, Risk Rank, and Inspection Summary Outfall Reconnaissance Inventory (ORI) SSS O&M Manual Audit Work Plan Illicit Discharge Investigations Misc. Tenant Illicit Discharge Investigations Construction Project Inventory and Inspection Summary Reviewed HDOT Harbors Division Projects Reviewed Tenant Projects Post-Construction BMP Plan Checklist Kalaeloa Harbor Stockpile Inspection Report	
Attachment 21. Attachment 22. Attachment 23. Attachment 24. Attachment 25. Attachment 26.	MS4 and Permanent BMP Inspection Log Street Sweeper Log Retrofit Feasibility Study Photographic Documentation PEAR 1 Draft Report for Honolulu Harbor and Kalaeloa Barbers Point Harbor PEAR 1 Final Report for Honolulu Harbor and Kalaeloa Barbers Point Harbor	

ACRONYMS AND ABBREVIATIONS

ACR Annual Compliance Report

AG State of Hawaii, Department of the Attorney General

AMS Asset Management System
BMP Best Management Practices
CCH City and County of Honolulu

CD Consent Decree
CM Construction Manager

DOH-CWB State of Hawaii, Department of Health, Clean Water Branch

DOT State of Hawaii, Department of Transportation

EPA U.S. Environmental Protection Agency

ERP Enforcement Response Plan

ETC EnviroServices and Training Center, LLC

GIS Geographic Information System HAR Hawaii Administrative Rules

HAR-E Harbors Division, Engineering Branch

HAR-EC Harbors Division, Engineering Branch, Construction Section HAR-ED Harbors Division, Engineering Branch, Design Section

HAR-EE Harbors Division, Engineering Branch, Environmental Section HAR-EM Harbors Division, Engineering Branch, Maintenance Section HAR-EP Harbors Division, Engineering Branch, Planning Section

HAR-O Harbors Oahu District

HAR-OCG Harbors Oahu District, Custodial & Grounds Maintenance Unit

HAR-OM Harbors Oahu District, Maintenance Unit

HAR-PM Harbors Division, Property Management Section HAR-SI Harbors Division, Management Information Systems

IDDE Illicit Discharge Detection and Elimination

KBPH Kalaeloa Barbers Point Harbor KIPA Keehi Industrial Park Association MOA Memorandum of Agreement

MS4 Municipal Separate Storm Sewer System

NAV Notice of Apparent Violation

NOI Notice of Intent

NPDES National Pollutant Discharge Elimination System

O&M Operation and Maintenance Plan
ORI Outfall Reconnaissance Inventory

ORIIP Outfall Reconnaissance Inventory Inspection Program

PEAR Program Element Audit Report

P2 Pollution Prevention

PM Harbors Division Project Manager

SSS O&M Storm Sewer System Operations and Maintenance Plan

SWMP Stormwater Management Plan

TEMY Tenant Environmental Manager of the Year

TIM Tenant Inspection Manual
TMDL Total Maximum Daily Load
VGP Vessel General Permit

USACE U.S. Army Corps of Engineer

NPDES Small MS4 General Permit Annual Compliance Report for Honolulu Harbor and Kalaeloa Barbers Point Harbor

1 GENERAL NPDES PERMIT INFORMATION

State of Hawaii

NPDES Program Permit Numbers:

Honolulu Harbor: HI 03KB482 Kalaeloa Barbers Point Harbor: HI 03KB488

Annual Report for Permit Year: 15

Reporting Period: January 1, 2017 – December 31, 2017

Permittee (Owner/Operator) Details:

Organization: State of Hawaii

Department of Transportation

Harbors Division

Mailing Address: State of Hawaii, Dept. of Transportation

869 Punchbowl Street

Honolulu, Hawaii 96813-5097

Owner: Jade T. Butay

Title: Interim Director of Transportation

Telephone Number: 808-587-2150

Email: jade.butay@hawaii.gov

Recipient:

Director of Health Clean Water Branch

Environmental Management Division

State Department of Health

P.O. Box 3378

Honolulu, Hawaii 96801-3378

Prepared By:

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On March 7, 2003, the State of Hawaii, Department of Transportation Harbors Division (HDOT-Harbors) filed a Notice of General Permit Coverage (NGPC) and Notices of Intent (NOI) for Honolulu Harbor and Kalaeloa Barbers Point Harbor (both on the island of Oahu) to acquire a Small Municipal Separate Storm Sewer System (Small MS4). The State of Hawaii, Department of Health, Clean Water Branch (DOH-CWB) provided HDOT-Harbors two NGPCs on May 19,

2003, assigning Small MS4 permit identification number HIR03KB482 for Honolulu Harbor, and HIR03KB488 and Kalaeloa Barbers Point Harbor. The NGPC authorizes discharges of stormwater and certain non-stormwater discharges from a Small MS4, and allows the HDOT to discharge only stormwater and certain non-stormwater discharges identified in Hawaii Administrative Rules (HAR) 11-55, Appendix K, from the storm sewer outfalls that HDOT-Harbors identified in its NOI, and from any newly constructed storm sewer outfalls.

The general permit requires the permittee to:

- 1. Submit a Stormwater Management Plan (SWMP) within 120 calendar days of the date of the NGPC.
- 2. Develop, implement, and enforce the SWMP designed to reduce the discharge of pollutants from their Small MS4 to the maximum extent practicable (MEP) in order to protect water quality.
- 3. Submit a new NOI with filing fee, and obtain a new NGPC for any revisions to the information submitted in the NOI (with the exception of changes to contact person information for non-transfer of ownerships, newly constructed storm sewer outfalls, and changes to the SWMP). This NGPC cannot be modified.
- 4. Submit the annual report by January 28 of the following year in accordance with HAR 11-55, Appendix K to the State of Hawaii, Department of Health, Clean Water Branch.

This document fulfills the HDOT Harbors Division requirement to submit an annual compliance report (ACR) for the 2017 SWMP prior to the deadline of January 28, 2018. Regarding the "stormwater and certain non-stormwater discharges..." stated in the NOI, the DOT-Harbors has an Illicit Discharge Detection and Elimination (IDDE) Program that documents and performs outfall inspections; this program is summarized in Section 3.4 of this report.

1.1 PERMIT COMPLIANCE ASSISTANCE

The permittee relies on the entities listed in Table 1 to satisfy some of its NPDES permit obligations.

Table 1. NPDEC	Table 1. NPDEC Permit Compliance Assistance							
Name	Responsibilities							
State of Hawaii Department of the Attorney General (AG)	 Involved in making changes to the Hawaii Revised Statues and Hawaii Administrative Rules (HAR), as necessary. Serves as primary interface with EPA Region IX Provides legal authority and legal support with preparing the Enforcement Response Plan (ERP). 							
City and County of Honolulu Dept. of Planning & Permitting Site Development Division Wastewater Branch	Authorizes and tracks drainage connections to its wastewater sewer system through Industrial Wastewater Discharge Permit							

Table 1. NPDEC	Permit Compliance Assistance
Name	Responsibilities
Construction Managers (Various Firms)	 Conducts construction inspections. Ensures construction sites are in compliance with applicable environmental regulations.
Design Consultants (Various Firms)	Incorporates stormwater management program requirements in all Harbors facilities design projects.
State of Hawaii Harbors Division Oahu Harbor District	• Implements the Stormwater System Operation and Maintenance Program; supports data entry into Cityworks, provides suggestions to improve the program including purchasing new equipment, and participates with enforcement.
EnviroServices & Training Center, LLC	Assists Harbors Division in meeting the public and tenant outreach and education, employee and contractor training, all types of environmental inspections, and reporting requirements of the Consent Decree, the Small MS4 NPDES permits, and other environmental regulations.
Weston Solutions, Inc.	Assists Harbors Division in meeting the environmental and related civil engineering, environmental permitting, and reporting requirements of the Consent Decree, the Small MS4 NPDES permits, and other environmental regulations.
SHI International Corp., Azteca <i>Cityworks</i> , and Woolpert, Inc.	Assists Harbors Division in installing, configuring, testing, and deploying its <i>Cityworks</i> AMS as well as providing ongoing licensing and software support services.

A copy of this annual report will be submitted to the Regional U.S. Environmental Protection Agency (EPA) Region 9 Chief of the Water II Enforcement Office.

1.2 STORMWATER MANAGEMENT PLAN

Changes have been made to the SWMP since the NOI or the last ACR, including changes in response to the State of Hawaii, Department of Health, Clean Water Branch (DOH-CWB) review. The current version of the SWMP was submitted in 2015. DOT Harbors plans to prepare and publish revisions to its SWMP in 2018 to account for stormwater program accomplishments and changes.

No changes have been made, or are proposed, to the Outfall Reconnaissance Inventory Inspection Program (ORIIP) during the reporting year 2017. A number of prioritized outfalls (characterized as potential, suspect, or obvious in 2016) were inspected in 2017. DOT Harbors is planning to conduct a full outfall reconnaissance in 2018.

No changes were made to the Tenant Inspection Manual (TIM) during the reporting year 2017. 92% of Harbors tenants were inspected in 2017. Tenants at Keehi Industrial Association (KIPA) were issued Notices of Cancellation of their 30-day Revocable Permits. As tenants started to leave KIPA in October 2016, the total number of tenants decreased and the need for tenant inspections decreased accordingly. Final inspections were conducted and will continue to be conducted as more tenants leave KIPA to ensure the tenants comply with the terms of the Revocable Permits.

The DOT-Harbors MS4s have not annexed land since obtaining permit coverage. There are no receiving water bodies newly listed as impaired and total maximum daily loads (TMDLs) have not been established.

2 NPDES PERMIT

Table 2 provides a summary of Harbors' NPDES permit conditions and compliance actions.

	Table 2. Status of NPDES Permit Compliance								
Description	Yes	No	Explanation						
Permittee is in compliance with NPDES permits.	√		 Harbors environmental program meets and exceeds the six minimum measures of an MS4 permit for both the Honolulu Harbor and Kalaeloa Barbers Point Harbor NPDES permits. Harbors has met permit requirements and is continuously working on improving existing programs. 						
Permittee has met all conditions of the Consent Decree (1:14-CV-00408-JMS-KSC).		√	 In 2017, Harbors met all the conditions of the Consent Decree (CD) requirements except for the following area. The approved post-construction BMP retrofit projects are currently in the design phase and are on track to be completed in 2018. Volunteer participation decreased in 2017. While the Harbors Division posts information regarding stormwater management on its website, the number of webpage viewers decreased by 19% comparing 2017 to 2016 (from 1,764 to 1,427). With cyber-security at the forefront of protecting government information, proposed social media approaches to promoting storm water compliance have not progressed. Harbors will continue to promote their webpage in correspondence and through educational materials, and evaluate more effective means to achieve this goal or whether to amend the goal. The social media initiative was suspended by Harbors due to concerns regarding vulnerabilities involving false information and misreporting information. 						
Permittee is	√		Harbors has adequately retained required records.						
currently in			• Harbors is currently using its <i>Cityworks</i> AMS to manage its						

Table 2. Status of NPDES Permit Compliance								
Description	Yes	No	Explanation					
compliance with record-keeping and reporting requirements.			stormwater program work processes and related record-keeping in conjunction with its GIS maps. The Harbors Division realized that additional staff is needed to maintain timely data entry to meet reporting requirements. Contractors were retained to enter data for the short-term.					

2.1 SWMP CORE PROGRESS EVALUATION

Harbors continues to work with consultants to meet the requirements of the Consent Decree and the updated 2015 SWMP. Management continues their involvement to implement the program.

The Harbors education and outreach program, as prepared for Harbors' employees and tenants, enhances the general awareness of impacts that different activities may have on stormwater runoff, and how best management practices (BMPs), together with post-construction BMPs, help minimize or mitigate those impacts.

In 2017, Harbors invited Rafael Bergstorm, Executive Oahu Chapter Coordinator of the local nonprofit organization Surfrider Foundation, to outreach tenants in pollution prevention awareness during tenant training sessions. Feedback and comments received from previous years were evaluated and added to the program where applicable. During the summer of 2017, Harbors also conducted stormwater awareness training for Hilo Harbor, as part of the public outreach efforts. On November 15, 2017, Harbors participated in a statewide Protect Our Water Conference. In addition, Harbor's tenants took the lead to organize harbor cleanups and initiated educational programs for various community groups and students.

Harbors continued its inspections of high/medium/low risk tenants in 2017 and provided outreach and education during site visits. In addition to the Tenant Environmental Manager of the Year (TEMY) award, four other tenant environmental managers were recognized for their commendable stormwater program promotion and support efforts. Annual dry and wet weather outfall inspections were completed for outfalls designated as 'hotspots' deserving more frequent observation than the scheduled biennial outfall reconnaissance.

Harbors continues to implement the Construction Site Runoff Control Program. In particular, Harbors Engineering Branch (HAR-E) and associated consultants and contractors continued to attend construction and post-construction trainings in 2017. Harbors Engineering Branch Environmental Section (HAR-EE) continues to review and evaluate all projects from design through construction phases, as well as to coordinate and/or inspect regulated construction sites.

Harbors Oahu District continues its efforts on pollution prevention and good housekeeping. Two semi-annual rounds of screening inspections were conducted for all accessible storm drain inlets and trench drains in 2017. Additionally, follow-up cleaning and comprehensive structural inspections were performed at all drain inlets and trench drains identified as requiring further attention by the screening inspectors. The Harbors Division finalized the Storm Sewer System Operations and Maintenance Program (SSS O&MP) plan in 2017, and entering data into

Cityworks regarding scheduled drain inspections and maintenance efforts, as well as other auxiliary operations (e.g., sweeping and waste disposal), which greatly minimized the discharge of potential pollutants into the receiving waters.

Harbors continues to use its *Cityworks* AMS for record-keeping, work flow, and data management. This AMS was configured in 2016 to operate on the State of Hawaii server, allowing additional Harbors personnel to gain access and training. With the increased capacity for user accounts, Harbors provided training to all individuals with essential roles in stormwater system planning and management, environmental engineering inspections, environmental asset operations and maintenance, and enforcement officers at Harbors Oahu District. Currently, at least 40 trained personnel are actively using this system to facilitate Harbors' operations by generating and responding to service requests, work orders, and inspections. With specific training in Illicit Discharge Detection and Elimination (IDDE), Harbors Marine Cargo Specialists and Ground Maintenance crew actively use *Cityworks* on mobile devices to properly document work results and to report environmental issues found.

2.1.1 Challenges

As required by Paragraph 10 of the Consent Decree and in accordance with the Revised Audit Work Plan approved in November 2016, the first of the six (6) program element audits (Program Element Audit Report/PEAR #1) of the Compliance Audits commenced in March 2017 and concluded in November 2017. PEAR #2 commenced soon thereafter in November 2017 and will conclude in March 2018. The Revised Audit Work Plan (Attachment 13) and the PEAR 1 draft and final reports for all 3 DOT divisions (Attachments 25 and 26) have been included with this report.

Summary of PEAR #1 Findings & Corrective Actions Taken. PEAR #1 audited all three DOT Divisions for their Post-Construction/Permanents Best Management Practices (PBMPs). DOT Harbors audit results consisted of one (1) Potential Violation and five (5) deficiencies. The Potential Violation was for the defective PBMPs installed in the seven (7) small trench drains at Pier 31. The interim corrective action at Pier 31 was to increase the frequency of cleaning and maintaining these PBMPs to quarterly until they are permanently retrofitted with new proveneffective PBMPs in early 2018 that require less frequent cleaning and maintenance. The 5 deficiencies all involved inconsistencies between the actual PBMP maintenance procedures practiced at Piers 29 and 31 and their respective O&M plans. To correct the deficiencies, the O&M plans were amended to reflect the actual maintenance procedures practiced at Piers 29 and 31. All 5 PBMP deficiencies were corrected in late 2017.

In December 2017, DOT Harbors filled a vacant Environmental Health Specialist position in the Environmental Engineering Section – which will bolster the sections' capabilities to manage and support compliance with the stormwater program and other environmental requirements. Utilizing consultants for all tenant inspections, Outfall Reconnaissance Inventory (ORI) inspections and other tasks will also help Harbors personnel satisfy its multi-faceted environmental program needs.

In 2017, Harbors continued to provide *Cityworks* training to maintain data and timely reporting

to Harbors users. While the environmental engineering staff has grown to support compliance with the Consent Decree, the Oahu Harbor District also realized the need for staffing to enter data into *Cityworks*. Additional staff is being requested for legislative approval to replace contractors and to support the full implementation of this real-time electronic reporting and record-keeping system that is integrated with the GIS. The program *Cityworks* was moved to a local server to provide better access and more capability at less expense.

2.1.2 Effectiveness of the Program

With regard to BMPs, Harbors has determined that all of the selected BMPs are appropriate to reduce the discharge of potential pollutants in the stormwater. The metrics detailed in Section 3 of this report were effective at tracking Harbors stormwater compliance in 2017.

The training and inspection activities helped tenants, consultants, and contractors identify areas that could potentially generate illicit discharges, and better control the sources before potential pollutants are discharged. Additionally, the MS4 cleaning, street sweeping, and volunteer events continue to remove debris that would otherwise enter the Harbors MS4s and subsequently receiving waters.

One volunteer cleanup event was organized with the 808 Basketball Club that was sponsored by Harbors tenant Hawaiian Cement on May 23, 2017. The group removed a large amount of debris that included cigarette butts, plastic wrappers, bags, bottles, foam, and even three appliances from Harbors' public areas (Attachment 3). These volunteer programs also function as an educational tool to promote good stewardship among community members, particularly young adults.

To ensure that Harbors small Municipal Separate Storm Sewer System (MS4) functions properly during rain events, a MS4 inspection and cleaning event continued in 2017 that removed over four tons of debris that could have been discharged to the harbors. The amount of debris removed from the MS4 is 78.5% less than the previous year. This is likely due to Harbors' Harbors implementing the SSSOMP to include good housekeeping practices that removed 4.3 tons of debris. Street sweeping is an important BMP that prevents debris from entering the MS4 or adjacent harbor waters. Sweeping took place twice a week (or as needed) in 2017 and a total of 153.75 cubic feet of debris was collected (Attachment 22).

Education and outreach efforts were directed towards tenants, employees, and the general public to promote stormwater awareness. These efforts were focused on preventing discharge of potential pollutants and debris from everyday activities and implementing source control related BMPs, which is also contribute to the reduction in the amount of debris in the storm drains. The MS4 inspection log is included in Attachment 21.

Harbors personnel and tenants have been trained to be observant during their daily activities and report any suspected illicit discharges. Based on the number of suspected illicit discharges reported in 2017, it appears that Harbor personnel and tenants are becoming more adept at identifying and reporting the suspected illicit discharges.

Table 3 below provides data regarding progress to reduce the discharge of potential pollutants.

	Table 3. Status of BMPs										
MCM ¹ Description	BMP Applied ²	Parameter	Quantity	Does BMP Demonstrate a Direct Reduction in Pollutants?							
P2 & Good	Volunteer event	Cigarette butts,	16 Filled	Yes – pollutants would							
Housekeeping	debris removal	trash, debris	Trash Bags	otherwise remain in the MS4							
P2 & Good	MS4 Cleaning	Debris	4.3 Tons	Yes – pollutants would							
Housekeeping				otherwise remain in MS4							
P2 & Good	Street Sweeping	Debris	153.75 cf	Yes – pollutants would							
Housekeeping				otherwise discharge to the							
				MS4							
IDDE	Elimination of	Investigations	4 each	Yes – illicit discharges							
	illicit discharges to	related to MS4		eliminated							
	MS4	discharges									
IDDE	Elimination of	Investigations	8 each	Yes – illicit discharges							
	direct discharges to	related to non-		eliminated							
	Harbor waters	MS4 discharges									
	(non-MS4										
	discharges)										
Motor											

Notes

2.1.3 Proposed Modifications for 2018

The SWMP was updated in 2015. Significant updates will be initiated in 2018 to account for program accomplishments and changes to date in conjunction with the DOH's new Small MS4 General Permit process.

Work will begin on several construction projects in 2018 that will alter the Harbors Small MS4. Harbors will record changes in its MS4 GIS map.

2.1.4 Consent Decree Timelines

The Consent Decree timelines (as of 12/31/17) have been met. In particular, DOT reorganized the Office of Special Compliance as the Office of Environmental Compliance and hired a manager. A permanent position for the Sediment and Erosion Control Inspector was authorized by the Hawaii legislature, and a Harbors engineer is assigned to the position.

2.1.5 Water Quality Monitoring Data

The permanent BMPs implemented at Harbors are evaluated qualitatively because they have not been implemented long enough to determine their effectiveness. Harbors does not have a sufficient number of permanent BMPs to determine their impacts on water quality through monitoring. At this time, Harbors has not yet decided on how to effectively monitor the pollutant

¹ MCM = Minimum Control Measure

²Response Action on MCM/resultant outcome

removal effectiveness of its permanent BMPs.

2.1.6 Stormwater Messages

In conjunction with the annual evaluation of signage, a full inspection of a total of 91 Pollution Prevention signs was conducted in October 2017 to check on the physical condition of each sign installed by Oahu District in 2014. A total of 17 signs were missing and one sign needs to be restored in its proper reading position. Work orders related to sign replacement have been initiated and repair work is under way.

3 STORMWATER MINIMUM CONTROL MEASURES

DOT-Harbors NPDES permits are regulated by HAR 11-55, Appendix K, which requires all permittees to develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the permittee's small MS4 system to the maximum extent practicable (MEP) to protect water quality and satisfy the water quality requirements of the Clean Water Act. HAR 11-55 requires a SWMP to include the following six minimum control measures (MCM) with implementation dates and rationales for each measure.

- 1. Public Education and Outreach;
- 2. Public Involvement;
- 3. Illicit Discharge Detection and Elimination Program;
- 4. Construction Site Stormwater Runoff Control:
- 5. Post-Construction Stormwater Management in New Development and Re-Development; and
- 6. Pollution Prevention and Good Housekeeping.

HAR 11-55 Appendix K also requires the permittee to develop "measurable goals" to gauge permit compliance and program effectiveness for each minimum control measure identified above. The permittee shall select measurable goals using an integrated approach that fully addresses the requirements and intent of the minimum control measure.

This section details how DOT-Harbors has met each of the six requirements, including measurable goals.

3.1 GENERAL PROGRAM REQUIREMENTS

The Consent Decree requires Hawaii Department of Transportation, Harbors Division to comply with all requirements of the Clean Water Act, as well as the terms and conditions of all applicable NPDES Permits, including the Hawaii Small MS4 General Permit.

Table 4 provides a summary describing DOT-Harbors' General Program Requirements per the Consent Decree.

	Table 4. General Program Requirements									
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)			
CD.5. Stockpile BMPs	HAR-EE / HAR-EM	By 11/5/14, develop and implement a plan for stockpile stabilization.	11/5/14	 The stockpile stabilization plan submitted to DOH and EPA in 2014 was approved in 2015. Stockpiles were stabilized with vegetation, soil sediment control, and berms prior to 2014. A stockpile inspection took place on 12/18/2017 (Attachment 20). Stockpile 2A is currently being removed for use by a large housing development project nearby in Kapolei, Oahu. 		N/A	Continue to maintain BMPs implemented. Stockpile 2A removal is expected to be completed in August 2018.			

	Table 4. General Program Requirements									
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)			
CD.10. Office of Environmental Compliance	DOT Administration	By 5/4/15, ensure: 1) Reports to Director of Transportation 2) Reorganize and hire manager. 3) Oversee compliance for DOT. 4) Perform program audits.	11/5/14	 In 2016, the manager position of Office of Environmental Compliance manager was filled. This manager now oversees compliance for DOT. The audit plan has been developed and was implemented in 2017 (Attachment 13a & 13b). 		N/A	Continue to conduct compliance audits and PEAR 2 and PEAR 3 in 2018.			
CD.11.a. SWMP Modification	HAR-EE	By 2/3/15, modify the joint SWMP to comply with the Consent Decree and MS4 permits and post it on the Harbors webpage.	11/5/14	The SWMP was modified and posted to the Harbors webpage in February of 2015. Modifications to the SWMP will take place in 2018.		N/A	Initiate SWMP updates in 2018.			

	Table 4. General Program Requirements									
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)			
CD.19.a. Enforcement Response Plan (ERP)	HAR-E and HAR-PM	By 12/5/14, submit an ERP to DOH and EPA.	11/5/14	 A revised draft of the Enforcement Response Plan (ERP) was submitted to EPA on August 5, 2015 but was not approved. Revisions to the ERP have been made and will be submitted to the EPA in 2018. 		N/A	Finalize revisions to the ERP and submit to the EPA in 2018. Implement ERP upon approval.			
CD.19.b. Memorandum of Agreement (MOA)	AG	By 12/5/14, enter into an MOA with DOH.	11/5/14	• The Memorandum of Agreement with HDOH was signed by both parties and transmitted to EPA on May 26, 2015.		N/A	Implement where necessary.			
CD.19.b. Authority to Issue Civil Fines	AG	By 12/31/14, use best efforts to obtain authority to issue civil fines.	11/5/14	• HDOT revised their Enforcement Response Plan (ERP) that includes enforcement actions and penalties for persistent violators (construction contractors, tenants and other third parties) and will be implemented upon approval by the EPA/HDOH.		N/A	Implement enforcement actions and penalties for construction contractors, tenants & third parties in accordance with the approved ERP.			

3.2 PUBLIC EDUCATION AND OUTREACH

HAR 11-55, Appendix K, requires the NPDES permittee to provide public education and outreach. Specifically, it requires the permittee to develop and implement a public education program to distribute educational materials to users of the permittee's small MS4 sewer system, or equivalent outreach activities emphasizing the following:

- A. Impacts of stormwater discharges on water bodies;
- B. Hazards associated with illicit discharges; and
- C. Measures that users of the permittee's small MS4 can take to reduce pollutants in stormwater runoff, including, but not limited to, minimizing fertilizer application, and practicing proper storage and disposal of chemicals and wastes.

Table 5 provides a summary describing DOT-Harbors' public outreach and education program, including the MCM, milestones, BMP goals, and planned activities.

	Table 5. Public Education and Outreach										
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)				
CD 14.a.i. SWMP A.3.1.1 Awareness Message Integration	HAR-EE	100% of printed and electronic communications with tenants, staff, and public should include the environmental message.	1/1/17	The message "Mālama I Ke Kai - Protect Our Harbor Waters "along with the DOT's raindrop fish logo has been included in 100% of emails, tenant notices, educational materials, surveys, and training presentations.		N/A	Continue to integrate message into all printed and electronic communication.				

		Tal	ole 5. Pub	olic Education and Outreach			
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD 14.a.ii. SWMP A.3.1 Awareness Message Distribution	HAR-EE	Identify and implement no less than three forms of disseminating stormwater awareness information to tenants and the public.	1/1/17	The stormwater message and logo have been included in at least six forms of information: • Documents (SWMP, ACR). • Newspaper advertisement (Attachment 1). • 2018 Poster Calendar (Attachment 2). • BMP handouts and flyers (Attachments 2 & 4). • Tenant Training Notice and BMP sheets (Attachment 5a). • Training presentations (Tenant, Construction and Post-Construction, and IDDE in Attachments 5b, 6a, and 8a).		N/A	Continue to include message wherever beneficial.

		Tal	ble 5. Pub	olic Education and Outreach			
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.14.a.ii. SWMP A.3.1.3. Social Media	HAR-EE	Annually, increase the number of users who "follow" the Harbors social media page / account.	1/1/17	 Harbors environmental staff attempted to setup a Twitter account to communicate with its tenants at its Oahu harbors with 'tweets'. However, leadership concerns regarding vulnerabilities to false information, mis-reporting and other potential abuses compelled this social media initiative to be suspended. At this time, the public and tenants are directed to visit information posted on Harbors Stormwater Management webpage, and report suspected illicit discharges to Harbor Traffic Control at (808) 587-2076 (24/7) or Reporting Hotlines at (808) 587-1962 (working hours only). There were 1,427 webpage views in 2017 which is 19% less than the 1,764 views in 2016. 		This MCM/BMP will be evaluated in the new SWMP that will be updated in conjunction with the new Appendix K permit.	Re-evaluate goals in accordance with revised social media strategy.
CD 14.a.ii. SWMP A.3.1.4 Volunteer Event	HAR-EE	Annually, set up and solicit one volunteer event.	1/1/17	• In 2017, Hawaiian Cement sponsored 808 Basketball Club for a clean-up event with 22 volunteers (Attachment 3).		N/A	Arrange and/or co-host a volunteer event.

	Table 5. Public Education and Outreach										
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)				
CD 14.a.ii. SWMP A.3.1.4 Volunteer Event Participation	HAR-EE	Increase participation from the previous year if less than 50 individuals attend.	1/1/17	In 2017, individual participation in volunteer programs aimed to clean the harbors and promote clean water had a total of 22 volunteers from 808 Basketball Club (Attachment 3).		This MCM/BMP will be evaluated in the new SWMP that will be updated in conjunction with the new Appendix K permit.	Continue to coordinate and support volunteer programs. Re-evaluate use of definite counts of individuals as measurable goals in revising the SWMP in 2018.				

		Tal	ole 5. Pub	olic Education and Outreach			
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.14.a.ii.1) SWMP A.3.2.4. Tenant Training	HAR-EE	Ensure 80% of tenants participate in annual tenant stormwater training.	1/1/17	 Two stormwater awareness training events were conducted on 08/31/2017 and 09/21/2017 (Attachments 5a & 5b). 82 % of tenants attended this training (Attachment 5b). Note that all tenants in KIPA were in the process of moving out of this area since last October, as part of the Harbors future renovation project. Therefore, this statistic number didn't count them in on a fair basis. Even though, some of them did attend the training at the time). The Tenant Environmental Manager of the Year (TEMY) was presented to Sara Daniels of Asphalt Hawaii. In addition, four runner-ups were awarded in 2017 (Attachment 5d). DOT Harbors also conducted a Stormwater Awareness Training for Hilo Harbor on July 19, 2017. 		N/A	Continue the efforts and increase the training participation rate through individual calls, visits, email reminder, etc.

	Table 5. Public Education and Outreach										
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)				
SWMP A.3.2.4. Training Feedback	HAR-EE	Annually ensure that at least 50% of tenant training attendees provide a positive feedback.	1/1/17	 Based on the feedback forms received following the two training events, 92% of tenants gave positive feedback regarding the quality of the training's content and 91% gave positive feedback regarding the quality of the trainer's performance. A summary and the hardcopies are located in Attachment 5e. 		N/A	Continue to track training feedback and make improvements to training where feasible.				
CD.14.a.iii. SWMP A.3.1.2. Newspaper Advertisement	HAR-EE	Annually place an ad in one local newspaper to educate the public and describe Harbor's efforts to improve stormwater quality.	1/1/17	A newspaper advertisement was placed in the Honolulu Star Advertiser on 11/03/17 that described Harbors efforts on pollution prevention and how the public can help improve stormwater quality (Attachment 1).		N/A	Develop and publish one advertisement.				

		Tal	ole 5. Puk	olic Education and Outreach			
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
SWMP A.3.1.5. SHOT Calls & Suspected Illicit Discharge Reports (SIDR)	HAR-EE	Annually increase the number of inquiries and reports received.	1/1/17	In 2017, Harbors received 51 inquiries/reports, which increased from the 25 received in 2016 (Attachment 14).		N/A	Prepare pocket cards with contact numbers and SIDR info required as well as magnetic cards with contact numbers. Reinforce reporting procedures in annual training.
SWMP A.3.1.5. SHOT Call Response	HAR-EE	Respond to all inquiries and reports within 24 hours to minimize water quality impacts.	1/1/17	All calls were responded to within 24 hours (Attachment 14).		N/A	Continue to respond to calls.
CD.14.b.i. SWMP A.3.1.6. Update Webpage	HAR-EE, HAR-SI	Ensure that webpage remains useful and relevant.	1/1/17	The webpage has been updated throughout 2017 to include updated training materials (http://hidot.hawaii.gov/harbors/library/storm-water-management/).		N/A	Update webpage as needed.
CD.14.b.ii. SWMP A.3.1.6. Webpage Links	HAR-EE, HAR-SI	Ensure links to Airports and Highways are included on the web page.	1/1/17	The links to the other HDOT Division web pages are included in the Harbors webpage.		N/A	Maintain links.

	Table 5. Public Education and Outreach											
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)					
CD.14.b.iii. SWMP A.3.1.6. Webpage Message	HAR-EE, HAR-SI	100% of webpage pages where stormwater awareness message is prominently displayed.	1/1/17	The stormwater message is prominently displayed on the HDOT webpage as well as the Stormwater Educational Materials.		N/A	Continue to display message.					
CD.14.b.iii. SWMP A.3.1.6. Webpage Visitors	HAR-EE, HAR-SI	Ensure the number of visitors to Harbors stormwater management webpage has increased from the previous year.	1/1/17	Harbors received a total of unique 977 page views which is 11% less than the number of unique page views in 2016 (1,103).		This MCM/BMP will be evaluated in the new SWMP that will be updated in conjunction with the new Appendix K permit.	Revise webpage to attract new visitors. Continue to promote webpage through trainings and material handouts. Continue to track webpage views.					
CD.14.c.i. SWMP A.3.1.7. Stormwater Signs Installation	HAR-EE, HAR-O	By 11/5/14, identify 50 locations that are suitable for signs.	11/5/14	Completed in 2014 and tracked in AMS. To date, 91 signs have been installed. Last October, a physical condition inspection of all installed signs was conducted. Missing/damaged signs will be replaced and/or repaired.		N/A	Replace/Repair missing or damaged signs. Continue to evaluate the need for additional signs.					
CD.14.c.i. SWMP A.3.1.7. Stormwater Sign Evaluation	HAR-EE	Annually, evaluate whether additional stormwater signs are necessary	1/1/17	Signage evaluation has indicated that no additional signage at Honolulu Harbor and Kalaeloa Barbers Point Harbor is needed.		N/A	Evaluate the need for more signs.					

		Tal	ole 5. Pul	olic Education and Outreach			
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.14.c.ii. SWMP A.3.1.7. Storm Drain Inlet Stencils	HAR-EE / HAR-O	By 2/3/15, ensure 100% of storm drain inlets are stenciled.	2/3/15	100% of accessible storm drains (634 drain inlets & 134 trench drain segments) were stenciled/re-stenciled by December 31, 2017.		N/A	Install more durable stencils and markers.
CD.14.c.ii. SWMP A.3.1.7. Storm Drain Inlet Stencils	HAR-EE / HAR-O	Annually inspect 100% of stencils for legibility prior to the wet season and re-stencil within 60 days of the inspection as needed.	1/1/17	 In 2017, HDOT conducted an inspection of stencils simultaneously with the storm drain cleaning efforts. 100% of stenciled drains were inspected and 11% required re-stenciling; all re-stenciling of these drains was completed in 2017 within 60 days. 		N/A	Inspect stencils and re-stencil as necessary. Install more durable stencils and markers as needed.
CD.14.d.i. SWMP A.3.2.3. Tenant BMPs	HAR-EE	Annually, ensure that 100% of information on BMPs is available in fact sheets.	1/1/17	A list of updated tenants' BMPs is available on the Harbors webpage: http://hidot.hawaii.gov/harbors/library/storm-water-management/ .		N/A	Distribute BMP flyers as necessary.
CD.14.d.ii. SWMP A.3.2.1. Tenant Lease Agreements	HAR-PM	Ensure 100% of new / renewed tenant leases include language requiring BMPs.	1/1/17	 Lease agreement language was updated in 2014. 100% of tenant renewals and new tenants have been issued leases with the updated language. 		N/A	Continue to use the new format.

		Tal	ole 5. Pub	olic Education and Outreach			
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.14.d.iii. SWMP A.3.3.1 Vessel BMPs	HAR-O	Develop BMPs for Vessel Operators and make them available on the webpage or as print media.	11/5/14	 A BMP flier is available on the Harbors webpage titled "BMPs for Small Vessel Maintenance Activities." Harbors will continue to work on translating this BMP into other foreign languages as necessary, so as to provide outreach to non-English speaking users. 		N/A	Distribute updated flyers. Continue to evaluate and translate this BMP into foreign languages as necessary.
CD.14.e.i. SWMP A.3.2.2. Tenant Inventory	HAR-EE / HAR-PM	Ensure that 100% of tenants are accurately listed in the electronic inventory based upon most recent inspection.	1/1/17	 Harbors continue to maintain their electronic tenant inventory. There are a total of 85 tenants occupying 88 sites (Attachment 10). 		N/A	Continue to update and maintain tenant inventory data to GIS and AMS.
CD.14.f.i. & ii. SWMP A.3.2.4. Tenant Survey	HAR-EE	Annually, provide a questionnaire to tenants and have 60% of tenants respond. Use data from quiz to update training materials.	1/1/17	 Approximately 67% of tenants completed a questionnaire either as a result of the tenant notice or during the tenant training events. A summary of the results and the hard copy questionnaire are included in Attachment 5f. The most commonly missed question (#7) relates to good examples of BMPs. (Attachment 5f). 		N/A	Update the training quiz and distribute to tenants.

		Tal	ole 5. Pub	olic Education and Outreach			
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.14.g. SWMP A.3.2.34. Tenant Educational Materials	HAR-EE	Twice per year, distribute educational materials to tenants.	1/1/17	Educational materials that were distributed in 2017 include fact sheets attached to the annual tenant training notice on 7/28/17 (Attachment 5a); the Harbors 2018 Poster Calendar (Attachment 2); and handouts available at the annual Protect Our Water Conference on 11/15/17 (Attachment 4).		N/A	Distribute materials twice per year.
CD.14.h.i. New Tenant Information Package	HAR-EE	Develop and update as necessary the New Tenant Information Package to include stormwater requirements.	11/5/14	The new tenant information package is available on the Harbors webpage and is also provided to the new tenants directly.		N/A	Distribute information to new tenants.
CD.14.h.ii. TIM Section 2 Inspect New Tenants	HAR-EE	Conduct an initial inspection of 100% of new tenants within three months of the tenant occupying a Harbor's space.	1/1/17	Three new/initial inspections were conducted in 2017, which represents 100% of new tenants formally identified by HAR-PM (Labeled as "new" under the "Inspection Type" column in Attachment 10).		N/A	Inspect new tenants as applicable.

3.3 PUBLIC INVOLVEMENT AND PARTICIPATION

HAR 11-55, Appendix K requires the NPDES permittee to create a public involvement program that includes users of the permittee's small MS4 to develop, implement, and review the SWMP. Table 6 shows how DOT-Harbors satisfied this requirement for its tenants and the general public.

	Table 6. Public Involvement and Participation									
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/ Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)			
CD.11.a.ii. SWMP A.4. Solicit Comments through Webpage	HAR-EE	By 2/3/15, solicit comments on the revised SWMP through the Harbors webpage.	11/5/14	 The SWMP was posted on the Harbors webpage in February 2015. There were 1,669 webpage views in 2015 and no public comments received on the SWMP. 		N/A	Re-evaluate public involvement strategy.			
CD.11.a.ii. SWMP A.4. Solicit Comments through Newspaper	HAR-EE	By 2/3/15, advertise in one local newspaper for SWMP comments	11/5/14	 On February 7, 2015 a notice was placed in the Honolulu Star Advertiser that directed the public to comment on the updated SWMP. No public comments were received in 2015. 		N/A	Re-evaluate public involvement strategy.			

		Table (6. Public	Involvement and Participation			
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/ Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.11.a.ii. SWMP A.4. SWMP Commenter	General Public, Tenants	Within 45 days of posting SWMP, receive at least one comment on the updated SWMP from a tenant or the public. Receive at least one comment that results in a revision to the SWMP.	2/2/15	No public comments were received on the SWMP.		N/A	Re-evaluate public involvement strategy.

3.4 ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PROGRAM

HAR 11-55, Appendix K requires the NPDES permittee to create an IDDE program. The program should implement and enforce methods to detect and eliminate illicit discharges that, at a minimum, include the following:

- A. Establish rules, ordinances, or other regulatory mechanism, including enforcement procedures and actions, that prohibit non-stormwater discharges, except those listed in section 1 (of Appendix K) that do not cause or contribute to any violations of water quality standards, into the permittee's small MS4 system;
- B. Procedures to detect and eliminate illicit discharges (as defined in 40 CFR Section 122.26(b) (2)); and
- C. Compile of a list of non-stormwater discharges or flows that are considered to be significant contributors of pollutants to the system, and measures to prevent these discharges into the permittee's small MS4, or reduce the amount of pollutants in these discharges.

Table 7 provides data regarding DOT-Harbors' IDDE program, MCMs, BMPs, goals, milestones, and planned activities.

	Table 7. Illicit Discharge Detection and Elimination (IDDE) Program											
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)					
CD.16.a. Illicit Discharge Definition	HAR-EE	By 11/5/14, promulgate a definition of illicit discharge with examples.	11/5/14	 Definition included in SWMP and provided in all training presentations (tenant/employee stormwater general awareness, construction and post-construction, tenant inspector, ORI, and IDDE). "A non-stormwater discharge that poses a risk to the environment." 		N/A	Continue to communicate definition.					

Table 7. Illicit Discharge Detection and Elimination (IDDE) Program							
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.16.b.i. & iii. SWMP B.4. Tenant Site Assessments	HAR-EE, HAR-O, HAR-PM	Annually, conduct site assessments in high risk areas and implement enforcement response plan where necessary.	1/1/17	 Harbors District personnel and HAR-PM have been informed that they should remain observant during daily activities for illicit discharges. HAR-EE and consultants' personnel assess sites for illicit discharges during tenant, construction, and outfall inspections. Refer to those items for additional data. There were two (2) enforcement actions as a result of site assessments in 2017. 		N/A	Update IDDE and tenant training and continue to conduct site assessments.

	Table 7. Illicit Discharge Detection and Elimination (IDDE) Program							
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)	
CD.16.b.ii. SWMP B.4. Outreach Activities	HAR-EE	Conduct outreach during site assessments and identify areas that may need signs.	1/1/17	 Harbors continued to provide verbal outreach during site assessments and other activities. In 2017, Harbors environmental consultants conducted an inspection of all metal signs to determine the quality and need for replacement. A total of 17 signs were identified as missing or in need of replacement, and one more sign needed to be repositioned properly. Work Orders were created in 2017 for sign replacement; new signs will be ordered and replaced in 2018. 		N/A	Continue to conduct outreach activities.	
CD.16.c.i. SWMP B.3. ORIIP Section 2 Outfall Prioritization	HAR-EE	Annually, reprioritize outfalls.	1/1/17	The outfall prioritization is included in Attachment 11d.		N/A	Re-prioritize outfalls based on ORI.	

	Table 7. Illicit Discharge Detection and Elimination (IDDE) Program							
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)	
CD.16.c.i. SWMP B.3. ORIIP Section 2 Outfall Inspections	HAR-EE	Inspect outfalls according to their risk ranking.	1/1/17	 Outfalls prioritized as Obvious, Suspect, and Potential were inspected using the ORI form (Attachment 11a). ORI reports are found in Attachments 11b and 11c. 		N/A	Conduct dry weather screening of all outfalls. Conduct wet weather screening.	
CD.16.c.ii. & CD.16.d. SWMP B.3 ORIIP Section 3.3 Dry Weather Illicit Discharges	HAR-EE	Ensure 100% of illicit discharges identified during dry weather flows are properly addressed.	1/1/17	Outfall inspections revealed no illicit discharges.		N/A	Continue to address illicit discharges if any.	
CD.16.c.i.2. & CD.16.c.ii. SWMP B.3 ORIIP Section 3.4 Wet Weather BMP Improvements	HAR-EE	Ensure that 100% of BMPs identified during wet weather ORI as needing improvement are properly addressed.	1/1/17	 Dry weather inspections were conducted for outfalls located at Honolulu Harbor and KIPA on May 9 & 10, 2017. Wet weather ORIs were conducted for outfalls located at high risk areas in KIPA on February 21, 2017. 		N/A	Continue to address BMPs that need improvement.	

Table 7. Illicit Discharge Detection and Elimination (IDDE) Program							
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.16.d. SWMP B Illicit Discharge Tracking and Elimination	HAR-EE	Identify and take necessary actions to stop the source of all illicit discharges.	1/1/17	 There were four illicit discharges identified from tenant facilities and all were addressed promptly (Attachment 15). HAR-EE also assisted with resolving 51 other reports of miscellaneous discharges (Attachment 14). 		N/A	Investigate illicit discharges where observed.
CD.16.e.i. TIM Section 4.3 Tenant Risk Ranking	HAR-EE HAR-PM	Annually ensure that all tenants have been risk ranked according to the TIM.	1/1/17	 An inventory of tenant inspections and their risk rankings are included in Attachment 10. There are 55 low ranked, 27 medium ranked and 6 high ranked for a total of 85 individual tenants occupying a total of 88 tenant-leased areas. 		N/A	Update risk ranking as necessary.

		Table 7. Illicit Dis	scharge De	etection and Elimination (IDDI	E) Program		
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.16.e.ii Routine Tenant Inspections	HAR-EE HAR-PM	Conduct tenant inspections / site reconnaissance in accordance with risk ranking and TIM.	1/1/17	 In 2017, a total of 66 routine/recurring tenant inspections were conducted. Seven tenant inspections were suspended until 2018 for a final inspection since the tenants were still wrapping up operations and in the process of moving out (Attachment 10). Outreach materials were provided during these inspections when necessary and tenants were instructed to visit the Harbors webpage. 		N/A	Continue to conduct inspections as required by risk ranking.
CD.16.e.iii. Site Reconnaissance Follow-up Inspections	HAR-EE HAR-PM	Ensure that 100% of follow-up inspections to the site reconnaissance are completed following a substantive change to a facility's operations, size, or activities.	1/1/17	 Three follow-up inspections were conducted following the regular inspection. The tenant's operations and good housekeeping showed a substantive improvement from the initial inspection (Attachment 10). 		N/A	Continue to conduct follow-up inspections as necessary.

	Table 7. Illicit Discharge Detection and Elimination (IDDE) Program											
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)					
SWMP B.2. TIM. Illicit Discharge Follow-up Inspections	HAR-EE	Ensure that 100% of follow-up inspections for illicit discharges are completed within 7 days of discovery.	1/1/17	100% of follow-up inspections for illicit discharges were completed within seven days of discovery (Attachment 14).		N/A	Continue to conduct follow-up inspections as necessary.					
SWMP B.2. TIM. Compliant Follow-up Inspections	HAR-EE	Ensure that 100% of follow-up inspections are completed the next working day after receipt of a compliant.	1/1/17	There was one compliant received for Honolulu Harbor in 2017 (Attachment 14). However, it was not directly related to Harbors small MS4. No stormwater related complaints were received for Kalaeloa Barbers Point Harbor in 2017.		N/A	Continue to conduct follow-up inspections as necessary.					

	Table 7. Illicit Discharge Detection and Elimination (IDDE) Program											
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)					
CD.15.a.i. SWMP B.6.1. Employee Awareness Training	HAR-EE HAR-O	Annually, ensure that 100% of employees receive stormwater awareness and pollution prevention survey. Ensure that 80% of employees respond to the survey.	1/1/17	 Harbors created a survey via an online survey site called esurv.org. 85% of DOT-Harbors employees completed the educational survey and feedback was positive for the online platform. A summary of the survey results and a copy of the survey are included in Attachment 7. Although the majority received very high scores, the most commonly missed question (#7) related to reducing household hazardous risks. Harbors plans to make this a focal point for training efforts in 2018. 		N/A	Evaluate the feedback and results from previous year and update educational materials to employees and conduct another survey.					
CD.15.a.ii. SMP B.6.1. Employee Education	HAR-EE HAR-O	Annually ensure that 100% of employees receive information about stormwater pollution.	1/1/17	 A 2018 poster calendar was created and distributed to Harbors offices in 2017 (Attachment 2). Additional handouts and informational sheets were distributed to Harbors offices to provide enhanced general awareness on stormwater management and improving general housekeeping which could be applied at work or at home (Attachment 4). 		N/A	Continue to distribute educational material.					

	Table 7. Illicit Discharge Detection and Elimination (IDDE) Program											
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)					
CD.15.b.i. Illicit Discharge Detection and Elimination (IDDE) Program Training	HAR-EE HAR-O	Annually, train 100% of Marine Cargo Specialists, Police, and Grounds Supervisors on IDDE procedures.	1/1/17	 Marine cargo specialists, Harbor police, and grounds supervisor were trained on IDDE in December 2017 (Attachment 8b). The presentation slides and a summary of completed training quizzes are included in Attachments 8a and 8c, respectively. This represents 100% of available Harbors personnel trained in 2017. 		N/A	Continue to train on IDDE.					
CD.15.b.ii. & iii. SWMP B.6.2. &3. Inspector Training	HAR-EE	Ensure that 100% of inspectors have received tenant and/or Outfall Reconnaissance Inventory (ORI) training.	1/1/17	 Three (3) personnel from DOT Harbors' consultant completed training for tenant inspections (Attachment 9b). This represents 100% of new inspectors for 2017. The training presentations and completed questionnaires are available in Attachments 9a and 9c, respectively. 		N/A	Provide training to any new inspectors.					

3.5 CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

HAR 11-55, Appendix K requires the NPDES permittee to develop, implement, and enforce a program to reduce pollutants in storm water runoff entering the permittee's small MS4 system from construction activities disturbing one acre or more, including construction activities less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more, that, at a minimum, includes the following:

- A. Establish rules, ordinances, or other regulatory mechanism, including enforcement procedures and actions, that require erosion and sediment controls:
- B. Requirements for construction site operators to implement appropriate erosion and sediment control BMPs;
- C. Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the adverse impacts to water quality;
- D. Procedures for site plan review which incorporate consideration of potential water quality impacts;
- E. Procedures for receipt and consideration of information submitted by the public; and
- F. Procedures for site inspection and enforcement of control measures.

Table 8 provides information about the construction site stormwater runoff controls, including MCMs, BMPs, goals, milestones, and planned activities.

	Table 8. Construction Site Stormwater Runoff Control											
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)					
CD.17.a. City and County of Honolulu BMPs	HAR-EE	Ensure that City and County of Honolulu (CCH) BMPs are implemented for construction activities.	11/5/14	 The CCH BMPs are referenced in the construction manual. Further, during plan reviews and inspections, construction sites are evaluated to ensure they are following the CCH construction BMP requirements. 		N/A	Continue implementing CCH BMPs.					

		Table 8. C	onstructio	on Site Stormwater Runoff Con	trol		
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.17.b.i. SWMP C – CSRCP Construction Inspections	HAR-EE / Construction Managers	Ensure 100% of construction inspections and enforcement actions are entered in a database.	1/1/17	 The construction inspection inventory is included in Attachment 16. There were 5 active sites and 31 inspections during 2017. There were no enforcement actions other than findings and recommendations documented in the inspection checklist and the majority of which were addressed during or by the next round of inspection. 		N/A	Continue tracking construction inspections and enforcement.
CD.17.b.ii. Temporary Erosion and Sediment Control Inspector	HAR-EE / Personnel Office	By 11/5/14, assign one temp and full- time position whose duties will include sediment and erosion control.	11/5/14	A Harbors engineer is currently assigned to this position.		N/A	Inspector will continue to perform duties relating to temporary erosion and sediment control measures.
CD.17.b.iii. Permanent Erosion and Sediment Control Inspector	HAR-EE / Personnel Office	By 12/31/15, establish a permanent erosion and sediment control position and utilize consultants.	11/5/14	A permanent position for Erosion and Sediment Control Inspector was filled in 2017.		N/A	None

			onstructi	on Site Stormwater Runoff Con			
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.17.b.iv. SWMP C – CSRCP Construction Plan Reviews	HAR-EE / Engineering Project Managers	Review 100% of construction projects for environmental requirements per the Construction Site Runoff Control Program.	1/1/17	A total of 5 tenant projects and 31 Harbors projects were reviewed in 2017 (Attachments 17 and 18), which represents 100% of projects requiring environmental review.		N/A	Review construction plans.
SWMP C – CSRCP Review Checklist	HAR-EE	Ensure that 100% of projects are reviewed using the Construction Site Design Review Checklist.	1/1/17	100% of the NOI-C regulated projects reviewed are required to use the Construction Site Design Review Checklist.		N/A	Continue to review form where applicable.
SWMP C – CSRCP Less Than One Acre Forms	HAR-EE	Ensure that 100% of non-exempt projects that are less than one acre have submitted the form.	1/1/17	 87% of Harbors projects and 40% of tenant projects (Attachments17 and 18) reviewed were exempt from construction and post-construction programs. Of the remaining projects reviewed, 75% of non-exempt projects less than one acre are required to submit the form and 25% are required to following the SWPPP for an existing project and therefore exempt from providing such form. 		N/A	Continue to review form where applicable.

				on Site Stormwater Runoff Con			
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
SWMP C – CSRCP Review Documents	HAR-EE	Ensure that 100% of SWPPPs, NOIs, and discharge permits have been reviewed.	1/1/17	100% of project supporting documents are reviewed as a part of the standard review process.		N/A	Continue to review where applicable.
SWMP C – CSRCP Section 5.1	HAR-EE	Ensure 100% of contractors receive Construction BMP Field Manual.	1/1/17	100% of contractors were provided with access to the BMP field manual on Harbor's webpage.		N/A	Maintain BMPs on webpage.
CD.15.c. & d. SWMP C – CSRCP Section 5.1 Construction and Post- Construction Training	HAR-EE	Ensure that 100% of staff whose duties are related to construction or post-construction are trained by an instructor who is approved by EPA and HDOH.	1/1/17	 A construction and post-construction training was provided to engineers, consultants, contractors, and inspectors on 11/13/2017 and 12/7/2017 (Attachment 6a). As a result, a total of 29 people were trained which represents 100% of the required individuals (Attachment 6b). Completed surveys are included in Attachment 6c. 		N/A	Conduct annual training.

	Table 8. Construction Site Stormwater Runoff Control											
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)					
SWMP C – CSRCP Section 5 Construction Training Materials	HAR-EE	Update training materials to reflect comments received from the training survey.	1/1/17	Comments received indicated that participants would like to see more photos of examples of violations, recommendations on products and lessons learned examples of Harbors projects and how previous post-construction BMPs are performing (Attachment 6c).		N/A	Conduct annual training.					
SWMP C – CSRCP Section 5.2	HAR-EE	Aim for a goal of 85% positive feedback about construction training.	1/1/17	Survey results from 2017 indicated that training participants found the training material very relevant and useful with an average of 94% positive feedback (Attachment 6c).		N/A	Improve feedback tracking system and continue to solicit feedback on training.					

3.6 POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

HAR 11-55, Appendix K requires the NPDES permittee to develop, implement, and enforce a program to reduce pollutants in stormwater runoff entering the permittee's Small MS4 system from new development and redevelopment projects that disturb greater than or equal to one acre, including construction sites less than one acre that are part of a large common plan of development, or sale that would disturb one acre or more, that at a minimum, includes the following:

- A. Establish rules, ordinances, or other regulatory mechanism, including enforcement procedures and actions, that address post-construction runoff from new development and redevelopment projects;
- B. Structural and/or non-structural BMPs to minimize water quality impacts and attempt to maintain predevelopment runoff conditions; and
- C. Procedures for long-term O&M of BMPs.

Table 9 provides information about DOT-Harbors' post-construction stormwater management activities in new development and redevelopment projects, including MCMs, BMPs, goals, milestones, and planned activities.

	Table 9. Post-Construction Stormwater Management in New Development and Redevelopment										
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)				
CD.18.a.i.,- iii. SWMP 2.5.1. Retrofit Project Inventory	HAR-EE	By 5/4/15, create an inventory of construction projects from 5/19/03 and rank them according to retrofit potential.	11/5/14	An inventory of projects was completed and evaluated for retrofit potential in 2015.		N/A	None				

Table 9. Post-Construction Stormwater Management in New Development and Redevelopment Page 15 Planned											
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)				
CD.18.a.iii. Retrofit Feasibility Scope	HAR-EE	By 8/2/15, draft a scope of the retrofit feasibility study and submit it to EPA and DOH for approval.	11/5/14	 The Retrofit Feasibility Study Scope was submitted to EPA in early August 2015. The EPA responded via letter dated December 3, 2015, that they required additional details. The EPA approved the revised study outline on March 14, 2015. The EPA approved the revised study approach on April, 19, 2016. The EPA approved the revised study scope in August 2016. On April 11, 2017 the Feasibility study report was submitted to EPA. 		N/A	None				
CD.18.a.iii. SWMP E Final Retrofit Study	HAR-EE	240 days after EPA and DOH's approval, complete the final retrofit study.	4/31/17	The Post-Construction BMP Retrofit Feasibility Study was performed by a DOT Harbors environmental engineering consultant (Weston Solutions, Inc.) and submitted to the EPA in 2017. On June 19, 2017 the EPA approved the feasibility study report including the 3 proposed PBMP retrofit project sites (Attachment 23b).		N/A	None				

	Table 9. Post-Construction Stormwater Management in New Development and Redevelopment											
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)					
CD.18.a.iv. SWMP 2.5.2. Retrofit Construction	HAR-E	Four years after approval of Retrofit Feasibility Study, the construction will commence for the three highest ranked projects.	6/19/2017	 No work conducted this year. The Retrofit Feasibility Study is currently in the design phase and is on track to be completed in 2018 (Attachment 23a). Potential pollutants of concern (POPCs) have been identified and effective permanent BMPs for the three (3) approved project sites at Piers 31, 51 and 52. Construction will begin in 2018. 	N/A	N/A	Design work will be completed and construction will begin for the three approved PBMP retrofit projects in 2018.					
CD.18.b.i. Permanent BMP Plan Review	HAR-EE	Review 100% of applicable construction projects using the Post-Construction BMP Plan Checklist.	1/1/17	The Post-Construction BMP Plan Checklist was used to evaluate 100% of the regulated projects (Attachment 19).		N/A	Continue to use the Post- Construction BMP Plan Checklist for plan review on applicable projects.					
CD.18.c. BMP Standards	HAR-EE	Adopt technical standards that govern permanent BMPs.	11/5/14	Harbors adopted the CCH BMP in 2015 SWMP.		Completed	None					

	Table 9. Post-Construction Stormwater Management in New Development and Redevelopment						
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.18.f.i. Harbors Project O&M Documents	HAR-EC / HAR-EE	Ensure 100% of Harbors projects with permanent BMPs have an O&M plan, monitoring plan where applicable, and ongoing maintenance.	1/1/17	100% of Harbors projects with permanent post-construction BMPs have an O&M plan, monitoring plan where applicable, and ongoing maintenance.		Continue to review plans for permanent BMPs.	Develop O&M plan & schedule in Cityworks AMS for the two projects with O&M procedures. Request O&M procedures from contractor for 3 rd project for uploading to AMS. Continue to review plans for permanent BMPs.
CD.18.f.i. Tenant Project PBMP Maintenance	HAR-PM / HAR-EE	Ensure 100% of tenant projects with permanent BMPs have updated leases requiring an O&M plan.	1/1/17	 All projects with permanent BMPs have an O&M Plan and Monitoring Plan. 100% of tenant projects with PBMPs have O&M plans or have adopted one from the manufacturer(s). 		N/A	Update leases (when applicable) for tenants with permanent BMPs in include requirements for an O&M plan.

	Table 9. Post-Construction Stormwater Management in New Development and Redevelopment						
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.18.f.ii. PBMP Inspections by Tenants	HAR-EE / HAR-PM/ Tenants	Ensure 100% of required annual PBMP inspections are conducted by tenants and reported to Harbors.	1/1/17	100% of required PBMP inspections are conducted by tenants and reported to Harbors.		N/A	Educate tenants with PBMPs about lease requirements and procedures for reporting required annual PBMP inspections.
CD.18.d.& g. PBMP Inspections by Harbors	HAR-EE / Construction Managers	 Conduct permanent BMP inspections prior to, during, and upon completion of permanent BMP installation. Once installed conduct annual inspections and enforcement actions where necessary. 	1/1/17	 Nine permanent BMP inspections were conducted in 2017. No enforcement actions were necessary (Attachment 21). 		N/A	Continue inspections where necessary.

	Table 9. Post-Construction Stormwater Management in New Development and Redevelopment							
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)	
CD 18.g.ii. Enforcement Records	HAR-EE	Ensure that 100% of enforcement actions are recorded in the project database.	1/1/17	There were zero enforcement actions relating to permanent BMPs in 2017.		N/A	Record enforcement as necessary.	
CD.18.e. Permanent BMP Database	HAR-EE	Ensure 100% of post-construction BMP inspections are included in a database compatible with GIS.	1/1/17	100% of PBMP inspections were recorded in <i>Cityworks</i> (Attachment 21).		N/A	Update the inventory as necessary.	

3.7 POLLUTION PREVENTION AND GOOD HOUSEKEEPING

HAR 11-55, Appendix K requires the NPDES permittee to develop a pollution prevention and good housekeeping (P2/GH) program that will implement and enforce an O&M program to prevent and reduce stormwater pollution from activities, including, but not limited to, park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance that, at a minimum, includes the following:

- A. Good housekeeping and other control measures; and
- B. Employee and contractor training on good housekeeping practices to ensure that good housekeeping measures and BMP practices are properly implemented.

Table 10 provides information about the P2/GH program, including MCMs, BMPs, goals, milestones, and planned activities.

	Table 10. Pollution Prevention and Good Housekeeping						
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.20. Storm Sewer System Operation and Maintenance	HAR-O & HAR-E	By 12/5/14, submit a Storm Sewer System Operation and Maintenance Program (SSS O&M) to DOH and EPA.	11/5/14	 Completed. In 2017, Harbors submitted a revised Storm Sewer System O&M plan in that was accepted by DOH (Attachment 12). 		N/A	None

		Table 10. I	Pollution I	Prevention and Good Housekee	ping		
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.20.a. Storm Sewer System Mapping	HAR-EE / HAR-EP	Within 180 days of Army Corps of Engineers (ACOE) development of a GIS layer, create a map that identifies all storm drainage features.	1/1/15	Complete. In 2015, the USACE continued to add and refine SSS map features. Additionally, Harbors environmental engineering consultant (Weston Solutions, Inc.) conducted field work (kayak surveys, CCTV surveys and diving surveys) in November and December 2015 to fill in and correct 'data gaps' that remained in the original USACE version.		Update storm drain maps as necessary.	Update SSS map as needed with new project information and other findings from field personnel and other sources.
CD.20.b. Asset Management System	HAR-EE / HAR-EP	Within 180 days of ACOE map completion, implement an asset management system (AMS).	11/5/14	 In 2015, Harbors contracted with an AMS consultant team to install, configure, demonstrate, test and deploy a cloud-based, GIS-centric <i>Cityworks</i> AMS for the Honolulu and Kalaeloa BP Harbors stormwater system assets. There were about 40 active <i>Cityworks</i> users from Harbors personnel with essential roles in stormwater O&M and management in 2016. 		N/A	Update Cityworks AMS software when prompted by vendor (Azteca Cityworks).

		Table 10. I	Pollution 1	Prevention and Good Housekee	ping		
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)
CD.20.c. Storm Drain Inspections	HAR-O	Complete storm drain inspections as described in the SSS O&M plan and record 100% in database.	1/1/17	 All accessible storm drain inlets and trench drains were inspected and cleaned in 2017 (Attachment 21). Inspection findings and cleaning results were recorded in the Harbors AMS & GIS mapping system. 		N/A	Continue screening and recording inspections of all storm drains.
CD.20.d. Storm Drain Cleaning	HAR-O	 By 8/2/15, clean all inlets, pipes, and outfalls. Then ensure structures are cleaned at least every five years and more frequently for "hot spots." Ensure 100% of hot spots include BMPs. 	1/1/17	 Accessible drainage features were cleaned in 2017 when needed. Approximately four tons of debris was removed from the cleaning activities. 		N/A	Schedule and clean storm drains found to contain debris during screening and comprehensive inspections. Schedule cleaning in accordance with the SSS O&M Manual provisions.
CD.20.d.ii. Rail Track Cleaning	Kalaeloa Barbers Point Harbor Tenants / HAR-OCB	Ensure that tenants develop and implement a cleaning schedule for the rail tracks.	1/1/17	The Kalaeloa Barbers Point Harbor District personnel ensure that the tenants have completed rail track cleaning on a regular basis, after each offloading operation, to minimize coal dust and other aggregate materials from accumulating inside.		N/A	Ensure that tenants continue to clean rails.

	Table 10. Pollution Prevention and Good Housekeeping							
MCM/BMP Description	Responsible Dept. / Section	BMP Applied/ Measurable Goal(s)	BMP Start Date	Permit Year 15 Milestones/Progress on Goal(s)	Completed in 2017?	New or Revised Goal	Planned Activities for Permit Year 16 (2018)	
SWMP BMP 7- 2. Wash Racks	HAR-EE	Review 100% of applications for wash rack use.	1/1/17	One wash application from UHMC was reviewed and approved in 2017.		N/A	Continue to review applications as received.	
SWMP BMP 7- 2. Dry Wells	HAR-EE	Review 100% of applications for dry wells and/or infiltration sinks.	1/1/17	Zero applications were received or reviewed in 2017.		N/A	Continue to review applications as received.	

4 PROGRAM OUTPUTS AND ACCOMPLISHMENTS

4.1 MS4 PROGRAM EXPENSES

Program expenditures include the costs of several consultant contracts as well as an estimate of time spent by Harbors employees to ensure compliance with the conditions of the Consent Decree and the NPDES permit. Total expenditures in 2017 were similar to the previous year. The largest expenditure in 2017 was general permit compliance; this expense category includes all other program expenses not directly included in the permit element categories such as vendor fees related to the *Cityworks* AMS, legal support from the AG's office, technical support from USACE, and HAR-E and consultant efforts not otherwise accounted for. As a part of the pollution prevention program, Harbors personnel inspected and cleaned Harbor storm drains in 2017. Expenditures in the pollution prevention category were slightly lower compared to last year. Harbors personnel expect that expenses in this area will continue to decrease and then hopefully remain at a regular maintenance cost, as more BMPs continue to be installed to minimize potential pollutants from being discharged into Harbors small MS4. Expenses in the construction program were greater than previous years. Overall the funds expended in 2017 were adequate to address current needs. Table 11 provides a summary of the MS4 program expenses.

Table 11. MS4 Program Expenses				
Item	Response			
Office of Environmental Compliance created/staffed	Yes			
Annual program budget/expenditures* ('Best efforts' estimates of 2017 expenditures')	litures)			
 Public Education and Outreach & Public Participation and Involvement Program expenditures 	\$142,580			
Illicit Discharge / Illegal Connection BMP Program expenditures	\$265,113			
Construction Site Runoff Control expenditures	\$347,168			
 Post-Construction Stormwater Management in New Development and Re-development Programs expenditures** 	\$150,857			
 Pollution Prevention and Good Housekeeping BMP Program expenditures 	\$222,931			
General Permit Compliance expenditures	\$901,011			
Program Total Expenditures	\$2,029,660			
Funding mechanisms(s) - (Routine Maintenance Fund, Special Maintenance, Major Maintenance, Service Project, Equipment Acquisition, Capital Improvement Project)	Routine and Special Maintenance Funds, CIP			

Notes:

Data is from the 2017 calendar year.

^{*}Expenditures from Harbors employees have been approximately based on the estimated percentage of time that they worked on stormwater related tasks.

^{**}Permanent BMP plan reviews and inspections are accounted for under the Construction Site Runoff Control category since they are completed in conjunction with construction related tasks.

Figure 1 shows \$901,011 (44%) of the total expenditures for 2017 were for general permit compliance. The construction program was the second-highest expense at \$347,168 (17%). The IDDE program was third most expensive at \$265,113 (13%). The Pollution Prevention/Good Housekeeping program cost \$222,931 (11%) of the total budget, while costs were very close for the post-construction program at \$150,857 (8%) and the public education/involvement program \$142,580 (7%).

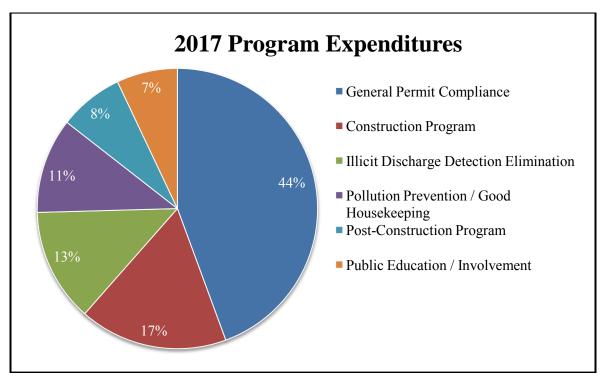


Figure 1. 2017 Program Expenditures

Figure 2 shows the program expenditures over the last four years.

- The general permit compliance expenditures had a slight increase in 2017, it was \$736,200 in 2016, and went up to \$901,011 in 2017; a difference of only \$164,811.
- The construction program cost \$347,168 in 2017, compared to \$322,300 in 2016, \$177,252 in 2015, and \$202,600 in 2014.
- The IDDE program cost \$265,113 in 2017, compared to \$244,200 in 2016; \$187,1700 in 2015; and \$234,400 in 2014.
- The Pollution Prevention/Good Housekeeping program decreased slightly in 2017 to \$222,931, compared to \$233,300 in 2016; \$823,297 in 2015; and \$170,100 in 2014.
- The post-construction program cost \$150,857 in 2017 compared to \$98,700 in 2016, \$35,794 in 2015, and \$50,600 in 2014.
- The public education/involvement program decreased spending in 2017 at \$142,580, compared to \$233,700 in 2016; \$217,905 in 2015, and \$220,700 in 2014.

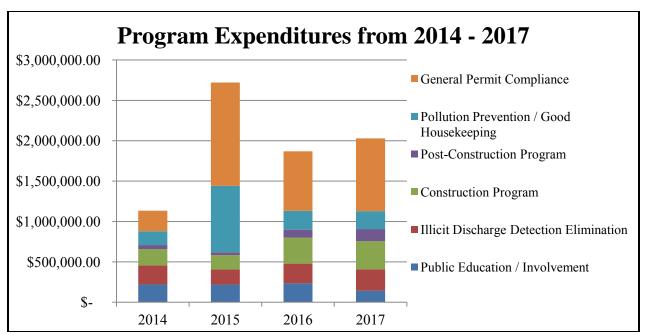


Figure 2. Program Expenditures from 2014 - 2017

4.2 EDUCATION, INVOLVEMENT, AND TRAINING

The training and education of Harbors personnel, tenants, and the public were top priorities in 2017. The total number of people and the number of individuals per category was very similar to that of 2016. Reiteration of the environmental requirements, Harbors stormwater procedures, and best management practices has shown to be the best way to facilitate a culture of compliance and stormwater pollution awareness. The large number of people trained and their high quiz scores attest to the effectiveness of the training program. Additionally, Harbors participated in the joint DOT "Protect Our Water Conference" on November 15, 2017. Along with DOT-Highways and DOT-Airports, the conference highlighted the joint effort that the three DOT divisions are taking to collectively protect the water resources of Hawaii.

Table 12. Education, Involvement, and Training				
Description	Response			
Estimated number of people reached by education program(s)*	366			
Tenant General Stormwater BMP Training	123			
Employee Stormwater Training	189			
Construction & Post-Construction Training	20			
• IDDE	31			
New Inspectors	3			
Average score on the environmental knowledge survey(s):				
Tenant Stormwater Training	94.0 %			
Employee Survey (average % correct responses)	95.0 %			
Tenants who had positive view of the training	91.0 %			
Unique visitors to the stormwater webpage	977			

Response 22
22
91
166 Replaced
446

Figure 3 provides data on the total number of construction, tenants, and employees that received training for the last nine years.

*Some individuals may have been trained at two or more of the training sessions; however, they

- In 2017, 189 employees, 123 tenants, and 20 construction workers were trained.
- In 2016, 211 employees, 109 tenants, and 23 construction workers were trained.
- In 2015, 237 employees, 99 tenants, and 28 construction workers were trained.
- In 2014, 318 employees, 101 tenants, and 59 construction workers were trained.
- In 2013, 16 employees, 126 tenants, and 17 construction workers were trained.
- In 2012, 23 employees, and 118 tenants were trained.
- In 2011, 26 employees, and 84 tenants were trained.

were counted separately.

- In 2010, 26 employees, and 83 tenants were trained
- In 2009, 51 employees, and 116 tenants were trained

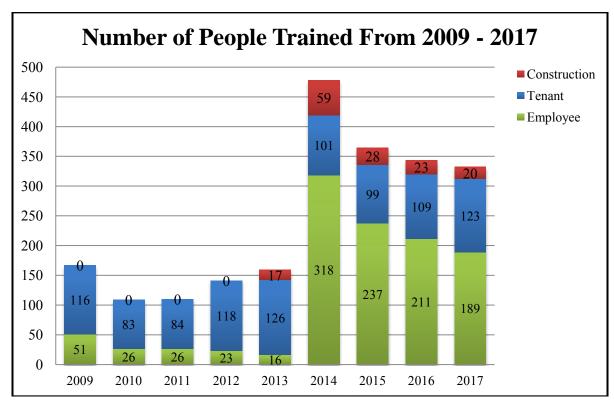


Figure 3. Number of People Trained from 2009 - 2017

4.3 LEGAL/REGULATORY

In 2017, the IDDE program was already in place prior to the 2015 SWMP revision. However, new construction and construction-related activities, as well as post-development stormwater management activities were implemented with the 2015 SWMP. Table 13 shows all accompanying regulations were also in place prior to 2015 SWMP.

Table 13. Legal and Regulatory						
Description	In Place Prior 2015 SWMP	Reviewing Existing Authorities	Drafted	Draft in Review	Adopted	
Regulatory Mechanism Status (ind	icate with chec	ck)				
Illicit Discharge Detection & Elimination	✓					
Construction and Construction Related Activities					✓	
Post-Development Stormwater Management					✓	
Accompanying Regulation Status (indicate with o	check)				
Illicit Discharge Detection & Elimination	✓					
Construction and Construction Related Activities	✓					
Post-Development Stormwater Management	✓					

4.4 MAPPING AND ILLICIT DISCHARGES

The number of potential illicit discharges identified and investigated in 2017 has decreased from previous years. The amount and type of illicit discharge investigations in 2017 were nearly identical to those of 2016. No instances lead to the implementation of enforcement procedures via written letters. All investigations ended with the resolution of the illicit discharge issues. The majority of the illicit discharge reports in 2017 came from Harbors staff, tenants, and the public. This indicates that the training provided is effective and people understand the correct protocols to intitiate when potential pollution or a suspected illicit discharge is observed.

Table 14. Mapping and Illicit Discharges				
Description	Response			
System-wide mapping complete	100 %			
(complete storm sewer infrastructure)				
Mapping method(s)				
Paper	100 %			
GIS	100 %			

Table 14. Mapping and Illicit Discharges	
Description	Response
Outfalls required to be inspected/screened	-
Honolulu Harbor	0
Kalaeloa Barbers Point Harbor	0
Illicit discharges investigated in 2017	12
SHOT Forms / SIDR / Public Reports	51
Tenant Inspections	2
Other Tenant Related Investigations	2
Construction Inspections	0
Outfall Reconnaissance	0
Illicit discharges investigated since 2010	237
% of population on sewer	100 %
% of population on septic systems	0 %
Complaints/concerns received from public	1
Note: Data is from the 2017 calendar year.	

Figure 4 shows the data recorded for illicit discharge investigations over the past nine years, although data is missing for years 2011 and 2009.

- In 2017, there were 51 investigations performed for the Suspected Illicit Discharge Reporting form (SIDR); the SIDR is a report form used to inspect any public reports of discharges. There were only 2 from tenant inspections, 0 from construction inspections, and 0 from ORI reports.
- In 2016, there were 26 SIDR forms filed, 1 tenant inspection, 0 construction inspections, and 2 ORI reports filed.
- In 2015, there were 27 SIDR forms filed, 0 tenant inspection, 0 construction inspections, and 1 ORI report filed.
- In 2014, there were 12 SIDR forms filed, 5 tenant inspections, 0 construction inspections, and 5 ORI reports filed.
- In 2013, there were 19 SIDR forms filed, 5 tenant inspections, 0 construction inspections, and 11 ORI reports filed.
- In 2012, there were 24 SIDR forms filed, 15 tenant inspections, 0 construction inspections, and 16 ORI reports filed.
- There is no data available for 2011.
- In 2010, there were 10 SIDR forms filed, 0 tenant inspections, 0 construction inspections, and 3 ORI reports filed.

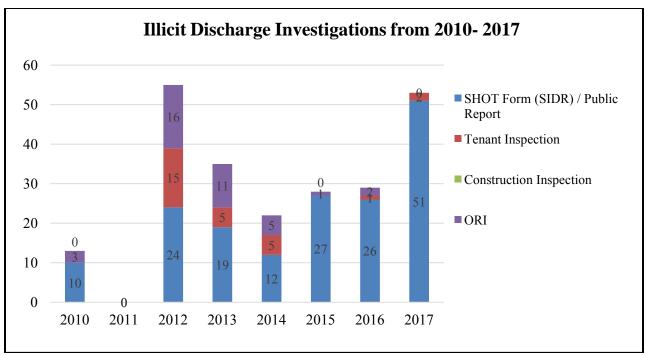


Figure 4. Illicit Discharge Investigations from 2010 - 2017

4.5 HARBORS TENANTS

The risk ranking for tenants in 2017 remained fairly consistent with rankings performed in 2016; 62% tenant sites are classified as low risk. This is consistent with the fact that the majority of tenants at Honolulu Harbor and Kalaeloa Barbers Point Harbor conduct small scale operations.

The risk rank of eight tenants changed in 2017 as a result of site inspections: 4 of the sites changed from low to medium and 4 of the sites changed from medium to low. One tenant had three inspections in 2017 whose risk rank changed from low to high, and back to low on the third inspection.

There were two tenant-related enforcement actions in 2017; both of these directly involved the MS4. During a tenant inspection, oil sheens were observed around a sanitary sewer manhole in a gasoline/diesel fueling area, and near a storm drain after a rain event. A verbal warning was provided onsite and a written warning was included in the tenant inspection report. The tenant immediately addressed the issues and implemented BMPs to mitigate the adverse effects of future occurrences

The second enforcement occurred outside of a tenant facility, when power washing activities were conducted to remove the track-out on the paved road. As a result, washing water entered nearby storm drain inlet(s). A verbal warning was provided onsite and power washing activities immediately ceased upon notification. A written warning was included in the tenant inspection report and Harbors is working with the tenant to find the best solution to reduce vehicle track out. In response, Harbors highlighted management of non-stormwater discharges during the annual tenant and IDDE trainings to protect harbor waters. Harbors is planning to continue to

highlight management of non-stormwater discharges in 2018 training events.

Table 15. Harbors Tenants		
Description	Response	
Total Unique Tenants	85	
Total Tenant Sites	88	
Low Risk Rank	55	
Medium Risk Rank	27	
High Risk Rank	6	
Number of Tenant Inspections	113	
• New	3	
Regular	66	
• Final	19	
Site Reconnaissance	22	
Follow-up	3	
Number of Enforcement Actions	2	
Note: Data is from the 2017 calendar year.		

Figure 5 represents the distribution of tenant risk ranking. 62% of the tenant sites are low risk, 30% are considered medium risk, and only 8% are considered a high risk.

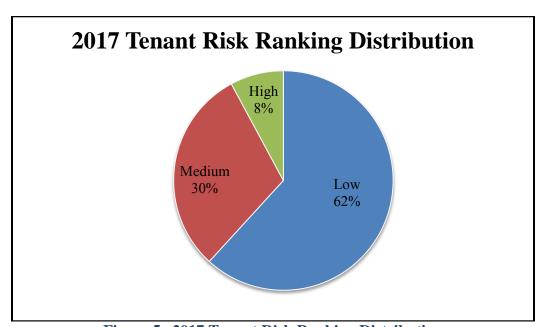


Figure 5. 2017 Tenant Risk Ranking Distribution

4.6 CONSTRUCTION

The number of construction inspections in 2017 decreased from 2016. Minor deficiencies were reported and corrected during inspections, leaving zero enforcement actions taken. This indicates that construction-related stormwater training is effective and shows evidence of growing stormwater pollution awareness at Harbors as well as the contractor's willingness to learn about the best methods to prevent pollution, and their commitment to implement BMPs as soon as possible.

Table 16. Construction		
Description	Response	
Total number of construction plan reviews	36	
• DOT	31	
Tenant	5	
Total number of plan reviews requiring NGPC	3	
Number of active construction sites on Harbors land	5	
• DOT	1	
Tenant	4	
Others (e.g., CCH)	0	
Estimated percentage of construction starts adequately regulated	100%	
for erosion and sediment control		
Site inspections completed	31	
Enforcement actions	2	
Written warning	2	
 Notice of Apparent Violation (NAV) 	0	
 Issuance of stop work order and summons/citations 	0	
Referral to DOH	0	
Fines collected	0	
Note: Data is from the 2017 calendar year.	•	

Figure 6 illustrates the number of construction inspections and enforcement actions taken over the last nine years.

- In 2017, there were 31 construction inspections and 2 enforcement actions. (Note: The construction site inspections below are different from Figure 6, which are construction inspections specifically due to illicit discharge).
- In 2016, there were 36 construction inspections and 0 enforcement actions.
- In 2015, there were 56 construction inspections and 6 enforcement actions.
- In 2014, there were 47 construction inspections and 36 enforcement actions.
- In 2013, there were 37 construction inspections and 13 enforcement actions.
- In 2012, there were 29 construction inspections and 21 enforcement actions.
- In 2011, there were 44 construction inspections, and 0 enforcement actions.
- In 2010, there were 54 construction inspections and 16 enforcement actions.
- In 2009, there were 52 construction inspections and 20 enforcement actions.

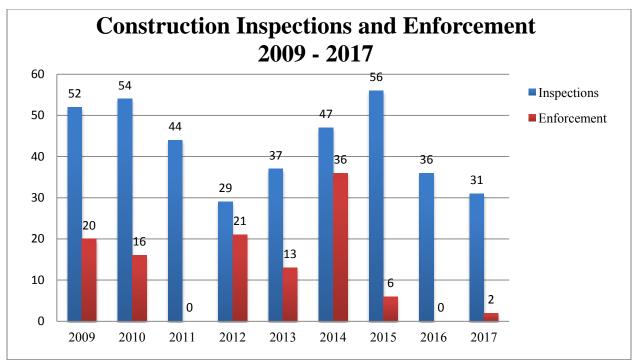


Figure 6. Construction Inspections and Enforcement from 2009 - 2017

4.7 POST-CONSTRUCTION STORMWATER MANAGEMENT

Table 17 shows all new development or redevelopment projects had adequate regulations for post-construction stormwater control; thus, there were no new permanent BMPs installed. Nine site inspections were completed to review proper PBMP operations. PBMP maintenance is required through lease agreements, due diligence, property covenants, and right of way/easements, etc., for Harbors tenants.

Table 17. Post-Construction Stormwater Management		
Description	Response	
Estimated percentage of new development/redevelopment projects adequately regulated	100 %	
for post-construction stormwater control		
Number of new permanent BMPs		
Site inspections (for proper BMP operation) completed		
BMP maintenance required through lease agreements, due diligence and property		
covenants, right of way/easements, etc.		
Note: Data is from the 2017 calendar year.		
Note. Data is from the 2017 calendar year.		

4.8 OPERATIONS AND MAINTENANCE

Debris removal reached a total of 1,010 tons in 2017; this was less debris than the amount removed during the two previous years. The storm drain cleaning generated four tons of waste in 2017, which was significantly less than previous years. The amount of metal recycled was less than half of what was recycled within the previous year. Green waste removed was similar to

2016. Through inspections and trainings, the amount of debris entering the Harbors small MS4 has continued to decrease. Harbors employees and tenants have demonstrated their commitment in preventing pollution through implementation and maintenance of proper BMPs. Volunteer activities also played a key role in keeping the harbor water clean and preventing pollution.

Table 18. Operations and Maintenance		
Description	Response	
Average frequency of catch basin cleaning	2 times/year	
Number of storm drain cleanings	120	
Quantity of screenings/debris removed from storm sewer infrastructure	4 tons	
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.)	PVT Landfill	
 Vacuum truck(s) owned/leased by Harbors 	1	
Vacuum trucks specified in contracts	No	
% Structures cleaned with vacuum	36 %	
% Structures cleaned with manual labor	64 %	
Rotary brush street sweepers owned/leased	4	
Vacuum street sweepers owned/leased	0	
Vacuum street sweepers specified in contracts	No	
Average frequency of street sweeping	2 times/week	
Quantity of sand/debris collected by sweeping	153.75 tons	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	Landfill	
Green Waste	36.74 tons	
Refuse	748.3 tons	
Used Batteries	23	
Electronic Waste	0 tons	
Note: Data is from the 2017 calendar year.		

Figure 7 shows the level of debris and waste removed due to MS4 maintenance actions over the last nine years.

- In 2017, Harbors removed 36.74 tons of green waste, 748.30 tons of refuse, 23 tons of sweeper waste, 15.80 tons of recycled material, 15 tons of recycled metal, and 4 tons of storm drain waste.
- In 2016, Harbors removed 50.66 tons of green waste, 845.33 tons of refuse, 23.11 tons of sweeper waste, 49.66 tons of recycled metal, and 12 tons of storm drain waste.
- In 2015, Harbors removed 33 tons of green waste, 802 tons of refuse, 121 tons of sweeper waste, 103 tons of recycled metal, and 121 tons of storm drain waste.
- In 2014, Harbors removed 36.09 tons of green waste, 1,293.12 tons of refuse, 134.81 tons of sweeper waste, 0 tons of recycled metal, and 20.45 tons of storm drain waste.
- In 2013, Harbors removed 10.24 tons of green waste, 701 tons of refuse, 185.35 tons of sweeper waste, 21.25 tons of recycled metal, and 0 tons of storm drain waste.
- In 2012, Harbors removed 0 tons of green waste, 431 tons of refuse, 377.57 tons of sweeper waste, 13.12 tons of recycled metal, and 0 tons of storm drain waste.
- In 2011, Harbors removed 9.48 tons of green waste, 364 tons of refuse, 201.76 tons of sweeper waste, 18.9 tons of recycled metal, and 0 tons of storm drain waste.
- In 2010, Harbors removed 7.13 tons of green waste, 110.81 tons of refuse, 215.22 tons of

- sweeper waste, 15.92 tons of recycled metal, and 0 tons of storm drain waste.
- In 2009, Harbors removed 13.17 tons of green waste, 175.37 tons of refuse, 246 tons of sweeper waste, 25.74 tons of recycled metal, and 0 tons of storm drain waste.

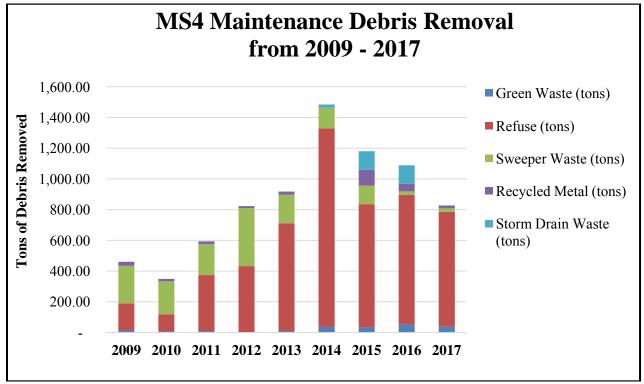


Figure 7. MS4 Maintenance and Debris Removal from 2009- 2017

ATTACHMENTS

The information collected and analyzed for this report are contained in the following attachments at the end of this document, and are supplied on the CD. For convenience, they are organized by programs.

Public Education, Outreach, and Involvement

- Attachment 1. Newspaper Advertisement Describing Harbors Pollution Prevention Efforts
- Attachment 2. DOT Harbors Division 2018 Poster Calendar
- Attachment 3. Volunteer Information and Waste Removal Statistics
- Attachment 4. Outreach Handouts
 - a. Household Brochure
 - b. Mosquito and Pet Care
 - c. Construction Brochure
 - d. Post-Construction Brochure

Training

Attachment 5. Tenant Training

- a. Training Notice Letter with BMP Sheets and Questionnaire
- b. Presentation Slides
- c. Sign-In Sheets
- d. Tenant Environmental Manager of the Year (TEMY) Awards
- e. Training Feedback Summary and Completed Surveys
- f. Questionnaires Results Summary and Completed Questionnaires

Attachment 6. Construction and Post Construction Training

- a. Presentation Slides
- b. Sign-In Sheets
- c. Completed Surveys

Attachment 7. Harbors Employee Survey and Results Summary

Attachment 8. IDDE Training

- a. Presentation Slides
- b. Sign-In Sheets
- c. Completed Questionnaires

Attachment 9. Inspector Training

- a. Tenant Inspection Manual (TIM) Presentation Slides
- b. Sign-In Sheets
- c. Completed Questionnaires

Illicit Discharge Detection and Elimination

Attachment 10. Tenant Inventory, Risk Rank and Inspection Summary

Attachment 11. Outfall Reconnaissance Inventory (ORI)

- a. ORI Inspection Form
- b. 2017 ORI Wet Weather Report
- c. 2017 ORI Dry Weather Report
- d. 2017 Outfall Prioritization Reports

Attachment 12. SSS O&M Manual

- Attachment 13. Audit Work Plan
 - a. Audit Work Plan
 - b. Audit Work Plan Charts
- Attachment 14. Illicit Discharge Investigations Misc.
- Attachment 15. Tenant Illicit Discharge Investigations

Construction / Post-Construction

- Attachment 16. Construction Project Inventory and Inspection Summary
- Attachment 17. Reviewed HDOT Harbors Division Projects
- Attachment 18. Reviewed Tenant Projects
- Attachment 19. Post-Construction BMP Plan Checklist

Miscellaneous Information

- Attachment 20. Kalaeloa Barbers Point Harbor Stockpile Inspection Report
- Attachment 21. MS4 and Permanent BMP Inspection Log
- Attachment 22. Street Sweeper Log
- Attachment 23. Retrofit Feasibility Study
 - a. POA&M for Post Construction BMP Retrofits
 - b. Retrofit Feasibility Study
- Attachment 24. Photographic Documentation
- Attachment 25. PEAR 1 Draft Report for Honolulu Harbor and Kalaeloa Barbers Point Harbor
- Attachment 26. PEAR 1 Final Report for Honolulu Harbor and Kalaeloa Barbers Point Harbor

Attachment 1 Newspaper Advertisement Describing HDOT Harbors Pollution Prevention Efforts

Attachment 1. Newspaper Advertisement Describing Harbors Pollution Prevention Efforts

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Attachment 2 HDOT Harbors Division 2018 Poster Calendar

Attachment 2.
DOT Harbors Division 2018 Poster Calendar

2018

Malama i ke kai – Protect our Harbor Waters

DOT Harbors Division

Harbors Stormwater Hotline: (808) 587-1962 http://hidot.hawaii.gov/harbors/library/storm-water-management/

25 Christmas Day / 31 New Year's Eve.

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Proactive Ways to Improve General Housekeeping



Remove sediment and litter regularly. Keep trash bin closed when not in use.



Clear-up oil stains immediately.
Inspect and maintain equipment regularly.
Place drip pan or other absorbent
material beneath off-containing equipment
when not in use.



Place tarp (drop cloth) or other containment device underneath all painting, grinding, and chipping activities.



Store all used batteries under cover and on secondary containment



Properly label/mark all containers.
Store containers of 55-gallon or more under cover and within secondary containment.

Attachment 3 Volunteer Information and Waste Removal Statistics

Attachment 3. Volunteer Information and Waste Removal Statistics

Zhang, Ying J

From: Yim, Spencer K

Sent: Thursday, June 01, 2017 4:40 PM

To: Wurlitzer, Dane

Cc: Chun, Calvert JT; Leong, Eric; Chee, Howard P; Zhang, Ying J; Freitas, Michele GN; Luke, Carter;

Fernandez, Anna I

Subject: FW: Hawaiian Cement Adopted Harbor

Attachments: IMG_26671.jpg; IMG_27221.jpg; Tally Sheets 5-23-2017 808 Basketball Club.pdf; IMG_26381.jpg

BRAVO ZULU! (WELL DONE in Navy lingo), Dane! Please keep me posted on your volunteer events as I do plan on joining your cleanup team(s) when I can. Mahalo, Spencer

Spencer K. Yim, P.E. Environmental Section Head Engineering Branch State of Hawaii, Dept. of Transportation, Harbors Division Hale Awa Ku Moku Building 79 South Nimitz Highway Honolulu, HI 96813-4898

Phone: (808) 587-1963; Fax: (808) 587-1864

E-mail: spencer.k.yim@hawaii.gov

"Mālama i ke kai" - Protect Our Harbor Waters

From: Wurlitzer, Dane [mailto:Dane.Wurlitzer@hawaiiancement.com]

Sent: Thursday, June 01, 2017 3:59 PM

To: wikoliana@gmail.com; Yim, Spencer K <spencer.k.yim@hawaii.gov>

Subject: Hawaiian Cement Adopted Harbor

Hawaiian Cement sponsored 808 Basketball Club for a clean-up event May 23. Shawn Feary from Hawaiian Cement was the leader and did a great job as evidenced by the attached pictures and tally sheets. Once again the people involved were moved by the amount of rubbish collected and pride they felt in contributing to a good cause.

Dane Wurlitzer Hawaiian Cement (808)532-3407 Cheets #1 + #2+ Solunteer Information and Waste Removal Statistics CTRALL CLUB

LED BY SHAWN FIRST

OF HAWAIIAN CEMENT

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Attachment 3. With Volunteer Information and Waste Removal Statistics



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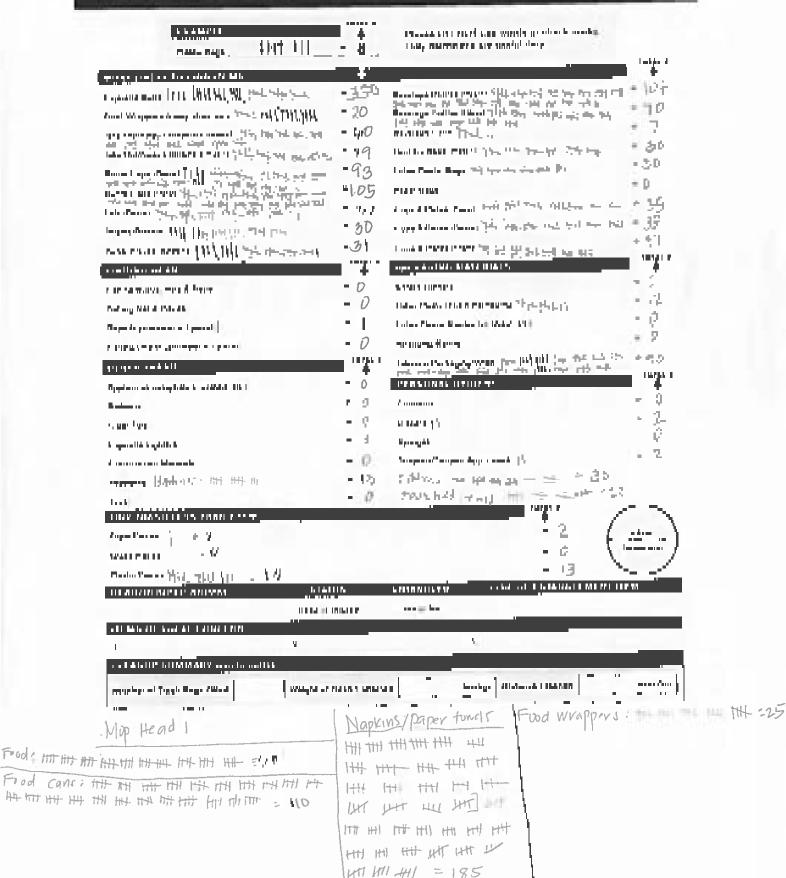
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Citizen scientist: Pick up all trash and record all items you find below. No matter how small the items, the data you collect are important for Trash Free Seas.



Attachment 3. Volunteer Information and Waste Removal Statistics





Attachment 3.

Volunteer Information and Waste Removal Statistics

05.27.2017 808 Basketball Club

Adopt-A-Harbor Barbers Point

Categorized Items	Land	Underwater	Watercraft	Total Items	Percentage of Total
Most Likely To Find Items					
Cigarette Butts	1145	0	0	1145	46.66%
Food Wrappers (candy, chips, etc.)	52	0	0	52	2.12%
Take Out/Away Containers (Plastic)	84	0	0	84	3.42%
Take Out/Away Containers (Foam)	44	0	0	44	1.79%
Bottle Caps (Plastic)	141	0	0	141	5.75%
Bottle Caps (Metal)	156	0	0	156	6.36%
Lids (Plastic)	41	0	0	41	1.67%
Straws, Stirrers	59	0	0	59	2.40%
Forks, Knives, Spoons	62	0	0	62	2.53%
Beverage Bottles (Plastic)	164	0	0	164	6.68%
Beverage Bottles (Glass)	138	0	0	138	5.62%
Beverage Cans	46	0	0	46	1.87%
Grocery Bags (Plastic)	50	0	0	50	2.04%
Other Plastic Bags	76	0	0	76	3.10%
Paper Bags	20	0	0	20	0.81%
Cups & Plates (Paper)	57	0	0	57	2.32%
Cups & Plates (Plastic)	62	0	0	62	2.53%
Cups & Plates (Foam)	57	0	0	57	2.32%
Category Totals	2454	0	0	2454	100.00%
Fishing Gear	2737		0	2737	100.00 /0
Fishing Buoys, Pots & Traps	0	0	0	0	0.15%
Fishing Net & Pieces	0	0	0	0	0.00%
Rope (1 yard/meter = 1 piece)	1	0	0	1	0.54%
Fishing Line (1 yard/meter = 1 piece	2	0	0	2	3.00%
Category Totals	3	0	0	3	3.69%
Packaging Materials			<u> </u>		0.0070
6-Pack Holders	1	0	0	1	0.04%
Other Plastic/Foam Packaging	20	0	0	20	0.00%
Other Plastic Bottles (oil, bleach, etc	3	0	0	3	0.04%
Strapping Bands	24	0	0	24	0.65%
Tobacco Packaging/Wrap	127	0	0	127	1.11%
Category Totals	175	0	0	175	1.84%
Other Trash					110 170
Appliances (refigerators, washers, e	3	0	0	3	0.00%
Balloons	5	0	0	5	0.04%
Cigar Tips	4	0	0	4	7.68%
Cigarette Lighters	5	0	0	5	0.08%
Construction Materials	1	0	0	1	2.30%
Fireworks	0	0	0	0	0.00%
Tires	0	0	0	0	0.00%
Category Totals	18	0	0	18	10.10%
Personal Hygiene					1011070
Condoms	0	0	0	0	0.04%
Diapers	2	0	0	2	0.12%
Syringes	1	0	0	1	0.00%
Tampons/Tampon Applicators	2	0	0	2	0.00%
Category Totals	5	0	0	5	0.15%
TOTAL	2604	0	0	2604	100.00 %
REPORT ADDENDUM					
Tiny Trash Less Than 2.5cm					
,					

Attachment 3.

Volunteer Information and Waste Removal Statistics

05.27.2017 808 Basketball Club

Adopt-A-Harbor Barbers Point

Foam Pieces		40	0	0	40	0.3125
Glass Pieces		23	0	0	23	0.1796875
Plastic Pieces		65	0	0	65	0.5078125
	Category Totals	128	0	0	128	100.00%

Attachment 4 Outreach Handouts

Attachment 4a. Outreach Handouts: Household Brochure

PROTECT OUR WATER

HOUSEHOLD GUIDE TO PREVENTING STORM WATER POLLUTION



Did you know that storm drains lead directly to the ocean?

That's right! Unlike a sanitary sewer system, anything that goes into a storm drain will end up in the ocean without any treatment. Storm drain contamination is one of the major causes of pollution in our streams, harbors, and other waterways. This is why it is important for **everyone** to be aware of the dangers of pollutants entering the storm drains and to do their part to prevent pollution.

I don't dump anything into storm drains so I'm okay, right?

Not necessarily. When it rains, the water that goes down the storm drain is called storm water runoff. Storm water runoff itself does not usually harm the environment. However, the routes storm water runoff flow through (such as driveways, sidewalks, streets, construction sites, and even rooftops) may contain accumulated pollutants. Typical pollutants include litter, motor oil, yard clippings, animal wastes, soapy wash water, fertilizers and pesticides, and eroded sediment from construction sites. The storm water runoff carries these pollutants off your property and flows into our storm drains where they pollute our streams and the ocean.

Then why do we have storm drains?

Well, when it rains, water seeps into the ground, adding to Oahu's water supply. At times, it rains so much that the ground cannot absorb it all (like a kitchen sponge that is filled to its capacity). Storm water runoff occurs when excess rainwater flows over the ground surface until it finds its way to the ocean through the storm drain system, which helps convey runoff to a channel, stream, harbor, or other waterway. This prevents flooding of personal property and/or damages to public infrastructure, including roads.

So how can I help?

This brochure includes some helpful tips you can use to ${\bf prevent\ storm\ water\ pollution.}$



Help protect the marine life and coastal ecosystems of Hawaii!

PROTECT OUR WATER:

HOW CAN I HELP?



IN THE GARAGE

- Avoid power washing your garage, driveway, and carport floor. When cleaning oil and gunk off the floor, mop or wipe it up using a degreaser and rags. Dispose of used rags in the trash bin.
- Do not dump automotive fluids (e.g., antifreeze, brake fluid, used motor oil) into storm drains or let them run down the street where the rain could carry them into the storm drain. Doing this would have the same result as dumping the pollutants directly into our ocean!

AROUND THE HOUSE

- Properly dispose of household chemicals, such as insecticides, pesticides, weed killers, cleaners, paints, solvents, used motor oil and other auto fluids.
 Don't pour them on the ground, into roadway gutters, or into storm drains.
- Check with your local city and/or county for advice on how to dispose of unwanted household chemicals. All counties host household hazardous waste drop-offs.

IN THE GARDEN

- Fertilizers and grass clippings can cause algae to overgrow, which depletes
 oxygen in the water. This harms fish, coral, and stream life because they
 cannot survive in water with low oxygen levels.
- Use pesticides, herbicides, and fertilizers only as needed and never apply them during windy or rainy weather conditions. This will save you money and help reduce pollutants from washing down the storm drain.
- After mowing your lawn, rake up the grass clippings and throw them in the green waste bin to prevent rain from carrying them into the storm drain.

HOME IMPROVEMENTS

- If possible, work with your contractor to reduce the amount of soil excavated. It will save you money and minimize sediment generated.
- If you decide to do-it-yourself rather than hire a contractor, educate yourself
 on the types of permits that are required. Install perimeter best management
 practices to prevent pollutants from discharging off of your property.

PET CARE

- Always remember to pick up after your pet.
- Use litter made of recycled wood shavings or paper to absorb pet waste.
- Use non-toxic and biodegradable pet shampoos to bathe your pet and drain wash water to the sanitary sewer, or wash your pet on the lawn.

For more information, please visit DOT Harbors Division storm water management program at:

http://hidot.hawaii.gov/harbors/library/storm-water-management/.

PROTECT OUR WATER

A LANDSCAPING/GARDENING GUIDE TO PREVENT STORM WATER POLLUTION



Did you know that storm drains lead directly to the ocean?

That's right! Unlike a sanitary sewer system, anything that goes into a storm drain will end up in the ocean without any treatment. Storm drain contamination is one of the major causes of pollution in our streams, harbors, and other waterways. This is why it is important for **everyone** to be aware of the dangers of pollutants entering the storm drains and to do their part to prevent pollution.

Gardening can have an impact on water pollution.

When you use chemicals on your lawn and your plants, rain can wash it into the storm drain. You may not use a lot of chemicals, but 500,000 residents fertilizing their lawn on Saturday can cause a problem when it rains on Sunday morning. Since storm drains lead directly into the ocean, the chemicals that we use on our lawn can end up polluting our ocean.

What are the harmful effects of using lawn and garden chemicals?

Overuse of pesticides, herbicides, and fertilizers can potentially affect our drinking water supplies. Storm water runoff containing these chemicals can enter into surface water bodies and change the natural ecosystem by killing or damaging a wide variety of organisms, or by increasing plant and microbial growth. The chemicals can collect and accumulate in the food chain, becoming more concentrated the further up the food chain they move.

So how can I help?

Follow the helpful tips found in this brochure to **prevent storm water pollution**.



PROTECT OUR WATER: **HOW CAN I HELP?**



LANDSCAPING TIPS

- Use pesticides, herbicides, and fertilizers only as needed and follow the manufacturer's instructions. This will save you money and help reduce the amount of chemicals that could potentially be washed down the storm drain.
- After mowing your lawn, rake up the grass clippings and throw them in the
 green waste bin so the rain does not carry them into the storm drain.
 Fertilizers and grass clippings can cause algae to overgrow, which depletes
 oxygen in the water. This harms fish, coral, and stream life because they
 cannot survive in water with low levels of oxygen.
- Use rain barrels to collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas. This will also help retain rainwater on-site for infiltration and therefore minimize rupoff
- When you're designing your garden, try to use native plants which require less water usage and lower maintenance. In addition, rainwater from the rooftop or paved areas can be diverted into these areas to help minimize runoff.
- Use native grass or plants along the edge of roadways or streams. When it
 rains, these plants work well to trap any excess chemicals or dirt in the
 rainwater as it flows across driveways and streets, ensuring that less of these
 harmful substances flow into drains.

GARDEN AND LAWN MAINTENANCE TIPS

- Leave all landscaping waste in approved green waste containers for pick-up and composting.
- Avoid over-fertilizing, especially near storm drain inlets or paved areas.

For more information, please visit DOT Harbors Division storm water management program online at:

http://hidot.hawaii.gov/harbors/library/storm-water-management/.





PROTECT OUR WATER

A RESIDENT'S GUIDE TO HOUSEHOLD HAZARDOUS WASTE



What Is Household Hazardous Waste?

Some jobs at your home may require the use of products containing hazardous components. Household Hazardous Waste is the discarded, unused, or leftover portion of these products. These wastes CANNOT be disposed of as regular garbage. Any product which is labeled POISONOUS, TOXIC, FLAMMABLE, CORROSIVE, REACTIVE, or EXPLOSIVE should be considered hazardous.

The following is a list of potential household hazardous wastes:

• Automotive Items

Antifreeze Car wax / polish
Brake & transmission fluid Gasoline & other fuel
Corrosion and rust inhibitors Automotive batteries

Household Items

Cosmetics

Wood preservatives

Household batteries

Latex & oil based paints

Stains

Drain cleaners

Household polishes and cleaners

Floor wax

Nail polish and removers

Paint thinners & strippers

Solvents

Photochemicals

Ammonia based cleaners

Oven cleaners

Deodorizers

Aerosol sprays

Household polishes and cleaners
Floor wax
Aerosol sprays
Insect repellants
Mothballs
Rat poisons
Adhesives
Florescent light bulbs
Broken thermometers

In Your Backyard

Insect Spray Weed killers Swimming pool chemicals Pesticides Fertilizers Fungicides

Oh no! What are the dangers of improper disposal?

Household hazardous wastes are sometimes disposed of improperly by individuals pouring wastes down the drain, on the ground, into storm drains, or putting them out with the trash. The dangers of such disposal methods may not be immediately obvious, but certain types of household hazardous waste have the potential to:

- Pollute water bodies when they enter storm drains that eventually empty into the ocean;
- Contaminate groundwater, our source of drinking water;
- Cause physical injury to sanitation workers and contaminate septic tanks or wastewater treatment systems if poured down drains or toilets; and
- Present hazards to children and pets if left around the house.

PROTECT OUR WATER:

HOW CAN I HELP?



What can I do to reduce household hazardous waste risks?

Here are some tips for safe storage, handling, and disposal:

- When possible, buy products with less harmful ingredients or buy nonhazardous alternatives that do the same job.
- If you need to use products with hazardous components, buy and use only the amount needed.
- Reuse the products by donating unused portions to relatives, friends, or community organizations.
- Recycle leftover household hazards that are recyclable and dispose of the
 others safely by participating in a local household hazardous waste collection
 program. Certain household hazards, such as used automobile batteries and
 oil, are accepted by auto-part stores and service stations.
- Never leave household hazards within reach of children or pets to prevent accidental ingestion.
- Never store hazardous products in food containers. Keep them in their original containers and never remove labels.
- Never mix hazards with other products. This may cause a chemical reaction or even an explosion!
- To prevent accidents at home, always follow instructions for use and storage as provided on the product's label.
- Remember, even empty containers of household hazards can be hazardous due to product residual.

Where can I get more information?

The City and County of Honolulu has a program that can help dispose of household hazardous waste. Contact them at 768-3201 or visit their website at http://www.opala.org/solid_waste/Household_Hazardous_Waste.html to find out how to dispose of household hazards. Information for each county is listed below:

Oahu - http://www.opala.org/

 $\pmb{Maui} \text{ - http://www.mauicounty.gov/index.aspx?NID=771}$

Hawaii - http://www.recyclehawaii.org/household-hazardous-waste.html

Kauai - http://www.kauai.gov/hhw

For more information, please visit DOT Harbors Division storm water management program online at:

http://hidot.hawaii.gov/harbors/library/storm-water-management/.





Attachment 4b. **Outreach Handouts: Mosquito and Pet Care**



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS DIVISION

POLLUTION PREVENTION TIPS - FACT SHEET NO. 2

MOSQUITO CONTROL

Few animals on Earth evoke the antipathy that mosquitoes do. Beyond the itchy & irritating bites, they are carriers or vectors of numerous diseases (e.g., yellow fever, encephalitis, West Nile virus, denque fever, Zika virus) and one of humanity's most deadly illnesses, malaria. Here are the 3 D's of protection from mosquitoes.

Drain

All mosquitoes require water in which to breed. Mosquito control begins with eliminating areas of standing water. For examples,

- Dispose of any tires.
- Clear roof gutters of debris.
- Clean pet water dishes regularly.
- Repair leaky outdoor faucets.
- · Avoid collecting water on pool covers.
- Check and empty children's toys.
- Plug tree holes.
- Change the water in bird baths at least once a week.
- Drill holes in the bottom of recycling containers.
- Canoes and other boats should be turned over when stored on land.

Dress

Wear light colored, loose fitting clothing. When practical, wear long sleeves and pants.

Defend

Choose a mosquito repellent that has been registered by the EPA. These products have been reviewed, approved. and pose minimal risk to human safety when used according to label directions. Four repellents that are approved and recommended are:

- DEET (N,N-diethyl-meta-toluamide, active ingredient of OFF!®)
- Icaridin (picaridin, KBR 3023)
- Lemon encalyptus (para-methane-3,8-diol, or PMD)
- IR3535 (ethyl butylacetylaminopropionate)

Read the directions on the label carefully before applying. Avoid applying repellent to children's hands that are likely to contact their eyes or mouth.



For stormwater information, please visit HDOT Harbors stormwater management web site at

http://hidot.hawaii.gov/harbors/library/storm-water-management/

Report a suspected illicit discharge

- Oahu, call Harbor Traffic Control Unit at (808) 587 -2076 (24/7).
- Neighbor Islands, contact your supervisor.
- Further inquiry, call Harbors Stormwater Hotline at (808) 587-1962.

References:

- National Geographic Society, Mosquito.
- The American Mosquito Control Association, Mosquito Prevention Fact Sheet.
- National Pest Management Association, Mosquitoes.



Mālama i ke kai -**Protect our harbor waters**



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS DIVISION

POLLUTION PREVENTION TIPS - FACT SHEET NO. 1

PET CARE

Pet waste can be a significant source of water pollution because it contains nutrients, pathogens, and bacteria. Improperly disposed of and neglected pet waste may be washed into storm drains by rain. High levels of pathogens and bacteria are the primary reason for beach closures in the State of Hawaii.

Always remember to pick up after your pet



- When walking your dog, always carry a pooper scooper or plastic bag to pick up pet waste. Place your hand in the plastic bag, pick up the waste, and then turn the bag inside out, seal and dispose of in a municipal trash bin, or empty the waste from the bag into the toilet and flush it down.
- For cat poop, it is recommended that the waste and litter be sealed in plastic bags and disposed of in the trash.

Greener litter choices



The most commonly used litter is made of clay, which needs to be mined from the earth. So try a greener litter, one made of recycled wood shavings or paper, and see if your cat will take to it.

When washing your pet



- Use non-toxic and biodegradable pet shampoos. Use a wash basin that drains to the sanitary sewer. If you must bathe your pet outside, wash your pet on the lawn instead of on a paved driveway.
- Follow instructions and clean up any spill.

Thank you from all the animals

For more information, please visit HDOT Harbors stormwater management web site at

http://hidot.hawaii.gov/harbors/library/storm-water-management/

Report a suspected illicit discharge

- Call Harbors Stormwater Hotline at (808) 587-1962
- Call Harbor Traffic Control Unit at (808) 587 -2076 (24/7)

References:

- 1. State of Hawaii, City and County of Honolulu Stormwater Pollution Prevention Tips Fact Sheet 5.
- 2. The New York State, Suffolk County Stormwater Management Program.
- Natural Resources Defense Council.



Mālama i ke kai -Protect our harbor waters

Attachment 4c.

Outreach Handouts: Construction Brochure

EXAMPLES OF GOOD BMPS

BMPs should be installed and maintained in accordance with the City and County of Hono-Iulu Storm Water BMP Manual for Construction. Here are examples of good BMPs:



Drain inlet protected.



construction. Stabilizadi trance.



Properly installed silt fence

Properly contained stock-



EXAMPLES OF ILLICIT DISCHARGES



Sediment leached off-site.



Illicit Discharge: Non-stormwater Improper handling of discharge that poses a risk to the environment.

paint products.

Deficiencies are subject to enforcement.



Contact the State of Hawaii Department of Health, Clean Water Branch to see if your project requires an NPDES Permit.

ENVIRONMENTAL COMPLIANCE

Required by your contract or by a tenant revocable permit / lease agreement.

ALL construction projects are REQUIRED to comply with ALL Local, State and Federal ENVIRONMENTAL LAWS. Enforcement for non-compliance may include:

- Oral or Verbal Warning
- Written Warning
- Notice of Violation
- Stop Work Order
- Summons/Citation

TRAINING REQUIREMENTS

Initial and annual refresher construction training are REQUIRED for Harbors Division engineers, inspectors, and design & construction consultants. A training video is posted online at Harbors Storm Water Management website http://hidot.hawaii.gov/harbors/library/stormwater-management/

Qualified Inspectors must receive necessary training and conduct at least three on-the-job inspections.



Mailing Address: Hawaii Dept of Transportation, Harbors Division Hale Awa Ku Moku Building 79 South Nimitz Highway Honolulu, Hawaii 96813-4898

REPORT SUSPECTED ILLICIT DISCHARGES

- Harbors Environmental Hotline: (808) 587-1962
- Harbors Construction Section: (808) 587-1866
- Harbor Traffic Control (24/7): (808) 587-2076
- Hawaii Department of Health, (808) 586-4309 Clean Water Branch:





Construction activities can contribute pollutants (e.g., sediment) and impact the stormwater runoff, eventually discharging into the harbors. All construction projects conducted on Harbors property at Honolulu, Kalaeloa Barbers Point, and Kahului Harbors are subject to the requirements set forth in Harbors Construction Site Runoff Control Program.



Construction is defined as any activity that disturbs land (e.g., clearing, grading, excavating) and construction related activities (e.g., staging areas, stockpiles). The following construction projects can be exempt from the Harbors Construction Site Runoff Control Program:

- Minor land disturbance on a single lot (e.g., landscaping, interior improvement).
- Post, pole, sign, and fencing installation.
- Utility repair work.
- Parking lot and driveway repair.
- Repair and maintenance activities.

HDOT Harbors Construction Site Runoff Control Program Manual is online at

http://hidot.hawaii.gov/harbors/files/2013/01/2014-Construction-Site-Runoff-Control-Program_Final.pdf



PROTECT OUR HARBOR WATERS MĀI AMA I KF KAI



ALL construction projects must be reviewed by HDOT Harbors Division to ensure the following are completed and/or submitted, when applicable.

NOTE: Tenant shall obtain consent from HDOT Harbors Division prior to the beginning of any improvement project.

<u>Pre-Construction Meeting (HDOT Harbors Projects Only)</u>

HDOT Harbors Division Engineering Branch will review the project and proposed Best Management Practices (BMPs) to ensure they are adequate for proposed construction activities.

<u>Discharge/Connection Permit (Tenant Projects</u> Only)

Tenants must complete the Discharge/ Connection Permit application and submit to Harbors Environmental Section for review and evaluation, when applicable.

NPDES Permits

Submit permit application to the State of Hawaii Department of Health per Hawaii Administrative Rules 11-55. Proof of application and permit must be provided to Harbors Engineering Branch.

Construction General Permit

Required for sites disturbing land of one acre or more.

Dewatering Permit

Required for projects dewatering to the storm drain and/or receiving water.

To apply for NPDES permits, please visit https://eha-cloud.doh.hawaii.gov/epermit/

PLAN SUBMITTAL AND REVIEW

The following forms must be submitted for plan review. These forms are available on the HDOT Harbors Division Storm Water Management website in the <u>Construction Site Runoff Control Program Manual</u> and <u>Post-Construction Stormwater Management Manual</u> (http://hidot.hawaii.gov/harbors/library/storm-water-management/).

For Non-Exempt Sites Less Than One Acre:

- Complete Notification Form.
- BMP Plan with narrative of proposed work, site plan, and applicable BMPs.
- Discharge/Connection permit application (tenant projects only).

For Sites Subject to NPDES NOI-C Program:

- Complete Construction Site Design Review Checklist.
- Complete Permanent Post-Construction BMP Plan Checklist.
- Construction Drawings/Plans.
- SWPPP
- Post-Construction Stormwater Mitigation Plan
- Copies of NPDES Permit Applications
- Any Other Applicable Applications (e.g., Section 401 Certification).

HDOT Harbors Division Engineering Branch Environmental Section will review the submittal to ensure the impact of the construction project has been limited to the maximum extent practicable.



Harbors will issue approval to allow the project to proceed once all plan review comments have been addressed. Approval will be contingent upon the installation of BMPs and an initial inspection.

HARBORS INSPECTION

Construction site Best Management Practices must be installed per construction plans or the SWPPP (when applicable). Inspections will be conducted by Environmental Section and/or designated & qualified inspector(s). Results will be recorded on <u>Construction Site Best Management Practices Inspection Checklist</u> and provided to the contractor for correction (if any).

<u>Initial Inspection:</u> To ensure that BMPs have been installed and are adequate. No other construction activities should commence until this inspection is conducted and deficiencies are addressed.

<u>Recurring Inspection:</u> Will be conducted throughout the duration of the construction project to ensure BMPs are maintained. Frequencies are:

- Every two weeks from October to March
- Every two months from April to September

<u>Final Inspection:</u> Will be conducted upon completion of construction activities to ensure the following:

- Disturbed soil has been stabilized.
- Temporary BMPs are removed.
- Permanent BMPs are installed, where applicable.

CONSTRACTOR SELF-INSPECTION

In addition, construction contractor must conduct self-inspections per requirements set forth in HAR 11-55, Appendix C.

Other References:

- CCH Rules Relating to Water Quality & Related Resources at http://www.honoluludpp.org/ApplicationsForms/StormWaterQuality.aspx
- ♦ CCH Storm Water Best Management Practice Manual for Construction (dated November 2011).

Updated on 12/6/2017

Attachment 4d.

Outreach Handouts: Post-Construction Brochure

COMMON POST-CONSTRUCTION BMPs

BMPs should be installed and maintained in accordance with *CCH Storm Water BMP Guide*. Typical post-construction BMPs include the following:



Minimize Impervious



Install Permeable Pavers





Direct Runoff to Landscaped Areas





Store Hazardous Substances Indoors or Under Cover

Cover Fueling Areas



ENVIRONMENTAL COMPLIANCE

Required by your contract or by a tenant revocable permit / lease agreement.

ALL projects are REQUIRED to comply with ALL <u>Lo-cal</u>, <u>State</u> and <u>Federal</u> **ENVIRONMENTAL LAWS**. Enforcement for non-compliance may include:

- Oral or Verbal Warning
- Written Warning
- Notice of Violation
- Stop Work Order
- Summons/Citation



TRAINING REQUIREMENTS

Training is a major component of any successful stormwater program.

HDOT Harbors Division provides annual training session for Designers, Plan Reviewers, Engineers, Inspectors, Construction Managers, Contractors, and Operators involved in the implementation of the Harbors Post-Construction Stormwater Management Program. A training video is online at Harbors Storm Water Management website —

http://hidot.hawaii.gov/harbors/library/storm-water-management/



Mailing Address: Hawaii Dept of Transportation, Harbors Division Hale Awa Ku Moku Building 79 South Nimitz Highway Honolulu, Hawaii 96813-4898

REPORT SUSPECTED ILLICIT DISCHARGES

- Harbors Environmental Hotline: (808) 587-1962
- Harbors Construction Section: (808) 587-1866
- Harbor Traffic Control (24/7): (808) 587-2076
- Hawaii Department of Health,
 Clean Water Branch: (808) 586-4309



At Honolulu, Kalaeloa Barbers Point, and Kahului Harbors, all new and redevelopment projects (resulting in a land disturbance of one acre or more) under HDOT Harbors Division jurisdiction, are subject to the Harbors Post-Construction Stormwater Management Program.



This program complements the *Harbors Construction Site Runoff Control Program*. It is primarily for:

- Harbors Staff tasked with plan review and approval for capital projects and tenant improvement projects.
- Harbors Staff tasked with construction oversight, inspection, and maintenance of postconstruction Best Management Practices [BMPs].
- Harbors tenants who wish to perform new construction, reconstruction, and modification of their premises.
- Development community including engineers and architects tasked with creating/submitting construction plans for approval.

HDOT Harbors <u>Post-Construction Stormwater</u> Management Program Manual is online at

http://hidot.hawaii.gov/harbors/library/storm-watermanagement/



PROTECT OUR HARBOR WATERS MĀLAMA I KE KAI



Urban runoff from a developed site may contain pollutants, such as trash, oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens to the stormwater conveyance system and receiving waters.

New Development is defined as new construction or installation of a building or structure, or the creation of impervious surfaces that disturbs one acre or more, or less than one acre if it is part of a larger common plan of development or sale that disturbs one acre or more.

Redevelopment is development that would create or add an impervious surface area on an already developed site. Redevelopment includes, but is not limited to, any construction project that requires demolition or complete removal of existing structures or impervious surfaces at a site and replacement with new impervious surfaces.

Program Exemptions

HDOT Harbors Division may exempt certain types of projects from this program that pose a minimum risk of stormwater pollution including, but not limited to:

- Maintenance activities such as top-layer grinding, repaving (where all pavement is not removed) and reconfiguring surface parking lots.
- Reroofing.
- Interior remodeling and improvement.
- Routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility.
- Trenching and resurfacing associated with utility References: work.
- Replacement of damaged pavement.
- Emergency construction activities required to immediately protect public health and safety.

GENERAL PROJECT REQUIREMENTS

In Design Phase:

- 1. Incorporate post-construction BMP into project design (Section 2.0* and City and County of Honolulu [CCH] Storm Water BMP Guide).
- 2. Submit Permanent Post-Construction BMP Plan Checklist (Appendix B*).
- 3. Apply for necessary permits (Attachments 1 and 2 of Construction Site Runoff Control Program manual).
- 4. Submit plans including Post-Construction Stormwater Mitigation Plan [PSMP] for review (Section 3.0*)
- Submit O&M Plan, if applicable, for review (Section
- 6. Wait for concurrence and **Notice to Proceed**.

In Construction Phase:

- 1. Install Post-Construction BMP according to approved PSMP.
- 2. Monitor/Inspect installation and inventory (Attachment 4 of Construction Site Runoff Control Program).
- 3. Enforcement if necessary.
- 4. Submit O&M Plan for review (Section 5.1*).

In Post-Construction Phase:

- 1. Conduct long-term O&M of post-construction BMPs, if applicable (Section 5.0*).
- 2. Inspect post-construction BMP regularly (Section 5.3*)
- 3. For Tenant projects, tenant must submit annual O&M and inspection report to Harbors when applicable (Section 5.2*).
- 4. Enforcement if necessary (Section 6.0*).

- ♦ CCH Rules Relating to Water Quality & Related Resources at
- ♦ *HDOT Harbors Division Post-Construction Stormwater Management Program Manual.

BMP REQUIREMENTS & SELECTION

To comply with Harbors small Municipal Separate Storm Sewer System permits and to minimize water quality impacts from new development and redevelopment, all Regulated Projects shall consider and apply post-construction BMPs, as appropriate.



POST-CONSTRUCTION BMPs

Low Impact Development [LID] Site Design Strategies:

 Reduce the hydrologic impacts of development and incorporating techniques that maintain or restore the site's hydrologic and hydraulic functions.

Source Control:

 Prevent pollutants from coming in contact with runoff, and prevent polluted runoff from discharging into stormwater conveyance system and receiving waters.

Treatment Control:

- LID Retention Retain runoff on-site.
- LID Bioinfiltration Remove pollutants from runoff by filtering through vegetation and soils.
- Other Treatment Remove pollutants from runoff by mechanical methods.

Updated on 12/5/2017

Attachment 5 Tenant Training

____Tenant Training: Training Notice Letter with BMP Sheets and Questionnaire

17 Sept. 11 Sept. 15 sept. 15

11A N . [46 38 49 18

STATE OF HAWAR DEPARTMENT OF TRANSPORTATION HARDORS DIV SION 1933 NAME HISTORY HONDOLLAND, HAWA RESTAUSE

July 28, 2017

TO: HARBORS DIVISION TENANTS

FROM: DARRELL T. YOUNG

DEPUTY DIRECTOR

DEPARTMENT OF TRANSPORTATION - HARBORS DIVISION

SUBJECT: 2017 STORMWATER AWARENESS TRAINING FOR HARBORS TENANTS

MAL MA I KI KAI (PROTI CT OUR HARBOR WATERS)

We will be conducting our annual stormwater awareness training again at the <u>Honolulu Harbor Pier 2 Cruise Terminal</u> this year. <u>Two identical training sessions will be held on August 31 and September 21, 2017, both from 9:30 am to 11:30 am</u>. Please send at least one representative from your company to attend one or both training sessions. Check-in starts at about 9:00 am. Parking is available at the Pier 2 Cruise Terminal parking lot at no charge (see attached map)

We have enclosed a questionnaire to assess your knowledge regarding stormwater awareness and pollution prevention. <u>Please complete the questionnaire</u>, and submit it at the training session or mail/email it back to us through one of the following methods:

• Email to <u>ying.j.zhang@hawaii.gov</u>

Tenant Training: Training Notice Letter with BMP Sheets and Questionnaire

385-35 385-3

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Attachment 5A. Tenant Training: Training Notice Letter with BMP Sheets and Questionnaire

2017 HDOT Harbors Division Tenant Stormwater Awareness Training Location Map



Date and Time: August 31 and September 21, 2017 (09:30 am to 11:30 am); Registration starts at 09:00 am. **Location:** Honolulu Harbor Pier 2 Cruise Terminal

(Light refreshments and coffee will be provided.)

Tenant Training: Training Notice, Letter with BMP Sheets and Questionnaire Malama t ke kat - Protect Our Harbor Waters

2017 HDOT Harbors Tenant Training Questionnaire



Name:	Company:	Date:

- 1. What is the definition of an illicit discharge?
 - a. Condensate from AC system
 - b. Purchase using a stolen credit card
 - c. A non-stormwater discharge that poses a risk to the environment
 - d. None of the above
- 2. Which of the following are not permitted to be discharged into the storm drain?
 - a. Polluted AC condensate water
 - b. Fish entrails, wash water, and spilled chemicals
 - c. Petroleum and paint products
 - d. All of the above
- 3. What is required when an illicit discharge is suspected at your harbor?
 - a. If on Oahu, call Harbor Traffic Control Unit at (808) 587-2076.
 - b. Call Harbors Environmental Hotline at (808) 587-1962.
 - c. None of your business.
 - d. a or b

- 4. The picture below is a good example of Best Management Practice (BMP) because:
 - a. Diesel is not a pollutant.
 - b. Tanks are properly labeled and equipped with secondary containment.
 - c. They are stored under cover.
 - d. b and c.



- 5. True or False? In State of Hawaii, anything that goes into a regular storm drain inlet will end up in the ocean with treatment.
 - a. True
 - b. False
- True or False? Any product labeled POISONOUS, TOXIC, FLAMMABLE, CORROSIVE, REACTIVE, or EXPLOSIVE should be considered hazardous.
 - c. True
 - d. False
- 7. Which of the following are good examples of BMPs?
 - a. Maintain equipment regularly
 - b. Promptly responding to a spill or leak
 - c. Using a drip pan underneath an oilcontaining equipment
 - d. All of the above
- 8. True or False? Storm drain inlet (in maintenance area) fitted with hydrocarbon boom is considered a good post-construction BMP.
 - a. True
 - b. False
- 9. If construction activities are planned, what is required on the tenant side?
 - a. Obtain consent from HDOT Harbors Division during the design phase.
 - b. Obtain permits from relevant agencies prior to the start of construction.
 - c. Follow the requirements of the Harbors Construction Site Runoff Control Manual.
 - d All of the above
- 10. True or False? An environmental violation may lead to criminal penalties.
 - a. True.
 - b. False.

Please provide your comments here:

HDOT-Harbors 2017 Tenant Stormwater Awareness Training

MĀLAMA I KE KAI Protect our Harbor Waters

Tenant Training: Presentation Slides

Agenda

- 1. Admin Remarks
 - Spencer Yim, Environmental Section Head
- 2. Welcome Address
 - Darrell Young, Deputy Director, DOT Harbors Division
- 3. TEMY Award Presentations
- 4. DOT Compliance Audit
- 5. Stormwater Awareness Training Presentation 1
 - Daniel Amato, EnviroServices
 - Bobbie Teixeira, DOH Clean Water Branch
- 6. 10 min Break
- 7. Stormwater Awareness Training Presentation 2
 - Daniel Amato, EnviroServices
 - Rafael Bergstrom, SurfRider Foundation
- 8. Training Questionnaire and Evaluation



Tenant Training: Presentation Slides

Runners Up

Tenant Environmental Manager of the Year



Atlantis Adventures, LLC

Mr. Dane R. Wurlitzer

Hawaiian Cement

Ms. AK Colburn

Hawai'i Gas

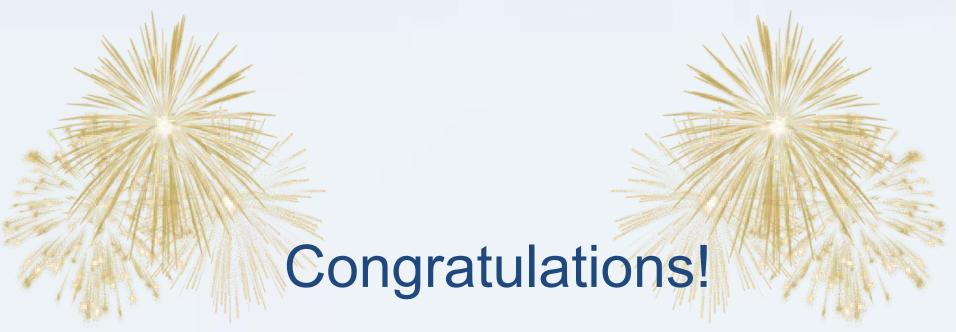
Mr. Stephen Hinton

Marisco, Ltd.



Tenant Training: Presentation Slides

2017 Tenant Environmental Manager of the Year



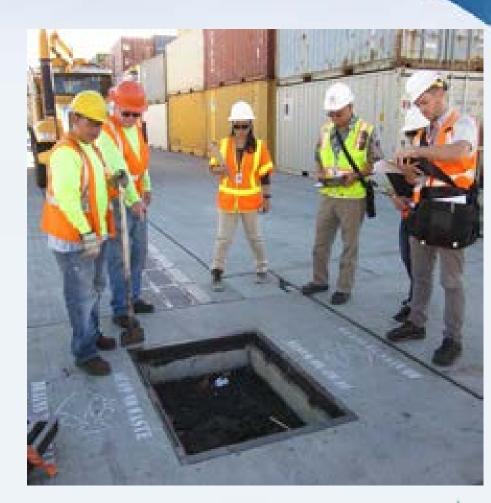
Ms. Sara Daniels Asphalt Hawaii

HDOT MS4 Audit Tenant Training: Presentation Slides

 Required by 2014 **Consent Decree**

Covers Harbors, Airports, Highways

ENV Consultant: Kennedy/Jenks Consultants



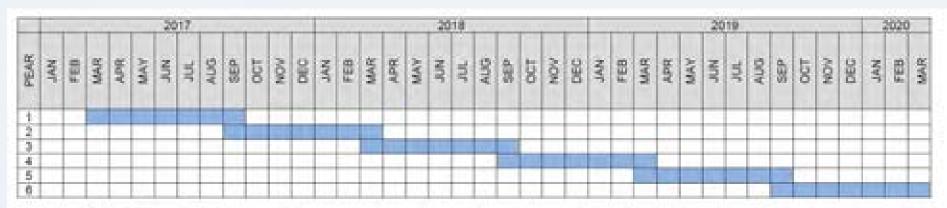


Tenant Training: Presentation Slides

Audit Schedule

Program Element Audit Reports (PEARs)

- 1. Post-Construction / Permanent Best Management Practices
- 2. Construction Site Runoff Control
- 3. Public Outreach / Public Involvement
- 4. Illicit Discharge Detection and Elimination (IDDE) Program Element and Industrial Commercial Activities/Tenant (I/C) Program
- 5. Pollution Prevention / Good Housekeeping Program
- 6. Staffing, Funding, Organizational Structure, Availability of Resources, and Storm Water Program Sustainability





Audit Workflow

Pre-Audit

Onsite Evaluation

Reporting

Notice of Audit

Pre-Onsite Call

Completion of Draft PEAR

Records Request

Onsite Evaluation

HDOT Review

Records Review

Post-Onsite Review Period

Completion of Final PEAR



Tenant Training: Presentation Slides

Harbors Findings from PEAR 1

- Harbors Division should consider creating custom operation and maintenance (O&M) plans that are unique to each PBMP
- Need to address maintenance issues at Pier 31





Tenant Training: Presentation Slides

Harbors Findings from PEAR 1

Ensure that sediment wash water does not enter the harbor during trench drain wash down operations.



Tenant Training: Presentation Slides

Training Outline

Stormwater Awareness Training Presentation 1

- 1. The Storm Drain System
- 2. Pollutants of Concern
- 3. Short Film Why is Zinc a Problem in Stormwater?
- 4. Industrial Stormwater Monitoring and Sampling

10 minute Break



Tenant Training: Presentation Slides

Training Outline

Stormwater Awareness Training Presentation 2

- 1. Permits and Requirements
- 2. Inspection Survival Guide
- 3. Illicit Discharge
- 4. Spill Response
- 5. Construction Program and PBMPs
- 6. Resources and Contacts
- 7. Short Film Lets Grow the Movement!
- 8. SurfRider Foundation
- Training Questionnaire and Evaluation (necessary to get credit for class)



Environmental Goals Tenant Training: Presentation Slides



Clean Water

Healthy Reefs

Sustainable **Environment**



Tenant Training: Presentation Slides

Storm Drain System





Designed to carry untreated stormwater directly into the Harbor



Stormwater Pollution

- Considered a non-point source pollution
 - Much greater quantities than point sources

- Stormwater Pollutants
 - Any type of material or waste that degrades water quality, public health, the environment or the beneficial uses of receiving waters.



Pollutants of Concern

3 Categories: Physical, Chemical, and Biological

- Physical Pollutants
 - Sediment
 - Sources: Construction Sites, Erosion, Urban Areas,
 Container Yards & Agricultural Practices
 - Negative Impacts:
 - Reduce light transmission
 - Smother habitat
 - Impair recreational use of water bodies
 - transport other pollutants



Physical Pollutants

- Gross Solids (Garbage, Trash, Plastics, etc.)
 - Source: Human activities
 - Impacts: Threat to aquatic life; impair recreational uses, expensive to clean up





Chemical Pollutants

Nutrients (Nitrogen & Phosphorus)

- Sources: Fertilizers, Animals, Atmosphere, Sewage
- Nitrogen forms: Ammonia, Nitrate/Nitrite, TKN
- Phosphorus forms: Orthophosphates, Total P
- Impacts: Algae blooms, Coral Disease, Blue Baby
 Syndrome





Tenant Training: Presentation Slides

Chemical Pollutants

Metals

- Sources: streets & highways, buildings, materials, industrial activities, atmospheric deposition
- Impacts: toxic to aquatic life, bioaccumulation, threat to human health
- Forms of Metal Pollutants (Can be dissolved or solid)
 - Copper
 - Zinc
 - Lead
 - Chromium
 - Cadmium
 - Iron
 - Aluminum
 - Others



Chemical Pollutants (Continuea)

- Hydrocarbons
- Forms of Hydrocarbons
 - Oil and Grease
 - Fuels
 - Hydraulic Fluids



- Streets, highways, container yards
- Fueling sites, emissions
- Illegal dumping
- Leakages (vehicles & equipment)







Chemical Pollutants (Continued

Organic Compounds

- Paints & paint thinners
- Solvents
- Degreasing agents
- Curing agents
- Sealing compounds
- PCBs (polychlorinated biphenyls)



Sources: Construction sites, industrial & maintenance facilities, illicit discharges, poor storage & handling of materials



Tenant Training: Presentation Slides

Chemical Pollutants (Continued

Pesticides

- Herbicides
- Rodenticides
- Insecticides

Sources:

- Agriculture
- Urban landscaping

All have potential Impacts:

- Threat to aquatic life
- Bioaccumulation
- Human health risk





Biological Pollutants

- Bacteria and Viruses: E. coli, Fecal coli, etc.
- Sources:
 - Leaking septic/sewer systems (sewage)
 - Illicit connections
 - Animal wastes

Impacts:

- Human health risk of diseases
- Threat to aquatic life





Tenant Training: Presentation Slides

Secondary Pollutant Forms

Oxygen Demand, pH, Algae, Chlorophyll

Oxygen Demand Sources:

- Sediment, nutrients,
- organics and other pollutants
 as particles and soluble phases

(e.g., molasses & fire fighting foam)



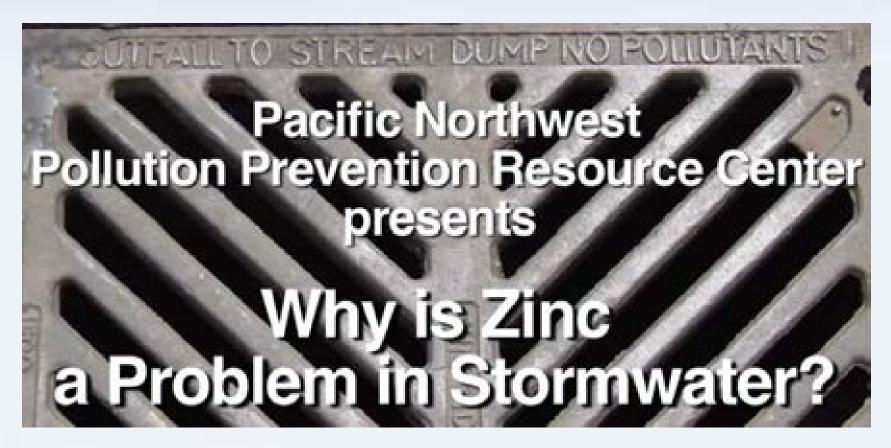
- Reduced Dissolved Oxygen levels harm aquatic life
- Fish kills





Tenant Training: Presentation Slides

Short Film (6 min)



http://portofpt.com/preventing-zinc-pollution-in-stormwater/



Industrial Storm Water Monitoring & Sampling

BOBBIE TEIXEIRA

AUGUST 31, 2017

- NPDES Overview and Sampling Purpose
- Sample Collection
- Preparations
- Sampling Methods
- Reporting Procedures

HAR, Chapter 11-55, Appendix B

Industrial Activities/Industries Which Require Storm Water Permits

- Facilities subject to EPA's National Effluent Guidelines
- Manufacturing facilities
- Mining and Oil and Gas operations
- Hazardous waste treatment, storage, or disposal facilities
- Landfills
- Recycling facilities
- Steam electric power generating facilities
- Transportation facilities
- Sewage treatment plant
- Construction activities 1 acre or more
- Industrial Facilities where pollutants are exposed to storm water



CHAPTER 53-55 APPENDEX B

NFDES GENERAL PERHIT AUTHORIZING DISCHARGES OF STORM NATER ASSOCIATED NITH INDUSTRIAL ACTIVITIES

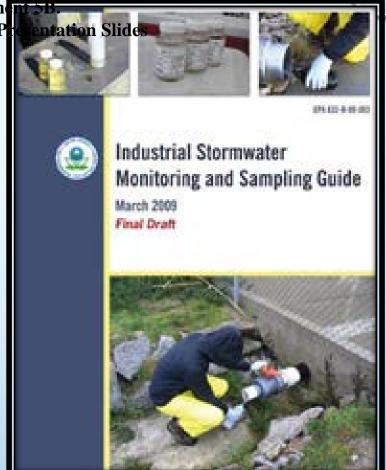
This General Permit is effective on

DEC 9 4 2900

and expires four years from this date, unless amended earlier.

- 1. Coverage under this General Permit
 - (a) This general permit covers discharges composed entirely of storm water runoff associated with industrial activity, as defined in 40 CFR 58122.26(h)(14)(i) through 122.26(h)(14)(ix) and 122.26(h)(14)(ii)
 - (b) This general permit covers all areas of the State emcept for discharges in or to state waters classified by the department as "class i, inlend waters," "class AA, marine waters," and areas restricted in accordance with the State's "No Discharge" policy in chapter 11-54 titled "Mater Quality Standards."
- 2. Limitations on Coverage under this General Permit
 - (a) This general permit does not cover the following:
 - Storm water discharges associated with industrial facilities which flow into a sanitary newer system;
 - (2) Storm water discharges in categories for which storm water discharge limitation guidelines have been promulgated by the SPA;

55-8-1



SW Monitoring and Sampling

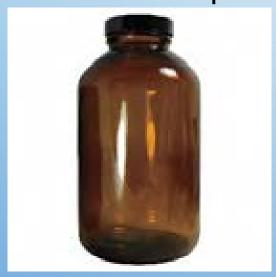
Purpose:

- NPDES permit requires installation and implementation of Best Management Practices (BMPs)
- BMPs chosen must be documented in the Storm Water Pollution Prevention Plan (SWPPP)
- SW monitoring results determines effectiveness of those BMPs



Definitions

 Sampling = physical collection and analysis of storm water samples



 Monitoring = both sampling and visual observations of storm water discharges, including the related preparation and documentation tasks (Inspections)



Definitions

- "Grab Sample" a
 sample collected during
 the first 15 minutes of the
 discharge
- "Composite Sample" a
 combination of at least 2
 sample aliquots, collected
 at periodic intervals

Tenant Training: Presentation Slides

Representative Storm Event

Rainfall that accumulates
more than 0.1 inch of rain
and occurs at least 72
hours after the previous
storm event.







Types of Industrial SW Monitoring Requirements

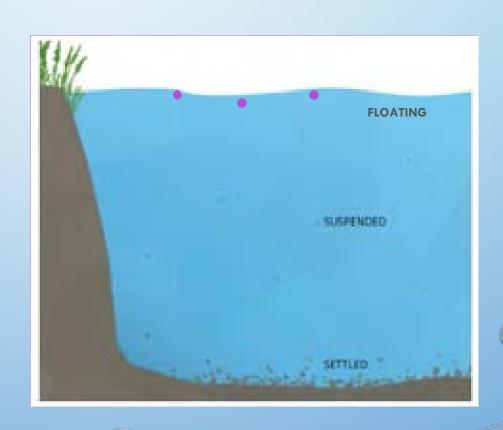
- Visual Assessment of Discharges (qualitative)
- Indicator Sampling (quantitative)
- Compliance Sampling (quantitative)



Visual Assessments of Discharges

Key Visual Indicators:

- Color
- Odor
- Clarity
- Floating Solids
- Settled Solids
- Suspended Solids
- Foam
- Oil Sheen



Indicator Sampling

- Sample taken during a representative storm event and sent to the laboratory for analysis.
- Used to compare against pollutant concentrations as an indicator of BMPs performance.
- Results are report only! Not an effluent limitation.

Tenant Training: Presentation Slides

CHAPTER 11-55 APPENDIX B

TABLE 34.1

LIMITATIONS AND MINIMUM MONITORING REQUIREMENTS FOR STORM WATER DISCHARGES

Storm Water Discharge Parameter	Storm Water Discharge Limitation (1)	Minimum Monitoring Prequency	Type of Sample (2)
Quantity of Discharge (gallons)	(3)	Annually	Calculated or Estimated
Biochemical Oxygen Demand (5-day) (mg/1)	(3)	Annually	Composite (4)
Chemical Oxygen Demand (mg/l)	(3)	Annually	Composite (4)
Total Suspended Solids (mg/l)	(3)	Annually	Composite (4)
Total Phosphorus (mg/l)	(3)	Annually	Composite (4)
Total Nitrogen (5) (mg/l)	(3)	Annually	Composite (4)
Nitrate+Nitrite Nitrogen (mg/l)	(3)	Annually	Composite (4)
Oil and Grease (mg/l)	15	Annually	Grab (6)
pH (standard units)	(7)	Annually	Grab (8)
Toxic Pollutants (mg/l) (9)	(10)	Annually	(11)

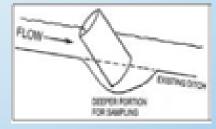
mg/l = milligrams per liter

Compliance Sampling

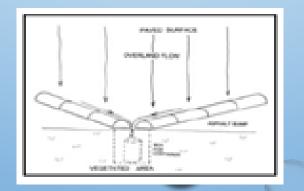
- Sample taken during a representative storm event
- Effluent limitations are legally enforceable limitations that must not be exceeded in SW discharges.
- An exceedance of an applicable effluent limitation constitutes a violation of the permit.
- Correctives action and additional sampling is required when a effluent limitation is exceeded.

Overcoming Sampling Difficulties

- Sheet Flow
 - Problem: flow is to shallow to directly fill a collection bottle
 - Solution: excavate a small depression



- Solution: install a gutter or ditch to intercept and concentrate flow
- Solution: install speed bumps to convey and concentrate flow



Overcoming Sampling Difficulties

 Pipe- Sample directly from the pipe before SW reaches the receiving water.

Ditch/Swale- Sample from a consistent flowing part.

 SW detention / retention basin—Sample at the outfall of structure.

Overcoming Sampling Difficulties

Run-on- Prevent SW from running onto your property.

Once it enters your property, it is yours to deal with!

 Multiple Outfalls- when possible combine outfalls by constructing channels or digging ditches.

Overcoming Sampling Difficulties

Install a weir and manual control valve to control flow and ensure discharges are collected within first 15 minutes of discharge



3 Preparation

 Determine where SW is discharged from your property (pipe, ditches, swales, other structures) "Outfalls"

Can have multiple outfalls

2. A Determine where to collect samples

Sample must be collected <u>prior</u> to leaving the facility <u>and</u> downstream from <u>all</u> industrial materials and activities.



Preparation

3. Multiple Outfalls- identify which outfall is associated with industrial materials and activities.

Not required to monitor outfalls that receive only SW from unregulated areas of your Facility

Ex: employee parking lots, admin buildings.



- Collects samples and conduct visual assessment of discharges.
- Familiar with SWPPP and layout of Facility
- Familiar with pollutants sources
- Familiar with Monitoring and Reporting Program
- Possess knowledge and skills to assess conditions and activities that could impact SW quality
- Able to evaluate the effectiveness of BMPs
- Multiple members for multiple outfalls
- At least 1 member per shift



Qualified Laboratory

- Select a qualified laboratory that uses the approved methods found in 40 CFR Part 136.
- Obtain sampling kits (bottles, packing materials, bottle labels, coolers, prefilled chain of custody forms.

In-Office Preparations

- Maintain pH meter calibrations
- Observe weather forecast
- Contact monitoring team
- Notify the lab
- Prepare gear
- Prepare labels (name, outfall no., date, time, etc.)
- Chain-of-custody ready for use

Sampling Methods

- When obtaining a "grab sample" wear disposable powderfree gloves; never touch inside of the lid or bottle.
- Oil and Grease samples must be filled directly into a glass bottle. Never transfer bottles.
- Use a pole for hard to reach areas.
- Sample from turbulent section in the central flow; avoid touching bottom or sides.
- Fill the sample bottle nearly to the top; do not rinse or overfill.

Sampling Procedures

 Place samples in a cooler with ice at ~ 4 degrees Celsius until cooler is given to lab along with COC.

- pH must be analyzed within 15 minutes of
- collection. Analyzed in the field.

• SW Sampling Form: Document all information. Outfall, date, time and duration of the storm event sampled, rainfall measurement (inches), estimate the total volume of the discharge sampled from the outfall, pH, visual indicators.

Chain Of Custody Forms and Procedures

- Ensure sample are labeled properly
- Completed with date, time, parameters and sample locations for each sample, sign form
- During the transfer of samples, both parties document, date, time and signatures.
- Shipping information if applicable (courier name)
- Original remains with samples

5

Reporting Procedures

- Report results on Discharge Monitoring Report (DMR)
- Submitted with laboratory reports, SW Sampling Forms, COC

- Submitted at least annually and within 60 calendar days after sample collection.
- "No Discharge "

EPA No. 3320-1

Exceedance/Non-Compliance

- Orally report violations right away
- Submit written 5-day report
 - Description of non-compliance
 - Period of non-compliance
 - Steps taken or planned to reduce, eliminate and prevent reoccurrence of non-compliance.
- Signed by Certifying Person or Duly Authorized Representative
- Include Certifying Statement



Dept. of Health - Clean Water Branch

919 Ala Moana Blvd. Room 301

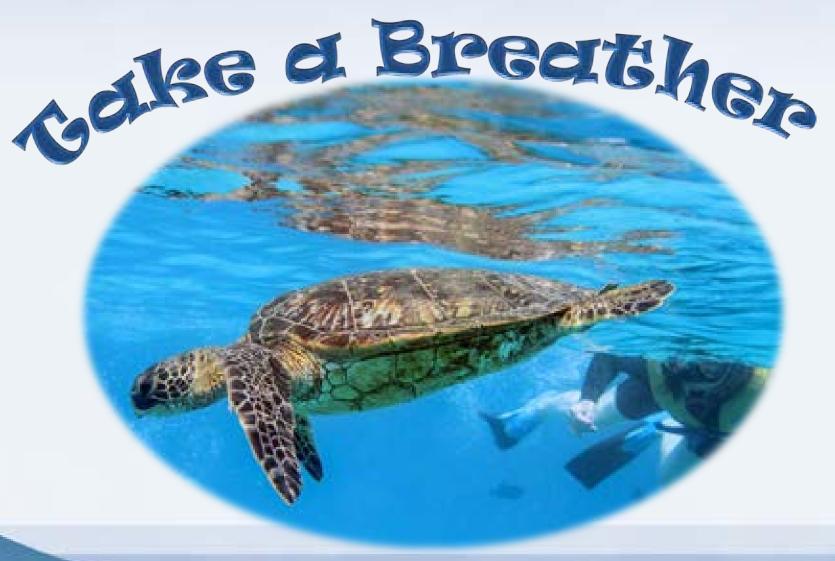
Honolulu, Hawaii 96814

808-586-4309

cleanwaterbranch@doh.hawaii.gov



Short Break (10 min) Tenant Training: Presentation Slides



Pollution Prevention Tenant Training: Presentation Slides



How can we prevent this?



Tenant Training: Presentation Slides

Consent Decree



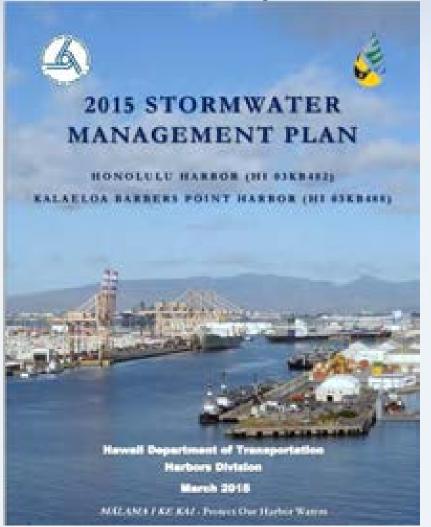
- November 2014,
 Harbors Division entered into a Consent Decree with EPA/DOH
- Storm water compliance with:
 - Clean Water Act
 - National Pollutant
 Discharge Elimination
 System (NPDES) Permits
- Available on Harborswebsite

http://hidot.hawaii.gov/harbors/files/2013/01/Consent-Decree.pdf



Tenant Training: Presentation Slides

Permits & Requirements



MS4 National Pollutant
Discharge Elimination
System (NPDES) Permits

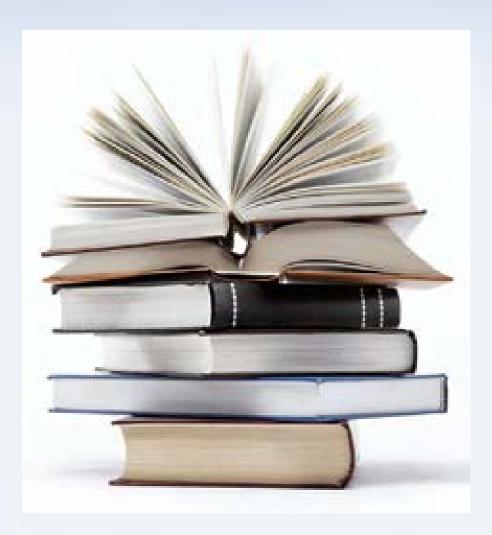
Storm Water
Management Plan
(SWMP)

http://hidot.hawaii.gov/harbors/files/2013/01/Final-SWMP-150325.pdf



Tenant Training: Presentation Slides

Know the Regulations



- 1. Industrial NPDES
- Harbors Washing Approval
- 3. Hazardous Waste
- 4. Universal Waste



1. Industrial NPDES Permits

Provided by DOH and allows the discharge of stormwater associated with industrial activities, such as:

- Material Handling and Storage
- Equipment Cleaning
- Maintenance and Repair
- Fueling
- Washing
- Sanding and Painting

Conditions of the Permit:

- Storm Water Pollution Control Plan (SWPCP)
- Stormwater sampling





Tenant Training: Presentation Slides

2. Harbors Washing Approval

- All washing areas need to be approved by Harbors Environmental Section
- Wash water must be <u>collected</u> and is not permitted to be <u>discharged</u> to the storm drain system



3. Hazardous Waste



HAR 11-260

- Record the quantities generated each month
- •Have records available for inspectors

Make sure you **label** and **store drums** correctly!



Tenant Training: Presentation Slides

4. Universal Waste

Examples:

- Fluorescent lamps,
- Batteries
- Anything with mercury
- Label container and include accumulation start date
- Dispose within a year

HAR 11-273





Inspection Survival Guides

Final Harbors Tenant Inspection Manual



State of Hawaii Department of Transportation Hartons Division 79 South Klinite Highway Handulu Hawaii 96813-0888

Account States

Version 6.6

The EPA and DOH can inspect a tenant property at any time

Be Prepared!

Let's Work Together!

PROTECT OUR OCEAN WATER - INFLAME I RE KILL

http://hidot.hawaii.gov/harbors/files/2013/01/2014-Tenant-Inspection-Manual_Final1.pdf

Tenant Training: Presentation Slides

Harbors Inspections



A great tool to identify:

- How to reduce pollutants
- Share information between Harbors personnel and tenants

Tenants are encouraged to **fix minor items** during inspections!

High risk ranked tenants are inspected every 6 months

Medium risk ranked tenants are inspected once a year

Low risk ranked tenants are inspected every five years



Tenant Training: Presentation Slides

General Inspection Items

- Paperwork (permits, plans, training logs, etc.)
- Storage and handling of petroleum, waste, chemicals, and other materials
- Container Labels
- Fueling BMPs
- Washing BMPs
- Maintenance BMPs and record keeping
- Spill response BMPs and record keeping
- General Housekeeping BMPs



Storage and Handling







Storage and Handling Tenant Training: Presentation Slides Handling



Storage and Handling

Tenant Training: Presentation Slides
Handling









Labels







Tenant Training: Presentation Slides

Housekeeping









Tenant Training: Presentation Slides

Housekeeping











Tenant Training: Presentation Slides

Hand Washing







Tenant Training: Presentation Slides

Fueling



Remain Vigilant

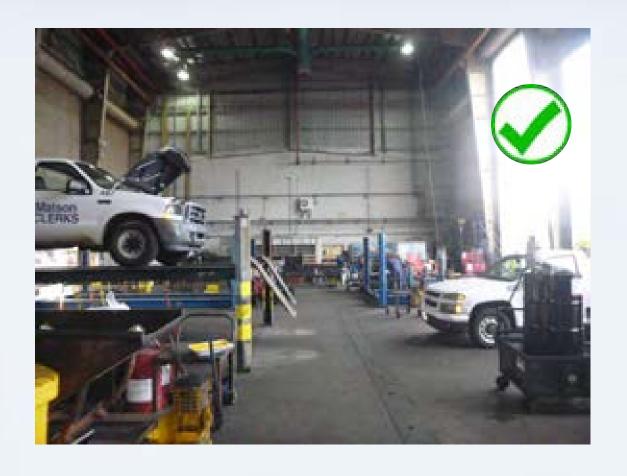
Be Prepared



Tenant Training: Presentation Slides

Maintenance

Conduct Maintenance Under Cover











Vehicle and Equipment Storage

Remember to use a drip pan under vehicles!





Drain Inlet Protection Tenant Training: Presentation Slides



Filter Fabric



Witch's Hat



Stenciling



Be aware of the storm drains on at your facility.



Tenant Training: Presentation Slides

What is the potential deficiency?



What good housekeeping practice can be implemented to avoid a deficiency?



Stormwater Contacts Posted



Correct Deficiencies Tenant Training: Presentation Slides



20 Days to Correct





Tenant Training: Presentation Slides

Escalating Enforcement

- Oral or Verbal Warning
- Written Warning
- Notice of Apparent
 Violation
- Notice of Finding of Violation and Order
- Termination of Lease/RP
- DOH

 (Up to \$25,000 per day)





What is an Illicit Discharge?

Any non-stormwater discharge that poses a risk to the environment.



Tenant Training: Presentation Slides

Allowable Discharges

Permitted by DOH/EPA:

- 1. Daily Operations
 - Water line flushing
 - Air conditioning condensate
 - Landscape irrigation
 - Discharges from potable water sources and foundation drains
- 2. Groundwater
- 3. Natural Origin
 - Springs
- 4. Emergencies
 - Discharge from fire fighting activities





Illicit Discharge?





Uncontained materials over a trench drain and near pier's edge.

Illicit Discharge?



Sheen on water flowing to storm drain inlet



Illicit Discharge?



Uncontained air conditioning condensate is NOT an illicit discharge.

Tenant Training: Presentation Slides

Illicit Discharge?



Do not dump mop water into a storm drain



Tenant Training: Presentation Slides

Illicit Discharge?

Soapy water is an illicit discharge



Remember to get Harbors approval to wash!



Tenant Training: Presentation Slides

Spill Response



- 1. Assess the Risk
- 2. Select PPE
- 3. Confine the Spill
- 4. Stop the Source



Tenant Training: Presentation Slides

Spill Response



- 5. Clean-up
- Decontaminate and Dispose of Wastes
- 7. Complete Required Report



Illicit Discharge and spill Reporting

Notify Harbors of spills.

24/7 call: 808-587-2076 (Harbor Traffic Control Unit)

- What to report:
- Location of incident, date and time
- Description of incident
- Responsible party & cause of incident
- Type of media that received the discharge



Tenant Training: Presentation Slides

Construction Site Runoff Control Program





- Tenant construction projects need approval from Harbors and all necessary permits
- Harbors will ensure temporary BMPs are sufficient in the design review phase
- Harbors may inspect sites
- Tenant is ultimately responsible for the project

Permanent BMPs Tenant Training: Presentation Slides

Grate Inlet Filter (GISB)

PROVEN STORMWATER TREATMENT TECHNOLOGY

Media Filter

The Bio Clean Grate Inlet Media Filter (GISB-MF) is an advanced level filtration device designed with a multi-layered media filter for increased removal efficiencies.

Performance

- 85% Removal of Fine TSS
- 69% Removal of Dissolved Phosphorus
- 95% Removal of Copper
- 87% Removal of Lead
- 95% Removal of Zinc
- 90% to 95% Removal of Oils & Grease
- 68% Removal of Fecal Coliform (bacteria)

Specifications

Model #	Media Treatment Flow (CFS)	Screen Treatment Flow (CFS)	Bypass Flow (LFS)
BC-GISB-MF-12-12-12	0,007	0,2	0.5
BC-GISB-MF-18-18-18	0.02	0.5	0.8
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BC-GISB-MF-48-48-18	035	2.4	13.2





Enhanced with Media to Meet Removal Requirements



Permanent BMPs Tenant Training: Presentation Slides









Tenant Training: Presentation Slides

Resources and Contacts

Harbors Stormwater Website:

http://hidot.hawaii.gov/harbors/library/storm-water-management/

- Harbors Division Environmental Contacts:
 - Reporting Hotline (Harbor Traffic Control): 587-2076
 - Spencer Yim, P.E., 587-1963 Spencer.K.Yim@hawaii.gov
 - Joy Zhang, P.E.: 587-1960, ying.j.zhang@hawaii.gov
 - Michele Freitas: 587-1976, michele.gn.freitas@hawaii.gov
- Harbors Division Property Management Contacts:
 - Carl Young, 587-1945, carl.g.young@hawaii.gov
 - Patti Miyashiro, 587-1942, patti.e.miyashiro@hawaii.gov



Tenant Training: Presentation Slides

Short Film (8 min)

THE BEGINNING of a new day...

Now more than ever is the time
to reach out to our families,
friends and neighbors around the world
to join in the healing of our planet.
Let our actions in our piece of paradise
lead the way to heal our planet.
Together as a community we can all make a difference.

LET'S GROW THE MOVEMENT!!!

https://www.youtube.com/watch?v=4fVloVzEMdw

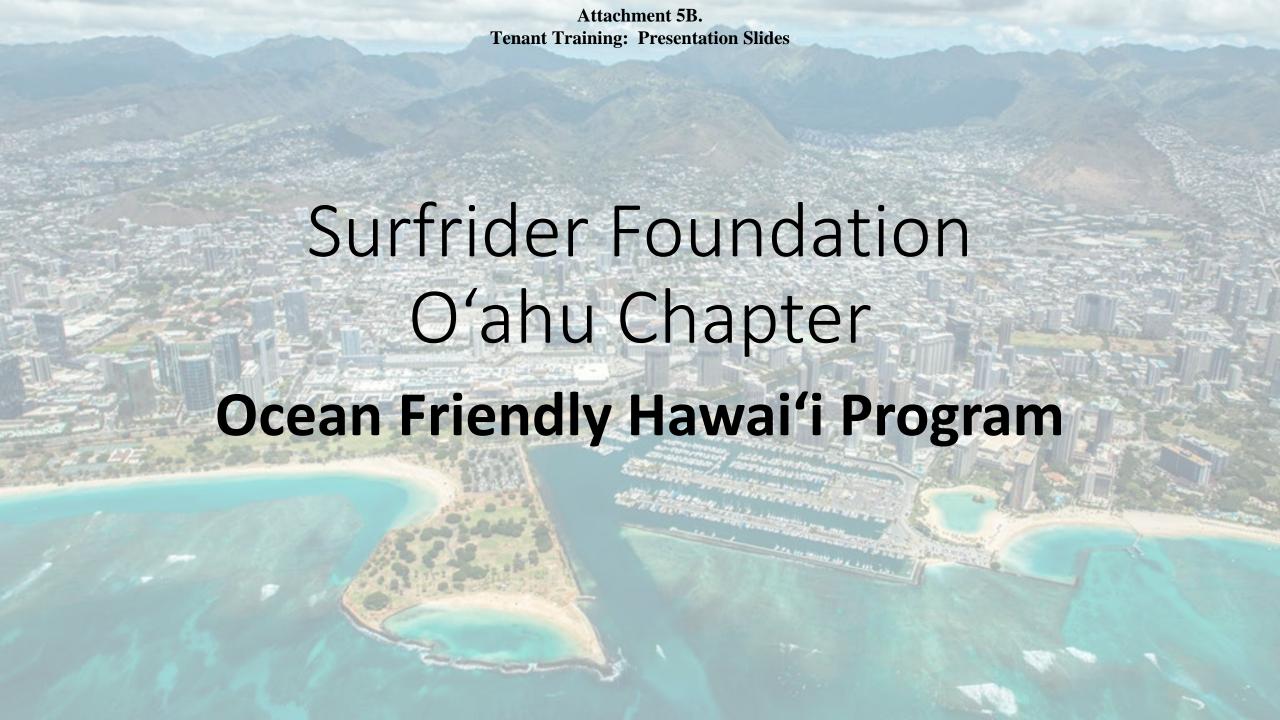


SurfRider Foundation Tenant Training: Presentation Slides



https://oahu.surfrider.org/ For information, visit:





Attachment 5B.
Tenant Training: Presentation Slides

What we do...

 Inspire our community to protect what we love – the ocean, beaches, waves, and marine ecosystems of Hawai'i





Attachment 5B. Tenant Training: Presentation Slides

Extending Producer AND Consumer Responsibility

Building on Ocean Friendly Restaurants (OFR) success









Stormwater & Re-inventing our Watersheds

Collaborative restoration from business to backyards

Ocean Friendly Businesses

Rewards & Recognition

Policy: DOT Trash Plan









OFG Principals & Solutions



C.P.R.

Conservation, Permeability, Retention







OFG Principals & Solutions: Conservation...

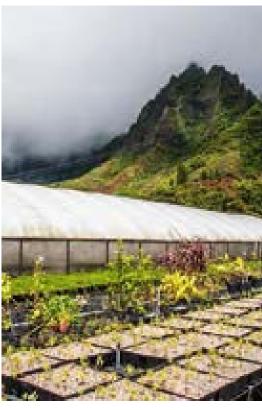














OFG Principals & Solutions: Permeability...





Make a Crack, Slow the Flow



OFG Principals & Solutions: Retention...





Healthy Soil, Mulch, & Rain as Irrigation



Telling the Story

 Surfrider is here to connect community to action and to highlight those who strive to make this island a sustainable place to live



Attachment 5B. Tenant Training: Presentation Slides

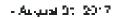
Please return your questionnaire and training evaluation form before you leave





Tenant Training: Sign-In Sheet HDOT Harbors Annual Tenants Stormwaler Awarenosa Training Sign-in Sheet







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Tenant Training: Sign-In Sheet HDOT Harbors Annual Tenants Stormwater Awareness Training Sign-in Sheet

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- August 13, 2017

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Tenant Training: Sign-In Sheet MDOT Horbors Annual Tenants Stormwater Awareness Training Sign-in Sheet



- August 31, 2017



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Tenant Training: Sign-In Sheet MDOT Harbors Annual Tenants Stormwater Awareness Training Sign-in Sheet



August 31, 2317.



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Tenant Training: Sign-In Sheet HDOT Harbors Annual Tonants Stormwater Awareness Training Sign-in Sheet

August 35, 2017.



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Tenant Training: Sign-In Sheet

Day Dowsett 256/84/ Friends of Hokule'a EHawai'i loa

Tenant Training: Sign-In Sheet HOOT Harbors Annual Tenants Stormwater Awareness Training Sign-In Sheet





- September 21, 2017.

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Tenant Training: Sign-In Sheet HDOT Harbors Angual Tenants Stormwater Awaroness Training Sign-In Sheet



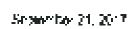


.- September 21, 2017

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Tenant Training: Sign-In Sheet HDOT Harbors Annual Tenants Stormwaler Awarenees Training Sign-In Sheet







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Tenant Training: Sign-In Sheet HDOT Harbors Annual Tenants Stormwater Awarongs Training Sign-in Sheet







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Attachment 5D.

Repart Training: Tenant Environmental Manager of the Year (TEMY Awards)

Tenant Environmental Manager of the Year



Ms. Kekua Keli'i

Atlantis Adventures, LLC

Mr. Dane R. Wurlitzer

Hawaiian Cement

Ms. AK Colburn

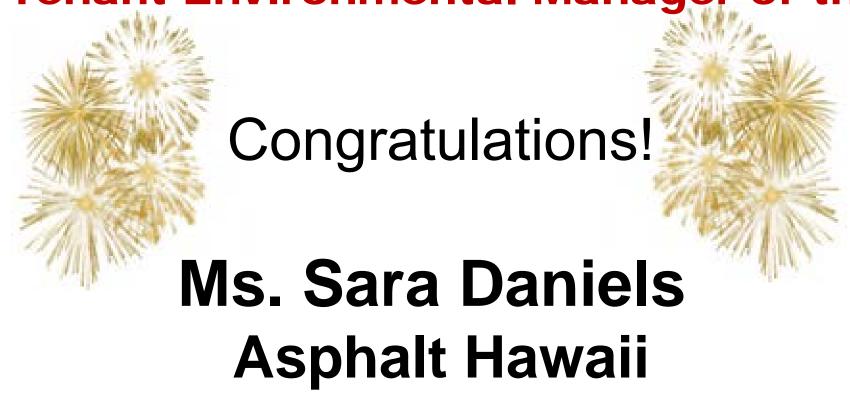
Hawai'i Gas

Mr. Stephen Hinton

Marisco, Ltd.

Tenant Training: Tenant Environmental Manager of the Year (TEMY Awards)

Winner 2017 Tenant Environmental Manager of the Year



	benet of the	/as the training course ficial to you as a Tenant e Honolulu and Kalaeloa rbers Point Harbors?	2. What were the strong points of the training course that we should keep & improve upon for next year?	3. What were the weak points of the training course that we should improve upon next year?	Traine the H N inforr	How effective were the r, the Power Point slides & video in conveying the Harbors Storm Water Management Program nation & requirements to the tenant audience?	5. Please provide an overall ranking of the Pier 2 Terminal facility used for this training course in terms of conditions conductive to the tenant audience such as comform (air conditioning & lighting), hearing (audio), refreshments, restrooms & parking.		
Date	Rate	Comments	Comments	Comments	Rate	Comments	Rate	Comments	
8/31/2017	2	Very little of informations pertain to our company	Surfrider presentation	Not all of the course pertains to everyone.	4		3	Parking	
8/31/2017	5		Information on what hazards go into the water and the effects of damages.	n/a	5		5		
8/31/2017	4	Time well spent. Program is important to all our citizens.	Good & bad practices highlight real world problem. Pictures work well.	Sampling was too long. Does not aply to many of us.	4		5	Recommend a single sheet "cheat sheet" of contacts and website addresses. Surf Rider presentation also very excellent	
8/31/2017	4	Even when we know the material is important to review. Kudos for doing this every year	Tips for doing the monitoring tasks. Great examples: Sampling & Inspections.	There weren't weak points. Just make sure to keep each segment in its allotted time.	4	Trainers & slides were very good. Video a little less on point but still ok.	5	Nice review. All DOT personnel & contractors are knowledge & helpful.	
8/31/2017	5	Always beneficial in every aspect	Excamples of violations; Current events	N/A - all is valid	5		5	Most convenient venue versus past training locations (Ferry, etc.)	
8/31/2017	5	Yes. The training course was beneficial gave a lot of information on how to use BMP's			5		5		
8/31/2017	5		Everything was good.	None	5		5		
8/31/2017	5		Need to take sampler	None	5		5	Great class improving every year.	
8/31/2017	5	None	Surfrider presentation	It's too long.	5		5		

	benef of the	2. What were the strong points of the training course that we should keep & improve upon for next year? 3. What were the weak points of the training course that we should improve upon next year?		4. How effective were the Trainer, the Power Point slides & the video in conveying the Harbors Storm Water Management Program information & requirements to the tenant audience?		5. Please provide an overall ranking of the Pier 2 Terminal facility used for this training course in terms of conditions conductive to the tenant audience such as comform (air conditioning & lighting), hearing (audio), refreshments, restrooms & parking.		
Date	Rate	Comments	Comments	Comments	Rate	Comments	Rate	Comments
8/31/2017	4	Zinc video very informative.	Visuals on proper vs. improper BMP's; Refreshments/Coffees; Pointers/suggestions - inspection survival guide.	Time - Maybe out to the chase - reduce the trash/plastic portion - could be distributed in handouts. Permit (discharge) portion says for the end for groups/business applicable.	4		5	
8/31/2017	4		Current Pics	Training was good.	4		5	
8/31/2017	5	Enjoyed the presentation by Bobbie since the permit expires this year.	Overall very informative.	A handout of the powerpoint slides.	5		5	
8/31/2017	4		Bobbie Presentation was very factual and good information to know.	None	4		5	Great job.
8/31/2017	5		Each slide was explained thoroughly	Ran short on time; reduce redundancy / extend timespan	5		5	
	5	Better than last year; Gave great ideas for training back at site.	Showing examples of good & bad stormwater pollution prevention at sites.	Keep to time limit.	5	Surfrider presentation was surprisingly relevant; DOH section was a little dry; Overall structure good - nice flow.	5	Keep same

	bene of the	/as the training course ficial to you as a Tenant e Honolulu and Kalaeloa rbers Point Harbors?	2. What were the strong points of the training course that we should keep & improve upon for next year?	course that we should	Traine the H N inforr	How effective were the r, the Power Point slides & video in conveying the Harbors Storm Water Management Program nation & requirements to the tenant audience?	5. Please provide an overall ranking of the Pier 2 Terminal facility used for this training course in terms of conditions conductive to the tenant audience such as comform (air conditioning & lighting), hearing (audio), refreshments, restrooms & parking.		
Date	Rate	Comments	Comments	Comments	Rate	Comments	Rate	Comments	
8/31/2017	4	Would like to see more examples of BMP's & more examples of violations.	Inspection items.	Inspection training not applicable to all.	5		5	Good venue	
8/31/2017	5				4	Screen size was a bit small; Good speakers & content	4	Audio was a bit weak. Good refreshments	
8/31/2017	4		Expert knowledge, relevant material, good slides.	Add a little more time.	5		4	Parking was confusing.	
8/31/2017	5	Giving examples of violations and good practices		Some of the sampling training was hard to follow and who/where it applied to. The training differed from what our NPDES	4		4		
8/31/2017	4				4		5		
8/31/2017	4		Everything	Accommadation	5		1		
8/31/2017	4	Noted improvement of content as compared to last year.	Including the exceedance definitions and samples such as zinc describing the sampling process, good vidual aids	Stay within time allocated	4		4	Parking space is an issue.	
8/31/2017	5				4		4		
8/31/2017	5		Surfrider Oahu Program.	All good information	5		5		

Department of Transportation, Harbors Division Tenant training Feedback Summary

	bene of the	Vas the training course ficial to you as a Tenant e Honolulu and Kalaeloa rbers Point Harbors?	2. What were the strong points of the training course that we should keep & improve upon for next year?	course that we should	4. How effective were the Trainer, the Power Point slides & the video in conveying the Harbors Storm Water Management Program information & requirements to the tenant audience?		5. Please provide an overall ranking of the Pier 2 Terminal facility used for this training course in terms of conditions conductive to the tenant audience such as comform (air conditioning & lighting), hearing (audio), refreshments, restrooms & parking.		
Date	Rate	Comments	Comments	Comments	Rate	Comments	Rate	Comments	
8/31/2017	4	Keeps tenant aware of surrounding & make their area clean of environmental concerns.	Stress environmental practices so we all can do our business.	Try to keep information and content more focused	5	Very informative speech / very knowledgable of presentation.	5		
8/31/2017	3	Review each year is good as a refresher, but should keep program to general comment, not to specific areas as may not pertain to all	Pictures of what is acceptable and not accetable.	At times, could not hear the speaker.	4		4	Need to make better use of the mic/sound system. Some speakers were hard to hear because they didn't use the mic properly.	
8/31/2017	5	attanding	It was good.	Sound system & clarity; only	5		5		
				the last speaker could be heared well (surfrider)					
8/31/2017	5			n/a	5		5		
8/31/2017	5		Picture examples	Have more picture examples from more different types of work areas.	4		4	Not all speakers could be heard.	
8/31/2017	5		I felt that examples shown of violations & good BMPs are particularly helpful.	Better explanation of which regulations apply to which tenants would be helpful.	4	Slides with explanation was good.	5	Maybe a better screen for slides & film.	
8/31/2017	5		Picture examples of problem and then solution.		5	Sometimes hard to hear.	4	Good refreshments, sometimes hard to hear.	

Department of Transportation, Harbors Division Annual Compliance Report

January 1, 2017 - December 31, 2017

	bene of the	Vas the training course ficial to you as a Tenant e Honolulu and Kalaeloanbers Point Harbors?	2. What were the strong points of the training course that we should keep & improve upon for next year?	course that we should	Traine the I N infori	How effective were the r, the Power Point slides & video in conveying the Harbors Storm Water Management Program mation & requirements to the tenant audience?	5. Please provide an overall ranking of the Pier 2 Terminal facility used for this training course in terms of conditions conductive to the tenant audience such as comform (air conditioning & lighting), hearing (audio), refreshments, restrooms & parking.		
Date	Rate	Comments	Comments	Comments	Rate	Comments	Rate	Comments	
8/31/2017	5		The speakers were well spoken and knew their subject area. I would recommend Q&A session and less information in PPT.	The short videos did not use Hawaii has an example. There was not any interaction with audience.	5		5		
	5		Spill containment	More information on spill containment and storage of equipment.	4		4	Tables hard to take notes.	
8/31/2017	5		Surfrider Foundation presentation	Start earlier ~ 9 am	5		5		
8/31/2017	5		Sampling info		5		5		
8/31/2017	4		General information on maintaining and protecting the ocean	Some of the xxxxx technical point.	4		5		
8/31/2017	5	More beneficial to learn and be preventative of polllution to the harbor. The process of preventing and ways from happening.	The strong points were the examples of what not to do and how to solve the problems.	n/a	5	Very informative and helpful on what is expected from inspection.	5		
8/31/2017		n/a	Storage of containment	Sampling.	4		4		
8/31/2017	5	·	DOH - Commentary/Presentation	None	5		5		

Department of Transportation, Harbors Division Tenant training Feedback Summary

	1. Was the training course beneficial to you as a Tenant of the Honolulu and Kalaeloa Barbers Point Harbors?		s a Tenant points of the training course points of Kalaeloa that we should keep & course		Traine the I N inform	How effective were the er, the Power Point slides & evideo in conveying the Harbors Storm Water Management Program mation & requirements to the tenant audience?	5. Please provide an overall ranking of the Pier 2 Terminal facility used for this training course in terms of conditions conductive to the tenant audience such as comform (air conditioning & lighting), hearing (audio), refreshments, restrooms & parking.		
Date	Rate	Comments	Comments	Comments	Rate	Comments	Rate	Comments	
8/31/2017	4		Surfrider presentation is compelling & Regulatory for voluntary compliance/awareness.	Dry DOH presentation	4		4	Bit warm; promotes sleep.	
8/31/2017	5		Pictures and breakdowns	None	5		5		
8/31/2017	5	Yes.	Awareness, reminding tenants about information on preventive measures.	None	5	Very good.	5	Very good.	
8/31/2017	4	Clarified structure of storm water management	Good use of slides to demonstrate visual guides to BMPs & engage audience.	Organizational flow weak, similar grouping of topics might increase understanding of topics.	4		5		
8/31/2017	2	The course puts too much emphasis on industrial activities. It should be geared towards what the average tenant should and could do.	BMPs, Harbors Tenant inspection manuals, Inspection Photos/Examples.	Do not go into water sampling in detail. There should be a separate program or platform for this.	2	See question #1	5	Great facility.	
8/31/2017	4		The information on zinc and how to prevent it from entering our ocean.	The timing of the course.	5	Very informative on keeping our water clean.	5		
8/31/2017	5		Visual aids are ok.	None	5		5		
8/31/2017	4	Very informational and good to practice.	Everything was strong points, it was full of needed information.	None that I've seen.	5		5	Continue doing what your doing, everything was informational and very interesting to know more about storm water training	

Department of Transportation, Harbors Division

Annual Compliance Report

January 1, 2017 - December 31, 2017

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Date	Rate	Comments	Comments	Comments	Rate	Comments	Rate	Comments
8/31/2017	5	Surfrider add info great to drive points in. New knowledge on Zinc.	"Do the right thing" The amount of plastics decomposing in our oceans, stormwater BMPs, -Marisco's valve - duely noted.	Every chair should have a cusion because the chairs are hard. Spencer, please speak into the mic-you have a nice voice and say informative things that we need to hear.	5	The visual examples are tremendously helpful for participants to see/grasp/interhouze(?)	5	Nice large room, air condition, parking, restrooms nearby - It's roomy but still the set up is cozy/comfortable.
8/31/2017	5	Good addition having DOH CWB present.	Good addition to have DOH CWB present sampling of stormwater.	Powerpoint projector needs to switch slides by presenter		Good to review quiz	5	Last video - consider evaluating Kupuna & Keiki that are Hawaiian to speak on behalf of Hawaiian Culture.
8/31/2017	5		Examples of violations and what will be inspected is very helpful.	Being more clear on what regulations apply to which tenant.	4		5	
9/21/2017	5		Everything is good.		5		5	
9/21/2017	5	Each year very informative with more information	ВМР	None	4	Very knowledgeable	5	
9/21/2017	5		Going over what to prepare for an inspection		5		5	
9/21/2017	5	Very informative	All points were valuable	Cannot think of any	5		5	Very convenient, easy to find & park
9/21/2017	5		Observation & maintenance of pier in surrounding areas	First time, didn't notice any weak points	5		5	
9/21/2017	5	Very informative			5		5	

Department of Transportation, Harbors Division Tenant training Feedback Summary

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Date	Rate	Comments	Comments	Comments	Rate	Comments	Rate	Comments	
9/21/2017	5	Good training session. Very informative.	Guest speakers, highlighting BMPs & going over consent decree, examples of what are illicit discharges, etc.	None	4	Could make to volume on speaker a litter higher	4		
9/21/2017	4		Run off water (storm drain)		4		4		
9/21/2017	5				5		5		
9/21/2017	4		Review of BMPs	Can do without the Surfrider presentation.	4		4		
9/21/2017	6		Honestly? The energy of the entire class was pretty low. The Surfrider guy was the highlight of the entire class. Up the energy and people will be more interested.		4		4		
9/21/2017	5				4		4		
9/21/2017	3	More issue we have how it is DOT with		Need more issue we had during the year	3	OK. Actual recent incidents help makes issues applicable	2	Definitely good /avoid weak.	
9/21/2017	5		Much better this year. The speaker was good	N/A	5		5		
9/21/2017	5		Perfect as is.	None	5		5		
9/21/2017	4		Nice having videos mixed, especially one created by local organizations and local people. Also like to see past violations with the		4	See comment for 2	5	Nice accommodations with easy access.	

Department of Transportation, Harbors Division

Department of Transportation, Harbors Division Tenant training Feedback Summary

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Date	Rate	Comments	Comments	Comments	Rate	Comments	Rate	Comments
9/21/2017	4	N/A	Info.	No plastic on table for refreshments.	4	N/A	4	N/A
9/21/2017	5		Waste water	None	5		4	
9/21/2017	4	Inspection review, examples of bad & good practices			4		5	
9/21/2017	5		None	None	5		5	
9/21/2017	4		Keeping pollutants out of the water, Inspection	Too much video on plastic bags	4		5	
9/21/2017	4				4		4	
9/21/2017	5		None		5		5	
9/21/2017	4	Very good speakers	Strong points should be keep finding better ways to improve pollution into the ocean.	None	4		5	None. Keep up the good work.
9/21/2017	5		Additional info & areas provided		4		4	
9/21/2017	5	Having knowledgable speakers	Trying to change liftstyle/habits of individuals		5		4	
9/21/2017	4		The examples. Some of the pictures were very telling.	Make no audience feedback, though in this context, it might be difficult.	4	Maybe do a version of the zinc video for Hawaii.	4	
9/21/2017	5		Audio was too loud.		5		5	
9/21/2017			Use less plastic		5		5	
9/21/2017	5	I am low risk tenant, but the material was good to listen to.	Everything that relates to maintaining the quality of our ocean.		5	All material seemed appropriate	5	

Department of Transportation, Harbors Division

Annual Compliance Report

January 1, 2017 - December 31, 2017

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Date	Rate	Comments	Comments	Comments	Rate	Comments	Rate	Comments
9/21/2017	5		None all good.	None all good	5		5	
9/21/2017	5		Last part with Surfrider	Does not tell where to throw contaminated water.	3	Does not address any questions from audients	5	
9/21/2017	5		PPT presentation with videos; Great Speakers	Nee more guest speakers	5		5	
9/21/2017	5		Loved the expanded discussion surrounding chemical pollutants, especially Zinc.		5		5	
9/21/2017	4	Most attendees are upper management. Need to address with workers.	A STATE OF THE STA		5		2	Echo is bad. Should look into smaller groups in a conference room.
9/21/2017	5		Taking personel responsibility	None	5		5	
9/21/2017	5		Ideas for source control		5		5	
9/21/2017	4	Yes, the addion of the Zinc Section	Types of BMP	Encouraging tenants to use this awareness training at all levels in them company	4		5	
9/21/2017	5		Steps and process of inspections. Knowledge of different pollutants and sources of pollutants	None	5		5	Place was easily accessible. Lots of parking and restrooms were very close. Refreshments were also very good.

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2.	What were the strong points of the training course that we should keep & improve upon for next year?
3.	What were the weak points of the training course that we should improve upon next year?
4.	How effective were the Trainer, the Power Point slides & the video in conveying the Harbors Storm Water Management Program information & requirements to the tenant audience? Please rank their overall effectiveness from 0 to 5 where 5 = Most Effective & 0 = Not Effective at all Provide additional comments if you like.
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Malani	
	o for providing us with your training feedback. See you next year!
	Jesse Gralaviz Date 8/31/17 my: Petropect Inc.
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Name: Theresa Alasina Date 8/31/11	

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2	What were the strong points of the training course that we should keep & improve upon
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	Harbors Storm Water Management Program information & requirements to the tenant
	audience? Please rank their overall effectiveness from 0 to 5 where 5 = Most Effective &
	0 Not Effective at all. Provide additional comments if you like.
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	Please provide an overall ranking of the Pier 2 Terminal facility used for this training
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	Extremely poor overall comfort and convenience Please provide
	additional comments to elaborate on your ranking & how we can improve next year
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3.	What were the weak points of the training course that we should improve upon next year?
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4.	How effective were the Trainer, the Power Point slides & the video in conveying the
	Harbors Storm Water Management Program information & requirements to the tenant
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2.	What were the strong points of the training course that we should keep & improve upofor next year? **Next Material Course that we should keep & improve upofor next year?
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Harbors Storm Water Management Program information & requirements to the tenant
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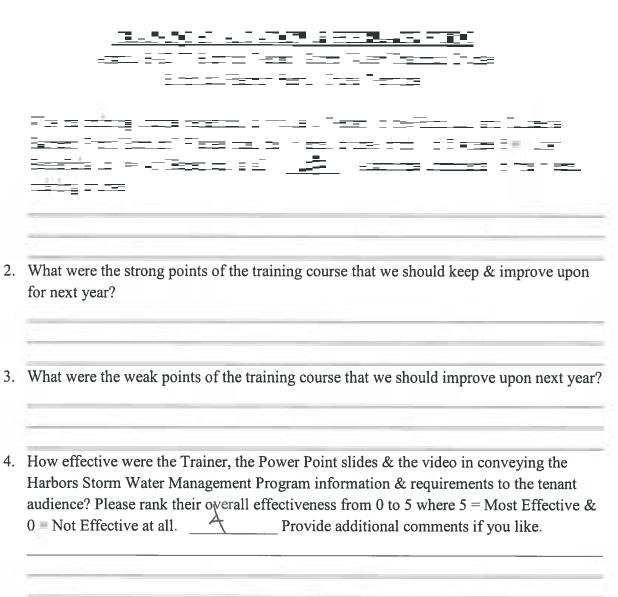
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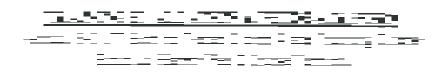
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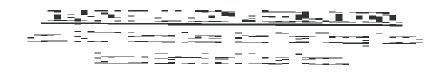
Attachment 5E. Tenant Training: Tenant Feedback Summary and Completed Feedback Surveys

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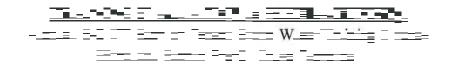


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Attachment 5E. Tenant Training: Tenant Feedback Summary and Completed Feedback Surveys

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5.	Please provide an overall ranking of the Pier 2 Terminal facility used for this training course in terms of conditions conducive to the tenant audience such as comfort (air conditioning & lighting), hearing (audio), refreshments, restrooms & parking. Ranking scale from 0 to 5 where 5 = Very Good overall comfort and convenience & 0 = Extremely poor overall comfort and convenience Please provide additional comments to elaborate on your ranking & how we can improve next year.

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Mahalo for providing us with your training feedback. See you next year!

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Company: MASSN

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Attachment Sr.

Tenant Training: Questionnaires Results Summary and Completed Questionnaires Harbors Tenant Training Questionnaire Summary

Name	Company	Company
A.K. Colburn	Hawaii Gas	10
Nathan Kapuke	Young Brothers	10
Dawna Hokama	Hawaii Stevedores, Inc.	10
Yal Lim	Hawaiian Aqua Products	10
Kristin Lim	Hawaiian Aqua Products	10
Curtis Chee	MC&A	10
Theresa Alcosiba	Norman's Tractor	9
Edgar Ugale	State Department of Attorney	9
Reed Kishinami	Resort Management Group	10
Gerry Bustamarte	Sause Brothers	10
Steve Plaky	Thomas Transportation Service	10
Glenn Jinbo	HFFC/Signature Flight	9
Rodney Tamamoto	Aala Ship Service	9
Floyd Otani	United Fishing Agency	9
Dustin Sharp	Matson	10
Neil Konemoto	POP/Nico's	9
Ronald Chun	Honolulu Marathon	8
James Pontin Jr.	Kirby Offshore Marine	10
Dingiltwe Ncube	HPU	10
Jon Satre	Aloha Marine Line	9
Gordon Fowler	P&R Water Taxi	8
Frank Roznerski	Hawaii Stevedores, Inc.	10
Abel Diag	Hooters	8
Jessie Galaviz	Petrospect	10
DC Carter	American Marine Corporation	10
Matthew Tongg	American Marine Corporation	10
Kyle Hirano	Jas W. Glover, Ltd	10
Greg Ball	Pacific Shipyard International	10
Paul Fukunaga	PF Marine	10
Chadney Prnett	Pacific Environmental Corporation	10
Kern Nishioka	State Department of Attorney	10
Andrew Souza	McCabe Hamilton & Renny	9
Kimo Bajet	Hawaii Stevedores, Inc.	10
Andrea Taesalt	Sause Brothers	10
Keenan Stamps	Sause Brothers	10
Sara Daniels	GLP Asphalt	10
Steven Hanneman	HPU	9
Scott Sevadjian	Grace Pacific	9
Daniel Corrght	Pacific Shipyard International	10
Nathan Ungard	HPU	9
John Russell	HPU	10
Yasuhiro Kimuhata	Norko Marine Agency, Inc.	9
Gordon Fowler	DHX	9
Braulio Cabanting	Asphalt Hawaii	10
Kyle	HPU	9
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Attachment 31.

Tenant Training: Questionnaires Results Summary and Completed Questionnaires Harbors Tenant Training Questionnaire Summary

Name	Company	Company
Clint Kagami	Kagami Inc	10
Diego Rivera	Atlantis Advantures LLC	10
Chad Hnagawa	Roberts Hawaii	10
Jack Almenzd	Hawaiian Cement	10
Steven Hinton	Marisco, Ltd.	10
Ronsey Manag	Healy Tibbitts Builders	10
Phillip Bustamante	Pacific Shipyard International	9
John Juettev	Healy Tibbitts Builders	10
Gerald Cobb Adams	Healy Tibbitts Builders	10
Joseph Mantanuna	Matson	10
Kemnall Kwock	Hawaii Stevedores, Inc.	9
Daniel Sonognini	Hawaiian Cement	10
Stanton Lee	The Pasha Group	10
Ty Pryne	HBN	9
Robin Vye	UHMC	10
Ross Barnes	UHMC	9
Nohealei Wilson	Nashville Waikiki LLC	10
Shane Prather	HDOT Harbors Division	10
Herb Nahian	HPBS, Inc.	8
Rae Miyasaki	JFC International	10
Paul Mabat	Star of Honolulu	7
William Silva Jr.	State of Hawaii (AG Office?)	7
Mark Longbap	Star of Honolulu	8
Guy Fujita	Hawaiian Cement	9
Jim Goues	Hawaiian Cement	9
Priya Kumar	AES Hawaii	10
Chris Nelson	Paradice Cruises, Ltd	7
Guy Hicks	Star of Honolulu	8
Guyle Saito	Unify Recovery	9
Masi Lafur	AES kalaeloa	10
Joseph Bienier	BEI Hawaii	10
Kendall Ford	Star of Honolulu	9
Alan Takeuchi	Paradise Cruise	10
David Zerler	Hawaiian Cement	10
Francis Yoshida	Oceantronics, Inc.	8
Laola O. Kaw	Oceanic Libra Corporation	7
Kendyl Kuwamura	Matson Navigation Co	10
Keahi Birch	Matson	8
Josh Jenks	Asphalt Hawaii	10
Wade Matsueda	Star of Honolulu	9
Shaun Hayasabe	Grace Pacific	9
Paul Kau	Matson Navigation Co	9
Brian Richardson	Friends of Falls of Clyde	10
Kelly White	Container Storage of Hawaii	10
Bulch Cadene	Matson	9

Attachment Sr.

Tenant Training: Questionnaires Results Summary and Completed Questionnaires Harbors Tenant Training Questionnaire Summary

Name	Company	Company
Terry N. Qauino	Hawaiian Ice Company	9
Mark Wilkins	Clean Island Council	10
Jim Keumann	Wind & Sea Charles	10
Raymond Tavou	Matson	10
Raymond Rodigve	VAK Fisheries, LLC	9
Peter Pillone	HDOT Harbors Division	10
Kam Chun	Matson	9
David Lee	HDOT Harbors Division	9
Paul Descalso	AES Kalaeloa Venture	10

Tenant Training: Questionnaires Results Summary and Completed Questionnaires

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2017 HDOT Harbors Tenant Training Questionnaire



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2017 HDOT Harbors Tenant I raining Questionnaire



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2017 HDOT Harbors Tenant Training Questionnaire



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 - C Hiller Luden
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Please provide your comments here:

Tenant Training: Questionnaires Results Summary and Completed Questionnaires "Mālama i ke kai" - Protect Our Harbor Waters



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JOHN ROWEN , MILLIAM, H.PU TM IIIII 3! AUG

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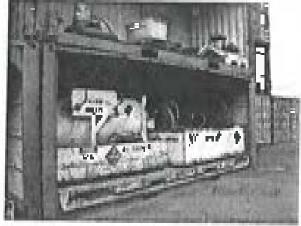
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Million Dan Otani

Company On the Company Real Holes (1919)

- What is the dubracian of an illustrated page?
 - A. Chindriania from Attrayslers
 - Distribute untig a protein coordinate.
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 - Hom Colon, call Hadini Juagin Consequent
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Please pravida year comments here:

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- What is the defortion of an illustration of an interpretation.
 - e. A contensate from AC system.
 - It. Proclaims to siving a studying couple cough
 - Co.) A new statementer downers that poses a
 - d. Mente of the always
- Who had the following are not permitted to be discharged into the storm drain?
 - e. Pellicled AC constructor comm-
 - First sectionly, waste water, and spilled chemicals.
 - The Detrodence and panel produces All all the above
- V What is required when an illustrativebarge as easymptotic votal hadas?
 - 10 on Coho, call Harlson Traffic Control Coho aug808) 587, 2010.
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 - $\{\overline{0},\overline{0}\}$ a or \mathbb{R}
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 - Dieta ha ent a pollgram.
 - Lanks are properly substant and groupped with secondary containment
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Cab Tring

- True of Paier" Any product (above)
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 CORROSTME, REACTIME, or
 LXPLOSTME should be considered
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- Which of the following we good examples of BMPsⁿ
 - Maintain equipment regularly.
 - by Primpily responding to a spot or lenk
 - Daving a dript part underneath arrest contracting exprepagn

STREET YARD of the above

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- 9 It construction networks are planned, educate regulated on the terminal apply?
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- Clock for Parker 1. April preparation of a confict over many conducts of the panel properties.
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Please provide wood configurate here.

"Aldlama i ke kall" - Protoci Gur Harkin Wanes

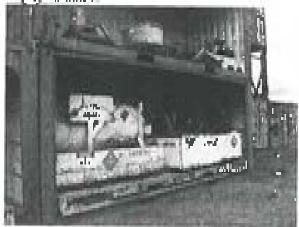
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- What is the algreeness of mealth at discharge?
 - at A Constant and Date of Supplying
 - B. Parahasé nying a yaster yigihi samb
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- His previous nearly as a ground example of Heat Management Provides (HMP) has about
 - Differ is not a publicage;
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- A Creater False Long province tabeled PROSCOMOUSE, CLONIC, 1st ANAMACHUR, COMMOUSEVE, RECAR TENE, or EXPERISON Intended for considered contribute.
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- Which of the following are poord examples of BOTPs?
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 - (I) All mithe above
- A True or Letter ! Steen or home order pur characters or a purb lateral synth liveline actions expensive sum obligad a great prost governors base?
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- ⁹ Proceedings to the property planned against or organized on the production?
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 - Time To deptop

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Name Flows Ohner Company Grides Francy Cycles Dates - 4 5 1-7

- What is the definitive of an illigit doctor; harge?
 - Considerance from Astrophysics
 - Providence pages magnification conductions.
 - $\psi \in A$ more marricles and the harge that gives unew by Dig griving origin.
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- 2. Which of the Balabaning are not procepting to 数数 distribution of auto the Storm British?。
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 - e Petroloum and point printingly
 - 9Lx All of the above.
- What is required when an iffen discharge is Numbers in it is particular to a book. To
 - Man Celip, entit Narbur Proffic Council. Unio at (NDB) ANY 2024.
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 - Officers property from selection agreement error to Germanut of communication.
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 - n also

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 - Prelated or memory regrets in construct and
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 - والمراجع الأراجي المراجع الأراجي المراجع المراجع
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 - by the beautiful with winner and approxiու ՄԱՄ իրահոյեց։
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- Pare latest arong a state as redat greet
- A more simple water dipologyee that process at risk to the appropriate

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 - Political Att condensate water.
 - h i Birkentinila, senstr senter, nept grattyd afmented)
 - Retrode movim ok panne grangos, ju-
 - 🔞 All of the above
- What is required when an illient declarage is: suspected at your harhor?
 - High Owher call Horbor Traffic Common Unit at (498) 587 2076.
 - Call Harlings Isosomomentat Mastigga at (ADB) VB / TWO/
 - Minute of groundwingspage

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- The procuse below to a good assemple of hear. Management Pescuce (DMP) because
 - District its not a prelimination
 - Tanka are proporty batered and exportaged with accounting exaction ringing.
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Call Living

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- When of the following are gived examples:
 - Montani squipinent regularly.
 - Prompile insporting to a spall or head
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 - Children permana flasin relevant agencies. prior to the stan of construction.
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10. Terre est Palica? Mas altern sit abilitat int secondation every lending contrated periods as:

🕡 Tine. b. Palen



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I MARKO MARINE

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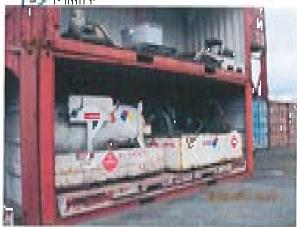
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Tenant Training: Questionnaires Results Summary and Completed Questionnaires "Mālama i ke kai" - Protect Our Harbor Waters



2017 HDOT Harbors Tenant Training Questionnaire



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"Mālama i ke kai" - Protect Our Harbor Waters

2017 HDOX Barbors Tenant Training Questionnaire





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PROTECT OUR HOLLINGTON

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2017 HIRUT Harbors Tenant Training Questionnaire



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 - a. Condenses Book AC system
 - b. Purchast rising a stolen credit and
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 - 4. Name of the above
- Which of the following are not permitted to the which aged must the energy digit?
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 - 6. Pétrolrum and paint products
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- What is considered volume at all the discharge in Application of Samu harbon?
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 - Call Harbora Thropographical Hetting at (80%) 587 1982.
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 - Tanks are properly jabeled and equipped with Methods by dradatement.
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- Which of the following are good exempted of BMPs?
 - Maintain equipment regularly.
 - b Frompily responding to a split or leak.
 - t Using a drip parameter ageth an min
 - All of the above
- F. True or Palse? Storm duals, http://pp. maintepance.eduals.itilizativith hydrocarbon hithmits considered a good public electrocarbon IIMP.

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- If construction application see planned, what is required on the terror side?
 - A. Observacional from HIXXY Hathers 12 Professor during the design phase.
 - Obtain permits from relevant approximately prior to the start of construction.
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 - All of the shove.
- True or Peter? An environmental violetium may lead to contaral parables.

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"Habitate File Ser" - Protest Over Haids a Water



2017 HDOT Harbors Tenant Training Questionnaire



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"Målama i ke kai" - Protect Our Harbor Waters





HFFC/Signature Flight 8.10.17Glenn Jinbo Company: Date:

- What is the definition of an illicit discharge?
 - Condensate from AC system

 - b. Purchase using a stolen credit card c. A non-stormwater discharge that poses a risk to the environment
 - d. None of the above
- 2. Which of the following are not permitted to be discharged into the storm drain?
 - Polluted AC condensate water
 - b. Fish entrails, wash water, and spilled chemicals
 - Petroleum and paint products
 - All of the above
- 3. What is required when an illicit discharge is suspected at your harbor?
 - If on Oahu, call Harbor Traffic Control Unit at (808) 587-2076.
 - Call Harbors Environmental Hotline at (808) 587-1962.
 - None of your business.
 - la or h
- 4. The picture below is a good example of Best Management Practice (BMP) because:
 - a. Diesel is not a pollutant.
 - Tanks are properly labeled and equipped with secondary containment.
 - They are stored under cover.



- 5. True or False? In State of Hawaii, anything that goes into a regular storm drain inlet will end up in the ocean with treatment.
 - a. True False.
- True or False? Any product labeled POISONOUS, TOXIC, FLAMMABLE, CORROSIVE, REACTIVE, or EXPLOSIVE should be considered hazardous.
 - True False.
- Which of the following are good examples of BMPs?
 - Maintain equipment regularly
 - b. Promptly responding to a spill or leak
 - Using a drip pan underneath an oilcontaining equipment
 - All of the above
- True or False? Storm drain inlet (in maintenance area) fitted with hydrocarbon boom is considered a good post-construction HMP.
 - a. True
 - b. False
- 9. If construction activities are planned, what is required on the tenant side?
 - a. Obtain consent from HDOT Harbora Division during the design phase.
 - Obtain permits from relevant agencies prior to the start of construction.
 - Follow the requirements of the Harbors Construction Site Runoff Control Manual.
 - All of the above.
- True or False? An environmental violation. may lead to criminal penalties.
 - a. JTrue.
 - False.

Tenant Training: Questionnaires Results Summary and Completed Questionnaires "Mālama i ke kai" - Protect Our Harbor Waters



2017 HDOT Harbors Tenant Training Questionnaire



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"Mālama i ke kai" - Protect Our Harbor Waters

2017 HDOT Harbors Tenant Training Questionnaire



Name: Scott Sevadjian Company: Grace Pacific/Asphalt Hawaii Date: 8/11/17

- 1. What is the definition of an illicit discharge?
 - a. Condensate from AC system
 - b. Purchase using a stolen credit card
 - c. A non-stormwater discharge that poses a risk to the environment
 - d. None of the above
- 2. Which of the following are not permitted to be discharged into the storm drain?
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 - d.) All of the above
- 3. What is required when an illicit discharge is suspected at your harbor?
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 - (b.) Call Harbors Environmental Hotline at (808) 587-1962.
 - c. None of your business.
 - d. a or b
- 4. The picture below is a good example of Best Management Practice (BMP) because:
 - a. Diesel is not a pollutant.
 - b. Tanks are properly labeled and equipped with secondary containment.
 - c. They are stored under cover.
 - (d) b and c.



- 5. True or False? In State of Hawaii, anything that goes into a regular storm drain inlet will end up in the ocean with treatment.
 - a. True
 - b) False
- 6. True or False? Any product labeled POISONOUS, TOXIC, FLAMMABLE, CORROSIVE, REACTIVE, or EXPLOSIVE should be considered hazardous.
 - (c.) True
 - d. False
- 7. Which of the following are good examples of BMPs?
 - a. Maintain equipment regularly
 - b. Promptly responding to a spill or leak
 - c. Using a drip pan underneath an oilcontaining equipment
 - d.) All of the above
- 8. True or False? Storm drain inlet (in maintenance area) fitted with hydrocarbon boom is considered a good post-construction BMP.
 - a. True
 - (b) False
- 9. If construction activities are planned, what is required on the tenant side?
 - a. Obtain consent from HDOT Harbors Division during the design phase.
 - b. Obtain permits from relevant agencies prior to the start of construction.
 - c. Follow the requirements of the Harbors Construction Site Runoff Control Manual.
 - (d.) All of the above.
- 10. True or False? An environmental violation may lead to criminal penalties.
 - a. True.
 - b. False.

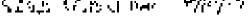


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2017 MOOT Harbors Tenant Training Questionnaire



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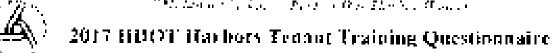
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Howard Marisha mar B/02/17

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"Målama i ke kai" - Protect Our Harber Waters

2017 HDOT Harbors Tenant Training Questionnaire



Nocka Mariastapa Company:

- What is the definition of an illicit discharge?
 - Condensate from AC system.
 - Purchase using a stolen credit card
 - E. A non-stormwater discharge that poses a risk to the environment.
 - None of the above
- 2. Which of the following are not permitted to be discharged into the storm drain?
 - a. Polluted AC condensate water
 - b. Fish entrails, wash water, and spilled chemicals
 - Petroleum and paint products
 - d.) All of the above
- 3. What is required when an illicit discharge is suspected at your harbor?
 - a. If on Oahu, call Harbor Traffic Control Unit at (808) 587-2076.
 - Call Harbors Environmental Hotline at (808) 587-1962.
 - None of your business.
- The picture below is a good example of Best. Management Practice (BMP) because:
 - Diesel is not a pollutant.
 - Tanks are properly labeled and equipped with secondary containment.
 - They are stored under cover.
 - b and c.



- 5. True or False? In State of Hawaii, anything that goes into a regular storm drain inlet will end up in the ocean with treatment.
 - a. True

b. False

- True or False? Any product labeled POISONOUS, TOXIC, FLAMMABLE, CORROSIVE, REACTIVE, or EXPLOSIVE should be considered hazardous:
 - (True
 - d. False
- Which of the following are good examples of BMPs?
 - Maintain equipment regularly
 - Promptly responding to a spill or leak
 - Using a drip pan underneath an oilcontaining equipment
 - All of the above
- 8. True or False? Storm drain inlet (in maintenance area) fitted with hydrocarbon boom is considered a good post-construction. BMP.
 - True
 - False
- 9. If construction activities are planned, what is required on the tenant side?
 - Obtain consent from HDOT Harbors. Division during the design phase.
 - Obtain permits from relevant agencies prior to the start of construction.
 - Follow the requirements of the Harbors Construction Site Runoff Control
- Manual All of the above.
- 10. True or False? An environmental violation may lead to criminal penalties.
 - True.
 - b. False.

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Name: Chad Mille

- What is the definition of an illicit discharge?
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 - b. False.



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DARNES Company: U.H. Marine Center Date: 8/7/

- What is the definition of an illicit discharge?
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Tenant Training: Questionnaires Results Summary and Completed Questionnaires "Mālama i ke kai" - Protect Our Harbor Waters



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- What is required when on diagraphic harps is prospectical of your harbor?
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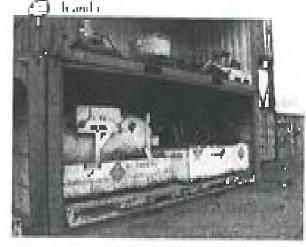
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2017 HBOT Harbors Tennat Training Questionnaire



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- What is required when an object discharge is magnesided of your hyperboy?
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 - ^{իլ} հինդերի բում բուցրում է, վախուխյակ արագից արգարգային wanca aanabay a aguungga m
 - He was stood male cover



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 - A 1190
 - Դահա
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 - <u>Խ հուսանում արագայացում գորդվայի</u>
 - PHORIPS HARBING III dagail or feale
 - Մահում անկարու ուսեստում ու ավ յ առատար այլարդայի
 - ATTAIL Die alleren
- Committed the Committee of the Committee Blad Hiller Britan ac address for Hiller along Hiller Franchiscon and historic հատու այստանատես ըստելում է արդարդ դրդյ han par



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- " Hermatica than activitias are plannad, a fancar ուսըությելու մու արոս արիւ է
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 - Lattere ducemparament de da Hadana - ուսասարարացակությունների և ընկել և
- . Klalliklakl - 5 Hard Hornboom
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Latina

"Mālama i ke kai" - Protect Our Harbor Waters

2017 HDOT Harbors Tenant Training Questionnaire



- What is the shifting on set an illustral palpring of
 - K^tomkenkate from Atti systemi
 - 💹 Parshawa a ang matalèn poégsi ganji
 - 🔄 📝 🗚 mari escatinowatean (Circo) intga that paraesa in to ski to the graving prest.
 - d Marata con this Library
- Which of the tollowing we not permitted to. be also bringed most the law-my diamin's.
 - Problems (NA) condensation in
 - I sub-entrails, Wash water, and applicat.
 - Periolestor and paint producty.
 - (iii) All of the above.
- What is required whose to the other large print wespected of wour harhor?
 - If our cather, call Placher Traffig & entre. Circular (NON) BK7-2076.
 - Call Hadasa Environmental Nationals 430HD 547-1962
 - Mone of your business
 - M. wide by
- The proton below is a great example of Bost. Missiagoricani Praviose (BMP) keeng ye
 - Orexel is red a pollutarii.
 - Tables are properly inheted and equipped with appreciacy contramment.
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 - b and a







- True of Police? In York of Hawan, anothing Hark graen inter a regionar eternal descriptivites serifend up in the acade with town out.
 - Lower
 - क हम्मार्किक
- Those on that's of Any perioducit landfed POISONOUS, TOXOU, FLAMMAJALL. USAGROSIME, RUAGITAT, an DOPTA SIMPL should be considered. **Риминфома**
 - $\sim 10 {
 m page}$
 - d 1 #150
- 7. Whath of the following are good examples.
 - Maintant communication contacts.
 - Pannapity reaponding to a spull or lead,
 - Carng a drip pan underneath an oilանձառույլ թվակարգրի

📝 All infilhe above

- True of Palkon Steam drawn oslyt (Ipniki nienance ureni) Insert wirżi hydrocarbani. listamus alered juggend propertingsteachion.
 - k rugʻ
 - 100 60
- Disposition to a set with small planned, what is: ranguaried and the necessary and ex-
 - Obtain consent from HDCs1 Markets. Division ditions the design phase
 - Obligati promise from religioni agginarqui presented the start of compligation.
 - Particles that responding one on the Blackman Construction Sing Ruport Constal
 - Matturi.
 - All of the above
- 10. Tana of Kalsath American improved a constraint. нь Ху Геневич унглимать республика
 - (They')
 - halte.

Please provide your conquests here



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2017 HDO'l' Harbors Tenant Training Questionnaire



MARIA A.K. COUBURY

K*Adnu=bY

- What is the definition of an illied descharacy.
 - a. It'ondonasie from AC system.
 - h Parahami milag a atalah an Alatawa i
 - A non adormientes discharge that dozes a rick to the environment
 - at Phone of the atomer.
- Which of the following are red permitted to be discharged but the steam drain?
 - n. Prolinted A4" condentrate water.
 - Pash contails, weak water, and splitted thembrais.
 - 📖 Petroleum and palat products
 - (d.) All of the attore
- What is required when our thirst discharge is unspected an year harhor?
 - If one Cashin, cell Method Traffic Control. Unit at (808) 557-2076.
 - Call Harlery Environmental Harling of (ROR) 587-1960.
 - Notice of your bipinger≡. ∃
 - al. La comb
- His proton below is a good example of Next Management Praction (BMP) because:
 - Dieset is not a pollutant.
 - Fanks are properly totalest and equipped with encondary continues.
 - They are smored under cover.
 - m. It must be



- If on or Pales? In State of Matters, anything if the great late a regular storm drain interests; and up to the occur with treatment.
 - A Train
 - b False
- 6. Tree in Palett Any product labeled POISOMOUS, TOXIC, PLAMMABILE, CORROSIVE, REACTIVE, or EXPLORIVE stands be executed by Jazzanians.
 - , `∠.; True
 - Hadae آله آ
- Which of the following are good examples of BAPAY
 - a. Maintain equipment regularly
 - is. Promipily responding to a spill or look
 - on, Osing a deip proceeder worth accoll. Any conforming equipment
 - d. All of the above
- 8 Time or Palse? Storm deals intel (in maintenance area) fined with hydronaction learning to considered a good past construction DMP.
 - , A. True
 - (le) Holse
- If construction activisies are planted, what is enquired on the tenest side?
 - Alviain consent from htt 201 Herbors Division in ing the design phase.
 - he difficult parallel from relevant againstant parallel to discussed of complete tions.
 - I-elime the regularizations of the Harises. Construction Site Burnott Control.
 - Musicumi.
 - d All of decabour
- True or Palse? An environmental yestellars
 — ay lead to craminal psinittins.
 - Jack Brown
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Tenant Training: Questionnaires Results Summary and Completed Questionnaires Malama i ke kai" - Protect Our Harbor Waters



2017 HDOT Harbors Tennat Training Questionnaire

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 ALC: LIMIT NO. 1	1997 - AMARIA I I I I I I I I I I I I I I I I I I	71 14 15 15 15 15 15 15 1	LL CLINC MOUTHPY

- A. Condenses from AC system.
- b. Parchage volue a malen credit card
- A constormwater discharge that process a tight to the environment
- 41 None of the above
- Which of the following are not penaltied to be discharged are the storm drain?
 - A. Pollulod AC conducano water
 - First engagity, watch water, and spilled chemicals
 - r. Petrateant and paint products
 - All of the shows
- What is projected when on little descharge as evaporated at your harbor?
 - U on Oalit, will Herber Teaftle Control Unit M (308) 587-2076
 - Call Hartigry Div/Nonmitel Hotling of (80n) 487 1982.
 - o. None of your bestpayer,
 - 4D a set to
- The places below is a good example of these Messagement Practice (TMM) because
 - a. Direct is not a postulant
 - Tanks are properly labeled and equipment with accordance could remain.
 - 4. They are stored under cover.
 - D bande.



- I find on Helic? In Store of Hawaii, anythings
 that goes how a regular store street later with
 other up on the occur with semirmore.
 - e True
 - (I) Paleo
- 6 The or Velocy Any product labeled POISONOUS, YORK), PLAMMABLE, CHROSTVE, REACTIVE, or EXPLOSIVE should be gottofined by widows.
 - (C) True
 - d Pulpe
- Widah of the following are good examples of IsMIrs?
 - a. Maintain equipment regularly.
 - b. Promptly organizing to a spill or trak
 - c. Using a drip pay understable on our
 - All of the above
- B. True of Palso? Storm drain injectify manners white effect filled with hydrocarbon terror is considered a good pass comprocessing UMP.
 - (2) Thin
 - b. l'ales
- 9 It construction activities are planged, when in required on the respectable?
 - Obtain consent from LEXXT Harbury.
 Division during the design phase.
 - h Olitera permitte from relevant agencies prior to the man of constitutions
 - British the resilienments of the Herborn Construction Site Report Council Manual.
 - All All the above.
- (ii) The or helde? An environmental violation may lead to a tribial paper [1].
 - True.
 - b. False.

Any plans for taking this training to resigniber when



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2017 11D CT Harbors Tenant Training Questionnoire



Name: Name Major

Simple part

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What is the Zaham on of an Alb B discharge?

- Condensate from ACT system.
- his Diging being mixing a storon which health
- A non-suspension discharge that posts of risk to the consumers
- Bogologisch Halberteilen
- Which of the R flowing are not perplaned to be discharged into the steamship of

 - [6] Fig.(c) graphicals, which suppose, quantum (2014) about is alle.
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- A What is supplied with a strictly it also beings in appear that of your higher?
 - [1] And Chang, early a pulsion template the acting materials 2076.
 - 4 Sqt. [] phops proving tractable like its attempt with 1967.
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 - الأسهارات
- The instant below in a good commistent floor Management direction (chem) has some
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- Trace of Kathar Arms produce hoosed to algorized the introduce of the Arms of the Conjugate of the Arms of the Englished (CONTRACTOR) where it be considered fugations.
 - (A) tres
 - d. Palso
- With the of the feddessering are girled personality, of DMPs?
 - in the Mail tath modification is got at be
 - B Prombjilly responding to a spill of this.
 - Oping a deep parameter confidence of contacting aggregaters

A All of the stone

ii. Trust on Palata P Section stream intervals. Trust the Batter's model of Book with Avalous at both broad as a most decent as given point of presidual Politics. (1988).

(a) Hear by Hadsay

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 - Digitate provide thate televal rightwist, provide the applical construction.
 - Pattow the organizations of the Harbors Construction to tell Ratioff Control

All of the phose

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"Mālama i ke kai" - Protect Our Harbor Maters

2017 HDOT Harbors Tenant Training Questionnaire



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 - Construents have AT System.
 - Problems many is wallers much need
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 - Transporphy, and Harbor Learner Councy) There are received the Author
 - to a Call Machine Constrainment of Indiana in CHORN BE A TURK &
 - Nana ni yoo businasa
 - (đ) nay li
- Արկանա լությունի հայտարի առաջին ապատում հայարարական ավարագույան հայտարարի վայաստական հայտարարարական հայտարար Managamana Processo (MMP) territora
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 - Tasks are properly briefed and equipped SECRETAL MEMORY OF INTERNAL PROPERTY OF THE PR
 - They are elected ander cover



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 - (a.) Lum 12/11/19/20
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- III Tamana Paleny An emalamanahat abilahan irreg lead or armount poundine



(1) 1 HIP 1141144

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2017 HDO I Harbors Tenant Training Questionnaire



Nahiri STEVEN HANNEMAN Company:



- What is the definite of epige pay at the tagge?
 - of All condensates from ACC reason.
 - to Participation may be a strategy of strategy.
 - 👩 A doll statitioner despireze that pages in us have the environment.
 - d. Name of the stores
- With to of the following are not parential for be also bariged paper the spread property
 - Pariffuse 3: Auf a made manner onesegn.
 - to the bright entried to want territor, and spatted. ակմիայցուհա
 - Petrologin and paint preshers
 - 🙉 Ajhuj Ijje abuve.
- When is required when an illustration large print saying her) at your blackness
 - Histor Galler, and Futthing Trapping Conjugat Control (BUR) ARV-2026
 - b. Light Hardway Emerger on deposit Hardway at ... (XUN) 5M7 19N2
 - Normal your burness.
 - (L) may be
- it is the profine below two good example of their Markings policy had the distribute pressure.
 - Dume has not a graff anoge
 - Purion are properly labeled and equipped المرصوب وإنسان وكواره والمراسية
 - Phay are stored and recovery



- I min or Talso? In Nation of Hassay, apprings. Had users two in regular atomic drawn in at will. անակայի մե կեն այդիրդ արկի կրագերարդի
 - Linux
 - Pagitan.
- A. True or Palent Any product baloglyd. DOMESTING USE TO NOT THE AMMABULE. CORROSIVE, REAST DESCRIPTION PONPI OSTATS critical his amount red girjeljaati med
 - (€2) Flori
 - lighter.
- Which of the following appropriation property. or Issues &
 - Matutata équiponero regularia:
 - PAYMENTA Specializing to a special customark.
 - Using a daip pair, undersyath arroad. գլայնսիայի**ը ա**զարգորությու
 - All of the above
- Tribit of halos 1 Storen ships independentreatment and a state of the discipling property in temper become a comparisoned at guidel particle action as terms DARRY
 - a. 1519.



- ⁹ Proposition as tentors are playing, separtic. required on the tenest add?
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 - Bilderin perinnila l'associate exist appinance. ptins at the filled ASAM seglection programming.
 - Professional programs around a little (particles) Conjusting Form Sale Norwall Congress.
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All of the alexage

- ID True են Բահան՝ Attentisping բերկի այդերիայ may be a to common penaltics.
 - 🕡 Դրա
 - Halac.

Ислае ресоная услаг страторых фут



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2017 HOOF Barbors Tenant Training Questionnaire



Naple JOHN RUSSElf Company. H.PU/ATM (Intel 31 AUG 2017

- When is the definition of an illustrated happy?
 - Conditional Chairs Agestype
 - has Protetjäste opting a spotent enedig cond-
 - A non-approximately distributed that prospers
 - Mappendiate eboses
- Whigh at the following ore not permitted reter discharged into the area of date?
 - ProBatish Att. dypaperparte supter.
 - First countries wash water, and spillers obtained.
 - किसीको देखनेत नेपाई क्रमान (प्राप्तितद्वात)
 - (E) All of the nbave
- A What is expected when an illiest discharge at suspected at your hadron?
 - If on Oalige (44) Harden Traffic Control Critical (808) 587-2898
 - Call Halton's hepophysical Medius at (809) 387 1962.
 - c. None of your haviness.
 - (A get (
- The presure halds in a grant consequency from the control of the property of the control of the co
 - Diesel is not a politicam.
 - Talike etc Brightijs (4) with and equipped with accordary contamination
 - They are usual under cover;
 - 🌃 Indige 🖭



- I read on Pather? In Street of Hawman parything that gone area a mightal state activity party well; and equal (64, 64) as early represent.
 - $_{
 m Min}$ $Y_{
 m Bay}$.
 - (b) Pales
- 6 True or Laiso? Any product inheled POISONOUS, TOIXIX, 11 in MANARI F., CARROSSINE, REACTIVE, or ROCPLASSIVE strend by consequent butter law.
 - True
 - al Fallet
- 7 Which of the fallowing are good examples, of false?
 - n Meinieth equipment regularly
 - b. Produptly obspicioling to Augiff to Joseph
 - Oseny a strip pau undernouth an offcontrolling equipment
 - (I) All of the obser
- M. Truster False? Scales gettp priper up Maintenance ment Planet with hydrocentees becomes connected a good pour construction. BMP.
 - Polar Polar
- If construction activities are planted, what is obtained on the tenent puls?
 - Fibrate consent from \$1000°C bin bota
 Or elaton during the dough plane
 - Obtain projects force option of agreement prior for the elect of construction.
 - Collars the requirements of the Herbury. Control to 214 Report Control Menual.
 - (d) All of the above
- Tave or Palse? An environmental evaluation is may lead to a tenural periodities.
 - D Line
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Tenant Training: Questionnaires Results Summary and Completed Questionnaires "Milliona : Le Lat" - Propert But Worker Warres

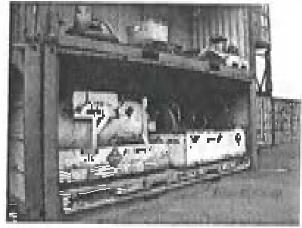
2017 HDOT Harbors Tenant Training Questionnaire



Hum Dan Otani

Company United Fishing Agen But Bis in

- When it the defination of neighbors disorpage?
 - $\omega = 3$ annihys yptig fjugg $A_i(C)$ sy apply:
 - Purchase many a stales compressed
 - 🕼 🕽 \Lambda того оборушальног феспециары (был рады) и DISK 10 Mot edynomics and
 - Name of the places.
- . Which of the following are not permaned to by discharged rate the steen group :
 - Pullsted (M.) condensite system
 - Praticipate, was how do particular. a beausgaty.
 - Petrol cirm and paint pressure to All all the above.
- What is required when an illien disclusion is avaparuled an your harbor?
 - If you Galler, with therefore fraction to more. Ution at 091965 NR7-2076.
 - Call Backers Any organizated Hesting as (808) 587-1962
 - C. Marin of your dipology.
 - Million or ta
- The plantic below is a good example of page Management Produce (BOSP) Incomes
 - Obeset is not a pellurant.
 - "Fataks are properly labeled and equipped will necessarily remains est.
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- 5. Lengton Fielder to Some of Herriot, anvilong. High goes 1945 A Log also steam describe (et sy f) and done the occurry with remarkers
 - a losso
 - 919 Balkari
- A Transplantacy Approvided labeled PERSONATION FORCE, OF ANGREAGUE. CORRUATIVE, REACTIVE, or LXPLOSIVE standal has managing ha an idnasi
 - $\langle \mathcal{G}_0 \mid \text{True} \rangle$
 - Kalsas
- . Who had the following are good examples: OF DIMENS.
 - Members equipment regularly.
 - Prainfully responding to a spin on leak
 - Using a daily pair underneath an oil. COMMUNICACION POLICE COM
 - $(d)\cdot A'$ in Other abstract
- Transport of Self-Shipter please and a rate matriculation recall three with hydrography p become expressiolenced a gossió provincionistatació un JJMP.
 - (Δ) True:
 - Paler
- B construction near values are placement, supports. Physical on the length side?
 - Obtain consent from HDDDT Bracteria; Develope digrams that devices phase.
 - Defining paintains from the band agreeming. \$9900 to the start of coupling pop-
 - Politice the requirements of the Hachana. Completion to a factor through the project Margage.
- $(\cdot _{\mathbf{q}})$. All 61 the above:
- 10. Tipe or hatte? An environmental softmen stress freed to situation problem call
 - €gir Trukt
 - ta Hartset

Place provide your communication

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2017 HDOT Rarbors Teasut Training Questionnaire



UNDERLY: HAWKI SKENEDONGS PARTY

- What is the definition of an illust declaring;
 - a = 3 from Leg position (recopios $g(g)^2 + g(g)$) pages.
 - Princhage nating a chalange reality and
 - 🐼 🛆 north for my sign discharge that passes it THE TO DESCRIPTION OF THE PROPERTY.
 - al. Moneyer the above.
- 2. Which of the following are not permuted up he deschiergest into stores com strain?
 - Pattured AC construente water;
 - by Problemmants, worsh waren, and applied chemicals.
 - Policioum and paint products
 - 4D. All of the process.
- What is required when an efficie discharge in SUSPECTATION of Inchese.
 - If on Oabit, self-Hitcher Teacher Corporal. Land at Okolej 5× 5/20 re.
 - Call Darkson Unvivo mental Harlings at (808) 387-1963
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 - **d**O akirki
- The presure below as a good name the self-legal. Management Practice (IRMP) Necessary
 - Down is not a pull atom.
 - Tanks are properly labelest and equipped. With secondary containing
 - They are surred under cover
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- Theorem Relay? Any product lebelot. POISONOUS, TOXXII, FLAMMADUR. CORROSTME, REACTIVE, or EXPLOSIVE show dilag gapgadaped. busindnes.
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 - Pulse:
- What of the fellowing or good examples of BMPs*
 - Maintene equapment regularly.
 - Primpily responding to a spill of Soal.
 - Using a drup pair underneath au oils. COMMARKS IN EXPERIMENT
 - (ii) All of the above.
- I rust on Palse? Steam drawn rates gos. mentionement around trideral with the inspections. becomes considered a good post grouping from JIM JE
 - (g) Trace
 - Paler
- 9 Bit construction is not they are placingly polytoping. oxygined on the resiant side?
 - Obstance observed from TILENT Harborn. Division during the needs place.
 - Ordano percents from relevant approximaprices for the start of constraintmen
 - Federal the requirements of the Harbook Constitutional See Round's (second-Mannal.
 - 付け All At the above.
- Program Federal Agriculture International Academics. may lead to action all pepulties.



lian taga



2017 HDOT Harbors Tenant Training Questionnaire



Harry To- Harr

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- To What is the definition to another discharges
 - n Charlemante (ben AC straen) In - Paretina mang mandan eradi esid
 - A study professional allegation spatial fabore in
 - gr. Harmanni dar dancar
- 3 Website on the millionering new one personned on the design high deal library has a state of all this.
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 - (a) All rel lite above
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- - ۱۱۱۱۱ (<u>د)</u> اللها الله
- 2 Which of the following man panel connection of \$16.00°
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 - B CHRISTIAN AND AND ALL THE TRANSPORT
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- (a) All al like alkasa
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2017 HDOT Harbors Tenant Training Questionnaire



Name Diagra

Richell

Company: Atlantis Adventures LLC 10000: 31/1/2/1017

- What in the Schnation of an almost discharge t
 - Constant from AC systems
 - Մ. Մեմաներում ու առաջին թեղվորը գրգային կարգվ
 - A region sectors winter dissolvenge it at parties as risk talája ajseregjijnege
 - d. Mante of the almost
- Which of the following preparity personalist ps. he declarifed time that moves demonstrate
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 - The brother is, was brought and applicaschemitenia.
 - Petrodesia and papit prestrens
 - ለ💆 Alf en also above.
- What is objected when entitless discharge is: gyjapaczyki na gyant harbarii.
 - If no stadio, cell Harter, Tradic Coursel. Und at (908) 540-0076.
 - Call Harbors International Harbareau (202) 527 (202)
 - None of your houness.
 - d, woale
- This presume below is a good example of Rect Management Parence (1994) Security
 - Dieset is not a pull-time.
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 - JA) Hatse
- True or halse's Auty product labeled. PORONOUS, POXIC, PLANINABLE. CORROSIVE REACTIVE, or I-MPLOSIME alreads by convidered hazar done.
 - ල්ට්) Truch
 - Haller.
- Which of the following are post examples: or him bot
 - Manual in regulations regularly.
 - Decouptly responding to a spill or leak-
 - LAIRE A deep pair under reathing grays. CONTAINING REQUIPMENT
 - Ali of the above.
- Provios Pulse (Sturm Grain inter jun mannanan, e Ansa). Bited sojil, hydrogarboni become a considered a good past constant to or DAMP
 - Hrae.
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- 10 Tana or Petra? As retention toposal was process. Topy feasilities remined penaltics.
 - ∰. That
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Tenant Training: Questionnaires Results Summary and Completed Questionnaires "Mālama i ke kai" - Protect Our Harbor Waters



2017 HDOT Buchors Tenant Training Questionnaire



Summer LINDA GULDS ROLL Company: _ HZ & B

- What is the defit implied applications impact
 - Condensate from AC seriors
 - Mitoflower gapug it stisting a postproving.
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 - None of your business.
 - a ge li
- d. The protone between a algorid example on Item. And thought being the plant of the group.
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- Trus or Pales? Any preshed labeled POISONOUS, IDXID, ELAMMARLIE. CORROSIVE, REACTIVE, in PMP14951VE whould be considered <u>lijājas professiv</u>a
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 - (4) All of the above
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Manual All of the shows.

30 True or Calce? An electrologicas desiglation. And Villend to represent populations.

Call Lines halae.

Please provide your commons figgs This is a great refresher program. It's also nelpful to be able to access into m the DOT website, which is very well organized. Battie Triveire's sampling/monitoring regiment core helpful to informative.

All presenters did a great job.

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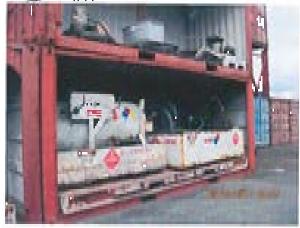
2017 HDOT Harbors Tenant Training Questionnaire



Halla Kern Hishiaka



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 - Condensing torre AC systems
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- Ways to of the following not good assumption of DAMPSY
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 - A Material Science of Court [1] 202 ft [Marthory]. District decorg the design phase
 - by Addition persons from relevant agencies grants the the start of gamesting treps
 - holdowing requirements as of the Harbore. Control of Dogs Sally [Copped] Controls Manual
 - All of the above.
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Planta provide your agonymatic term

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2017 HDOF Harbors Tenant Training Questionnaire



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studing on the swear with the property

- True
- 📆 False
- I are an Entach Arry product targetal. POSSONIUS, PUXIC, PLAMMANIE, CONROGIVE, REALTIVE, in-I: XPICUSTM1: should be considered.
 - Linux Balleti
- Which of the following are good examples: of MMPs 2.
 - Marmain equipment regularly.
 - Precipility responding to a spill of loak.
 - Using a deep post opterneath an in a containing equipment
 - All of the above
- Linux or Palac? Sterry death littler (a). u dia matematikan ng program). Milipuda ng palit ing dinggan ng palitikan haam is cancidered a good post conjequency. $f(\mathbf{i}_{k},\mathbf{j}_{k})$
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- If conservation acres they are physical, which as assured on the manusade?
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 - ytti). Alikoi kiro alvovoi
- Titar of Palsa? Alpggsorium estat virdgogg. rmus front Solection and penulinas-

What is the delication of an allogical epigage? A confernatio from AC assisting

Para base assess a stoler graditional

(6% A secont sumwater data large that pages at stak to the environment.

More of the above

- Which of the following are not premitted to be shirt charged into the atom advange.
 - Politicad AGC condensate against
 - Bush entireds, which water, and spilled. channels.
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- What is responsed when in officer discharge is: suspected at your harboar.
 - If on Oaks, call Harter, Institle Control. Unular (80%) 567, 20 cg.
 - Call Harbors I avaionmental Philine at 1808) 387 (308).
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 - District of and a probatem.
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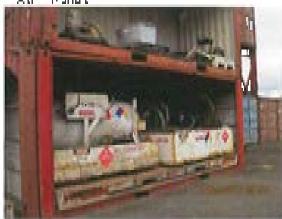
2017 HDO I Hádbors Tehant Training Quéstionnaire



Markey Mover Drye

companies. Popt of Attorney General Judge - August 31, 2017.

- Aletrat 1s (1e) de trantique técons et liquit des parage?
 - in. Conference bank AC system
 - Some Probabilities and tigger at obstruct which contail
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- Which of the following ore not permitted to be providing diator to Atomic desire?
 - a. Particles ACC conference provinger
 - Inchesion ada, sensiti wanyo, and applied contracts
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 - as A. All of the above.
- Where is experient where an attract the length of conflicted at 4 and hards of?
 - The Calmy (a) Harmy Traffic Contact Unit of ORM 1987-2026
 - It all Hathers they factors that Election of (SOR) NAC 1967
 - e. None of your business.
- And the second
- The preture below or a good extraple of hour Management the one photopy we asser
 - at a Digwell of paying part mapping
 - B. Tankt any assign de labeled and equipped with each pasts proportion spot
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- 9 If construction against treating plant and what is required on the second size?

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 - Collect the requirement of the Harbits Construction Sale Report Central Young)
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- 10. Type of Calse 6. An environmental wealthcomes and best formation [Ps Lablace].
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2017 HDQT Barbors Tenant Training Questionnaire



Same FRANK WHIT'S COMMUNIC CONTENTION SKIND OF 1/17

- What it the defention of an illigit goesting?
 - Recording sales from ACC againsts.
 - Prombination in a stolen continue.
 - 🖎 A non-seminable discharge that posts at make to the coveryngers.
 - Prens at the above.
- Which of the following are not permissed to: be shareheiged most the attenual large.
 - Pollofed AU condensare winer.
 - his first categor's, worsh winter, and spitted chemicals.
 - Perrovento and paget presiders.
 - 🐠 All of the mayer
- What is required when an illien discharge is prographed at your harhor?"
 - It ou find a rell Harbor Traffic Committee Unit at (BON) 557-000%
 - Cell Berbook Interconnected Horland at (BILLY NAV-1962)
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 - a a mile
- The product below is a pastal committee of Basic Малидентен: Ризсии и (бумуя) Беспия»:
 - Oreset as not a potterior
 - b. Parthy are properly labeled and equipped with recordary contangues,
 - They are stoned under caver.
 - 🛈 ih and a



- True or Entre? In Stone of Hawaii, anothing that great this en Age has prompt draint in our will end up in the cereit with restriction
 - a. Thurs
- **紹**文 Indise
- True or Calach Any progress tabulat. вовомося, гобос, и амманды, CORROSIVE, REACHIVE, or P.N.Pf. OSINTO disable his computered. الجرازي أوراه وهالا
 - 📆 Iran
- Which or the following are good contrible:
 - Maintain equipment regularly.
 - Prompt y respectable<u>s</u> to a spot so lead,
 - Using a drip pur underneath an oilestimationing actionation.
 - 🕖 All of the above
- True or Palke" Storne death inder our Bibliotecome eroe) filted with hydraunibroproperties controduced a ground property open page graph RM N
 - 🦚 Trua
 - Dahua
- ⁴¹ If construction activities are plusted, what is osponed on the mann kide?"
 - a A KMA O v ooseo" (psychial XXXIII dia bars. Divide on starting the design prices,
 - Cabitation personally from: cultiviant agencyles. prior of the wait of construction,
 - Cultive the requirements of the Hadridge Minus Southour Rate Harport Congress. Manuali
 - ØC). All of the physica
- 39. Почетов Гевар I Ангаличиствория) отобатов. they lead to a proposit pennitical
 - 📆 True
 - i l'Alber

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IDOT Burbors Tenant Training Questionmire



Manne GANLE SAito

Company: Unity Recovery (C III)

- 1.11 What is the difficulties of appliquent paginage ϵ
 - Condensate from AC versus.
 - Perchase using a stoter who to cert.
 - $\{x^i\}$. A then attribute to be probable that present if risk to the eigenprimant
 - Managerial Type Advisors
- Who is not the following are not print that he Principle [paragon page the apreparations?]
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 - High corrects, waste words, and spatied بخلج وزير وبرائد
 - $y_{\rm loc}$. Periotecin and paint μ admire
 - $\{0, j \in A_i^{(j)}\}$ of the above.
- What is required when a fallout downparge po garager (ed) at your broken b
 - a. Ում Ասեհոգ մահի ֆիսկոդ բայքիր Միայնչուն THEIR NEW MACHES AND MEDICAL
 - B. Catt Harlen's howeverymental fluiding an (SiIN) 587 I Miss.
 - Made of your business
- I be produce before in a good as an piece! Travel Maybridge the proof [1] which is a suppose.
 - Detself somt a pellatatij.
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- Aros or Palze? Any product labeled POSCINCION, TONIC, EL ANIMARILLA CORROSIVE, REAST INC. or PMP1 0901VII, though be considered <u>, hja eji ndimis</u>
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 - id lepton
- Without relation for the world and ground grappings. pp | |43.5 | |25.2 |
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 - , in superplant Land Control
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 - All of the above.
- 34 Trus er Balse?, Atmöpelpaleggajal e տերհայը։ omy feed to discinal penalting
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 - h false.

Please provide your conjugges here:

you're the Best Property hie ever been on. Harbors Division Keeps is tenents in our place. Well they try to keep justice MAHAlo

Sayle

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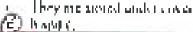


2017 HDOT Harbors Tenant Training Questionnaire



Name PROPS Drover

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 - Parochites a single sytte(e) preparations;
 - 🗱 A new accommence due harge that pages a Link to the specimens
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 - Distriction of special water, project specified. u lumajaja je (n.
 - Petitok atternak pájat projugis 🚯 All of the above
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 - Call Harless bremainmental Harblys at (x(13) 547 | V62
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--- Date: 9/21/17

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- True or Palso? Any product product holsoNotes, reader, ricaminani p CORRESAVE, REACHIVE, or EXPLOSIVE should be a operational. նաքարդինչը։
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o⊃attoe K Paten

- ¹¹ Hasattiste atsoft appropriates are planned, solution rings medium the tarrain wide A
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- 369 1919-ի մե Մահանք, Թեաթլընդին ընկարարակ համարբերը aspollentini enemani penalisas.

That

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2017 MDOT Harbors Tenant Training Questionnaing



Name Robusty You

Company: Plouder bughinger party of so 177

- What is the distinction of an illight step, heige?
 - Resolutions are flowers AAC assurance
 - Proclams on a stoken crossit card
 - CO A non-attributed discharge that process task to the correspondent
 - Southered the above
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 - Polluted Atticondensars water.
 - First, entraids, sweeth winder, and spottert. of terror cycle.
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 - r'ā⊇ All afirhe above.
- What is required when an illier discharge in suspected or your backway.
 - Moss Owhou until Harbor Translet Control District (804) 5x7 Direct
 - Call Harbor's Expure majoria. Harbor at [80%1582] JAO21
 - Minute of your haveness.

r®iD⊁n or bi

- File produce helper is a grant second section; Management Processes (IRMP) heaviles:
 - 191648: so not a publishing.
 - Tunks are properly tabuled and equippost wata werondary communication.
 - Diey are sword under cover



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Citto heise

 Fractor Pulson Any product labeled. РОВОМНОВ, НОХІСЛІ ГАМІМАЛЬТЬ, CONTRASTVE, BEACHING OF I: XPLOSTY I: should be contridered hazandaas.

€D True

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- λ . Which of the following are good examples:
 - Machine equipment regularly
 - Promptly responding in a gott or leak.
 - Although shop percendences in an order есправац<u>и</u> сервірокаст

id⊋Aff of the above

True or habe? Stoms again take god resent covers a mean's filtered within hydroscurthous been a considered a good post, construction BMP

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Palse.

- 2. If woodstate from autosoften and, planned, which is required on the treasure and "
 - Obtain consum from HDOT Barbora. IMVISION COMING the design plants
 - Chalain pariinta linen televasid agandos. provide the the word of completions on
 - Taillies, she requirements of the Bhotheria. Construction Site Russill Contact

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 Toucket Foliate Approximance statistics (2009). greey for it is cruminal pareal may

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- 1 What is the dation report of appilling (գորաթգագությա
 - Condenses from AC systems
 - Prophose group a statem regain cost.
 - $ig(\hat{G}ig)$. A finite stan ethicated glos (for $g_{m{x}}$ that process grisk to the elemention
 - al Norman and Physical Server
- 2. Which of the following invariation performation hit sless becaused put of the stroping stipping.
 - a. Problems Action and acceptance
 - b) high crimina waith reader, and quited. a hybright at a l
 - Petroleum and panu products
 - A J. Attent the above.
- When its required when an idea of discharge spins subspice, the first groups $\{q_1,q_2,q_3\}$
 - Michi Walta, said Hashay, 1981th & Approx. Unit at (508) 597-2076.
 - $\chi W_{A}/CMH$ Harbory Interroganemial Bashma at AND AND INVOICE
 - Name of your business.
 - of the surgery for
- The presure between a grand example of Jeys. Management May the 4994Ph because:
 - Distribute that a pull integral
 - Lenks are properly tabular and agranges; with secondary companyment
 - The gratic stored anglet passes
 - (d.) It wind co



- That in Volse's his state of Hawari, polythogy theographics are gular mountained in probability Mark aparty. The contemps with respectivelying
 - a. Titas
 - entig i bejavo
- Emar ar Lubic Sector product (allege). bolsowotes, robert reammantin, CORROSIVE REACTIVE or LOCINO DELIVIDA A material de la consequencia de la consequencia del la consequencia d
 - 11000
 - batter
- William In All this faith away property are group property at
 - Monthly reprepared regularly.
 - Pleasifully despeopling to a spill or teal,
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 - All of the alsony
- Auge or helpe" Sterne grain into the HLL(B) times if u(B) (HG) with hygher appears. becomes considered a good post construction Justich
 - $\chi_{A_{\nu}}^{*} \Sigma_{Total}$
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- 9. If contract an activities are phonons, what is required on the remaining do?
 - Obtain consent (page [4],83). ([a)[spig.] Disentered about 1931 that dignorary patroners
 - Miki бил рессерез бусов та Гомани деренству plant to the state of greaters become
 - i often the requestion is of the Haptings. Construction See Burnett Contact
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- Trăndan Polsk 2 yăte provincijențat vicite nei: ere y fizad no e mornial year actieve
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- 1 We hap the dopode Appring qualitatic Chief stoys for age?"
 - a. Condenses from AC systems
 - in the Princhase using a study increase and
 - A monoclar mosqlar discharge that process at title to the conditions.
 - al Manus of the always
- Weblief or the Kollowing are not per milled to be discharged into the storm sharin?
 - a Follored AC confansais water
 - tristi entraits, wash water, and spilled chemicals
 - Corror sum end palm prestucts
 All of the ateres
- J. White is required when an other diretimps is suspected at your flatbor?
 - رة Prime Cathor, Fall Photon Traffic Control الله - Cantra of 6040 5874 2076.
 - (D) Call Harbory Phylosomenial Modific at property as (1962)
 - g Maggarad yanna bassarassa
 - id. Hier b

dz handa

- A. The purious below is a good estimate of flats.
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 - a. 10 exc1 by net a graff utant.
 - Trade are properly labeled and equipped with secondary controlled.
 - y. They are acoust under cover



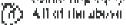
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True of Paiso? Any product involved revised results. To only Pt. A MSMAIRLE, CHARGESTAR, BT AS I DATE, as In XPLOSSIAT: should be a considered Envarious.



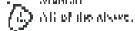
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 - Mathiata comprises regularly.
 - Brompity perspending to a spatt or trace
 - De reg widerp par sonde at each att ode.
 example regularisment.



8 Fene or Extse? Stone describet por resummence area) (effect with hydrocentors brown is considered a good persocuration on BMP.



- Of a masterial time are writer now purchased, when its propagation that the end side?
 - Obsam convers from HDC/PHintogra-Division during the acsign phase.
 - In Addition presents forms referential agencines, paging up the plant of association from
 - Prátow thrungs remeins of the Harborn Construction She Marcif Control
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Please provide your commonts form

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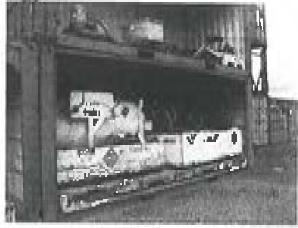


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Company Rephall Haven't war 9/13/19

- What is that defliption of an other digetimpers.
 - a. Combinion Compact aparen-
 - Prochase rearry a sorter system could
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 - (a) Some of the physic
- Which of the following project preprinted in the disc surged area the groundwise.
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 - Firsts enumerial sweets water, and spelled effectives.
 - (v) Dato-leoni vest piane pinidaese. (v) - Ali or the ribove
- k Websit is required when an illust doctoring propsurement of your hadron?
 - Hom Cake, GGL Larbor Traffic Control Control Orles 585, 2026
 - B. Call Barbary Americannental Horida, at 4808(1887)1962.
- Carlo Section to some histogram
- The positions below to a good expanying of the at Management Position (Review Ingress).
 - at The active open positioning
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6 Francia Entert Any product Interest PUBSOROTES, TOOCHT MARKENAMIN P., CORROSTAN, REACHTME of LAMILONIAL MISSISTER Committeed _NEARLAND.

Continue dal Labor

- 2 Which of the following are great enough to at DMPs?
 - Mention regularized regularly.
 - Premptly responding to a spill or leak
 - Compared pair underscath annual continues of continues.
 - Alterito, along
- 5. They are base? Storographing of grain social manager areas along with level or as too participated as a partial proposition proposition of the participated as a partial proposition of the participated as a participated as

(i) Time Isaba

- 9. It construction as performing planned, what is, required an illustration code?
 - Obtain enough) from MDO 1 Harbors
 Decision during the design press.
 - Ontain periods from pelevidic appoints records the market construction
 - Yollow the requirements of the Harbors
 Construction Size Remail Control
 - Manstar (ii) Att of one access
- 10. Let a in Father's An experimental wedgeton a gray band or amount proxima.
 - (a) Take b Tules

Phone provole your commons to have



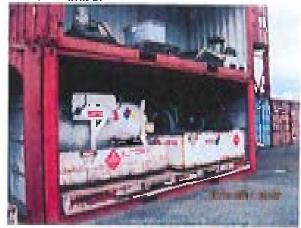
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- What is the delignment of adults in destronger.
 - A. Catalytasia fining At Appending
 - Paretose uning maniferran and mesqui.
 - A Leik skeintdester die Zuege das gewonen das zo die erwinderen in
 - d. Nope, of Paratones.
- 2. While to the hollowing are not place that to brish sublight of a the specific or page?
 - Postured ACC condensate warren
 - First (option)s, words water, and applied characterist.
 - $x_{\mathrm{eff}} = 10^{\circ} \mathrm{MeV}(600) \mathrm{MeV}(414)$, which is the probability of x_{eff}
 - 🖹 🎶 All of ma always.
- Within a temporary strong on all the physicians of surveys first in your function?
 - Brown Sahor, von Harten Traffic Commit-Umir or (803) 597-7076
 - Sfall (Arborn Impropries and Harbon of (80%) 347 1562
 - None of your Submett.
 - de march
- The placety topics is a great connecte of free Management Practice (Matterly), pages
 - $\mathbf{a} = [\mathbf{a}] \cdot \mathbf{a}$ is get a positionary.
 - Tanks are projectly injected and equipped with reconding contamined.
 - They may appear assured.
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- 3 Interval Folia? To State of Howard, enything that was subtracting the issociation in let will an end op to the established property.
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 - h Dalso
- N. TORROW halve? One product labels.5 POISSONOUS TOXON [F] AMMARIST. CORPOSSIVE Mondal be corporated. Interestors.
 - ### Time:
 - al lighters
- Whiter of the following and good equipped of Hypey
 - Multitach dipterphygit i egg judy.
 - the Promptly originating was spall or look
 - Diving a delp part and entered an acteventuring equation.
- , = d . . Alan J flye above
- I the or halve? Storm doors often one on the order of the

 - lly literature
- If construction percentage and plantical, adjudged impactful oil tips through option
 - Obtain convert from HEXXII Hapania.
 Division domain the design phase.
 - PROATS positions Responsible appropriate prior to the same of construction.
 - Pathow that temperatures of the hindward Consequence Suc Report Conjugacy Magnet
- ## All of the always.
- 10. Treated Editor's Property operating a relations.
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When it the definition of an iller de have?

Construction factor AC by term
 State bases using a structure construction
 A most attempt with day factor by the private a sign to the private as

d. Name of the above.

- Which of the following ore not parameted to be descharged into the around any?
 - Pollured At, condensate wars t
 - S table about a deep straight so dates, most peopless), a payment appear
 - (4) Williams plant before and the first betracked as
- What a required when so thick discharge is at a regard or year hardon?
 - Many Caha, call Market Traffic Lawrent Uran angulary on 2-Mark
 - b. Call blackers have recognized a history as about 182 1867.
 - (d.) I was b
- The periods below is a good transply of their Management transport (1994); resource.
 - is. I he get a wat a postudient,
 - Tento der propertie interiest vest equipperti e alt socialistis strongeneral.
 - Director would wake over.



- fever on habite the course of blackers, anything that years are in regular source dates and or with and up to the occurrence plants of each
 - (b) take
- True or Febre? Any product lebeled POISONOMS, TOXIC PLANIMADILL. CTHRESHYT, REACTIVE, or 1 SPERIMY Manuald to considered Agreedings

O True

- Whish of the following our good champles of DMPs?
 - Masteria is agreement toggetter by
 - Invokegally an appointing to a spell or lines.
 - a. Having a strope pain weath needs are colo
 - (d.) All of the above
- Transce Falter? Steam death with the material account flood with hydrocarbon beam to considered a good past construction (BMP)

(Insert

- If consumerous and where our planted, whereas expansed on the natural side?
 - a. Obtain someon from HDOT Particle Decision during the design phase.
 - Distriction production for many actions to the production of the production of the production.
 - Institute the enqueroments of the Uniteres Consentation Sur Republic County
 Manual.
 - d. All of the above.
- rug Trez se Talez * An encuremental verbinses - tony lieta to evigornal generative

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Please oroyide your comments have:



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Company: = == | Happy | Date: \$/31/17

following the engaged personal

- What is the defortion of an ith Constrainer.
 - Conditionale found Ald system.
 - by Parchava using a stolen crodit and
 - (6) A monotocommunior develoring that poses at risk to the communion;
 - Morre of the abeve
- Which of the following are not permitted to: be discharged the the winth drain?
 - Pulleted AC condensate water.
 - b. Fush enterels, weath water, and spritted
 - Petroleum and parm producta.
 - (II) All of the needed.
- There are Pairw? Handwarthing senter are: allowed to discharge water the ground if ringly is not identify generalism from the or written per Trouvers
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 - (My Folky)
- The prefere below is a good example or Mexi-Managemant Process (PMP) necessors.
 - Prevelos nor e politica et.
 - Turnles are prespectly to believe and equipped. with secondary containment.
 - They are sound under cover.



- This on Lobert to Maccol Have a margh ng. that access take a regular atoma departmental width of Mary and the college constitution for
 - 1500
 - **(%** Politica)
- Tree or False? Abre product lake ed-POISONOUS, TOXIC, PLAMMARIES, CORROSIVAÇÃO ACTIVAÇÃO LXPT CMIVI: slovaki be considered. nagandous:
 - CIII i Truga
 - d Palso

A major source of Zimu pollution is

- Alterendistation
- Turys
- 7 Hydenalia Book
- BB It and a
- At all the Appear
- True or Euler' Space drain into the malamenance area) total with hydror arbition books is consistered a posi-construction DALLS



- . Півстичко коєр об'ярый рекропасть тог
 - Complete the required report. A contions clay a publi Automobilities a six Stop the source
 - Salada PPE
- Levelor False? An environmental violation. reary twart force remail prevalues.
 - (\overline{A}) Thus li Lubat



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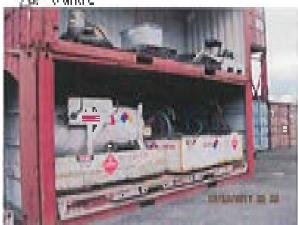


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Company: Alland Sklawbers Dane 3/Aug/17

(Circle the correct on-wor)

- What is the definition or an illien discharge?
 - a. A misternatio team At ayalem
 - b. Princhase i sins: wistoleri credit cons-
 - ুন্দ্ৰ A monistromovater dischange Post poses a making the energy someon
 - the Monte of the above.
- Which of the following are not permitted to be discharged into the groun during.
 - a. Pollured AC prodessare water
 - It into entratite, wash water, and aprilled cheened's.
 - e. Petroleum and paint products
 - معمله مانكه المناجلين
- 5 Cinco or Polaci' Hundroading slinks are allowed to discharge water the ground if they have delenged vibulinus only an other publisheds.
 - a Trans
 - rβ2 Later
- The precure below is a possillar ample of Heat Management Practice (2MP) become:
 - A. Dimsel is not a pull-tact
 - I anks are properly labeled and equipped with recombing continuous;
 - Liter are stands under cover
 - b and e



- 5 True or halve "to Brace of Hawah, anything their passy mental regions second denia rate with end up to the ocean with treatment.
 - or True ∰ False
- 6 True or Philips? Any product inholed POISON OURSET UNION FLAMMABILE. UNROUSEMENT REAL TENT or UNROUSEMENT Show of heteroperate of bezerhaus.
 - 69 Into
 - di halse
- 2. A unitor sevice of Zine pellotion is
 - a. Giromidwaine
 - Hres فرواجي
 - e. Hydraulic fluid
 - a band √By
 - All of the Above
- Turko of Tribo? Shapin shall in the grid into noncountry users) fusers with hydrocorbon becomes considered a post-construction 19549.
 - TotalIn Indian
- 9. The first step of spall reup wise acts.
 - Complete the regulard region.
 - h. Contine the spot
 - ∠2) Akkees dhe nak
 - d. Shop the wange
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- True of Tube? An ensurance and endation may least to determine produces.

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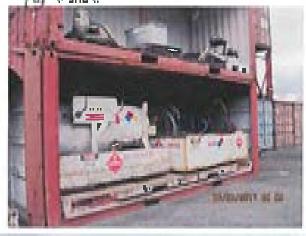
2017 HDOT Harbors Tenant Trululug Questionnulre



MARINE GOING FURTAGE CONTINUES I

48 Incle the control answers.

- What is the definition of an illight despharge?
 - Confidence of the Conjection.
 - Purchase many majolah codin card.
 - $\{C_i^{n}\}$. A more suppression of the burger than posses in risk to the case compact
 - because of the obsides
- 2. Which all the following are not permitted to berdischunged i misithe steurunderun?
 - Pollated Attropatemate water.
 - Fish cotools, seaso septer, pipel spijled.
 - Protection in and paint proclams.
 - (ii) All all the above.
- Time in False? Hardwashing state are: All Swed to 31% harge we to the ground of afrey base detergents but not alle of arben restintaras.
 - a laud
 - (00) . Here a
- 4 The presure below is a good example of Hear. Manage nero Przenice (IRMPI Recauce)
 - Dresel is not a continuum.
 - Tanks are properly labelest and equipped with secondary containment
 - They are simed under environ
 - triand w



- A row on harbord in State of Haward, may in ag. Quality grows and the argument of the property of the product of the complete sample. anid tip of this means with treatment.
 - 1 mag
 - (F) Indse
- True or False? Any possing totaled. IMPSONOUS, TÓXIC, PLAMMANLE, CORROSIVE, REACTIVE, or 5 X PLADSIANT: whould be extraited at hazandous
 - Let Tree.
 - a Pulker
- I = A rought source of Zine pollution is:
 - Transmittentier.
 - Tieve
 - Hydrau i Mhail
 - Spanish at
 - All of the Abrica
- Froe or Folke* Storm strata inter time märatenamie vie ä) fätter, wätta hyd vägadama. boom is considered a post involves anomali-HINGE
 - (ii) Tran Ta, Bajbag
- The flux step of spill response is facilities.
 - Complete she required report.
 - Confine the spill.
 - (C) Araczi Highinki
 - Shorthe source
 - Select Plans
- 10. Then on I mad? An environ mental wishanon reny book sa empremi penninca.

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- Wilson in the definition of an discitutive harden
 - Complete and from AC assistant.
 - Parethrase many a student error treath.
 - _εση. Α ακαι-κισταιονομού dust harge that posice at took for the solvered rine of
 - d. None of the above.
- Writish of the following are not germinted to: he discloraged may the sound drain?
 - Pollated AC condensate water.
 - b. First entireds, seast, senter, engl spulled.
 - Perroleum and paint products.
 - (4) All of the above.
- Team or Value? Hambooking some or allowed to discharge water the ground at they have descripteds has not acts or either poliusmos.
 - e Trus
 - eTo Malico
- . The preners below is a pand manuple of Mesi-Management Pinchkle (BMP) beganse.
 - Doesel is not a published.
 - Lacks are properly labeled and equipped. with an endary carmonismi.
 - They me atored under easen
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- Time or halve the Mate of Hawaii, anything that government are expected into the discussion let with the ending in the water with theaterent
 - a. Jinub
 - ₩D Palse.
- Trace of Police? Any product laby gd. POISONOUS, PÓXIC, LLAMMABLE, CONROSTYD, REACTIVE, or P.X.PL OSTYE is haveful the operators of linzandena.
 - Tom:
 - etan Kilon bishud
- A ranger source of Zine pollution is:
 - Cinna endovates.
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- S. Linux of Little? Stomy drain soler (i.i. magrammencer arrest). Sassed sends hydrocarbic at boom is considered a poss-construction. DMP
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 - Weep Inchesioner
 - Recent Distri
- Title or Colod? An environing stal worktion. nice lead to chaning growthest
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 $C_{(0,p_1,p_2,p_3,p_4)}$



2017 IIDO I Harbors Tenant Training Questionnaire

(Climbe the connect answer)

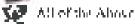
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 - a. Condensate from AC system
 - Parchase osing a sid or examplement.
 - 🚜 A men stormwijke discharge (hat poses a cikk to the environment
 - Science witche alleged
- Which of the Softon nyme not permitted in. by discharged into the storm strain?".
 - Polinted Att condensate water.
 - First contracts, wash writer, and spijled. e kumare a livi
 - Perrougum and paint products.
 - gargin Adia at the above.
- Wrose or Police? Handworking arms are: All reward to alread angle sentent the $g_1 (\eta_1 \eta_1)^* \cup \mathbb{Z}$ they have deterge inches has eally or other різі і штаріси.
 - a Truci
 - g**ily** inclase
- The potence action is a period enoughly of Byst. Management Provides (HMP) leconomi
 - a 🔚 Dieke, iki naria politirahi.
 - Tanks are properly tabular and exprapped. with accordany communication
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 - il ruci Folse
- There is Palen? Any product labeled. POISOSIDOS, PÓXCO, FLAMMABLE, CONTOSTYL, REACTIVE, or 2:XPLO51V1, should be considered. hazardous.
 - 🗺 Trans
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- A ronjim source of Zone pollutions as
 - Aveoundwater
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Hallset.

- The first step of april responds to to.
 - Complete the required report.



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Notes of PPP1

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Same: Clief Cagain Company: Kagami

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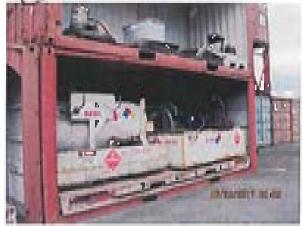
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- What is the debtat at a fat disard as a page.
 - Condensare from ACL cysters.
 - Horotaise overgreichsten arzeit enzel.

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 - Polluted At Legislerante waser.
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 - a line
 - gf¶ar I nise
- I the produce below is a good groupping of legs. Management Promise (1899) because.
 - и. Первобитиру стару Кылагы
 - Lanks are properly taketed and equipped. $\mathbf{w}_{i}(\mathbf{b}_{i},\mathbf{b}_{i})$, which is the property \mathbf{a}_{i} and \mathbf{b}_{i}
 - This plans storad of detained t
 - b and c



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<u>d</u>E-Zhanal c

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Continued Ma == - Jam

(Citable the correct answer)

- . What is the detrotom of op dto italise tange?:
 - a Euroglegisate ffrá á 145 í systegr
 - In Periodiction and ignorable predictional
 - (G_{ij},A_{ij}) is the association with the school (G_{ij},A_{ij}) where (G_{ij},A_{ij}) making the engineerings.
 - National Alphabases
- . Which satisfies fully write any and people itself to ne descharged agenthe stores down?.
 - Pattine & AC condensure water.
 - b) b) showing the way to separate march application. u bengal Alba
 - Potential of people property species, two
 - (2) All of the where of
- I I mid ar Sulve? Handenshing amaz are: pthoses by desphyric water the groupest it. they have determents but put only or either pullistatets



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- The postory behave a gradule or pure set Best. Matings postal Planta exploMe2 log acres
 - Distribution to pathetical
 - Labels are properly fallety & and equipped. with an appliant containing in
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True or Entset Any product trisded POISONOUS, LONIC, HIAMMARLE. CORROSIVE, REACTIVE, or UNPLOBING kluzald bits into de test haza (divida)

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🕼 Մահեն անհագիլի

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Names Many Buyer

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- What is fire definition of an allien discharge?
 - Condensate from AC syntem.
 - Purchase using a stoten creatic cast.
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- Which of the following argingt pergrapped to: he discharged aim the storm discovi-
 - Polluted AC positionant sector.
 - Inial: entrails: swap is waiter, and spritted; بطورشييها وا
 - ${f e}_{i}$. Parrowest is and justice problem to
 - $\langle e_{ij}^{\dagger} \rangle$ All of the above
- Time or bulse? Hopelweedings sinks are: allowed to declarage water the ground dithey have detergened but not aftern when politicano a
 - a Trans
 - (°) laka
- I be profuse priowing a good excuspion of Mexi-Missingement Principes (MMI/) because.
 - Dievel is not a pollutour.
 - Tinnks are properly labeled and equipped. with preventary companyment.
 - They are stated under cover.
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- Total at Palis? In State of Blowns, anything. dan gacuanto a regular marin dirata inter will. and up in the reason with travitional
- il care l'Alse
- True to halve? Any product inhelet-PulsuNOUS, Toxic, Flammable. CORROSIVE, REACTIVE, or LOCPLOSIVE should be considered. gg zin deux.
 - Time.
- A major operation Zine pollucion is:
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 - g. Hydranhe fluid.
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- Time of ESSe? Stoyand compiler promanineramice aren) of nert with finalbreambining boom is extra detect a prost-construction. [MAID:
- The first step of spatt response is as:
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 - Counting the again
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- 10. Travers: Palacin Arrier vice intended a charger $\frac{\exp \{c_n g_{ij}^{\dagger}\} \cdot c_{ij}^{\dagger} \cdot c_{ij}^{\dagger}}{\sum_{i=1}^{n} |f_{ij}| c_{ij}^{\dagger}}$



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Name: PROBLET TABLE Company STATE OVES Date & 13-1/17

(5 hade the correct moses etc.)

What is the definition of an Great developing.

- Chride isste üsen ACI system.
- by Thirdheyn using a woter, excita conf.

 $oldsymbol{eta}_{i}$. A group shorten with our directioning a that includes $oldsymbol{a}_{i}$ mak ke dike megremmie in

- Mone of the above.
- Which of the Pollowing appropriated to: be discharged into the storm sharing.
 - Political AQ's undepote water.
 - B. Hiller (Vols., was a water, and spilled)
 - guigPetroleona and paint preduces ff. Jirlik of the above:
- Toucke Entan" Handwashing sinks act. afferward to discharge system the ground to They have disregents but males, a priciber postantacina
 - a libraria
- Halad
- The piet are below as a good example of flex; Management Peachine (MMP) because
 - Diesel is not a polluca in
 - b. Lanks are property limelest and enumped: With Section Jury a solution conf-
 - They are stored judge cover.

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Times

المحادثا وإلى

 True or Patse!! Any product labeled POISO NOTES, TONIC, TLAMM ABILE; CORROSIVE, REACTIVE, or EXPLOSIVE about he or externit latent doub

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- Automor source of Zere politicalities
 - Gentuckhearer
 - Pinare.
 - Mydraulic Soud



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Halac

If its first support spall response is two

Complete the required report. Continuabe spill. Assess the risk

Stop the source

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Numer 19

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Company:

SHANC GOOD

Date: 9/31/14

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- What is the delitoriest of an illustrate scharge?
 Condensate from AC system
 - Purchase uning a stolen ereminent of A page that prices a track to the effect of the page that prices a
 - 45 Notice of the Above
- Who that the following are pay percentled to be discharged against his spring place;
 - a Pulliated At Conditions water
 - I ish chirar's, which waive undapolical whereast;
 - Petroloogical group products

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- 3. In continue? Macdowelling sides are allowed to disclored wider the greened of they have detergents by put ones or other pullations.
 - g. I nue
 - 🙆 lipise
- The postate helicone is a good example is of thest.
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 - Dictoble rior a pullition.
 - Lamba are property (abselect ma) expurposed with securities y containing ent
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- Time of Tukey's 4g State of Rawan, engineing that passes have regular terroristation of let will end up in the experience treatment.
 - e land
 - i**q**β | bases
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 - A Inc.
 - ud Huise
- 7 A playof weather of Zpts, Palantism is
 - a Circumbanasar
 - b. Times
 - ու վիջի ըրեւ լիայի
 - **(D**) handle
 - All of the Above
- A Teneror Police" Storen Jimin union for prophego (c) apopte their dath by his option logistics de hardsteil a post moto out; tion BMP
 - û iruc
 - Jan Buiten
- 2. That first stape of spatiate special as to:
 - Complete the reduced report
 - By Copting the golf-
 - Assess the gala
 - di mare prijing seeding d
 - Small PPD
- 10. Toge ya ha ve? An apsaparaparat w ofanjin may lyad to dipopal popalités.
 - (i) Inter-
 - Т. Lahи.



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48 and to the your rest anyther?



Neme

Sara Daniels

Company: F Assistant

Date

I West at the defendance for client day, rappy in

- n Constanzara fisson Ashayara n
- b. Parchive average stolen eredu eard

(c) A non-somewater discharge that power in the following enemoting the power in [4]. Some of the above

- 3 Which of the following are not permitted to be discharged and the storm drain?
 - Profince: Affingsplepping winter.
 - histoleotradis, washi waren, and spiclad obcurrents
 - Petroleum and panic presincts
 - (f) All of the above
- True on Later? Handwachung stake ten affiliwed to discharge water the greated if they have detergents but not other artists pellotrets.
 - $\frac{\mathbf{a}}{2}$. Thus,
- The precise below is a good example of their Management Practice (PMP) because
 - a. Diezel is nor a politicant
 - Tecks are properly labeled and equipped with according contaminat

 - They are stored under cover

d. Ir aml .



- 5 A root on the self-in Street of Massish, anything that goes not a angular song observable will end up that as seen a sent throughter.
 - n. The (b) Lake
- Tomeson False? Any product (abidity) POINCENOUS, TONIC, TLAMMAZALE, COMMENSIVE, REPACTIVE, or EXPLOSIVE about the considered Japandous
 - $\left(rac{d}{d}
 ight)$ Toda $\left(rac{d}{d}
 ight)$ Polac
- A imagin address of Ame pollocion is
 - Circumstanting
 - In Thems
 - g. Hydraulic fluid.
 - $\left(\underline{\mathbf{d}}
 ight)$ Yound \mathbf{c}
 - e. All of the Above
- True of Kaise ! Second decomplet for maniferance vice!) Hared with hydrogarbon brond in connectored a post-connectation PACP.
 - $\frac{\langle \Delta \rangle}{|E_0|}$ Time
- No. The first step of apill response to be
 - Complete the required report.
 - b. Contine the spit*
 - Step the souter

 Step the souter

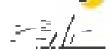
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- Low or Estad : Apprens conserved at a statum trony Bard to supplied [pges@ge.
 - (a) Times b) finise



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STEVEN HALLERAN (minimum)



(Clinate the connect anywork

- What is the definition of multical descharge?
 - Condensate from Att system.
 - Purchage acting a sonient codes const.
 - $(\mathcal{E}_{1} \cup \mathsf{A})$ num-sub-inventor; discharge filat poset ω nick to the area connecti-
 - d. None of the above
- 2. Which of the following are not permitted to he innerharged more that coming dealing.
 - Politated AC condensate water.
 - b) In all control at weedle water, cost spottest. alberraterity.
 - Pottel care and paint products
 - (3) All at the shower
- True or False? Handsvasting sinks are: allowed to Jischange water the ground if they have desergents but notice was attach profile work.
 - o Truci
 - /'tt/ Felac
- The presume below is a good enample of Best. Management Practice (HMI) because:
 - Direct as only pollutants
 - Tonks one property totaled and equipped. with securibing continuously.
 - They are cosed under easing
 - h had c



- I true on the self-in Street of Minwall, anything. Unit leaves into a reporter scorer design inter writtending at the occasion with treature at
 - Time and the
- True or Later? Any product labeled. POISONOUS, TOXIC, FLANMABLE, CORROSIVE REACTIVE, or EXPLOSITED though becomes area. Nazar distas.
 - (0) True
 - Felor
- A major source of Zinc problem is:
 - Consumiterators
 - Lines.
 - Hydrautic (land)
 - (ֆ) հաստոնա
 - All of the Above.
- 8 Through Paties Stern drain intel (in: main terrance areas filted with hydrocarbian. bis en la servisi deren ja prost gogat gugtgog.

That's ex-

- The tost step of spitt response is (c.
 - Ckhoptere the required report.
 - 19 Conting the apall.
 - 📆 2 Azzmurche riski
 - Stop the pource
 - Select 1990.
- 1D. Traction Called? An governmental variety on more legal to one modal periodities.
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(Circle the correct answers)

- AM har on the determinant or am other discharge?
 - Combined by Institution At a system.
 - Щ_{ет}. Princhase using a stolen cooling and i (1) . A mentistanti watish descharge Part prises κ rick to the environment
 - None of the above.
- . Which of the following rise not permitted to: But they have get in the the atomic discipli-
 - Pollured AC condensate water.
 - It is his control is, which we'created applied. chemicals.
 - Petroleon raid print products. Ali of the above.
- Fig. 6 or Fulse? Handwarning sinks ere. altowed to descharge water the ground it. they have determents but not eith or other. والمعاماليين
 - e. Time.
 - (BY Pulse)
- The posture below or a grand example of Bess. Madage cent Pessione (DMP) l+cause.
 - Diesel ik nor a politikana.
 - Tunks are properly labeled and encopped. with according continuing of
 - They are stored to the cases
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- A_{ij} . Time on halaciff is State of Hawkin, and hingthird ilgenic terror with right for incorns along the for twill be end up in the ocean with treatment.
 - (SM) Times
- 5 I have on that any finishment about of POISONOUS, HOSTO, FLAMMARLE, CORRUSINE, REACTIVE, or EXPLOSIVE should be considered. lagrandous.
 - /ミノ True
- A teaper sense of Zinco, in between
 - A Conductivesor.
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 - All of the Above
- Emeryor Latve? Stamm drawn inter (or.) instructions of areas disted with hydrocorosin. turned as ceres ofered a post, good tractions. 115412
 - $\langle k \rangle$. Thus,
 - b. Palan
- The treat step of spill response is to:
 - Complete the region of regions.
 - Confing the spill.
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 - S Nikop Hodundured. II Serie, i Piblic
- 10. The ear Palse? An environmental yeletation. mary tra⊈ jo knort nat ponatricia.
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ACT I the tipe converge approach

- What is the definition of an illustrates harge?
 - Condensate from AC systems.
 - Property see in supply staying a conduction.
 - 🚰 A այսական այրոնչ ամանը ակայում ինտակիր և կամ բառառանը։ took tyelfor measure of total
 - None of the above.
- $\hat{\phi} = \Theta(0)\hat{\phi}(0)$ of the followings are not paying that to he deschoogs dijate she stetto dia poe
 - P. Hurad AC condensare water.
 - Printing property, sweeth symposis maid applified. r byrgspig v
 - After his description of the property of the contract of $otin \mathbb{N}_{+} All of this above.$
- True or PotveY. Phote washing strike me. a between the digital harapa weater the great paties. Place Nationals integrable for tipotically of arther ja dlatantu.
 - a. Truci
- Ψ_{ij} . The graduate televise is a grand a simple of the ϕ_i Menagament Praerice (BMP) because:
 - e i li ligge de la servicia que el graggio.
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 - They are zioned under cover



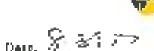
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- Three or hadra? Any product to what РОВОМОЙЯ, ГОМИТ, ВЦАММАВИЦ. CORROSIVE, REACTIVE, or FIXING SESTIME should be considered. Taide Infrasc
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- Light or Exists Stores storing intesting րդնկանորկայն է նրագի հնվարի արևել և չև խլեցել բխարդ lessenta per di atra d'Engel en passi accent pintat per pi HIMDS:
 - (2) Truci
 - tii Liaber
- This has step of spall to spaces as to:
 - Complete the required regular
 - Charless the spile
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 - Salawa PPL
- (6) Improve balance. An environmental spatiality of ئىلىدى بايدى يەرىكىيىنىڭ يايىلىدى بايدى
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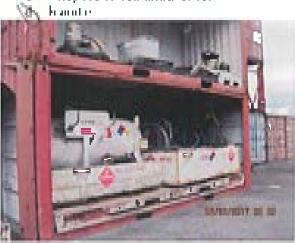
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(Check the surreshars work

- 1 What is the definition of an Charatry force?
 - in the endergote from AC system
 - by Princhase as og installer virialit enral.
 - (a) A non-manimum discharge that power a risk to the environment
 - None of Distables.
- Which at the following one cat permitted to be declarged into the stone dean?
 - a. Pollured AC continuous water
 - It is then that is, was to sepret, and spitted of terminals.
 - All or the above
- 3 I had on he wa? Diandwinshing sinks nor allowed as charlenge water the ground if they have detergents but not oils or offer publisheds.
 - a. I me
 - (b) Index
- The pactors below is a good example of News Management Practice (BMP) because
 - Dieselijs not a politicam;
 - Tenks are properly labeled and equipped with accordary confirmation
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- 5 I rive or Labor? In State of Place and onything that seem into a separate standard into index with analogue of later damped to be stronger.
 - (h) Tour (h) Inixe
- True of house? Any preside? Involve?
 POISON LAIS, TOXIC, M. AMMALGE, CONRESSIVE, REACCITYFE, in LXPLOSIVE, about the example and burst-large.
 - ල Inic ඒ belse
- 7 A respectable of Area pollution is
 - as Paroundheeter.
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 - (Մ) հատել
 - 8≦ AB of the Ciove
- 3 True or Palse? Storm door into (in municipalse mea) fixed wat: hydrocarbon becomes considered a pass construction IBMP.
 - \mathbb{Z}_{0}^{n}) Thur
 - di Potse
- 2. The first step of soil respond to to
 - Complete the required report
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 - і. Япорабы конта
 - Nelson MML
- Three or Explett Appendictions model and above. Prog New York Philosophysics.

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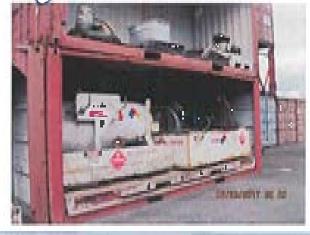


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- What is the defict the colline Chart discharge 1.
 - a Vanderstam from ACI syciam;
 - Porchase osing a sinten eredu card.
 - 📆 🆫 A gring start groupter dien harzen Hait perses ei Appears the the environment.
 - d. Material threateren
- Who had the following was prepared to: he discharged tyte the story quarter
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 - If it is a contracted work in worker, and again and u2ionnienia.
 - Melpulering applying of possible is
 - ا ولايران ورانا سالم 📆
- I race or Painc? Handwathing air knows. utleswood jas jõistejan ja samjan Popiga sijust uli thá y há seo de teo geptis, bajt post ou (a repletitur) [Sallwington
 - a Huw
 - (b.) False
- 4 Tillië profitatë beglesë në a gjord çë projële sof [best: Mattagement Francisco (BMP) has acree
 - Dicaclinios a pollucani.
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 - Thirty and stored misker and at-
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Selver PPD.

 True or hybre? An environmental endagge. بحواللهم فيرا للاسولان والانتزاز كمحوأ الإلامكر

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- What is the definition of an allocation stranger.
 - Cartale Basing Digital Systems
 - 16 Purchaso using a social consent cond-
 - 🖰 A non-storthwister discharge tital podes a ¹ - աչ է եր վեր բույլարը չյոլ
 - d Notice of the globe.
- Without the following are not personned to: be discharged this the worth drawn".
 - 45 digital AC positionare scaler.
 - har bash cathaile, words water, assumed but a literational Si
 - Pairwicum and pairs perducie
 - (To All of the above
- The of False? Handseshing tops see أرز المراسلين فراه فاستفاد الهروم المراجع المنافعة duny ha an desargo no bur non adalah sa bahas performance.
 - ա հինդա
 - a Kalsa
- I de protune belong is a good pantigale of flest. Mining emeny Principle #14 MIPT Personal.
 - Dijesel is not a potinjent.
 - The place and paragraph to be bedyed agone propagation. with weartdaty contact to the
 - They not arproximation according
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 - n Time
- √BΣ Labor
- True or l'absett Any product talse ed. POISONOUS, LONGE, HI AMMARITE. CORROSIVE, REACTIVE, or EXPLOSING should be associated.
- A payor source of Arcs pollurion is:
 - pro- (Chapperd wages)
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 - Hedrady flyid
- (3) building All of the Alexed
- Trial or halve? Morning marking Prantile Bathes, a Lyay [[]Lisk Weller (system) (plant). lettern is a chard-time of post ampath, street Euper hi
 - ¢γ**(≣)** Hogel ի իրիս
- The host step of spall respective is to:
 - Complete the required region.
 - M. Confine the synth
 - Assessed the part.

Step the writes Saléer Phili

 I remon Indeed, An environmental violation. Ιονών εξενίς Ισια μημέριας μεσιάθετες

767 I Said Paper



2017 HDOT Harbors Tenant Training Questionnaire



Name: FAUL FIREMANA Company; F. MANNAE Date. B=2 = 1)

45 the let the correct Assessment

- Writing is that department of an idlatar developing.
 - Condo maio from AC ayuram.
 - Perchase using position exects early
 - والمحرفة والمرازا حرورت المرازية فالأرموا ومحاورة والمرازية specialities that allower termination.
 - Name at the abaye.
- $\mathcal{F} = \mathbf{W}$ for \mathbf{h} of the following are not permulted to: had been got into the storpt diagram
 - 15 Hurod AC condensate water.
 - In the continuous symple symper, much applicate chapter give
 - Postpolicking which parable proprieties
 - All of the above
- Type of Labert Happingshipp supporter. الكان والإنجاز الإنجاز the process determined to be expected by politicanta.
 - ap larger
- - Y Jessylvaya
- The presure below in a grand example of Bere-Management Page In a CHNIST begins at
 - a Jaigag Ljas jäet al proflotavit
 - Therios are projectly labeled and exprequent. while specialary contaminant.
 - They are stoped upder cover.



- There is Palse? In State of Distance mystining. than government regular kidera distribution of the and up in the years with treatment.
 - 1 pine. () Poku
- Your of I size? Any postner tabeled. iso'sostalis, roxic, ją ammąjalis, CONFRONTED AN ACTIVITION EXPLOSIVE standal by contact adhna arsketa
 - offi⊃ Lene.
- Austrajan astaren alt Zine polituren izi
 - գ Հատուրա խաշվարդ
 - Hughy.
 - Hydrodic Para

All of the Above

- There are Parks 2 Sharps drag to take the prearana venames la realà francia worth hast respartanti. house is considered a post constitucion.
- Dig first align of spit prespuggie public
 - Complete the required or post.
 - b. Continue the spill

As some this reak.

Stop the soup in

- Select McF.
- 10. True or balach. As programmental violence. լրայի խորհ<u>ի</u>կանություն կողոցեկում

2 1 mg/s



"Mālama i ke kai" - Protect Our Harbor Waters

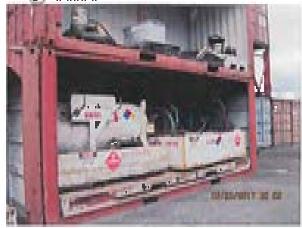
2017 HDOT Harbors Tenant Training Questionnaire



Surprise (Controvers) Company (Laws on Gas Date: 1) 3)

(Circle the contect answer)

- What is the delipion of an Thursdischarge?
 - Afonders ale from AAT systems.
 - Perchase expensionstatement with another
 - $oldsymbol{\psi}^{0}$. A committee investigation and harmed that present $oldsymbol{x}$ aink to the privareament
 - Wome of the above.
- Who had the following are not permutast to: he dikebangad uiro ake utama dawii?.
 - Polluged AC constanting wither
 - It is the contracts, was towerer, and applied. elierraerda.
 - 7. 25etisa esam Arad yearet paradon tel
 - All of the above.
- True of Endse? Homewhering works are: allowed to discharge water the ground of they have derec<u>s</u>ents but out oils or other polluranes.
 - a lirudi
 - $\langle \hat{x} \rangle$. Follow,
- The planter below is a good example of Best. Marsagement Phienian (HMP) herstake.
 - Discreting not a pollurant;
 - Timbs are properly to telephanel equipped. with secondary contamount of
 - They are subject under cover
 - hand ...



- 5 True or Helica? In Name of Hovenic may long. chall poors more in organic steams dream intel sent. wind air in the occur with Continent.
 - Times
 - ۱ħ. Haine.
- Take or halse? Any priviled labe ed. PODSONOUS, TONK, FLAMMARDE, CORROSIVE, REACTIVE, or frXPLOSTYD, fileuid be considered. bacurde av
 - VZA True
 - d Balay.
- 7. A ranger source of Zine politicion by
 - Urau sheaten
 - Times
 - Hydraulie flood
 - $\mathfrak{g}\mathfrak{g}$ than the
 - All of the Above
- To e pri Felse? Storm dram informamainte tance area), totod with hydrocarboni. freem is consistered a post-construction. BOMP

🖹 Time

- h Bake
- This flow sorp of spall pasponed is re-
 - Complete the required espect.
 - Confine the apitt.

Access the rick

- d. Propithe source.
- Sylvan PPD.
- tti. Tugus on katsetti Apriepovangogagatet sonterismi ista y iliçaid no cenga mat premattres.

a) That

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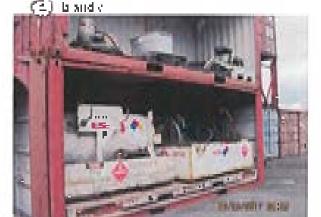
2017 MDO1 Harbors Lenaul Fraining Questionnaire



Name Chadagey Profit

(Clincle the connect answer):

- What is the determine of an illien discharge?
 - Charlepolie haup AC system.
 - $h = [\log t] \cos t \cos t p \underline{t}$, $s_i determinent (something)$
 - A transaction while taking by tigg that problem is risk to the revicement.
 - Notice of the above.
- \mathcal{F} . While that the following free part percy that to but street participation that stores in design 4.
 - Problem At Leanth Problem (widg).
 - Finds on matter wearth wearing and spatial. chemienta.
 - . Petroteorn ogst programmetres:
 - $(i igcup_{i})$. At i if the almost i
- These of Palso A Matching a time appear allowed to discharge water the governd. If dray have detergenes but that only an other pertochapts.
 - $a_1 = a_1 h \mu$
 - (6) False
- The protone belong in a poor learning to all floor. Mininggovers Procued (MSP) because:
 - It proved as most upport physics
 - Harries are progressly talselied and expressioners առեն ծեկ արվանչ Հանլադի լեծին
 - They are too sed under cover i



- Lines of Table? In State of Hawaii, much right fine goes into a regular storm divide inter with end up in the many with makinsent.
 - $\delta_{\pm}=|z|$ $p\delta_{\pm}$ (D) Posto
- I rate on helpo" Any product laborat. POISOSOUS, LOOGE, LLAMMABLE, CORROSIVE, REACTIME, ed PAPEORIMI should be considered. Baylo John S.
 - (\mathbb{Z}) True
- A responsement of the pollunion at
 - والمشارخ فأراها وووردا الأنسان
 - Track
 - Hydraudis Cond-
 - is board of (B)
 - All of the Above
- վինանաց Ինլիանի հենգոր մերգից բոլի։ Այթ otentis tagos atea) [[3]/d wedy þydtin arlugti lzazdo i astronot anno at prest e grijatza știsto. (1M.S.)
 - il give
- Tille to the stay in the off spig fill a graphon say the fig.
 - 4 Stophitz the organization part
 - b. Contine the up-fl
 - €⊅ Assentative trak
 - Shop the segmen
 - Select 1995
- Trace in Palvo? A colorection for fitted knockspart. may le<u>ydg</u>e ammutal pedakara

(in] there Մահայներ

2017 HDOT Harbors Tenant Training Questionnaire



"Mālama i ke kai" - Protect Our Harbor Waters



Company:



DOTable blic contract was week

- What is the deformance (x,y) the (x,y)
 - a. A simple sale from Att system
 - Parchase trong a staten credit card.
 - 👼 A akai-storumwaior idhichaaga thai powas almake a display as a compact.
 - d. Name of the above.
- Which a Sither following are not pennional set he descharged into the storm drain?
 - a. Phillipsed AC, condensate water-
 - b. Firsh entracia, weath water, and spolled. elienments
 - Petroleum and patri producis;
 - 🍂 All of rbaninova.
- Tryogue Relag? Heindsenslung sink være. allowed to discharge water the ground of they have decargemental rate only or atherpellusants.
 - na Larga
 - Mailson.
- The picture below to a good example of Hear. Maragement Practice 4BMP1 because
 - The set is ear or probations.
 - B. Clanks are peopledy tabeled and equipped. with secondary equations on the
 - They are assend uniders owner
 - b and a



- True of Lacyett In Scale of Hawnis, and hope that goes into a regular steerar donie rolet will. end up in the executionals invariants
 - n. Taug
 - De la ve
- Trace in False? Any product labeled. POISONOUS, TAÓXIC, ELAMMABLE. CORROSIVE, REACTIVE, or h XPLOSIV hishould be considered. المعمار المعمرا
 - 🚁 Tioner
 - d. halse.
- A major somer of Ame policino is:
 - Kirmprojlsvateri
 - Tirres
 - Hydraube rlunt
 - example to
 - g. All of the Above
- Tipus of Palve? Shorm drain inter (i.i. rnamiczanycz ariar) uprod w nie bydrawickom booming considered a post-corsar action. 1454 H
 - 🐧 💯 Teser
 - 40. Take
- $\dot{f v}_{ij}$. The first map of spid scapense in its
 - A for aptelled the required report.
 - Сочные поскрыт
 - Assess the task.
 - Shop the appropri
 - Refer 1976
- Title of Ea(s)? An exectompostal Medapon. triagolizad to strutuital pictial toss.

🎒 Time

- Kjutsei



2017 HDO1 Harbors Lenant Lraining Questionnaire



Same: TO MOR 1/02040AG

Company.

Haulli Stalupolla

Date

141

(Cleate the correct enserer)

- 1. What is the defaultion of as the halochape?
 - Konstensate from Att system.
 - by Park intercoving a student conditioned
 - A mon-manimum of a large that poster a risk in the properties.
 - d. None of members
- Which of the reliaseing persons parameter to be discloringed turn the ground from?
 - a. Profited AC condensate senter.
 - b. Frah entrada, wash, water, and spit edehromya(s)
 - Percaleuni and paint products
 - 劇人 All of the intelled
- To ever Enlac? Handwessing ninks are allowed to discharge water the ground. If they have date gents but the olds or could pull atoms.
 - a finac
 - 496 Finite
- The picture below is a good maniple of Bett Management Process (BMP) because.
 - Dienel in not a pollutant;
 - Total varie properly lateded and compact with secondary contaminant.
 - They see around under cover.
 - KD -higher c



- True or habit? In State of Hawari, anything that goes judy a regular storm, drafts pidet will and up or the cosmowith total port.
 - a. Tius PS halse
- Time or Folsen Adv product Socied POISONOUS, TONIC, PLAMMARUE, CORRUSIVE, REACTIVE, or ENTLOSIVE should be considered by contents
 - $\mathbb{C} D$. There is
 - of Pales
- 2. A major source of Zore pathoner is
 - Openidwiter
 - $\mathbf{b} = T_{\mathrm{HWS}}$
 - i.e. Hydesidia Card
 - Mi≥ hande
 - a. Alford the Alsoya.
- W. There or broke? Strong change inletting promine cancer area; force, with hydroxide a boom is considered a post-extraction BMT?

- Argusta de La Carta de La C

- Tr Balse
- The Sirks step of spill response twice
 - Compile in the required expent
 - h Contine the apeli
 - k) Assess Die siste
 - d Sag the source
 - Select PPF
- Time of hillse? An environmental violation may lea<u>d</u> for the out peculies.

(a) I tag Y Telan

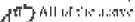
2017 HDQT Harbors Tenant Training Questionnaire



Name Alore 15 (Dangement & lookers

(Cardo the correct answer)

- Where is the the system of an idea of system with
 - g Kimpala pagite Karanji 250 ili syatiting.
 - Prototytes as tog a steletok red treatd.
 - A type sixt of content show backs that process in riak to the environment.
 - Magnetic Displayers
- Which of the following are soft to trusted to: bridgettaged inschlie soom dami''.
 - Politifed AC confension water.
 - والمرازية والمرازية والمرازية والمرازية والمرازية والمرازية والمرازية والإسروبية
 - Periodecot and partition dust s



- The end have C. Hambwastings with sides $\mathbf{x}_i^{\mathsf{T}}$ (as equal to a discrete e.g., we prove that $\mathbf{x}_i^{\mathsf{T}}$ is the open of the yellow and to tgo one but not still and retired режинови.
 - a legal



- The present below in a panel example of Hest. Miningoment Progress (HMP) Negunio
 - Treset is quita profatant.
 - The place are concerned by the archest equal and a foreign. with account y doubt bloght
 - Hitch and stannik under cover





 I reprint below to State of Heward, phything. իների չումեր իրին եր ընչուրետ անարդումների որ իրկանվել և grading that the resident retails Regulationers.



Take, or I place the product (Aleeby I). POISONOUS, TOXB _ TEAMMARUP, CORROSIVI, REACTIVE, as LXPD PIVI. standt be considered. والملافر إزهاريا

🈂 i I pag

- d Enlsy
- A tripled secure of Zine politimen is:
 - Kressiges Job after
 - i ligiĝy.
 - Myshanalis, Hend
 - b and a

A Contains Always

Tipot of Palse? Aterpt dramingly gigt facilité l'accept a tou) l'utre d'écrit l'hydre a theori become a committeed a presisconstruction. la sa le

69) - Tear Halso.

- The first step of spit, response is to
 - and Champtelia the people ped report

(23) . Complete the spi(1) $\sigma \gtrsim \Delta \sin \Delta \sin \phi \sin \phi$

i - "Skop ma kabilari

- Setees Mith
- Designate prior, A. An Consumply quality in larsing. ating bind is a citaria jis tadirs -

愛と Trus! ta Hallyei

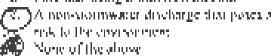


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DOMESTS The Assessor I was even by

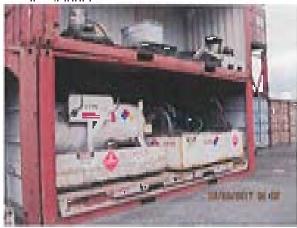
- What is the definition of as the ledge barge?
 - a Klimmensade Frank Astronomica
 - Porchage oning a gratery owler coal;



- $2 1 \lambda V_{\rm color}$ of the notional $n_{
 m k}$ and has permitted to: he detaininged unto the storm distin?
 - Pollufed Att condensate water.
 - 1) Fight entireits, which waters and spilled. emenin alsi
 - Petroleam and point predacts. (f) All at the above.
- True or Felse? Theodywatting ands are: a beweel to chart maps writes the ground it. they have detergents from an other or other performance.

Though Felse

- The picture halow is a good example of Rest. Management Practice (1890) Inchase.
 - Diere, is not a sothilart.
 - $\{ \mathbf{l}_{\mathbf{p}} \}$. Turnles are property (a helical and eigenproof) With a second darp double hate of
 - CeI . They will knowled under cover-
 - o and s



 Leve of habor? In Scale of Haward anything. that news into a regular storm department of with لقا ومطاعما اللعج وعلامه والأنام والمرازق الزق

Lines Parke

- 6. Trace of Labert Any product labeled POISONOUS, POORT, PLAMMARUE, COMPOSIVE, REACTIVE, AL
 - 2/XPL02IVI: shouth he considered. hiiz ardouy.

- A reajor was ed all Zince politarion is:
 - Appropriativa (e).
 - Tings:
 - Hydractic think

∉क^{©27} is soul का

- All of the Abuse.
- Tone en Folke" Storen eligen migt (oc. to a internation area y faired with a code care in inbearing a consudered a post-construction.

Line h base

- The farsusum of spill response is to
 - Complete the ordinard region.
 - Combine the 1905)

Assess Hierarch

- Strope the Assure of
- State of PPT.
- Legacine Lights "Are environmentally in Arrows." máy l<u>est</u> from miná) peadfres.

Table 1 h Dalsa



"Mālama i ke kai" - Protect Our Harbor Waters

2017 HDO1 Harbors Lenant Training Questionnaire





(Circle the correct answer).

- . What is the definition of μ_{0} if an invalue μ_{0}
 - $x = C \exp\{\zeta \cos k(t)\} \exp\{i \zeta (t) + i \zeta (t)\}$
 - Parchase using a secretar could card.
 - 🕼 A that Bredtswaler date large that passes as rule to the environment.
 - None of the above
- Who top the fellowing spring property in but they hargier british that steemed tam?
 - Postured AC candengage water.
 - 4. Impărientiumia, winhi writez, and aprilient. Chapping V
 - 🧾 Մահիսնայուր արախիայից քառավում և 📂 All of the above
- 3 Truc or Lefac⁶ Hinodowashing since are: with respect the splits of energies we given by Γ $\langle 2 p_i^2 \gamma_i | p_i \rangle \sin \left(2 \ln p_i \right) = 0$ for all $p_i = 0$ for i = 1 for i = 1. (mallintagits)
 - a Thus
 - / Indae
- ik I na jing lipas addinas polij jejmaš resaju jejm i i Mest. Magagement Inaction (BMI): beganner
 - Down is documentally table
 - Panks are properly labored and squapped. with severeiner complications.
 - Things were should produce to some
 - և արվա



- True or Pathe? to Mare of Haven't payetime. that goes uploin regular subjections ϕ_{ij}^{*} (set), : المراجعة ومخال أليانها ورجيجي كرأنا كواسراه أبرين
 - a Title
 - ← Leba
- Love to Polyc' Any product idealed. POINOROUS, LOXIC, HIAMMARIES. ciuskosyve, keas fyve, ac DXPLCQDMT thank! Interest subrival. hazarskem.
 - t roc
 - il lighter
- Autotical source of Zith Tightating as:
 - Character waters
 - la large
 - The feet by Hard
 - 🔼 trapitu
 - All of the Albase
- umazioni linduci i Scormi discini interipi in information recent threat with hydrocarbon. háid eg psikuegsaplerast ja prost eroentja jelesni. Day()*
 - CO TIME
 - la l'alixe
- The first step of spit apsproase page.
 - Complete the unpupor private.
 - It if the Governor application
 - 🐼 Assitss the Lisk.
 - Stop the assuran-
 - e. Belen Pübl
- (O) Julia, im Jealise V. Agrierperproppedatativ interprint titaly band to descripted prettal title.

True

Labe

Please provide your comments here:

COD WORL - TANIKS -



2017 HDOT Harbors Tenant Training Questionnaire



Name: May Hotel Tony

Company April 100 Haring Date: 8-31-2017

(C. India the connect wassers)

- What is the definition of an ideal declarage?
 - Constensate Isom AC system
 - ly Purchase along a scalen credit card.
 - (2) A more strong water discharge that perses in risk to the discharge test
 - A. More, of the above
- 3 Which or the following michon permitted to be discharged into the summ distra?
 - a. Politifed Att condemale water
 - E. Spigotoni's, wash water, and synthetic about 648
 - g Peterleum mid parm preducis.
- A France Publish Handwards og en kklase allowed to discharge water the ground of they have descripture has not only or extence lintanta.
 - n Tour
 - (A) Kalso
- Despiecure below is a good example of Brai-Management Practice (DMP) because.
 - Doese be ent a proflutant
 - Lanks are properly (abeled and egopped with vestidate) containing
 - They are mored under cover He handle



- ker eiger halte. Ohr State of Hawnis, anvillinge that goes outcomegalist states done tolet with and up to the opening with treatment.
 - og Insk (Ø Leise
- Time on Parke? A typombal trialered POISONOUS, TOXIC, IT AMMARILE, CONCOSTVE, REPACTIVE, or EXITODATVE should be considered formulation.
 - Ç) Taw
 - id. I alka
- 2. A hinjer some of Ame poliution is
 - Circumstantes
 - In Times
 - Hydrectic fluid
 Stand c
 All of the Alexag
- Three for Larke / Supriss draws index for manifectanuse areas threed with hydrocarbon becomin considered a post-construction IRMP
 - True h Filler
- 9. The first step of spitt response is on
 - (Notice etc.) the required region?
 - Continue the splitt.
 - D. Alaskia the raik.
 - 🐔 Stop the source
 - Seter DBB.
- Time of Palso I. An another property collection may leggle common per a new.
 - (հ) հորդ։ Ու Բավար

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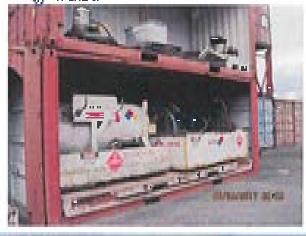
2017 HDOT Harbors Tenant Training Questionnaire



Name: My-- - Man Company: Jan N. 6/- - W Dan. F &

AR THICK THE CORPORE A HASSAULT

- What is the definition of an disjudy, happens
 - Combits and bridge ACL system.
 - Province using a stolen creduleral.
 - 🚁 A, pospi strajujacajujej etjal tajego ilaji; passes je ujsk judjše ogšajangjegti
 - Name of the obsess
- Whiteh of the 18H wring are not permitted to: he glass language in the Phenyly agencing point
 - a. Pellotyl Ak coplepatic water
 - In the Potential Is, Washit Wests I, and spulled. ohennesiu.
 - 😋 Petrofeum mat punit products. 🚺 Alijini ilbe aboke.
- There or Pales? Mandoraching while are: withwest to discharge water the ground of Harry Japan Arthersprings (Sp.) and in hymenaticae product applied
 - a) Than
 - ∰tj. Laber
- ر (Hest) في مريز برايز و برايز من جي فيماري و جوين في ورايز (Hest) Mintraggraphic Processes (1884) to conser-
 - District is necessiped to ac-
 - funka are preparty tabaled and companys. الإرضار وبرادو ويبوا متناصره واللزعم
 - These signstopy happines grower
 - 💔 📗 brandist



- Julia or Alaba, Sept State of Haware, a pulping. that goes of the a negolat. Me hand twite the 1901 with and up in the recurrent brings from
 - agi Traki
 - Charles of
- Towers Palso? Any preshed about POÍSUSOUS, FOXOC, FLAMMABLE, emickowine, Rhad tinh, or $\{\{X_i^{(k)}\}_{i=1}^{k}\} \setminus \{x_i^{(k)}\}_{i=1}^{k}$ by physical temperature of example $j \in J$. Not All Lidens N
 - II The
 - 🐆 I nise.
- A project south, but Alpha politicities is
 - Citerandwater
 - 📥 Tukan
 - :Hydeng որ Որդե
 - «անչ և գորիչ։
 - 🚰 ing Legithal Almad
- Trus er trafte? Storm stram inter pis والمراجع والمراجع المالية والمحورة والمحورة والمجاورة terengo par grants of exércit quipassina og ografipa. I régi PAME
 - 📺 Licari
 - 📥 👢 krata a i
- Will Till (filter stepping) spull newpropose to full
 - Cetablets the required report
 - Conflict the spill.
 - 🌉 Agyawas dan mga
 - Ohiop Han wong Ger
 - $\sigma = \lambda_0 \log(\log p)$
- 10. La confuber. An enguantional vialation. anas lend to company) penations





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2017 HDO I Harbors Tenant Training Questioningire



Nume: Gree Ball	Company: SNIPAPIN	Daix. == 17
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45 Origin (by posture) majors as b

- Whot is the վերկան որ մի մույնեց եվ չշկարցում։
 - a. Complexate from 68 againm
 - B. Para hase asit glasticient carditizatid.
 - 🏂 🛴 Антын ктогишчиног аймайдардоги агрызсыны mak ne dhe carvarenament.
 - Naspers) Hje ghave:
- $2 = M[h]_{\Sigma}[m][t]_{\Sigma}[f][h]_{\Sigma}[m]_{\Omega}[g]$ and properties that is absthatgeth attenthal state altring?.
 - Pollinted AC condensare ware:
 - In a la contracta a servata sente comenda públicada reference people.
 - Definished on physical primitive ∱d) - All of the above.
- True or halac? Handwhalling stuke frepphrosecol, for the objective water play group collecti thosy trade, wheter goldens book apart of the equiph per polistages
 - ita Tarat



- The post que tretose os a gérant est papillo satificat. Missing the tree type (HMIP) has aren.
 - Decades betat pellatient.
 - Lunks and prograds taticied and equipped. with accordany communications



- The Archard In State of Harvard, applicing. l∱gal gewis appliera palgar(Apistrias) paljekapp optie£ Sep∏ti with laptor the resemble with the attractions.
 - True.

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Name: No == (" pred company) our firsters marching = , = 12

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- The ricks keep of spall response is to
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 - d. Stop the source
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Please provide your comments here:

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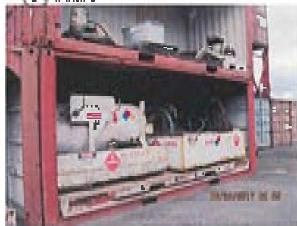


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45 Trade the correct answers.

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 - It will contain, which warrs, and spilled. channeals
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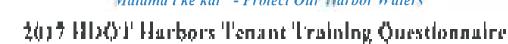
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- **股**队 Largery
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 - Purchasorusing a staten credit cand.
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 - al. More of the above
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 - Perintegrand participateds.
 - (Riy All of the above)
- Linux on Ladac's Planet washing works and all lowered by dissubarged realers the present of decy have detergents but not oils or other problem per se
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 - Tanks are property arbeted and equipped. with the produce the foregoing.
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Name Kristin Line

Howain Argue Products Company: From by Line & Sers Dave.

(Circle Pin connect answer).

- When we the deformation of ormalical state to such
 - a Condensata Isana At System.
 - his Proof are named a stolen could const-
 - 成功:A non ulerniwater discharge that pases at ands to the environment
 - Name of the above
- Which of the fallowing are resiper nated to: he discharged into the Botth drain?
 - Political AC combinions swater.
 - b) I high entrains, which water, and applied. chemicals:
 - Betrolision and paint products.
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- True or False? Hintsbyasting sinks are: allowed to discharge water the pround if they have detergents but not sals no other politicanos.
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- This part we associate a good execution of least. Management Powrlee (BMP) breside:
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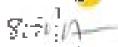
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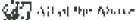
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Company: Norther Street, Sections: 15-2-13

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- WOrd to the definition of an illustrated language?
 - Condensate from AC system.
 - Princhage uning a violen coedh card.
 - $ar{(ar{e})}$. A consistent waster descripted that passes in risk to the environment.
 - None of the above
- 2. While of the following are not permitted to be divelopined into the steem drain ()
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 - Petroleum and paint products
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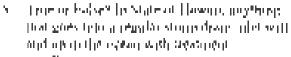


Name Filippe Upolo

Company Ogt of Afring O'Back 50/4/17

(Circle the correct nasweet)

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- V. A control by the graph of the page with the process of the distribution of the page with the process of the process of the page of t
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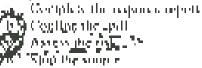
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Num: Set States

Company.

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- (i) What is the dating open aparticulation to part.
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 - In a Pattern constraint state is tend treated.
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- 2 Whigh of the following my not permitted to be discharged it to the storm dean?
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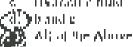
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- 🚮: A mentasero exercit ser chargo that panel in usk to the coverage ent



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 - Perroleum and paint profession (di) All of the theres.
- Lagrandades, El Happteradeppg sigks are: all about the discharge wares the greater if cheviliane deregenic but incoming only or other pothicon:
 - r Hage
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 - e. Linici
 - $\langle T_i \rangle = |\gamma_i| \text{two}$
- Trate or Labor? A by preshoot lither lac. POISONOUS, TOXXIC, DUASINIABUE, CONDUCTIVE, NEACTIVE, or [6.8] P.J. OS [A2] is algorith. In a compartment. الحريسة بالمراجع وأبا
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b. Parchase using a states exerticeard. $\mathbb{Q}\mathbb{P}$. A man-according also discharge that peaks x

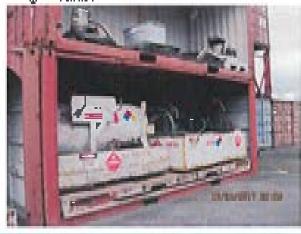
- reals is take any intermedia-
- d. Order of the above
- . Which of the following are not permitted to: he dechaqued care the stance dealer?
 - Pollured AC condensate water
 - It is firstly entracte, waste water, and spotted. بخله ويتناورنان

Petroleom and point products Alt of the above

- 3. True or False? Handwashing sinks are afterwed to discharge water the ground if: they have descripents but not only an other politicianos.
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trates.

- The produce below as a good connection? Best Монждентем Римскее (ПМР) пессыке
 - n. Hagsel acrea a pollocom
 - Tanks are properly labeled and equipped. with vecondary contaminates.
 - They are world under essent h and c



- Under on the Service States of Element, anythings. thus goes into a repution storm that in issue with enthus in the recent with treatment
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- A major source of Zinc polinition is
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ly analie All of the Above

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- н Бо баяткоер айкрай гозранко в гол
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 - Stapitie voore Reject Phil.
- \mathbb{Q}_{n} , and or finite? An entropy continuous Tow lead, keide in hall penalities.

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actual Consideration District Adding Section

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- become of the states.
- . Which of the following are not permitted to be discharged into the storm drain?
 - Proffició de ACT i conclusivamente se atraci
 - I list outraille, wouth water, and spilled. a hormouth
 - Perrolemm and name products. (a) A it of the phose.
- 1 True or 1 also? Hamilwashing sloke nuc. affice extractional description are supplied in a they have detergents but not orlate; other pudbatents.

"Finte: i-sixe.

B. Armilio

- 4. The picture below in a good example of Best Management Processe (RMP) heranse.
 - Doesel is not a polluraur.
 - b. Tanks are properly inheled and equipmed. with sweedland companies.
 - They are stored under cover

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(s.) Truc

- A major testine of Zeric problem or is:
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July His Rounce Section 1 Phillips

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 - (d) Norse of the renova-
- White build the Tollowing and less percentled to. Be discharged into the storm dram?.
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 - Principum and point products
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- True or 2 Alac? Handsvesting stake are althought to all semanate to open the product of they have detergents but not only or other pellinturia.
 - a. Proc
 - (175) Hadse
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 - Direct is an appointant
 - Tanks me properly labeled and compact watti wa mulanyi wefaminent
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Select PPE

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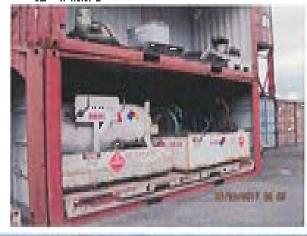
2017 HDO1 Harbors Jenaul Fraining Questionnaire



Name: Floyd Otavvi Company. United Vishing apayman. 1/2: 1/7

(Citals the correct agework)

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 - a. B. confederate from Att. system
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 - Pollular AC condensars were:
 - Brish cultinate, which water, and applied. eticiniewly.
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 - 🔞 All of the above.
- True or Entire? Handsverbring vinks are: allowed to discharge water the ground if thay have detergents but not only or other politicames.
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- If the profittine belong its algorithm are pulsified Brest. Management Produce (MMP) Isocarse:
 - Denkal as not a per forum:
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- Chie or Laise? In State of Hawa Compilarity. Phylogographic exception absorbed in the problem in the five HT. end appear that extern with treatment
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- Tarle or Infact Any product abeled. INDISONOUS, TOXXIC, PLAMMANTE, CORROSIVE, REACTIVE, or TOOPLOSTVI, winded to considered. International
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- Like Dest step of april coapeasse is so:
 - Complete the required region.
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Company: MATSON

Daret, Sales

15 In the Physical Street Bergmann S.

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 - it. Dissail is suit a publicable
 - b) Tank kin to progenity takehid and a quagger d. with according econolisment
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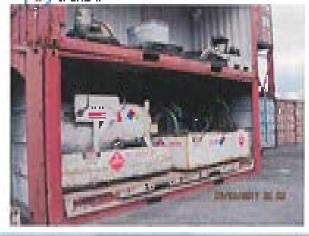
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(Citable the contract assessment

- What is the definition of an ithen discisurze ℓ
 - $a = k_0 \cos \theta \cos a \log \{a_0 a_1, b_0\}, \ page 5 pp.$
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 - Mone of the above.
- Which of the religious ingress need permissed to: be discharged into the atoms drain?
 - Pri Tuled AC condensate water.
 - Fish entirils, wash water, and applied. a brenomades
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 - d.) All intalic also co
- Those on Finite ? Handswashing and word. Allowed for his large water the ground if they have desergents but not ally an other pullturance.
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- The posture helicity is a good example of Herr. Management Prayrice (HMP) because
 - Diesel is not a politicant.
 - Tanks are properly labeled good entropics. with secondary containment
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- Time or Febre? Storm shoot aget (iii) marnianable alway filled with hydrocolous. hanns is considered a post-construction. 243/314
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(Circle the correct anymer)

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 - Para neonos ngja ktolom credit card.
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- Which of the following norms per misse to he displayed that the more drain?
 - Profit feed ACC considerables was re-
 - Implications's weak water, and aprilled. s he mayola.
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- Tense an Entage? Handswasping spiks are: allowes, to disciouse water the ground of they have descrigents but hat an elast other pollucanus
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- . The promise below is a good example of Desc. Minnegoment Precince (HMP) because
 - Direction roof a per totalist
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- Tracker Halver In Mack of Hawaii, anythings that goes into a marker stores draws much with ending in the marine with thentowed
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- Troe or False? Any prodoc labeled POISONOUS, TOXIC, PLAMMABLE, CORROSIVE, REACTIVE, 87 LIXPLOSIVE should be considered ស្រាកាជីបបន្ទា
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 - n) Ime Talay
 - The this step of spill response is re-
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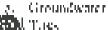
Many James Porter JR Gunpung! Kirb., offshore 1411 08/31/2017

(Citate the coerces answers)

- What is the definition or an illien discharge?
 - Combinistic AssociAC system.
 - Porchase roung a stolen cresht cost.
 - 🕡 🗡 om styrmwater discharge Pat poses a risk to the environment
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- Watch of the full owers are not parinthed to: by absoluting $g_{ij}(t)$ rates the section of two t^{n} .
 - Pallured AC condensation water.
 - If is a marriable, which where, sind spilled. enemiesi's
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 - (B) kaladi
- The protore before is a good exercise of Best. Macagement Practice (19MP) toganose.
 - Diesel Is not a politicant.
 - Pariks are properly labeled and equipped. with meanidary contaminant
 - They are stored under cover.
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All of the Above

- Trees on False? Source strain into parmaniseminice asea) dated with hydracarbon. brances considered a post construction. BMP
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Date OB 131 1201 /

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 - Bureliasa akung a samen ambir card.
 - 🔑 y 🔥 nen-arounware: diachaige thai paada a risk, joi the greenespand
 - None of the above.
- Where one in tokowing are not percuised to. be discharged into the sorm drain?
 - a Patituted AC condensate water
 - In all cutton as what where, and welled. بحامي سيرماي
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- True or Folive? Himselve astrong sorter and all compility dust being swifter the ground of tiney has we determents one that outsion withinpoliticanos
 - a Traci
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- The prototic feroms is a good expropse of flexi-Management Practice (IdMP) heconics.
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 - Tanks are properly labeled and equipped. with we reship your target and
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- Frue on his self to Share of Markan, anythings. that goes into a regular storm shirin inter with adding in the moral with heatment.
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- Time or Exists? Any product Inbeliak POISONOUS, TOXIC, FLAMMARIER, CORROSIVE, REACTIVE, W. I XXII XXXIV hishould be considered. hazardous.
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 - d Patern
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 - (n) This In Verse
- The first step of spill respective is to:
 - Complete the required report.
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 - (a) Assess the fish
 - Stop the above.
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- Fruit to Fallic! An environmental violation. party few router and all periphres.



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Name Jon S. --

Company: AMI_

Date: \$-31-1 2

46 Starley the compress an execution

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(մեն) հերգակա

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 - a Leave (d) States
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(ii) Hand In English



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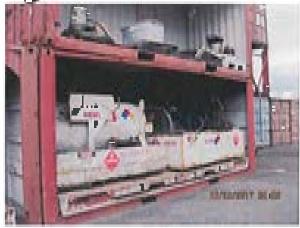


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36 Including corporation was east

- What is the dolors to be an discited what go?
 - Uppdemark from AU system.
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 - a. Psythelitationals point prestoria-
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- I the procure below is a group engaging of Bess Management Proctice (19941) because
 - e. Dissoil or that a pellicial is
 - I banks are properly labeled and equipped sight secondary compress;
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₩P I how

- All False
- 🦥 A major avaled of Zine politinoses:
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- 8 There is Paled Storer done code for evaluation and fined with hydrocarbon knop is a carefered a past construction express.
 - Time.
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- (f) a file to step and spirit respective is no.
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- Type of higher An ensource station (gitting type) (cold to a high piratific politics.

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2017 HDO I Harbors Tenant Fraining Questionname



STOVE HARRES COMPANY MAKE AND, GREET, THE

(Circle the confeet answer)

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 - $\Delta \omega_{\rm g}$. Pares have assume a striken in redst rænd.
 - io 🕽 Alino i-storin water discharge that popes al risk as the comparison.
 - d None of the above
- Who had the tolicowing are not premitted to See discaling god in no the mount Standa
 - Politice: AC condensors water.
 - hash endernia, water water, and apolled. whemiso's
 - anda Peris de amanan pambipan da ita
- ← d ②All of the above.
- Land or Palach Heistly ashing sinks and allowed to discharge water to the ground if they have detragents but out ods roother. polarana
 - a true
 - by") Latae
- The picture below is a good expurpment Best. Management Practice (BMP) hechake
 - Diesel is not a political.
 - Tracks are property interest and equipped. with vector dates a define elem-They are world under cover





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- Triud us inalise? Any product tabeled POISONOUS, TOXIC, PLANMADLE. CORROSIME, REACTIVE, or CXPLEXIVE describing convolvend. pardous.
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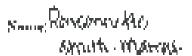
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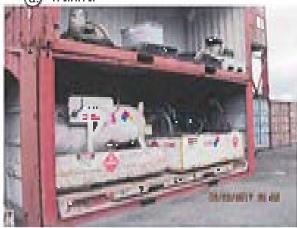


Company Perly Atolest to Blokener Soft 21 2017

(Carola the correct answer).

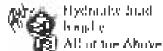
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 - a Dispolarisana formi AC systemi.
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- Which of the following rise not permitted to: Be shouldinged in to the strock idea of 2.
 - Politized At Leondersone water.
 - b. Lisch cornality, waish seeled, and updied. chemicals
 - Petroleons and penut products. ÇlAll of the observe.
- Time on Privacy Handwishing variousis. atterend to discharge water to the ground it. they have descripents but not ods or other profinitants.

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- The post our below of a payel example of Besch Management Practice (BMP) because
 - Diesel is not a pollutain.
 - Tenks and properly bileded and equipped. will have endang ween a mineral
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- Drug var Patke 5 Starrey drawn in les tennonretermines area) filtred with hydrocardson. boom is considered a post constabilition. HMP
 - 750 Kinuri
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- There has trace point ago the expension rates
 - a Chrophite Discrepared regions

Contine the spail Assersa the task Mispoint control

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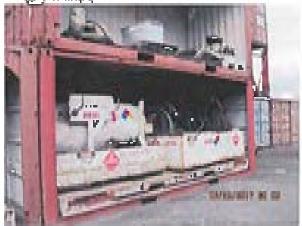
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Marine, Philips Translation of Marine Translation of Page 18. a. Shill placed . Date 20/108/17

(Click the correct answer).

- What is the definition of an iffee diagharge?
 - A kitide nause Treen AAT ayaram.
 - ja Popolijase osopje a stjajejo cerijat cajati.
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 - If also normit, weath somer, and applied. elyemica (a
 - ու [Հահերդիայիստեցերի թերգիկայումիան հ $\begin{bmatrix} \mathbf{q} \end{bmatrix} = \mathbf{A}_{\mathbf{q}}^{*} + \mathbf{n}_{\mathbf{q}}^{*} + \mathbf{n}_{\mathbf{q}}^{*} + \mathbf{n}_{\mathbf{q}}^{*} \end{bmatrix}$
- Processor Labor? Handsonshing sinks are: Allowed to stacharge which to the ground it. They bake detergents high noticely or other proflict spits.
 - a That
 - **fif**y Halley
- at an il top graditope kreto de para gravaji čajá jogade od likesti. Majorgerpent Proctice (40811) because
 - Diseast is not a production.
 - Banks are properly labeled and equipped. awight siggsamily by its surprising and
 - History And Aphanes I gradies (Caster)
 - la John might



- True or halos the Steep of Hawait, physhing. Chen given ratio e regular elementariam nate: se Gl արուն գլարանի գրագագրի արկիլ նշարկություն
 - **(**h) falsa
- Table of history Any product inhefest POSONUUS, LOXIC, ELAMMABLE, CURRUSIME, REACTIME, or EXPLOXIVE should be cet sidered hazurden a
 - (\overline{c}) true:
 - **J**apane
- A trapet amark end Zana publishen is:
 - Oromotosaga;

 - Hydrophy thad
 - d. Lapte
 - 6.2 All of the Above
- True or halve? Sporter drains of or the թուշութիչը, որ Հայացի Հիինք անկի կլչնին այնում։ Inventories generalistically against glassist production HMP
 - 60 True
 - Ja. Heating
- The file step of spall payment is to:
 - in a Complete the Evaporated Especial
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 - Appears the tiple Stop the supple Consider plat
- 19. Urac of Palas A An environmental moleura. حوطاوههم (مرسوسي ميز إعموا ويس
 - $f_{ij}^{(j)}$) then
 - $\widetilde{\mathbf{h}} = \mathbf{p}_{\mathbf{p}}(\mathbf{x}_{\mathbf{p}})$



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Some John Ductton Company Honly Tobb.

(Circle the corner answer).

- AVItating the definition of an other directoring?
 - Complements Tupon ACL system.
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 - d. Some of the above
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 - Political AT an identisation water.
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 - Philipping regulating graduating the backers to
 - (T) All of the algebra
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- The postage behavior as ground exprequently of the st Manager is fit Prantille (DMP) has now
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Hintari

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) lare

- A map of source of Zinte pollution in
 - Filosophyl waren
 - digress.
 - Hydrodyk flood
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- Type or below? Stoppedsop, plot (p.) المسام المتكاول كالمعظ الإنكار والمراجع وتراويون Postations at reason that the prost of most has finite

Helice

- That total step oil spall texpoorse is tar.
 - Compilers the required report.
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 - 🖂 Assema Lieranaki
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(i) juwa Kabupatèn



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Annie: Ferald Cobb Adams Company: Iteal , Tibb. 1 == Dair: 9-21-17

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 - Diesel is not a petto espi-
 - In the largest According to the leading of exprepant. to the secondary continuition;
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🛂 Ing

ij katse

- Plag Strenger and Zittle Perlintagions.
 - Chevian Swatter
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Hydraudic flood thraction of all

- All of the Alsonia
- Transia (sa) se Seura da agrapate) had նականգրառաց անցութ քննչոն ձգնել հիչդի այդ հասը beset any army defesting past victority of inter-:#MTB.

 $f_{N}:=\{a_{N}\}_{N}a_{N}$

- The first surpost yach our constraint
 - Complete the sequented report.
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Notes: 1991.

10 - խուց ve վեռիչ Հ. լծիչ բոլորդություն հատկերդը tray lengt procted tendents for attents

> (fá.) Lesci - Protein



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Name JOSEPHIMAN AROUGH

Company Marthaul

 $\operatorname{Data} (\lambda - \lambda_n) + 1 \operatorname{T}$

(Uhiele (becorere) answer).

- What is the deficition of an illustration gett.
 - Simplematic from 38 system.
 - Pare large except a stolet a traditional.
- A non-kind number show harger than process at dalk to the environment
 - Ness profitjer platece.
- With Lind that following one not peritorical to: be descharged our discussions drain?
 - Political AU constangue water
 - իս իրչ և արկարիչ, ամբ նշնակալ, միր հորդների chemicals.
 - Patters a treated plants products.
 - All, of the above.
- I free or half and Hapatagas print soften free. الإزا البرستاري ورائسا فتناوها وونتجرا حطاصنا للوهدالة thing makes differ growth last next and so the thirt. politeration
 - a laga.
 - Ja Josef ver
- The prefine below is a good example to Best. Management Papertee (BIMP) Because.
 - g Drevel je jast je podjojuje.
 - եւ է լերական այդմում կարագահի մեր հավարիչին արևեր մակարդարացի։ with severishing control (966).
 - They are troped under power.
 - In runific



- True or followide Norse of Howens, anything Սիզմ ջությունամը թղբընթյան տուրախել ը բրմահ առվան good repeate that measure with treatments.
 - a True
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- ն է կինայութիցիչ»՝ ձինչ քաղիկն ելնայան POISONOUS, TOOQUE, ELAMMARIAE. CORRESIVE, REACTIVE, at 1:00PLCMIVID should be easin develgravija domst
 - 前的骨
 - d [fulse.
- A major source of Alberte Content in
 - Հայասրդիայիներ
 - la pjersa
 - Hydrosche Bask
 - ™ul band.
 - All of the Above.
- Tigos nel Caraci, e Storno interem Indetallin Heart Brintler, metry fitted with fixel estatlance bronnin confidered a post confidence. _{est} jakab
 - n lage
 - B. Palse.
- The first weightshappill composition as to-
 - Complete the required report
 - to Continue de spill
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 - e. Kalém PPL
- էն էլ մայլալ իսկարի լ**ի**գլ տղջորդիաթրեցն համելնացը։ only bear to applified principle at The non-Police

b. Infact



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Name: Kenniger Kusperk Company, Haven Breakower parce 4/81/17

4 Carelo (be current answer)

- $A = W(p)^{\mu}$ is the algebraic mass x(p) (in the horizon)
 - n korpolygjante (juraj) 254 i systépji
 - It is the charge soring in steller's testificant.
 - A teat teat unvariant due harge that person a poly to the renementation.
 - Suggested the Alexand
- Which of the following notice permutal to be declinized into the many desir?
 - Politic for LAC cospil priving support
 - $\alpha = \frac{1}{2} (|x| + |y|) + \alpha (|x| + |x| + |y|) + \alpha (|x| + |y|$
 - y Per volution and paint products. Ode — All of the obsess
- A process batter? Happissashping sopes are witnessed to descipated weather to the ground if they have description. But not only or other politication.
 - ja lene Zial la ae
- Heapierure behave in a gricklinkning med flext Miningerson Promise (PMP) beganne.
 - (i) These is got a pol(plac).
 - Tapiks at principly labeled and variginal with as obtain y structurement.
 - A They are mared under govern



- True of finise? In State of Hawkin, anything that quest plot it regular strain about relative to each partitle age of with Peophysis.
 - a Tiae. ∕As Iatou
- I Due to Hater 1 Any product laboral Proston Science 1 Any product laboral Decision of the CORROSIVE REACTIVE; or LOTEOSIVE about the consultance beginning.
 - O Total
- A major school of Zoic pettanen in.
 - n Karringen begitter
 - the place.
 - in Hydrawin Brod
 - 🗗 Oli alisky
 - Tell All of the Above
- Index on the last Astrophysical project (portract terms of an end) Index by the hydrocenthrone parameter as expectation of the end of the end.

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m poly}$

- Will the there express spill response to the sping transition the required separation of the spill.
 - a Brown Diction
 - Bisiptific souths.
 - e Beleer PPL
- I day on Patient Appendix manage of G spotal magdiasy blood prediction (Penhilles)

612 Tour. Profes





- M. Smight Company: Will Care Care - Date: 91 24 11

Of India One connect impowers.

- What is the defendance in a place describing by
 - Chandeltsota From AC western.
 - $b_{\mathrm{th}_{\mathrm{S}}}$ Princhage nam<u>e</u> n scolen eradin card.
 - A management discourge that peace at stack to the environment.
 - Number of the whose.
- Wittelf of the following are not permissed to: bridges barger i modeby www.istinua/.
 - n Pollufed AU bundensele water
 - High cutterile, worsh water, and apubled
 - Petroleum and pantiqueshiors $f(\mathbb{Q})$ All of the above
- 3 Troo or False? Handsverstring arriva are: allowed to Josef arguments to the governd it. filely halve determinents, eatherst only so other pollmanisa
 - a Train
 - (\underline{z}) . Labe

Connection of

- The portation becomes a grown example of First. Management Postrice (HMP) necessor.
 - Dorwell or non-performant.
 - Canke are properly labeled a kinguapped. with secondary containment
 - The gaze Greenhandon cover

Tracker take the Stock of Hayram, anythme-اللزفة المراجع والمراجع and apolitical section with total ment.

Pathon

- Froc or False? Any product labeled POISONOLS, TOXIC, FLAMMABLE, CORRESIVE, REACTIVE, we PXPLONIVI about the principle of hazandana.
 - K_{ij} True.
- A major source of Zinic pollution for
 - a Greandwaren
 - Hirasi
 - Արգետաիս, _{Մե}րգի
 - All bounds.
 - All of the Above
- True on he bia? Ship in drains intel (a): normaternative areas fitted with hydrocarbon. bătan is cure, desed a pust ereistigat, no-HMM
 - <u>M</u>2 Tree T feise
- The first step of spill response type
 - If Alogarite Matter, only one of expend.
 - Confling the upill.
 - Assassa that cok. (المُعَ
 - Stop the residen
 - Setge: PPh.
- Through helper to Astronomorphic educations. atragely aships a transfer dipermitrate.
 - ∕ø∂ true: 5 Polace





Name Stapping the company Pashaftest Year I. Date \$121/17

(Clarks the engages appearing)

1 8	Mihai J	u rhe	Jeffittieti.	al an H	0541.6	hits hangus?
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- A. Condensate from AC system.
- by Phytological og protein enedet enid.
- ể vill). A massakkom ar det diss kritigin stori pustan in apide for the environment.
- None of the accive.
- Would not the following are usuaper united to: he discloraged into the warm dealo?
 - Polluled AC condensate water.
 - by this high control by sensitive energy and applicati
 - Petroleum mid saint praducts. All of the rbove.
- True of Palse". Handwashing veiks are silia wed to display <u>n</u>o water to the gradual at they have decayents but the other at other politidants
 - a. Limber
- in the picture below is a good enveryment. Beyt Managaroani Praance (1840) leeda ker
 - Disease) or mixtur professional
 - Tanks are properly tabeled and equipped with recording containment.
 - They are stored under cover-



Tru∉ on Police? In State of Unward, any biggi that gaves into a regger or signer charring let will. end up in the alcampy throughness.

Time or halve (Any postnict labous). INDISONOUS, TOXIC, FLAMMARITE. CORPOSIVE, REACTIVE, or FIX PLOSSIME about the consultance

a) Trua

A major source of Zabe palarities is

- a Čipograhvateri
- h They
- Hawkatahat (lood)
- $Z(\overline{\mathcal{E}}_{i})$ is and x_{i}

3. True or halve? Secretalism intel (ii) maintenance area) fixed with hydrocartian. trium is considered a post construction. ЩМ₽

(aZ Tawa b. Labor

. The little step of spill resonance octo-

- Complete i le required report.
- by Contine the apath
- Saleo Mar
- ID. Phacer Paler? An environmental contamp. may load to on minut products

/a/ thus Will lighter



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Note: Try Try =

Colling

DAIL 9-21-17

of Irela the correct answers.

- What is the definition of apolitic states to peed
 - Filtradispracia Issum AC, Seylenn
 - 16 Purelying using a statem confit card.
- . c. A non stormwater dachange that poses in risk or the environment.

Cothe North dillibrations of

- 2. Which of my following are not permitted to he discharged may the steam Zig is?
 - a. Palliged Att condensate water.
 - In the last controls, which where and applied
 - Parmi auni and parui producis.
 - d Albitt the above
- Trun on Palko". Mandecashing sodes a seat he wild to show budget wastert for the grounded at The graduated the against that the beauty beauty [milliotettist

 $a = \mathbf{T} \mathsf{tree}$

- 4 The post of € hearth is a graph group property of Property May again the Physics (196412) has seen
 - Opërët je që) a pollutatit
 - Tamika sa ésépepigi be lahiji ya sapih aji pipaésji. والإطلام ووجار إبدن فإلها فيستري وجريا المعا
 - They are stopped and granter



Tree or Lance in State of Hawaii, anything that goes into a repotar storms during into with and up in the event with treatment

 finite in Labett Any product tabeted Polsonous, toddo i Lammabili CORNESTVE, REACTIVE, as P.N.P.L.CXTM E. Cleve. Rillian extraorder sed. Transpiritaria

 $\lim_{n\to\infty} \frac{(n-1)^n}{n!} \frac{(n-1)^n}{(n-1)^n}$

- $T = A_{\rm eff}$ group of sections of all Zarge partitions of the
 - a A i tym ar brothy,
 - b These
 - الموطأ والمسالح إلى يري

All of the Above

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- The Bust step of spill gaspsons gration
 - g = 0 (respirate the expressions).
 - in Configuration spain.
 - d. Book the and ited
 - e Kalen Phu
- (d) Tage of factor? An end connectical victorion. many field sale regardly penalty ex-

ڪامت لي اور 100 ج la Palac

Please provide your comments here:

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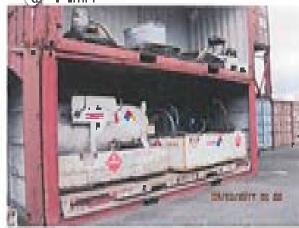


MARIE KOBIN VYE

CHAMPANY: UHMARNE CTR. HATE: 9/21/17

16 Page Physique property considers.

- What is the defer tree of an illustrate what gets.
 - in Condensate from Autispanen.
 - is Porchase using a materiarent cond-
 - A cosp sharpwater developing that poses at task to the effectionages.
 - st. Netword the almost
- Managed the following the option of some personal edge.
 [action bugged option by storing discount.]
 - Paralisted At symplements water.
 - b. If distance, wash want and and edobtained.
 - c. Petroleopous dipont products
 - [8] All of the above.
- Timbe on Turber* Monday withing minks are off-owerf or disclaring winter to the governal IF Open papers of large at a not up to place with expollulation.
 - a Phasi
 - (b) Lalac
- The program in Joseph or growing compact of Best Manager of a Product (BMP) has seen
 - a. Dietel is ole a pallmani
 - Londo no e property orbited and equipped with securities continued.
 - Those etc. stopped and characters.
 - d bankly



- 5 Firstly of The at 4 in State of Hasseri, worthing that does not a sugal answer draft in that will such up in the second with recomment.
 - in Their
 - close trainer
- Francisco Palari? Actor position laterial equipment is a problem following bulb. etaplares (Policy Jahry) in Policy. Extendates
 - $\bigcirc_{\mathcal{S}}$ True
 - id Hidsel
- A literal wer to end Zape bullet op in.
 - Circumshyatti.
 - the large
 - ա իկշիցյան հերան
 - նչԱր գրվել
 - All of the Above.
- There we find a "Newton a remainment for production of a real lighted with hydromarking (approximate of subgradual posterior static) in participant.
 TIMP
 - i€<u>a</u>, Ime
 - ik by ve
- The first step of spiding spoting poten
 - Complete the region disquare
 - At A continue the apoil.
 - Assess the policies
 - all Stop the source
 - Saladi PED.
- The or hitself An environmental exclusion may take to enquire the attention.
 - That
 - b Pales

Please provide your comments here: 6000 INFO, THANK YOU.



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MARINE BOSS BASKES COMMENTS VIH MINERS GENER Dawn 8/01/12

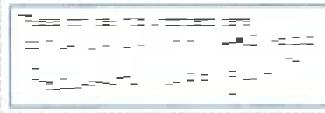
(Circle the coreact enswork

- Where is the determinant applicant discourses:
 - aj Caradapsato Stepa Alicensiona
 - Partitions are ingle-accident conditional.
 - $\sum_{i=1}^{n} A_i$ dominion in which discharge that process posk for figure proporagional
 - Note: of the almost
- Which of the Joffmaning are programmed in بكرو والمراوي والمناولة والمناول وحوال والمناطرة
 - Produted Att conds twith with the
 - 5 Pathodorea, a worth voter, and aprilled. chemicals
 - Pelinakanga Apal (Maja) yansakas ba
 - المحادث - $S_{i,j} = \{p_{ij}, p_{ij}\}$ by the C . Expect to polytry provides when althought to appropriate water to the ground if thing himselids tength tis limit that in list of adding aw Persona
 - p. Doge
 - Philips Hallen
- The prefuse below in a good example of News Managerees [Papine (B**NI**]) be word
 - Digesth project a problem to
 - Timeles are processed to be held and espansional which sees shall any against normalist.
 - History and who perkupping the charges



- Taken on $\{[aba, C]a, Shate of \}[[abva]b, appething]$ that gives into an eighbit steto odon to till at Wall. ending to the seekn with iremenent
 - fore
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- True of Infact Arry product inheled bodyokurds, moxic, ili avisigabilis. CORRUSTOR REASONS, or ROOM OSTMIC Chould be a mix dered hazarekona.
 - $c_{i} \in Alme$
- $L \in A$ images source of A are pollowed by
 - g Kangapapabasale
 - The second
 - Hydraulic Hard
 - - A LOUGE Above
- 8 These on Leibert Strome drop a mile (inc.) այցություրը հրագայան արագայի համահան հանգ^արու [հեջանի անադահանգին [several pergeams of general appears [at maps] and [map.] BMP
 - a, all run la lentar
- . The little stop of aptill obspetise or is:
 - Complete the regulard report.
 - h Configuration sp():

 - g (24) several half seig. If 2 Sugardia uniove
- $(11 4) \cos (\eta) \left[(4) \cos^2 \theta \right]$ App which admigrated windstrain. crare lead to a national penaltists
 - $\zeta = \frac{m_{\rm e}}{h} \cdot \frac{h_{\rm e}}{|h_{\rm e}|} \cdot \frac{1}{|h_{\rm e}|} \cdot \frac{m_{\rm e}}{|h_{\rm e}|}$





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Name Nohestel Wilson

Company: Nath 1 Wholey U.C. Dars: 9/21/17

45 Including ventors become up)

- 1 What is the definition of an illust showning?
 - a. It made sate tion. AC system.
 - Purchase using a patient evedy card.
 - $\left\{ \frac{d}{ds} \right\}$. A non-atomic interval of subarge that passes is easy to the decreasing out
 - id. Misperist the above
- Which of the Relieving are not performed to be deschipped into the storm drain?
 - in. Political AC condensate wince
 - First contracts, which writer, and spitted observed.
 - e. There com and page products
 - (d) All of the abuse.
- 3 Two or Palse? Honowashing sinks are allowed to discharge water to the ground if they have determined but not substitution pollulation.
 - n Train
 - $\{\tilde{h}\} = \operatorname{Ad} \operatorname{to}$
- The picture below is a good example of Boar Management Product (BMP) because
 - Darwat word a politicall;
 - Lacks are geophylic latisted and equipped, with he endury continuous.
 - 🚉 They me stored under cover



- Type, or trade? In State of Hassin, anything that goes entract ego in structure described will end up to the second with regarders.
 - is. Proc (6) Indee
- Tracker Labor Any product labeled PDPONOTES, FONRY PLAMMARIES. CORROSTATE REACTIVE, or EXPLOSIVE should be considered by an slow.
 - (2) Tosa di dinan
- 2. A target source of Zinc reliction is
 - Gissandwates
 - B. Tarey

Hydraulic Start

The bland of the Above

- B. True or Ladve? Summ drain intersion maintenance are at "filed with hydrocarbon, beginn is consultated a grow, construction DMP.
 - (a) Trus b Malan
 - 16 1 =1151
- The first step of apott responser is for
 - Complete the required regions.
 - L. Consocials spall (2) Arrest the risk
 - of Alloy the say rec
 - e Kelen BDD
- That of Palsel! Attenuationmental violation may lead to criminal population.





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Same Sugar Pro 1801 Company - 1-1-11-11-11 Date 1/21/17

(Clicate also compact action pay-

- Webselderfreide Hinmon wit ein Filte all dischengelt.
 - a. A condensate from 640 systems
 - Parchage ostpara stolen ergåd estå.
 - $lpha_{ ext{COS}}$. A many scorring ratio of rectangle that pases aresk to the environment.
 - distribution of the obstacl
- Which of the following as not permitted to: be discharged into the storm drain?
 - Prillinten ACT manchemiste water.
 - I is his operally, was discover, and spilled.
 - Pediotechniand came products
 - (d) Alt of the above.
- I mid an Latent Dandwishing einke are. attraced in streetungs warm to the paramid 4. they have descripents but not oils or other politicanta.
 - a The
 - (fb) Haise
- The prefuse below is a good enougher of Best. Management Practice (RMP) her at se-
 - Direkel is not a policinam.
 - Tanks are properly labeled and energiest. with assistancy communities.
 - They are stored under cover



- Links of Lafael' to Same of Hawah, anything. state grows refer a expectative source distribution with eggligging the ocean with treatment.
 - a Tory
 - (b) False
- Frue or habit? Any posture labeled. POINONOUN, TOXIC, PLAMNIAIRE. CORROSIVE BLACCIVE or DODE ON DATE of a shall decrease the edhrizanda att
 - $(2\gamma + i \, me)$
 - habe
- A major senante of Zinn pollution is:
 - Great and water
 - Linear.
 - Hydraulic flood
 - banning.
 - All of the Alseyn
- Linux on Endock Storm dram invention marine nance area. Alread with hydrogarbon. borous exposurement a post conson above. BM81
 - True
- Latine.
- The test step of spitt response is to
 - Complete the regions a report.
 - $oldsymbol{
 ho}_{ij}$. Casofann the apoll $oldsymbol{
 ho}$
 - J. Abadaa Historiak
 - if Allego the against
 - Server BRY.
- Thomas Dalson Arrangemental confirming may lead to great null percentes.

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Nam; 1 44373

Company. News, Phs

Date: _______

Of their the dorders the severe

- 1 What is, the determinant at an all air divelorige?
 - Conformate from AC system
 - b. Parehase using statutor could spirit
 - (c) A ministra involve discharge that peaks a cratters the payars properly.
 - " problems the controllment." I describe the transfer of the above
 - Which is the following the not permitted to be discharged into the storm Jerus?
 - in ... Bulliated Att conductate writer
 - It was contacts, waste water, next specied observable.
 - Petrolemer and point pendorts (22.2 All of the accord
- Trace of Palse? Hornboarding smirs me allowed to describe water to the gardinal dithey have description but not only or other profit faces.
 - a l'ana
- Ogn Official
- The prentor below is a good example to Best Management Practical (BMP) because:
 - Diesel is not a pollotoit.
 - Trainks are property tabelled and equipped with exchadery significant;
 - ومعورة وطامس لهورد ووراج ودراج يرايي

- 5. There we flatted the State of Howers, anything that piece concern reputation form drawn much with each of the flat of the organization content of the Plate Plate Fig. 21 piece.
- 7. Totalser Palent was product takebut POISONCHAS, POISIC, PLASTMARGE, CORRUSTME, KRACHTME, or FXPLOSIMUS bandabe considered brandosa.

====1 nuc

- ul Kalse
- A major source of Aims out afrom a
 - a Cisanan kvateri
- $|x| \leq |x|^{\frac{1}{2}} \ln |x|^{\frac{1}{2}}$
 - Hydraulic fluid.
 - $A_{i,j}$ bound $A_{i,j}$

(M) POAIL of the Abree.

8 Tripe of Balker' Stone above reletion manner area) threat with hydrodeclassibacon is considered a peace or struction DOLE.



- v. Taine that step of spill response is to
 - Complain the required report.
 - $\underline{\mathbf{b}} = \mathbf{1}$ and \mathbf{b} in the spatt
 - _e − zweecenn nek
 - - d. Stop the leader
 - a. Reteat IMPR
- That of Palsati An doctron to the least one of an area logities contained permittee.

Law base

In Pale





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Musty Rue Myasaki Complement JFC International Trace: =/=/-

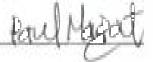
(Chrole she connect answer).

- What is the definition of no their discharge?
 - Copylerosphy Luspi ACL system.
 - Implimed as post a speciming of the copt.
 - $\lceil \overline{\gamma} \rceil$. At purpositation which distributes that provides cisk to the environment.
 - rt. Morre of the above
- brights harged criticathe strategration?.
 - JMHurad AC muldenisce water
 - b. Posts eminute, which weber, and spiffed. elagon givi
 - ՄՀ կախարացների կայության հետև Մ
 - (fall). All of the above
- True of horse? Handwashing sontaine. a larger for alpha begans water for the group of the they place is also begin the street make of cortiegs. je Liatotits.
 - g Thus
 - Jaráse.
- Tilte prototog frå kværes avgrundig samplig og flysgt. Management Pouchus (HMP) hyparaser.
 - Diesel is not in politication.
 - Tanks are property hereled asylis papport. անդին թոմասը (հրջանայիկիկանում
 - The party stylical and the cover-
- Nanda

- True or Palve? In Name of Marcan, anything High goes uplying pegglap storage (ngap pale) switt. griffings of the great result (performs).
 - Taker
 - of by Italian
- True of Label' Approval at Labeled. [http://docediag.gogue.gog/AMAAAhtt.] CORROSIME, BEACTIME, ac \$ 001°L/081W1, about different monade and عيومال بروج إل
- A major routes of Arra pollution is:
 - Charging septem.
 - h tiposi
 - $g_{i,j} = \{q_{ij}\}_{i=1}^{n}$ for q_{ij}
 - (al) benestad
 - Ail of the Atheres
- Employed State (States displayed et et al.) transpire protection (a.) (fitted with lighter-afficial heaters, victorials (vid a post victorial) of уми.
 - Lower
- $S=\operatorname{The track algebra applications in <math>\operatorname{Re}$
 - Complete the required report.
 - Confine the sp(t)
 - (file) Assess Hjelpiski
 - Steps for simplent
 - Salvar PPC
- 10 Երկանդ (թվչահ, մյաստանագրագրի հրակցին և الحوارية والمراوية والمنافعة والمنافعة والمناوية والمناوية
 - T(x) That
 - T_0^{\prime} . Pales

HDOT Harbors Tenant Training Questionnaire





comments Stor of production, 9/14/17

(Circle site comment assumes):

- What is the definition of an liben discharge?
 - Constant in its ACL system.
 - Buschmer using a state a credit cord.
 - A negligible execution while being a their personal risk to this e occombent
 - Stemp of the above
- 2 Webself of the following one got permitted to: we discharged into the storm darm?.
 - Problems Afficianal ensure written
 - Pish outcarls, wash water, and spilled. chemicals:
 - Perfoleent and pane products (d) Alt of the above
- Theorem False". Hundwarfung unkstage. allowed in darkange waith to the ground dithey have corresponds but not in both which ggalayanda.

- The process believe is a pared example of Ivest. Managements Provided (BMP) accorded
 - Digast rained a polletone.
 - Tacks are property inneted and equipped. such secondary contamous or
 - Ology and warred and to ever-
 - d. b and a



 I may be I alwa? In State of Horward anything. eland pakes areas subequotan kovinte kirana Tiriler kwilli. most up to the occurs with treatment

True Haliot

 Trite or Induce? Any postular tubelest. "OPSONOUS, TOXIC, PLAMMABILE, CONGCUSIVE, REACTIVE or EXPLOSIME should be considered. havanlous

(c) Inc three series

A mage: source of Zane pollution is:

Circumbbwates

- Tires
- Hydraulie floor
- it confide
- All of the Above
- Land of Laber's Standard order for manuscionnes presidentel until hydrocarbon. brother as consolvered a product manage of (UNITY

Passe

- The lost supplied spill response with
 - Complete the acquired report
 - r**ti** 9 ⊃tikanihee dhe apatil Actes, the rick
 - Story that whenever
 - Select PPF
- True or flatac? An enginemental violation. may tead to remonitipendoes.

pa/ tiby: N Falsa

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NAME Wilher Show, Company. 30.+1. 1000 4/21/11

(Citral state concern a manage)

- What is the definition of an illient discharge?
 - Chrysterpape (cops AC) system.
 - ել է ինդովաթագությունը բանակարգործվին մասի
 - ية جميعة بالمثل في المثال من المثال detk is the mount on near
 - Name of the above.
- Which of the following are put permitted to he developed into the stars obtain?
 - Padlumd ACC earlidense in second
 - In the formula which where well applied. имерии дос
 - Petrology, and paint people by

 $\chi^{(i)}$). Although the above i

- True or Laber Meretweeting sinks are: a hawert forging burger sealing to the group of the these have glottered in but not replace in their والماللالم
 - (p) Inuc
 - $(a_{ij} 1, \alpha) \otimes \alpha$
- The printer in the least of a growth of states in the set Managertoint Pranting (DMP) la carasi-
 - Director in these is positionally
 - Tenks are properly inheled and equipped. wata wa wada je yanjiya a gegti
 - They are stated a palety cover



- Laure of Traffic? In Since of Haward, nowthing Have good make a regular strong drawn intel will. մում երբայի Միջան, բերկանինի խմբներույն

 - b. Palsat
- Import hidse? Any product take ed. POISONOUS TONIC, FLAMMANTE, CORROSIVE, REACTIVE, or LOOPE OBJECT ALL mild for an invadence. hazardous.
 - n_{er}e li puga
 - gl later
- A Wager Asist viziet Zalts, per Informaci.
 - Mineundwaren
 - h / Ziegwi
 - Hydraptot Rept
 - d transfer
 - icing All of the Allega
- Jeganz Bulse" Sugarstaga natg (jal quary physical growth of the flow physical problems. hamps to securifying the post-secustrate time. HATE
 - ∕a∟ frue:
 - hi bajan
- The first strip of april (Peoposise Actor)
 - Can plate this organized agency اللموسطان anthonyali. Appearant Hopings I, Shapi flyg sagetyr.
 - Server PPF
- 10. True or Lefte? An environmental violation. proyeles alto epipoonid people es-

(a) Teste Tell Falsa





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makes companies Stat of Horalan Duce Velley

(Circle the correct answer).

- While is the detection and on the date targets.
 - Computing position from proceedings of Com-
 - Plate have strong a striken a tasht yarab At two rates to reason discolorized that produce risk to the environment.
 - Notice of Ligarithmess.
- . Which all the following atoms: per total tebe disclosized that the sterm drain?
 - Potinged A4 geometric septical
 - his three property and extended at the company there. والمؤر ويتمالو
 - Petroleum aud paint products ⟨III⟩ All of the above.
- Lower Endry 1. Harpfwashing groups are: albereich in deschatge weitet in Die grafind iff. stray have decargo by but not only an other perlianoms.

June. $|\mathbf{h}_{ij}| |\mathbf{h}_{ij}|$

- Life produce between a growt example at Bern. Minnagement Produce (BMH) Nechable
 - Dipospheropid wight hybrid
 - $A_{ij} = A_{ij} + A$ With the combined as 95th atomic
 - They are secred under cover



- Lead or balse? In State of Haward, physhologic Up at $\underline{\mathbf{x}}$ de vorploma pri $\underline{\mathbf{n}}_{i}$ dan scherppe dipore optiget stop (1)esal a particibit continue with a test condi-
- Trucky Fabrics Any Broduct John Cd. POISONOLIS, TOXIC, PLAMMARCE, CORROSIME, REACTIME, or EXPLOSIME about the considered hayardans.
 - $\{\mu m\}$ Pather
- A million scopes of Zinic ps@anomia.
 - g Chrompologicae
 - h Tjega
 - Hystematic Harst



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- The this step of spall response talks.
 - Conspirint prospiced epops
 - $h = K \exp\{\log(4ht) \exp(t)\}$
 - **行門**、A reason that is kn
 - 2atop the service.
 - Neicel PPA:
- That of False? Approphensions (Asia) sindatum. time bask textitional proalities





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Name: BUY FAITA

Company Bone Chippe Comment trace: 9/21/19



(Chrole the compact answers)

- What is the definition of an idear discharge?
 - $g = C \cos (g \cos g \cos k \cos \sigma) \Delta C \cos g \sin g$
 - <u> En l'Andrese among prateile els recht eardr</u>
 - $\lambda \Delta$ near character descharge that present nick to the environment.
 - Name of the alloyer
- Which of the following ore not permitted to: ere show hangest resulting standard hand?
 - Profittied ACT condensare water.
 - Forth districtly, worklassinger, and applied chamicals
 - $p_{\rm cost}$. Percolating and is not produces:
 - / kL / All of the operve
- 4. Those on Prince? Handwashing sinks inc. 20 layers to sheen arge water to the ground it. they brown the troughout hait out only or either and inflamily.
 - a -, Linux
- A . The posture behavior a penal encopie of Re AManagement Praktice (BMP) herauser
 - Darwel as per a problem.
 - Tanks are properly tabeled and equipmed with secondary continuously
 - They are stored reater caves





- A=0 rule on this sett in Norse of Hirwani, anything: that pases onto a regular scorer distance file with end on in the news with treatment
 - $T_{\rm HeF}$
- Trackin bulse? Any product labeled POIXONOUS, FOXIC, FLAMMADUE. CORRUSTME, BEAUTIME, in: 2. X PL 10NOVE should be considered. hazardous
- A major shared of Alberta Balliadou is:
 - Oraquind works:

 - Heatmath, Cond-

 - Alt, në the Abawa
- True or Labe? Studio share rate! Inc. countenance oreo) little back by how home wan in is considered a post construction $A_{1}(M_{1}^{2})^{*}$

'ny∕ Truc

- I elasi
- . The first step of spilit expense is to
 - Complain the sequenced report.
 - Confide the spot
 - Assess the risk.
 - Map the second wek or Infly
- Price of Paleott Active commenced vectors at coping terrigitars and extend precombines.

-l'ime



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Mante. July Copyright

Company HARMAGE OF COLD MAN 18/21/12

(Carole she connect answer):

- AVMan Turthe definitions of resultion discharge?
 - p. Kappulezovaje Tjopo (ART systop)
 - Burghess, espa2 position conditional.
 - $\hat{p}(t)$. At the transfer of each t alone than $p_{t}(t)$ is the $p_{t}(t)$ and rink to the engineering in
 - L. Name of the above
- Where's of the fadios togets that performed to. brights harged and the kicker drain?
 - a. (Astimod Atticypidensare water
 - This triplique, solation les, and spilled العلام وزكر وعطاريا
 - Petro est triabil parett processes) All all the above.
- k = 4 (the replication k = 1) of the problem of the k (i). allowed to deviating water to the ground it. r ide haler deregjenen blat nut et blan seber ev Hummen.
 - True.
 - Çiği Falke
- She premise helpsy to a good expring to of Best. Mayage people from July (1454 P) top wood
 - $\sigma = \{30, 80\} \{8, 000, 3, 00\} \{0, 100\}$
 - $\theta = 1$ to the afterpression by latterfold and a quapty of with the brother contaminant
 - Upon me danap apple: 1500er



- Type of Euther In State of Haseng, approach Spát gases patro a pegada, stoppode apoup of skylt. gipting pritter galactic with 1996, he is: (32 Haur
 - Parket
- to the contral of the product between POISONOUS, TOXIC, IT AMMARCE, COROLOSIAS, REACTIME, ac $|\{X|Q_i t | X|M\}|$ where Q_i is the reason ampli-لحسم إحداره فراء
 - $C_{i}^{2} = T_{i}(x_{i})$
 - Palia
- A magasi sanggar of Zang gert gipter per
 - Colonia alemanta I
 - Tables
 - Hydraulic Hudi
 - ارد المراسط الوا**لح**م
 - At of the Above
- Lose of Palse" Nation donormical in manuemence area's fined with by discurbing Insopers or exhibited a post copyling trac-Parket In
 - 😂 Linavi
 - Inalise.
- The flight ategoral spik respective is to
 - and Complete the toparted report
 - Confine the gott.
 - Assess the risk
 - Map the same
 - Salvet PPD
- 10. True of Fabra? An environmental violation. eray test from quital penalties.
 - (C) Truck Di Truks



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Page France Company: ABS Hamer Dave 9/21/11

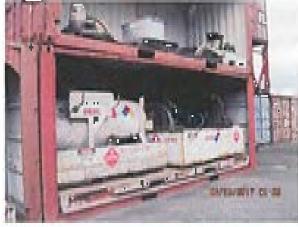
(Circle the correct emissor)

- We had use the material trained and Email of Auditory as A.
 - Constructe from AC system.
 - ly Paraha te arang a malen eneda candi
 - To a non-known experience of the power of ^Nrusk in the custominant

Name of the above

- Worch or the following are not perminent in: he results (got) must the storen drum".
 - Politicad All conferences venter.
 - b) shearcrafts, which review and spilled. ROBERT AND A
 - Periodea round paint plactures
 - (filig ATE in this above
- Frue of False* Handswishing sinks not. attowed to discharge water to the ground of they have detendents but not size or other pollotants
 - u long Ti Yi Kuba
- The particle believe or a proof exact potentials. Manage rent Plastice (PMIP) hiczose
 - Diesel as not a politicality
 - . Hanks are properly tabuled and equipped: warfa kekaranda belekaran maselari
 - Pices are kiloted under enven

Datable!



Process I also? In State of Hawaii, anything that gaze into a regular storm don't informatif. end up in die ekseen wirk terminister

b. Yi Malac

 True of Paise? Any product inhefet POISONDUN, TOXIC, LLAMMATRIL. CORROSIVE, REACTIVE as: I NPLOMPE should be considered.

<u>li</u>a zu kleuw

- A major somes of A as pathworning
 - a. Kirosandsemen
 - ubu Tinga
 - Hydrotalic fluid
 - (d) transfe
 - All of the Allinse.
- Two- or Folke" Stoots convended proosaictecance ao aj ritreri warn ligarozas ean. bonou is considered a post construction. $\Pi M P$

'a') Tala

- The first step of spill despitors is not
 - Complete the required report
 - b. a female the speci-
 - y i Alessen Districk
 - Step the source
- Liste of Labert An environmental cretation. may hagge common penaleys.

€aD care.

ik. Intes.



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Some _ - Welson Common Particles - 77 lease 4/1/1/2

(Chrole the correct answer)

- When in the definition of an ifficial discharge? a. Condensary from AC system. Princhase assign a statem credit card.
 - A men stammwater descharge that gress car a ski to the east manneur
 - Mismo policie notave
- Which of the following ore not permitted to: be sharp an goal into the stand inhance?
 - Politicand ACT conformation values.
 - I usin emergia, waste words, and spriced. chain cale
 - Petroleoni mel para, prodocta . Although a name
- Finde on Patter? Handwashing systematic altered to discharge water to the governal it. they brief, densing outs hot out on's or other. proflutzaty.

1ma

- The posture behavior a penal econopia of Bost. Management Practice (DMP) For toxel
 - Theseloution a politicant.
 - Parika and properly labeled and equapped with accordary continuament.
 - They are stored tender asser-



- True or halve? In Niase or Havenin maything The Lyngs retain regular suspendance is let switte Old in an the occur with beacheast
- I rue or halac's Any product tobales! POISONOUS, TOXIC, FLAMMABLE, CORROSIVE, REACTIVE, or F XCPT, CPCTV F., who mid-like in consultanced. 2i⊕zandisuu.

- A major sessions of Zinic participants
 - Groundebrer

 - Hydrautic floid
 - hombe.
 - All of the Above
- Grue de Balany Scown Jeann in de Cin respectivelying worship tiplical width hydrologicals. from the expectable real arguest in another from MARK.

di Timeri T∳j Paure

- . The Cost step cet spill respective by the
 - Complete the remained report.

Conformity qual Australia mik

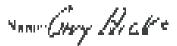
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- for Trac of Falloca, An environmental collarion шау Гелфаж стиппын реплікасы

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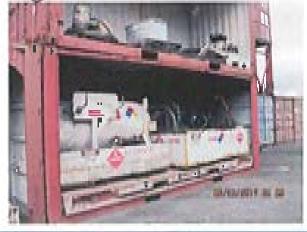
Company STATE OF HOWAR, may 7/21/17



(Clincle the cormes nurseer)

What is the definition of an illich packing	= "
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- ar, in Christopher Arabin (AC) systemic
- <u>նը և Մինրոս հիմ հարդիր ամիր առանակարի միկակի հվարիի</u>։
- Appendix to prove the developing of that provides. rick to a brightness and the
- Name of the above
- Which of the fellowing are not purposed to: 196 close 9 original interest for some original Table?
 - Partitional Affiliagnidation water
 - high ephysis, wosh water, and spitted
 - 🌌 Kipeg catsi
 - Pattiplento attal patint passinats.
 - All of the above
- A minute of Englished Ellipse Beautiful agreement and attracted prings of prings wanted for the ground of the the school desired by the last that we be established real manual
 - Appe.
 - (16) Taken
- 4. The particle he average good example of Hein. Management Procued (1999) because
 - Diesel is not a perfotalit)։ Լադ k4 թյալ բուցային հենոչին վետի մեկայիկան և
 - (with sevential may should intrident) They me grand under over-
 - to payella.



- Length in the Section III was a constraint. والربعة الإبارات والمراجعة كالمراجعة فالمراجع المراجع المراجع المراجعة and open the executional contraction
 - ս_ Մհու (խ} հերհու
- Insurance away to April (Product) John Holl POISOSOGS, TONIC, FLAMMAHUR, CONTROSTYL, BLACTIVE, or \mathcal{X} [21 \pm 12] \mathcal{X} by a liquid the group appears.
- A region surpress of Zero yaa to Jung ps
 - Համասարախներների
 - In Thick.
 - Divideaulio Holdi
 - ta anné et
 - A Lot the Above
- They are bad self. Site to although a fix to the mannichence areaù finied with hydrocarbon. paraprily contridents proposition from



- . Hjer forsk stogereë sprit ve sprisjsse ijs tid
 - ա Վ ապիկին միկ ներական աշրան
 - Contrais the spill
 - Assembly hak Ship par surpor
 - Sylect 1986
- [11] Thrust on Falter? An environmental archamen. more legality community penalties.

l I paper - Palay



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(Carole the cornect answer)

- When a the definition of an obserch content.
 - а Сипредферм Груні, АСТ Севару
 - $\sigma_{\rm corr} = \{(p, r)^{2} \mid p \in P_{\rm corr} : r \in P_{\rm corr}\}$
 - 📵 A tanih siban walon biazitango dhar pusos a rosk to the object abities to
 - Money (The phone).
- AVI and the harderstrong pagency agreement of the be discharged ado the storm drain?
 - Patitured Authoristic space wante
 - hard field gutter 5, mass, mental, and soul gutelectrically.

Proroteum and paint proflection Althor the above.

3 Time of Lates ! Handwashing sorks are: a hower to gradient governor to the ground it. والمرازة ومحارف والمحارية إلحاره ويورون والرواد والمرازة polituran vi

1196 Inch e

- d. The posture tighter is a good gramping of Bost. Management Payottee (HMP) because
 - 10 cast is not a potturing.
 - har Thinks and proporty to designed and company the with secondary continuous it
 - ented they are approach under cover-

∕ ki atuba



- Total or habit? In State of Hawing ingiting: Charlegae si migra negartar suamo describite : Will). epid optipu. Petrografi wet pit (attpatot
 - all Inde

D Palse

 I veg se hatsef Auv product inhelect. PRISONOUS, PORPO, HAMMARIGA, CONKSISINA, REAS TIME, or I:XPIA/SIME appoint to convincing ha ka Nicot y

1 Apr.

d hatac

- A realize semice of Zept realigipted is:
 - Oranne ware;
 - h Tates:
 - Jayde) glic (bart

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All with Angele

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 - h, Latve
- Title, first step of spale (depotes, setting)
 - a... Complete the requirest report
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 - Ansgar be jok.
 - Stop the surrice.

 - Selection 1991.
- Implied Infact. An environmental schafton. ниу (га.) је ег тиш рвиз нез.

Time

fill by se

Please provide your comments here:

P. Pesentalin



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2017 HDOT Harbors Tenant Training Questionnaise

YAME / MAYOR

Company All States relate 12-1/2-1/20

Of their time commonly allowed in

- 1. What is the definition of an infer diversarge?
 - Cloude make from AC ayass in
 - المعلوب Prochase along and stenknedn back.
 - A non-polymerate discharge that passes as not to the discretization.
 - J Notice of the abrone
- 2 We part of the bolism and not not its function before the largest opening and making a first part of the part
 - in [Ne] rated At Leastphi postsy water.
 - Pyshogutjada, woshowatar, and spilled chippers.

a... Petrokony, and panjuptasing s Liko, Lofthe almose

They by hadson Harpheas in the only some a those of the distribution of sector for the graduated they are well-distributions but and some or other portaineds.

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- Pri Mining

*The profuse below is a grad example of Book Management Procuse (HMP) because.

- Diesel is not a polition.
- Tomks are properly taleful and equipped with recondury containings.

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- True or Halve' to Since of Hassner, advisting that gives they a regular starring around the will.
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- Time of Parket Any product labeled POISONOUS, TOXOCC, CLAMM AND L., COPROSIVE STANDARD OF POPE OSIVE standard precessioned.
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- 2. A making some of gine polluting is
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 - h Jues
 - 🚅 Had wain Beet.
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- 8 True of theire / Supercistrom rate (un nountempre area) litted with hydrocurton.
 bysan a considered a post consurration.



- 9. The first step of specificaposae of is-
 - a. Complime the required repent
 - Combine the spall White so that risk Stop the source

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Za DToné √a Ki Kaba



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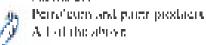
2017 HDOT Harbors Tenant Training Questionnaire



B= == Company: KET Hawaii Dair: 04/21/21-7

(\$ Inche blie connect masser).

- What is the definition of an illustration has bring t
 - Consider care from ACT sources.
 - b. Propheze traing a conteneration and.
 - 👰 A ministrative into discovering that passes as risk to the environment.
 - d. Neggen (The above)
- While is of the following are not permitted to: Burgh schuruser unter den Alexan strum?
 - Pollured AU condensate water.
 - by Pipp gottorijs, wosh water, pijd spiljed. a herroni a ba



- 3 Figur or bulso? Handwarding sinks prea lower hand a horge water to the ground it may have descrigants but not not or other. ryyllulaniya.
 - a. True 📆 Halsy
- 4 The premise following a preset council of Herri. Menagement Places of (BMP) because:
 - Disoch is av die pysliutant.
 - The restaure progressly linkerlesh reach edge paged. with keepidab containment
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- True or halve? In State of Haware, anything. that goes into a regular spores trace only) suffand up in the observation three months.
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موال الرك

- True at Enbed Any product tabeled. РОКОМОНЯ, ТОЖЕСТІ АММАНІБ_{І.} CORROSIVE, REACTIVE, no DXPLOM VI. should be considered. he ontskip a.
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- A major squirer of Autopoliuments.
 - Copposition

 - a Latversonia Hardi
 - 42 hund c
 - All of the Above.
- Those or Bakse? Storm decoration (et for manuschinge Area) Bired with hydrogarbot. by the in educationed a proceduration of BMP

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Laba

- The base step at apill response or to:
 - ii. Complete the required is port-
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- Teneros Inglyg). An graz namygong papapanan. otasy tearling consent presides.

City Title



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- Conspany: 5180 & Hover Widnes



45 projecthe control answers.

- Without the thigh digital tripling from the state of leading 24.7.
 - a Colodersale troop AC system
 - b. Pareliate using a aioloi, etechi card-
 - 🖰 🗛 non supprowitier Apartiage (but pases e. epsig his Hygagapsopring pggt.
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- Which of the Infittivity are not permitted to: langipa (speper) industria stage in profit
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 - b. Mish dotomis, washing a translated by fine. a licensia alla
 - Maggader payment parect payon of a المعتملان عطابات اللازاخ
- Those or Pulser". Handware ring and control allowed to discharge water in the ground if Josephysis detection to be useful to a بحارميا والإصور
 - Time
 - ji hatin
- History of Land the first program [graph problem] [Most. Majorgeone of Prostner (QIMP) lateroses
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 - I mike and property littlefed and agrupped. will be see who have a zool graphsemb
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 - e Lauri
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- True or Follow Aug product about 4 POISONOUS, CONTR. ELAMMABLE. FNP 428 ME should be expected as Lagardonas
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 - Complete the required report.
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 - Stop the votored
- (6) Tege or fortyeff. Appendicularity and object. بحوزاء مرومر المروزوران بماراتها وهدرا

ar Titlay Nation.



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HDOT Harbors Tenunt Training Questionnaire



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(Circle tim correct answer).

- Well across the ideal constant of an influential as harged?
 - a ili 1857 da da asser from 1800 a yesa do
 - Potabase assign extels to assist casts.
 - Acts of about the other case listing that provising risk to the constetution.
 - Normal of the above
- Which of the following multiple periods for the regarding of a ritter that start produce Π^{∞}
 - Parliaded ACL couplings at the artist.
 - b. Kishis Basila, washi we to toutish apollosi. (Tpe hypoway)
 - Petityleng, min partityltyskiets.

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n How

- The protote below is a good example of Best Manager et: Produce (BMR) because
 - $\mathbf{z} = \{\mathbf{P}_{\mathbf{P}}(\mathbf{x}_{i}^{n}) \mid \mathbf{y}_{i} \in \mathcal{Y}_{i}^{n}\} \text{ is a parallel tank.}$
 - . Patries of contrator (i.e. labelled of okcopioner, d الوغور والمناسم في مرام محركية وأثريته

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Than: Talka

That of Table? Any product labeled. POISOSOUS, TOXIC, HIAMMADD. CORROSIVE, REACTIVE, or $[KX] \Gamma [AOS] X [Calought] Lycycles algrey)$ بر در داما د**ی اسل**

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- A program segment of Virgo (industring ex
 - ն նագույգներինը։
 - Total

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42 True h Kajbar

- The first step of spill response is for
 - and knowledge the responsed report

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19 - իրա գույթինան Հանգրթը ջուսանությելն և մվակագ րոն չ միելըֆիլի արդանան բորում կում

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2017 HDO F Harbors Tenant Training Questionnaire



temps. DAVIA LEIGHTER COMPANY HAVE AND FORM 9 31-27
C. E. 44 C. R. J. F.
(Circle the correct answer)

- 1. What is the definition of not their deathacge?
 - $\mu = 0$ type expects from AC system.
 - The Africanse assume a study a popular could
 - (Q) A right stetrosyntal developes that precise out, to the covers meno.
 - d Minute of the above
- 7 Melley hard the for heading and put properties to be alpeabatiged after the electronic paper.
 - Pallated AC condensate water
 - b. In the correct a wash senser, and applied gregoriests.
 - Definite operand paget predigets.
 - SiD All of the above
- I may be halve? Handworthing works are affected to discharge water to the ground If they have detergents but not only or vetter policitality.
 - a Thac
 - California (California)
- I be profused indexe projugated equipped of Best Manager option (1981a) income
 - Direct involve a pull attack.
 - Tanks are properly litheled in discompand.
 with secondary communicia.
 - really belong with a hospital profession were



- 3 In case Intac? In State of Haseau, anything that pages after a regular storing denoted as Ofyed against the decay with population.
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 - الإسامة الأسيواك
- 16 Through Malkert Any provides: (also led also also also Massauris, personal of personal of partial for a safegor to fill on the personal of the safegor to fill of the safegor to
 - E Inge
 - d salve
- 2. A single southerd Zots publishing pa
 - a Chaucdwaren
 - b. High
 - ar Hyamata Kash
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 - In The hear
- Fine first step of spot persons or to
 - and throughoute the product of region (
 - b) Weedow the sp E.
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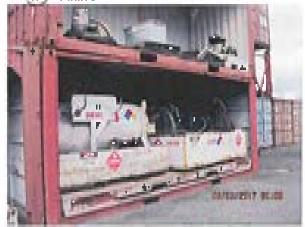
2017 HDGT Harbors Tenant Training Questionnaire



Name: PRANCIS VALUE CAMPANY CONTRONICS,

(C. In the Observations of Disputers).

- . What (y,t) is definition of (y,y) that in (y,t)
 - Quadercate from AC sexten.
 - Pare also uzing a ma en erodin zasă.
 - (b) 🖟 🔥 non-isommenter directuage illiar peresia. risk to the environment
 - 15 Morre of the above.
- Whigh of the following are not permitted to: he should arged 1965 the stendard sharing.
 - a Paliusus ACI condensate water.
 - Links contacts, synchronises, and spottert. chiam zady.
 - Petroleum and pants products
 - $\langle J_i \rangle$ All of the above:
- Fine or Palse". Handwarthing stuke one. allowed to displayed water to the ground if thery have there production only or soften ge Hulants
 - a. True
 - ģι) Pplyc
- The particle below is a great example of Hear. Managraneau Practice (DMP) hechare.
 - Disosch ik rate a pastlurame
 - Tanks are properly into lett and equipped. with accompany contrapanget.
 - They are stoned under dayer
 - it and a



- Tipo, or Felson in State of Massac, any Judge. that gives into a regular storer of an indet will. and up in the except work meanisms.
 - $\langle \hat{s} \rangle$ True
 - Luise week
- time or I also! Any product inteled-POISOSOUS, TOXIC, DEAMMARDE, CORROSIVE, REACTIVE AS XPLOSIVE about 6 he considered. hazardoan
 - j. J. Timer
- A emper source of Zona pallotion is:
 - Cition advisors
 - h. Incap
 - Hydrodia Mun
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 - 队) All of the Acere
- Time of Palke? Storougham orders as mushiba names units.) Tirred while hydroda door. broth is considered a presconsidence. PAMP
 - Ça) Tirak Ta, Ppage
- filed firest step on spill mespecial as for
 - Complete the required report
 - by Commonths spill
 - $\delta q L$. Assume the make
 - d. Stop De aptired
 - Select Birts
- 1911. Julius der Bahward der Lebergarin Warden vor betieren thing lated to despite all probabilities.

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2017 HDO1 Harbors Tenant Training Questionnaire



Company Olassic Karman Porce

- What is the design born of profitted downlarge?
 - n Kleinberrate franz Attisystem.
 - her Principles to average a state of constitution by
 - A non-morning arm directoring a that process. rink no fibri eius psomienti
 - /S_Arione of the above.
- Which sat the following are estipe unitted to: bridged land the committee of
 - Bullofed AC condensate waper
 - b) I hash enformed worsts weeker, and sunfind. whereasts.
 - Retrobusor and paint prestacts
 - (語): All or the above
- I mie og I mixe^o Handsvirsbrigg ander am. will week to this change seater to the greated of they have deserge its had evaluate such their mrificanisco
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- Links.
- The protote below is a good example of their Манадентин Римпос (1894Р) Бесанас.
 - Describe of a pathologic
 - 🚧 It anks our property tabeled and equipped. with secondary contament.
 - They are known and ender known

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(uf), Town

Kî hatxe

True or Palse? Any profest labeled PERSONADUS, TOPRIC, PERSONADO, E. CORROSTAL, REACTIVE, as hOOPL ONDVIOLENMENT associate rest. haix si dique.

Truc

Bullyn.

- A major source of Zone politicano sa
 - Criminal decision
 - Luvi
 - Hydmala Smil
 - Daniel e.
 - All of the Ahave.
- Teste de Francé Monte divant inteligie. maintenary etailen) föterliserth by Anniachine. honores considered a post soustrain rail. ЩМР

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- $\Psi_{\rm eff}$, the first step of splitterspoose is to
 - Manaphere the required report

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Et Stop Mar vonder

Salara Pati-

10. True of helpe? An electronamental violation erroy read to gramming "perculping,"

lone الأوكا Julian Julian





2017 HDOT Harbors Tenant Training Questionnaire



Name KENDYL KULTINGERMANN AMOUNT HAVESTAND COMME "121/17

(Citrale aby control answer)

- What is the definition of other (their diverse get).
 - β opplers signifuge Δξ system;
 - The Pote Rest region a stellar a tell fleater.
 - A tinti structionate takes hat ye that yet own automorphic environment.
 - None of the above.
- 2 Which of that following are anti-permitted to be detained and discount from for
 - 19 Stared ACT constensing wards.
 - I job entembr, sepali sepper, and applied objugately
 - Pottoris anti-atria plantiti prieductis.
 - (4) All all the above
- I properly realised. [Majoratopezagog supplement]
 will realise the character for the ignorand of the property and an even order or problem.
 profit realised.
 - a lingu
 - (B) pulse.
- The picture below to a possil example of Bear Management Proclam (HMP) for an se
 - $a = D^{\dagger}(sv)$ is not a $p_0(\{s\}, p)$:
 - Tantka non-property lichabed and equipps of with vectors/are commissions.
 - g. They are soved under sover



- 5 Trug of Indian's In State of Hassian, maybe septeril priory and a regard antenna droup and swittend up in the mosets with Sentancial
 - The True
- D. Longing Labor Conveytodos (15b) Clod Profis oncours, Transic, TLAMMATILE, CORROSIVE, REACTIVE, or ENPLORMED should be gaussing or Upon Jones
 - Ø Die
 - al Pales
- $Z = A_i$ reagon supported Z properly [purply
 - gr (Claringidwa'i) i
 - In Track
 - e. Hwd au ie Hind.
 - (i) Figure 3.
 - in At adithe Abuse
- W. Tree on Palse" Storm of any other for nonmercular ment family with pade south or property considered a part to a spage part 145(1).
 - (i) True
 - is. Palee.
- No. The first step of god; perpanage with
 - are stronglished his oxigoritish is post
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 - Agligatif*[1].
- Livic of Lidge! An environmental variation upp less progresses at the release.

(i) :

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2017 HDOT Harbors Fenant Training Questionnaice



Mayor Ketalin Price Congrues Mathematic

paret "1/2" (7-

(Clicke the source) answer).

- When is the addingness of an ithen discharge?
 - $\mathbf{p} = \mathbf{f}_{\mathbf{p}}^{\mathsf{T}}(\mathbf{p}) \mathbf{p} \mathbf{p} \mathbf{p} \mathbf{p}_{\mathbf{p}}(\mathbf{p}) \mathbf{p}_{\mathbf{p}}(\mathbf{p}) \mathbf{p}_{\mathbf{p}}(\mathbf{p})$

<u>lang ithing trake na jag</u> ar styllen gyredy i gaitch 🚅 👫 Liztusti Statiot Water aless har 🚜 (Stati pauses al is de rentire anversanciano

ig(ig) ig) . Mixture of the whyser:

- Wipedpool (by Jellagwood at a neg parently disc.) but dose hat goal state, that statter deach?"
 - Parliared ACI condemns a velocini
 - to. It into proceed as weath waters, who ognition والمراجع المراجع المراجع
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- A ring on higher Handwesting sinks are: all provide to appear to appear within the Discognosing of the Spary [most of the general beat most explanation of light-والمساعد أمور
 - a. Inuc
- gi 1920 helba
- A = A the production backer to the agree of the appropriate A (i.e., AMattage for Cleantide (DMP) heratase
 - Pricaci la neri a polliniani.
 - Limits are properly labeled and equipped. $\mathbf{x}(\mathbf{y}^{k})$) which implies the character proof of
 - Tiles are stated mistor cover.



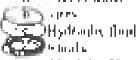
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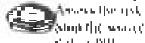
- Halag
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- Ab all the Above
- Lapping balage Starry death of protection ويحارض كالمنازل أبائها فيطال والانصار والمراصرة benefit over an viole to dan (Best cost stitus) jung-



- The 4 1st stilp of spall testimose is to:
 - Complaint to experted report
 - Confine the aptilit



- Nathari PPT
- 10 True of Entre? An environmental violance. րդ չությ<u>վ</u> (ավարդ թվ բույսինոչ

والمساورة وتستركي Tu Tarke



2017 HDOT Harbors Tenant Training Questionnaire



Smith Joseph Smith

Company Aug Kal & Hauker Date: 7/24/12

(Clarke the correspondence)

What is the definition of an illustration have 2.

- Condensate for to ACMystem.
- Proreflowe using a motor credit cond-
- f(0) . A more demonstrate charge that process: risk for the covered major
- Norm of the access
- Who exist the following sound period test to: he decharged totals are storal drain's
 - Polluged AC disestinating wares
 - Lish color by wash water, and spilled. eliamiests.
 - retroleum and paint products.
 - \mathbf{W}_{-} All of the above:
- I have or halve? Handwarfung sinks are: nd owerd to discharge water to the governal th Sing have detergated har and other or other. polluranea
 - n True
 - $\mathbb{C}(N)$. False:
- The premior heliaw is a good example of Peur Managament Praymer (1941) percurse.
 - Darwel is not expectatent.
 - Limks are properly Scholed and equipped. with secondary continueses.
 - Titney wire khin ed Suitch in seven
 - 🖭 in and o



- There is Foliat? In State of Hawaii, 2 sytheriz. than god a missa regular sasson drame des welland up in the weeks with a carmon.
 - p. These
 - ¢p ⊢raise
- True or Lebsel! Any product labeled. POISONOUS, TOXXIC, PLAMM ATTERS CORROSIVE, REACTIVE, an BOOM DNDVID should be encurededed. Innoundary.
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- A major where and Zine pulled to be
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 - b. Linea.
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 - k. Alt of the Above
- Those of Palse's Scoute Isade obstance mainreanne area) forest with hydromytheri. neo in occurrentar posicio istratucion PIMIT!
 - 🔊 Liuvi
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- a be that diep of gulf response is to:
 - Complete the required report
 - $\mathbf{p} = \mathcal{O}_{\mathrm{total}}$ and the $\mathbf{q}_{\mathrm{total}}(0)$
 - Ames: the take
 - বৈ, Scop the system
 - 8-6-31 14014
- Three set False (*) And equipment gental variations. may bred to struming I percellings.

O True Se tota



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2017 HDO I Harbors Tenant Training Questionnaire



name Woode Matrocate Company Galan of Hamplato 1200 21 56PT, 2017

(Circle the correct answer).

- What is the definition or an illien discharge?
 - n Chardons perform AC system
 - by Princhase raing a stolen credit cost
 - $igraphi_{ij}$. A more standard the discharge that power acosk to the envisenment.
 - d. Moore of the always.
- Watebild the left owing are not permitted or be shocking of units the storm during.
 - Pathored AC condensations
 - (1915) Instrument to week week and spicket Same Brighting St.
 - 💓 Petroleum and pani' products:
 - Alt of the above.
- Tittle of Lafae 1 Handwashing know are: allowed to discharge remoting the ground of they have deleganes out not only or other pelliutnuts.
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 - The Labor
- If the prediction periods in a general example of Block. Management Practice (1991): Georgie
 - Diese in det algeblicknit.
 - 1. Jankovské propedy Jaheled a nakopnyj od. with repeated by containing to
 - . There are altered finishers as ear





- Time of Lative? In State of Hower, parything. sharilishes then a right he served strictly in let 1900. ems up in the easing with treatment
 - \mathbf{F}_{DM}
 - Labor
- I had on halke? Any product inselect PORONUES, TOXIC, PLAMMABILL. CORROSIVE REAL HVP. or DXPC OSIML altituded the comparisoned [angardonn
 - e) Three
 - Trafae.
- A compressions end Zang pydlytom jy.
 - gr Lápound Maior. ا Tire وال
 - Hydroulie Build
 - Smith C All of the Alarva
- True or Palac? Storm train offer the manner armadenta) Soust when by interchembacers in considered a president arecen-I skylike
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"Mālama i ke kai" - Protect Our Harbor Waters

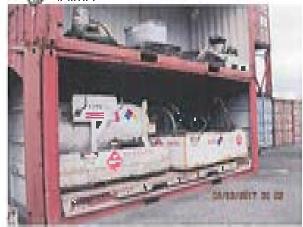
2017 HDO I Harbors Tenant Training Questionnaire



Marie Schaum Harrasa bearingpony Course Practice Marie 1/20/17

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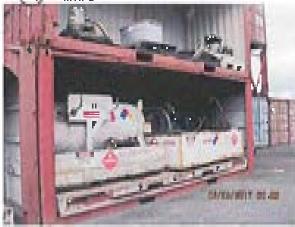
2017 HBOT Harbors Tenant Tealning Questionnaire



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- What is the definition of an illien discharge?
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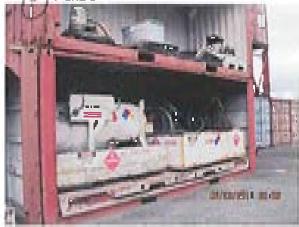
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2017 HDOT Harbors Tenant Training Questionnaire



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Hate 7. 21-17

(Circle the correct answer).

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- 6 Phogradure belong to a great example of factor Management Practice (1991) because
 - Digital is put a participant.
 - hall traights are progressly baselful popular property with as double by cellberspire of
 - ear. They are sound under arrive



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- e7ê ∤ Lore B Palson
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2017 HDQT Harbors Fenant Training Questionnaice



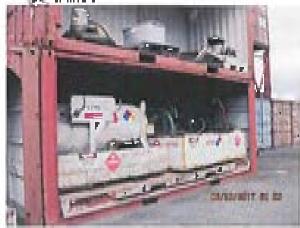
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Tighter



2017 HDOT Harbors Tenant Training Questionnuise



Nume Mark Wilkins

Company Clear Sund Com Date: 9/21/14

(Circle the correct envisor)

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 - a. Conferencie June All system.
 - $\mathbf{b}_{\text{max}}[\text{triple}]$ gives the $\mathbf{a}_{\text{triple}}[\text{presented}]$ and $\mathbf{b}_{\text{triple}}[\text{triple}]$ gives $\mathbf{b}_{\text{triple}}[\text{triple}]$
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Name: Day Variety

Company: 425 POL PAL OHOLDED DATE: 1/201 1/

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2**0222** - Loren معاويا وتثالج

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🚮 Ingel

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ALCONO CHAMMAN MARTSONA

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 - All of the above.
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 - Confidentate Brain AC systems
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Tenant Training: Questionnaires Results Summary and Completed Questionnaires



"Mālama i ke kai" - Protect Our Harbor Waters

2017 IIDO I Hurbors Tenant Training Questionnaire



Hame: Peter Pillone

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"Mālama i ke kai" - Protect Our Harbor Waters

2017 HDO I Harbors Lenaul Training Questionnaire



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Tenant Training: Questionnaires Results Summary and Completed Questionnaires



"Mālama i ke kai" - Protect Our Harbor Waters



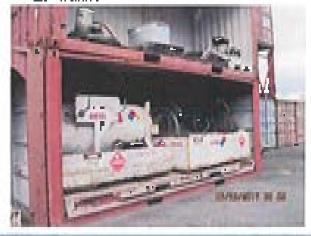
2017 HDOT Harbors Tenant Training Questionnaire

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"Mālama i ke kai" - Protect Our Harbor Waters

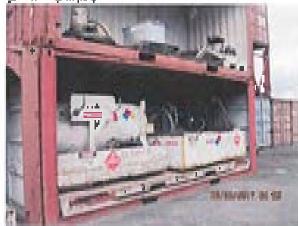
2017 HDOT Harbors Lenant Training Questionnaire



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Attachment 6 Construction and Post-Construction Training

Attachment 6A.
Construction Training Presentation Slides





DOT Harbors
Construction
and PostConstruction
Training





Training Objectives

- Goals & Objectives
- Regulatory Background
- NPDES Permitting Program Overview
- Harbors Construction Site Runoff Control Program
- Harbors Post-Construction Stormwater
 Management in New Development and Redevelopment Program





Goals & Objectives

- To be good stewards of the environment
- To protect the environment
- Comply with environmental laws
 - National Pollutant Discharge Elimination
 System (NPDES) Permits
 - Municipal Separate Storm Sewer System (MS4) –
 HAR 11-55, Appendix K
 - General Permit Authorizing Discharges of Storm Water Associated with Construction Activity – HAR 11-55, Appendix C
 - Consent Decree





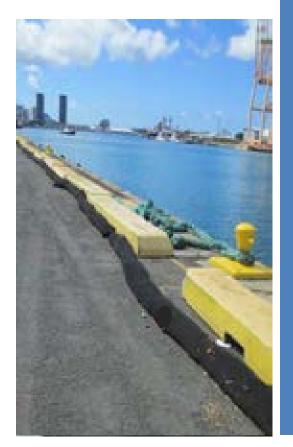
Regulatory Background

- 2003: NPDES permits from DOH for the storm drainage system at Honolulu Harbor and Kalaeloa Barbers Point Harbor.
 - Required to implement programs to minimize pollutants in runoff and the amount of runoff leaving the site.
- January 30, 2006: DOT entered into a consent decree with EPA and DOH.
 - Harbors was required to develop an EMS.
- November 5, 2014: DOT entered into a second consent decree with EPA and DOH.
 - Result is the requirement for increased vigilance in regards to implementation of stormwater programs.
- 2015: NPDES permit from DOH for Kahului Harbor
 - Required to implement programs to minimize pollutants in runoff and the amount of runoff leaving the site.



Attachment 6A.
Construction Training Presentation Slides





NPDES Program





Attachment 6A.
Construction Training Presentation Slides



What is NPDES?

- The Clean Water Act includes the National
 Pollutant Discharge Elimination System (NPDES)
 program to regulate the discharge of pollutants
 from point sources to waters of the United
 States. Permitted discharges by DOH:
 - Hawaii Administrative Rules (HAR) 11-55:
 - Appendix K NPDES General Permit Authorizing Discharges of Storm Water and Certain Non-Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4)
 - Appendix C: NPDES General Permit Authorizing Discharges of Storm Water Associated with Construction Activity



Attachment 6A.
Construction Training Presentation Slides



HAR 11-55, Appendix K



- General permit covers storm water and certain non-storm water discharges from small MS4s
- Develop, implement, and enforce a storm water management plan (SWMP)
- DOT Harbors Small MS4 Permits
 - HI 03KB482 Honolulu Harbor Permit
 - HI 03KB488 Kalaeloa Barbers Point Harbor
 Permit
 - HI 14KE352 Kahului Harbor Permit



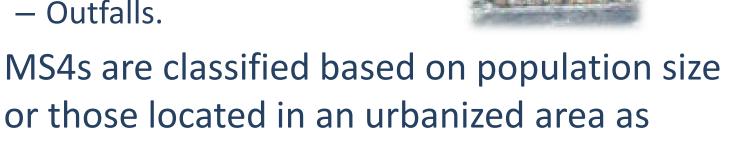


What is an MS4?

- An MS4 is the drainage system that conveys stormwater to the receiving water, including:
 - Storm drain inlets, catch basins, and manholes.
 - Channels / canals.
 - Underground pipeline.

defined by the Bureau of Census.

Outfalls.







MS4 Permit Requirements

- The Stormwater Management Plan (SWMP) details how DOT Harbors will comply with the permit:
 - Public Education.
 - Public Involvement.
 - Illicit Discharge Detection & Elimination.
 - Construction Site Runoff Control.
 - Post-Construction.
 - Pollution Prevention / Good Housekeeping.





HAR 11-55, Appendix C



- General permit that covers discharges composed entirely of storm water runoff associated with construction activities
- Develop and implement a storm water pollution prevention plan (SWPPP)
- Construction sites
 - Includes sites that disturb 1 acre or more
 - Includes sites smaller than one acre that are part of a larger common plan of development



Attachment 6A.
Construction Training Presentation Slides





DOT Harbors Construction Site Runoff Control Program







Construction Training Presentation Slides

Construction Site Runoff **Control Program Training**

- NPDES Small MS4 Permit
- Consent Decree
- NPDES Construction General Permit
- Stormwater pollution prevention practices
- City and County of Honolulu Best Management Practice Manual for Construction



Attachment 6A.
Construction Training Presentation Slides



MS4 Permit Stormwater Management Plan

- SWMP for Honolulu and KBPH is available online:
 - http://hidot.hawaii.gov/harbors/library/storm-watermanagement/
- SWMP for Kahului Harbor under development
- Details procedures for complying with requirements of HAR 11-55, App K and the Consent Decree.
- Minimum Control Measure: Construction Site Runoff Control Program





Attachment 6A. **Construction Training Presentation Slides**

MS4 Permit **SWMP Definitions**

Construction:

 Activities that result in land disturbance, including:





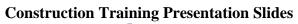


- Construction related activities, including:
 - Stockpiles.
 - Borrow areas.
 - Staging areas.









MS4 Permit SWMP Definitions



- Penetration, turning, or moving of soil.
- Resurfacing of pavement where the ground is exposed.
- Grubbing where equipment is used to uproot vegetation.
- Does <u>NOT</u> include:
 - Grass or weed cutting.
 - Bush or tree trimming that leaves the soil intact.







Construction Training Presentation Slides

MS4 Permit SWMP Definitions

- Exempted projects:
 - Minor land disturbance on a single lot (e.g., minor landscaping activities).
 - Post, pole, sign, and fencing installation.
 - Utility repair work.
 - Parking lot, driveway, and other paved surface repair.
 - Repair and maintenance activities.









Attachment 6A.
Construction Training Presentation Slides

MS4 Permit SWMP Definitions

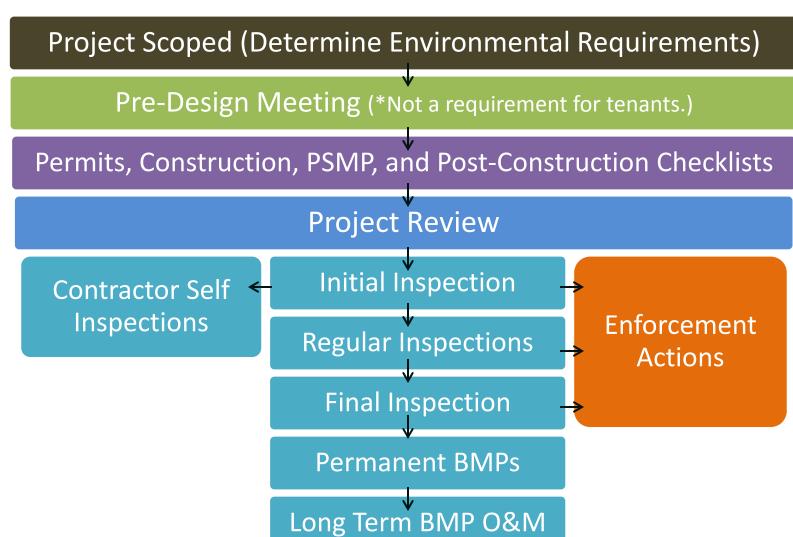
- Best Management Practice (BMP):
 - Practice or device used to mitigate the discharge of potential pollutants.







Harbor's Construction Process







Consent Decree Requirements

- Construction Site Runoff Control Program elements:
 - Plan Review Procedures.
 - Design Review Checklist.
 - BMP Standards and Technical Specifications.
 - Refer to SWMP Construction Program, Att 6.
 - Construction and Post-Construction BMP inspections.
 - Training program for plan reviewer and inspectors.





Construction Design Review

- Pre-Design Meeting.
- Documentation:
 - Notification Form for Project Less Than One Acre with BMP plan.

<u>OR</u>

- Construction Design Review Checklist.
- Completed NPDES applications.
- Construction BMP plan sheets and details.
- Stormwater Pollution Prevention Plan.





Attachment 6A.

Construction Training Presentation Slides

Design Review Checklist

Hawaii Department of Transport	
	aject Description
Project Title Project Job No Name of Design Firm Projected Construction Timeframe Description of Project	Acreage of Site:
Construction Site Location:	ite Information
Signatu Designer: I certify that the design is complete best of my knowledge. Print Name:	ure and Certifications a, accurate, and addresses the items on this checklist to the
Signature: Review: HDOT Harbors Project Manager and	Date:
Harbors Project Manager Signature:	Print Name: Date: Print Name:
Harbors Environmental Section Signature:	Date:





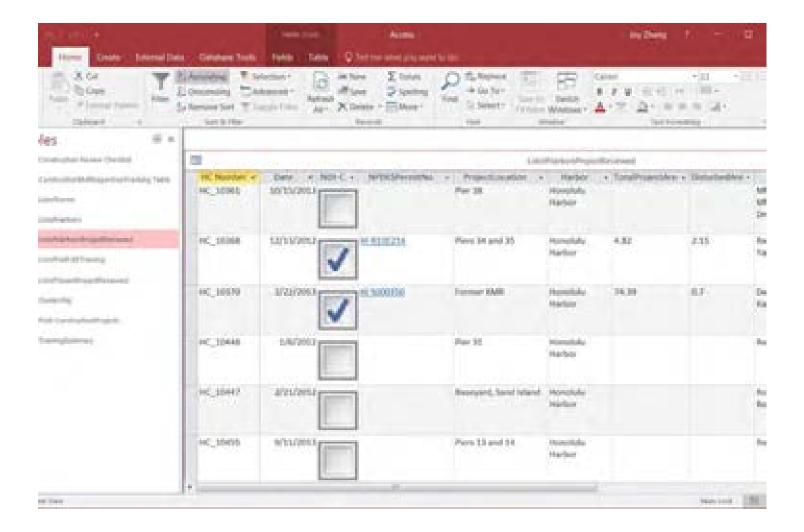
Construction Review

- Project review after contract award:
 - Contractor completes Stormwater Pollution
 Prevention Plan and provides to the Construction
 Manager (CM).
 - CM will submit to Environmental Section (EE).
 - EE will send their comments to the CM through memorandum.
 - Harbors Division will issue Notice to Proceed to the contractor, specifying:
 - First work order is the installation of BMPs.
 - BMPs must be inspected prior to the start of any other work.
 - EE maintains an inventory of construction sites.





Inventory of Construction Sites







- When conducting a plan review:
 - Identify location and size.
 - Identify where storm water will flow.
 - Identify waterways (e.g. coastline, canals) and storm drains.
 - Identify topography.
 - Identify ground cover and soil type.
 - Identify locations of potential pollutant source.
 - Land disturbance activities.
 - Staging areas.
 - Non-storm water.





- Determine the scheduling / phasing.
 - Is the land disturbance activity planned for the dry season? (Apr – Sep)
 - Have there been efforts to minimize the disturbed area?
- Responsible parties.
 - Does the Stormwater Pollution Prevention Plan include the names or titles of parties responsible for:
 - Inspections?
 - Maintenance?
 - Recordkeeping?
 - Rain gauge monitoring?
 - Incident reporting?





- Have potential pollutants been addressed via BAT / BCT?
- Ensure there is a plan for final stabilization.
- Does the design include permanent BMP?
 - Non-exempt projects one acre and larger.
 - Does the project include LID?
 - How is ongoing maintenance addressed in the plan?







- If greater than or equal to 1 acre, determine whether BMPs adequately address potential pollutants and the requirements of HAR 11-55, App. C.
 - BMPs should be based on expected amount, frequency, intensity, and duration of rain events in the area. (Typically: 2 yr, 24 hr storm).
 - Refer to City and County of Honolulu BMP manual for design details.



Attachment 6A.
Construction Training Presentation Slides



Consent Decree Requirements

 Use the City and County of Honolulu Stormwater BMP Manual – Construction. When applicable, all projects should include:

Scheduling

Scheduling
Preservation of Existing Vegetation
Slope Protection
Run-on Diversion
Silt Fence
Storm Drain Inlet Protection
Sand Bag Barrier
Stabilized Construction Site Entrance/Exit
Water Conservation Practices
Dewatering Operations
Material Delivery and Storage
Stockpile Management
Spill Prevention and Control
Solid Waste Management
Concrete Waste Management
Sanitary/Septic Waste Management





Consent Decree Requirements

Sites Disturbing 1 Acre or More:

Erosion Controls	Hydraulic Mulch
	Hydroseeding
	Soil Binders
	Geotextiles and Mats
	Wood Mulching
	Slope Drains
Sediment Controls	Silt Fence
	Fiber Rolls
	Sediment Basin
	Gravel Bag Berm
	Street Sweeping and/ or Vacuum
	Sand Bag Barrier
	Storm Drain Inlet Protection
	Scheduling
	Check Dam





Consent Decree Requirements

Sites Disturbing 1 Acre or More:

Additional Controls	Wind Erosion Controls
	Stabilized Construction Entrance/ Exit
	Stabilized Construction Roadway
	Entrance/ Exit Tire Wash
	Advanced Treatment Systems
Non-Stormwater Management	Water Conservation Practices
	Dewatering Operations (Groundwater dewatering
	only under National Pollutant Discharge
	Elimination System Permit No. (TBD)
	Vehicle and Equipment Washing
	Vehicle and Equipment Fueling
	Vehicle and Equipment Maintenance
Waste Management	Material Delivery and Storage
	Stockpile Management
	Spill Prevention and Control
	Solid Waste Management





Consent Decree Requirements

Roadway Paving or Repair:

- 1. Restrict paving and repaving activity to **exclude periods of rainfall** or predicted rainfall unless required by emergency conditions.
- 2. **Install gravel bags and filter fabric** or other equivalent inlet protection at all susceptible storm drain inlets and at manholes to prevent spills of paving products and tack coat.
- 3. Prevent the discharge of release agents including soybean oil, other oils, or diesel to the stormwater drainage system or receiving waters.
- 4. Minimize non-stormwater runoff from water use for the roller and for evaporative cooling of the asphalt.
- 5. Clean equipment over absorbent pads, drip pans, plastic sheeting or other material to capture all spillage and dispose of properly.
- 6. **Collect liquid waste in a container**, with a secure lid, for transport to a maintenance facility to be reused, recycled or disposed of properly.





Consent Decree Requirements

Roadway Paving or Repair:

- 7. Collect solid waste by vacuuming or sweeping and securing in an appropriate container for transport to a maintenance facility to be reused, recycled or disposed of properly.
- 8. **Cover the "cold-mix" asphalt** (i.e., pre-mixed aggregate and asphalt binder) with protective sheeting <u>during a rainstorm</u>.
- 9. **Cover loads** with tarp before haul-off to a storage site, and do not overload trucks.
- 10. Minimize airborne dust by using water spray or other approved dust suppressant during grinding.
- 11. Avoid stockpiling soil, sand, sediment, asphalt material and asphalt grinding materials or rubble in or near stormwater drainage system or receiving waters.
- 12. Protect stockpiles with a **cover or sediment barriers during a rain**.





Construction Training Presentation Slides

Plan Reviews: NPDES Permit Minimum Measures

- Provide natural buffer if within 50' of state water.
 - Alternatives or exemptions may be applied based on site conditions.
- Install perimeter controls where water will flow.
- Minimize track-out.
 - Has a designated exit if equipment will be coming onto the site.
- Control stockpiles.
 - Use a temporary perimeter BMP or stabilize.
- Minimize dust.
- Minimize land disturbance on slopes.
 - Attempt to limit grading to less than 15% slopes.
- Minimize soil compaction.
 - Restrict vehicle and equipment use.
 - Condition the soil prior to seeding.





Construction Training Presentation Slides

Plan Reviews: NPDES Permit Minimum Measures

- Protect drain inlets.
 - Only required when storm water is not properly managed with another method.
- Contaminated stockpiles.
 - Prevent storm water from impacting stockpile. OR
 - Prevent discharge of storm water from the area.
- Ensure non-storm water is contained (e.g. dewatering, concrete washout, vehicle washing).
- Written narrative for potential pollutant generating activities such as:
 - Vehicle and equipment fueling.
 - Washing vehicles and paint applicators.
 - Storage, handling, and disposal of construction materials, products, and wastes.





Harbor's Inspections

- Initial Inspection:
 - Verify all BMPs are installed appropriately.
 - Deficiencies must be corrected prior to the start of other construction work.
- Regular Inspection:
 - Deficiencies must be corrected or enforcement will commence.
 - Inspector will provide the contractor with report in five (5) calendar days.





Harbor's Inspections

- Final Inspection:
 - When all the following conditions are met:
 - Construction is completed.
 - Exposed soil has been stabilized.
 - Remaining activities have minimal impact on stormwater runoff.
 - Document the conditions are met in the Additional Notes portion of the report.
 - Ensure that permanent BMPs are properly installed, if applicable.
 - Deficiencies must be corrected prior to issuance of final payment.





Harbor's Inspections

- Review completed Contractor Self Inspections:
 - For sites with NPDES permit:
 - Contractor's self inspections weekly AND within 24 hours of a 0.25 inch rainfall.
 - Signed by duly authorized representative.
 - Ensure contractor has completed or has a plan for completion of maintenance and repair of BMPs.
 - Any changes to BMPs must be documented.





Harbor's Enforcement

- Escalating Policy for Enforcement
 - Harbor's Construction Enforcement
 - Oral or Verbal Warning
 - Written Warning
 - Issue Stop Work Order





Harbor's Enforcement

- Enforcement Response Plan
 - Currently Developing
 - Escalating Policy for Enforcement that may include ability to assess liquidated damages, fines, and/or criminal penalties for noncompliance on construction projects



Attachment 6A.
Construction Training Presentation Slides





NPDES Construction General Permit







- Submit a Notice of Intent and develop a Stormwater Pollution Prevention Plan (SWPPP) 30 days prior to the start of activities.
- Notify the DOH 7 days prior to start.
- Train personnel on BMPs.
- Install, inspect, and repair BMPs as necessary.
- Update SWPPP and maintain on-site.
- Submit a Notice of Cessation when area has been stabilized.





- General Permit Requirements.
 - NOI submitted via e-permitting website.
 - Permittee must complete and keep on-site:
 - SWPPP.
 - Record of changes to the SWPPP (complete in 7 days).
 - Monthly compliance reports.
 - Inspection reports (within 48 hours).
 - Corrective action reports (start within 24 hours and finish with 7 days).
 - All documents must be signed by certifying person or duly authorized representative.





- SWPPP must include:
 - Personnel on the stormwater team.
 - Contractor and sub-contractor information.
 - Nature and sequence of construction activities.
 - Description of sources of non-stormwater.
 - Potential sources of stormwater pollution and measures to reduce or eliminate.
 - Description of buffer option implemented.
 - Description stabilization practices and post-construction BMPs.
 - Inspection, maintenance, and corrective action procedures.
 - Training documentation.
 - NGPC and other permits.
 - Documentation of UIC well requirements, if applicable.







- SWPPP must include a site map:
 - Locations of earth-disturbing activities.
 - Topography including slopes before and after grading.
 - Stockpiles locations.
 - Contaminated soils.
 - Direction of discharge to state waters and other drainage systems (Harbors MS4).
 - Entry/exit points.
 - Structures and impervious surfaces.
 - Staging area.
 - Boundary lines of buffer areas.
 - Potential pollutant activities and storage areas.
 - All BMPs.





• Natural Buffers:

 Required when a state water is within 50 feet of ground disturbance.



– Options:

- Maintain a 50-foot undisturbed vegetated buffer.
- If the buffer is less than 50 feet, also provide a double sediment control spaced 5 feet apart.
- If there is no buffer, maintain a double sediment control spaced 5 feet apart and complete stabilization within 7 calendar days.
- Delineate with flags, tape, or other marking.





- Contractor Self-Inspection frequency:
 - For sites that are NOT discharging to impaired waters:
 - At least once every 7 days; OR
 - Once every 14 days and within 24 hours of a 0.25 inch rain event.
 - For sites that do discharge to impaired waters:
 - At least once every 7 days; AND
 - Within 24 hours of a 0.25 inch rain event and prolonged rain events.
 - Keep a rain gauge on-site!
 - Conducted by a qualified person.







 Only for actions to stop or prevent a violation of water quality (HAR 11-54).



- Fix the problem immediately (start the same day).
- Significant repairs complete within 7 days.

Corrective Action Report:

- Within 24 hours: condition identified, date, time, and how it was identified.
- Within 7 days: follow-up actions taken, summary of BMP modifications.





- Stabilization is required:
 - Immediately (by next day)
 whenever earth
 disturbing activities have ceased.
 - Temporarily ceased means no activities within 14 calendar days or more.
 - Deadline for completion: ASAP but no later than 14 calendar days after initiation.
 - Deadline for sites discharging to impaired waters: 7 calendar days from the temporary or permanent cessation of earth disturbance.







- Types of initiation of stabilization:
 - Prepping the soil for vegetation or nonvegetation stabilization.
 - Applying mulch.
 - Seeding and planting.
 - Making the arrangements for stabilization.
- Criteria for stabilization:



- Vegetation evenly
 distributed that provides
 70% or more of density
 that was previously there.
- Non-vegetative controls (e.g. pavement).



Attachment 6A.
Construction Training Presentation Slides





Stormwater Pollution Prevention Practices







Potential Pollutant: Sediment

Erosion:

Process by which the land surface is worn away by the action of water or wind.



Sedimentation:

Movement and settling out of suspended soil particles.







Common Pollutants

Vehicle Fluids.



Chemicals.



Portable Toilet.



Aggregate.



Washouts.



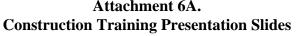
Trash.



Sediment.









Construction Impacts

Sedimentation

Unstabilized Construction Site



VS

Forested Land / Grassy Areas





Between <u>35-45 tons</u> of sediment per acre each year.



Approximately <u>1 ton</u> of sediment per acre each year.





Definition of Illicit Discharge

 Non-stormwater discharge that poses a risk to the environment.









Only Rain in the Storm Drain!



Erosion Control

Parad to as soil

(Referred to as soil stabilization)



CCH BMP Manual : Table 3-1

Employee/Subcontractor Training

Scheduling

Preservation of Existing Vegetation

Hydraulic Mulch

Hydroseeding

Soil Binders

Geotextiles and Mats

Wood Mulching

Earth Dikes and Drainage Swales

Velocity Dissipation Devices

Slope Drains

Streambank Stabilization

Seeding, Planting, and Sodding

Slope Roughening/Terracing

Topsoil Management



Attachment 6A. **Construction Training Presentation Slides**

Sediment Control



Any practice that traps soil particles after they have been detached and moved by rain, flowing water, or wind.

(Passive systems that rely on filtering or settling the particles out of the water or wind that is transporting them.)







Silt Fence

Sediment Basin

Sediment Trap

Check Dams

Fiber Rolls

Gravel Bag Berm

Street Sweeping and Vacuuming

Sandbag Barrier

Storm Drain Inlet Protection

Chemical Treatment

Locations of Potential Sources of Sediment

Level Spreader

Rip-Rap & Gabion Inflow Protection

Vegetated Buffer Strips and Channels





Attachment 6A. Construction Training Presentation Slides

Wind Erosion Control

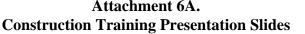
 Applying water or other dust palliatives to prevent or alleviate dust nuisance.

CCH BMP Manual: Table 3-3

Wind Erosion Control









Tracking Control

Preventing or reducing the tracking of sediment off-site by vehicles leaving the construction area.

CCH BMP Manual: Table 3-4

Stabilized Construction Entrance/Exit

Stabilized Construction Roadway

Entrance/Outlet Tire Wash











Attachment 6A.
Construction Training Presentation Slides

Non-Storm Water Management BMPs

Source control BMPs that prevent pollution by limiting or reducing potential pollutants at their source or eliminating off-site discharges (Referred to as good housekeeping practices)

Water Conservation Practices	
Dewatering Operations	
Paving and Grading Operations	
Temporary Stream Crossing	
Clear Water Diversion	
Illicit Connection/Discharge	
Potable Water/Irrigation	
Vehicle and Equipment Cleaning	
Vehicle and Equipment Fueling	
Vehicle and Equipment Maintenance	
Pile Driving Operations	
Concrete Curing	
Concrete Finishing	
Material over Water	
Demolition Adjacent to Water	
Temporary Batch Plants	

CCH BMP Manual: Table 4-1



Attachment 6A.



Construction Training Presentation Slides

Waste Management & Materials Pollution Control BMPs

that prevent pollution by limiting or reducing potential pollutants at their source before they come in contact with storm water.

(Referred to good housekeeping practices)



Material Delivery and Storage

Material Use

Stockpile Management

Spill Prevention and Control

Hazardous Waste Management

Contaminated Soil Management

Concrete Waste Management

Sanitary/Septic Waste Management

Liquid Waste Management







Construction Training Presentation Slides

BMP Installation, Inspection, and Maintenance

Implementation/Installation

- Refer to BMP Manual
- Follow manufacturer specifications

Inspection

- Refer to BMP Manual
- Routine inspections
- Permit required inspections

Maintenance

- Performed required maintenance
- Repair or replace when necessary



Proper BMP installation, conducting routine inspections, and performing on-going maintenance is needed for all temporary BMPs!

Attachment 6A.
Construction Training Presentation Slides

Erosion Control: Preservation of Existing Vegetation (EC-2)

Implementation

- Avoid disturbing existing vegetation
- Clearly mark limits of disturbance and leave buffer

Inspection

- Verify existing vegetation preserved
- Verify protective measures remain in place

Maintenance

- Restore protective measures if damaged
- Maintain irrigation or use temporary irrigation







Attachment 6A.
Construction Training Presentation Slides

Erosion Control: Soil Binders (EC-5)

Installation

- Roughen embankment and fill areas
- Apply to exposed soil surfaces
- Soil type dictates appropriate binder
- Follow manufacturer recommendations for application rates
- Requires a minimum curing time

Inspection

- Look for undercutting
- Identify areas where erosion has occurred

Maintenance

Reapply as needed





Erosion Control: Geotextiles and Mats (EC-7)

Installation

- Proper site preparation required
- Refer to manufacturer specifications
- Proper laying, securing, and anchoring needed

Inspection

- Geotextile and mat in contact with soil
- Lap joints are secure
- Undercutting

Maintenance

- Repair erosion or damage
- Reinstall





Construction Training Presentation Slides

Sediment Control: Silt Fence (SE-2)

Installation

- Trench 6-inches wide and 6-inches deep
- Bottom key-in a minimum of 12 inches
- Posts spaced a maximum of 6 feet apart
- Backfill and compact trench
- Follow BMP manual and manufacturer specifications

Inspection

- Undercutting, split, torn, slumping, etc.
- Sediment accumulation

Maintenance

- Repair or replace as needed
- Remove sediment accumulation when it reaches one-third of the barrier height







Attach netruction Traini

Construction Training Presentation Slides

Sediment Control: Fiber Rolls (SE-5)

Installation

- Consist of straw, flax, mulch, or other material bound in tight tubular roll
- May require trenching and staking
- Install along contour
- Diameter and spacing requirements

Inspection

- Splits, tears, unraveling, slumping, etc.
- Undercutting
- Accumulated sediment

Maintenance

- Repair or replace as needed
- Remove sediment accumulation when it reaches one-half designated storage







Construction Training Presentation Slides

Sediment Control: Storm Drain Inlet Protection (SE-10)

Installation

- Drainage area should not exceed 1-acre
- Requires area for ponding
- Requirements vary depending on device

Inspection

- Clogs, torn, holes, snags, degradation, etc
- Accumulation of sediment

Maintenance

- Frequent maintenance required
- Repair and replace as needed
- Remove sediment accumulation when it reaches one-third of barrier height











Temporary Tracking Control: Stabilized Construction Entrance/Exit (TR-1)

Installation

- Construct on level ground
- Select 3-inch to 6-inch diameter stone
- Minimum depth of stone 12-inches
- Length of 50-feet minimum and 30-feet minimum width
- Filter fabric

Inspection

- Check proper diameter stone used
- Accumulated or clogged with sediment



- Remove sediment
- Replace stone as needed







Waste Management & Materials Pollution Control: Material Delivery & Storage (WM-1)

Implementation

- Locate temporary storage away from vehicular traffic and waterways
- Covered area if possible

Inspection

- Perimeter controls, containment structures, covers, liners
- Proper storage, labels

Maintenance

- Repair or replace perimeter controls, containment structures, etc.
- Spill cleanup
- Maintain a clean and organized area







Waste Management & Materials Pollution Control: Stockpile Management (WM-3)

Implementation

- Maintain adequate setback from waterways
- Requirements to be covered dependent on material and rainy/non-rainy season
- Stabilization measures may be required
- Perimeter control at base of stockpile

Inspection

- Adequately covered
- Proper perimeter sediment barrier undercutting, overtopping, torn

Maintenance

- Repair and/or replace covers
- Repair and/or replace perimeter controls







Take Away



- All projects must be reviewed prior to start.
- Projects over 1 acre must include post-construction BMPs.
- Inspections are <u>required</u> by Consent Decree and NPDES permits.
 - Inspections are an important tool to catch problems before they result in regulatory enforcement.
- Main goal is to ensure that pollutants are not contaminating receiving waters or MS4.
 - Best if potential pollutants can be kept on-site!
- It is cheaper to implement BMPs than pay the regulatory fine.
- Be familiar with City and County of Honolulu BMP manual, Harbor's SWMP programs, Consent Decree, and construction documents.



Attachment 6A.
Construction Training Presentation Slides





DOT Harbors Post-Construction SW Management in New Development & Redevelopment Program







Post-Comstruction Stormwater Management Program

- Projects that result in a land disturbance of 1 acre or more (Regulated Projects) <u>must</u> consider the inclusion of post-construction BMPs.
 - Guidance Documents:
 - 2015 Stormwater Management Plan (SWMP)
 - Post-Construction Stormwater Management in New Development and Redevelopment, Honolulu and Kalaeloa Barbers Point Harbors, 2014 (Post-Construction Manual)
 - Storm Water BMP Guide (CCH, 2012; Appendix C)
 - Rules Relating to Storm Drainage Standards (effective June 2013, CCH, 2000; Appendix D)





Construction Training Presentation Slides

SWMP Post –Construction Definitions



- Penetration, turning, or moving of soil.
- Resurfacing of pavement where the ground is exposed.
- Grubbing where equipment is used to uproot vegetation.
- Does <u>NOT</u> include:
 - Grass or weed cutting.
 - Bush or tree trimming that leaves the soil intact.





SWMP Post –Construction Definitions

- Exempted project examples (Post-Construction Manual, Section 1.2):
- Maintenance activities such as top-layer grinding, repaving (where all pavement is not removed) and reconfiguring surface parking lots.
- Reroofing.
- Interior remodeling and improvement.
- Routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility.
- Trenching and resurfacing associated with utility work.
- Replacement of damaged pavement.
- Emergency construction activities required to immediately protect public health and safety.









SWMP Post –Construction Definitions

- Post Construction:
 - A BMP that will remain in place following construction to minimize the discharge of pollutants from activities on-site.
 - Develop an Operations and Maintenance Plan during design phase.









SWMP Post – Construction Definitions

Low Impact Development (LID)

"...mimic predevelopment site hydrology by using site design techniques that store, infiltrate, evaporate, and detain runoff..."

(SWMP Section 3.4.1)











Construction Training Presentation Slides

Post-Construction Stormwater Management Program

- Include in Design Review Submittal:
 - Post-Construction BMP Plan Checklist.

If PBMPs are required (Regulated Projects):

 Post-Construction Stormwater Mitigation Plan (PSMP).





Attachment 6A.

Construction Training Presentation Slides

Permanent Post-Construction Design Checklist





Hawaii Department of Transportation – Harbors Division

Permanent Post-Construction Best Management Practice Plan Checklist

For a Harbors Project, please fill in this section	
Project Title:	
B. (1) (1) (1) (1)	
Project Location:	
Acreage of Site:	Harbors Project No.:
Name of Design Firm:	
Email:	Phone No.:



For a Tenant Improvement Project, please fill in this section		
Tenant Business Name:	Date:	
Project Title:		
Project Location:		
Acreage of Site:	TMK No. (if any):	



Post-Construction Stormwater Mitigation Plan (PSMP)

Drainage Study and Conditions of Concern Identify potential pollutants

Identify postconstruction BMPs

Complete PSMP

- Required for "Regulated Projects."
- Contents (Post-Construction Manual, Section 3.4):
 - Narrative of project.
 - Site map.
 - Description of potential pollutants.
 - Drainage study and conditions of concern.
 - Post-Construction BMPs.
 - Maintenance requirements.





PSMP – PBMP Selection

- Select from these categories(SWMP Section 3.3):
 - Low Impact Development (LID).
 - Goal = Keep the stormwater on-site and treat it as a resource instead of a waste.
 - Example = Conserve vegetated areas.
 - Source Control.
 - Goal = Keep potential pollutants from coming into contact with stormwater runoff.
 - Example = Covering a maintenance area.
 - Treatment Control.
 - Goal = Remove pollutants from stormwater runoff.
 - Example = Hydrodynamic separators.







Construction Training Presentation Slides

PSMP – PBMP Selection and Design

- Refer to City and County of Honolulu resources (SWMP 2015, Section D):
 - Post-Construction Stormwater Management in New Development and Redevelopment, Honolulu and Kalaeloa Barbers Point Harbors, 2014
 - Storm Water BMP Guide (CCH, 2012;Appendix C)
 - Rules Relating to Storm Drainage Standards (effective June 2013, CCH, 2000; Appendix D)





PBMP Installation and Tracking

- Construction Inspection (SWMP Section 4.0)
 - Prior to construction
 - During construction
 - Final Inspection
- Maintenance, Inventory and Recordkeeping (SWMP Section 5.0)
 - Site-specific Operation and Maintenance Plan, guidance provided in CCH Stormwater BMP Guide, or from product manufacturer.
 - PBMPs should be inspected at least annually or as specified in site-specific O&M plan.
 - PBMPs are tracked in Harbor's AMS (Cityworks).





Enforcement

- Oral or Verbal Warning
- Written Warning
- Notice of Apparent Violation (NAV)
- Notice and Finding of Violation Order (NFVO)
- Stop Work Orders (as applicable) e.g.
 Issuance of Summons or Citation, including fines



Attachment 6A.
Construction Training Presentation Slides

LID





Where will the water go?



- Conserve Natural Areas, Soils, and Vegetation:
 - Conduct construction activities such that disturbance to existing vegetated areas is minimized, in particular trees.
 - Refer to CCH Storm Water BMP Guide, pg 4.



Ideal Implementation:

 In areas where there is existing vegetation





Vegetated Swale:

- Broad earthen channel vegetated with erosion resistant and flood tolerant grasses.
- Runoff is typically conveyed through channel, which allows for infiltration and treatment.
- Refer to CCH BMP Guide, pg 86.



Ideal Implementation:

Along streets and parking lots.





- Permeable Pavement
 - Paved surfaces that infiltrate, treat, and/or store rainwater where it falls.
 - Refer to CCH BMP Guide, Pg 57.

Ideal Implementation:

- Driveways and parking lots.
- Areas where flooding is a problem.







- Modular Wetlands
 - A treatment system designed to look and function more naturally.
 - Engineered media targets pollutants of concern.
 - Proprietary device, not covered in CCH BMP Guide.

Ideal Implementation:

- Driveways and parking lots.
- •Areas that have drain piping and receive surface flow.





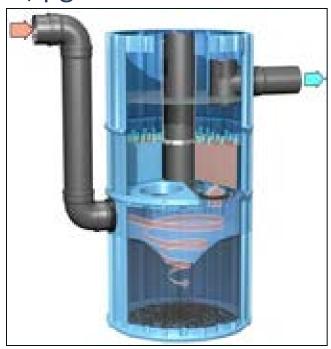


- Hydrodynamic Separators.
 - Flow through structures with a settling or separation unit to remove sediments and other pollutants.
 - Refer to CCH BMP Guide, pg 104.

Ideal Implementation:

•Areas where materials to be removed from runoff are heavy particulates — which can be settled — or floatables —which can be captured, rather than solids with poor settleability or dissolved pollutants.

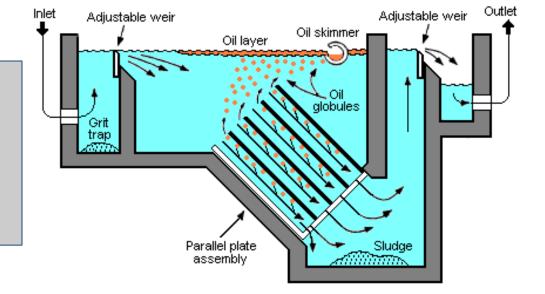






- Oil Water Separators
 - Separates oil from water before discharge.
 - Refer to CCH BMP Guide pg. 15, Vehicle Cleaning.

Ideal
Implementation:
•Areas where
vehicle repairs or
washing take place.







- Trench Drain Filter
 - Designed to absorb high levels of hydrocarbon, oils and grease.
 - Ideal for maintenance yards.
 - Easy to install and replace.

Ideal Implementation:

•Maintenance yards with existing trench drains.







Curb Inlet Screen

- Blocks larger debris and trash from entering curb inlet structures.
- Some systems automatically retract during higher flows.
- Can be used with basket insert.

Ideal Implementation:

•Keeping larger debris out of curb inlets.







Grate Inlet Filter

- Catch basin insert can be custom sized to fit almost and inlet.
- Includes oil boom for hydrocarbon removal.
- Can include media filter, if needed.
- Fairly easy to install and maintain.

Ideal

Implementation:

•Any grated catch basin inlet where pollutant removal is needed.







Baffle Box

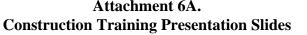
- Flow through structure with settling chamber to remove sediment.
- Includes basket system to trap floatables, and an oil boom to remove hydrocarbons.

Ideal Implementation:

•Areas where materials to be removed from runoff are heavy particulates – which can be settled – or floatables –which can be captured, includes oil boom.

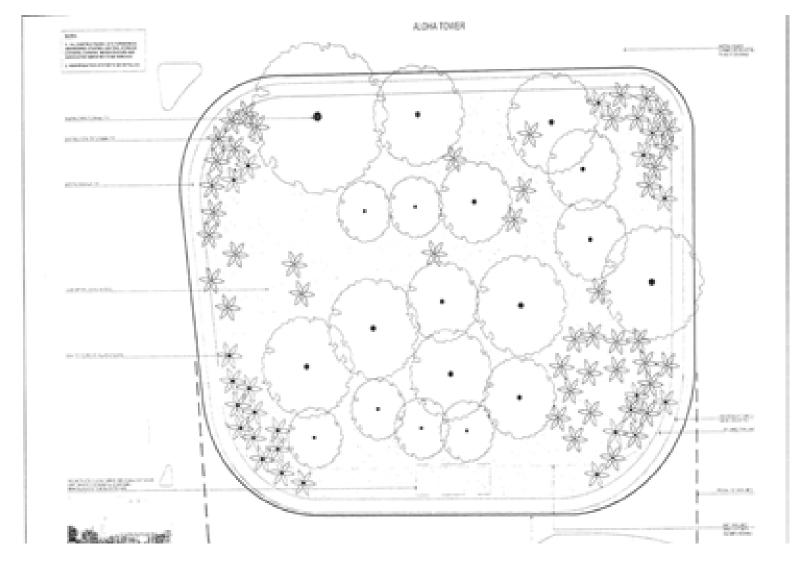








Irwin Memorial Park



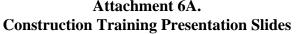




Lessons Learned









Bioswale with Infiltration Well









Don't Overlook the Ducks...







Attachment 6A.
Construction Training Presentation Slides

Or the Goldfish...







Or the Bears!

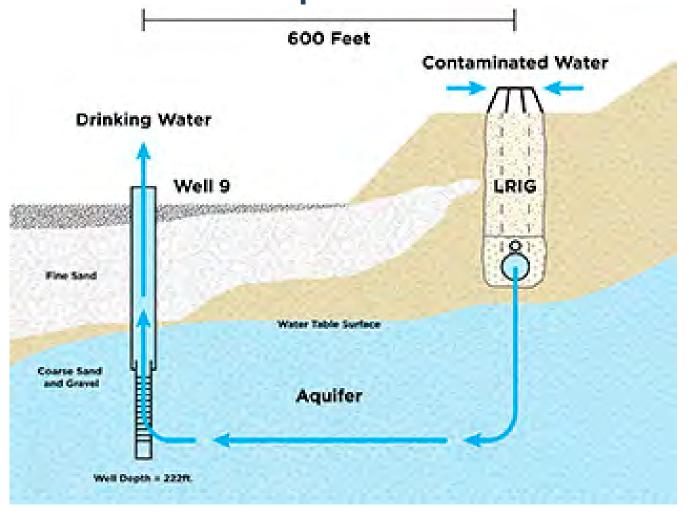






Attachment 6A. Construction Training Presentation Slides

Always consider "downstream" impacts.







Take Away



- All projects must be reviewed prior to start.
- Projects over 1 acre must include postconstruction BMPs.
- Be familiar with City and County of Honolulu BMP manual, Harbor's SWMP programs, Consent Decree, and construction documents.





Attachment 6A. Construction Training Presentation Slides

Questions



- Harbor's Website:
 - http://hidot.hawaii.gov/harbors/library/stormwater-management/.
- Harbor's Contacts:
 - Stormwater Reporting Hotline: 587-1962.
 - Randal Leong, PE: 587-1962, <u>randal.leong@hawaii.gov</u>.
 - Spencer Yim, PE: 587-1963, spencer.k.yim@hawaii.gov.
 - Joy Zhang, PE: 587-1960, ying.j.zhang@hawaii.gov.

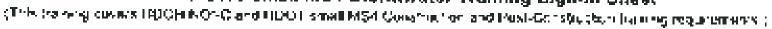


MALAMA I KE KAI - PROTECT OUR HARBOR WATERS

Attachment 6B. Construction Training Sign-In Sheets



HDOT Harbors small MS4 Stormwater Training Sign-in Sheet





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Date: December 7, 2017

Attachment 6B. Construction Training Sign-In Sheets HDOT Harbors small HS4 Training Sign-in Sheet

(This training covers hiDOT small MS4 Construction and Post-Construction training requirements).

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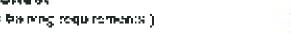


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Attachment 6B. Construction Training Sign-In Sheets HDOT Harbors small MS4 Training Sign-in Sheet

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Company / Office Code: 🗡 🛴 🛶 🥛

1 MPDES is an abbreviation of: Natural Policy for Practiangs of Engage pand Sectional

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2017 MPOL Harburs Construction and Post-Construction Training Quiz

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₹ Yellian chile.

2017 HDOT Harbors Construction and Post-Construction Training Quiz

Instruction: Please complete this quiz and submit it to Harbors Engineering Branch Environmental Section. MAHALO NUI LOA! One correct answer per question.



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2017 B120 I Harbors Construction and Post-Construction Training Quie

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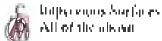


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 - D. None of the above

2017 RDD J. Herbors Construction and Post-Construction Training Only

furtion from Player complete this year and submit it to that we Programming Reducts fundamentally Society and Addition.

Society, MANIALO NAW 1884 Specific correct answer per question.



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Date: ___/- \$-17

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Comments:

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2017 HDO I Harbory Construction and Post-Construction Training Quiz

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Name:

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Date: 11:13:)")

Company / Currey Code.

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- C. Twice a day.
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Срывнымира

2017 HDOT Harbors Construction and Post-Construction Training Survey



Instruction: Please complete this survey and submit it at the end of this presentation. MAHALO NUI LOA!

Maries Prince Bundales

Date 11/13/74.7

Company / Office Code: ■(1 △ 🌣 + 👂 🌣 🖓

Johnnie Pomper Trops

- 1. There does your provide residence in more rest.

 ் இருந்த சென்ற நாக்கு நாதி சிரும் கண்டு அழுந்த நாகு நிறைந்த இருந்தது.
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- 3. Please specify the main reason for attending this workship.
- 4. What was the more interesting throughout proposed in the transfer of the probability in the second state of the second
- 5. What other topics would you like to see assessed in this manning?
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Please provide additional comments below:

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Please provide additional comments below:

2017 HDOT Harbors Construction and Post-Construction Training Survey



Instruction: Please complete this survey and submit it at the end of this presentation. MAHALO NUI LOA!

Name: <u>Kelsey BRYANT</u> Company / Office Code: <u>Kiewi+</u> J	Date: //-/3-17
Company / Office Code: <u>Kiewi+</u> J	ob Title ENGINEEIZ
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5. What other topics would you like to see covered in this training?	
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Please provide additional comments below:	

2017 HDOT Harbors Construction and Post-Construction Training



Instruction: Please complete this survey and submit it at the end of this presentation. MAHALO NUI LOA!

	How does your job						
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•	Did you find the Construction and Post-Construction Training relevant and useful? On a scale of 1 to 5, circle one number: 1 " not relevant? useful, 5 " extremely relevant? useful						
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2017 HDOT Harbors Construction and Post-Construction Training Survey



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MAHALO NUI LOA!

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Please provide additional comments below:

2011 E2000 Support Construction Training



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Please provide additional comments below:

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Company of Office Code. Base 4 & F.

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 - C. Surrount Follower: Development and Entreprise Systems
 - D. Noon of the above
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 - A. Patrografi, Sestimonic, and Liber.
 - B. Letting Cratterer, Systemani, and Chemistrater
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- B. Britanian People page 8160 page.
 - A Homeogley and entripped a
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 - Preserving national areas and creating: regeneral areas
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- The physical of providing even opened physical control in to
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 - Provide jobs for gavernment employees.
 - 13. One confirmmental activities conciling to do
- With the responsable for contrasting sections of policies;
 - A. Whose where the easiest to Islamic
 - High The deconstruction property assumes
 - (T.) The seware of the groups of the property of representative, and the participal solution to force stars.
 - D. Name of the above.
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2017 HDOT Harbors Construction and Post-Construction Training Survey



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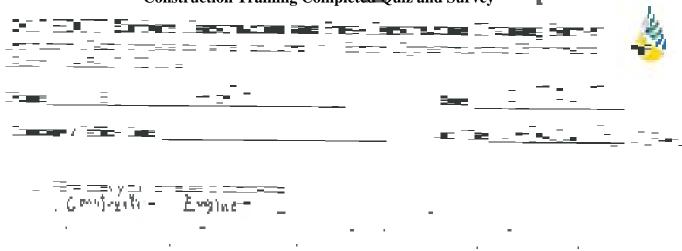
2017 HDOT Harbors Construction and Post-Construction Training Survey



Instruction: Please complete this survey and submit it to Harbors Engineering Branch Environmental Section. MAHALO NUI LOA!

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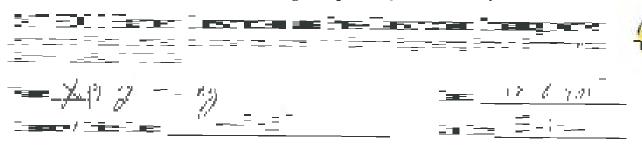


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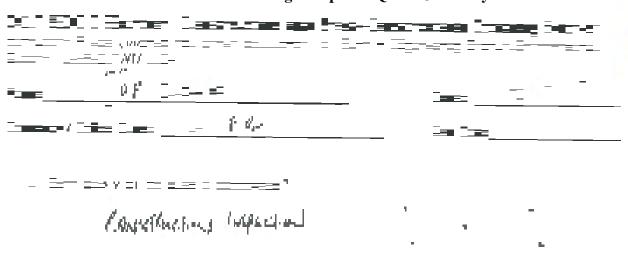


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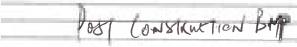
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Please provide additional comments below.

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2017 HDOT Harbors Construction and Post-Construction Training Survey



Instruction: Please complete this survey and submit it to Harbors Engineering Branch Environmental Section. MAHALO NUI LOA!

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2017 HDOT Harbors Construction and Post-Construction Training Survey



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2017 HDOT Harbors Construction and Post-Construction Training Survey



Instruction: Please complete this survey and submit it to Harbors Engineering Branch Environmental Section. MAHALO NUI LOA!

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2017 HDOT Harbors Construction and Post-Construction Training Survey



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Attachment 7 Harbors Employee Survey and Results Summary

Attachment 7. Harbors Employee Survey and Results Summary

Zhang, Ying J

From: Young, Darrell T

Sent: Monday, August 07, 2017 3:56 PM

To: DOT HAR All Users

Subject: 2017 HDOT Harbors Division Stormwater Program - Mandatory Staff Survey **Attachments:** Brochures on P2.pdf; 2017 HDOT Employee Annual Survey_Fillable.pdf

Aloha Harbors Division:

It's that time of year for the annual stormwater awareness and pollution prevention survey.

The 2014 EPA/DOH Consent Decree requires that we all complete the survey. Last year, we achieved a participation rate of 92.5% -- let's get to 100% this year! Please take just a few minutes to complete the survey by the end of the day on August 31.

There are two options for you to complete the survey:

- 1) **ONLINE** at https://eSurv.org?u=2017HDOTHarborsEmployeeSurvey. Click on Finish Survey> when you are done, and the data will be automatically forwarded to HAR-EE. **OR**
- 2) **HARD COPY.** You may print the PDF file of the survey attached to this email. Be sure to fill in your name and date and provide any comments. Send your completed "written" survey to Ms. Ying "Joy" Zhang of HAR-EE, through one of the following methods, by August 31, 2017:
 - Email a scanned copy or a pdf file of the completed survey to ying.j.zhang@hawaii.gov.
 - Fax to HAR-EE at (808) 587-1864
 - Route the completed survey to HAR-EE via messenger mail

For managers who have employees who do not have office email, please print hard copies of the survey for them to fill out and route the completed surveys to HAR-EE.

A set of newly developed brochures on protecting our harbor waters through pollution prevention are attached. Please review these materials closely, as you will find answers to several of the questions included in the survey.

Harbors Division has accomplished much over the past few years in pollution prevention and storm water runoff management THANKS to our collective team effort. If you have any questions, please contact Spencer Yim at 587-1963 or Joy Zhang at 587-1960.

Mahalo nui for your participation and cooperation.

Aloha, Darrell

Here are a few points on the Consent Decree and storm drain contamination and pollution prevention:

Attachment 7.

Harbors Employee Survey and Results Summary

- Unlike a sanitary sewer system, anything that enters a storm drain will end up in the ocean without any level of treatment. Storm drain contamination is one of the major causes of pollution in our streams, harbors, and other waterways. Everyone has a responsibility to protect the environment and to report suspected illicit discharges.
- An illicit discharge is **any non-stormwater discharge that poses a risk to the environment**, such as a fuel spill, uncontained wash water, or uncontained aggregate spillage at pier side.
- To report a suspected illicit discharge that occurred at Honolulu Harbor or Kalaeloa Barbers Point Harbor, please call the <u>Storm Water Reporting Hotline at (808) 587-1962 (during working hours)</u>, or contact Harbor Traffic Control Unit at (808) 587-2076 (24/7). For non-regulated neighbor island harbors, we encourage you to report it to local district office.
- Harbors Division is responsible for managing storm water conveyed through small Municipal Separate Storm Sewer Systems (small MS4) to the harbors as a result of National Pollutant Discharge Elimination System (NPDES) permits issued for the Honolulu Harbor, Kalaeloa Barbers Point Harbor, and Kahului Harbor.
- Going forward, HAR-E will continue to oversee the implementation of Storm Water Management Program (SWMP) and continue to comply with the 2014 November Consent Decree requirements.
- Our District offices will continue to inspect, clean, and stencil storm drains; to install P2 signs; to patrol the piers and notify the Engineering Branch of any suspected illicit discharges; and to maintain post-construction BMPs.
- HAR-PM will continue its oversight of all harbor tenants and ensure that tenants implement proper Best Management Practices (BMPs).
- HAR-SI will continue to update our Harbors Division website.

For more information on Harbors Storm Water Management, please visit us online at http://hidot.hawaii.gov/harbors/library/storm-water-management/, which includes a listing of BMP fliers developed by Harbors Engineering Branch Environmental Section.

Darrell T. Young
Deputy Director, Harbors Division
State of Hawaii Department of Transportation
Hale Awa Ku Moku
79 S. Nimitz Highway
Honolulu, HI 96813-4898
Ph. (808) 587-3651 | Fax (808) 587-3652
Email:darrell.t.young@hawaii.gov

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Attachment 7. Harbors Employee Survey and Results Summary

PROTECT OUR WATER

HOUSEHOLD GUIDE TO PREVENTING STORM WATER POLLUTION



Did you know that storm drains lead directly to the ocean?

That's right! Unlike a sanitary sewer system, anything that goes into a storm drain will end up in the ocean without any treatment. Storm drain contamination is one of the major causes of pollution in our streams, harbors, and other waterways. This is why it is important for **everyone** to be aware of the dangers of pollutants entering the storm drains and to do their part to prevent pollution.

I don't dump anything into storm drains so I'm okay, right?

Not necessarily. When it rains, the water that goes down the storm drain is called storm water runoff. Storm water runoff itself does not usually harm the environment. However, the routes storm water runoff flow through (such as driveways, sidewalks, streets, construction sites, and even rooftops) may contain accumulated pollutants. Typical pollutants include litter, motor oil, yard clippings, animal wastes, soapy wash water, fertilizers and pesticides, and eroded sediment from construction sites. The storm water runoff carries these pollutants off your property and flows into our storm drains where they pollute our streams and the ocean.

Then why do we have storm drains?

Well, when it rains, water seeps into the ground, adding to Oahu's water supply. At times, it rains so much that the ground cannot absorb it all (like a kitchen sponge that is filled to its capacity). Storm water runoff occurs when excess rainwater flows over the ground surface until it finds its way to the ocean through the storm drain system, which helps convey runoff to a channel, stream, harbor, or other waterway. This prevents flooding of personal property and/or damages to public infrastructure, including roads.

So how can I help?

This brochure includes some helpful tips you can use to ${\bf prevent\ storm\ water\ pollution.}$



Help protect the marine life and coastal ecosystems of Hawaii!

Attachment 7.

Harbors Employee Survey and Results Summary

PROTECT OUR WATER:

HOW CAN I HELP?



IN THE GARAGE

- Avoid power washing your garage, driveway, and carport floor. When cleaning oil and gunk off the floor, mop or wipe it up using a degreaser and rags. Dispose of used rags in the trash bin.
- Do not dump automotive fluids (e.g., antifreeze, brake fluid, used motor oil) into storm drains or let them run down the street where the rain could carry them into the storm drain. Doing this would have the same result as dumping the pollutants directly into our ocean!

AROUND THE HOUSE

- Properly dispose of household chemicals, such as insecticides, pesticides, weed killers, cleaners, paints, solvents, used motor oil and other auto fluids.
 Don't pour them on the ground, into roadway gutters, or into storm drains.
- Check with your local city and/or county for advice on how to dispose of unwanted household chemicals. All counties host household hazardous waste drop-offs.

IN THE GARDEN

- Fertilizers and grass clippings can cause algae to overgrow, which depletes
 oxygen in the water. This harms fish, coral, and stream life because they
 cannot survive in water with low oxygen levels.
- Use pesticides, herbicides, and fertilizers only as needed and never apply them during windy or rainy weather conditions. This will save you money and help reduce pollutants from washing down the storm drain.
- After mowing your lawn, rake up the grass clippings and throw them in the green waste bin to prevent rain from carrying them into the storm drain.

HOME IMPROVEMENTS

- If possible, work with your contractor to reduce the amount of soil excavated. It will save you money and minimize sediment generated.
- If you decide to do-it-yourself rather than hire a contractor, educate yourself
 on the types of permits that are required. Install perimeter best management
 practices to prevent pollutants from discharging off of your property.

PET CARE

- Always remember to pick up after your pet.
- Use litter made of recycled wood shavings or paper to absorb pet waste.
- Use non-toxic and biodegradable pet shampoos to bathe your pet and drain wash water to the sanitary sewer, or wash your pet on the lawn.

For more information, please visit DOT Harbors Division storm water management program at:

http://hidot.hawaii.gov/harbors/library/storm-water-management/.

Attachment 7. Harbors Employee Survey and Results Summary

PROTECT OUR WATER

A LANDSCAPING/GARDENING GUIDE TO PREVENT STORM WATER POLLUTION



Did you know that storm drains lead directly to the ocean?

That's right! Unlike a sanitary sewer system, anything that goes into a storm drain will end up in the ocean without any treatment. Storm drain contamination is one of the major causes of pollution in our streams, harbors, and other waterways. This is why it is important for **everyone** to be aware of the dangers of pollutants entering the storm drains and to do their part to prevent pollution.

Gardening can have an impact on water pollution.

When you use chemicals on your lawn and your plants, rain can wash it into the storm drain. You may not use a lot of chemicals, but 500,000 residents fertilizing their lawn on Saturday can cause a problem when it rains on Sunday morning. Since storm drains lead directly into the ocean, the chemicals that we use on our lawn can end up polluting our ocean.

What are the harmful effects of using lawn and garden chemicals?

Overuse of pesticides, herbicides, and fertilizers can potentially affect our drinking water supplies. Storm water runoff containing these chemicals can enter into surface water bodies and change the natural ecosystem by killing or damaging a wide variety of organisms, or by increasing plant and microbial growth. The chemicals can collect and accumulate in the food chain, becoming more concentrated the further up the food chain they move.

So how can I help?

Follow the helpful tips found in this brochure to **prevent storm water pollution**.



Attachment 7. Harbors Employee Survey and Results Summary

PROTECT OUR WATER:

HOW CAN I HELP?



LANDSCAPING TIPS

- Use pesticides, herbicides, and fertilizers only as needed and follow the manufacturer's instructions. This will save you money and help reduce the amount of chemicals that could potentially be washed down the storm drain.
- After mowing your lawn, rake up the grass clippings and throw them in the
 green waste bin so the rain does not carry them into the storm drain.
 Fertilizers and grass clippings can cause algae to overgrow, which depletes
 oxygen in the water. This harms fish, coral, and stream life because they
 cannot survive in water with low levels of oxygen.
- Use rain barrels to collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas. This will also help retain rainwater on-site for infiltration and therefore minimize rupoff
- When you're designing your garden, try to use native plants which require
 less water usage and lower maintenance. In addition, rainwater from the
 rooftop or paved areas can be diverted into these areas to help minimize
 runoff.
- Use native grass or plants along the edge of roadways or streams. When it
 rains, these plants work well to trap any excess chemicals or dirt in the
 rainwater as it flows across driveways and streets, ensuring that less of these
 harmful substances flow into drains.

GARDEN AND LAWN MAINTENANCE TIPS

- Leave all landscaping waste in approved green waste containers for pick-up and composting.
- Avoid over-fertilizing, especially near storm drain inlets or paved areas.

For more information, please visit DOT Harbors Division storm water management program online at:

http://hidot.hawaii.gov/harbors/library/storm-water-management/.





Attachment 7.

Harbors Employee Survey and Results Summary

PROTECT OUR WATER

A RESIDENT'S GUIDE TO HOUSEHOLD HAZARDOUS WASTE



What Is Household Hazardous Waste?

Some jobs at your home may require the use of products containing hazardous components. Household Hazardous Waste is the discarded, unused, or leftover portion of these products. These wastes CANNOT be disposed of as regular garbage. Any product which is labeled POISONOUS, TOXIC, FLAMMABLE, CORROSIVE, REACTIVE, or EXPLOSIVE should be considered hazardous.

The following is a list of potential household hazardous wastes:

• Automotive Items

Antifreeze Car wax / polish
Brake & transmission fluid Gasoline & other fuel
Corrosion and rust inhibitors Automotive batteries

Household Items

Cosmetics

Wood preservatives

Household batteries

Latex & oil based paints

Stains

Drain cleaners

Household polishes and cleaners

Floor wax

Nail polish and removers

Paint thinners & strippers

Solvents

Photochemicals

Ammonia based cleaners

Oven cleaners

Deodorizers

Aerosol sprays

Floor wax Aerosol sprays
Insect repellants Mothballs
Rat poisons Adhesives
Florescent light bulbs Broken thermometers

In Your Backyard

Insect Spray Weed killers Swimming pool chemicals Pesticides Fertilizers Fungicides

Oh no! What are the dangers of improper disposal?

Household hazardous wastes are sometimes disposed of improperly by individuals pouring wastes down the drain, on the ground, into storm drains, or putting them out with the trash. The dangers of such disposal methods may not be immediately obvious, but certain types of household hazardous waste have the potential to:

- Pollute water bodies when they enter storm drains that eventually empty into the ocean;
- Contaminate groundwater, our source of drinking water;
- Cause physical injury to sanitation workers and contaminate septic tanks or wastewater treatment systems if poured down drains or toilets; and
- Present hazards to children and pets if left around the house.

Attachment 7. Harbors Employee Survey and Results Summary

PROTECT OUR WATER:

HOW CAN I HELP?



What can I do to reduce household hazardous waste risks?

Here are some tips for safe storage, handling, and disposal:

- When possible, buy products with less harmful ingredients or buy nonhazardous alternatives that do the same job.
- If you need to use products with hazardous components, buy and use only the amount needed.
- Reuse the products by donating unused portions to relatives, friends, or community organizations.
- Recycle leftover household hazards that are recyclable and dispose of the
 others safely by participating in a local household hazardous waste collection
 program. Certain household hazards, such as used automobile batteries and
 oil, are accepted by auto-part stores and service stations.
- Never leave household hazards within reach of children or pets to prevent accidental ingestion.
- Never store hazardous products in food containers. Keep them in their original containers and never remove labels.
- Never mix hazards with other products. This may cause a chemical reaction or even an explosion!
- To prevent accidents at home, always follow instructions for use and storage as provided on the product's label.
- Remember, even empty containers of household hazards can be hazardous due to product residual.

Where can I get more information?

The City and County of Honolulu has a program that can help dispose of household hazardous waste. Contact them at 768-3201 or visit their website at http://www.opala.org/solid_waste/Household_Hazardous_Waste.html to find out how to dispose of household hazards. Information for each county is listed below:

Oahu - http://www.opala.org/

Maui - http://www.mauicounty.gov/index.aspx?NID=771

Hawaii - http://www.recyclehawaii.org/household-hazardous-waste.html

Kauai - http://www.kauai.gov/hhw

For more information, please visit DOT Harbors Division storm water management program online at:

http://hidot.hawaii.gov/harbors/library/storm-water-management/.





Attachment 7.

Harbors Employee Survey and Results Summary

2017 HDOT Harbors Employee Stormwater Awareness Survey



Please complete this survey and email it to Ms. Ying "Joy" Zhang of Harbors Engineering Branch Environmental Section at Ying. J. Zhang@hawaii.gov by August 31, 2017. MAHALO NUI LOA!

Note: One best answer per question.

Name:	Office Code:	Date:

- 1. What is the definition of an illicit discharge?
 - a. Unpolluted condensate from AC system
 - b. Drinking water entering the storm drain
 - c. A non-stormwater discharge that poses a risk to the environment
 - d. None of the above
- 2. What should you do when you observe a suspected illicit discharge at your harbor?
 - a. On Oahu, call Harbor Traffic Control Unit at (808) 587-2076
 - b. Inform your supervisor
 - c. None of your business
 - d. a and/or b
- 3. How can you help with preventing storm water pollution?
 - a. Pick up after your pet.
 - b. Properly dispose of household chemicals
 - c. Rake up the grass clippings after mowing the lawn
 - d. All of the above
- 4. Which of the following guidelines apply to the storage and use of fertilizer, pesticide, and herbicides?
 - a. Store chemicals in the sun
 - b. Apply during a rain event
 - c. Follow the manufacturer's instructions
 - d. None of the above
- 5. What are the dangers of improper disposal of household hazardous substance?
 - a. Pollute the water
 - b. Contaminate groundwater
 - c. Present hazards to children and pets if left around the house
 - d. All of the above

- 6. In State of Hawaii, anything that goes into a regular storm drain inlet will end up in the ocean without any treatment.
 - a. True
 - b. False
- 7. Which of the following can help reduce household hazard risks?
 - a. Throw hazard into the drain
 - b. Recycle reusable materials
 - c. Use nonhazardous alternatives
 - d. b and c
- 8. Which of the following are considered potential household hazard?
 - a. Car wax and polish
 - b. Nail polish and removers
 - c. Drain cleaners
 - d. All of the above
- 9. Overuse of pesticides, herbicides, and fertilizers can potentially affect our drinking water supply.
 - a. True
 - b. False
- Any product labeled POISONOUS, TOXIC, FLAMMABLE, CORROSIVE, REACTIVE, or EXPLOSIVE should be considered hazardous.
 - a. True
 - b. False
- 11. Which of the following can be considered good BMPs at your home?
 - a. Use a rain barrel
 - b. Reroute your car wash water to your lawn
 - c. Avoid over-fertilizing
 - d All of the above

Comments:

Attachment 7. Survey Results Area Harbors Employee Survey and Results Summary











(/members) Results_Overview) (/account) survey_ID=MIODMH_ded317b4)ALL)

Search / Filter

Results for: 2017 Mandatory HDOT Harbors Employee Stormwater **Awareness Survey**

2017 Mandatory HDOT Harbors Employee Stormwater Awareness Survey

Please complete this mandatory survey by August 31, 2017.

Note: One best answer per question.

^{*1)} Please provide your full name here:

		Harl	ors E	mployee Su	rvey and Results Summary
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13492044				Alice Vangelder	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDLONO_ad45
13493895				Melchor Travens	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDMGCN_7ed2
13494117				Carol-Ann Hodson	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDJNKL_ca03c
13494344				DUANE KIM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDJLNO_2df9b

		Harl	oors E	mployee Su	rvey and Results Summary
ID	Email	First Name	Last Name	Responses (189)	Vie w
13494431				Harley Tancayo	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDJKIJ_179dc
13495990				Vandy Sibonnhenme	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDKFCK_2a11
13495996				Nestor Guron	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDKFCM_c372
13496004				Kevin Shiroma T.	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOJO_e1da
13496011				Ciriaco Vaceriano	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOKJ_88ab
13496014				Norma Agmata	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOKO_f8c1
13496021				Juan Salvador	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOHJ_a386
13496025				Manolito Malate	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOHN_a4el
13496035				Franklin Cruz	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOIN_bdf0
13496036				Diane Aki	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOIM_24f9
13496043				Ricardo Doles	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHONH_1bd2
13496049				Mentac Jr Prodencio	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHONB_fb07
13496051				Nestor L Sagayadoro	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOOJ_ecc7
13496056				Christopher Saveo	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOOM_72a
13496060				Ariel R Corpuz	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOLK_b0ed
13496066				Michael K Milles	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOLM_5986
13496073				Wendell Jr Kahaleoumi	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOMH_30ff
13496082				Gordon P. Flaherty	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOBI_c060
13496086				Zane Kenneth	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOBM_c70c
13496089				Rosie Jo Kapanui S	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOBB_57b2
13496117				Everett G Oliveira Jr	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNKL_600a
13496122				Robert Soares	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNHI_3b4d

Attachment 7.
Survey Results Area
Harbors Employee Survey and Results Summary Responses ΙD Email Vie w Name Name (189)Anthony View (results-overview.php? 13496127 Delacruz mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNHL_4b27 View (results-overview.php? 13496129 Winfield Mike mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNHB_ac9f Gregory K. View (results-overview.php? 13496135 Gomes mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNIN_bc32 View (results-overview.php? Sandra Nihi 13496138 mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNIC_c283 View (results-overview.php? 13496144 Nelson Boyce mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNNO_8474 View (results-overview.php? John Liftee 13496149 mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNNB_fac5 View (results-overview.php? 13496973 Amy Iritani mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHFMH_3f2e Ronald View (results-overview.php? 13499349 Kapuniai mode=5&survey ID=MIODMH ded317b4&session ID=KHHDGLNB a122 View (results-overview.php? 13499351 Michael Felix mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLOJ_b6e2 Jackie View (results-overview.php? 13499355 Fergusonmode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLON_b18f Miyamoto View (results-overview.php? 13499367 Myles Umeda mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLLL_74ac5 Clyde View (results-overview.php? 13499371 Nishigata mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLMJ_84d4 Mario View (results-overview.php? 13499376 Argones mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLMM_1ab(View (results-overview.php? 13499385 Robert Gayer mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLBN_4211 View (results-overview.php? 13499391 Albert Castro mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLCJ_1a57e View (results-overview.php? 13499398 Peter Pruski mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLCC_638b View (results-overview.php? 13499403 Dean Ibana mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGKJH_20d4 View (results-overview.php? 13499405 Aurelio Preza mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGKJN_c9b7 View (results-overview.php? Clifford Ontai 13499503 mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGJJH_2116 View (results-overview.php? 13499510 David Markle mode=5&survey ID=MIODMH ded317b4&session ID=KHHDGJKK a104. View (results-overview.php? Thomas P. 13499789 Medeiros mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHBB_a9efe

		Har	ors E	mployee Su	rvey and Results Summary
ID	Email	First Name	Last Name	Responses (189)	Vie w
13499790				Gary Tsuzuki	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCK_6a59
13499791				Sergio Dupio	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCJ_1d5e
13499792				Joe Ganton	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCI_8457
13499794				Richard Isa	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCO_6d34
13499795				Neal Miyasato	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCN_1a33
13499798				John Dejesus	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCC_6482
13499799				Aaron Chu	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCB_1385
13499801				Ronald Agpalsa	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJJ_c7c0b
13499802				Ryan Fernandez	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJI_5ec9e
13499803				Gabriel Delapenia	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJH_29ce
13499804				Irwin Keliipuleole	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJO_b7aa
13505332				Steven Dale	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMKLII_f52b5b
13505552				Michele Freitas	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMKJOI_a7fc80
13506925				Sandra Christine Rossetter	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMHFHN_6d76
13507077				Brandie Shimabukuro	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMIOML_4962
13507108				Shayna Asuncion	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMINJC_975efd
13507116				Rea Estepa	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMINKM_69fde
13510136				Cynthia Bautista	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILNNIM_fb7c9
13510451				Janice Otaguro	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILNKOJ_35896
13510460				Daverney- Gioia K. Mahaulu	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILNKLK_69a30
13510534				Calvert Chun	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILNJIO_127b5

ID	Email	First Name	Last Name	Responses (189)	rvey and Results Summary Vie w
		Name	Name	` '	Vis. Con line of the plant
13511774				Russell L. Moore	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOHMO_cd2f
13511830				Carl Young	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOGIK_a5726
13511857				Erin Takeshima	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOGOL_6d4c
13511862				Jo-Ann Higashi	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOGLI_360bf
13511929				William Makanui	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFHB_c4778
13511959				Sharilyn Ikeda	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFOB_8b36
13511964				Louis J Nobriga	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFLO_deaa3
13511965				Brittain Jr, Harold E	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFLN_a9ad0
13511966				Allen Alejo	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFLM_30a4
13511970				Donovan G Canite	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFMK_c0dcd
13511973				Doublas G Canite	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFMH_59d5
13511974				Diego Peter	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFMO_c7b1
13511977				Jorlikion Jibas	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFML_5eb89
13511987				Gilbert T Jr Pacheco	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFBL_d9204
13511991				Dennis Rodrigues Jr	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFCJ_2958c
13511993				Sacapanio- Baisa,Marshall J	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFCH_c756f
13512065				Henry A. Koa	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILLOLN_b4c99
13514992				Elton K. Suganuma	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILJFCI_878f78
13519991				Dale C. Andres	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILGFCJ_ececf1
13522364				Dre Kalili	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOLLLO_86286
13522492				Darrell Young	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOLKCI_ed9cc

12/5/2017

Attachment 7.
Survey Results Area

		Harl First	bors E	mployee Su Responses	Survey Results Area Left Survey and Results Summary Left Summary Left Summary Left Summary Left Summary Left Summary Left Summary Left Summary Left Summary Left Summary Left Summary Left Summary Left Summary
ID	Email	Name	Name	(189)	Vie w
13523237				Arleen Ganigan	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMMIL_db28
13523243				Huong C. Vuong	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMMNH_930
13523273				Lena Wang	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMMMH_b82
13523325				Jeff Hood	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMLHN_2dff
13523412				Howard P. Chee	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKKI_9df9
13523428				Aurora Bigelow	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKHC_560
13523432				Antonio Rivera	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKII_afcf4
13523442				Michael J Augustin	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKNI_e08e
13523444				Denny Ferrari	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKNO_9ed
13523452				Spencer Yim	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKOI_f995
13523458				Karen Awana	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKOC_194
13523481				Carol A Yamagushi	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKBJ_d532
13523484				Gene Ishibashi	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKBO_a55
13528316				Carter Luke	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOFLKM_48da
13530540				Barbara Young	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHINNJNK_2097
13534541				Peter Kumasaka	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHINJJNJ_d8f2fd
13556277				Keith Chikamori	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIHHMML_3ab

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^{*2)} Please provide your Office Code (e.g., HAR-EE) here:

Attachment 7.
Survey Results Area
Voc Survey and Results S

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		Harl	bors E	mployee S	Survey and Results Summary
ID	Email	First Name	Last Name	Responses (189)	Vie w
13452736				HAR-EE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHHLHIM_6b245
13477976				HAR-O	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJIFMM_48c81
13477993				HAR-SI	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJIFCH_a621c1
13477995				HAR-PM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJIFCN_4f4264
13477997				HAR-OCM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJIFCL_a14c05
13477998				HAR-ESP	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJIFCC_31f318
13478007				HAR-EC	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJFOJL_273c99
13478014				HAR-ED	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJFOKO_a72ef
13478021				HAR-SF	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJFOHJ_fc6952
13478498				HAR-OCT	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJFKCC_61489
13479390				HAR-O	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGLCK_d2606
13479440				DEP-H	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGKNK_62810
13479526				HAR-OO	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGJHM_dc7a6
13479541				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGJNJ_14445
13479562				HAR-EM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGJLI_bf7b63
13479683				HAR-OO	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGIBH_54b9c
13479720				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGHHK_369d
13479795				HAR-SPRO	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGHCN_a503.
13479870				HAR-ESP	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGGMK_40b6
13479894				HAR-EP	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGGCO_d95&
13479904				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGFJO_95898
13479999				HAR-H	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGFCB_a62b5

Attachment 7.
Survey Results Area

12/5/2017					At	tachment 7.
12/3/2017			Harl	bors E	mployee S	tachment 7. Survey Results Area Survey and Results Summary
	ID	Email	First Name	Last Name	Responses (189)	Vie w
	13480086				HAR-ESP	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENOBM_df0690
	13480171				HAR-EP	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENNMJ_c73873
	13480178				HAR/OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENNMC_bee4ct
	13480199				HAR-EP	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENNCB_5760d6
	13480240				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENMNK_9954ad
	13480244				HAR-EP	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENMNO_9e396
	13480252				HAR-OCM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENMOI_6e41fe
	13480256				HAR-OCM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENMOM_692c3
	13480262				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENMLI_456cad
	13480295				HAR-EC	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENMCN_5c9024
	13480298				HAR-OCM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENMCC_222158
	13480302				HAR-OC 9	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENLJI_12f460e
	13480355				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENLON_f1e701
	13480357				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENLOL_1fe960;
	13480388				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENLBC_3af803f
	13480471				HAR-ED	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENKMJ_c1f3b1;
	13480555				HAR-EM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENJON_f56a7d
	13480585				HAR-OC	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENJBN_40c403
	13480606				HAR OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENIJM_135266
	13480611				HAR-EC	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENIKJ_942dc2f
	13480660				осо	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENILK_ac6b64a
	13480704				HAR-EC	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENHJO_fc9e6d0

Attachment 7.
Survey Results Area
Harbors Employee Survey and Results Summary

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		Harl	oors E	mployee S	Survey and Results Summary
ID	Email	First Name	Last Name	Responses (189)	Vie w
13481976				HAR-EP	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEOFMM_eff3d0
13482389				HAR	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHELLBB_e7f6fbe
13482500				HAR-ED	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHELJJK_527eb5f
13484197				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEJNCL_3fba6c1
13484203				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEJMJH_eb53ad
13484214				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEJMKO_6c2c09
13485491				HAR-EP	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKKCJ_68ae6ca
13485519				HAR-OCT	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKJKB_af6e04a
13485523				HAR	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKJHH_6496be
13485569				HAR-EM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKJLB_e02f926
13485666				HAR-H	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKILM_72d631
13485668				HAR-EC	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKILC_956e1ca
13485761				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHLJ_ed70ce
13485764				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHLO_9d1a3a
13485765				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHLN_ea1d0a
13485766				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHLM_73145b
13485767				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHLL_4136b0
13485768				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHLC_94ac76
13485770				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHMK_836ccf
13485771				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHMJ_f46bff7
13485772				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHMI_6d62ae
13487503				HAR EC	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEIJJH_fca91478

Attachment 7

12/5/2017					At	tachment 7.
12/3/2017			Har	bors E	mployee S	tachment 7. Survey Results Area Survey and Results Summary
	ID	Email	First Name	Last Name	Responses (189)	Vie w
	13491454				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOKOO_67369
	13491456				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOKOM_e87d0
	13491458				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOKOC_fc525e
	13491460				HAR-K	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOKLK_2a33fe
	13491498				HAR-EM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOKCC_a3706a
	13491783				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHBH_2fff3c7
	13491785				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHBN_c69c99
	13491788				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHBC_b82de!
	13491790				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHCK_afed5c
	13491792				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHCI_41e33c
	13491793				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHCH_36e40
	13491795				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHCN_df87a8
	13491796				HAR-ED	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHCM_468ef.
	13491798				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHCC_a136d4
	13491800				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOGJK_7573a(
	13491802				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOGJI_9b7dc1
	13491803				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOGJH_ec7af1
	13492044				HAR-OCO	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDLONO_ad45ft
	13493895				HAR-ESP	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDMGCN_7ed22
	13494117				HAR-SF	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDJNKL_ca03cfa
	13494344				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDJLNO_2df9be
	13494431				HAR-M	View (results-overview.php?

 $mode = 5\&survey_ID = MIODMH_ded317b4\&session_ID = KHHDJKIJ_179dcafe$

		Harl	bors E	mployee S	Survey and Results Summary
ID	Email	First Name	Last Name	Responses (189)	Vie w
13495990				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDKFCK_2a11e6
13495996				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDKFCM_c3724.
13496004				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOJO_e1da0c
13496011				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOKJ_88abc8
13496014				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOKO_f8c13c
13496021				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOHJ_a3869b
13496025				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOHN_a4eb5
13496035				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOIN_bdf06e
13496036				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOIM_24f93f
13496043				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHONH_1bd25
13496049				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHONB_fb07b4
13496051				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOOJ_ecc70d
13496056				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOOM_72a39
13496060				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOLK_b0ed66
13496066				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOLM_598ec
13496073				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOMH_30ff0e
13496082				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOBI_c06022
13496086				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOBM_c70de
13496089				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOBB_57b2ft
13496117				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNKL_600a07
13496122				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNHI_3b4da0
13496127				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNHL_4b2754

		Harl	bors E	mployee S	Survey and Results Summary
ID	Email	First Name	Last Name	Responses (189)	Vie w
13496129				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNHB_ac9f79
13496135				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNIN_bc3204
13496138				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNIC_c28378
13496144				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNNO_8474a
13496149				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNNB_fac5de
13496973				HAR-E	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHFMH_3f2e35
13499349				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLNB_a1221a
13499351				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLOJ_b6e2a3
13499355				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLON_b18f67
13499367				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLLL_74ac55
13499371				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLMJ_84d4c1
13499376				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLMM_1ab05
13499385				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLBN_421197
13499391				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLCJ_1a57ec
13499398				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLCC_638b54
13499403				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGKJH_20d420
13499405				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGKJN_c9b785
13499503				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGJJH_21164a
13499510				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGJKK_a1042a
13499789				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHBB_a9efd8
13499790				HAR-OC	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCK_6a5974
13499791				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCJ_1d5e44

Attachment 7.
Survey Results Area

2/5/2017	
12/3/2017	

		Harl	bors E	mployee S	Survey and Results Summary
ID	Email	First Name	Last Name	Responses (189)	Vie w
13499792				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCI_845715
13499794				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCO_6d34b
13499795				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCN_1a338
13499798				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCC_6482fd
13499799				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCB_1385ca
13499801				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJJ_c7c0b8
13499802				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJI_5ec9e9
13499803				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJH_29ced9
13499804				HAR-OE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJO_b7aa4c
13505332				HAR-EP	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMKLII_f52b5b70
13505552				HAR-EE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMKJOI_a7fc804
13506925				HAR-EP	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMHFHN_6d76d5
13507077				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMIOML_49621c
13507108				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMINJC_975efd4
13507116				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMINKM_69fde10
13510136				HAR-SF	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILNNIM_fb7c928
13510451				HAR-SO	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILNKOJ_3589624
13510460				HAR-SO	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILNKLK_69a3011
13510534				HAR-PM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILNJIO_127b5b7
13511774				HAR-H	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOHMO_cd2f2d
13511830				HAR-PM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOGIK_a5726b5
13511857				HAR-SF	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOGOL_6d4c59

Attachment 7.
Survey Results Area
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ID	Email	Har First Name	ors E Last Name	mployee S Responses (189)	Survey and Results Summary Vie w
13511862				HAR-SF	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOGLI_360bfe3
13511929				HAR-ESP	View (results-overview.php?
13511959				HAR-ESP	mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFHB_c47788 View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFOB_8b3616
13511964				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFLO_deaa31
13511965				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFLN_a9ad01
13511966				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFLM_30a450
13511970				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFMK_c0dcc4
13511973				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFMH_59d59!
13511974				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFMO_c7b100
13511977				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFML_5eb851
13511987				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFBL_d9204d
13511991				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFCJ_2958d9
13511993				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFCH_c756b8
13512065				HAR-M	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILLOLN_b4c995
13514992				HAR-H	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILJFCI_878f78f9
13519991				HAR-EM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILGFCJ_ececf19
13522364				DEP-H	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOLLLO_862861
13522492				DEP-H	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOLKCI_ed9ccea
13523237				HAR-SF	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMMIL_db28c9
13523243				HAR-SF	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMMNH_93049
13523273				HAR-SI	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMMMH_b829c
13523325				HAR-H	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMLHN_2dfff32

Attachment 7.
Survey Results Area

ID	Email	First Name	Last Name	Responses (189)	Survey and Results Summary Vie w
13523412				DEP-H	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKKI_9df923d
13523428				HAR-SF	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKHC_560199
13523432				HAR-OCG	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKII_afcf4149
13523442				HAR-H	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKNI_e08ed7
13523444				HAR-H	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKNO_9ed72b
13523452				HAR-EE	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKOI_f995e6d
13523458				HAR-PM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKOC_19400f
13523481				HAR-SF	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKBJ_d532c9.
13523484				HAR-H	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKBO_a55830
13528316				HAR-E	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOFLKM_48da76
13530540				HAR-SO	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHINNJNK_20975a
13534541				HAR_SF	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHINJJNJ_d8f2fd0a
13556277				HAR-OM	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIHHMML_3aba20

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^{*3)} Date (mm/dd/yyyy):

		Har	bors E	mplovee S	Survey and Results Summary
ID	Email	First Name	Last Name	Responses (189)	Survey and Results Summary Vie w
13452736				7/21/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHHLHIM_6b2453
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13477993				08/07/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJIFCH_a621c18
13477995				08/07/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJIFCN_4f4264b
13477997				8/7/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJIFCL_a14c059
13477998				8/7/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJIFCC_31f3180
13478007				08/07/17	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJFOJL_273c950
13478014				08-07-17	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJFOKO_a72ef51
13478021				8/7/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJFOHJ_fc6952b
13478498				08/08/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJFKCC_61489b
13479390				08/08/17	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGLCK_d26062
13479440				08/08/17	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGKNK_62810a
13479526				08/08/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGJHM_dc7a62
13479541				08/08/17	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGJNJ_144450t
13479562				08/08/17	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGJLI_bf7b638a
13479683				08/08/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGIBH_54b9c0a
13479720				08/08/17	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGHHK_369d13
13479795				08/08/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGHCN_a5033e
13479870				08/08/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGGMK_40b6a(
13479894				08/08/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGGCO_d95849
13479904				08/28/17	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGFJO_958985
13479999				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHJGFCB_a62b5fa

Attachment 7.
Survey Results Area
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ID	Email	Har First Name	Last Name	mployee S Responses (189)	Survey and Results Summary Vie w
13480086		Hame	ranic	08/08/2017	View (results-overview.php?
13480171				08/08/2017	mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENOBM_df069 View (results-overview.php?
				00,00,201,	mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENNMJ_c7387
13480178				08/08/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENNMC_bee4c
13480199				08/08/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENNCB_5760d
13480240				8/7/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENMNK_9954a
13480244				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENMNO_9e396
13480252				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENMOI_6e41fe
13480256				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENMOM_692c3
13480262				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENMLI_456cac
13480295				08/08/17	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENMCN_5c902
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13480302				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENLJI_12f460e
13480355				08/08/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENLON_f1e70:
13480357				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENLOL_1fe960
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13480471				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENKMJ_c1f3b1
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13480606				08082017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENIJM_135266
13480611				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENIKJ_942dc2
13480660				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENILK_ac6b64
13480704				08/08/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENHJO_fc9e6d

Attachment 7.
Survey Results Area
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ID	Email	Harl First Name	oors E Last Name	mployee S Responses (189)	urvey and Results Summary Vie w
13481976		Name	Name	08/09/2017	View (results-overview.php?
					mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEOFMM_eff3d(
13482389				8/9/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHELLBB_e7f6fbe
13482500				08/09/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHELJJK_527eb5
13484197				08-10-2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEJNCL_3fba6c
13484203				08/10/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEJMJH_eb53ad
13484214				08/10/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEJMKO_6c2c09
13485491				08/11/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKKCJ_68ae6c
13485519				8/10/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKJKB_af6e04a
13485523				8/9/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKJHH_6496be
13485569				08/11/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKJLB_e02f920
13485666				08/11/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKILM_72d633
13485668				8/11/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKILC_956e1c
13485761				8/10/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHLJ_ed70ce
13485764				8/10/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHLO_9d1a3
13485765				8/20/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHLN_ea1d0
13485766				8/10/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHLM_73145
13485767				8/10/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHLL_4136b0
13485768				8/11/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHLC_94ac76
13485770				8/11/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHMK_836cc
13485771				8/11/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHMJ_f46bff.
13485772				8/11/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEKHMI_6d62ad
13487503				08/12/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHEIJJH_fca9147

		Harl	bors E	mployee S	urvey and Results Summary
ID	Email	First Name	Last Name	Responses (189)	Vie w
13491454				8/11/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOKOO_67369
13491456				8/11/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOKOM_e87d0
13491458				8/11/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOKOC_fc525e
13491460				8/11/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOKLK_2a33fe
13491498				08/14/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOKCC_a3706
13491783				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHBH_2fff3c
13491785				8/9/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHBN_c69c9
13491788				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHBC_b82de
13491790				8/10/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHCK_afed56
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13491793				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHCH_36e40
13491795				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHCN_df87a
13491796				08/14/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHCM_468ef
13491798				8/14/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOHCC_a136d
13491800				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOGJK_7573a
13491802				8/10/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOGJI_9b7dc1
13491803				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDOGJH_ec7af1
13492044				08/14/2016	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDLONO_ad45f
13493895				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDMGCN_7ed22
13494117				8/15/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDJNKL_ca03cfa
13494344				08/15/17	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDJLNO_2df9be
13494431				08/15/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDJKIJ_179dcaf

ID	Fmail	Har First	Dors E	mployee S Responses	Survey and Results Summary
ID	Email	Name	Name	(189)	Vie w
13495990				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDKFCK_2a11e6
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13496011				8/9/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOKJ_88abc6
13496014				8/9/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOKO_f8c13c
13496021				8/9/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHOHJ_a3869
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13496122				8/10/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNHI_3b4dad
13496127				8/10/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNHL_4b275-

		Harl	ors E	mployee S	Survey and Results Summary
ID	Email	First Name	Last Name	Responses (189)	Vie w
13496129				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNHB_ac9f79
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13496149				8/14/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHNNB_fac5de
13496973				8/16/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDHFMH_3f2e35
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13499391				8/14/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGLCJ_1a57ec.
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13499510				8/14/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGJKK_a1042a
13499789				8/9/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHBB_a9efd8
13499790				8/7/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCK_6a5974
13499791				8/7/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCJ_1d5e44

Attachment 7.

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Attachment 7.

Survey Results Area

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		Harl	bors E	mployee S Responses	Survey and Results Summary
ID	Email	First Name	Last Name	(189)	Vie w
13499792				8/10/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCI_845715
13499794				8/7/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCO_6d34b
13499795				8/7/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCN_1a338
13499798				8/7/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCC_6482fc
13499799				8/9/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCB_1385cc
13499801				8/9/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJJ_c7c0b88
13499802				8/7/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJI_5ec9e9:
13499803				8/7/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJH_29ced9
13499804				8/7/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJO_b7aa4c
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13507077				08/22/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMIOML_49621c.
13507108				08/22/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMINJC_975efd4
13507116				08/22/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIMINKM_69fde10
13510136				8/24/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILNNIM_fb7c928
13510451				08/24/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILNKOJ_3589624
13510460				08/24/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILNKLK_69a3011
13510534				082417	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILNJIO_127b5b7
13511774				8/25/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOHMO_cd2f2d
13511830				8/25/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOGIK_a5726b5
13511857				8/7/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOGOL_6d4c59)

Attachment 7.

12/5/2017

Survey Results Area

Harbore Employee Survey and Posults St

		Har		mployee S	Survey and Results Summary
ID	Email	First Name	Last Name	Responses (189)	Vie w
13511862				8/25/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOGLI_360bfe:
13511929				08/25/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFHB_c47788
13511959				08/25/17	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFOB_8b361
13511964				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFLO_deaa33
13511965				8/21/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFLN_a9ad01
13511966				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFLM_30a450
13511970				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFMK_c0dcc4
13511973				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFMH_59d59
13511974				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFMO_c7b10
13511977				8/9/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFML_5eb85
13511987				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFBL_d9204d
13511991				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFCJ_2958d9
13511993				8/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILOFCH_c756b8
13512065				08/25/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILLOLN_b4c995
13514992				08/28/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILJFCI_878f78f9
13519991				08/30/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILGFCJ_ececf19
13522364				08/31/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOLLLO_862861
13522492				08/31/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOLKCI_ed9cce
13523237				8/28/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMMIL_db28c
13523243				8/28/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMMNH_93049
13523273				9/1/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMMMH_b829
13523325				8/28/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMLHN_2dfff3

Attachment 7.
Survey Results Area

ID	Email	Har First Name	bors E Last Name	mployee Responses (189)	Survey and Results Summary Vie w
13523412				09/01/17	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKKI_9df923
13523428				8/28/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKHC_56019
13523432				8/31/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKII_afcf414
13523442				8/25/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKNI_e08ed7
13523444				8/25/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKNO_9ed72
13523452				8/25/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKOI_f995e6
13523458				August 31, 2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKOC_19400
13523481				8/31/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKBJ_d532c9
13523484				8/29/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKBO_a55836
13528316				8/29/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOFLKM_48da76
13530540				09/06/17	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHINNJNK_20975a
13534541				9/8/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHINJJNJ_d8f2fd0a
13556277				9/18/2017	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIHHMML_3aba20

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*4) 1. What is the definition of an illicit discharge?

d. None of the above 8.47			Response (%)	Responses
c. A non-stormwater discharge that poses a risk to the environment d. None of the above 89.95 1 Answered Question	a. Unpolluted condensate from AC system		0.53	1
d. None of the above 89.95 Answered Question	b. Drinking water entering the storm drain		1.06	2
Answered Question 1			89.95	170
	d. None of the above		8.47	16
Skipped Question		A	answered Question	189
			Skipped Question	0

*5) 2. What should you do when you observe a suspected illicit discharge at your harbor?

	Response (%)	Responses
a. On Oahu, call Harbor Traffic Control Unit at (808) 587-2076	4.71	9
b. Inform your supervisor	3.14	6
c. None of your business	0.00	0
d. a and/or b	92.15	176

Attachment 7. Survey Results Area

189	Harbors Employee Survey and Results Summary Answered Question
0	Skipped Question

*6) 3. How can you help with preventing storm water pollution?

		Response (%)	Responses
a. Pick up after your pet		0.00	0
b. Properly dispose of household chemicals		0.53	1
c. Rake up the grass clippings after mowing the lawn	T	0.53	1
d. All of the above		98.94	187
	A	nswered Question	189
		Skipped Question	0

*7) 4. Which of the following guidelines apply to the storage and use of fertilizer, pesticide, and herbicides?

	Response (%)	Responses
a. Store chemicals in the sun	0.53	1
b. Apply during a rain event	0.00	0
c. Follow the manufacturer's instructions	92.59	175
d. None of the above	6.88	13
	Answered Question	189
	Skipped Question	0

*8) 5. What are the dangers of improper disposal of household hazardous substance?

		Response (%)	Responses
a. Pollute the water		0.00	0
b. Contaminate groundwater		0.00	0
c. Present hazards to children and pets if left around the house	ī	1.06	2
d. All of the above		98.94	187
	A	answered Question	189
		Skipped Question	0

*9) 6. In State of Hawaii, anything that goes into a regular storm drain inlet will end up in the ocean without any treatment.

		Response (%)	Responses
a. True		97.88	185
b. False	•	2.12	4
		Answered Question	189
		Skipped Question	0

*10) 7. Which of the following can help reduce household hazard risks?

	Response (%)	Responses
a. Throw hazard into the drain	0.00	0
b. Recycle reusable materials	2.58	5
c. Use nonhazardous alternatives	14.95	29
d. b and c	82.47	160
	Answered Question	189
	Skipped Question	0

*11) 8. Which of the following are considered potential household hazard?

		Response (%)	Responses
a. Car wax and polish		0.00	0
b. Nail polish and removers	•	1.05	2
c. Drain cleaners		3.14	6
d. All of the above		95.81	183
		Answered Question	189
		Skipped Question	0

*12) 9. Overuse of pesticides, herbicides, and fertilizers can potentially affect our drinking water supply.



*13) 10. Any product labeled POISONOUS, TOXIC, FLAMMABLE, CORROSIVE, REACTIVE, or EXPLOSIVE should be considered hazardous.

		Response (%)	Responses
a. True		99.47	188
b. False	I	0.53	1
		Answered Question	189
		Skipped Question	0

*14) 11. Which of the following can be considered good BMPs at your home?

	Response (%)	Responses
a. Reduce waste by avoiding single-use plastics and using reusable items.	0.00	0
b. Reroute your car wash water to your lawn	0.00	0
c. Avoid over-fertilizing	2.65	5
d. All of the above	97.35	184
	Answered Question	189
	Skipped Question	0

15) Please provide your comments here, if any:

Attachment 7.
Survey Results Area

		Harl	ors E	mployee S	Survey Results Area Survey and Results Summary
ID	Email	First Name	Last Name	Responses (15)	Vie w
13480240				Thank you for the reminder again.	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENMNK_9954
13480471				Ying. ni shi zui bang de!	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENKMJ_c1f3b
13480660				Practice good BMPs anywhere, anytime.	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHENILK_ac6b6
13499792				Thank you for the reminder again.	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCI_8457
13499794				Thank you for the reminder again.	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCO_6d34
13499795				Thank you for the reminder again.	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCN_1a33
13499798				Thank you for the reminder again.	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGHCC_6482
13499801				Thank you for the reminder again.	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJJ_c7c0b
13499802				Thank you for the reminder again.	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJI_5ec9e
13499803				Thank you for the reminder again.	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJH_29ced
13499804				Thank you for the reminder again.	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHHDGGJO_b7aa

Attachment 7.
Survey Results Area

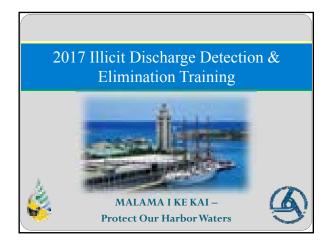
		Harl	bors E	mplovee S	Survey and Results Summary
ID	Email	First Name	Last Name	Responses (15)	Vie w
13510451				Dear Joy: You were really tricky in Question No. 2. I couldn't find the answer in the reading material. What in the world is Harbor Traffic Control Unit?	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHILNKOJ_3589624
13523412				Mahalo!	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKKI_9df923c
13523452				Good quiz!	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOMKOI_f995e6c
13528316				Keep up the great work!	View (results-overview.php? mode=5&survey_ID=MIODMH_ded317b4&session_ID=KHIOFLKM_48da76

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Attachment 8 IDDE Training

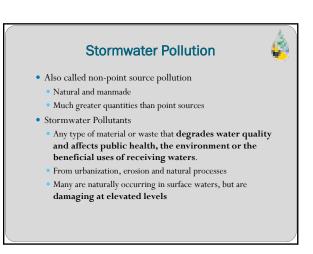












Pollutant Categories



3 Categories: Physical, Chemical and Biological

- Physical Pollutants
 - Sediment

Sources: Construction Sites, Erosion, Urban Areas, **Container Yards** & Agricultural Practices

- Negative Impacts:
- Reduce light transmission
- Smother habitat
- · Impair recreational use of water bodies
- Also, transport other pollutants

Physical Pollutants (Continued)



- Temperature (aka Thermal Pollution)
 - Sources: Power plants, industries, removal of trees along streams, impervious (paved) areas heat up water flowing to streams
 - Impacts: Threat to stream insects & fish species
- Gross Solids (Garbage, Trash, Plastics, etc.)
 - Source: Human activities
 - Impacts: **Threat to aquatic life**; impair recreational uses, expensive to clean up

Chemical Pollutants



- Nutrients (Nitrogen & Phosphorus)
 - Sources: Atmosphere, fertilizers, sewage leaks
 - Impacts: Algae blooms, Blue Baby disease
 - Nitrogen forms: Ammonia, Nitrate/Nitrite, TKN
 - Phosphorus forms: Orthophosphates, Total P

Chemical Pollutants



- Nutrients (Nitrogen & Phosphorus)
 - Sources: Atmosphere, fertilizers, sewage leaks
 - Impacts: Algae blooms, Blue Baby disease
 - Nitrogen forms: Ammonia, Nitrate/Nitrite, TKN
 - Phosphorus forms: Orthophosphates, Total P

Chemical Pollutants



- Metals
- Sources: streets & highways, buildings, materials, industrial activities, atmospheric deposition
- Impacts: toxic to aquatic life, bioaccumulation, threat to human health
- Forms of Metal Pollutants (Can be dissolved or solid)

Copper

Zinc

Lead

Chromium

Cadmium

T----

Aluminum

Others

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Chemical Pollutants (Continued)

- Hydrocarbons
- Forms of Hydrocarbons
 - Oil and Grease
 - Fuels
 - Hydraulic Fluids
- Sources
 - Streets, highways, container yards
- Fueling sites, emissions
- Illegal dumping
- Leakages (vehicles & equipment)
- Impacts
 - Threat to aquatic life
- Threat to human health



Chemical Pollutants (Continued

- Organic Compounds
 - Paints & paint thinners
- Solvents
- Degreasing agents
- Curing agents
- Sealing compounds
- PCBs (polychlorinated biphenyls)
- Sources: Construction sites, industrial & maintenance facilities, illicit discharges, poor storage & handling of materials
- Impacts:
 - ${\color{blue} \bullet}$ Threat to a quatic life, Bioaccumulation, Human health risks

Chemical Pollutants (Continued

- Pesticides
 - Herbicides
 - Rodenticides
 - Insecticides
- Sources:
 - Agriculture
- Urban landscaping
- Impacts:
 - Threat to aquatic life
 - Bioaccumulation
 - Human health risk



Biological Pollutants

- Bacteria and Viruses: E. coli, Fecal coli, etc.
- Sources:
 - Leaking septic/sewer systems (sewage)
 - Illicit connections
- Animal wastes
- Impacts:
 - Human health risk of diseases
 - Threat to aquatic life



Secondary Pollutant Forms

- Oxygen Demand, pH, Algae, Chlorophyll
 - Oxygen Demand Forms:
 Dissolved Oxygen (DO)
 - Biochemical Oxygen Demand (BOD)
 Chemical Oxygen Demand (COD)
 - Oxygen Demand Sources: Sediment, nutrients other pollutants as particles and soluble phases (e.g., molasses & fire fighting foam/FFF)
 - Oxygen Demand Impacts:
 - Reduced Dissolved Oxygen levels harm aquatic life Fish kills







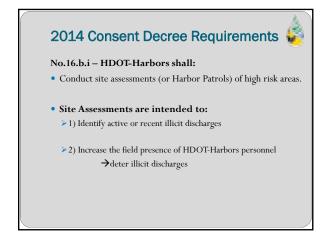








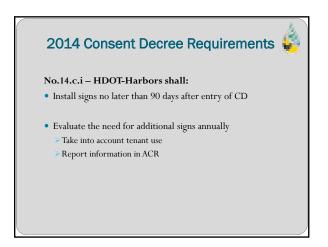




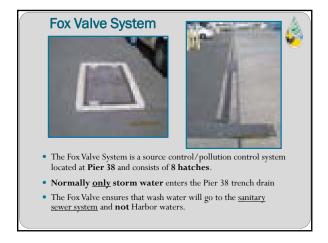


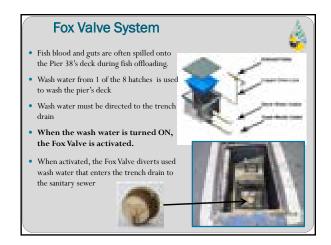








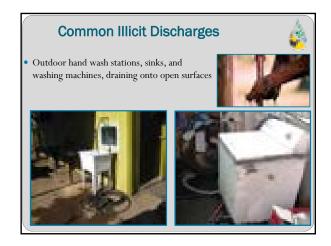










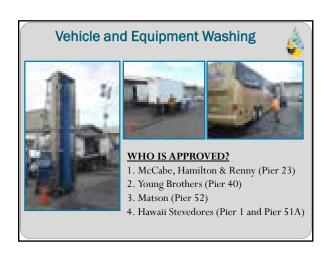
















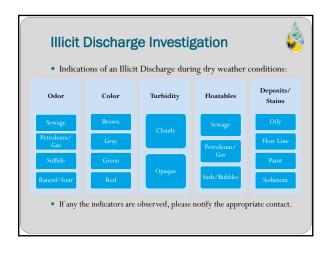


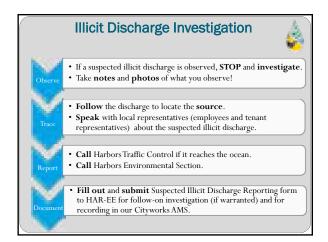


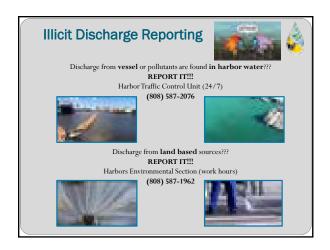


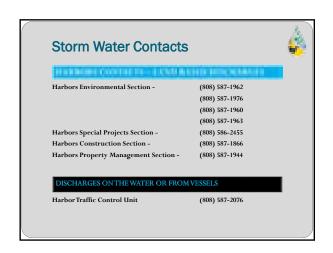


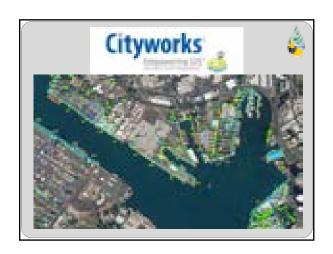


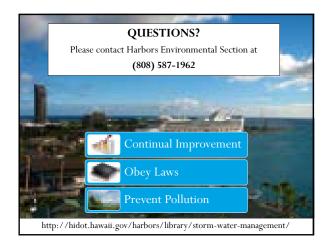


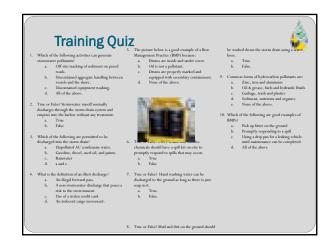


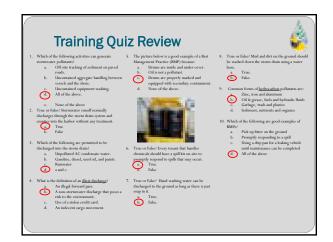


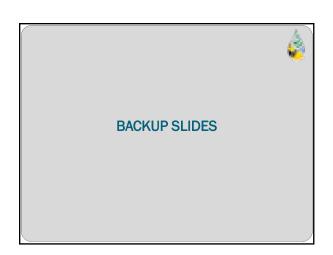


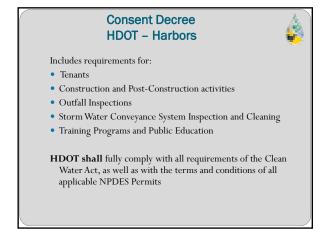


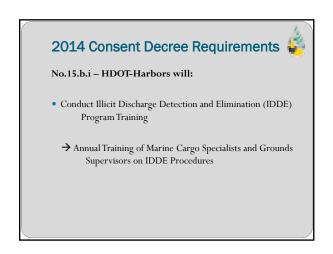












2014 Consent Decree Requirements 🔓



No.16.a. – HDOT-Harbors shall:

- Clearly denote all allowable discharges to the storm $sewer\ system\ (Allowable\ Non-Storm\ Water\ Discharges)$
- \bullet Develop and promote $\underline{examples}$ of illicit discharges that are significant contributors of pollutants

2014 Consent Decree Requirements 🎉



No.16.b.iii. - HDOT-Harbors shall:

- Respond to violations identified during site assessments
- Initiate enforcement in accordance with the Enforcement Response Plan

IDDE Training Sign-In Sheets

3

- December 4, 2017 (0700 - 0900)

HDOT Harbors Annual IDDE Training Sign-in Sheet

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"Malama i ke kai" Protect our harbor waters



IDDE Training Sign-In Sheets

- December 4, 2017 (1500 - 1700)

HDOT Harbors Annual IDDE Training Sign-in Sheet

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"Malama i ke kai" Protect our harbor waters

IDDE Training Sign-In Sheets

10

December 5, 2017 (0700 - 0900)

HDOT Harbors Annual IDDE Training Sign-in Sheet

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Attachment 8C. IDDE Training Completed Questionnaires and Quiz

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Attachment 8C. IDDE Training Completed Questionnaires and Quiz



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Attachment 8C. IDDE Training Completed Questionnaires and Quiz

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JIR<u>AINING EVALLA</u>TION & FEEDINACE FORM 2017 IDDE Stormwater Training Sessions, December 2017

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TRAINING EVALUATION & PERDBACK FORM 2017 IDDS Storowater Training Separate, December 2017

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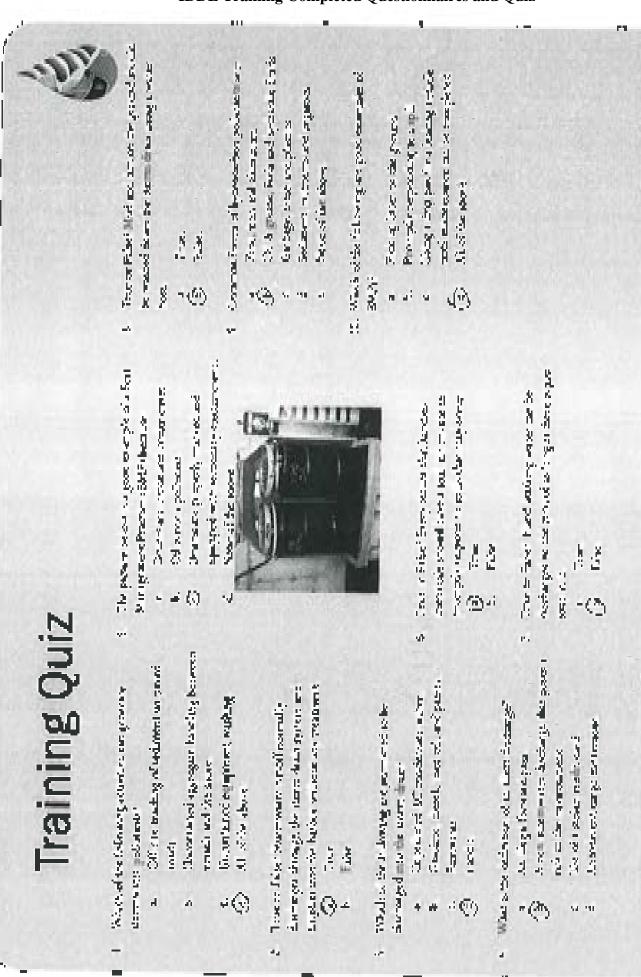
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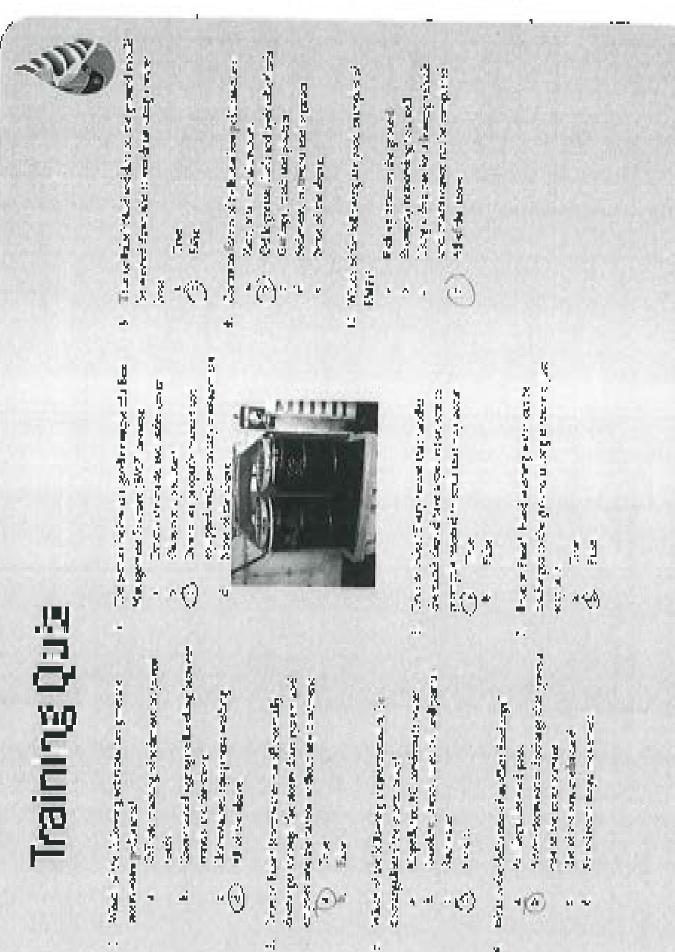
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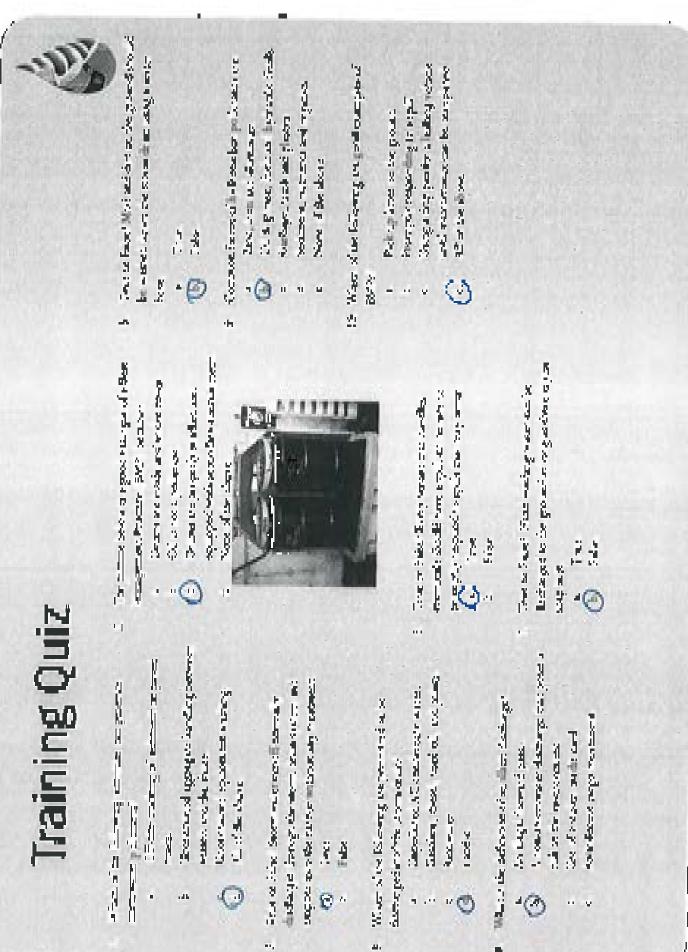
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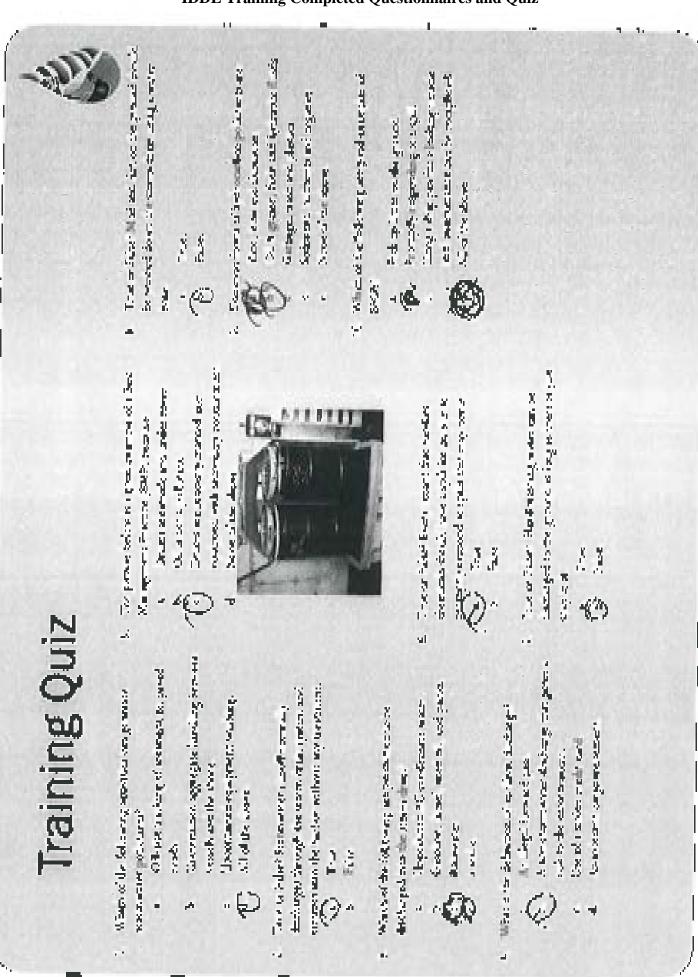
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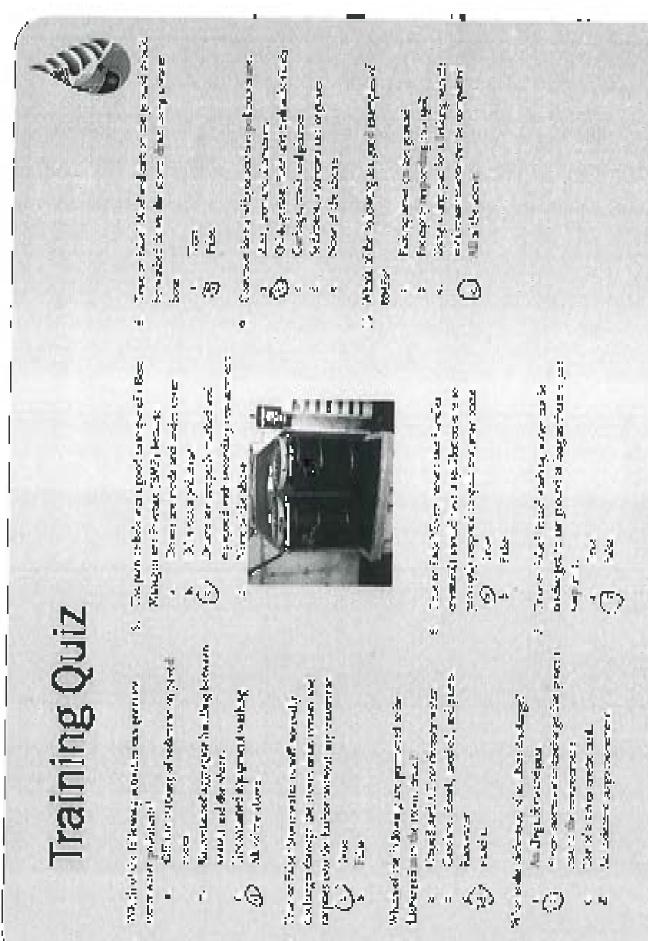
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<u>FRAINING EVALUATION & FREDRACK FORM</u> 20.7 IDDS Stormwater Training Seraions, December 2017

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2017 IODE Stormweller Training Sevenies, December 2017

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BRAINING FYALUATION & FEEDBACK FORM

2017 IDDE Stormwater Transport Setsjons, December 2017

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LEADING EVALUATION & PERDBACK FORM

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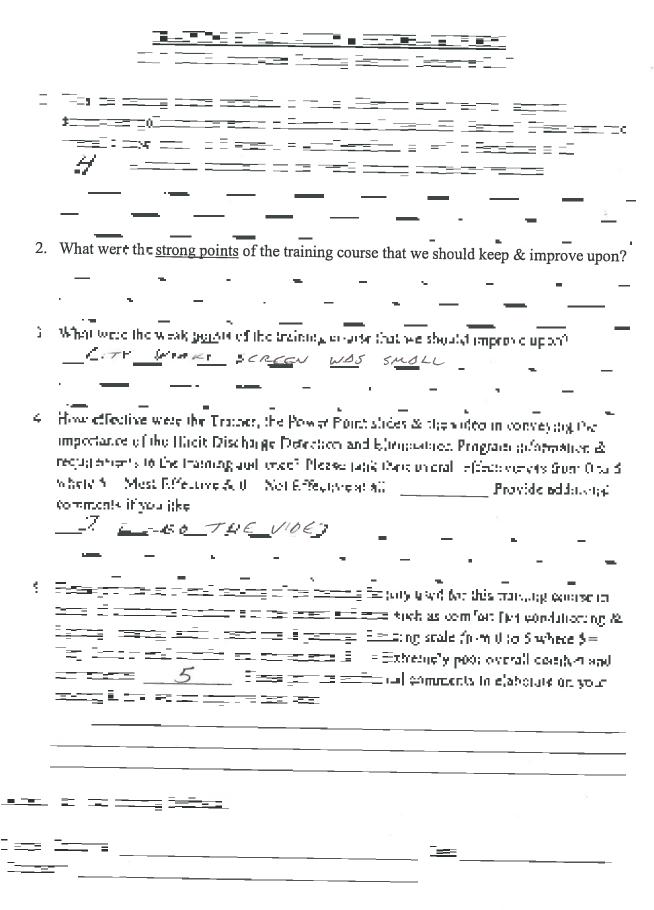
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TRAINING EVALUATION & FEEDBACK FORM

2017 IDDE Stormwater Training Sessions, December 2017

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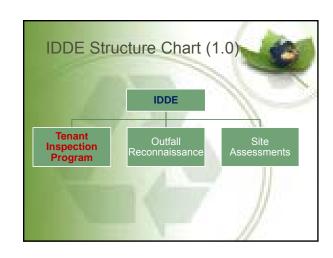
Attachment 9 Inspector Training

Inspector Training: Tenant Inspection Training Manual (TIM) Presentation12/7/2017











Tenant Requirements (1.3) All Harbors tenant lease agreements and RP include language stating that the tenant is responsible for compliance with all environmental laws and regulations. Regulated hazardous substances and marine pollutants are not allowed to be used, treated, stored, or disposed, unless they are incidental to normal operations of their business. Tenants desiring to develop improvement projects on Harbors property must obtain approval from Harbors prior to initiation of the project.

Inspector Training: Tenant Inspection Training Manual (TIM) Presentation12/7/2017

Inspection Types (2.2) Initial Site Inspection or New Tenant Inspection (within three months of occupancy; 2.2.1) Routine Inspection (2.2.2) High: Semiannual Medium: Annual Low: Every five years + annual reconnaissance (2.2.3) Final Inspection (2.2.4) Investigation Inspection (2.2.5) Follow-Up Inspection (2.2.6)











Inspector Training: Tenant Inspection Training Manual (TIM) Presentation

12/7/2017

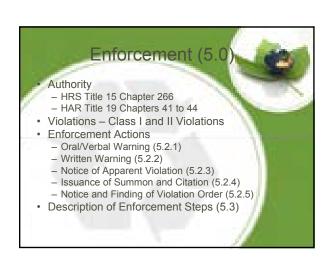


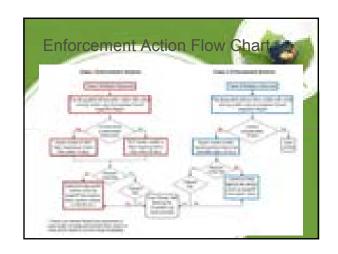






Typical Operations (Attachment 10) • Vessel/Vehicle/Equipment Maintenance and Repair • Vessel/Vehicle/Equipment Fueling • Vessel/Vehicle/Equipment Washing • Container Storage • Material Storage and Handling • Waste Handling and Disposal • Pier, Building, and Ground Maintenance

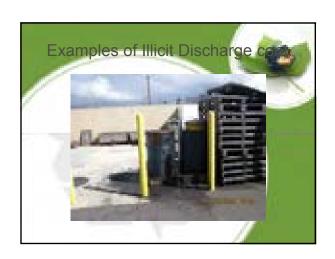






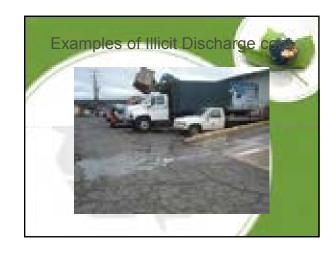






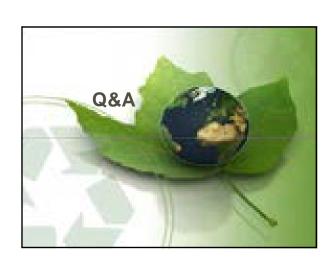








Others (in Attachments) BMPs developed by Harbors HAR-EE (3) SW Hotline Occurrence Tracking Form (to be used by HAR-EE; 5) Suspected Illicit Discharge Reporting Form (7) List of Major Env Laws and Regulations (9) New Tenant Information Package (11) VGP (12)



Attachment 9B. Inspector Training: Inspector Sign-In Sheet



HDOT Harbors Tenant Inspection Training Sign-in Sheet Veryeg cours HDOT Harbors Construction and Post-Construction programs and HDOH NOVC training requirements) TO DE IR 2011



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Attachment 9C.

Inspector Training: Completed Questionnaires



2017 HDOT Harbors Inspector Quiz

Name:	Kanani Kea	Date:10/24/17
True requi	or False. Tenant inspections are only ged for activities conducted on land. a) True. b. False.	True or False: A discharge from potable water sources, such as melted ice, is considered an illicit discharge and is not permitted. True. B. False.
is an	in which of the following time periods inspection required for a new tenant? a. Three years. b. Three weeks. c. Three days. d. Three months.	7. What is the first step when conducting tenagt inspections? a. Review available records and develop an inspection plan. b. Hold a tenant conference, c. Walk around and observe the site. d. Complete the inspection form.
cond	n should a final inspection be ucted? a. After the tenant leaves. b.) Prior to lease termination. c. When they first move in. d. None of the above.	True or False: Use the SHOT (Stormwater Hotline Occurrence Tracking) form when conducting an inspection as a result of a complaint or an illicit discharge. True. b. False.
(n is a follow-up inspection required? a.) When an illicit discharge or violation is noted from tenant facility. b. When a tenant has been rude. c. Only if an illicit discharge is observed. d. None of the above.	9. Which of the following conditions warrant a written warning? a. Improper storage of batteries. b. Lack of proper labeling on drums. c. Improper waste management. d. All of the above. 10. Which of the following is an example of a
5. How high	often are tenants who are risk ranked inspected? a. Annually, b. Every 5 years. c. Every 6 months. d. Every 2 years.	Class I Violation? a. Lack of recordkeeping in regards to spills that occur on-site. b. Maintenance has not been conducted on a tenant's wash rack OWS within the past year. C. Paint chips from sanding operations that are being washed into the harbor. d. Tenant's trash bin appears to be

Attachment 9C. **Inspector Training: Completed Questionnaires**



2017 HDOT Harbors Inspector Quiz

Name:	Sari Kwan		Date: 10/25/17
Tenant Inspe	ction Manual (TIM)	6.	True or False: A discharge from potable
			water sources, such as melted ice, is
1 Tm12 or I	Talas Tanant inspections are only		agneidared on illigit discharge and is not

- 1. True or False. Tenant inspections are only required for activities conducted on land.
 - a. True.
 - b. False.
- 2. Within which of the following time periods is an inspection required for a new tenant?
 - a. Three years.
 - b. Three weeks.
 - Three days.
 - d. Three months.
- 3. When should a final inspection be conducted?
 - a. After the tenant leaves.
 - b. Prior to lease termination.
 - c. When they first move in.
 - d. None of the above.
- 4. When is a follow-up inspection required?
 - a. When an illicit discharge or violation is noted from tenant facility.
 - b. When a tenant has been rude.
 - c. Only if an illicit discharge is observed
 - d. None of the above.
- 5. How often are tenants who are risk ranked high inspected?
 - a. Annually.
 - b. Every 5 years.
 - c. Every 6 months.
 - d. Every 2 years.

e considered an illicit discharge and is not permitted.

- a. True.
- False.
- 7. What is the first step when conducting tenant inspections?
 - a. Review available records and develop an inspection plan.
 - b. Hold a tenant conference.
 - c. Walk around and observe the site.
 - d. Complete the inspection form.
- 8. True or False: Use the SHOT (Stormwater Hotline Occurrence Tracking) form when conducting an inspection as a result of a complaint or an illicit discharge.
 - a. True.
 - b. False.
- 9. Which of the following conditions warrant a written warning?
 - a. Improper storage of batteries.
 - b. Lack of proper labeling on drums.
 - c. Improper waste management.
 - d. All of the above.
- 10. Which of the following is an example of a Class I Violation?
 - a. Lack of recordkeeping in regards to spills that occur on-site.
 - b Maintenance has not been conducted on a tenant's wash rack OWS within the past year.
 - c. Paint chips from sanding operations that are being washed into the harbor.
 - d. Tenant's trash bin appears to be overflowing.

V 5/2014 Page 1 of 2

Attachment 9C. Inspector Training: Completed Questionnaires



2017 HDOT Harbors Inspector Quiz

Name: _Vijayalakshmi Tummala	Date: <u>10/27/2017</u>

Tenant Inspection Manual (TIM)

- 1. True or False. Tenant inspections are only required for activities conducted on land.
 - True.
 - b. False.
- 2. Within which of the following time periods is an inspection required for a new tenant?
 - a. Three years.
 - b. Three weeks.
 - c. Three days.
 - Three months.
- 3. When should a final inspection be conducted?
 - a. After the tenant leaves.
 - **(b)** Prior to lease termination.
 - c. When they first move in.
 - d. None of the above.
- 4. When is a follow-up inspection required?
 - (a) When an illicit discharge or violation is noted from tenant facility.
 - b. When a tenant has been rude.
 - c. Only if an illicit discharge is observed
 - d. None of the above.
- 5. How often are tenants who are risk ranked high inspected?
 - a. Annually.
 - b. Every 5 years.
 - © Every 6 months.
 - d. Every 2 years.

- 6. True or False: A discharge from potable water sources, such as melted ice, is considered an illicit discharge and is not permitted.
 - a. True.
 - **6** False.
- 7. What is the first step when conducting tenant inspections?
 - a Review available records and develop an inspection plan.
 - b. Hold a tenant conference.
 - c. Walk around and observe the site.
 - d. Complete the inspection form.
- 8. True or False: Use the SHOT (Stormwater Hotline Occurrence Tracking) form when conducting an inspection as a result of a complaint or an illicit discharge.
 - a. True.
 - b. False.
- 9. Which of the following conditions warrant a written warning?
 - a. Improper storage of batteries.
 - b. Lack of proper labeling on drums.
 - c. Improper waste management.
 - All of the above.
- 10. Which of the following is an example of a Class I Violation?
 - a. Lack of recordkeeping in regards to spills that occur on-site.
 - Maintenance has not been conducted on a tenant's wash rack OWS within the past year.
 - © Paint chips from sanding operations that are being washed into the harbor.
 - d. Tenant's trash bin appears to be overflowing.

V 5/2014 Page 1 of 2

Attachment 10 Tenant Inventory, Risk Rank, and Inspection Summary

Tenant Business Name	DBA or Other Name	Harbor	Location	2016 Risk Ranking	2017 Risk Ranking	Inspection Date	Inspection Type	Inspection POC	Phone Number
Aala Produce, Inc.	Aala Ship Service	Honolulu	Pier 32	Low	Low	1/24/2017	Regular	Rodney Tamamoto	(808) 522-0550, (808) 478-8732
AES Kalaeloa Venture, LLC	AES Corporation	Kalaeloa	KBPH	Medium	Medium	10/10/2017	Regular	Dan Hunter Priya Kumar	(808) 682-3434, (808) 781-3936
Aircraft Service International Group / Hawaii Fueling Facilities Corporation	ASIG/HFFC	Honolulu	Pier 51 A&B	Low	Low	3/14/2017	Regular	Glenn Jinbo	(808) 833-3291 x29
Aloha Agricultural						3/28/2017	Regular		(909) 945 5001
Aloha Agricultural Consultants, Inc.	Niu Nursery	Honolulu	KIPA	Low	N/A	3/14/2017	Final	Sidney Goo	(808) 845-5991, (808) 225-3507
						12/6/2017	Final		(000) ==0 000:
Aloha Marine Lines	Aloha Cargo Transport, Inc., ACT, Northland	Honolulu	Pier 29	Low	Low	3/24/2017	Regular	Jonathan Satre	(808) 748-8790; (206) 436-9687
Aloha Tower Marketplace	AHI Aloha Associates, LLC; PM Realty Group, Aloha Tower Development Corporation (ATDC)	Honolulu	Pier 9	Low	Low	2/9/2017	Regular	Marlene Daley	(808) 528-5700 or 566-2310 (Both not reachable)
Amazon Construction Company, Inc.	Amazon	Honolulu	KIPA	Low	Low	4/18/2017	Annual Recon	Duston Onaga	(808) 841-6595
					N/A	10/3/2017	Final		
American Guard Services, Inc.		Honolulu	Piers 2/11	Low	Low	1/25/2017	Regular	Shun Almon	(808) 537-3201, (808) 271-8169
		Honolulu	Pier 14	Medium	Medium	10/31/2017	Regular		(808) 425-3859,
American Marine Corporation	American Workboats, Inc.	KIPA	Pier 60 Open Yard and	Low	N/A	4/18/2017	Annual Recon	DC Carter; Rusty Nall	(808) 792-1181, (808) 479-3905;
			Warehouse			12/29/2017	Final		(808) 545-5190
Atlantis Submarines	Atlantis Cruises and		Pier 27	Medium	Medium	12/19/2017	Regular	Kekua "Kua"	808-832-6606,
Hawaii, LLC	Atlantis Submarines	Honolulu	Pier 6	Low	Low	1/17/2017	Regular	Kekua Kua Keli'i	808-386-0123
	1 11311130		Pier 23	N/A	N/A	10/6/2017	Final		
BEI Hawaii		Honolulu	Pier 32	Low	Low	4/18/2017	Annual Recon	Jonathan Sullivan	(808) 864-2615; (808) 532-7448; (808) 535-6025;
Bikeshare Hawaii	non-profit organization	Honolulu	Snug Harbor	N/A	N/A	11/20/2017 11/28/2017	New/Final Follow Up	John Nakange	

Tenant Business Name	DBA or Other Name	Harbor	Location	2016 Risk Ranking	2017 Risk Ranking	Inspection Date	Inspection Type	Inspection POC	Phone Number
Clean Islands Council		Kalaeloa	Pier 4	Low	Low	3/16/2017	Regular	Tim Sawyer, Pat Gillan, John Jacobi	(808) 536-5814; (808) 845-8465
		Honolulu	Pier 12	N/A	Low	3/30/2017	New	Patrick Gillen	(808) 845-8465, (808) 479-0702
Concrete Coring Company of Hawaii, Inc.	Keehi Facility	Honolulu	Former Foundation of Building 911;	Low	N/A	4/18/2017 11/22/2017	Annual Recon Final	John Neff / Nathan Sabey	(808) 488-8222; (808) 330-7516
Dependable Hawaiian Express, Inc.	DHX, Inc.	Honolulu	KIPA Pier 21	Low	Medium	2/16/2017	Regular	Kane McEwen; Joe Vele	(808) 841-7311 ext. 1701
Erik Builders, Inc.		Honolulu	KIPA	Low	Low	4/18/2017	Annual Recon	James M. Sakata	(808) 845-7736
				Low	N/A	6/2/2017	Final		
Foss Maritime Company	Moana Pa'a Kai, Inc.; Subsiduary of Young Brothers	Honolulu	Piers 20, 21, and 22	Medium	Medium	12/14/2017	Regular	Nathan Kapule; Randal Lau	(808) 543-9398; (206) 276-1898
Frank P. White Jr. Properties	Container Storage Co.	Honolulu	KIPA	Low	Low	4/18/2017	Annual Recon	Frank White; Gail Thometz	(808) 841-5555
Fresh Island Fish, LLC		Honolulu	Pier 38	Low	Low	4/18/2017	Annual Recon	Derek Higa	(808) 831-4911
Friends of Falls of Clyde		Honolulu	Pier 7	Low	Medium	3/21/2017	Regular	Chris Woolaway; Bruce Mcewan	(808) 753-3311; (808) 543-9311, (808) 543-9357
Friends of Hokule'a & Hawai'iloa		Honolulu	KIPA	Medium	N/A	In 2018	Final	Jay Dowsett	(808) 256-1841
Fukunaga, Paul N.	P.F. Marine	Honolulu	KIPA	Low	Low	3/28/2017	Regular	Paul N Fukunaga	(808) 842-1330, (808) 220-9425
Gillis, Eugene	Excavation Services	Honolulu	KIPA	Medium	N/A	In 2018	Final	Eugene Gillis	(808) 383-1959, (808) 292-7469
GLP Asphalt, LLC	Asphalt Hawaii	Kalaeloa	KBPH	Medium	Medium	10/19/2017	Regular	Sara Daniels	(808) 561-4121
Grace Pacific LLC	GP Kalaeloa HMA Plant	Kalaeloa	КВРН	Medium	Medium	10/17/2017	Regular	Joseph Shacat Scott Sevadjian	(808) 203-2805, (808) 348-4895

Tenant Business Name	DBA or Other Name	Harbor	Location	2016 Risk Ranking	2017 Risk Ranking	Inspection Date	Inspection Type	Inspection POC	Phone Number
Hawaii Maritime Center	Donald Bell	Honolulu	Pier 7	Low	Low	1/19/2017	Regular	Donald Bell	(808) 392-5230, (808) 847-3511
	Hawaii Stevedores, Inc.	Honolulu	Pier 1	Medium	Medium	12/6/2017	Regular	Frank	(808) 842-5389,
Hawaii Stevedores, Inc.					N/A	5/4/2017	Final	Frank Roznerski	(808) 864-4638;
	Horizon Lines, LLC	Honolulu	Pier 51	High	High	6/21/2017	Regular	ROZHEISKI	(808) 527-3415
					riigii	12/6/2017	Regular		
Hawaiian Aqua Products, Inc.	Foo W. Lim & Sons, Inc.	Honolulu	KIPA	Medium	N/A	In 2018	Final	Yal M. Lim, Foo W. Lim, Evelyn Lim	(808) 521-5468
Hawaiian Cement		Kalaeloa	КВРН	Medium	Medium	10/12/2017	Regular	Dane Wurlitzer	(808) 532-3407, (808) 330-3910
HC&D	Ameron Hawaii; 'Ameron International Corporation	Honolulu	KIPA	Medium	Low	10/27/2017	Regular	Linda Goldstein; June Ching	(808) 266-2672
Healy Tibbitts Builders, Inc.		Kalaeloa	КВРН	Low	Low	6/8/2017	Annual Recon	Glen Toyama	(808) 368-1581
Heumann, James	Wind & Sea Charters	Honolulu	Pier 34	Low	Low	1/25/2017	Regular	James M. Heumann	(808) 220-7675
Honolulu Marathon Association		Honolulu	Pier 2	Low	Low	1/19/2017	Regular	Ronald Chun; Jeanette Chun; Valerie Lawson	(808) 255-2602; (808) 946-0539; (808) 255-2600
HPBS, Inc.		Honolulu	Pier 19	Low	Low	2/21/2017	Regular	Fay Leong; Blare; Captain David Lyman; Captain Steven Baker	(808) 532-7233
Ishikawa, Norman & Dolores	Norman's Tractor Service	Honolulu	KIPA	Medium	N/A	In 2018	Final	William; Theresa Alcosiba; John Ishikawa	(808) 778-1084; (808) 689-3644, (808) 778-0344; (808) 218-9824
Island Beach Activities		Honolulu	Pier 2	Low	N/A	1/19/2017 2/28/2017	Regular Final	John Salvio	(808) 223-8735
ISS Marine Services, Inc.	Inchcape Shipping	Honolulu	Pier 1	Low	Low	3/31/2017	Regular	Ali Wong	(808) 521-2111 ext. 18

Tenant Business Name	DBA or Other Name	Harbor	Location	2016 Risk Ranking	2017 Risk Ranking	Inspection Date	Inspection Type	Inspection POC	Phone Number
Jas W. Glover, Ltd.		Honolulu	KIPA	Low	Low	3/28/2017	Regular	Kyle Hirano	(808) 591-8977 ext. 321
Jems Enterprises, LLC	Hawaiian Ice Company	Honolulu	Pier 38	Medium	Low	11/2/2017	Regular	Joshua Ibrao	(808) 538-6918 (808) 255-2921
JFC International	Japan Food (Hawaii), Inc.; Davenport Hawaii Partners, LP	Honolulu	Pier 34	Low	Low	1/24/2017	Regular	Toshiaki Wada	(808) 537-9528
Kagami, Inc.		Honolulu	Pier 21	Low	Low	2/21/2017	Regular	Wayne Kagami	(808) 523-5700
Kirkwood, Clarke	Hawaiian Catamaran Multihull Design	Honolulu	KIPA	High	High N/A	7/5/2017 In 2018	Regular Final	Matt Buckman	(808) 306-6012
Kirby Offshore Marine	(Formerly Uaukewai Diving, Salvage & Fishing, Inc.) Formerly known as K-Sea Transportation Hawaii Division	Honolulu	Pier 21	Medium	Medium	12/5/2017	Regular	James Pontin; Bill Boland	(808) 462-4222, (808) 208-1089; (808) 522-1000 ext.108
Lansdown, lan J.	Hawaii's Sailing Center; Ian J. Lansdown	Honolulu	KIPA	Medium	N/A	In 2018	Final	Jeff Lansdown	(808) 230-0940
Marisco, Ltd.		Kalaeloa	KBPH	High	High	6/22/2017	Regular	Stephen Hinton	(808) 306-5935,
·						12/21/2017	Regular		(808) 682-1333
Maritime License Center, Inc.		Kalaeloa	Pier 6	Low	Low	3/16/2017	Regular	Paul Finley	(808) 589-0123
Mary Charles and Associates Inc		Honolulu	Pier 10	Low	Low	1/20/2017	Regular	Curtis Chee	
Matson Navigation	Matson Terminals, Inc.	Honolulu	Pier 52	High	High	6/20/2017	Regular	Keahi Birch	(808) 848-1252; (808) 848-1280;
Company, Inc.	iviatsori i eriffiliais, iric.	Horiolala	FIEL 52	riigii	High	12/12/2017	Regular	Realli Bilcii	(808) 848-8306
McCabe, Hamilton & Renny		Honolulu	Pier 23	Medium	Medium	11/16/2017	Regular		
			Pier 23	IVICUIUIII	N/A	10/6/2017	Final		
		Honolulu	Piers 19 & 29	Low	Low	4/18/2017	Annual Recon	Andrew Souza	(808) 479-0356
		Kalaeloa	Pier 5	Low	Low	6/8/2017	Annual Recon		

Tenant Business Name	DBA or Other Name	Harbor	Location	2016 Risk Ranking	2017 Risk Ranking	Inspection Date	Inspection Type	Inspection POC	Phone Number
Nanakuli Neighborhood Housing Services, Inc.	Nanakuli Housing Corporation Baseyard Hawaii	Honolulu	KIPA	Low	Low	4/18/2017	Annual Recon	Wilbert Barber	(808) 842-0770
Norko Marine Agency, Inc.		Honolulu	Pier 33	Low	Low	4/18/2017	Annual Recon	Norman Cheu	(808) 216-4790, (808) 536-4568
Oceantronics, Inc.		Honolulu	Pier 24	Low	Low	3/30/2017 9/14/2017	Regular Final	Fritz M. Amtsberg	(808) 522-5600; (808) 832-5590, (808) 216-0256
Ohai, Leo A.	Oceanic Libra Corporation	Honolulu	Pier 18	Medium	Medium	10/24/2017	Regular	Nephi Ohai	(808) 690-4030
P&R Water Taxi, Ltd.		Honolulu	Pier 36	Medium	Medium	11/28/2017	Regular	Ralph Dewitt	808) 554-3436
Pacific Environmental		Honolulu	Piers 33	Medium	Medium	11/7/2017	Regular		(808) 545-5190,
Corporation	Penco	Honolulu; Kalaeloa	Pier 14; Pier 4	Low	Low	6/8/2017	Annual Recon	Justin, Shanyn	(808) 479-3905; (808) 545-5195
Pacific Ocean	(Nico's) POP Fishing &	Honolulu	Pier 38	Low	High	3/23/2017	Regular	Neil Kanemoto	(808) 537-2905
Producers, Inc.	Marine, LLC	попоши	Fiel 30	Low	Low	11/28/2017	Regular	Nell Kallelliolo	(606) 557-2905
D :(: 01 : 1	Pacific Marine and Supply, Navatek, Unitek Contracting		Pier 41	Lliada	High	6/16/2017	Regular		(222) 242 2244
Pacific Shipyards International, LLC		Honolulu	Piei 41	High	N/A	8/25/2017	Final	Greg Ball	(808) 848-6211, (808) 223-4946
International, LLC	Group, Honolulu		Pier 24/25	N/A	High	9/26/2017	New		(000) 223-4940
Pang, Sandra	SP Lunch Wagon; Sandy's Lunchwagon	Honolulu	Pier 51	Low	Low	3/30/2017	Regular	Sandra Pang	(808) 778-4686
Paradise Cruise, LTD	Star of Honolulu	Honolulu	Pier 8	Low	Low	4/18/2017	Annual Recon	Richard A. Davison	(808) 983-7765
Petrospect, Inc.		Honolulu	Pier 21	Low	Low	3/14/2017	Regular	Chad Miller, David Harrington	(808) 536-6626
Pioneer Machinery, Inc.		Honolulu	KIPA	Low	Low	5/5/2017	Regular	Rodney Yee	(808) 371-4892
Pryne, Ty	H.B.N. Yacht Rigging	Honolulu	Pier 21	Low	Low	6/9/2017	Annual Recon	Ty Pryne	(808) 479-8844, (808) 597-8120
Rebecca's Fine Collections, Inc.	R.F.C. Group	Honolulu	KIPA	Low	Low	4/18/2017	Annual Recon	Rebecca Fan	(808) 478-6688
Resort Management Group LLC	(former Chevron Lot)	Honolulu	Pier 38	N/A	Low	1/5/2017	New	Reed Kishinami	(808) 478-7741
R & C Concrete Specialists, Inc.	Ron's Concrete Specialist, Ltd.	Honolulu	KIPA	Low	Low	4/18/2017	Annual Recon	James Mainaaupo.	(808) 845-0467 (808) 429-2142

Attachment 10. 2017 HDOT Harbors Division Tenant Inventory, Risk Ranking, and Inspection Summary

Tenant Business Name	DBA or Other Name	Harbor	Location	2016 Risk Ranking	2017 Risk Ranking	Inspection Date	Inspection Type	Inspection POC	Phone Number
	Canopy and Office	Honolulu	Pier 27	Medium	Low	10/24/2017	Regular	Wayne Stachel	(808)306-2177; (808) 521-5082;
						3/30/2017	Follow Up	Reid	
Sause Bros., Inc.	Staging Yard at KBPH	Kalaeloa	Pier 4	Medium	Medium	10/10/2017	Regular	Tamashiro	(808) 721-1667
						12/27/2017	Follow Up		
	Shed at KBPH	Kalaeloa	Pier 5	Low	Low	6/8/2017	Annual Recon	Mike Leslie	(808) 690-3412 (808) 682-1082
Sea Engineering, Inc.		Honolulu	Pier 32	Medium	Medium	11/7/2017	Regular	W. Patrick Ross; Tor Harris	(808) 259-7966 ext 25; (603) 978- 6800
Siu, Wai Lun	Pier 21 Lunchroom	Honolulu	Pier 21	Low	Medium	3/14/2017	Regular	Raymond Siu	(808) 597-8120
Department of the	Attorney General-	Hamalulu	Pier 20	Low	Medium	3/21/2017	Regular	Kern Nishioka;	(000) 500 4000
Attorney General/Criminal	Asset Forfeiture	Honolulu	Pier 19	N/A	N/A	8/29/2017	Final	Steven Davis	(808) 586-1383
Steinke Brothers, Inc.		Honolulu	KIPA	Low	Low	3/9/2017	Regular	Robert Steinke	(808) 478-9777
Otellike Brothers, inc.		Tioriolala	IXII A	LOW	N/A	10/3/2017	Final		(808) 488-9668
Submarines Hawaii		Honolulu	Pier 41	Low	N/A	8/30/2017	Final	Jason Young	
The Gas Company, LLC		Honolulu	Pier 38	Medium	Medium	10/31/2017	Regular	Zoe Williams; AK Colburn	(808) 594-5637
The Pasha Group	Pasha hawaii	Honolulu	Pier 2	Low	Low	4/18/2017	Annual Recon	Darren Lee	(808) 590-3617
The Webe Corporation, Ltd.	Ali'l Kai Catamaran (Subsidiary of Robert's Hawaii)	Honolulu	Pier 5	Low	Low	1/23/2017	Regular	Bernie, Jason Young, Chad	(808) 539-9491 (808) 631-8671 (808) 636-5839
Travel Plaza Transportation, LLC		Honolulu	Pier 19 (Shed and Open Lot)	Medium	N/A	6/9/2017	Final	Shawna Nakachi	(808) 343-0853
Trouble Free Corp.		Kalaeloa	KBPH	Low	Low	6/8/2017	Annual Recon	Chris Boyles	(808) 864-8864
U.S. Bureau of Customs and Border Protection, Department of Homeland Security		Honolulu	Pier 1	Low	Low	1/20/2017	Regular	Gose; Peter F. Gonzales	(808) 522-8001 ext. 223; (808) 356-4175
Unify Recovery Service		Honolulu	KIPA	Medium	N/A	In 2018	Final	Gayle Saito	(808) 256-7266

2017 HDOT Harbors Division Tenant Inventory, Risk Ranking, and Inspection Summary

Tenant Business Name	DBA or Other Name	Harbor	Location	2016 Risk Ranking	2017 Risk Ranking	Inspection Date	Inspection Type	Inspection POC	Phone Number
United Fishing Agency, Ltd.		Honolulu	Pier 38	Medium	Low	11/2/2017	Regular	Daniel Otani; Nelson Otani	(808) 536-2148
University of Hawaii		Honolulu	Pier 35	Medium	Medium	11/2/2017	Regular	Ross Barnes	(808) 842-9815, (808) 864-0122
VAK Fisheries, LLC		Honolulu	Pier 19	Low	Low	4/18/2017	Annual Recon	Kim Lu	(808) 258-2990
Van, Kevin	Hi-Sea Hawaii Fishing Supply	Honolulu	Pier 20	Low	Low	6/9/2017	Annual Recon	Kevin Van	(808) 521-6076, (808) 282-1452
					N/A	10/6/2017	Final		(000) 202-1432
Welch, Jr., Darrell, G., AIA	Aloha Tower, 4th Floor	Honolulu	Pier 9	Low	Low	1/18/2017	Regular	Darrell G. Welch Jr.	(808) 585-8522
Wikoliana Educational Excursions, LLC		Honolulu	Pier 7	Low	N/A	5/24/2017	Final	lan Jeffrey Landdown	(808) 230-0940
Young Brothers, Ltd.		l longlulu	Piers 39 and	High	∐iah	6/23/2017 12/14/2017	Regular	Nathan Kapule	(808) 543-9398
Toding brothers, Etd.		Honolulu	40		High		Regular	Matrian Napule	(000) 545-9590

Suspended for final inspection

Attachment 11 Outfall Reconnaissance Inventory

Attachment 11A.

IDDE: ORI Inspection Form

OUTFALL RECONNAISSANCE INVENTORY FORM Section 1: Background Data **Outfall ID:** Previous Outfall ID: **HDOT Location:** Subwatershed: Inspection Date: Investigators: Time (Military): Form completed by: GPS Unit: Lat: Long: GPS Landmark: Rainfall (in.) Last 24 Hrs: 0 Temp (○F): 75 48 Hrs: 0 Camera: ETC 3 Photo #s: Land Use in Drainage Area (Check all that apply): ☐ Industrial ☐ Open Space ☐ Ultra-Urban Residential ■ Institutional ☐ Suburban Residential Other: ☐ Commercial Known Industries: Notes (e.g., origin of outfall, if known): **Section 2: Outfall Description** LOCATION MATERIAL SHAPE **DIMENSIONS (IN.) SUBMERGED** ☐ RCP ☐ CMP ☐ Circular ☐ Single Diameter/Dimensions: In Water: ☐ No □ PVC ☐ HDPE ☐ Elliptical ☐ Double ☐ Partially Fully ☐ Closed Pipe ☐ Steel ☐ Box ☐ Triple With Sediment: Other: Two outfalls Other: Other: ☐ No ☐ Partially adjacent Fully ☐ Concrete □ Trapezoid Depth: _____ Earthen ☐ Open drainage ☐ Parabolic Top Width: ___ ☐ rip-rap Other: Bottom Width: ___ Other: ☐ In-Stream (applicable when collecting samples) Flow Present? Yes ☐ No If No, Skip to Section 5 ☐ Trickle ■ Moderate ☐ Substantial Flow Description Section 3: Quantitative Characterization FIELD DATA FOR FLOWING OUTFALLS **PARAMETER RESULT** UNIT **EQUIPMENT** Volume Liter ☐Flow #1 Time to fill Sec Flow depth In Flow width Ft, In ☐Flow #2 Measured length Ft, In Time of travel Sec

٥F

pH Units

ppm

Test strip/Probe

Test strip

Temperature

pН

Ammonia

Attachment 11A.

IDDE: ORI Inspection Form

Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only
Are Any Physical Indicators Present in the flow?
Yes No

Color Co	INDICATOR	CHECK if Present		DESCRIPTION		RE	LATIVE SEVERITY INDEX	(1-3)
Green Gree	Odor			<u> </u>	☐ 1 – Faint		2 – Easily detected	3 – Noticeable from a distance
Sewage (Toilet Paper, etc.) Suds 1 - Few/slight; origin 2 - Some; indications of origin (e.g., dovious oil sheen) Other: 1 - Few/slight; origin 2 - Some; indications of origin (e.g., dovious oil sheen) Other	Color							
Severation Sev	Turbidity			See severity	☐ 1 – Slight	cloudiness	2 – Cloudy	☐ 3 – Opaque
Other Observations Description of discharge source: Cirigger to Obvious	-Does Not Include		_ ` `	• • • —		ght; origin	of origin (e.g., possible suds or oil	sheen, suds, or floating
Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls Are physical indicators that are not related to flow present?	Upstream Investigation		Description of	of discharge source:				☐ Illicit Discharge (Trigger to Obvious)
Are physical indicators that are not related to flow present? Yes No (If No, Skip to Section 6) INDICATOR CHECK if Present DESCRIPTION COMMENTS Outfall Damage	Other Observations							
Outfall Damage								
Deposits/Stains Dividence Paint Sediment Trash Dividence Trash Dividence Sediment Trash Dividence Trash Dividence Divi	re physical indicator	s that are not rela	ted to flow p	resent? \square Yes \square No (If No, S	Skip to Section 6)		COMMETAL	re
Abnormal Vegetation	re physical indicator	s that are not rela	ted to flow p	resent? Yes No (If No, S	,		COMMENT	тs
Poor pool quality Odors	re physical indicator	s that are not rela	ted to flow p	resent? Yes No (If No, S	,		COMMENT	ΤS
Poor poor quanty Suds Excessive Algae Other: Pipe benthic growth Brown Orange Green Other: Other Observations Section 6: Overall Outfall Characterization	re physical indicator INDICATOR Outfall Damage	S that are not rela CHECK if I	ted to flow p	DESCRIPTION Spalling, Cracking or Chipping Corrosion Oily Flow Line Paint Sedime	Peeling Paint		COMMENT	ΓS
Other Observations Section 6: Overall Outfall Characterization	INDICATOR Outfall Damage Deposits/Stains	S that are not rela CHECK if I	red to flow p	DESCRIPTION Spalling, Cracking or Chipping Corrosion Oily Flow Line Paint Sedime Other:	Peeling Paint		COMMENT	ΤS
Section 6: Overall Outfall Characterization	INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	S that are not rela CHECK if I	red to flow p	DESCRIPTION Spalling, Cracking or Chipping Corrosion Oily Flow Line Paint Sedime Other: Excessive Inhibited Odors Colors Floatables	Peeling Paint Trash Oil Sheen		COMMENT	ΓS
	INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality	s that are not rela CHECK if I	red to flow p	DESCRIPTION Spalling, Cracking or Chipping Corrosion Oily Flow Line Paint Sedime Other: Excessive Inhibited Odors Colors Floatables Suds Excessive Algae	Peeling Paint Trash Oil Sheen Other:		COMMENT	ΤS
	INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality Pipe benthic growth	s that are not rela CHECK if I	red to flow p	DESCRIPTION Spalling, Cracking or Chipping Corrosion Oily Flow Line Paint Sedime Other: Excessive Inhibited Odors Colors Floatables Suds Excessive Algae	Peeling Paint Trash Oil Sheen Other:		COMMENT	TS
	The physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality Pipe benthic growth Other Observations	s that are not rela CHECK if I	Present	DESCRIPTION Spalling, Cracking or Chipping Corrosion Oily Flow Line Paint Sedime Other: Excessive Inhibited Odors Colors Floatables Suds Excessive Algae	Peeling Paint Trash Oil Sheen Other:		COMMENT	TS

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

2017 Wet Weather Outfall Reconnaissance Inventory (ORI) Summary Keehi Industrial Park Area (KIPA)

Wet weather inspections were conducted for outfalls located at Keehi Industrial Park Area (KIPA) by EnviroServices and Training Center, LLC (ETC) on February 21st, 2017. Data was obtained from field observations by inspectors. Maps generated from CityWorks[®] and information from previous outfall reconnaissance was utilized to prepare for and assist with the inspections, which were conducted according to Consent Decree 16.c and the Outfall Reconnaissance Inspection & Inventory Program.

The result of each inspection was entered into CityWorks®, together with information associated with each outfall's characterization, presence of any suspected illicit discharge, and relevant photo documentation.

In addition to observing outfalls for any potential illicit discharges, inspectors remained vigilant throughout the inspection. During the course of inspections, small amounts of solid waste and sediment debris was noted.

In 2017, no illicit discharges were discovered. An inspection summary of each outfall is listed in the following table:

Table 1: Outfall Inspection

Location	Outfall	Date	Method of	Illicit	Comment
	SDD		Inspection	Discharge	
KIPA	7605	2/21/2017	Outfall	No	
KIPA	7610	2/21/2017	Outfall	No	
KIPA	7615	2/21/2017	Outfall	No	
KIPA	7620	2/21/2017	Outfall	No	Trash in outfall area
KIPA	7625	2/21/2017	Outfall	No	



Photograph 1: View of SDD7605



Photograph 2: SDD7605



Photograph 3: View of SDD7610



Page 1	
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Photograph 4: SDD7610



Photograph 5: SDD7610 adjacent unpaved driveway



Photograph 6: View of SDD7615



Page 2

February 2017

Photographic Documentation

Outfall Reconnaissance Inventory Inspection Honolulu Harbor—KIPA



Photograph 7: SDD7615



Photograph 8: SDD7615 with fallen Harbors "Pollution is Prohibited by Law" sign



Photograph 9: SDD7615 and nearby drainage ditch



Page 3

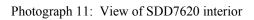
February 2017

Photographic Documentation

Outfall Reconnaissance Inventory Inspection Honolulu Harbor—KIPA



Photograph 10: SDD7615







Photograph 12: View of SDD7620 exterior



Photographic Documentation Outfall Reconnaissance Inventory Inspection

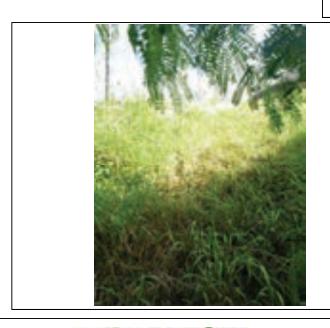
Honolulu Harbor—KIPA



Photograph 13: View of SDD7625

Photograph 14: SDD7625 drainage gate





Photograph 15: SDD7625 swale near outfall



Page 5

February 2017

Section 1: Back	kground Data							
Outfall ID: SDI	07605			Previou	ıs ID:			
HDOT Location:	KIPA			Subwat	ershed: Kalih	i		
Inspection Date: 0	02/21/2017			Investig	gators: Daniel	Amato, Chelsea l	lannaccio, Mich	elle Kwock
Time (Military): 1	5:30			Form c	ompleted by:	Michelle Kwock		
Lat: 21° 19' 21.7	"N Long	;: 157° 5	33' 36.62"W	GPS U	nit: Citiworks		GPS Landma	rk:
Temp (°F): 73	Rainfall (in.) Last 24 Hrs: 0	24	48 Hrs: 0.24	Camera	: ETC CAM	3	Photo #s: I	P1100482, P1100485
Land Use in Drain	nage Area (Check all that appl	y):						
☐ Industrial				Оре	en Space			
☐ Ultra-Urban R	esidential			☐ Inst	itutional			
☐ Suburban Resi	dential			Other:				
				Known	Industries: Sr	nall boat launch,	Ameron Hawaii	Concrete
Notes (e.g., origin	of outfall, if known): Sheet f	low						
Section 2: Outf	all Description							
LOCATION	MATERIAL		SHA	\PE		DIMENSI	ONS (IN.)	SUBMERGED
	□ RCP □	CMP	☐ Circular	☐ Single		Diameter/Dimer	nsions:	In Water:
	□ PVC □	HDPE	☐ Eliptical	☐ Double	e			Partially Fully
☐ Closed Pipe	☐ Steel		Вох	☐ Triple				With Sediment:
	Other:	_	☐ Other:	Other:				No ☐ Partially
								☐ Fully
			☐ Trapezoid			Depth:		
M 0	⊠ Earthen							
Open drainage	rip-rap		Parabolic			Top Width:		
	Other:		Other: Sheet flow at	low point i	n topography	Bottom Width:		
☐ In-Stream	(applicable when co	llecting	samples)					
Flow Present?	☐ Yes	⊠ No	If No, Skip	o to Section	ı 5			
Flow Description	☐ Trickle ☐	Moderate	e Substantial					
Section 3: Qua	ntitative Characterizat	ion						
			FIELD DATA FOR FL	OWING	OUTFALLS			
P/	ARAMETER		RESULT		U	NIT	EC	UIPMENT
□Flow#1	Volume				I	Liter		
□110W #1	Time to fill				;	Sec		
	Flow depth					In		
□Flow #2	Flow width				F	t, In		
	Measured length				F	t, In		
	Time of travel				;	Sec		

Attachment 11B. IDDE: 2017 ORI Wet Weather Report Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only

Odor			DESCRIPTION		RI	ELATIVE SEVERITY INDEX	(1-3)
		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Petroleum ☐ Other:	n/gas	☐ 1 – Faint	2 – Easily detected	3 – Noticeable from a distance
Color		☐ Clear ☐ Green	☐ Brown ☐ Gray ☐ Orange ☐ Red	☐ Yellow ☐Other:	1 – Faint colors in sample bottle	2 – Clearly visible in sample bottle	3 – Clearly visible in outfall flow
Turbidity			See severity		☐ 1 – Slight cloudiness	2 – Cloudy	3 – Opaque
Floatables -Does Not Include Trash!!		Sewage (To	oilet Paper, etc.) Suds (oil sheen) Other:		☐ 1 – Few/slight; origin not obvious	2 – Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floa sanitary materials)
ostream Investigation		Description of	discharge source:				☐ Illicit Discharge (Trigger to Obvious
tion 5: Physical Ind	licators for Rot	h Flowing an	nd Non-Flowing Outfalls				_
etion 5: Physical Indephysical indicators to		ted to flow pro		(If No, Skip to Sec	ction 6)	COMMENT	rs
physical indicators t	that are not rela	resent	esent?	DESCRIPTION	,	COMMENT	rs
e physical indicators t	CHECK if F	Present	esent? Yes No	DESCRIPTION uping Peeling Pair	nt	COMMENT	rs
e physical indicators to INDICATOR Outfall Damage	CHECK IF F	Present	esent? Yes No C Spalling, Cracking or Chip Corrosion Oily Flow Line F	DESCRIPTION uping Peeling Pair	nt	COMMENT	rs
e physical indicators to INDICATOR Outfall Damage Deposits/Stains	CHECK IF F	Present	esent? Yes No Spalling, Cracking or Chip Corrosion Oily Flow Line F Other:	DESCRIPTION pping Peeling Pain Paint Sediment Tra	nt ash	COMMENT	rs
e physical indicators to INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	CHECK IF F	Present	Spalling, Cracking or Chip Corrosion Oily Flow Line F Other: Excessive Inhibited Odors Colors	DESCRIPTION pping Peeling Pain Paint Sediment Tra	nt ash	COMMENT	TS .

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Section 1: Back	kground Data					
Outfall ID: SDD				Previous ID: KIPA-0	01	
HDOT Location:	KIPA			Subwatershed: Kalik	ni	
Inspection Date: 0	02/21/2017			Investigators: Daniel	Amato, Chelsea Iannaccio, Micl	helle Kwock
Time (Military): 1	5:50			Form completed by:	Michelle Kwock	
Lat: 21° 19' 34.0	8"N	Long: 157° 5	53° 38.76"W	GPS Unit: Citiworks	GPS Landm	ark:
Temp (°F): 73	Rainfall (in.) Last 24 H	Irs: 0.24	48 Hrs: 0.24	Camera: ETC CAM	3 Photo #s: P110051	12, P1100513, P1100517
Land Use in Drain	nage Area (Check all tha	t apply):				
				☐ Open Space		
☐ Ultra-Urban R	esidential			☐ Institutional		
☐ Suburban Resi	dential			Other:		
☐ Commercial				Known Industries: R		
Commercia.				Kilowii ilidadares. 22	on s concrete	
Notes (e.g., origin	of outfall, if known):	_				
Section 2: Outf	Call Description					
Section 2: Outf		RIAL	SHA	APE	DIMENSIONS (IN.)	SUBMERGED
	RCP	СМР	☐ Circular	Single	Diameter/Dimensions:	In Water:
					Diameter Dimensions.	☐ No
	□ PVC	☐ HDPE	Eliptical	Double		☐ Partially ☐ Fully
☐ Closed Pipe	☐ Steel		Box	Triple		With Sediment:
	Other:		☐ Other:	Other:		☐ No ☐ Partially
						Fully
	☐ Concrete		Transgaid		Dth:	
	Earthen		Trapezoid		Depth:	
Open drainage	rip-rap		☐ Parabolic		Top Width:	
	Other:		Other: Sheet flow at	low point in topography	Bottom Width:	
☐ In-Stream	(applicable w	en collecting	samnles)			V////////
Flow Present?	Yes	⊠ No	. ,	ip to Section 5		
Flow Description	☐ Trickle	☐ Moderate		p to seemon c		
Tion Description	<u> </u>					
Section 3: Qual	ntitative Characte	rization				
				LOWING OUTFALLS		
P.	ARAMETER		RESULT			QUIPMENT
□Flow#1	Volume				Liter	
	Time to fill				Sec	
	Flow depth				In	
□Flow #2	Flow width				Ft, In	
	Measured length				Ft, In	
	Time of travel				Sec	

Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only

INDICATOR	CHECK if Present		DESCRIPTION			REL	ATIVE SEVERITY INDEX	(1-3)
Odor		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Petroleum ☐ Other:	n/gas	☐ 1 – Faint		2 – Easily detected	3 – Noticeable from a distance
Color		☐ Clear ☐ Green	☐ Brown ☐ Gray ☐ Orange ☐ Red	☐ Yellow ☐Other:	1 – Faint color sample bottl		2 – Clearly visible in sample bottle	3 – Clearly visible in outfall flow
Turbidity			See severity		☐ 1 – Slight clou	ıdiness	2 – Cloudy	☐ 3 – Opaque
Floatables -Does Not Include Trash!!		Sewage (T	Toilet Paper, etc.) ☐ Suds (oil sheen) ☐ Other:		1 – Few/slight	;; origin	2 – Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)
Upstream Investigation		Description o	f discharge source:					☐ Illicit Discharge (Trigger to Obvious)
Other Observations								
ection 5: Physical In tre physical indicator	s that are not rela	ted to flow p	nd Non-Flowing Outfalls resent? ⊠ Yes □ No	(If No, Skip to Se	ction 6)			
ection 5: Physical Ir		ted to flow p	resent?		ction 6)		COMMENT	TS.
ection 5: Physical In tre physical indicator	s that are not rela	resent	resent?	(If No, Skip to Se	·		COMMENT	rs
ection 5: Physical In tre physical indicator INDICATOR	check if I	resent	resent? Yes No C Spalling, Cracking or Chip	(If No, Skip to September 1) Peeling Parties	int		COMMENT	rs
ection 5: Physical In tre physical indicator INDICATOR Outfall Damage	CHECK if I	resent	resent? Yes No C Spalling, Cracking or Chip Corrosion Oily Flow Line F	(If No, Skip to September 1) Peeling Parties	int		COMMENT	TS .
ection 5: Physical Incre physical indicator INDICATOR Outfall Damage Deposits/Stains	CHECK if I	red to flow p	resent? Yes No C Spalling, Cracking or Chip Corrosion Oily Flow Line F Other:	(If No, Skip to Secondary (If No, Skip to Secondary) Peling □ Peeling Parameter □ Tree □ Floatables □ Oil Sheen	rash		COMMENT cer in the area appeared murky. Iriveway in the area.	
ection 5: Physical Incre physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	CHECK if I	Present	resent?	(If No, Skip to Secondary (If No, Skip to Secondary) Peling □ Peeling Parameter □ Tree □ Floatables □ Oil Sheen	rash		er in the area appeared murky.	
ection 5: Physical Incre physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality	CHECK if I	Present	resent? Yes No No No No Spalling, Cracking or Chip Corrosion Plow Line Flow L	(If No, Skip to Secondary (If No, Skip to Secondary) Pescription Peeling Parametric	rash		er in the area appeared murky.	
ection 5: Physical Incre physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality Pipe benthic growth	CHECK if I	Present	resent? Yes No No No No Spalling, Cracking or Chip Corrosion Plow Line Flow L	(If No, Skip to Secondary (If No, Skip to Secondary) Pescription Peeling Parametric	rash		er in the area appeared murky.	

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

OUTFALL RECONNAISSANCE INVENTORY FORM

Section 1: Background Data

								
Outfall ID: SDI	07615			Previous	ID: KIPA-0	2		
HDOT Location:	KIPA			Subwater	shed: Kalih	i		
Inspection Date: (02/21/2017			Investigat	ors: Daniel	Amato, Chelsea Ia	annaccio, Mich	elle Kwock
Time (Military): 1	5:40			Form con	npleted by:	Michelle Kwock		
Lat: 21° 19' 33.3	7"N L	ong: 157° 5	3' 32.32"W	GPS Unit	: Google Ea	rth	GPS Landma	rk:
Temp (°F): 73	Rainfall (in.) Last 24 Hrs	: 0.24	48 Hrs: 0.24	Camera:	ETC CAM	3		00497, P1100499, 100502, P1100504
Land Use in Drain	nage Area (Check all that a	pply):						
				☐ Open	Space			
Ultra-Urban R	esidential			☐ Institu	itional			
☐ Suburban Resi	idential			Other:				
☐ Commercial								
Notes (e.g., origin	of outfall, if known): Car	nal that appea	ars to have its origin along	g the access ro	oad to KIPA			
Section 2: Out	fall Description							
LOCATION	MATER	IAL	SHA	APE		DIMENSIC	NS (IN.)	SUBMERGED
	☐ RCP	СМР	☐ Circular	Single		Diameter/Dimen	sions:	In Water:
	□ PVC	HDPE	☐ Eliptical	☐ Double		_		☐ No ☐ Partially ☐ Fully
☐ Closed Pipe	☐ Steel		Box	☐ Triple				With Sediment:
	Other:		Other:	Other:				□ No □ Partially □ Fully
				<u>.</u>				
			□ Trapezoid			Depth: <u>12</u>		
Open drainage	e		☐ Parabolic			Top Width: <u>36</u>		
	Other:		Other:			Bottom Width: 2	4	
☐ In-Stream	(applicable when	n collecting	samples)					.,,,,,,,,,,
Flow Present?	☐ Yes	⊠ No	If No, Skij	p to Section 5	;			
Flow Description	☐ Trickle	☐ Moderate	e ☐ Substantial					
Section 3: Qua	ntitative Characteri	zation						
			FIELD DATA FOR FI	LOWING O	UTFALLS			
P	ARAMETER		RESULT		U	NIT	EC	UIPMENT
□Flow#1	Volume				I	iter		
□110W #1	Time to fill				5	Sec		
	Flow depth					In		
☐Flow #2	Flow width				F	t, In		
□110W π2	Measured length				F	t, In		
	Time of travel				-	Sec	·	

Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only

INDICATOR	CHECK if Present		DESCRIPTION	V		RELATIVE SEVERITY IN	DEX (1-3)
Odor		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Petroleu☐ Other:	m/gas	☐ 1 – Faint	2 – Easily detected	3 – Noticeable from a distance
Color		☐ Clear ☐ Green	☐ Brown ☐ Gray ☐ Orange ☐ Red	☐ Yellow ☐Other:	1 – Faint colors in sample bottle	2 – Clearly visible is sample bottle	a 3 – Clearly visible in outfall flow
Turbidity			See severity		☐ 1 – Slight cloudin	ess 2 – Cloudy	3 – Opaque
Floatables -Does Not Include Trash!!		☐ Sewage (1	Foilet Paper, etc.) ☐ Suds n (oil sheen) ☐ Other:		☐ 1 – Few/slight; or not obvious	igin 2 – Some; indication of origin (e.g., possible suds or of sheen)	(e.g., obvious oil
pstream Investigation		Description o	of discharge source:				☐ Illicit Discharge (Trigger to Obvious)
Other Observations							
ction 5: Physical I			nd Non-Flowing Outfalls resent? ⊠ Yes □ No		o Section 6)		
		ited to flow p	resent? Yes No		o Section 6)	СОМИ	ENTS
ction 5: Physical In	s that are not rela	resent	resent? Yes No	O (If No, Skip to DESCRIPTION	o Section 6) g Paint	СОММ	ENTS
ction 5: Physical In te physical indicator INDICATOR	s that are not rela	resent	resent? Yes No	DESCRIPTION Apping Peelin		COMN	ENTS
ction 5: Physical In e physical indicator INDICATOR Outfall Damage	CHECK if I	resent	resent? Yes No Spalling, Cracking or Chi Corrosion Oily Flow Line	DESCRIPTION Apping Peelin	g Paint	COMM	ENTS
ction 5: Physical In the physical indicator INDICATOR Outfall Damage Deposits/Stains	CHECK if I	Present	resent? Yes No Spalling, Cracking or Chi Corrosion Oily Flow Line Other:	DESCRIPTION Ipping Peelin Paint Sediment Floatables O	g Paint Trash	COMN	ENTS
ction 5: Physical Interphysical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	CHECK if I	Present	resent?	DESCRIPTION Ipping Peelin Paint Sediment Floatables O	g Paint Trash I Sheen her:	COMM	ENTS
ction 5: Physical Interphysical Interphysical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality	CHECK if I	Present	Spalling, Cracking or Chi Corrosion Oily Flow Line Other: Excessive Inhibited Odors Suds Excessive	DESCRIPTION Apping Peelin Paint Sediment Floatables O Algae O	g Paint Trash I Sheen her:	COMN	ENTS
ction 5: Physical Ince physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality Pipe benthic growth	S that are not rela	Present	Spalling, Cracking or Chi Corrosion Oily Flow Line Other: Excessive Inhibited Odors Suds Excessive	DESCRIPTION Apping Peelin Paint Sediment Floatables O Algae O	g Paint Trash I Sheen her:	COMN	ENTS

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Section 1: Back	kground Data						
Outfall ID: SDI	07620			Previous ID: KIPA	-03		
HDOT Location:	KIPA			Subwatershed: Ka	lihi		
Inspection Date: 0	02/21/2017			Investigators: Dan	iel Amato, Chelsea	Iannaccio, Mich	helle Kwock
Time (Military): 1	5:35			Form completed by	y: Michelle Kwock		
Lat: 21° 19' 36.7	8"N Lo	ong: 157° 5	53' 29.49"W	GPS Unit: Google	Earth	GPS Landma	ark:
Temp (°F): 73	Rainfall (in.) Last 24 Hrs:	0.24	48 Hrs: 0.24	Camera: ETC CA	M 3	Photo #s:	: P1100492, P1100494
Land Use in Drain	nage Area (Check all that ap	oply):		-			
				Open Space			
☐ Ultra-Urban R	esidential			☐ Institutional			
☐ Suburban Resi	dential			Other:			
☐ Commercial				Known Industries:			
Commercia.				Kilowii indubu.co.	Jas 11 Glo 151		
Notes (e.g., origin	of outfall, if known): Orig	gin appears	to continue into commerci	ial / industrial area to th	ie east. Upstream m	nanholes could	not be located.
	fall Description		SII.	105	DIMENCI	CNC (INI)	CHRISTOCED
LOCATION				APE	DIMENSIO		SUBMERGED
ı		CMP	☐ Circular	☐ Single	Diameter/Dimen	isions:	In Water:
	□ PVC [HDPE	☐ Eliptical	Double			Partially Fully
☐ Closed Pipe	☐ Steel		Вох	☐ Triple			
	Other:		☐ Other:	☐ Other:			With Sediment:
							☐ Partially ☐ Fully
			☐ Trapezoid	<u>l</u>	- : 26		////////
			☐ Parabolic		Depth: <u>36</u>		
Open drainage					Top Width: <u>36</u>		
	Other:		Other: Box culvert t ditch	that turns into natural	Bottom Width: 3	<u>36</u>	
☐ In-Stream	(applicable when	collecting	comples)				<i>/////////////////////////////////////</i>
Flow Present?	Yes	□ No		ip to Section 5			
Flow Description		✓ Moderate		р ю зесион э			
Flow Description	LI TITERIC E	NIOGCIGO	5 Guostantiai				
Section 3: Qua	ntitative Characteriz	ation					
		1	FIELD DATA FOR F	LOWING OUTFALLS			
P/	ARAMETER		RESULT		UNIT	EC	QUIPMENT
□Flow#1	Volume				Liter		
	Time to fill				Sec		
	Flow depth				In	<u> </u>	
□Flow #2	Flow width	\perp			Ft, In	<u> </u>	
	Measured length	\perp			Ft, In	<u> </u>	
	Time of travel				Sec		

Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only

INDICATOR	CHECK if Present		DESCRIPTION		REL	ATIVE SEVERITY INDEX	(1-3)
Odor		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Petroleum/gas ☐ Other:	☐ 1 – Faint		2 – Easily detected	3 – Noticeable from a distance
Color		☐ Clear ☐ Green	□ Brown □ Gray □ Yellow □ Orange □ Red □ Other:	☐ 1 – Faint colo sample bott		2 – Clearly visible in sample bottle	□ 3 – Clearly visible in outfall flow
Turbidity			See severity	☐ 1 – Slight clou	udiness	2 – Cloudy	☐ 3 – Opaque
Floatables -Does Not Include Trash!!		Sewage (Toilet Paper, etc.) Suds n (oil sheen) Other:	1 – Few/slight	t; origin	2 – Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floati sanitary materials)
pstream Investigation	\boxtimes	Description of features.	of discharge source: Unable to locate upstream drainag				☐ Illicit Discharge (Trigger to Obvious)
Other Observations							
			and Non-Flowing Outfalls oresent?	p to Section 6)			
ction 5: Physical In		ted to flow p		o to Section 6)		COMMENT	rs
etion 5: Physical In	s that are not rela	ted to flow p	oresent? Yes No (If No, Ski	o to Section 6)		COMMENT	rs
etion 5: Physical In e physical indicators INDICATOR	S that are not rela CHECK IF F	ted to flow p	oresent? Yes No (If No, Ski DESCRIPTION Spalling, Cracking or Chipping Pe	,		COMMENT	rs
ction 5: Physical In e physical indicators INDICATOR Outfall Damage	CHECK IF F	resent	DESCRIPTION Spalling, Cracking or Chipping Pe Corrosion Peint Sediment	eling Paint		COMMENT	rs
ction 5: Physical In e physical indicators INDICATOR Outfall Damage Deposits/Stains	CHECK if F	resent	DESCRIPTION Spalling, Cracking or Chipping Percorption Percorptio	eling Paint		COMMENT	rs
ction 5: Physical In e physical indicators INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	CHECK if I	resent	DESCRIPTION Spalling, Cracking or Chipping Pe Corrosion Oily Flow Line Paint Sediment Other: Excessive Inhibited Odors Colors Floatables Suds Excessive Algae	eling Paint ☑ Trash Oil Sheen		COMMENT	TS .

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Section 1: Back	kground Data						
Outfall ID: SDI	07625			Previous ID: KIPA-0)4		
HDOT Location:	KIPA			Subwatershed: Kalik	ni		
Inspection Date: 0	02/21/2017			Investigators: Daniel	Amato, Chelsea Iannaccio, Mich	nelle Kwock	
Time (Military):	16:00			Form completed by:	Michelle Kwock		
Lat: 21° 19' 40.4	-7"N I	Long: 157°	53° 27.40"W	GPS Unit: Google Ea	arth GPS Landma	ark: Drainage Grate	
Temp (○F): 73	Rainfall (in.) Last 24 Hrs:	0.24 4	18 Hrs: 0.24	Camera: ETC CAM	3 Photo #s: P110052	24, P1100526, P1100527	
Land Use in Drair	nage Area (Check all that a	apply):					
				☐ Open Space			
☐ Ultra-Urban R	esidential			☐ Institutional			
☐ Suburban Resi	idential			Other:			
☐ Commercial				Known Industries:			
	of outfall, if known):						
Section 2: Outf		IAI	сп	APE	DIMENSIONS (IN.)	SUBMERGED	
LOCATION		☐ CMP		☐ Single	Diameter/Dimensions:		
		_	Circular		Diameter/Dimensions:	In Water:	
		☐ HDPE	☐ Eliptical	Double		☐ Partially ☐ Fully	
☐ Closed Pipe	☐ Steel		Box	Triple		With Sediment:	
	Other:		Other:	Other:		□ No □ Partially □ Fully	
	☐ Concrete		_	I			
			☐ Trapezoid		Depth: <u>42</u>		
Open drainage	e		□ Parabolic		Top Width: 144		
	Other:		Other:		Bottom Width: <u>36</u>		
☐ In-Stream	(applicable whe	n collecting	samples)				
Flow Present?	☐ Yes	⊠ No	If No, Ski	p to Section 5			
Flow Description	☐ Trickle	☐ Moderate	e				
Section 3: Qua	ntitative Characteri	zation					
			FIELD DATA FOR F	LOWING OUTFALLS			
P/	ARAMETER		RESULT	ι	INIT E	QUIPMENT	
□Flow#1	Volume]	Liter		
	Time to fill				Sec		
	Flow depth				In		
□Flow #2	Flow width				Ft, In		
	Measured length				Ft, In		
	Time of travel	1			Sec		

Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only

INDICATOR	CHECK if Present		DESCRIPTION	<u> </u>		REL	ATIVE SEVERITY INDEX	(1-3)
Odor		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Petroleum☐ Other:	n/gas	☐ 1 – Faint		2 – Easily detected	3 – Noticeable from a distance
Color		☐ Clear ☐ Green	☐ Brown ☐ Gray ☐ Orange ☐ Red	☐ Yellow ☐Other:	1 – Faint colo sample bott		2 – Clearly visible in sample bottle	3 – Clearly visible in outfall flow
Turbidity			See severity		☐ 1 – Slight clo	ıdiness	2 – Cloudy	3 – Opaque
Floatables -Does Not Include Trash!!		Sewage (Foilet Paper, etc.) ☐ Suds n (oil sheen) ☐ Other:		☐ 1 – Few/slight; origin not obvious		2 – Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floatin sanitary materials)
Jpstream Investigation		Description of	of discharge source:					☐ Illicit Discharge (Trigger to Obvious)
Other Observations								
	ndicators for Bo	th Flowing a	nd Non-Flowing Outfalls					
		ted to flow p			ection 6)		COMMENT	ΤS
ection 5: Physical In re physical indicator	s that are not rela	resent	resent? Yes No	(If No, Skip to S			COMMENT	τs
ection 5: Physical In re physical indicator INDICATOR	check if	resent	resent? Yes No C Spalling, Cracking or Chip Corrosion	(If No, Skip to S DESCRIPTION Deping Peeling F			COMMENT	TS
ection 5: Physical In re physical indicator INDICATOR Outfall Damage	CHECK if	red to flow p	resent? Yes No C Spalling, Cracking or Chip Corrosion Oily Flow Line F	(If No, Skip to S DESCRIPTION Deping Peeling F	aint		COMMENT	ΓS
ection 5: Physical In re physical indicator INDICATOR Outfall Damage Deposits/Stains	CHECK if	resent	resent?	(If No, Skip to S DESCRIPTION Deping □ Peeling F Paint □ Sediment □ □ Floatables □ Oil Sl	aint Frash een		COMMENT	TS
ection 5: Physical Interphysical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	CHECK if	red to flow p	resent?	(If No, Skip to S DESCRIPTION Deping □ Peeling F Paint □ Sediment □ □ Floatables □ Oil Sl	aint Frash een		COMMENT	rs
ection 5: Physical Interphysical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality	CHECK if	red to flow p	resent?	(If No, Skip to S DESCRIPTION Poping Peeling F Paint Sediment Floatables Oil St Algae Other	aint Frash een		COMMENT	TS
ection 5: Physical Interphysical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality Pipe benthic growth	CHECK if	Present	resent?	(If No, Skip to S DESCRIPTION Poping Peeling F Paint Sediment Floatables Oil St Algae Other	aint Frash een		COMMENT	TS

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

2017 Dry Weather Outfall Reconnaissance Inventory (ORI) Summary Honolulu Harbor and Keehi Industrial Park Area (KIPA)

Dry weather inspections were conducted at Honolulu Harbor and Keehi Industrial Park Area (KIPA) by EnviroServices and Training Center, LLC (ETC) with the assistance of Harbors Environmental staff on May 9 and May 10, 2017. Data was obtained from field observations by inspectors in a kayak and a support team on land. Maps generated from CityWorks[®] and information from previous outfall reconnaissance were utilized to prepare for and assist with the inspections, which were conducted according to Consent Decree 16.c.1 and the Outfall Reconnaissance Inspection & Inventory Program.

The result of each inspection was entered into CityWorks®, together with information associated with each outfall's characterization, presence of any suspected illicit discharge, and relevant photo documentation.

In addition to observing outfalls for any potential illicit discharges, inspectors remained vigilant on land and in water. One outfall was inaccessible due to Harbor activity; however, inspectors were able to inspect the nearest drain inlet that leads to this outfall for signs of a potential illicit discharge.

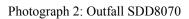
During this inspection, no illicit discharges were discovered and all outfalls were recharacterized as Unlikely. An inspection summary of each outfall is listed in the following table:

Table 1: Dry Weather Outfall Inspection

				_	, 1	1
Location	Outfall SDD	Date	Method of Inspection	Illicit Discharge	Comment	Characterization
Honolulu Harbor	8542	5/9/2017	Outfall	No		Unlikely
Honolulu Harbor	8080	5/9/2017	Outfall	No	Substantial flow	Unlikely
Honolulu Harbor	8070	5/9/2017	Outfall	No	Moderate flow	Unlikely
Honolulu Harbor	7960	5/9/2017	Outfall	No	Inaccessible	Unlikely
Honolulu Harbor	7662	5/10/2017	Outfall	No		Unlikely
Honolulu Harbor	7624	5/10/2017	Outfall	No	By giant hole in concrete structure	Unlikely
Honolulu Harbor	5050	5/10/2017	Outfall	No		Unlikely
Honolulu Harbor	1235	5/10/2017	Outfall	No		Unlikely
KIPA	7620	5/10/2017	Outfall	No	Trash in outfall area	Unlikely
KIPA	7615	5/10/2017	Outfall	No		Unlikely



Photograph 1: Outfall SDD8070





Photograph 3: Outfall SDD8080

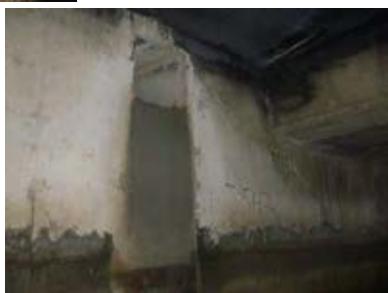


Page 1

May 2017



Photograph 4: Outfall SDD8080



Photograph 5: Outfall SDD8542



Photograph 6: Outfall SDD8542



Page 2

May 2017



Photograph 7: Drain inlet that leads to Outfall SDD7960



Photograph 8: Interior of drain inlet that leads to Outfall SDD7960



Photograph 9: Outfall SDD7620 interior



Page 3

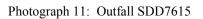
May 2017

Attachment 11C.

IDDE: ORI Dry Weather Report



Photograph 10: Outfall SDD7620 exterior





Photograph 12: Outfall SDD7615



Page 4

May 2017



Photograph 13: View of vegetated area leading to Outfall SDD7615



Photograph 14: Outfall SDD5050



Photograph 15: Outfall SDD5050



Page 5

May 2017



Photograph 13: Outfall SDD1235



Photograph 14: Outfall SDD1235



Photograph 15: Outfall SDD7624



Page 6

May 2017



Photograph 13: Outfall SDD7624



Photograph 14: Outfall SDD7662



Photograph 15: Outfall SDD7662



Page 7

Photographic Documentation
Outfall Reconnaissance Inventory Inspection
Honolulu Harbor & KIPA

May 2017

Section 1: Bacl	kgroun	d Data							
Outfall ID: SDD	НО5385	542			Previou	ıs Outfall ID:	P52-05		
HDOT Location:	Honolul	lu Harbor			Subwat	ershed: Sand	Island		
Inspection Date: 5	5/9/2017				Investig	gators: Spence	er Yim, Joy Zhang	g, Daniel Amato	o, Michelle Kwock
Time (Military): 1	0:10				Form c	ompleted by:	Michelle Kwock		
Lat:			Long:		GPS U	nit:		GPS Landma	ark:
Temp (oF): 82	Rainfa	ıll (in.) Last 24	Hrs: 0.00 4	18 Hrs: N/A	Camera	a: ETC Camer	a 3	Photo #s: P1	140524-P1140530
Land Use in Drain	nage Are	a (Check all th	nat apply):						
☐ Industrial					Оре	en Space			
☐ Ultra-Urban R	esidentia	al			☐ Inst	itutional			
☐ Suburban Resi	idential				Other:				
					Known	Industries: M	atson Terminal		
Notes (e.g., origin									
LOCATION			ERIAL	SH	IAPE		DIMENSI	ONS (IN.)	SUBMERGED
		□RCP	□СМР	☐ Circular	Single Si		Diameter/Dimer	nsions:	In Water:
		□ PVC	☐ HDPE	☐ Eliptical	☐ Double	e	14 in		⊠ No □ Partially
☐ Closed Pipe		☐ Steel		⊠ Box	☐ Triple				☐ Fully
		Other: Co	ncrete	Other:	Other:				With Sediment: ⊠ No
		ounci. <u>co</u>	Merete	outer.	outer.				Partially Fully
		☐ Concrete		☐ Trapezoid			Donth		
		☐ Earthen					Depth:		
Open drainage	е	☐ rip-rap		☐ Parabolic			Top Width:		
		Other:		Other:			Bottom Width:		
☐ In-Stream		(applicable v	when collecting	samples)					***************************************
Flow Present?		☐ Yes	⊠ No	If No, Sk	ip to Section	ı 5			
Flow Description		☐ Trickle	☐ Moderate	e Substantial					
Section 3: Qua	ntitati	ve Charact	erization						
				FIELD DATA FOR F	LOWING	OUTFALLS			
P	ARAME	TER		RESULT		ι	INIT	E	QUIPMENT
□Flow #1		Volume				1	Liter		
□110W #1		Time to fill					Sec		
		Flow depth					In		
□Flow #2		Flow width				I	ft, In		
□110W π∠	N	leasured lengt	h			I	t, In		
	,	Time of travel					Sec		
]	Γemperat	ture					°F		
	pН					pН	Units	Te	est strip/Probe
	Ammon	ia.					nnm		Test strin

Attachment 11C.

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Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only

INDICATOR	CHECK if Present		DESCRIPTION	V		RELATIVE SEVERITY INDEX	(1-3)
Odor		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Petroleur☐ Other:	m/gas	☐ 1 – Faint	2 – Easily detected	3 – Noticeable from a distance
Color		☐ Clear ☐ Green	☐ Brown ☐ Gray ☐ Orange ☐ Red	☐ Yellow ☐Other:	1 – Faint colors in sample bottle	2 – Clearly visible in sample bottle	3 – Clearly visible in outfall flow
Turbidity			See severity		☐ 1 – Slight cloudines	ss 2 – Cloudy	3 – Opaque
Floatables -Does Not Include Trash!!		☐ Sewage (T	Coilet Paper, etc.) Suds (oil sheen) Other:		☐ 1 – Few/slight; originot obvious	in 2 – Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floati sanitary materials)
pstream Investigation		Description of	f discharge source:				☐ Illicit Discharge (Trigger to Obvious)
Other Observations							
ction 5: Physical Ir e physical indicator			nd Non-Flowing Outfalls resent?		ction 6)		
		ted to flow pr	resent? Yes No		ction 6)	COMMEN	тѕ
e physical indicator	s that are not rela	resent	resent? Yes No	(If No, Skip to Se	,	COMMEN	TS
e physical indicator	S that are not rela CHECK if I	Present	resent? Yes No Spalling, Cracking or Chi Corrosion	(If No, Skip to Se	nt	COMMEN	ΤS
e physical indicator INDICATOR Outfall Damage	CHECK if I	Present	resent? Yes No Spalling, Cracking or Chi Corrosion Oily Flow Line	DESCRIPTION pping Peeling Pai	nt	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains	CHECK if I	Present	Spalling, Cracking or Chi Corrosion Oily Flow Line Other:	DESCRIPTION pping Peeling Paint Sediment Tr	nt rash	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	CHECK if I	Present	Spalling, Cracking or Chi Corrosion Oily Flow Line Other: Excessive Inhibited Odors Colors	DESCRIPTION pping Peeling Paint Sediment Tr	nt rash	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality	CHECK if I	Present	Spalling, Cracking or Chi Corrosion Oily Flow Line Cother: Excessive Inhibited Odors Colors Suds Excessive	Paint Sediment To	nt rash	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality Pipe benthic growth	check if I	resent	Spalling, Cracking or Chi Corrosion Oily Flow Line Cother: Excessive Inhibited Odors Colors Suds Excessive	Paint Sediment To	nt rash	COMMEN	TS

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

Section 1: Back	kgrouna	Data							
Outfall ID: SDD	HO51808	30			Previou	us Outfall ID:	P51B-05		
HDOT Location:	Honolulu	Harbor			Subwat	tershed: Sand	Island		
Inspection Date: 5	5/9/2017				Investig	gators: Spence	er Yim, Joy Zhang, l	Daniel Amato	, Michelle Kwock
Time (Military): 0	955				Form c	ompleted by:	Michelle Kwock		
Lat: 21 ° 18 ' 47.6	6 "	Long	: 157°:	52 ' 57.6 "	GPS U	nit:		GPS Landma	rk:
Temp (⊙F): 82	Rainfall	(in.) Last 24 Hrs: 0.	00 4	18 Hrs: N/A	Camera	a: ETC Camer	a 3	Photo #s: P1	140521-P1140523
Land Use in Drain	nage Area	(Check all that apply	v):						
☑ Industrial					□Оре	en Space			
Ultra-Urban R	esidential				☐ Inst	itutional			
☐ Suburban Resi	idential				Other:				
					Known	Industries: M	atson Terminal		
Notes (e.g., origin	of outfall	if known):							
Notes (e.g., origin	i or outrair,	, 11 KHOWII).							
Section 2: Outf		cription		ı					ı
LOCATION	l l	MATERIAL		SHA	APE		DIMENSION	NS (IN.)	SUBMERGED
		X RCP □ C	CMP	☑ Circular	⊠ Single		Diameter/Dimensi	ons:	In Water: ⊠ No
		□ PVC □ I	HDPE	☐ Eliptical	☐ Double	e	18 in	_	Partially Fully
☑ Closed Pipe		Steel		Box	☐ Triple				
		☐ Other:	_	☐ Other:	Other:				With Sediment: No
									☐ Partially ☐ Fully
		Concrete			<u> </u>		P 1		
_		Earthen		☐ Trapezoid			Depth:		
Open drainage		☐ rip-rap		☐ Parabolic			Top Width:		
		Other:		☐ Other:			Bottom Width:		
☐ In-Stream		applicable when co	llecting	samples)					<u> </u>
Flow Present?	`	⊠ Yes	□ No	- ,	p to Section	n 5			
Flow Description			Moderate		•				
Section 3: Quar	ntitative	e Characterizat	ion	FIELD DATA FOR F	IOWING	OUTFALLS			
P.A	ARAMET	ER		RESULT	LOWING	1	NIT	EC	QUIPMENT
		Volume					Liter		
□Flow #1	7	Γime to fill					Sec		
	I	Flow depth					In		
	I	Flow width				F	řt, In		
□Flow #2	Me	easured length				F	čt, In		
	Ti	ime of travel					Sec		
Т	Temperatui	re					°F		
	pН					pН	Units	Tes	st strip/Probe
	Ammonia	1			_]	opm		Test strip

Attachment 11C.

IDDE: ORI Dry Weather Report

Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only

INDICATOR	CHECK if Present		DESCRIPTION	I		REL	ATIVE SEVERITY INDEX	(1-3)
Odor		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Petroleun ☐ Other:	n/gas	☐ 1 – Faint		2 – Easily detected	3 – Noticeable from a distance
Color	\boxtimes	☐ Clear☐ Green	☐ Brown ☐ Gray ☐ Orange ☐ Red	☐ Yellow ☐Other:	1 – Faint colo sample bott		2 – Clearly visible in sample bottle	□ 3 – Clearly visible in outfall flow
Turbidity			See severity		☐ 1 – Slight clo	ıdiness	2 – Cloudy	3 – Opaque
Floatables -Does Not Include Trash!!		Sewage (Foilet Paper, etc.) ☐ Suds n (oil sheen) ☐ Other:		☐ 1 – Few/sligh not obvious	t; origin	2 – Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floatin sanitary materials)
Jpstream Investigation		Description of	of discharge source:					☐ Illicit Discharge (Trigger to Obvious)
Other Observations								
	ndicators for Bo	th Flowing a	nd Non-Flowing Outfalls	;				
		ited to flow p			Section 6)		COMMENT	ΤS
ection 5: Physical Ir	s that are not rela	ted to flow p	resent? Yes No	(If No, Skip to	,		COMMENT	ΤS
ction 5: Physical In re physical indicators	s that are not rela	ted to flow p	resent? Yes No Spalling, Cracking or Chip Corrosion	(If No, Skip to DESCRIPTION pping Peeling	,		COMMENT	TS
ection 5: Physical Ir re physical indicator INDICATOR Outfall Damage	s that are not rela	ted to flow p	resent? Yes No Spalling, Cracking or Chip Corrosion Oily Flow Line	(If No, Skip to DESCRIPTION pping Peeling	Paint		COMMENT	rs
ection 5: Physical Ir re physical indicators INDICATOR Outfall Damage Deposits/Stains	s that are not rela CHECK if	ted to flow p	resent?	(If No, Skip to DESCRIPTION pping	Paint Trash		COMMENT	ΓS
ection 5: Physical Irre physical indicators INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	s that are not rela CHECK if I	resent	resent?	(If No, Skip to DESCRIPTION pping	Paint Trash heen		COMMENT	TS
ection 5: Physical Ir re physical indicators INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality	s that are not rela CHECK if I	red to flow p	resent?	Continue	Paint Trash heen		COMMENT	TS
ection 5: Physical Interpretation of the physical indicators INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality Pipe benthic growth	s that are not rela CHECK if	t discharge	resent?	(If No, Skip to	Paint Trash heen		COMMENT	TS

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

OUTFALL RECONNAISSANCE INVENTORY FORM

Section 1: Background Data

Section 1: Baci	kgrour	id Data								
Outfall ID: SDI	tfall ID: SDDHO518070 OT Location: Honolulu Harbor					us Outfall ID:	P51B-07			
HDOT Location:	Honolu	lu Harbor			Subwat	tershed: Sand	Island			
Inspection Date:	5/9/2017				Investig	gators: Spence	er Yim, Joy Zhang	g, Daniel Amato	, Michelle Kwock	
Time (Military):	0930				Form c	ompleted by:	Michelle Kwock			
Lat: 21 ° 18 ' 49	.1 "		Long: 157 °	52 ' 59.2 "	GPS U	nit:		GPS Landma	rk:	
Temp (oF): 82	Rainfa	all (in.) Last 24	Hrs: 0.00 4	18 Hrs: N/A	Camera	Camera: ETC Camera 3 Photo #s: P1140515-P1140520				
Land Use in Drain	nage Are	ea (Check all tha	at apply):							
					□Оре	en Space				
Ultra-Urban R	Residenti	al			☐ Inst	itutional				
☐ Suburban Res	idential				Other:					
					Known	Industries: M	Iatson Terminal			
Notes (e.g., origin	n of outfa	all, if known):								
Section 2: Out	fall De	scription								
LOCATIO			ERIAL	S	HAPE		DIMENSIO	ONS (IN.)	SUBMERGED	
		⊠ RCP	□СМР	☐ Circular	Single		Diameter/Dimer	nsions:	In Water:	
		□ PVC	☐ HDPE	☐ Eliptical	☐ Double	e	24 in		⊠ No □ Partially	
⊠ Closed Pipe		☐ Steel		Box	☐ Triple				☐ Fully	
		Other:		☐ Other:	Other:				With Sediment: ⊠ No	
					_				Partially Fully	
		☐ Concrete					D 4			
_		☐ Earthen		☐ Trapezoid			Depth:			
Open drainag	e	☐ rip-rap		☐ Parabolic			Top Width:	_		
		Other:		☐ Other:			Bottom Width: _			
☐ In-Stream		(applicable w	hen collecting	samples)					**********	
Flow Present?		⊠ Yes	□ No		kip to Section	n 5				
Flow Description		☐ Trickle		e Substantial						
Section 3: Qua	ntitati	ve Characte	erization							
				FIELD DATA FOR	FLOWING	OUTFALLS				
P.	ARAME	TER		RESULT		L	JNIT	EC	QUIPMENT	
□Flow#1		Volume]	Liter			
□110W #1		Time to fill					Sec			
		Flow depth					In			
☐Flow #2		Flow width				I	Ft, In			
□110W #2	N	Aeasured length	1			I	Ft, In			
		Time of travel					Sec			
	Tempera	ture					°F			
	pН					pН	I Units	Te	st strip/Probe	
	Ammonia						ppm		Test strip	

Attachment 11C.

IDDE: ORI Dry Weather Report

Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only

INDICATOR	CHECK if Present		DESCRIPTION	N		REL	ATIVE SEVERITY INDEX	(1-3)
Odor		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Petroleu☐ Other:	ım/gas	☐ 1 — Faint		☐ 2 – Easily detected	3 – Noticeable from a distance
Color		☐ Clear ☐ Green	☐ Brown ☐ Gray ☐ Orange ☐ Red	☐ Yellow ☐Other:	1 – Faint colors sample bottle		2 – Clearly visible in sample bottle	3 – Clearly visible in outfall flow
Turbidity			See severity		☐ 1 – Slight cloud	liness	2 – Cloudy	3 – Opaque
Floatables -Does Not Include Trash!!		☐ Sewage (T	Toilet Paper, etc.) ☐ Suds (oil sheen) ☐ Other:		☐ 1 – Few/slight; origin not obvious		2 – Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floatin sanitary materials)
Jpstream Investigation		Description of	f discharge source:					☐ Illicit Discharge (Trigger to Obvious)
Other Observations	Very slow discharge	e of clear water,	sample was taken.					
ection 5: Physical I			nd Non-Flowing Outfall					
		ted to flow pr			ection 6)		COMMENT	rs
ection 5: Physical I	rs that are not rela	resent		o (If No, Skip to Se	,		COMMENT	ΓS
ection 5: Physical I re physical indicator INDICATOR	CHECK If I	Present	resent? Yes No	o (If No, Skip to Se	int		COMMENT	rs
ection 5: Physical I re physical indicator INDICATOR Outfall Damage	CHECK if I	Present	resent? Yes No	DESCRIPTION ipping Peeling Pa	int		COMMENT	ΓS
ection 5: Physical I re physical indicator INDICATOR Outfall Damage Deposits/Stains	CHECK if I	Present	resent?	O (If No, Skip to Set DESCRIPTION ipping	int		COMMENT	rs .
cetion 5: Physical I re physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	CHECK if I	Present	resent?	O (If No, Skip to Set DESCRIPTION ipping	int		COMMENT	rs
cetion 5: Physical II re physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality	CHECK if I	Present	resent?	DESCRIPTION ipping Peeling Pa Paint Sediment 1 Floatables Oil Shalgae Other:	int		COMMENT	rs
cetion 5: Physical Interpretation of the physical indicator indica	check if I	Present	resent?	DESCRIPTION ipping Peeling Pa Paint Sediment 1 Floatables Oil Shalgae Other:	int		COMMENT	TS

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

Section 1: Bacl	kgroun	d Data							
Outfall ID: SDD	HO5179	960			Previou	us Outfall ID:	P51A-04		
HDOT Location:	Honolul	lu Harbor			Subwat	ershed: Sand	Island		
Inspection Date: 5	5/9/2017				Investig	gators: Spence	er Yim, Joy Zhang	g, Daniel Amato	o, Michelle Kwock
Time (Military): (946				Form co	ompleted by:	Michelle Kwock		
Lat: 21 ° 18 ' 49.	0 "		Long: 157 °	53 ' 06.2 "	GPS U	nit:		GPS Landma	ark:
Temp (○F): 82	Rainfa	ll (in.) Last 24	Hrs: 0.00	18 Hrs: N/A	Camera	i: ETC Camer	a 3	Photo #s: 7-	-10
Land Use in Drain	nage Are	a (Check all th	at apply):						
☐ Industrial					Оре	en Space			
☐ Ultra-Urban R	esidentia	al			☐ Inst	itutional			
☐ Suburban Resi	dential				Other:				
⊠ Commercial Known Inde					Industries: M	atson Terminal			
drain inlet that lea	ds to thi	s outfall. There		e unable to view this outfar resent, so this outfall is cla			operation by the p	ier, we had an ı	up close view of the
Section 2: Outl		_	ERIAL	SH	APE		DIMENSI	ONS (IN.)	SUBMERGED
		⊠ RCP	□СМР	☑ Circular	Single		Diameter/Dimer	nsions:	In Water:
		☐ PVC	 ☐ HDPE	☐ Eliptical			18 in		⊠ No □ Partially
⊠ Class d Piss				_		v	10 m		Fully
☐ Closed Pipe		☐ Steel		Box	☐ Triple				With Sediment:
		Other:		Other:	Other:				⊠ No □ Partially □ Fully
		☐ Concrete							
		☐ Earthen		☐ Trapezoid			Depth:		
Open drainage	2	☐ rip-rap		☐ Parabolic			Top Width:	_	
		Other:		☐ Other:			Bottom Width:		
☐ In-Stream			hen collecting	samples)					<i>· · · · · · · · · · · · · · · · · · · </i>
Flow Present?		☐ Yes	⊠ No	If No, Ski	ip to Section	ı 5			
Flow Description		☐ Trickle	☐ Moderate	e ☐ Substantial					
Section 3: Qua	ntitati	ve Characto	erization						
				FIELD DATA FOR F	LOWING	OUTFALLS			
P	ARAME	TER		RESULT		U	INIT	E	QUIPMENT
□EI //1		Volume]	Liter		
□Flow #1		Time to fill					Sec		
		Flow depth					In		
□E1 //2		Flow width				I	t, In		
□Flow #2	N	leasured length	1			I	ft, In		
		Time of travel					Sec		
7	emperat	ture					°F		
	pН					pH Units Test strip/Probe		est strip/Probe	
	Ammon	ia					pH Units Test strip/Probe		

Attachment 11C.

IDDE: ORI Dry Weather Report

Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only

INDICATOR	CHECK if Present		DESCRIPTION	V		RELATIVE SEVERITY INDEX	(1-3)
Odor		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Petroleur☐ Other:	m/gas	☐ 1 – Faint	2 – Easily detected	3 – Noticeable from a distance
Color		☐ Clear ☐ Green	☐ Brown ☐ Gray ☐ Orange ☐ Red	☐ Yellow ☐Other:	1 – Faint colors in sample bottle	2 – Clearly visible in sample bottle	3 – Clearly visible in outfall flow
Turbidity			See severity		☐ 1 – Slight cloudines	ss 2 – Cloudy	3 – Opaque
Floatables -Does Not Include Trash!!		☐ Sewage (T	Coilet Paper, etc.) Suds (oil sheen) Other:		☐ 1 – Few/slight; originot obvious	in 2 – Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floati sanitary materials)
pstream Investigation		Description of	f discharge source:				☐ Illicit Discharge (Trigger to Obvious)
Other Observations							
ction 5: Physical Ir e physical indicator			nd Non-Flowing Outfalls resent?		ction 6)		
		ted to flow pr	resent? Yes No		ction 6)	COMMEN	тѕ
e physical indicator	s that are not rela	resent	resent? Yes No	(If No, Skip to Se	,	COMMEN	TS
e physical indicator	S that are not rela CHECK if I	Present	resent? Yes No Spalling, Cracking or Chi Corrosion	(If No, Skip to Se	nt	COMMEN	ΤS
e physical indicator INDICATOR Outfall Damage	CHECK if I	Present	resent? Yes No Spalling, Cracking or Chi Corrosion Oily Flow Line	DESCRIPTION pping Peeling Pai	nt	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains	CHECK if I	Present	Spalling, Cracking or Chi Corrosion Oily Flow Line Other:	DESCRIPTION pping Peeling Paint Sediment Tr	nt rash	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	CHECK if I	Present	Spalling, Cracking or Chi Corrosion Oily Flow Line Other: Excessive Inhibited Odors Colors	DESCRIPTION pping Peeling Paint Sediment Tr	nt rash	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality	CHECK if I	Present	Spalling, Cracking or Chi Corrosion Oily Flow Line Cother: Excessive Inhibited Odors Colors Suds Excessive	Paint Sediment To	nt rash	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality Pipe benthic growth	check if I	resent	Spalling, Cracking or Chi Corrosion Oily Flow Line Cother: Excessive Inhibited Odors Colors Suds Excessive	Paint Sediment To	nt rash	COMMEN	TS

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

Section 1: Back								
Outfall ID: SDD				-	us Outfall ID:			
HDOT Location:					tershed: Nuua			
Inspection Date: 5				-		ang, Daniel Amato,	Michelle Kw	ock
Time (Military): 1						Michelle Kwock	,	
Lat: 21.303762		ong: -157.8		GPS U			GPS Landma	
Temp (oF): 83	Rainfall (in.) Last 24 Hrs		48 Hrs: N/A	Camera	a: ETC Camer	a 3	Photo #s: 88-	96
	nage Area (Check all that ap	oply):						
☐ Industrial					en Space			
Ultra-Urban R	esidential			☐ Inst	titutional			
☐ Suburban Resi	dential			Other:				
				Known	Industries:			
Notes (e.g., origin	of outfall, if known):							
Section 2: Outf	Call Description	ΔI	SH	APE		DIMENSION	IS (IN)	SUBMERGED
LOURITON		CMP	Circular	⊠ Single		Diameter/Dimension		In Water:
		☐ HDPE	☐ Eliptical	Double		114 in by 48 in	JII5.	☐ No ⊠ Partially
	☐ Steel		⊠ Box	☐ Triple				☐ Fully
	Other: Concre	te	☐ Other:	Other:				With Sediment:
								☐ Partially ☐ Fully
	☐ Concrete		☐ Trapezoid			Depth:		
☐ Open drainage	☐ Earthen		☐ Parabolic			Top Width:		
☐ Open ur amage	rip-rap							
	Other:		Other:			Bottom Width:		
☐ In-Stream	(applicable when	collecting	samples)					
Flow Present?	☐ Yes	⊠ No	If No, Ski	ip to Section	n 5			
Flow Description	☐ Trickle [☐ Moderate	e Substantial					
Section 3: Qua	ntitative Characteriz	ation						
			FIELD DATA FOR F	LOWING	OUTFALLS			
P.	ARAMETER		RESULT		U	INIT	EC	UIPMENT
□Flow#1	Volume					Liter		
_	Time to fill					Sec		
	Flow depth					In		
□Flow #2	Flow width					ct, In		
	Measured length					Ft, In		
	Time of travel					Sec		
Т	Cemperature					°F		
	pН				pН	pH Units Test strip/Probe		
	Ammonia				1	opm		Test strip

IDDE: ORI Dry Weather Report

Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only

INDICATOR	CHECK if Present		DESCRIPTION	V		RELATIVE SEVERITY INDEX	(1-3)
Odor		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Petroleur	m/gas	☐ 1 – Faint	2 – Easily detected	3 – Noticeable from a distance
Color		☐ Clear ☐ Green	☐ Brown ☐ Gray ☐ Orange ☐ Red	☐ Yellow ☐Other:	1 – Faint colors in sample bottle	2 – Clearly visible in sample bottle	3 – Clearly visible in outfall flow
Turbidity			See severity		☐ 1 – Slight cloudines	ss 2 – Cloudy	3 – Opaque
Floatables -Does Not Include Trash!!		☐ Sewage (T	Coilet Paper, etc.) Suds (oil sheen) Other:		☐ 1 – Few/slight; originot obvious	in 2 – Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floati sanitary materials)
pstream Investigation		Description of	f discharge source:				☐ Illicit Discharge (Trigger to Obvious)
Other Observations							
ction 5: Physical Ir e physical indicator			nd Non-Flowing Outfalls resent? ☐ Yes ⊠ No		ction 6)		
		ted to flow pr	resent? Yes No		ction 6)	COMMEN	тѕ
e physical indicator	s that are not rela	resent	resent? Yes No	(If No, Skip to Se	,	COMMEN	τs
e physical indicator	S that are not rela CHECK if I	Present	resent? Yes No Spalling, Cracking or Chi Corrosion	(If No, Skip to Se	nt	COMMEN	ΤS
e physical indicator INDICATOR Outfall Damage	CHECK if I	Present	resent? Yes No Spalling, Cracking or Chi Corrosion Oily Flow Line	DESCRIPTION pping Peeling Pai	nt	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains	CHECK if I	Present	Spalling, Cracking or Chi Corrosion Oily Flow Line Other:	DESCRIPTION pping Peeling Paint Sediment Tr	nt rash	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	CHECK if I	Present	Spalling, Cracking or Chi Corrosion Oily Flow Line Other: Excessive Inhibited Odors Colors	DESCRIPTION pping Peeling Paint Sediment Tr	nt rash	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality	CHECK if I	Present	Spalling, Cracking or Chi Corrosion Oily Flow Line Cother: Excessive Inhibited Odors Colors Suds Excessive	Paint Sediment To	nt rash	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality Pipe benthic growth	check if I	resent	Spalling, Cracking or Chi Corrosion Oily Flow Line Cother: Excessive Inhibited Odors Colors Suds Excessive	Paint Sediment To	nt rash	COMMEN	TS

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

IDDE: ORI Dry Weather Report

OUTFALL RECONNAISSANCE INVENTORY FORM

Section 1: Bacl	kgrour	nd Data							
Outfall ID: SDD	OHO067	624			Previou	us Outfall ID:			
HDOT Location:	Honolu	lu Harbor			Subwat	ershed: Nuua	nu		
Inspection Date: 5	5/10/201	7			Investig	gators: Joy Zh	ang, Daniel Amat	o, Michelle Kw	vock
Time (Military): 1	1030				Form c	ompleted by:	Michelle Kwock		
Lat: 21.305497			Long: -157.8	64219	GPS U	nit:		GPS Landma	ark:
Temp (oF): 83	Rainfa	all (in.) Last 24	Hrs: 0.00 4	18 Hrs: N/A	Camera	: ETC Camer	a 3	Photo #s: 61	-65
Land Use in Drain	nage Are	ea (Check all th	nat apply):						
☐ Industrial					Оре	en Space			
Ultra-Urban R	Residenti	al			☐ Inst	itutional			
☐ Suburban Res	idential				Other:				
☑ Commercial					Known	Industries:			
Notes (e.g., origin	n of outfa	all, if known): '	This outfall is ne	ext to a giant hole of the c	concrete stru	icture.			
Section 2: Out			ERIAL	СП	APE		DIMENSIO	ONS (IN)	SUBMERGED
LOCATIO	N .	RCP		⊠ Circular	⊠ Single		Diameter/Dimer		In Water:
								isions.	☐ No
_		□ PVC	☐ HDPE	☐ Eliptical	Double	2	24 in		☐ Partially ⊠ Fully
⊠ Closed Pipe		☐ Steel		Box	Triple				With Sediment:
		Other: Co	ncrete	Other:	Other:				⊠ No □ Partially □ Fully
		☐ Concrete		☐ Trapezoid			Donth		
		☐ Earthen					Depth:		
Open drainage	e	☐ rip-rap		☐ Parabolic			Top Width:	_	
		Other:		Other:			Bottom Width: _		
☐ In-Stream		(applicable v	vhen collecting	samples)					*/////////
Flow Present?		☐ Yes	⊠ No		ip to Section	ı 5			
Flow Description		☐ Trickle	☐ Moderate	e 🔲 Substantial					
Section 3: Qua	ntitati	ve Charact	erization						
				FIELD DATA FOR F	LOWING	OUTFALLS			
P	ARAME	TER		RESULT		U	INIT	E	QUIPMENT
□Flow#1		Volume				I	Liter		
□F10W #1		Time to fill					Sec		
		Flow depth					In		
□Flow #2		Flow width				F	Ft, In		
□F10W #2	N	Aeasured lengt	h			F	t, In		
		Time of travel					Sec		
1	Tempera	ture					°F		
	pН					pН	Units	Те	est strip/Probe
	Ammor	nia —					opm		Test strip

IDDE: ORI Dry Weather Report

Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only

INDICATOR	CHECK if Present		DESCRIPTION	V		RELATIVE SEVERITY INDEX	(1-3)
Odor		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Petroleur	m/gas	☐ 1 – Faint	2 – Easily detected	3 – Noticeable from a distance
Color		☐ Clear ☐ Green	☐ Brown ☐ Gray ☐ Orange ☐ Red	☐ Yellow ☐Other:	1 – Faint colors in sample bottle	2 – Clearly visible in sample bottle	3 – Clearly visible in outfall flow
Turbidity			See severity		☐ 1 – Slight cloudines	ss 2 – Cloudy	3 – Opaque
Floatables -Does Not Include Trash!!		☐ Sewage (T	Coilet Paper, etc.) Suds (oil sheen) Other:		☐ 1 – Few/slight; originot obvious	in 2 – Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floati sanitary materials)
pstream Investigation		Description of	f discharge source:				☐ Illicit Discharge (Trigger to Obvious)
Other Observations							
ction 5: Physical Ir e physical indicator			nd Non-Flowing Outfalls resent? ☐ Yes ⊠ No		ction 6)		
		ted to flow pr	resent? Yes No		ction 6)	COMMEN	тѕ
e physical indicator	s that are not rela	resent	resent? Yes No	(If No, Skip to Se	,	COMMEN	τs
e physical indicator	S that are not rela CHECK if I	Present	resent? Yes No Spalling, Cracking or Chi Corrosion	(If No, Skip to Se	nt	COMMEN	ΤS
e physical indicator INDICATOR Outfall Damage	CHECK if I	Present	resent? Yes No Spalling, Cracking or Chi Corrosion Oily Flow Line	DESCRIPTION pping Peeling Pai	nt	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains	CHECK if I	Present	Spalling, Cracking or Chi Corrosion Oily Flow Line Other:	DESCRIPTION pping Peeling Paint Sediment Tr	nt rash	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	CHECK if I	Present	Spalling, Cracking or Chi Corrosion Oily Flow Line Other: Excessive Inhibited Odors Colors	DESCRIPTION pping Peeling Paint Sediment Tr	nt rash	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality	CHECK if I	Present	Spalling, Cracking or Chi Corrosion Oily Flow Line Cother: Excessive Inhibited Odors Colors Suds Excessive	Paint Sediment To	nt rash	COMMEN	TS
e physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality Pipe benthic growth	check if I	resent	Spalling, Cracking or Chi Corrosion Oily Flow Line Cother: Excessive Inhibited Odors Colors Suds Excessive	Paint Sediment To	nt rash	COMMEN	TS

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

IDDE: ORI Dry Weather Report

OUTFALL RECONNAISSANCE INVENTORY FORM

Section 1: Bacl	kground Da	ıta							
Outfall ID: SDD	OHO081235				Previou	us Outfall ID:	P07-03		
HDOT Location:	Honolulu Har	bor			Subwat	tershed: Nuua	nu		
Inspection Date: 5	5/10/2017				Investig	gators: Joy Zh	ang, Daniel Amato, M	ichelle Kwo	ock
Time (Military): 1	1020				Form c	ompleted by:	Michelle Kwock		
Lat: 21.306235		Long	-157.8	364682	GPS U	nit:	G	PS Landma	rk:
Temp (oF): 83) Last 24 Hrs: 0.0		48 Hrs: N/A	Camera	a: ETC Camer	a 3 P	hoto #s: 38-	41
Land Use in Drain	nage Area (Che	eck all that apply):						
☐ Industrial					□ Оре	en Space			
☐ Ultra-Urban R	Residential				☐ Inst	itutional			
☐ Suburban Res	idential				Other:				
					Known	Industries:			
Notes (e.g., origin	1 of outfall, if k	(nown):							
Section 2: Out		otion MATERIAL		SH	APE		DIMENSIONS	5 (IN.)	SUBMERGED
	□R		CMP	⊠ Circular	⊠ Single		Diameter/Dimension	* *	In Water:
	P		IDPE	☐ Eliptical			18 in		⊠ No □ Partially
☑ Closed Pipe				Box			10		Fully
∐ Closed rape					Triple				With Sediment:
		other: Concrete	_	Other:	Other:				⊠ No □ Partially □ Fully
	□С	Concrete					D 4		
		arthen		Trapezoid			Depth:		
Open drainage		p-rap		☐ Parabolic			Top Width:		
		Other:		☐ Other:			Bottom Width:	_	
☐ In-Stream	_	licable when col	lecting	comples)					<u> </u>
Flow Present?			No	- /	ip to Section	n 5			
Flow Description			/loderate						
Section 3: Qua	ntitative C	haracterizat	on						
				FIELD DATA FOR F	LOWING	OUTFALLS			
P	ARAMETER			RESULT		ι	INIT	EC	UIPMENT
□Flow#1	Vo	lume					Liter		
□ITIOW #1	Time	e to fill					Sec		
	Flow	v depth					In		
□Flow #2	Flow	width				I	čt, In		
		red length	<u> </u>			I	čt, In		
	Time	of travel	<u> </u>				Sec		
7	Temperature						°F		
	pН		<u> </u>			pН	Units	Tes	st strip/Probe
	Ammonia		l				nnm		Test strin

IDDE: ORI Dry Weather Report

Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only

INDICATOR	CHECK if Present		DESCRIPTIO	N	F	RELATIVE SEVERITY INDEX	(1-3)
Odor		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Petroled☐ Other:	um/gas	☐ 1 – Faint	2 – Easily detected	3 – Noticeable from a distance
Color		☐ Clear ☐ Green	☐ Brown ☐ Gray ☐ Orange ☐ Red	☐ Yellow ☐Other:	1 – Faint colors in sample bottle	2 – Clearly visible in sample bottle	3 – Clearly visible in outfall flow
Turbidity			See severity		☐ 1 – Slight cloudiness	2 – Cloudy	3 – Opaque
Floatables -Does Not Include Trash!!		Sewage (Foilet Paper, etc.) ☐ Suds n (oil sheen) ☐ Other:		1 – Few/slight; origin not obvious	2 – Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floatin sanitary materials)
Jpstream Investigation		Description of	of discharge source:				☐ Illicit Discharge (Trigger to Obvious)
Other Observations							
	. N 4 C D	(l. El	and New Plancks a Octob	1			
			nd Non-Flowing Outfal resent? ☐ Yes ⊠ N		Section 6)		
ection 5: Physical In		ted to flow p			Section 6)	COMMEN	rs
ection 5: Physical In	s that are not rela	ted to flow p		o (If No, Skip to S	,	COMMEN	τs
ection 5: Physical In re physical indicator INDICATOR	s that are not rela	ted to flow p	resent? Yes N Spalling, Cracking or Ch Corrosion	DESCRIPTION hipping Peeling	,	COMMEN	rs
ection 5: Physical In re physical indicator INDICATOR Outfall Damage	S that are not rela	ted to flow p	resent? Yes N Spalling, Cracking or Ch Corrosion Oily Flow Line	DESCRIPTION hipping Peeling	Paint	COMMEN	ΓS
ection 5: Physical In re physical indicator INDICATOR Outfall Damage Deposits/Stains	S that are not rela CHECK if I	resent	resent? Yes N Spalling, Cracking or Ch Corrosion Oily Flow Line Other:	DESCRIPTION hipping Peeling Paint Sediment Floatables Oil S	Paint Trash heen	COMMEN	rs
ection 5: Physical Interphysical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	S that are not rela CHECK if I	resent	resent? Yes N Spalling, Cracking or Ch Corrosion Oily Flow Line Other: Excessive Inhibited Odors Colors	DESCRIPTION hipping Peeling Paint Sediment Floatables Oil S	Paint Trash heen :	COMMEN	TS
ection 5: Physical Interphysical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality	s that are not rela CHECK if I	resent	resent? Yes N Spalling, Cracking or Ch Corrosion Oily Flow Line Other: Excessive Inhibited Odors Colors Suds Excessive	DESCRIPTION hipping Peeling I Paint Sediment Floatables Oil S Algae Other	Paint Trash heen :	COMMEN	rs
ection 5: Physical Interphysical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality Pipe benthic growth	s that are not rela CHECK if I	resent	resent? Yes N Spalling, Cracking or Ch Corrosion Oily Flow Line Other: Excessive Inhibited Odors Colors Suds Excessive	DESCRIPTION hipping Peeling I Paint Sediment Floatables Oil S Algae Other	Paint Trash heen :	COMMEN	rs

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

IDDE: ORI Dry Weather Report

OUTFALL RECONNAISSANCE INVENTORY FORM

Outfall ID: SDD	OHO607620	_		Previous ID	: KIPA-0	3	_	
HDOT Location:	KIPA			Subwatershe	ed: Kalih	i		
Inspection Date: 0	05/10/2017			Investigator	rs: Daniel	Amato, Michelle Kv	wock, Joy Zh	ang
Time (Military): 0	9915			Form compl	leted by:	Michelle Kwock		
Lat: 21.326866	I	Long: -157.8	91485	GPS Unit:			GPS Landma	rk:
Temp (°F): 83	Rainfall (in.) Last 24 H	Irs: 0.00	48 Hrs: N/A	Camera: ET	ГС САМ	3	Photo #s: 1-8	
Land Use in Drain	nage Area (Check all that a	apply):						
				☐ Open Sp	oace			
Ultra-Urban R	esidential			☐ Institution	onal			
☐ Suburban Resi	idential			Other:				
☐ Commercial				Known Indu	ustries: <u>Ja</u>	s W. Glover Contain	er Storage Co	ompany of Hawaii, Ltd.
Notes (e.g., origin	of outfall, if known): Ori	igin appears	to continue into commerc	ial / industrial ar	rea to the	east. Upstream man	holes could n	ot be located.
Section 2: Outf LOCATION	fall Description MATER	ΙΔΙ	SHA	APE		DIMENSION	S (IN.)	SUBMERGED
		☐ CMP	☐ Circular	Single		Diameter/Dimension		In Water:
		☐ HDPE	☐ Eliptical	Double		Diameter.	nio.	□ No □ Partially
Classa Ding		11101 2						Fully
☐ Closed Pipe	Steel		Box	Triple				With Sediment:
ı	Other:		Other:	Other:	<u> </u>			☐ No ☐ Partially ☐ Fully
	☐ Concrete		☐ Trapezoid			- 3.00		
I			☐ Parabolic			Depth: <u>36</u>		
☑ Open drainage	e			into mo	. 1	Top Width: <u>36</u>		
I	Other:		Other: Box culvert t ditch	that turns into na	ntural	Bottom Width: <u>36</u>		
☐ In-Stream	(applicable whe	n collecting	samples)					
Flow Present?	⊠ Yes	□ No	If No, Ski	ip to Section 5				
Flow Description	☐ Trickle	☐ Moderate	e 🔲 Substantial					
Section 3: Qua	ntitative Characteri	zation						
			FIELD DATA FOR F	LOWING OUT	TFALLS			
P/	ARAMETER		RESULT		U	NIT	EO	UIPMENT
□Flow #1	Volume				I	Liter		
∐I'IUW π₁	Time to fill					Sec		
_	Flow depth					In	- -	
□Flow #2	Flow width				F	t, In		
	Measured length				F	t, In		
	Time of travel					Sec		

IDDE: ORI Dry Weather Report

Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only
Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (If No, Skip to

INDICATOR	CHECK if Present		DESCRIPTION	1		RELATIVE	SEVERITY INDEX	(1-3)
Odor		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Petroleur☐ Other:	n/gas	☐ 1 – Faint	☐ 2 -	– Easily detected	3 – Noticeable from a distance
Color		☐ Clear ☐ Green	☐ Brown ☐ Gray ☐ Orange ☐ Red	☐ Yellow ☐Other:	1 – Faint colors in sample bottle	_	– Clearly visible in le bottle	3 – Clearly visible in outfall flow
Turbidity			See severity		☐ 1 – Slight cloudin	ess 2-	– Cloudy	☐ 3 – Opaque
Floatables -Does Not Include Trash!!		☐ Sewage (T	Coilet Paper, etc.) Suds (oil sheen) Other:		1 – Few/slight; or not obvious	igin	– Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)
Jpstream Investigation		Description o	f discharge source:					☐ Illicit Discharge (Trigger to Obvious)
Other Observations	An absorbent sock a	indears to de dia						
		th Flowing a	nd Non-Flowing Outfalls		ction 6)			
ection 5: Physical In re physical indicator INDICATOR		th Flowing a ted to flow pr	nd Non-Flowing Outfalls resent? ⊠ Yes □ No		ction 6)		COMMENT	rs
re physical indicator	s that are not rela	th Flowing a ted to flow pr	nd Non-Flowing Outfalls resent? ⊠ Yes □ No	(If No, Skip to Se	,		COMMENT	rs
re physical indicator	check if I	th Flowing a ted to flow pr Present	nd Non-Flowing Outfalls resent? Yes No Spalling, Cracking or Chi	(If No, Skip to Se	nt		COMMENT	rs
re physical indicator INDICATOR Outfall Damage	CHECK if I	th Flowing a ted to flow pr Present	nd Non-Flowing Outfalls resent? Yes No Spalling, Cracking or Chip Corrosion	(If No, Skip to Se	nt		COMMENT	rs
INDICATOR Outfall Damage Deposits/Stains	CHECK if I	th Flowing a ted to flow pr Present	nd Non-Flowing Outfalls resent? Yes No Spalling, Cracking or Chip Corrosion Oily Flow Line Other:	(If No, Skip to Se DESCRIPTION Deping □ Peeling Pain Paint □ Sediment □ Tr	nt rash		COMMENT	TS .
INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	CHECK if I	th Flowing a ted to flow pr Present	nd Non-Flowing Outfalls resent?	(If No, Skip to Se DESCRIPTION Deping □ Peeling Pain Paint □ Sediment □ Tr □ Floatables □ Oil She	nt rash		COMMENT	rs
re physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality	CHECK if I	th Flowing a ted to flow pr Present	nd Non-Flowing Outfalls resent?	(If No, Skip to Se DESCRIPTION Deping	nt rash		COMMENT	TS
Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality Pipe benthic growth	S that are not rela CHECK if I	th Flowing atted to flow present	nd Non-Flowing Outfalls resent?	(If No, Skip to Se DESCRIPTION Deping	nt rash		COMMENT	rs

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? May require more frequent cleaning

IDDE: ORI Dry Weather Report

OUTFALL RECONNAISSANCE INVENTORY FORM

Section 1: Back	kground Data							
Outfall ID: SDE	ОНО607615			Previous	ID: KIPA-0	12		
HDOT Location:	KIPA			Subwate	rshed: Kalih	ni		
Inspection Date: 0	05/10/2017			Investiga	tors: Daniel	Amato, Michelle I	Kwock, Joy Zha	ang
Time (Military): 0	0930			Form co	mpleted by:	Michelle Kwock		
Lat: 21.326128	Long	g: -157.8	392436	GPS Uni	it:		GPS Landma	rk:
Temp (°F): 83	Rainfall (in.) Last 24 Hrs:	0.00	48 Hrs: N/A	Camera:	ETC CAM	3	Photo #s: 9-2	3
Land Use in Drain	nage Area (Check all that appl	y):						
Industrial				Open	Space			
☐ Ultra-Urban R	esidential			☐ Instit	utional			
☐ Suburban Resi	idential			Other: _				
☐ Commercial				Known l	ndustries:	Norman's Tracto	r Service (stagi	ng yard)
	of outfall, if known): Canal	that appe	ears to have its origin alon	ng the access i	oad to KIPA	١.		_
Section 2: Outi	fall Description MATERIAL		SH	APE		DIMENSIO	NS (IN)	SUBMERGED
		СМР	Circular	Single		Diameter/Dimens		In Water:
		HDPE	☐ Eliptical	Double		Diameter/Dimens	nons.	□ No □ Partially
☐ Closed Pipe	☐ Steel	IIDI E	Box	Triple				Fully
_ closed i ipe								With Sediment:
	Other:	_	Other:	Other:				☐ No ☐ Partially ☐ Fully
						Depth: <u>12</u>		
5								
Open drainage	rip-rap		Parabolic			Top Width: <u>36</u>		
	☐ Other:		Other:			Bottom Width: 24	<u>1</u>	
☐ In-Stream	(applicable when co	llecting	samples)					<u> </u>
Flow Present?	☐ Yes	⊠ No	If No, Ski	ip to Section	5			
Flow Description	☐ Trickle ☐	Moderat	e Substantial					
Section 3: Qua	ntitative Characteriza	ion						
Section 5. Quan		.1011	FIELD DATA FOR F	LOWING C	UTFALLS			
P/	ARAMETER		RESULT		U	INIT	EC	UIPMENT
□ 77	Volume				I	Liter		
□Flow#1	Time to fill					Sec		
	Flow depth					In		
	Flow width				F	Ft, In		
□Flow #2	Measured length				F	ft, In		
	Time of travel					Sac		

IDDE: ORI Dry Weather Report

Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only

INDICATOR	CHECK if Present		DESCRIPTION	1		RELATIVE SEVERITY INDEX	(1-3)
Odor			☐ Rancid/sour ☐ Petroleum☐ Other:	n/gas	1 – Faint	2 – Easily detected	3 – Noticeable from a distance
Color			☐ Brown ☐ Gray ☐ Orange ☐ Red	☐ Yellow ☐Other:	1 – Faint colors in sample bottle	2 – Clearly visible in sample bottle	3 – Clearly visible in outfall flow
Turbidity			See severity		☐ 1 – Slight cloudiness	2 – Cloudy	☐ 3 – Opaque
Floatables -Does Not Include Trash!!		☐ Sewage (Toil☐ Petroleum (o	-		☐ 1 – Few/slight; origin not obvious	2 – Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floatin sanitary materials)
Jpstream Investigation		Description of di	ischarge source:				☐ Illicit Discharge (Trigger to Obvious)
Other Observations							
	s that are not rela	ted to flow pres		(If No, Skip to	Section 6)	COMMEN	ΤS
ection 5: Physical In		ted to flow pres	sent? Yes No	(If No, Skip to	,	COMMEN	TS
ection 5: Physical In re physical indicators	S that are not rela CHECK if F	Present	sent? Yes No	(If No, Skip to DESCRIPTION Deping Peeling Paint Sediment	,	COMMEN	TS
ection 5: Physical In re physical indicators INDICATOR Outfall Damage	S that are not rela CHECK if F	Present	Spalling, Cracking or Chip Corrosion Oily Flow Line 1	(If No, Skip to DESCRIPTION Deping Peeling Paint Sediment	Paint	COMMEN	TS
ection 5: Physical In re physical indicators INDICATOR Outfall Damage Deposits/Stains	CHECK if F	Present	Sent? Yes No Spalling, Cracking or Chip Corrosion Oily Flow Line Other: Wood board potential	ODESCRIPTION Deping Peeling Paint Sediment Uly blocking flow Floatables Oil S	Paint Trash Cheen	COMMEN	TS
cetion 5: Physical Interphysical indicators INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	CHECK if I	Present	Spalling, Cracking or Chip Corrosion Oily Flow Line Other: Wood board potential Excessive Inhibited Odors Colors	ODESCRIPTION Deping Peeling Paint Sediment Uly blocking flow Floatables Oil S	Paint Trash Sheen r:	COMMEN	TS
cetion 5: Physical Interphysical indicators INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality	CHECK if I	Present	Spalling, Cracking or Chip Corrosion Oily Flow Line Cother: Wood board potential Excessive Inhibited Odors Colors Suds Excessive	Company Comp	Paint Trash Sheen r:	COMMEN	TS
cetion 5: Physical Ince physical indicators INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality Pipe benthic growth	S that are not rela CHECK IF I	resent	Spalling, Cracking or Chip Corrosion Oily Flow Line Cother: Wood board potential Excessive Inhibited Odors Colors Suds Excessive	Company Comp	Paint Trash Sheen r:	COMMEN	TS

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? Wood board potentially blocking flow

IDDE: ORI Dry Weather Report

OUTFALL RECONNAISSANCE INVENTORY FORM

Section 1: Back	kgroui	ia Data							
Outfall ID: SDI	DHO385	5050			Previou	us Outfall ID:	P38-01		
HDOT Location:	Honolu	lu Harbor			Subwat	tershed: Kapa	lama		
Inspection Date:	5/10/201	7			Investig	gators: Daniel	Amato, Michelle Kw	ock, Joy Zha	ang
Time (Military):	1000				Form c	ompleted by:	Michelle Kwock		
Lat: 21.316908			Long: -157.8	79385	GPS U	nit:	C	PS Landma	rk:
Temp (oF): 83	Rair	nfall (in.) Last 2	24 Hrs: 0.00	48 Hrs: 0	Camera	a: ETC Cam	era 3 Ph	noto #s: 26-2	9
Land Use in Drain	nage Are	ea (Check all th	at apply):						
☐ Industrial					□Оре	en Space			
Ultra-Urban R	Residenti	al			☐ Inst	itutional			
☐ Suburban Res	idential				Other:				
						Industries: <u>H</u> Agency	awaiian Ice, Pacific C	Ocean Produc	cers, Inc., United
Notes (e.g., origin	n of outfa	all, if known):							
Section 2: Out	fall Da	aarintian							
LOCATION		_	ERIAL	SI	HAPE		DIMENSIONS	S (IN.)	SUBMERGED
		RCP	СМР	⊠ Circular	Single		Diameter/Dimension	ns:	In Water:
		□ PVC	☐ HDPE	☐ Eliptical	☐ Double		12 in		⊠ No □ Partially
☑ Closed Pipe		☐ Steel		Box	☐ Triple				Fully
△ Closed Fipe									With Sediment:
		Other:		Other:	Other:				⊠ No □ Partially
									Fully
		☐ Concrete		☐ Trapezoid			Depth:		
		☐ Earthen							
Open drainag	e	☐ rip-rap		☐ Parabolic			Top Width:		
		Other:		Other:			Bottom Width:	_	
☐ In-Stream		(applicable w	hen collecting	samples)					**********
Flow Present?		☐ Yes	⊠ No	If No, Sk	kip to Section	n 5			
Flow Description		☐ Trickle	☐ Moderate	e Substantial					
Southan 2: O	4 : 4 - 4 •	Charact							
Section 3: Qua	шиап	ve Unaracto	erization	FIELD DATA FOR I	FLOWING	OUTFALLS			
P	ARAME	TER		RESULT		1	INIT	EC	UIPMENT
		Volume					Liter		
☐Flow #1		Time to fill					Sec		
		Flow depth					In		
_		Flow width				I	Ft, In		
☐Flow #2	N	Measured length	n			I	Ft, In		
		Time of travel					Sec		
,	Tempera	ture					°F		
	pН					pН	I Units	Tes	st strip/Probe
	Ammor	nia					ppm		Test strip

IDDE: ORI Dry Weather Report

Outfall Reconnaissance Inventory Form

Section 4: Physical Indicators for Flowing Outfalls Only

INDICATOR	CHECK if Present		DESCRIPTION		REL	ATIVE SEVERITY INDEX	(1-3)
Odor		☐ Sewage ☐ Sulfide	☐ Rancid/sour ☐ Petroleum/gas ☐ Other:	☐ 1 – Faint		☐ 2 – Easily detected	3 – Noticeable from a distance
Color		☐ Clear ☐ Green	☐ Brown ☐ Gray ☐ Yellow ☐ Orange ☐ Red ☐ Other:	1 – Faint color sample bottle		2 – Clearly visible in sample bottle	3 – Clearly visible in outfall flow
Turbidity			See severity	☐ 1 – Slight clou	diness	2 – Cloudy	☐ 3 – Opaque
Floatables -Does Not Include Trash!!		☐ Sewage (T	Coilet Paper, etc.) Suds (oil sheen) Other:	1 – Few/slight;	; origin	2 – Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floatin sanitary materials)
pstream Investigation			f discharge source: Ice melt flowing through debris near trash ior to discharge into harbor.				☐ Illicit Discharge (Trigger to Obvious)
0.1 01							
Other Observations	rdicators for Rot	th Flowing o	nd Non-Flowing Outfolk				
			nd Non-Flowing Outfalls resent? ☐ Yes ⊠ No (If No, Skip to Se	ection 6)			
ction 5: Physical Ir		ted to flow pr		ection 6)		COMMENT	rs
ction 5: Physical In	s that are not rela	ted to flow pr	resent? \square Yes \boxtimes No (If No, Skip to Se			COMMENT	rs .
ction 5: Physical In e physical indicator INDICATOR	s that are not rela CHECK if I	resent	resent? Yes No (If No, Skip to Se	int		COMMENT	TS .
ction 5: Physical Interphysical indicator INDICATOR Outfall Damage	S that are not rela CHECK if I	resent	DESCRIPTION Spalling, Cracking or Chipping Peeling Pa Corrosion Oily Flow Line Paint Sediment 1	int		COMMENT	TS .
ction 5: Physical In e physical indicator INDICATOR Outfall Damage Deposits/Stains	S that are not rela CHECK if I	resent	DESCRIPTION Spalling, Cracking or Chipping Peeling Pa Corrosion Oily Flow Line Paint Sediment 1 Other:	int rash		COMMENT	TS .
ction 5: Physical Interphysical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation	s that are not rela CHECK if I	resent	DESCRIPTION Spalling, Cracking or Chipping Peeling Pa Corrosion Oily Flow Line Paint Sediment T Excessive Inhibited Odors Colors Floatables Oil Sh	int rash		COMMENT	T'S
ction 5: Physical Interphysical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality	s that are not rela CHECK if I	resent	DESCRIPTION Spalling, Cracking or Chipping Peeling Pa Corrosion Oily Flow Line Paint Sediment T Other: Excessive Inhibited Odors Colors Floatables Oil She Suds Excessive Algae Other:	int rash		COMMENT	TS
ction 5: Physical Ince physical indicator INDICATOR Outfall Damage Deposits/Stains Abnormal Vegetation Poor pool quality Pipe benthic growth	s that are not rela CHECK if I	Present	DESCRIPTION Spalling, Cracking or Chipping Peeling Pa Corrosion Oily Flow Line Paint Sediment T Other: Excessive Inhibited Odors Colors Floatables Oil She Suds Excessive Algae Other:	int rash		COMMENT	TS

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

Attachment 11D. 2017 Outfall Prioritization Report

Outfall ID	Map Label	Harbor	Facility	Pier	Location	Characterization
SDDHO0427662	D7615	НО	Pier 4	HO04	Pier 4	Potential
SDDHO081235	D1235	НО	Pier 8	HO08	Pier 8	Potential
SDDHO385050	D5050	НО	Commercial Fishing Village	HO38	HO38, Commercial Fishing Village	Obvious
SDDHO517960	D7960	НО	Sand Island	HO51A	HO51A, Sand Island	Potential
SDDHO518070	D8070	НО	Horizon Lines	HO51B	HO51B, Horizon Lines	Potential
SDDHO518080	D8080	НО	Matson Terminal	HO51B	HO51B, Matson Terminal	Potential
SDDHO528542	D8542	НО	Matson Terminal	HO52	HO52, Matson Terminal	Suspect
SDDHO607615	D7615	НО	KIPA	HO60	60, Kipa	Potential
SDDHO607620	D7620	НО	KIPA	HO60	60, Kipa	Potential
SDDHO607624	D7624	НО	Pier 7	HO07	Pier 7 Wall	Potential

Attachment 12 Storm Sewer Systerm O&M Manual





Storm Sewer System Operations & Maintenance Program Manual



State of Hawaii Department of Transportation, Harbors Division
Honolulu Harbor Small MS4 NPDES Permit No. HI 03KB482
Kalaeloa Barbers Point Harbor Small MS4 NPDES Permit No. HI 03KB488
February 2017

STORM SEWER SYSTEM OPERATIONS AND MAINTENANCE PROGRAM MANUAL Volumes I and II

Honolulu Harbor Small MS4 NPDES Permit No. HI 03KB482 Kalaeloa Barbers Point Harbor Small MS4 NPDES Permit No. HI 03KB488





State of Hawaii Department of Transportation Harbors Division 79 South Nimitz Highway Honolulu, Hawaii 96813

February 2017

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TABLE OF CONTENTS

LIST OF FIGU	RES		. vii
LIST OF TABL	ES		ix
LIST OF ACRO	ONYMS A	AND ABBREVIATIONS	xi
Volume I F	`ounda	tional Data Resources	
CHAPTER 1	INTRO	ODUCTION	1
1.1	Requi	rements	2
1.2	=	Iawaii Commercial Harbors System	
	1.2.1	Honolulu Harbor	
	1.2.2	Kalaeloa Barbers Point Harbor	6
1.3	Harbo	rs Storm Sewer System Operations & Maintenance Program.	8
1.4	Organ	ization of the SSS O&M Manual	8
	1.4.1	Volume I Foundational Data Resources – Chapters 1 to 4	9
	1.4.2	Volume II User Guides for Storm Sewer System O&M Activities – Chapters 5 to 8	9
1.5	SSS O	&M Manual Audience and Intended Uses	
CHAPTER 2	HARB	ORS STORM SEWER SYSTEM AND GIS MAPPING	11
2.1	Honol	ulu Harbor Pier Use Areas	11
	2.1.1	Pier 1 and Pier 2 – Fort Armstrong GIS Map of Storm Drain Assets	15
	2.1.2	Piers 5 through 11 – Aloha Tower Market Place Complex GIS Map of Storm Drain Assets	19
	2.1.3	Piers 12 through 18 GIS Map of Storm Drain Assets	
	2.1.4	Piers 19 through 29 GIS Map of Storm Drain Assets	
	2.1.5	Piers 31 through 35 GIS Map of Storm Drain Assets	
	2.1.6	Piers 36 through 38 – Domestic Commercial Fishing	
		Village GIS Map of Storm Drain Assets	35

	2.1.7	Piers 39	through 45 GIS Map of Storm Drain Assets	38
	2.1.8	Piers 51	through 53 – Sand Island GIS Map	
		of Stori	n Drain Assets	43
2.2	Honol	ulu Harb	or Post-Construction BMPs GIS Map	51
2.3	Honol	ulu Harb	or Outfall Drainage Basin	56
2.4	Honol	ulu Harb	or Signage and Stenciling GIS Mapping	56
2.5	Kalael	Kalaeloa Barbers Point Harbor Pier Use Area		
	2.5.1		oa Barbers Point Harbor Piers GIS Mapping m Drain Assets	63
	2.5.2	Rail Tra	acks Location Map	68
CHAPTER 3			RSONNEL AND STORM SEWER SYSTEM	69
3.1	Engine	eering Bra	nch	69
	3.1.1	Enviro	nmental Section	70
	3.1.2	Plannir	ng Section	70
	3.1.3	Mainte	nance Section	73
3.2	Harbo	rs Admin	istrator	73
3.3	Harbo	rs Oahu I	District	73
	3.3.1	Operat	ions Section	74
		3.3.1.1	Pier Utilization Unit	74
		3.3.1.2	Kalaeloa Barbers Point Harbor Unit	75
		3.3.1.3	Harbor Traffic Control Unit	75
		3.3.1.4	Sanitation & Grounds Unit	76
	3.3.2	Mainte	nance Section	76
		3.3.2.1	Wharf Maintenance Unit	77
		3.3.2.2	Construction & Maintenance Unit	77
3.4	SSS O	MP Imple	mentation and BMPs	77
3.5	Regula	atory Req	uirements	79
	3.5.1	2014 Co	onsent Decree	79
	3.5.2		NGPCs for Honolulu and ba Barbers Point Harbors	79
		3.5.2.1	40 Code of Federal Regulations 122	
			Hawaii Revised Statutes	80

		3.5.2.3	Hawaii Administrative Rules	80
	3.5.3	SWMP	for Honolulu and Kalaeloa Barbers	
		Point H	larbors	81
3.6	Notific	cations In	formation and Contacts	81
	3.6.1	MOU fo	or HDOT and City & County of Honolulu	83
CHAPTER 4	HARB	ORS ASS	SET MANAGEMENT SYSTEM (AMS)	85
4.1	ArcGI	S Online a	and Server Configuration	85
	4.1.1	Citywo	rks® AMS – How It Works	85
		4.1.1.1	AMS Alignment with SWMP and CD	86
		4.1.1.2	Tasks Workflow Process Using Cityworks® AMS	86
	4.1.2	Asset C	Configuration	86
		4.1.2.1	Configured Assets	86
4.2	Work	Orders		89
	4.2.1	Work C	Order Security	93
		4.2.1.1	Work Order Tables	93
		4.2.1.2	Permissions	93
	4.2.2	Work C	Order Status	94
		4.2.2.1	Tasks	97
	4.2.3	Task-Sp	oecific Workflows	98
		4.2.3.1	Illicit Discharge/Leaking Pipe	98
		4.2.3.2	Tenant Inspection	99
		4.2.3.3	Tenant List Administration	99
		4.2.3.4	Environmental Design Review	100
		4.2.3.5	Storm Inlet/Open Line/Manhole	
			Inspection Process	100
		4.2.3.6	Property Damage Report	101
		4.2.3.7	Street Sweeper Downtime	101
		4.2.3.8	GIS Updates	101
		4.2.3.9	Cityworks® AMS Configuration Updates	101
		4.2.3.10	New Tenant and Tenant Project Notification	102
4.3	Inspec	tions		102
	4.3.1	Screeni	ng Inspections	103

	4.3.2	Inspect Comprehensive & Cleaning	105
	4.3.3	Comprehensive Inspection for BMP Work Order	106
4.4	Service	e Requests	106
4.5	Equip	ment, Labor & Materials (ELM)	107
4.6	Defini	ng Hotspots	109
4.7	Rail Tı	acks Off-Loading at Kalaeloa Barbers Point Harbor.	110
4.8	Search	es in Cityworks® AMS	110
	4.8.1	Asset Search	110
	4.8.2	Service Requests and Work Orders Search	110
	4.8.3	Saved Searches	111
4.9	Repor	ts in Cityworks® AMS	111
4.10	Mobile	Devices	111
4.11	Qualit	y Control	111

Volume II User Guides for Storm Sewer System O&M Activities

CHAPTER 5	HARB	ORS TRA	ANSITION TO AMS TASKS WORKFLOW	113
5.1	HAR-0	O Manage	ement Tools	113
5.2	Superv	visor Resp	oonsible for Data Quality Control	114
	5.2.1	Designa	ate Data Input Backup Staff	114
5.3	Service	e Request	s (Area Survey)	114
5.4	Cityw	orks® AM	S Streamline Tasks Workflow	116
5.5	Storm	Drain Tas	sks Workflow Processes	116
CHAPTER 6	HARB	ORS STO	ORM SEWER SYSTEM INSPECTIONS	119
6.1	Cityw	orks® AM	S Inbox	120
	6.1.1	Main T	oolbar	120
	6.1.2	Add a l	New Tab to Inbox	120
	6.1.3	Gear Bu	atton to Customize Setting Options	120
	6.1.4	Four Ba	asic Inbox Tabs	121
6.2	Work	Orders		122
	6.2.1	Parent	Work Orders	122
		6.2.1.1	Initial Inspection and Cleaning of Storm Drains .	122
		6.2.1.2	Screening Inspections Schedule 2016 Adjustment	122
6.3	Respon	nsibility f	or Data Accuracy	123
6.4	Standa	ard for Sci	reening Inspections	123
	6.4.1	Visual (Observation	123
	6.4.2	Stick Te	est	123
	6.4.3	Observ	ations and Measurements, and Actions Required	124
6.5	Storm	Inlet and	Open Line Inspection Process	124
	6.5.1	Tier On	e – Screening Inspections	124
		6.5.1.1	Map Event Layers	124
		6.5.1.2	The Map	
		6.5.1.3	Complete Inspection and Record Observations	
		6.5.1.4	Tracking Labor Expenses	127

	6.5.2 Tier Two – Comprehensive Inspections	129
	6.5.3 HAR-OCG Supervisor Management Tools	129
6.6	Hotspot Inspections	130
	6.6.1 Removal of Hotspot Designation	131
6.7	Stencils Inspections	131
CHAPTER 7	STORM SEWER SYSTEM CLEANING AND	
	MAINTENANCE	133
7.1	Service Requests for Cleaning	133
7.2	Storm Drain Cleaning Work Orders	133
	7.2.1 'Inspect & Clean Ad Hoc'	134
	7.2.2 'Inspect Comprehensive & Clean within 30 Days'	134
	7.2.3 'Inspect Comprehensive & Clean within 10 Days'	134
	7.2.4 'Inspect & Comprehensive Clean BMP'	134
7.3	Supervisors Responsible for Follow-up Work	134
	7.3.1 Quality Control Report for Inspection Follow-up Work	135
7.4	Inspect Comprehensive & Clean BMPs	138
	7.4.1 Increase Frequency of BMP Inspections	138
7.5	Sweeping Common Areas Work Orders	138
	7.5.1 Sweeping Routes	139
7.6	Kalaeloa Barbers Point Harbor Rail Tracks Cleaning	140
7.7	Waste Collection and Disposal	140
7.8	Harbors Maintenance Section (HAR-OM)	140
CHAPTER 8	EQUIPMENT AND VEHICLES	141

LIST OF FIGURES

Figure 1	Honolulu Harbor Piers	5
Figure 2	Honolulu Harbor aerial view shows the surrounding ocean, channels, and basins	5
Figure 3	Kalaeloa Barbers Point Harbor contains specialized cargo handling facilities	7
Figure 4	Piers 1 and Pier 2 – Fort Armstrong GIS map of storm drain assets	15
Figure 5	Piers 5 through 11 – Aloha Tower Market Place Complex GIS map of storm drain assets	19
Figure 6	Piers 12 through 18 GIS Map of storm drain assets	24
Figure 7	Piers 19 through 29 GIS Map of storm drain assets	26
Figure 8	Piers 31 through 35 GIS Map of storm drain assets	31
Figure 9	Piers 36 through 38 GIS map of storm drain assets	35
Figure 10	Piers 39 through 45 GIS map of storm drain assets	38
Figure 11	Piers 51 through 53 – Sand Island GIS map of storm drain assets	43
Figure 12A	Honolulu Harbor Post-Construction BMPs with GIS map of BMP locations	51
Figure 12B	Honolulu Harbor Post-Construction BMPs with GIS map of BMP locations	52
Figure 12C	Honolulu Harbor Post-Construction BMPs with GIS map of BMP locations	53
Figure 13	Honolulu Harbor flood hazard assessment map	56
Figure 14	Harbors three types of stencils BMP installation	57
Figure 15	Honolulu Harbor storm drain signage GIS map	58
Figure 16	Kalaeloa Barbers Point Harbor Piers GIS map of storm drain assets	63
Figure 17	Kalaeloa Barbers Point Harbor Post-Construction BMP map	67
Figure 18	Kalaeloa Barbers Point Harbor rail tracks at Pier 6 and Pier 7	68

Figure 19	Harbors Division Organizational Chart with responsibilities for the SSS OMP activities highlighted in yellow	71
Figure 20	Harbors Oahu District Position Titles and SSS Activities Organizational Chart	72
Figure 21	Prohibition practice BMP signage informs the public that "Pollution is Prohibited by Law"	78
Figure 22	Honolulu Harbor Storm Sewer System Assets	87
Figure 23	Kalaeloa BP Harbor Storm Sewer System Assets	88
Figure 24	Work Order screen displays status field as "Assigned"	95
Figure 25	Work Order Details panel	96
Figure 26	Illicit Oil Discharge Notifications screen	98
Figure 27	Task Hierarchy Configured for Harbors	98
Figure 28	Harbors Inspection Templates	102
Figure 29	Harbors customized outfall reconnaissance inspection template	103
Figure 30	Screening Inspection form example	104
Figure 31	Comprehensive Inspection & Cleaning form example	105
Figure 32	Inspect Comprehensive & Clean BMP Work Order screen	106
Figure 33	Material / Entity Task Panel	108
Figure 34	Equipment / Entity Task Panel	109
Figure 35	Cityworks® AMS Search Query screen	110
Figure 36	HAR-OCM MCS and HA inspection tasks workflow	117
Figure 37	HAR-OCG cleaning tasks workflow	118

LIST OF TABLES

Table 1	Consent Decree Requirements for the SSS O&M Manual	2
Table 2	Honolulu Harbor Piers and name, principal cargo/pier use, container yard area, and shed area	12
Table 3	Piers 1 and 2 storm drain inlet, manhole, and catch basin assets; and ID number, location, and stencil type	16
Table 4	Piers 5 through 11 storm drain inlet, manhole, and catch basin assets; and ID number, location, and stencil type	20
Table 5	Piers 5 through 11 storm drain open channel asset, ID number, and location	23
Table 6	Piers 12 through 18 storm drain inlet assets, ID number, location, and stencil type	25
Table 7	Piers 19 through 29 storm drain inlet and manhole assets, ID number, location, and stencil type	27
Table 8	Piers 19 through 29 storm drain open channel assets, ID number, and location	29
Table 9	Piers 31 through 35 storm drain inlet and manhole assets, ID number, location, and stencil type	32
Table 10	Piers 31 through 35 storm drain open channel assets, ID number, and location	34
Table 11	Piers 36 through 38 storm drain inlet and manhole assets, ID number, location, and stencil type	36
Table 12	Piers 36 through 38 storm drain open channel assets, ID number, and location	37
Table 13	Piers 39 through 45 storm drain inlet, manhole, and catch basin assets; and ID number, location, and stencil type	39
Table 14	Piers 51 through 53 storm drain inlet, manhole, and catch basin assets; and ID number, location, and stencil type	44
Table 15	Piers 51 through 53, and Pier 60 storm drain open channel, swale, and other assets; and ID number and location	48

59 61
61
62
64
65
66
78
81
89
89
107

LIST OF ACRONYMS AND ABBREVIATIONS

AMS Asset Management System

ArcGIS GIS maps and geographic information developed by ESRI

BMP Best Management Practice
CCH City & County of Honolulu
CCTV Closed circuit television

CD Consent Decree

CFR Code of Federal Regulations

CM Curb Marker (stencil)

Config Configuration

COTS Commercial Off the Shelf

CWA Clean Water Act
CWB Clean Water Branch

DIR Office of Director, HDOT
DepH Deputy Director for Harbors
DMR Discharge Monitoring Report
ELM Equipment, Labor & Materials

ENV Office of Environmental Compliance, HDOT

ESRI Environmental Systems Research Institute

FTE Full Time Equivalent

GIS Geographical Information System

HA Harbor Agent

HAR Harbors Division; also Harbors Administrator; also Hawaii

Administrative Rules

HAR-E Engineering Branch, Harbors Division

HAR-EE Environmental Section, Engineering Branch, Harbors Division
HAR-EM Maintenance Engineering Section, Engineering Branch, Harbors

Division

HAR-EP Planning Section, Engineering Branch, Harbors Division

HAR-O Oahu District, Harbors Division HAR-OC Operations Section, Oahu District

HAR-OCB Kalaeloa Barbers Point Unit, Operations Section, Oahu District HAR-OCG Sanitations & Grounds Unit, Operations Section, Oahu District

HAR-OCM Pier Utilization Unit, Operations Section, Oahu District

HAR-OCT Harbor Traffic Control Unit, Operations Section, Oahu District
HAR-OE Security & Enforcement Unit, Operations Section, Oahu District

HAR-OM Maintenance Section, Oahu District HC Harbors Construction project prefix

HDOH Hawaii Department of Health

HDOT Hawaii Department of Transportation

HOS Harbor Operations Supervisor

IDDE Illicit Discharge and Detection Elimination

Illct Dsch Oil Notf Illicit Oil Discharge Notification

Illct Dsch Misc Notf Illicit Discharge Notification Miscellaneous

INSP Inspection

KBPH Kalaeloa Barbers Point Harbor

MCS Marine Cargo Specialist

MEP Maximum Extent Practicable

MM Metal Marker (stencil bolted to grate)
MOU Memorandum of Understanding

MS4 Municipal Separate Storm Sewer System

NGPC Notice of General Permit Coverage

NPDES National Pollutant Discharge Elimination System

NOTI Notify

O&M Operations and Maintenance

PBMP Permanent BMP QC Quality Control

RO/RO Terminal Forklift Trucks

SR Service Request
SSS Storm Sewer System

SSS OMP Storm Sewer System Operation & Maintenance Plan
SSS O&M Manual Storm Sewer System Operation & Maintenance Program

Manual

SWMP Stormwater Management Plan

US United States

USACE United States Army Corps of Engineers, Pacific Ocean Division

USEPA United States Environmental Protection Agency

USCG United States Coast Guard

WO Work Order

Volume I Foundational Data Resources

CHAPTER 1 INTRODUCTION

The State of Hawaii Department of Transportation (HDOT), Harbors Division (hereinafter "Harbors") owns and operates a Small Municipal Separate Storm Sewer System (MS4) at Honolulu Harbor and Kalaeloa Barbers Point Harbor (KBPH). Storm water flowing over Harbors property into the drainage network of inlets, manholes, open channels and trench drains enters the Small MS4 at each harbor and discharges into receiving waters.

Honolulu Harbor and KBPH are subject to the United States Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES) regulations, and requirements of Title 40 Code of Federal Regulations (CFR) Part 122, because the harbors are located in urban areas based on the *U.S. Census* and *U.S. Census Urban Area Maps*, on the Island of Oahu. Locally, the State of Hawaii Department of Health (HDOH) Clean Water Branch (CWB) oversees Hawaii's NPDES program in accordance with Chapter 342D of the Hawaii Revised Statute (HRS) and Chapter 11-55 of the Hawaii Administrative Rules (HAR).

The HDOH CWB issued the Notice of General Permit Coverage (NGPC) NPDES Permit No. HI 03KB482 to Honolulu Harbor, and the NGPC NPDES Permit No. HI 03KB488 to Kalaeloa Barbers Point Harbor, which authorizes storm water and certain non-storm water discharges to enter receiving State Waters. The NGPC NPDES Permits required Harbors to develop a *Storm Water Management Plan (SWMP)* in 2009 and revise the SWMP in 2015 (hereinafter "SWMP"). The SWMP identifies the control measures and Best Management Practices (BMP) to reduce, to the Maximum Extent Practicable (MEP), the amount of pollutants from the Small MS4s that enter the receiving State Waters. The SWMP control measures for Pollution Prevention and Good Housekeeping Program include the Storm Sewer System Operations & Maintenance Program (SSS O&M Program).

On November 5, 2014, the USEPA enjoined HDOH to enter into a Consent Decree (CD) with HDOT Harbors Division in order to increase awareness, to improve the storm water program, and to ensure compliance. The CD requires Harbors to comply with specific requirements of the Clean Water Act (CWA), as amended, along with the provisions set forth in the NGPC NPDES Permits.

The 2014 CD Section 20.a through d, requires Harbors to develop the *Storm Sewer System Operations & Maintenance Plan*. This Storm Sewer System Operations & Maintenance Program Manual (hereinafter "SSS O&M Manual") contains information about the storm sewer system Geographical Information System (GIS) mapping; the Asset Management System (AMS); and identifies the specific tasks, schedules, and requirements of Harbors personnel who conduct inspections and cleaning in the operations and maintenance of the storm sewer system (SSS).

This SSS O&M Manual provides the schedules of inspection and cleaning of storm drains; creates the Standard for inspection; details the operation and maintenance activities performance; details the documentation and record keeping procedures; and describes the supervision and management of the SSS OMP.

The SSS O&M Manual is prepared in accordance with the 2014 Consent Decree Civil Case 1:14-cv-00408-JMS-KSC, the NPDES NGPC Permits for Honolulu and Kalaeloa Barber's Point Harbors, and relevant sections of the Federal and State laws, rules, and regulations.

1.1 Requirements

The Consent Decree requirements for this SSS O&M Manual are provided in Table 1.

Table 1. Consent Decree Requirements for the SSS O&M Manual.

CONSENT DECREE REQUIREMENTS	CHAPTERS
20. Storm Sewer System Operations and Maintenance The SSS O&M Plan shall establish recurring schedules for inspection and cleaning of the entire storm sewer system as described below. The SSS O&M Plan shall describe: 1) the range of operation and maintenance activities to be performed, 2) timelines and recurring schedules for each activity, 3) departments and personnel responsible for activity implementation, and 4) dates and timelines for procurement of necessary equipment. The SSS O&M Plan shall address the provisions in Paragraphs 20.a. through d.	Chapter 1
a. Storm Sewer System Mapping HDOT-Harbors shall create and submit a comprehensive storm sewer system map that identifies all HDOT-Harbors assets including inlets, manhole, pipes, above-ground drainage features, post-construction control measures, and outfalls. HDOT-Harbors shall include areas where Harbor Property discharges directly to the Harbors or their tributaries and are at risk of flooding. The map shall be developed in GIS format and shall include relevant information for each asset class. For pipes, drainage features and outfalls, this shall include the type of material, size, condition, and date of installation, if known. Data for inlets shall include type, condition and presence of stencil. The map shall allow for the determination of outfall drainage basins including the identification of up-gradient	Chapter 2

CONSENT DECREE REQUIREMENTS	CHAPTERS
tributaries both within the HDOT-Harbors storm sewer system and where the system is connected to offsite tributary storm drain systems to the extent that information is included in the geodatabase delivered by the Army Corps of Engineers under the Army Corps of Engineers Scope of Work The map and associated GIS shall provide foundation data for the Asset Management System described below.	
b. Asset Management System. HDOT-Harbors shall develop and maintain an Asset Management System, which shall include and inventory of HDOT-Harbors' assets and a schedule for recurring inspection, cleaning, other maintenance, and renewal. The Asset Management System shall be capable of generating and tracking work orders for inspection, cleaning, and other maintenance and shall be capable of assisting HDOT-Harbors with prioritization of capital improvement projects. The Asset Management System shall be fully implemented not later than December 31, 2015 or within 180 days of completion of Storm Sewer Mapping described in Paragraph 20.a.	Chapter 3 Chapter 4
c. Storm Sewer System Inspections. As described in the SSS O&M Plan, and in accordance with the schedule described in the SSS O&M Plan, HDOT-Harbors shall conduct physical inspections of the storm sewer system to identify structural defects, trash and debris accumulation, and other constraints that limit the flow of stormwater. HDOT-Harbors shall also inspect areas where Harbor Property discharges directly to the Harbors or their tributaries and are at risk for flooding. The inspection of the storm sewer system can occur concurrently with the cleaning program required in Paragraph 20.d.	Chapter 5 Chapter 6
d. Storm Sewer System Cleaning. The SSS O&M Plan shall include a cleaning schedule for the storm sewer system, and shall include an initial cleaning of all inlets, pipes (as necessary), drainage features and outfalls (as necessary) by 270 days after the entry of the Consent Decree, or another date agreed upon by EPA and DOH. Cleaning shall be accomplished by removing accumulated debris, trash, and sediment. HDOT-Harbors shall develop a recurring cleaning cycle that ensures that each inlet and drainage feature are cleaned no less than once every five years following the initial cleaning. Outfalls will be cleaned as necessary. i. In the cleaning schedule, HDOT-Harbors shall identify "hotspots" where there is a greater risk for potential discharges of pollutants to the storm sewer system, and describe the process for defining hotspots in the SSS O&M Plan. HDOT-Harbors shall implement appropriate BMPs, including more frequent cleaning and maintenance to minimize potential discharges of pollutants to the storm sewer system ii. HDOT-Harbors shall require the tenant to develop and implement a schedule for routine cleaning of rail tracks at Kalaeloa Barbers Point Harbor to prevent discharge of pollutants to the receiving water.	Chapter 5 Chapter 7 Chapter 8

1.2 Port Hawaii Commercial Harbors System

Pursuant to HRS Chapter 266, HDOT is responsible for the care and control of the commercial harbors and roadsteads in Hawaii. The Harbors controls properties at Honolulu and Kalaeloa Barbers Point Harbors, along with the nine commercial harbors serving Island of Hawaii, Kauai, Maui, Molokai and Lanai. The Port Hawaii Commercial Harbors System (hereinafter "Port Hawaii") delivers passengers and goods via ocean transportation, and supports every facet of Hawaii's economy—tourism, construction, national defense, agriculture, and industries.

Hawaii imports 80% of all consumer goods, including food and fuel, and 98% of these goods are received and processed through the ten commercial ports on six islands.

1.2.1 Honolulu Harbor

Honolulu Harbor is one of the largest container handling ports in the United States and the busiest harbor in Hawaii with over 11 million short tons of cargo handled annually, and serves as the primary commercial and transportation center in the Port Hawaii system. Honolulu Harbor provides facilities for passenger, excursion, research and fishing vessels and supports numerous tenants engaged in shipping, commercial fishing, and other maritime-related activities.

Honolulu Harbor is a natural harbor created through the restriction of coral growth by the fresh water pouring into it from Nuuanu Stream, and is well protected from wind and surge action. Located on the southern coast of Oahu, Honolulu Harbor receives most of the State's containerized cargo where it is unloaded and distributed to its final destination.

Honolulu Harbor offers over 200 acres of container yard and over 30 major berth facilities with over 5 linear miles of mooring space. Honolulu Harbor is 40-feet deep and contains five components: Main Channel, Main Harbor Basin, Kapalama Channel, Kapalama Channel Basin, and Kalihi Channel.

Figure 1 shows a rendering of the Honolulu Harbor Piers.

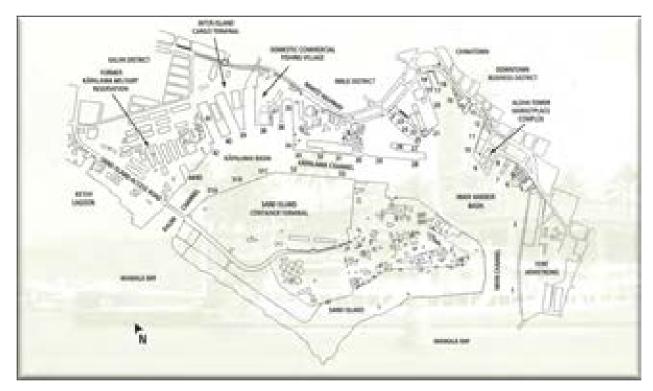


Figure 1. Honolulu Harbor Piers. (Courtesy Port Hawaii Commercial Harbors System Handbook 2012.)

Figure 2 shows Honolulu Harbor aerial view with ocean receiving waters.



Figure 2. Honolulu Harbor aerial view shows the surrounding ocean, channels, and basins.

The Main Channel, often referred to as the Fort Armstrong Channel, is Honolulu Harbor's entry and exit point. It is located at the harbor's east end and has a depth of 45 feet. The Kalihi Channel is located west of Sand Island but is not used because the Sand Island Access Road drawbridge over the channel is permanently fixed in place to allow for uninterrupted flow of containers to and from the container terminals on Sand Island.

The types of cargo handled at Honolulu Harbor include the following:

- Liquid-bulk cargo, e.g., petroleum products.
- Dry-bulk cargo, e.g., aggregates.
- Neo-bulk cargo, e.g., construction materials such as lumber.
- Break-bulk cargo, e.g., miscellaneous general cargo.

Linking Honolulu Harbor to the Honolulu International Airport is Nimitz Highway.

1.2.2 Kalaeloa Barbers Point Harbor

Kalaeloa Barbers Point Harbor is the second busiest port in Hawaii and enables business to ship their products directly to the Neighbor Islands. It is the newest commercial harbor constructed in 1990, and is located 19 nautical miles west of Honolulu Harbor near the south-western tip of Oahu.

Figure 3 shows the Kalaeloa Barbers Point Harbor that contains specialized cargo handling facilities, e.g., the pneumonic cement pump system.

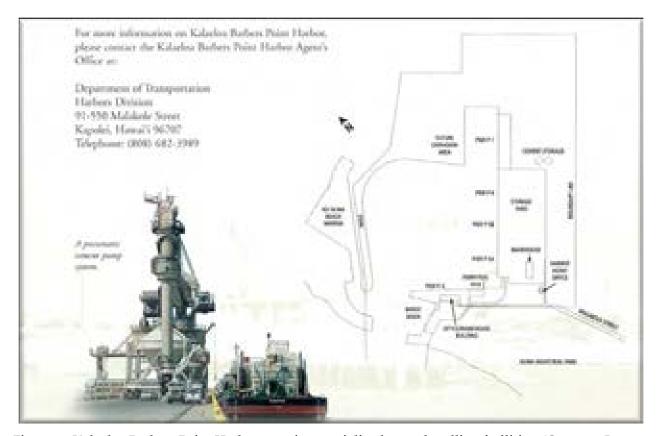


Figure 3. Kalaeloa Barbers Point Harbor contains specialized cargo handling facilities. (Courtesy Port Hawaii Commercial Harbors System Handbook 2012.)

Kalaeloa Barbers Point Harbor services a niche market; and contains specialized cargo handling facilities not found at Honolulu Harbor such as a coal bulk off-loader system and pneumatic cement pump station.

The main channel entrance measures 3,100-feet long and 38-feet deep. The recently expanded main basin is approximately 2,300-feet long by 1,800-feet wide.

The commodities primarily handled at Kalaeloa Barbers Point Harbor include the following types of cargo:

- Liquid-bulk cargo, e.g., petroleum products.
- Dry-bulk cargo, e.g., coal, sand, cement, gravel, and scrap metal.

In addition to commodities and lesser amounts of miscellaneous general cargo and containers, Kalaeloa Barbers Point Harbor provides space for commercial ship maintenance and repair facilities.

Kalaleloa Barbers Point Harbor is served by Interstate Highway H-1 and Farrington Highway, and is connected to Honolulu International Airport and downtown Honolulu by about 20 miles of high capacity roadway.

1.3 Storm Sewer System Operations and Maintenance Program

Honolulu Harbor and Kalaeloa Barbers Point Harbor are working harbors, busy with industrial activity that includes the use and maintenance of heavy diesel equipment, delivery vehicles, construction projects, container operations, fresh fish operations, and various tenant operations. Storm water flows over and through harbor lands and is captured into storm drains of the storm sewer system, and empties into receiving ocean waters. Storm water flows can transport pollutants from the land into the ocean through storm drains, swales, or other uncontrolled access points across the piers. This storm water flow requires the adoption and implementation of BMPs to mitigate and prevent oil, debris, silt, and other potential pollutants from entering our ocean waters.

The SWMP Pollution Prevention /Good Housekeeping Program includes the SSS OMP; general maintenance and housekeeping activities for sweeping and refuse collection; reviews and on-site inspections of wash areas, dry wells, and infiltration sinks; and storm water awareness training.

The SSS OMP defines the implementation of BMPs for storm drain inspection, cleaning, and preventive maintenance. The SSS OMP goals are to inspect storm drains to identify structural defects; clean accumulated trash, debris, and sediment; and investigate issues that have the potential to limit the storm drain flow of storm water.

1.4 Organization of the SSS O&M Manual

This SSS O&M Manual provides resource GIS maps, storm drain asset data tables, and the Operations and Maintenance (O&M) procedures documentation for Harbors personnel. This document serves to facilitate compliance performance; establish timelines and recurring schedules, routes, and routine frequencies; identify Harbors personnel responsible for specific tasks; and discuss future procurement requirements. The SSS O&M Manual is organized as set forth in the CD Section 20.a through d.

The Harbors GIS maps and the AMS serve as reference materials for implementation of the environmental compliance activities. The O&M procedures documentation serve as user guides for personnel who perform the Harbors storm sewer system activities and

tasks utilizing the Citiworks[®] AMS generated workflow processes. For ease of use, the *SSS O&M Manual* is divided into the following two volumes.

1.4.1 Volume I Foundational Data Resources - Chapters 1 to 4

- GIS maps of the Harbors storm sewer system in Pier functional areas, with data tables of storm drain assets inventories (e.g., inlets and manholes, pipes, open channels and trench drains, and outfalls).
- Citiworks® AMS management of compliance activities for performance of storm sewer system inspection, cleaning, and maintenance activities and tasks.

1.4.2 Volume II User Guides for Storm Sewer System O&M Activities - Chapters 5 to 8

- Inspection activities utilizing Citiworks® AMS with screen prints of workflow processes that manage Harbors personnel tasks from initiation to reporting.
- Cleaning activities with Harbors O&M personnel responsible to perform tasks.

1.5 SSS O&M Manual Audience and Intended Uses

This SSS O&M Manual is written for Harbors personnel, and describes the necessary activities and tasks performed to ensure proper operations and maintenance of the storm sewer system. The target audience includes Managers, Superintendents, and Supervisors with programmatic responsibilities for manpower and funding resources.

The SSS O&M Manual integrates the Cityworks® AMS storm drain asset maps with predefined schedules and work assignments to inspect, clean, and maintain the storm drain system; and provides O&M user guides for Harbors Inspectors and Subunit personnel.

The comprehensive Oahu District storm drain asset maps and data tables are supplemented with Harbors organizational charts, and may be useful for training personnel and new employee orientation.

The SSS O&M Manual may serve as a reference document for the HDOT, all Harbors personnel, environmental consultants, and regulatory agencies.

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CHAPTER 2

HARBORS STORM SEWER SYSTEM AND GIS MAPPING

Harbors personnel performs the storm sewer system O&M for the storm drain infrastructure that currently includes 529 inlets, 114 manholes, 124 outfalls, 84 fittings, 720 lines, 107 open lines, 43 Permanent BMPs, 82 signage, and 14 sweeping routes at Honolulu Harbor and Kalaeloa Barbers Point Harbor.

The storm sewer system captures storm water flows at the Honolulu Harbor's 5 linear miles of mooring space for 30 major berth facilities on 48 piers, and over 232 acres of container yard and 842,362 square feet of shed areas. At Kalaeloa Barbers Point Harbor, storm water flows over and through the Barge Basin, five commercial piers, and the Ferry Terminal/Tug Pier.

During 2015, Harbors implemented a geodatabase containing an inventory of storm sewer system assets and GIS mapping with the assistance of the US Army Corps of Engineers (USACE). An environmental engineering consultant conducted GIS data gap surveys using closed-circuit television crews on land, and kayak and scuba diving teams for discharge outfall reconnaissance to investigate unknown storm sewer system connections and to assess the condition of subsurface features associated with the data gaps.

The storm sewer system geodatabase data gathered by the USACE and consultant are currently hosted by ESRI ArcGIS server feature map services and managed in ArcGIS Desktop. These web-based services are available to authorized users with Internet access.

The GIS mapping of the Harbors storm sewer system was integrated into the AMS, which provides the information needed to monitor and manage the storm sewer system, and supports the preparation of *Annual Compliance Reports*. The GIS mapping locates storm drain features and ties other structures into a map. The GIS mapping allows for accurate accumulation of data for each feature.

2.1 Honolulu Harbor Pier Use Areas

The principal cargo and pier use areas for Honolulu Harbor structure the routes for the storm sewer system inspection and cleaning tasks, and Harbors personnel are assigned as the inspectors for specific pier areas.

The SSS O&M Manual presents storm drain assets inventoried with GIS mapping and data tables for each pier use area.

Table 2 lists the Honolulu Harbor Piers, area name, principal cargo/pier use, container yard area, and shed areas.

Table 2. Honolulu Harbor Piers and name, principal cargo/pier use, container yard area, and shed area.

PIER	NAME	PRINCIPAL CARGO/PIER USE	YARD AREA (ACRES)	SHED AREA (SQ. FT.)
1		Foreign containers and neo-bulk cargo.	20.1	11,337
2	Fort Armstrong	Commercial ship terminal, Foreign-Trade Zone No. 9, and neo-bulk cargo.	8.9	169,355
5		Small passenger vessels.		
6		Small passenger vessels and vehicle parking.		
7		Falls of Clyde and the Hawaii Maritime Center.		
8	Aloha Tower Market Place	Small passenger vessels and retail space.		
9	Complex	Miscellaneous vessels and retail space.		
10		Cruise ship terminal and vehicle parking.		
11		Cruise ships and Harbors Division Administrative Office.		
12		Vehicle parking, Clean Island Council (oil spill response vessel), Equipment storage.		
13		Tugboats, office space, and vehicle parking.		13,824
14		Tugboats, office space, and vehicle parking.		13,825
15	Piers 12 – 18	Marine Spill Response Center, Oil Spill response vessel(s).	0.4	5,498
16		Commercial fishing boats.		
17		Commercial fishing boats.		
18		Pilot boats, loading dock, storage, and repair sheds.		
19		Tugboats, barges, cruise ships, ferry terminal, general cargo, and storage shed.	0.3	87,845
20	Piers 19 – 29	Tugboats, barges, cruise ships, general cargo.	3.0	
21		Tugboats, barges, and office space.	0.4	

Pier	Name	PRINCIPAL CARGO/PIER USE	YARD AREA (ACRES)	SHED AREA (SQ. FT.)
22		Tugboats and water taxis.	0.8	
23		Barges and other big berth vessels.	2.9	
24		Pacific Shipyards.	3.4	
25		Pacific Shipyards.	0.5	
26		Tugboats, barges, and work boats.	3.9	
27		Work boats, dinner cruise ship, and submarine maintenance facility.	2.4	
28		Tugboats, barges, and maintenance operation.	0.9	
29		Tugboats, barges, general cargo, and RO/RO (terminal forklift trucks).	7.8	
30		Privately owned.		
31		General cargo, RO/RO, office space, and storage sheds.	0.2	74,130
32	D: 04 05	Bunkering, pipelines, general cargo, and RO/RO.	3.3	99,400
33	Piers 31 – 35	General cargo, dry bulk, cargo, and RO/RO.	4.1	67,228
34		Bunkering, pipelines, and general cargo.	2.0	
35		University of Hawaii Marine Center research vessel(s).	1.9	
36		Commercial fishing boats.		32,400
37	Domestic Commercial	Commercial fishing boats, ice plant, retail, food restaurants, fish brokerage, and sales.		
38	Fishing Village	Commercial fishing boats, fish auction, and propane barge.		
39		Barges and tugboats, break-bulk and container cargos, and RO/RO.	16.1	98,239
40		Barges and tugboats, break-bulk and container cargos, and RO/RO.	10.8	67,500
41		Dry-dock and ship repair facility.		
42		Container freight station.		
44	Spug Harber			
45	Snug Harbor			
51A	Sand Island	Domestic containers, autos, RO/RO, and petroleum.	26.3	

PIER	Name	Principal Cargo/Pier Use	YARD AREA (ACRES)	SHED AREA (SQ. FT.)
51B		Domestic containers and autos, maintenance facility.	31.1	
51C		Domestic containers and autos, maintenance facility.	11.9	
52		Domestic containers and autos.	31.5	50,300
53		Domestic containers and autos.	37.4	51,481
60	KIPA	Bulk Cargo, user has own permit.		
		TOTALS	232.3	842,362

2.1.1 Pier 1 and Pier 2 – Fort Armstrong GIS Map of Storm Drain Assets



Figure 4. Piers 1 and 2 – Fort Armstrong GIS map of storm drain assets.

Table 3 shows **Piers 1 and 2** with 71 storm drain inlet, manhole, and catch basin assets; and identification number, location, and stencil type.

Table 3. Piers 1 and 2 storm drain inlet, manhole, and catch basin assets; and ID number, location, and stencil type.

ASSET TYPE	ID NUMBER	PIER LOCATION	STENCIL TYPE*.
Drain Inlet	SDIHO010102	HO01	SP
Drain Inlet	SDIHO010152	HO01	SP
Drain Inlet	SDIHO010202	HO01	SP
Drain Inlet	SDIHO010208	HO01	SP
Drain Inlet	SDIHO010212	HO01	SP
Drain Inlet	SDIHO010214	HO01	SP
Drain Inlet	SDIHO010112	HO01	SP
Drain Inlet	SDIHO010122	HO01	SP
Drain Inlet	SDIHO010224	HO01	SP
Drain Inlet	SDIHO010252	HO01	SP
Drain Inlet	SDIHO010254	HO01	SP
Drain Inlet	SDIHO010162	HO01	SP
Drain Inlet	SDIHO010210	HO01	SP
Manhole	SDJHO010220	HO01	N/A
Manhole	SDJHO010222	HO01	N/A
Manhole	SDJHO010204	HO01	N/A
Manhole	SDJHO020802	HO01	N/A
Manhole	SDJHO010206	HO01	N/A
Manhole	SDJHO020208	HO02	N/A
Drain Inlet	SDIHO010172	HO02	SP
Drain Inlet	SDIHO020178	HO02	SP
Drain Inlet	SDIHO020176	HO02	SP
Drain Inlet	SDIHO020174	HO02	SP
Drain Inlet	SDIHO020810	HO02	SP
Drain Inlet	SDIHO020804	HO02	SP
Drain Inlet	SDIHO020806	HO02	SP
Drain Inlet	SDIHO020808	HO02	SP
Drain Inlet	SDIHO020520	HO02	SP
Drain Inlet	SDIHO020512	HO02	SP

ASSET TYPE	ID Number	PIER LOCATION	STENCIL TYPE*.
Drain Inlet	SDIHO020812	HO02	SP
Drain Inlet	SDIHO020814	HO02	SP
Drain Inlet	SDIHO010256	HO02	SP
Drain Inlet	SDIHO010258	HO02	SP
Drain Inlet	SDIHO010260	HO02	SP
Drain Inlet	SDIHO010262	HO02	SP
Drain Inlet	SDIHO010264	HO02	SP
Drain Inlet	SDIHO010266	HO02	SP
Drain Inlet	SDIHO010268	HO02	SP
Drain Inlet	SDIHO010270	HO02	SP
Drain Inlet	SDIHO010272	HO02	SP
Drain Inlet	SDIHO010274	HO02	SP
Drain Inlet	SDIHO010276	HO02	SP
Drain Inlet	SDIHO010278	HO02	SP
Drain Inlet	SDIHO010280	HO02	SP
Drain Inlet	SDIHO010282	HO02	SP
Drain Inlet	SDIHO010284	HO02	SP
Drain Inlet	SDIHO010286	HO02	SP
Drain Inlet	SDIHO010288	HO02	SP
Drain Inlet	SDIHO010290	HO02	SP
Drain Inlet	SDIHO010292	HO02	SP
Catch Basin	SDIHO020650	HO02	SP
Catch Basin	SDIHO020640	HO02	SP
Catch Basin	SDIHO020642	HO02	SP
Catch Basin	SDIHO020644	HO02	SP
Catch Basin	SDIHO020522	HO02	SP
Catch Basin	SDIHO020508	HO02	SP
Catch Basin	SDIHO020510	HO02	SP
Manhole	SDJHO020604	HO02	N/A
Manhole	SDJHO020606	HO02	N/A
Manhole	SDJHO020602	HO02	N/A
Manhole	SDJHO020638	HO02	N/A
Manhole	SDJHO020636	HO02	N/A
Manhole	SDJHO020722	HO02	N/A

ASSET TYPE	ID Number	PIER LOCATION	STENCIL TYPE*.
Manhole	SDJHO020634	HO02	N/A
Manhole	SDJHO020632	HO02	N/A
Manhole	SDJHO020702	HO02	N/A
Manhole	SDJHO020704	HO02	N/A
Manhole	SDJHO020706	HO02	N/A
Manhole	SDJHO020506	HO02	N/A
Manhole	SDJHO020502	HO02	N/A
Manhole	SDJHO020504	HO02	N/A

^{*} $SP = spray\ paint;\ MM = metal\ marker\ (bolted\ to\ grate);\ CM = curb\ marker\ (durable\ plastic\ requires\ special\ adhesive);\ and <math>N/A = not\ applicable.$

2.1.2 Piers 5 through 11 – Aloha Tower Market Place Complex GIS Map of Storm Drain Assets



Figure 5. Piers 5 through 11 – Aloha Tower Market Place Complex GIS map of storm drain assets.

Table 4 shows **Piers 5 through 11** with 106 storm drain inlet, manhole, and catch basin assets; and identification number, location, and stencil type.

Table 4. Piers 5 through 11 storm drain inlet, manhole, and catch basin assets; and ID number, location, and stencil type.

ASSET TYPE	ID NUMBER	PIER LOCATION	STENCIL TYPE*
Drain Inlet	SDIHO051012	HO05	SP
Drain Inlet	SDIHO051002	HO05	SP
Drain Inlet	SDIHO0519427	HO05	SP
Drain Inlet	SDIHO0519429	HO05	MM
Drain Inlet	SDIHO0528874	HO05	MM
Drain Inlet	SDIHO0519423	HO05	SP
Drain Inlet	SDIHO061042	HO06	SP
Catch Basin	SDIHO061162	HO06	SP
Drain Inlet	SDIHO061098	HO06	SP
Drain Inlet	SDIHO061102	HO06	SP
Drain Inlet	SDIHO061100	HO06	SP
Manhole	SDJHO061110	HO06	N/A
Manhole	SDJHO061096	HO06	N/A
Drain Inlet	SDIHO081504	HO08	SP
Catch Basin	SDIHO081506	HO08	SP
Catch Basin	SDIHO081242	HO08	SP
Catch Basin	SDIHO081288	HO08	SP
Catch Basin	SDIHO081286	HO08	SP
Catch Basin	SDIHO081284	HO08	SP
Catch Basin	SDIHO081282	HO08	SP
Catch Basin	SDIHO081240	HO08	SP
Catch Basin	SDIHO081238	HO08	SP
Catch Basin	SDIHO081260	HO08	SP
Catch Basin	SDIHO081244	HO08	SP
Manhole	SDJHO081236	HO08	N/A
Manhole	SDJHO061112	HO08	N/A
Manhole	SDJHO081234	HO08	N/A
Manhole	SDJHO081232	HO08	N/A
Manhole	SDJHO081502	HO08	N/A

ASSET TYPE	ID NUMBER	PIER LOCATION	STENCIL TYPE*
Manhole	SDJHO081280	HO08	N/A
Drain Inlet	SDIHO092030	HO09	SP/MM
Drain Inlet	SDIHO091292	HO09	SP
Drain Inlet	SDIHO091290	HO09	SP
Drain Inlet	SDIHO091486	HO09	MM
Drain Inlet	SDIHO091462	HO09	MM
Drain Inlet	SDIHO091464	HO09	MM
Drain Inlet	SDIHO091466	HO09	MM
Drain Inlet	SDIHO091456	HO09	MM
Drain Inlet	SDIHO091458	HO09	MM
Drain Inlet	SDIHO091470	HO09	MM
Drain Inlet	SDIHO091472	HO09	MM
Drain Inlet	SDIHO091474	HO09	MM
Drain Inlet	SDIHO091478	HO09	MM
Drain Inlet	SDIHO091480	HO09	MM
Drain Inlet	SDIHO091482	HO09	MM
Drain Inlet	SDIHO091488	HO09	MM
Drain Inlet	SDIHO091490	HO09	MM
Drain Inlet	SDIHO091434	HO09	MM
Drain Inlet	SDIHO091432	HO09	MM
Drain Inlet	SDIHO091430	HO09	MM
Drain Inlet	SDIHO091420	HO09	MM
Drain Inlet	SDIHO091422	HO09	MM
Drain Inlet	SDIHO091424	HO09	MM
Drain Inlet	SDIHO091384	HO09	MM
Drain Inlet	SDIHO091388	HO09	MM
Drain Inlet	SDIHO091390	HO09	MM
Drain Inlet	SDIHO091364	HO09	MM
Drain Inlet	SDIHO091392	HO09	MM
Drain Inlet	SDIHO091394	HO09	MM
Drain Inlet	SDIHO091396	HO09	MM
Drain Inlet	SDIHO091362	HO09	MM
Drain Inlet	SDIHO091360	HO09	MM
Drain Inlet	SDIHO091356	HO09	MM

ASSET TYPE	ID Number	PIER LOCATION	STENCIL TYPE*
Drain Inlet	SDIHO091352	HO09	MM
Drain Inlet	SDIHO091654	HO09	MM
Drain Inlet	SDIHO091652	HO09	MM
Drain Inlet	SDIHO091656	HO09	MM
Drain Inlet	SDIHO091650	HO09	MM
Drain Inlet	SDIHO091648	HO09	MM
Drain Inlet	SDIHO091630	HO09	MM
Drain Inlet	SDIHO091622	HO09	MM
Drain Inlet	SDIHO091620	HO09	MM
Drain Inlet	SDIHO091604	HO09	MM
Drain Inlet	SDIHO091608	HO09	MM
Drain Inlet	SDIHO091572	HO09	MM
Drain Inlet	SDIHO091610	HO09	MM
Catch Basin	SDIHO092022	HO09	SP/MM
Catch Basin	SDIHO091452	HO09	SP/CM
Catch Basin	SDIHO091296	HO09	SP
Catch Basin	SDIHO091310	HO09	SP
Catch Basin	SDIHO091308	HO09	SP
Catch Basin	SDIHO091294	HO09	SP
Drain Inlet	SDIHO091626	HO09	MM
Drain Inlet	SDIHO091624	HO09	MM
Manhole	SDJHO091454	HO09	N/A
Manhole	SDJHO092020	HO09	N/A
Manhole	SDJHO091350	HO09	N/A
Manhole	SDJHO091450	HO09	N/A
Manhole	SDJHO091386	HO09	N/A
Manhole	SDJHO091428	HO09	N/A
Manhole	SDJHO091380	HO09	N/A
Manhole	SDJHO091358	HO09	N/A
Manhole	SDJHO091354	HO09	N/A
Manhole	SDJHO091426	HO09	N/A
Manhole	SDJHO091382	HO09	N/A
Manhole	SDJHO101732	HO10	N/A
Drain Inlet	SDIHO111834	HO11	SP

ASSET TYPE	ID Number	PIER LOCATION	STENCIL TYPE*
Drain Inlet	SDIHO111796	HO11	SP
Drain Inlet	SDIHO111798	HO11	SP
Drain Inlet	SDIHO111764	HO11	SP
Drain Inlet	SDIHO111794	HO11	SP
Drain Inlet	SDIHO111854	HO11	SP
Drain Inlet	SDIHO111766	HO11	SP
Drain Inlet	SDIHO111836	HO11	SP
Drain Inlet	SDIHO111824	HO11	SP
Drain Inlet	SDIHO111744	HO11	SP

^{*} $SP = spray\ paint;\ MM = metal\ marker\ (bolted\ to\ grate);\ CM = curb\ marker\ (durable\ plastic\ requires\ special\ adhesive);\ and\ N/A = not\ applicable.$

Table 5 shows **Piers 5 through 11** with 1 open channel asset, identification number, and location.

Table 5. Piers 5 through 11 storm drain open channel asset, ID number, and location.

ASSET TYPE	ID Number	PIER LOCATION
Open Channel	SDOHO081515	HO08

2.1.3 Piers 12 through 18 GIS Map of Storm Drain Assets



Figure 6. Piers 12 through 18 GIS map of storm drain assets.

Table 6 shows **Piers 12 through 18** with 12 storm drain inlet assets, identification number, location, and stencil type.

Table 6. Piers 12 through 18 storm drain inlet assets, ID number, location, and stencil type.

ASSET TYPE	ID Number	PIER LOCATION	STENCIL TYPE *
Drain Inlet	SDIHO152202	HO15	SP
Drain Inlet	SDIHO182310	HO18	SP
Drain Inlet	SDIHO182308	HO18	SP
Drain Inlet	SDIHO182304	HO18	SP
Drain Inlet	SDIHO182302	HO18	SP
Drain Inlet	SDIHO182320	HO18	SP
Drain Inlet	SDIHO182422	HO18	SP
Drain Inlet	SDIHO182432	HO18	SP
Drain Inlet	SDIHO182420	HO18	SP
Drain Inlet	SDIHO182430	HO18	SP
Drain Inlet	SDIHO182434	HO18	SP
Drain Inlet	SDIHO182306	HO18	SP

^{*} $SP = spray\ paint;\ MM = metal\ marker\ (bolted\ to\ grate);\ CM = curb\ marker\ (durable\ plastic\ requires\ special\ adhesive);\ and\ N/A = not\ applicable.$

2.1.4 Piers 19 through 29 GIS Map of Storm Drain Assets



Figure 7. Piers 19 through 29 GIS map of storm drain assets.

Table 7 shows **Piers 19 through 29** with 74 storm drain inlet and manhole assets, identification number, location, and stencil type.

Table 7. Piers 19 through 29 storm drain inlet and manholes assets, ID number, location, and stencil type.

ASSET TYPE	ID NUMBER	PIER LOCATION	STENCIL TYPE *
Drain Inlet	SDIHO192410	HO19	SP
Drain Inlet	SDIHO192544	HO19	SP
Drain Inlet	SDIHO192504	HO19	SP
Drain Inlet	SDIHO202502	HO19	SP
Drain Inlet	SDIHO192520	HO19	SP
Drain Inlet	SDIHO192484	HO19	СМ
Manhole	SDJHO192482	HO19	N/A
Drain Inlet	SDIHO202662	HO20	SP
Drain Inlet	SDIHO202674	HO20	SP
Drain Inlet	SDIHO202580	HO20	SP
Drain Inlet	SDIHO202582	HO20	SP
Drain Inlet	SDIHO202704	HO20	SP
Drain Inlet	SDIHO202670	HO20	SP
Drain Inlet	SDIHO202666	HO20	SP
Drain Inlet	SDIHO202672	HO20	SP
Drain Inlet	SDIHO202664	HO20	SP
Drain Inlet	SDIHO202660	HO20	SP
Drain Inlet	SDIHO202658	HO20	SP
Drain Inlet	SDIHO202648	HO20	SP
Drain Inlet	SDIHO202650	HO20	SP
Drain Inlet	SDIHO202646	HO20	SP
Drain Inlet	SDIHO202642	HO20	SP
Drain Inlet	SDIHO202584	HO20	SP
Drain Inlet	SDIHO202656	HO20	SP
Drain Inlet	SDIHO202654	HO20	SP
Drain Inlet	SDIHO202652	HO20	SP
Drain Inlet	SDIHO212792	HO21	SP
Drain Inlet	SDIHO212612	HO21	SP
Drain Inlet	SDIHO212602	HO21	SP

ASSET TYPE	ID NUMBER	PIER LOCATION	STENCIL TYPE *
Drain Inlet	SDIHO202700	HO21	SP
Drain Inlet	SDIHO222802	HO22	SP
Drain Inlet	SDIHO232678	HO23	MM
Drain Inlet	SDIHO232440	HO23	MM
Drain Inlet	SDIHO232438	HO23	MM
Drain Inlet	SDIHO232448	HO23	MM
Drain Inlet	SDIHO232682	HO23	MM
Drain Inlet	SDIHO232442	HO23	MM
Drain Inlet	SDIHO192554	HO23	SP
Drain Inlet	SDIHO192562	HO23	SP
Drain Inlet	SDIHO232680	HO23	MM
Drain Inlet	SDIHO232686	HO23	MM
Drain Inlet	SDIHO232812	HO23	SP
Drain Inlet	SDIHO232814	HO23	SP
Drain Inlet	SDIHO233030	HO23	SP
Drain Inlet	SDIHO233008	HO23	SP
Drain Inlet	SDIHO233006	HO23	SP
Drain Inlet	SDIHO233010	HO23	SP
Drain Inlet	SDIHO233002	HO23	SP
Drain Inlet	SDIHO222806	HO23	SP
Drain Inlet	SDIHO233004	HO23	SP
Manhole	SDJHO232810	HO23	N/A
Manhole	SDJHO232684	HO23	N/A
Drain Inlet	SDIHO243072	HO24	SP
Drain Inlet	SDIHO243074	HO24	SP
Drain Inlet	SDIHO243242	HO24	SP
Drain Inlet	SDIHO243202	HO24	SP
Drain Inlet	SDIHO243522	HO25	SP
Drain Inlet	SDIHO243502	HO25	SP
Drain Inlet	SDIHO263552	HO26	SP
Drain Inlet	SDIHO263556	HO26	SP
Drain Inlet	SDIHO263554	HO26	SP
Drain Inlet	SDIHO263572	HO26	SP
Drain Inlet	SDIHO263592	HO26	SP

ASSET TYPE	ID Number	PIER LOCATION	STENCIL TYPE *
Drain Inlet	SDIHO273632	HO27	SP
Drain Inlet	SDIHO293672	HO29	SP
Drain Inlet	SDIHO293224	HO29	SP
Drain Inlet	SDIHO293204	HO29	SP
Drain Inlet	SDIHO293222	HO29	SP
Drain Inlet	SDIHO293206	HO29	SP
Drain Inlet	SDIHO293620	HO29	SP
Drain Inlet	SDIHO293612	HO29	SP
Manhole	SDJHO293614	HO29	N/A
Manhole	SDJHO293616	HO29	N/A
Manhole	SDJHO293618	HO29	N/A

^{*} $SP = spray\ paint;\ MM = metal\ marker\ (bolted\ to\ grate); CM = curb\ marker\ (durable\ plastic\ requires\ special\ adhesive);\ and\ N/A = not\ applicable.$

Table 8 shows **Piers 19 through 29** with 25 storm open channel assets, identification number, and location.

Table 8. Piers 19 through 29 storm drain open channel assets, ID number, and location.

ASSET TYPE	ID Number	LOCATION
Open Channel	SDOHO202703	HO20
Open Channel	SDOHO202701	HO20
Open Channel	SDOHO232815	HO23
Open Channel	SDOHO29550A	HO29
Open Channel	SDOHO29500B	HO29
Open Channel	SDOHO29050A	HO29
Open Channel	SDOHO29100A	HO29
Open Channel	SDOHO29150A	HO29
Open Channel	SDOHO29200A	HO29
Open Channel	SDOHO29250A	HO29
Open Channel	SDOHO29300A	HO29
Open Channel	SDOHO29350A	HO29
Open Channel	SDOHO29400A	HO29

ASSET TYPE	ID Number	LOCATION
Open Channel	SDOHO29450A	HO29
Open Channel	SDOHO29500A	HO29
Open Channel	SDOHO29050B	HO29
Open Channel	SDOHO29100B	HO29
Open Channel	SDOHO29150B	HO29
Open Channel	SDOHO29200B	HO29
Open Channel	SDOHO29250B	HO29
Open Channel	SDOHO29300B	HO29
Open Channel	SDOHO29350B	HO29
Open Channel	SDOHO29400B	HO29
Open Channel	SDOHO29450B	HO29
Open Channel	SDOHO29530B	HO29

2.1.5 Piers 31 through 35 GIS Map of Storm Drain Assets



Figure 8. Piers 31 through 35 GIS map of storm drain assets.

Table 9 shows **Piers 31 through 35** with 58 storm drain inlet and manhole assets, identification number, location, and stencil type.

Table 9. Piers 31 through 35 storm drain inlet and manhole assets, ID number, location, and stencil type.

ASSET TYPE	ID NUMBER	PIER LOCATION	STENCIL TYPE *
Drain Inlet	SDIHO313924	HO30	SP
Drain Inlet	SDIHO313904	HO30	SP
Drain Inlet	SDIHO313922	HO31	SP
Drain Inlet	SDIHO313902	HO31	SP
Drain Inlet	SDIHO314154	HO31	SP
Drain Inlet	SDIHO313970	HO31	SP
Drain Inlet	SDIHO314002	HO31	SP
Drain Inlet	SDIHO313968	HO31	SP
Drain Inlet	SDIHO313966	HO31	SP
Drain Inlet	SDIHO314134	HO31	SP
Drain Inlet	SDIHO314130	HO31	SP
Drain Inlet	SDIHO314012	HO31	SP
Drain Inlet	SDIHO314136	HO31	SP
Drain Inlet	SDIHO314132	HO31	SP
Drain Inlet	SDIHO314390	HO31	SP
Drain Inlet	SDIHO314392	HO31	SP
Drain Inlet	SDIHO314398	HO31	SP
Drain Inlet	SDIHO314402	HO31	SP
Drain Inlet	SDIHO314396	HO31	SP
Drain Inlet	SDIHO314400	HO31	SP
Drain Inlet	SDIHO313972	HO31	SP
Drain Inlet	SDIHO313964	HO31	SP
Drain Inlet	SDIHO313962	HO31	SP
Drain Inlet	SDIHO314160	HO31	SP
Drain Inlet	SDIHO314142	HO31	SP
Drain Inlet	SDIHO313958	HO31	SP
Drain Inlet	SDIHO313954	HO31	SP
Drain Inlet	SDIHO314152	HO31	SP
Drain Inlet	SDIHO314016	HO31	SP

ASSET TYPE	ID NUMBER	PIER LOCATION	STENCIL TYPE *
Manhole	SDJHO314394	HO31	N/A
Drain Inlet	SDIHO324246	HO32	SP
Drain Inlet	SDIHO324242	HO32	SP
Drain Inlet	SDIHO324244	HO32	SP
Drain Inlet	SDIHO324262	HO32	SP
Drain Inlet	SDIHO324208	HO32	SP
Drain Inlet	SDIHO324236	HO32	SP
Drain Inlet	SDIHO324234	HO32	SP
Drain Inlet	SDIHO324260	HO32	SP
Drain Inlet	SDIHO324232	HO32	SP
Drain Inlet	SDIHO314162	HO32	SP
Drain Inlet	SDIHO324204	HO32	SP
Drain Inlet	SDIHO324202	HO32	SP
Drain Inlet	SDIHO324182	HO32	SP
Drain Inlet	SDIHO324264	HO32	SP
Manhole	SDJHO324206	HO32	N/A
Manhole	SDJHO324212	HO32	N/A
Manhole	SDJHO324230	HO32	N/A
Drain Inlet	SDIHO344328	HO33	SP
Drain Inlet	SDIHO344326	HO33	SP
Drain Inlet	SDIHO344324	HO33	SP
Drain Inlet	SDIHO344312	HO34	SP
Drain Inlet	SDIHO344352	HO34	SP
Drain Inlet	SDIHO344302	HO34	SP
Drain Inlet	SDIHO344322	HO34	SP
Drain Inlet	SDIHO344362	HO34	SP
Drain Inlet	SDIHO354462	HO35	SP
Drain Inlet	SDIHO354452	HO35	SP
Drain Inlet	SDIHO354472	HO35	SP

^{*} $SP = spray\ paint;\ MM = metal\ marker\ (bolted\ to\ grate);\ CM = curb\ marker\ (durable\ plastic\ requires\ special\ adhesive);\ and\ N/A = not\ applicable.$

Table 10 shows **Piers 31 through 35** with 16 storm drain open channel assets, identification number, and location.

Table 10. Piers 31 through 35 storm drain open channel assets, ID number, and location.

ASSET TYPE	ID Number	PIER LOCATION
Open Channel	SDOHO314049	HO31
Open Channel	SDOHO314109	HO31
Open Channel	SDOHO314071	HO31
Open Channel	SDOHO314395	HO31
Open Channel	SDOHO314397	HO31
Open Channel	SDOHO314399	HO31
Open Channel	SDOHO314401	HO31
Open Channel	SDOHO314403	HO31
Open Channel	SDOHO314393	HO31
Open Channel	SDOHO314405	HO31
Open Channel	SDOHO314073	HO31
Open Channel	SDOHO314391	HO32
Open Channel	SDOHO405403	HO32
Open Channel	SDOHO405401	HO32
Open Channel	SDOHO350001	HO35
Open Channel	SDOHO350003	HO35

2.1.6 Piers 36 through 38 – Domestic Commercial Fishing Village GIS Map of Storm Drain Assets



Figure 9. Piers 36 through 38 GIS map of storm drain assets.

Table 11 shows **Piers 36 through 38** with 26 storm drain inlet and manhole assets, identification number, location, and stencil type.

Table 11. Piers 36 through 38 storm drain inlet and manholes assets, ID number, location, and stencil type.

ASSET TYPE	ID Number	LOCATION	STENCIL TYPE *
Drain Inlet	SDIHO364604	HO36	MM
Manhole	SDJHO364602	HO36	N/A
Drain Inlet	SDIHO384608	HO38	SP
Drain Inlet	SDIHO384606	HO38	SP
Drain Inlet	SDIHO384710	HO38	SP
Drain Inlet	SDIHO384822	HO38	СМ
Drain Inlet	SDIHO384820	HO38	СМ
Drain Inlet	SDIHO384816	HO38	СМ
Drain Inlet	SDIHO384814	HO38	СМ
Drain Inlet	SDIHO384812	HO38	СМ
Drain Inlet	SDIHO384806	HO38	SP
Drain Inlet	SDIHO384808	HO38	SP
Drain Inlet	SDIHO384704	HO38	SP
Drain Inlet	SDIHO384706	HO38	SP
Drain Inlet	SDIHO384708	HO38	SP
Drain Inlet	SDIHO384902	HO38	SP
Drain Inlet	SDIHO385152	HO38	MM
Drain Inlet	SDIHO385154	HO38	MM
Manhole	SDJHO384818	HO38	N/A
Manhole	SDJHO384824	HO38	N/A
Manhole	SDJHO384810	HO38	N/A
Manhole	SDJHO384702	HO38	N/A
Manhole	SDJHO385156	HO38	N/A
Manhole	SDJHO395502	HO38	N/A
Manhole	SDJHO385052	HO38	N/A
Manhole	SDJHO385104	HO38	N/A

^{*} $SP = spray\ paint;\ MM = metal\ marker\ (bolted\ to\ grate);\ CM = curb\ marker\ (durable\ plastic\ requires\ special\ adhesive);\ and\ N/A = not\ applicable.$

Table 12 shows **Piers 36 through 38** with 4 storm drain open channel assets, identification number, and location.

Table 12. Piers 36 through 38 storm drain open channel assets, ID number, and location.

ASSET TYPE	ID Number	LOCATION
Open Channel	SDOHO385057	HO38
Open Channel	SDOHO385059	HO38
Open Channel	SDOHO385003	HO38
Open Channel	SDOHO385107	HO38

2.1.7 Piers 39 through 45 GIS Map of Storm Drain Assets



Figure 10. Piers 39 through 45 GIS map of storm drain assets.

Table 13 shows **Piers 39 through 45** with 110 storm drain inlet, manhole, and catch basin assets; and identification number, location, and stencil type.

Table 13. Piers 39 through 45 storm drain inlet, manhole, and catch basin assets; and ID number, location, and stencil type.

ASSET TYPE	ID NUMBER	PIER LOCATION	STENCIL TYPE *
Drain Inlet	SDIHO395516	HO39	SP
Drain Inlet	SDIHO395514	HO39	SP
Drain Inlet	SDIHO395512	HO39	SP
Drain Inlet	SDIHO395510	HO39	SP
Drain Inlet	SDIHO395596	HO39	SP
Drain Inlet	SDIHO395592	HO39	SP
Catch Basin	SDIHO395612	HO39	SP
Manhole	SDJHO395506	HO39	N/A
Manhole	SDJHO395508	HO39	N/A
Drain Inlet	SDIHO405802	HO40	SP
Drain Inlet	SDIHO406562	HO40	SP
Drain Inlet	SDIHO405722	HO40	SP
Drain Inlet	SDIHO405708	HO40	SP
Drain Inlet	SDIHO405712	HO40	SP
Drain Inlet	SDIHO405790	HO40	SP
Catch Basin	SDIHO405610	HO40	SP
Drain Inlet	SDIHO405608	HO40	SP
Manhole	SDJHO395504	HO40	N/A
Manhole	SDJHO405650	HO40	N/A
Manhole	SDJHO405632	HO40	N/A
Manhole	SDJHO405634	HO40	N/A
Manhole	SDJHO405630	HO40	N/A
Manhole	SDJHO405606	HO40	N/A
Manhole	SDJHO405706	HO40	N/A
Manhole	SDJHO405710	HO40	N/A
Manhole	SDJHO405664	HO40	N/A
Manhole	SDJHO405652	HO40	N/A
Drain Inlet	SDIHO416994	HO41	SP
Drain Inlet	SDIHO416982	HO41	SP

ASSET TYPE	ID Number	PIER LOCATION	STENCIL TYPE *
Drain Inlet	SDIHO416992	HO41	SP
Drain Inlet	SDIHO417004	HO41	SP
Drain Inlet	SDIHO427040	HO41	SP
Drain Inlet	SDIHO417002	HO41	SP
Drain Inlet	SDIHO427038	HO41	SP
Drain Inlet	SDIHO427036	HO41	SP
Drain Inlet	SDIHO427034	HO41	SP
Drain Inlet	SDIHO427032	HO41	SP
Drain Inlet	SDIHO417012	HO41	SP
Drain Inlet	SDIHO417014	HO41	SP
Drain Inlet	SDIHO416984	HO41	SP
Catch Basin	SDIHO416572	HO41	SP
Catch Basin	SDIHO416574	HO41	SP
Drain Inlet	SDIHO427220	HO42	SP
Drain Inlet	SDIHO427206	HO42	SP
Drain Inlet	SDIHO427204	HO42	SP
Drain Inlet	SDIHO427222	HO42	SP
Drain Inlet	SDIHO427200	HO42	SP
Drain Inlet	SDIHO427226	HO42	SP
Drain Inlet	SDIHO427320	HO42	SP
Drain Inlet	SDIHO427202	HO42	SP
Drain Inlet	SDIHO427224	HO42	SP
Manhole	HDOA_Entry2	HO42	N/A
Manhole	HDOA_B-1	HO42	N/A
Manhole	SDJHO427302	HO42	N/A
Drain Inlet	SDIHO427352	HO42E	SP
Drain Inlet	SDIHO427708	HO42E	SP
Drain Inlet	SDIHO427350	HO42E	SP
Drain Inlet	SDIHO427710	HO42E	SP
Drain Inlet	SDIHO427318	HO42E	SP
Drain Inlet	SDIHO427642	HO42E	SP
Drain Inlet	SDIHO427630	HO42E	SP
Drain Inlet	SDIHO427310	HO42E	SP
Drain Inlet	SDIHO427606	HO42E	SP

ASSET TYPE	ID NUMBER	PIER LOCATION	STENCIL TYPE *
Drain Inlet	SDIHO427312	HO42E	SP
Drain Inlet	SDIHO427604	HO42E	SP
Drain Inlet	SDIHO427626	HO42E	SP
Drain Inlet	SDIHO427624	HO42E	SP
Drain Inlet	SDIHO427622	HO42E	SP
Drain Inlet	SDIHO427620	HO42E	SP
Drain Inlet	SDIHO427306	HO42E	SP
Drain Inlet	SDIHO427308	HO42E	SP
Drain Inlet	SDIHO427314	HO42E	SP
Drain Inlet	SDIHO427316	HO42E	SP
Drain Inlet	SDIHO427700	HO42E	SP
Drain Inlet	SDIHO427722	HO42E	SP
Drain Inlet	SDIHO427726	HO42E	SP
Drain Inlet	SDIHO427724	HO42E	SP
Drain Inlet	SDIHO427640	HO42E	SP
Drain Inlet	SDIHO427610	HO42E	SP
Drain Inlet	SDIHO427608	HO42E	SP
Drain Inlet	SDIHO427602	HO42E	SP
Drain Inlet	SDIHO427584	HO42E	SP
Drain Inlet	SDIHO427582	HO42E	SP
Drain Inlet	SDIHO427562	HO42E	SP
Drain Inlet	SDIHO426972	HO42E	SP
Drain Inlet	SDIHO427728	HO42E	SP
Drain Inlet	SDIHO427730	HO42E	SP
Drain Inlet	SDIHO427732	HO42E	SP
Drain Inlet	SDIHO427734	HO42E	SP
Drain Inlet	SDIHO427736	HO42E	SP
Drain Inlet	SDIHO427738	HO42E	SP
Drain Inlet	SDIHO427740	HO42E	SP
Drain Inlet	SDIHO427742	HO42E	SP
Drain Inlet	SDIHO427744	HO42E	SP
Drain Inlet	SDIHO427746	HO42E	SP
Drain Inlet	SDIHO427748	HO42E	SP
Drain Inlet	SDIHO427750	HO42E	SP

ASSET TYPE	ID Number	PIER LOCATION	STENCIL TYPE *
Drain Inlet	SDIHO427752	HO42E	SP
Drain Inlet	SDIHO427754	HO42E	SP
Drain Inlet	SDIHO427756	HO42E	SP
Drain Inlet	SDIHO427758	HO42E	SP
Drain Inlet	SDIHO427760	HO42E	SP
Manhole	HDOA_B-3	HO42E	N/A
Manhole	HDOA_B-4A	HO42E	N/A
Manhole	HDOA_B-2	HO42E	N/A
Manhole	SDJHO427702	HO42E	N/A
Manhole	SDJHO427720	HO42E	N/A
Manhole	SDJHO427704	HO42E	N/A
Manhole	SDJHO427706	HO42E	N/A
Drain Inlet	SDIHO447751	HO44	SP

^{*} SP = spray paint; MM = metal marker (bolted to grate); CM = curb marker (durable plastic requires special adhesive); and N/A = not applicable.

2.1.8 Piers 51 through 53 – Sand Island GIS Map of Storm Drain Assets



Figure 11. Piers 51 through 53 – Sand Island GIS map of storm drain assets.

Table 14 shows **Piers 51 through 53** storm drain inlet, manhole, and catch basin assets; and identification number, location, and stencil type.

Table 14. Piers 51 through 53 storm drain inlet, manhole, and catch basin assets; and ID number, location, and stencil type.

ASSET TYPE	ID Number	PIER LOCATION	STENCIL TYPE *
Drain Inlet	SDIHO517806	HO51	SP
Drain Inlet	SDIHO517804	HO51	SP
Drain Inlet	SDIHO517810	HO51	SP
Drain Inlet	SDIHO517854	HO51	SP
Drain Inlet	SDIHO517886	HO51	SP
Drain Inlet	SDIHO517892	HO51	SP
Drain Inlet	SDIHO517896	HO51	SP
Drain Inlet	SDIHO517902	HO51	SP
Drain Inlet	SDIHO517900	HO51	SP
Drain Inlet	SDIHO517894	HO51	SP
Drain Inlet	SDIHO517898	HO51	SP
Drain Inlet	SDIHO518012	HO51	SP
Drain Inlet	SDIHO518010	HO51	SP
Drain Inlet	SDIHO518464	HO51	SP
Drain Inlet	SDIHO518002	HO51	SP
Drain Inlet	SDIHO517964	HO51	SP
Drain Inlet	SDIHO518004	HO51	SP
Drain Inlet	SDIHO518052	HO51	SP
Drain Inlet	SDIHO518056	HO51	SP
Drain Inlet	SDIHO518152	HO51	SP
Drain Inlet	SDIHO518150	HO51	SP
Drain Inlet	SDIHO518372	HO51	SP
Drain Inlet	SDIHO518370	HO51	SP
Drain Inlet	SDIHO518410	HO51	SP
Drain Inlet	SDIHO518476	HO51	SP
Drain Inlet	SDIHO518376	HO51	SP
Drain Inlet	SDIHO518364	HO51	SP
Drain Inlet	SDIHO518414	HO51	SP
Drain Inlet	SDIHO518366	HO51	SP

ASSET TYPE	ID NUMBER	PIER LOCATION	STENCIL TYPE *
Drain Inlet	SDIHO518140	HO51	SP
Drain Inlet	SDIHO518146	HO51	SP
Drain Inlet	SDIHO518466	HO51	SP
Drain Inlet	SDIHO518360	HO51	SP
Drain Inlet	SDIHO518026	HO51	SP
Drain Inlet	SDIHO518382	HO51	MM
Drain Inlet	SDIHO517888	HO51	SP
Drain Inlet	SDIHO518374	HO51	SP
Drain Inlet	SDIHO518260	HO51	SP
Drain Inlet	SDIHO518262	HO51	SP
Drain Inlet	SDIHO517930	HO51	SP
Drain Inlet	SDIHO517932	HO51	SP
Drain Inlet	SDIHO517940	HO51	SP
Drain Inlet	SDIHO517944	HO51	SP
Drain Inlet	SDIHO517942	HO51	SP
Drain Inlet	SDIHO518468	HO51	SP
Drain Inlet	SDIHO518402	HO51	SP
Drain Inlet	SDIHO518474	HO51	SP
Drain Inlet	SDIHO518472	HO51	SP
Drain Inlet	SDIHO518470	HO51	SP
Drain Inlet	SDIHO518408	HO51	SP
Drain Inlet	SDIHO518404	HO51	SP
Drain Inlet	SDIHO518400	HO51	SP
Drain Inlet	SDIHO517802	HO51	SP
Drain Inlet	SDIHO517890	HO51	SP
Drain Inlet	SDIHO518054	HO51	SP
Drain Inlet	SDIHO518378	HO51	MM
Catch Basin	SDIHO518416	HO51	SP
Drain Inlet	SDIHO518058	HO51	SP
Drain Inlet	SDIHO517926	HO51	SP
Manhole	SDJHO517928	HO51	N/A
Manhole	SDJHO518142	HO51	N/A
Manhole	SDJHO518406	HO51	N/A
Manhole	SDJHO518368	HO51	N/A

ASSET TYPE	ID Number	PIER LOCATION	STENCIL TYPE *
Manhole	SDJHO518362	HO51	N/A
Manhole	SDJHO518358	HO51	N/A
Manhole	SDJHO518138	HO51	N/A
Manhole	SDJHO518020	HO51	N/A
Manhole	SDJHO518356	HO51	N/A
Manhole	SDJHO518136	HO51	N/A
Manhole	SDJHO518144	HO51	N/A
Manhole	SDJHO518006	HO51	N/A
Manhole	SDJHO518024	HO51	N/A
Manhole	SDJHO518008	HO51	N/A
Manhole	SDJHO518028	HO51	N/A
Drain Inlet	SDIHO517852	HO51A	SP
Drain Inlet	SDIHO517882	HO51A	SP
Drain Inlet	SDIHO517962	HO51A	SP
Drain Inlet	SDIHO517884	HO51A	SP
Drain Inlet	SDIHO518074	HO51B	SP
Drain Inlet	SDIHO518084	HO51B	SP
Drain Inlet	SDIHO518082	HO51B	SP
Drain Inlet	SDIHO518072	HO51B	SP
Manhole	SDJHO518134	HO51C	N/A
Manhole	SDJHO518352	HO51C	N/A
Drain Inlet	SDIHO528874	HO52	SP
Drain Inlet	SDIHO528876	HO52	SP
Drain Inlet	SDIHO528880	HO52	MM
Drain Inlet	SDIHO528662	HO52	SP
Drain Inlet	SDIHO528664	HO52	SP
Drain Inlet	SDIHO528690	HO52	SP
Drain Inlet	SDIHO528692	HO52	SP
Drain Inlet	SDIHO528660	HO52	SP
Drain Inlet	SDIHO528734	HO52	SP
Drain Inlet	SDIHO528710	HO52	SP
Drain Inlet	SDIHO528712	HO52	SP
Drain Inlet	SDIHO528714	HO52	SP
Drain Inlet	SDIHO528716	HO52	SP

ASSET TYPE	ID Number	PIER LOCATION	STENCIL TYPE *
Drain Inlet	SDIHO528718	HO52	SP
Drain Inlet	SDIHO528730	HO52	SP
Drain Inlet	SDIHO528732	HO52	SP
Drain Inlet	SDIHO528738	HO52	SP
Drain Inlet	SDIHO528736	HO52	SP
Drain Inlet	SDIHO528680	HO52	SP
Drain Inlet	SDIHO528684	HO52	SP
Drain Inlet	SDIHO528510	HO52	SP
Drain Inlet	SDIHO528682	HO52	SP
Drain Inlet	SDIHO528688	HO52	SP
Manhole	SDJHO528760	HO52	N/A
Manhole	SDJHO528756	HO52	N/A
Manhole	SDJHO528752	HO52	N/A
Manhole	SDJHO528764	HO52	N/A
Manhole	SDJHO528770	HO52	N/A
Manhole	SDJHO528502	HO52	N/A
Manhole	SDJHO528504	HO52	N/A
Manhole	SDJHO528508	HO52	N/A
Manhole	SDJHO528506	HO52	N/A
Drain Inlet	SDIHO538902	HO53	SP
Drain Inlet	SDIHO538668	HO53	SP
Drain Inlet	SDIHO538696	HO53	SP
Drain Inlet	SDIHO538698	HO53	SP
Drain Inlet	SDIHO538670	HO53	SP
Drain Inlet	SDIHO538700	HO53	SP
Drain Inlet	SDIHO538672	HO53	SP
Drain Inlet	SDIHO538792	HO53	SP
Drain Inlet	SDIHO538794	HO53	SP
Drain Inlet	SDIHO538796	HO53	SP
Drain Inlet	SDIHO538798	HO53	SP
Drain Inlet	SDIHO538868	HO53	SP
Drain Inlet	SDIHO538910	HO53	SP
Drain Inlet	SDIHO538906	HO53	SP
Drain Inlet	SDIHO538904	HO53	SP

ASSET TYPE	ID Number	PIER LOCATION	STENCIL TYPE *
Drain Inlet	SDIHO538908	HO53	SP
Drain Inlet	SDIHO538890	HO53	SP
Drain Inlet	SDIHO538912	HO53	SP
Manhole	SDJHO538866	HO53	N/A
Manhole	SDJHO538872	HO53	N/A
Manhole	SDJHO538860	HO53	N/A
Manhole	SDJHO538862	HO53	N/A
Manhole	SDJHO538852	HO53	N/A
Manhole	SDJHO538856	HO53	N/A
Manhole	SDJHO538870	HO53	N/A
Drain Inlet	SDIHO609156	HO60	SP
Drain Inlet	SDIHO609116	HO60	CM
Drain Inlet	SDIHO609158	HO60	SP
Drain Inlet	SDIHO609114	HO60	SP
Drain Inlet	SDIHO609118	HO60	SP

^{*} $SP = spray\ paint;\ MM = metal\ marker\ (bolted\ to\ grate);\ CM = curb\ marker\ (durable\ plastic\ requires\ special\ adhesive);\ and\ N/A = not\ applicable.$

Table 15 shows the **Piers 51 through 53, and Pier 60** with 62 storm drain open channel, swale, and other assets; and identification number and location.

Table 15. Piers 51 through 53, and Pier 60 storm drain open channel, swale, and other assets; and ID number and location.

ASSET TYPE	ID NUMBER	PIER LOCATION
Open Channel	SDOHO518265	HO51
Open Channel	SDOHO518291	HO51
Open Channel	SDOHO518269	HO51
Open Channel	SDOHO518285	HO51
Open Channel	SDOHO518231	HO51
Open Channel	SDOHO518235	HO51
Open Channel	SDOHO518241	HO51
Open Channel	SDOHO518277	HO51
Open Channel	SDOHO518271	HO51

ASSET TYPE	ID NUMBER	PIER LOCATION
Open Channel	SDOHO518031	HO51C
Open Channel	SDOHO518205	HO51C
Open Channel	SDOHO518181	HO51C
Open Channel	SDOHO518185	HO51C
Open Channel	SDOHO518189	HO51C
Open Channel	SDOHO518193	HO51C
Open Channel	SDOHO518197	HO51C
Open Channel	SDOHO518201	HO51C
Open Channel	SDOHO518209	HO51C
Open Channel	SDOHO528213	HO51C
Open Channel	SDOHO528611	HO52
Open Channel	SDOHO528641	HO52
Open Channel	SDOHO528637	HO52
Open Channel	SDOHO528631	HO52
Open Channel	SDOHO528601	HO52
Open Channel	SDOHO528607	HO52
Open Channel	SDOHO528571	HO52
Open Channel	SDOHO528577	HO52
Open Channel	SDOHO528545	HO52
Concrete with metal grate	SDOHO528517	HO52
Open Channel	SDOHO528877	HO52
Open Channel	SDOHO528541	HO52
Open Channel	SDOHO528555	HO52
Open Channel	SDOHO528559	HO52
Open Channel	SDOHO538563	HO53
Open Channel	SDOHO538649	HO53
Open Channel	SDOHO538619	HO53
Open Channel	SDOHO538585	HO53
Open Channel	SDOHO538617	HO53
Open Channel	SDOHO538613	HO53
Open Channel	SDOHO538647	HO53
Open Channel	SDOHO538643	HO53
Open Channel	SDOHO538651	HO53

ASSET TYPE	ID NUMBER	PIER LOCATION
Open Channel	SDOHO538579	HO53
Open Channel	SDOHO538583	HO53
Open Channel	SDOHO528765	HO53
Open Channel	SDOHO528751	HO53
Open Channel	SDOHO528757	HO53
Open Channel	SDOHO528761	HO53
Open Channel	SDOHO528769	HO53
Open Channel	SDOHO528755	HO53
Open Channel	SDOHO528759	HO53
Open Channel	SDOHO528763	HO53
Open Channel	SDOHO528771	HO53
Open Channel	SDOHO528753	HO53
Open Channel	SDOHO609165	HO60
Open Channel	SDOHO609185	HO60
Open Channel	SDOHO609189	HO60
Other	SDOHO609190	HO60
Open Channel	SDOHO609181	HO60
Swale	SDOHO609191	HO60

2.2 Honolulu Harbor Post-Construction BMPs GIS Map

Harbors is responsible for inspection, cleaning, and maintenance of the 43 Post-Construction Permanent BMPs (PBMP) at Honolulu Harbor, specifically located at Pier 29 (23 BMPs), Pier 31 (8), Pier 35 (6), and Pier 60 (6).

Figure 12A shows GIS mapping of post construction BMP locations.



Figure 12A. Honolulu Harbor Post-Construction BMPs with GIS map of BMP locations.

Figure 12B shows post construction BMP locations at Piers 29 through 35.



Figure 12B. Honolulu Harbor Post-Construction BMPs with GIS map of BMP locations.

Figure 12C shows post construction BMP locations at Pier 60.



Figure 12C. Honolulu Harbor Post-Construction BMPs with GIS map of BMP locations.

Table 16 shows the Post-Construction BMP ID number, structural type, BMP type, BMP subtype, and location at Honolulu Harbor.

Table 16. Honolulu Harbor Post-Construction BMP ID number, structural type, BMP type, BMP subtype, and location.

DD1 45 -5			D. C. C.	-
PBMP ID	STRUCTURAL	BMP TYPE	BMP SUBTYPE	Pier
EHBMPHO29500B	Yes	Treatment Control	Manufactured Treatment Device	HO29
EHBMPHO29550A	Yes	Treatment Control	Manufactured Treatment Device	HO29
ЕНВМРНО29050А	Yes	Treatment Control	Manufactured Treatment Device	HO29
EHBMPHO29100A	Yes	Treatment Control	Manufactured Treatment Device	HO29
EHBMPHO29150A	Yes	Treatment Control	Manufactured Treatment Device	HO29
ЕНВМРНО29200А	Yes	Treatment Control	Manufactured Treatment Device	HO29
ЕНВМРНО29250А	Yes	Treatment Control	Manufactured Treatment Device	HO29
ЕНВМРНО29050В	Yes	Treatment Control	Manufactured Treatment Device	HO29
EHBMPHO29100B	Yes	Treatment Control	Manufactured Treatment Device	HO29
EHBMPHO29150B	Yes	Treatment Control	Manufactured Treatment Device	HO29
ЕНВМРНО29200В	Yes	Treatment Control	Manufactured Treatment Device	HO29
ЕНВМРНО29250В	Yes	Treatment Control	Manufactured Treatment Device	HO29
ЕНВМРНО29350В	Yes	Treatment Control	Manufactured Treatment Device	HO29
ЕНВМРНО29300В	Yes	Treatment Control	Manufactured Treatment Device	HO29
ЕНВМРНО29400В	Yes	Treatment Control	Manufactured Treatment Device	HO29
ЕНВМРНО29450В	Yes	Treatment Control	Manufactured Treatment Device	HO29
ЕНВМРНО29530В	Yes	Treatment Control	Manufactured Treatment Device	HO29
EHBMPHO293620	Yes	Treatment Control	Manufactured	HO29

PBMP ID	STRUCTURAL	BMP TYPE	BMP SUBTYPE	Pier
			Treatment Device	
ЕНВМРНО29450А	Yes	Treatment Control	Manufactured Treatment Device	HO29
EHBMPHO29400A	Yes	Treatment Control	Manufactured Treatment Device	HO29
ЕНВМРНО29500А	Yes	Treatment Control	Manufactured Treatment Device	HO29
ЕНВМРНО29350А	Yes	Treatment Control	Manufactured Treatment Device	HO29
ЕНВМРНО29300А	Yes	Treatment Control	Manufactured Treatment Device	HO29
EHBMPHO293672	Yes	Treatment Control	Manufactured Treatment Device	HO29
EHBMPHO314152	Yes	Treatment Control	Manufactured Treatment Device	HO31
EHBMPHO314153	Yes	Treatment Control	Manufactured Treatment Device	HO31
EHBMPHO314154	Yes	Treatment Control	Manufactured Treatment Device	HO31
EHBMPHO314155	Yes	Treatment Control	Manufactured Treatment Device	HO31
EHBMPHO314156	Yes	Treatment Control	Manufactured Treatment Device	HO31
EHBMPHO314157	Yes	Treatment Control	Manufactured Treatment Device	HO31
EHBMPHO314158	Yes	Treatment Control	Manufactured Treatment Device	HO31
EHBMPHO350035	No	BioClean Filters		HO35
EHBMPHO350036	No	BioClean Filters		HO35
EHBMPHO350037	No	BioClean Filters		HO35
EHBMPHO350039	No	BioClean Filters		HO35
EHBMPHO350040	No	BioClean Filters		HO35
EHBMPHO350041	No	BioClean Filters		HO35
EHBMPHO609903	Yes	Treatment Control	Infiltration Basin	HO60
EHBMPHO609900	Yes	Treatment Control	Infiltration Basin	HO60
EHBMPHO609902	Yes	Treatment Control	Dry Swale	HO60
EHBMPHO609901	Yes	Source Control	Outdoor Process Equipment Operations	HO60

2.3 Honolulu Harbor Outfall Drainage Basin

Honolulu Harbor outfalls drain into areas at risk for flooding, as shown on the map from Hawaii Department of Land and Natural Resources (DLNR) *Flood Hazard Assessment Report 2014* (www.hawaiinfip.org).

Figure 13 shows the Honolulu Harbor flood hazard assessment map.



Figure 13. Honolulu Harbor flood hazard assessment map. (Courtesy DLNR 2014.)

2.4 Honolulu Harbor Signage and Stenciling GIS Mapping

Signage that prohibit dumping or discarding pollutants are installed at suitable locations on Harbor property. Suitable areas include visible public locations, high traffic tenant areas or areas with a history of illicit discharges, and locations at wharfs and piers. Future signs will include information about illicit discharges, Harbors storm water awareness message, and the storm water hotline for reporting storm water issues.

Harbors stencils or labels all inlets and open channels on Honolulu Harbor and Kalaeloa Barbers Point Harbor to promote storm water awareness and reduce non-storm water discharges into harbor waters. Every year, the legibility of the stencils or labels nearest each inlet will be evaluated prior to the wet season. If necessary, Harbors

will re-stencil or re-label the inlet. Three types of labels are available for installation depending on the surface conditions, as follows:

- Aluminum stencils are used to paint rough surfaces.
- Duracast hi-visibility placards are installed on curbs in public areas.
- Metal medallions are installed on grates or where the first two stencil types are not feasible.



Aluminum stencils are used to paint rough surfaces.



Duracast hi-visibility placards are installed on curbs in public areas



Metal medallions are installed on grates.

Figure 14. Harbors three types of stencils BMP installation.

The appropriate stencil type and installation location is determined by HAR-EE.

The Signage and Inlet Stenciling is assigned to HAR-OM Wharf Maintenance Unit for signage installation, repair, and replacement. There are currently 82 signs installed and maintained at Honolulu Harbor.

Figure 15 shows Honolulu Harbor map of storm drain signage currently installed and maintained.

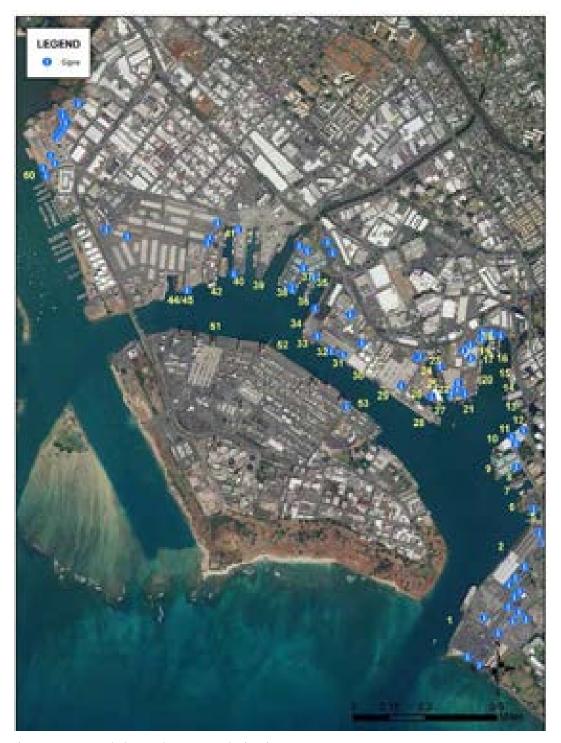


Figure 15. Honolulu Harbor storm drain signage GIS map.

Table 17 lists the signage ID and location at Honolulu Harbor.

Table 17. Honolulu Harbor signage ID and location.

ITEM	SIGN ID	PIER LOCATION
1	IMSHO010223	HO01
2	IMSHO010253	HO01
3	IMSHO010221	HO01
4	IMSHO010214	HO01
5	IMSHO010215	HO01
6	IMSHO020257	HO02
7	IMSHO020810	HO02
8	IMSHO020650	HO02
9	IMSHO020520	HO02
10	IMSHO020290	HO02
11	IMSHO020259	HO02
12	IMSHO020274	HO02
13	IMSHO020256	HO02
14	IMSHO020805	HO02
15	IMSHO020501	HO02
16	IMSHO051060	HO05
17	IMSHO081516	HO08
18	IMSHO101744	HO10
19	IMSHO102030	HO10
20	IMSHO111836	HO11
21	IMSHO162208	HO16
22	IMSHO172210	HO17
23	IMSHO182306	HO18
24	IMSHO182308	HO18
25	IMSHO182304	HO18
26	IMSHO192562	HO19
27	IMSHO182432	HO19
28	IMSHO202612	HO21
29	IMSHO232850	HO23
30	IMSHO232806	HO23
31	IMSHO232648	HO23
32	IMSHO232652	HO23
33	IMSHO232656	HO23
34	IMSHO232440	HO23
35	IMSHO243202	HO24

ITEM	SIGN ID	PIER LOCATION
36	IMSHO263509	HO26
37	IMSHO263511	HO26
38	IMSHO293641	HO29
39	IMSHO293222	HO29
40	IMSHO314135	HO31
41	IMSHO314060	HO31
42	IMSHO324389	HO32
43	IMSHO324387	HO32
44	IMSHO324151	HO32
45	IMSHO334202	HO33
46	IMSHO354415	HO35
47	IMSHO364680	HO36
48	IMSHO384608	HO38
49	IMSHO384806	HO38
50	IMSHO385014	HO38
51	IMSHO385012	HO38
52	IMSHO385140	HO38
53	IMSHO384606	HO38
54	IMSHO385153	HO38
55	IMSHO405781	HO40
56	IMSHO405701	HO40
57	IMSHO417061	HO41
58	IMSHO427041	HO42
59	IMSHO427200	HO42A
60	IMSHO427723	HO42E
61	IMSHO427701	HO42E
62	IMSHO426981	HO42E
63	IMSHO518901	HO51
64	IMSHO608905	HO60
65	IMSHO608900	HO60
66	IMSHO608908	HO60
67	IMSHO609008	HO60
68	IMSHO609183	HO60
69	IMSHO609181	HO60
70	IMSHO609131	HO60
71	IMSHO609123	HO60
72	IMSHO609125	HO60
73	IMSHO609127	HO60
74	IMSHO609129	HO60

ITEM	SIGN ID	PIER LOCATION
75	IMSHO609107	HO60
76	IMSHO609109	HO60
77	IMSHO609111	HO60
78	IMSHO609113	HO60
79	IMSHO609115	HO60
80	IMSHO609117	HO60
81	IMSHO609119	HO60
82	IMSHO609121	HO60

There are currently 8 signs installed and maintained at Kalaeloa Barbers Point Harbor. Table 18 lists the signage ID and location at Kalaeloa Barbers Point Harbor.

Table 18. Kalaeloa Barbers Point Harbor signage ID and location.

ITEM	Sign ID	PIER LOCATION
1	IMSBP043660	BP04
2	IMSBP055250	BP05A
3	IMSBP077102	BP07
4	IMSBP077140	BP07
5	IMSBP077142	BP07
6	IMSBP077144	BP07
7	IMSBP097605	Area 9
8	IMSBP097603	Area 9

2.5 Kalaeloa Barbers Point Harbor Pier Use Area

Kalaeloa Barbers Point Harbor services a niche market with specialized cargo handling facilities, and Harbors Personnel are assigned for specific pier areas for the storm sewer system inspection and cleaning activities and tasks.

Table 19 lists the piers, principal cargo, container yard area, and shed area for Kalaeloa Barbers Point Harbor.

Table 19. Kalaeloa Barbers Point Harbor Piers, principal cargo, container yard area, and shed area.

PIER	PRINCIPAL CARGO/PIER USE	YARD AREA (ACRES)	SHED AREA (SQ. FT.)
Barge Basin	Liquid-bulk cargo and pipelines. Scrap metal and sand.	4.4	
P-3	Dry-dock.		
Ferry/Tug Pier	Ferry terminal.		
P-5A	Neo-bulk cargo, petroleum, and scrap metal.		
P-5B	Liquid-bulk cargo and pipelines. Neo-bulk cargo and scrap metal.	4.7	45,000
P-6	Liquid-bulk cargo and pipelines. DRY and neo- bulk cargos, and scrap metal. Dry-bulk unloader and storage.	30.0	
P-7	Dry-bulk cargo.	3.1	
	TOTALS	42.4	45,000

2.5.1 Kalaeloa Barbers Point Harbor Piers GIS Mapping of Storm Drain Assets

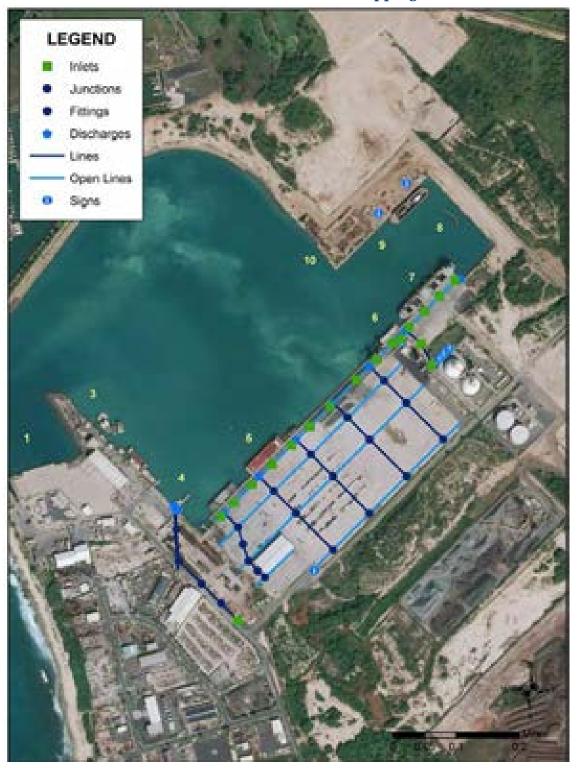


Figure 16. Kalaeloa Barbers Point Harbor Piers GIS map of storm drain assets.

Table 20 shows Kalaeloa Barbers Point Harbor storm drain inlet and manhole assets, identification number, location, and stencil type.

Table 20. Kalaeloa Barbers Point Harbor storm drain inlet and manhole assets, ID number, location, and stencil type.

ASSET TYPE	ID Number	LOCATION	STENCIL TYPE *
Drain Inlet	SDIBP044102	BP04	MM
Manhole	SDJBP044072 (NR)	BP04	N/A
Manhole	SDJBP044042	BP04	N/A
Manhole	SDJBP044007	BP04	N/A
Manhole	SDJBP043865	BP04	N/A
Manhole	SDJBP055862	BP05	N/A
Manhole	SDJBP055832	BP05	N/A
Manhole	SDJBP055815	BP05	N/A
Manhole	SDJBP055462	BP05	N/A
Manhole	SDJBP055432	BP05	N/A
Manhole	SDJBP055415	BP05	N/A
Manhole	SDJBP055022	BP05A	N/A
Manhole	SDJBP054886	BP05A	N/A
Manhole	SDJBP054875	BP05A	N/A
Manhole	SDJBP054860	BP05A	N/A
Manhole	SDJBP055015	BP05A	N/A
Drain Inlet	SDIBP066202	BP06	SP
Drain Inlet	SDIBP066502	BP06	SP
Drain Inlet	SDIBP066802	BP06	SP
Manhole	SDJBP066715	BP06	N/A
Manhole	SDJBP066732	BP06	N/A
Manhole	SDJBP066762	BP06	N/A
Manhole	SDJBP066262	BP06	N/A
Manhole	SDJBP066215	BP06	N/A
Manhole	SDJBP066232	BP06	N/A

^{*} $SP = spray\ paint;\ MM = metal\ marker\ (bolted\ to\ grate);\ CM = curb\ marker\ (durable\ plastic\ requires\ special\ adhesive);\ and\ N/A = not\ applicable.$

Table 21 shows Kalaeloa Barbers Point Harbor open channel, trench drain, and swale assets; and identification number, and location.

Table 21. Kalaeloa Barbers Point Harbor open channel, trench drain, and swale assets; and ID number and location.

ASSET TYPE	ID Number	LOCATION
Open Channel	SDOBP05001A	BP05
Open Channel	SDOBP05002B	BP05
Open Channel	SDOBP05002C	BP05
Open Channel	SDOBP05002A	BP05
Open Channel	SDOBP05002D	BP05
Open Channel	SDOBP05002E	BP05
Open Channel	SDOBP05002F	BP05
Trench Drain	SDIBP055902	BP05
Trench Drain	SDIBP055702	BP05
Trench Drain	SDIBP055502	BP05
Trench Drain	SDIBP055302	BP05
Trench Drain	SDIBP055202	BP05A
Trench Drain	SDIBP055002	BP05A
Open Channel	SDOBP05002G	BP06
Open Channel	SDOBP05002H	BP06
Open Channel	SDOBP05002I	BP06
Open Channel	SDOBP05002J	BP06
Open Channel	SDOBP05002K	BP06
Open Channel	SDOBP05002L	BP06
Swale	SDOBP077135	BP07
Trench Drain	SDIBP077302	BP07
Trench Drain	SDIBP077402	BP07
Trench Drain	SDIBP077202	BP07
Trench Drain	SDIBP077002	BP07
Open Channel	SDOBP0502A1	BP05A
Open Channel	SDOBP0502C1	BP05A
Open Channel	SDOBP0502B1	BP05A

Table 22 shows the Post-Construction BMP ID number, structural type, BMP type, BMP subtype, and location at Kalaeloa Barbers Point Harbor.

Table 22. Post-Construction BMP ID number, structural type, BMP type, BMP subtype, and location.

PBMP ID	STRUCTURAL	BMP TYPE	BMP SUBTYPE	PIER
EHBMPBPGP7730	Yes	treatment control	infiltration basin	GLP
EHBMPBPGP7731	Yes	treatment control	downspout disconnection	GLP
EHBMPBP035010	Yes	treatment control	dry well	3
EHBMPBP035011	Yes	treatment control	dry well	3
EHBMPBP035022	Yes	source control	emergency valve	3
EHBMPBP035020	Yes	source control	emergency valve	3
EHBMPBP035021	Yes	source control	emergency valve	3

Figure 17 shows the Kalaeloa Barbers Point Harbor Post-Construction BMP map.



Figure 17. Kalaeloa Barbers Point Harbor Post-Construction BMP map.

2.5.2 Rail Tracks Location Map

The rail tracks at Kalaeloa Barbers Point Harbor are used for off-loading dry bulk cargo at Pier 6 and Pier 7. These lands are under leases to tenants and these tenants are required to clean the tracks after each off-loading event. The Harbor Agent then inspects the area.

Figure 18 shows the Kalaeloa Barbers Point Harbor rail tracks and storm trench drains.



Figure 18. Kalaeloa Barbers Point Harbor rail tracks at Pier 6 and Pier 7.

CHAPTER 3

HARBORS PERSONNEL AND STORM SEWER SYSTEM ACTIVITIES

The Hawaii Department of Transportation Director provides oversight for, and delegates authority and responsibility to, the Office of Environmental Compliance (ENV) to oversee compliance with all environmental requirements relating to Small MS4 compliance, including the storm water permits and storm water management plans for the Harbors, Airports, and Highways Divisions. The ENV staff reports to the Director.

The ENV staff coordinates with the Harbors Division to achieve and maintain compliance with Federal, State, and local environmental regulations, including the CD requirements for the SSS OMP.

The Director confers Program authority to the Deputy Director Harbors (DEP-H) who maintains direct oversight of all Harbors staff, leads the compliance effort for the division, and ensures that program focus and resources are assigned to personnel who perform the inspection, cleaning, and maintenance of the Harbors storm sewer system. The ENV supports the DEP-H who leads the compliance efforts to ensure sufficient resources are allocated for successful implementation of the SSS OMP. The DEP-H directs the development and execution of the SSS OMP through the Engineering Branch and the Harbors Administrator. Both the Engineering Branch and the Harbors Administrator ensures implementation of the Harbors SSS OMP.

Figure 19 shows the Harbors Division, Oahu District Storm Sewer System Organizational Chart with yellow highlighted boxes for the Departments, Divisions, Branches, Sections, Units and Subunits responsible for the implementation of SSS OMP activities and tasks.

Figure 20 shows Oahu District Position Titles and SSS OMP Tasks Organizational Chart.

3.1 Engineering Branch

The Engineering Branch (HAR-E) through the *Branch Head Engineering Program Manager* provides engineering management and storm water program oversight through the DEP-H to the Harbors Administrator (*see* Section 3.2), for the Harbors overall environmental compliance activities, including the CD requirements.

The HAR-E is responsible for ensuring implementation of the Construction Site Runoff Control Program and the Post-Construction Storm Water Management Program.

3.1.1 Environmental Section

The Engineering Environmental Section (HAR-EE) through the *Section Head Engineer* oversees permit compliance with all relevant environmental regulations, including the CD requirements. The HAR-EE administers the *SWMP* control measures for Harbors through the following program elements:

- 1. Public Education and Outreach Program Training, Signage and Inlet Stenciling
- 2. Public Involvement/Participation Program
- 3. Illicit Discharge Detection and Elimination Program Tenant Inspection Program, Outfall Reconnaissance Inventory and Inspection Program, Site Assessment Program, Enforcement Response Program
- 4. Construction Site Runoff Control Program
- 5. Post-Construction Storm Water Management Program
- 6. Pollution Prevention and Good Housekeeping Program *Storm Sewer System Operations & Maintenance Program*

Note: Programs 1 and 6 are addressed herein; whereas, Programs 2, 3, 4, and 5 are outside the scope of this manual. Refer to current *SWMP* for program details.

The HAR-EE provides oversight on the implementation of the Harbors SSS OMP and tracks the overall environmental compliance progress; and is responsible for the Reporting requirements. The HAR-EE is the Project Coordinator and assists the HAR-EP who develops the AMS.

The HAR-EE and its environmental consultants perform tenant inspections and provide technical support to Harbors Property Management (HAR-PM) regarding enforcement of tenant violations, and applicable environmental issues (e.g., implementation of BMPs, leaking, etc.).

3.1.2 Planning Section

The Engineering Planning Section (HAR-EP) through the *Section Head Engineer* develops the Harbor Master Plans, six-year capital project budget plan, and capital project biennial budget for new development and redevelopment projects. The HAR-EP was assigned to develop GIS map layers for storm sewer, tenant, and projects at Honolulu Harbor and the Kalaeloa Barbers Point Harbor. Since the completion of the GIS mapping in 2015, HAR-EP personnel also serve as GIS and AMS technical Administrators.

HAWAII DEPARTMENT OF TRANSPORTATION, HARBORS DIVISION, OAHU DISTRICT, STORM SEWER SYSTEM ORGANIZATIONAL CHART

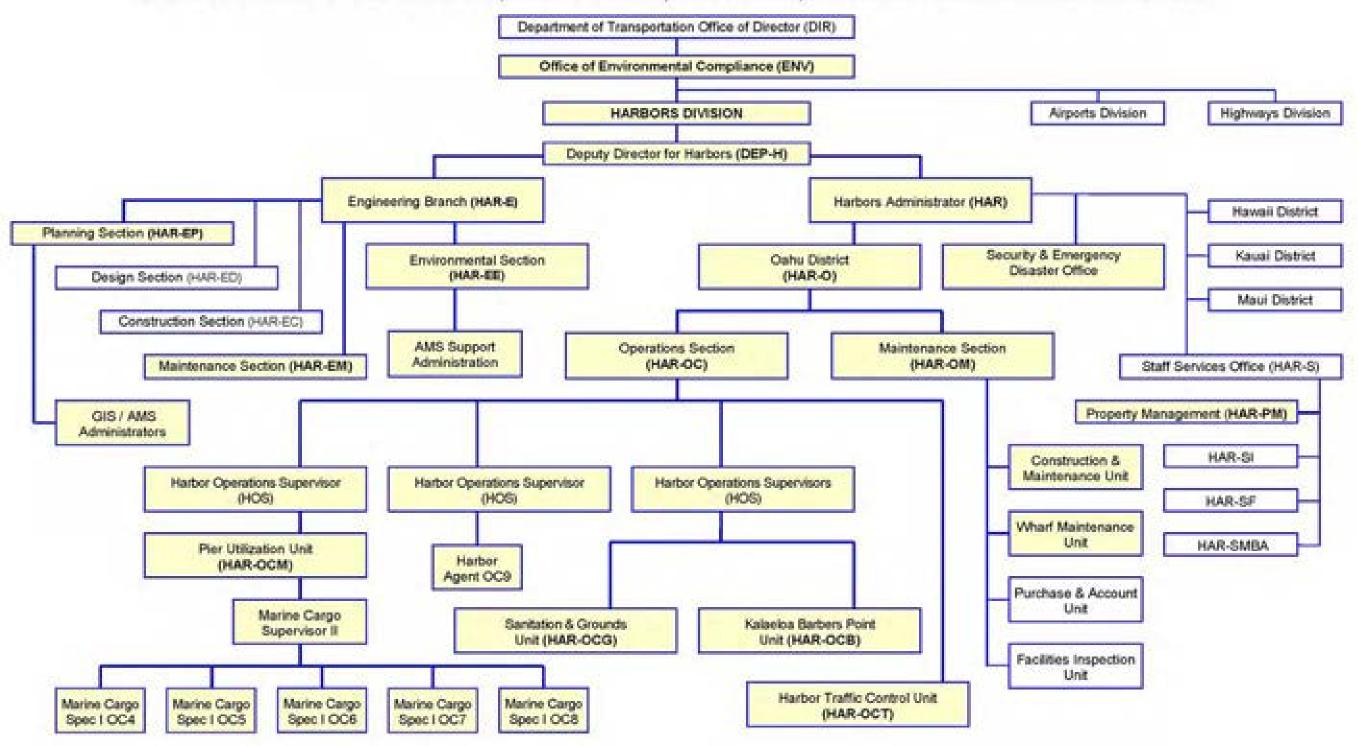


Figure 19. Harbors Division Organizational Chart with responsibilities for the SSS OMP activities highlighted in yellow.

OAHU DISTRICT POSITION TITLES AND STORM SEWER SYSTEM TASKS ORGANIZATIONAL CHART Hawaii Department of Transportation Office of Environmental Compliance (ENV) HARBORS DIVISION Deputy Director for Harbors (DEP-H) Harbors Administrator (HAR) Staff Service Office (HAR-S) Harbors Administrator Administrative Service Officer Oahu District (HAR-O) Property Management (HAR-PM) Harbors District Manager Property Manager Maintenance Section (HAR-OM) Operations Section (HAR-OC) Commercial Harbors Manager Constr & Maintenance Superintendent HAR-OC HAR-OC HAR-OC Harbor Operations Supervisor (HOS) Harbor Operations Supervisor (HOS) Harbor Operations Supervisor (HOS) Sanitation & Grounds Unit (HAR-OCG) Pier Utilization Unit (HAR-OCM) Wharf Maintenance Unit Construction & Maintenance Unit Marine Cargo Supervisor II Maintenance & Repair Supervisor II Wharf Maintenance Supervisor General Constr &Mince Supervisor Marine Cargo Spec I OC4 Maintenance & Repair Supervisor I Structural Repair ID/Leaking Pipes Marine Cargo Spec I OC5 Grate Replacement Grate Repair Storm Drain Cleaning Marine Cargo Spec I OC6 Signage & Stenciling Sweeping Routes Marine Cargo Spec I OC7 Debris Removal Rubbish Removal Marine Cargo Spec I OC8 Inspection Harbor Traffic Control Unit (HAR-OCT) Kalaeloa Barbers Point Unit (HAR-OCB) Harbor Agent OC9 Harbor Traffic Controller Supervisor Harbor Agent Supervisor Inspection

Figure 20. Harbors Oahu District Position Titles and SSS Activities Organizational Chart.

IDDE & Complaints

Inspection

The AMS Administrators are responsible for the updates and enhancements of both database systems capabilities, and to ensure continued function as configured. Minor configuration and GIS changes may be made, as necessary; however, major changes may require a consultant. The AMS Administrators also serve as trainers to train and assist users as necessary.

3.1.3 Maintenance Section

The Engineering Maintenance Section (HAR-EM) through the *Section Head Engineer* is responsible for construction plans, specifications, and contract preparation and execution for special maintenance and repair projects. The HAR-EM regularly provides engineering maintenance support functions to Oahu District Maintenance Section (HAR-OM), to maintain and repair or replace the damaged and worn features of the Harbors storm sewer system.

3.2 Harbors Administrator

The Harbors Administrator (HAR) is responsible for the management of all properties for the Oahu District, as well as the Hawaii District, Kauai District, and Maui District harbors. The HAR procures the personnel, financial, equipment, and material resources needed to execute the environmental compliance efforts for the SSS OMP.

3.3 Harbors Oahu District

The Harbors Oahu District (HAR-O) through the *Harbors District Manager* is responsible to manage the day-to-day direction and assignments, manpower, requests and allocates resources for routine Operations and Maintenance procedures at the Honolulu and Kalaeloa Barbers Point Harbors. The HAR-O manages the staff resources and program budget for the Harbors Oahu District SSS OMP implementation; and evaluates data, conducts meetings and consultations for improvement.

The HAR-O Sections, Units, and Subunits play vital roles in the implementation of the SSS OMP inspections and cleaning of storm drains, placement of storm water signs, stenciling, noting illicit discharges, and maintenance of BMPs.

The Harbors Oahu District Operations Section (HAR-OC) and Maintenance Section (HAR-OM) assign key personnel in their Units and Subunits to conduct inspections, prepare and submit Work Orders / Service Requests into the AMS, and perform cleaning and preventive maintenance activities for the storm sewer system.

3.3.1 Operations Section

The Harbors Operations Section (HAR-OC) is led by the *Commercial Harbors Manager*, who oversees Harbor operations including vessel scheduling and berthing, monitoring of operations, street and yard sweeping, and trash collection and disposal. The Commercial Harbor Manager supervises three (3) *Harbor Operations Supervisors* (HOS) who are responsible for these Units:

- Pier Utilization Unit (HAR-OCM)
- Sanitation (HAR-OCG) & Kalaeloa Barbers Point Units (HAR-OCB)
- Harbor Agent (OC9) for Commercial Fishing Village

Oahu District personnel have primary responsibilities to observe, report, and enforce tenant activities in cargo yards surrounding a single tenant area, and common pier facilities with multi-cargo operators.

The HOS supervises Harbors staff who conduct the Routine Inspections, and reviews the Environmental Inspection Reports, Area Surveys (Service Requests), Work Orders (WO), and Illicit Discharge Reports submitted by the *Marine Cargo Specialist Supervisor* (OCM), *Harbor Agent Supervisor* (OCB), *Maintenance & Repair Supervisors* (OCG), and the *Harbor Traffic Controller Supervisor* (OCT). The HOS conducts follow-up to review or reconcile inspections with Work Orders for cleaning.

- The HOS and the Marine Cargo Supervisor II supervise Storm Sewer System inspection.
- The HOS and the HAR-OCG Maintenance & Repair Supervisors manage cleaning requirements of the CD Section 20.c and d.
- The HOS supervises the Harbor Agent (HA) who conducts daily inspections of the Domestic Commercial Fishing Village at Honolulu Harbor Piers 36 through 38. The HA at Kalaeloa Barbers Point Unit is responsible for day-to-day, onscene supervision of the harbor.

3.3.1.1 Pier Utilization Unit

The HOS supervises the Harbors Pier Utilization Unit (HAR-OCM) which consists of *Marine Cargo Specialists* (MCS) staff that conduct Routine Inspections of pier areas.

 The MCS perform semiannual Screening Inspections of storm sewer system drain inlets and Hotspot Inspections of select storm sewer system drain inlets as required by the CD Section 20.c.

Based on inspection observations, MCS and HA may prepare the following reports to submit to the MCS Supervisor for review:

- Environmental Compliance Screening Inspections
- Service Requests (previously Area Surveys)
- Illicit Discharge Service Requests

Routine Inspections

The MCS are responsible for pier use and/or damage, and pier wharfs and cargo yards of the harbors based on pier assignments, to inspect activities in their assigned areas; and to inspect, monitor, observe, and advise cargo operators that have potential sources of illicit discharges.

Screening Inspections

The MCS and HA conduct semiannual Screening Inspections on 100% of the accessible drain inlets and open channels (trench drains) and quarterly Hotspot Inspections of select drain inlets and open channels. The physical inspections identify structural defects, trash and debris accumulation, drain guard presence, and illegible drain inlet stenciling.

3.3.1.2 Kalaeloa Barbers Point Harbor Unit

The Kalaeloa Barbers Point Harbor Unit (HAR-OCB) through the *Harbor Agent Supervisor* conducts Routine Inspection and Screening Inspections of the harbor and may prepare reports similar to MCS:

- Environmental Compliance Screening Inspections
- Service Requests (previously Area Surveys)
- Illicit Discharge Service Requests

3.3.1.3 Harbor Traffic Control Unit

The Harbor Traffic Control Unit (HAR-OCT) is also known as "Tower Operators" and through the *Harbor Traffic Controller Supervisor* is responsible for the potential reports coming into HAR-OCT. The Tower Operator assesses the report, and provides notifications depending on the assessment. Types of reports received are suspected illicit discharges/spills, leaking pipes, illegal dumping, clogged drains, damages and acts of vandalism, and other environmental concerns reported by employees or the general public. The 24/7 Tower Operators record and process the information received; and per relevant regulatory reporting requirements, provides notification to the regulatory agencies with jurisdiction, such as the US Coast Guard and HDOH.

The IDDE and Complaint reports may be initiated by the Tower Operator who faxes a copy to HAR-EE. HAR-EE generates the necessary and appropriate Service Request in the Citiworks[®] AMS.

3.3.1.4 Sanitation & Grounds Unit

The Sanitation & Grounds Unit (HAR-OCG) through the *Maintenance & Repair Supervisors* manage personnel who utilize heavy equipment to open the drain inlets to conduct follow-up work. HAR-OCG operates a vacuum truck that substantially increases the capabilities to clean drain inlets; and a rubbish truck for debris removal. HAR-OCB has a staging area for bulk pickup by HAR-OCG.

- The HAR-OCG Supervisors are responsible for managing the Subunit and data input to Citiworks® AMS, and the follow up Work Orders.
- The Kalaeloa Barbers Point Unit (HAR-OCB) Harbor Agent Supervisor uses Citiworks® AMS to create Service Requests as needed.
- HAR-OCG is responsible for storm drain cleaning and removal of accumulated debris, trash and sediment, and proper disposal with appropriate waste contractors.
- HAR-OCG performs sweeping of the pier common areas and select tenant facilities to prevent pollutants from entering the harbor by removing solids prior to flowing into the storm sewer system.
- HAR-OCG provides housekeeping practices for refuse collection and debris removal as an ongoing activity for Harbors facilities.
- HAR-OCG regularly conducts emptying of dumpsters for refuse collection; removal and disposal of discarded objects, machinery or equipment; and prompt repair/replacement of malfunctioning dumpsters.

3.3.2 Maintenance Section

The Harbors Maintenance Section (HAR-OM) through the *Construction & Maintenance Superintendent* is responsible for construction, maintenance, and routine repair for HAR-O, including the storm sewer system. The HAR-OM personnel perform daily maintenance functions at the piers and tenant areas in the cargo yards, and supervise the skilled labor and maintain mobile equipment resources for the Oahu District. The various skilled trade subunits are grouped under two primary units – Wharf Maintenance Unit and Construction & Maintenance Unit.

3.3.2.1 Wharf Maintenance Unit

The Wharf Maintenance Unit through the *Wharf Maintenance Supervisor* oversees the Building & Wharf Maintenance Subunit; Building, Paving & Grounds Subunit; Carpentry & Masonry Subunit; Equipment Operations Subunit; and Painting Subunit. The Wharf Maintenance Unit assists the storm water program with skilled trade subunits to support the following SSS O&M needs:

- Repair storm drain inlet boxes.
- Maintain legible stenciling and markers at storm drain inlets, and install required signage.

3.3.2.2 Construction & Maintenance Unit

The Construction & Maintenance Unit through the *General Construction & Maintenance Supervisor* oversees the Electrical Subunit, the Automotive Maintenance Subunit, the Plumbing Subunit, the Welding Subunit, the Equipment Maintenance Subunit, the Air Conditioning Subunit, and the Parking Meter Subunit. The Construction and Maintenance Unit assists the storm water program with skilled trade subunits to support the following SSS O&M needs:

- Regular maintenance to fix leaking pipes.
- Provide scheduled maintenance for vehicles.
- Repair and replace metal grates.

See Chapter 5 for details about the MCS/HA and HAR-OCG tasks workflow processes.

3.4 SSS OMP Implementation and BMPs

The SSS OMP implements BMPs that are effective, practical means of preventing or reducing pollution from storm water runoff. Storm water BMPs are defined as a schedule or schedules of operational inspection activities, prohibitions or designations of practices, maintenance procedures, and management practices to prevent or reduce the pollution to receiving water and/or Harbors storm water drainage system.

Figure 21 shows a prohibition practice BMP of signage informing the public that "Pollution is Prohibited by Law."

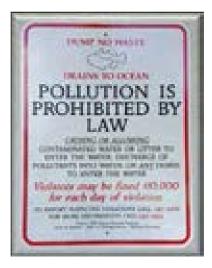


Figure 21. Prohibition practice BMP signage informs the public that "Pollution is Prohibited by Law."

BMPs include treatment control requirements; operating procedures; and practices to prevent illicit discharges and to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

BMPs related to treatment control utilize physical devices or systems that remove pollutants from storm water.

BMPs related to operational practices are intended to prevent pollutants from entering surface waters and/or Harbors storm water drainage system by altering activities to eliminate and minimize the pollution.

BMPs related to spill response rely on a combination of structural controls, employee awareness and relevant training to be effective methods for protection of environment.

Table 23 shows the storm water BMPs and Harbors Oahu District programmatic roles that provide oversight for the SSS OMP activities and tasks.

Table 23. Storm Water BMPs and Harbors programmatic roles.

STORM WATER BMPs	Units
Semiannual Storm Drain Screening Inspections	OCM, MCS/HA
Quarterly Hotspot Inspections	OCM, MCS/HA
Comprehensive Inspections	OCG, OCB
Storm Drain Cleaning	OCG
IDDE and Complaint Inspections	MCS, OCG, OCB
Structural Repairs	Wharf Maintenance

STORM WATER BMPs	Units
Grate Replacements	Wharf Maintenance
Grounds Special Maintenance	OCG, OCB, WM
Routine Sweeping Routes	OCG, OCB
Refuse Collection	OCG
Repair Leaking Pipes	Construction & Maintenance
Signage and Stenciling	Wharf Maintenance

3.5 Regulatory Requirements

The regulatory requirements guiding the *Storm Sewer System O&M Program Manual* are listed with relevant information or language.

3.5.1 2014 Consent Decree

The Hawaii Department of Transportation CD with the USEPA and HDOH was entered in the US District Court for the District of Hawaii, Docket No. 1:14-CW-00408-JMS-KSC on November 5, 2014. The CD requires Harbors to comply with specific requirements of the CWA, as amended, along with the provisions set forth in the Notice of General Permit Coverage (NGPC) permit.

The CD Section 20 requires Harbors to develop and implement a SSS OMP for Honolulu Harbor and Kalaeloa Barbers Point Harbor.

3.5.2 NPDES NGPCs for Honolulu and Kalaeloa Barbers Point Harbors

The Honolulu Harbor NPDES NGPC HI 03KB482, and the Kalaeloa Barbers Point Harbor NPDES NGPC HI 03KB488, issued by the HDOH, set forth requirements for Harbors to implement minimum control measures to reduce the discharge of pollutants from Harbors MS4 to the MEP in order to protect water quality and satisfy appropriate water quality requirements of the CWA.

The HDOH CWB granted NGPCs for both harbors in separate letters dated May 19, 2003. Coverage was extended by HDOH administrative extension to December 9, 2013, at which time the HDOH renewed the NGPCs for both harbors. The NGPCs for both Honolulu and Kalaeloa Barbers Point Harbors new administrative extension date is December 2, 2016.

The NGPCs require that Harbors effectively prohibit non-storm water discharges through its storm sewer system into State Waters.

3.5.2.1 40 Code of Federal Regulations 122

Harbors is required to comply with the USEPA NPDES regulations (40 CFR Part 122) for urbanized areas.

3.5.2.2 Hawaii Revised Statutes

The Hawaii Revised Statutes (HRS) Chapter 342D Water Pollution, Part III Water Pollution Control states:

§ 342D-50 Prohibition. (a) 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 except in compliance with this chapter, rules adopted pursuant to this chapter, or a permit or variance issued by the director.

3.5.2.3 Hawaii Administrative Rules

The Harbors Division is required to comply with Hawaii Administrative Rules (HAR) Title 11, Chapter 54 Water Quality Standards.

The Harbors Division is required to comply with HAR Chapter 11-55 Water Pollution Control, Appendix K, Appendix A, and HAR Sections 11-55-34.04(a), 11-55-34.07, 11-55-34.11, 11-55-34.12, and other applicable Sections of HAR Chapter 11-55.

The HAR Chapter 11-55 Appendix K NPDES Permit Authorizing Discharges of Storm Water and Certain Non-Storm Water Discharges from Small Municipal Separate Storm Sewer Systems, Section 6 Storm Water Plan Requirements, Subsection (a) Minimum Control Measures, item (6) Pollution Prevention/Good Housekeeping states:

Develop, implement, and enforce an operation and maintenance program to prevent and reduce storm water pollution from activities, including, but not limited to, park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance that, at a minimum, includes the following:

- (A) Good housekeeping and other control measures, and
- (B) Employee and contractor training on good housekeeping practices to ensure that good housekeeping measures and best management practices are properly implemented.

3.5.3 SWMP for Honolulu and Kalaeloa Barbers Point Harbors

In compliance with the CWA, as amended, HRS Chapter 342D, and HAR Chapters 11-54 and 11-55, Harbors is authorized to discharge storm water runoff and certain non-storm water discharges as identified in the NGPCs.

The *SWMP* identifies the six minimum control measures established by the USEPA and required by HAR 11-55 Appendix K; and a schedule for implementation of BMPs to reduce, to the MEP, the amount of pollutants from the Small MS4s that enter the receiving State Waters.

The *SWMP* control measures for Public Education and Outreach Program target Harbors tenants, the general public including visitors to our islands, Harbors employees, vessel operators, and general contractors who perform construction on Harbors property. The Signage and Stenciling Program installs signs that prohibit dumping or discarding pollutants at suitable locations on Harbor property. Harbors stencils or labels all inlets and open channels on Honolulu Harbor and Kalaeloa Barbers Point Harbor to promote storm water awareness and reduce non-storm water discharges into harbor waters.

The *SWMP* control measures for Pollution Prevention and Good Housekeeping Program include the SSS OMP.

3.6 Notifications Information and Contacts

Harbors internal procedures determine the point of contact personnel responsible for contacts to the HDOH and CCH agencies for specific circumstances.

Table 24 provides notifications information and contacts.

Table 24. Notifications information and contacts.

NOTIFICATION OF INTODUCATION AND CONTRACTO	Directing Manager
NOTIFICATIONS INFORMATION AND CONTACTS	PHONE NUMBER
Harbors Stormwater Hotline (working hours only)	(808) 587-1962
Harbors Traffic Control Center (available 24 hours)	(808) 587-2076
Harbors Environmental Section (HAR-EE) Notify HAR-EE for IDDE and applicable environmental issues or concerns. Connection and Discharge Permittees must notify HAR-EE at least 24 hours before commencing discharge or construction work to arrange for necessary inspectional services.	(808) 587-1962
DOH Clean Water Branch (CWB) Immediately notify the DOH CWB of pollutants entering or threatening to enter State Waters. Immediately notify DOH of any municipal wastewater spills or overflows from private laterals and failing septic systems that discharges into the MS4. Immediately notify the DOH CWB of any spills of any chemical of a reportable quantity; and a written notification must also be submitted no later than thirty (30) days after the initial release. Note: The reportable quantity for oil and fuel products is a spill of 25 gallons or more, a spill not cleaned within 72 hours, or a spill that threatens ground or surface waters.	(808) 586-4309
DOH Hazard Evaluation and Emergency Response (HEER) Office Notify HEER office of any discharge/spill that enter State Waters after work hours. Notify HEER office of any chemical spill of a <i>reportable quantity</i> , and a written notification must also be submitted no later than thirty (30) days after the initial release.	(808) 586-4249 or (808) 247-2191 (after hours)
DOH Solids and Hazardous Waste Branch	(808) 586-4226
US Coast Guard Marine Safety Office, Oahu The US Coast Guard should be notified of any quantity spill that reaches the ocean.	(808) 522-8260
CCH Department of Environmental Services (ENV) Sanitary Sewer Spills/Trouble	(808) 768-7272
CCH Environmental Concern Line	(808) 768-3300
CCH Industrial Discharges to Sanitary Sewer	(808) 768-8210
CCH Storm Drain Permit Connection	(808) 768-8106

3.6.1 MOU for HDOT and City & County of Honolulu

Harbors is not involved in the 2002 Memorandum of Understanding (MOU) for HDOT and the City & County of Honolulu (CCH); however, the MOU serves to identify the owners of upstream storm sewer system network connectivity that impacts Harbors. Harbors property is located between the lower portions of both HDOT and City systems and the receiving State Waters.

Pertinent sections are provided, as follows.

"The purpose of this Memorandum of Understanding (MOU) is to define the roles and responsibilities of the State Department of Transportation, Highways Division, (DOT), and the City and County of Honolulu (City) Department of Environmental Services (ENV), and Department of Facility Maintenance (DFM), as part of permit requirements on the control of illicit discharges and nonpoint sources of pollution into the DOT's municipal separate storm sewer system on Oahu, and the City's municipal separate storm sewer system.

On Oahu, the regulations require both the DOT and the City to have NPDES permits for their respective municipal storm sewer systems. Because the DOT and City systems are interconnected, DOH regulations require that an interagency agreement between the DOT and the City or a Memorandum of Understanding (MOU), be executed that delineates policies governing interconnection and enforcement that will control the discharge of pollutants from the upper portions of the municipal separate storm sewer systems into the lower portions of both DOT and City systems to waters of the United States.

The objectives of this MOU are to:

- a) Establish effective intergovernmental coordination between the DOT and the City;
- b) To clearly delineate the roles and responsibilities of each agency in an effort to minimize, to the maximum extent practicable, the discharge of any pollutant from one municipal separate storm sewer system to the other municipal separate storm sewer system;
- c) Minimize duplication of effort; and
- d) Ensure accountability through judicious application of best management practices, design and engineering methods, and periodic water quality monitoring.

The DOT, through the Oahu District Engineer, will . . .

3. Implement a storm water monitoring program in conformance with the requirements of the DOT municipal NPDES Permit, and provide analytical data of storm water discharges to the ENV whenever such discharges are conveyed into the City's municipal separate storm sewer system.

The City and County of Honolulu, Department of Environmental Services (ENV) will . . .

3. Implement a storm water monitoring program in conformance with the requirements of the City' municipal NPDES Permit, and provide, upon request, analytical data of storm water discharges to the DOT whenever such discharges are conveyed into the DOT's municipal separate storm sewer system."

CHAPTER 4 HARBORS ASSET MANAGEMENT SYSTEM (AMS)

The Harbors AMS is a commercial off the shelf (COTS) solution using ESRI GIS and Cityworks® AMS software which requires Internet browser access to log in. The AMS interface enables staff to track and manage Harbors storm water infrastructure assets and MS4 permit compliance through a centralized database.

The AMS collects data from specific geospatial features of the Harbors storm water system (i.e., inlets, manholes, pipes, aboveground drainage features, post-construction control measures, and outfalls), drain inspections and cleaning activities, BMP inspections for construction and post-construction projects, and tenant and outfall inspections. The AMS manages schedules and special reports, and tracks the Work Orders and Service Requests required for drain inspections and cleaning. The data serves to identify higher risk "hotspots" with greater potential to discharge pollutants.

This chapter presents an introduction to Cityworks® AMS capabilities. Chapter 6 information presents a guide for Cityworks® AMS usage.

4.1 ArcGIS Online and Server Configuration

Cityworks[®] uses ArcGIS Server to provide the map and other tools, such as geocoding, to the user. Different maps may be configured for individual users or groups to display data relevant to their responsibilities and daily activities.

4.1.1 Cityworks® AMS – How It Works

Cityworks® is a proprietary GIS-centric asset management software solution that combines elements of ArcGIS data with asset data management capabilities in order to allow users to perform intelligent and cost-effective inspection, monitoring, and condition assessments. The AMS takes into account the interdependencies of maintenance, operations, asset performance, environmental conditions, life cycle costs, and capital planning to maximize the useful remaining life of system assets.

4.1.1.1 AMS Alignment with SWMP and CD

The Cityworks® AMS approach adopted Service Requests, Work Orders, and Inspections work activities—cyclical or reactive—with their associated costs, to align with Harbors compliance activities with the *SWMP* requirements. This alignment ensures Harbors personnel capabilities to address the storm sewer system compliance requirements of the CD.

4.1.1.2 Tasks Workflow Process Using Cityworks® AMS

Map layers are created to display the progressive relationships among open Service Requests, status of Work Orders, and schedules for Inspections through a customized inbox or map screen for Harbors personnel users.

Reports of many types may be generated through search parameters or customized report templates so field users can receive the information they need to efficiently perform their jobs.

This section introduces Cityworks® AMS capabilities. Chapter 5 provides a transition from what Cityworks® AMS can do to how tasks are performed in coordination with Cityworks® AMS. *See* Chapter 5 for details about the HAR-OC and HAR-OM tasks workflow processes.

4.1.2 Asset Configuration

Cityworks® AMS uses the ArcGIS geodatabase as the asset database, and differentiates assets types as follows:

- *Feature* classes with assets shown as points, lines, and polygons.
- *Other* types with no records in the geodatabase but still allow tracking of work activities, e.g., training, meetings, etc.

4.1.2.1 Configured Assets

Each configured asset fits the designated storm sewer system tasks, which are grouped to correspond with the CD. These assets exist as GIS layers and class tables within the Cityworks® AMS on which users can create activities.

Figure 22 shows the Honolulu Harbors storm sewer system assets.

Figure 23 shows Kalaeloa Barbers Point Harbor storm sewer system assets.



Figure 22. Honolulu Harbor Storm Sewer System Assets.

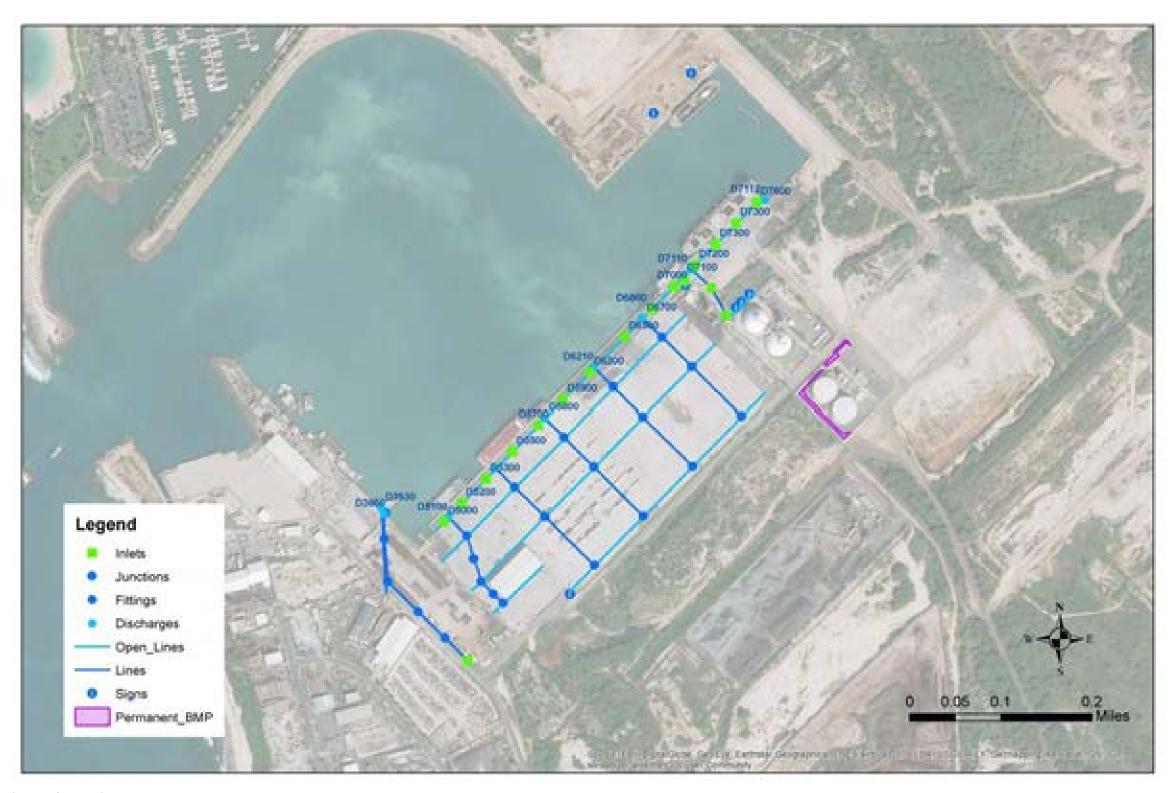


Figure 23. Kalaeloa Barbers Point Harbor Storm Sewer System Assets.

Table 25 shows the Cityworks[®] AMS configured assets groups defined for Harbors.

Table 25. Cityworks® AMS configured asset groups.

ASSET GROUP	ASSET NAME
Enforcement	Enforcement
Engineering	Project (HC Footprint) BMP
Environmental Sec A	Public Outreach, Training Employee
Environmental Sec B	Discharge (Outfall), Enforcement, Illicit Discharge, Tenant
Operations	Grounds, Refuse, Sweeping, Vehicle
Storm drain	Fitting, Inlet, Line, Manhole, Open Line, PBMP, Signs
Administration	Config

4.2 Work Orders

Work management involves initiation, screening (qualifying), planning, dispatching, and performing (executing) requests for work, called a *Work Order*.

Work Order configuration templates are designed to incorporate the current SSS OMP work practices and modernize data entry by the Harbors personnel who perform inspections of the storm drain system.

Harbors O&M activities are cyclic or reactive, and Cityworks® AMS generates schedules and tasks for "asset-based" Work Orders and Inspections, and address or "location-based" Service Requests.

Work Order generation is the primary decision making point, and work assignments are routed to specific Harbors Sections, Units, and Subunits.

Table 26 shows the Work Orders configured in Cityworks® AMS based on asset group, GIS layer, and asset types.

Table 26. Work Orders assigned to Harbors personnel for follow-up and completion.

ASSET GROUP	GIS LAYER ASSET NAME	ASSET TYPE	Work Order Description	Associated Personnel
Engineering	Project (HC Footprint)	Feature	Construction BMP Inspect – Harbors – 1 Initial	EE
Engineering	Project (HC Footprint)	Feature	Construction BMP Inspect – Harbors – 2 Recurring	EE
Engineering	Project (HC Footprint)	Feature	Construction BMP Inspect – Harbors – 3 Final	EE, OM

ASSET GROUP	GIS LAYER ASSET NAME	ASSET TYPE	Work Order Description	Associated Personnel
Engineering	Project (HC Footprint)	Feature	Environmental Design Review - Harbors	EP
Environmental Sec A	Training Employee	Other	IDDE Training	O, OC, OM, OCM, OE, OCT, OCG, OCB, MCS, HA
Environmental Sec A	Training Employee	Other	IDDE Survey & Review / Update	O, OC, OM, OCM, OE, OCT, OCG, OCB, MCS, HA
Environmental Sec A	Training Employee	Other	Stormwater Awareness Training	O, OC, OM, OCM, OE, OCT, OCG, OCB, MCS, HA
Environmental Sec A	Training Employee	Other	Stormwater Awareness Training Survey & Review / Update	O, OC, OM, OCM, OE, OCT, OCG, OCB, MCS, HA
Operations	Refuse	Other	Bulk Waste Disposal	OCG, OCB
Operations	Refuse	Other	Repair / Replace	OCG, OCB
Operations	Refuse	Other	Refuse Collect Ad Hoc	OCG, OCB
Operations	Sweeping	Other	Street Sweeper Downtime	HOS, OCB,
Operations	Sweeping	Other	Sweep – Aloha Marine Lines P29	OCG
Operations	Sweeping	Other	Sweep – Channel Street, P02 Shed	ocg
Operations	Sweeping	Other	Sweep – Fishing Village P35	OCG
Operations	Sweeping	Other	Sweep – KBPH Common Roads	OCB
Operations	Sweeping	Other	Sweep – Matson	OCG
Operations	Sweeping	Other	Sweep – NYK P01	OCG
Operations	Sweeping	Other	Sweep – P01 Entrance	OCG
Operations	Sweeping	Other	Sweep – P01, P02 Common Roadways	OCG
Operations	Sweeping	Other	Sweep – P02 for Cruise Ship	OCG
Operations	Sweeping	Other	Sweep – P10, P11	OCG
Operations	Sweeping	Other	Sweep – P18 P19, P23, P24	OCG
Operations	Sweeping	Other	Sweep – P27, P28	OCG
Operations	Sweeping	Other	Sweep – P30, P31, P32, and Shed Areas	OCG
Operations	Sweeping	Other	Sweep – Pasha	OCG
Operations	Sweeping	Other	Sweep – Sand Island Base Yard	OCG
Operations	Sweeping	Other	Sweep – Young Brothers	OCG

Asset Group	GIS LAYER ASSET NAME	ASSET TYPE	Work Order Description	Associated Personnel
Operations	Sweeping	Other	Sweep Waste Disposal	OCG
Stormdrain	Fitting	Feature	Inspect	ОМ
Stormdrain	Fitting	Feature	Install	ОМ
Stormdrain	Fitting	Feature	Remove	ОМ
Stormdrain	Fitting	Feature	Repair	ОМ
Stormdrain	Fitting	Feature	Replace	ОМ
Stormdrain	Inlet	Feature	Clean & Inspect AD Hoc	OCG, OCB
Stormdrain	Inlet	Feature	Clean & Inspect Hotspot	OCG, OCB
Stormdrain	Inlet	Feature	Inspect Ad Hoc	MCS
Stormdrain	Inlet	Feature	Inspect Comprehensive & Clean	OCG
Stormdrain	Inlet	Feature	Inspect Screening	MCS
Stormdrain	Inlet	Feature	Inspect Screening Wet Weather	MCS
Stormdrain	Inlet	Feature	Install	ОМ
Stormdrain	Inlet	Feature	Install & Remove Plate	ОМ
Stormdrain	Inlet	Feature	Install Biosock / Drain Guard	OCG
Stormdrain	Inlet	Feature	Remove	ОМ
Stormdrain	Inlet	Feature	Remove Biosock /Drain	OCG
Stormdrain	Inlet	Feature	Repair Box	EE, EM, OM
Stormdrain	Inlet	Feature	Repair Frame	ОМ
Stormdrain	Inlet	Feature	Repair Grate	ОМ
Stormdrain	Inlet	Feature	Replace Biosock /Drain Guard	OCG
Stormdrain	Inlet	Feature	Replace Box	ОМ
Stormdrain	Inlet	Feature	Replace Frame	ОМ
Stormdrain	Inlet	Feature	Replace Grate	OM, CMV
Stormdrain	Inlet	Feature	Stencil New	ОМ
Stormdrain	Inlet	Feature	Stencil Restencil	ОМ
Stormdrain	Line	Feature	Clean	ОМ
Stormdrain	Line	Feature	Install	ОМ
Stormdrain	Line	Feature	Remove	ОМ
Stormdrain	Line	Feature	Repair	ОМ
Stormdrain	Line	Feature	Replace	ОМ
Stormdrain	Manhole	Feature	Inspect Comprehensive	OCG
Stormdrain	Manhole	Feature	Inspect Screening	MCS, HA

ASSET GROUP	GIS LAYER ASSET NAME	ASSET TYPE	Work Order Description	Associated Personnel
Stormdrain	Manhole	Feature	Inspect Screening Wet Weather	OCG
Stormdrain	Manhole	Feature	Install	ОМ
Stormdrain	Manhole	Feature	Rebuild Cone	ОМ
Stormdrain	Manhole	Feature	Remove	ОМ
Stormdrain	Manhole	Feature	Repair	ОМ
Stormdrain	Manhole	Feature	Replace	ОМ
Stormdrain	Manhole	Feature	Replace	ОМ
Stormdrain	Open Line	Feature	Clean & Inspect Ad Hoc	OCG
Stormdrain	Open Line	Feature	Clean & Inspect Hotspot	OCG, OCB
Stormdrain	Open Line	Feature	Inspect Comprehensive & Clean	OCG, OCB
Stormdrain	Open Line	Feature	Inspect Screening	MCS
Stormdrain	Open Line	Feature	Inspect Screening Wet Weather	MCS
Stormdrain	Open Line	Feature	Install	ОМ
Stormdrain	Open Line	Feature	Install & Remove Plate	ОМ
Stormdrain	Open Line	Feature	Install Biosock /Drain	OCG
Stormdrain	Open Line	Feature	Remove	ОМ
Stormdrain	Open Line	Feature	Remove Biosock /Drain Guard	OCG
Stormdrain	Open Line	Feature	Repair	ОМ
Stormdrain	Open Line	Feature	Repair Box	ОМ
Stormdrain	Open Line	Feature	Repair Frame	ОМ
Stormdrain	Open Line	Feature	Repair Grate	ОМ
Stormdrain	Open Line	Feature	Replace Biosock /Drain Guard	OCG
Stormdrain	Open Line	Feature	Replace Box	ОМ
Stormdrain	Open Line	Feature	Replace Frame	ОМ
Stormdrain	Open Line	Feature	Replace Grate	ОМ
Stormdrain b	Project Permanent BMP	Feature	Inspect Comprehensive & Clean	ocg
Stormdrain b	Project Permanent BMP	Feature	Install	ОМ
Stormdrain b	Project Permanent BMP	Other	Permanent BMP O&M Training	OCG
Stormdrain b	Project Permanent BMP	Feature	Remove	ОМ
Stormdrain b	Project Permanent BMP	Feature	Repair	ОМ

ASSET GROUP	GIS LAYER ASSET NAME	ASSET TYPE	Work Order Description	Associated Personnel
Stormdrain b	Project Permanent BMP	Feature	Replace	ОМ
Stormdrain b	Signs	Feature	Clean	OCG
Stormdrain b	Signs	Feature	Evaluate Annual	EE
Stormdrain b	Signs	Feature	Install	ОМ
Stormdrain b	Signs	Feature	Remove Graffiti	OCG
Stormdrain b	Signs	Feature	Repair Pole	ОМ
Stormdrain b	Signs	Feature	Replace Pole	ОМ
Stormdrain b	Signs	Feature	Replace Sign	ОМ

4.2.1 Work Order Security

Each Work Order template has a security configuration that can only be altered by Harbors AMS Administrators.

4.2.1.1 Work Order Tables

A table is a collection of related data columns and rows held in a structured format within a database.

- Work Order Primary Work Order information
- Labor Labor added to Work Order
- Material Material added to Work Order
- Equipment Equipment added to Work Order
- Tasks Tasks associated to Work Order

4.2.1.2 Permissions

Users and groups are created and assigned a range of database access permissions to the Work Order Tables. Permissions set by the AMS Administrator allow users to create and update, and view work management activities and data fields.

- View Users may view data, but not add, update, or delete.
- Add Users may view and add data, but not delete.
- Update Users may add data and update screen details, but not delete.
- Delete Users may add, update, and delete data.

• View Labor Costs – Users may view the financial information.

Each permission is applied to each Work Order Table depending on the permission level assigned to a given domain group.

4.2.2 Work Order Status

A Work Order, like an asset, has a life cycle of its own in the Cityworks® AMS. The steps and functions of the Work Order life cycle are integrated to ensure that issues are resolved or activities are efficiently completed.

The Work Order status can be viewed as the time it takes to accept a request for work through the time it takes to complete the Work Order. These stages are as follows:

- Initiated
- 1. Assigned
- 2. In Progress
- 3. Work Complete
- 4. On Hold
- 5. QA Rejected

Status can be thought of as the state, condition, or situation of the Work Order. Status is used for Service Requests and Work Orders. The Status field is designed to change as work progresses. Values in the Status field are pre-populated by Harbors AMS Administrators to reflect the possible stages of work for Harbors personnel.

A Work Order may go through each of these stages from work initiation to QA review and completion, or it may bypass certain stages – it is entirely dependent on what Harbors requires based on the asset work required. In addition, stages may be combined based on the Harbors staff roles and responsibilities. This standard Work Order life cycle process provides a streamlined, consistent method to manage work throughout Harbors.

Every configuration includes workflows that do not follow the standard Work Order life cycle. These are grouped as custom flows to support the remaining 20% of the configuration for which Task Specific Workflows have been specially configured for Harbors. These Task-Specific Workflows are discussed in Section 4.2.3.

Figure 24 displays a Work Order screen shot with selected Status "Assigned."

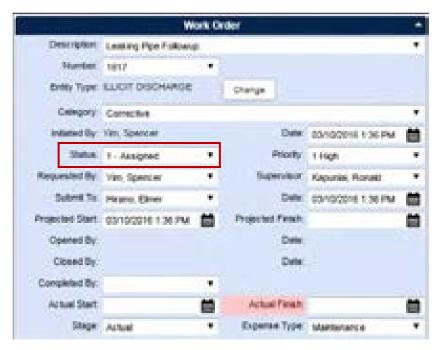


Figure 24. Work Order screen displays status field as "Assigned."

Initiated Work Order Status

The *Initiated* Work Order may go through a screening process to make sure the initial details and information are accurate, and the Work Order or Service Request is valid. If the information is accurate, the Manager / Superintendent / Supervisor keeps the Status field "Initiated."

However, if the information is not accurate, the Screener will tab to the Details Panel to cancel the Work Order by checking the *Cancel Work Order* checkbox.

The Manager / Superintendent / Supervisor will document the reasons for cancellation, and click the Save button to save the Work Order and the screen display will update the Work Order *Status* field to "Cancelled."

Figure 25 displays the Details panel with the checked Cancel Work Order checkbox.



Figure 25. Work Order Details panel.

Work Orders are initiated based upon issues identified during the execution of other maintenance activities or a pre-defined schedule of preventive tasks. Regardless of the circumstances under which a Work Order must be completed, the process for doing so is generally the same, using Cityworks® AMS functionality along with the common Work Order life cycle.

New reactive, corrective, predictive, or preventive Work Orders are initiated based upon reported and observed deficiencies in the storm drain system, or automatically initiated by Cityworks® AMS predefined inspections and cleaning schedules. The asset related to the issue is attached to the Work Order upon selecting the *Initiated* status.

Screening Work Order Status

The Work Order displays in the Cityworks® AMS Inbox (hereinafter Inbox) of the supervisory staff responsible for screening, scheduling, and assigning each specific type of work. HAR-O supervisory staff is responsible for assessing and checking the Inbox in Cityworks® AMS to review the Work Order to determine priority and assign an immediate response, or assign and schedule for a later date.

Work Orders assigned for immediate response (first response Work Order) are followed up by phone or radio notification to the assigned individual. Otherwise, the Work Order will appear in the assigned employee's Inbox before it is scheduled for execution.

Assigned Work Order Status

The MCS, HA, HAR-OCG, and HAR-OM crew will complete the work in the field and the crew leader will fill out all necessary information in Cityworks® AMS. This information will include, but is not limited to, the following:

- Time started, date, and time finished,
- Resources consumed (labor, equipment, and materials)
- Notable findings (damage to the asset or equipment therein, safety hazards, etc.)
- Other information as specified on the Work Order.

Additional corrective actions or follow-up Work Orders for any conditions observed that require action or review will be created by supervisory staff based on MCS and HA inspections.

A Supervisor will prioritize and assign this work.

Completed Work Order Status

After the Work Order information is entered into Cityworks® AMS, HAR-O personnel will change the Status field to "Work Complete" and assign the Work Order back to the Supervisor to review. It will appear in the Inbox Work to Review area for the appropriate Supervisor (HOS, HAR-OCG, HAR-OCB, Marine Cargo, and HAR-OM), who will review and approve, and close the Work Order.

In the event that mobile devices cannot maintain Internet connectivity, Work Order information may be recorded on a pre-printed form for later entry into the system.

4.2.2.1 Tasks

Tasks are used to define distinct work activities within a Work Order. Tasks are typically used for more complex Work Orders that require multiple work activities performed by different people. Simpler Work Orders that only require one type of activity may not have any tasks. Tasks can be predefined and automatically added to each Work Order, as applicable. When one task is complete, the system automatically activates the next task, and the person in charge of the task is assigned the Work Order.

For example, tasks can be used to define or create a workflow on a Work Order for a work activity that requires formal approval or notification, such as reports of illicit discharges of oil that require immediate notification of certain agencies and individuals.

Figure 26 displays the screen for Illicit Oil Discharge Notifications.



Figure 26. Illicit Oil Discharge Notifications screen.

Task Hierarchy

The task hierarchy is a folder hierarchy in which defined tasks can be organized. The hierarchy allows Harbors personnel users to easily locate a task based on the type of work for which the task is executed, the group that uses the task, or the type of asset(s) on which the task is used.

Figure 27 displays the task hierarchy configured for Harbors.



Figure 27. Task hierarchy configured for Harbors.

4.2.3 Task-Specific Workflows

Ten (10) Task-Specific Workflows are custom workflows that do not follow the standard Work Order life cycle, and are specially configured for the unique requirements of Harbors. They are briefly described below.

4.2.3.1 Illicit Discharge / Leaking Pipe

When a report is received or a discovery is made of a suspected illicit discharge or leaking pipe, the receiver or discoverer, likely HAR-OCT, a MCS / HA, or a HAR-EE

employee, will create a 'Suspected Illicit Discharge' or 'Suspected Leaking Pipe' Service Request and answer the specified questions on the electronic form.

If the Service Request is confirmed as an illicit discharge, HAR-EE will create a child Work Order for 'Illicit Discharge Investigation' or 'Leaking Pipe Investigation'. The Work Order should be attached to the closest asset participating in the discharge. Then, if notification of other agencies is required, HAR-EE will enter the notification tasks, found in the 'Illct Dsch Misc Notf' and 'Illct Dsch Oil Noft' trunks of the task hierarchy. The Actual Finish Date of each task will indicate when the notification was made, and comments can be made on the details of the notification. The 'Illicit Discharge Investigation' or 'Leaking Pipe Investigation' work orders are intended to track only the investigation process, and contain custom fields configured to gather the details of the discharge.

In discharge cleanup, an 'Illicit Discharge Cleanup' or 'Leaking Pipe Cleanup' Work Order may be created as a child Work Order for the Investigation to track costs associated with the cleanup, including contracted costs.

If long-term follow-up is required to ensure that the source of the discharge is eliminated, an 'Illicit Discharge Followup' or 'Leaking Pipe Followup' work order may be created as a child to the investigation Work Order.

4.2.3.2 Tenant Inspection

New, recurring, and final tenant inspections, conducted by HAR-EE and its consultants to assist the HAR-Property Management, are tracked using Work Orders that describe the type of inspection being conducted, and usually result in the creation of a Storm Tenant Inspection form. The tenant risk ranking criteria on the Tenant Inspection form developed by Harbors are assessed and scored based on the observations and findings of the inspection. Additionally, tenants categorized as low risk, only reconnaissance is conducted. Tenant reconnaissance inspections are tracked using the 'Inspect – Low Risk Reconnaissance' Work Order. The results of reconnaissance inspections, including pictures and the tracking spreadsheet, will be attached to the 'Inspect – Low Risk Reconnaissance' Inspection.

4.2.3.3 Tenant List Administration

To support including tenant information on the printable version of the tenant inspection, tenant records from GIS will be imported by the AMS Administrator into the Cityworks® customer table using the Bulk Import tool in Designer.

4.2.3.4 Environmental Design Review

When a Harbors or tenant construction project requires design review, HAR-EE is notified of the project via a hardcopy 'blue memo' and creates either an 'Environmental Design Review – Harbors' or 'Environmental Design Review – Tenant' Work Order attached to a HC Footprint or Tenant asset, respectively. HAR-EE adds design review tasks as necessary by selecting from the predefined task list for those Work Orders. Every Work Order has either an 'Exempt from Construction Site Runoff Control Reqs' or 'Not Exempt from Construction Site Runoff Control Reqs' task added to facilitate annual compliance reporting.

4.2.3.5 Storm Inlet / Open Line / Manhole Inspection Process

This process is conducted in two tiers. Supervisors will be responsible for creating their own follow-up work based on the results of inspections. Marine Cargo Specialists conduct screening inspections of every accessible Harbors inlet and open line using a blanket 'Inspect Screening' Work Order for all assets, which creates a 'Storm Inlet Insp Screening' inspection for each asset. The AMS Administrator or HAR-EE initiates this Work Order semiannually from the start date of January 2016. If, on any inspection, follow-up work is required based on the 'Stenciling required', 'Grate condition', or 'Debris depth' observations, the MCS will set the Resolution of the inspection to 'Followup Work Required' and close the inspection.

The HAR-OCG Supervisors will have saved searches in their Inbox for Screening Inspections where follow-up work is required. For the assets where the Screening Inspection recorded more than 6 inches of debris in an inlet, HAR-OCG will create a single 'Inspect Comprehensive & Clean' Work Order, which creates a related 'Storm Inlet Insp Comprehensive' inspection. HAR-OCG will clean the inlet and inspect it with the grate or lid off, recording cleaning and inspection results on the inspection form. If, on any inspection, follow-up work is required based on the 'Structure condition', 'Illicit connection', or 'Guard recommendation' observations, the Resolution will be set to 'Followup Work Required' and the inspection will be closed through the normal process.

HAR-EE, HAR-OCG, and HAR-OM supervisors have 'Saved Searches' for screening and comprehensive inspections that require follow-up work. Supervisors in each branch (HOS, HAR-OCM, HAR-OCG, HAR-OM) will be responsible for creating their own follow-up work based on the results of these inspections.

The *HAR-O* | *Inlet Insp QC Report* is available which summarizes inspections requiring follow-up work and the follow-up Work Orders created from those inspections to assist in the quality control for this process.

4.2.3.6 Property Damage Report

When a MCS / HA or other Harbors employee discovers damage to state property that can be attributed to a specific party, the damage information is collected using the 'Property Damage Report' custom fields available on all Service Request types that cover damaged assets. If an appropriate Service Request type cannot be identified, a 'Property Damage Report' Service Request can be created and the 'Property Damage Report' custom fields populated there.

4.2.3.7 Street Sweeper Downtime

When a street sweeper is down for repair, HAR-OCG Supervisors will create a Street Sweeper Downtime Work Order. The Actual Start Date and Actual Finish Date of the Work Order will be used to calculate downtime, and the Street Sweeper Downtime custom field template will be used to track the sweeper unit that is down (instead of entering that unit as a Work Order equipment cost) and the reason the sweeper is down. This downtime model is planned to be expanded to other equipment in the future.

4.2.3.8 GIS Updates

Any time a GIS update is required, a Cityworks® user can create a new Administration GIS Update Work Order, preferably as a child to the Work Order requiring GIS updates. The user enters comments and attaches marked-up maps as appropriate to indicate the changes to be made. The GIS Update is routed by default to the appropriate GIS Administrator. After updating the GIS, the GIS Administrator completes and closes the GIS Update Work Order.

4.2.3.9 Cityworks® AMS Configuration Updates

Any user can request a Cityworks® update, such as changes to the list of people in the Supervisor or Submit To drop downs, the addition of a new Work Order type, or a new contractor for instance. To request a configuration update, a user creates a new Administration Cityworks® Configuration Update Work Order. The user enters comments describing their update request.

The Cityworks® Configuration Update Work Order is routed by default to the appropriate Cityworks® AMS Administrator for review. If the configuration change is approved, the Cityworks® AMS Administrator will complete and close the Configuration Update Work Order.

4.2.3.10 New Tenant and Tenant Project Notification

When a new Harbors tenant arrives, HAR-PM will create an Administration 'Tenant – New' Work Order, and attach the new lease or permit documents. The Work Order is routed by default to the GIS and AMS Administrator to update GIS and Cityworks® AMS with the new information.

Likewise, when a tenant applies for permission to undertake a new project, HAR-PM will create an Administration 'Tenant – Project Application' Work Order, and attach the project application. The Work Order will be routed by default to the GIS and AMS Administrator to update GIS and Cityworks® AMS with the new information.

4.3 Inspections

Inspections are used to define and capture observations during the planned and unplanned inspections of asset condition and operability. Inspections may be created from Work Orders or Service Requests by HAR-EE, MCS, HA, or HAR-OCG, depending on the inspection type. All inspections must have an associated Work Order in order to record the labor, equipment, or materials on inspections.

Each custom inspection is comprised of a number of general data fields. These fields are used to record the name of the person that performed the inspection, when the inspection was performed, general observations, recommendations, repairs completed, etc. In addition to this standard information, each inspection contains custom observation fields to record information required of that specific inspection. The ability to edit asset information is also available.

Figure 28 displays five custom Inspection templates configured for Harbors to comply with the inspection requirements contained in the CD.

Asset Name	Inspection Template Name	Inspection Template Description
Project/ HC Footprint	Storm Const. Site BMP Insp.	Storm Construction Site BMP Inspection Checklist
Forunt	Storm Tenant Inspection	Storm Tenant Inspection
Outfall	Storm Outfall Reconnaissance	Storm Outfall Reconnaissance
inlet, Open Channel	Storm Inlet Insp Screening	Storm Inlet Inspection Screening
Inlet, Open Channel	Stoom Inlet Insp-Comprehensive	Storm Inlet Inspection Comprehensive

Figure 28. Harbors Inspection templates.

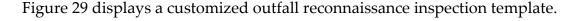




Figure 29. Harbors customized outfall reconnaissance inspection template.

4.3.1 Screening Inspections

The semi-annual Screening Inspections of the drain inlets and open lines, and the 'Inspect Comprehensive & Clean' Work Order that is performed as needed, are configured in the Cityworks® AMS to comply with the CD Section 20.c and 20.d requirements for Storm Sewer System Inspections and Cleaning.

Screening Inspections of all accessible drain inlets (including open channels or trench drains) at Honolulu Harbor and Kalaeloa Barbers Point Harbor are conducted semiannually by the HAR-OCM Marine Cargo Specialists (MCSs) and Harbor Agents (HAs) using the Inspection form configured for this type of inspection. Note that it is impractical for the MCSs and HAs to open drain grates which are bulky, heavy, and traffic rated, and thus can only observe the condition of the inlet from the surface and measure the debris depth through the opening of the inlet (if it can be done reliably).

Figure 30 displays an example of a completed Screening Inspection form.



Figure 30. Screening Inspection form example.

As indicated on the Figure 30 example of a completed inspection form, the drain inlet was found to be clean of sediment, no stenciling is required, the grate is in good condition and the debris depth is less than 6 inches (Cleaning not required) – therefore, "Followup Work is Not Required" as indicated in the Resolution box. As a result, the MCS or HA selected Close in the Status Box for the inspection.

If, on the other hand, a drain guard prevented the MCS or HA from observing the debris depth inside the inlet, clicking on Cannot Observe prompts HAR-OCG to generate a Comprehensive Inspection & Cleaning Work Order (see example below) for

a crew with heavy equipment resources to complete the comprehensive inspection and to clean the drain inlet if necessary.

4.3.2 Inspect Comprehensive & Cleaning

Figure 31 displays an initiated Work Order for 'Inspect Comprehensive & Clean within 30 days.'



Figure 31. Comprehensive Inspection & Cleaning form example.

4.3.3 Comprehensive Inspection for BMP Work Order

Figure 32 displays an example of Comprehensive Inspection for BMP Work Order.



Figure 32. Inspect Comprehensive & Clean BMP Work Order screen.

4.4 Service Requests

Storm water issues and infrastructure needs are identified by Harbors personnel, tenants, and the general public through Service Requests.

The Service Requests are assigned to Harbors personnel for follow-up and completion.

Chapter 4 is a description of Cityworks® AMS capabilities. Chapter 6 provides a user guide and includes details on how to generate a Service Request.

Table 27 shows the Service Requests for storm sewer system tasks assigned to Harbors personnel for follow-up work required.

Table 27. Service Requests assigned to Harbors personnel for follow-up work required.

LIST OF SERVICE REQUEST TYPES			
Grounds Maintenance Special Request	Storm Drain Clogged		
Illegal Dumping, e.g., debris in Harbor	Storm Drain Collapsed		
Refuse Bulk Pickup	Storm Drain Inlet / Grate Repair		
Refuse Overflow Collection	Storm Drain Maintenance Misc		
Storm Debris Removal	Storm Drain Missing MH Cover		
Erosion Control Measures, on Const Site	Street Flooding, Water in Street		
Erosion Problem, not Const Site (KBPH)	Suspected Illicit Connection		
Sign Damaged / Vandalized / Stolen	Suspected Illicit Discharge		
Stencil/Marker/Medallion Missing/Faded	Suspected Leaking Pipe		
Ditch/Stream Vegetation Overgrown & Debris Removal	Sweeping		
Abandoned Vehicle	Refuge Bulk Pick-Up		
HAZMAT	Refuge Overflow Collection		
Dead Animals			

Chapter 4 is a description of Cityworks® AMS capabilities. Volume II is a user guide for storm sewer system O&M activities. Volume II, Chapter 5 discusses tasks work flow processes. Chapter 6 discusses how to use the Cityworks® AMS for inspections and Chapter 7 discusses how to use the Cityworks® AMS for cleaning and maintenance.

4.5 Equipment, Labor & Materials (ELM)

The Harbors SSS OMP implementation costs are broken down by major SWMP component and reported each year as part of the Annual Compliance Report submittal, as required by the CD Section 20.b. To satisfy this requirement, the Cityworks® AMS tracks resource utilization for equipment, labor, and materials.

Resource tracking is organized by category – equipment, labor, and materials – and costs can be tracked as estimated and actual. Tracking resources is done through its corresponding area in the Work Order form and can be performed in the office or in the field.

The Harbors Cityworks® AMS is configured to manage labor, material, and equipment in a single integrated tool named ELM for faster data entry. It accounts for labor hours and costs associated with a Work Order, Service Request, or Inspection. The labor type can include employees or contractors with each having its own hierarchy to choose from. Both estimated and actual resource usage is tracked. Summary costs statistics are available for each Work Order, and can be broken down by resource.

The Material panel of the Work Order tracks materials used and associated costs to complete a Work Order. At any time, the user can view estimated and actual materials assigned to the Work Order along with associated costs. Materials can be added or removed based on actual usage. Stock on hand is adjusted as materials are recorded onto a Work Order. If materials are removed from a Work Order, the stock on hand is adjusted to reflect a return to the storeroom. Material usage can be associated directly to tasks and asset entities.

Figure 33 shows the Material panel of the Work Order to track material use and associated cost.



Figure 33. The Material/Entity Task panel.

Work Orders track equipment used by hour and associated cost to complete the Work Order. Equipment can be associated to specific assets and/or tasks on a Work Order.

Figure 34 shows the Equipment/Entity Task panel.



Figure 34. The Equipment/Entity Task panel.

4.6 Defining Hotspots

Hotspots are those storm drain inlets and open channels (trench drains) that present a greater risk of potentially discharging pollutants to the Harbors storm sewer system, as stated in the CD Section 20.d.i. To identify where hotspots exist, the Screening Inspections are performed by the MCS/HA on semiannual schedules for all storm drain inlets (i.e., 100% coverage where a drain can be accessed); and the follow-up 'Inspect Comprehensive & Clean' Work Orders are utilized, as needed. Based on the inspection findings and cleaning results, the Harbors definition of a hotspot is a storm drain location with two (2) consecutive <u>comprehensive</u> inspection and cleaning measurements of sediment and debris over 6 inches.

Currently, no hotspots are identified by this definition.

In the 4th Quarter of 2016, HAR-EE and HAR-EP with input from the MCS elected to broaden the hotspot definition to inlets that required two (2) consecutive <u>Screening</u> Inspections for debris over 6 inches, and any additional inlets that the MCS identified as an area of concern. Under these expanded criteria, 15 discretionary hotspots for quarterly inspection were identified, and Screening Inspections were scheduled in the AMS.

As time progresses and more data are gathered in the Cityworks® AMS, Harbors anticipates that a clearer definition of hotspot criteria will be available, thereby

prompting more frequent cleaning of the hotspots to further reduce the potential discharge of pollutants to the Harbors storm sewer system.

4.7 Rail Tracks Off-Loading at Kalaeloa Barbers Point Harbor

The rail tracks at Kalaeloa Barbers Point Harbor are routinely cleaned by tenants after bulk cargo transfer operations are concluded, in compliance with CD Section 20.d.ii.

4.8 Searches in Cityworks® AMS

Searches are among the most useful functions found in Cityworks®. Search types include the following.

4.8.1 Asset Search

The Asset Search allows for searching assets without using the map. If specific information is known about an asset, the asset search may be an easier way to locate the asset and its information. Work Orders can be initiated and work history can be viewed from the Asset Search.

4.8.2 Service Requests and Work Orders Search

Searching for Service Requests and Work Orders is allowed on any visible field on a Service Request or Work Order. It also allows the search definitions to be saved for later use, or for the results to be shown in an inbox, or on the map as an event layer.

Figure 35 displays the Search Query screen, as well as the fields visible in Search Results.



Figure 35. Cityworks® AMS Search Query screen.

4.8.3 Saved Searches

Saved Searches allow users to quickly execute those searches in the future without the need to redefine all of the criteria.

Saved searches are also used to set up Inboxes, Event Layers and Work History.

Event Layers allow a user to add events generated from search criteria to be displayed as a layer on the map. Setting up event layers is one of the more beneficial, advanced functions available in Cityworks® as it fully utilizes spatial representation. Semi-annual activities such as the Screening Inspections conducted by HAR-OCM MCSs and HAs are scheduled using event layers that alert personnel when inspections are due, and record each asset screening inspection when work is completed.

4.9 Reports in Cityworks® AMS

Predefined reports and specific queries can be produced from the Cityworks[®] AMS database tables and fields. Custom reports created in Crystal Reports and then uploaded to the Cityworks[®] Server using Report Manager are also available.

4.10 Mobile Devices

Currently, HAR-EE personnel working the storm water program are using Apple iPad Air 2 tablets. HAR-O personnel in HAR-OCM, HAR-OCG and HAR-OM along with their supervisors were recently issued and trained on using the Microsoft Surface Pro laptops or tablets. The mobile devices, which have photo taking and uploading capabilities to the Internet, allow one-time entries into Cityworks® AMS by the users that promote efficiencies in terms of time-savings and information gathering while eliminating the need for multiple entries, associated errors and unnecessary paperwork.

4.11 Quality Control

Supervisors are responsible for conducting regular QC reviews of the various work documents entered in Cityworks® AMS using the searching tools described above. When questionable entries – or lack thereof – are found, the responsible users are notified and corrective action is requested.

Additionally, the Harbors AMS Administrators hold monthly Cityworks® AMS workshops with Harbors employees to reinforce efforts to remedy issues found, hold Q&A sessions as needed, and to apprise Harbors users of new developments and upcoming events associated with the Cityworks® AMS.

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Volume II User Guides for Storm Sewer System O&M Activities

CHAPTER 5

HARBORS TRANSITION TO AMS TASKS WORKFLOWS

Application of the AMS to Harbors management and future decision making is dependent on the quality and accuracy of the data input to the Cityworks® AMS discussed in Chapter 4. The data input responsibility of Harbors operations and maintenance follows the same line of authority that existed with the paper routing of the pink, white, and gold copies progressing up the Harbors supervisory chain.

See Figure 20 for the HAR-O hierarchy of Sections and Units.

The hierarchy of Managers, Superintendents, and Supervisors are responsible to open their Inbox to review and manage the workload on a regular basis. Determinations that they make are similar to the paper process of transmitting work as appropriate, until it is received by those expected to execute it. In this line of authority, personnel are responsible to one supervisor who only assigns work to staff immediately below them.

The AMS tasks workflow processes match the existing chain of responsibilities with electronic Work Orders and Service Requests.

5.1 HAR-O Management Tools

Work assignments are transmitted through Service Requests, Work Orders, and Inspections that contain information for inspection and cleaning, plus proactive queries that trigger follow-up work required. Work Orders and Inspections tend to be work for predefined schedules, e.g., MCS/HA Screening Inspections, OCG storm drain cleaning, and refuse and sweeping. A Service Request tends to be reactive to a situation or location on Harbors property, e.g. suspected illicit discharge.

The Harbors Cityworks® AMS presents a tool for *real-time* operational management, where input data is processed within seconds and a reporting engine makes data available immediately as feedback. The Managers, Superintendents, and Supervisors may look at the data for program improvement.

The 2016 *beta* testing of Harbors Cityworks® AMS is complete, and the remaining minor adjustments require user participation. The evaluation of user feedback will help the AMS Administrator to improve the GIS database with new configurations that expedite analysis and deliver instructive support to Supervisors using the AMS for management of workflow processes.

5.2 Supervisor Responsible for Data Quality Control

The validity of the information and data collected and stored is an important part of effectively maintaining and managing Harbors storm sewer system assets and submitting accurate and reliable reports to EPA and HDOH.

The Service Requests and Work Orders replace the paper tracking of work assignments. The Cityworks[®] Inbox provides performance dashboards that set targets and informs management of reality versus expectations.

Learning the basic skills to use the database helps Harbors supervisory hierarchy and their Subunits and Crews manage the task workflow processes. Data input provides a quantifiable means to measure progress of performance by Crews, and the costs and time required to complete the work.

Both the resulting information and intuitive map view allow Managers, Superintendents, and Supervisors to easily identify, understand, and mitigate performance related issues. Reports and performance metrics can be directly incorporated into the Inbox allowing information to be readily available to decision makers throughout Harbors.

Data input is the responsibility of the Harbors supervisory line of authority that assigns the work and performs oversight.

5.2.1 Designate Data Input Backup Staff

Supervisor designees will be responsible for identification of backup staff for data input for continuous data recording and recordkeeping in the event of vacations and vacancies. Data input validates Harbors fulfillment of the CD requirements, as well as collects information to provide an evaluation tool for prudent decision making. The Supervisors will identify their back-up staff.

5.3 Service Requests (Area Survey)

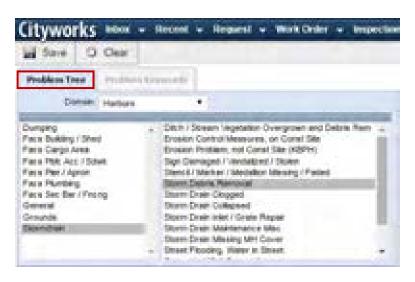
There is a basic progressive relationship between Service Request (Area Survey), Work Orders, and Inspections. The distinction is made that Service Requests are address or location-based; whereas, Work Orders and Inspections are asset-based.



Service Requests can be initiated by Harbors personnel based on inquiries reported by Harbors personnel or the general public whenever a potential problem is identified.

Each problem code (or Service Request template) has unique information and workflow depending on the problem type and the Harbors Section responsible for investigating or fulfilling the request.

The Service Request hierarchy, or Problem Tree, is a folder hierarchy where defined Service Request templates can be organized. The hierarchy allows a user to easily locate a problem type based on a category or the responsible department.



Service Requests may require follow up Work Orders, inspections, and investigations of complaints for suspected illicit discharge/spills, leaking pipes, illegal dumping, clogged drains, environmental concerns, damages, and acts of vandalism.

Service Requests are closed once a Work Order is generated for the next step.

5.4 Cityworks® AMS Streamline Tasks Workflow

The Cityworks® AMS integrates work performed by the HAR-O and HAR-E Branches. The database streamlines the paper system with a virtually paperless system to monitor, manage, and implement corrective actions for the operations, maintenance, repairs, replacement, and management of the Harbors Division storm sewer system.

5.5 Storm Drain Tasks Workflow Processes

MCS/HA inspections result in requests for cleaning and maintenance work performed by HAR-OCG (Work Orders created by HAR-OCG Supervisors). Service Requests for cleaning and maintenance can also be submitted to HAR-OCG Supervisors by Harbors personnel.

Figure 34 shows MCS/HA Inspection Tasks Workflow Processes.

Figure 35 shows HAR-OCG Cleaning Tasks Workflow Processes.

HAR-OCM MCS AND HA INSPECTION TASKS WORKFLOW PROCESS

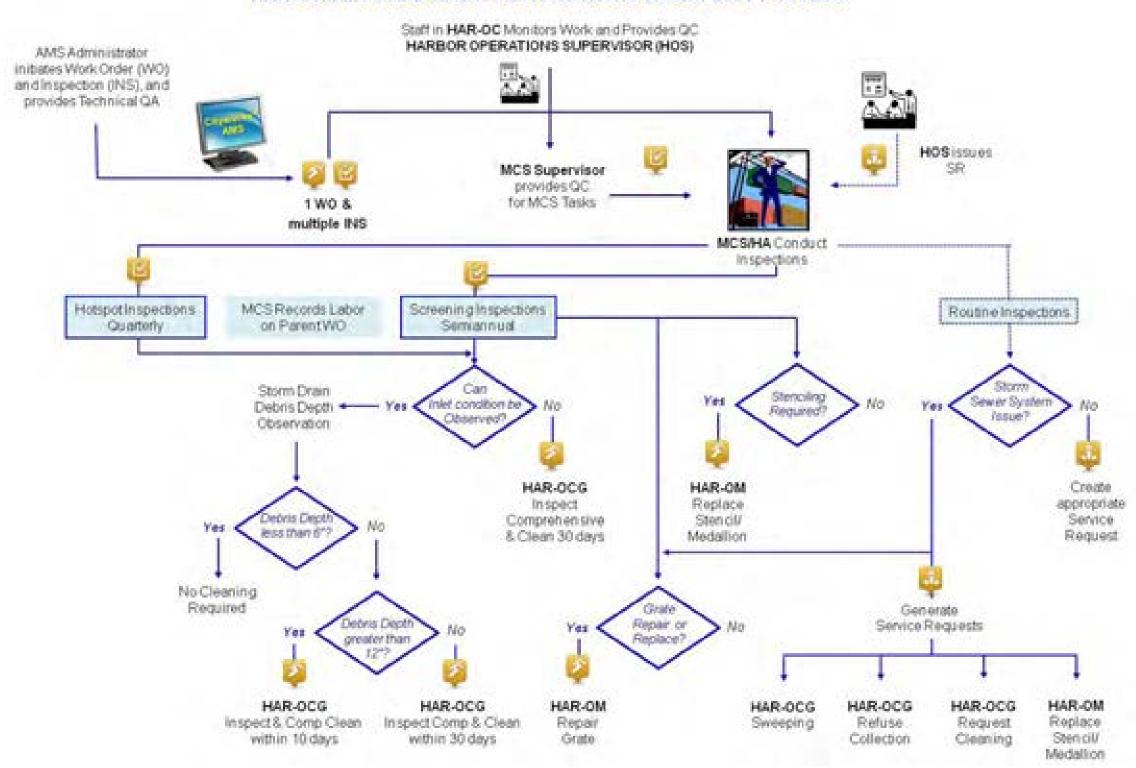


Figure 36. HAR-OCM MCS and HA inspection tasks workflow.

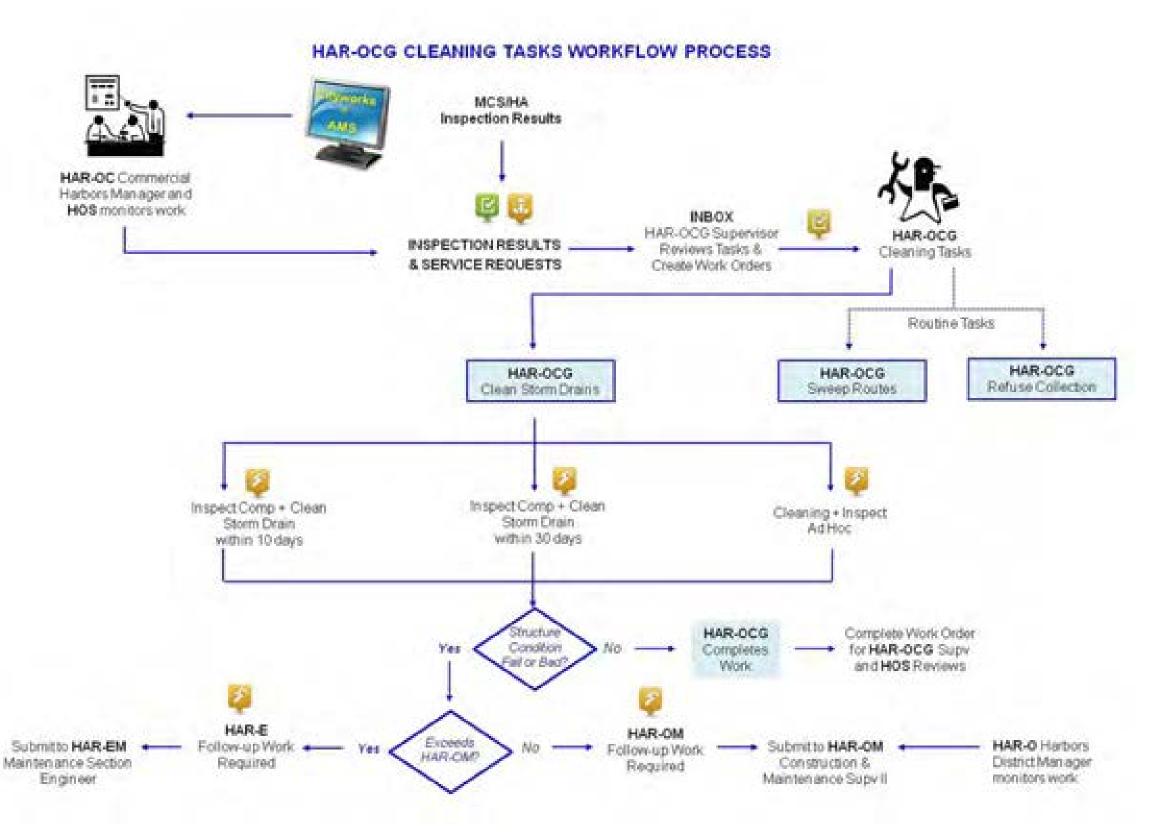


Figure 37. HAR-OCG cleaning tasks workflow.

CHAPTER 6

HARBORS STORM SEWER SYSTEM INSPECTIONS

The Pollution Prevention and Good Housekeeping Program in the *SWMP* identifies the following BMP activities:

- Storm Sewer System Operation and Maintenance Program
- Maintenance and Housekeeping Practices that includes Sweeping Common Areas and Select Tenant Facilities, and Waste Collection
- Tenant Education and Employee Training

This chapter provides user guidance for scheduling and tracking the inspection activities of the Storm Sewer System Operation and Maintenance Program using Cityworks® AMS.

Harbors deployed Cityworks® AMS in December 2015 in compliance with the CD. Computerization streamlines the previous paper routing process, and guides the AMS workflow processes for scheduling and performance of O&M procedures. Cityworks® AMS login is https://ams-har.hidot.hawaii.gov/Cityworks/Login.aspx. Enter username and password, or obtain login information from the Harbors AMS Administrator. Refer to the *Cityworks® User Manual* for details.

There are three Harbors personnel trained as Cityworks® AMS Administrators; additionally, HAR-EE staff are trained as trainers. The AMS Administrators are responsible to keep the asset inventory up to date, and manage the processes for GIS updates and configuration updates (*see* Chapter 4.2.3.8 and 4.2.3.9). The AMS Administrators will determine how often the inventory needs to be reconciled as new storm sewer system assets are added to the system through the GIS update process.

Manpower and resources are mobilized by *cyclical or reactive triggers* that initiate Harbors property storm drain inspections. This chapter focuses on the inspections of storm drain inlets, open channels, trench drains, and identified hotspots of the Harbors storm sewer system network.

There are *cyclical inspections* and preventive maintenance activities routinely scheduled. There are also *reactive inspections* such as follow-up work based on the observations and findings of cyclical inspections; response to illicit discharge and complaint reports by employees and the public; and as needed based on Harbors routine inspections of tenant activities in assigned piers for damage, pier use by cargo operators, and tenant activities that have potential sources of illicit discharges.

6.1 Cityworks® AMS Inbox

The Inbox is the first screen Harbors personnel see after login. Harbors personnel may personalize their Inbox with a dashboard configured to display information features relevant to their responsibilities. The Inbox dashboard may display work activities in lists, reports, charts and graphs, and GIS maps that pinpoint location of assets.

Inbox customization facilitates the workflow processes for Harbors operations and maintenance procedures, and provides a user friendly dashboard to help manage the daily workload.

6.1.1 Main Toolbar

The Cityworks® ribbon or blue bar is always visible at the top of each screen and provides primary navigating buttons with dropdown menus for user functions.



6.1.2 Add a New Tab to Inbox

To add a new tab, click the "+" icon located below the main toolbar.



Click the User Tab for additional setup options.

6.1.3 Gear Button to Customize Setting Options

The gear icon or button allows users to edit the setting options. Users may customize or configure the Index tabs, panels, and widget selections. Use the gear button to display options to update, delete, and close functions for selections.

The screen will display the New User Tab. Click on the gear button to rename tab.

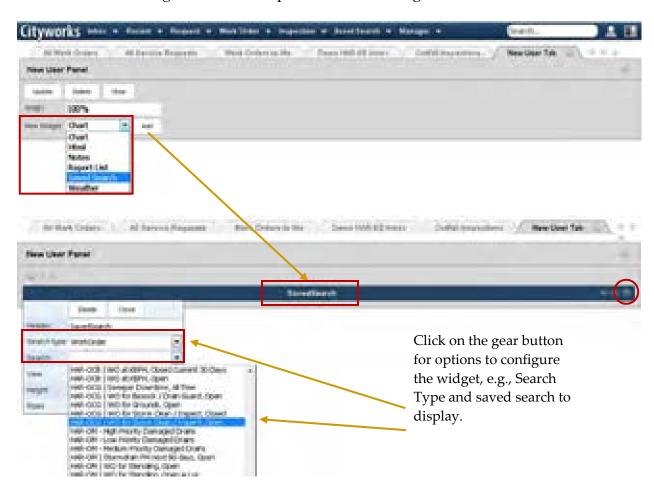


Enter new tab name in text box. Next, click on the user panel gear button to customize the user Panel name.

Then, click on the new panel gear button to add a new widget to the Inbox.



The screen displays options to select a widget that enables a user to perform a function or access a service, e.g., SavedSearch panel. Select a widget and click the Add button.



6.1.4 Four Basic Inbox Tabs

The four basic tabs for all Harbors personnel are All Work Orders, All Service Requests, Work Orders to Me, and Service Requests to Me. However, Supervisors may choose to display additional tabs on their staff's Inbox dashboard.

6.2 Work Orders

Work Orders can be generated in response to Service Requests or the findings of inspections conducted to identify structural defects, trash and debris accumulation, and other constraints that limit the flow of storm water. Initiated or requested Work Orders are screened for validity and prioritization by Supervisors.

6.2.1 Parent Work Orders

The AMS Administrator generates the parent Work Order that schedules cyclical inspections: semiannual Screening Inspections of 100% of the accessible storm drain assets and quarterly Hotspot Inspections. The Screening Inspections and Hotspot Inspections show up in the Inbox of the MCS / HA Inspectors and on their map via Event Layers, with a copy to the Supervisor's Inbox. The MCS / HA then conduct inspections and record observations and findings.

6.2.1.1 Initial Inspection and Cleaning of Storm Drains

The initial system-wide inspection and cleaning of all Harbors storm drain inlets, drainage features, and outfalls was completed in July 2015 by a contractor. The contractor collected data on the structural condition of the drainage features, and removed debris from drain inlets to identify repair work needed.

6.2.1.2 Screening Inspections Schedule 2016 Adjustment

Screening Inspections were performed on a quarterly basis following the initial cleaning. However, review of data collected over three quarterly inspections showed the inlets and manholes did not accumulate debris frequently (no inlets contained over 6 inches of debris in consecutive inspections); therefore for the fourth quarter, Harbors decided to reduce the Screening Inspections of storm inlets, open lines, and trench drains to the current semiannual schedule. Hotspot Inspections remained on a quarterly schedule and Inspect and Comprehensive Cleaning of BMPs inspections remained on an annual schedule.

6.3 Responsibility for Data Accuracy

The validity of the information and data collected and stored is an important part of effectively maintaining and managing Harbors storm sewer system assets and submitting accurate and reliable reports to EPA and HDOH.

Harbors Supervisors and Staff users who enter task performance data are responsible for data input to the AMS. Supervisors are responsible to review staff performance as well as staff data input to the AMS to ensure that accurate and valid data and information are entered for quality control. HAR-EE staff also assists with training, data review, and data quality control.

6.4 Standard for Screening Inspections

Harbors established the standard for Screening Inspections to determine when storm sewer drains require cleaning. The primary test is by visual observation. However, if the MCS / HA Inspector observes sediment and/or debris accumulated at the bottom of the drain and is unable to determine the debris thickness, the stick test is used.

During regular inspections, the results of the observation and measurement of accumulated soil, wet organic material, and debris will determine the follow-up action required.

6.4.1 Visual Observation

Visual observation by the MCS / HA is the primary method to measure the levels of accumulated sediment, e.g., silt, gravel, soil, wet organic material, vegetation, and debris.

6.4.2 Stick Test

The stick test is utilized to measure debris levels when the MCS / HA cannot discern the debris thickness through visual observation. The measurement is made from the bottom of the drain structure to the height or depth of the material to determine if cleaning is required.

When observation is blocked, the MCS / HA will note "cannot observe" on the inspection. The inspection will be routed to the HAR-OCG Supervisor's Inbox and the HAR-OCG Supervisor will create a Comprehensive Inspection and Cleaning Work Order.

6.4.3 Observations and Measurements, and Actions Required

The observations and measurements, and follow-up actions required are as follows.

OBSERVATION	Action Required
0 – 6 inches	Cleaning not required
6 – 12 inches	Requires Inspect Comprehensive & Cleaning within 30 days
12 inches or more	Requires Inspect Comprehensive & Cleaning within 10 days
Cannot Observe	Requires Inspect Comprehensive & Cleaning within 30 days
Stencil Required	Requires Replace Stencil Work Order
Grate Condition	Requires Repair Grate Work Order

6.5 Storm Inlet and Open Line Inspection Process

Storm drain inlet and open line (trench drain) inspections are conducted in two tiers, and may trigger follow-up work based on the inspection observations and findings.

6.5.1 Tier One – Screening Inspections

HAR-OC is staffed with MCSs and HAs who are assigned to conduct a Screening Inspection of every accessible Harbors inlet and open line using the 'Inspect Screening' Work Order for all assets, and the individual 'Storm Inlet Insp Screening' inspections for each asset. These inspections are initiated as a parent Work Order on the 1st day of every semiannual period by the AMS Administrator.

6.5.1.1 Map Event Layers

The MCSs and HAs utilize Event Layers, which are saved searches displayed on the Map to guide the Inspection tasks workflow. This workflow requires that each MCS and HA has the Event Layers configured and available to them in Cityworks® AMS.

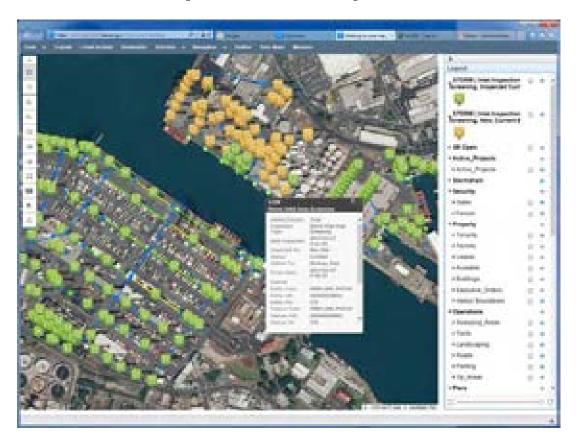
Please request assistance from the AMS Administrator if the Event Layers and map are not setup for Storm Inlet Inspection Screening, as shown in the Legend screen.



6.5.1.2 The Map

The Map is populated with selected event layer symbols—grey, yellow and/or green inspection icons. Each grey or yellow symbol represents an inspection waiting to be completed.

The MCS or HA will open the Inspection screen for a specific asset by clicking the mouse button on the inspection icons on the map, as shown on the screen below.



6.5.1.3 Complete Inspection and Record Observations

The MCS or HA conducts the field investigation of the storm drain asset, and records their observations on the Inspection screen with complete responses for each field.

Follow-up Work Required

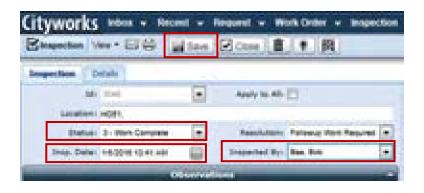
When follow-up work is required for 'Stenciling required' or 'Grate condition' needs repair or 'Debris depth' is over 6 inches, set the Resolution field to the 'Followup Work Required' option.



Set Status Field to 3 - Work Complete and Save Data

On the Inspection screen, set the option in the 'Status' field option to '3 – Work Complete', and fill in the 'Inspection Date' and 'Inspected By' fields.

To save the Inspection screen data, click the Save button.



Supervisor Review of Inspections

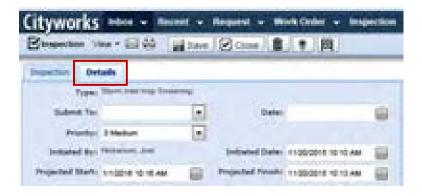
For inspections that the MCS or HA want reviewed by the Harbor Operations Supervisor, leave the inspection open and proceed to the next inspection.

For routine inspections when there is no need to alert the Harbors Operations Supervisor of items to be aware of, the MCS or HA may close the inspection. Click the Close button.



6.5.1.4 Tracking Labor Expenses

To keep track of the labor expended on the inspections performed, open the Details tab, and go to the Related Work Activities panel.



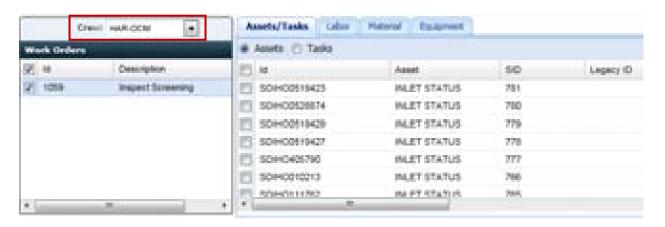
In the Related Work Activities panel, navigate to the parent Work Order to record all labor using the ELM screen. Click the Open WO button.



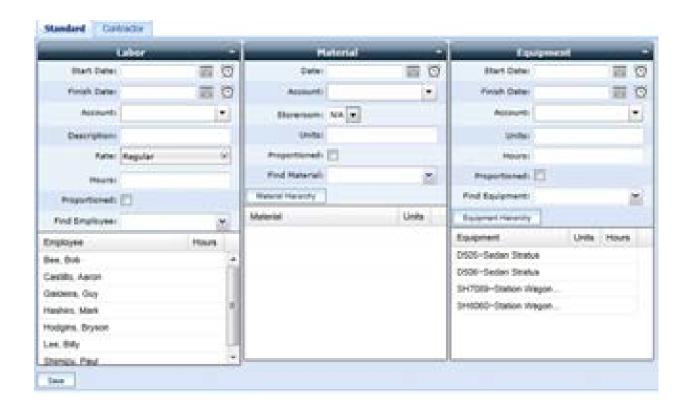
In the parent Work Order screen, click the View button and select ELM.



Select HAR-OCM crew from the menu.



Select the appropriate name in the Employee scrolling menu, and record the labor hours expended on this inspection (or all the inspections performed). Save data by clicking the Save button.



6.5.2 Tier Two – Comprehensive Inspections

Comprehensive inspections are *reactive inspections* performed as needed, in response to follow-up work required based on the MCS/HA observations and findings during storm drain asset inspections. When the MCS/HA indicate '6 to 12 inches' or 'cannot observe' in the 'Debris depth' field of the inspection screen, an 'Inspect Comprehensive & Cleaning within 30 Days' Work Order is required. When the MCS/HA indicate '>12 inches' in the 'Debris depth' field of the inspection screen, an 'Inspect Comprehensive & Cleaning within 10 Days' Work Order is required. The inspections appear in the HAR-OCG Supervisors' Inbox and the HAR-OCG Supervisors create the Work Orders. HAR-OCG Supervisors then schedule staff to remove the grate or lid, clean/inspect the inlet, and track the cleaning/inspection results on the 'Storm Inlet Insp Comprehensive' screen.

6.5.3 HAR-OCG Supervisor Management Tools

To facilitate management of task workflows, the HAR-OCG Supervisors may review a Saved Search in their Inbox which generates a list of Screening Inspections where follow-up work is required. The HAR-OCG Supervisors' Inbox displays the saved search for assets with 'Followup Work Required'. See the example below for HAR-OCG. To create a follow-up work, the HAR-OCG Supervisors will check the box to select the failed inspection, and click Open.



On the Inspection screen, the HAR-OCG Supervisors will open the Details tab and go to the Entity panel. Click the 'Highlight' button to select the asset (inlet or trench drain). To create a new Work Order for the asset and assign work, click the Work Order button in the main toolbar.

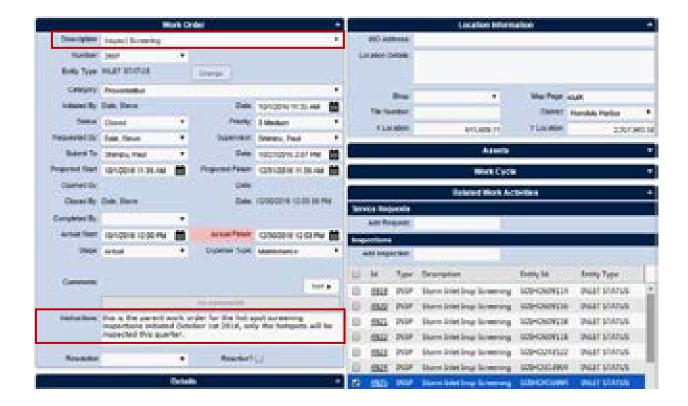
6.6 Hotspot Inspections

A "hotspot" is defined as a storm drain inlet or open line with two (2) consecutive comprehensive inspection and cleaning measurements of sediment and debris over 6 inches (recorded on the 'Inspect Comprehensive & Clean' Inspection).

Currently, no hotspots are identified by this definition.

In the 4th Quarter of 2016, HAR-EE and HAR-EP elected to broaden the hotspot definition to inlets that required two consecutive Screening Inspections for debris over 6 inches, and any additional inlets which the MCS / HA and HAR-OCG Supervisors identified as areas of concern. Under this expanded criterion, 15 discretionary hotspots for quarterly inspection were identified.

Quarterly hotspot inspections are scheduled by an AMS Administrator who initiates the parent Work Order for 'Inspect Screening'. The 'Submit To' field routes the Work Order to the HAR-OCM Marine Cargo Specialist Supervisor who is responsible to assign the Hotspot Inspection tasks to the MCS / HA staff.



6.6.1 Removal of Hotspot Designation

Removal of the hotspot designation occurs after two (2) consecutive comprehensive inspection measurements show less than 6 inches of accumulated trash and debris removed. The inspection frequency will change from quarterly back to semiannual inspections.

6.7 Stencils Inspections

Harbors tracks the locations of existing and newly installed signage and stencils which are preventive control measures to mitigate pollution. Stencils are inspected during cyclical and screening inspections.

Additional locations for signage installation are considered by HAR-EE for areas identified with frequent public dumping, or high traffic tenant areas or areas with a history of illicit discharges.

Service Requests for signage installation, repair, and replacement are routed to the HAR-OM Wharf Maintenance Supervisor who is responsible to assign the tasks to subordinate staff.

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CHAPTER 7

STORM SEWER SYSTEM CLEANING AND MAINTENANCE

The Pollution Prevention and Good Housekeeping Program tasks for the SSS OMP involve storm drain cleaning, pier sweeping routes, refuse and debris removal, and cleaning of the Kalaeloa Barbers Point Harbor rail tracks. The Sanitation & Grounds Unit (HAR-OCG) utilize heavy equipment and personnel resources to open the drain inlets to conduct Comprehensive Inspections, and to perform the actual cleaning of accumulated debris, trash, and sediment.

Work Orders for the second tier Comprehensive Inspection and Cleaning are created by the HAR-OCG Supervisors for follow-up work required when the drain inlet cannot be observed or inspected by the MCS or HA, or when the debris depth is recorded over 6 inches.

The HAR-OCG Supervisors determine the priority, and schedule or assign the work to subordinate crews.

The HAR-OCG Supervisors manage the Grounds Crew, the Refuse Crew, and the Custodial Crew. The Refuse / Grounds crews provide the manpower and operate equipment to conduct street sweeping, refuse/debris removal, and drain cleaning

The HAR-OCB Unit HA Supervisor is responsible for scheduling work at Kalaeloa Barbers Point Harbor, and support is provided by HAR-OCG.

7.1 Service Requests for Cleaning

Cleaning tasks may be submitted as Service Requests to the HAR-OCG Supervisor who is responsible to screen the request, prioritize, and schedule or assign the work to the subordinate staff.

7.2 Storm Drain Cleaning Work Orders

Inspections resulting in the requirement for cleaning are routed to the HAR-OCG Supervisors Inboxes for review. The HAR-OCG Supervisors create Work Orders and assign subordinate staff to inspect the inlet with the grate or lid off, clean the inlet, and track the cleaning and inspection results on the 'Storm Inlet Insp Comprehensive' screen (*see* Chapter 6.5.3). The cleaning schedule of storm drains is determined by the results of the tier one Screening Inspections, as they are *reactive* work.

7.2.1 'Inspect & Clean Ad Hoc'

Harbors personnel may submit Service Requests to HAR-OCG Supervisors who will determine based on the Service Request, whether it is appropriate to create a follow up Inspect & Clean Ad Hoc Work Order and comprehensive inspection.

7.2.2 'Inspect Comprehensive & Clean within 30 Days'

As the MCS / HA cycles through the Screening Inspections schedule, follow-up cleaning is required within 30 days if the storm drain inlets have 6 – 12 inches of accumulated sediment and debris.

7.2.3 'Inspect Comprehensive & Clean within 10 Days'

As the MCS / HA cycles through the Screening Inspections schedule, follow-up cleaning is required within 10 days if the storm drain inlets have over 12 inches of accumulated sediment and debris.

7.2.4 'Inspect & Comprehensive Clean BMP'

Harbors personnel presently proceeds straight to comprehensive cleanings on storm drain inlet and open line permanent BMPs on an annual basis. The storm drain inlets and open lines they inhabit are screened as normal.

7.3 Supervisors Responsible for Follow-up Work

The HOS or HAR-OCG Supervisors are responsible to create follow-up Work Orders based on the results of inspections. The procedure is the same as Section 6.5.1.3, i.e., highlight the asset from the Inspection form Details panel, and create a new Work Order, as appropriate.

HAR-EE, HAR-OCG Supervisors, and HAR-OM Maintenance Supervisors are responsible for saved searches for Screening Inspections and Comprehensive Inspections which require follow-up work, as follows:

Section / Unit	Inspection Type	INSPECTION OBSERVATION		
OCG / OCB Units	Comprehensive	Cleaning required		
Environmental Section	Comprehensive	Illicit connection		
Maintenance Section	Comprehensive	Structure condition		
Maintenance Section	Screening	Grate condition		

SECTION / UNIT	Inspection Type	INSPECTION OBSERVATION	
Maintenance Section	Screening	Stenciling required	

The HOS and HAR-OCG Supervisors should check the Related Work Activities panel for a summary of other work before creating a new Work Order screen, to see if that type of Work Order has already been created on that asset.

The Related Work Activities is located as shown below.



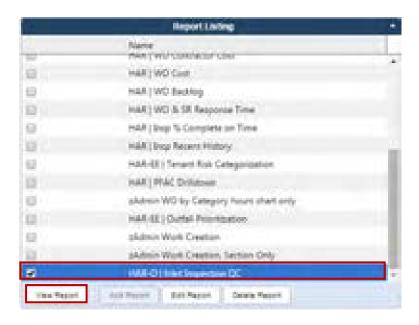
7.3.1 Quality Control Report for Inspection Follow-up Work

For quality control of the inspection follow-up work process, the Cityworks® AMS can generate a report that summarizes inspections which require follow-up work and the follow-up Work Orders created from those inspections.

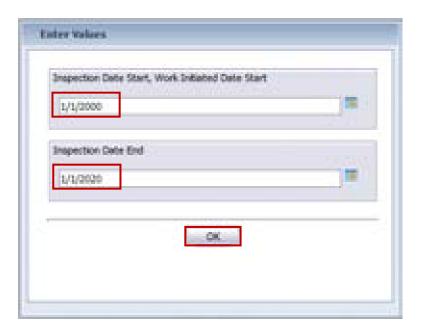
To run the quality control report on inspection follow-up work, click on the Manager button in the main toolbar, and select Reports.



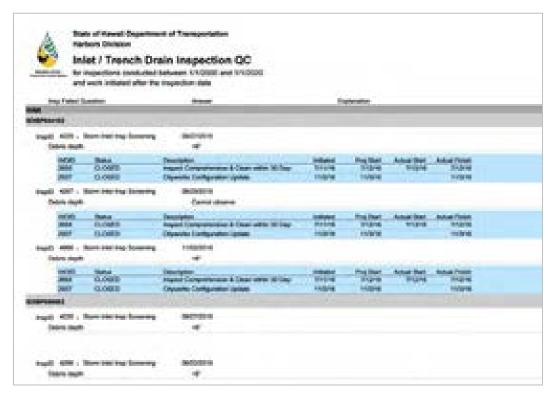
Select 'HAR-O | Inlet Inspection QC' report for a list of follow-up work required. Select from the options at the bottom such as 'View Report'.



Set the Inspection Start and End dates in the window that appears and press the OK button.



The selected 'HAR-O | Inlet Inspection QC' report will appear as shown below. Each asset is listed, along with inspections on that asset which have observations that require follow-up work. If follow-up work has already been created on the asset, those Work Orders are shown in blue.



7.4 Inspect Comprehensive & Clean BMPs

HAR-EE and HAR-OCG are responsible for maintaining the post-construction BMP inventory, and BMP inspections and maintenance. For Harbors projects, HAR-EE performs the inspection of post-construction storm water BMPs no less than annually.

HAR-EE annually initiates the Work Order for 'Inspect Comprehensive & Clean BMP'. The 'Submit to' field routes the Work Order to the HAR-OCG Supervisor who is responsible to assign the inspection tasks to subordinate staff.



7.4.1 Increase Frequency of BMP Inspections

Some BMPs may be inspected and cleaned more frequently as recommended by the manufacturer manual, or because they are located on a tenant site that is inspected more frequently as part of the Tenant Inspection Program.

7.5 Sweeping Common Areas Work Orders

The Harbors storm drainage system collects rainfall from storm events and releases it directly into the receiving ocean waters. As rainfall travels over surfaces such as roofs, roads, and parking lots, the surface flow may pick up contaminants before entering Harbor waters. Implementation of BMPs and good housekeeping practices that help to reduce the amount of pollutants that enter the storm sewer system include sweeping

floors, processing and storage areas, access roads, parking lots, and sidewalks. HAR-OCG has specialized equipment dedicated to Honolulu Harbor and Kalaeloa Barbers Point Harbor to conduct sweeping activities.

Work Orders for routine operations are routed to HAR-OCG to sweep common areas, and select tenant facilities where cleaning is requested. The HAR-OCG Supervisors are responsible for closing the Work Orders on a regular basis.

7.5.1 Sweeping Routes

Based on availability of equipment and personnel, the sweeping routes and targeted schedule are presented below.

PIER LOCATION	SCHEDULE	
Young Brothers	Three times per week	
Matson	Twice per week	
Horizon Lines Terminal	Once per week	
Aloha Cargo Pier 1	Once per month	
Piers 10 11	Twice per week	
Sand Island Base Yard T	Once per week	
Fishing Village Parking Lot and Roadways, Pier 35	Once per week	
Piers 30, 31, 32, and Shed Areas	Twice per week	
Piers 27, 28, 29	Twice per week	
Piers 18, 19, 23, 24	Twice per week	
Channel Street Pier 2 Outside and Inside Shed Areas	Twice per week	
Pier 1 Entrance	Twice per week	
Piers 1 2 Common Roadways	Twice per week	
KBPH Common Roadways & Apron	Twice per month	

7.6 Kalaeloa Barbers Point Harbor Rail Tracks Cleaning

The HAR-OCB Unit Supervisor is responsible to ensure the rail tracks at Kalaeloa Barbers Point Harbor are routinely cleaned by tenants after bulk cargo transfer "post offloading" operations are concluded.

7.7 Waste Collection and Disposal

HAR-OCG picks up and disposes of certain potential pollutants left in drop off areas or discarded illegally by the public in order to minimize and/or prevent pollution to the environment. This includes automobile parts, boats, lead acid batteries, scrap steel, discarded used tires, and construction debris.

Waste from drop off areas, illegal dumping, and sweeping activities are disposed of with the appropriate waste contractors. The amounts and destination of each type of waste is reported in the *Annual Compliance Report*.

HAR-OCG is responsible for the routine cleaning activities at Harbors facilities, which include emptying dumpsters, and removing and disposing of discarded objects, machinery or equipment; and the prompt repair or replacement of malfunctioning dumpsters.

7.8 Harbors Maintenance Section (HAR-OM)

The HAR-OM Construction & Maintenance Superintendent is responsible to route Service Requests and/or Work Orders for follow-up work to the Wharf Maintenance Unit or the Construction and Maintenance Units. The Unit Supervisors assign tasks to the Subunits for storm drain inlet structural repairs, grate replacement, signage and stenciling installation and maintenance; and repairs for grate, leaking pipes, and other skilled work.

CHAPTER 8 EQUIPMENT AND VEHICLES

Harbors operates the necessary equipment for implementation of operations and maintenance tasks, and does not anticipate the need for additional equipment.

The initial contract for street sweepers included the request for extra brooms. Maintenance and warranty for parts including the providing of broom replacements are covered by the contract. When the service contract and warranty expires, replacement parts will have to be ordered, and spare brooms and other items are planned for inclusion within the operational budget. A street sweeper downtime Work Order is created to address issues associated with street sweepers.

For all equipment, scheduled maintenance is based on hours of use, or semiannually. Repairs for burnout, fuel leaks, etc., which occur outside of scheduled maintenance, are done through the manufacturer by purchase order.

State of Hawaii Department of Transportation Office of Environmental Compliance



Revised Audit Work Plan

State Project No. OSC-15-01

November 2016

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Table of Contents

List of Tables .			iv
List of Figures			iv
List of Append	lices		iv
List of Acronyr	ทร		<i>v</i>
Section 1:	Intro	oduction, Purpose, and Goals	1
Section 2:	Aud	it Team and HDOT Personnel	3
Section 3:	Aud	it Notes and Guidelines	7
	3.1 3.2 3.3 3.4	Health, Safety, and Site Access Considerations	7 8
Section 4:	Aud	it Structure and Schedule	11
Section 5:	Prog	gram Element Audits	13
	5.1	Pre-Audit	13 14
	5.2	Onsite Evaluation	14 14 14
	5.3	5.2.3 Post-Onsite Evaluation Review Period Reporting 5.3.1 Draft PEARs 5.3.2 HDOT Review 5.3.3 Final Audit Report 5.3.4 Post-Audit Report Review	15 15 16
Section 6:	Pote	ential Violations and Deficiencies	19
	6.1 6.2 6.3 6.4	Identification of Finding of Concern Audit Team Consultation Potential Violation Decision Tree Deficiency Decision Tree	20 21
Section 7:	Ann	ual Compliance Report	23
References			24

List of Tables

Table 4-1 CD Appendix A Deadlines

Table 5-1 Tentative On-Site Evaluation Dates

List of Figures

Figure 2-1	Organizational (Chart
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Figure 5-1 Program Element Audit Schedule

Figure 6-1 Potential Violation and Deficiency Decision Tree

List of Appendices

A Consent Decree Sections Pertaining to Audit (10.d Page and Appendix A)

B1 - B6 PEAR 1 - 6 Guiding Questions

- B1: PEAR #1 Post-Construction / Permanent Best Management Practices
- B2: PEAR #2 Construction Site Runoff Control
- B3: PEAR #3 Public Outreach / Public Involvement
- B4: PEAR #4 Illicit Discharge Detection and Elimination (IDDE) Program Element and Industrial Commercial Activities/Tenant (I/C) Program
- B5: PEAR #5 Pollution Prevention / Good Housekeeping Program
- B6: PEAR #6 Staffing, Funding, Organizational Structure, Availability of Resources, and Storm Water Program Sustainability

C1 - C6 PEAR 1 - 6 Schedule

- C1: PEAR #1 Schedule for Post-Construction / Permanent Best Management Practices
- C2: PEAR #2 Schedule for Construction Site Runoff Control
- C3: PEAR #3 Schedule for Public Outreach / Public Involvement
- C4: PEAR #4 Schedule for Illicit Discharge Detection and Elimination (IDDE) Program Element and Industrial Commercial Activities/Tenant (I/C) Program
- C5: PEAR #5 Schedule for Pollution Prevention / Good Housekeeping Program
- C6: PEAR #6 Schedule for Staffing, Funding, Organizational Structure, Availability of Resources, and Storm Water Program Sustainability

D1 – D3 Notices to EPA & DOH

D1: Draft Notice of Potential Violation

D2: Final Notice of Potential Violation

D3: Notice of Corrective Action

List of Acronyms

ACR Annual Compliance Report

AWPC Audit Work Plan Commencement

BMP best management practice

CD Consent Decree (Civil Action 1:14-CV-00408-JMS-KSC)

CFR Code of Federal Regulations

DOH Department of Health

EPA United States Environmental Protection Agency

HAR Hawaii Administrative Rules

HARP Hazard Appraisal and Recognition Plan
HDOT State of Hawaii Department of Transportation

MEP maximum extent practicable

MS4 Municipal Separate Storm Sewer System

NPDES National Pollutant Discharge Elimination System

PEAR Program Element Audit Report

PM Project Manager
QA quality assurance
QC quality control

SWMPP Storm Water Management Program Plan

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Section 1: Introduction, Purpose, and Goals

Under Paragraph 10.d of the Consent Decree (Civil Action 1:14-CV-00408-JMS-KSC) entered on 5 November 2014 (CD) with the United States Environmental Protection Agency (EPA) and the State of Hawaii (State) Department of Health (DOH), the State of Hawaii Department of Transportation (HDOT) is required to perform compliance audits of Municipal Separate Storm Sewer System (MS4)¹ permits issued to HDOT's Airports, Highways, and Harbors Divisions (referred to herein as the singular "MS4 Permit Audit"). Specific requirements for the MS4 Permit Audit are defined in Appendix A of the CD and included in Appendix A of this document. The MS4 Permit Audit will be conducted in accordance with this Audit Work Plan (AWP) by Kennedy/Jenks Consultants (Kennedy/Jenks), the selected independent third-party audit firm.

This AWP was conditionally approved by EPA & DOH on 31 October 2016. As memorialized in the conditional approval letter, HDOT will begin the audit on 15 March 2017. This date is hereafter referred to as the AWP Commencement date (AWPC). This AWP includes project milestones with defined dates in some cases (e.g., "15 April 2017") while other dates may be specified relative to the AWPC (e.g., "30 days after AWPC"). All "days" in this AWP refer to calendar days as opposed to business days.

The defined purpose of the MS4 Permit Audit is to assess HDOT's current regulatory and administrative compliance with its MS4 permits, DOH National Pollutant Discharge Elimination System (NPDES) General Permit Coverage Authorizing Discharges of Storm Water and Certain Non-Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (Hawaii Small MS4 General Permit), applicable Storm Water Management Program Plans (SWMPPs), and the CD.

The defined goals of the MS4 Permit Audit focus on meeting the requirements listed in Appendix A of the CD, including:

- Evaluating compliance with HDOT MS4 permits and the CD
- Identifying information gathered during the MS4 Permit Audit that may be used to promote information and technology transfer between HDOT Divisions
- Identifying Potential Violations (areas where the evaluation found the permittee not in compliance with a specific permit requirement or SWMPP commitment) and Deficiencies (items which, if not corrected, may be anticipated to lead to Potential Violations) in HDOT's stormwater programs and assisting with timely self-correction of identified Potential Violations and Deficiencies by HDOT.

¹ The MS4 refers to the conveyance system in addition to the jurisdiction(s) which own/operate the system.

In addition to meeting the CD requirements and EPA & DOH expectations, the overarching goal of the MS4 Permit Audit is to develop internal trust and collaboration within HDOT. The Audit Team will seek HDOT-wide opportunities for improvement rather than focusing on minor issues of non-compliance.

Reporting requirements of the MS4 Permit Audit are defined in Appendix A Section D.7. of the CD and include:

- A specific statement of the procedures followed, HDOT sites and activities visited, and all materials reviewed during the MS4 Permit Audit
- Retrospective analysis of activities that may be outmoded, ineffective, insufficient, or excessively burdensome, and providing recommendations to modify, streamline, or augment them in accordance with what has been learned during the MS4 Permit Audit, as appropriate.
- Identification of Potential Violations and Deficiencies and of MS4 permit conditions, applicable SWMPPs, the CD, and/or other applicable regulations, and providing recommendations for improvements as found to be appropriate
- Identification of best practices and opportunities for information/technology transfer to be applied across the three HDOT Divisions
- An analysis of the practices implemented for each HDOT Division's program elements
 and a determination as to whether identified best practices can be universally implement
 across all three Divisions. If best practices cannot be universally implemented, the report
 will clearly describe impediments identified.

In accordance with requirements defined in Appendix A of the CD, EPA's *MS4 Program Evaluation Guidance* (hereinafter EPA (2007) guidance) was consulted in the development of this AWP. The audit protocols included herein are intended to promote consistency among regulated facilities when conducting environmental audits and to validate that the MS4 Permit Audit is conducted in a thorough and comprehensive manner. Program evaluation worksheets (included in Appendix B) were developed to guide the Audit Team while performing the MS4 Permit Audit. Each worksheet addresses a separate program element, and includes key questions derived from the EPA (2007) guidance document recommended to be considered during an MS4 evaluation. While this AWP is based on the EPA (2007) guidance for auditing small MS4s, HDOT has adapted the guidance to focus some aspects of the audit process to reflect the unique nature of HDOT operations.

Section 2: Audit Team and HDOT Personnel

Figure 2-1 provides an organizational chart defining the Audit Team and HDOT staff that will be involved in the MS4 Permit Audit.

| Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Department | Dep

Figure 2-1 Organizational Chart

Additional information describing key MS4 Permit Audit personnel is provided below.

HDOT Project Manager – Anna Fernandez

In her role as Environmental Program Manager, Anna Fernandez reports directly to the HDOT Director. She serves as the HDOT Project Manager (PM) for this project. In this role, she administers and manages Kennedy/Jenks in performing the MS4 Permit Audit and their contact with HDOT leaders and stakeholders.

Deputy Director(s)

Deputy Directors report directly to the HDOT Director. They are responsible for facilitating the Audit Team's access to HDOT personnel and facilities within their respective Divisions as appropriate. The following Deputy Directors will be directly involved in the MS4 Permit Audit process:

Airports (DEP-A) – Ross Higashi Highways (DEP-HWY) – Edwin Sniffen, P.E. Harbors (DEP-H) – Darrell Young

MS4 Permit Coordinator(s)

MS4 Permit Coordinators are those HDOT personnel responsible for managing compliance with the MS4 permit for each Division, district, or designated MS4 permitted area. The following MS4 Permit Coordinators will be directly involved in the MS4 Permit Audit process:

Airports (AIR-EE) – Joy Masuda (Environmental Health Specialist Supervisor)
Oahu Highways (HWY-OW) – Kelly Lee Sato, P.E. (Engineer)
Maui Highways (HWY-M) – Ferdinand Cajigal, P.E. (Engineering Program Manager)
Oahu Harbors (HAR-EE) – Randal Leong, P.E. (Environmental Engineer)
Maui Harbors (HAR-M) – Duane Kim (District Manager)

Additional Key MS4 Permit Audit Personnel

The following key staff will also be consulted throughout the MS4 Permit Audit Process:

District Engineer (HWY-OW) - Pratt Kinimaka, P.E. Engineering Program Manager (HWY-C) - Jamie Ho, P.E.

Audit Project Manager – Ross W. Dunning, P.E. / Principal (Kennedy/Jenks)

Ross is a Principal of Kennedy/Jenks and leads their companywide stormwater practice. He has assisted many Western U.S. Port authorities for almost 20 years with development of strategies and stormwater management plans to address Clean Water Act and NPDES regulations. He is Kennedy/Jenks' point of contact for the HDOT PM, and manages the Audit Team to verify that MS4 Permit Audit procedures and reports meet CD requirements and are on schedule. The Audit PM is responsible for updating this Audit Work Plan (with the approval of the HDOT PM), producing schedules, preparing audit reports, and maintaining audit records.

Lead Quality Assurance/Quality Control (QA/QC) Reviewer: Heather Wood (Kennedy/Jenks)

Heather is the former Director of Sustainability for the Port of Virginia, responsible for development of their environmental programs and permit compliance (including NPDES). Heather is also the former Chair of the American Association of Port Authorities Environmental Committee. She is Kennedy/Jenks' Ports and Harbors Sector Leader. In her role as the Lead QA/QC Reviewer, she will direct the review of MS4 Permit Audit work products, including draft and final audit reports, by qualified Kennedy/Jenks staff.

Deputy Audit Project Manager – Phil Potter (Kennedy/Jenks)

Phil is based in Kennedy/Jenks' Honolulu office and leads the firm's stormwater practice in Hawaii. For over 8 years, he has assisted municipal clients including the HDOT Highways Oahu District and the City and County of Honolulu with development and implementation of their NPDES compliance programs. In his role as the Deputy Audit PM, Phil is responsible for assisting the Audit PM in the execution of the Audit Work Plan and will directly coordinate with the HDOT MS4 Permit Coordinators and other stakeholders.

Auditors – Cale Yamada; Brad Takenaka, P.E.; Jon Honda P.E. (Kennedy/Jenks)

Cale, Brad, and Jon are experienced stormwater professionals in Kennedy/Jenks' Honolulu office. Among their many stormwater projects, they currently assist the City and County of Honolulu with ongoing development and implementation of its municipal stormwater program including, but not limited to, providing periodic MS4 program compliance inspections for hundreds of City and County industrial facilities throughout the island of Oahu.

Auditors are responsible for performing inspections of HDOT facilities and documentation, and performing interviews with HDOT employees responsible for MS4 program implementation and management in order to assess compliance with applicable MS4 program and CD requirements. Auditors are also responsible for coordinating with the Audit PM and Deputy Audit PM regarding any Potential Violations and Deficiencies identified. Hereinafter, the "Audit Team" refers to the Kennedy/Jenks' staff introduced above.

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Section 3: Audit Notes and Guidelines

This Section addresses various topics intended to guide the Audit Team in completing the MS4 Permit Audit in a safe and efficient manner.

3.1 Health, Safety, and Site Access Considerations

Prior to initiating onsite evaluations (see Section 5.2), the Audit PM will lead the Audit Team in developing a Hazard Appraisal and Recognition Plan (HARP), following Kennedy/Jenks' standard safety program. The HARP describes how to identify and analyze safety risks associated with field activities, operations, and facilities; approaches for mitigating identified risks; and processes for documenting and reporting accidents, near misses, and potentially unsafe conditions which may be encountered in the field. The HARP is a "living document" which will be updated as appropriate throughout the term of the MS4 Permit Audit. The Audit Team will wear appropriate personal protective equipment (hard hat, safety vest, safety shoes, protective eyewear, and hearing protection as appropriate) while performing the onsite evaluations.

Harbors Facilities

At this time, no special security clearances or requirements are defined to be necessary at Harbors facilities and/or project sites, as long as the Audit Team is escorted by personnel with valid Transportation Worker Identification Credentials (TWIC) and documentation of Maritime Security (MARSEC) Facility Security Awareness training certification. Active loading or unloading of cargo may necessitate additional safety requirements at certain pier locations.

Airports Facilities

At this time, Airports Division facilities to be evaluated are anticipated to be outside secured air operations areas; therefore, no special requirements or clearances are defined to be necessary. Adequate notice will be provided to the Airports Division MS4 Permit Coordinator to arrange security escort as found to be necessary.

Highways Facilities

At this time, there are no defined security restrictions to access Oahu District or Maui District Highway facilities as the Audit Team will be escorted by HDOT personnel at all times.

3.2 Quality Control Procedures

The Audit PM is responsible for ensuring that Kennedy/Jenks' effort and deliverables meet their company's professional mandate to consistently perform work in a technically correct manner, meeting the standard of care for their profession. The standard of care is defined to represent the watchfulness, attention, caution, prudence, and skill that other qualified professionals in the same or similar circumstances would exercise.

Kennedy/Jenks' quality assurance (QA) program includes processes and procedures developed over their near century-old history to achieve and maintain a rigorous level of quality, planning,

application, and verification. Its quality control (QC) program implements this process and QC reviewers will continuously monitor their effort and work products on this project to meet contract and CD requirements, Kennedy/Jenks' QA/QC standards, and HDOT's expectations.

3.3 Photographs

Digital photographs collected and archived during the course of the MS4 Permit Audit will be managed in accordance with EPA's *Digital Camera Guidance for EPA Civil Inspections and Investigations* (2006). Photographs taken will be organized into photograph logs with each photograph numbered with the date and time included. A brief photograph caption will identify the facility or site name, describe what is depicted in the photograph, the location, direction, and other pertinent data (e.g., the location within the facility or site) as appropriate.

3.4 "Maximum Extent Practicable" Concept

Unlike NPDES industrial wastewater permits which typically contain specific end-of-pipe effluent limits based on water quality standards or available treatment technology, HDOT's MS4 permits include programmatic requirements involving the implementation of BMPs in order to reduce pollutants discharged to the "maximum extent practicable" (MEP). In addition, HDOT's permits allow flexibility in the types of BMPs and activities implemented to meet permit requirements. There is also added complexity in evaluating several similar permits applicable to the very different operations conducted at HDOT Highways, Airports, and Harbors facilities. This makes it challenging to assess the true effectiveness of HDOT's several MS4 stormwater programs and how they may be integrated.

Per EPA (2007) guidance, HDOT is considered a non-traditional MS4 permittee, and as such, the evaluation of its MS4 programs will be specific to their particular circumstances and applicable permit requirements. Some HDOT MS4 permits contain broad requirements that outline the basic SWMPP components the permittee is required to implement, giving the permittee the flexibility to develop a program to meet these broad requirements. Other MS4 permits are more prescriptive and specify in detail the minimum activities and best management practices (BMPs) for each program element.

Given these inherent operational differences and challenges, each HDOT permittee has traditionally applied different approaches to comply with specific permit requirements based on MS4-specific traits or issues. For example, EPA regulations require permittees to develop "procedures for site inspection and enforcement" for addressing construction activities. Few MS4 permits specify how the permittee should inventory their active construction projects or track enforcement activities. A permittee with only a few construction projects a year may be able to use a paper system to inventory and track construction projects. A permittee with hundreds or thousands of construction projects would likely need a database or similar electronic tracking system to ensure it was implementing the program to a level considered to meet MEP.

It is relatively straightforward to assess whether HDOT has developed certain programs and conducted various activities that are called for and within the timeframes specified in each of the permits under consideration, as well as activities or programs specified under SWMPPs or other documents prepared by HDOT. The challenge for the Audit Team and HDOT is to assess

whether the programs and activities implemented have or will constitute MEP. EPA (2007) guidance will assist with this determination, but is not definitive. Determination requires application of the Audit Team's best professional judgment.

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Section 4: Audit Structure and Schedule

For each of the six program elements required to be reviewed by the CD, Kennedy/Jenks will review the six permitted MS4 programs concurrently, developing six Program Element Audit Reports (Final PEARs) that represent the culmination of the auditing efforts across the three HDOT Divisions.

Appendix A of the CD defines various project milestones and deadlines, described for ease of reference below:

Table 4-1 CD Appendix A Deadlines

Program Element	Evaluation	Draft PEAR to	HDOT Review of	Final PEAR to
	Complete: ^(a)	HDOT: (d)	Draft PEAR: (e)	HDOT: ^(f)
PEAR #1: Post-Construction Runoff Control / Permanent	3 Months (90 Days) ^(b)	135 Days After	165 Days After	210 Days After
	After AWPC ^(c)	AWPC	AWPC	AWPC
Best Management Practices	13 June	28 July	27 August	11 October
	2017	2017	2017	2017
PEAR #2: Construction Site	9 Months (270 Days)	315 Days After	345 Days After	390 Days After
	After AWPC	AWPC	AWPC	AWPC
Runoff Control	10 December	24 January	23 February	9 April
	2017	2017	2017	2018
PEAR #3: Public Outreach /	15 Months (450 Days)	495 Days After	525 Days After	570 Days After
	After AWPC	AWPC	AWPC	AWPC
Public Involvement	8 June	23 July	22 August	8 October
	2018	2018	2018	2018
PEAR #4: Illicit Discharge Detection and Elimination Program Element and	Detection and Elimination After AWPC AWPC		705 Days After AWPC	750 Days After AWPC
Industrial Commercial	5 December	19 January	18 February	4 April
Activities/Tenant Programs	2018	2019	2019	2019
PEAR #5: Pollution Prevention	27 Months (810 Days)	855 Days After	885 Days After	930 Days After
	After AWPC	AWPC	AWPC	AWPC
/ Good Housekeeping	3 June	18 July	17 August	1 October
	2019	2019	2019	2019
PEAR #6: Staffing, Funding, Organizational Structure, Availability of Resources and	33 Months (990 Days) After AWPC	1035 Days After AWPC	1065 Days After AWPC	1110 Days After AWPC
Storm Water Program Sustainability	30 November	14 January	13 February	29 March
	2019	2020	2019	2020

Notes:

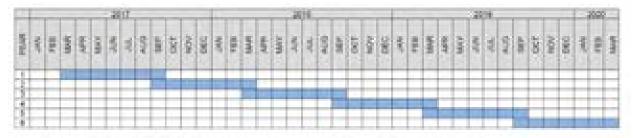
(a) "Evaluation" as referenced in CD Appendix A Section B.5. is defined in this AWP to represent the conclusion of the Post-Onsite Evaluation Review Period (See Section 5.2.3) for PEARs #1, 2, 4, and 5. For PEARs #3 and 6, no onsite evaluation is required and therefore "evaluation" is defined to represent the date of conclusion of the Records Review period. Please refer to Appendix C for more detail.

- (b) "Months" are based on 30-day months in this AWP.
- (c) AWPC = Audit Work Plan Commencement (15 March 2017)
- (d) Pursuant to CD Appendix A Section D.2., Kennedy/Jenks will complete a draft audit report and transmit it to HDOT within 45 days of completing an audit of a program element (defined in this AWP as the conclusion of "evaluation", as discussed in Note (a)).
- (e) Pursuant to CD Appendix A Section D.3., HDOT will review the draft PEAR to correct any factual inaccuracies within 30 days of receipt.
- (f) Pursuant to CD Appendix A Section D.4., Kennedy/Jenks will complete a final PEAR within 120 days of completing an audit of a program element (defined in this AWP as the conclusion of "evaluation", as discussed in Note (a)).

Section 5: Program Element Audits

Each program element audit will follow a similar schedule and structure, discussed generally in this section. The Program Element Audits will occur over a 37-month period depicted graphically below (Figure 5-1):

Figure 5-1 Program Element Audit Schedule



Appendices B1 - B6 list the basic information anticipated to be reviewed for each MS4 program element to be audited. The Audit Team will utilize worksheets provided in Appendices B1 - B6 to collect and track information for each MS4 permit and element. References to Appendices C1 - C6 are also included, defining specific schedules for each of the six PEARs. Each Program Element Audit will include three phases (Pre-Audit, Onsite Evaluation, and Reporting), detailed in the following sections.

5.1 Pre-Audit

This Section describes the first phase of each Program Element Audit.

5.1.1 Notice of Audit

The Audit Team will schedule events, confirm appropriate participants, and begin planning the upcoming program element audit with the HDOT PM prior to initiating each Program Element Audit (Appendices C1 - C6 Item 1). The HDOT PM will coordinate with the MS4 Permit Coordinators to provide the following for each of the six MS4 permits:

- Facility or Division-specific SWMPPs
- Recent Annual Reports
- Documentation of required training, inspection reports, legal enforcement correspondence, if any, etc.
- Relevant memoranda of understanding with adjacent of contributing agencies, municipalities, etc.
- Organizational charts specifically listing HDOT staff with MS4 permit authority and responsibility.

The HDOT PM will coordinate with the MS4 Permit Coordinators to identify individuals and stakeholders that should be engaged during the MS4 Permit Audit.

5.1.2 Records Request

The Audit Team will review those sections of the NPDES permits, SWMPPs, guidance documents, the CD, etc. pertinent to the each individual audit element. Based on this review, the Audit Team will develop a records request and submit it to the HDOT PM (Appendices C1 - C6 Item 2). Where documentation is required (completed forms, logs, sign-in sheets, etc.), the Audit Team will request a subset of relevant records for verification. Electronic records are preferred, but physical copies of hard copy records are also acceptable. The HDOT PM will work with the MS4 Permit Coordinators to acquire and provide requested records to the Audit Team (Appendices C1 - C6 Item 3).

5.1.3 Records Review

The Audit Team will compare the program element requirements and commitments identified in the NPDES permits, SWMPPs, CD, annual reports, etc. and the records obtained in the record review (Appendices C1 - C6 Item 4). This review will be informed to the extent appropriate by the interview questionnaire provided in Appendices B1 - B6. It is expected that several conference calls between the Audit Team, HDOT PM, and MS4 Permit Coordinators may be conducted during this period.

5.2 Onsite Evaluation

This Section describes the second phase of each Program Element Audit.

5.2.1 Pre-Onsite Evaluation Conference Call

The Audit Team and HDOT PM will contact each MS4 Permit Coordinator to confirm schedules, address questions and security concerns, confirm personnel safety equipment needed, and organize training and orientation briefings that may be required (Appendices C1 - C6 Item 5).

5.2.2 Onsite Evaluation

For work planning purposes, it is assumed that onsite evaluations for each Program Element will be conducted over the course of five (5) days (except for PEAR #4, which requires an extra day). Detailed activity descriptions and schedules are included in Appendices C1 - C6 (Item 6). It should be noted that following EPA (2007) guidance, PEAR #3 and PEAR #6 do not require onsite evaluations². The onsite evaluations for each Program Element are tentatively scheduled during the following time periods (Table 5-1):

Although no on-site evaluation is required for PEAR #3 (Public Outreach / Public Involvement Program), the Audit Team will endeavor to identify and attend events such as Harbors' tenant outreach in order to gain a well-rounded understanding of this program.

Table 5-1 Tentative On-Site Evaluation Dates

PEAR	On-Site Evaluation			
PEAR #1: Post-Construction / Permanent Best	Tuesday 30 May 2017 to			
Management Practices	Monday 5 June 2017			
PEAR #2: Construction Site Runoff Control	Monday 27 November 2017 to			
PEAR #2. Construction Site Runon Control	Friday 1 December 2017			
PEAR #3: Public Outreach / Public Involvement Program	[none required]			
PEAR #4: Illicit Discharge Detection and	Monday 19 November 2018 to			
Elimination Program Element and Industrial Commercial Activities/Tenant Program	Wednesday 28 November 2018			
PEAR #5: Pollution Prevention / Good	Monday 20 May 2019 to			
Housekeeping Program	Friday 24 May 2019			
PEAR #6: Staffing, Funding, Organizational Structure, Availability of Resources, and Storm Water Program Sustainability	[none required]			

5.2.3 Post-Onsite Evaluation Review Period

Following the Onsite Evaluations, the Audit Team will review the findings of the Pre-Audits and Onsite Evaluations and address final evaluation-related tasks that may have been noted (Appendices C1 - C6 Item 7). This review period completes the evaluation of the program element, as referenced in CD Appendix A Section B.5.

5.3 Reporting

This Section describes the third phase of each Program Element Audit.

5.3.1 Draft PEARs

Pursuant to the CD, the Audit Team will prepare draft PEARs documenting the procedures followed, sites and activities visited, materials reviewed, and a summary of major findings from the program element audits of the six HDOT NPDES permits (Appendices C1 - C6 Item 8). The PEARs will be structured so that they may be easily incorporated into each Division's Annual Compliance Report (ACR) (see Section 7).

The Audit Team will endeavor to draw defensible conclusions based on the NPDES permit requirements and conditions, the SWMPP developed to meet the permit goals, measurable achievement of those goals, and the Audit Team's best professional judgment interpretation of compliance with the NPDES regulations.

EPA (2007) guidance describes that, in some cases, it may not be possible to assess compliance with a program component because of the limitations of the MS4 program evaluation process. If this is found to be the case, the draft PEAR for the program element will state that this is the case and provide as much supporting information as possible. Similarly, if there were no findings of note for a particular SWMPP or NPDES component, this fact will be stated in the PEAR.

If the Audit Team identifies what may be a Potential Violation or Deficiency at any point during the Pre-Audit, Onsite Evaluation, or Reporting periods, actions will be taken in accordance with the decision tree defined in Section 6 for the Audit Team, HDOT PM, and MS4 Permit Coordinators to follow. The draft PEAR will describe the two findings as follows:

- Findings reviewed per Section 6 and found to be Potential Violations, reported to DOH/EPA and addressed via Corrective Actions.
- Findings found to be Deficiencies, for which recommendations for improvement will be included.

Each draft PEAR will identify BMPs and opportunities for information/technology transfer that may be considered for application across the three HDOT Divisions. The draft PEARs will also analyze the practices implemented for each HDOT Division's program elements and assess whether identified best practices can be universally implemented across the three HDOT Divisions. If best practices cannot be universally implemented, the draft PEAR report will describe identified impediments (such as legal barriers). The draft PEAR will also identify positive program elements considered to exceed the NPDES requirements and SWMPP. Finally, the draft PEAR will include a retrospective analysis of activities that are considered to be potentially outmoded, ineffective, insufficient, or excessively burdensome. Recommendations to modify, streamline, or expand them in accordance with what has been learned will be listed.

The Audit Team will complete the draft PEAR within 45 days of the completion of the evaluation for each program element. The Audit Team will provide five (5) copies of the draft PEAR and one electronic file copy in Word (Version 2007 or earlier) to the HDOT PM.

5.3.2 HDOT Review

Upon receipt, the HDOT PM will distribute copies of the draft PEARs to the appropriate MS4 Permit Coordinators, who will be responsible for reviewing the reports and distributing the reports to key personnel for their review. The MS4 Permit Coordinators will submit to the HDOT PM a consolidated written request for clarification and corrections to the draft PEAR for their respective permit as found to be necessary (Appendices C1 - C6 Item 9). The HDOT PM will then submit the consolidated requests and corrections to the Audit PM (Appendices C1 - C6 Item 10).

5.3.3 Final Audit Report

Upon receipt of the consolidated requests and corrections, the Audit Team will make appropriate changes to the draft PEARs and submit the final PEARs (Appendices C1 - C6 Item 11).

For PEARs #1 - 5, the Final PEAR is scheduled to be submitted approximately 25 days in advance of the CD deadline. This is intended to afford additional time for the Divisions in each subsequent Program Element Audit. The CD is structured such that, if followed strictly, only 60 calendar days are afforded for Steps 1 to 7 of PEARs #2 - 6. For example, Final PEAR #1 is due at 210 days following AWPC and the evaluation of PEAR #2 is due at 270 days following AWPC. By reducing the time it takes Kennedy/Jenks to write the Final PEAR, an additional 25 days are afforded to the Divisions to fulfill the records request for the subsequent audit (Appendices C2 - C6 Item 3).

The Audit Team will provide five (5) copies of the final PEARs and one electronic file copy in Word (Version 2007 or earlier) to the HDOT PM.

5.3.4 Post-Audit Report Review

The HDOT PM and Audit PM will meet after the submission of each PEAR to discuss QC procedures and potential improvements to be made prior to the subsequent PEAR.

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Section 6: Potential Violations and Deficiencies

If at any point during the Pre-Audit, Onsite Evaluation or Reporting Periods the Audit Team identifies what may represent a Potential Violation or Deficiency (hereinafter "Finding of Concern"), the Audit Team, HDOT PM, and MS4 Permit Coordinators will follow the decision tree shown on Figure 6-1.

LEGEND Identification of deposing/End Finding of Concern Confe Audit Deam Evaluation/Data minution Degramant Audit Work Plan reference Within 2 Business Days of Audit. Team Determination of Potential Audit PM to RDOT FISE Majaban. Deficiency Audit PM provides HDQT PM and ERA/HDQMamail notice HOOT MAJ. **Email Notice** HOOTPM/ MS6 Permit Coordinator Summary MSA Permit Coordinator Correlated To EPA/HDOH Evaluation/Determination Email Notice To EPA/HDOH Within 2 Business Days Within \$4.0 metal Email Notice of Within 21 Depart Potential Violation: HDOT Receipt of Draft PLAR HDO! PM provides to EPA/HOOH amail rottor DOMESTICAN HDOT PM provides to of corrective action. DRA/WDOM email motion of corrective action. regarding deficiencies **Email Notice** To EPA/HDOH

Figure 6-1 Potential Violation and Deficiency Decision Tree

6.1 Identification of Finding of Concern

6.2 Audit Team Consultation

Upon identification of a Finding of Concern, the Audit Team will consult internally to assess whether the Finding of Concern may represent a Potential Violation, a Deficiency, or whether it summarily merits dismissal.

<u>Potential Violation</u> - The Audit Team will categorize the Finding of Concern as a Potential Violation if it meets the EPA (2007) guidance definition of an "area where the evaluation found the permittee not in compliance with a specific permit requirement or SWMPP commitment". These occurrences would follow the procedures listed in Section 6.3.

<u>Deficiency</u> – The Audit Team will categorize the Finding of Concern as a Deficiency if it meets the Consent Decree definition of an "item which, if not corrected, will lead to potential violations"¹. These occurrences would follow the procedures listed in Section 6.4.

<u>Summary Dismissal</u> – The Audit Team will dismiss the Finding of Concern if it does not meet either the definition of a Potential Violation or a Deficiency. No further action will be required.

¹ EPA (2007) guidance further elaborates that deficiencies are areas of concern impeding effective program implementation. They are typically areas where the permit or SWMPP does not describe specifically how the permittee should conduct an activity, yet the evaluator believes the permittee may consider altering how they conduct the activity to meet water quality goals. Deficiencies can also be areas where future permit violations could result if the permittee continues on its present path. The Audit Team will look for opportunities to enhance program elements (e.g. recommending that MS4 Coordinators perform required annual reviews earlier in the year, thereby allowing time for self-correction).

6.3 Potential Violation Decision Tree

Notification: Audit PM to HDOT PM and EPA & DOH

If the Finding of Concern is categorized by the Audit Team as a Potential Violation, the Audit PM will notify the HDOT PM and EPA & DOH via email¹ within 2 business days of making the determination using the form presented in Appendix D1. Additionally, the HDOT PM will be notified via telephone. These notifications will include the following information:

- 1. Specific details of the Potential Violation
- 2. Related photographs, if any
- 3. Applicable regulatory references [i.e., NPDES permit, SWMPP, Hawaii Administrative Rules (HAR), or Code of Federal Regulations (CFR) references, as applicable].

Evaluation/Determination

The HDOT PM will consult with the appropriate MS4 Permit Coordinator to further investigate the factual accuracy of the Potential Violation determination. Based on that consultation, the Potential Violation may be summarily dismissed (if found to be factually inaccurate) or re-categorized as a Deficiency (if incorrectly categorized as a Potential Violation). Both of these scenarios would be accompanied by email notification from the HDOT PM to EPA & DOH using the form presented in Appendix D2. The time required for this consultation is included in the 14-day timeline described in Item 4c, below.

Determination of Potential Violation

If the Finding of Concern is confirmed to be a Potential Violation, the HDOT PM will then work with the appropriate MS4 Permit Coordinator to assess suitable corrective actions.

Unless otherwise agreed upon with EPA & DOH, HDOT will correct the Potential Violation within 14 days of initial Audit Team email notification to EPA & DOH (see Item 4a above). Email notification of the Corrective Action will be provided to EPA & DOH by the HDOT PM using the forms presented in Appendix D2 and Appendix D3. The Consent Decree allows HDOT the option to request an extension to this reporting deadline. In order for EPA & DOH to agree to an extension, HDOT must provide a corrective action workplan, including a final compliance date, to EPA & DOH.

¹ Per EPA & DOH request, Connor Adams (EPA) and Matthew Kurano (DOH) will be copied on all email notifications to EPA & DOH.

6.4 Deficiency Decision Tree

Notification: Audit PM to HDOT PM

If a Finding of Concern is categorized as a Deficiency, the Audit PM will notify the HDOT PM via telephone and email and include the following information:

- 1. Specific details of the Deficiency
- 2. Related photographs, if any
- 3. Applicable regulatory references (i.e., NPDES permit, SWMPP, HAR, or CFR references, as applicable).

Evaluation/Determination

The HDOT PM will consult with the appropriate MS4 Permit Coordinator to further investigate the factual accuracy of the Deficiency determination. Based on that consultation, the Deficiency may be summarily dismissed (if found to be factually inaccurate) or re-categorized as a Potential Violation (if incorrectly categorized as a Deficiency). The latter scenario will be accompanied by an email notification to EPA & DOH within 2 business days of making the determination using the form presented in Appendix D2.

Deficiency

If the finding is confirmed to be a Deficiency, this finding (along with confirmed Potential Violations) will be documented in the appropriate draft PEAR. The HDOT PM will work with the appropriate MS4 Permit Coordinator to assess the appropriate corrective actions.

Unless otherwise agreed upon with EPA & DOH, HDOT will correct Deficiencies within 21 days of receiving the draft PEAR (Appendices C1 - C6 Item 8). Email notification of the Corrective Action will be provided to EPA & DOH by the HDOT PM using the form included in Appendix D3. The CD allows HDOT the option to request an extension to this reporting deadline. In order for EPA & DOH to agree to an extension, HDOT must provide a corrective action workplan, including a final compliance date, to EPA & DOH.

Section 7: Annual Compliance Report

Due to the differences in Division operations, not all portions of each PEAR will be applicable to all MS4 permittees. As such, the PEARs will be structured so that they may be easily incorporated into each Division's Annual Compliance Report (ACR). The HDOT PM will work with each permittee to ensure that the appropriate PEAR content is included in each individual ACR. Each ACR will include a detailed summary of actions taken as a result of the audit reports and dates at which corrective actions, if warranted, were taken.

Additionally, pursuant to CD Appendix A Section D.5., the HDOT PM will submit each original draft and final PEAR to EPA & DOH at the same time that ACRs are submitted. Within the draft and final PEAR, an authorized HDOT official will certify that, to the best of the official's knowledge and information, the MS4 Permit Audit was conducted in accordance with this AWP. If items have not been corrected, HDOT will provide a schedule for implementing corrective measures.

References

- United States Environmental Protection Agency. 2005. Small SM4 Stormwater Program Overview. December. Accessed online at https://www3.epa.gov/npdes/pubs/fact2-0.pdf>.
- United States Environmental Protection Agency. 2006. Digital Camera Guidance for EPA Civil Inspections and Investigations. July. Accessed online at https://www.epa.gov/sites/production/files/2013-09/documents/digitalcameraguide.pdf.
- United States Environmental Protection Agency. 2007. *MS4 Program Evaluation Guidance*. Accessed online at https://www3.epa.gov/npdes/pubs/ms4guide_withappendixa.pdf>.

Appendix A

Consent Decree Sections Pertaining to Audit (10.d Page and Appendix A)

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APPENDIX A

ENVIRONMENTAL COMPLIANCE AUDITS

A. General Provisions

- 1. This Appendix provides details of the NPDES MS4 compliance audits required by Paragraph 10.d of the Consent Decree. The audits shall include evaluation of common stormwater program elements at each of HDOT's three divisions (Airports, Highways and Harbors), as stated in Paragraph A.3 below, throughout the state on a per element schedule. The audits shall be completed to fulfill the following goals:
 - a. Determine compliance with the federal regulations and state MS4 permits and regulations and this Consent Decree (see Paragraph A.2, below);
 - b. Ensure information gathered during the audits is used to promote information and technology transfer between divisions; and
 - c. Identify deficiencies and potential violations that are discovered by the third party auditor and allow for timely self-correction of the deficiencies and potential violations by HDOT.
- 2. The audits shall be designed to assess current regulatory and administrative compliance with the following items throughout each of HDOT's divisions:
 - a. The Hawaii NPDES General Permit Authorizing Discharges of Storm Water and Certain Non-Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (Hawaii Small MS4 General Permit), Hawaii Administrative Rules, chapter 11-55, Appendix K;
 - b. NPDES permit, Permit No. HI S000001, MS4 Permit for the HDOT-Highways, Oahu District;
 - c. NPDES Permit, Permit No. HIS000005, MS4 Permit for the HDOT-Airports, Honolulu International Airport;
 - d. Applicable Storm Water Management Plans (SWMPs); and
 - e. This Consent Decree.
 - f. Future NPDES MS4 permits and SWMPs issued to HDOT. This obligation shall not delay or prevent termination of the Consent Decree.
- 3. The audits shall include, but not be limited to, an evaluation of the following MS4 Program Elements as they relate to compliance at each of HDOT's three divisions:
 - a. Public Education/Outreach and Participation/Involvement
 - b. Illicit Discharge Detection and Elimination (including commercial/tenant oversight programs)
 - c. Construction Site Runoff Control
 - d. Post-Construction Runoff Control/ Permanent BMPs
 - e. Pollution Prevention/ Good Housekeeping
 - f. An analysis of how Staffing, Funding, Organizational Structure, Availability of Resources and Storm Water Program Sustainability impact MS4 compliance
- 4. HDOT shall audit Program Elements for the Harbors, Airports and Highways Divisions in accordance with the schedule defined in the Work Plan described in Paragraph B.1, below.

- 5. The audits shall be conducted by a qualified third party environmental consulting firm retained by HDOT and selected by a committee consisting of representatives of the HDOH and HDOT. The selection committee shall choose an audit firm which is experienced with environmental auditing and the permits and regulations described in Paragraph A.2, above.
- 6. The requirements of this Appendix related to the consulting firm's qualifications, authority to conduct the audits, and production of the HDOT Audit Reports (Audit Reports) shall be incorporated in any contract relating to the audits entered into by HDOT and the selected consulting firm to the extent allowed by State Procurement Code.
- 7. Any violations by HDOT discovered though the execution of the Environmental Compliance Audit detailed in this Appendix are neither "voluntarily discovered" within the terms of EPA's revised *Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations Policy* (Audit Policy) nor voluntarily disclosed to EPA under EPA penalty policies. Accordingly, any such violations are ineligible for penalty mitigation or other favorable treatment under the Audit Policy.
- 8. HDOT agrees not to attempt to use any state audit and/or privilege laws to restrict EPA's or HDOH's ability to review the Audit Reports at HDOT facilities to determine if the audits have been properly completed and HDOT has corrected any uncorrected non-compliance, potential violation, or deficiency as per its certification (see Paragraph F below). Also, HDOT agrees not to attempt to use any state audit and/or privilege laws to restrict EPA's or HDOH's ability to obtain, review and/or use the Audit Reports in any action to enforce the audit provisions of the Consent Decree. Neither information contained in the Audit Reports, nor underlying information upon which the Audit Reports relied, that indicates regulatory violations at any HDOT facility, shall be claimed as confidential business information by HDOT or its consulting firm.

B. Procurement of Services/Audit Work Plan

- 1. HDOT shall advertise a Request for Qualifications from third party audit firms to conduct the audits. Advertisement for the Request for Qualifications shall not exceed forty-five (45) days.
- 2. Within thirty (30) days of the end of the Request for Qualifications period, the HDOT and HDOH selection committee shall conduct the professional services selection of an audit firm and provide the recommendation to the Director.
- 3. Within fifteen (15) days of the selection committee recommendation to the Director of Transportation, or another length of time agreed to by EPA and HDOH, HDOT shall notify the potential audit firm with a letter of selection, pending negotiation of fees.
- 4. Within thirty (30) days or another length of time agreed to by EPA and HDOH, HDOT shall, as approved by the Director of Transportation, award the selected audit firm and proceed to process the contract for the audit work. Within seven (7) days of each milestone, HDOT shall notify EPA and HDOH by email that the following milestones were completed:
 - a. Request for Qualifications advertisement;
 - b. Awarding of contract between HDOT and the selected audit firm;
 - c. Notice to Proceed on the Audit.
- 5. On or before September 16, 2016, HDOT shall submit a draft audit work plan (Audit Work Plan) to EPA and HDOH for review and approval. In developing the Audit Work Plan, HDOT shall consult EPA's guidance on auditing small MS4s:

http://www.epa.gov/npdes/pubs/ms4guide withappendixa.pdf The Audit Work Plan shall include the following audit schedule and describe each task necessary to accomplish the Audit Scope with targeted time frames for the consulting firm to complete:

- a. 3 months after the Audit Work Plan is approved: Evaluation of Post Construction/Permanent BMP programs for all three HDOT divisions;
- b. 9 months after the Audit Work Plan is approved: Evaluation of Construction Site Runoff Control programs for all three HDOT divisions;
- c. 15 months after the Audit Work Plan is approved: Evaluation of Public Outreach/Public Involvement for all three HDOT divisions;
- d. 21 months after the Audit Work Plan is approved: Evaluation of Illicit Discharge Detection and Elimination, Industrial Commercial Activities/Tenant Programs for all three HDOT Divisions;
- e. 27 months after the Audit Work Plan is approved: Evaluation of Pollution Prevention/Good Housekeeping for all three HDOT Divisions;
- f. 33 months after the Audit Work Plan is approved: Evaluation of Staffing, Funding, Organizational Structure, Availability of Resources and Storm Water Program Sustainability for all three HDOT divisions.
- 6. The Audit Work Plan shall include, but is not limited to: the minimum documents to be reviewed (e.g. SWMPs, training records, inspection reports, etc.), minimum number of field verifications, as necessary, for each program element evaluated, deliverables (notices of potential violations, draft and final audit reports), and reporting deadlines.
- 7. EPA, after consultation with HDOH, may reject the draft Audit Work Plan in whole or in part. If EPA rejects the Audit Work Plan or any portion of it, EPA shall identify the reason(s) in writing to HDOT for such rejection and may require HDOT to redraft the Audit Work Plan in its entirety or part. EPA shall provide any comments to HDOT within forty-five (45) days.
- 8. If EPA and HDOH reject the Audit Work Plan in whole or part, HDOT shall resubmit a revised Audit Work Plan within one hundred and twenty (120) days. After submission of the revised Audit Work Plan, EPA, after consultation with HDOH, shall provide any comments to HDOT within forty-five (45) days. HDOT will review all comments and make all required modifications to the revised Audit Work Plan. If EPA does not provide written comments, the revised Audit Work Plan shall be deemed approved by EPA and HDOH.

C. Audits

- 1. HDOT shall take all appropriate measures to facilitate the audit firm in performing the audits in accordance with the approved Audit Work Plan.
- 2. HDOT shall grant the audit firm full access to and unrestricted review of all HDOT records, documents and information that the audit firm requires to complete the audits.

D. Reporting/Audit Reports

- 1. HDOT shall require the audit firm to provide preliminary written notice of any potential violations identified in any audit to HDOT, EPA and HDOH within 2 business days following an audit of a program element in Paragraph B.1, above.
- 2. HDOT shall require the audit firm to complete a draft audit report to HDOT within 45 days of completing an audit of a program element.
- 3. HDOT shall review the draft audit report to correct any factual inaccuracies within 30 days after receiving the draft audit report.
- 4. HDOT shall require the audit firm to complete a final audit report within 120 days, or another length of time agreed to by EPA and DOH, of completing an audit of a program element.
- 5. HDOT shall submit original draft and final audit reports to EPA and HDOH with the Annual Compliance Report (ACR).
- 6. HDOT shall provide a detailed summary of any actions taken as a result of the audit reports and dates at which those actions were taken with the ACR.
- 7. The HDOT Audit Reports shall contain:
 - a. A specific statement of the procedures followed, HDOT sites and activities visited and all materials reviewed during the audits;
 - b. Retrospective analysis of activities that may be outmoded, ineffective, insufficient, or excessively burdensome, and recommendations to modify, streamline, or expand them in accordance with what has been learned;
 - c. An identification of deficiencies (items which, if not corrected, will lead to potential violations) and potential violations with the applicable SWMPs, this Consent Decree, and/or applicable permit and regulations, and recommendations for improvement;
 - d. Identification of best practices and opportunities for information/technology transfer to be applied across all divisions; and
 - e. An analysis of the practices implemented for each Division's program elements and a determination as to whether identified best practices can be universally implement across all three Divisions. If best practices cannot be universally implemented, the report shall clearly describe the identified impediments.
- 8. HDOT shall correct any deficiency or potential violation identified in the Audit Reports or otherwise discovered by HDOT as part of the audit process set forth herein within the time frames identified in Paragraph E below.

E. Corrections of Potential Violations and Deficiencies

- 1. HDOT shall correct any potential violations within 14 days of notification as described in D.1 of this Appendix, or another period of time agreed to by EPA and DOH. In order for EPA and DOH to agree to an extension, HDOT must provide a corrective action workplan, including a final compliance date, to EPA and HDOH.
- 2. HDOT shall correct any deficiencies within 21 days of receiving the draft Audit Report, or another period of time agreed to by EPA and HDOH. In order for EPA and HDOH to agree to an extension, HDOT must provide a corrective action workplan, including a final compliance date, to EPA and HDOH.
- 3. If HDOT corrects any violation discovered through the Audit process within the time frames described above, it shall not be subject any related stipulated penalties under Paragraph 30.

- 4. Notwithstanding anything in E.3 of this Appendix, the United States and HDOH reserve all legal and equitable remedies available to enforce the provisions of this Consent Decree or to obtain penalties or injunctive relief under the Act or its implementing regulations, or under other federal or State laws, regulations, or permit conditions, if HDOH or EPA independently discovers a violation of a permit, law, or statute.
- 5. Similarly, United States and HDOH, reserve all legal and equitable remedies available to enforce the provisions of this Consent Decree or to obtain penalties or injunctive relief under the Act or its implementing regulations, or under other federal or State laws, regulations, or permit conditions, if an activity or violation poses an immediate threat to human health or the environment.

F. Certifications

1. HDOT shall provide the following information and certifications to EPA and HDOH regarding completion of each audit and correction of any non-compliance or potential violation identified in the Audit Reports or otherwise discovered by HDOT as part of the audit process within an Environmental Compliance Audit section of the ACR. An authorized HDOT official shall certify that, to the best of the official's knowledge and information, the audits were conducted in accordance with the Work Plan described above, the Audit Reports are submitted to HDOT, EPA and HDOH in the ACR as described above, and all items of non-compliance identified in the Audit Reports have been corrected or steps have been taken to correct them. If all items have not been corrected, HDOT must include a schedule for correcting the issue.

Appendix B

PEAR 1 through 6 Guiding Questions



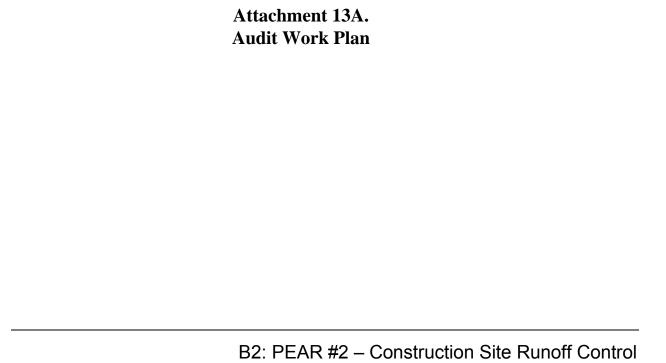
B1: PEAR #1 – Post-Construction / Permanent Best Management Practices

		Airp	orts	Har	bors	Highways	
Question Number	Question	Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit
Α	Overall Approach	HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
	Discuss the process chronologically in the order that a project would occur. Walk us through the						
A1	process as if we were a developer proposing a project.						
В	Laws/Rules/Regulations/Policies						
B1	What legal authority does the permittee have to require post-construction BMPs on development sites and to ensure maintenance?						
B2	Does the permittee's legal authority address post-construction requirements for all projects disturbing one acre or more?						
B3	Does the legal authority require site design, source control, and stormwater treatment BMPs?						
B4	What exemptions do the laws/rules/regulations/policies or other legal authority allow?						
B5	What procedures for alternative compliance (i.e., planning-level BMPs and other non-structural controls) are allowed?						
В6	Does the legal authority authorize the permittee to require stormwater management plans to address post-construction impacts?						
B7	Do the laws/rules/regulations/policies outline the contents of an approvable plan and responsibilities for operation and maintenance of approved BMPs?						
С	Post-Construction BMP Standards						
C1	What technical guidance (e.g., BMP manual) does the permittee use as the standard for design and selection of post-construction BMPs? Note: It is not necessary to do a thorough review of the manual or standards used by the permittee.						
C2	Are project proponents required to follow a technical guidance manual?						
C3	Does the guidance provide siting and use criteria for the BMPs to ensure proper and adequate BMPs are being selected and implemented?						
C4	Does the guidance provide siting and use criteria for BMP selection based on the development context (i.e., BMP selection appropriate for ultra urban-areas versus those more appropriate for more rural settings with larger parcels)?						
C5	Are pollutants of concern that are typically generated by the proposed development type considered when selecting or approving BMPs?						
C6	Does the technical manual provide guidance on sizing, performance, and location of BMPs?						
C7	When was the BMP manual last updated?						
C8	Does the permittee have different requirements or standards for different types of developments (e.g., specific post-construction requirements for gas stations or automobile repair facilities)?						
C9	Does the permittee have design manuals related to land-efficient site designs (e.g. better site design, better models for large retailers)?						
C10	Does the permittee promote source control and site design standards to reduce the generation of pollutants in addition to treatment BMPs?						
C11	Does the permittee include in standards and manuals specifications for innovative site design practices, such as low-impact development and other techniques that manage runoff on-site?						

		Airr	oorts	rts Harbors		Highways	
Question Number	Question	Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
C12	Are project applicants encouraged or required to use vegetative BMPs that promote infiltration, such as swales, biofiltration practices, etc., where possible?						
C12	Does the permittee offer financial incentives to support post-construction stormwater goals (e.g., programs to support redevelopment, such as enterprise zones, or stormwater utility credits)?						
D	Plan Review and Approval Procedures						
D1	Which Division/District is responsible for post-construction stormwater plan review?						
D2	How many plan reviewers are there?						
D3	How many plans submitted for review (private and public projects) each year?						
D4	What is the project size threshold for the permittee to require post-construction BMPs?						
D5	Does the permittee apply standard conditions that incorporate post-construction installation and maintenance requirements into its plan review process?						
D6	Do plan reviewers use specific criteria or a checklist when reviewing plans?						
D7	Does the permittee consider pollutants of concern or whether the project discharges to a 303(d) listed impaired water when determining which BMPs are required?						
D8	Does the permittee consider such regional concerns as smart growth initiatives, watershed master plans, and other larger-scale planning efforts to ensure that each new development and redevelopment plan is consistent with the goals of these initiatives?						
D9	For up to three sets of post-construction plans provided by permitee:						
D9a	Are adequate BMPs included on plans, details, and drawings?						
D9b	What types of standard conditions or notes are included?						
D9c	Are maintenance requirements specified?						
D9d	Do the location of BMPs hinder maintenance?						
D10	What types of projects must be reviewed by the permittee for post-construction stormwater controls?						
D11	Does the permittee have a process to identify priority projects identified in the MS4 NPDES permit?						
D12	What types of standards or technical guidance do the permittee's reviewers use to review projects?						
D13	Does the permittee condition improvements to existing developments with requirements for post-						
	construction stormwater controls? How are these redevelopment requirements triggered?						
E	Post-Construction BMP Inventory						
E1	How does the permittee track the installation and maintenance of post-construction BMPs?						
E2	Is your post-construction BMP inventory managed in a database and/or linked to GIS?						
E3	What information is collected?						
F F1	BMP Inspection & Maintenance Does the permittee require maintenance agreements for all projects with post construction PMPs?						
F1 F2	Does the permittee require maintenance agreements for all projects with post-construction BMPs?						
	Are as-built inspections conducted at the conclusion of a project to ensure the BMP has been built properly? What Division/District is responsible for this?						
F3	Do staff conduct these inspections or are they self-certified?						
F4	Does the permittee inspect private facilities or require inspections by owner/operators?						

		Airı	ports	Har	bors	Highways	
Question Number	Question	Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
F5	If the permittee performs the inspections, how often are they performed?						
F6	If owner/operators are required to inspect and maintain their BMPs, how is this authorized? Through a MOU? Through conditions of approval? Through another type of agreement?						
F7	How does the permittee ensure inspections are occurring? Reminder notices? Inspection reports?						
F8	Who is responsible for structural stormwater BMP maintenance (public and private)? Permitee? Owner?						
G	Enforcement						
G1	How does the permittee require proper maintenance and repair after the inspection?						
G2	What types of enforcement actions are provided by laws/rules/regulations/policies (e.g., notices of violation, abatement)?						
G3	Is the permittee's enforcement authority limited (e.g., limits on the dollar amount of fines, inability to issue civil penalties)?						
G4	How many enforcement actions have been taken in the past year due to lack of BMP maintenance?						
Н	Public Construction Projects						
H1	For staff:						
H1a	Are plan reviewers trained on post-construction BMPs and requirements?						
H1b	What type of training do staff performing "as built" and post-construction inspections receive?						
H1c	How often are the trainings conducted?						
H1d	How many staff have been trained?						
H1e	What type of training or education does the permittee provide to developers and engineers on post-construction requirements?						
H2	For developers and plan designers:						
H2a	What types of educational materials have been developed and distributed to developers and designers regarding post-construction BMPs and application requirements?						
H2b	How are the materials distributed? At the permit desk? During inspections?						
H2c	What type of training does the permittee provide or advertise to local developers and designers?						
H2d	How often is this training conducted?						
H2e	How many developers and designers have been trained?						
H2f	Are they required to attend?						
14	Consent Decree Questions						
I1a	Have activities been identified that may be outmoded, ineffective, insufficient, or excessively burdensome?						
I1b	What are recommendations to modify, streamline, or expand such activities in accordance with what has been learned?						
l2a	Have deficiencies or potential violations been identified?						
I2b	What are recommendations for correcting these deficiencies or potential violations?						
14	Have best practices and opportunities for information/technology transfer to be applied across all Divisions been identified? If so, describe.						

		Airp	oorts	Har	bors	High	ways
		Kahului	Honolulu	Honolulu	Kalaeloa	Maui District	Oahu District
		Airport	International	Harbor	Barbers Point		
Question			Airport		Harbor		
Number	Question	Consult MC4	les alicei aleca l	Con all MC4	Con all MC4	Consul MC4	les alis ei als cal
		Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
		Permit	Permit	Permit	Permit	Permit	Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
15	Can identified best practices be universally implemented across all three Divisions? Why or why						
	not?						
16	If best practices cannot be universally implemented, what are the identified impediments?			_			



		Airports		Harbors		Highways	
Question Number	Question	Airport International Harbor Barbe Airport Ha	Kalaeloa Barbers Point Harbor	Maui District	Oahu District		
		Permit	Permit	Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
Α.	Lowe/Pulse/Pagulations/Policies	HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
Α	Laws/Rules/Regulations/Policies What legal authority does the permittee have to require erosion and sediment control BMPs on						
A1	construction sites and to ensure compliance?						
A2	Does the permittee's legal authority address stormwater quality for all projects disturbing at least 1 acre?						
A3	What exemptions do the laws/rules/regulations/policies or other legal authority allow?						
A4	Does the legal authority authorize the permittee to require erosion and sediment control plans?						
В	Construction Site Inventory						
B1	How does the permittee track construction projects?						
B2	Is the following information collected?						
B2a	The number and status (active/inactive/completed) of construction sites						
B2b	The number, frequency, results, and follow-up actions resulting from inspections						
B2c	The actions taken to resolve the issues and dates when compliance was achieved.						
B2d	The number and type of enforcement actions taken at sites in violation						
B2e	Complaints submitted by the public						
B3	Does the inventory include construction sites disturbing less than 1 acre?						
B4	What is the threshold for tracking projects?						
B5	Does the inventory track which sites have submitted an NOI for coverage under a state/EPA construction general permit?						
B6	How is the inventory updated? How often?						
В7	Does the permittee prioritize projects for more frequent or targeted inspections? If yes, based on what criteria?						
С	Construction Requirements and BMPs						
C1	What technical guidance (e.g., BMP manual or fact sheets) does the permittee use as the standard for design and selection of nonstructural and structural construction BMPs?						
C2	Are project applicants required to follow these technical manuals?						
C3	Does the guidance set minimum operation and maintenance requirements for BMPs?						
C4	Does the guidance include installation requirements for the BMPs?						
C5	Does the guidance provide proper siting and use criteria for BMPs to ensure that adequate BMPs are being selected and implemented?						
C6	Does the permittee provide guidance as to recommended BMPs to be used?						
C7	Does the permittee have different requirements or standards for different times of the year (i.e., during the rainy season vs. the dry season)?						
D	Plan Review Procedures						
D1	Does the permittee hold pre-application meetings on any construction project? Are stormwater and erosion and sediment control requirements addressed at these meetings?						
D2	What is the permittee's threshold for plan review? (For example, does the permittee review plans for all projects disturbing greater than 1 acre, or do they use another threshold?)						

		Airp	orts	Har	bors	High	ways
Question Number	Question	Kahului Airport Small MS4	Honolulu International Airport Individual	Honolulu Harbor Small MS4	Kalaeloa Barbers Point Harbor Small MS4	Maui District Small MS4	Oahu District Individual
		Permit	Permit	Permit	Permit	Permit	Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
D3	Does the permittee apply standard conditions that incorporate erosion and sediment control						
	requirements into its plan review process?						
D4	Do the plan reviewers verify whether the project applicant has submitted an NOI to the state or EPA? Is evidence of NOI submission required before a plan can be approved or a local permit issued?						
D5	Do plan reviewers use specific criteria or a checklist when reviewing plans?						
D6	Does the permittee consider during the review process whether the construction project discharges to a TMDL/impaired water?						
D7	For up to two construction plans provided:						
D7a	Are adequate BMPs included on plans?						
D7b	What types of standard conditions or notes are included?						
D7c	Are maintenance requirements specified?						
D7d	Are BMPs addressing other construction activities, such as materials storage and waste						
	disposal, incorporated into the construction plans?						
D7e	Do the plans include notes addressing the prohibition of non-stormwater discharges?						
D7f	Were comments provided by the permittee to the project proponent reasonable and appropriate?						
E	Construction Site Inspections						
E1	Does the permittee adequately inspect the following phases of construction?						
E1a	Clearing and grubbing and site preparation						
E1b	Mass grading and public infrastructure/utility construction						
E1c	Building construction and final grading						
E1d	Final stabilization						
E2	What group is charged with erosion and sediment control inspections?						
E3	Do the inspectors use a checklist or inspection form during each inspection?						
E4	How many inspectors does the permittee use to verify erosion and sediment control compliance at construction sites?						
E5	Does this number appear adequate to assess active construction occurring in the permitted area? Compare this to the total number of construction sites that need to be inspected at any one time (number of inspections per construction site per year). Consider project durations and phasing, local conditions (e.g., dry vs. wet seasons), and additional duties assigned to inspectors.						
E6	Does the permittee have an established prioritization process for establishing inspection frequency? If so, on what factors is the prioritization based (i.e., size, proximity to water body, sensitive areas)?						
E7	How often are sites inspected?						
E8	Does the permittee target inspections during and immediately after wet weather events? If so:						
E8a	What size rain event triggers an inspection?						
E8b	How soon after a rain event?						
E9	Is there an established rainy season for the area? Are sites inspected prior to the start of the rainy season to determine preparedness?						

		Δirr	oorts	Har	bors	High	ways
		Kahului	Honolulu	Honolulu	Kalaeloa	Maui District	Oahu District
		Airport	International	Harbor	Barbers Point	Madi District	Oana District
		Allport		Пагрог			
Question	Overstion		Airport		Harbor		
Number	Question	0 11.1404			0 11 110 4		
		Small MS4	Individual	Small MS4	Small MS4	Small MS4	Individual
		Permit	Permit	Permit	Permit	Permit	Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
F	Program Support and Resources						
F1	Does the program have a dedicated source of funding to support plan review staff and inspectors?						
G	Enforcement						
G1	What types of enforcement actions are provided for in applicable laws/rules/regulations/policies (e.g.,						
	notices of violation, "stop work" orders, fines)?						
G2	Is use of these actions outlined in an established, escalating enforcement policy?						
G3	Review with the permittee statistics on enforcement of construction site erosion and sediment						
	controls.						
G3a	How many enforcement actions are taken per year?						
G3b	Are follow-up inspections conducted to verify compliance?						
G4	Are there limitations on the permittee's enforcement authority (e.g., limits on the dollar amount of						
0.5	fines, inability to issue civil penalties)?						
G5	Do staff feel that their enforcement authority is adequate to achieve compliance on construction						
	projects?						
Н	Training and Education						
H1	For staff:						
H1a	What type of training do construction inspectors receive? Are plan reviewers trained on erosion						
	and sediment control BMPs and requirements?						
H1b	How often is training conducted?						
H1c	How many staff have been trained?						
H1d	What type of follow-up is conducted by the permittee to verify that the training is effective?						
H2	For construction operators:						
H2a	What types of educational materials have been developed and distributed to construction						
1.25	operators?						
H2b	How are the educational materials distributed?						
H2c	What type of training does the permittee provide or advertise to local construction operators?						
H2d	How often is this training conducted? How many construction site operators have been trained?						
H2e	Are contractors and developers required to attend?						
H2f	Are training sessions held in cooperation with other local permittees or regional authorities?						
	Public Construction Projects						
<u> 11</u>	Do RFPs or contracts include language specifying stormwater requirements?						
12	Are inspection and maintenance requirements specified in the contract?						
13	What oversight does the permittee implement to ensure the contractor is implementing all						
	requirements appropriately and adequately?						
14	What penalties are in place to require compliance from the permittee's contractors?						
J	Consent Decree Questions						
J1a	Have activities been identified that may be outmoded, ineffective, insufficient, or excessively						
	burdensome?						

		Airp	oorts	Har	bors	High	ways
		Kahului	Honolulu	Honolulu	Kalaeloa	Maui District	Oahu District
		Airport	International	Harbor	Barbers Point		
Question			Airport		Harbor		
Number	Question	0	les elle el el e e l	0	0	0	Localitation at
		Small MS4	Individual	Small MS4	Small MS4	Small MS4	Individual
		Permit	Permit	Permit	Permit	Permit	Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
J1b	What are recommendations to modify, streamline, or expand such activities in accordance with						
	what has been learned?						
J2a	Have deficiencies or potential violations been identified?						
J2b	What are recommendations for correcting these deficiencies or potential violations?						
J3	Have best practices and opportunities for information/technology transfer to be applied across all						
	Divisions been identified? If so, describe.						
J4	Can identified best practices be universally implemented across all three Divisions? Why or why						
	not?						
J5	If best practices cannot be universally implemented, what are the identified impediments?						



B3: PEAR #3 – Public Outreach / Public Involvement

		Airn	oorts	Har	bors	High	ways
		Kahului Airport	Honolulu International	Honolulu Harbor	Kalaeloa Barbers Point	Maui District	Oahu District
Question	Question	Allport	Airport	Tidiboi	Harbor		
Number	Question		Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
Α	Goals and Objectives						
A1	Does the permittee have a strategy document for education and participation?						
A2	Does the document include specific goals?						
A3	On what are the goals based?						
A4	Are the goals measurable? How?						
В	Message Development						
B1	Have specific messages been developed for stormwater outreach?						
B2	On what are the messages based? Pollutants of concern? General awareness? Problem target audience? All of the above?						
В3	Are different messages used for different target audiences (i.e., children, homeowners, industry, etc.) or is one central message used for all?						
B4	Do the messages encourage participation in stormwater-related activities?						
B5	Do the messages educate about behavior changes that the audience can make to contribute to a solution?						
B6	Have messages been developed specific to reducing illicit discharges with information about how to report them to the appropriate authorities?						
B7	Have messages been developed to educate pesticide, fertilizer, and herbicide applicators (including homeowners) about ways to reduce stormwater pollution?						
С	Target Audiences						
C1	Has the permittee identified target audiences for outreach efforts? How are these target audiences selected? What are the target audiences?						
C2	What land use groups (i.e., industry, commercial businesses) has the permittee targeted?						
C3	Have certain ethnic groups or nationalities been identified as audiences to be targeted based on an evaluation of local demographics?						
C4	Have the target groups been reevaluated based on evaluation of the strategy and progress that has been made?						
C5	For Phase I permittees: have they targeted pesticide, herbicide, and fertilizer applicators (including homeowners) and construction site operators for outreach?						
C6	For Phase II permittees: have they targeted industries or commercial businesses of concern for outreach?						
D	Message Packaging						
D1	Does the permittee have a variety of written educational materials?						
D2	Does the permittee have a variety of other packages (i.e., Web site, presentations, displays) for educational materials?						
D3	Did the permittee produce the education and outreach materials in the different languages that are spoken in the community?						
D4	Do the permittee's materials explain stormwater issues in easy-to-understand terms?						

		Airp	orts	Har	bors	High	ways
Question Number	Question	Kahului Airport Small MS4	Honolulu International Airport Individual	Honolulu Harbor Small MS4	Kalaeloa Barbers Point Harbor Small MS4	Maui District Small MS4	Oahu District Individual
		Permit	Permit	Permit	Permit	Permit	Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
E	Distribution Mechanisms						
E1	Does the permittee track distribution of materials to measure effectiveness?						
E2	Is the permittee focused solely on distribution or is an effort made to evaluate the impact of the messages?						
E3	Does the permittee use a variety of distribution mechanisms to target various audiences?						
F	Evaluation Methods						
F1	How does the permittee evaluate the effectiveness of the outreach strategy?						
F2	Has the permittee conducted a public awareness survey?						
F3	Which outreach materials have been the most effective in soliciting public involvement and participation? Changing audience behaviors? Increasing general stormwater awareness?						
F4	Have any changes been made to the outreach strategy or materials based on an evaluation of effectiveness?						
G	Public Participation Activities						
G1	What opportunities does the permittee give to the public to review and comment on any changes to the SWMP, such as public comment via a Web site, a public meeting, or a stormwater advisory group?						
G2	What volunteer opportunities (i.e., stream cleanups, storm drain stenciling) does the permittee coordinate or publicize to encourage the public to participate in stormwater-related activities?						
G3	Does the permittee sponsor or promote any of the following activities?						
G3a	Beach/stream/lake cleanups						
G3b	Volunteer stream monitoring						
G3c	Stream clean-ups or equivalent activities						
G3d	Stormwater citizen panel						
Н	Consent Decree Questions						
H1a	Have activities been identified that may be outmoded, ineffective, insufficient, or excessively burdensome?						
H1b	What are recommendations to modify, streamline, or expand such activities in accordance with what has been learned?						
H2a	Have deficiencies or potential violations been identified?						
H2b	What are recommendations for correcting these deficiencies or potential violations?						
H3	Have best practices and opportunities for information/technology transfer to be applied across all Divisions been identified? If so, describe.						
H4	Can identified best practices be universally implemented across all three Divisions? Why or why not?						
H5	If best practices cannot be universally implemented, what are the identified impediments?						

B4: PEAR #4 – Illicit Discharge Detection and Elimination (IDDE) Program Element and Industrial Commercial Activities/Tenant (I/C) Program

	Question	Airp	oorts	Har	bors	Highways	
Question Number		Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
		Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
Δ	Land Authority (IDDF)	HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
Α	Legal Authority (IDDE)						
A1	Does the permittee have laws/rules/regulations/policies to prohibit illicit discharges and dumping to the MS4?						
A2	What exclusions are included in laws/rules/regulations/policies?						
A3	What enforcement mechanisms are authorized in the event of an illicit discharge being detected?						
A4	Has an enforcement escalation plan been developed?						
В	Mapping (IDDE)						
B1	Does the permittee have a map showing storm drain pipes, outfalls, and storm drain inlets?						
B2	Is the map readily available to the personnel who would respond to an illicit discharge incident?						
B3	Does the permittee have a map of the storm drain system showing the locations of outfalls and municipally maintained structural stormwater controls?						
С	Field Screening (IDDE)						
C1	How are field screening areas identified?						
C2	Are areas of the MS4 prioritized based on incidents of illicit discharges, land use, dumping reports, etc.?						
C3	How often are field screening areas evaluated?						
C4	Are outfalls inspected during dry weather to identify any potential dry-weather discharges? What does the inspection include?						
C5	If dry-weather flows are present, are they being sampled to determine potential sources of pollutants? For what parameters?						
C6	Does the permittee have a database (or other method) to track locations of illicit discharges, spills, and illegal dumping?						
C7	Does the database track dry-weather monitoring or screening data?						
D	Investigation of Potential Illicit Discharges (IDDE)						
D1	Does the permittee have a procedure for tracing the source of an active illicit discharge?						
D2	Who performs the investigations?						
D3	Are these procedures written in a document or plan?						
D4	What equipment does the permittee use to find illicit discharges?						
D5	Does the permittee have equipment to videotape storm drains, or can it quickly contract out this work?						
D6	How are investigations tracked?						
D7	Has an enforcement response plan been adopted for use when an illicit discharge source has been located?						
E	Spill Response and Prevention (IDDE)						
E1	Does the permittee have a clear set of procedures in place that details who is responsible for responding to spills and emergency situations?						
E2	Do field staff have spill containment supplies in their vehicles, and are they trained to contain minor spills?						

	Airp	oorts	Har	bors	High	ways
Question	Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit
	HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
party?						
Does the permittee prioritize subwatersheds or neighborhoods and assign resources for educational efforts based on frequency and types of illicit discharge incidents?						
Is there a general phone number or "hotline" in the phone book or Web site that people can call to report a spill or dumping?						
What types of public outreach materials are available to publicize public reporting?						
Does the permittee track the number of public calls or complaints reporting illicit discharges?						
Preventing Sanitary Sewer Discharges (IDDE)						
Has the permittee conducted any studies or evaluations to determine whether sanitary sewers are contributing pollutants to the MS4?						
What is the extent of infiltration and inflow into the sanitary sewer system? How is this impacting discharge from the MS4?						
If the permittee also operates a sanitary sewer system, do they have procedures to prevent sewage spills and SSOs to the MS4?						
Education and Training (IDDE)						
What type of training do field staff (e.g., storm sewer maintenance crews, street sweepers) receive on spill response and IDDE?						
Does the Phase I permittee have the authority to require industrial and commercial facilities to implement stormwater BMPs?						
Does the Phase I permittee have the authority to conduct inspections and enforce requirements?						
What types of facilities are covered under this legal authority?						
Who (e.g., specific staff, Division/District, etc.) has the authority to enforce the laws/rules/regulations/policies and/or inspect the facilities?						
<u> </u>						
Has the permittee completed an inventory of industrial/commercial facilities discharging to the stormwater system?						
· ·						
What sources were used to create the inventory?						
•						
Significant industrial users within the pretreatment program?						
	Is a contractor or other entity available for larger spills? Does the permittee have the ability to collect cleanup and abatement costs from the responsible party? How are spills and spill response tracked to ensure adequate reporting? Public Awareness and Reporting Program (IDDE) Does the permittee prioritize subwatersheds or neighborhoods and assign resources for educational efforts based on frequency and types of illicit discharge incidents? Is there a general phone number or "hotline" in the phone book or Web site that people can call to report a spill or dumping? What types of public outreach materials are available to publicize public reporting? Does the permittee track the number of public calls or complaints reporting illicit discharges? Preventing Sanitary Sewer Discharges (IDDE) Has the permittee conducted any studies or evaluations to determine whether sanitary sewers are contributing pollutants to the MS4? What is the extent of infiltration and inflow into the sanitary sewer system? How is this impacting discharge from the MS4? If the permittee also operates a sanitary sewer system, do they have procedures to prevent sewage spills and SSOs to the MS4? Education and Training (IDDE) What type of training do field staff (e.g., storm sewer maintenance crews, street sweepers) receive on spill response and IDDE? Are staff generally educated about what illicit discharges are and how to report them? Legal Authority (I/C) Does the Phase I permittee have the authority to conduct inspections and enforce requirements? What laws/rules/regulations/policies provide this legal authority? What laws/rules/regulations/policies provide this legal authority? What laws/rules/regulations/policies and/or inspect the facilities or other legal authority allow? Facility Inventory (I/C) Has the permittee completed an inventory of industrial/commercial facilities discharging to the stormwater system? What types of facilities are included on the inventory? Facility Inventory (I/C) Has the permittee comple	Caustion Caustion	Question Airport International Airport Small MS4 Permit Individual Permit Hi 14KE349 Individual Permit Hi 14KE349 Hi 5000005	Question Case Question Comparison Compar	Question Comparison Compar	

	Question	Airp	oorts	Har	bors	Highways	
Question Number		Kahului Airport Small MS4	Honolulu International Airport Individual	Honolulu Harbor Small MS4	Kalaeloa Barbers Point Harbor Small MS4	Maui District Small MS4	Oahu District Individual
		Permit	Permit	Permit	Permit	Permit	Permit
J3C	Business licenses?	HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
J3D	Phone book?						
J3E	"Windshield" survey?						
J4	Does the inventory include all the industrial/commercial facilities subject to the industrial general						
	permit?						
J5	Does the permittee periodically check to see if new facilities that must be covered by an industrial stormwater general permit have filed an NOI?						
J6	What is the process for notifying the permitting authority of non-filers?						
J7	If applicable, does the inventory include all the facilities specified as required in the MS4 NPDES permit?						
J8	How is the inventory updated? How often?						
J9	What information is maintained about the facilities?						
J10	How is the inventory maintained and stored?						
J11	Does the permittee prioritize the facilities?						
J12	Is the prioritization based on facility type, past inspection or enforcement results, proximity to receiving waters, potential pollutant sources on-site, and so forth?						
J13	Is the prioritization used to determine frequency of inspections?						
J14	Has the permittee mapped the locations of prioritized facilities to cross-reference reports of dumping, illicit discharges, or other water quality issues?						
K	Standards, BMPs and Outreach (I/C)						
K1	Has the permittee adopted standards or BMPs that industrial/commercial facilities are required to implement (e.g., all car dealerships must install a wash rack plumbed to the sanitary sewer)?						
K2	Are the requirements for new developments only or are they triggered by improvements of existing facilities? Are there schedules for implementing retrofits?						
K3	Are these standards applicable to existing facilities, new facilities, or both?						
K4	Does the permittee refer facility operators to specific stormwater BMP or standards guidance documents?						
K5	What type of educational program has been developed for industrial and commercial facility operators?						
K6	What type of brochures, handouts, or guidance on BMPs is provided to these facilities by the permittee?						
K7	When is this information provided? During inspections? During training events? During professional organization presentations?						
L	Staff Training (I/C)						
L1	What type of training do the industrial and commercial inspectors receive?						
L2	How often?						
L3	If additional inspectors are used (e.g., food safety inspectors for restaurant inspections, pretreatment inspectors), are they trained specifically on stormwater BMPs and requirements? By whom?						

		Airp	orts	Har	bors	High	ways
Question Number	Question	Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
M	Inspections (I/C)						
M1	Who performs inspections and for what types of facilities (e.g., health inspectors for restaurants, pretreatment inspectors for industrial facilities with a pretreatment permit)						
M2	How often are industrial and commercial facilities inspected? How is the frequency determined?						
M3	Does the permittee's industrial/commercial inspector(s) use a standard checklist during inspections?						
M4	Is a report written after the inspection? How is the inspection documented in the file?						
M5	Does the permittee verify NPDES permit coverage for facilities?						
M6	For industrial facilities, does the inspector review the SWPPP and monitoring data during the inspection?						
M7	Does the permittee refer non-filers to the permitting authority?						
M8	Do inspectors provide educational materials during inspections? What types?						
M9	If multiple Divisions/Districts perform inspections, how is information transferred or cataloged?						
N	Program Support and Resources (I/C)						
N1	Does the program have a dedicated source of funding to support inspectors?						
0	Enforcement (I/C)						
01	In instances of noncompliance, do the inspection staff use a formalized, approved enforcement escalation procedure?						
02	How was the enforcement escalation procedure developed? Is it used? Is it effective?						
O3	Who is authorized to apply various enforcement procedures (e.g., NOVs, fines)?						
04	What types of penalties are readily available to the inspection staff?						
O5	What is the most common method of gaining compliance (e.g., NOVs, fines, abatement)?						
O6	Can the permittee describe a recent non-compliance issue at an industrial/commercial facility? If so, how was compliance achieved?						
07	At what point are non-compliance cases referred to the NPDES permitting authority? How many have been referred in the last 12 months?						
Р	Consent Decree Questions						
P1a	Have activities been identified that may be outmoded, ineffective, insufficient, or excessively burdensome?						
P1b	What are recommendations to modify, streamline, or expand such activities in accordance with what has been learned?						
P2a	Have deficiencies or potential violations been identified?						
P2b	What are recommendations for correcting these deficiencies or potential violations?						
P3	Have best practices and opportunities for information/technology transfer to be applied across all Divisions been identified? If so, describe.						
P4	Can identified best practices be universally implemented across all three Divisions? Why or why not?						
P5	If best practices cannot be universally implemented, what are the identified impediments?						



B5: PEAR #5 – Pollution Prevention / Good Housekeeping Program

		Airı	ports	Har	bors	Highways	
Question Number	Question	Kahului Airport Small MS4	Honolulu International Airport Individual	Honolulu Harbor Small MS4	Kalaeloa Barbers Point Harbor Small MS4	Maui District Small MS4	Oahu District Individual
		Permit	Permit	Permit	Permit	Permit	Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
Α	Infrastructure Mapping and Characterization						
A1	Does the permittee have a map showing all inlets, outfalls, storm drain conduits, stormwater management facilities, and receiving water bodies?						
A2	Does this map include catch basins and structural stormwater controls?						
A3	Is the map readily available and used by maintenance field staff when performing maintenance activities?						
A4	Is the map in hard copy format only or is it also in a geographic information system (GIS)?						
A5	Are infrastructure assets or components named or numbered to better track necessary maintenance and repairs?						
A6	Is information regarding stormwater infrastructure maintained in a database or mapping system? What types of data are maintained?						
A6a	Type of structure or asset						
A6b	Location (address, latitude/longitude)						
A6c	Photo						
A6d	Date built						
A6e	Date last inspected						
A6f	Date last cleaned/maintained						
В	Catch Basin Cleaning						
B1	Does the permittee have a schedule for routine maintenance or cleaning of catch basins?						
B1a	How many are cleaned and how often?						
B1b	Has the permittee targeted certain areas for more frequent maintenance?						
B1c	Does the permittee set goals for how many basins are inspected and cleaned each year?						
B1d B1e	How does the permittee track and record cleaning and maintenance needs?						
	What information is documented? Does the permittee track which catch basins are cleaned, how much material is removed, and so forth?						
B1f	How does the permittee use the data collected to further its program or evaluate program effectiveness? Are the data used to help prioritize cleaning frequency? Are they used to identify areas for targeted outreach?						
B2	What are the permittee's procedures for disposing of waste removed from catch basins or storm drains?						
B2a	Does the permittee flush material that could potentially discharge to surface water?						
B2b	If the material is removed using a wet vacuum, how is the material dewatered? How is the decanted water disposed?						
В3	Does the permittee have a schedule for routine maintenance or inspection of storm drain pipes?						
B4	What are the permittee's maintenance procedures for cleaning clogged storm drain pipes?						
С	Stormwater Management Structures						
C1	Are catch basins and other inlet structures marked so that the public knows they drain to surface waters?						

		Airı	ports	Har	bors	High	ways
Question Number	Question	Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit
C2	Lies the negretates inventoried the type and leasting of public starrowater management structures in its	HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
	Has the permittee inventoried the type and location of public stormwater management structures in its jurisdiction? How are the data collected and stored?						
C2a	Pump stations						
C2b	Drainage structures (debris basins, detention basins, regional ponds, etc.)						
C2c	Structural treatment controls						
C2d	Open channels						
C3	How is vegetation maintained in grassed swales, rain gardens, pond perimeters, and other vegetated stormwater controls?						
C4	Has the permittee mapped private stormwater management structures?						
C5	How often are these facilities inspected?						
C6	Are the stormwater management structures regularly maintained by the permittee?						
C6a	Are records kept of material and debris removed during maintenance?						
C6b	How is maintenance conducted? Are chemicals used to maintain vegetation and pests?						
C7	How does the permittee use the data collected to further its program or evaluate program effectiveness? Are the data used to help prioritize cleaning frequency? Are they used to identify areas for targeted outreach based on type and volume of materials removed?						
D	Street Sweeping						
D1	Does the permittee regularly sweep streets? Public parking lots?						
D2	What is the schedule for street sweeping?						
D3	Are areas scheduled for sweeping based on aesthetics only or is consideration given for reducing impacts on the stormwater management infrastructure and surface water?						
D4	What types of sweepers are used? Wet or dry?						
D5	How is street-sweeping debris disposed? If the debris is dewatered, how is this done? How is the decanted water disposed?						
D6	Are records kept of the amount of debris collected?						
D7	How does the permittee use the data collected to further its program or evaluate program effectiveness? Are the data used to help prioritize cleaning frequency?						
E	Public Streets, Roads and Highway Maintenance						
E1	What types of public streets, roads, and highways operation and maintenance practices and procedures are performed by the permittee?						
E2	Are BMPs used by field crews to minimize stormwater impacts during road maintenance or repair activities?						
E3	What types of BMPs are used? Discuss BMPs used for such activities as:						
E3a	Ditch cleaning						
E3b	Sidewalk repair						
E3c	Asphalt patching						
E3d	Curb and gutter repair						
E3e	Street striping						

		Airr	orts	Har	bors	High	ways
Question Number	Question	Kahului Airport Small MS4 Permit HI 14KE349	Honolulu International Airport Individual Permit HI S000005	Honolulu Harbor Small MS4 Permit HI 03KB482	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit HI 14KE352	Oahu District Individual Permit HI S000001
E3f	Sign painting	HI 14KE349	П 3000003	HI 03ND402	HI 03KB466	HI 14KE33Z	П 3000001
E3g	Maintaining dirt and gravel roads (preventing erosion, dust control)						
<u></u> F	Facility Inventory						
F1	Does the permittee have an inventory of public facilities? At a minimum, this list should include the following, as applicable:						
F1a	Public works yards						
F1b	Public transit facilities						
F1c	Wastewater and domestic water treatment plants						
F1d	Sanitary sewer system overflow locations						
F1e	Public parks/open areas						
F1f	Public parking lots						
F1g	Public buildings						
F1h	Landfills and hazardous waste disposal sites, transfer locations, or storage facilities						
F2	Have the facilities been inspected and assessed for water quality impacts?						
F3	Are any facilities required to apply for coverage under a general industrial permit? Do these facilities have SWPPPs?						
G	Chemical and Hazardous Material Use and Disposal						
G1	What types of chemicals or hazardous materials are used by the permittee?						
G2	Where are these materials stored?						
G3	Has the permittee implemented an alternative materials program to reduce the use of hazardous materials?						
G4	Has the permittee implemented an inventory reduction program to reduce the quantity of chemicals and hazardous materials stored and used?						
G5	Does the permittee have a household hazardous waste collection center for the public?						
G5a	Are records of the quantity of materials collected maintained by type of material?						
G5b	How does the permittee notify the public of these sites?						
G6	Does the permittee have special household hazardous waste collection days?						
G7	How does the permittee use the data collected to further its program or evaluate program effectiveness? Are the data used to help prioritize maintenance frequency? Are they used to identify areas of targeted outreach?						
Н	Pesticide, Herbicide and Fertilizer Application and Management						
H1	What kind of program has been established to address pollutants associated with the application of pesticides, herbicides, and fertilizer at public facilities?						
H2	Are the permittee's fertilizer/pesticide applicators certified? Are permits or other certifications required?						
H3	Where are the chemicals stored? Are appropriate procedures and secondary containment followed?						
H4	Is there a pesticide/fertilizer application plan?						
H5	Does the permittee practice integrated pest management (IPM) or use alternatives to pesticides?						

		Airports Harbors			bors	Highways		
Question Number	Question		Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit	
H6	How does the permittee implement alternative landscaping to minimize the use of fertilizers and	HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001	
110	pesticides?							
H7	What types of educational activities does the permittee conduct for applicators?							
H8	What types of BMPs are used during application of pesticides in public rights-of-way?							
H9	What types of BMPs are used during application of pesticides at municipal facilities such as parks?							
I	Municipal Staff							
I1	Have standard operating procedures or their equivalent been developed to ensure that municipal field staff integrate stormwater quality BMPs into their daily activities?							
12	Have BMPs or standards been officially adopted by the permittee for use by municipal field staff?							
13	What reference materials or guidance documents are provided to field staff regarding BMP specifications and details?							
14	How does the permittee ensure that staff are fulfilling their responsibilities as outlined in standard operating procedures? Do managers provide oversight on a regular basis?							
J	Contracted Services Staff							
J1	Does the permittee require contractors to incorporate stormwater quality BMPs into their activities?							
J2	How are BMPs required? Are the requirements outlined in requests for proposals? Are they included in contracts?							
J3	Have BMPs or standards been officially adopted by the permittee for use by contractual staff?							
J4	What reference materials or guidance documents are provided to contractual staff regarding BMP specifications and details?							
J5	How does the permittee ensure that contractors are fulfilling their responsibilities as outlined in their contracts? Are inspections performed? Are periodic reports submitted?							
K	Training and Education							
K1	What type of general stormwater training is provided to staff that are not involved in field activities? How often?							
K2	How are new employees trained?							
K3	What types of activity-specific training is provided to field staff? Is information on specific BMPs provided?							
K4	Is any training provided to contract staff?							
L	Consent Decree Questions							
L1a	Have activities been identified that may be outmoded, ineffective, insufficient, or excessively burdensome?							
L1b	What are recommendations to modify, streamline, or expand such activities in accordance with what has been learned?							
L2a	Have deficiencies or potential violations been identified?							
L2b	What are recommendations for correcting these deficiencies or potential violations?							
L3	Have best practices and opportunities for information/technology transfer to be applied across all Divisions been identified? If so, describe.							

		Airports		Harbors		Highways	
		Kahului	Honolulu	Honolulu	Kalaeloa	Maui District	Oahu District
		Airport	International	Harbor	Barbers Point		
Question	()IIASTION		Airport		Harbor		
Number							
Nulliber		Small MS4	Individual	Small MS4	Small MS4	Small MS4	Individual
		Permit	Permit	Permit	Permit	Permit	Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
L4	Can identified best practices be universally implemented across all three Divisions? Why or why not?						
L5	If best practices cannot be universally implemented, what are the identified impediments?						



B6: PEAR #6 – Staffing, Funding, Organizational Structure, Availability of Resources, and Storm Water Program Sustainability

		Airp	oorts	Har	bors	Highways	
Question Number	Question		Honolulu International Airport Individual	Honolulu Harbor Small MS4	Kalaeloa Barbers Point Harbor Small MS4	Maui District Small MS4	Oahu District Individual
		Permit	Permit	Permit	Permit	Permit	Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
Α	SWMP Planning Documents						
A1	Has a SWMP Plan been developed? If so, when? Last revised?						
A2	Is there a schedule for revision of the SWMP plan?						
A3	Is there an additional MS4-wide document, plan, or program? Who developed it?						
A4	How were internal and external stakeholders included in the development or revision of the SWMP plan?						
В	Staff Inventory and Organization						
B1	Does the permittee have a person designated to lead and coordinate the stormwater program and activities?						
B2	Does the SWMP planning document include an organization chart listing responsible parties for each SWMP component?						
С	Performance Standards or Goals						
C1	Has the permittee established measurable goals or performance standards for program components?						
C2	If performance standards have been established, are they measurable or are they essentially BMP recommendations with level of service (i.e., number of miles swept) requirements?						
C3	Does the permittee attempt to quantify or assess a program or a BMP's water quality impact or effectiveness as opposed to merely tracking level of service?						
D	Prioritization of Resources						
D1	Has the permittee identified specific pollutants of concern for its local water bodies?						
D2	Are these pollutants of concern consistent with priorities identified in the 303(d)-listed impairments for local water bodies?						
D3	Are these pollutants of concern consistent with any water quality monitoring data or studies conducted by the permittee or another agency?						
D4	Has the permittee developed strategies to specifically address those pollutants?						
D5	How does the permittee decide on program priorities? Are these reassessed periodically?						
D6	Does the SWMP include a schedule of activities?						
D7	Does the MS4 discharge to a water body on the state's list of impaired waters?						
D7a	What pollutants are identified on the list?						
D7b	Has stormwater been identified as a source?						
D7c	Does the SWMP specifically address this pollutant?						
D7d	Does the SWMP identify BMPs specifically for sources or discharges to the listed water body						
D8	Has a TMDL been developed for a water body to which the MS4 discharges and for which stormwater has been identified as a pollutant source?						
D8a	What pollutants are addressed in the TMDL?						
D8b	Does the TMDL specifically address (or include wasteload allocations for) stormwater?						
D8c	Has the corrective action plan or other planning to address TMDLs been reviewed for integration with the SWMP?						

		Airp	oorts	Har	bors	Highways	
Question Number	Question	Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
		Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
D8d	Does the permittee's stormwater program address the pollutants of concern identified in the TMDL?						
D9	Is the permittee participating in any watershed planning efforts?						
D10	Have any goals been developed based on watershed issues, strategies, or challenges?						
D11	Has the permittee established a set of indicators or parameters to assess progress toward meeting the goal(s) of the watershed plan?						
D12	Is the permittee's stormwater program implemented on a watershed basis?						
E	Assessment and Evaluation of Programs						
E1	Does the permittee regularly measure progress against the established performance standards and goals?						
E2	Are the goals quantifiable?						
E3	Is the permittee analyzing data in the annual report to identify program activities that may need to change to address problem areas?						
E4	Has the SWMP been altered based on this evaluation?						
F	Assessment and Evaluation of BMPs						
F1	Is the permittee able to track both structural BMPs and non-structural BMPs and activities?						
F2	Has the permittee set measurable goals or performance standards to evaluate individual BMPs and activities or suites of BMPs that address a particular pollutant source?						
F3	Is there a process to evaluate or revise individual BMPs and suites of BMPs when receiving water outcomes or endpoints are not being met?						
F4	Do assessments evaluate impacts of BMPs on ground water?						
F5	Is the permittee analyzing data in the annual report to identify individual BMPs or suites of BMPs that may need to change to address problem areas?						
G	Assessment and Evaluation of Water Quality						
G1	Has the permittee documented environmental, water quality, stream corridor, habitat, or other types of improvements?						
G2	Has the permittee estimated reductions in pollutant loadings from the MS4 or other quantifiable water quality benefits expected as the result of the municipal stormwater program?						
Н	Dry & Wet Weather Outfall Screening and Monitoring (If Applicable)						
H1	Does the permittee conduct dry or wet weather screening at outfalls to characterize stormwater flows from the MS4?						
H2	Does the permittee have written screening procedures?						
H3	What is the permittee's schedule for screening the sites?						
H4	Are parts of the permit area prioritized for screening based on incidents of illicit discharges, land use, dumping reports, etc.?						
H5	What parameters are being tested?						
H6	How does the permittee prioritize sites for follow-up (e.g., magnitude and nature of suspected discharge)?						

		Airports				Highways	
Question Number	Question		Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
		Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
H7	Who conducts the sampling? What kind of training have sampling personnel received?						
H8	What type of records are kept?						
H8a	Analytical results						
H8b	Date and duration (in hours) of the storm events sampled (rainfall data)						
H8c	Rainfall measurements or estimates (in inches) of the storm event which generated the sampled runoff (rainfall data)						
H8d	Duration (in hours) of the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event (rainfall data)						
H8e	Estimate of the total flow of the discharge sampled (stage and velocity)						
H9	What analytical methods are used (i.e., 40 CFR Part 136)?						
H10	What are the results of the initial sampling and analysis?						
H11	Has the permittee made any changes to the monitoring program based on past results and experience?						
H12	How have monitoring results been used to assess program components?						
H13	Are monitoring data used to estimate pollutant loads for a TMDL?						
I	Biological Monitoring (If Applicable)						
I1	Does the permittee perform biological sampling?						
12	Has a plan been developed to conduct biological sampling? If so, does the plan include the following:						
l2a	Identification of sampling stations and rationale for selection						
l2b	Location of known major MS4 outfalls discharging to water bodies in which sampling stations were chosen						
I2c	Land use activities near sampling stations						
I2d	Frequency of monitoring						
13	Who conducts biological sampling and what training have they received?						
14	Has the permittee made any changes to the monitoring program based on past results and experience?						
15	How have monitoring results been used to assess program components?						
J	Ambient Monitoring (If Applicable)						
J1	Does the permittee conduct ambient monitoring to characterize water quality conditions in receiving waters?						
J2	How were the sampling sites selected?						
J3	Is sampling conducted both during dry weather and wet weather?						
J4	What is the frequency of sampling?						
J5	What parameters are analyzed? What sampling and analytical methods have been used?						
J6	Does the permittee have a written protocol or procedures for this sampling program?						
J7	Who conducts the sampling and what training have they received?						
J8	Has the permittee made any changes to the monitoring program based on past results and experience?						

			Airports		bors	Highways	
Question Number	Question	Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
	Question	Small MS4 Permit HI 14KE349	Individual Permit HI S000005	Small MS4 Permit HI 03KB482	Small MS4 Permit HI 03KB488	Small MS4 Permit HI 14KE352	Individual Permit HI S000001
J9	How have monitoring results been used to assess program components?	III ITINESTS	111 0000003	111 03110402	111 03110400	III ITIKESSE	111 0000001
J10	Are monitoring data used to estimate pollutant loads for a TMDL?						
K	Data Collection and Reporting						
K1	What reporting requirements are included in the MS4 NPDES permit?						
K2	For co-permittees or Phase II permittees that rely on other entities to implement required elements of						
	the program, how are data provided or reported?						
K3	How are the required data collected, tracked, and reported?						
K3a	Is there a database?						
K3b	Are there reporting forms?						
K4	Are there internal reporting deadlines within the municipal program structure?						
K5	Are the appropriate data being collected by the permittee to be able to measure effectiveness and determine if performance standards are being met?						
K6	How are data disseminated to those who use them, if at all?						
L	Consent Decree Questions						
L1a	Have activities been identified that may be outmoded, ineffective, insufficient, or excessively burdensome?						
L1b	What are recommendations to modify, streamline, or expand such activities in accordance with what has been learned?						
L2a	Have deficiencies or potential violations been identified?						
L2b	What are recommendations for correcting these deficiencies or potential violations?						
L3	Have best practices and opportunities for information/technology transfer to be applied across all Divisions been identified? If so, describe.						
L4	Can identified best practices be universally implemented across all three Divisions? Why or why not?						
L5	If best practices cannot be universally implemented, what are the identified impediments?						

Appendix C

PEAR 1 through 6 Schedule



C1: PEAR #1 – Schedule for Post-Construction / Permanent Best Management Practices

1. Notice of Audit

- Within 7 Days of AWPC
- Within 7 Days of Last Milestone
- By Wednesday 22 March 2017

2. Records Request

- Within 14 Days of AWPC
- Within 7 Days of Last Milestone
- By Wednesday 29 March 2017

3. Fulfillment of Records Request

- Within 43 Days of AWPC
- Within 29 Days of Last Milestone
- By Thursday 27 April 2017

4. Records Review Complete

- Within 57 Days of AWPC
- Within 14 Days of Last Milestone
- By Thursday 11 May 2017

5. Pre-Onsite Evaluation Conference Call

- Within 64 Days of AWPC
- Within 7 Days of Last Milestone
- By Thursday 18 May 2017

6. Completion of Onsite Evaluation

- Within 82 Days of AWPC
- Within 18 Days of Last Milestone
- By Monday 5 June 2017

The table below provides a preliminary schedule for the onsite evaluation week.

Airports		Harl	oors	Highways			
Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District		
Small MS4	Individual Permit	Small MS4	Small MS4	Small MS4	Individual		
Permit		Permit	Permit	Permit	Permit		
HI 4KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001		
76 Days	77 Days	79 Days	82 Days	76 Days	78 Days		
After AWPC	After AWPC	After AWPC	After AWPC	After AWPC	After AWPC		
Tuesday	Wednesday	Friday	Monday	Tuesday	Thursday		
30 May 2017	31 May 2017	2 June 2017	5 June 2017	30 May 2017	1 June 2017		
8am – 9am	8am – 9am	8am – 9am	8am – 9am	1pm – 2pm	8am – 9am		
Kickoff Meeting	Kickoff Meeting	Kickoff Meeting	Kickoff Meeting	Kickoff Meeting	Kickoff Meeting		
[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]		
9am – 11am	9am – 11am	9am – 11am	9am – 11am	2pm – 4pm	9am – 11am		
Onsite	Onsite	Onsite	Onsite	Onsite	Onsite		
Evaluation	Evaluation	Evaluation	Evaluation	Evaluation	Evaluation		
[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]		
BMP 1: OGG CONRAC, location tentative	BMP 1: Pervious pavement and bioswale systems, NDWP New Employee Parking Lots at Elliott St.	BMP 1: Alaska Marine Lines, Pier 29	BMP 1: GLP Asphalt Facility	[BMPs will be inspected only if they are installed by this time]	BMP 1: University Ave. Bioswales, In median of H-1 ramps to University Ave. on makai side of freeway		
BMP 2: Wash rack, location tentative	BMP 2: Contech CDS 2025 System and FloGuard drop inlet filtration insert, NDWP Diamondhead Site Improvements, GSE Lot fronting Hardstand 3	BMP 2: Matson Auto Facility, Pier 32	[Additional BMPs will be inspected only if they are installed by this time]		BMP 2: Fort Weaver Rd. CDS Units, Fort Weaver Rd., Ewa		
[An additional BMP will be inspected only if one is installed by this time]	BMP 3: Bioswale system, Kalewa St Storage Lots 1-6, Corner of Lagoon and Kalewa St.	BMP 3: HC&D Facility, Pier 60			BMP 3: Luluku Storm Water Treatment System, H-3/Likelike interchange, Kaneohe		
11am – 12pm	11am – 12pm	11am – 12pm	11am – 12pm	4pm – 5pm	11am – 12pm		
Debrief	Debrief	Debrief	Debrief	Debrief	Debrief		
Meeting	Meeting	Meeting	Meeting	Meeting	Meeting		
[See Note (c)]	[See Note (c)]	[See Note (c)]	[See Note (c)]	[See Note (c)]	[See Note (c)]		

Notes:

- (a) MS4 Permit Coordinators will have the opportunity to present information on their program during the Kickoff Meeting. At least a half hour should be available for MS4 Permit Coordinators (or their designees) to present.
- (b) The Audit Team will then verify that up to three (3) structural and source control BMPs approved by each permittee and subject to post-construction requirements were installed and are being maintained properly in the field. Approved plans and inspection records for each BMP will have been reviewed ahead of the onsite evaluation (during the records review period). The BMPs identified in this Appendix are preliminary and are subject to modification.
- (c) The Debrief Meeting will be limited to discussing any findings that need clarification and any required communication moving forward.

7. End of Post-Onsite Evaluation Review Period

- Within 90 Days of AWPC
- Consent Decree Deadline: Within 90 Days of AWPC
- Within 8 Days of Last Milestone
- By Tuesday 13 June 2017

8. Completion of Draft PEAR & Distribution to MS4 Permit Coordinators

- Within 135 Days of AWPC
- Consent Decree Deadline: Within 135 Days of AWPC
- Within 45 Days of Last Milestone
- By Friday 28 July 2017

Written Request for Clarification and Corrections MS4 Permit Coordinators to HDOT PM

- Within 162 Days of AWPC
- Within 27 Days of Last Milestone
- By Thursday 24 August 2017

10. Written Request for Clarification and Corrections HDOT PM to Audit PM

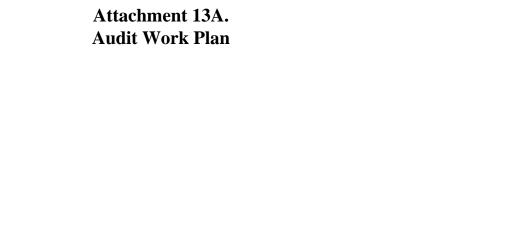
- Within 163 Days of AWPC¹
- Consent Decree Deadline: Within 165 Days of AWPC
- Within 1 Days of Last Milestone
- By Friday 25 August 2017

11. Completion of Final PEAR

- Within 183 Days of AWPC²
- Consent Decree Deadline: 210 Days of AWPC
- Within 20 Days of Last Milestone
- By Thursday 14 September 2017

¹ This deadline is 2 days ahead of the CD Deadline as the CD Deadline falls on a Sunday.

² The main Audit Work Plan Section 5.3.3 provides an explanation of why this document is submitted ahead of the CD deadline.



C2: PEAR #2 - Schedule for Construction Site Runoff Control

1. Notice of Audit

- Within 190 Days of AWPC
- Within 7 Days of Last Milestone
- By Thursday 21 September 2017

2. Records Request

- Within 197 Days of AWPC
- Within 7 Days of Last Milestone
- By Thursday 28 September 2017

3. Fulfillment of Records Request

- Within 226 Days of AWPC
- Within 29 Days of Last Milestone
- By Friday 27 October 2017

4. Records Review Complete

- Within 239 Days of AWPC
- Within 13 Days of Last Milestone
- By Thursday 9 November 2017

5. Pre-Onsite Evaluation Conference Call

- Within 246 Days of AWPC
- Within 7 Days of Last Milestone
- By Thursday 16 November 2017

6. Completion of Onsite Evaluation

- Within 261 Days of AWPC
- Within 15 Days of Last Milestone
- By Friday 1 December 2017

The table below provides a preliminary schedule for the onsite evaluation week.

Airports		Har	bors	Highways			
Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District		
Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit		
HI 4KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001		
257 Days After AWPC	258 Days After AWPC	260 Days After AWPC	261 Days After AWPC	257 Days After AWPC	259 Days After AWPC		
Monday 27 November 2017	Tuesday 28 November 2017	Thursday 30 November 2017	Friday 1 December 2017	Monday 27 November 2017	Wednesday 29 November 2017		
8am – 9am Kickoff Meeting [See Note (a)]	8am – 9am Kickoff Meeting [See Note (a)]	8am – 9am Kickoff Meeting [See Note (a)]	8am – 9am Kickoff Meeting [See Note (a)]	1pm – 2pm Kickoff Meeting [See Note (a)]	8am – 9am Kickoff Meeting [See Note (a)]		
9am – 11am Onsite Evaluation [See Note (b)]	9am – 11am Onsite Evaluation [See Note (b)]	9am – 11am Onsite Evaluation [See Note (b)]	9am – 11am Onsite Evaluation [See Note (b)]	2pm – 4pm Onsite Evaluation [See Note (b)]	9am – 11am Onsite Evaluation [See Note (b)]		
Construction Site #1: OGG Consolidated Rent A Car Facility, Kahului Airport, Near Hemaloa St and Keolani Pl.	Construction Site #1: HNL Consolidated Rent A Car Facility, Rent-A-Car Lots, Corner of Aolele, Rodgers, Paiea St.	Construction Site #1: New Kapalama Container Yard, Kapalama, Honolulu Harbor	[Unable to forecast construction projects; will be re-contacted by Kennedy/Jenks Consultants closer to the date]	Construction Site #1: Kuihelani Highway Resurfacing	[Unable to forecast construction projects; will be re- contacted by Kennedy/Jenks Consultants closer to the date]		
Construction Site #2: OGG Vehicle Washrack Installation, AOA side, Near Cargo Building and Triturator	Construction Site #2: HNL NDWP IIT Mauka Extension, Mauka Interisland Terminal, Existing Commuter Air Terminal	Construction Site #2: Piers 24-29 Utilities		[An additional construction site will be inspected only if one is active at this time]			
11am – 12pm Debrief Meeting [See Note (c)]	11am – 12pm Debrief Meeting [See Note (c)]	11am – 12pm Debrief Meeting [See Note (c)]	11am – 12pm Debrief Meeting [See Note (c)]	4pm – 5pm Debrief Meeting [See Note (c)]	11am – 12pm Debrief Meeting [See Note (c)]		

Notes:

- (a) MS4 Permit Coordinators will have the opportunity to present information on their program during the Kickoff Meeting. At least a half hour should be available for MS4 Permit Coordinators (or their designees) to present.
- (b) The Audit Team will then accompany construction inspectors as they conduct up to two (2) inspections. The purpose of the field evaluation is to assess the permittee's construction inspection program—how knowledgeable the inspectors are about stormwater requirements and BMPs, how thorough of an inspection they conduct, and how they handle problems identified at construction sites. The construction sites identified in this Appendix are preliminary and are subject to modification.
- (c) The Debrief Meeting will be limited to discussing any findings that need clarification and any required communication moving forward.

7. End of Post-Onsite Evaluation Review Period

- Within 268 Days of AWPC¹
- Consent Decree Deadline: Within 270 Days of AWPC
- Within 7 Days of Last Milestone
- By Friday 8 December 2017

8. Completion of Draft PEAR & Distribution to MS4 Permit Coordinators

- Within 313 Days of AWPC²
- Consent Decree Deadline: Within 315 Days of AWPC
- Within 45 Days of Last Milestone
- By Monday 22 January 2018

9. Written Request for Clarification and Corrections MS4 Permit Coordinators to HDOT PM

- Within 338 Days of AWPC
- Within 25 Days of Last Milestone
- By Friday 16 February 2018

10. Written Request for Clarification and Corrections HDOT PM to Audit PM

- Within 342 Days of AWPC²
- Consent Decree Deadline: Within 345 Days of AWPC
- Within 4 Days of Last Milestone
- By Tuesday 20 February 2018

11. Completion of Final PEAR

- Within 362 Days of AWPC³
- Consent Decree Deadline: 390 Days of AWPC
- Within 20 Days of Last Milestone
- By Monday 12 March 2018

¹ This deadline is 2 days ahead of the CD Deadline as the CD Deadline falls on a Sunday.

² The deadline is ahead of the CD Deadline due to the required shift in the #7 deadline.

³ The main Audit Work Plan Section 5.3.3 provides an explanation of why this document is submitted ahead of the CD deadline.



C3: PEAR #3 – Schedule for Public Outreach / Public Involvement

1. Notice of Audit

- Within 369 Days of AWPC
- Within 7 Days of Last Milestone
- By Monday 19 March 2018

2. Records Request

- Within 377 Days of AWPC
- Within 8 Days of Last Milestone
- By Tuesday 27 March 2018

3. Fulfillment of Records Request

- Within 420 Days of AWPC
- Within 43 Days of Last Milestone
- By Wednesday 9 May 2018

4. Records Review Complete

- Within 450 Days of AWPC
- Consent Decree Deadline: Within 450 Days of AWPC
- Within 30 Days of Last Milestone
- By Friday 8 June 2018

For this Program Element, the end of the records review period represents the completion of evaluation. No onsite evaluation will occur for this program element. It is expected that several conference calls between the Audit Team, HDOT PM, and MS4 Permit Coordinators may be conducted during the records review period. If requested by the Audit Team or MS4 Permit Coordinator, an in-person meeting may be scheduled during this period.

Ai	rports	Har	bors	Hig	hways
Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
HI 4KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
Between	Between 19 March	Between	Between	Between	Between 19 March
19 March	2018 and 8 June	19 March 2018	19 March 2018	19 March 2018	2018 and 8 June
2018 and	2018, conference	and 8 June	and 8 June	and 8 June	2018, conference
8 June 2018,	calls and in-person	2018,	2018,	2018,	calls and in-person
conference	meetings will be	conference	conference calls	conference	meetings will be
calls and in-	scheduled as	calls and in-	and in-person	calls and in-	scheduled as
person	needed.	person	meetings will be	person	needed.
meetings will		meetings will	scheduled as	meetings will be	
be scheduled		be scheduled	needed.	scheduled as	
as needed.		as needed.		needed.	

5. – 7. Not Applicable (See #4)

8. Completion of Draft PEAR & Distribution to MS4 Permit Coordinators

- Within 495 Days of AWPC
- Consent Decree Deadline: Within 495 Days of AWPC
- Within 45 Days of Last Milestone
- By Monday 23 July 2018

9. Written Request for Clarification and Corrections MS4 Permit Coordinators to HDOT PM

- Within 523 Days of AWPC
- Within 28 Days of Last Milestone
- By Monday 20 August 2018

10. Written Request for Clarification and Corrections HDOT PM to Audit PM

- Within 525 Days of AWPC
- Consent Decree Deadline: Within 525 Days of AWPC
- Within 2 Days of Last Milestone
- By Wednesday 22 August 2018

11. Completion of Final PEAR

Within 545 Days of AWPC¹

• Consent Decree Deadline: 570 Days of AWPC

• Within 20 Days of Last Milestone

• By Tuesday 11 September 2018

¹ The main Audit Work Plan Section 5.3.3 provides an explanation of why this document is submitted ahead of the CD deadline.



C4: PEAR #4 – Schedule for Illicit Discharge Detection and Elimination (IDDE) Program Element and Industrial Commercial Activities/Tenant (I/C) Program

1. Notice of Audit

- Within 552 Days of AWPC
- Within 7 Days of Last Milestone
- By Tuesday 18 September 2018

2. Records Request

- Within 559 Days of AWPC
- Within 7 Days of Last Milestone
- By Tuesday 25 September 2018

3. Fulfillment of Records Request

- Within 583 Days of AWPC
- Within 24 Days of Last Milestone
- By Friday 19 October 2018

4. Records Review Complete

- Within 597 Days of AWPC
- Within 14 Days of Last Milestone
- By Friday 2 November 2018

5. Pre-Onsite Evaluation Conference Call

- Within 604 Days of AWPC
- Within 7 Days of Last Milestone
- By Friday 9 November 2018

6. Completion of Onsite Evaluation

- Within 623 Days of AWPC
- Within 19 Days of Last Milestone
- By Wednesday 28 November 2018

The table below provides a preliminary schedule for the onsite evaluation period.

Ai	rports	На	rbors	Н	ighways
Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
Small MS4 Permit HI 4KE349	Individual Permit	Small MS4 Permit HI 03KB482	Small MS4 Permit	Small MS4 Permit	Individual Permit
	HI S000005			HI 14KE352	HI S000001
614 Days	616 Days	621 Days	622 Days	615 Days	623 Days
After AWPC	After AWPC	After AWPC	After AWPC	After AWPC	After AWPC
Monday	Wednesday	Monday	Tuesday	Tuesday	Wednesday
19 November	21 November	26 November	27 November	20 November	28 November
2018	2018	2018	2018	2018	2018
8am – 9am	8am – 9am	8am – 9am	8am – 9am	8am – 9am	8am – 9am
IDDE Kickoff	IDDE Kickoff	IDDE Kickoff	IDDE Kickoff	IDDE Kickoff	IDDE Kickoff
Meeting	Meeting	Meeting	Meeting	Meeting	Meeting
[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]
9am – 11am	9am – 11am	9am – 11am	9am – 11am	9am – 11am	9am – 11am
IDDE Onsite	IDDE Onsite	IDDE Onsite	IDDE Onsite	IDDE Onsite	IDDE Onsite
Evaluation	Evaluation	Evaluation	Evaluation	Evaluation	Evaluation
[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]
Outfall #1: Near baseyard, Keolani Place	Outfall #1: Near Iolana Place, Off Lagoon Drive	Outfall #1: SDDH035050, Pier 38	Outfall #1: SDDBP043660, Pier P-4	Outfall #1: Outlet No. 1	Outfall #1: PID 304162 Jarrett White Rd., north of Mahiole St.,
Outfall #2: Sampling #G, Basin G	Outfall #2: Aolewa Place, Near Access A	Outfall #2: SDDH0517960, Pier 51	[Outfall #1 is the only accessible outfall at this harbor, due to safety concerns]	Outfall #2: DP3	Outfall #2: PID 301831, Kaahele St., north of Moanalua Rd.
11am – 12pm	11am – 12pm	11am – 12pm	11am – 12pm	11am – 12pm	11am – 12pm
IDDE Debrief	IDDE Debrief	IDDE Debrief	IDDE Debrief	IDDE Debrief	IDDE Debrief
Meeting	Meeting	Meeting	Meeting	Meeting	Meeting
[See Note (d)]	[See Note (d)]	[See Note (d)]	[See Note (d)]	[See Note (d)]	[See Note (d)]
12pm – 1pm	12pm – 1pm	12pm – 1pm	12pm – 1pm	12pm – 1pm	12pm – 1pm
LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1pm – 2pm	1pm – 2pm	1pm – 2pm	1pm – 2pm	[I/C Program not	1pm – 2pm
I/C Kickoff	I/C Kickoff	I/C Kickoff	I/C Kickoff	evaluated, as	I/C Kickoff
Meeting	Meeting	Meeting	Meeting	Maui Highways	Meeting
[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	does not have an	[See Note (a)]
2pm – 4pm	2pm – 4pm	2pm – 4pm	2pm – 4pm	I/C Program]	2pm – 4pm
I/C Onsite	I/C Onsite	I/C Onsite	I/C Onsite		I/C Onsite
Evaluation	Evaluation	Evaluation	Evaluation		Evaluation
[See Note (c)]	[See Note (c)]	[See Note (c)]	[See Note (c)]		[See Note (c)]
I/C Facility #1: UPS, 9682 Hemaloa Pl.	I/C Facility #1: UPS, 128 Mokuea Pl.	I/C Facility #1: Young Brothers Maintenance Facility, Pier 39	I/C Facility #1: Marisco		I/C Facility #1: First Hawaiian Bank, 94-205 Leoku St., Waipahu, HI
I/C Facility #2: ASIC-HFFC, 761 Kaonawai PI.	I/C Facility #2: United Airlines, 110 Lauhoe PI.	I/C Facility #2: Matson Maintenance Facility, Piers 52-53	I/C Facility #2: Grace Pacific		I/C Facility #2: CM Recycling, 204 Sand Island Access Rd., Honolulu, HI
4pm – 5pm	4pm – 5pm	4pm – 5pm	4pm – 5pm		4pm – 5pm
I/C Debrief	I/C Debrief	I/C Debrief	I/C Debrief		I/C Debrief
Meeting	Meeting	Meeting	Meeting		Meeting
[See Note (d)]	[See Note (d)]	[See Note (d)]	[See Note (d)]		[See Note (d)]

Notes:

- (a) MS4 Permit Coordinators will have the opportunity to present information on their program during the Kickoff Meetings. At least a half hour should be available for MS4 Permit Coordinators (or their designees) to present.
- (b) Illicit Discharge Detection and Elimination (IDDE) Program: The Audit Team will accompany inspectors in the field as they conduct up to two (2) dry-weather outfall screenings. The outfalls identified in this Appendix are preliminary and are subject to modification.
- (c) Industrial/Commercial (I/C) Program: The Audit Team will accompany inspectors in the field as they inspect up to two (2) industrial/commercial facilities. The facilities identified in this Appendix are preliminary and are subject to modification.
- (d) The Debrief Meeting will be limited to discussing any findings that need clarification and any required communication moving forward.

7. End of Post-Onsite Evaluation Review Period

- Within 630 Days of AWPC
- Consent Decree Deadline: Within 630 Days of AWPC
- Within 7 Days of Last Milestone
- By Wednesday 5 December 2018

8. Completion of Draft PEAR & Distribution to MS4 Permit Coordinators

- Within 674 Days of AWPC¹
- Consent Decree Deadline: Within 675 Days of AWPC
- Within 44 Days of Last Milestone
- By Friday 18 January 2019

9. Written Request for Clarification and Corrections MS4 Permit Coordinators to HDOT PM

- Within 700 Days of AWPC
- Within 26 Days of Last Milestone
- By Wednesday 13 February 2019

10. Written Request for Clarification and Corrections HDOT PM to Audit PM

- Within 702 Days of AWPC²
- Consent Decree Deadline: Within 705 Days of AWPC
- Within 2 Days of Last Milestone
- By Friday 15 February 2019

11. Completion of Final PEAR

- Within 723 Days of AWPC³
- Consent Decree Deadline: 750 Days of AWPC
- Within 21 Days of Last Milestone
- Bv Fridav 8 March 2019

¹ This deadline is 1 day ahead of the CD Deadline as the CD Deadline falls on a Saturday.

² The deadline is ahead of the CD Deadline due to the required shift in the #8 deadline.

³ The main Audit Work Plan Section 5.3.3 provides an explanation of why this document is submitted ahead of the CD deadline.



C5: PEAR #5 – Schedule for Pollution Prevention / Good Housekeeping Program

1. Notice of Audit

- Within 730 Days of AWPC
- Within 7 Days of Last Milestone
- By Friday 15 March 2019

2. Records Request

- Within 737 Days of AWPC
- Within 7 Days of Last Milestone
- By Friday 22 March 2019

3. Fulfillment of Records Request

- Within 762 Days of AWPC
- Within 25 Days of Last Milestone
- By Tuesday 16 April 2019

4. Records Review Complete

- Within 776 Days of AWPC
- Within 14 Days of Last Milestone
- By Tuesday 30 April 2019

5. Pre-Onsite Evaluation Conference Call

- Within 783 Days of AWPC
- Within 7 Days of Last Milestone
- By Tuesday 7 May 2019

6. Completion of Onsite Evaluation

- Within 800 Days of AWPC
- Within 17 Days of Last Milestone
- By Friday 24 May 2019

The table below provides a preliminary schedule for the onsite evaluation week.

Ai	irports	Har	bors	Highways		
Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District	
Small MS4	Individual Permit	Small MS4	Small MS4	Small MS4	Individual	
Permit		Permit	Permit	Permit	Permit	
HI 4KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001	
796 Days	797 Days	799 Days	800 Days	796 Days	798 Days	
After AWPC	After AWPC	After AWPC	After AWPC	After AWPC	After AWPC	
Monday	Tuesday	Thursday	Friday	Monday	Wednesday	
20 May	21 May	23 May	24 May	20 May	22 May	
2019	2019	2019	2019	2019	2019	
8am – 9am	8am – 9am	8am – 9am	8am – 9am	1pm – 2pm	8am – 9am	
Kickoff	Kickoff	Kickoff	Kickoff	Kickoff	Kickoff	
Meeting	Meeting	Meeting	Meeting	Meeting	Meeting	
[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	
9am – 11am	9am – 11am	9am – 11am	9am – 11am	2pm – 4pm	9am – 11am	
Onsite	Onsite	Onsite	Onsite	Onsite	Onsite	
Evaluation	Evaluation	Evaluation	Evaluation	Evaluation	Evaluation	
[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]	
Facility #1: OGG Baseyard, Keolani Pl.	Facility #1: HNL Baseyard, 2919 Aolele St.	Facility #1: Sand Island Baseyard, 48 Sand Island Access Road	Facility #1: Kalaeloa Storage Facility	Facility #1: HWY- M Kahului Baseyard, 650 Palapapa Dr.	Facility #1: Kakoi Baseyard, 727 Kakoi St.	
Facility #2: ARFF Station, Onsite	Facility #2: Crash Fire Station 2, off Lagoon Drive	[DOT-HAR only operates one maintenance facility at Honolulu Harbor]	[DOT-HAR only operates one maintenance facility at Kalaeloa Harbor]	Facility #2: HAR- M Kahului Harbor, 103 Ala Luina St.	Facility #2: Windward Baseyard, 45-889 Pookela St.	
11am – 12pm	11am – 12pm	11am – 12pm	11am – 12pm	4pm – 5pm	11am – 12pm	
Debrief	Debrief	Debrief	Debrief	Debrief	Debrief	
Meeting	Meeting	Meeting	Meeting	Meeting	Meeting	
[See Note (c)]	[See Note (c)]	[See Note (c)]	[See Note (c)]	[See Note (c)]	[See Note (c)]	

Notes:

- (a) MS4 Permit Coordinators will have the opportunity to present information on their program during the Kickoff Meeting. At least a half hour should be available for MS4 Permit Coordinators (or their designees) to present.
- (b) After the Kickoff Meeting, the Audit Team will conduct a walk-through of up to two (2) permittee owned or operated facilities (maintenance yards, chemical storage facilities, etc.) with a facility supervisor and/or other key staff to verify that activities are performed as described in the SWMPP. The facilities identified in this Appendix are preliminary and are subject to modification.
- (c) The Debrief Meeting will be limited to discussing any findings that need clarification and any required communication moving forward.

7. End of Post-Onsite Evaluation Review Period

- Within 810 Days of AWPC
- Consent Decree Deadline: Within 810 Days of AWPC
- Within 10 Days of Last Milestone
- By Tuesday 3 June 2019

8. Completion of Draft PEAR & Distribution to MS4 Permit Coordinators

- Within 855 Days of AWPC
- Consent Decree Deadline: Within 855 Days of AWPC
- Within 45 Days of Last Milestone
- By Thursday 18 July 2019

9. Written Request for Clarification and Corrections MS4 Permit Coordinators to HDOT PM

- Within 882 Days of AWPC
- Within 27 Days of Last Milestone
- By Wednesday 14 August 2019

10. Written Request for Clarification and Corrections HDOT PM to Audit PM

- Within 884 Days of AWPC¹
- Consent Decree Deadline: Within 885 Days of AWPC
- Within 2 Day of Last Milestone
- By Friday 16 August 2019

11. Completion of Final PEAR

- Within 905 Days of AWPC²
- Consent Decree Deadline: 930 Days of AWPC
- Within 21 Days of Last Milestone
- By Friday 6 September 2019

¹ This deadline is 1 day ahead of the CD Deadline as the CD Deadline falls on a Saturday.

² The main Audit Work Plan Section 5.3.3 provides an explanation of why this document is submitted ahead of the CD deadline.



C6: PEAR #6 – Schedule for Staffing, Funding, Organizational Structure, Availability of Resources, and Storm Water Program Sustainability

1. Notice of Audit

- Within 912 Days of AWPC
- Within 7 Days of Last Milestone
- By Friday 13 September 2019

2. Records Request

- Within 919 Days of AWPC
- Within 7 Days of Last Milestone
- By Friday 20 September 2019

3. Fulfillment of Records Request

- Within 961 Days of AWPC
- Within 42 Days of Last Milestone
- By Friday 1 November 2019

4. Records Review Complete

- Within 989 Days of AWPC¹
- Consent Decree Deadline: Within 990 Days of AWPC
- Within 28 Days of Last Milestone
- By Friday 29 November 2019

For this Program Element, the end of the records review period represents the completion of evaluation. No onsite evaluation will occur for this program element. It is expected that several conference calls between the Audit Team, HDOT PM, and MS4 Permit Coordinators will be conducted during the records review period. If requested by the Audit Team or MS4 Permit Coordinator, an in-person meeting may be scheduled during this period.

Ai	rports	Har	bors	Highways		
Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District	
Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit	
HI 4KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001	
Between	Between	Between	Between	Between	Between	
13 September	13 September	13 September	13 September	13 September	13 September 2019	
2019 and	2019 and	2019 and	2019 and	2019 and	and 29 November	
29 November	29 November	29 November	29 November	29 November	2019, conference	
2019.	2019, conference	2019.	2019.	2019.	calls and in-person	
conference	calls and in-person	conference	conference calls	conference	meetings will be	
calls and in-	meetings will be	calls and in-	and in-person	calls and in-	scheduled as	
person	scheduled as	person	meetings will be	person	needed.	
meetings will	needed.	meetings will	scheduled as	meetings will be		
be scheduled		be scheduled	needed.	scheduled as		
as needed.		as needed.		needed.		

5. – 7. Not Applicable (See #4)

¹ This deadline is 1 day ahead of the CD Deadline as the CD Deadline falls on a Saturday.

8. Completion of Draft PEAR & Distribution to MS4 Permit Coordinators

- Within 1034 Days of AWPC²
- Consent Decree Deadline: Within 1035 Days of AWPC
- Within 45 Days of Last Milestone
- By Monday 13 January 2020

9. Written Request for Clarification and Corrections **MS4 Permit Coordinators to HDOT PM**

- Within 1058 Days of AWPC
- Within 24 Days of Last Milestone
- By Thursday 6 February 2019

10. Written Request for Clarification and Corrections **HDOT PM to Audit PM**

- Within 1064 Days of AWPC²
- Consent Decree Deadline: Within 1065 Days of AWPC
- Within 6 Days of Last Milestone
- By Wednesday 12 February 2020

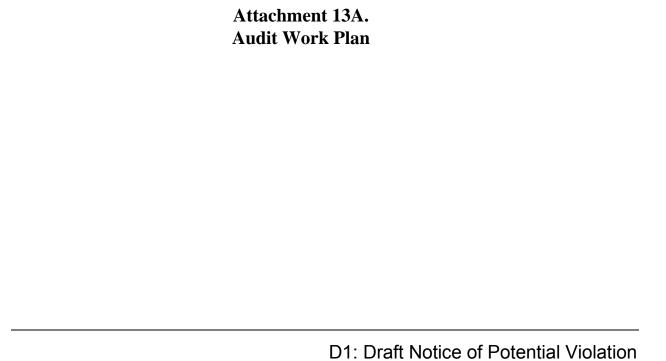
11. Completion of Final PEAR

- Within 1108 Days of AWPC³
- Consent Decree Deadline: 1110 Days of AWPC
- Within 44 Days of Last Milestone
- By Friday 27 March 2020

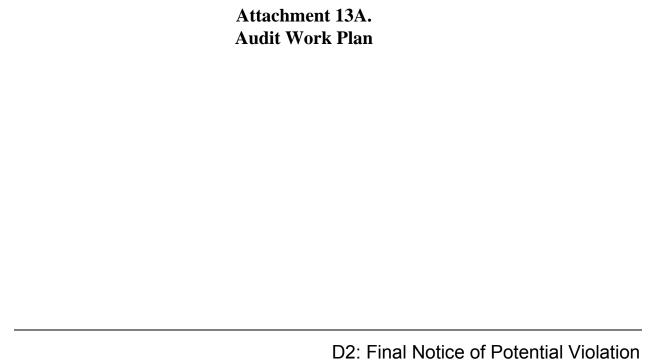
² The deadline is ahead of the CD Deadline due to the required shift in the #4 deadline.
³ This deadline is 2 days ahead of the CD Deadline as the CD Deadline falls on a Sunday.

Appendix D

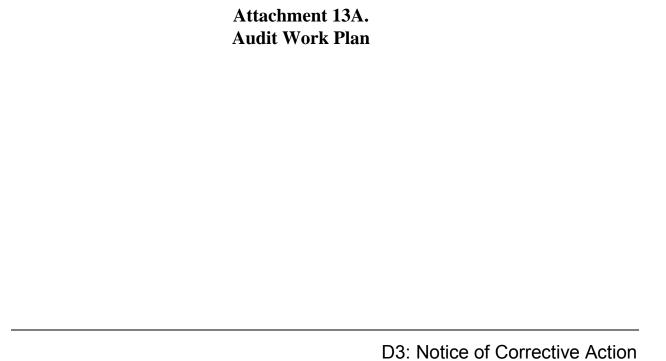
Notices to EPA & DOH



Potential Violation Tracking #:									
Determination of Potential Violation Date:									
Potential Violation Notification Date: Today's Date)									
The Audit Team must submit this notice within 2 business days of determining that a potential violation has occurred.									
Potential Violation Narrative Description:									
Description of Attached Photographs (if applicable):									
Applicable Regulatory References									
NPDES Permit No.:									
SWMPP:									
Hawaii Administrative Rules (HAR):									
Code of Federal Regulations (CFR):									



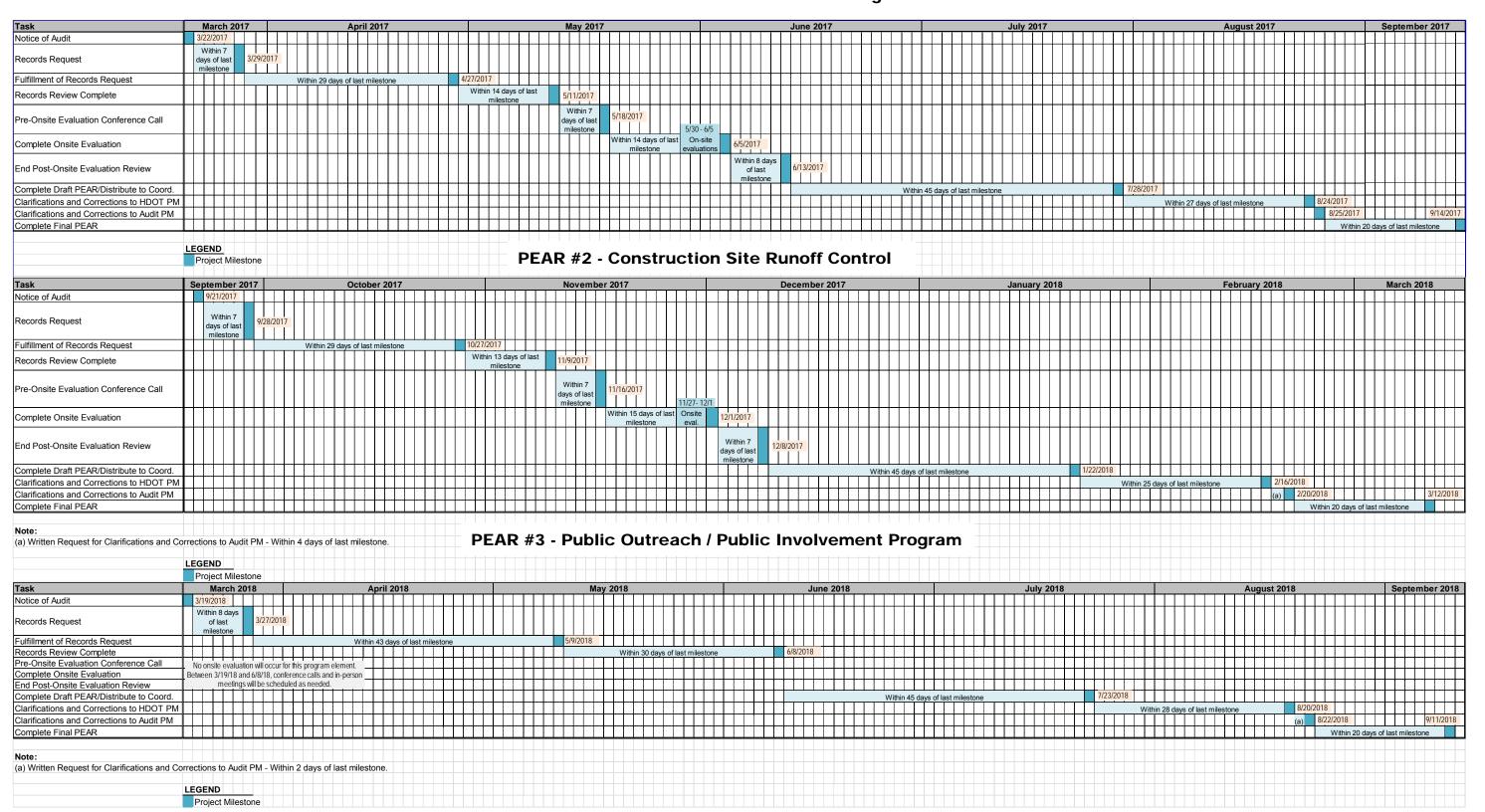
Potential Violation Tracking #:									
Determination of Potential Violation Date:									
Potential Violation Notification Date: Today's Date)									
The Audit Team must submit this notice within 2 business days of determining that a potential violation has occurred.									
Potential Violation Narrative Description:									
Description of Attached Photographs (if applicable):									
Applicable Regulatory References									
NPDES Permit No.:									
SWMPP:									
Hawaii Administrative Rules (HAR):									
Code of Federal Regulations (CFR):									
G , , ,									
Result of HDOT PM Review:									
□ Confirmed Potential Violation ○ Email Notice of Corrective Action sent to EPA/DOH on: (Due Within 14 Calendar Days of Potential Violation Notification Date)									
☐ Re-categorized as Deficiency									
Email Notice sent to EPA/DOH on:									



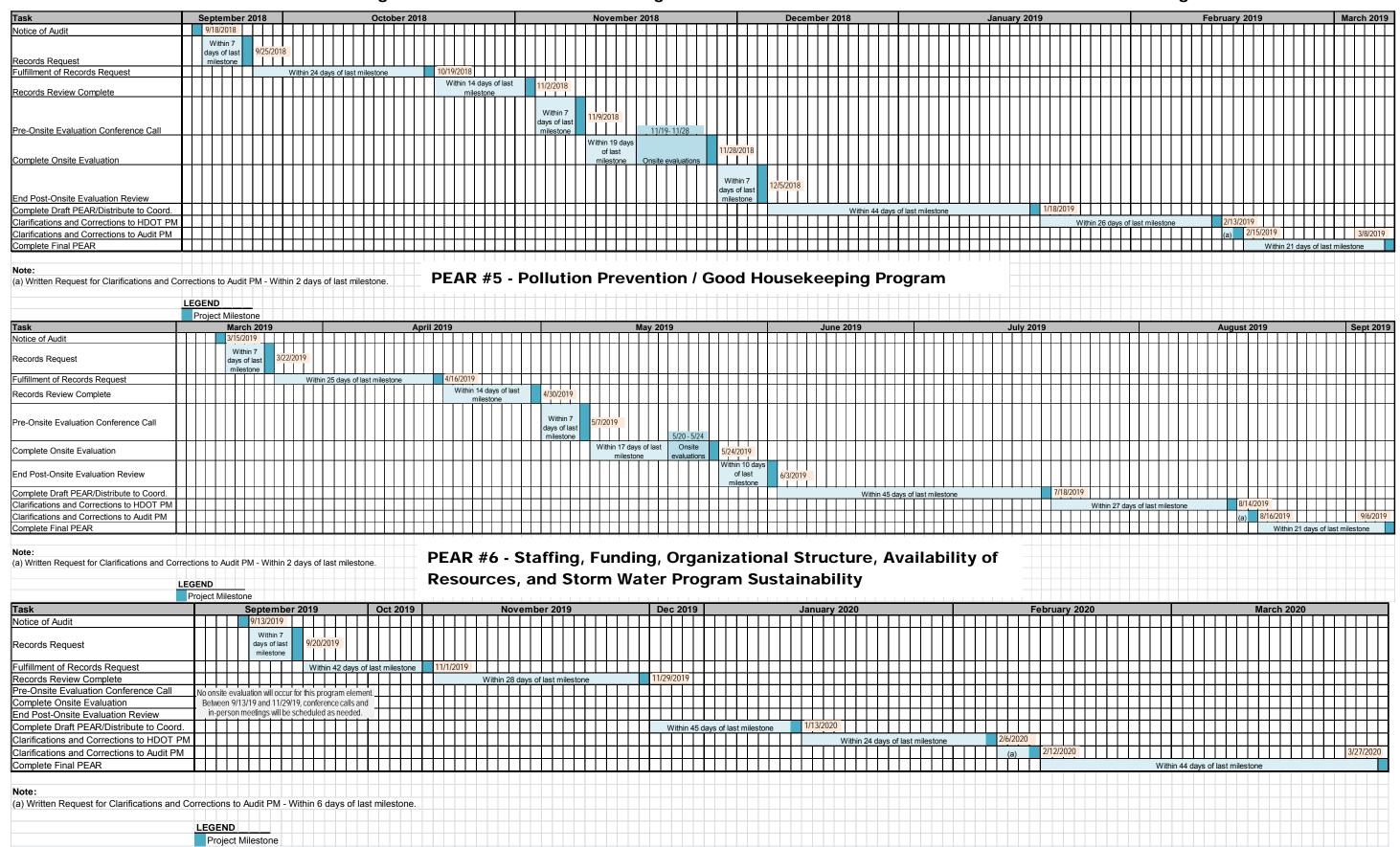
Correc	ctive Action in Response to:	
	Potential Violation (complete	e Section A & C)
	Deficiency (complete Section	n B & C)
SECTI	ION A – Corrective Action in	Response to Potential Violation
Potent	ial Violation Tracking #:	Potential Violation Notification Date: (from Notice of Potential Violation Form)
		Corrective Action Notification Date:(Today's Date)
H	DOT must submit this notice	within 14 calendar days of the Potential Violation Notification Date.
SECTI	ION B – Corrective Action in	Response to Deficiency
HDOT	Receipt of Draft PEAR Date:	· <u></u>
Correc (Today	ctive Action Notification Date: y's Date)	
	HDOT must submit receivin	this notice within 21 calendar days of g the relevant Draft PEAR.
SECTI	ION C	
Descri	ption of Corrective Action	
Descri	ption of Attached Photograph	ns (if applicable):

Attachment 13B. Audit Work Plan Charts

PEAR #1 - Post-Construction / Permanent Best Management Practices



PEAR #4 - Illicit Discharge Detection and Elimination Program Element and Industrial Commercial Activities/Tenant Program



Attachment 14 Illicit Discharge Investigations Misc.

WorkOrder Id	Description	Priority	Status	Proj Start Date	Actual Finish	Location	Comments	Instructions
3140	Illicit Discharge Investigation	3	CLOSED	01/23/2017 12:24	11/30/2017 12:00	Pier 7, Diamond Head side, off of the boat under construction.	From Request 407: Code: Illegal Dumping Description: Illegal Dumping e.g. Debris in Harbor Details: Donald Bell of Hawaii Maritime Center informed Patti Miyashiro and Michele Freitas that the boat located on the Diamond Head side of Pier 7	
3147	Illicit Discharge Investigation	3	CLOSED	01/31/2017 07:51	03/20/2017 09:00	Pier 37	From Request 410: Code: Susp Illicit Dischg Description: Suspected Illicit Discharge Details: Comments: Caller: UNKNOWN, Q: Observer type A: Harbors employee Q: Office code, if Observer is Harbors employee A: HAR-OCM	

WorkOrder Id	Description	Priority	Status	Proj Start Date	Actual Finish	Location	Comments	Instructions
3159	Illicit Discharge Investigation	3	CLOSED	02/7/2017 07:50	02/7/2017 07:50	PIER 18, NEAR SDI2308	From Request 415: Code: Susp Illicit Dischg Description: Suspected Illicit Discharge Details: Comments: MONTHLY SPILL LOG SUBMITTED. THE LOG HAS THE TOTAL NUMBER OF PERSONNEL INVOLVED, WHAT SUPPLIES WHERE UTILIZED.Caller: MCLEAN, ROBERT	Document OCG truck accident hydraulic oil spill.
3585	Illicit Discharge Investigation	3	CLOSED	04/12/2017 05:13	11/30/2017 12:00	Pier 38 Honolulu Harbor	From Request 442: Code: Susp Illicit Dischg Description: Suspected Illicit Discharge Details: 5 gals of red liquid was spilled into the harbor waters at Pier 38. Crew was using absorbent pads to wipe up spill. Comments: Caller: KALILI, KAHE	Investigate and determine appropriate follow-on recommendations for HAR-O. MCS Kahea Kalili to provide more information from PENCO who was called in to assist with the clean up.

WorkOrder Id	Description	Priority	Status	Proj Start Date	Actual Finish	Location	Comments	Instructions
3635	Leaking Pipe Investigation	3	CLOSED	05/11/2017 08:27	06/14/2017 04:00	Pier 52A Honolulu Harbor near 600 foot marker	From Request 448: Code: Susp Leaking Pipe Description: Suspected Leaking Pipe Details: HAR-EC (Andy Chan) reported that his Pier Substructure repair contractor (Hawaiian Dredging) observed that the abandoned Matson molasses pipe near the 600	Investigate and record corrective actions taken by Matson to remedy the suspected leaking molasses pipe.
3917	Illicit Discharge Investigation	3	CLOSED	07/26/2017 01:04	07/26/2017 05:00	Pier 23, Honolulu Harbor	From Request 478: Code: Susp Illicit Dischg Description: Suspected Illicit Discharge Details: MCS Guy Galdiera observed and reported the oil sheen at Pier 23 around 0930. Comments: Caller: GALDIERA, GUY: Q: Observer type A: Harbors employee	Utilizing information and photos from SR 478, ascertain cause of oil spill from Honua at Pier 23 and determine responsible party. Issue Letter of Warning if appropriate.

WorkOrder Id	Description	Priority	Status	Proj Start Date	Actual Finish	Location	Comments	Instructions
4721	Illicit Discharge Investigation	3	IN PROGRESS	10/31/2017 09:44			From Request 500: Code: Susp Illicit Dischg Description: Suspected Illicit Discharge Details: Comments: Caller: UNKNOWN, Q: Observer type A: Member of public Q: Date observed A: 10/30/2017 Q: Time observed A: 2:20 p.m.	
4904	Illicit Discharge Investigation	1	INITIATED	12/27/2017 12:00		Commercial Fishing Village mauka parking lot sanitary sewer manhole	From Request 528: Code: Susp Illicit Dischg Description: Suspected Illicit Discharge Details: At 1030 Tuesday, Dec. 26, 2017, a sanitary sewer manhole was observed to be overflowing during heavy rainfall at the Commercial fishing village. Jim	

Attachment 15 Tenant Illicit Discharge Investigations

Tenant Illicit Discharges Investigations in 2017

Tenant Business Name	Date of Incident	Method of Discovery	Description	Action Taken
HC&D	3/2/2017	DOH Enforcement	On March 2, 2017, HAR-EE received call from Matthew Kurano of HDOH CWB Enforcement Section, stated that they received a public complain: this concerned citizen said that he observed Ameron Hawaii (HC&D) was pumping and discharging the stormwater to the ground.	Upon notification, HAR-EE and HAR-PM visited the site, met with staff from HDOH onsite. Three potential illicit discharges were observed at the time. One was next to the North Detention Pond. West end of the concrete pile appeared to have been dug up. Flowing path of the stormwater leading to adjacent DLNR property, which is heavily vegetated. Sherman of HC&D arrived on-site later on. Upon notification, he had his team bermed up the gap. He claimed that the beach was resulted from tidal influence. A follow-up investigation was conducted again on March 7, 2017, at HC&D Sand Island Facility by HDOH CWB (Scott Miyashiro and Gavin Nagaue), HAR-EE (Spencer Yim and Joy Zhang), and HAR-PM (Eric Leong). Attendees from HC&D included Linda Goldstain and Eric Shimabaruro, and Sherman). HDOH CWB requested HC&D to provide construction plans and drawings related to the newly built drainage system. HC&D indicated they would follow up on this. On-site meeting adjourned at 1445.
Matson Terminals Inc.	6/20/2017	Routine Inspection	During a regular stormwater compliance inspection, oil sheens were readily observed around a sanitary sewer manhold in gasoline/diesel fueling area (northwest of F&M Building) and near storm drain west of F&M Building.	Oil sheens on flowing water are considered illicit discharges and need to be cleaned up immediately. HAR-EE notified Matson onsite representative(s) and asked effective BMP be implemented immediately to clean up the sheens observed to mitigate the adverse effects of future occurrences. Enforcement letter dated 7/21/2017 was issued to Matson, and Matson responded on 8/18/2017 through email to address the concerns raised in the HDOT letter.
Sause Bros., Inc.	10/10/2017	Routine Inspection	Before arriving on site, inspectors noticed that a crew was power- washing Malakole Street adjacent to Sause Brothers' staging yard. Wash water appeared to have entered street drain inlets.	Upon notification, the crew immediately stopped washing activities. Please note that power washing street, buildings, equipment without proper containment system in place and prior consent from Harbors is strictly prohibited. This is a potential violation of Clean Water Act. To remove track-out on the street, please continue to sweep and vacuum. This incident has been documented in the inspection report, which also serves as a written warning.
AES Kalaeloa Venture, LLC	10/15/2017	Other Observation	At approximately 1000 on October 15, 2017, a fire occurred at AES Kalaeloa Ventures coal unloading facility causing extensive property damage to twin hopper system and hydraulic components. C2 coal conveying belt system and components. Contributing factors: Bridging of coal spontameous combustion within twin hoppers. Hopper transfer belt catches fire by burning coal, fire from burning belt ignites coal hopper remnent. Flam height reaches C2 conveyor head end drum and belt. C2 belt ignites from flames and burns through belt at head end. Belt separates, belt continues to burn with in the conveying structure. Take up drum fails due to belt separation; belt continues burning at grade level. Carring side of belt rolls back to under pit. Belt conveyor fire speinklers did activate preventing further damage to office structure.	Water/foam suppression from firefighting incident was contained to the perperty with absorbent socks. Water and muck was removed by 3rd party contractor by 6pm. All coal and remnants were cleaned up and disposed of. Assessment took place and refurbishment ongoing.

Attachment 16 Construction Project Inventory and Inspection Summary

Summary of Construction Site BMP Inspections in 2017 - KBPH Stockpile 2A Removal Project

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Inspection Date	Туре	Summary of Findings and Recommendations
3/15/2017	Initial	Portions of construction entrance appeared to be compacted with fine soil particles. Please re-stabilize the construction entrance according to the installation specifications on SHEET C-3. Insufficient overlap of socks was observed at one location. Please re-position the sock(s) according to the specifications on SHEET C-3, to ensure the ends of socks have a 6" minimum overlap. This is the initial site inspection for this project. Other attendees included Vincent Telles and Scott from Royal Contracting Company, Ltd. A conditional approval was issued on-site pending follow-up correction actions to be implemented for aforementioned deficiencies by the contractor. Please keep a copy of the updated SWPPP and other relevent inspection records on-site for future inspections.
3/30/2017	Regular / FollowUp	It appeared that the construction entrance had been repaired. However, loose sediment and track-out leading from the stabilized construction entrance were still observed on road. Please maintain the stabilized construction entrance as necessary to keep up its sediment removal effectiveness. Meanwhile, please sweep the entrance area at the end of each hauling day and ensure that Hanua Street is used for transporting of hauled materials. Spray water when necessary to control fugitive dust. Neither SWPPP nor other inspection records were available for review at the time of inspection. It is required by the NPDES C Permit that a copy of a current SWPPP and other relevent inspection reports be kept on-site or at an easily accessible location, so that it can be made available at the time of an on-site inspection or upon request by the HDOH or EPA.
4/13/2017	Regular	Loose sediment and tire track-out leading from the stabilized construction entrance were observed on road. Please maintain the stabilized construction entrance as necessary to keep up its sediment removal effectiveness. Meanwhile, please ensure that effected paved road is swept at the end of each hauling day. Water truck was on-site at the time of inspection. Spray water when necessary to control fugitive dust.
6/8/2017	Regular	At the time of inspection, no stockpile hauling activities were conducted on-site. Middle section of the existing stabilized construction entrance was filled with fine soil particles and minor track-outs leading from the site were observed on the road, which needed to be maintained to retain the construction entrance's efficiency to remove the fine soil particles from tires. Please continue to sweep the road regularly. Other on-site representatives included Karen Awana from Harbors Division Property Management Section and Vincent Telles from Royal Contracting Company. Next round of inspection has been scheduled on July 27, 2017 at 1000. Neither SWPPP nor self-inspection records were available for review at the time of inspection. Please provide us (e.g., through emails) copies of all self-inspection records since April.
7/27/2017	Regular	At the time of inspection, minor track-outs and loose sediment leading from the site were observed on the road. No water truck was on-site. The overall condition of the stabilized construction entrance was acceptable. Please continue to sweep the paved road at the end of each hauling day and have the water truck readily available to control fugitive dust. Please keep copies of SWPPP and issued NPDES C permit readily available on-site. It is recommended that the Contractor review HAR 11-55 Appendix C and provide HDOH all necessary submittals under Section 13. Additional documentation requirements under Sections 9 and 10 shall be implemented accordingly.

Summary of Construction Site BMP Inspections in 2017 - KBPH Stockpile 2A Removal Project

Inspection		
Date	Туре	Summary of Findings and Recommendations
9/28/2017	Regular	At the time of inspection, minor track-outs and loose sediment leading from the site were observed on the road. The truck turning area appeared to be damped with water. The water truck was offsite getting more water. Front portion of the stabilized construction entrance appeared to be settled with fine soil material. Contractor's sweeper was sweeping the paved driveway. Please continue this effort. Insufficient biosock overlap was observered at few spots close to the south end of the paved road. Please adjust the biosocks so that all ends have at least six-inch overlap. The Contractor should review HAR 11-55 Appendix C and provide HDOH all necessary submittals under Section 13. These documents should be kept onsite during the inspection. Additional documentation requirements under Sections 9 and 10 shall be implemented accordingly.
10/12/2017	Regular	At the time of inspection, tire track-outs leading from the site were observed on the road. Middle portion of the stabilized construction entrance appeared to be settled with fine soil particles and needs to be maintained. Water truck was onsite spraying water and the truck turning area appeared to be damped. Contractor's miniature street sweeper was sweeping the paved driveway. However, its vacuuming system needs to maintained. Please continue the sweeping effort and removing the deposited sediment by the end of each hauling day. In addition, please ensure that all truck-loads are fully covered prior to leaving the site. Insufficient biosock overlap was observered at few spots close to the south end of the paved road. Please adjust the biosocks so that all ends have at least six-inch overlap. Please continue to keep all required documents onsite (e.g., NPDES-C permit, updated SWPPP, self-inspection records).
10/26/2017	Regular	Middle portion of the stabilized construction entrance appeared to be clogged with fine soil particles and needs to be maintained. At the time of this inspection, tire track-outs on paved road were in the process of being washed away. Wash water flew freely to the sides of the paved road without proper containment or other BMP in place. However, no discharges to the harbor were observed. This is a potential violation of your permit. Please note that this kind of washing activities without proper containment and prior consent from Harbors are strictly prohibited. A copy of fact sheet developed by CCH on Street Sweeping and Vacuuming is attached to this report for your reference. Please use this as a guide for future street sweeping and vaccumming. Please continue to keep all required documents onsite (e.g., NPDES-C permit, updated SWPPP, self-inspection records).
11/9/2017	Regular	According to D.R. Horton, another layer of gravel was placed on top of the stabilized construction entrance recently. Please continue the maintenance effort. Fresh tire track-out was observed on the paved road. However, the miniature street sweeper was onsite and in use at the time of the inspection. Please continue the regular sweeping effort and clean up the loose sediment on the paved road by the end of each working day. Broken off biosocks were observed at few spots. Please conduct a full inspection of all the biosocks placed along the perimeter of this project, fix the borken sections, ensure that all ends overlap at least six inches, and clean up any accumulated litter.

Summary of Construction Site BMP Inspections in 2017 - KBPH Stockpile 2A Removal Project

Inspection Date	Туре	Summary of Findings and Recommendations
11/21/2017	Regular	It appeared that a new layer of gravel was placed on top of the stabilized construction entrance recently. Please continue the maintenance effort. Fresh tire track-out was observed on the paved road. However, the contractor's street sweeper was onsite and in use at the time of the inspection. Please continue the regular sweeping effort and clean up the loose sediment on the paved road by the end of each working day. One heavy-duty backhoe loader was dripping oil on the ground at the time of inspection. More oil-like stains were observed beneath the same equipment. Please remediate the oil stained soil and remove this brokendown equipment from the site immediate (i.e., within 24 hours). Other onsite people include Mr. Kaipo Tilton (from Royal Construction).
12/1/2017	Regular	No active hauling was observered at the time of inspection. It appeared that a new layer of gravel was placed on top of the stabilized construction entrance recently. Please continue the maintenance effort and sweep the temporary paved access road regularly on each hauling day. As part of the findings and discussions following the onsite inspection, it is recommended that the exposed soil at and around Stockpile 2A, if exceeding 14 days, be proper stabilized. These areas include, but are not limited to, berms surrounding the top of Stockpile 2A, banks along the driving ramp, and "small valley" along the mid-point of Stockpile 2A. It is also recommended that a check dam or similar BMP be installed along the banks of the driving ramp and within the "small valley" to slow down the runoff flow rate. Please follow up with these items and provide Harbors any photo-graphic documentations within five working days from the day of inspection (by the end of next Friday, December 8, 2017). Please review the SWPPP and update the plan to reflect the current site consition and provide Harbors Division a copy of the updated SWPPP within five working days from the day of this inspection (by the end of next Friday, December 8, 2017). Other onsite people include Vincent Telles from Royal Construction, Chris Takeno from ENV, Patti Miyashiro from HAR-PM, Brian Shono from HAR-ESP, Michele Freitas from HAR-EE, and Phil Potter, Sheuli Molla, and Cale Yamada from Kenny/Jenks Consultants.
12/15/2017	Regular	No active hauling was observered at the time of inspection. The exposed soil at and around Stockpile 2A, including berms surrounding the top of Stockpile 2A and mid-section exposed slope, was stabilized using soil cement. More biosocks were in place along the driving ramp and the down slope. Please keep the updated SWPPP onsite.
12/28/2017	Regular	No active hauling was observered at the time of inspection. The biosocks along the driving ramp need to be readjusted to minimize soil particle from being carried away by the rain water. The exposed soil at and around Stockpile 2A, including berms surrounding the top of Stockpile 2A and mid-section exposed slope, need to be re-stabilized after the heavy rain events. Please keep the updated SWPPP onsite.

Summary of Construction Site BMP Inspections in 2017 - KIPA Fire Damaged Building Demolition Project

Inspection Date	Туре	Summary of Findings and Recommendations					
2/27/2017	Initial	Sand used to berm the perimeter silt fence needs to be maintained regularly, so that it will not be tracked off- site. It should be maintained at least six inches in height from the bottom of the silt fence. Please maintain the front and back of the shed and remove disassembled parts from the site regularly. Minimize the dust by spraying water when necessary. Self-inspection and related documentation are strongly recommended and please keep all records on-site for future inspections.					
barriers. Upon notification, the contractor's employee placed a piece of carper should be removed off-site and repaired/maintained as soon as possible.		This is the final inspection of the site. The fire damaged shed has been demolished. Concrete barriers are					

Summary of Construction Site BMP Inspections in 2017 - Hawaiian Ice New Freezer Building Project

Inspection Date	Туре	Summary of Findings and Recommendations					
1/13/2017	Initial	Stabilized construction entrance has been removed to get ready for future paving activity. Work zone for equipment will be limited to be within disturbed soil area north of the New Freezer Building. More frequent sweeping is recommended for this area to minimize any track-out. Meanwhile, please continue general housekeeping practices on a regular basis. Please ensure that proper dust control methods (e.g., spraying water) are implemented when necessary to minimize fugitive dust from migrating off-site.					
1/27/2017	Regular	Stabilized construction entrance and perimeter silt fence have been removed to get ready for future paving activity. Work zone for equipment will be limited to be within disturbed soil area north of the New Freezer Building. More frequent sweeping is recommended for this area to minimize any track-out. Meanwhile, please continue general housekeeping practices on a regular basis. Please ensure that proper dust control methods (e.g., spraying water) are implemented when necessary to minimize fugitive dust from leaving the site. Debris from sawcutting was observed on the ground. Please clean up this area regularly to prevent them from being blown off-site, and increase sweeping frequency during windy days.					
2/17/2017	Regular	Minor sediment/debris was observed near construction material staging area along the east side of the New Freezer Building. Please cleanup any sediment left on the ground by the end of eaching working day. Trace of hand-washing water leading to one of the newly-built drain inlets was observed on-site. Please note that equipment washing without prior consent from Harbors Division and proper containment is strictly prohibited. Hand-washing is allowed ONLY if the wash water could be contained (e.g., using a bucket) and properly disposed of (e.g., infiltration through landscaped area). Recommend continuing to keep up the inspection records, and making notes of any justifications if self-inspection frequency needs to be adjusted. The north front of the New Freezer Building has been paved over with concrete, and the whole site has been stabilized. The construction contractor is currently in the process of demobilizing equipment off-site. Therefore, no further Harbors BMP inspection will be conducted until the site is ready for the final inspection. Please continue to keep up the good housekeeping practices and inform Harbors when it is time for the final inspection.					
3/28/2017	Final	This is the final inspection of the construction project. Few equipment left on-site. The new freezer building is in place.					

Summary of Construction Site BMP Inspections in 2017 - Matson Molasses System Decommissioning Project

Inspection Date	Туре	Summary of Findings and Recommendations					
3/16/2017		Former tank farm area is now vacated and covered with pea-size gravel. Perimeter socks are left in place for sediment control. The west portion of the site is currently used as a staging area for a different project. The detention pond is barricaded around. A total of seven (7) pits were excavated and paved over. This is the final BMP inspection for this project. Other attendees include Keahi Birch from Matson and Robert Olds from Penhall.					

Summary of Construction Site BMP Inspections in 2017

- Pacific Shipyard International Terminal Relocation at Piers 24 and 25 - Phase 1 and 1A

Inspection Date	Туре	Summary of Findings and Recommendations Please coordinate with IDPP, if petroleum contaminated soil is encountered during excavation. Please keep a spill kit on-site in case of any unexpected spill/release from equipment, and continue with proper general housekeeping practices. Contractor's self-inspection records need to be reviewed during future inspections, so please keep all relevant records on-site. This was the Initial Site BMP Inspection. Other attendees included representatives from PSI (Corinne Lenk and Gene Fukushima) and Kaikor Construction Company (Rick Watts). Next round of inspection has been scheduled on January 31, 2017 at 0830.					
1/17/2017	Initial						
1/31/2017	Regular	Please coordinate with IDPP, if petroleum contaminated soil is encountered during excavation. Construction plans/drawings were kept inside Contractor's Truck (parked on-site). Contractor's self-inspection records were kept on his cellular phone. Please continue to keep up the general housekeeping practices.					
2/14/2017	Regular	Please coordinate with IDPP, if petroleum contaminated soil is encountered during excavation. Please clean up sawcutting debris on a timely basis to prevent it from being blowing away and falling into harbor (Photo 7), and continue with the good housekeeping practices throughout the project.					
2/28/2017	Regular	Please coordinate with IDPP, if petroleum contaminated soil is encountered during excavation. The site was very orderly and neat overall. Only minor sediment was observed by the covered stockpile (Photo 9), and one large oil stain was observed by Storm Drain Inlet DI3592 (Photo 10). Please continue to keep up the good housekeeping practice(s) and cleanup any oil spill/leak immediately.					
3/14/2017	Regular	Please coordinate with IDPP, if petroleum contaminated soil is encountered during excavation. The site was very orderly and neat overall. Please continue to keep up the good housekeeping practice(s).					
3/28/2017	Regular	Please coordinate with IDPP, if petroleum contaminated soil is encountered during excavation. The site was very orderly and neat overall. Please ensure that the ends of biosocks have overlap of at least six inches and the concrete washout station be maintained regularly. Continue to keep up the good housekeeping practice(s).					
4/11/2017	Regular	Please coordinate with IDPP, if petroleum contaminated soil is encountered during excavation. The site was very orderly and neat overall. The concrete washout station had been removed from the site. Please ensure that the ends of biosocks have overlap of at least six inches. Minor sediment accumulation was observed around Drain Inlet DI3554 (Photo 12). Please clean up this area and continue to keep up the good housekeeping practice(s) throughout the duration of this project. Please keep a copy of BMP Plan and self-inspection records on-site throughout the duration of this project.					
6/6/2017	Regular	Portion of the perimeter biosock jacket was broken, resulting in content scattered in place (Photo 7). Please fix all broken sections of biosocks on a timely basis (i.e., by the end of each working day). Debris were observed accumulating along the perimeter biosocks. Please clean up these debris by next round of BMP inspection.					
7/27/2017	Final	Loose sediment was observed at vehicle parking area (Photo 2). Please continue to sweep the site regularly and as needed. This is considered the final inspection for Phase I of this project. Construction Site BMP inspection will resume upon the start of the Phase II. Based on the information obtained from PSI personnel, the tenant is planning to move in by the end of August. A new tenant inspection has been scheduled on 9/26/2017, starting at 0800.					
8/8/2017	Final	Loose sediment was observed near the south end of the biosocks layout area (Photo 2). Please continue to sweep the site regularly and as needed. This is the initial site BMP inspection for Phase 1A. Please submit the updated project plans/drawings to Harbors Division.					

Summary of Construction Site BMP Inspections in 2017
- Pacific Shipyard International Terminal Relocation at Piers 24 and 25 - Phase 1 and 1A

Inspection Date	Туре	Summary of Findings and Recommendations					
9/26/2017		Loose sediment was observed adjacent to trenched area (Photo 1). Please continue to sweep the active trenching area regularly and as needed. PSI had finished relocating their facility to Pier 24/25 and started their operations onsite. The total disturbed area for Phase 1A is rather small. Therefore, we have conditionally exempted Phase 1A from our inspection requirements. This is consider the final site BMP inspection for Phase 1A. Please submit the project plans/drawings to Harbors Division prior to commencement of Phase 2.					

Attachment 17 Reviewed HDOT Harbors Division Projects

Attachment 17. Summary of HDOT Harbors Division Projects Reviewed in 2017

HC Number	Comment Date	NPDES Permit No	Project Location	Harbor	Project Title	Project Description	Exempt Project	Reviewed Documents and Remarks
HC 10502	12/11/2017	HI R10E932	Former KMR	Honolulu Harbor	New Kapalama Container Yard	Build a new Container Yard		SWPPP prepared by Contractor.
HC 10545	7/19/2017		Piers 24 to 28	Honolulu Harbor	Utilities Improvements	The proposed project involves the construction of fire water, domestic water, sewer system and addressing the existing eletrical utilities to see what type of modifications are required to support the development of the parcels at Pier 24 through 28.		Preliminary Design Plans (90%)
HC 10601	4/3/2017		Pier 29	Honolulu Harbor	Substructure Repairs	The scope of work consists of repairing the substructure spalls and a drain outlet at Pier 29, Honolulu Harbor, Oahu, Hawaii.	Yes	Site Specific BMP Plan
HC 10602	4/10/2017		Pier 51	Honolulu Harbor	Electrical Pull Boxes Repair	The scope of work for this project consists of repairing various utility boxes in the container yard of Pier 51, Honolulu Harbor, Oahu, Hawaii.	Yes	Plans and Specifications & Proposal
HC 10630	11/6/2017		Pier 6	Kalaeloa Barbers Point Harbor	Install New Double-Bitt Bollard at Pier 6 of KBPH	The scope of work consists of removal of asphalt concrete overlay to install a mooring bollard on concrete pedestal and construction of a reinforced concrete slab beam. The project involves installation of a new double-bitt bollard at mauka end of Piers 6 near footmarker 1900, Kalaeloa Barbers Point Harbor. This new bollards will alleviate the overtaxing of existing bollards at Piers 6 and 7 due to supplemental morring lines required when one large vessel uses the same bollard used by another smaller vessel.	Yes	BMP Plan, Demolition and Removal Plan, and Health & Safety Plan (Accident Prevention Plan)
HC 10634	3/21/2017		Piers 1 and 5 to 7	Kalaeloa Barbers Point Harbor	Repaint Light Poles at Kalaeloa Barbers Point Harbor, Oahu, Hawaii	The scope of work consists of repainting of light poles at Kalaeloa Barbers Point Harbor, Oahu, Hawaii	Yes	BMP Plan

HC Number	Comment Date	NPDES Permit No	Project Location	Harbor	Project Title	Project Description	Exempt Project	Reviewed Documents and Remarks
HC 10635	2/25/2017		Pier 11	Honolulu Harbor	Former Oahu District Office Repair	The scope of work for this project consists of repairing and internal renovation of former Oahu District Office at Pier 11, Honolulu Harbor, Oahu, Hawaii	Yes	Hazard Management Plan
HC 10636	6/21/2017		Pier 2	Honolulu Harbor	Repair Concrete Wall	The scope of work consists of repairing a concrete wall at the Harbors Division "Ballpark" parking lot at Pier 2, Honolulu Harbor.		BMP Plan
HC 10637	5/4/2017		Pier 10 and 11 Terminal	Honolulu Harbor	Gutter System Repair	The work to be done on this project consists of furnishing all labor, materials, equipment and other expenses required to repair the existing metal gutter system on the Diamond Head side of the Piers 10 and 11 Terminal, Honolulu Harbor, Oahu, Hawaii		BMP Plan
HC 10638	10/4/2017		Piers 19 and 20	Honolulu Harbor	Substructure Repairs	The work to be done on this project includes furnishing all labor, materials, and equipment necessary to repair spalls and delaminations at Piers 19 and 20 of Honolulu Harbor, Oahu, Hawaii.		BMP Plan
HC 10639	8/23/2017, 11/28/2017, 12/8/2017		Pier 34	Honolulu Harbor	Substructure Repairs	The work to be donw on this project includes furnishing all labor, materials, and equipment necessary to repair spalls and delaminations at Pier 34 of Honolulu Harbor, Oahu, Hawaii.	Yes	Revised BMP Plan
HC 10644	5/12/2017, 6/7/2017		Pirs 51 to 52	Honolulu Harbor	Fence Repair	The scope of work consists of fence repair at Piers 51 and 52, Honolulu Harbor, Oahu, Hawaii.	Yes	BMP Plan
HC 10649	6/30/2017		Piers 39 and 40	Honolulu Harbor	Repairs of Light Poles	The scope of work consists of repairing light poles at Piers 39 and 40, Honolulu Harbor, Oahu, Hawaii.	Yes	BMP Plan
HC 10652	4/7/2017 11/7/2017		Piers 5 and 6	Kalaeloa Barbers Point Harbor	Concrete Pavement and Waterline Repairs at Piers 5 and 6	The scope of work for this project consists of repairing concrete pavement slabs, an expansion joint and plumbing work at Piers 5 and 6 of KBPH, Oahu, Hawaii	Yes	Pre-Final Design Plans, Specifications & Proposal, BMP Plan

HC Number	Comment Date	NPDES Permit No	Project Location	Harbor	Project Title	Project Description	Exempt Project	Reviewed Documents and Remarks
HC 10653	4/19/2017		Fort Armstrong	Honolulu Harbor	FY17 One-Year Pavement Maintenance	The scope of work consists of repairing damaged asphalt concrete pavement at the Fort Armstrong container yard area, Honolulu Harbor, Oahu, Hawaii.	Yes	BMP Plan
HC 10654	1/23/2017, 9/7/2017, 10/5/2017		Harbors Administration Building	Honolulu Harbor	Air Conditioning System Repair	The scope of work consists of air conditioning system repair at Harbors Administration Building, Honolulu Harbor, Oahu, Hawaii.	Yes	Pre-Final Design Plans and Specifications, BMP Plan, Lead Submittal
HC 10657	1/9/2017		Pier 2 Passenger Terminal	Honolulu Harbor	Renovate Pier 2 Passenger Terminal Inspection Room into VIP Passenger/Multi-Purpose Room	The scope of work consists of renovating the Pier 2 Passenger Terminal Room into a VIP Passenger/Multi-Purpose Room, Honolulu Harbor, Oahu, Hawaii.	Yes	Preliminary (35%) Plans and Specifications
HC 10665	11/30/2017		Piers 3 and 15	Honolulu Harbor	Relocate Harbor Police to Former Fire Station at Pier 15	In general, the work involves the installation of new rubber tire bumper guards and cast iron mooring cleats at Pier 3, Honolulu Harbor, Oahu, State of Hawaii. This work will allow the temporary relocation of harbor police boats to Pier 3 pending the completion of the renovation of the former Pier 15 fire station into a new harbor police facility. This project also involves the design to renovate the former Fire Station at Pier 15 into a Harbor Police Facility. Improvements include a new armory, office spaces, dornitory, sally port, bathrooms, shower & lockers, roll-up doors, security cameras, central air conditioning, jet ski hoist, police boat crane, new conference room and classrooms, new physical training room and new enclosed lobby and reception area.	Yes	Plans and Drawings (35%)
HC 10665A	9/4/2017		Pier 3	Honolulu Harbor	Relocation of Harbor Police Boats	This project is scoped to repair Pier 3 dock for temporary relocation of Harbor Police Boats, Honolulu Harbor, Oahu, Hawaii.	Yes	Plans

HC Number	Comment Date	NPDES Permit No	Project Location	Harbor	Project Title	Project Description	Exempt Project	Reviewed Documents and Remarks
HC 10666	3/3/2017		Piers 52 and 53	Honolulu Harbor	Electrical Upgrades for New Cranes			Capital Advancement Contractor
HC 10669	4/17/2017	HI R10C200	Piers 51A & 51B Container Yard	Honolulu Harbor	FY17 One-Year Pavement Maintenance	The scope of work consists of repairing damaged asphalt pavement at Piers 51A & 51B Container Yard, Honolulu Harbor, Oahu, Hawaii.		Preliminary Plans and Specifications & Proposal; Exempt from Harbors Post- Construction Stormwater Management Program
HC 10670	4/13/2017	HI R10C108	Piers 51C, 52, and 53 Container Yard	Honolulu Harbor	FY17 One-Year Pavement Maintenance	The scope of work consists of repairing damaged asphalt pavement at Piers 51C, 52 & 53 Container Yard, Honolulu Harbor, Oahu, Hawaii.		Plans and Specifications & Proposal; Exempt from Harbors Post-Construction Stormwater Management Program
HC 10671	4/25/2017		Piers 52 and 53	Honolulu Harbor	Repair Trench Drains	This project is scoped to repair trench drains at Piers 52 and 53, Honolulu Harbor, Oahu, Hawaii.	Yes	Preliminary drawings and Specifications
HC 10672	7/10/2017		Pier 33	Honolulu Harbor	Subsidence Repairs	The scope of work for this project consists of performing subsidence repairs at Pier 33 of Honolulu Harbor, Oahu, Hawaii.	Yes	Pre-Final Design Plans and Specifications
HC 10682	5/25/2017, 11/24/2017		Fort Armstrong	Honolulu Harbor	FY18 One-Year Pavement Maintenance	The scope of work consists of repairing damaged asphalt pavement at the Fort Armstrong area, Honolulu Harbor, Oahu, Hawaii.	Yes	Preliminary Drawings, BMP Plan
HC 10684	7/19/2017		Pier 24 Office Building	Honolulu Harbor	Gutter Repairs	The scope of work consists of replacing the existing deteriorated sheet metal gutter system with new sheet metal gutter system at the Pier 24 Office Building, Honolulu Harbor, Oahu, Hawaii.	Yes	Preliminary Specifications and Plans
HC 10687	9/25/2017		Pier 22	Honolulu Harbor	Concrete Bulkhead Repair	The scope of work consists of performing spall repairs to the concrete bulkhead at Pier 22, Honolulu Harbor, Oahu, Hawaii.	Yes	Preliminary Specifications and Plans

HC Number	Comment Date	NPDES Permit No	Project Location	Harbor	Project Title	Project Description	Exempt Project	Reviewed Documents and Remarks
HC 10692	11/8/2017		Pier 51A	Honolulu Harbor	Bank Stabilization	The scope of work for this project consists of performing bank stabilization repairs at Pier 51A at Honolulu Harbor. (Erosion actively occuring at the bank due to dragging of the mooring lines that are secured to the adjacent bollard.)	Yes	Preliminary Plans and Specifications & Proposal
HC 10694	8/28/2017		Pier 11	Honolulu Harbor	Rooftop Air Conditionint Units Repair	The scope of this work consists of repairing rooftop air conditioning units at Pier 11, Honolulu Harbor, Oahu, Hawaii	Yes	Specifications & Proposal
HC 10695	11/13/2017		Piers 24 to 26	Honolulu Harbor	Substructure Repairs	The scope of work for this project consists of substructure repairs at Piers 24 to 26, Honolulu Harbor, Oahu, Hawaii.	Yes	Design Plans and Specifications (Pre-Final)
HC 10702	10/17/2017		Piers 39 and 40	Honolulu Harbor	Light Poles Repair	The scope of work consists of repairing corroded anchor bolts at two light poles/pedestals and cleaning and coating three light poles and stanchions at selected areas at Piers 39 to 40, Honolulu Harbor, Oahu, Hawaii.	Yes	Preliminary Plans and Specifications

Non-NPDES NOI-C Project

Attachment 18 Reviewed Tenant Projects

Tenant	Comment Date	NPDES Permit No	Project Location	Harbor	Project Title	Project Description	Exempt Project	Reviewed Documents and Remarks
Hawaii Fueling Facilities Corporation	2/22/2017		Pier 43	Honolulu Harbor	Jet Fuel Pipeline Project	The project consists of a new fuel valve, as well as a new 18-inch fuel line, within DOT Harbors's New Kapalama Container Yard which is intended to provide an alternate site for fuel loading/unloading to supplement the current loading/unloading valve at Pier 51. HFFC is proposing to construct the new fuel valve and line concurrently with, but independent of, and under separate contract from, the HC 10498 Kapalama Container Yard Terminal Wharf and Dredging project.		Design Plans, Specifications, and Design Analysis (Preliminary, 65%, 95%); following the SWPPP for new KCT Project.
Hawaii Pacific University	8/15/2017		Pier 8 and 9	Honolulu Harbor	eSports Arena and Fitness Center Renovations	This project is focused on interior renovation of existing rooms into an eSports Arena and a Fitness Center.	Yes	Plans and Drawings
Hawaii Pacific University	8/21/2017		Pier 8 and 9	Honolulu Harbor	The Old Spaghetti Factory	This project is focused on interior remodal of an existing restaurant within existing envelop.	Yes	Plans and Drawings
Toell Company Limited	1/11/2017, 11/24/2017		Pier 23	Honolulu Harbor	Toell USA Nimitz Factory Renovation Project	This project includes following: 1. Demolition of existing concrete landing and AC equipment north & south of the existing building. 2. Demolition of existing concrete stoop landing west of existing building. 3. Removing existing parking striping west and south of existing building, and wheel stops (3) west of existing building. 4. Interior renovation and new parking striping west of the existing building.		Design Phase Set (50%), Environmental Assessment (Draft)

Tenant	Comment Date	NPDES Permit No	Project Location	Harbor	Project Title	Project Description	Exempt Project	Reviewed Documents and Remarks
Matson Terminals, Inc.	12/21/2017		Pier 51 and 52	Honolulu Harbor	Sand Island Terminal Wharf and Yard Modifications	The work consists of construction for crane related infrastructure work at existing Piers 51c, 52, and 53, including installation of new 11.5 kV crane power system. This work is related to procurement of new cranes and modification of existing cranes that will utilize the new crane power system. The construction shall be implemented in phases that suit terminal operational requirements and the related crane work done by others. Some work cannot be performed until the new cranes have been fully commissioned and the existing crane modifications are complete, as the existing cranes use the existing 2.4 kV crane power system.		Plans and Drawings

Non-NPDES NOI-C Project

Attachment 19 Post-Construction BMP Plan Checklist







Permanent Post-Construction Best Management Practice Plan Checklist

For a Harbors Proj	ject, please fill in this section
Project Title:	
Project Location:	
Acreage of Site:	Harbors Project No.:
Name of Design Firm:	
Email:	Phone No.:
•	nt Project, please fill in this section
Tenant Business Name:	Date:
Project Title:	
Project Location:	
Acreage of Site:	TMK No. (if any):
Applicant Name:	Job Title:
Email:	Phone No.:
Signatur	e and Certifications
Designer : I certify that the design is complete, a best of my knowledge.	accurate, and addresses the items on this checklist to the
Print Name:	Job Title:
Signature:	Date:
Review: HDOT Harbors Project Manager and E	Environmental Section.
Harbors Project Manager Signature:	Print Name:
	Date:
Harbors Environmental Section Signature:	Print Name:
	Date:



Part One - Low Ir	mpact Development Site Desi	ign Strategies								
The following checked strategies will be	e incorporated and area(s) is denot	ed on the map:								
☐ Conserve natural areas, soils, an	nd vegetation	compaction								
☐ Minimize disturbances to natural	drainages	ervious surface								
☐ Direct Runoff to Landscaped Areas ☐ None (all infeasible)										
If "None" is checked, please provide	justification here:									
1	Part Two – Source Control									
The following checked Source Control I		ea(s) is denoted on the map:								
☐ Automatic irrigation systems	☐ Landscaped areas	Loading docks								
☐ Vehicle/Equipment fueling	☐ Vehicle/Equipment repair	☐ Vehicle/Equipment washing								
☐ Outdoor work areas	☐ Outdoor material storage	Outdoor trash storage								
☐ Outdoor process operations	☐ Parking areas	Others								
If "Others" is checked, please descri	be here (attach separate sheets if	needed):								
Do.	rt Three Treetment Centrel									
The following checked Treatment Contr	rt Three – Treatment Control									
Infiltration basin	Infiltration trench	Subsurface Infiltration								
Dry well	☐ Bioretention basin	☐ Permeable pavement								
Green roof	☐ Bioretention filter	☐ Dry swale								
☐ Downspout dispersion	☐ Vegetated swale	☐ Vegetated buffer strip								
☐ Tree box filter	vegetated swate	vegetated bullet strip								
Alternative Compliance. The following a	alternative compliance is proposed	and area(s) is denoted on the man:								
☐ Incorporate the following alternat		and area(s) is denoted on the map.								
☐ Detention basin	Sand filter	☐ Rain barrel								
☐ Manufactured treatment										
Other (specify):										
☐ Source Control BMPs are designed with	reference to the City and County of H	onolulu Storm Water BMP Guide.								
☐ Treatment Control BMPs are designed w										

Attachment 20 Kalaeloa Barbers Point Harbor Stockpile Inspection Report

Attachment 20.

KALAELOA BARBERS POINT HARBOR STOCKPILE INSPECTION

Date of Inspection: December 18, 2017

Inspectors (HAR-EE): Spencer Yim & Mitchell Martello

An annual inspection of the coral stockpiles at Kalaeloa Barbers Point Harbor (KBPH) was conducted to determine the general condition of the chemical stabilization, sediment barriers and natural vegetation barriers. Chemical stabilization and sediment barriers were last applied to Stockpiles 2, 3 and 4 in November 2012. Stockpile 5 received chemical stabilization treatment in February 2014. No chemical stabilization has been applied to the stockpiles since February 2014.

As found in the previous 2016 annual inspection, natural vegetation growth increased substantially at most of the stockpiles due to ample rainfall received over the past year. Vegetation growth has stabilized much of the bottom slope areas and reduces bio-sock exposure to the elements – enhancing and prolonging their effectiveness. Vegetation growth has also served to stabilize most of the sloped areas around the remaining stockpiles.

Stockpile 1: This stockpile was completely removed by Kapolei Development earlier in 2015. As shown in Figure 1, the site is sloped inward to retain runoff and vegetation is growing over much of the site.



Figure 1: Former site of Stockpile 1

Stockpile 2A: Upon receipt of their NPDES NOI-C permit, Storm Water Pollution Prevention Plan (SWPPP), and Construction Site Design Review Checklist, a conditional approval was issued to D.R. Horton to allow them to remove stockpile material from Stockpile 2A in March 2017. Over the following months, a Permanent Post-Construction Best Management Practice Plan Checklist and a Post-construction Storm Water Mitigation Plan (PSMP) were submitted and approved. Regular inspections (i.e., bimonthly from April to September and biweekly during the rest of the year) by Harbors Property Management (HAR-PM) and the Engineering Environmental Section (HAR-EE) are conducted to ensure compliance with the Right-of-Entry (ROE) Agreement and the NPDES NOI-C permit.

The quantities of stockpile materials removed over the months of March through June 2017 only totaled around 25,000 cubic yards (CY). Since then, however, the D.R. Horton contractor has dramatically increased his removal and hauling to about 60,000 CY and currently expects to be completed at the Stockpile 2A site in August 2018. Figures 2 and 3 are current views of the Stockpile 2A operations.

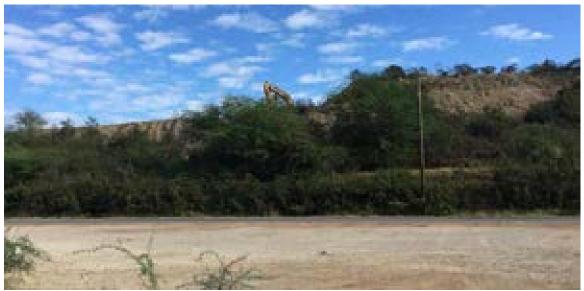


Figure 2: Excavator operating midway across top of Stockpile 2A looking north from the future Pier 8.



Figure 3: Top of excavated portion of Stockpile 2A looking west.

Stockpiles 2B and 2C: Vegetation growth has increased substantially around and between Stockpiles 2B and 2C. See Figures 4 and 5. There were no signs of erosion so re-application of chemical stabilization is not recommended.



Figure 4: Stockpile 2C looking northward toward Stockpile 2B.



Figure 5: West side of Stockpile 2C

Stockpile 3: Vegetation growth was found to be much heavier at the base of and along the slope than found in 2016 and is providing very effective, natural erosion control (Figures 6 and 7). The heavy vegetation is also protecting the bio-socks from the elements. Bio-socks are still in good condition and do not need replacement.



Figure 6: Overgrown concrete pile butt & bio-sock along the western base of Stockpile 3 barely visible.



Figure 7: Looking southward from Stockpile 3 toward Stockpile 4 along John Wayne Road.

Stockpile 4: Vegetation growth was again observed to be heavy at the base of the slope and spread throughout this small stockpile (Figures 8 and 9). The growth provides good erosion control and protects the bio-socks from the elements. The small size of this stockpile combined with the vegetation growth and lack of any evidence of erosion precludes the need to re-apply chemical stabilization to this stockpile.



Figure 8: Heavy vegetation growth around Stockpile 4 looking northward along John Wayne Road.



Figure 9: Heavy vegetation along south slope of Stockpile 4 looking eastward.

Removal of Stockpiles 3 & 4. In spite of the ROE being granted to the Department of Hawaiian Homelands (DHHL) In October 2015, neither DHHL nor its contractors have removed any material from Stockpiles 3 and 4 to date. The DOT Harbors Division has thus terminated the DHHL ROE and is considering allowing D. R. Horton access to Stockpiles 3 & 4 to remove stockpile materials in addition to their removal work at Stockpile 2A.

Following the completion of the KBPH Master Plan 2040 in 2016, subdivision and infrastructure design efforts have commenced and are actively underway. The planning, design and construction of individual tenant parcels will follow. Accordingly, Stockpiles 3 & 4 in their current locations will impede the development of the eastern side of the KBPH and should be removed from their present location as soon as practicable.

Stockpile 5: Stockpile 5 was found to have more signs of runoff erosion - and possibly wind erosion as well – than had been observed in 2016 (Figures 10 to 12). However, the sediment eroded by storm water from this site is contained in a downstream drainage/retention basin that is quite distant from the ocean - thus minimizing the risk of the stockpile material reaching nearby waterways and the ocean. Chemical reapplication is not deemed necessary and is not recommended at this time.



Figure 10: Looking southward across Stockpile 5.



Figure 11: Pile butts on the perimeter of Stockpile 5 and drainage/retention basis along western slope.



Figure 12 - Pile butts & drainage/retention basin along Stockpile 5 looking northward.

Summary & Recommendations: Significant rainfall at Kalaeloa during 2017 promoted vegetative growth on and around Stockpiles 2B, 2C, 3 & 4 have served to stabilize the stockpiles and, in conjunction with existing BMPs (concrete pile butts and bio-socks), provide adequate erosion protection. This growth largely eliminates the need for re-application of chemical stabilizing agents at any of the stockpiles. The vegetation has also served to prolong the life of most of the bio-socks by limiting their exposure to the elements.

The active removal of Stockpile 2A by D. R. Horton's contractor under its Harbors Division ROE agreement – which may be expanded to Stockpiles 3 & 4 – indicate that 2018 will see increased stockpile removal activities at KBPH. The stockpile removal contractor(s) will continue to be monitored for compliance with their approved ROE and environmental plans and permits and will be inspected regularly by HAR-PM and HAR-EE.

With the removal of the KBPH stockpiles, the opportunities for long-awaited projects to develop the Kalaeloa Barbers Point Harbor to its full potential capacity will commence.

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6666	03/8/2017 12:00	Galdeira, Guy	Pier 35 UH facility	798	INLET STATUS	SDIHO354412	798	Followup Work Not Required
6667	02/14/2017 12:00	Galdeira, Guy		834	INLET STATUS	SDIHO447751	834	Followup Work Not Required
6668	03/8/2017 12:00	Galdeira, Guy	Pier 35 UH facility	801	INLET STATUS	SDIHO354414	801	Followup Work Not Required
6669	02/16/2017 12:00	Garcia, Joe	Admin building	805	INLET STATUS	SDIHO111861	805	Followup Work Not Required
6670	03/8/2017 12:00	Galdeira, Guy	HO40, Pier 40, Atlantis Submarines	777	INLET STATUS	SDIHO405790	777	Followup Work Not Required
6671				785	INLET STATUS	SDIHO0538914	785	
6672	03/1/2017 12:00	Garcia, Joe	HO11, Pier 11 shed	727	INLET STATUS	SDIHO111744	727	Followup Work Required
6673		Garcia, Joe	11, Pier 11	765	INLET STATUS	SDIHO111762	765	Followup Work Not Required
6674	02/15/2017 12:00	Garcia, Joe	HO02,	718	INLET STATUS	SDIHO020812	718	Followup Work Required
6675	02/17/2017 12:00	Garcia, Joe	HO02,	716	INLET STATUS	SDIHO020510	716	Followup Work Not Required
6676	03/8/2017 12:00	Galdeira, Guy	HO42, Island Movers	672	INLET STATUS	SDIHO427202	672	Followup Work Required
6677	01/9/2017 12:51	Bee, Bob	HO25, Pier 25	685	INLET STATUS	SDIHO243502	685	Followup Work Required
6678	02/14/2017 12:00	Galdeira, Guy	HO42E, Kapalama Military Reservation	648	INLET STATUS	SDIHO427608	648	Followup Work Not Required
6679	02/14/2017 12:00	Galdeira, Guy	HO42E, Kapalama Military Reservation	647	INLET STATUS	SDIHO427610	647	Followup Work Not Required
6680	02/14/2017 12:00	Galdeira, Guy	HO42E, Former Kapalama Military Reservation	646	INLET STATUS	SDIHO427640	646	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6681	02/14/2017 12:00	Galdeira, Guy	HO42E, former	645	INLET STATUS	SDIHO427724	645	Followup Work Not
		•	Kapalama					Required
			Military					
			Reservation					
6682	02/14/2017 12:00		HO42E, former	644	INLET STATUS	SDIHO427726	644	Followup Work Not
			Kapalama					Required
			Military					
			Reservation					
6683	02/14/2017 12:00	Galdeira, Guy	HO42E, former	643	INLET STATUS	SDIHO427722	643	Followup Work Not
			Kapalama					Required
			Military					
			Reservation					
6684	02/14/2017 12:00	Galdeira, Guy	HO42E, former	642	INLET STATUS	SDIHO427700	642	Followup Work Not
			Kapalama					Required
			Military					
		_	Reservation					
6685	02/16/2017 12:00	Garcia, Joe	HO11, Harbors	635	INLET STATUS	SDIHO111824	635	Followup Work Not
			Division					Required
			Administration					
			Building					
6686	02/16/2017 12:00	Garcia, Joe	HO11, Harbors	634	INLET STATUS	SDIHO111836	634	Followup Work Not
			Division					Required
			Administration					
			Building		== 0= 1=:10	05111011170		
6687	03/1/2017 12:00	Garcia, Joe	HO11, Pier 11	633	INLET STATUS	SDIHO111766	633	Followup Work
			shed		== 0= 1=:10	05,1110,105000		Required
6688	02/14/2017 12:00	Galdeira, Guy	HO42E,	605	INLET STATUS	SDIHO427308	605	Followup Work Not
			Kapalama					Required
			Military					
0000	00/4//00/47 40 00	0.11.	Reservation	20.4	== 0= 1=0	001110407000	20.4	- II IV I II (
6689	02/14/2017 12:00	Galdeira, Guy	HO42E,	604	INLET STATUS	SDIHO427306	604	Followup Work Not
			Kapalama					Required
			Military					
0000	00/0/0047 40 60	0-14-1	Reservation	000	IN U. E.T. O.T. A.T. 'C	001110407046	000	F-11 14/ 1
6690	03/8/2017 12:00	Galdeira, Guy	HO42E,	608	INLET STATUS	SDIHO427316	608	Followup Work
			Kapalama					Required
			Military					
			Reservation					

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6691	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	611	INLET STATUS	SDIHO427602	611	Followup Work Not Required
6692	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	612	INLET STATUS	SDIHO427584	612	Followup Work Not Required
6693	03/8/2017 12:00	Galdeira, Guy	HO42E, Kapalama Military Reservation	607	INLET STATUS	SDIHO427314	607	Followup Work Required
6694	02/16/2017 12:00	Garcia, Joe	HO11, Harbors Division Administration Building	632	INLET STATUS	SDIHO111854	632	Followup Work Not Required
6695	02/14/2017 12:00	Galdeira, Guy	HO42E, Kapalama Military Reservation	602	INLET STATUS	SDIHO427622	602	Followup Work Not Required
6696			HO42E, Kapalama Military Reservation	601	INLET STATUS	SDIHO427624	601	
6697	03/8/2017 12:00	Galdeira, Guy	HO41, Pacific Shipyards International	578	INLET STATUS	SDIHO427032	578	Followup Work Required
6698	03/8/2017 12:00	Galdeira, Guy	HO39, Young Brothers entrance	582	INLET STATUS	SDIHO395612	582	Followup Work Required
6699	03/8/2017 12:00	Galdeira, Guy	HO41, Pacific Shipyards International	575	INLET STATUS	SDIHO427038	575	Followup Work Required
6700	03/8/2017 12:00	Galdeira, Guy	HO41, Pacific Shipyards International	574	INLET STATUS	SDIHO417002	574	Followup Work Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6701	03/8/2017 12:00	Galdeira, Guy	HO41, Pacific Shipyards International	572	INLET STATUS	SDIHO417004	572	Followup Work Required
6702	03/8/2017 12:00	Galdeira, Guy	HO41, Pacific Shipyards International	570	INLET STATUS	SDIHO416982	570	Followup Work Required
6703	03/8/2017 12:00	Galdeira, Guy	HO42, Island Movers	567	INLET STATUS	SDIHO427224	567	Followup Work Required
6704	03/8/2017 12:00	Galdeira, Guy	HO42, Island Movers	563	INLET STATUS	SDIHO427206	563	Followup Work Required
6705	02/14/2017 12:00	Galdeira, Guy	HO42E, Kapalama Military Reservation	562	INLET STATUS	SDIHO427630	562	Followup Work Not Required
6706	02/14/2017 12:00	Galdeira, Guy	HO42E, Kapalama Military Reservation	561	INLET STATUS	SDIHO427642	561	Followup Work Not Required
6707	03/8/2017 12:00	Galdeira, Guy	HO42E, Kapalama Military Reservation	560	INLET STATUS	SDIHO427318	560	Followup Work Required
6708	03/8/2017 12:00	Galdeira, Guy	HO39, Young Brothers access road along North Nimitz Highway	548	INLET STATUS	SDIHO395592	548	Followup Work Not Required
6709	03/8/2017 12:00	Galdeira, Guy	HO39, Young Brothers access road along North Nimitz Highway	547	INLET STATUS	SDIHO395596	547	Followup Work Not Required
6710	03/8/2017 12:00	Galdeira, Guy	HO42E, Don's Makiki Service	532	INLET STATUS	SDIHO426972	532	Followup Work Required
6711	01/10/2017 01:15	Kaili, Kahea	HO18, Pier 18	439	INLET STATUS	SDIHO182306	439	Followup Work Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6712	01/3/2017 12:00	Bee, Bob	HO20, Pier 19 Ferry Terminal	384	INLET STATUS	SDIHO202582	384	Followup Work Not Required
6713	01/6/2017 12:56	Bee, Bob	HO23, DHX yard; Former molasses tank farm at Pier 19	374	INLET STATUS	SDIHO232448	374	Followup Work Not Required
6714	01/10/2017 01:20	Kaili, Kahea	HO18, Pier 18, Harbors Division Custodial Unit	366	INLET STATUS	SDIHO182320	366	Followup Work Not Required
6715	01/10/2017 01:21	Kaili, Kahea	HO18, Pier 18 Hawaii Pilots Association	365	INLET STATUS	SDIHO182302	365	Followup Work Required
6716	01/10/2017 01:18	Kaili, Kahea	HO18, Pier 18	364	INLET STATUS	SDIHO182304	364	Followup Work Not Required
6717	03/24/2017 12:00	Garcia, Joe	HO09, Irwin Park	298	INLET STATUS	SDIHO091308	298	Followup Work Required
6718	02/17/2017 12:00		HO02, Access Road between FTZ and Ala Moana Boulevard	279	INLET STATUS	SDIHO020808	279	Followup Work Not Required
6719	02/17/2017 12:00	Garcia, Joe	HO02, Access Road between FTZ and Ala Moana Boulevard	278	INLET STATUS	SDIHO020806	278	Followup Work Not Required
6720	02/17/2017 12:00	Garcia, Joe	HO02, Access Road between FTZ and Ala Moana Boulevard	277	INLET STATUS	SDIHO020804	277	Followup Work Not Required
6721	02/17/2017 12:00	Garcia, Joe	HO01, Pier 1 container yard	268	INLET STATUS	SDIHO010208	268	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6722	02/15/2017 12:00	Garcia, Joe	HO02, Access	265	INLET STATUS	SDIHO020810	265	Followup Work Not
			Road between					Required
			FTZ and Ala					
			Moana					
			Boulevard					
6723	02/16/2017 12:00	Garcia, Joe	HO08, Aloha	238	INLET STATUS	SDIHO081284	238	Followup Work Not
			Tower Market					Required
			Place parking					
0704	00/4/0047 40:00	Openia Isa	lot HO11, Pier 11	400	INIL ET OTATUO	SDIHO111794	400	Fallering Mark
6724	03/1/2017 12:00	Garcia, Joe	,	160	INLET STATUS	SDINO 111794	160	Followup Work
6725	03/1/2017 12:00	Garcia, Joe	shed HO11, Pier 11	158	INLET STATUS	SDIHO111798	158	Required Followup Work Not
0725	03/1/2017 12.00	Garcia, Jue	shed	136	INLET STATUS	3011101111790	130	Required
6726	02/16/2017 12:00	Garcia, Joe	HO11, Pier 11	157	INLET STATUS	SDIHO111796	157	Followup Work Not
0720	02/10/2017 12.00	Garcia, occ	shed	107	INCLI OTATOO	0011101111700	107	Required
6727	02/16/2017 12:00	Garcia, Joe	HO11,	155	INLET STATUS	SDIHO111834	155	Followup Work Not
0.2.	02/10/2011 12:00	Gardia, GGG	11011,	100		021110111001	100	Required
6728	02/14/2017 12:00		HO60, Keehi	145	INLET STATUS	SDIHO609114	145	Followup Work
			Industrial Lots					Required
6729	01/18/2017 09:23	Bee, Bob	HO52, Sand	119	INLET STATUS	SDIHO528510	119	Followup Work
			Island					Required
6730	01/19/2017 09:42	Bee, Bob	HO51,	99	INLET STATUS	SDIHO518378	99	Followup Work
			Molasses tanks					Required
6731	01/11/2017 10:42	Kaili, Kahea	HO36,	53	INLET STATUS	SDIHO364604	53	Followup Work
			Commercial					Required
			Fishing Village					
6732	01/11/2017 12:26	Kaili, Kahea	HO38,	51	INLET STATUS	SDIHO385152	51	Followup Work Not
			Commercial					Required
			Fishing Village		== ==			
6733	01/11/2017 12:40	Kaili, Kahea	HO38,	45	INLET STATUS	SDIHO384708	45	Followup Work Not
			Commercial					Required
0704	04/44/0047 40 40		Fishing Village	4.4	IN ET OTATUO	001110004700	144	Estlesson Missis N. (
6734	01/11/2017 12:42		HO38,	44	INLET STATUS	SDIHO384706	44	Followup Work Not
			Commercial					Required
			Fishing Village					

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6735	01/11/2017 12:49	Kaili, Kahea	HO38, Commercial Fishing Village	41	INLET STATUS	SDIHO384806	41	Followup Work Not Required
6736	01/11/2017 12:44	Kaili, Kahea	HO38, Commercial Fishing Village	39	INLET STATUS	SDIHO384814	39	Followup Work Required
6737	01/11/2017 12:55	Kaili, Kahea	HO38, Commercial Fishing Village	37	INLET STATUS	SDIHO384820	37	Followup Work Not Required
6738	01/11/2017 12:38		HO38, Commercial Fishing Village	35	INLET STATUS	SDIHO384710	35	
6739	02/16/2017 12:00	Garcia, Joe	HO08, Aloha Tower Market Place parking lot	240	INLET STATUS	SDIHO081240	240	Followup Work Not Required
6740	02/16/2017 12:00	Garcia, Joe	HO08, Nimitz Highway	243	INLET STATUS	SDIHO081244	243	Followup Work Not Required
6741	03/8/2017 12:00	Galdeira, Guy	HO42, Island Movers	565	INLET STATUS	SDIHO427222	565	Followup Work Required
6742	03/8/2017 12:00	Galdeira, Guy	HO41, Pacific Shipyards International	571	INLET STATUS	SDIHO416992	571	Followup Work Required
6743	03/8/2017 12:00	Galdeira, Guy	HO41, Pacific Shipyards International	525	INLET STATUS	SDIHO416994	525	Followup Work Required
6744	03/8/2017 12:00	Galdeira, Guy	HO30,	521	INLET STATUS	SDIHO313904	521	Followup Work Required
6745	02/15/2017 12:00	Garcia, Joe	HO06, HECO Power Plant	299	INLET STATUS	SDIHO061162	299	Followup Work Not Required
6746	02/17/2017 12:00	Garcia, Joe	HO02, Pier 2 yard	178	INLET STATUS	SDIHO020176	178	Followup Work Not Required
6747	03/8/2017 12:00	Galdeira, Guy	HO41, Pacific Shipyards International	579	INLET STATUS	SDIHO417012	579	Followup Work Required
6748	03/8/2017 12:00	Galdeira, Guy	HO41, Pacific Shipyards International	577	INLET STATUS	SDIHO427034	577	Followup Work Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6749	03/8/2017 12:00	Galdeira, Guy	HO41, Pacific Shipyards International	580	INLET STATUS	SDIHO417014	580	Followup Work Required
6750	02/15/2017 12:00	Garcia, Joe	HO01, Pier 1	212	INLET STATUS	SDIHO010102	212	Followup Work Not Required
6751	03/8/2017 12:00	Galdeira, Guy	HO41, Pacific Shipyards International	581	INLET STATUS	SDIHO416984	581	Followup Work Required
6752	03/8/2017 12:00	Galdeira, Guy	HO42, Island Movers	557	INLET STATUS	SDIHO427220	557	Followup Work Required
6753	03/8/2017 12:00	Galdeira, Guy	HO41, Pacific Shipyards International	573	INLET STATUS	SDIHO427040	573	Followup Work Required
6754	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	613	INLET STATUS	SDIHO427582	613	Followup Work Not Required
6755	02/16/2017 12:00	Garcia, Joe	HO09, Aloha Tower Drive	247	INLET STATUS	SDIHO092030	247	Followup Work Not Required
6756	02/14/2017 12:00		HO60,	149	INLET STATUS	SDIHO609158	149	Followup Work Required
6757	02/14/2017 12:00		HO60, Keehi Industrial Lots	147	INLET STATUS	SDIHO609116	147	Followup Work Required
6758	02/14/2017 12:00		HO60, Keehi Industrial Lots	220	INLET STATUS	SDIHO609118	220	Followup Work Required
6759	02/14/2017 12:00	Garcia, Joe	HO01, Pier 1 container yard	267	INLET STATUS	SDIHO010202	267	Followup Work Not Required
6760	01/6/2017 01:00	Bee, Bob	HO23, DHX yard; Former molasses tank farm at Pier 19	397	INLET STATUS	SDIHO232680	397	Followup Work Not Required
6761	01/6/2017 01:04	Bee, Bob	HO23, road near Hawaii Flour Mills silos and loading dock for DHX	401	INLET STATUS	SDIHO232814	401	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6762	01/6/2017 01:06	Bee, Bob	HO23, road on Diamond Head side of Hawaiian Flour Mill silos	402	INLET STATUS	SDIHO233030	402	Followup Work Not Required
6763	02/17/2017 12:00	,	HO01, Pier 1 container yard	271	INLET STATUS	SDIHO010214	271	Followup Work Not Required
6764	01/10/2017 01:14	Kaili, Kahea	HO18, Pier 18	363	INLET STATUS	SDIHO182308	363	Followup Work Not Required
6765	01/10/2017 01:12	Kaili, Kahea	HO18, Pier 18	360	INLET STATUS	SDIHO182310	360	Followup Work Not Required
6766	01/22/2017 09:01	Bee, Bob	HO51, Horizon Lines	204	INLET STATUS	SDIHO517926	204	Followup Work Not Required
6767	03/8/2017 12:00	Galdeira, Guy	HO41, Auiki and Libby Street intersection	529	INLET STATUS	SDIHO416574	529	Followup Work Required
6768	02/15/2017 12:00	Garcia, Joe	HO06, HO06	251	INLET STATUS	SDIHO061102	251	Followup Work Not Required
6769	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	614	INLET STATUS	SDIHO427562	614	Followup Work Not Required
6770	01/17/2017 10:07	Bee, Bob	HO51, Sand Island	62	INLET STATUS	SDIHO517854	62	Followup Work Required
6771	01/18/2017 09:26	Bee, Bob	HO51, Matson Tower	102	INLET STATUS	SDIHO518414	102	Followup Work Not Required
6772	02/16/2017 12:00	Garcia, Joe	Pier 7 heco	786	INLET STATUS	SDIHO609161	786	Followup Work Not Required
6773	02/16/2017 12:00	Garcia, Joe	Pier 7 heco	787	INLET STATUS	SDIHO609162	787	Followup Work Not Required
6774	02/16/2017 12:00	Garcia, Joe	Pier 7 heco building	788	INLET STATUS	SDIH0071192	788	Followup Work Not Required
6775	02/16/2017 12:00	Garcia, Joe	Pier 7 heco	807	INLET STATUS	SDIHO071184	807	Followup Work Not Required
6776	02/15/2017 12:00	Garcia, Joe	HO06, Pier 5-6 parking lot	262	INLET STATUS	SDIHO061100	262	Followup Work Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6777	02/15/2017 12:00	Garcia, Joe	HO06,	698	INLET STATUS	SDIHO061098	698	Followup Work Required
6778	03/8/2017 12:00	Galdeira, Guy	Pier 35 UH facility	797	INLET STATUS	SDIHO354474	797	Followup Work Not Required
6779	03/8/2017 12:00	Galdeira, Guy	HO40, Young Brothers maintenance facility	543	INLET STATUS	SDIHO405608	543	Followup Work Required
6780	01/18/2017 09:28	Bee, Bob	HO51, Sand Island	91	INLET STATUS	SDIHO518058	91	Followup Work Not Required
6781	01/17/2017 10:05	Bee, Bob	HO51, main entrance	675	INLET STATUS	SDIHO518416	675	Followup Work Not Required
6782	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	637	INLET STATUS	SDIHO427760	637	Followup Work Not Required
6783	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	629	INLET STATUS	SDIHO427758	629	Followup Work Not Required
6784	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	628	INLET STATUS	SDIHO427756	628	Followup Work Not Required
6785	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	627	INLET STATUS	SDIHO427754	627	Followup Work Not Required
6786	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	626	INLET STATUS	SDIHO427752	626	Followup Work Not Required
6787	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	625	INLET STATUS	SDIHO427750	625	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6788	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	624	INLET STATUS	SDIHO427748	624	Followup Work Not Required
6789	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	623	INLET STATUS	SDIHO427746	623	Followup Work Not Required
6790	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	622	INLET STATUS	SDIHO427744	622	Followup Work Not Required
6791	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	621	INLET STATUS	SDIHO427742	621	Followup Work Not Required
6792	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	620	INLET STATUS	SDIHO427740	620	Followup Work Not Required
6793	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	618	INLET STATUS	SDIHO427736	618	Followup Work Not Required
6794	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	619	INLET STATUS	SDIHO427738	619	Followup Work Not Required
6795	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	617	INLET STATUS	SDIHO427734	617	Followup Work Not Required
6796	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	616	INLET STATUS	SDIHO427732	616	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6797	02/14/2017 12:00	Galdeira, Guy	HO42E, University of Hawaii Marine Center	615	INLET STATUS	SDIHO427730	615	Followup Work Not Required
6798	02/14/2017 12:00		HO42E, Kapalama Military Reservation	606	INLET STATUS	SDIHO427728	606	Followup Work Not Required
6799	03/8/2017 12:00	Galdeira, Guy	HO40, Young Brothers entrance	541	INLET STATUS	SDIHO405610	541	Followup Work Required
6800	03/8/2017 12:00	Galdeira, Guy	HO41, Auiki and Libby Street intersection	528	INLET STATUS	SDIHO416572	528	Followup Work Required
6801	03/8/2017 12:00	Galdeira, Guy	Pier 35 UH facility	471	INLET STATUS	SDIHO344362	471	Followup Work Not Required
6802	01/3/2017 12:00		HO21, Southwest corner of ferry parking lot near across Warehouse 6 and Pier 21 building.	416	INLET STATUS	SDIHO202700	416	Followup Work Not Required
6803	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	346	INLET STATUS	SDIHO091624	346	Followup Work Not Required
6804	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	345	INLET STATUS	SDIHO091626	345	Followup Work Not Required
6805	02/24/2017 12:00	Garcia, Joe	HO09, Irwin Park	300	INLET STATUS	SDIHO091294	300	Followup Work Required
6806	03/24/2017 12:00	Garcia, Joe	HO09, Irwin Park	297	INLET STATUS	SDIHO091310	297	Followup Work Required
6807	03/24/2017 12:00	Garcia, Joe	HO09, Irwin Park	296	INLET STATUS	SDIHO091296	296	Followup Work Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6808	02/17/2017 12:00	Garcia, Joe	HO02, Channel Street	289	INLET STATUS	SDIHO020508	289	Followup Work Required
6809	02/17/2017 12:00	Garcia, Joe	HO02, Channel Street	287	INLET STATUS	SDIHO020522	287	Followup Work Required
6810	02/17/2017 12:00	Garcia, Joe	HO02, Channel Street	286	INLET STATUS	SDIHO020644	286	Followup Work Required
6811	02/17/2017 12:00	Garcia, Joe	HO02, Channel Street	285	INLET STATUS	SDIHO020642	285	Followup Work Required
6812	02/17/2017 12:00	Garcia, Joe	HO02, Channel Street	284	INLET STATUS	SDIHO020640	284	Followup Work Required
6813	02/17/2017 12:00	Garcia, Joe	HO02, Channel Street	283	INLET STATUS	SDIHO020650	283	Followup Work Required
6814	03/28/2017 12:00	Garcia, Joe	HO09, Aloha Tower Drive	246	INLET STATUS	SDIHO091452	246	Followup Work Required
6815	02/16/2017 12:00	Garcia, Joe	HO08, Aloha Tower	242	INLET STATUS	SDIHO081260	242	Followup Work Not Required
6816	02/16/2017 12:00	Garcia, Joe	HO09, Aloha Tower Drive	245	INLET STATUS	SDIHO092022	245	Followup Work Not Required
6817	02/16/2017 12:00	Garcia, Joe	HO08, Aloha Tower Market Place parking lot	241	INLET STATUS	SDIHO081238	241	Followup Work Not Required
6818	02/16/2017 12:00	Garcia, Joe	HO08, Aloha Tower Market Place parking lot	239	INLET STATUS	SDIHO081282	239	Followup Work Not Required
6819	02/16/2017 12:00	Garcia, Joe	HO08, Aloha Tower Market Place parking lot	237	INLET STATUS	SDIHO081286	237	Followup Work Not Required
6820	03/21/2017 12:00	Garcia, Joe	HO08, Aloha Tower Market Place parking lot	236	INLET STATUS	SDIHO081288	236	Followup Work Not Required
6821	02/16/2017 12:00	Garcia, Joe	HO08, Aloha Tower Market Place parking lot	235	INLET STATUS	SDIHO081242	235	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6822	02/17/2017 12:12	Garcia, Joe	HO02,	198	INLET STATUS	SDIHO010292	198	Followup Work Not Required
6823	02/17/2017 12:15	Garcia, Joe	HO02,	197	INLET STATUS	SDIHO010290	197	Followup Work Not Required
6824	02/17/2017 12:16	Garcia, Joe	HO02,	196	INLET STATUS	SDIHO010288	196	Followup Work Not Required
6825	02/17/2017 12:00	Garcia, Joe	HO02,	195	INLET STATUS	SDIHO010286	195	Followup Work Not Required
6826	02/17/2017 12:00	Garcia, Joe	HO02,	194	INLET STATUS	SDIHO010284	194	Followup Work Not Required
6827	02/17/2017 12:00	Garcia, Joe	HO02,	193	INLET STATUS	SDIHO010282	193	Followup Work Not Required
6828	02/17/2017 12:00	Garcia, Joe	HO02,	192	INLET STATUS	SDIHO010280	192	Followup Work Not Required
6829	02/17/2017 12:00	Garcia, Joe	HO02,	191	INLET STATUS	SDIHO010278	191	Followup Work Not Required
6830	02/17/2017 12:00	Garcia, Joe	HO02,	190	INLET STATUS	SDIHO010276	190	Followup Work Not Required
6831	02/17/2017 12:00	Garcia, Joe	HO02,	189	INLET STATUS	SDIHO010274	189	Followup Work Not Required
6832	02/17/2017 12:26	Garcia, Joe	HO02,	188	INLET STATUS	SDIHO010272	188	Followup Work Not Required
6833	02/17/2017 12:00	Garcia, Joe	HO02,	187	INLET STATUS	SDIHO010270	187	Followup Work Not Required
6834	02/17/2017 12:00	Garcia, Joe	HO02,	186	INLET STATUS	SDIHO010268	186	Followup Work Not Required
6835	02/17/2017 12:00	Garcia, Joe	HO02,	185	INLET STATUS	SDIHO010266	185	Followup Work Not Required
6836	02/17/2017 12:00	Garcia, Joe	HO02,	184	INLET STATUS	SDIHO010264	184	Followup Work Not Required
6837	02/17/2017 12:00	Garcia, Joe	HO02,	183	INLET STATUS	SDIHO010262	183	Followup Work Not Required
6838	02/17/2017 12:00	Garcia, Joe	HO02,	182	INLET STATUS	SDIHO010260	182	Followup Work Not Required
6839	02/17/2017 12:00	Garcia, Joe	HO02,	181	INLET STATUS	SDIHO010258	181	Followup Work Not Required
6840	02/17/2017 12:00	Garcia, Joe	HO02,	180	INLET STATUS	SDIHO010256	180	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6841	01/23/2017 12:59	Bee, Bob	HO52, Sand Island	137	INLET STATUS	SDIHO528688	137	Followup Work Not Required
6842	01/23/2017 01:02	Bee, Bob	HO52, Sand Island	135	INLET STATUS	SDIHO528682	135	Followup Work Required
6843	01/18/2017 09:28	Bee, Bob	HO51, Matson Navigation building	89	INLET STATUS	SDIHO518054	89	Followup Work Required
6844	01/22/2017 09:09	Bee, Bob	HO51, Horizon Lines	71	INLET STATUS	SDIHO517890	71	Followup Work Not Required
6845	01/23/2017 01:01	Bee, Bob	HO52, Sand Island	66	INLET STATUS	SDIHO528684	66	Followup Work Required
6846	01/23/2017 01:04	Bee, Bob	HO52, Sand Island	64	INLET STATUS	SDIHO528680	64	Followup Work Not Required
6847	02/16/2017 12:00	Garcia, Joe	HO08, Aloha Tower Drive, at intersection with Bishop Street	50	INLET STATUS	SDIHO081506	50	Followup Work Not Required
6848		Garcia, Joe	HO01, Pier 1 container yard	269	INLET STATUS	SDIHO010210	269	Followup Work Not Required
6849	01/11/2017 12:25	Kaili, Kahea	HO38, Commercial Fishing Village	52	INLET STATUS	SDIHO385154	52	Followup Work Required
6850	01/9/2017 12:45	Bee, Bob	HO26, Pier 26	136	INLET STATUS	SDIHO263592	136	Followup Work Not Required
6851	01/11/2017 09:59	Bee, Bob	HO53, CFS#2	673	INLET STATUS	SDIHO538912	673	Followup Work Not Required
6852	01/22/2017 09:12	Bee, Bob	HO51, Horizon Lines	61	INLET STATUS	SDIHO517802	61	Followup Work Not Required
6853	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31 yard	449	INLET STATUS	SDIHO314016	449	Followup Work Not Required
6854	02/15/2017 12:00	Garcia, Joe	HO05, Ala Moana Boulevard parking lot	781	INLET STATUS	SDIHO0519423	781	Followup Work Required
6855	02/15/2017 12:00	Garcia, Joe	HO05,	780	INLET STATUS	SDIHO0528874	780	Followup Work Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6856	02/15/2017 12:00	Garcia, Joe	HO05,	779	INLET STATUS	SDIHO0519429	779	Followup Work Required
6857	02/15/2017 12:00	Garcia, Joe	HO05, parking lot	778	INLET STATUS	SDIHO0519427	778	Followup Work Not Required
6858	02/17/2017 12:00	Garcia, Joe	1, pier 1	766	INLET STATUS	SDIHO010213	766	Followup Work Not Required
6859	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6	728	INLET STATUS	SDIHO202652	728	Followup Work Not Required
6860	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6	725	INLET STATUS	SDIHO202654	725	Followup Work Not Required
6861	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6	724	INLET STATUS	SDIHO202656	724	Followup Work Not Required
6862	01/9/2017 02:01	Bee, Bob	HO29, Pier 29 yard	723	INLET STATUS	SDIHO293612	723	Followup Work Required
6863	01/10/2017 12:15	Bee, Bob	HO29, Pier 29 yard	722	INLET STATUS	SDIHO293620	722	Followup Work Not Required
6864	01/11/2017 10:04		HO53, Matson CFS	721	INLET STATUS	SDIHO538890	721	Followup Work Not Required
6865	01/3/2017 02:25	Bee, Bob	HO23,	720	INLET STATUS	SDIHO233004	720	Followup Work Not Required
6866	02/15/2017 12:00	Garcia, Joe	HO02,	719	INLET STATUS	SDIHO020814	719	Followup Work Required
6867	02/17/2017 12:00	Garcia, Joe	HO02,	717	INLET STATUS	SDIHO020512	717	Followup Work Required
6868	03/8/2017 12:00	Galdeira, Guy	HO31,	704	INLET STATUS	SDIHO314152	704	Followup Work Not Required
6869	01/3/2017 12:00	Bee, Bob	HO22,	703	INLET STATUS	SDIHO222802	703	Followup Work Not Required
6870	01/3/2017 12:00	Bee, Bob	HO23, Warehouse #6	702	INLET STATUS	SDIHO222806	702	Followup Work Not Required
6871	01/3/2017 12:00	Bee, Bob	HO19, Pier 19 shed	700	INLET STATUS	SDIHO192484	700	Followup Work Not Required
6872	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31 Shed	697	INLET STATUS	SDIHO313954	697	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6873	01/22/2017 08:54	Kaili, Kahea	HO51, Horizon Lines	696	INLET STATUS	SDIHO518400	696	Followup Work Required
6874	01/11/2017 10:25	Bee, Bob	HO52, Matson Facilities and Management building (formerly CEM or Container Equipment Maintenance facility)	695	INLET STATUS	SDIHO528736	695	Followup Work Not Required
6875	01/11/2017 10:28	Bee, Bob	HO52, Matson Facilities and Management building (formerly CEM or Container Equipment Maintenance facility)	694	INLET STATUS	SDIHO528738	694	Followup Work Required
6876	01/11/2017 10:19	Bee, Bob	HO52, Matson Facilities and Management building (formerly CEM or Container Equipment Maintenance facility)	693	INLET STATUS	SDIHO528732	693	Followup Work Not Required
6877	01/11/2017 10:16	Bee, Bob	HO52, Matson Facilities and Management building (formerly CEM or Container Equipment Maintenance facility)	692	INLET STATUS	SDIHO528730	692	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6878	01/18/2017 09:51	Bee, Bob	HO51, Matson vehicle processing lot	691	INLET STATUS	SDIHO518404	691	Followup Work Not Required
6879	01/11/2017 10:38	Bee, Bob	HO51, Matson vehicle processing lot. 3 painted in black	689	INLET STATUS	SDIHO518470	689	Followup Work Not Required
6880	01/19/2017 09:39	Bee, Bob	HO51, Matson vehicle processing lot	690	INLET STATUS	SDIHO518408	690	Followup Work Required
6881	01/11/2017 10:37	Bee, Bob	HO51, Matson vehicle processing lot	688	INLET STATUS	SDIHO518472	688	Followup Work Not Required
6882	01/11/2017 10:36	Bee, Bob	HO51, Matson vehicle processing lot	687	INLET STATUS	SDIHO518474	687	Followup Work Not Required
6883	01/17/2017 11:41	Bee, Bob	HO51, Matson vehicle processing	686	INLET STATUS	SDIHO518402	686	Followup Work Not Required
6884	01/22/2017 08:52	Bee, Bob	HO51, Matson vehicle processing	684	INLET STATUS	SDIHO518468	684	Followup Work Not Required
6885	01/17/2017 09:56	Bee, Bob	HO53, Matson Container Facility	683	INLET STATUS	SDIHO538908	683	Followup Work Required
6886	01/17/2017 11:58	Bee, Bob	HO53, Matson Container Facility	682	INLET STATUS	SDIHO538904	682	Followup Work Not Required
6887	01/17/2017 11:48	Bee, Bob	HO53, Matson Container Facility	681	INLET STATUS	SDIHO538906	681	Followup Work Not Required
6888	01/11/2017 10:11	Bee, Bob	HO52, CEM Building	680	INLET STATUS	SDIHO528718	680	Followup Work Required
6889	01/11/2017 10:12	Bee, Bob	HO52, CEM Building	679	INLET STATUS	SDIHO528716	679	Followup Work Required
6890	01/11/2017 10:13	Bee, Bob	HO52, CEM Building	678	INLET STATUS	SDIHO528714	678	Followup Work Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6891	01/11/2017 10:14	Bee, Bob	HO52, CEM	677	INLET STATUS	SDIHO528712	677	Followup Work
			Building					Required
6892	01/11/2017 10:15	Bee, Bob	HO52, CEM	676	INLET STATUS	SDIHO528710	676	Followup Work
			Building					Required
6893	01/17/2017 09:51	Bee, Bob	HO53, Sand	674	INLET STATUS	SDIHO538910	674	Followup Work
			Island Cargo					Required
			Yard 5					
6894	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31	636	INLET STATUS	SDIHO313958	636	Followup Work Not
			shed		== == . =			Required
6895	02/14/2017 12:00	Galdeira, Guy	HO42E,	603	INLET STATUS	SDIHO427620	603	Followup Work Not
			Kapalama					Required
			Military					
6896	02/14/2017 12:00	Galdeira, Guy	Reservation HO42E,	600	INLET STATUS	SDIHO427626	600	Followup Work Not
0090	02/14/2017 12.00	Galdella, Guy	HO42⊑, Kapalama	600	INLETSTATUS	SDINU42/020	600	Required
			Military					Required
			Reservation					
6897	02/14/2017 12:00	Galdeira, Guy	HO42E,	597	INLET STATUS	SDIHO427604	597	Followup Work Not
0007	02/14/2017 12:00	Galaciia, Gay	Kapalama	007	INLET OTATION	051110427004	007	Required
			Military					rtoquilou
			Reservation					
6898	03/8/2017 12:00	Galdeira, Guy	HO42E,	586	INLET STATUS	SDIHO427312	586	Followup Work
		.,	Kapalama					Required
			Military					1, 1,
			Reservation					
6899	02/14/2017 12:00	Galdeira, Guy	HO42E,	585	INLET STATUS	SDIHO427606	585	Followup Work Not
			Kapalama					Required
			Military					
			Reservation					
6900	02/14/2017 12:00	Galdeira, Guy	HO42E,	584	INLET STATUS	SDIHO427310	584	Followup Work Not
			Kapalama					Required
			Military					
			Reservation					
6901	02/14/2017 12:00	Galdeira, Guy	HO42,	583	INLET STATUS	SDIHO427320	583	Followup Work
			Kapalama					Required
			Military					
			Reservation					

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6902	03/8/2017 12:00	Galdeira, Guy	HO41, Pacific Shipyards International	576	INLET STATUS	SDIHO427036	576	Followup Work Required
6903	03/8/2017 12:02	Galdeira, Guy	HO42, Island Movers	569	INLET STATUS	SDIHO427226	569	Followup Work Required
6904	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31 yard	568	INLET STATUS	SDIHO314142	568	Followup Work Not Required
6905	03/8/2017 12:00	Galdeira, Guy	HO42, Island Movers	566	INLET STATUS	SDIHO427200	566	Followup Work Required
6906	03/8/2017 12:00	Galdeira, Guy	HO42, Island Movers	564	INLET STATUS	SDIHO427204	564	Followup Work Required
6907	02/14/2017 12:00	Galdeira, Guy	HO42E, former Kapalama Military Reservation	559	INLET STATUS	SDIHO427710	559	Followup Work Not Required
6908	02/14/2017 12:00	Galdeira, Guy	HO42E, Kapalama Military Reservation	558	INLET STATUS	SDIHO427350	558	Followup Work Not Required
6909	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31 shed	556	INLET STATUS	SDIHO314160	556	Followup Work Not Required
6910	02/14/2017 12:00	Galdeira, Guy	HO42E, former Kapalama Military Reservation	555	INLET STATUS	SDIHO427708	555	Followup Work Not Required
6911	02/14/2017 12:00	Galdeira, Guy	HO42E, Kapalama Military Reservation	553	INLET STATUS	SDIHO427352	553	Followup Work Not Required
6912	03/8/2017 12:00	Galdeira, Guy	HO32, BEI/PENCO yard	552	INLET STATUS	SDIHO324264	552	Followup Work Required
6913	03/8/2017 12:00	Galdeira, Guy	HO31,	551	INLET STATUS	SDIHO313962	551	Followup Work Not Required
6914	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31 entrance road	549	INLET STATUS	SDIHO313964	549	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6915	03/8/2017 12:00		HO40, Ewa side of Young Brothers Annex building	546	INLET STATUS	SDIHO405712	546	Followup Work Not Required
6916	03/8/2017 12:00	Galdeira, Guy	HO40, Between Young Brothers Annex and Admin buildings	545	INLET STATUS	SDIHO405708	545	Followup Work Not Required
6917	03/8/2017 12:00	Galdeira, Guy	HO40, Between Young Brothers Annex and Admin buildings	544	INLET STATUS	SDIHO405722	544	Followup Work Not Required
6918	03/8/2017 12:00	Galdeira, Guy	HO39, Young Brothers Refrigeration Container Facility	540	INLET STATUS	SDIHO395510	540	Followup Work Not Required
6919	03/8/2017 12:00	Galdeira, Guy	HO39, Young Brothers Refrigeration Container Facility	538	INLET STATUS	SDIHO395512	538	Followup Work Not Required
6920	03/8/2017 12:00	Galdeira, Guy	HO39, Young Brothers Refrigeration Container Facility	537	INLET STATUS	SDIHO395514	537	Followup Work Not Required
6921	03/8/2017 12:00	Galdeira, Guy	HO34, Pier 34	536	INLET STATUS	SDIHO344322	536	Followup Work Not Required
6922	03/8/2017 12:00	Galdeira, Guy	HO34, Pier 34	535	INLET STATUS	SDIHO344302	535	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6923	03/8/2017 12:00	Galdeira, Guy	HO31, Roadway between HECO and Aloha Petroleum	533	INLET STATUS	SDIHO313972	533	Followup Work Required
6924	03/8/2017 12:00	Galdeira, Guy	HO40, Parking lot mauka of Atlantis Submarines	531	INLET STATUS	SDIHO406562	531	Followup Work Not Required
6925	03/8/2017 12:00	Galdeira, Guy	HO40, Atlantis Submarines shore facilities	530	INLET STATUS	SDIHO405802	530	Followup Work Not Required
6926	03/8/2017 12:00	Galdeira, Guy	HO30,	520	INLET STATUS	SDIHO313924	520	Followup Work Not Required
6927	03/8/2017 12:00	Galdeira, Guy	HO31,	509	INLET STATUS	SDIHO314400	509	Followup Work Not Required
6928	03/8/2017 12:00	Galdeira, Guy	HO34, Pier 34	470	INLET STATUS	SDIHO344352	470	Followup Work Required
6929		Galdeira, Guy	HO31,	507	INLET STATUS	SDIHO314402	507	Followup Work Not Required
6930	03/8/2017 12:00	Galdeira, Guy	HO39, Young Brothers Refrigeration Container Facility	472	INLET STATUS	SDIHO395516	472	Followup Work Not Required
6931	03/8/2017 12:00	Galdeira, Guy	HO31, Sea Engineering yard	504	INLET STATUS	SDIHO314390	504	Followup Work Not Required
6932	03/8/2017 12:00	Galdeira, Guy	HO33,	469	INLET STATUS	SDIHO344324	469	Followup Work Not Required
6933	03/8/2017 12:00	Galdeira, Guy	HO31,	506	INLET STATUS	SDIHO314398	506	Followup Work Not Required
6934	03/8/2017 12:00	Galdeira, Guy	HO31, Sea Engineering office	505	INLET STATUS	SDIHO314392	505	Followup Work Not Required
6935	03/8/2017 12:00	Galdeira, Guy	HO31,	508	INLET STATUS	SDIHO314396	508	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6936	03/8/2017 12:00	Galdeira, Guy	HO35, Hawaii Stevedores Inc.	501	INLET STATUS	SDIHO354472	501	Followup Work Not Required
6937	03/8/2017 12:00	Galdeira, Guy	HO33,	468	INLET STATUS	SDIHO344326	468	Followup Work Not Required
6938	03/8/2017 12:00	Galdeira, Guy	HO33,	467	INLET STATUS	SDIHO344328	467	Followup Work Not Required
6939	03/8/2017 12:00	Galdeira, Guy	HO32,	465	INLET STATUS	SDIHO324182	465	Followup Work Not Required
6940	03/8/2017 12:00	Galdeira, Guy	HO34, Pier 34	466	INLET STATUS	SDIHO344312	466	Followup Work Not Required
6941	03/8/2017 12:00	Galdeira, Guy	HO32, Pier 32 shed	464	INLET STATUS	SDIHO324202	464	Followup Work Not Required
6942	03/8/2017 12:00	Galdeira, Guy	HO32, Pier 32 shed	463	INLET STATUS	SDIHO324204	463	Followup Work Not Required
6943	03/8/2017 12:00	Galdeira, Guy	HO32,	462	INLET STATUS	SDIHO314162	462	Followup Work Not Required
6944	03/8/2017 12:00	Galdeira, Guy	HO32,	460	INLET STATUS	SDIHO324260	460	Followup Work Not Required
6945	03/8/2017 12:00	Galdeira, Guy	HO32, Pier 32 shed	461	INLET STATUS	SDIHO324232	461	Followup Work Not Required
6946	03/8/2017 12:00	Galdeira, Guy	HO32,	459	INLET STATUS	SDIHO324234	459	Followup Work Not Required
6947	03/8/2017 12:00	Galdeira, Guy	HO32,	458	INLET STATUS	SDIHO324236	458	Followup Work Not Required
6948	03/8/2017 12:00	Galdeira, Guy	HO32,	457	INLET STATUS	SDIHO324208	457	Followup Work Not Required
6949	03/8/2017 12:00	Galdeira, Guy	HO32,	456	INLET STATUS	SDIHO324262	456	Followup Work Not Required
6950	03/8/2017 12:00	Galdeira, Guy	HO31,	448	INLET STATUS	SDIHO314132	448	Followup Work Not Required
6951	03/8/2017 12:00	Galdeira, Guy	HO31,	447	INLET STATUS	SDIHO314136	447	Followup Work Not Required
6952	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31 shed	446	INLET STATUS	SDIHO314012	446	Followup Work Not Required
6953	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31 yard	445	INLET STATUS	SDIHO314130	445	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6954	03/8/2017 12:00	Galdeira, Guy	HO31,	444	INLET STATUS	SDIHO314134	444	Followup Work Not Required
6955	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31 entrance road	443	INLET STATUS	SDIHO313966	443	Followup Work Not Required
6956	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31 entrance road	442	INLET STATUS	SDIHO313968	442	Followup Work Not Required
6957	03/8/2017 12:00	Galdeira, Guy	HO31, Roadway between HECO and Aloha Petroleum	440	INLET STATUS	SDIHO313970	440	Followup Work Not Required
6958	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31 shed	441	INLET STATUS	SDIHO314002	441	Followup Work Not Required
6959	01/3/2017 12:00	Bee, Bob	HO21, Pier 21 shed	438	INLET STATUS	SDIHO212602	438	Followup Work Not Required
6960	01/3/2017 12:00	Bee, Bob	HO21, Pier 21 shed	437	INLET STATUS	SDIHO212612	437	Followup Work Required
6961	01/9/2017 12:50	Bee, Bob	HO25, Former corner of Pier 26 shed	424	INLET STATUS	SDIHO243522	424	Followup Work Not Required
6962	02/17/2017 12:00	Garcia, Joe	HO15, Pier 15 fire station parking lot	421	INLET STATUS	SDIHO152202	421	Followup Work Not Required
6963	01/9/2017 12:54		HO24, Sause Brothers Parking lot	420	INLET STATUS	SDIHO243202	420	Followup Work Not Required
6964	01/9/2017 12:46	Bee, Bob	HO26, Pier 26	419	INLET STATUS	SDIHO263572	419	Followup Work Not Required
6965	01/9/2017 12:48	Bee, Bob	HO26, Former Pier 26 Transit Shed	418	INLET STATUS	SDIHO263554	418	Followup Work Not Required
6966	01/9/2017 12:47	Bee, Bob	HO26, Former Pier 26 Transit Shed	417	INLET STATUS	SDIHO263556	417	Followup Work Not Required
6967	01/9/2017 12:53	Bee, Bob	HO24, Pier 24 near north corner	415	INLET STATUS	SDIHO243242	415	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6968	01/9/2017 12:57	Bee, Bob	HO29, Fenced enclosure at Oceantronics	414	INLET STATUS	SDIHO293206	414	Followup Work Not Required
6969	01/9/2017 12:55	Bee, Bob	HO29, Near guard station at entrance to piers 24-29	413	INLET STATUS	SDIHO293222	413	Followup Work Not Required
6970	01/9/2017 12:48	Bee, Bob	HO26, Former Pier 26 Transit Shed	412	INLET STATUS	SDIHO263552	412	Followup Work Not Required
6971	01/9/2017 12:56	Bee, Bob	HO29, Sause Brothers Parking Lot	411	INLET STATUS	SDIHO293204	411	Followup Work Not Required
6972	01/9/2017 12:56	Bee, Bob	HO29, Roadway fronting Oceantronics	409	INLET STATUS	SDIHO293224	409	Followup Work Not Required
6973	01/6/2017 01:11	Bee, Bob	HO24, Parking lot at front door of Bella Pietra Flooring	408	INLET STATUS	SDIHO243074	408	Followup Work Not Required
6974	01/6/2017 01:10	Bee, Bob	HO24, Roadway between Bella Pietra Flooring building and Pier 23	407	INLET STATUS	SDIHO243072	407	Followup Work Not Required
6975	01/3/2017 02:30	Bee, Bob	HO23, Roadway at northeast corner of Pier 23	406	INLET STATUS	SDIHO233002	406	Followup Work Required
6976	01/6/2017 01:09	Bee, Bob	HO23, road on Diamond Head side of Hawaiian Flour Mill silos	404	INLET STATUS	SDIHO233006	404	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6977	01/6/2017 01:20	Bee, Bob	HO23, McCabe, Hamilton and Renny, The Stevedores	405	INLET STATUS	SDIHO233010	405	Followup Work Required
6978	01/6/2017 01:07	Bee, Bob	HO23, road on Diamond Head side of Hawaiian Flour Mill silos	403	INLET STATUS	SDIHO233008	403	Followup Work Not Required
6979	01/6/2017 01:03	Bee, Bob	HO23, road fronting loading dock for DHX	400	INLET STATUS	SDIHO232812	400	Followup Work Not Required
6980	01/6/2017 12:57		HO23, DHX yard	399	INLET STATUS	SDIHO232686	399	Followup Work Not Required
6981	01/3/2017 12:00	Bee, Bob	HO19, Pier 19 Ferry Terminal	398	INLET STATUS	SDIHO192520	398	Followup Work Not Required
6982	01/3/2017 12:00	Bee, Bob	HO20, Pier 19 Ferry Terminal pakring	396	INLET STATUS	SDIHO202584	396	Followup Work Not Required
6983	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6	395	INLET STATUS	SDIHO202642	395	Followup Work Not Required
6984	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6	394	INLET STATUS	SDIHO202646	394	Followup Work Not Required
6985	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6	393	INLET STATUS	SDIHO202650	393	Followup Work Not Required
6986	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6	392	INLET STATUS	SDIHO202648	392	Followup Work Not Required
6987	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6	391	INLET STATUS	SDIHO202658	391	Followup Work Not Required
6988	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6	390	INLET STATUS	SDIHO202660	390	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
6989	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6	389	INLET STATUS	SDIHO202664	389	Followup Work Not Required
6990	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6	388	INLET STATUS	SDIHO202672	388	Followup Work Not Required
6991	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6	387	INLET STATUS	SDIHO202666	387	Followup Work Not Required
6992	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6	386	INLET STATUS	SDIHO202670	386	Followup Work Required
6993	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6 parking lot at Pier 20	385	INLET STATUS	SDIHO202704	385	Followup Work Not Required
6994	01/3/2017 12:00	Bee, Bob	HO19, Ferry Terminal parking lot at Pier 19	383	INLET STATUS	SDIHO202502	383	Followup Work Not Required
6995	01/3/2017 12:00	Bee, Bob	HO20, Pier 19 Ferry Terminal	382	INLET STATUS	SDIHO202580	382	Followup Work Not Required
6996	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 8	381	INLET STATUS	SDIHO202674	381	Followup Work Not Required
6997	01/3/2017 12:00	Bee, Bob	HO19, Ferry Terminal parking lot at Pier 19	380	INLET STATUS	SDIHO192504	380	Followup Work Not Required
6998	01/3/2017 12:00	Bee, Bob	HO23, Ferry Terminal parking lot at Pier 19	379	INLET STATUS	SDIHO192562	379	Followup Work Not Required
6999	01/3/2017 12:00	Bee, Bob	HO23, Ferry Terminal parking lot at Pier 19	378	INLET STATUS	SDIHO192554	378	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7000	01/3/2017 12:00	Bee, Bob	HO19, Ferry Terminal parking lot at	377	INLET STATUS	SDIHO192544	377	Followup Work Not Required
			Pier 19					
7001	01/3/2017 12:00	Bee, Bob	HO23, DHX yard; Former molasses tank farm at Pier 19	376	INLET STATUS	SDIHO232442	376	Followup Work Required
7002	01/6/2017 12:58	Bee, Bob	HO23, DHX yard; Former molasses tank farm at Pier 19	375	INLET STATUS	SDIHO232682	375	Followup Work Required
7003	01/6/2017 12:55	Bee, Bob	HO23, DHX yard; Former molasses tank farm at Pier 19	373	INLET STATUS	SDIHO232438	373	Followup Work Not Required
7004	01/6/2017 12:55	Bee, Bob	HO23, DHX yard; Former molasses tank farm at Pier 19	372	INLET STATUS	SDIHO232440	372	Followup Work Not Required
7005	01/3/2017 12:00	Bee, Bob	HO18, Parking lot between Pier 19 shed and Nimitz Highway	371	INLET STATUS	SDIHO182434	371	Followup Work Not Required
7006	01/3/2017 12:00	Bee, Bob	HO18, Pier 18 roadway and parking area	370	INLET STATUS	SDIHO182430	370	Followup Work Not Required
7007	01/3/2017 02:49	Bee, Bob	HO18, Pier 18 roadway and parking area	369	INLET STATUS	SDIHO182420	369	Followup Work Required
7008	01/3/2017 12:00	Bee, Bob	HO18, Pier 18 roadway and parking area	368	INLET STATUS	SDIHO182432	368	Followup Work Required
7009	01/3/2017 02:46	Bee, Bob	HO18, Pier 18 roadway and parking area	367	INLET STATUS	SDIHO182422	367	Followup Work Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7010	01/3/2017 12:00	Bee, Bob	HO21, Pier 21 between Pier 21 Shed and Hawaiian Tug and Barge	358	INLET STATUS	SDIHO212792	358	Followup Work Not Required
7011	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	347	INLET STATUS	SDIHO091610	347	Followup Work Required
7012	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	344	INLET STATUS	SDIHO091572	344	Followup Work Not Required
7013	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	343	INLET STATUS	SDIHO091608	343	Followup Work Required
7014	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	342	INLET STATUS	SDIHO091604	342	Followup Work Required
7015	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	341	INLET STATUS	SDIHO091620	341	Followup Work Not Required
7016	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	340	INLET STATUS	SDIHO091622	340	Followup Work Required
7017	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	339	INLET STATUS	SDIHO091630	339	Followup Work Required
7018	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	338	INLET STATUS	SDIHO091648	338	Followup Work Required
7019	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	337	INLET STATUS	SDIHO091650	337	Followup Work Required
7020	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	336	INLET STATUS	SDIHO091656	336	Followup Work Not Required
7021	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	335	INLET STATUS	SDIHO091652	335	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7022	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	334	INLET STATUS	SDIHO091654	334	Followup Work Not Required
7023	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	333	INLET STATUS	SDIHO091352	333	Followup Work Required
7024	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	332	INLET STATUS	SDIHO091356	332	Followup Work Required
7025	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	331	INLET STATUS	SDIHO091360	331	Followup Work Required
7026	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	330	INLET STATUS	SDIHO091362	330	Followup Work Required
7027	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	329	INLET STATUS	SDIHO091396	329	Followup Work Not Required
7028	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	328	INLET STATUS	SDIHO091394	328	Followup Work Not Required
7029	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	327	INLET STATUS	SDIHO091392	327	Followup Work Required
7030	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	326	INLET STATUS	SDIHO091364	326	Followup Work Required
7031	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	325	INLET STATUS	SDIHO091390	325	Followup Work Required
7032	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	324	INLET STATUS	SDIHO091388	324	Followup Work Required
7033	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	323	INLET STATUS	SDIHO091384	323	Followup Work Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7034	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	322	INLET STATUS	SDIHO091424	322	Followup Work Required
7035	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	321	INLET STATUS	SDIHO091422	321	Followup Work Required
7036	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	320	INLET STATUS	SDIHO091420	320	Followup Work Required
7037	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	319	INLET STATUS	SDIHO091430	319	Followup Work Required
7038	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	318	INLET STATUS	SDIHO091432	318	Followup Work Required
7039	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	317	INLET STATUS	SDIHO091434	317	Followup Work Required
7040	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	315	INLET STATUS	SDIHO091490	315	Followup Work Not Required
7041	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	314	INLET STATUS	SDIHO091488	314	Followup Work Not Required
7042	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	313	INLET STATUS	SDIHO091482	313	Followup Work Required
7043	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	312	INLET STATUS	SDIHO091480	312	Followup Work Not Required
7044	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	311	INLET STATUS	SDIHO091478	311	Followup Work Not Required
7045	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	309	INLET STATUS	SDIHO091474	309	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7046	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	308	INLET STATUS	SDIHO091472	308	Followup Work Not Required
7047	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	307	INLET STATUS	SDIHO091470	307	Followup Work Required
7048	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	306	INLET STATUS	SDIHO091458	306	Followup Work Not Required
7049	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	305	INLET STATUS	SDIHO091456	305	Followup Work Not Required
7050		Garcia, Joe	HO09, Aloha Tower Market Place	304	INLET STATUS	SDIHO091466	304	Followup Work Not Required
7051		Garcia, Joe	HO09, Aloha Tower Market Place	303	INLET STATUS	SDIHO091464	303	Followup Work Not Required
7052	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	302	INLET STATUS	SDIHO091462	302	Followup Work Not Required
7053	03/1/2017 12:00	Garcia, Joe	HO09, Aloha Tower Market Place	301	INLET STATUS	SDIHO091486	301	Followup Work Not Required
7054	03/24/2017 12:00	Garcia, Joe	HO09, Irwin Park	295	INLET STATUS	SDIHO091290	295	Followup Work Not Required
7055	03/24/2017 12:00	Garcia, Joe	HO09, Irwin Park	294	INLET STATUS	SDIHO091292	294	Followup Work Required
7056	01/3/2017 12:00	Bee, Bob	HO20, Warehouse No. 6	292	INLET STATUS	SDIHO202662	292	Followup Work Not Required
7057	02/14/2017 12:00	Garcia, Joe	HO01, Pier 1 yard	290	INLET STATUS	SDIHO010162	290	Followup Work Not Required
7058	02/17/2017 12:00	Garcia, Joe	HO02, Channel Street	288	INLET STATUS	SDIHO020520	288	Followup Work Required
7059	02/17/2017 12:00	Garcia, Joe	HO01, Pier 1 container yard	276	INLET STATUS	SDIHO010254	276	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7060	02/17/2017 12:00	Garcia, Joe	HO01, Pier 1	275	INLET STATUS	SDIHO010252	275	Followup Work Not
			container yard					Required
7061	02/17/2017 12:00	Garcia, Joe	HO01, Pier 1	274	INLET STATUS	SDIHO010224	274	Followup Work Not
			container yard					Required
7062	02/15/2017 12:00	Garcia, Joe	HO01, Pier 1	273	INLET STATUS	SDIHO010122	273	Followup Work Not
			container yard					Required
7063	02/15/2017 12:00	Garcia, Joe	HO01, Pier 1	272	INLET STATUS	SDIHO010112	272	Followup Work Not
			container yard					Required
7064	02/17/2017 12:00	Garcia, Joe	HO01, Pier 1	270	INLET STATUS	SDIHO010212	270	Followup Work Not
			container yard					Required
7065	02/14/2017 12:00	Garcia, Joe	HO01, Pier 1	266	INLET STATUS	SDIHO010152	266	Followup Work Not
			container yard					Required
7066	02/15/2017 12:00	Garcia, Joe	HO06, Pier 5-6	263	INLET STATUS	SDIHO061042	263	Followup Work
			parking lot					Required
7067			HO05, Pier 5	261	INLET STATUS	SDIHO051002	261	
			parking lot		== .= . =	05.1110.05.40.40		
7068	02/15/2017 12:00	Garcia, Joe	HO05, Pier 5	260	INLET STATUS	SDIHO051012	260	Followup Work Not
			parking lot		== .= . =	05.1110.004.504		Required
7069	02/16/2017 12:00	Garcia, Joe	HO08, Aloha	259	INLET STATUS	SDIHO081504	259	Followup Work Not
			Tower Drive					Required
			sidewalk at					
			intersection					
			w/Bishop Street					
7070	00/0/0047 40:00	Oaldaina O	11000	004	INIL ET OTATUO	CDIII.0004044	004	Callannia Madi Nat
7070	03/8/2017 12:00	Galdeira, Guy	HO32,	224	INLET STATUS	SDIHO324244	224	Followup Work Not
			PENCO/BEI					Required
7071	01/6/2017 01:01	Dog Dob	yard HO23,	222	INLET STATUS	CDIII.O222670	223	Callanum Mark Nat
7071	01/6/2017 01:01	Bee, Bob	· · · · · · · · · · · · · · · · · · ·	223	INLET STATUS	SDIHO232678	223	Followup Work Not
7072	01/10/2017 12:35	Bee, Bob	Warehouse #8 HO29, Pier 29	222	INLET STATUS	SDIHO293672	222	Required Followup Work Not
7072	01/10/2017 12:35	Bee, Bob	,	222	INLET STATUS	SDIHO293072	222	Required
7073	03/8/2017 12:00	Galdeira, Guy	yard HO31, Pier 31-	221	INLET STATUS	SDIHO314154	221	Followup Work Not
7073	03/6/2017 12.00	Galdella, Guy	33 shed	221	INLET STATUS	SDINOS 14 134	221	•
7074	01/3/2017 12:00	Bee, Bob	HO19, Pier 19	219	INLET STATUS	SDIHO192410	219	Required Followup Work Not
10/4	01/3/201/ 12.00	Dee, Doo	Shed	219	INLET STATUS	3DINO 1924 IU	219	Required
7075	03/8/2017 12:00	Galdeira, Guy	HO32,	215	INLET STATUS	SDIHO324242	215	Followup Work Not
10/5	03/0/201/ 12.00	Gaiueira, Guy	PENCO/BEI	215	INLET STATUS	3DINU3Z4Z4Z	215	•
								Required
			yard					

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7076	03/8/2017 12:00	Galdeira, Guy	HO32, BEI Pier 32 Caustic Soda Storage	213	INLET STATUS	SDIHO324246	213	Followup Work Required
7077	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31 Shed	211	INLET STATUS	SDIHO313902	211	Followup Work Not Required
7078	01/11/2017 01:10	Kaili, Kahea	HO51, Horizon Lines	210	INLET STATUS	SDIHO517942	210	Followup Work Not Required
7079	01/11/2017 01:09	Kaili, Kahea	HO51, Horizon Lines	209	INLET STATUS	SDIHO517944	209	Followup Work Not Required
7080	01/22/2017 09:19	Bee, Bob	HO51, Horizon Lines yard	208	INLET STATUS	SDIHO517940	208	Followup Work Not Required
7081	01/22/2017 08:58	Bee, Bob	HO51, Horizon Lines	206	INLET STATUS	SDIHO517932	206	Followup Work Not Required
7082	01/22/2017 08:59	Bee, Bob	HO51, Horizon Lines	205	INLET STATUS	SDIHO517930	205	Followup Work Not Required
7083	01/18/2017 09:18	Bee, Bob	HO51, Matson Container Yard	203	INLET STATUS	SDIHO518262	203	Followup Work Not Required
7084	01/18/2017 09:37	Bee, Bob	HO51, Sand Island	202	INLET STATUS	SDIHO518260	202	Followup Work Not Required
7085	01/9/2017 12:44	Bee, Bob	HO27, Pier 27	201	INLET STATUS	SDIHO273632	201	Followup Work Not Required
7086	01/17/2017 09:55	Bee, Bob	HO53,	200	INLET STATUS	SDIHO538868	200	Followup Work Not Required
7087	01/11/2017 10:22	Bee, Bob	HO52, Matson Facilities and Management building (formerly CEM or Container Equipment Maintenance facility)	199	INLET STATUS	SDIHO528734	199	Followup Work Not Required
7088			HO02, Pier 2 yard	179	INLET STATUS	SDIHO020174	179	
7089	02/17/2017 12:00	Garcia, Joe	HO02, Pier 2 yard	177	INLET STATUS	SDIHO020178	177	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7090	02/17/2017 12:00	Garcia, Joe	HO02, Pier 2 yard	176	INLET STATUS	SDIHO010172	176	Followup Work Not Required
7091	03/1/2017 12:00	Garcia, Joe	HO11, Pier 11 shed	159	INLET STATUS	SDIHO111764	159	Followup Work Required
7092	02/14/2017 12:00		HO60, Keehi Industrial Lots	146	INLET STATUS	SDIHO609156	146	Followup Work Required
7093	01/18/2017 09:22	Bee, Bob	HO52,	144	INLET STATUS	SDIHO528660	144	Followup Work Required
7094	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31 Shed	143	INLET STATUS	SDIHO313922	143	Followup Work Not Required
7095	01/19/2017 09:37	Bee, Bob	HO51,	142	INLET STATUS	SDIHO518374	142	Followup Work Required
7096	01/22/2017 09:08	Bee, Bob	HO51, Horizon Lines	140	INLET STATUS	SDIHO517888	140	Followup Work Not Required
7097	01/17/2017 10:12	Bee, Bob	HO51B,	139	INLET STATUS	SDIHO518072	139	Followup Work Not Required
7098	01/11/2017 09:59	Bee, Bob	HO53, CFS#2	134	INLET STATUS	SDIHO538798	134	Followup Work Not Required
7099	01/11/2017 10:00	Bee, Bob	HO53, CFS#2	133	INLET STATUS	SDIHO538796	133	Followup Work Not Required
7100	01/11/2017 10:01	Bee, Bob	HO53, CFS#2	132	INLET STATUS	SDIHO538794	132	Followup Work Required
7101	01/11/2017 10:03	Bee, Bob	HO53, CFS#2	131	INLET STATUS	SDIHO538792	131	Followup Work Required
7102	01/19/2017 09:41	Bee, Bob	HO51, Molasses tanks	130	INLET STATUS	SDIHO518382	130	Followup Work Required
7103	01/17/2017 09:57	Bee, Bob	HO53,	129	INLET STATUS	SDIHO538672	129	Followup Work Not Required
7104	01/17/2017 09:52	Bee, Bob	HO53, Container Yard 5	128	INLET STATUS	SDIHO538700	128	Followup Work Required
7105	01/17/2017 09:58	Bee, Bob	HO53,	127	INLET STATUS	SDIHO538670	127	Followup Work Not Required
7106	01/17/2017 09:53	Bee, Bob	HO53, Container Yard 5	126	INLET STATUS	SDIHO538698	126	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7107	01/17/2017 09:54	Bee, Bob	HO53, Container Yard 5	125	INLET STATUS	SDIHO538696	125	Followup Work Not Required
7108	01/17/2017 11:40	Bee, Bob	HO52, Sand Island Container Yard 4	124	INLET STATUS	SDIHO528692	124	Followup Work Not Required
7109		Bee, Bob	HO52, Sand Island Container Yard 4	123	INLET STATUS	SDIHO528690	123	Followup Work Not Required
7110	01/17/2017 09:58	Bee, Bob	HO53,	122	INLET STATUS	SDIHO538668	122	Followup Work Not Required
7111	01/17/2017 09:59	Bee, Bob	HO52,	121	INLET STATUS	SDIHO528664	121	Followup Work Not Required
7112	01/17/2017 10:00	Bee, Bob	HO52,	120	INLET STATUS	SDIHO528662	120	Followup Work Not Required
7113	01/18/2017 09:38	Bee, Bob	HO51, Sand Island	118	INLET STATUS	SDIHO518026	118	Followup Work Not Required
7114	01/17/2017 10:37	Bee, Bob	HO53, Matson Container Yard	117	INLET STATUS	SDIHO538902	117	Followup Work Not Required
7115	01/18/2017 09:19	Bee, Bob	HO51, Matson Container Yard	115	INLET STATUS	SDIHO518360	115	Followup Work Not Required
7116	01/22/2017 08:53	Bee, Bob	HO51, Horizon Lines	112	INLET STATUS	SDIHO518466	112	Followup Work Not Required
7117	01/18/2017 09:38	Bee, Bob	HO51, Sand Island	110	INLET STATUS	SDIHO518146	110	Followup Work Not Required
7118	01/18/2017 09:17	Bee, Bob	HO51, Matson Container Yard	108	INLET STATUS	SDIHO518140	108	Followup Work Not Required
7119	01/18/2017 09:42	Bee, Bob	HO51, Matson Container Yard	106	INLET STATUS	SDIHO518366	106	Followup Work Not Required
7120	01/11/2017 10:08	Bee, Bob	HO52, Matson parking lot along Sand Island Parkway	105	INLET STATUS	SDIHO528880	105	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7121	01/11/2017 10:08	Bee, Bob	HO52, Matson parking lot along Sand Island Parkway; connected to trench drain	104	INLET STATUS	SDIHO528876	104	Followup Work Not Required
7122	01/11/2017 10:05	Bee, Bob	HO52, Matson parking lot along Sand Island Parkway	103	INLET STATUS	SDIHO528874	103	Followup Work Not Required
7123	01/18/2017 09:41	Bee, Bob	HO51, Matson Container Yard	101	INLET STATUS	SDIHO518364	101	Followup Work Not Required
7124	01/19/2017 09:40	Bee, Bob	HO51, Matson vehicle processing	98	INLET STATUS	SDIHO518376	98	Followup Work Not Required
7125	01/18/2017 09:25	Bee, Bob	HO51,	97	INLET STATUS	SDIHO518476	97	Followup Work Not Required
7126	01/19/2017 09:38	Bee, Bob	HO51, Matson vehicle processing	96	INLET STATUS	SDIHO518410	96	Followup Work Required
7127	01/19/2017 09:36	Bee, Bob	HO51, Matson vehicle processing	95	INLET STATUS	SDIHO518370	95	Followup Work Required
7128	01/19/2017 09:36	Bee, Bob	HO51, Matson vehicle processing	94	INLET STATUS	SDIHO518372	94	Followup Work Not Required
7129	01/19/2017 09:33	Bee, Bob	HO51, Matson Container Yard	93	INLET STATUS	SDIHO518150	93	Followup Work Not Required
7130	01/19/2017 09:35	Bee, Bob	HO51,	92	INLET STATUS	SDIHO518152	92	Followup Work Not Required
7131	01/18/2017 09:27	Bee, Bob	HO51, Matson vehicle processing	90	INLET STATUS	SDIHO518056	90	Followup Work Not Required
7132	01/22/2017 08:55	Kaili, Kahea	HO51, Sand Island, Horizon Lines	88	INLET STATUS	SDIHO518052	88	Followup Work Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7133	01/17/2017 10:14	Bee, Bob	HO51B,	86	INLET STATUS	SDIHO518084	86	Followup Work Not Required
7134	01/17/2017 10:13	•	HO51B,	87	INLET STATUS	SDIHO518082	87	Followup Work Not Required
7135	01/17/2017 10:13	ŕ	HO51B, Horizon Lines	85	INLET STATUS	SDIHO518074	85	Followup Work Not Required
7136	01/17/2017 10:11	Bee, Bob	HO51,	84	INLET STATUS	SDIHO518004	84	Followup Work Not Required
7137	01/17/2017 10:10	Bee, Bob	HO51, Horizon Lines	83	INLET STATUS	SDIHO517964	83	Followup Work Not Required
7138	01/17/2017 10:11	Bee, Bob	HO51,	82	INLET STATUS	SDIHO518002	82	Followup Work Not Required
7139	01/22/2017 08:53	Bee, Bob	HO51, Horizon Lines	81	INLET STATUS	SDIHO518464	81	Followup Work Not Required
7140	01/17/2017 10:08	Bee, Bob	HO51A, Horizon Lines	80	INLET STATUS	SDIHO517884	80	Followup Work Not Required
7141	01/22/2017 08:56	Kaili, Kahea	HO51, Horizon Lines	79	INLET STATUS	SDIHO518010	79	Followup Work Required
7142	01/22/2017 08:57	Bee, Bob	HO51, Horizon Lines	78	INLET STATUS	SDIHO518012	78	Followup Work Not Required
7143	01/22/2017 09:02	Bee, Bob	HO51, Horizon Lines	77	INLET STATUS	SDIHO517898	77	Followup Work Not Required
7144	01/22/2017 09:06	Kaili, Kahea	HO51, Sand Island	76	INLET STATUS	SDIHO517894	76	Followup Work Not Required
7145	01/22/2017 09:03	Bee, Bob	HO51, Horizon Lines	75	INLET STATUS	SDIHO517900	75	Followup Work Not Required
7146	01/22/2017 09:00	Kaili, Kahea	HO51, Horizon Lines	74	INLET STATUS	SDIHO517902	74	Followup Work Not Required
7147	01/22/2017 09:05	Bee, Bob	HO51, Horizon Lines	73	INLET STATUS	SDIHO517896	73	Followup Work Not Required
7148	01/22/2017 09:07	Kaili, Kahea	HO51, Horizon Lines	72	INLET STATUS	SDIHO517892	72	Followup Work Required
7149	01/22/2017 09:10	Bee, Bob	HO51, Horizon Lines	70	INLET STATUS	SDIHO517886	70	Followup Work Not Required
7150	01/17/2017 10:09	Bee, Bob	HO51A, Sand Island	68	INLET STATUS	SDIHO517962	68	Followup Work Not Required
7151	01/17/2017 10:08	Bee, Bob	HO51A, Horizon Lines	67	INLET STATUS	SDIHO517882	67	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7152	01/17/2017 10:06	Bee, Bob	HO51A, Sand Island	65	INLET STATUS	SDIHO517852	65	Followup Work Not Required
7153	01/22/2017 09:11	Bee, Bob	HO51, Sand Island	60	INLET STATUS	SDIHO517810	60	Followup Work Required
7154	01/11/2017 10:40	Bee, Bob	HO51, Parking lot outside of Horizon Lines	59	INLET STATUS	SDIHO517804	59	Followup Work Not Required
7155	01/11/2017 10:40	Bee, Bob	HO51,	58	INLET STATUS	SDIHO517806	58	Followup Work Not Required
7156	03/8/2017 12:00		HO35, Pier 35 parking lot	49	INLET STATUS	SDIHO354452	49	
7157	03/8/2017 12:00	Galdeira, Guy	HO35, Pier 35	48	INLET STATUS	SDIHO354462	48	Followup Work Not Required
7158	01/11/2017 12:31	Kaili, Kahea	HO38, Commercial Fishing Village	47	INLET STATUS	SDIHO384902	47	Followup Work Not Required
7159	01/11/2017 12:47	Kaili, Kahea	HO38, Commercial Fishing Village	43	INLET STATUS	SDIHO384704	43	Followup Work Not Required
7160	01/11/2017 12:56	Kaili, Kahea	HO38, Commercial Fishing Village	36	INLET STATUS	SDIHO384822	36	Followup Work Not Required
7161	01/11/2017 12:32	Kaili, Kahea	H38, Commercial Fishing Village	46	INLET STATUS	SDIHO385102	46	Followup Work Not Required
7162	01/11/2017 12:41	Kaili, Kahea	HO38, Commercial Fishing Village	38	INLET STATUS	SDIHO384816	38	Followup Work Not Required
7163	01/11/2017 12:48	Kaili, Kahea	HO38, Commercial Fishing Village	42	INLET STATUS	SDIHO384808	42	Followup Work Not Required
7164	01/11/2017 11:06		HO38, Commercial Fishing Village	34	INLET STATUS	SDIHO384606	34	
7165	01/11/2017 12:46	Kaili, Kahea	HO38, Commercial Fishing Village	40	INLET STATUS	SDIHO384812	40	Followup Work Not Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7166	01/11/2017 11:04	Kaili, Kahea	HO38,	33	INLET STATUS	SDIHO384608	33	Followup Work Not
			Commercial					Required
			Fishing Village					
7167	03/8/2017 12:00	Galdeira, Guy	pier 31 shed	238	OPEN LINE	SDOHO314405	238	Followup Work Not
			open area		STATUS			Required
7168	03/8/2017 12:00	Galdeira, Guy	pier 31 shed	235	OPEN LINE	SDOHO314393	235	Followup Work Not
			open area		STATUS			Required
7169	03/8/2017 12:00	Galdeira, Guy	pier 31 shed	234	OPEN LINE	SDOHO314403	234	Followup Work Not
			open area		STATUS			Required
7170	03/8/2017 12:00	Galdeira, Guy	pier 31 shed	232	OPEN LINE	SDOHO314401	232	Followup Work Not
7474	00/0/0047 40 00	0.11.	open area	004	STATUS	000110044000	004	Required
7171	03/8/2017 12:00	Galdeira, Guy	pier 31 shed	231	OPEN LINE	SDOHO314399	231	Followup Work Not
7470	00/0/0047 40:00	Oaldaina O	open area	000	STATUS	000110044007	000	Required
7172	03/8/2017 12:00	Galdeira, Guy	pier 31 shed	230	OPEN LINE	SDOHO314397	230	Followup Work Not
7470	02/0/2047 42:00	Caldaira Cuu	open area	220	STATUS	CDOLIO24420E	229	Required
7173	03/8/2017 12:00	Galdeira, Guy	pier 31 shed	229	OPEN LINE	SDOHO314395	229	Followup Work Not
7174	03/8/2017 12:00	Caldaira Cunt	open area pier 35 UH	226	STATUS OPEN LINE	SDOHO350003	226	Required
/1/4	03/8/2017 12:00	Galdeira, Guy	•	226	STATUS	SDOHO350003	220	Followup Work Not
7175	03/8/2017 12:00		facility pier 35 UH	225	OPEN LINE	SDOHO350001	225	Required Followup Work Not
/1/5	03/6/2017 12.00		piei 35 UH	225	STATUS	3DOUC330001	225	Required
7176	01/11/2017 10:24	Bee, Bob	HO53, Matson	221	OPEN LINE	SDOHO528763	221	Followup Work Not
7170	01/11/2017 10.24	Dee, Dob	Facilities and	221	STATUS	300110320703	221	Required
			Management		STATUS			Required
			Building					
7177	01/11/2017 10:21	Bee, Bob	HO53, Matson	220	OPEN LINE	SDOHO528759	220	Followup Work Not
''''	01/11/2017 10.21	Dee, Dob	Facilities and	220	STATUS	300110320739	220	Required
			Management		31A103			rtequired
			Building					
7178	01/11/2017 10:23	Bee, Bob	HO53, Matson	217	OPEN LINE	SDOHO528761	217	Followup Work Not
'''	0.7.772017 10.20	200, 200	Facilities and		STATUS	350110020101		Required
			Management		3.7.1100			1.044.104
			Building					
7179	01/11/2017 10:17	Bee, Bob	HO53, Matson	215	OPEN LINE	SDOHO528751	215	Followup Work Not
		,	Facilities and		STATUS			Required
			Management					1
			building					

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7180	01/17/2017 10:32	Bee, Bob	HO52, Sand	203	OPEN LINE	SDOHO528559	203	Followup Work Not
			Island		STATUS			Required
7181	01/17/2017 10:29	Bee, Bob	HO52, Sand	201	OPEN LINE	SDOHO528555	201	Followup Work Not
			Island		STATUS			Required
7182	01/17/2017 10:24	Bee, Bob	HO51C, Pier	199	OPEN LINE	SDOHO528213	199	Followup Work Not
			51C		STATUS			Required
7183	01/17/2017 10:23	Bee, Bob	HO51C, Pier	198	OPEN LINE	SDOHO518209	198	Followup Work Not
			51C		STATUS			Required
7184	01/18/2017 09:14	Bee, Bob	HO51, Sand	186	OPEN LINE	SDOHO518271	186	Followup Work Not
			Island		STATUS			Required
7185	01/18/2017 09:22	Bee, Bob	HO52, Matson	184	OPEN LINE	SDOHO528517	184	Followup Work
			Container Yard		STATUS			Required
7186	01/17/2017 10:36	Bee, Bob	HO53, Matson	179	OPEN LINE	SDOHO538583	179	Followup Work Not
			Container Yard		STATUS			Required
7187	01/17/2017 10:30	Bee, Bob	HO52, Matson	177	OPEN LINE	SDOHO528577	177	Followup Work Not
			Container		STATUS			Required
			Facility					
7188	01/17/2017 10:27	Bee, Bob	HO52, Matson	176	OPEN LINE	SDOHO528571	176	Followup Work Not
			Container		STATUS			Required
			Facility					
7189	01/17/2017 10:21	Bee, Bob	HO51C, Pier	173	OPEN LINE	SDOHO518205	173	Followup Work Not
			51C		STATUS			Required
7190	01/17/2017 10:41	Bee, Bob	HO53, Sand	172	OPEN LINE	SDOHO538651	172	Followup Work Not
			Island		STATUS			Required
7191	01/17/2017 11:47		HO53, Sand	170	OPEN LINE	SDOHO538647	170	Followup Work Not
			Island		STATUS			Required
7192	01/17/2017 11:57	Bee, Bob	HO53, Sand	169	OPEN LINE	SDOHO538613	169	Followup Work Not
			Island		STATUS			Required
7193	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31	157	OPEN LINE	SDOHO314049	157	Followup Work Not
			yard		STATUS			Required
7194	01/17/2017 01:11	Bee, Bob	HO53, Sand	142	OPEN LINE	SDOHO538617	142	Followup Work
			Island		STATUS			Required
7195	01/17/2017 11:57	Bee, Bob	HO53, Sand	140	OPEN LINE	SDOHO538619	140	Followup Work Not
			Island		STATUS			Required
7196	01/17/2017 11:48	Bee, Bob	HO53, Sand	138	OPEN LINE	SDOHO538649	138	Followup Work Not
			Island		STATUS			Required
7197	01/18/2017 09:13	Bee, Bob	HO51, Sand	136	OPEN LINE	SDOHO518277	136	Followup Work Not
			Island		STATUS			Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7198	01/17/2017 11:55	Bee, Bob	HO52, Sand	135	OPEN LINE	SDOHO528607	135	Followup Work Not
			Island		STATUS			Required
7199	01/17/2017 11:54	Bee, Bob	HO52, Sand	134	OPEN LINE	SDOHO528601	134	Followup Work Not
			Island		STATUS			Required
7200	01/17/2017 11:44	Bee, Bob	HO52, Sand	133	OPEN LINE	SDOHO528631	133	Followup Work Not
			Island		STATUS			Required
7201	01/17/2017 11:45	Bee, Bob	HO52, Sand	132	OPEN LINE	SDOHO528637	132	Followup Work Not
			Island		STATUS			Required
7202	01/17/2017 10:23	Bee, Bob	HO51, Sand	130	OPEN LINE	SDOHO518241	130	Followup Work Not
			Island		STATUS			Required
7203	01/17/2017 10:19	Bee, Bob	HO51, Sand	129	OPEN LINE	SDOHO518235	129	Followup Work Not
			Island		STATUS			Required
7204	01/17/2017 10:15	Bee, Bob	HO51, Sand	128	OPEN LINE	SDOHO518231	128	Followup Work Not
			Island		STATUS			Required
7205	01/18/2017 09:15	Bee, Bob	HO51, Sand	126	OPEN LINE	SDOHO518269	126	Followup Work Not
			Island		STATUS			Required
7206	01/19/2017 09:33	Bee, Bob	HO51, Sand	125	OPEN LINE	SDOHO518291	125	Followup Work Not
			Island		STATUS			Required
7207	01/17/2017 10:34	Bee, Bob	HO53, Sand	124	OPEN LINE	SDOHO538563	124	Followup Work Not
			Island		STATUS			Required
7208	01/17/2017 11:46	Bee, Bob	HO52, Sand	123	OPEN LINE	SDOHO528641	123	Followup Work Not
			Island		STATUS			Required
7209	01/17/2017 11:56	Bee, Bob	HO52, Sand	122	OPEN LINE	SDOHO528611	122	Followup Work Not
			Island		STATUS			Required
7210	02/14/2017 12:00	Galdeira, Guy	HO60, Keehi	121	OPEN LINE	SDOHO609181	121	Followup Work Not
			Industrial Lots		STATUS			Required
7211	02/14/2017 12:00	Galdeira, Guy	HO60, Keehi	74	OPEN LINE	SDOHO609189	74	Followup Work Not
			Industrial Lots		STATUS			Required
7212	01/18/2017 09:16	Bee, Bob	HO51, Matson	71	OPEN LINE	SDOHO518265	71	Followup Work
			Sand Island		STATUS			Required
			facility					
7213	01/11/2017 12:34	Kaili, Kahea	HO38,	5	OPEN LINE	SDOHO385107	5	Followup Work Not
			Commercial		STATUS			Required
			Fishing Village					
7214	01/11/2017 12:50	Kaili, Kahea	HO38,	4	OPEN LINE	SDOHO385003	4	Followup Work Not
			Commercial		STATUS			Required
			Fishing Village					

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7215	01/11/2017 10:37	Kaili, Kahea	HO38,	2	OPEN LINE	SDOHO385057	2	Followup Work
			Commercial		STATUS			Required
			Fishing Village					
7216	01/11/2017 12:54	Kaili, Kahea	HO38,	3	OPEN LINE	SDOHO385059	3	Followup Work Not
			Commercial		STATUS			Required
			Fishing Village					
7217	01/10/2017 12:18	Bee, Bob	HO29, Pier 29	256	OPEN LINE	SDOHO29400B	256	Followup Work Not
			yard		STATUS			Required
7218	03/1/2017 12:00	Garcia, Joe	HO08, Aloha	155	OPEN LINE	SDOHO081515	155	Followup Work
			Tower Market		STATUS			Required
			Place loading					
			dock					
7219	01/6/2017 01:02	Bee, Bob	HO23, Pier 23	206	OPEN LINE	SDOHO232815	206	Followup Work Not
			Shed		STATUS			Required
7220	02/14/2017 12:00	Galdeira, Guy	HO60, Keehi	73	OPEN LINE	SDOHO609185	73	Followup Work Not
			Industrial Lots		STATUS			Required
7221	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31	665	OPEN LINE	SDOHO314073	665	Followup Work Not
			yard		STATUS			Required
7222	01/10/2017 12:20	Bee, Bob	HO29, Pier 29	258	OPEN LINE	SDOHO29530B	258	Followup Work Not
			yard		STATUS			Required
7223	01/10/2017 12:19	Bee, Bob	HO29, Pier 29	257	OPEN LINE	SDOHO29450B	257	Followup Work Not
			yard		STATUS			Required
7224	01/10/2017 12:17	Bee, Bob	HO29, Pier 29	255	OPEN LINE	SDOHO29350B	255	Followup Work Not
			yard		STATUS			Required
7225	01/10/2017 12:16	Bee, Bob	HO29, Pier 29	254	OPEN LINE	SDOHO29300B	254	Followup Work Not
			yard		STATUS			Required
7226	01/10/2017 12:16	Bee, Bob	HO29, Pier 29	253	OPEN LINE	SDOHO29250B	253	Followup Work Not
			yard		STATUS			Required
7227	01/10/2017 12:14	Bee, Bob	HO29, Pier 29	252	OPEN LINE	SDOHO29200B	252	Followup Work Not
			yard		STATUS			Required
7228	01/10/2017 12:14		HO29, Pier 29	251	OPEN LINE	SDOHO29150B	251	Followup Work Not
			yard		STATUS			Required
7229	01/10/2017 12:13	Bee, Bob	HO29, Pier 29	250	OPEN LINE	SDOHO29100B	250	Followup Work Not
			yard		STATUS			Required
7230	01/10/2017 12:12	Bee, Bob	HO29, Pier 29	249	OPEN LINE	SDOHO29050B	249	Followup Work Not
			yard		STATUS			Required
7231	01/10/2017 12:33	Bee, Bob	HO29, Pier 29	248	OPEN LINE	SDOHO29500A	248	Followup Work Not
			yard		STATUS			Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7232	01/10/2017 12:33	Bee, Bob	HO29, Pier 29	247	OPEN LINE	SDOHO29450A	247	Followup Work Not
			yard		STATUS			Required
7233	01/10/2017 12:32	Bee, Bob	HO29, Pier 29	246	OPEN LINE	SDOHO29400A	246	Followup Work Not
			yard		STATUS			Required
7234	01/10/2017 12:31	Bee, Bob	HO29, Pier 29	245	OPEN LINE	SDOHO29350A	245	Followup Work Not
			yard		STATUS			Required
7235	01/10/2017 12:31	Bee, Bob	HO29, Pier 29	244	OPEN LINE	SDOHO29300A	244	Followup Work Not
			yard		STATUS			Required
7236	01/10/2017 12:30	Bee, Bob	HO29, Pier 29	243	OPEN LINE	SDOHO29250A	243	Followup Work Not
			yard		STATUS			Required
7237	01/10/2017 12:29	Bee, Bob	HO29, Pier 29	242	OPEN LINE	SDOHO29200A	242	Followup Work Not
			yard		STATUS			Required
7238	01/10/2017 12:28	Bee, Bob	HO29, Pier 29	241	OPEN LINE	SDOHO29150A	241	Followup Work Not
			yard		STATUS			Required
7239	01/10/2017 12:28	Bee, Bob	HO29, Pier 29	240	OPEN LINE	SDOHO29100A	240	Followup Work Not
			yard		STATUS			Required
7240	01/10/2017 12:27	Bee, Bob	HO29, Pier 29	239	OPEN LINE	SDOHO29050A	239	Followup Work Not
			yard		STATUS			Required
7241	01/11/2017 10:18	Bee, Bob	HO53, Matson	223	OPEN LINE	SDOHO528753	223	Followup Work Not
			Facilities and		STATUS			Required
			Management					
			Building					
7242	01/11/2017 10:10	Bee, Bob	HO53, Matson	222	OPEN LINE	SDOHO528771	222	Followup Work
			Facilities and		STATUS			Required
			Management					
			Building					
7243	01/11/2017 10:19	Bee, Bob	HO53, Matson	219	OPEN LINE	SDOHO528755	219	Followup Work Not
			Facilities and		STATUS			Required
			Management					
			Building					
7244	01/11/2017 10:27	Bee, Bob	HO53, Matson	218	OPEN LINE	SDOHO528769	218	Followup Work Not
			Facilities and		STATUS			Required
			Management					
			Building					
7245	01/11/2017 10:20	Bee, Bob	HO53, Matson	216	OPEN LINE	SDOHO528757	216	Followup Work Not
			Facilities and		STATUS			Required
			Management					
			Building					

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7246	01/11/2017 10:26	Bee, Bob	HO53, Matson	214	OPEN LINE	SDOHO528765	214	Followup Work Not
			Facilities and		STATUS			Required
			Management					
			Building					
7247	01/3/2017 12:00	Bee, Bob	HO20, Ferry	205	OPEN LINE	SDOHO202701	205	Followup Work Not
			Terminal		STATUS			Required
7248	01/17/2017 10:25	Bee, Bob	HO52, Matson	200	OPEN LINE	SDOHO528541	200	Followup Work Not
			Container		STATUS			Required
			Facility					
7249	01/17/2017 10:21	Bee, Bob	HO51C, Pier	197	OPEN LINE	SDOHO518201	197	Followup Work Not
			51C		STATUS			Required
7250	01/17/2017 10:20	Bee, Bob	HO51C, Pier	196	OPEN LINE	SDOHO518197	196	Followup Work Not
			51C		STATUS			Required
7251	01/17/2017 10:18	Bee, Bob	HO51C, Pier	195	OPEN LINE	SDOHO518193	195	Followup Work Not
			51C		STATUS			Required
7252	01/17/2017 10:17	Bee, Bob	HO51C, Pier	194	OPEN LINE	SDOHO518189	194	Followup Work Not
			51C		STATUS			Required
7253	01/17/2017 10:17	Bee, Bob	HO51C, Pier	193	OPEN LINE	SDOHO518185	193	Followup Work Not
			51C		STATUS			Required
7254	01/17/2017 10:16	Bee, Bob	HO51C, Pier	192	OPEN LINE	SDOHO518181	192	Followup Work Not
			51C		STATUS			Required
7255	01/3/2017 12:00	Bee, Bob	HO20, Ferry	191	OPEN LINE	SDOHO202703	191	Followup Work Not
			Terminal		STATUS			Required
7256	01/11/2017 10:06	Bee, Bob	HO52, Matson	185	OPEN LINE	SDOHO528877	185	Followup Work Not
			parking lot		STATUS			Required
7257	01/17/2017 10:28	Bee, Bob	HO52, Matson	178	OPEN LINE	SDOHO528545	178	Followup Work Not
			Container		STATUS			Required
			Facility					
7258	01/17/2017 10:33	Bee, Bob	HO53, Matson	174	OPEN LINE	SDOHO538579	174	Followup Work Not
			Container Yard		STATUS			Required
7259	01/17/2017 11:46	Bee, Bob	HO53, Sand	171	OPEN LINE	SDOHO538643	171	Followup Work Not
			Island		STATUS			Required
7260	01/10/2017 12:19	Bee, Bob	HO29, Pier 29	167	OPEN LINE	SDOHO29500B	167	Followup Work Not
			yard		STATUS			Required
7261	03/8/2017 12:00	Galdeira, Guy	HO32, Young	166	OPEN LINE	SDOHO405401	166	Followup Work Not
			Brothers		STATUS			Required
7262	03/8/2017 12:00	Galdeira, Guy	HO32, Young	165	OPEN LINE	SDOHO405403	165	Followup Work Not
			Brothers		STATUS			Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7263	03/8/2017 12:00	Galdeira, Guy	HO32, Sea	164	OPEN LINE	SDOHO314391	164	Followup Work Not
			Engineering		STATUS			Required
			office					
7264	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31	159	OPEN LINE	SDOHO314071	159	Followup Work Not
			yard		STATUS			Required
7265	03/8/2017 12:00	Galdeira, Guy	HO31, Pier 31	158	OPEN LINE	SDOHO314109	158	Followup Work Not
			yard		STATUS			Required
7266	01/10/2017 12:34	Bee, Bob	500-560 mark	156	OPEN LINE	SDOHO29550A	156	Followup Work Not
					STATUS			Required
7267	01/17/2017 10:39	Bee, Bob	HO53, Matson	141	OPEN LINE	SDOHO538585	141	Followup Work Not
			Container Yard		STATUS			Required
7268	01/22/2017 09:13	Bee, Bob	HO51C, Sand	131	OPEN LINE	SDOHO518031	131	Followup Work Not
			Island		STATUS			Required
7269	01/19/2017 09:34	Bee, Bob	HO51, Sand	127	OPEN LINE	SDOHO518285	127	Followup Work Not
			Island		STATUS			Required
7270	02/14/2017 12:00	Galdeira, Guy	HO60, Keehi	72	OPEN LINE	SDOHO609165	72	Followup Work Not
			Industrial Lots		STATUS			Required
7271	02/14/2017 12:00	Galdeira, Guy	HO60, Pier 34	213	OPEN LINE	SDOHO609191	213	Followup Work Not
			wharf		STATUS			Required
7272	02/14/2017 12:00	Galdeira, Guy	HO60, KIPA	75	OPEN LINE	SDOHO609190	75	Followup Work Not
					STATUS			Required
7629			HO38,	2	OPEN LINE	SDOHO385057	2	
			Commercial		STATUS			
			Fishing Village					
7630			HO38,	3	OPEN LINE	SDOHO385059	3	
			Commercial		STATUS			
			Fishing Village					
7631	05/25/2017 12:00	Galdeira, Guy	pier 31 shed	229	OPEN LINE	SDOHO314395	229	Followup Work Not
			open area		STATUS			Required
7632	05/25/2017 12:00	Galdeira, Guy	pier 31 shed	230	OPEN LINE	SDOHO314397	230	Followup Work Not
			open area		STATUS			Required
7633	05/25/2017 12:00	Galdeira, Guy	pier 31 shed	231	OPEN LINE	SDOHO314399	231	Followup Work Not
			open area		STATUS			Required
7634	05/25/2017 12:00		pier 31 shed	232	OPEN LINE	SDOHO314401	232	Followup Work Not
			open area		STATUS			Required
7635	05/25/2017 12:00	Galdeira, Guy	pier 31 shed	234	OPEN LINE	SDOHO314403	234	Followup Work Not
			open area		STATUS			Required

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
7636	05/25/2017 12:00	Galdeira, Guy	pier 31 shed	235	OPEN LINE	SDOHO314393	235	Followup Work Not
			open area		STATUS			Required
7637	05/25/2017 12:00	Galdeira, Guy	pier 31 shed	238	OPEN LINE	SDOHO314405	238	Followup Work Not
			open area		STATUS			Required
7638	05/24/2017 10:59	Bee, Bob	HO25, Former	424	INLET STATUS	SDIHO243522	424	Followup Work
			corner of Pier					Required
			26 shed					
7639	05/24/2017 02:00	Bee, Bob	HO53, CFS#2	673	INLET STATUS	SDIHO538912	673	Followup Work Not
								Required
7640	05/24/2017 02:01	Bee, Bob	HO51, Horizon	61	INLET STATUS	SDIHO517802	61	Followup Work Not
			Lines					Required
7641	05/24/2017 10:55	Bee, Bob	HO26, Pier 26	136	INLET STATUS	SDIHO263592	136	Followup Work Not
								Required
7642	05/25/2017 12:00	Galdeira, Guy	HO60, Keehi	146	INLET STATUS	SDIHO609156	146	Followup Work
			Industrial Lots					Required
7643	05/25/2017 12:00	Galdeira, Guy	HO60,	149	INLET STATUS	SDIHO609158	149	Followup Work
								Required
7644	05/25/2017 12:00	Galdeira, Guy	HO60, Keehi	220	INLET STATUS	SDIHO609118	220	Followup Work
			Industrial Lots					Required
7645	05/25/2017 12:00	Galdeira, Guy	HO60, Keehi	145	INLET STATUS	SDIHO609114	145	Followup Work
			Industrial Lots					Required
7646	05/25/2017 12:00	Galdeira, Guy	HO08, Nimitz	243	INLET STATUS	SDIHO081244	243	Followup Work
			Highway					Required
7647	05/25/2017 12:00	Galdeira, Guy	HO08, Aloha	240	INLET STATUS	SDIHO081240	240	Followup Work
			Tower Market					Required
			Place parking					
			lot					
7648	05/25/2017 12:00	Galdeira, Guy	HO42, Island	565	INLET STATUS	SDIHO427222	565	Followup Work
			Movers					Required
7649	05/25/2017 12:00	Galdeira, Guy	HO30,	521	INLET STATUS	SDIHO313904	521	Followup Work
								Required
7654	05/25/2017 12:00	Galdeira, Guy	HO41, Pacific	571	INLET STATUS	SDIHO416992	571	Followup Work
			Shipyards					Required
			International					
7655	05/25/2017 12:00	Galdeira, Guy	HO41, Pacific	525	INLET STATUS	SDIHO416994	525	Followup Work
			Shipyards					Required
			International					

Inspection Id	Date Inspected	Inspected By	Location	Entity Sid	Feature Type	Feature Uid	Feature Id	Resolution
8775	11/11/2017 06:30	McLean, Robert	Pier 29 yard	26	PERMANENT_ STORM_DRAIN BMP	EHBMPHO29500B	26	Followup Work Not Required
8781			Pier 29 yard	46	PERMANENT_ STORM_DRAIN _BMP	ЕНВМРНО29250А	46	
8782			Pier 29 yard	47	PERMANENT_ STORM_DRAIN _BMP	EHBMPHO29300A	47	
8783			Pier 29 yard	48	PERMANENT_ STORM_DRAIN _BMP	EHBMPHO29350A	48	
8784			Pier 29 yard	49	PERMANENT_ STORM_DRAIN _BMP	EHBMPHO29400A	49	
8785	11/11/2017 06:30	McLean, Robert	Pier 29 yard	50	PERMANENT_ STORM_DRAIN _BMP	EHBMPHO29450A	50	Followup Work Not Required
8786	11/11/2017 06:00	Amato, Dan	Pier 29 yard	51	PERMANENT_ STORM_DRAIN BMP	EHBMPHO29500A	51	
8793	11/11/2017 06:30		Pier 29 yard	58	PERMANENT_ STORM_DRAIN _BMP	EHBMPHO29300B	58	Followup Work Not Required
8794	11/11/2017 06:30	McLean, Robert	Pier 29 yard	59	PERMANENT_ STORM_DRAIN _BMP	EHBMPHO29400B	59	Followup Work Not Required

Attachment 22 Street Sweeper Log

Attachment 22. Depeartment of Transportation, Harbors Division Street Sweeper Log

Date & Time	Remarks	Debris Collected 1(Tons)
12/6/2017 06:30	Sweeper Waste	10.95
11/6/2017 06:30	Sweeper Waste	5.84
11/3/2017 06:30	Sweeper Waste	17.01
10/23/2017 06:30	Sweeper Waste	10.45
10/3/2017 06:30	Sweeper Waste	12.69
09/29/2017 06:30	Sweeper Waste	13.68
09/6/2017 06:30	Sweeper Waste	12.8
08/24/2017 06:30	Sweeper Waste	7.39
08/14/2017 06:30	Sweeper Waste	11.31
07/31/2017 06:37	Sweeper Waste	13.66
06/23/2017 06:30	Sweeper Waste	5.35
06/1/2017 06:30	Sweeper Waste	6.18
05/8/2017 06:30	Sweeper Waste	7.62
04/3/2017 06:35	Sweeper Waste	4.56
03/10/2017 06:30	Sweeper Waste	6.84
02/21/2017 06:30	Sweeper Waste	7.42
	Total	153.75

Attachment 23 Retrofit Feasibility Study

Spencer K. Yim, P.E.
Environmental Section Head
Engineering Branch
State of Hawaii, Dept. of Transportation, Harbors Division
Hale Awa Ku Moku Building
79 South Nimitz Highway
Honolulu, HI 96813-4898

July 6, 2017

RE: PLAN OF ACTION & MILESTONES (POA&M) FOR POST CONSTRUCTION BMP RETROFITS

Aloha Spencer,

Weston Solutions, Inc. (WESTON) understands the importance of a quick response to solve the maintenance challenges with the BMPs at Pier 31 and we are pleased to present to the State of Hawaii Department of Transportation, Harbors Division (HDOT Harbors) this POA&M.

Pier 31 is the time critical component of this plan although we understand that all three locations must be completed within four years of approval of the Post-Construction BMP Retrofit Feasibility Study (RFS) per the requirements of the Consent Decree. The plan of action presented in this POA&M would result in the start of construction at Pier 31 ten (10) weeks after notice to proceed with the design.

It is anticipated that our staff would initiate the design process for Pier 31 immediately upon notice to proceed. The design for the other two locations would initiate once the design is complete at Pier 31 and the project goes out to bid.

Below are the milestones that capture the actions needed to resolve the deficiency of the BMPs installed at Pier 31 and to retrofit all three locations (Piers 31, 51B, and 52/53) with BMPs as specified in the EPA approved RFS.

PIER 31

Estimated Duration from Design to <u>Start of Construction</u>: 10 weeks Estimated Duration from Design to <u>Completion of Construction</u>: 22 weeks

1. Acquire design documents/drawings for existing Pier 31 drainage system and BMPs. ESTIMATED DURATION: 1 WEEK

It is anticipated that it might take some time to search for the applicable drawings and the design hydraulic calculations for the existing infrastructure. The design firm may need to be contacted and a document request submitted by Harbors if submittal requirements for the construction project did not include a drain specific hydraulic calculation or any other required data.

It is anticipated that the specification package or O&M manual for the existing BMP should include the fully spent filter bypass flow rate.

Plan of Action and Milestones for Post-Construction BMP Retrofits Department of Transportation, Harbors Division Page 2

2. Review existing drawings/design and identify data gaps (if applicable). ESTIMATED DURATION: 1 WEEK

Should any of the required data to complete the design of the new BMP not be included in the previous design, Weston will need to collect that data prior to completion of the design for the new BMP. The quality of the data will also be considered and, if needed, further field collection may be conducted to improve it.

3. Field collect or verify data for drainage areas, dimensions of existing retrofit locations, and any identified data gaps;

ESTIMATED DURATION: 1 WEEK

Once the data requirements for design of the new BMP have been compared to the available data from the previous BMP, field collection of the data gaps will be conducted.

4. Examine existing BMPs for decommissioning approach and measure/assess drain cover layout (for potential reduction of BMP O&M maintenance effort);

ESTIMATED DURATION: CONCURRENT WITH PREVIOUS TASK

Field identify tool requirements and deconstruction approach. Look for any issues that might arise such as components targeted for removal anchored in the concrete or damage/corrosion of any of the trench drain components that are targeted for reuse (ie, grating, grating support, outlet). Take a full set of measurements of the grating and mounting system so that we can consider longer sections of grating to simplify the maintenance process.

5. *Identify downspout and facility entrance locations for implementation of other RFS specified BMPs;* ESTIMATED DURATION: CONCURRENT WITH PREVIOUS TASK

Inventory, measure, photograph, and allocate on a map the potential installation locations for downspout filters, downspout planters, and facility entrance rumble strips. Measure and photograph DI3968 to allow for design of a retrofit drain inlet filter.

6. Develop the design, specs, and drawings for new BMPs using drain flow calculations given the measured drainage areas and SWMM modeled rainfall;

ESTIMATED DURATION: 2 WEEKS

Generate the design content including location drawings, manufacturers specifications and drawings, and design calculation documentation. The existing BMP's fully spent filter bypass rate will be compared to the manufacturers bypass flow rate of the new BMP. Should the new design allow equal or greater bypass flow rate, the hydraulic analysis will be deemed complete for the new BMP.

7. *HAR-EE review of the design, specs, and drawings for new BMPs;* ESTIMATED DURATION: 2 WEEKS

8. Revise design, specs, and drawings as needed and submit final copy to HAR-EE; ESTIMATED DURATION: 2 WEEKS

9. Develop rough order cost estimate for Harbors internal budget planning; ESTIMATED DURATION: 1 WEEK

- 10. Harbors will solicit and procure products and construction services for implementation of the design; ESTIMATED DURATION: 4 WEEKS
- 11. Weston to support Harbors with responses to questions and site walk during the procurement phase; Estimated Duration: Concurrent with previous task

Plan of Action and Milestones for Post-Construction BMP Retrofits Department of Transportation, Harbors Division Page 3

12. Construction of the new BMPs;
ESTIMATED DURATION: 4 WEEKS MANUFACTURE + 4 WEEKS INSTALLATION = 8 WEEKS TOTAL

Weston will provide construction management services and verify proper installation of the BMPs. Field verification of installation will ensure that design bypass specifications are realized in the asbuilt infrastructure. This will be accomplished through measurement and comparison of the BMP physical dimensions.

13. Harbors or Tenant/User will operate, inspect, and maintain the new BMPs once they're installed.

Piers 51B and 52/53

Estimated Duration from Design to <u>Start of Construction</u>: 10 weeks Estimated Duration from Design to <u>Completion of Construction</u>: 22 weeks Estimated Duration from Design to <u>Completion of Effectiveness</u> Evaluation: 26 weeks

1. Acquire design documents/drawings for existing Pier 51B and 52/53 drainage systems. ESTIMATED DURATION: 1 WEEK

Search for the applicable drawings and the design hydraulic calculations for the existing infrastructure. Acquire drain specific hydraulic calculation or any other pertinent data.

2. Review existing drawings/design and identify data gaps (if applicable). ESTIMATED DURATION: 1 WEEK

Should any of the required data to complete the design of the new BMP not be included in the previous design drawings/calculations, Weston will need to collect that data prior to completion of the design for the new BMP. The quality of the data will also be considered and, if needed, further field collection may be conducted to improve it. Key data includes the size of the drainage area, the flow path, and retrofit location dimensions.

3. Field collect or verify data for drainage areas, dimensions of existing retrofit locations, and any identified data gaps;

ESTIMATED DURATION: 1 WEEK

Once the data requirements for design of the new BMP have been compared to the available data from the previous construction design calculations, field collection of the data gaps will be conducted.

4. *Identify downspout and facility entrance locations for implementation of other RFS specified BMPs;* ESTIMATED DURATION: CONCURRENT WITH PREVIOUS TASK

Inventory, measure, photograph, and allocate on a map the potential installation locations for downspout filters, downspout planters, and facility entrance rumble strips. Measure and photograph DI8012, SDO8031, DI8660, DI8366, DI8510, and SDO8517.

5. Develop the design, specs, and drawings for new BMPs using drain flow calculations given the measured drainage areas and SWMM modeled rainfall;
ESTIMATED DURATION: 2 WEEKS

Generate the design content including location drawings, manufacturers specifications and drawings, and design calculation documentation.

6. *HAR-EE review of the design, specs, and drawings for new BMPs;* ESTIMATED DURATION: 2 WEEKS

7. Revise design, specs, and drawings as needed and submit final copy to HAR-EE; ESTIMATED DURATION: 2 WEEKS

Plan of Action and Milestones for Post-Construction BMP Retrofits Department of Transportation, Harbors Division Page 4

- 8. Develop rough order cost estimate for Harbors internal budget planning: ESTIMATED DURATION: 1 WEEK
- 9. Harbors will solicit and procure products and construction services for implementation of the design; **ESTIMATED DURATION: 4 WEEKS**
- 10. Weston to support Harbors with responses to questions and site walk during the procurement phase; ESTIMATED DURATION: CONCURRENT WITH PREVIOUS TASK
- 11. Construction of the new BMPs; ESTIMATED DURATION: 4 WEEKS MANUFACTURE + 4 WEEKS INSTALLATION = 8 WEEKS TOTAL

Weston will provide construction management services and verify proper installation of the BMPs.

12. Effectiveness evaluation of the new BMPs; ESTIMATED DURATION: 1 WEEK SAMPLE + 2 WEEKS ANALYSIS + 1 WEEK REPORTING = 4 WEEKS

Weston will collect water samples at each of the inlets and outlets of the new BMPs and determine removal effectiveness as well as loading. Once the laboratory results are received and tabulated, follow-up investigative sampling and/or source control recommendations will be initiated. This step requires runoff flow at the site. If a rain event does not occur during this period, alternatives will be considered including a controlled experiment where a known concentration of contaminant will be introduced to the BMP and completely captured at the outlet. However, an actual rainfall event covering the entire drainage area would provide better data for the evaluation.

13. Harbors or Tenant/User will operate, inspect, and maintain the new BMPs once they're installed.

Conclusion

WESTON is confident that our corporate commitment to this important project, our project team's knowledge of the approved plans, and our previous local experience working with tenants and users will deliver exceptional value as we work together to develop solutions. Upon review of this POA&M should you have any questions, comments, or require additional information please contact Mr. Mark Ambler, at mark.ambler@westonsolutions.com.

Sincerely,

WESTON SOLUTIONS, INC.

Mark Ambler, PE, PMP, CPSWQ Technical Manager

Project File cc:

ID	Task Name	Start	Finish	Duration	Predecessors	2nd Quarter 3rd Quarter 4th Quarter 1st Quarter 2nd Quarter 3rd Quarter 4th Quarter 1st Quarter 2nd Qu Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May
0	Post-Construction BMP Retrofit Design Phase	Mon 7/17/17	Fri 4/13/18	190 d		
1	SCOPING	Mon 7/17/17	Mon 10/23/17	70 d		
2	Weston submits cost proposal for design services	Mon 7/17/17	Mon 7/17/17	1 d		Weston submits cost proposal for design services
3	Harbors acceptance of cost proposal / Notice to Proceed	Mon 7/24/17	Fri 7/28/17	5 d	2	Harbors acceptance of cost proposal / Notice to Proceed
4	Weston submits cost proposal for constr mgmt services	Tue 10/10/17	Mon 10/16/17	5 d	16	Weston submits cost proposal for constr mgmt services
5	Harbors acceptance of cost proposal / Notice to Proceed	Tue 10/17/17	Mon 10/23/17	5 d	4	Harbors acceptance of cost proposal / Notice to Proceed
6	PIER 31	Mon 7/31/17	Fri 1/19/18	120 d		
7	DESIGN PHASE	Mon 7/31/17	Mon 10/9/17	50 d		
8	Acquire design documents for P31 drainage system and BMPs	Mon 7/31/17	Fri 8/4/17	1 wk	3	1. Acquire design documents for P31 drainage system and BMPs
9	Review existing drawings, identify data gaps	Mon 8/7/17	Fri 8/11/17	1 wk	8	2. Review existing drawings, identify data gaps
10	3. Field collect or verify data	Mon 8/14/17	Fri 8/18/17	1 wk	9	3. Field collect or verify data
11	4. Create decommissioning approach and assess drain cover layout	Mon 8/14/17	Fri 8/18/17	1 wk	10SS	4. Create decommissioning approach and assess drain cover layout
12	Identify downspout and facility entrance locations per RFS	Mon 8/14/17	Fri 8/18/17	1 wk	11SS	5. Identify downspout and facility entrance locations per RFS
13	Develop design, specs, and drawings	Mon 8/21/17	Fri 9/1/17	2 wks	12	■ 6. Develop design, specs, and drawings
14	7. HAR-EE review of design, specs, and drawings	Tue 9/5/17	Mon 9/18/17	2 wks	13	7. HAR-EE review of design, specs, and drawings
15	Submit revised design, specs, and drawings	Tue 9/19/17	Mon 10/2/17	2 wks	14	8. Submit revised design, specs, and drawings
16	9. Develop ROM Cost Estimate	Tue 10/3/17	Mon 10/9/17	1 wk	15	9. Develop ROM Cost Estimate
17	CONSTRUCTION PHASE	Tue 10/10/17	Fri 1/19/18	70 d		
18	10. Harbors procures products and construction services	Tue 10/10/17	Mon 11/6/17	4 wks	16	10. Harbors procures products and construction services
19	11. Weston to support Harbors with site walk and RFIs	Tue 10/24/17	Mon 11/20/17	4 wks	18SS,5	11. Weston to support Harbors with site walk and RFIs
20	12. Construction of new BMPs / Weston oversight	Tue 11/21/17	Fri 1/19/18	8 wks	19	12. Construction of new BMPs / Weston oversight
21	PIER 51B & 52/53	Tue 10/10/17	Fri 4/13/18	130 d		
22	DESIGN PHASE	Tue 10/10/17	Wed 12/20/17	50 d		
23	Acquire design documents for P51 drainage system and BMPs	Tue 10/10/17	Mon 10/16/17	1 wk	16	1. Acquire design documents for P51 drainage system and BMPs
24	Review existing drawings, identify data gaps	Tue 10/17/17	Mon 10/23/17	1 wk	23	2. Review existing drawings, identify data gaps
25	Field collect or verify data	Tue 10/24/17	Mon 10/30/17	1 wk	24	3. Field collect or verify data
26	Identify downspout and facility entrance locations per RFS	Tue 10/24/17	Mon 10/30/17	1 wk	25SS	4. Identify downspout and facility entrance locations per RFS
27	5. Develop design, specs, and drawings	Tue 10/31/17	Mon 11/13/17	2 wks	26	5. Develop design, specs, and drawings
28	6. HAR-EE review of design, specs, and drawings	Tue 11/14/17	Wed 11/29/17	2 wks	27	■ 6. HAR-EE review of design, specs, and drawings
29	7. Submit revised design, specs, and drawings	Thu 11/30/17	Wed 12/13/17	2 wks	28	7. Submit revised design, specs, and drawings
30	Develop ROM Cost Estimate	Thu 12/14/17	Wed 12/20/17	1 wk	29	8. Develop ROM Cost Estimate
31	CONSTRUCTION PHASE	Thu 12/21/17	Fri 4/13/18	80 d		
32	Harbors procures products and construction services	Thu 12/21/17	Fri 1/19/18	4 wks	30	9. Harbors procures products and construction services
33	10. Weston to support Harbors with site walk and RFIs	Thu 12/21/17	Fri 1/19/18	4 wks	32SS,5	10. Weston to support Harbors with site walk and RFIs
34	11. Construction of new BMPs / Weston oversight	Mon 1/22/18	Fri 3/16/18	8 wks	33	11. Construction of new BMPs / Weston oversight
35	12. Effeciveness Evaluation of new BMPs	Mon 3/19/18	Fri 4/13/18	4 wks	34	12. Effectiveness Evaluation of new BMPs

Milestone • LEGEND: Critical Task Normal Task Summary



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION 869 PUNCHBOWL STREET HONOLULU, HAWAII 96813-5097

April 6, 2017

Transport from the people town of trans

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Mr. David Wampler Chief, Water II Enforcement Ottice Enforcement Division, PNF 3-3 LIST 6-PA, Region 9 75 Hawihume Silven San Francisco, California 94(105) 3901

Dear Mr. Wampler,

5Cbjirst: Post-Construction 9MP Retrof (Boss,billty Study for Musolciu Harbor, File No. 111 03KE482 and Kalasion Rumbers Pyth); Harbor, File No. 341 93KE488, Clicil Action Number 1-14 av. 00408.7MS-KSC Chaster Device.

We are pleased to school our report for the Post-Construction BMP Remof ; Fersibility Study for both Honolobi Harbor and the Kaldekia Berbers Point Barbor required by Paragraph 18 a of the subject Convers Decree - The study inventomed new development and received princes projects. That were constructed white May 19, 2005 - which the subject MS4 pent its water is suited Hand evaluated the feasibility of potentially retrofits by these projects at both harbors.

The different used for the Seasibility evaluation included potential policities reduction, value to the Harbors Division, value to the Tenant, upfront installation cases & time, and receiving O&M sequitesents. Of the closen (11) candidate projects evaluated, three (3) asy reconstructed for EPA approval. Tiport 500: approval, the 5 selected projects will undergo further coordination with the topicosi involved detailed design work and final installation.

Should you have any questions, planson native Mr. Carter Luke, Narbors Designed Regimeeting. Branch Program Manager as (868) \$87-1887, or have your staff contact Mr. Specces Yus, Harbors Division Engineering Branch Foundational Section of p809) \$67-1963.

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FORD N. FUCHIGAMI Director of Transportation

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Mālama I Ke Kai

Protect Our Harbor Waters

Honolulu Harbor (HI 03KB482) Kalaeloa Barbers Point Harbor (HI 03KB488)

> State of Hawaii Department of Transportation Harbors Division 79 South Nimitz Highway Honolulu, Hawaii 96813





POST-CONSTRUCTION BMP RETROFIT FEASIBILITY STUDY

Honolulu Harbor (HI 03KB482) Kalaeloa Barbers Point Harbor (HI 03KB488)

Prepared for:



State of Hawaii Department of Transportation Harbors Division

Prepared by:



"I certify under penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that this document and its attachments were prepared either by me personally or under my direction or supervision in a manner designed to ensure that qualified and knowledgeable personnel properly gather and present the information contained therein. I further certify, based on my personal knowledge or on my inquiry of those individuals immediately responsible for obtaining the information, that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowingly and willfully submitting a materially false statement."

Signature	Date	
Responsible Officer of HDOT		

HDOT - Harbors Division i April 2017

April 2017

EXECUTIVE SUMMARY

Mālama I Ke Kai – Protect Our Harbor Waters. This phrase was designed to be simple, memorable, and to convey the need and importance of stormwater awareness. This report was designed to increase awareness about pollutants and how to retrofit the existing drainage system to efficiently remove them.

Hawaii Department of Transportation, Harbors Division (Harbors) negotiated the terms of a Consent Decree (CD) with the Federal Government (filed November 5, 2014). The Federal Government was working on behalf of the United States Environmental Protection Agency and the Hawaii Department of Health (HDOH).

The CD (VII.18.a.iii.) includes the requirement to conduct this study. Completion of this study eliminates potential fines related to CD stipulated penalty (VIII.23.g.). No later than four years after EPA approval of this study, Harbors must start the construction of the top three ranked retrofits in this report to maintain compliance. There is a daily penalty for each location if construction has not been started.

Based on the information gathered and presented in this report, the following three candidate projects are recommended for construction: Pier 31, Piers 52 & 53, and Pier 51B. Each location includes recommendations for LID, source control, and treatment retrofits. It is estimated that these strategies will result in a runoff reduction of 1,973 lbs. of sediment per year. The total estimated construction costs for the three projects is \$411,743. Operations and maintenance of the installed BMPs will require an additional 688 labor hours per year. Design, procurement, manufacturing, and installation of the Best Management Practices (BMPs) may take a total of 52 weeks.

All post-construction BMPs are required to be inspected on an annual basis¹. The effective pollutant removal rates will be documented and used to support future BMP implementation decisions. Harbors and HDOH will work together to use this data to support compliance enforcement with the shared goal of Protecting Our Harbor Waters.

HDOT - Harbors Division ii

¹ 2015 Stormwater Management Plan, Hawaii Department of Transportation – Harbors Division, March, 2015.

TABLE OF CONTENTS

EXE	CUTIV	VE SUMMARY	II
1.0	INTRO	DDUCTION	1-1
1.1	BACI	KGROUND	1-1
1.2	PURF	POSE	1-1
1.3	POST	C-CONSTRUCTION PROGRAM AND DESIGN GUIDELINES	1-1
1.4	EXIS'	TING CONDITIONS AT THE HARBORS	1-2
1.4	4.1 Sit	e Description	1-2
1.4	4.2 Ge	eneral Climate	1-2
1.4	4.3 Ra	infall	1-2
1.4	4.4 Cl	imate Change	1-2
1.4	4.5 To	pography	1-3
1.4	4.6 Int	filtration Characteristics	1-3
1.4	4.7 Ev	aporation	1-3
1.4	4.8 Re	ceiving Waters	1-3
1.4	4.9 Im	pairments	1-3
1.5	FEAS	SIBILITY SCREENING	1-5
2.0	RETR	OFIT STUDY PROCESS	2-1
2.1	POTE	NTIAL POLLUTANT SOURCES	2-1
2.1	1.1 So	urces from Construction Project Database	2-2
2.1	1.2 So	urces from NPDES Permits and Discharge Monitoring Reports	2-2
2.1	1.3 Lis	st of Regulated Projects	2-2
2.2	POTE	ENTIAL POLLUTANTS OF CONCERN	2-3
2.2	2.1 Po	tential Pollutants of Concern Data Sources	2-3
	2.2.1.1	Clean Water Act Section 303(d) List	2-3
	2.2.1.2	Common Pollutants of Potential Concern	2-3
	2.2.1.3	Tenant Stormwater Inspection Database	2-4
	2.2.1.4	NDPES Permits and Discharge Monitoring Reports	2-4
	2.2.1.5	Future Tenant and Area Land Uses	2-4
	2.2.1.6	Retrofit Reconnaissance Inventories.	2-5
2.2	2.2 Di	scussion of Pollutant Load	2-5
2.2	2.3 Lis	st of POPCs	2-5
2.2	2.4 Dr	ainage Analysis	2-5

TABLE OF CONTENTS (CONTINUED) 2.2.4.1 2.2.4.2 2.2.4.3 APPLICABLE POST-CONSTRUCTION BMPS2-9 3.0 SITE CONDITIONS AND RETROFIT ANALYSIS......3-1 3 1 Background 3-1 3.1.1 3.1.2 Site Constraints 3-1 3.1.3 Existing BMPs 3-2 3.1.4 3.1.5 3.1.5.1 LID Design Strategies 3-3 3.1.5.2 3.1.5.3 3.2 3.2.1 Site Constraints 3-6 3.2.2 3.2.3 3.2.4.1 LID Design Strategies 3-8 3242 3.2.4.3 Treatment Control BMPs 3-9 3 3 3 3 1 Site Constraints 3-11 Existing BMPs3-13 Site POPCs 3-13 3.3.3 LID Design Strategies 3-14 3.3.3.1 3.3.3.2 Source Control BMPs 3-14 Treatment Control BMPs 3-15 3.3.3.3 3.5

TABLE OF CONTENTS (CONTINUED)

,	
3.5.1 Site Constraints	3-19
3.5.2 Existing BMPs	3-20
3.5.3 Site POPCs	3-20
3.5.4 Retrofit Opportunities	3-20
3.5.4.1 LID Design Strategies	3-20
3.5.4.2 Source Control BMPs	3-21
3.5.4.3 Treatment Control BMPs	3-21
3.6 UNITED FISHING AGENCY	3-23
3.6.1 Site Constraints	3-23
3.6.2 Existing BMPs	3-24
3.6.3 Site POPC	3-24
3.6.4 Retrofit Opportunities	3-24
3.6.4.1 LID Design Strategies	3-24
3.6.4.2 Source Control BMPs	3-24
3.6.4.3 Treatment Control BMPs	3-25
3.7 FRESH ISLAND FISH	3-26
3.7.1 Site Constraints	3-26
3.7.2 Existing BMPs	3-27
3.7.3 Site POPCs	3-27
3.7.4 Retrofit Opportunities	3-27
3.7.4.1 LID Design Strategies	3-27
3.7.4.2 Source Control BMPs	3-27
3.7.4.3 Treatment Control BMPs	3-27
3.8 POP FISHING & MARINE	3-28
3.8.1 Site Constraints	3-28
3.8.2 Existing BMPs	3-29
3.8.3 Site POPC	3-29
3.8.4 Retrofit Opportunities	3-29
3.8.4.1 LID Design Strategies	3-29
3.8.4.2 Source Control BMPs	3-30
3.8.4.3 Treatment Control BMPs	3-30
3.9 JEMS ENTERPRISES, LLC (DBA HAWAIIAN ICE COMPANY)	3-31

TABLE OF CONTENTS (CONTINUED)

3.9.	.1 Site	e Constraints	3-31
3.9.	.2 Exi	sting BMPs	3-32
3.9.	.3 Site	POPCs	3-32
3.9.	.4 Ret	rofit Opportunities	3-32
3	3.9.4.1	LID Design Strategies	3-32
3	3.9.4.2	Source Control BMPs	3-32
3	3.9.4.3	Treatment Control BMPs	3-33
3.10	HONC	LULU CONSTRUCTION & DRAYING CO., LTD. (HC&D)	3-34
3.10	0.1	Site Constraints	3-34
3.10	0.2 E	Existing BMPs	3-35
3.10	0.3	Site POPCs	3-35
3.10	0.4 F	Retrofit Opportunities	3-36
3	3.10.4.1	LID Design Strategies	3-36
3	3.10.4.2	Source Control BMPs	3-36
3	3.10.4.3	Treatment Control BMPs	3-36
3.11	KALA	ELOA BARBERS POINT HARBOR ACCESS ROAD	3-37
3.1	1.1 S	Site Constraints	3-37
3.1	1.2 E	Existing BMPs	3-37
3.1	1.3 S	Site POPCs	3-38
3.1	1.4 S	statement of Retrofit Feasibility	3-38
3.12	GLP A	SPHALT	3-39
3.12	2.1 S	Site Constraints	3-39
3.12	2.2 E	Existing BMPs	3-40
3.12	2.3 S	ite POPC	3-40
3.12	2.4 F	Retrofit Opportunities	3-40
3	3.12.4.1	LID Design Strategies	3-40
3	3.12.4.2	Source Control BMPs	3-40
3	3.12.4.3	Treatment Control BMPs	3-40
4.0 E	EVALU	ATION AND RANKING OF POTENTIAL RETROFITS	4-1
4.1		CTIVENESS	
4.2	IMPLE	EMENTABILITY	4-3
43	COST	EVALUATION (LIFE CYCLE COSTS)	4-4

	TABLE OF CONTENTS (CONTINUED)	
5.0	CONCLUSIONS AND RECOMMENDATIONS	5-1
5.1	CONCLUSIONS	5-1
5.2	RECOMMENDATIONS	5-2
6.0	REFERENCES	
	LIST OF TABLES	
Table	1-1 Water Body Assessment	1-4
Table	•	2-3
Table		2-4
Table	2-3 List of POPCs	2-5
Table	2-4 Post-Construction BMPs	2-9
Table	3-1 Pier 29 Captured Sediment Particle Size Distribution and Metals	
	Concentrations/Sieve Size	3-3
Table	4-1 Effectiveness Evaluation Elements	4-2
Table	4-2 Implementability Evaluation Elements	4-3
Table	4-3 Cost Evaluation Elements	4-4
Table		4-5
Table	5-1 Candidate Project Scorecard	5-2
	LIST OF FIGURES	
Figure	e 2-1 Retrofit Study Approach	2-1
Figure	e 2-2 Honolulu Harbor Runoff Percentage of Annual Rainfall	2-6
Figure	e 2-3 Honolulu Harbor Runoff Exceedance Frequency	2-6
Figure		
Figure	· · · · · · · · · · · · · · · · · · ·	
Figure	C	
Figure		
Figure	· ·	
Figure	<u>.</u>	
Figure	1	
Figure		
Figure	<u>.</u>	
Figure		
Figure	· · · · · · · · · · · · · · · · · · ·	
Figure		
Figure	±	
Figure	•	
Figure		
Figure		
Figure		
Figure	e 3-13 XRF Device for Sediment/Pavement Metals Analysis	3-15

LIST OF FIGURES (CONTINUED) Figure 3-14 Ultra-Drain Guard Filter 3-15 Pier 35 Permanent Drain Inlet Filter 3-16 Figure 3-15 Figure 3-16 Drain Inlet Filters 3-16 Figure 3-17 Trench Drain Filters 3-17 Figure 3-18 Figure 3-19 Figure 3-20 Figure 3-21 Figure 3-22 United Fishing Agency Drainage Area 3-23 Figure 3-23 Figure 3-24 Figure 3-25 Figure 3-26 Figure 3-27 Figure 3-28 Figure 3-29 Figure 3-30 Figure 3-31 Hawaiian Ice Drainage Area 3-31 Figure 3-32 Hawaiian Ice Storm Sewer System 3-32 Figure 3-33 HC&D Drainage Area 3-34 Figure 3-34 Figure 3-35 Kalaeloa Barbers Point Harbor Access Road Drainage Area......3-37 Figure 3-36 Figure 3-37 Figure 3-38

APPENDICES

- Appendix A Inventory of New Development and Redevelopment Projects
- Appendix B Pier 60 Concept Design Drawings
- Appendix C Laboratory Data

Figure 3-39 Figure 4-1

Figure 5-1

- Appendix D Modeling and Analysis
- Appendix E Design Guidance Information

ACRONYMS AND ABBREVIATIONS

°F Degrees Fahrenheit

BMP Best Management Practice
CCH City & County of Honolulu
CFR Code of Federal Regulations

CWA Clean Water Act
CWB Clean Water Branch

DMR Discharge Monitoring Report

ft feet

FTE Full Time Equivalent

HAR Hawaii Administrative Rules

Harbors Harbors Division

HC&D Honolulu Construction & Draying Co., Ltd.

HDOH Hawaii Department of Health

HDOT Hawaii Department of Transportation IDPP Iwilei District Participating Parties, LLC

in. inches

KBPH Kalaeloa Barbers Point Harbor

LID Low Impact Design

MS4 Municipal Separate Stormwater Sewer System

NGPC Notice of General Permit Coverage

NOAA National Oceanic and Atmospheric Administration NPDES National Pollutant Discharge Elimination System

O&M Operations and Maintenance POPCs Pollutants of Potential Concern

Post-Construction Manual Final Post-Construction Stormwater Management in New

Development and Redevelopment, Honolulu and Kalaeloa Barbers

Point Harbors

Post-Construction Program Post-Construction Stormwater Management Program

PSMP Post-Construction Stormwater Mitigation Plan

RFS Post-Construction Best Management Practices Retrofit Feasibility

Study

RRI Retrofit Reconnaissance Inventory

sq ft square feet

SWMP Stormwater Management Plan TMDL Total Maximum Daily Load

USEPA United States Environmental Protection Agency

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1.0 INTRODUCTION

1.1 BACKGROUND

The Hawaii Department of Transportation (HDOT) Harbors Division (Harbors) received and operates under small municipal separate storm sewer system (MS4) permits for Honolulu Harbor and Kalaeloa Barbers Point Harbor (KBPH). Included in the permits is the requirement to develop a Stormwater Management Program (SWMP), which describes Best Management Practices (BMPs) and control measures designed to reduce the discharge of pollutants to the maximum extent practicable into the storm water conveyance system and from the small MS4. The SWMP outlines the required BMPs for six Minimum Control Measures in accordance with the permits. One of these Minimum Control Measures is Post-Construction Stormwater Management in New Development and Redevelopment projects that result in a land disturbance of one acre or more.

The United States Environmental Protection Agency (USEPA) issued a Consent Decree (CD) on November 5, 2014 (Case 1:14-cv-00408-JMS-KSC) that requires Harbors to conduct a Post-Construction BMP Retrofit Feasibility Study (referred to herein as Retrofit Feasibility Study) for new development and redevelopment projects that have been constructed for which grading or land disturbance permits have been issued since May 19, 2003.

1.2 PURPOSE

This Post-Construction BMPs Retrofit Feasibility Study (RFS) has been prepared to identify optimized stormwater treatment methodologies for recently completed projects. It is also this RFS's goal to satisfy the requirements of the CD and the Post-Construction Stormwater Management Program (herein referred to as "Post-Construction Program"). The RFS identifies the current conditions at Honolulu Harbor and KBPH and evaluates potential retrofits at the harbors. Anticipated future tenants and land uses are also incorporated into the evaluation to ensure that selected retrofits address and are suitable for future pollutants and activities. Harbors stormwater policies, as they relate to the division of environmental responsibility between Harbors and tenants, are reflected in the conceptual designs of the BMPs (i.e. the placement of BMPs within Harbors or tenant storm drain lines).

1.3 POST-CONSTRUCTION PROGRAM AND DESIGN GUIDELINES

The HDOT Harbors Post-Construction Program is described in the document, *Post-Construction Stormwater Management in New Development and Redevelopment, Honolulu and Kalaeloa Barbers Point Harbors* (referred to herein as Post-Construction Manual). The Post-Construction Manual defines requirements and provides guidance for the project specific planning, selection, and design of post-construction BMPs to minimize pollutants in post-construction runoff and to minimize the amount of polluted runoff leaving the site.

The Post-Construction Program is intended to be complementary to the Harbors Construction Site Runoff Control Program, both of which provide requirements for Harbors construction projects and tenant improvement projects.

New development and redevelopment projects that result in a land disturbance of one acre or more are considered regulated projects and are subject to this program. All regulated projects must implement post-construction BMPs unless the project is exempted.

1.4 EXISTING CONDITIONS AT THE HARBORS

1.4.1 Site Description

Stormwater flowing over Harbors property into storm drains enters the small MS4s at Honolulu Harbor and KBPH, which empties directly into the ocean waters. The Harbors fall under the USEPA's National Pollutant Discharge Elimination System (NPDES) regulations (40 Code of Federal Regulations [CFR] 122) as they are in urbanized areas. Stormwater and certain non-stormwater discharges entering the harbors are authorized by the Hawaii Department of Health (HDOH) Clean Water Branch (CWB) through two separate Notices of General Permit Coverage (NGPCs) for Honolulu Harbor and KBPH. The NGPC is subject to Harbors' compliance under Hawaii Administrative Rules (HAR) Chapter 11-55 Appendix K, Appendix A, and HAR Sections 11-55-34.04(a), 11-55-34.07, 11-55-34.11, 1-55-34.12, and any other applicable Sections of HAR, Chapters 11-55.

1.4.2 General Climate

Honolulu Harbor and KBPH are located on Oahu, which is characterized by mild temperatures, persistent northeastern trade winds, moderate humidity, and variation in rainfall over short distances. The average maximum and minimum temperatures are 82 degrees Fahrenheit (°F) and 59°F, respectively.

1.4.3 Rainfall

The RFS analysis utilizes the USEPA Storm Water Management Model (SWMM) through the USEPA National Stormwater Calculator (release 1.1.0.3) to model site specific runoff criteria. RFS analysis for Honolulu Harbor utilizes a long-term record of historical hourly rainfall recorded at the National Oceanic and Atmospheric Administration (NOAA) rain gage (NOAA Station Id: HI511919) at Honolulu International Airport. The historical data period used for this study is from 1970-2006 during which period an average annual rainfall of 17.80" has been recorded.

RFS analysis for KBPH also utilizes a long-term record of historical hourly rainfall. The data used for KBPH is from the NOAA Station Id: HI510248 from 1971-2006 during which period an average annual rainfall of 19.35" has been recorded.

1.4.4 Climate Change

The effect of climate change on site hydrology is incorporated into the analysis using the USEPA selected set of World Climate Research Programme projections of temperature and precipitation. The projections are extrapolated for site specific rainfall and are selected for near term (2020-2049) effects. A warm/wet climate change scenario is selected to account for potential increases in site specific rainfall related to climate change.

1.4.5 Topography

Site topography is measured by surface slope which affects the rate of stormwater runoff from a site. Flatter slopes will result in lower flow rates and provide more evaporation and infiltration. Site topography is modeled at 2% for all sites to account for the flat surfaces typical of Harbor topography. When the BMPs are selected and design is initiated, the actual measured drainage areas and site topography should be utilized.

1.4.6 Infiltration Characteristics

The rate at which standing water infiltrates into a soil is measured by its saturated hydraulic conductivity. Soils with higher conductivity produce less runoff. Honolulu Harbor is similar to sandy loam and has drainage values ranging from 0.01 inches/hour to 0.1 inches/hour. KBPH is situated on soil classified as coral outcrop. Coral outcrop consists of coral or cemented calcareous sand. Kalaeloa Barbers Point Harbor is similar to sandy loam or sand and typically has drainage values less than 0.1 inches/hour (http://websoilsurvey.nrcs.usda.gov/).

Although soil data for both harbors are available, most of the sites discussed in the study are covered by impermeable asphalt or concrete.

1.4.7 Evaporation

Evaporation rates are factored into site specific runoff calculations. Monthly evaporation rates are calculated from historical daily temperature measurements at NOAA Station HI511919 (Honolulu Airport) since NOAA Station HI510248 does not have temperature data available. The average annual calculated evaporation rate from 1970-2005 is 0.35"/day.

1.4.8 Receiving Waters

The Retrofit Feasibility Study covers the water bodies associated with Honolulu Harbor and KBPH, all of which are categorized as marine waters.

Most coastal areas within Honolulu Harbor experience two high tides and two low tides every lunar day (National Oceanic and Atmospheric Administration [NOAA], 1995). The mean tidal range of Honolulu Harbor is 1.9 feet. High tide is 2.3 feet under normal conditions with 3.1 feet (ft.) as the highest tide on record. The lowest tide on record is 1.15 ft. below mean sea level. The tidal current moves west and east along the coast between Makapu'u Point and Honolulu Harbor (HDOT, 2012).

Local bathymetry affects the ranges and phases of tides along the shore, as the tidal waves wrap around the island. For example, high tide at Haleiwa on the north shore occurs over one hour before high tide at Honolulu Harbor (Flament, 1996).

The tidal characteristics of KBPH are like those of Honolulu Harbor. The high tide occurs 20 minutes after the high tide in Honolulu Harbor (NOAA, 1995).

1.4.9 Impairments

Impaired waterbodies in Hawaii are documented in the State of Hawaii Water Quality Monitoring Assessment Report, which is produced every two years by HDOH, as required by the Clean Water Act (CWA), and fulfills CWA Sections 303(d) and 305(b). Data from the most recent report, 2014 State of Hawaii Water Quality Monitoring and Assessment Report: Integrated Report to the

USEPA and US Congress, September 2, 2014, have been used in part to generate a list of Pollutants of Potential Concern (POPCs) and refine Retrofit Study Goals. At the time of this Retrofit Study, the 2016 IR was not yet available.

Section 303(d) of the Clean Water Act requires states to submit a list of waters that do not attain or maintain applicable water quality numeric criteria, plus a priority ranking of impaired waters for Total Maximum Daily Loads (TMDL).

Per the 2014 IR, Honolulu Harbor includes two waterbodies:

- HIW00100, referred to as "Honolulu Harbor"; and
- HIW00061, referred to as "Honolulu Harbor & Shore Area-Honolulu Waterfront-Aloha Tower".

HIW00100 is not on the 303(d) list, and is categorized by the 2014 IR as Category 3, which means that *there is insufficient available data and/or information to make a use support determination* (HDOH, 2014). No TMDLs have been established for this water body.

HIW00061 is on the 303(d) list under Categories 2, 3, and 5 with a Low TMDL priority (HDOH, 2014). The 2014 IR indicates pollutants at this waterbody include total ammonia and trash. These pollutants will be further discussed in Section 2.0.

KBPH includes the Barbers Point Harbor waterbody (HIW00088), which is not on the 303(d) list. The 2014 IR places it in Category 3, which means that *there is insufficient available data and/or information to make a use support determination* (HDOH, 2014). No TMDLs have been established for the Barbers Point Harbor waterbody associated with KBPH.

Table 1-1 shows water body assessments for Honolulu Harbor, Honolulu Harbor & Shore Area – Honolulu Waterfront-Aloha Tower, and Barbers Point Harbor.

Waterbody Name	303(d) List	Waterbody ID	Pollutants	Category	TMDL Priority
Honolulu Harbor	No	HIW00100	None Listed	3	
Honolulu Harbor & Shore Area-Honolulu Waterfront-Aloha Tower	Yes	HIW00061	Total Ammonia, Trash	2,3,5	L
Barbers Point Harbor	No	HIW00088	None Listed	3	

Table 1-1 Water Body Assessment²

HDOT - Harbors Division 1-4 April 2017

^{2 –} Some uses attained

^{3 –} Not enough data to evaluate

^{5 –} At least one use not attained

L – Low Priority for development within the current monitoring and assessment cycle

² Source: 2014 State of Hawaii Water Quality Monitoring and Assessment Report: Integrated Report to the USEPA and US Congress, September 2, 2014

1.5 FEASIBILITY SCREENING

A feasibility screening was conducted to efficiently allocate Harbors resources to evaluating projects that have a high retrofit potential. Each regulated project was screened at a high level to eliminate projects with comparatively little potential impact to receiving waters or likelihood of achieving the retrofit goals. Regulated projects were screened based upon but not limited to the following criteria. Those that are not eliminated were considered candidate projects and carried forward in the RFS.

- Total project footprint
- Nature of Activity
- Types of materials and equipment on site
- Storage and handling procedures
- Current Post-Construction BMPs
- Regulatory history
- Future land use

One project was removed from the RFS (KBPH Access Road). This project is in an area for which there are plans to significantly renovate the site grading, function, and stormwater utilities. Construction of post construction BMPs in this area will consider the future use of the site and are being developed by the design team for the greater development project. It is recommended that the design incorporates LID, source control, and/or treatment controls as required in Harbors *Post-Construction Stormwater Management in New Development and Redevelopment*³.

³ http://hidot.hawaii.gov/harbors/files/2013/01/2014-Post-Construction-SW-Manual_FINAL.pdf

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2.0 RETROFIT STUDY PROCESS

The RFS mirrors the process and requirements set by the existing Harbor Post-Construction Program, where applicable. In general, the RFS followed the steps shown in Figure 2-1, which are further described in this section.

Identify Potential Pollutant Construction Project List of Regulated Database **Projects** Sources **NPDES Permits** Site Constraints **Desktop Analysis** Performance of **Identify Site Conditions and** Retrofit existing BMPs **Potential Retrofit Locations** Reconnaissance Retrofit Inventory Opportunities **POPCs** 303(d) List Activity-based Common Pollutants Inspection Database **Identify POPCs** Final List of POPCs NPDES Permits and **DMRs Future Land Uses RRIs** Harbors Post-**Construction Manual** CCH BMP Guide **Identify Applicable** Final List of POPC Testing and Potential BMP **Treatment Modeling Post-Construction BMPs Technologies** Other Commercial Ports Market Survey **Evaluate and Rank Potential Retrofits (Section 3.0)**

Figure 2-1 Retrofit Study Approach

2.1 POTENTIAL POLLUTANT SOURCES

Regulated projects under the Post-Construction Program are considered potential pollutant sources. Regulated projects were compiled from the Harbors Construction Project Database and a

search of the NPDES permit holders within Honolulu Harbor and KBPH. The projects identified from these two sources are further described in the following subsections.

2.1.1 Sources from Construction Project Database

This subsection provides information on sources gathered from the Construction Project Database, which lists the following projects:

- HC 10354 Pier 29 Container Yard Redevelopment;
- HC 10515 Pier 31 Shed Demolition;
- HC 10185 Pier 51B Container Yard Redevelopment;
- HC 1971 Piers 52 & 53 Container Yard Redevelopment;
- Construction by Tenant, United Fishing Agency;
- Construction by Tenant, HC 1998 and 10006 Fishing Village Multi-User Building;
- Construction by Tenant; Jems Enterprises, LLC;
- Construction by Tenant, HC&D at Pier 60;
- HC 10340 KBPH Access Road;
- Construction by Tenant, GLP Asphalt.

2.1.2 Sources from NPDES Permits and Discharge Monitoring Reports

HDOH CWB requires Individual NPDES Permit holders to submit Discharge Monitoring Reports (DMRs) that indicate pollutants for which routine sampling is required. DMRs for each tenant at Honolulu Harbor and KBPH and surrounding tenants were searched using the HDOH WPC Viewer (http://eha-web.doh.hawaii.gov/wpc-viewer/) to identify additional construction projects that would be regulated under Harbors Post-Construction Program.

2.1.3 List of Regulated Projects

Based on the information gathered from the Construction Project Database and the NPDES and DMR review, a list of regulated projects was developed and is shown Table 2-1. This list was provided in the revised *Post Construction BMP Retrofit Study Scope* which was submitted to the EPA on May 13, 2016 and approved by EPA through letter notification received by Harbors on August 12, 2016.

Table 2-1 List of Regulated Projects

Honolulu Harbor	КВРН
Pier 29 Container Yard	KBPH Access Road
Pier 31 Shed Demolition	GLP Asphalt
Pier 51B Container Yard Redevelopment	
Pier 52 & 53 Container Yard Replacement	
United Fishing Agency	
Fresh Island Fish	
POP Fishing & Marine	
Jems Enterprises, LLC (Hawaiian Ice)	
HC&D (formerly Ameron)	

2.2 POTENTIAL POLLUTANTS OF CONCERN

Data evaluated includes 303(d) listing, general pollutant categories, inspection database, DMRs, future tenant/area use, and RRIs. A summary of the POPCs is shown in Table 2-3.

2.2.1 Potential Pollutants of Concern Data Sources

2.2.1.1 Clean Water Act Section 303(d) List

The 2014 State of Hawaii Water Quality Monitoring and Assessment Report (HDOH, 2014)) indicates pollutants at "Honolulu Harbor & Shore Area-Honolulu Waterfront-Aloha Tower" (HIW00061) on the Section 303(d) listing include total ammonia and trash. Nitrites, nitrates and turbidity are noted; however, the report indicates attainment of State water quality criteria for these pollutants has been achieved; therefore, nitrates, nitrites, and turbidity will not be evaluated in the Retrofit Feasibility Study unless they are indicated through another means of pollutant tracking described in this section. No POPCs are listed for the rest of Honolulu Harbor or KBPH.

2.2.1.2 Common Pollutants of Potential Concern

Runoff from a developed site has the potential to contribute pollutants, including trash, oil, grease, suspended solids, metals, gasoline, pesticides, and pathogens to the stormwater conveyance system and receiving waters. If the activities within a site are known, assumptions can be made about the corresponding pollutants that might be generated from these activates. Table 2-3 lists the pollutants that typically correlate to various site uses. This list is meant to assist in focusing assessments toward pollutants that have a high probability of occurring at a given site.

Priority Project Categories General Pollutant Categories Compounds Demanding Substances 3acteria & Pulverized **Nutrients** Pesticides Trash & Debris Oil & Greases Sediment Metals Viruses Cargo Handling Areas P P P P P \mathbf{p}^1 \mathbf{P}^2 \mathbf{P}^1 **P**5 P \mathbf{P}^3 **P**5 P P Commercial Development >1 Acre (Heavy) Industry Development P P P P P P P^{4,5} P Vehicle Repair Shops P P P \mathbf{P}^1 Р P P Restaurants P \mathbf{P}^1 P P \mathbf{p}^1 \mathbf{p}^1 P \mathbf{P}^1 **Parking Lots Fueling Facility** P P P P P P^4 P^5 \mathbf{P}^1 \mathbf{P}^1 Driveways P P P P

Table 2-2 Common Pollutants of Potential Concern

2.2.1.3 Tenant Stormwater Inspection Database

Harbors inspects its tenants for stormwater compliance on a regular schedule, with frequency depending on each tenant's ranking of environmental risk. Harbors maintains a database of stormwater inspection results, which includes a list of potential pollutant sources for each tenant. This database was used to aid in identifying POPCs.

2.2.1.4 NDPES Permits and Discharge Monitoring Reports

The sampling requirements of each facility's NPDES permit, as shown on the DMRs, were evaluated for inclusion in the POPC list for each regulated project (e.g. if the DMR for a facility indicated that analysis for iron was required, iron was included as a POPC).

Additionally, DMRs for facilities neighboring the regulated projects were assessed for relevance. If the neighboring facility had the potential to contribute to the pollutant load of the regulated project, it was included in the evaluation for POPCs. DMRs for tenants at or neighboring the regulated projects at Honolulu Harbor and KBPH were searched using the HDOH WPC Viewer (http://eha-web.doh.hawaii.gov/wpc-viewer/).

2.2.1.5 Future Tenant and Area Land Uses

In addition to current POPCs, potential future POPCs were identified based on the anticipated future land use of the area, or future tenants that Harbors expects to occupy the area.

P: A potential pollutant

P¹: A potential pollutant if landscaping exists on-site

P²: A potential pollutant if the project includes uncovered parking areas

P³: A potential pollutant if land use involves food or animal waste projects

P⁴: Including petroleum hydrocarbons

P⁵: Including solvents

2.2.1.6 Retrofit Reconnaissance Inventories

POPCs were also identified by physical observation in the field during RRIs in accordance with the types of activities, types of materials, or of the pollutant itself. Discussion with tenants about their activities and existing site data was also used to support POPC findings.

2.2.2 Discussion of Pollutant Load

The adverse effects of a pollutant (pollutant load) depend on the specific impact of that pollutant on the beneficial use of a waterbody, such as aquatic life, fisheries, drinking water, recreation, industry, or agriculture. Some pollutants have a more severe effect on a beneficial use than other pollutants, which is factored in to the development of TMDLs. TMDLs have not yet been established for Honolulu Harbor. KBPH is not an impaired water body so no TMDL will be developed for the Barbers Point Harbor waterbody. Per discussions with HDOH CWB, Harbors includes pollutants identified in the DMRs of each facility where sampling is required.

2.2.3 List of POPCs

Based on information gathered and presented in the previous subsections, the following list of POPCs has been developed for Honolulu Harbor and KBPH.

Regulated Project POPCs List Pier 29 Container Yard Pulverized rubber, sediment, trash, metals, oil & grease. Pier 31 Shed Sediment, trash, pulverized rubber, metals, nutrients, oxygen demanding **Demolition** substances, and oil & grease. Pier 51B Container Pulverized rubber, sediment, trash, metals (copper, iron, zinc), oil & grease, total Yard Redevelopment nitrogen, nitrate +nitrite nitrogen, total phosphorus, and decomposing organic matter. Pier 52 & 53 Container Pulverized rubber, sediment, trash, metals (aluminum, cooper, iron, zinc), oil & **Yard Replacement** grease, solvents, paints, vehicular wash water, total nitrogen, nitrite + nitrite nitrogen, total phosphorus, and decomposing organic matter. **United Fishing Agency** Fish processing waste. Fresh Island Fish Fish processing waste and grease. **POP Fishing & Marine** Grease. Fuel, oil, and grease. Jems Enterprises, LLC HC&D Sand and aggregate. **KBPH Access Road** Fugitive dust. **GLP Asphalt** Liquid asphalt.

Table 2-3 List of POPCs

2.2.4 Drainage Analysis

Drainage analysis was conducted to support design phase decisions for the selected BMPs.

2.2.4.1 Honolulu Harbor

Site specific runoff was modeled utilizing the USEPA SWMM through the National Stormwater Calculator. The model used 20 years of historical data from the weather station at the Honolulu International Airport. At all Honolulu Harbor sites except for Pier 60 the calculated annual rainfall of 17.80" results in an average annual runoff of 14.09". There are 27.78 days per year of rainfall with 11.59 days per year with runoff. The smallest rainfall causing runoff is 0.12".

Annual Rainfall = 17.80 inches

0%
21%

Runoff Infil. Evap.

Figure 2-2 Honolulu Harbor Runoff Percentage of Annual Rainfall

The Rainfall / Runoff Frequency chart shows average times per year a certain depth of daily rainfall or runoff will be exceeded. On average for Honolulu Harbor there is one daily runoff event per year of 1.5".

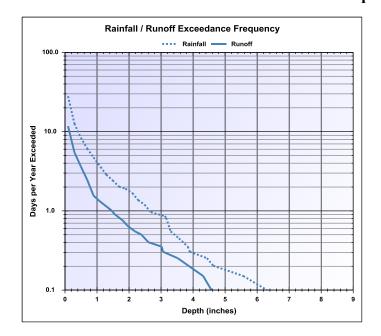


Figure 2-3 Honolulu Harbor Runoff Exceedance Frequency

2.2.4.2 Pier 60

Site specific runoff was modeled for Pier 60 utilizing the USEPA SWMM through the National Stormwater Calculator since this site isn't paved. The model also used 20 years of historical data from the weather station at the Honolulu International Airport. Most of Pier 60 is sand with moderately low runoff potential. Soil drainage was modeled at 0.1"/hour and land cover was set at 100% desert. The resulting calculated annual rainfall of 17.80" results in an average annual runoff of 3.25". There are 27.78 days per year of rainfall with only 1.20 days per year with runoff. The smallest rainfall causing runoff is 0.91".

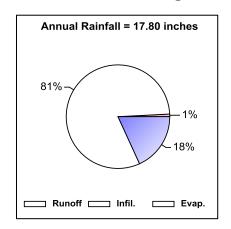


Figure 2-4 Pier 60 Runoff Percentage of Annual Rainfall

The Rainfall / Runoff Frequency chart shows average times per year a certain depth of daily rainfall or runoff will be exceeded. On average for Pier 60 there is one daily runoff event per year of 0.4".

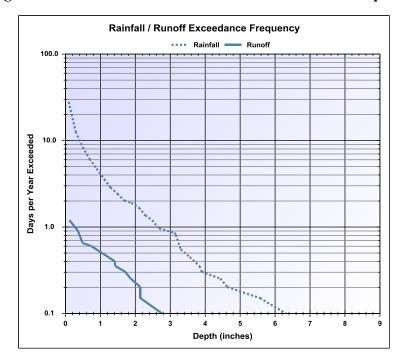


Figure 2-5 Honolulu Harbor Runoff Exceedance Frequency

2.2.4.3 KBPH

Site specific runoff was also modeled for KBPH. The model used 20 years of historical data from the weather station at Campbell Industrial Park for rainfall and data from the Honolulu International Airport for evaporation modeling (the Campbell Industrial rain gage data doesn't include temperature). Soil with moderately high runoff potential is selected with 1"/hour drainage and a slope of 2%. Land cover was set at 100% desert. The resulting calculated annual rainfall of 19.35" results in an average annual runoff of 0.29". There are 29.93 days per year of rainfall with only 0.15 days per year with runoff. The smallest rainfall causing runoff is 2.66".

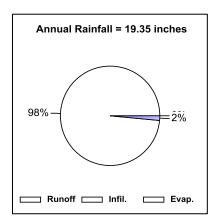


Figure 2-6 KBPH Runoff Percentage of Annual Rainfall

The Rainfall / Runoff Frequency chart shows average times per year a certain depth of daily rainfall or runoff will be exceeded. On average for KBPH there is one daily runoff event per 5-10 years of 0.4".

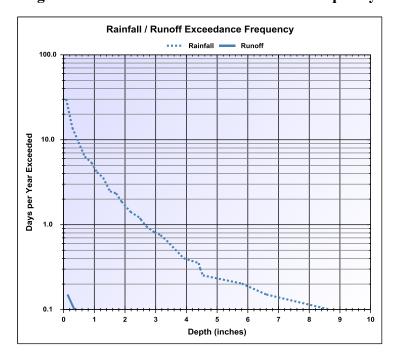


Figure 2-7 KBPH Runoff Exceedance Frequency

2.3 APPLICABLE POST-CONSTRUCTION BMPS

Post-Construction BMPs include LID Strategies, Source Control and Treatment Control BMPs. Table 2-4 provides a description of the three types of BMP categories discussed in the Post-Construction Manual and in the following subsections.

Element Description Reducing the hydrologic impact of development and **LID Site Design Strategies** incorporating techniques that maintain or restore the site's hydrologic and hydraulic functions. Preventing pollutants from encountering runoff and **Source Control** preventing polluted runoff from discharging into small MS4. **Treatment** LID Retention Retaining runoff on-site with no off-site discharge by infiltration, evapotranspiration, and harvesting/reuse. Control LID Biofiltration Removing pollutants from runoff by filtering stormwater through vegetation and soils. Other Treatment Removing pollutants from runoff by detention, settling, filtration, and vortex separation.

Table 2-4 Post-Construction BMPs

Post-Construction BMP technologies evaluated for potential retrofits were gathered from multiple sources, including the following:

- The City and County of Honolulu (CCH) Storm Water BMP Guide,
- The Urban Subwatershed Restoration Manual Series, Manual 3: Urban Stormwater Retrofit Practices Version 1.0,
- Current practices, policies, and technologies employed by other commercial ports, and
- Market research of potential vendors.

2.3.1 Post-Construction BMP Development Process

Figure 2-14 shows the process described in the Post-Construction Manual, which requires project proponents to consider LID site design strategies first, then source control BMPs, and finally treatment Control BMPs. Among these BMPs, manufactured stormwater treatment and filtration devices were considered as they are likely to be effective for the projects at Honolulu Harbor and KBPH. The requirements of the Post-Construction Manual were followed when determining if a BMP is appropriate for a project site.

Figure 2-8 Potential Post-Construction BMPs by Preference

Implement LID Site Design Strategies

- Conserve natural areas, soils and vegetation retain functions of predevelopment hydrology, including rainfall interception, evapotranspiration, and infiltration and therefore reduce runoff.
- Minimize disturbances to natural drainages and optimize the site layout preserve natural drainage features and design buildings and circulation to minimize the number of roofs and paving.
- Minimize Soil Compaction retain existing beneficial hydrologic function.
- Minimize Impervious Surface allow natural processes to filter and reduce non-point sources of pollution.
- Direct runoff to landscaped or pervious surfaces move runoff from impervious surfaces on to adjacent pervious surfaces (e.g., direct a roof downspout to disperse runoff onto a lawn).



Implement Source Control BMPs at these Areas

- Landscaped areas
- Automatic irrigation systems
- Storm drain inlets (stenciling and signage)
- Vehicle/equipment fueling
- Vehicle/equipment maintenance/repair
- Vehicle/equipment washing/cleaning

- Loading docks
- Outdoor trash storage
- Outdoor material storage
- Outdoor work areas
- Outdoor process equipment operations
- Parking areas



Implement Treatment Control BMPs that Maximize Removal of POPCs

Considering Numeric Criteria and General Infiltration Requirements for:

- Infiltration basin
- Bioretention filter
- Subsurface infiltration
- Dry well
- Rain barrel
- Downspout Dispersion
- Vegetated swale
- Detention basin
- Sand filter

- Infiltration trench
- Bioretention basin
- Permeable pavement
- Dry swale
- Green roof
- Tree box filter
- Vegetated buffer strip
- Manufactured treatment device

2.3.2 Pavement Sealing Technologies

As pulverized rubber seems to be generated at shipping yards with heavy equipment use, such as top lift forklifts, as tires are worn by the rough pavement surface, a survey of available pavement resurfacing or sealing options on the market was conducted. Vendors, including Triton Marine Construction Corp., Seal Master Hawaii, Seal Masters of Hawaii, Grace Pacific Corporation, Hawaii Pacific Concrete-Paving, Road Builders Corporation, Road and Highway Builders, LLC, Oahu Seal Coating, Oceana Asphalt Paving, and TecSeal Hawaii were contacted. Each of the vendors indicated that their products are intended to protect the pavement itself, and not tires that come into contact with the pavement.

In one case, Seal Master Hawaii indicated a product that would create a smooth surface relative to pavement; however, this product wears quickly and needs to be re-applied often, which makes it problematic for use at a busy container shipping yard, where pavement is subject to heavy weight and constant occupancy by containers. This RFS recommends pavement sealing only in areas where positive, lasting results can be achieved. Sealing pavement to keep sediment from getting lodged in cracks may be successful. Sealing pavement to reduce tire wear does not appear to be a viable approach.

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3.0 SITE CONDITIONS AND RETROFIT ANALYSIS

Existing site conditions and potential retrofit locations were identified by performing a desktop analysis and field Retrofit Reconnaissance Inventory (RRI) for each site. This information was used to determine what retrofits are appropriate for evaluation, and to compare existing site characteristics (such as impervious area, drainage area, and discharge rates) to potential improved site characteristics if retrofits are installed.

3.1 PIER 29 CONTAINER YARD

3.1.1 Background

Aloha Marine Lines (formerly Aloha Cargo Transport) is the current tenant at the Pier 29 facility. Renovations were conducted to convert Pier 29 into a functional container yard. The total cost of the site renovation was \$30.1 million and the 12.21-acre container yard includes about 10.12 acres of impervious pavement. Figure 3-1 presents the area overview of the project location and associated drainage area.



Figure 3-1 Pier 29 Development Drainage Area

3.1.2 Site Constraints

The stormwater flows via sheet flow to a drainage system consisting of trench drains and drain inlets. Challenges in this area include the low elevation of the site and groundwater elevation. Pavement capacity requirements also limit the available hydraulic elevation for filtration. Portions

of the area are impacted by underground petroleum contamination. Documentation of the site conditions are maintained by the Iwilei District Participating Parties, LLC (IDPP) and HDOH.

Although underground petroleum potentially exists in the subsurface, an interview with Harbors Grounds Maintenance (HAR-OCG) staff indicated that no petroleum odor or visual evidence has been observed in the existing stormwater drainage trenches.

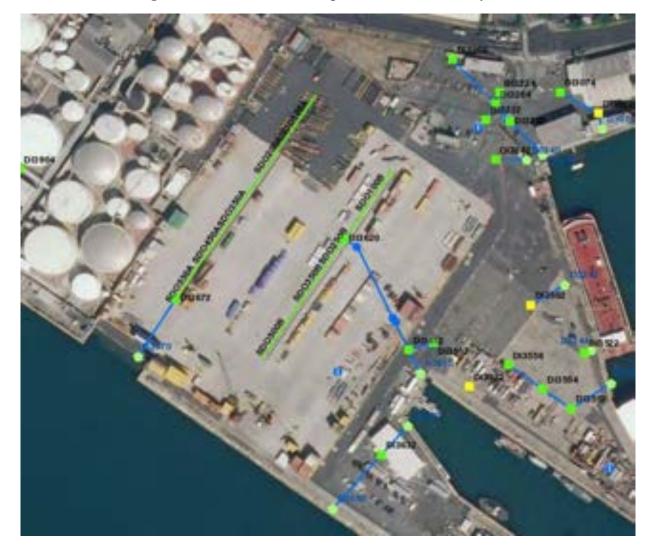


Figure 3-2 Pier 29 Development Storm Sewer System

3.1.3 Existing BMPs

The trench drains and several drain inlets have an existing post-construction BMP, which filters sediment and trash from runoff. The BMP runs from trench drain SDO0100A to SDO550A and from SDO100B to SDO500B as shown on the previous figure. Maintenance of the filtration system has been identified as a labor-intensive process in part due to the trench drain grating anchoring system.

Harbors maintenance staff who have performed maintenance on the existing BMPs have noted that particles generated from the wear of tires (pulverized rubber) from heavy equipment on the paved surface are the primary visible pollutant at this location.

3.1.4 Site POPCs

POPCs at Pier 29 include pulverized rubber, sediment, trash, metals, oil & grease. Potential sources of POPCs include equipment, equipment staging areas, buildings, containers, truck chassis, tires, container handlers, and ambient air.

Material removed from the existing BMPs (captured on the filter) was collected and sampled using ASTM D442 for particle size distribution, USEPA Method 6010B for metals, and USEPA Method 7471A for mercury. The laboratory report is attached in Appendix C. The results are as follows.

Table 3-1 Pier 29 Captured Sediment Particle Size Distribution and Metals Concentrations/Sieve Size

		Gravel		Coarse Sand	Medium Sand		Fine Sand	Silt	Clay
Percent	%	1.2%		22.7%	22.7%		58.4%	12.6%	0.0%
Sieve	#	4	10	20	40	60	140	230	<230
Ar	mg/kg	1.5	10	18	21	15	17	21	25
Pb	mg/kg	46	40	250	310	350	210	160	160
Al	mg/kg	2,800	3,600	3,700	4,700	7,800	7,800	7,500	8,300
Cd	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND
Cr	mg/kg	100	51	190	210	170	130	130	150
Cu	mg/kg	66	69	150	180	160	180	220	290
Fe	mg/kg	120,000	190,000	360,000	280,000	120,000	110,000	150,000	160,000
Zn	mg/kg	1,600	2,000	2,900	6,400	8,100	7,100	6,200	6,200
Hg	mg/kg	ND	ND	ND	0.019	0.026	0.077	0.045	0.054
SG		1.9	2.6	2.6	1.8	1.0	1.2	1.2	1.5

3.1.5 Retrofit Opportunities

3.1.5.1 LID Design Strategies

There is a small office building, a guard shack, an equipment room, and a bathroom located at Pier 29. Each of these small buildings could be retrofitted with rain barrels or a downspout planter to collect and treat roof runoff. In total, this would only treat about 2,770 ft² of drainage surface at the site which is a small portion of the site, but together with signage explaining the LID it would help to increase awareness at the site about stormwater.

3.1.5.2 Source Control BMPs

Sweeping at the site is conducted as needed by request. Typically, cleaning is conducted four times per year, when the barge is unloaded and dunnage such as straps, palettes, and other materials

need to be cleaned up. Cleaning at this site is performed by HAR-OCG but is funded by Aloha Marine Lines.

Rotation of storage areas at the facility may increase the efficiency of the sweeping. Sediment and other pollutants may get trapped under containers and other equipment. If this equipment is moved prior to sweeping, the material may be able to get collected prior to rainfall mobilization. It is recommended that sweeping occurs during opportunities where there are the least number of containers onsite so that the sweeper can access the largest potential area.

Conducting all maintenance which requires welding, grinding, and cutting over containment such as a welder's blanket is important to reduce the potential for residual metal shavings being mobilized by rainfall.

Routinely inspecting, repairing, and resealing the pavement helps to limit the amount of material that can be entrained in the cracks where a sweeper cannot remove them. Left uncollected, this material can then be mobilized during a rainfall event.

Routinely inspecting, repairing, and resealing any corrosion on equipment stored at the facility (including roofs, fencing, buildings, gutters, containers, handlers, etc.) will help to reduce the mobilization of zinc and copper during a rainfall event.

Installing rumble strips at the entrance to the facility along with regular sweeping to collect the dislodged material and a filter device in the receiving drain inlet (DI3242) would help to reduce the site pollutant loading from tracked on sediment and brake dust.

3.1.5.3 Treatment Control BMPs

Per an interview of Harbors personnel who conduct the cleaning on the existing trench drain filtration BMP, it is very effective at removing sediment. However, cleaning the BMP is labor intensive.

Maintenance is performed once per year. The level of effort is three days with a crew of eight people per trench. Equipment used to clean the two trenches includes a vacuum truck and a backhoe. An impact wrench is used to remove the fasteners on the grating. The screens are taken out and scraped onto the pavement. The sediment on the pavement is then vacuumed up. Harbors personnel must work on weekends to avoid interference with site operations. Weekend work incurs overtime costs.



Figure 3-3 Harbors Vacuum Truck

To increase the removal efficiency of the existing BMP, secondary filtration can be installed in downstream drainage structures DI3672 and DI3620. An exit pipe screen is a device that is simple to install and can be configured with adsorbent material or mesh sizes to target the POPCs. Product details for one example of this device are provided in Appendix E.

Further study would need to be conducted to determine the POPC downstream of the exiting trench drain BMP. The results presented in the previous section were from captured sediment in the existing BMP.

These devices will also increase the hydraulic gradient of the site. Calculation of hydraulic gradient of the retrofitted system would be required to determine the effect on the upstream maximum flow elevation. High tide should also be considered to prevent tide washout of captured POPCs.



Figure 3-4 Example Exit Pipe Screens⁴

HDOT - Harbors Division 3-5 April 2017

⁴ http://remfilters.com/crescent-filters/; http://gatewaywater.org/grants/completed-projects/gateway-catch-basin-retrofit/; http://www.inletfilters.com/products/connector-pipe-screen-cps

3.2 PIER 31 SHED DEMOLITION

Matson, Inc. is the current tenant at the Pier 31 facility. A building structure was demolished and pavement installed along the Pier 31 waterfront. Figure 3-5 presents the area overview of the project location. The total cost of the site renovation was \$4.5 million and the 1.5-acre site is completely paved.

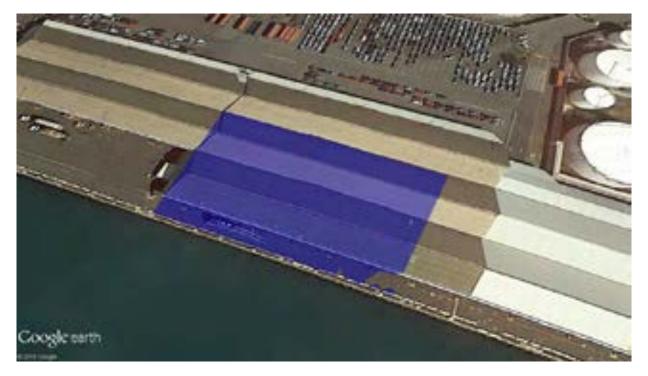


Figure 3-5 Pier 31 Shed Demolition Drainage Area

3.2.1 Site Constraints

The stormwater flows via sheet flow to a drainage system consisting of small trench drains that run through underground piping to outfalls at the bulkheads. The effectiveness of the permanent BMPs currently installed in these small trench drains was evaluated as part of this RFS.

Challenges in this area also include the low elevation of the site and groundwater elevation. Pavement capacity requirements also limit the available hydraulic elevation for filtration. Significant square footage of roofing still exists (only a portion was demolished) with exposed stormwater piping running along the support structure. The roof drainage feeds into the storm sewer system at the base of the support columns for the building structures.

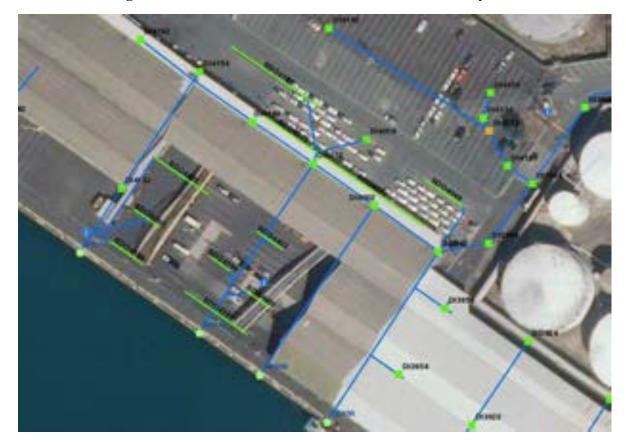


Figure 3-6 Pier 31 Shed Demolition Storm Sewer System

3.2.2 Existing BMPs

The trench drains have existing post-construction BMPs which filter hydrocarbons, sediment and trash from runoff. The BMPs are constructed in the trench drains shown in Figure 3-6 (SDO4401, SDO4405, SDO4397, SDO4397, SDO4393, SDO4395, SDO4399). The following figure shows one of the existing BMPs with a description of several of the components.

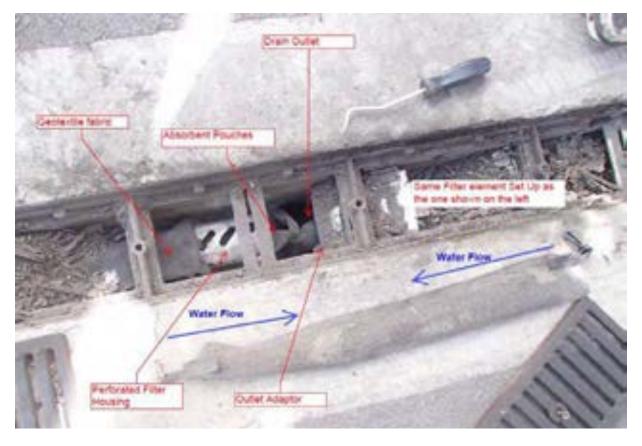


Figure 3-7 Pier 31 Trench Drain Filter BMPs

3.2.3 Site POPCs

POPCs at Pier 31 include sediment, trash, pulverized rubber, metals, nutrients, oxygen demanding substances, and oil & grease. Potential sources of POPCs include equipment, equipment staging areas, corrugated metal building roofs, vehicles, tires, and ambient air.

3.2.4 Retrofit Opportunities

3.2.4.1 LID Design Strategies

There are approximately 4.5 acres of warehouse buildings which have roof drainage piped to the storm sewer system at the base of the column support structures at Pier 31. These roofs are within the vicinity of the Pier 31 demolition project and some of them connect to the same storm sewer system feeding outfalls D4010 and D4150. Approximately 0.63 acres of roof discharges to D4010 and D4150.

The piping system of the building could be retrofitted to feed a set of planters. Downspout planters are decorative landscaped planters specially designed to absorb and filter stormwater before it enters the sewer system. The downspout planters are filled with a base layer of gravel to allow for drainage. Hardy native plants which thrive in the sun exposure for each location could be used to vegetate the planters.



Figure 3-8 Downspout Planter Box⁵

3.2.4.2 Source Control BMPs

Routinely inspecting, repairing, and resealing any corrosion on equipment stored at the facility (including roofs, fencing, buildings, gutters, containers, handlers, etc.) will help to reduce the mobilization of zinc and copper during a rainfall event.

Routinely inspecting, repairing, and resealing the pavement helps to limit the amount of material that can be entrained in the cracks where a sweeper cannot remove them. This material can then be mobilized during a rainfall event.

Installing rumble strips at the entrance to the facility along with regular sweeping and a filter device in the receiving drain inlet (DI3968) would help to reduce the site pollutant loading from tracked on sediment and brake dust

3.2.4.3 Treatment Control BMPs

There are treatment solutions that are designed to be retrofitted on downspouts. Figure 3-9 shows several of those solutions. An exploded view drawing of one of the units is provided in Appendix E. The strainer basket of this device can be loaded with metal absorbing material to treat dissolved metals from a corrugated metal roof. In interior locations where there isn't significant sunlight to support plant growth in a downspout planter box, filters can be used to treat the runoff before discharge to the subsurface storm sewer system. There are approximately four interior locations within the project area that can be retrofitted with this type of BMP.

http://www.phillywatersheds.org/whats in it for you/residents/raincheck/downspoutplanter







The existing BMPs in SDO4401, SDO4405, SDO4397, SDO4401, SDO4393, SDO4395, SDO4399 are effective at removing pollutants from runoff, but maintenance of the BMPs does not work. The design of the existing BMPs called for replacement of the absorbent pouches by pulling them out from the perforated housing pipe, but when the BMP is fully loaded with sediment, it is impossible to remove the pouches. Even after removing the accessible sediment from the BMP, the pouches were still not removable.

Replacement of the BMP system is recommended and includes installation of a trench drain filter like the following figure to allow for easier access and maintenance. Drawings and specifications for this retrofit are included in Appendix E. Filter media should be selected to treat site POPCs.



Figure 3-10 Accessible Trench Drain Filter

⁶ http://www.kristar.com/index.php/drain-inlet-filtration/flogard-downspout-filter; http://www.coanda.com/products/downspoutfilter.htm; https://cleanwayusa.com/downspout/

3.3 PIER 51B CONTAINER YARD REDEVELOPMENT

Currently, Pier 51B is operated by Hawaii Stevedores, Inc. (HSI). Pavement and drainage system renovations were conducted to modernize Pier 51B container yard. Figure 3-11 presents the area overview of the project location. The total cost of the construction project was \$22.96 million and the 13.27-acre site is also almost completely paved as is typical of an operating container yard. The anticipated future tenant at this site is Matson, Inc. once the Kapalama Container Terminal is constructed.

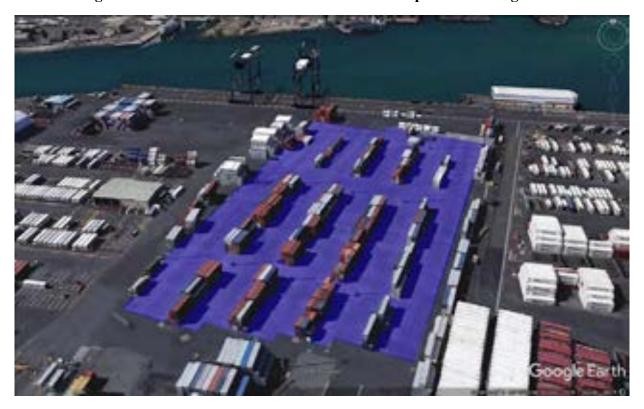


Figure 3-11 Pier 51B Container Yard Redevelopment Drainage Area

3.3.1 Site Constraints

The stormwater flows via sheet flow to the existing small MS4 drainage system which consists of trench drains and drain inlets leading to an underground piping system. Challenges to post-construction BMP retrofits include the low elevation of site and the requirement for high load capacity pavement thereby reducing the hydraulic gradient available for installation of treatment devices.

Soil under the pavement includes sandy basaltic gravel with some silt, coralline gravelly sand, and silty coralline sand and gravel. No information is available beyond 11.5 ft. Per boring logs taken in October 2004, wet season ground water depth is between 6.0 and 6.9 ft⁷.

⁷ 2004 Geolabs soil boring logs, C-36 of HC 10185 Construction Drawings

The pier is used for loading and unloading shipping containers from barges and ships. The project area is used for staging shipping containers by top handlers. It is routine for containers to be placed on top of the trench drain, as the trench drain occurs in the middle of this staging area, which reduces the effective area of the trench drain able to receive water. At most, 96 ft of the 470-ft trench drain (roughly 20%) is covered by shipping containers.

Shipping containers, petroleum products, and materials typical of repair shops are stored within the combined Pier 51A and 51B areas. Tractor trucks ("cabs") and top handlers are used to transport shipping containers. Shipping containers are made of steel, which is comprised of mainly iron and zinc. Top handlers use rubber tires, which have been shown to produce pulverized rubber because of movement on the asphalt concrete surfaces. Petroleum products are kept in covered areas within secondary containment. Shipping containers are kept in the uncovered container yard.

Sediment accumulates near maintenance shops and against barriers where wind transports sediment. A screening level X-Ray Fluorescence (XRF) study was conducted which showed the presence of metals in sediment across most of the site.



Figure 3-12 Pier 51B Container Yard Redevelopment Storm Sewer System

3.3.2 Existing BMPs

Currently no permanent structural BMPs are installed in the redeveloped area. Temporary drain inlet, fabric filters are used by the tenant in several locations at the facility. Housekeeping BMPs such as routine sweeping of the container yard area with a Harbors mechanized sweeper and hand sweeping by HSI personnel are performed as source control BMPs. Routine sweeping and cleaning of sediment from drains is performed with a vacuum truck by Harbors.

3.3.3 Site POPCs

POPCs at Pier 51B include Pulverized rubber, sediment, trash, metals (copper, iron, zinc), oil & grease, total nitrogen, nitrate, nitrite, total phosphorus, and decomposing organic matter.

3.3.3.1 LID Design Strategies

There are a chassis maintenance warehouse and a crane maintenance warehouse onsite. Each of these buildings could be retrofitted with a downspout planter to collect and treat roof runoff. It is estimated that a total of 14,000 ft² of drainage area could be treated with this LID approach. The front office building already has roof drainage running to a vegetated area.

3.3.3.2 Source Control BMPs

Sweeping at the site is conducted weekly per communication with the tenant. Per a letter dated October 7, 2015 from HSI to HDOH Clean Water Branch, sweeping focuses on areas of sediment accumulation against equipment, containers, and in corners, nooks, and low points.

Rotation of storage areas at the facility may increase the efficiency of the sweeping. Sediment and other pollutants may get trapped under containers and other equipment. If this equipment is moved prior to sweeping, the material may be able to get collected prior to rainfall mobilization. Alternatively, a pressure washer with downstream capture could be used to remove sediment from under stationary equipment. If washing is conducted, Harbors BMP on *Vehicle and Equipment Washing*⁸ should be followed which includes submitting a detailed request and receiving formal approval prior to implementation.

Conducting maintenance which requires welding, grinding, and cutting indoors is important to reduce the potential for residual metal shavings being mobilized by rainfall. This activity should be conducted in maintenance shop areas which do not get wet during rainfall.

Routinely inspecting, repairing, and resealing the pavement helps to limit the amount of material that can be entrained in the cracks where a standard sweeper cannot remove them. This material can then be mobilized during a rainfall event. For deep, accumulated sediment it may be necessary to conduct deep cleaning of the surfaces prior to sealing. Commercial, high pressure washers are available which also capture the rinsate for proper disposal. Harbors BMP on washing must be followed. Near real time measurement utilizing an XRF device can be utilized to confirm reduction of metal concentrations in the pavement.

HDOT - Harbors Division 3-14 April 2017

⁸ http://hidot.hawaii.gov/harbors/files/2013/01/01 BMP VehicleWashing 20140828.pdf

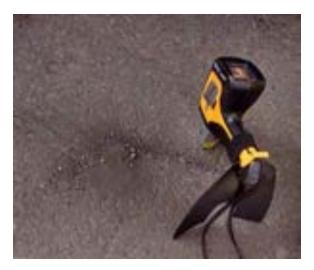


Figure 3-13 XRF Device for Sediment/Pavement Metals Analysis

Routinely inspecting, repairing, and resealing any corrosion on equipment stored at the facility (including roofs, fencing, buildings, gutters, containers, handlers, etc.) will help to reduce the mobilization of zinc and copper during a rainfall event.

Installing rumble strips at the entrance to the facility along with regular sweeping and a filter device in the receiving drain inlet (DI8012) would help to reduce the site pollutant loading from tracked on sediment and brake dust.

3.3.3.3 Treatment Control BMPs

HSI reported in their October 7, 2015 letter to HDOH that a reduction of 39% to 81% of contaminants was observed across temporary drain inlet filters. TSS was reduced by 69%. Phosphorus was reduced by 45%. Aluminum and iron were reduced by 49%. Zinc was reduced by 81%. Copper was reduced by 39%. The filters used are reported by HSI as Ultra-Drain Guard Filters in DI7802, DI7852, DI7882, DI7892, DI7896, DI7900, DI8002, DI8012, and DI8072



Figure 3-14 Ultra-Drain Guard Filter⁹

⁹ http://www.spillcontainment.com/products/drain-guards/

Permanent drain inlet filters installed in drop drain inlets may be able to achieve higher removal rates, reduce the required maintenance frequency and level of effort, and can be loaded with absorbent material to treat target POPCs such as metals. The figure below shows one that has been successfully installed at Pier 35.



Figure 3-15 Pier 35 Permanent Drain Inlet Filter

Other drain inlet filtration products are shown in the following figure with associated website links in the footer. A product detail sheet is also provided in Appendix E which shows significant reduction in sediment and metals utilizing a multi-layer media filter. It is recommended that a drain inlet filter be installed in DI8012. If this drain inlet filter is effective, the tenant should implement the BMP across the entire site to comply with NPDES permit discharge limits.



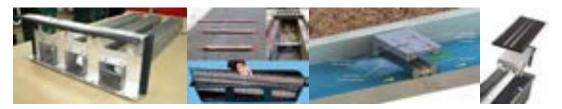
Figure 3-16 Drain Inlet Filters¹⁰

HDOT - Harbors Division 3-16 April 2017

http://www.biocleanenvironmental.com/products/grate-inlet/; http://www.kristar.com/index.php/drain-inlet-filtration/flogard-plus-catch; http://www.acfenvironmental.com/products/lidgi/mechanical-treatment-and-screening/gratemaster/

There is also a 470-ft trench drain at the project site. The following figure shows several trench drain filter solutions and the corresponding manufacturers' websites in the footnotes. Retrofitting a filter into the existing trench drains will increase the hydraulic gradient (a.k.a. increase backpressure) of the drainage system and they should be designed accordingly to prevent flooding of the conveyance system. A trench drain filter can be installed in SDO8031 to treat runoff in the project area. Example product specifications for this BMP are included in Appendix E.

Figure 3-17 Trench Drain Filters¹¹



The lower elevation side of the trench drain at the site typically terminate at a perpendicular run of storm sewer pipe. One example, SDO8906, is shown in the following figure and annotated to explain the flow path. A filter basket can be installed in SDO8031 to treat runoff from the project area using this approach.



Figure 3-18 SDO8906 Trench Drain Discharge to Pipe

^{11 &}lt;a href="http://www.fabco-industries.com/stormwater-products/decentralized-treatment/trench-drain.html">http://www.fabco-industries.com/stormwater-products/decentralized-treatment/trench-drain.html; http://www.southbayfoundry.com/products/wattles-filters_info.asp; http://www.kristar.com/index.php/drain-inlet-filtertion/flogard-lopro-trench-drain-filter

Curb inlet basket filtration devices should be installed between the trench discharge elevation and the wet elevation of the pipe. The differential between the trench discharge elevation and the wet surface of the pipe make it so that the design hydraulic elevation of the conveyance system will not likely change. Absorbent material targeting site POPCs can be included in the curb inlet basket filter. Following is a figure showing curb inlet basket filters and the associated website in the footnote. Example product information is provided in Appendix E which shows significant reduction of TSS and Zinc.



Figure 3-19 Curb Inlet Basket Filters¹²

¹² http://www.suntreetech.com/products.html; http://remfilters.com/curb-inlet-filter/; http://www.biocleanenvironmental.com/products/curb-inlet/

3.5 PIER 52 & 53 CONTAINER YARD REPLACEMENT

The current tenant for this area is Matson, Inc. Pavement and drainage system renovations were conducted to modernize Pier 52 and Pier 53 container yards. Utilities (fire hydrants and light poles) across the facility were also replaced. The total cost of the construction project was \$23.9 million; however, the scope of the project included utility installation over the 58.6-acrea area. The drainage area for the renovated pavement is shown in Figure 3-20.

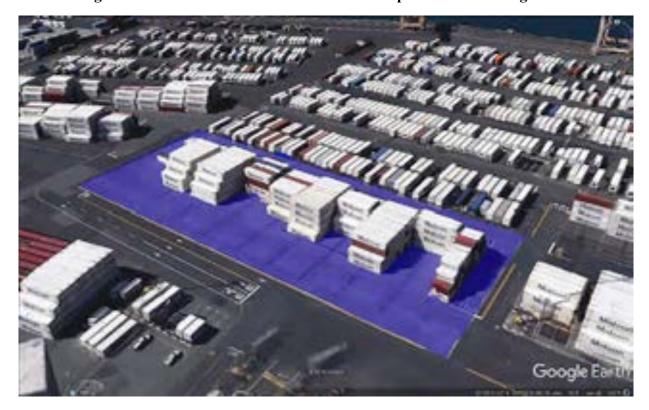


Figure 3-20 Pier 52 & 53 Container Yard Replacement Drainage Area

3.5.1 Site Constraints

The site is almost completely paved as is typical of an operating container yard. The stormwater flows via sheet flow to the existing small MS4 drainage system which consists of trench drains and drain inlets leading to an underground piping system. Piers 52 and 53 are the busiest container yards in the State of Hawaii where the installation and maintenance of storm drains are extremely dangerous and difficult. Other challenges to post-construction BMP retrofits include the low elevation of site and the requirement for high load capacity pavement, thereby reducing the hydraulic gradient available for installation of treatment devices.



Figure 3-21 Pier 52&53 Container Yard Replacement Storm Sewer System

3.5.2 Existing BMPs

Currently no permanent structural BMPs are installed in the redeveloped area. Temporary drain inlet, fabric filters are used by the tenant in several locations at the facility. Housekeeping BMPs such as sweeping of the container yard area twice per week with a Harbors mechanized sweeper and hand sweeping by Matson personnel are performed as source control BMPs. Routine sweeping and cleaning of sediment from drains is performed with a vacuum truck by Harbors.

3.5.3 Site POPCs

POPCs at Pier 52 and 53 include pulverized rubber, sediment, trash, metals (aluminum, cooper, iron, zinc), oil & grease, solvents, paints, vehicular wash water, total nitrogen, nitrate, nitrite, total phosphorus, and decomposing organic matter.

3.5.4 Retrofit Opportunities

3.5.4.1 LID Design Strategies

There are office buildings, guard shacks, equipment rooms, and maintenance buildings located at the facility. Each of these buildings could be retrofitted with downspout planters to collect and treat roof runoff. It is estimated that around 2.5 acres of roof can implement this LID strategy. A

pilot installation should be retrofitted in an accessible location and studied for effectiveness. If the BMP is successful, tenant should implement the approach across the site to comply with NPDES permit discharge limits.

3.5.4.2 Source Control BMPs

Rotation of storage areas at the facility may increase sweeping efficiency. Like other facilities, sediment and other pollutants may get trapped under containers and other equipment. If this equipment is moved prior to sweeping, the material may be able to get collected prior to rainfall mobilization. Alternatively, a pressure washer with downstream capture could be used to remove sediment from under stationary equipment. If washing is conducted, Harbors BMP on *Vehicle and Equipment Washing* should be followed.

Conducting maintenance which requires welding, grinding, and cutting indoors is important to reduce the potential for residual metal shavings being mobilized by rainfall. This activity should be conducted in maintenance shop areas which do not get wet during rainfall.

Routinely inspecting, repairing, and resealing the pavement helps to limit the amount of material that can be entrained in the cracks where a standard sweeper cannot remove them. This material can then be mobilized during a rainfall event. For deep, accumulated sediment it may be necessary to conduct deep cleaning of the surfaces prior to sealing. Commercial, high pressure washers are available which also capture the rinsate for proper disposal. If washing is conducted, Harbors BMP on *Vehicle and Equipment Washing* should be followed. Near real time measurement utilizing an XRF device can be utilized to confirm reduction of metal concentrations in the pavement.

Routinely inspecting, repairing, and resealing any corrosion on equipment stored at the facility (including roofs, fencing, buildings, gutters, containers, handlers, etc.) will help to reduce the mobilization of zinc and copper during a rainfall event.

Installing rumble strips at the entrance to the facility along with regular sweeping and a filter device in the receiving drain inlet (DI8660) will help to reduce the site pollutant loading from tracked on sediment and brake dust.

3.5.4.3 Treatment Control BMPs

Like Pier 51B, a large portion of Piers 52 and 53 is drained through drop inlet devices. Currently, only temporary BMPs are installed in some of these devices. Permanent drain inlet filters installed in drop drain inlets may be able to achieve higher removal rates, reduce the required maintenance frequency and level of effort, and can be loaded with absorbent material to treat target POPCs such as metals. A drain inlet filter should be retrofitted in DI8366 which is within the project area. An assessment of the effectiveness of BMPs in DI8660 and DI8366 should also be conducted. If the BMPs are successful, tenant implementation of site wide drain inlet filtration should be implemented to comply with NPDES permit discharge limits. There are approximately 40 drain inlets across the entire site that could be retrofitted with a permanent drain inlet filter BMP.

There are also long stretches of trench drain at Piers 52 and 53. Retrofitting a filter into the existing trench drains will increase the hydraulic gradient (a.k.a. increase backpressure) of the drainage system and they should be designed accordingly to prevent flooding of the conveyance system. A trench drain filter can be installed in SDO8517 to treat runoff in the project area. If the trench drain BMP is effective, the tenant should implement the approach across the site to comply with NPDES permit discharge limits. There are approximately 25 trench drains at the site that are good candidates for a trench drain filter. Trench drain filters can be loaded with adsorbent material targeting removal of site POPCs such as metals.

The lower elevation side of the trench drains at the site typically terminate at a perpendicular run of storm sewer pipe. A filter basket can be installed in DI8510 using this approach to treat runoff from the project area. Absorbent material targeting site POPCs can be included in the curb inlet basket filter. If the filter basket BMP is effective, the tenant should implement the approach across the entire site to comply with NPDES permit discharge limits. There are approximately 20 locations at the site that can be retrofitted with filter baskets.

3.6 UNITED FISHING AGENCY

United Fishing Agency leased the land at Pier 38 and has since developed the site to accommodate their fish auction business. United Fishing Agency developed the 1.69-acre site for a total cost of \$2.42 million. The following figure presents the area overview of the project location.



Figure 3-22 United Fishing Agency Drainage Area

3.6.1 Site Constraints

The site is completely paved or covered with the building footprint except for a few small strips of vegetation along the southeast side of the building. The stormwater flows via sheet flow to a drainage system consisting of trench drains along three sides of the building. The northeast side of the building does not have significant operations and drains to a single drain inlet. Challenges in this area include the low elevation of the site and groundwater elevation.



Figure 3-23 United Fishing Agency Storm Sewer System

3.6.2 Existing BMPs

The concrete paved shipping bays on the northwest side of the building drain via trench drains to two scale interceptors which are housed underground. An automatic valve redirects flow through the scale interceptors and into the sanitary sewer when water supply in the loading area is used. The function of this valve is verified routinely during Harbors stormwater inspections.

3.6.3 Site POPC

The POPC at UFA is fish processing waste.

3.6.4 Retrofit Opportunities

3.6.4.1 LID Design Strategies

Roof drain downspouts are located around the exterior of the building in locations with adequate space to install downspout planter boxes. Downspout planters filled with a base layer of gravel to allow for drainage, a root and sediment barrier, a stormwater-friendly soil mix (soil that has been purged of fines), and native plants are recommended. Approximately 0.6 acres of the 1.69-acre site can be treated with this approach.



Figure 3-24 United Fishing Agency Downspouts

3.6.4.2 Source Control BMPs

Conducting any maintenance which requires welding, grinding, and cutting under cover is important to reduce the potential for residual metal shavings being mobilized by rainfall.

Routinely inspecting, repairing, and resealing the pavement helps to limit the amount of material that can be entrained in the cracks where a standard sweeper cannot remove them. This material can then be mobilized during a rainfall event. Maintaining protective coatings on metallic roofs and gutters is key to preventing corrosion and the resulting discharge of metals into the receiving waters.

Fish bins should be kept within the containment area treated by the fish scale interceptors. Fish scales discharged beyond the containment area may be mobilized to the receiving water during rainfall events. To communicate where the treatment area is to all customers of the facility, increased signage and pavement painted delineation may be appropriate.

HAR-OCG staff noted that trash bins that are stored at the common area located in the southwest corner of the site have leached into the nearby trench drain in the past. The trash bins should be covered or repaired.

3.6.4.3 Treatment Control BMPs

Outfalls D5000 and D5050 discharge into the Harbor from a pipe located on the side of the pier as shown in the following figure. These outfalls can be retrofitted with filter baskets at the discharge. A low-profile filter basket as well as one that is salt water resistant is recommended due to the limited clearance from high tide water elevation. An example drawing of a curb inlet basket is provided in Appendix E.



Figure 3-25 Outfall D5050

3.7 FRESH ISLAND FISH

Fresh Island Fish, LLC (FIF) is a fresh fish wholesaler located at Pier 37. FIF operates a fish processing and packaging facility as well as a retail restaurant at the site. The site may be used for the storage, processing, and wholesale distribution of seafood products and ancillary services and products.



Figure 3-26 Fresh Island Fish Drainage Area

3.7.1 Site Constraints

The 0.63-acre leased site is completely paved or covered with the building footprint except for a few small strips of vegetation. The stormwater flows via sheet flow to a drainage system consisting of trench drains along the southeast side of the building. The northeast side of the building is enclosed and slopes inward to a trench drain which flows through an oil-water separator. Challenges in this area include the low elevation of the site and groundwater elevation.



Figure 3-27 Fresh Island Fish Storm Sewer System

3.7.2 Existing BMPs

The facility maintains and operates a grease interceptor and a fish scale interceptor in accordance with their industrial wastewater discharge permits through CCH.

3.7.3 Site POPCs

POPCs at Fresh Island Fish include fish processing waste and grease.

3.7.4 Retrofit Opportunities

3.7.4.1 LID Design Strategies

Roof drain downspouts are located on the exterior of the building in locations with adequate space to install downspout planter boxes. Downspout planters filled with a base layer of gravel to allow for drainage, a root and sediment barrier, a stormwater-friendly soil mix (soil that has been purged of fines), and native plants are recommended. Approximately 0.37 acres of the 0.63-acre site can be treated with this approach.



Figure 3-28 Fresh Island Fish Downspouts

3.7.4.2 Source Control BMPs

Conducting any maintenance which requires welding, grinding, and cutting under cover is important to reduce the potential for residual metal shavings being mobilized by rainfall. Routinely inspecting, repairing, and resealing the pavement helps to limit the amount of material that can be entrained in the cracks where a standard sweeper cannot remove them. This material can then be mobilized during a rainfall event. For this facility, maintaining the pavement condition of the loading dock area in the back of the building is recommended. Maintaining protective coatings on metallic roofs and gutters is also key to preventing corrosion and the resulting discharge of metals into the receiving waters.

3.7.4.3 Treatment Control BMPs

A trench drain filter can be retrofitted in SDO5107 and should target oils and grease utilizing a hydrophobic oil absorbent material. A permanent drop drain inlet filter can be retrofitted in DI5102 and should also utilize a hydrophobic oil absorbent material.

3.8 POP FISHING & MARINE

Pacific Ocean Producers, Inc. (POP) is a retail and wholesale sales facility for commercial and sport fishing supplies including marine hardware at Pier 37. The site is used for storage, processing and distribution of seafood products, cold storage products, fishing gear, supplies, bait and tackle, apparel, clothing, marine equipment, beer and wine, and ancillary uses and products. The lease also lists other permitted uses such as retail sale of seafood and operation of a restaurant and commercial office space.



Figure 3-29 POP Fishing & Marine Drainage Area

3.8.1 Site Constraints

The 0.64-acre site is completely paved or covered with the building footprint. The stormwater flows via sheet flow to drop drain inlets on the southwest and northeast sides. These drains discharge to the Harbor via outfalls located to the south of the site. Challenges in this area include the low elevation of the site and groundwater elevation.



Figure 3-30 POP Fishing & Marine Storm Sewer System

3.8.2 Existing BMPs

There are no permanent structural BMPs installed at the site. Currently grease is collected by grease interceptors, the proper function of which are confirmed during Harbors Stormwater Inspections.

3.8.3 Site POPC

The POPC at POP is grease.

3.8.4 Retrofit Opportunities

3.8.4.1 LID Design Strategies

Roof drain downspouts are located on the exterior of the building in locations with adequate space to install downspout planter boxes. Downspout planters filled with a base layer of gravel to allow for drainage, a root and sediment barrier, a stormwater-friendly soil mix (soil that has been purged of fines), and native plants are recommended. Approximately 0.42 acres of the 0.64-acre site can be treated with this approach.

3.8.4.2 Source Control BMPs

Maintaining protective coatings on metallic roofs and gutters is also key to preventing corrosion and the resulting discharge of metals into the receiving waters.

3.8.4.3 Treatment Control BMPs

A permanent drop drain inlet filter can be retrofitted in DI4902 and should utilize a hydrophobic oil absorbent material.

3.9 JEMS ENTERPRISES, LLC (DBA HAWAIIAN ICE COMPANY)

Jems Enterprises dba Hawaiian Ice Company (Hawaiian Ice) is located at 1125 N. Nimitz Hwy Honolulu, HI 96837. Hawaiian Ice is an ice manufacturer and distributer and holds a lease that allows for the storage, processing, and wholesale distribution of seafood products and ancillary services and products, including the operation of a package ice plant, seafood restaurant, and retail sales of seafood products and produce. The lease also allows for warehousing of seafood and commercial office space.



Figure 3-31 Hawaiian Ice Drainage Area

3.9.1 Site Constraints

The 0.85-acre site is completely paved or covered with the building footprint. The stormwater flows via sheet flow to offsite drain inlets to the north. The south side of the building has a treatment device for melted ice water that discharges to drain inlets leading to outfalls located south of the site. Challenges in this area include the low elevation of the site and groundwater elevation. A soil gas monitoring program is in place to monitor potential soil gas hazards that are known to exist in this area.



Figure 3-32 Hawaiian Ice Storm Sewer System

3.9.2 Existing BMPs

There are no permanent structural BMPs installed at the site.

3.9.3 Site POPCs

POPCs at Hawaiian Ice include fuel, oil, and grease.

3.9.4 Retrofit Opportunities

3.9.4.1 LID Design Strategies

Roof drain downspouts are located on the exterior of the building in locations with adequate space to install downspout planter boxes. Downspout planters filled with a base layer of gravel to allow for drainage, a root and sediment barrier, a stormwater-friendly soil mix (soil that has been purged of fines), and native plants are recommended. Approximately 0.47 acres of the site can be treated with this approach.

3.9.4.2 Source Control BMPs

Maintaining protective coatings on metallic roofs and gutters is also key to preventing corrosion and the resulting discharge of metals into the receiving waters.

Routinely inspecting, repairing, and resealing the pavement helps to limit the amount of material that can be entrained in the cracks where a standard sweeper cannot remove them. This material can then be mobilized during a rainfall event. For this facility, maintaining the pavement condition of the loading dock area in the front of the building is recommended.

3.9.4.3 Treatment Control BMPs

Downspout filters can be fitted to treat trash, sediment, and metals. Filters can be used to treat the runoff before discharge to the storm sewer system. Some downspout filtration BMPs are smaller than planter boxes and could potentially be retrofitted utilizing the existing anchoring system.

3.10 HONOLULU CONSTRUCTION & DRAYING CO., LTD. (HC&D)

Pier 60 is the location of the HC&D (formerly known as Ameron) facility which includes loading, unloading, stockpiling, storage, transfer and distribution of rock aggregates and sand. HC&D currently leases the 6.5-acre site for their operations; however other operators are likely to begin to use the site in late 2017. The cost of renovations to the site was approximately \$2.42 million. The following figure presents the area overview of the project location and drainage area.



Figure 3-33 HC&D Drainage Area

3.10.1 Site Constraints

Drainage at the site sheet flows to manufactured retention ponds at the northwest and southwest corners of the facility. Challenges in this area include the low elevation of the site and groundwater elevation.



Figure 3-34 HC&D Storm Sewer System

3.10.2 Existing BMPs

There are two retention ponds at the site which are identified by the pink shaded regions in the previous figure. There is also a perimeter berm at the site and silt fencing along the southern perimeter of the site (shown as a solid pink line in the previous figure).

3.10.3 Site POPCs

The POPCs at Pier 60 are sand and aggregate.

3.10.4 Retrofit Opportunities

3.10.4.1 LID Design Strategies

The site drains to two retention ponds (one each at the north and south ends of the property). This is a great LID strategy to retain stormwater onsite. Creating signage and visual delineation of the retention ponds is recommended to raise awareness of the BMPs and their location.

3.10.4.2 Source Control BMPs

During the transfer of Maui dune sand from the barge to the pier by heavy equipment, sand is being spilled onto and around the ramp leading to the barge with some sand ending up in the lagoon. Improved barge unloading and good housekeeping practices are required to help mitigate this issue. A concept design for a ramp improvements is provided as Appendix B. The improvements include extending the length of the ramp to reduce the severity of slope, which in turn would reduce the bounce of the front end loaders as they enter the barge. A smooth transition from the ramp to the barge is necessary to prevent loads from being disturbed and falling out of the bucket of the front end loader. Additionally, a ground protection matt that is anchored to the ramp is recommended to prevent particles from falling between the two halves of the ramp.

3.10.4.3 Treatment Control BMPs

Tracking of material from the site onto the access road entrance has been observed. Several options for a manufactured site entrance are presented in Appendix B to provide a BMP to retain the sediment from the vehicle traffic.

3.11 KALAELOA BARBERS POINT HARBOR ACCESS ROAD

An access road was built at KBPH connecting the existing road on the south side of the Harbor to the facilities on the north side to serve a ship repair facility. The total cost of the construction project was \$1.66 million and the 5.75-acre site includes 1.9 acres of impervious pavement. The following figure shows the overview of the project and associated drainage area.



Figure 3-35 Kalaeloa Barbers Point Harbor Access Road Drainage Area

3.11.1 Site Constraints

The stormwater flows via sheet flow to the Harbor. There is currently no underground drainage system in this western portion of the KBPH.

The stockpiles north of the road are in the process of being removed. Once removed, the road may be shifted to the north. Challenges to post-construction BMP retrofits include the low elevation of site and the groundwater elevation. Limited rainfall volume in the area limits the type of vegetation that can be anticipated to survive without irrigation. There are also currently no utilities in the area including supplied water.

The areas adjacent to the water must be free of vegetation or obstructions so that Harbor Police can see the water during routine patrol.

3.11.2 Existing BMPs

The stockpiles have BMPs installed at the base consisting of concrete piles connected with sediment filter material. The slopes of the stockpiles have been sprayed with erosion control material.

3.11.3 Site POPCs

POPCs at KBPH include sand and aggregate.

3.11.4 Statement of Retrofit Feasibility

The KBPH access road project was omitted from further evaluation in the RFS. This project is in an area for which there are plans to significantly renovate the site grading, function, and stormwater utilities. As such, recommending retrofits at this early planning stage that would need to later be removed would not be an efficient investment.

The preferred alternative in the *KBPH 2040 Master Plan*, dated June 2015, developed by Group 70 International, indicates that the area northeast of the Perimeter Road will be used for Bulk A (storage for dry-bulk, break-bulk, general cargo, biomass, neo-bulk, containers, and project cargo) while the area to the southwest (between the road and the pier) will be used as a Multi-Purpose Yard (piers for idle vessels, excursion vessels and top-side repair), Cargo Yard (transfer area and temporary storage for dry-bulk/container/ISO-containers), and for Maritime Support Services (shipyard and marine construction).

Construction of post-construction BMPs in this area must consider the future use of the site discussed above and should be developed by the design team for the greater project, as is currently described in the KBPH 2040 Master Plan. It is recommended that the design incorporates LID, source control, and/or treatment controls as required in Harbors *Post-Construction Stormwater Management in New Development and Redevelopment*¹³.

A future drainage channel is planned for the area the east of the project site that runs from the northeast to the southwest. Future BMP designs should take this drainage channel into account. Future BMPs are planned for the areas shown in green bubbles, where the blue arrows indicate stormwater flow direction.



Figure 3-36 KBPH Drainage Plan (KBPH 2040 Master Plan, June 2015)

¹³ http://hidot.hawaii.gov/harbors/files/2013/01/2014-Post-Construction-SW-Manual_FINAL.pdf

3.12 GLP ASPHALT

GLP Asphalt leases the site on which a 4.3-acre asphalt terminal facility was constructed for \$2.42 million. The following figure presents the area overview of the project location and associated drainage area.



Figure 3-37 GLP Asphalt Drainage Area

3.12.1 Site Constraints

3.8 acres of the site is paved or otherwise impervious.



Figure 3-38 GLP Asphalt Storm Sewer System

3.12.2 Existing BMPs

Drainage at the site is retained in a containment basin with an approximate capacity of 1.4 million cubic feet of water. The walls of the basin are identified in the previous figure with pink shading.

3.12.3 Site POPC

The POPC at GLP Asphalt is liquid asphalt.

3.12.4 Retrofit Opportunities

3.12.4.1 LID Design Strategies

There is an office building onsite which is approximately 2,500 ft². Some of the roof runoff from the building discharges to the pavement near the entrance (shown in the following figure). This downspout could be directed to landscaped areas to reduce the runoff that flows across the pavement.



Figure 3-39 GLP Asphalt Downspout Discharging to Pavement

3.12.4.2 Source Control BMPs

General operational practices such as regular inspection and coating of pavement and metallic surfaces at the site will reduce the potential for mobilization of contaminants during a rainfall event.

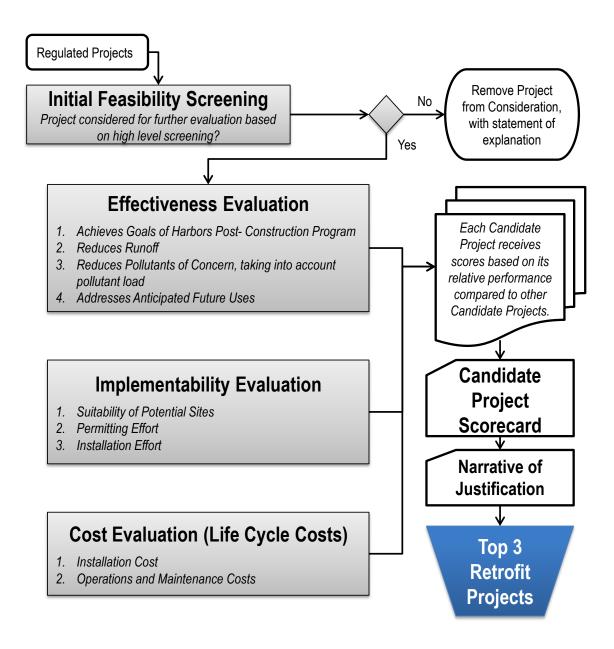
3.12.4.3 Treatment Control BMPs

Rumble strips placed at the entrance and the exit of the site would help to dislodge sediment, product, and brake dust accumulated on vehicles. Together with a small downstream retention pond and frequent sweeping, this BMP could reduce the runoff of contaminants from the site.

4.0 EVALUATION AND RANKING OF POTENTIAL RETROFITS

In general, each Regulated Project has one proposed retrofit, or a combination of retrofits. The evaluation process of the Retrofit Feasibility Study is illustrated in the following figure and is further described in this section.

Figure 4-1 Retrofit Evaluation and Ranking Process



4.1 EFFECTIVENESS

BMPs will follow the requirements set forth by the Post-Construction Manual and the CCH Rules Relating to Storm Drainage Standards, HDOH CWB, USEPA Region 9, and the CWA. The effectiveness evaluation criteria include the elements described below, and effectiveness of each candidate project is described in the following subsections.

Table 4-1 Effectiveness Evaluation Elements

Element		Context	Output	
1	Achieves LIDS Strategy Requirements	Conservation or restoration of natural areas, soils, and vegetation by proposed BMP. Natural drainages that will be restored or disturbed by the proposed BMP.	Yes, Somewhat, No.	
2	Achieves Source Control Requirements	Locate operations and storage areas within each project, and determine if the proposed BMP will prevent stormwater contact. Locate surfaces where rainfall or flow paths currently intersect the site. Determine if the proposed BMP would prevent pollutants from encountering this area.	Yes, Somewhat, No.	
3	Achieves Treatment Control Requirements	Refer to CCH Stormwater BMP Guide Section 3 for Numeric Sizing Criteria.	Yes, Somewhat, No.	
4	Reduces Runoff	Existing vs. proposed drainage areas and discharge rates. Compare existing runoff with runoff if proposed BMP is installed.	Yes, Somewhat, No.	
5	Reduces POPCs	Consider beneficial uses at the waterbody nearest the project. Consider current pollutant loading and compare it to loading if proposed BMP is installed.	Yes, Somewhat, No.	
6	Addresses anticipated future land uses	Inquire with Harbors Property Management (PM) regarding leases currently under negotiation. Consider the Kalaeloa Master Plan. Determine effectiveness of BMP in addressing future POPCs.	Yes, Somewhat, No	

4.2 IMPLEMENTABILITY

The technical and administrative feasibility of implementing a Post-Construction BMP is evaluated in this section. The implementability evaluation criteria include the elements described below, and implementability of each candidate project is described in the following subsections.

Table 4-2 Implementability Evaluation Elements

Element		Context	Output		
7	Physical characteristics of the site are suitable for installation and function	Determine if the site has the required space, hydrologic characteristics, and head requirements.	Yes, Somewhat, No		
8	Stakeholders agree with BMP implementation	Solicit appropriate stakeholder input regarding the anticipated future use of the site.	Yes, Somewhat, No		
9	Installation does not encounter existing contamination	Determine if IDPP and HDOH will need to be involved and any potential issues relating to existing contamination.	Yes, Somewhat, No		
10	Installation Effort	Determine the full time equivalent (FTE) weeks required to plan, procure, and construct the BMP.	FTE weeks required to implement.		

4.3 COST EVALUATION (LIFE CYCLE COSTS)

The evaluation of cost included both the installation cost and the ongoing recurring costs of operation and maintenance (O&M) over the BMP's life cycle using present value analysis. It is important to consider both costs because while installation costs may be cheaper for a BMP, O&M costs can be overly burdensome over the lifetime of the BMP, whereas a greater investment upfront could save money over the lifetime of the BMP. The cost evaluation criteria include the elements described below, and cost of each candidate project is detailed in the following subsections.

Table 4-3 Cost Evaluation Elements

Element		Context	Output	
11	Installation Cost	Calculate planning-level estimate of	Present Value	
		construction costs to Harbors. This	cost in dollars	
		analysis is provided in Appendix D.		
12	O&M Cost	Determine for each proposed BMP	FTE days per	
		the factors that can affect cost.	year to	
		Calculate planning-level estimate of	implement.	
		O&M costs to Harbors.		

Table 4-4 Evaluation Matrix

Element	P29	P31	P51B	P52/53	P60	UFA	FIF	POP	HI_lce	GLP
Achieves LIDS Strategy Requirements	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ
Achieves Source Control Requirements	Υ	Υ	Υ	Υ	S	Y	S	S	S	S
Achieves Treatment Control Requirements	Υ	Υ	Υ	Υ	S	Υ	Υ	Υ	Υ	S
Reduces Runoff	S	Υ	S	S	N	Y	Υ	Υ	Υ	S
Reduces POPCs	Υ	Υ	Υ	Υ	S	Υ	Υ	S	S	S
Addresses anticipated future land uses	Υ	Υ	Υ	Υ	S	Υ	Υ	Υ	Υ	S
Physical characteristics of the site are suitable										
for installation and function	S	Υ	Υ	Υ	S	Υ	Υ	Υ	Υ	S
Stakeholders agree with BMP implementation	Υ	Υ	S	S	S	Υ	Υ	Υ	Υ	Υ
Installation does not come into contact with										
existing contamination	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ	Υ
Installation Effort	8	20	16	16	24	12	8	8	8	8
Installation Cost	\$ 16,467	\$139,964	\$ 131,770	\$ 140,008	\$ 197,180	\$ 76,134	\$ 43,456	\$ 47,338	\$ 28,685	\$ 6,107
O&M Cost	18	40	30	16	12	10	7	6	12	16

Y: Yes

S: Somewhat

N: No

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

To evaluate all Candidate Projects from Section 3.0, the projects were compared to each other and ranked by relative benefit, which corresponded to a numeric score (1 to 10, with 10 as the best score achievable) for the following criteria:

Potential Pollutant Reduction

O Appendix D - Load Reduction Analysis calculates the potential reduction in annual pounds of sediment retained at each site as TSS. A load goal of 100 mg/L is utilized and is consistent with NPDES permit limits, DMR sampling results, and other public harbor data. Site hydrology and LID implementation is modeled and provided in the Appendix.

• Value to Harbors

o This value incorporates the cost basis value of the installed infrastructure plus a modification for operational value of container facilities (Piers 51B and 52/53).

Value to the Tenant

 This value incorporates a quantification of the perceived value of reduced flooding, NPDES compliance, and increased amenity values to the current and/or future client per site.

Cost of Installation

o Appendix D − BMP Cost Analysis provides planning level estimates of BMP implementation.

Cost of O&M

o Appendix D - Projected O&M level of effort in FTE days per year.

The value of reduced cooling costs was not factored in since no shading/green roof LID were recommended. The values were summed to determine a Total Score. The score from each category for each candidate project is noted on the Candidate Project Scorecard (Table 5-1).

Potential Value to Pollutant Value to the Cost of **Cost of Total** Tenant Installation O&M Score **Site Reduction Harbors P51B** P52/53 P31 **UFA** POP **P29** FIF HI Ice GLP **P60**

Table 5-1 Candidate Project Scorecard

5.2 **RECOMMENDATIONS**

Based on the information gathered and presented in this Post-Construction BMP Retrofit Feasibility Report, the following three candidate projects are recommended for construction per the schedule set forth in the USEPA CD: Pier 31, Pier 52 & 53, and Pier 51B.

It is estimated that these strategies will result in a reduction of 1,973 lbs. of sediment per year. The total estimated construction costs for the three projects is \$411,743. Operations and maintenance of the installed BMPs will require an additional 688 labor hours per year. Design, procurement, manufacturing, and installation of the BMPs may take a total of 52 weeks.

The construction cost per pound of sediment removed from the annual runoff are as follows:

- Pier 31: \$477.35/lb.
- Pier 52 & 53: \$194.86/lb.
- Pier 51B: \$137.11/lb.

The following figure presents the potential pollutant reduction and construction cost per pound of sediment removed from the annual runoff. The Pier 60 project was not included since the construction cost per pound was significantly larger than the other projects. Although Pier 31 has a relatively high construction cost per pound of sediment removed, the value of the project to Harbors and tenant is high since the current BMP has the potential to clog and cause flooding.

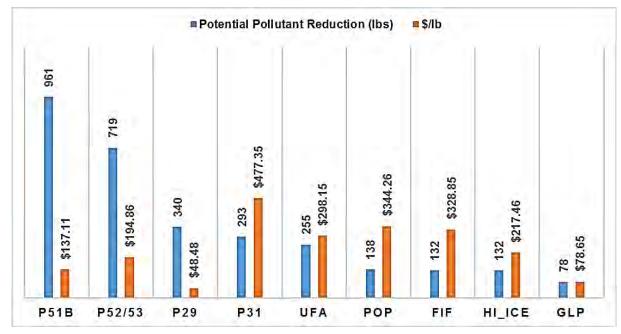


Figure 5-1 Potential Pollutant Reduction and \$/lb per Site

Sediment analyzed from Pier 29 is approximately 28% metals by weight with a specific gravity of 1.9. For every 10 lbs. of sediment removed from the annual runoff, as much as 2.8 lbs. of metals may be removed if sediment conditions are like Pier 29.

Completion of this study eliminates potential fines related to CD stipulated penalty VIII.23.g. No later than four years after EPA approval of this study, Harbors must start the construction of the top three ranked retrofits in this report to maintain compliance. There is a daily penalty for each location if construction has not been started.

All post-construction BMP devices are required to be inspected on an annual basis. This inspection should include documentation of the weight of sediment removed by the BMP. The effective pollutant removal of the device can then be used to support future BMP decisions. It is recommended that Harbors and HDOH work together to promote implementation of techniques and devices that efficiently remove pollutants to Protect Our Harbor Waters.

6.0 REFERENCES

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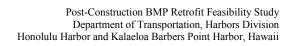
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Appendix A – Inventory of New Development and Redevelopment Projects

Appendix B – Pier 60 Concept Design Drawings

Appendix C – Laboratory Data

Appendix D – Modeling and Analysis

Appendix E – Design Guidance Information



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION IX - PACIFIC SOUTHWEST REGION 75 Hawthorne Street San Francisco, CA 94105-3901

Ford Fuchigami Director, Hawaii Department of Transportation 869 Punchbowl Street Honolulu, Hawai'i 96813

JUN 1 9 2017

RE: U.S. v. Hawaii Department of Transportation Case 1:14-cv-00408-JMS-KSC Consent Decree

Dear Director Fuchigami,

On April 10, 2017, EPA received the Post Construction BMP Retrofit Feasibility Study), submitted by HDOT-Harbors as required by Paragraph 18.a of the Consent Decree. The EPA and HDOH believe that the top three projects identified by the Feasibility Study, Pier 51B, Piers 52 & 53 and Pier 31, were appropriately assessed based on the criteria outlined in the Consent Decree. By this letter, EPA and HDOH are approving the Feasibility Study pursuant to Paragraph 6 of the Consent Decree.

The EPA and HDOH also note that HDOT-Harbors has several planned upgrades to the Harbor facilities, including changes to Kalaeloa Barbers Point Harbor and construction of the Kapalama Container Terminal. We are taking this opportunity to remind you that New Development and Redevelopment projects such as these are subject to HDOT-Harbors' Post Construction Stormwater Management Program. If you have any questions, please contact Bobbie Teixeira, Hawaii Department of Health, at (808)586-4309 or bobbie teixeira@doh.hawaii.gov or Connor Adams, U.S. EPA, at (415)947-4109 or adams.connor@epa.pov.

Sincerely

David Wampler

Chief, Water II Enforcement Office

Enclosures

ce: Marjorie A. Lau, Deputy Attorney General, HDOT Matt Kurano, Hawaii Department of Health

Attachment 24 Photographic Documentation

Attachment 24.

Department of Transportation, Harbors Division 2017 Photographic Documentation





Photo 1 Description: Annual tenant training sessions hosted on 8/31/2017 and 9/21/2017.

Photo 2 Description: Annual Protect Our Waters Conference.





Photo 3 Description: Harbors booth with educational handouts.

Photo 4 Description: Volunteer event with 808 Basketball.

Attachment 24.

Department of Transportation, Harbors Division 2017 Photographic Documentation



Photo 5 Description: Outfall Reconnaissance Inspection with EnviroServices & Training Center, LLC.



Photo 6 Description: Tenant Inspections conducted for all Honolulu Harbor and Kalaeloa Harbor tenants.



Photo 7 Description: Metal sign inspection of all signs posted at Honolulu Harbor and Kalaeloa Harbor. Conducted by consultant, EnviroServices & Training Center, LLC.



Photo 8 Description: Stenciling by all drain inlets prevents illicit discharges. These are maintained by DOT-Harbors personnel.

Attachment 25 PEAR 1 Draft Report for Honolulu Harbor and Kalaeloa Barbers Point Harbor



Draft Program Element Audit Report (PEAR) No. 1

Post-Construction Runoff Control / Permanent Best Management Practices

State Project No. OSC-15-01

July 2017

Prepared by

Kennedy/Jenks Consultants

Prepared for

State of Hawaii

Department of Transportation

Office of Environmental Compliance

869 Punchbowl Street
Honolulu, Hawaii 96813

K/J Project No. 1696025*00

Table of Contents

List of Figures.			
List of Append	ices		i
List of Acronyr	ทร		ii
Section 1:	Intro	oduction	1
Section 2:	Metl	hods (CD Appendix A Section D.7.a.)	2
	2.1	Pre-Audit	
	2.2	On-Site Evaluation	3 3
	2.3	Reporting	3
Section 3:	Key	Findings (CD Appendix A Section D.7.b e.)	4
	3.1	Identification of Deficiencies and Potential Violations (CD Appendix A Section D.7.c.) 3.1.1 Potential Violations 3.1.2 Deficiencies	4
	3.2	Best Practices and Opportunities (CD Appendix A Section D.7.d.)	
	3.3 3.4	Implementation (CD Appendix A Section D.7.e)	6
	3.5	Positive Program Elements	

Table of Contents (cont'd)

List of Figures

Figure 1-1 Organizational Chart

List of Appendices

- Α **Project Milestones and Deadlines**
- В1 Permit-Specific Information - Kahului Airport
- B2 Permit-Specific Information – Daniel K. Inouye International Airport
- B3 Permit-Specific Information – Honolulu Harbor
- B4 Permit-Specific Information – Kalaeloa Barbers Point Harbor
- B5 Permit-Specific Information – Highways Maui District
- B6 Permit-Specific Information - Highways Oahu District

List of Acronyms

AMS Asset Management System

AWP Audit Work Plan
CD Consent Decree

DOH State of Hawaii Department of Health

EPA United States Environmental Protection Agency
HDOT State of Hawaii Department of Transportation
MS4 Municipal Separate Storm Sewer System

O&M Operation and Maintenance

PBMP post-construction best management practice

PEAR Program Element Audit Report

PM Project Manager State State of Hawaii

SWMPP Stormwater Management Program Plan

Section 1: Introduction

Under Paragraph 10.d of the Consent Decree (Civil Action 1:14-CV-00408-JMS-KSC) entered on 5 November 2014 (CD) with the United States Environmental Protection Agency (EPA) and the State of Hawaii (State) Department of Health (DOH), the State of Hawaii Department of Transportation (HDOT) was required to perform compliance audits of Municipal Separate Storm Sewer System (MS4) permits issued to HDOT's Airports, Highways, and Harbors Divisions (referred to herein as the singular "MS4 Permit Audit"). The ongoing MS4 Permit Audit is being conducted in accordance with Audit Work Plan (AWP) approved by EPA and DOH on 31 October 2016. The MS4 Permit Audit consists of individual audits of six program elements. This Program Element Audit Report (PEAR) documents procedures and findings of the Post-Construction Runoff Control / Permanent Best Management Practices audit.

Figure 1-1 provides an updated organizational chart defining the Audit Team (Kennedy/Jenks staff, presented in tan) and HDOT staff (presented in blue) involved in the MS4 Permit Audit.

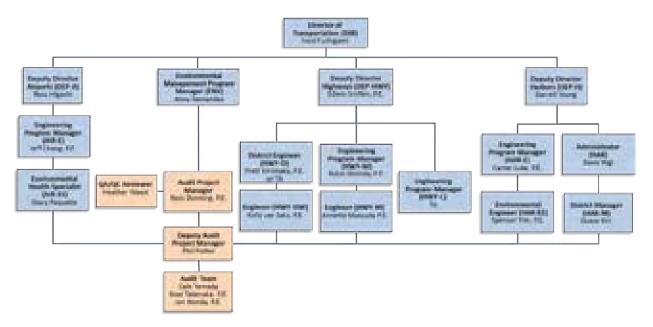


Figure 1-1 Organizational Chart

Section 2: Methods (CD Appendix A Section D.7.a.)

As required in CD Appendix A Section D.7.a., this section includes a specific statement of the procedures followed, HDOT sites and activities visited and materials reviewed during the Audit. Additional details on specific dates can be found in Appendix A. Additional permit-specific details can be found in Appendices B1 – B6. The Audit Team reviewed the individual program element for the six permitted MS4 programs concurrently, developing a PEAR that represents the culmination of the auditing efforts across the three HDOT Divisions. The Program Element Audit included three phases (Pre-Audit, On-Site Evaluation, and Reporting), detailed in the following sections.

2.1 Pre-Audit

This Section describes the first phase of the Program Element Audit.

2.1.1 Notice of Audit

The Audit Team began by providing a Notice of Audit to the MS4 Permit Coordinators via email. The Audit Team requested that the MS4 Permit Coordinators review two key documents. First, the Audit Team created a table of Governing Regulations which included sections of the Federal regulations, HDOT's MS4 permits, and the CD that were deemed applicable to PEAR 1. This table was used in conjunction with the guiding questions in Appendix B of the AWP to informally track the results from the evaluation. The MS4 Permit Coordinators provided comment on this table.

Second, the Audit Team developed a list of documents to be consulted for the Records Request. The Audit Team asked the MS4 Permit Coordinators to confirm that the Audit Team had identified the most updated and suitable documents. The Audit Team finalized this list of documents based on feedback from the MS4 Permit Coordinators. This list is provided in Section 1 of Appendices B1 – B6.

2.1.2 Records Request

The Audit Team next reviewed the key documents and identified those sections relevant to this PEAR (provided in Section 2 of Appendices B1 – B6). Based on this review, the Audit Team developed a Records Request that was shared with the MS4 Permit Coordinators.

2.1.3 Records Review

The MS4 Permit Coordinators responded to the Records Request and the Audit Team completed an initial review of the records received. The Audit Team next sent Requests for Clarification. The Audit Team also conducted in-person meetings with MS4 Permit Coordinators during this timeframe. MS4 Permit Coordinators provided additional information and records in response to this second request. The Audit Team then completed their review of records received.

2.2 On-Site Evaluation

This Section describes the second phase of the Program Element Audit.

2.2.1 Pre-On-Site Evaluation Conference Call

The Audit Team and HDOT Project Manager (PM) contacted the MS4 Permit Coordinators to confirm schedules, address questions and security concerns, confirm personnel safety equipment needed, and organize training and orientation briefings that were anticipated to be required.

2.2.2 On-Site Evaluation

Additional details on specific sites visited during the On-Site Evaluations and associated photos can be found in Sections 3 and 4, respectively, of Appendices B1 – B6.

2.2.3 Post-On-Site Evaluation Review Period

Following the On-Site Evaluations, the Audit Team reviewed the findings of the Pre-Audits and On-Site Evaluations and addressed any final evaluation-related tasks that were noted. This review period completed the evaluation of the program element, as referenced in CD Appendix A, Section B.5.

2.3 Reporting

This Section describes the third phase of Program Element Audit.

2.3.1 Draft PEAR

Pursuant to the CD, the Audit Team prepared a draft PEAR and transmitted it to the HDOT PM, who then distributed copies of the draft PEAR to the appropriate MS4 Permit Coordinators. The MS4 Permit Coordinators reviewed the draft PEAR and distributed the report to key personnel for their review, as appropriate. The MS4 Permit Coordinators then submitted to the HDOT PM a consolidated written request for clarification and corrections to the draft PEAR for their respective permit. Finally, the HDOT PM submitted the consolidated requests and corrections to the Audit PM.

2.3.2 Final PEAR

The Audit Team made appropriate changes to the draft PEAR and submitted the final PEAR.

Section 3: Key Findings (CD Appendix A Section D.7.b. - e.)

As required in CD Appendix A Section D.7.b. -e., this section includes details on the key findings of the MS4 Permit Audit for this PEAR.

There were no areas where the Audit Team was unable to assess compliance with a program component due to the limitations of the MS4 program evaluation process. Unless otherwise noted below, the Audit Team found HDOT's permittees in compliance with their permit obligations.

3.1 Identification of Deficiencies and Potential Violations (CD Appendix A Section D.7.c.)

As required in CD Appendix A Section D.7.c., this section includes an identification of Deficiencies and Potential Violations with the applicable Stormwater Management Programs Plans (SWMPPs), the CD, and/or applicable permit and regulations, and recommendations for improvement.

3.1.1 Potential Violations

A Potential Violation is defined in the AWP as an area where the evaluation found the permittee not in compliance with a specific permit requirement or SWMPP commitment.

Confirmed Potential Violations and associated corrective actions are provided in Section 5 of Appendices B1 – B6. HDOT must continue to respond to these Potential Violations, pursuant to their corrective action plans, as discussed in Section 6.3 of the AWP.

3.1.2 Deficiencies

A Deficiency is defined in the AWP as item which, if not corrected, may lead to Potential Violations.

Deficiencies identified by the Audit Team are included in Section 6 of Appendices B1 – B6. For each Deficiency, recommendations for improvement are provided. HDOT must respond to these Deficiencies as discussed in Section 6.4 of the AWP.

3.2 Best Practices and Opportunities (CD Appendix A Section D.7.d.)

As required in CD Appendix A Section D.7.d., this section includes an identification of best practices and opportunities for information/technology transfer to be applied across the Divisions.

During the Audit, the Audit Team noted several areas where best practices may be applied across the Divisions.

- Airports Division should consider adopting Highways Oahu District's practice of storing screen shots of the date/time when their documents have been uploaded to their website to satisfy the public review requirements of their permit. This is further discussed in Deficiency Tracking #15.
- 2. Airports Division should consider adopting language found in Harbors Division's Permit for Connection to the State Harbors Drainage System. To be granted this permit, a tenant must agree that "prior to any construction work, the Licensee shall obtain permission to perform work on State Harbors from the Engineering Program Manager, Harbors Division, and comply with Harbors Construction Site Runoff Control Program and Post-Construction Storm Water Management in New Development and Redevelopment." This would provide Airports Division with additional leverage to pursue enforcement actions should a tenant or licensee neglect their PBMP obligations.
- 3. All three Divisions should consider designating two distinct categories of PBMPs:
 - Category 1: PBMPs that are triggered by greater than 1 acre of development / redevelopment and subject to the full requirements of the PBMP program; and
 - Category 2: PBMPs that have been constructed for other reasons and are not subject to the full requirements of the PBMP program.

This categorization will provide greater clarity as to which PBMPs are to be inspected/maintained as required by the permit. Regardless, the Audit Team recommends that Category 2 PBMPs be maintained in a similar fashion to Category 1 PBMPs to ensure the continued effectiveness of the PBMP to the maximum extent practicable.

- 4. The three Divisions should consider adopting a common Asset Management System (AMS). While the Audit Team understands that each Division has unique operations and requirements, programmatic requirements such as reporting could be more easily standardized if a common AMS were to be used.
- 5. Through its leases, Harbors Division maintains strong legal authority to require PBMP implementation and maintenance. Airports Division should consider adopting some of Harbors Division's lease language to make their leases more binding and enforceable.
- 6. Harbors Division should consider creating custom operation and maintenance (O&M) plans that are unique to each PBMP, similar to Highways Oahu District. Presently, Harbor Division uses manufacturers' standard O&M plans and does not adapt these plans to match their actual operations, which makes the plans less useful.
- 7. Individual permits for Airports Division (Daniel K. Inouye International Airport) and Highways Oahu District both require that permittees specifically assess whether lowimpact development (LID) approaches could be used for prospective PBMPs. Both Airports Division and Highways Oahu District's Design Review Checklists prompt for

consideration of LID. However, should a waiver of LID requirements be issued, the Checklists do not require that users document *which* constraints eliminated the potential use of LID. Airports Division and Highways Oahu District should consider adding this content to their Checklists.

3.3 Implementation (CD Appendix A Section D.7.e)

As required in CD Appendix A Section D.7.e., this section includes an analysis of the practices implemented for each Division's program elements and a determination as to whether identified best practices can be universally implemented across all three Divisions. If best practices cannot be universally implemented, this section describes the identified impediments.

- HDOT should consider scheduling a regular (monthly or bi-monthly) meeting for MS4
 Permit Coordinators to meet in person or via tele-conference to discuss items of interest
 related to their common program elements. This could help facilitate dialogue among the
 Divisions and give staff the opportunity to share ideas and challenges.
- 2. HDOT should consider consolidating required training related to PBMPs. The Audit Team found similar training requirements in the various permits. A common HDOT training session could reduce department-wide costs and lead to greater consistency.

3.4 Retrospective Analysis (CD Appendix A Section D.7.b.)

As required in CD Appendix A Section D.7.b., this section includes a retrospective analysis of activities that maybe outmoded, ineffective, insufficient, or excessively burdensome, and recommendations to modify, streamline, or expand them in accordance with what has been learned.

Findings include the following:

- Airports Division's current database system (Enviance) is outmoded and does not currently have the capabilities needed for Airports Division to comply with their MS4 permits. Specifically, the database system needs to be able to store O&M plans and photos and identify the location of PBMPs on a Geographic Information System. This is further discussed in Deficiency Tracking #6 and #12.
- 2. When Divisions utilize contractors to perform PBMP maintenance, these contractors should be held to the same high standards as Division staff would be held if they were to complete the maintenance themselves.
- 3. Airports and Harbors Divisions both would benefit from a more robust document management system. Various checklists, forms, and plan review comment sheets are filled out and then discarded, leaving no evidence that they were completed. This represents a liability in the case of a more formal EPA/DOH compliance audit. This is further discussed in Deficiency Tracking #14 and 20.

- 4. Airports Division was observed to have issues with retaining essential staff to support PEAR 1. There has been considerable staff turnover and limited transition/succession planning, leading to program elements being neglected.
- 5. All three Divisions should consider posting educational signage adjacent to PBMPs that receive foot traffic from the public or HDOT employees. The signage can address public education permit requirements, as well as help ensure that PBMPs are not inadvertently damaged by activities conducted in the area.
- 6. HDOT should review staff and fiscal resources dedicated towards maintaining PBMPs in perpetuity. MS4 Permit Coordinators indicated that the HDOT staff assigned to maintain PBMPs are frequently overwhelmed with other tasks, and as a result, PBMPs may not be maintained in a timely fashion.

3.5 Positive Program Elements

HDOT staff were helpful and cooperative in responding to requests for information, scheduling and coordinating on-site audits, etc. HDOT staff were receptive to audit findings shared to date and genuinely interested in improving their MS4 programs. The Audit Team specifically identified several positive program elements:

- 1. Highways Oahu District creates excellent PMBP-specific O&M manuals and inspection sheets that are clear, concise, and effective.
- 2. Highways Oahu District includes all PBMPs in their formal PBMP program, even if the construction of the PBMP was not prompted by program requirements.
- 3. Airports Divisions' 2011 PBMP Checklist allowed user to specify their own "Other" exemption. This was removed in later versions, reducing the likelihood that proposed projects could write in their own exemptions to permit requirements.
- 4. Airports Division provided an excellent example of a response to insufficient PBMP maintenance. In early 2017, the MS4 Permit Coordinator was made aware that cars were parking on top of the bioswales at the Kalewa Street Lot. This was impeding the function of the bioswales. In short order, the MS4 Permit Coordinator effectively reached out to the tenant at the facility, who installed roping to encourage employees to park only on the pavement.
- 5. Harbors Division contains excellent language in their Permit for Connection to the State Harbors Drainage System that allows for leverage to pursue enforcement actions should a tenant or licensee neglect their PBMP obligations.

Appendix A

Project Milestones and Deadlines

Appendix A: PEAR 1 Project Milestones and Deadlines

Appendix A of the Consent Decree (CD) defines various project milestones and deadlines, described for ease of reference below:

Table 2-1 CD Appendix A Deadlines

Program Element	Evaluation Complete: ^(a)	Draft PEAR to HDOT: (d)	HDOT Review of Draft PEAR: (e)	Final PEAR to HDOT: ^(f)
PEAR #1: Post-Construction Runoff Control / Permanent Best Management Practices	3 Months (90 Days) (b) After AWPC(c)	135 Days After AWPC	165 Days After AWPC	210 Days After AWPC
	13 June 2017	28 July 2017	27 August 2017	14 September 2017

Notes:

- (a) "Evaluation" as referenced in CD Appendix A Section B.5. is defined to represent the conclusion of the Post-On-Site Evaluation Review Period.
- (b) "Months" are based on 30-day month.
- (c) AWPC = Audit Work Plan Commencement (15 March 2017)
- (d) Pursuant to CD Appendix A Section D.2., Kennedy/Jenks completed a draft audit report and transmitted it to HDOT within 45 days of completing the audit of this program element [defined as the conclusion of "evaluation", as discussed in Note (a)].
- (e) Pursuant to CD Appendix A Section D.3., HDOT reviewed the draft PEAR to correct any factual inaccuracies within 30 days of receipt.
- (f) Pursuant to CD Appendix A Section D.4., Kennedy/Jenks completed a final PEAR within 120 days of completing the audit of the program element [defined as the conclusion of "evaluation", as discussed in Note (a)].

Milestone	Date Completed	
Notice of Audit	22 March 2017	
Records Request	29 March 2017	
Response to Records Request	27 April 2017	
Request for Clarification on Records	11 May 2017	
Completion of Records Review	18 May 2017	
Pre-On-Site Evaluation Conference Call	18 May 2017	
On-Site Evaluation	30 May 2017 to 9 June 2017	
End of Post-On-Site Evaluation Review Period	13 June 2017	
Draft Potential Violations to HDOT PM	26 June 2017	
Notice of Corrective Action to EPA/DOH	10 July 2017	
Draft PEAR to HDOT PM	28 July 2017	
MS4 Permit Coordinator Comments to HDOT PM	24 August 2017	
HDOT PM Comments to Audit Team	25 August 2017	
Final PEAR to HDOT PM	14 September 2017	



Permit-Specific Information – Honolulu Harbor

1. Key Documents

Permit	3. Honolulu
	Harbor
Document	Small MS4 Permit
	HI 03KB482 a. 20170127.Compliance Submission of Reports and
2016 Annual Report	Documents-HI03KB482.pdf b. 20170127.Contents of CD for Compliance Submission of Reports and Documents- HI03KB482_Part1.pdf c. 20170127.Contents of CD for Compliance Submission of Reports and Documents- HI03KB482_Part2.pdf d. 20170127.Contents of CD for Compliance Submission of Reports and Documents- HI03KB482_Part3.pdf e. 20170127.Contents of CD for Compliance Submission of Reports and Documents- HI03KB482_Part4.pdf f. 20170127.Contents of CD for Compliance Submission of Reports and Documents- HI03KB482_Part4.pdf f. 20170127.Contents of CD for Compliance Submission of Reports and Documents- HI03KB482_Part5.pdf
Action Plan for Retrofitting Structural BMPs	Not applicable to this permit
BMP Manual	2014 Post Construction SW Manual_Final.pdf
BMP Standards and Technical Specifications (Consent Decree Part 18.c.S1)	2014 Post Construction SW Manual_Final.pdf
Consent Decree	HDOT Harbors 2014 Consent Decree.pdf
Construction Best Management Practices Field Manual	Not applicable to this permit
DOH Comments on 2016 Annual Report	None received.
Enforcement Response Plan.	Page 399 of 1085 Final HDOT Harbors SWMP-150325.pdf
Maintenance plan for vegetated portions of the drainage system used for erosion and sediment control, and LID features	Not applicable to this permit
Map of MS4	Page 89 of 1085 Final HDOT Harbors SWMP-150325.pdf

Permit	3. Honolulu Harbor	
Document	Small MS4 Permit HI 03KB482	
Memoranda of Understanding or Agreement	MOA- Harbors.pdf	
Organizational charts	Page 21 of 1085 Final HDOT Harbors SWMP-150325.pdf	
Permanent Post- Construction BMP Checklist (Consent Decree Part 18.b.i.S4)	Permanent Post-Construction BMP Plan Checklist.pdf	
Permit	December 2016 extension is here: 20161202.03KB482.EXT.16.pdf	
Plan for Requiring LID in Standards	Not applicable to this permit	
Plan Review Checklist	 a. Construction Site Design Review Checklist.pdf b. Construction Site BMP Inspection Checklist_20150722.pdf c. Permanent Post-Construction BMP Plan Checklist.pdf 	
Previous Audit Findings	HDOT Harbors Audit 2009.pdf	
SWMPP	Final HDOT Harbors SWMP-150325.pdf	
Website	http://hidot.hawaii.gov/harbors/library/storm-water-management/	

2. Sections of Key Documents Found Relevant for PEAR 1

Document Name	
(Original File Name)	Sections/Pages Relevant to PEAR 1
2015 Stormwater Management Plan (March 2015) (Final HDOT Harbors SWMP-150325.pdf)	Section 2.4 Section 2.5 BMP Table 2-5 Table 2-5 Section 3.2.4 Section B, Attachment 1, Section 3.2 Section C, Figure 2-1 Section C, Section 3.0 Section C, Section 4.2 Section C, Section 4.4.3 Section C, Section 5.2 Section C, Attachment 1 Section C, Attachment 2 Section C, Attachment 3 Section C, Attachment 4 Section C, Attachment 5 Section C, Attachment 5 Section C, Attachment 7, page 6 Section D – in entirety
Letter regarding Program Audit of the Hawaii Department of Transportation, Harbors Division, Stormwater Management Program, Transmittal of Audit Report (23 March 2009) (HDOT Harbors Audit 2009.pdf) Memorandum of Understanding Between	Enclosure, Section 2.0 Enclosure, Section 2.3.1 Enclosure, Section 2.5 No discussion of PEAR 1 topics
Department of Transportation, Harbors Division, State of Hawaii and Department of Health, State of Hawaii (April/May 2015) (MOA- Harbors.pdf)	
2016 Annual Compliance Report, Storm Water Management Program (January 2017) (20170127.Contents of CD for Compliance Submission of Reports and Documents- HI03KB482_Part1.pdf)	Part II, 2 (page 10) Part II, 7 (page 14) Part V (pages 32, 33) Part VI Part V, 1 (pages 42, 43) Part V, 3 (page 45) Part V, 7 (page 49) HDOT-Harbors 2016 Tenant Stormwater Awareness Training Slide 48, Construction/Post-Construction
2016 Annual Compliance Report, Storm Water Management Program (January 2017) (20170127.Contents of CD for Compliance Submission of Reports and Documents- HI03KB482_Part2.pdf)	Attachment 6a. Construction Training Presentation Slides

Document Name	
(Original File Name)	Sections/Pages Relevant to PEAR 1
2016 Annual Compliance Report, Storm	Attachment 15. DOT Harbors Projects
Water Management Program (January 2017)	Review Inventory
(20170127.Contents of CD for Compliance	Attachment 17. Kalaeloa Harbor Stockpile
Submission of Reports and Documents-	Inspection Report
HI03KB482_Part3.pdf)	Attachment 19. MS4 and Permanent BMP
	Inspection Log

3. On-Site Evaluation

2 June 2017

On 2 June 2017, the Audit Team held a kickoff meeting at Pier 35 (Honolulu Harbor) with Harbors Division staff (Spencer Yim, Joy Zhang) and Pier 35 representatives (Matt Moore, Ross Barnes). Photographs taken during the On-Site Evaluation can be found in Section 4 below.

PBMP 3.1 Pier 35

The Audit Team observed as Harbors Division maintenance staff inspected and serviced a grated inlet skimmer box (GISB) and trench drain at Pier 35 (hereinafter referred to as PBMP 3.1). The Harbors Division's tenant (University of Hawaii) is responsible for maintenance of these PBMPs. Both PBMP technologies utilize a white absorbent boom to capture hydrocarbons. The maintenance staff used a vacuum truck to collect debris and wash-down water.

PBMP 3.2 Pier 31

Next, the Audit Team drove to Pier 31 where maintenance staff inspected a trench drain (hereinafter referred to as PBMP 3.2). According to Harbors Division's MS4 Permit Coordinator, this PBMP was last maintained 6 months ago. However, due to design constraints, the maintenance staff have been unable to access the absorbent filter sock located within the device. Therefore, this filter sock has not been replaced since the device was installed, despite the manufacturer recommendation that it be replaced annually. Harbors Division is aware of the issue and has chosen Pier 31 as one of their top three planned retrofits.

Due to tenant activity on 2 June 2017, the evaluation of the third Honolulu Harbor PBMP was conducted on 9 July 2017 (discussed below).

9 June 2017

The Audit Team met Harbors Division staff (Spencer Yim, Joy Zhang) at Pier 29 to evaluate the final Honolulu Harbors PBMP.

PBMP 3.3 Pier 29

According to Harbors Division's MS4 Permit Coordinator, planning for the Pier 29 facility occurred around 2009 and construction was completed in 2012. The Audit Team observed as maintenance staff inspected and serviced an inlet filter and trench drain filter (hereinafter referred to as PBMP 3.3). These devices are in a Harbors Division common area, and are therefore, maintained by Harbors Division and not by the tenant.

1	On Sita	Evaluation	Dhotos
4.	On-Site	Evaluation	Photos

Photographs are provided below.

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.1 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.3 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.2 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.4 Pier 35 Grated Inlet Skimmer Box

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.5 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.7 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.6 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.8 Pier 35 Grated Inlet Skimmer Box

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.9 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.11 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.10 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.12 Pier 35 Grated Inlet Skimmer Box





PBMP 3.1 Photo 3.1.13 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.15 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.14 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.16 Pier 35 Grated Inlet Skimmer Box

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.17 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.19 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.18 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.20 Pier 35 Grated Inlet Skimmer Box

Photographer: Cale Yamada



Photo 3.1.21 **PBMP 3.1** Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.23 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.22 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.24 Pier 35 Grated Inlet Skimmer Box

Photographer: Cale Yamada



Photo 3.1.25 **PBMP 3.1** Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.27 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.26 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.28 Pier 35 Grated Inlet Skimmer Box

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.29 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.31 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.30 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.32 Pier 35 Grated Inlet Skimmer Box

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.33 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.35 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.34 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.36 Pier 35 Grated Inlet Skimmer Box

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.37 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.39 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.38 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.40 Pier 35 Grated Inlet Skimmer Box





PBMP 3.1 Photo 3.1.41 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.43 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.42 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.44 Pier 35 Grated Inlet Skimmer Bo





PBMP 3.1 Photo 3.1.45 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.47 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.46 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.48 Pier 35 Grated Inlet Skimmer Box





PBMP 3.1 Photo 3.1.49 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.51 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.50 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.52 Pier 35 Grated Inlet Skimmer Box

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.53 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.55 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.54 Pier 35 Grated Inlet Skimmer Box

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.56 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.58 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.57 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.59 Pier 35 Trench Drain

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.60 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.62 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.61 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.63 Pier 35 Trench Drain

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.64 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.66 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.65 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.67 Pier 35 Trench Drain

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.68 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.70 Pier 35 Trench Drain



Photo 3.1.69 **PBMP 3.1** Pier 35 Trench Drain

Photographer: Cale Yamada



PBMP 3.2 Photo 3.2.1 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.3 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.2 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.4 Pier 31 Trench Drain

Photographer: Cale Yamada



PBMP 3.2 Photo 3.2.5 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.7 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.6 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.8 Pier 31 Trench Drain

Photographer: Cale Yamada



PBMP 3.2 Photo 3.2.9 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.11 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.10 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.12 Pier 31 Trench Drain

Photographer: Cale Yamada



PBMP 3.2 Photo 3.2.13 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.15 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.14 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.16 Pier 31 Trench Drain

Photographer: Cale Yamada



PBMP 3.2 Photo 3.2.17 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.19 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.18 Pier 31 Trench Drain



Photo 3.2.20 **PBMP 3.2** Pier 31 Trench Drain

Photographer: Cale Yamada



PBMP 3.2 Photo 3.2.21 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.23 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.22 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.24 Pier 31 Trench Drain

Photographer: Cale Yamada



PBMP 3.2 Photo 3.2.25 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.27 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.26 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.28 Pier 31 Trench Drain

Photographer: Cale Yamada



Photo 3.2.29 **PBMP 3.2** Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.31 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.30 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.32 Pier 31 Trench Drain

Photographer: Cale Yamada



Photo 3.2.33 **PBMP 3.2** Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.35 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.34 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.36 Pier 31 Trench Drain

Photographer: Cale Yamada



PBMP 3.2 Photo 3.2.37 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.39 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.38 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.40 Pier 31 Trench Drain

Photographer: Cale Yamada



Photo 3.2.41 **PBMP 3.2** Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.43 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.42 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.44 Pier 31 Trench Drain

Photo Log Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am Photographer: Cale Yamada



PBMP 3.2 Photo 3.2.45 Pier 31 Trench Drain

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.1 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.3 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.2 Pier 29 Inlet & Trench Drain Filter



PBMP 3.3 Photo 3.3.4 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.5 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.7 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.6 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.8 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



Photo 3.3.9 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.11 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.10 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.12 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.13 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.15 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.14 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.16 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.17 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.19 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.18 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.20 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



Photo 3.3.21 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.23 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.22 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.24 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.25 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.27 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.26 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.28 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.29 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.31 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.30 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.32 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.33 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.35 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.34 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.36 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.37 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.39 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.38 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.40 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.41 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.43 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.42 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.44 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.45 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.47 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.46 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.48 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.49 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.51 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.50 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.52 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



Photo 3.3.53 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.55 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.54 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.56 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



Photo 3.3.57 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.59 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.58 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.60 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



Photo 3.3.61 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.63 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.62 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.64 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



Photo 3.3.65 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.67 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.66 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.68 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.69 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.71 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.70 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.72 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.73 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.75 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.74 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.76 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.77 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.79 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.78 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.80 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.81 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.83 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.82 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.84 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



Photo 3.3.85 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.87 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.86 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.88 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.89 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.91 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.90 Pier 29 Inlet & Trench Drain Filter



PBMP 3.3 Photo 3.3.92 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.93 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.95 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.94 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.96 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.97 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.99 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.98 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.100 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.101 Pier 29 Inlet & Trench Drain Filter



PBMP 3.3 Photo 3.3.103 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.102 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.104 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.105 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.107 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.106 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.108 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.109 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.111 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.110 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.112 Pier 29 Inlet & Trench Drain Filters

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.113 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.115 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.114 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.116 Pier 29 Inlet & Trench Drain Filters

Potential Violation Tracking #7 applies to this permit. Please see pages B3-8 through B3-14.

Final Notice

Potential Violation Tracking #: 7

Determination of Potential Violation Date: 6/24/17

Potential Violation Notification Date: 6/26/17

Potential Violation Narrative Description:

Section 5 of Harbors' Post-Construction Stormwater Management Manual commits Harbors to maintaining post-construction best management practices (PBMPs) according to their written operations and maintenance (O&M) plan. The written O&M plan for the Pier 31 trench drain provided to the Audit Team for review indicates that the filter should be changed once per year. Harbors' MS4 Permit Coordinator indicated that the filter has not been replaced since it was installed in 2014, due to Harbors' difficulties in removing and replacing grates and filtration media. The Audit Team found the Pier 31 trench drain to be inadequately maintained during the On-Site Audit. The Audit Team has found this to be not in compliance with Harbors' defined program and therefore potentially in violation of the applicable regulations listed below.

Description of Attached Photographs (if applicable): Photographs attached show the inadequate maintenance of the Pier 31 trench drain inspected on 2 June 2017.

Applicable Regulatory References

NPDES Permit No.: Consent Decree Part 18.b.i. "The Post-Construction Stormwater Management Program Plan shall include: 5) a plan for long-term Operation and Maintenance as described in Paragraph 18.f below,..."

Consent Decree Part 18.f.i "General. By entry of the Consent Decree, HDOT-Harbors shall ensure that all New Development and Redevelopment Projects subject to post-construction control measures requirements have an operation and maintenance plan, monitoring plan where applicable, and a process of verification of ongoing maintenance of installed controls."

SWMPP: Section 5 of Post-Construction Manual "For Harbors project, O&M will be provided by Oahu District and/or HAR-EM consistent with the projects O&M plan that was submitted and approved as part of the project review and approval process."

Hawaii Administrative Rules (HAR): HAR 11-55 Appendix K Part 6.(a)(5)(C) "At a minimum, the permit must require the permittee to: Ensure adequate long-term operation and maintenance of BMPs."

Code of Federal Regulations (CFR): 40 CFR 122.34(b)(5)(i)(C) "At a minimum, the permit must require the permittee to: Ensure adequate long-term operation and maintenance of BMPs."

Photo 1 shows the trench drain at Pier 31.

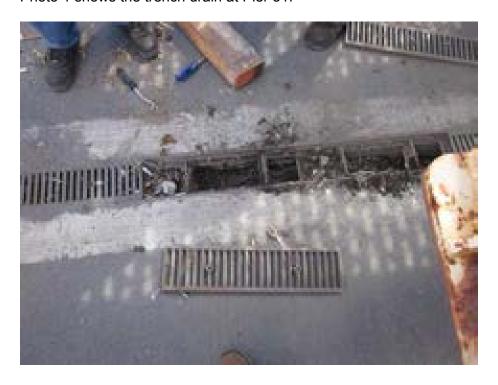


Photo 2 shows a close-up view of occluded filtration media and accumulated sediment within trench drain at Pier 31.



Result of HDOT PM Review:
 ☑ Confirmed Potential Violation ○ Email Notice of Corrective Action sent to EPA/DOH on: 7/10/17 (Due Within 14 Calendar Days of Potential Violation Notification Date)
□ Re-categorized as Deficiency (see rationale below)○ Email Notice sent to EPA/DOH on:
□ Summarily Dismissed (see rationale below) ○ Email Notice sent to EPA/DOH on:
Pationale for De Categorization or Summary Dismissal: n/a

Rationale for Re-Categorization or Summary Dismissal: **n/a**

Notice of Corrective Action

Corrective Action in Response to:						
☑ Potential Violation (complete Section A & C)						
☐ Deficiency (complete Section B & C)						
SECTION A – Corrective Action in F	Response to Potential Violation					
Potential Violation Tracking #: 7	Potential Violation Notification Date: 6/26/17 (from Notice of Potential Violation Form)					
	Corrective Action Notification Date: 7/10/17 (Today's Date)					
	within 14 calendar days of the Potential Violation Notification Date.					
SECTION B – Corrective Action in F	Response to Deficiency					
HDOT Receipt of Draft PEAR Date:						
Corrective Action Notification Date: (Today's Date)						
HDOT must submit this notice within 21 calendar days of receiving the relevant Draft PEAR.						

SECTION C

Description of Corrective Action:

Three (3) corrective actions will remedy the potential violation at Pier 31 as described below. (1) The defective trench drain filtering systems that prevent full maintenance will be replaced by new filtering systems proven to be effective and maintainable. See attached plan and schedule for Pier 31. (2) The cleaning frequency of the existing filtering systems was increased to quarterly until the new filters are installed. An interim O&M plan will be prepared by September 30, 2017. Our Cityworks AMS will schedule and record inspection and cleaning events and their costs. See attached photographs of 6/5/17 cleaning event. (3) Matson, who uses this pier for off-loading vehicles, will be responsible for removing excess surface debris when observed by Harbors personnel.

Description of Attachments (if applicable):

- (a) Project schedule for Pier 31 permanent BMP (trench filtration system) replacement.
- (b) Photographs of 7/3/17 Pier 31 comprehensive inspection and cleaning event.

Spencer K. Yim, P.E.
Environmental Section Head
Engineering Branch
State of Hawaii, Dept. of Transportation, Harbors Division
Hale Awa Ku Moku Building
79 South Nimitz Highway
Honolulu, HI 96813-4898

July 6, 2017

RE: PLAN OF ACTION & MILESTONES (POA&M) FOR POST CONSTRUCTION BMP RETROFITS

Aloha Spencer,

Weston Solutions, Inc. (WESTON) understands the importance of a quick response to solve the maintenance challenges with the BMPs at Pier 31 and we are pleased to present to the State of Hawaii Department of Transportation, Harbors Division (HDOT Harbors) this POA&M.

Pier 31 is the time critical component of this plan although we understand that all three locations must be completed within four years of approval of the Post-Construction BMP Retrofit Feasibility Study (RFS) per the requirements of the Consent Decree. The plan of action presented in this POA&M would result in the start of construction at Pier 31 ten (10) weeks after notice to proceed with the design.

It is anticipated that our staff would initiate the design process for Pier 31 immediately upon notice to proceed. The design for the other two locations would initiate once the design is complete at Pier 31 and the project goes out to bid.

Below are the milestones that capture the actions needed to resolve the deficiency of the BMPs installed at Pier 31 and to retrofit all three locations (Piers 31, 51B, and 52/53) with BMPs as specified in the EPA approved RFS.

PIER 31

Estimated Duration from Design to <u>Start of Construction</u>: 10 weeks Estimated Duration from Design to <u>Completion of Construction</u>: 22 weeks

1. Acquire design documents/drawings for existing Pier 31 drainage system and BMPs. ESTIMATED DURATION: 1 WEEK

It is anticipated that it might take some time to search for the applicable drawings and the design hydraulic calculations for the existing infrastructure. The design firm may need to be contacted and a document request submitted by Harbors if submittal requirements for the construction project did not include a drain specific hydraulic calculation or any other required data.

It is anticipated that the specification package or O&M manual for the existing BMP should include the fully spent filter bypass flow rate.

Plan of Action and Milestones for Post-Construction BMP Retrofits Department of Transportation, Harbors Division Page 2

2. Review existing drawings/design and identify data gaps (if applicable). ESTIMATED DURATION: 1 WEEK

Should any of the required data to complete the design of the new BMP not be included in the previous design, Weston will need to collect that data prior to completion of the design for the new BMP. The quality of the data will also be considered and, if needed, further field collection may be conducted to improve it.

3. Field collect or verify data for drainage areas, dimensions of existing retrofit locations, and any identified data gaps;

ESTIMATED DURATION: 1 WEEK

Once the data requirements for design of the new BMP have been compared to the available data from the previous BMP, field collection of the data gaps will be conducted.

4. Examine existing BMPs for decommissioning approach and measure/assess drain cover layout (for potential reduction of BMP O&M maintenance effort);

ESTIMATED DURATION: CONCURRENT WITH PREVIOUS TASK

Field identify tool requirements and deconstruction approach. Look for any issues that might arise such as components targeted for removal anchored in the concrete or damage/corrosion of any of the trench drain components that are targeted for reuse (ie, grating, grating support, outlet). Take a full set of measurements of the grating and mounting system so that we can consider longer sections of grating to simplify the maintenance process.

5. *Identify downspout and facility entrance locations for implementation of other RFS specified BMPs;* ESTIMATED DURATION: CONCURRENT WITH PREVIOUS TASK

Inventory, measure, photograph, and allocate on a map the potential installation locations for downspout filters, downspout planters, and facility entrance rumble strips. Measure and photograph DI3968 to allow for design of a retrofit drain inlet filter.

6. Develop the design, specs, and drawings for new BMPs using drain flow calculations given the measured drainage areas and SWMM modeled rainfall;

ESTIMATED DURATION: 2 WEEKS

Generate the design content including location drawings, manufacturers specifications and drawings, and design calculation documentation. The existing BMP's fully spent filter bypass rate will be compared to the manufacturers bypass flow rate of the new BMP. Should the new design allow equal or greater bypass flow rate, the hydraulic analysis will be deemed complete for the new BMP.

7. *HAR-EE review of the design, specs, and drawings for new BMPs;* ESTIMATED DURATION: 2 WEEKS

8. Revise design, specs, and drawings as needed and submit final copy to HAR-EE; ESTIMATED DURATION: 2 WEEKS

9. Develop rough order cost estimate for Harbors internal budget planning; ESTIMATED DURATION: 1 WEEK

- 10. Harbors will solicit and procure products and construction services for implementation of the design; ESTIMATED DURATION: 4 WEEKS
- 11. Weston to support Harbors with responses to questions and site walk during the procurement phase; Estimated Duration: Concurrent with previous task

Plan of Action and Milestones for Post-Construction BMP Retrofits Department of Transportation, Harbors Division Page 3

12. Construction of the new BMPs;
ESTIMATED DURATION: 4 WEEKS MANUFACTURE + 4 WEEKS INSTALLATION = 8 WEEKS TOTAL

Weston will provide construction management services and verify proper installation of the BMPs. Field verification of installation will ensure that design bypass specifications are realized in the asbuilt infrastructure. This will be accomplished through measurement and comparison of the BMP physical dimensions.

13. Harbors or Tenant/User will operate, inspect, and maintain the new BMPs once they're installed.

Piers 51B and 52/53

Estimated Duration from Design to <u>Start of Construction</u>: 10 weeks Estimated Duration from Design to <u>Completion of Construction</u>: 22 weeks Estimated Duration from Design to <u>Completion of Effectiveness</u> Evaluation: 26 weeks

1. Acquire design documents/drawings for existing Pier 51B and 52/53 drainage systems. ESTIMATED DURATION: 1 WEEK

Search for the applicable drawings and the design hydraulic calculations for the existing infrastructure. Acquire drain specific hydraulic calculation or any other pertinent data.

2. Review existing drawings/design and identify data gaps (if applicable). ESTIMATED DURATION: 1 WEEK

Should any of the required data to complete the design of the new BMP not be included in the previous design drawings/calculations, Weston will need to collect that data prior to completion of the design for the new BMP. The quality of the data will also be considered and, if needed, further field collection may be conducted to improve it. Key data includes the size of the drainage area, the flow path, and retrofit location dimensions.

3. Field collect or verify data for drainage areas, dimensions of existing retrofit locations, and any identified data gaps;

ESTIMATED DURATION: 1 WEEK

Once the data requirements for design of the new BMP have been compared to the available data from the previous construction design calculations, field collection of the data gaps will be conducted.

4. *Identify downspout and facility entrance locations for implementation of other RFS specified BMPs;* ESTIMATED DURATION: CONCURRENT WITH PREVIOUS TASK

Inventory, measure, photograph, and allocate on a map the potential installation locations for downspout filters, downspout planters, and facility entrance rumble strips. Measure and photograph DI8012, SDO8031, DI8660, DI8366, DI8510, and SDO8517.

5. Develop the design, specs, and drawings for new BMPs using drain flow calculations given the measured drainage areas and SWMM modeled rainfall;
ESTIMATED DURATION: 2 WEEKS

Generate the design content including location drawings, manufacturers specifications and drawings, and design calculation documentation.

6. *HAR-EE review of the design, specs, and drawings for new BMPs;* ESTIMATED DURATION: 2 WEEKS

7. Revise design, specs, and drawings as needed and submit final copy to HAR-EE; ESTIMATED DURATION: 2 WEEKS

Plan of Action and Milestones for Post-Construction BMP Retrofits Department of Transportation, Harbors Division Page 4

- 8. Develop rough order cost estimate for Harbors internal budget planning: ESTIMATED DURATION: 1 WEEK
- 9. Harbors will solicit and procure products and construction services for implementation of the design; **ESTIMATED DURATION: 4 WEEKS**
- 10. Weston to support Harbors with responses to questions and site walk during the procurement phase; ESTIMATED DURATION: CONCURRENT WITH PREVIOUS TASK
- 11. Construction of the new BMPs; ESTIMATED DURATION: 4 WEEKS MANUFACTURE + 4 WEEKS INSTALLATION = 8 WEEKS TOTAL

Weston will provide construction management services and verify proper installation of the BMPs.

12. Effectiveness evaluation of the new BMPs; ESTIMATED DURATION: 1 WEEK SAMPLE + 2 WEEKS ANALYSIS + 1 WEEK REPORTING = 4 WEEKS

Weston will collect water samples at each of the inlets and outlets of the new BMPs and determine removal effectiveness as well as loading. Once the laboratory results are received and tabulated, follow-up investigative sampling and/or source control recommendations will be initiated. This step requires runoff flow at the site. If a rain event does not occur during this period, alternatives will be considered including a controlled experiment where a known concentration of contaminant will be introduced to the BMP and completely captured at the outlet. However, an actual rainfall event covering the entire drainage area would provide better data for the evaluation.

13. Harbors or Tenant/User will operate, inspect, and maintain the new BMPs once they're installed.

Conclusion

WESTON is confident that our corporate commitment to this important project, our project team's knowledge of the approved plans, and our previous local experience working with tenants and users will deliver exceptional value as we work together to develop solutions. Upon review of this POA&M should you have any questions, comments, or require additional information please contact Mr. Mark Ambler, at mark.ambler@westonsolutions.com.

Sincerely,

WESTON SOLUTIONS, INC.

Mark Ambler, PE, PMP, CPSWQ Technical Manager

Project File cc:

ID	Task Name	Start	Finish	Duration	Predecessors	2nd Quarter 3rd Quarter 4th Quarter 1st Quarter 2nd Quarter 3rd Quarter 4th Quarter 1st Quarter 2nd Qu Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May
0	Post-Construction BMP Retrofit Design Phase	Mon 7/17/17	Fri 4/13/18	190 d		
1	SCOPING	Mon 7/17/17	Mon 10/23/17	70 d		
2	Weston submits cost proposal for design services	Mon 7/17/17	Mon 7/17/17	1 d		Weston submits cost proposal for design services
3	Harbors acceptance of cost proposal / Notice to Proceed	Mon 7/24/17	Fri 7/28/17	5 d	2	Harbors acceptance of cost proposal / Notice to Proceed
4	Weston submits cost proposal for constr mgmt services	Tue 10/10/17	Mon 10/16/17	5 d	16	Weston submits cost proposal for constr mgmt services
5	Harbors acceptance of cost proposal / Notice to Proceed	Tue 10/17/17	Mon 10/23/17	5 d	4	Harbors acceptance of cost proposal / Notice to Proceed
6	PIER 31	Mon 7/31/17	Fri 1/19/18	120 d		
7	DESIGN PHASE	Mon 7/31/17	Mon 10/9/17	50 d		
8	Acquire design documents for P31 drainage system and BMPs	Mon 7/31/17	Fri 8/4/17	1 wk	3	1. Acquire design documents for P31 drainage system and BMPs
9	Review existing drawings, identify data gaps	Mon 8/7/17	Fri 8/11/17	1 wk	8	2. Review existing drawings, identify data gaps
10	3. Field collect or verify data	Mon 8/14/17	Fri 8/18/17	1 wk	9	3. Field collect or verify data
11	4. Create decommissioning approach and assess drain cover layout	Mon 8/14/17	Fri 8/18/17	1 wk	10SS	4. Create decommissioning approach and assess drain cover layout
12	Identify downspout and facility entrance locations per RFS	Mon 8/14/17	Fri 8/18/17	1 wk	11SS	5. Identify downspout and facility entrance locations per RFS
13	Develop design, specs, and drawings	Mon 8/21/17	Fri 9/1/17	2 wks	12	■ 6. Develop design, specs, and drawings
14	7. HAR-EE review of design, specs, and drawings	Tue 9/5/17	Mon 9/18/17	2 wks	13	7. HAR-EE review of design, specs, and drawings
15	Submit revised design, specs, and drawings	Tue 9/19/17	Mon 10/2/17	2 wks	14	8. Submit revised design, specs, and drawings
16	9. Develop ROM Cost Estimate	Tue 10/3/17	Mon 10/9/17	1 wk	15	9. Develop ROM Cost Estimate
17	CONSTRUCTION PHASE	Tue 10/10/17	Fri 1/19/18	70 d		
18	10. Harbors procures products and construction services	Tue 10/10/17	Mon 11/6/17	4 wks	16	10. Harbors procures products and construction services
19	11. Weston to support Harbors with site walk and RFIs	Tue 10/24/17	Mon 11/20/17	4 wks	18SS,5	11. Weston to support Harbors with site walk and RFIs
20	12. Construction of new BMPs / Weston oversight	Tue 11/21/17	Fri 1/19/18	8 wks	19	12. Construction of new BMPs / Weston oversight
21	PIER 51B & 52/53	Tue 10/10/17	Fri 4/13/18	130 d		
22	DESIGN PHASE	Tue 10/10/17	Wed 12/20/17	50 d		
23	Acquire design documents for P51 drainage system and BMPs	Tue 10/10/17	Mon 10/16/17	1 wk	16	1. Acquire design documents for P51 drainage system and BMPs
24	Review existing drawings, identify data gaps	Tue 10/17/17	Mon 10/23/17	1 wk	23	2. Review existing drawings, identify data gaps
25	3. Field collect or verify data	Tue 10/24/17	Mon 10/30/17	1 wk	24	3. Field collect or verify data
26	Identify downspout and facility entrance locations per RFS	Tue 10/24/17	Mon 10/30/17	1 wk	25SS	4. Identify downspout and facility entrance locations per RFS
27	5. Develop design, specs, and drawings	Tue 10/31/17	Mon 11/13/17	2 wks	26	5. Develop design, specs, and drawings
28	6. HAR-EE review of design, specs, and drawings	Tue 11/14/17	Wed 11/29/17	2 wks	27	■ 6. HAR-EE review of design, specs, and drawings
29	7. Submit revised design, specs, and drawings	Thu 11/30/17	Wed 12/13/17	2 wks	28	7. Submit revised design, specs, and drawings
30	Develop ROM Cost Estimate	Thu 12/14/17	Wed 12/20/17	1 wk	29	8. Develop ROM Cost Estimate
31	CONSTRUCTION PHASE	Thu 12/21/17	Fri 4/13/18	80 d		
32	Harbors procures products and construction services	Thu 12/21/17	Fri 1/19/18	4 wks	30	9. Harbors procures products and construction services
33	10. Weston to support Harbors with site walk and RFIs	Thu 12/21/17	Fri 1/19/18	4 wks	32SS,5	10. Weston to support Harbors with site walk and RFIs
34	11. Construction of new BMPs / Weston oversight	Mon 1/22/18	Fri 3/16/18	8 wks	33	11. Construction of new BMPs / Weston oversight
35	12. Effeciveness Evaluation of new BMPs	Mon 3/19/18	Fri 4/13/18	4 wks	34	12. Effectiveness Evaluation of new BMPs

Milestone • LEGEND: Critical Task Normal Task Summary

PIER 31 TRENCH DRAIN (BMP4155) CLEANING, 3 JULY 2017





PIER 31 TRENCH DRAIN (BMP4155) CLEANING, 3 JULY 2017 (Continued)





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Deficiency Tracking #8, 9, 18, 19, and 20 apply to this permit. Please see pages B3-16 through B3-24.

Draft Notice of Deficiency

Deficiency Tracking #: 8

Related Permit(s): Honolulu Harbor

Deficiency Narrative Description:

During the on-site evaluation of Pier 29 on 2 June 2017, the maintenance staff were observed hosing down the trench drain area. A vacuum truck was in use, but the vacuum was placed upstream of the area being washed down. Following the on-site evaluation, Harbors Division provided additional clarification that by spraying wash water towards the upstream vacuum truck hose, maintenance staff captured the wash water before it migrated downstream towards receiving waters. However, the Audit Team believes that this approach may, in other circumstances, lead to wash water leaving the PBMP area and reaching receiving waters.

Recommendations for Improvement:

If wash-down is occurring, the vacuum truck should be positioned so that no contaminated wash-down water leaves the site. Harbors Division's O&M Manuals should be changed to reflect this policy.

Description of Attached Photographs (if applicable): Photograph shows the trench drain being washed down. The trench drain flows via gravity from the right side of the photograph (where the vacuum truck is positioned) to the left side of the photograph (where the wash-down is occurring) and on towards the Harbor outfall.

Applicable Regulatory References:

NPDES Permit No.: n/a

SWMPP: n/a

Hawaii Administrative Rules (HAR): HAR 11-55 Appendix K Part 1 (PBMP filter wash water is not listed as one of the 17 non-storm water discharges authorized by the permit).

Code of Federal Regulations (CFR): n/a



Draft Notice of Deficiency

Deficiency Tracking #: 9

Related Permit(s): Honolulu Harbor

Deficiency Narrative Description:

Harbors Division's Consent Decree Part 18.f.i states that the operation and maintenance (O&M) plan shall include an estimate of anticipated annual maintenance costs for upkeep of post-construction best management practice (PBMP) measures. The O&M plans provided by Harbors Division did not include this information. In lieu of "an estimate of anticipated annual maintenance cost", actual labor and equipment estimated costs for the upkeep of post-construction BMP measures are entered into the Harbors Division Cityworks Asset Management System after each PBMP maintenance inspection and cleaning event. The information in question is simply stored in CityWorks instead of the written O&M plan, as called for in the Consent Decree.

Recommendations for Improvement:

Each written O&M Plan should be amended to include the required information, pursuant to the Consent Decree.

Description of Attached Photographs (if applicable): None applicable.

Applicable Regulatory References

NPDES Permit No.: Consent Decree Part 18.f.i "The operation and maintenance plan shall also include an estimate of anticipated annual maintenance costs for upkeep of Post-Construction BMP measures."

SWMPP: n/a

Hawaii Administrative Rules (HAR): n/a

Code of Federal Regulations (CFR): n/a

Draft Notice of Deficiency

Deficiency Tracking #: 18

Related Permit(s): Honolulu Harbor

Deficiency Narrative Description:

The written O&M plan for the trench drain filter inspected at Pier 29 on 2 June 2017 indicates that filters that are brown or black and show visible signs of contamination should be changed. Harbors Division's MS4 Permit Coordinator indicated that the filter was last replaced in 2015. The filter was observed to be black during the inspection, but was not replaced during the inspection, nor flagged for replacement.

After the on-site evaluation, Harbors Division provided the following additional information:

"Using the color change (i.e., brown or black) to the originally grey filter socks does not work in container cargo yards because the types of sediments generated by the container-handling equipment and other vehicles is largely black, pulverized rubber. A more practicable and economical means for determining when the ABT FirstFlush Filter socks should be replaced is to observe – after cleaning - if they are torn, excessively frayed or clogged badly and thus no longer effective in removing sediments. The HAR-OCG crew has adopted this practice for Pier 29 ABT filter replacement."

Recommendations for Improvement:

Harbors Division should modify their written O&M plans to reflect actual O&M procedures.

Description of Attached Photographs (if applicable): Photographs attached show the subject trench drain filter at Pier 29 after being cleaned and before being placed back in the trench.

Applicable Regulatory References:

NPDES Permit No.:

Consent Decree Part 18.b.i. "The Post-Construction Stormwater Management Program Plan shall include: 5) a plan for long-term Operation and Maintenance as described in Paragraph 18.f below,..."

Consent Decree Part 18.f.i "General. By entry of the Consent Decree, HDOT-Harbors shall ensure that all New Development and Redevelopment Projects subject to post-construction control measures requirements have an operation and maintenance plan, monitoring plan where applicable, and a process of verification of ongoing maintenance of installed controls."

SWMPP: Section 5 of Post-Construction Manual "For Harbors project, O&M will be provided by Oahu District and/or HAR-EM consistent with the projects O&M plan that was submitted and approved as part of the project review and approval process."

Hawaii Administrative Rules (HAR): HAR 11-55 Appendix K Part 6.(a)(5)(C) "Develop, implement, and enforce a program to reduce pollutants in stormwater runoff entering the permittee's small municipal separate storm sewer system from new development and redevelopment projects that disturb greater than or equal to one acre, including construction sites less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more, that, at a minimum, includes the following: Procedures for long-term operation and maintenance of best management practices."

Code of Federal Regulations (CFR): 40 CFR 122.34(b)(5)(i)(C) "40 CFR 122.34(b)(5)(i)(C) "At a minimum, the permit must require the permittee to: Ensure adequate long-term operation and maintenance of BMPs."

40 CFR 122.34(b)(5)(ii) "EPA recommends that the permit ensure the appropriate implementation of the structural BMPs by considering some or all of the following: Post-construction inspection and maintenance of BMPs..."



Draft Notice of Deficiency

Deficiency Tracking #: 19

Related Permit(s): Honolulu Harbor

Deficiency Narrative Description:

The written O&M plan for the trench drain filter that was inspected at Pier 29 on 2 June 2017 indicates that filters that are brown or black and show visible signs of contamination should be changed. However, the CityWorks inspection process for this PBMP flags the trench drain for maintenance *only* when more than 6 inches of material have accumulated on the filter. There appears to be a disconnect between the written O&M plan and CityWorks in this regard. As such, the written O&M plan is not being fully implemented.

Recommendations for Improvement:

Harbors Division should modify their written O&M plans and/or CityWorks inspection process to reflect actual O&M procedures.

Description of Attached Photographs (if applicable): None applicable.

Applicable Regulatory References:

NPDES Permit No.: Consent Decree Part 18.b.i. "The Post-Construction Stormwater Management Program Plan shall include: 5) a plan for long-term Operation and Maintenance as described in Paragraph 18.f below,..."

Consent Decree Part 18.f.i "General. By entry of the Consent Decree, HDOT-Harbors shall ensure that all New Development and Redevelopment Projects subject to post-construction control measures requirements have an operation and maintenance plan, monitoring plan where applicable, and a process of verification of ongoing maintenance of installed controls."

SWMPP: Section 5 of Post-Construction Manual "For Harbors project, O&M will be provided by Oahu District and/or HAR-EM consistent with the projects O&M plan that was submitted and approved as part of the project review and approval process."

Hawaii Administrative Rules (HAR): HAR 11-55 Appendix K Part 6.(a)(5)(C) "Develop, implement, and enforce a program to reduce pollutants in stormwater runoff entering the permittee's small municipal separate storm sewer system from new development and redevelopment projects that disturb greater than or equal to one acre, including construction sites less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more, that, at a minimum, includes the following: Procedures for long-term operation and maintenance of best management practices."

Code of Federal Regulations (CFR): 40 CFR 122.34(b)(5)(i)(C) "40 CFR 122.34(b)(5)(i)(C) "At a minimum, the permit must require the permittee to: Ensure adequate long-term operation and maintenance of BMPs."

40 CFR 122.34(b)(5)(ii) "EPA recommends that the permit ensure the appropriate implementation of the structural BMPs by considering some or all of the following: Post-construction inspection and maintenance of BMPs..."

Draft Notice of Deficiency

Deficiency Tracking #: 20

Related Permit(s): Honolulu Harbor

Deficiency Narrative Description:

Harbors Division's MS4 Permit Coordinator had difficulties providing requested records. This was reported to be due to the fact that MS4 permit records and documents are stored in multiple places within Harbors Division. This makes it difficult for Harbors Division staff to access records and documents as needed, and represents a liability in case a more formal EPA/DOH compliance audit occurs.

Recommendations for Improvement:

Harbors Division should consider implementing a more robust document management system so that the MS4 Permit Coordinator has easy access to MS4 permit records and documents.

Description of Attached Photographs (if applicable): None applicable.

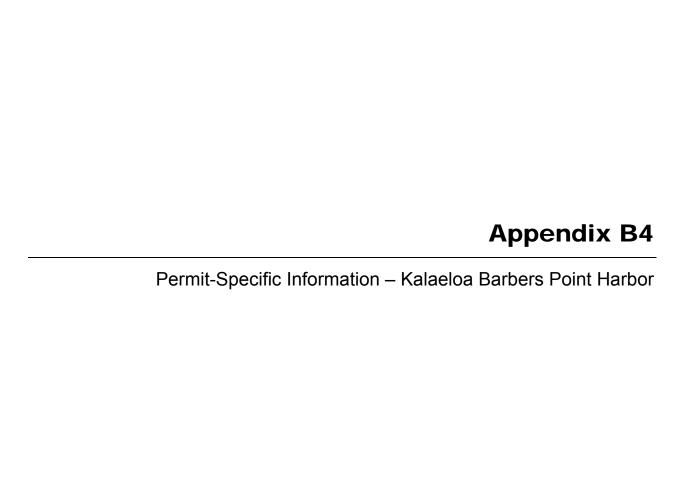
Applicable Regulatory References:

NPDES Permit No.: n/a

SWMPP: n/a

Hawaii Administrative Rules (HAR): n/a

Code of Federal Regulations (CFR): n/a



Appendix B4: Permit-Specific Information - Kalaeloa Barbers Point Harbor

1. Key Documents

Permit	4. Kalaeloa Barbers Point Harbor		
Document	Small MS4 Permit HI 03KB488		
2016 Annual Report	 a. 20170127.Compliance Submission of Reports and Documents-HI03KB488.PDF b. 20170127.Contents of CD for Compliance Submission of Reports and Documents-HI03KB488_Part1.pdf c. 20170127.Contents of CD for Compliance Submission of Reports and Documents-HI03KB488_Part2.pdf d. 20170127.Contents of CD for Compliance Submission of Reports and Documents-HI03KB488_Part3.pdf e. 20170127.Contents of CD for Compliance Submission of Reports and Documents-HI03KB488_Part4.pdf f. 20170127.Contents of CD for Compliance Submission of Reports and Documents-HI03KB488_Part5.pdf 		
Action Plan for Retrofitting Structural BMPs	Not applicable to this permit		
BMP Manual	2014 Post Construction SW Manual_Final.pdf		
BMP Standards and Technical Specifications (Consent Decree Part 18.c.S1)	2014 Post Construction SW Manual_Final.pdf		
Consent Decree	HDOT Harbors 2014 Consent Decree.pdf		
Construction Best Management Practices Field Manual	Not applicable to this permit		
DOH Comments on 2016 Annual Report	None received.		
Enforcement Response Plan.	Page 399 of 1085 Final HDOT Harbors SWMP-150325.pdf		
Maintenance plan for vegetated portions of the drainage system used for erosion and sediment control, and LID features	Not applicable to this permit		

Appendix B4: Permit-Specific Information - Kalaeloa Barbers Point Harbor

Permit	4. Kalaeloa Barbers Point Harbor
Document	Small MS4 Permit HI 03KB488
Map of MS4	Page 90 of 1085 Final HDOT Harbors SWMP-150325.pdf
Memoranda of Understanding or Agreement	MOA- Harbors.pdf
Organizational charts	Page 21 of 1085 Final HDOT Harbors SWMP-150325.pdf
Permanent Post-Construction BMP Checklist (Consent Decree Part 18.b.i.S4)	Permanent Post-Construction BMP Plan Checklist.pdf
Permit	December 2016 extension is here: 20161202.03KB488.EXT.16.pdf
Plan for Requiring LID in Standards	Not applicable to this permit
Plan Review Checklist	a. Construction Site Design Review Checklist.pdf b. Construction Site BMP Inspection Checklist_20150722.pdf Permanent Post-Construction BMP Plan Checklist.pdf
Previous Audit Findings	HDOT Harbors Audit 2009.pdf
SWMPP	Final HDOT Harbors SWMP-150325.pdf
Website	http://hidot.hawaii.gov/harbors/library/storm-water-management/

Appendix B4: Permit-Specific Information - Kalaeloa Barbers Point Harbor

2. Sections of Key Documents Found Relevant for PEAR 1

Document Name (Original File Name)	Sections/Pages Relevant to PEAR 1
2015 Stormwater Management Plan (March 2015) (Final HDOT Harbors SWMP-150325.pdf) Letter regarding Program Audit of the Hawaii Department of Transportation, Harbors Division, Stormwater Management Program, Transmittal of Audit Report (23 March 2009)	Section 2.4 Section 2.5 BMP Table 2-5 Table 2-5 Section 3.2.4 Section B, Attachment 1, Section 3.2 Section C, Figure 2-1 Section C, Section 3.0 Section C, Section 4.2 Section C, Section 4.4.3 Section C, Section 5.2 Section C, Attachment 1 Section C, Attachment 2 Section C, Attachment 3 Section C, Attachment 4 Section C, Attachment 5 Section C, Attachment 7, page 6 Section D – in entirety Enclosure, Section 2.0 Enclosure, Section 2.5
(HDOT Harbors Audit 2009.pdf) Memorandum of Understanding Between Department of Transportation, Harbors Division, State of Hawaii and Department of Health, State of Hawaii (April/May 2015) (MOA- Harbors.pdf)	No discussion of PEAR 1 topics
2016 Annual Compliance Report, Storm Water Management Program (January 2017) (20170127.Contents of CD for Compliance Submission of Reports and Documents-HI03KB482_Part1.pdf)	Part II, 2 (page 10) Part II, 7 (page 14) Part V (pages 32, 33) Part VI Part V, 1 (pages 42, 43) Part V, 3 (page 45) Part V, 7 (page 49) HDOT-Harbors 2016 Tenant Stormwater Awareness Training Slide 48, Construction/Post-Construction
2016 Annual Compliance Report, Storm Water Management Program (January 2017) (20170127.Contents of CD for Compliance Submission of Reports and Documents- HI03KB482_Part2.pdf)	Attachment 6a. Construction Training Presentation Slides

Appendix B4: Permit-Specific Information - Kalaeloa Barbers Point Harbor

Document Name	
(Original File Name)	Sections/Pages Relevant to PEAR 1
2016 Annual Compliance Report, Storm	Attachment 15. DOT Harbors Projects
Water Management Program (January	Review Inventory
2017)	Attachment 17. Kalealoa Harbor Stockpile
(20170127.Contents of CD for Compliance	Inspection Report
Submission of Reports and Documents-	Attachment 19. MS4 and Permanent BMP
HI03KB482_Part3.pdf)	Inspection Log

Appendix B4: Permit-Specific Information – Kalaeloa Barbers Point Harbor

3. On-Site Evaluation

5 June 2017

On 5 June 2017, the Audit Team held a kickoff meeting at Kalaeloa Harbor with Harbors Division staff (Spencer Yim, Joy Zhang). Photographs taken during the On-Site Evaluation can be found in Section 4 below.

PBMP 4.1 GLP Asphalt Facility

The Audit Team drove to the GLP Asphalt Facility to inspect a series of gravel swales at that tenant facility (hereinafter referred to as PBMP 4.1). The Audit Team was accompanied by the facility's operations manager Sara Daniels. The gravel swales are not formally recognized as PBMPs in Harbors Division's program because they were not built in response to development/redevelopment of greater than an acre. The swales also predate the requirement for PBMPs. Nonetheless, Harbors Division indicated that the Audit Team should review this PBMP as it was the only feature at Kalaeloa Harbor which could potentially fit the scope of the audit.

Because PBMP 4.1 is not a formal PBMP, it is not tracked in CityWorks, nor specifically noted in Stormwater Pollution Control Plan (SWPCP) or Spill Prevention Control and Countermeasures (SPCC) Plan inspections. It is also not discussed in lease agreements between the tenant and Harbors Division. According to the operations manager, the swales were constructed with 4 to 6 inches of gravel, and there has been no need to replace the gravel since it was installed over 10 years ago.

Appendix B4: Permit-Specific Information - Kalaeloa Barbers Point Harbor

1	O m	Cita	E./0	lustion	Photos
4.	On-	Site	Eva	iuation	Photos

Photographs are provided below.

Photo Log Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am

Photographer: Cale Yamada





PBMP 4.1 Photo 4.1.1 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.3 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.2 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.4 **GLP Asphalt Facility Gravel Swale**

Photo Log Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am

Photographer: Cale Yamada





PBMP 4.1 Photo 4.1.5 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.7 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.6 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.8 **GLP Asphalt Facility Gravel Swale**

Photo Log Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am

Photographer: Cale Yamada



PBMP 4.1 Photo 4.1.9 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.11 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.10 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.12 **GLP Asphalt Facility Gravel Swale**

Photographer: Cale Yamada



PBMP 4.1 Photo 4.1.13 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.15 **GLP Asphalt Facility Gravel Swale**

Kennedy/Jenks Consultants Engineers & Scientists



PBMP 4.1 Photo 4.1.14 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.16 **GLP Asphalt Facility Gravel Swale**

Photographer: Cale Yamada



PBMP 4.1 Photo 4.1.17 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.19 **GLP Asphalt Facility Gravel Swale**

Kennedy/Jenks Consultants **Engineers & Scientists**



PBMP 4.1 Photo 4.1.18 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.20 **GLP Asphalt Facility Gravel Swale**

Photographer: Cale Yamada





PBMP 4.1 Photo 4.1.21 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.23 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.22 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.24 **GLP Asphalt Facility Gravel Swale**

Photographer: Cale Yamada



PBMP 4.1 Photo 4.1.25 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.27 **GLP Asphalt Facility Gravel Swale**

Kennedy/Jenks Consultants Engineers & Scientists



PBMP 4.1 Photo 4.1.26 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.28 **GLP Asphalt Facility Gravel Swale**

Photographer: Cale Yamada



PBMP 4.1 Photo 4.1.29 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.31 **GLP Asphalt Facility Gravel Swale**

Kennedy/Jenks Consultants Engineers & Scientists



PBMP 4.1 Photo 4.1.30 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.32 **GLP Asphalt Facility Gravel Swale**

Photographer: Cale Yamada





PBMP 4.1 Photo 4.1.33 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.35 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.34 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.36 **GLP Asphalt Facility Gravel Swale**

Photographer: Cale Yamada





PBMP 4.1 Photo 4.1.37 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.39 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.38 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.40 **GLP Asphalt Facility Gravel Swale**

Photographer: Cale Yamada



PBMP 4.1 Photo 4.1.41 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.43 **GLP Asphalt Facility Gravel Swal**

Kennedy/Jenks Consultants **Engineers & Scientists**



PBMP 4.1 Photo 4.1.42 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.44 **GLP Asphalt Facility Gravel Swale**

Photographer: Cale Yamada





PBMP 4.1 Photo 4.1.45 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.47 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.46 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.48 **GLP Asphalt Facility Gravel Swale**

Photographer: Cale Yamada



PBMP 4.1 Photo 4.1.49 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.51 **GLP Asphalt Facility Gravel Swale**



Kennedy/Jenks Consultants

Engineers & Scientists

PBMP 4.1 Photo 4.1.50 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.52 **GLP Asphalt Facility Gravel Swale**

Photographer: Cale Yamada





PBMP 4.1 Photo 4.1.53 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.55 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.54 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.56 **GLP Asphalt Facility Gravel Swale**

Photographer: Cale Yamada





Photo 4.1.57 **PBMP 4.1 GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.59 **GLP Asphalt Facility Gravel Swale**



Photo 4.1.58 **PBMP 4.1 GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.60 **GLP Asphalt Facility Gravel Swale**

Photographer: Cale Yamada



PBMP 4.1 Photo 4.1.61 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.63 **GLP Asphalt Facility Gravel Swale**

Kennedy/Jenks Consultants Engineers & Scientists



PBMP 4.1 Photo 4.1.62 GLP Asphalt Facility Gravel Swale

Appendix B4: Permit-Specific Information - Kalaeloa Barbers Point Harbor

5. Potential Violations

There are no Potential Violations identified for this permit.

6. Deficiencies

There are no Deficiencies identified for this permit.

Attachment 26 PEAR 1 Final Report for Honolulu Harbor and Kalaeloa Barbers Point Harbor



Final Program Element Audit Report (PEAR) No. 1

Post-Construction Runoff Control / Permanent Best Management Practices

State Project No. OSC-15-01

September 2017

Prepared by

Kennedy/Jenks Consultants

Prepared for

State of Hawaii

Department of Transportation

Office of Environmental Compliance

869 Punchbowl Street Honolulu, Hawaii 96813

K/J Project No. 1696025*00

Table of Contents

List of Figures.			i		
List of Append	ices		i		
List of Acronyr	ns		ii		
Section 1:	Intro	oduction	1		
Section 2:	Methods (CD Appendix A Section D.7.a.)2				
	2.1	Pre-Audit			
		2.1.1 Notice of Audit	2		
		2.1.2 Records Request	2		
		2.1.3 Records Review			
	2.2	On-Site Evaluation			
		2.2.1 Pre-On-Site Evaluation Conference Call 2.2.2 On-Site Evaluation			
		2.2.3 Post-On-Site Evaluation Review Period	 ج		
	2.3	Reporting			
		2.3.1 Draft PEAR	3		
		2.3.2 Final PEAR	3		
Section 3:	Key Findings (CD Appendix A Section D.7.b. – e.)4				
	3.1	Identification of Potential Violations and Deficiencies			
		(CD Appendix A Section D.7.c.)	4		
		3.1.1 Potential Violations			
	0.0	3.1.2 Deficiencies	4		
	3.2	Best Practices and Opportunities (CD Appendix A Section D.7.d.)	,		
	3.3	Implementation (CD Appendix A Section D.7.e)	4 F		
	3.4	Retrospective Analysis (CD Appendix A Section D.7.b.)			
	3.5	Positive Program Elements			

Table of Contents (cont'd)

List of Figures

Figure 1-1 Organizational Chart

List of Appendices

- A Project Milestones and Deadlines
- B1 Permit-Specific Information Kahului Airport
- B2 Permit-Specific Information Daniel K. Inouye International Airport
- B3 Permit-Specific Information Honolulu Harbor
- B4 Permit-Specific Information Kalaeloa Barbers Point Harbor
- B5 Permit-Specific Information Highways Maui District
- B6 Permit-Specific Information Highways Oahu District
- C Revised Audit Work Plan, November 2016

List of Acronyms

AOA Air Operations Area

AMS Asset Management System

AWP Audit Work Plan
CD Consent Decree

DOH State of Hawaii Department of Health

EPA United States Environmental Protection Agency
HDOT State of Hawaii Department of Transportation
MS4 Municipal Separate Storm Sewer System

O&M Operation and Maintenance

PBMP post-construction best management practice

PEAR Program Element Audit Report

PM Project Manager State State of Hawaii

SWMPP Stormwater Management Program Plan

Section 1: Introduction

Under Paragraph 10.d of the Consent Decree (Civil Action 1:14-CV-00408-JMS-KSC) entered on 5 November 2014 (CD) with the United States Environmental Protection Agency (EPA) and the State of Hawaii (State) Department of Health (DOH), the State of Hawaii Department of Transportation (HDOT) was required to perform compliance audits of Municipal Separate Storm Sewer System (MS4) permits issued to HDOT's Airports, Highways, and Harbors Divisions (referred to herein as the singular "MS4 Permit Audit"). The ongoing MS4 Permit Audit is being conducted in accordance with an Audit Work Plan (AWP) approved by EPA and DOH on 31 October 2016 and provided as Appendix C of this report. The MS4 Permit Audit consists of individual audits of six program elements:

- 1. Post-Construction Runoff Control / Permanent Best Management Practices
- Construction Site Runoff Control
- 3. Public Outreach / Public Involvement
- 4. Illicit Discharge Detection and Elimination (IDDE) Program Element and Industrial Commercial Activities/Tenant (I/C) Program
- 5. Pollution Prevention / Good Housekeeping Program
- 6. Staffing, Funding, Organizational Structure, Availability of Resources, and Storm Water Program Sustainability

This Program Element Audit Report (PEAR) 1 documents procedures and findings of the Post-Construction Runoff Control / Permanent Best Management Practices audit.

Figure 1-1 provides an updated organizational chart defining the HDOT staff (presented in blue) and Audit Team (Kennedy/Jenks staff, presented in tan) involved in the MS4 Permit Audit.

Final PEAR # 1 - Post-Construction Runoff Control / Permanent Best Management Practices w\2016\1696025.00_hdot_sw_audits\2017_pear_1_rpft1.pear_1_final_report.doc

Section 2: Methods (CD Appendix A Section D.7.a.)

As required in CD Appendix A Section D.7.a., this section includes a specific statement of the procedures followed, HDOT sites and activities visited and materials reviewed during the Audit. Additional details on specific dates can be found in Appendix A. Additional permit-specific details can be found in Appendices B1 – B6. The Audit Team reviewed the individual program element for the six permitted MS4 programs concurrently, developing a PEAR that represents the culmination of the auditing efforts across the three HDOT Divisions. The Program Element Audit included three phases (Pre-Audit, On-Site Evaluation, and Reporting), detailed in the following sections.

2.1 Pre-Audit

2.1.1 Notice of Audit

The Audit Team began by providing a Notice of Audit to the MS4 Permit Coordinators via email. The Audit Team requested that the MS4 Permit Coordinators review two key documents.

First, the Audit Team created a table of Governing Regulations which included sections of the Federal regulations, HDOT's MS4 permits, and the CD that were deemed applicable to PEAR 1. This table was used in conjunction with the guiding questions in Appendix B of the AWP to informally track the results from the evaluation. The MS4 Permit Coordinators provided comment on this table.

Second, the Audit Team developed a list of documents to be consulted for the Records Request. The Audit Team asked the MS4 Permit Coordinators to confirm that the Audit Team had identified the most updated and suitable documents. The Audit Team finalized this list of documents based on feedback from the MS4 Permit Coordinators. This list is provided in Section 1 of Appendices B1 – B6.

2.1.2 Records Request

The Audit Team next reviewed the key documents and identified those sections relevant to PEAR 1 (provided in Section 2 of Appendices B1 – B6). Based on this review, the Audit Team developed a Records Request that was shared with the MS4 Permit Coordinators.

2.1.3 Records Review

The MS4 Permit Coordinators responded to the Records Request and the Audit Team completed an initial review of the records received. The Audit Team next sent Requests for Clarification. The Audit Team also conducted in-person meetings with MS4 Permit Coordinators during this timeframe. MS4 Permit Coordinators provided additional information and records in response to this second request. The Audit Team then completed their review of records received.

2.2 On-Site Evaluation

2.2.1 Pre-On-Site Evaluation Conference Call

The Audit Team and HDOT Project Manager (PM) contacted the MS4 Permit Coordinators to confirm schedules, address questions and security concerns, confirm personnel safety equipment needed, and organize training and orientation briefings that were anticipated to be required.

2.2.2 On-Site Evaluation

Additional details on specific sites visited during the On-Site Evaluations and associated photos can be found in Sections 3 and 4, respectively, of Appendices B1 – B6.

2.2.3 Post-On-Site Evaluation Review Period

Following the On-Site Evaluations, the Audit Team reviewed the findings of the Pre-Audits and On-Site Evaluations and addressed any final evaluation-related tasks that were noted. This review period completed the evaluation of the program element, as referenced in CD Appendix A, Section B.5.

2.3 Reporting

2.3.1 Draft PEAR

Pursuant to the CD, the Audit Team prepared a draft PEAR 1 and transmitted it to the HDOT PM, who distributed copies of the draft PEAR to the appropriate MS4 Permit Coordinators. The MS4 Permit Coordinators reviewed the draft PEAR and distributed the report to key personnel for their review (at the discretion of the MS4 Permit Coordinators). The MS4 Permit Coordinators submitted to the HDOT PM a consolidated written request for clarification and corrections to the draft PEAR for their respective permit. Finally, the HDOT PM submitted the consolidated requests and corrections to the Audit PM.

2.3.2 Final PEAR

The Audit Team made appropriate changes to the draft PEAR and submitted the final PEAR.

Section 3: Key Findings (CD Appendix A Section D.7.b. – e.)

As required in CD Appendix A Section D.7.b. -e., this section includes details on the key findings of the MS4 Permit Audit for PEAR 1.

There were no areas where the Audit Team was unable to assess compliance with a program component due to the limitations of the MS4 program evaluation process. Unless otherwise noted below or in Appendices B1 – B6 of this report, the Audit Team found HDOT's permittees in compliance with their permit obligations.

3.1 Identification of Potential Violations and Deficiencies (CD Appendix A Section D.7.c.)

As required in CD Appendix A Section D.7.c., this section includes an identification of Deficiencies and Potential Violations related to the applicable Stormwater Management Programs Plans (SWMPPs), the CD, and/or applicable permit and regulations, and recommendations for improvement.

3.1.1 Potential Violations

A Potential Violation is defined in the AWP as an area where the evaluation found the permittee not in compliance with a specific SWMPP commitment, the CD, and/or permit and regulations.

Confirmed Potential Violations identified by the Audit Team and associated Corrective Actions proposed by HDOT are provided in Section 5 of Appendices B1 – B6. Section 6.3 of the AWP further discusses HDOT's response to these Deficiencies, as required by CD Appendix A Section E.1.

3.1.2 Deficiencies

A Deficiency is defined in the AWP as item which, if not corrected, may lead to Potential Violations.

Confirmed Deficiencies identified by the Audit Team and associated Corrective Actions proposed by HDOT are included in Section 6 of Appendices B1 – B6. For each Deficiency, the Audit Team's recommendations for improvement are also provided. Section 6.4 of the AWP further discusses HDOT's response to these Deficiencies, as required by CD Appendix A Section E.2.

3.2 Best Practices and Opportunities (CD Appendix A Section D.7.d.)

As required in CD Appendix A Section D.7.d., this section includes an identification of best practices and opportunities for information/technology transfer to be applied across the Divisions.

During the Audit, the Audit Team noted several areas where best practices may be considered across the Divisions.

- Airports Division should consider adopting Highways Oahu District's practice of storing screen shots of the date/time when their documents have been uploaded to their website to satisfy the public review requirements of their permit. This is further discussed in Deficiency Tracking #15.
- 2. The three Divisions should consider inspecting/maintaining all post-construction best management practices (PBMPs) routinely, regardless of whether construction of the PBMP was required by design criteria or constructed for other reasons (and therefore not subject to the full requirements of the PBMP program).
- 3. The three Divisions should consider investigating whether adopting a common Asset Management System (AMS) may be beneficial. Each Division has invested considerable effort and resources to customize its own AMS to fit its needs. As such, the Audit Team understands that the three Divisions are committed to each of their AMSs and would be reluctant to change without a compelling reason. While each Division has unique operations and requirements, the Audit Team believes that programmatic requirements such as inspection tracking and reporting could be more easily standardized throughout HDOT if a common AMS were to be used. Such standardization may lead to more consistent compliance with MS4 permit requirements.
- 4. Harbors Division should consider creating custom operation and maintenance (O&M) plans that are unique to each PBMP, similar to Highways Oahu District. Presently, Harbor Division uses manufacturers' standard O&M plans that do not match their actual operations, which makes the manufacturers' standard plans less useful.
- 5. Individual permits for Airports Division (Daniel K. Inouye International Airport) and Highways Oahu District both require that permittees specifically assess whether lowimpact development (LID) approaches could be used for prospective PBMPs. Both Airports Division and Highways Oahu District's Design Review Checklists prompt for consideration of LID. However, should a waiver of LID requirements be issued, the Checklists do not require that permittees document which constraints eliminated the potential use of LID. Airports Division and Highways Oahu District should consider adding this content to their Checklists.

3.3 Implementation (CD Appendix A Section D.7.e)

As required in CD Appendix A Section D.7.e., this section includes an analysis of the practices implemented for each Division's program elements and a determination as to whether identified best practices can be universally implemented across all three Divisions. If best practices cannot be universally implemented, this section describes the identified impediments.

- 1. HDOT should consider scheduling a regular (quarterly or semi-annual) meeting for MS4 Permit Coordinators to meet in person or via tele-conference to discuss items of interest related to their common program elements. This could help facilitate dialogue among the Divisions and give staff the opportunity to share ideas and challenges.
- 2. HDOT should consider consolidating required training of HDOT staff, consultants and contractors related to PBMPs. The Audit Team found similar training requirements in the various permits. A common HDOT training session could reduce department-wide costs and lead to greater consistency.

3.4 Retrospective Analysis (CD Appendix A Section D.7.b.)

As required in CD Appendix A Section D.7.b., this section includes a retrospective analysis of activities that maybe outmoded, ineffective, insufficient, or excessively burdensome, and recommendations to modify, streamline, or expand them in accordance with what has been learned.

Findings include the following:

- 1. Airports Division's current database system (Enviance) may not currently have the capabilities needed for Airports Division to comply with their MS4 permits. Specifically, the database system needs to be able to store O&M plans and photos. Currently, O&M plans and photos are filed in multiple subfolders and may be difficult to reference when necessary. The database system also needs to identify the location of PBMPs on a Geographic Information System. This is further discussed in Deficiency Tracking #12.
- 2. When Divisions utilize contractors to perform PBMP maintenance, these contractors should be held to the same high standards as Division staff would be held if they were to complete the maintenance themselves.
- 3. Airports and Harbors Divisions both would benefit from a review of their document management systems. At Airports Division, certain forms related to PEAR #1 were filled out and then discarded. At Harbors Division, staff had trouble finding certain requested documents during the 29-day records request period. These examples represent a potential liability in the case of a more formal EPA/DOH compliance audit. This is further discussed in Deficiency Tracking #14 and 20.
- 4. In the past, considerable staff turnover and limited transition/succession planning have led to certain PEAR #1 program elements being unsupported at Airports Division.
- 5. All three Divisions should consider posting educational signage adjacent to PBMPs that receive foot traffic from the public or HDOT employees. The signage can address public education permit requirements, as well as help ensure that PBMPs are not inadvertently damaged by activities conducted in the area. Existing examples of such signage can be found at Highways Oahu District's District Office rain garden. Airports may consider signage adjacent to PBMPs outside the Airport Operations Area (AOA), such as the Kalewa Street bioswale system and Elliot Street pervious pavement installation. The

- Audit Team acknowledges that due to safety concerns at active highways, airports, and harbors, signage may not be appropriate for PBMPs at all locations.
- 6. Airports Division should identify staff and fiscal resources for maintaining PBMPs in perpetuity. Airports' MS4 Permit Coordinators indicated that the HDOT staff assigned to maintain PBMPs are often overwhelmed with other tasks, and as a result, PBMPs may not be maintained in a timely fashion.

3.5 Positive Program Elements

HDOT staff were helpful and cooperative in responding to requests for information, scheduling and coordinating on-site audits, etc. HDOT staff were receptive to audit findings shared to date and interested in improving their MS4 programs. The Audit Team specifically identified several positive program elements:

- 1. Highways Oahu District creates excellent PMBP-specific O&M manuals and inspection sheets that are clear, concise, and effective.
- 2. The three Divisions include all PBMPs in their formal PBMP program, even if the construction of the PBMP was not prompted by program requirements.
- Airports Divisions' 2011 PBMP Checklist allowed user to specify their own "Other" exemption. Airports Division later removed this exemption from the checklist, reducing the likelihood that proposed projects could write in their own exemptions to permit requirements.
- 4. Airports Division provided an excellent example of a response to insufficient PBMP maintenance. In early 2017, the MS4 Permit Coordinator was made aware that cars were parking on top of the bioswales at the Kalewa Street Lot. This was impeding the function of the bioswales. The MS4 Permit Coordinator effectively reached out to the tenant at the facility, who cordoned off the area to encourage employees to park only on the pavement.
- 5. Despite recent turnover, remaining Airports Division staff and newly hired staff are committed to growing the MS4 Program and are striving to achieve compliance with its MS4 Permits.
- 6. Harbors Division contains excellent language in their Permit for Connection to the State Harbors Drainage System that allows for leverage to pursue enforcement actions should a tenant or licensee neglect their PBMP obligations.
- 7. Harbors Division provided an excellent Corrective Action schedule for Potential Violation #7, which was highlighted by EPA Region 9 as an example to be followed for the rest of the MS4 Permit Audit.

Appendix A Project Milestones and Deadlines

Appendix A: PEAR 1 Project Milestones and Deadlines

Appendix A of the Consent Decree (CD) defines various project milestones and deadlines, described for ease of reference below:

Table 2-1 CD Appendix A Deadlines

Program Element	Evaluation Complete: (a)	Draft PEAR to HDOT: (d)	HDOT Review of Draft PEAR: (e)	Final PEAR to HDOT: (f)
PEAR #1: Post-Construction Runoff Control / Permanent Best Management Practices	3 Months (90 Days) (b) After AWPC ^(c)	135 Days After AWPC 28 July	165 Days After AWPC 27 August	210 Days After AWPC 14 September
best Management Fractices	2017	2017	2017	2017

Notes:

- (a) "Evaluation" as referenced in CD Appendix A Section B.5. is defined to represent the conclusion of the Post-On-Site Evaluation Review Period.
- (b) "Months" are based on 30-day month.
- (c) AWPC = Audit Work Plan Commencement (15 March 2017)
- (d) Pursuant to CD Appendix A Section D.2., Kennedy/Jenks completed a draft audit report and transmitted it to HDOT within 45 days of completing the audit of this program element [defined as the conclusion of "evaluation", as discussed in Note (a)].
- (e) Pursuant to CD Appendix A Section D.3., HDOT reviewed the draft PEAR to correct any factual inaccuracies within 30 days of receipt.
- (f) Pursuant to CD Appendix A Section D.4., Kennedy/Jenks completed a final PEAR within 120 days of completing the audit of the program element [defined as the conclusion of "evaluation", as discussed in Note (a)].

Milestone	Date Completed
Notice of Audit	22 March 2017
Records Request	29 March 2017
Response to Records Request	27 April 2017
Request for Clarification on Records	11 May 2017
Completion of Records Review	18 May 2017
Pre-On-Site Evaluation Conference Call	18 May 2017
On-Site Evaluation	30 May 2017 to 9 June 2017
End of Post-On-Site Evaluation Review Period	13 June 2017
Draft Potential Violations to HDOT PM	26 June 2017
Notice of Corrective Action to EPA/DOH	10 July 2017
Draft PEAR to HDOT PM	28 July 2017
MS4 Permit Coordinator Comments to Audit Team	25 August 2017
Final PEAR to HDOT PM	14 September 2017



Permit-Specific Information – Honolulu Harbor

1. Key Documents

Permit	3. Honolulu			
	Harbor			
	Small MS4			
	Permit			
Document				
	HI 03KB482			
	a. 20170127.Compliance Submission of Reports and			
	Documents-HI03KB482.pdf b. 20170127.Contents of CD for Compliance			
	Submission of Reports and Documents-			
	HI03KB482_Part1.pdf			
	c. 20170127.Contents of CD for Compliance			
	Submission of Reports and Documents-			
0040 4 15 4	HI03KB482_Part2.pdf			
2016 Annual Report	d. 20170127.Contents of CD for Compliance			
	Submission of Reports and Documents- HI03KB482_Part3.pdf			
	e. 20170127.Contents of CD for Compliance			
	Submission of Reports and Documents-			
	HI03KB482_Part4.pdf			
	f. 20170127.Contents of CD for Compliance			
	Submission of Reports and Documents-			
Action Plan for Retrofitting	HI03KB482_Part5.pdf			
Structural BMPs	Not applicable to this permit			
BMP Manual	2014 Post Construction SW Manual_Final.pdf			
BMP Standards and	2014 Post Construction SW Manual_Final.pdf			
Technical Specifications				
(Consent Decree				
Part 18.c.S1)	LIDOT Harbors 2044 Consort Decree			
Consent Decree Construction Best	HDOT Harbors 2014 Consent Decree.pdf			
Management Practices Field	Not applicable to this permit			
Manual				
DOH Comments on 2016	None received.			
Annual Report				
Enforcement Response Plan.	Page 399 of 1085			
	Final HDOT Harbors SWMP-150325.pdf			
Maintenance plan for	Not applicable to this permit			
vegetated portions of the drainage system used for				
erosion and sediment				
control, and LID features				
	Page 89 of 1085			
Map of MS4	Final HDOT Harbors SWMP-150325.pdf			

Permit	3. Honolulu Harbor			
Document	Small MS4 Permit HI 03KB482			
Memoranda of Understanding or Agreement	MOA- Harbors.pdf			
Organizational charts	Page 21 of 1085 Final HDOT Harbors SWMP-150325.pdf			
Permanent Post- Construction BMP Checklist (Consent Decree Part 18.b.i.S4)	Permanent Post-Construction BMP Plan Checklist.pdf			
Permit	December 2016 extension is here: 20161202.03KB482.EXT.16.pdf			
Plan for Requiring LID in Standards	Not applicable to this permit			
Plan Review Checklist	 a. Construction Site Design Review Checklist.pdf b. Construction Site BMP Inspection Checklist_20150722.pdf c. Permanent Post-Construction BMP Plan Checklist.pdf 			
Previous Audit Findings	HDOT Harbors Audit 2009.pdf			
SWMPP	Final HDOT Harbors SWMP-150325.pdf			
Website	http://hidot.hawaii.gov/harbors/library/storm-water-management/			

2. Sections of Key Documents Found Relevant for PEAR 1

Document Name (Original File Name)	Sections/Pages Relevant to PEAR 1
2015 Stormwater Management Plan (March 2015)	Section 2.4 Section 2.5
(Final HDOT Harbors SWMP-150325.pdf)	BMP Table 2-5 Table 2-5 Section 3.2.4 Section B, Attachment 1, Section 3.2 Section C, Figure 2-1 Section C, Section 3.0 Section C, Section 4.2 Section C, Section 4.4.3 Section C, Section 5.2 Section C, Attachment 1 Section C, Attachment 2 Section C, Attachment 3 Section C, Attachment 4 Section C, Attachment 5 Section C, Attachment 5 Section C, Attachment 7, page 6
Letter regarding Program Audit of the Hawaii Department of Transportation, Harbors Division, Stormwater Management Program, Transmittal of Audit Report (23 March 2009) (HDOT Harbors Audit 2009.pdf)	Section D – in entirety Enclosure, Section 2.0 Enclosure, Section 2.3.1 Enclosure, Section 2.5
Memorandum of Understanding Between Department of Transportation, Harbors Division, State of Hawaii and Department of Health, State of Hawaii (April/May 2015) (MOA- Harbors.pdf)	No discussion of PEAR 1 topics
2016 Annual Compliance Report, Storm Water Management Program (January 2017) (20170127.Contents of CD for Compliance Submission of Reports and Documents- HI03KB482_Part1.pdf)	Part II, 2 (page 10) Part II, 7 (page 14) Part V (pages 32, 33) Part VI Part V, 1 (pages 42, 43) Part V, 3 (page 45) Part V, 7 (page 49) HDOT-Harbors 2016 Tenant Stormwater Awareness Training Slide 48, Construction/Post-Construction
2016 Annual Compliance Report, Storm Water Management Program (January 2017) (20170127.Contents of CD for Compliance Submission of Reports and Documents-HI03KB482_Part2.pdf)	Attachment 6a. Construction Training Presentation Slides

Document Name	
(Original File Name)	Sections/Pages Relevant to PEAR 1
2016 Annual Compliance Report, Storm	Attachment 15. DOT Harbors Projects
Water Management Program (January 2017)	Review Inventory
(20170127.Contents of CD for Compliance	Attachment 17. Kalaeloa Harbor Stockpile
Submission of Reports and Documents-	Inspection Report
HI03KB482_Part3.pdf)	Attachment 19. MS4 and Permanent BMP
	Inspection Log

3. On-Site Evaluation

2 June 2017

On 2 June 2017, the Audit Team held a kickoff meeting at Pier 35 (Honolulu Harbor) with Harbors Division staff (Spencer Yim, Joy Zhang) and Pier 35 representatives (Matt Moore, Ross Barnes). Photographs taken during the On-Site Evaluation can be found in Section 4 below.

PBMP 3.1 Pier 35

The Audit Team observed as Harbors Division maintenance staff inspected and serviced a grated inlet skimmer box (GISB) and trench drain at Pier 35 (hereinafter referred to as PBMP 3.1). The Harbors Division's tenant (University of Hawaii) is responsible for maintenance of these PBMPs. Both PBMP technologies utilize a white absorbent boom to capture hydrocarbons. The maintenance staff used a vacuum truck to collect debris and wash-down water.

PBMP 3.2 Pier 31

Next, the Audit Team drove to Pier 31 where maintenance staff inspected a trench drain (hereinafter referred to as PBMP 3.2). According to Harbors Division's MS4 Permit Coordinator, this PBMP was last maintained 6 months ago. However, due to design constraints, the maintenance staff have been unable to access the absorbent filter sock located within the device. Therefore, this filter sock has not been replaced since the device was installed, despite the manufacturer recommendation that it be replaced annually. Harbors Division is aware of the issue and has chosen Pier 31 as one of their top three planned retrofits.

Due to tenant activity on 2 June 2017, the evaluation of the third Honolulu Harbor PBMP was conducted on 9 July 2017 (discussed below).

9 June 2017

The Audit Team met Harbors Division staff (Spencer Yim, Joy Zhang) at Pier 29 to evaluate the final Honolulu Harbors PBMP.

PBMP 3.3 Pier 29

According to Harbors Division's MS4 Permit Coordinator, planning for the Pier 29 facility occurred around 2009 and construction was completed in 2012. The Audit Team observed as maintenance staff inspected and serviced an inlet filter and trench drain filter (hereinafter referred to as PBMP 3.3). These devices are in a Harbors Division common area, and are therefore, maintained by Harbors Division and not by the tenant.

1	On-	Site	Eva	lust	ion	Dhe	the
4.	Un-	-Site	Eva	Iuat	lon.	PNC	IOS

Photographs are provided below.

Photo Log

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am

Photographer: Cale Yamada





PBMP 3.1 Photo 3.1.1 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.3 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.2 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.4 Pier 35 Grated Inlet Skimmer Box

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.1 Photo 3.1.5 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.7 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.6 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.8 Pier 35 Grated Inlet Skimmer Box

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.1 Photo 3.1.9 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.11 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.10 Pier 35 Grated Inlet Skimmer Box



Photo 3.1.12 **PBMP 3.1** Pier 35 Grated Inlet Skimmer Box

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am

Photographer: Cale Yamada

Kennedy/Jenks Consultants

Engineers & Scientists



PBMP 3.1 Photo 3.1.13 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.15 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.14 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.16 Pier 35 Grated Inlet Skimmer Box

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.1 Photo 3.1.17 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.19 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.18 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.20 Pier 35 Grated Inlet Skimmer Box

Facility: Honolulu Harbor, Honolulu, HI
Date Photos Taken: 02 June 2017 9am – 11am

Photographer: Cale Yamada



Photo 3.1.21 **PBMP 3.1** Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.23 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.22 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.24 Pier 35 Grated Inlet Skimmer Box

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.1 Photo 3.1.25 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.27 Pier 35 Grated Inlet Skimmer Box



Photo 3.1.26 **PBMP 3.1** Pier 35 Grated Inlet Skimmer Box



Photo 3.1.28 **PBMP 3.1** Pier 35 Grated Inlet Skimmer Box

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.1 Photo 3.1.29 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.31 Pier 35 Grated Inlet Skimmer Box

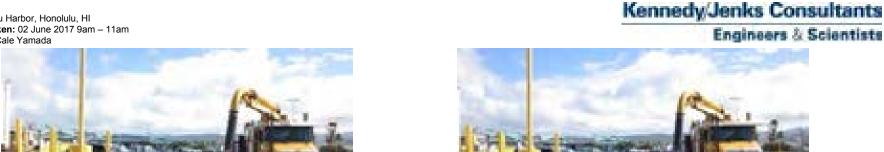


PBMP 3.1 Photo 3.1.30 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.32 Pier 35 Grated Inlet Skimmer Box

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am



PBMP 3.1 Photo 3.1.33 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.35 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.34 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.36 Pier 35 Grated Inlet Skimmer Box

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.37 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.39 Pier 35 Grated Inlet Skimmer Box

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Photo 3.1.38 **PBMP 3.1** Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.40 Pier 35 Grated Inlet Skimmer Box

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





Photo 3.1.41 **PBMP 3.1** Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.43 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.42 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.44 Pier 35 Grated Inlet Skimmer Bo

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.1 Photo 3.1.45 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.47 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.46 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.48 Pier 35 Grated Inlet Skimmer Box

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.1 Photo 3.1.49 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.51 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.50 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.52 Pier 35 Grated Inlet Skimmer Box

Facility: Honolulu Harbor, Honolulu, HI
Date Photos Taken: 02 June 2017 9am – 11am

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.53 Pier 35 Grated Inlet Skimmer Box



PBMP 3.1 Photo 3.1.55 Pier 35 Grated Inlet Skimmer Box



Photo 3.1.54 **PBMP 3.1** Pier 35 Grated Inlet Skimmer Box

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.1 Photo 3.1.56 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.58 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.57 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.59 Pier 35 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.60 Pier 35 Trench Drain



Photo 3.1.62 **PBMP 3.1** Pier 35 Trench Drain

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PBMP 3.1 Photo 3.1.61 Pier 35 Trench Drain



Photo 3.1.63 **PBMP 3.1** Pier 35 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am

Photographer: Cale Yamada

Kennedy/Jenks Consultants

Engineers & Scientists



PBMP 3.1 Photo 3.1.64 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.66 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.65 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.67 Pier 35 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am

Photographer: Cale Yamada



PBMP 3.1 Photo 3.1.68 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.70 Pier 35 Trench Drain



PBMP 3.1 Photo 3.1.69 Pier 35 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.2 Photo 3.2.1 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.3 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.2 Pier 31 Trench Drain



Photo 3.2.4 **PBMP 3.2** Pier 31 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.2 Photo 3.2.5 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.7 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.6 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.8 Pier 31 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.2 Photo 3.2.9 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.11 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.10 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.12 Pier 31 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





Photo 3.2.14 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.16 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.13 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.15 Pier 31 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.2 Photo 3.2.17 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.19 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.18 Pier 31 Trench Drain



Photo 3.2.20 **PBMP 3.2** Pier 31 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am

Photographer: Cale Yamada



PBMP 3.2 Photo 3.2.21 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.23 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.22 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.24 Pier 31 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.2 Photo 3.2.25 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.27 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.26 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.28 Pier 31 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.2 Photo 3.2.29 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.31 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.30 Pier 31 Trench Drain



Photo 3.2.32 **PBMP 3.2** Pier 31 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





Photo 3.2.33 **PBMP 3.2** Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.35 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.34 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.36 Pier 31 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am





PBMP 3.2 Photo 3.2.37 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.39 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.38 Pier 31 Trench Drain



Photo 3.2.40 **PBMP 3.2** Pier 31 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am

Photographer: Cale Yamada



PBMP 3.2 Photo 3.2.41 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.43 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.42 Pier 31 Trench Drain



PBMP 3.2 Photo 3.2.44 Pier 31 Trench Drain

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 02 June 2017 9am – 11am Photographer: Cale Yamada



PBMP 3.2 Photo 3.2.45 Pier 31 Trench Drain

Kennedy Jenks Consultants

Engineers & Scientists

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am

Photographer: Cale Yamada



Photo 3.3.1 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.3 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.2 Pier 29 Inlet & Trench Drain Filter



PBMP 3.3 Photo 3.3.4 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.5 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.7 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.6 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.8 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.9 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.11 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.10 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.12 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am

Photographer: Cale Yamada





Photo 3.3.13 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.15 Pier 29 Inlet & Trench Drain Filters



Engineers & Scientists

PBMP 3.3 Photo 3.3.14 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.16 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am

Photographer: Cale Yamada

Kennedy/Jenks Consultants

Engineers & Scientists



PBMP 3.3 Photo 3.3.17 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.19 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.18 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



Photo 3.3.20 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.21 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.23 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.22 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.24 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.25 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.27 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



Photo 3.3.26 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.28 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.29 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.31 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.30 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.32 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.33 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.35 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.34 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.36 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.37 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.39 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.38 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.40 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





Photo 3.3.41 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



Photo 3.3.43 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



Photo 3.3.42 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



Photo 3.3.44 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am

Photographer: Cale Yamada

Kennedy/Jenks Consultants

Engineers & Scientists



Photo 3.3.45 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.47 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.46 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.48 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.49 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.51 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.50 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.52 Pier 29 Inlet & Trench Drain Filters

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Engineers & Scientists





Photo 3.3.53 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



Photo 3.3.55 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



Photo 3.3.54 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



Photo 3.3.56 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am

Photographer: Cale Yamada

Kennedy/Jenks Consultants **Engineers & Scientists**



PBMP 3.3 Photo 3.3.57 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.59 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.58 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



Photo 3.3.60 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.61 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.63 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.62 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.64 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.65 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.67 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.66 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.68 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.69 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.71 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.70 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.72 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.73 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.75 Pier 29 Inlet & Trench Drain Filters

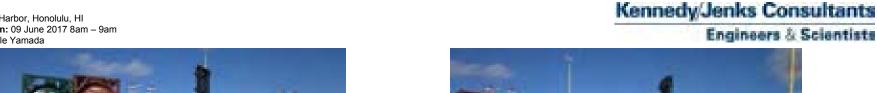


PBMP 3.3 Photo 3.3.74 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.76 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.77 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.79 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



Photo 3.3.78 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.80 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.81 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.83 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



Photo 3.3.82 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.84 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am

Photographer: Cale Yamada



PBMP 3.3 Photo 3.3.85 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.87 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters

Kennedy/Jenks Consultants **Engineers & Scientists**



Photo 3.3.86 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.88 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am

Photographer: Cale Yamada

Kennedy/Jenks Consultants

Engineers & Scientists



PBMP 3.3 Photo 3.3.89 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.91 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.90 Pier 29 Inlet & Trench Drain Filter



PBMP 3.3 Photo 3.3.92 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am

Photographer: Cale Yamada

Kennedy/Jenks Consultants **Engineers & Scientists**



PBMP 3.3 Photo 3.3.93 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.95 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



Photo 3.3.94 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.96 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.97 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.99 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.98 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.100 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.101 Pier 29 Inlet & Trench Drain Filter



PBMP 3.3 Photo 3.3.103 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.102 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.104 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am





PBMP 3.3 Photo 3.3.105 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.107 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.106 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.108 Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am

Photographer: Cale Yamada

Kennedy/Jenks Consultants





PBMP 3.3 Photo 3.3.109 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.111 Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.110 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.112 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters

Facility: Honolulu Harbor, Honolulu, HI Date Photos Taken: 09 June 2017 8am – 9am

Photographer: Cale Yamada

Kennedy/Jenks Consultants

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PBMP 3.3 Photo 3.3.113 Pier 29 Inlet & Trench Drain Filters



Photo 3.3.115 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



Photo 3.3.114 **PBMP 3.3** Pier 29 Inlet & Trench Drain Filters



PBMP 3.3 Photo 3.3.116 Pier 29 Inlet & Trench Drain Filters

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Potential Violation Tracking #7 applies to this permit. Please see pages B3-9 through B3-12.

Final Notice

Potential Violation Tracking #: 7

Determination of Potential Violation Date: 6/24/17

Potential Violation Notification Date: 6/26/17

Potential Violation Narrative Description:

Section 5 of Harbors' Post-Construction Stormwater Management Manual commits Harbors to maintaining post-construction best management practices (PBMPs) according to their written operations and maintenance (O&M) plan. The written O&M plan for the Pier 31 trench drain provided to the Audit Team for review indicates that the filter should be changed once per year. Harbors' MS4 Permit Coordinator indicated that the filter has not been replaced since it was installed in 2014, due to Harbors' difficulties in removing and replacing grates and filtration media. The Audit Team found the Pier 31 trench drain to be inadequately maintained during the On-Site Audit. The Audit Team has found this to be not in compliance with Harbors' defined program and therefore potentially in violation of the applicable regulations listed below.

Description of Attached Photographs (if applicable): Photographs attached show the inadequate maintenance of the Pier 31 trench drain inspected on 2 June 2017.

Applicable Regulatory References

NPDES Permit No.: Consent Decree Part 18.b.i. "The Post-Construction Stormwater Management Program Plan shall include: 5) a plan for long-term Operation and Maintenance as described in Paragraph 18.f below,..."

Consent Decree Part 18.f.i "General. By entry of the Consent Decree, HDOT-Harbors shall ensure that all New Development and Redevelopment Projects subject to post-construction control measures requirements have an operation and maintenance plan, monitoring plan where applicable, and a process of verification of ongoing maintenance of installed controls."

SWMPP: Section 5 of Post-Construction Manual "For Harbors project, O&M will be provided by Oahu District and/or HAR-EM consistent with the projects O&M plan that was submitted and approved as part of the project review and approval process."

Hawaii Administrative Rules (HAR): HAR 11-55 Appendix K Part 6.(a)(5)(C) "At a minimum, the permit must require the permittee to: Ensure adequate long-term operation and maintenance of BMPs."

Code of Federal Regulations (CFR): 40 CFR 122.34(b)(5)(i)(C) "At a minimum, the permit must require the permittee to: Ensure adequate long-term operation and maintenance of BMPs."

Photo 1 shows the trench drain at Pier 31.



Photo 2 shows a close-up view of occluded filtration media and accumulated sediment within trench drain at Pier 31.



Result	of HDOT PM Review:
\square	Confirmed Potential Violation o Email Notice of Corrective Action sent to EPA/DOH on: 7/10/17 (Due Within 14 Calendar Days of Potential Violation Notification Date)
	Re-categorized as Deficiency (see rationale below) o Email Notice sent to EPA/DOH on:
	Summarily Dismissed (see rationale below) o Email Notice sent to EPA/DOH on:
D-4:	ala fan Da Catanariastian an Cumanam Diamiasal Inda

Rationale for Re-Categorization or Summary Dismissal: n/a

Notice of Corrective Action

Corrective Action in Response to:	
☑ Potential Violation (complete	e Section A & C)
☐ Deficiency (complete Section	n B & C)
SECTION A – Corrective Action in I	Response to Potential Violation
Potential Violation Tracking #: 7	Potential Violation Notification Date: 6/26/17 (from Notice of Potential Violation Form)
	Corrective Action Notification Date: 7/10/17 (Today's Date)
HDOT must submit this notice	within 14 calendar days of the Potential Violation Notification Date.
SECTION B – Corrective Action in F	Response to Deficiency
HDOT Receipt of Draft PEAR Date:	
Corrective Action Notification Date: (Today's Date)	
	this notice within 21 calendar days of g the relevant Draft PEAR.

SECTION C

Description of Corrective Action:

Three (3) corrective actions will remedy the potential violation at Pier 31 as described below. (1) The defective trench drain filtering systems that prevent full maintenance will be replaced by new filtering systems proven to be effective and maintainable. See attached plan and schedule for Pier 31. (2) The cleaning frequency of the existing filtering systems was increased to quarterly until the new filters are installed. An interim O&M plan will be prepared by September 30, 2017. Our Cityworks AMS will schedule and record inspection and cleaning events and their costs. See attached photographs of 6/5/17 cleaning event. (3) Matson, who uses this pier for off-loading vehicles, will be responsible for removing excess surface debris when observed by Harbors personnel.

Description of Attachments (if applicable):

- (a) Project schedule for Pier 31 permanent BMP (trench filtration system) replacement.
- (b) Photographs of 7/3/17 Pier 31 comprehensive inspection and cleaning event.

Spencer K. Yim, P.E.
Environmental Section Head
Engineering Branch
State of Hawaii, Dept. of Transportation, Harbors Division
Hale Awa Ku Moku Building
79 South Nimitz Highway
Honolulu, HI 96813-4898

July 6, 2017

RE: PLAN OF ACTION & MILESTONES (POA&M) FOR POST CONSTRUCTION BMP RETROFITS

Aloha Spencer,

Weston Solutions, Inc. (WESTON) understands the importance of a quick response to solve the maintenance challenges with the BMPs at Pier 31 and we are pleased to present to the State of Hawaii Department of Transportation, Harbors Division (HDOT Harbors) this POA&M.

Pier 31 is the time critical component of this plan although we understand that all three locations must be completed within four years of approval of the Post-Construction BMP Retrofit Feasibility Study (RFS) per the requirements of the Consent Decree. The plan of action presented in this POA&M would result in the start of construction at Pier 31 ten (10) weeks after notice to proceed with the design.

It is anticipated that our staff would initiate the design process for Pier 31 immediately upon notice to proceed. The design for the other two locations would initiate once the design is complete at Pier 31 and the project goes out to bid.

Below are the milestones that capture the actions needed to resolve the deficiency of the BMPs installed at Pier 31 and to retrofit all three locations (Piers 31, 51B, and 52/53) with BMPs as specified in the EPA approved RFS.

PIER 31

Estimated Duration from Design to <u>Start of Construction</u>: 10 weeks Estimated Duration from Design to <u>Completion of Construction</u>: 22 weeks

1. Acquire design documents/drawings for existing Pier 31 drainage system and BMPs. ESTIMATED DURATION: 1 WEEK

It is anticipated that it might take some time to search for the applicable drawings and the design hydraulic calculations for the existing infrastructure. The design firm may need to be contacted and a document request submitted by Harbors if submittal requirements for the construction project did not include a drain specific hydraulic calculation or any other required data.

It is anticipated that the specification package or O&M manual for the existing BMP should include the fully spent filter bypass flow rate.

Plan of Action and Milestones for Post-Construction BMP Retrofits Department of Transportation, Harbors Division Page 2

2. Review existing drawings/design and identify data gaps (if applicable). ESTIMATED DURATION: 1 WEEK

Should any of the required data to complete the design of the new BMP not be included in the previous design, Weston will need to collect that data prior to completion of the design for the new BMP. The quality of the data will also be considered and, if needed, further field collection may be conducted to improve it.

3. Field collect or verify data for drainage areas, dimensions of existing retrofit locations, and any identified data gaps;

ESTIMATED DURATION: 1 WEEK

Once the data requirements for design of the new BMP have been compared to the available data from the previous BMP, field collection of the data gaps will be conducted.

4. Examine existing BMPs for decommissioning approach and measure/assess drain cover layout (for potential reduction of BMP O&M maintenance effort);

ESTIMATED DURATION: CONCURRENT WITH PREVIOUS TASK

Field identify tool requirements and deconstruction approach. Look for any issues that might arise such as components targeted for removal anchored in the concrete or damage/corrosion of any of the trench drain components that are targeted for reuse (ie, grating, grating support, outlet). Take a full set of measurements of the grating and mounting system so that we can consider longer sections of grating to simplify the maintenance process.

5. *Identify downspout and facility entrance locations for implementation of other RFS specified BMPs;* ESTIMATED DURATION: CONCURRENT WITH PREVIOUS TASK

Inventory, measure, photograph, and allocate on a map the potential installation locations for downspout filters, downspout planters, and facility entrance rumble strips. Measure and photograph DI3968 to allow for design of a retrofit drain inlet filter.

6. Develop the design, specs, and drawings for new BMPs using drain flow calculations given the measured drainage areas and SWMM modeled rainfall;

ESTIMATED DURATION: 2 WEEKS

Generate the design content including location drawings, manufacturers specifications and drawings, and design calculation documentation. The existing BMP's fully spent filter bypass rate will be compared to the manufacturers bypass flow rate of the new BMP. Should the new design allow equal or greater bypass flow rate, the hydraulic analysis will be deemed complete for the new BMP.

7. *HAR-EE review of the design, specs, and drawings for new BMPs;* ESTIMATED DURATION: 2 WEEKS

8. Revise design, specs, and drawings as needed and submit final copy to HAR-EE; ESTIMATED DURATION: 2 WEEKS

9. Develop rough order cost estimate for Harbors internal budget planning; ESTIMATED DURATION: 1 WEEK

- 10. Harbors will solicit and procure products and construction services for implementation of the design; ESTIMATED DURATION: 4 WEEKS
- 11. Weston to support Harbors with responses to questions and site walk during the procurement phase; Estimated Duration: Concurrent with previous task

Plan of Action and Milestones for Post-Construction BMP Retrofits Department of Transportation, Harbors Division Page 3

12. Construction of the new BMPs;
ESTIMATED DURATION: 4 WEEKS MANUFACTURE + 4 WEEKS INSTALLATION = 8 WEEKS TOTAL

Weston will provide construction management services and verify proper installation of the BMPs. Field verification of installation will ensure that design bypass specifications are realized in the asbuilt infrastructure. This will be accomplished through measurement and comparison of the BMP physical dimensions.

13. Harbors or Tenant/User will operate, inspect, and maintain the new BMPs once they're installed.

Piers 51B and 52/53

Estimated Duration from Design to <u>Start of Construction</u>: 10 weeks Estimated Duration from Design to <u>Completion of Construction</u>: 22 weeks Estimated Duration from Design to <u>Completion of Effectiveness</u> Evaluation: 26 weeks

1. Acquire design documents/drawings for existing Pier 51B and 52/53 drainage systems. ESTIMATED DURATION: 1 WEEK

Search for the applicable drawings and the design hydraulic calculations for the existing infrastructure. Acquire drain specific hydraulic calculation or any other pertinent data.

2. Review existing drawings/design and identify data gaps (if applicable). ESTIMATED DURATION: 1 WEEK

Should any of the required data to complete the design of the new BMP not be included in the previous design drawings/calculations, Weston will need to collect that data prior to completion of the design for the new BMP. The quality of the data will also be considered and, if needed, further field collection may be conducted to improve it. Key data includes the size of the drainage area, the flow path, and retrofit location dimensions.

3. Field collect or verify data for drainage areas, dimensions of existing retrofit locations, and any identified data gaps;

ESTIMATED DURATION: 1 WEEK

Once the data requirements for design of the new BMP have been compared to the available data from the previous construction design calculations, field collection of the data gaps will be conducted.

4. *Identify downspout and facility entrance locations for implementation of other RFS specified BMPs;* ESTIMATED DURATION: CONCURRENT WITH PREVIOUS TASK

Inventory, measure, photograph, and allocate on a map the potential installation locations for downspout filters, downspout planters, and facility entrance rumble strips. Measure and photograph DI8012, SDO8031, DI8660, DI8366, DI8510, and SDO8517.

5. Develop the design, specs, and drawings for new BMPs using drain flow calculations given the measured drainage areas and SWMM modeled rainfall;
ESTIMATED DURATION: 2 WEEKS

Generate the design content including location drawings, manufacturers specifications and drawings, and design calculation documentation.

6. *HAR-EE review of the design, specs, and drawings for new BMPs;* ESTIMATED DURATION: 2 WEEKS

7. Revise design, specs, and drawings as needed and submit final copy to HAR-EE; ESTIMATED DURATION: 2 WEEKS

Plan of Action and Milestones for Post-Construction BMP Retrofits Department of Transportation, Harbors Division Page 4

- 8. Develop rough order cost estimate for Harbors internal budget planning: ESTIMATED DURATION: 1 WEEK
- 9. Harbors will solicit and procure products and construction services for implementation of the design; **ESTIMATED DURATION: 4 WEEKS**
- 10. Weston to support Harbors with responses to questions and site walk during the procurement phase; ESTIMATED DURATION: CONCURRENT WITH PREVIOUS TASK
- 11. Construction of the new BMPs; ESTIMATED DURATION: 4 WEEKS MANUFACTURE + 4 WEEKS INSTALLATION = 8 WEEKS TOTAL

Weston will provide construction management services and verify proper installation of the BMPs.

12. Effectiveness evaluation of the new BMPs; ESTIMATED DURATION: 1 WEEK SAMPLE + 2 WEEKS ANALYSIS + 1 WEEK REPORTING = 4 WEEKS

Weston will collect water samples at each of the inlets and outlets of the new BMPs and determine removal effectiveness as well as loading. Once the laboratory results are received and tabulated, follow-up investigative sampling and/or source control recommendations will be initiated. This step requires runoff flow at the site. If a rain event does not occur during this period, alternatives will be considered including a controlled experiment where a known concentration of contaminant will be introduced to the BMP and completely captured at the outlet. However, an actual rainfall event covering the entire drainage area would provide better data for the evaluation.

13. Harbors or Tenant/User will operate, inspect, and maintain the new BMPs once they're installed.

Conclusion

WESTON is confident that our corporate commitment to this important project, our project team's knowledge of the approved plans, and our previous local experience working with tenants and users will deliver exceptional value as we work together to develop solutions. Upon review of this POA&M should you have any questions, comments, or require additional information please contact Mr. Mark Ambler, at mark.ambler@westonsolutions.com.

Sincerely,

WESTON SOLUTIONS, INC.

Mark Ambler, PE, PMP, CPSWQ Technical Manager

Project File cc:

Task Name	Start	Finish	Duration		2nd Quarter 3rd Quarter 4th Quarter 1st Quarter 2nd Quarter 3rd Quarter 4th Quarter 1st Quarter Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar
Post-Construction BMP Retrofit Design Phase	Mon 7/17/17	Fri 4/13/18	190 d		
SCOPING	Mon 7/17/17	Mon 10/23/17	70 d		
Weston submits cost proposal for design services	Mon 7/17/17	Mon 7/17/17	1 d		Weston submits cost proposal for design services
Harbors acceptance of cost proposal / Notice to Proceed	Mon 7/24/17	Fri 7/28/17	5 d	2	Harbors acceptance of cost proposal / Notice to Proceed
Weston submits cost proposal for constr mgmt services	Tue 10/10/17	Mon 10/16/17	5 d	16	Weston submits cost proposal for constr mgmt services
Harbors acceptance of cost proposal / Notice to Proceed	Tue 10/17/17	Mon 10/23/17	5 d	4	Harbors acceptance of cost proposal / Notice to Proceed
PIER 31	Mon 7/31/17	Fri 1/19/18	120 d		
DESIGN PHASE	Mon 7/31/17	Mon 10/9/17	50 d		
Acquire design documents for P31 drainage system and BMPs	Mon 7/31/17	Fri 8/4/17	1 wk	3	1. Acquire design documents for P31 drainage system and BMPs
Review existing drawings, identify data gaps	Mon 8/7/17	Fri 8/11/17	1 wk	8	2. Review existing drawings, identify data gaps
3. Field collect or verify data	Mon 8/14/17	Fri 8/18/17	1 wk	9	3. Field collect or verify data
Create decommissioning approach and assess drain cover layout	Mon 8/14/17	Fri 8/18/17	1 wk	10SS	4. Create decommissioning approach and assess drain cover layout
5. Identify downspout and facility entrance locations per RFS	Mon 8/14/17	Fri 8/18/17	1 wk	1188	5. Identify downspout and facility entrance locations per RFS
Develop design, specs, and drawings	Mon 8/21/17	Fri 9/1/17	2 wks	12	6. Develop design, specs, and drawings
7. HAR-EE review of design, specs, and drawings	Tue 9/5/17	Mon 9/18/17	2 wks	13	7. HAR-EE review of design, specs, and drawings
Submit revised design, specs, and drawings	Tue 9/19/17	Mon 10/2/17	2 wks	14	8. Submit revised design, specs, and drawings
9. Develop ROM Cost Estimate	Tue 10/3/17	Mon 10/9/17	1 wk	15	9. Develop ROM Cost Estimate
CONSTRUCTION PHASE	Tue 10/10/17	Fri 1/19/18	70 d		
10. Harbors procures products and construction services	Tue 10/10/17	Mon 11/6/17	4 wks	16	10. Harbors procures products and construction services
11. Weston to support Harbors with site walk and RFIs	Tue 10/24/17	Mon 11/20/17	4 wks	18SS,5	11. Weston to support Harbors with site walk and RFIs
12. Construction of new BMPs / Weston oversight	Tue 11/21/17	Fri 1/19/18	8 wks	19	12. Construction of new BMPs / Weston oversight
PIER 51B & 52/53	Tue 10/10/17		130 d	.0	
DESIGN PHASE		Wed 12/20/17	50 d		
Acquire design documents for P51 drainage system and BMPs	Tue 10/10/17	Mon 10/16/17	1 wk	16	■ 1. Acquire design documents for P51 drainage system and BMPs
Review existing drawings, identify data gaps	Tue 10/17/17	Mon 10/23/17	1 wk	23	2. Review existing drawings, identify data gaps
Field collect or verify data	Tue 10/24/17	Mon 10/30/17	1 wk	24	3. Field collect or verify data
Identify downspout and facility entrance locations per RFS	Tue 10/24/17	Mon 10/30/17	1 wk	25SS	4. Identify downspout and facility entrance locations per RFS
Develop design, specs, and drawings	Tue 10/31/17	Mon 11/13/17	2 wks	26	5. Develop design, specs, and drawings
6. HAR-EE review of design, specs, and drawings	Tue 11/14/17	Wed 11/29/17	2 wks	27	■ 6. HAR-EE review of design, specs, and drawings
7. Submit revised design, specs, and drawings	Thu 11/30/17	Wed 12/13/17	2 wks	28	7. Submit revised design, specs, and drawings
8. Develop ROM Cost Estimate	Thu 12/14/17	Wed 12/10/17	1 wk	29	■ 8. Develop ROM Cost Estimate
CONSTRUCTION PHASE	Thu 12/21/17	Fri 4/13/18	80 d	20	
Harbors procures products and construction services	Thu 12/21/17	Fri 1/19/18	4 wks	30	9. Harbors procures products and construction services
10. Weston to support Harbors with site walk and RFIs	Thu 12/21/17	Fri 1/19/18	4 wks	32SS,5	10. Weston to support Harbors with site walk and RFIs
11. Construction of new BMPs / Weston oversight	Mon 1/22/18	Fri 3/16/18	8 wks	33	11. Construction of new BMPs / Weston oversight
12. Effeciveness Evaluation of new BMPs	Mon 3/19/18	Fri 4/13/18	4 wks	34	12. Effectiveness Evaluation of new BMPs

 LEGEND:
 Critical Task
 Normal Task
 Milestone
 ♦
 Summary



PIER 31 TRENCH DRAIN (BMP4155) CLEANING, 3 JULY 2017





PIER 31 TRENCH DRAIN (BMP4155) CLEANING, 3 JULY 2017 (Continued)





6. Deficiencies

Deficiency Tracking #8, 9, 18, 19, and 20 apply to this permit. Please see pages B3-17 through B3-30.

Final Notice of Deficiency

Deficiency Tracking #: 8

Related Permit(s): Honolulu Harbor

Deficiency Narrative Description:

During the on-site evaluation of Pier 29 on 2 June 2017, the maintenance staff were observed hosing down the trench drain area. A vacuum truck was in use, but the vacuum was placed upstream of the area being washed down. Following the on-site evaluation, Harbors Division provided additional clarification that by spraying wash water towards the upstream vacuum truck hose, maintenance staff captured the wash water before it migrated downstream towards receiving waters. However, the Audit Team believes that this approach may, in other circumstances, lead to wash water leaving the PBMP area and reaching receiving waters.

Recommendations for Improvement:

If wash-down is occurring, the vacuum truck should be positioned so that no contaminated wash-down water leaves the site. Harbors Division's O&M Manuals should be changed to reflect this policy.

Description of Attached Photographs (if applicable): Photograph shows the trench drain being washed down. The trench drain flows via gravity from the right side of the photograph (where the vacuum truck is positioned) to the left side of the photograph (where the wash-down is occurring) and on towards the Harbor outfall.

Applicable Regulatory References:

NPDES Permit No.: n/a

SWMPP: n/a

Hawaii Administrative Rules (HAR): HAR 11-55 Appendix K Part 1 (PBMP filter wash water is not listed as one of the 17 non-storm water discharges authorized by the permit).

Code of Federal Regulations (CFR): n/a



Resu	lt ∩f	HDO	Γ PM	Review:
17C2U	IL OI	וטטוו	I F 1VI	IZCVICW.

- ☑ Confirmed Deficiency
 - Email Notice of Corrective Action sent to EPA/DOH on: 8/22/17
 (Due Within 21 Calendar Days of Deficiency Notification Date)
- ☐ Re-categorized as Potential Violation (see rationale below)
 - Email Notice sent to EPA/DOH on:
- ☐ Summarily Dismissed (see rationale below)
 - Email Notice sent to EPA/DOH on:

Rationale for Re-Categorization or Summary Dismissal: n/a

Notice of Corrective Action

Corrective Action in Response to:

☐ Potential Violation (complete Section A & C)

☑ Deficiency (complete Section B & C)

SECTION A – Corrective Action in Response to Potential Violation

Potential Violation Tracking #: Potential Violation Notification Date:

(from Notice of Potential Violation Form)

Corrective Action Notification Date:

(Today's Date)

HDOT must submit this notice within 14 calendar days of the Potential Violation

Notification Date.

SECTION B – Corrective Action in Response to Deficiency

Deficiency Tracking #: 8

HDOT Receipt of Draft PEAR Date: 7/28/17

Corrective Action Notification Date: 8/22/17

(Today's Date)

HDOT must submit this notice within 21 calendar days of receiving the relevant Draft PEAR.

SECTION C

Description of Corrective Action:

The written PBMP O&M Plan for Pier 29 will be updated and expanded to describe the improved O&M procedures developed and currently practiced by the Harbors maintenance crews during annual maintenance events. In particular, the revised PBMP O&M plan will explain the added trench washing and sediment removal practice using a large vacuum truck with its water jet flushing capability. Guidance on the how the filter socks should be cleaned and when they should be replaced will also be provided along with information on local vendors who can supply this particular type of trench drain filter socks.

Milestones for this Corrective Action are:

- 1. Submit Draft Revised Pier 29 PBMP O&M Plan to ENV: 9/8/17
- Receive ENV review comments: 9/22/17
- 3. Final Compliance for the Revised Pier 29 PBMP O&M Plan: 9/29/17

Description of Attachments (if applicable):

None applicable.

Final Notice of Deficiency

Deficiency Tracking #: 9

Related Permit(s): Honolulu Harbor

Deficiency Narrative Description:

Harbors Division's Consent Decree Part 18.f.i states that the operation and maintenance (O&M) plan shall include an estimate of anticipated annual maintenance costs for upkeep of post-construction best management practice (PBMP) measures. The O&M plans provided by Harbors Division did not include this information. In lieu of "an estimate of anticipated annual maintenance cost", actual labor and equipment estimated costs for the upkeep of post-construction BMP measures are entered into the Harbors Division Cityworks Asset Management System after each PBMP maintenance inspection and cleaning event. The information in question is simply stored in CityWorks instead of the written O&M plan, as called for in the Consent Decree.

Recommendations for Improvement:

Each written O&M Plan should be amended to include the required information, pursuant to the Consent Decree.

Description of Attached Photographs (if applicable): None applicable.

Applicable Regulatory References

NPDES Permit No.: Consent Decree Part 18.f.i "The operation and maintenance plan shall also include an estimate of anticipated annual maintenance costs for upkeep of Post-Construction BMP measures."

SWMPP: n/a
Hawaii Administrative Rules (HAR): n/a
Code of Federal Regulations (CFR): n/a
Result of HDOT PM Review: ☐ Confirmed Deficiency ☐ Email Notice of Corrective Action sent to EPA/DOH on: 8/22/17 ☐ (Due Within 21 Calendar Days of Deficiency Notification Date) ☐ Re-categorized as Potential Violation (see rationale below) ☐ Email Notice sent to EPA/DOH on: ☐ Summarily Dismissed (see rationale below) ☐ Email Notice sent to EPA/DOH on:
Rationale for Re-Categorization or Summary Dismissal: n/a

Notice of Corrective Action

Corrective Action in Respons	se	to:
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☐ Potential Violation (complete Section A & C)

☑ Deficiency (complete Section B & C)

SECTION A – Corrective Action in Response to Potential Violation

Potential Violation Tracking #: Potential Violation Notification Date:

(from Notice of Potential Violation Form)

Corrective Action Notification Date:

(Today's Date)

HDOT must submit this notice within 14 calendar days of the Potential Violation

Notification Date.

SECTION B – Corrective Action in Response to Deficiency

Deficiency Tracking #: 9

HDOT Receipt of Draft PEAR Date: 7/28/17

Corrective Action Notification Date: 8/22/17

(Today's Date)

HDOT must submit this notice within 21 calendar days of receiving the relevant Draft PEAR.

SECTION C

Description of Corrective Action:

All PBMP O&M Plans will be amended to explain that actual annual PBMP maintenance costs (labor, equipment & materials, if used) are entered directly into and recorded in Harbors' Cityworks Asset Management System (AMS) whenever annual maintenance is performed on PBMP assets. As required by the 2014 Consent Decree Para. 18.f.ii and based on the actual maintenance costs recorded, an estimate of anticipated annual maintenance costs for upkeep of post-construction PBMPs will be added to each Harbors' PBMP O&M plan.

Milestones for this Corrective Action are:

- 1. Submit Draft Amended Harbors' PBMP O&M Plans: 9/8/17
- 2. Receive ENV review comments: 9/22/17
- 3. Final Compliance Date for Amended Harbors' PBMP O&M Plans: 9/29/17

Description of Attachments (if applicable):

None applicable.

Final Notice of Deficiency

Deficiency Tracking #: 18

Related Permit(s): Honolulu Harbor

Deficiency Narrative Description:

The written O&M plan for the trench drain filter inspected at Pier 29 on 2 June 2017 indicates that filters that are brown or black and show visible signs of contamination should be changed. Harbors Division's MS4 Permit Coordinator indicated that the filter was last replaced in 2015. The filter was observed to be black during the inspection, but was not replaced during the inspection, nor flagged for replacement.

After the on-site evaluation, Harbors Division provided the following additional information:

"Using the color change (i.e., brown or black) to the originally grey filter socks does not work in container cargo yards because the types of sediments generated by the container-handling equipment and other vehicles is largely black, pulverized rubber. A more practicable and economical means for determining when the ABT FirstFlush Filter socks should be replaced is to observe – after cleaning - if they are torn, excessively frayed or clogged badly and thus no longer effective in removing sediments. The HAR-OCG crew has adopted this practice for Pier 29 ABT filter replacement."

Recommendations for Improvement:

Harbors Division should modify their written O&M plans to reflect actual O&M procedures.

Description of Attached Photographs (if applicable): Photographs attached show the subject trench drain filter at Pier 29 after being cleaned and before being placed back in the trench.

Applicable Regulatory References:

NPDES Permit No.:

Consent Decree Part 18.b.i. "The Post-Construction Stormwater Management Program Plan shall include: 5) a plan for long-term Operation and Maintenance as described in Paragraph 18.f below,..."

Consent Decree Part 18.f.i "General. By entry of the Consent Decree, HDOT-Harbors shall ensure that all New Development and Redevelopment Projects subject to post-construction control measures requirements have an operation and maintenance plan, monitoring plan where applicable, and a process of verification of ongoing maintenance of installed controls."

SWMPP: Section 5 of Post-Construction Manual "For Harbors project, O&M will be provided by Oahu District and/or HAR-EM consistent with the projects O&M plan that was submitted and approved as part of the project review and approval process."

Hawaii Administrative Rules (HAR): HAR 11-55 Appendix K Part 6.(a)(5)(C) "Develop, implement, and enforce a program to reduce pollutants in stormwater runoff entering the permittee's small municipal separate storm sewer system from new development and redevelopment projects that disturb greater than or equal to one acre, including construction sites less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more, that, at a minimum, includes the following: Procedures for long-term operation and maintenance of best management practices."

Code of Federal Regulations (CFR): 40 CFR 122.34(b)(5)(i)(C) "40 CFR 122.34(b)(5)(i)(C) "At a minimum, the permit must require the permittee to: Ensure adequate long-term operation and maintenance of BMPs."

40 CFR 122.34(b)(5)(ii) "EPA recommends that the permit ensure the appropriate implementation of the structural BMPs by considering some or all of the following: Post-construction inspection and maintenance of BMPs..."



Result of HDOT PM Review:

- ☑ Confirmed Deficiency
 - o Email Notice of Corrective Action sent to EPA/DOH on: **8/22/17**
 - (Due Within 21 Calendar Days of Deficiency Notification Date)
- ☐ Re-categorized as Potential Violation (see rationale below)
 - Email Notice sent to EPA/DOH on:
- ☐ Summarily Dismissed (see rationale below)
 - Email Notice sent to EPA/DOH on: ___

Rationale for Re-Categorization or Summary Dismissal: n/a

Notice of Corrective Action

Corrective Action in Response to:

☐ Potential Violation (complete Section A & C)

☑ Deficiency (complete Section B & C)

SECTION A – Corrective Action in Response to Potential Violation

Potential Violation Tracking #: Potential Violation Notification Date:

(from Notice of Potential Violation Form)

Corrective Action Notification Date:

(Today's Date)

HDOT must submit this notice within 14 calendar days of the Potential Violation

Notification Date.

SECTION B – Corrective Action in Response to Deficiency

Deficiency Tracking #: 18

HDOT Receipt of Draft PEAR Date: 7/28/17

Corrective Action Notification Date: 8/22/17

(Today's Date)

HDOT must submit this notice within 21 calendar days of receiving the relevant Draft PEAR.

SECTION C

Description of Corrective Action:

In conjunction with the Deficiency No. 8 corrective action revisions being made to the PBMP O&M Plan for Pier 29, the plan will also be revised to reflect the actual O&M procedures and condition criteria being utilized to determine when the ABT FirstFlush filter socks should be replaced.

Milestones for this Corrective Action are:

- 1. Submit Draft Revised Pier 29 PBMP O&M Plan to ENV: 9/8/17
- 2. Receive ENV review comments: 9/22/17
- 3. Final Compliance for the Revised Pier 29 PBMP O&M Plan: 9/29/17

Description of Attachments (if applicable):

None applicable.

Final Notice of Deficiency

Deficiency Tracking #: 19

Related Permit(s): Honolulu Harbor

Deficiency Narrative Description:

The written O&M plan for the trench drain filter that was inspected at Pier 29 on 2 June 2017 indicates that filters that are brown or black and show visible signs of contamination should be changed. However, the CityWorks inspection process for this PBMP flags the trench drain for maintenance *only* when more than 6 inches of material have accumulated on the filter. There appears to be a disconnect between the written O&M plan and CityWorks in this regard. As such, the written O&M plan is not being fully implemented.

Recommendations for Improvement:

Harbors Division should modify their written O&M plans and/or CityWorks inspection process to reflect actual O&M procedures.

Description of Attached Photographs (if applicable): None applicable.

Applicable Regulatory References:

NPDES Permit No.: Consent Decree Part 18.b.i. "The Post-Construction Stormwater Management Program Plan shall include: 5) a plan for long-term Operation and Maintenance as described in Paragraph 18.f below,..."

Consent Decree Part 18.f.i "General. By entry of the Consent Decree, HDOT-Harbors shall ensure that all New Development and Redevelopment Projects subject to post-construction control measures requirements have an operation and maintenance plan, monitoring plan where applicable, and a process of verification of ongoing maintenance of installed controls."

SWMPP: Section 5 of Post-Construction Manual "For Harbors project, O&M will be provided by Oahu District and/or HAR-EM consistent with the projects O&M plan that was submitted and approved as part of the project review and approval process."

Hawaii Administrative Rules (HAR): HAR 11-55 Appendix K Part 6.(a)(5)(C) "Develop, implement, and enforce a program to reduce pollutants in stormwater runoff entering the permittee's small municipal separate storm sewer system from new development and redevelopment projects that disturb greater than or equal to one acre, including construction sites less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more, that, at a minimum, includes the following: Procedures for long-term operation and maintenance of best management practices."

Code of Federal Regulations (CFR): 40 CFR 122.34(b)(5)(i)(C) "40 CFR 122.34(b)(5)(i)(C) "At a minimum, the permit must require the permittee to: Ensure adequate long-term operation and maintenance of BMPs."

40 CFR 122.34(b)(5)(ii) "EPA recommends that the permit ensure the appropriate implementation of the structural BMPs by considering some or all of the following: Post-construction inspection and maintenance of BMPs..."

Result of HDOT PM Review:	
☑ Confirmed Deficiency	
 Email Notice of Corrective Action sent to EPA/DOH on: 8/22/17 	
(Due Within 21 Calendar Days of Deficiency Notification Date)	
☐ Re-categorized as Potential Violation (see rationale below)	
 Email Notice sent to EPA/DOH on: 	
☐ Summarily Dismissed (see rationale below)	
 Email Notice sent to EPA/DOH on: 	

Rationale for Re-Categorization or Summary Dismissal: n/a

Notice of Corrective Action

Correc	tive Action	in Respo	onse to:		
	Potential	Violation	(complete	e Section	A & C)

☑ Deficiency (complete Section B & C)

SECTION A – Corrective Action in Response to Potential Violation

Potential Violation Tracking #: Potential Violation Notification Date:

(from Notice of Potential Violation Form)

Corrective Action Notification Date:

(Today's Date)

HDOT must submit this notice within 14 calendar days of the Potential Violation

Notification Date.

SECTION B – Corrective Action in Response to Deficiency

Deficiency Tracking #: 19

HDOT Receipt of Draft PEAR Date: 7/28/17

Corrective Action Notification Date: 8/22/17

(Today's Date)

HDOT must submit this notice within 21 calendar days of receiving the relevant Draft PEAR.

SECTION C

Description of Corrective Action:

In conjunction with corrective action revisions being made to the PBMP O&M Plan for Pier 29 under Deficiencies Nos. 8 and 18, the plan and the associated Cityworks inspection provisions will also be corrected to reflect that routine inspection and maintenance of the Pier 29 trench drains are done on an annual basis as recommended by the manufacturer in the existing Pier 29 operation and maintenance procedures.

Milestones for this Corrective Action are:

- 1. Submit Draft Revised Pier 29 PBMP O&M Plan to ENV: 9/8/17
- Receive ENV review comments: 9/22/17
- 3. Final Compliance for the Revised Pier 29 PBMP O&M Plan: 9/29/17

Description of Attachments (if applicable):

None applicable.

Final Notice of Deficiency

Deficiency Tracking #: 20

Related Permit(s): Honolulu Harbor

Deficiency Narrative Description:

Harbors Division's MS4 Permit Coordinator had difficulties providing requested records. This was reported to be due to the fact that MS4 permit records and documents are stored in multiple places within Harbors Division. This makes it difficult for Harbors Division staff to access records and documents as needed, and represents a liability in case a more formal EPA/DOH compliance audit occurs.

Recommendations for Improvement:

Harbors Division should consider implementing a more robust document management system so that the MS4 Permit Coordinator has easy access to MS4 permit records and documents.

Description of Attached Photographs (if applicable): None applicable.

Applicable Regulatory References:
NPDES Permit No.: n/a
SWMPP: n/a
Hawaii Administrative Rules (HAR): n/a
Code of Federal Regulations (CFR): n/a
Result of HDOT PM Review: Confirmed Deficiency Email Notice of Corrective Action sent to EPA/DOH on: 8/22/17 (Due Within 21 Calendar Days of Deficiency Notification Date) Re-categorized as Potential Violation (see rationale below) Email Notice sent to EPA/DOH on: Summarily Dismissed (see rationale below) Email Notice sent to EPA/DOH on:

Rationale for Re-Categorization or Summary Dismissal: n/a

Notice of Corrective Action

☐ Potential Violation (complete Section A & C)

☑ Deficiency (complete Section B & C)

SECTION A – Corrective Action in Response to Potential Violation

Potential Violation Tracking #: Potential Violation Notification Date:

(from Notice of Potential Violation Form)

Corrective Action Notification Date:

(Today's Date)

HDOT must submit this notice within 14 calendar days of the Potential Violation

Notification Date.

SECTION B – Corrective Action in Response to Deficiency

Deficiency Tracking #: 20

HDOT Receipt of Draft PEAR Date: 7/28/17

Corrective Action Notification Date: 8/22/17

(Today's Date)

HDOT must submit this notice within 21 calendar days of receiving the relevant Draft PEAR.

SECTION C

Description of Corrective Action:

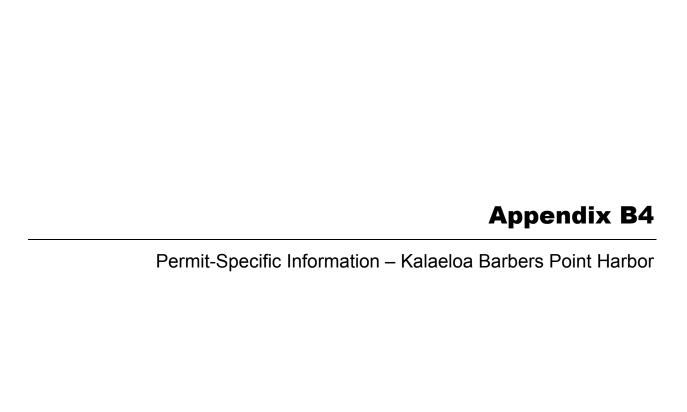
During the course of responding to PEAR #1 PBMP records and information requests, much of the information has been consolidated in central locations that will facilitate timely retrieval in the future. This corrective action is to describe how PBMP records to include design drawings and documents are being currently stored at centralized locations to include the Cityworks Asset Management System where asset data as well as O&M procedures and results are entered and stored.

Milestones for this Corrective Action are:

- 1. Submit Draft PBMP Records Storing Plan: 9/8/17
- 2. Receive ENV review comments: 9/22/17
- 3. Final Compliance Date for PBMP Records Storing Plan: 9/29/17

Description of Attachments (if applicable):

None applicable.



1. Key Documents

D!	4 Malada -		
Permit	4. Kalaeloa		
	Barbers Point Harbor		
	пагрог		
	Small MS4		
	Permit		
Document	1 Grint		
Dodamont	HI 03KB488		
	a. 20170127.Compliance Submission of Reports and		
	Documents-HI03KB488.PDF		
	b. 20170127.Contents of CD for Compliance		
	Submission of Reports and Documents-		
	HI03KB488_Part1.pdf		
	c. 20170127.Contents of CD for Compliance		
	Submission of Reports and Documents-		
	HI03KB488_Part2.pdf		
2016 Annual Report	d. 20170127.Contents of CD for Compliance		
	Submission of Reports and Documents-		
	HI03KB488_Part3.pdf		
	e. 20170127.Contents of CD for Compliance		
	Submission of Reports and Documents-		
	HI03KB488_Part4.pdf		
	f. 20170127.Contents of CD for Compliance		
	Submission of Reports and Documents-		
A 11 DI 6 D 1 C111	HI03KB488_Part5.pdf		
Action Plan for Retrofitting	Not applicable to this permit		
Structural BMPs	2014 Doot Construction CW Manual Final adf		
BMP Manual	2014 Post Construction SW Manual_Final.pdf		
BMP Standards and	2014 Post Construction SW Manual_Final.pdf		
Technical Specifications (Consent Decree			
Part 18.c.S1)			
Consent Decree	HDOT Harbors 2014 Consent Decree.pdf		
Construction Best	Not applicable to this permit		
Management Practices Field	approad to the politic		
Manual			
DOH Comments on 2016	None received.		
Annual Report			
•	Page 399 of 1085		
Enforcement Response Plan.	Final HDOT Harbors SWMP-150325.pdf		
Maintenance plan for	Not applicable to this permit		
vegetated portions of the			
drainage system used for			
erosion and sediment control,			
and LID features			

Permit	4. Kalaeloa Barbers Point Harbor	
Document	Small MS4 Permit HI 03KB488	
Map of MS4	Page 90 of 1085 Final HDOT Harbors SWMP-150325.pdf	
Memoranda of Understanding or Agreement	MOA- Harbors.pdf	
Organizational charts	Page 21 of 1085 Final HDOT Harbors SWMP-150325.pdf	
Permanent Post-Construction BMP Checklist (Consent Decree Part 18.b.i.S4)	Permanent Post-Construction BMP Plan Checklist.pdf	
Permit	December 2016 extension is here: 20161202.03KB488.EXT.16.pdf	
Plan for Requiring LID in Standards	Not applicable to this permit	
Plan Review Checklist	a. Construction Site Design Review Checklist.pdf b. Construction Site BMP Inspection Checklist_20150722.pdf Permanent Post-Construction BMP Plan Checklist.pdf	
Previous Audit Findings	HDOT Harbors Audit 2009.pdf	
SWMPP	Final HDOT Harbors SWMP-150325.pdf	
Website	http://hidot.hawaii.gov/harbors/library/storm-water-management/	

2. Sections of Key Documents Found Relevant for PEAR 1

Document Name	
(Original File Name)	Sections/Pages Relevant to PEAR 1
2015 Stormwater Management Plan (March 2015) (Final HDOT Harbors SWMP-150325.pdf)	Section 2.4 Section 2.5 BMP Table 2-5 Table 2-5 Section 3.2.4 Section B, Attachment 1, Section 3.2 Section C, Figure 2-1 Section C, Section 3.0 Section C, Section 4.2 Section C, Section 4.4.3 Section C, Section 5.2 Section C, Attachment 1 Section C, Attachment 2 Section C, Attachment 3 Section C, Attachment 4 Section C, Attachment 5 Section C, Attachment 7, page 6 Section D – in entirety
Letter regarding Program Audit of the Hawaii Department of Transportation, Harbors Division, Stormwater Management Program, Transmittal of Audit Report (23 March 2009) (HDOT Harbors Audit 2009.pdf)	Enclosure, Section 2.0 Enclosure, Section 2.3.1 Enclosure, Section 2.5
Memorandum of Understanding Between Department of Transportation, Harbors Division, State of Hawaii and Department of Health, State of Hawaii (April/May 2015) (MOA- Harbors.pdf)	No discussion of PEAR 1 topics
2016 Annual Compliance Report, Storm Water Management Program (January 2017) (20170127.Contents of CD for Compliance Submission of Reports and Documents- HI03KB482_Part1.pdf)	Part II, 2 (page 10) Part II, 7 (page 14) Part V (pages 32, 33) Part VI Part V, 1 (pages 42, 43) Part V, 3 (page 45) Part V, 7 (page 49) HDOT-Harbors 2016 Tenant Stormwater Awareness Training Slide 48, Construction/Post-Construction
2016 Annual Compliance Report, Storm Water Management Program (January 2017) (20170127.Contents of CD for Compliance Submission of Reports and Documents- HI03KB482_Part2.pdf)	Attachment 6a. Construction Training Presentation Slides

Document Name	
(Original File Name)	Sections/Pages Relevant to PEAR 1
2016 Annual Compliance Report, Storm	Attachment 15. DOT Harbors Projects
Water Management Program (January	Review Inventory
2017)	Attachment 17. Kalealoa Harbor Stockpile
(20170127.Contents of CD for Compliance	Inspection Report
Submission of Reports and Documents-	Attachment 19. MS4 and Permanent BMP
HI03KB482_Part3.pdf)	Inspection Log

3. On-Site Evaluation

5 June 2017

On 5 June 2017, the Audit Team held a kickoff meeting at Kalaeloa Harbor with Harbors Division staff (Spencer Yim, Joy Zhang). Photographs taken during the On-Site Evaluation can be found in Section 4 below.

PBMP 4.1 GLP Asphalt Facility

The Audit Team drove to the GLP Asphalt Facility to inspect a series of gravel swales at that tenant facility (hereinafter referred to as PBMP 4.1). The Audit Team was accompanied by the facility's operations manager Sara Daniels. The gravel swales are not formally recognized as PBMPs in Harbors Division's program because they were not built in response to development/redevelopment of greater than an acre. The swales also predate the requirement for PBMPs. Nonetheless, Harbors Division indicated that the Audit Team should review this PBMP as it was the only feature at Kalaeloa Harbor which could potentially fit the scope of the audit.

Because PBMP 4.1 is not a formal PBMP, it is not tracked in CityWorks, nor specifically noted in Stormwater Pollution Control Plan (SWPCP) or Spill Prevention Control and Countermeasures (SPCC) Plan inspections. It is also not discussed in lease agreements between the tenant and Harbors Division. According to the operations manager, the swales were constructed with 4 to 6 inches of gravel, and there has been no need to replace the gravel since it was installed over 10 years ago.

1	^ -	Cita	E./0	lustion	Photos
4.	On-	Site	Eva	iuation	Photos

Photographs are provided below.

Photographer: Cale Yamada

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am

Kennedy/Jenks Consultants **Engineers & Scientists**



PBMP 4.1 Photo 4.1.1 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.3 **GLP Asphalt Facility Gravel Swale**



Photo 4.1.2 **PBMP 4.1 GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.4 **GLP Asphalt Facility Gravel Swale**

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am





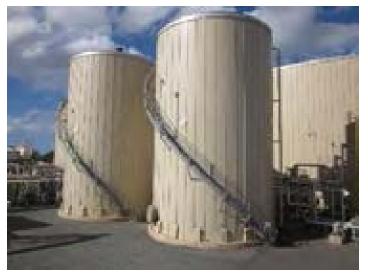
PBMP 4.1 Photo 4.1.5 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.7 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.6 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.8 GLP Asphalt Facility Gravel Swale

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am

Photographer: Cale Yamada



Engineers & Scientists



PBMP 4.1 Photo 4.1.9 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.11 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.10 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.12 **GLP Asphalt Facility Gravel Swale**

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am





PBMP 4.1 Photo 4.1.13 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.15 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.14 **GLP Asphalt Facility Gravel Swale**



Photo 4.1.16 **PBMP 4.1 GLP Asphalt Facility Gravel Swale**

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am





PBMP 4.1 Photo 4.1.17 **GLP Asphalt Facility Gravel Swale**



Photo 4.1.19 **PBMP 4.1 GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.18 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.20 **GLP Asphalt Facility Gravel Swale**

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am

Photographer: Cale Yamada

Kennedy/Jenks Consultants

Engineers & Scientists



PBMP 4.1 Photo 4.1.21 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.23 **GLP Asphalt Facility Gravel Swale**



Photo 4.1.22 **PBMP 4.1 GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.24 **GLP Asphalt Facility Gravel Swale**

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am

Photographer: Cale Yamada

Kennedy/Jenks Consultants

Engineers & Scientists



PBMP 4.1 Photo 4.1.25 **GLP Asphalt Facility Gravel Swale**



Photo 4.1.27 **PBMP 4.1 GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.26 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.28 **GLP Asphalt Facility Gravel Swale**

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am





PBMP 4.1 Photo 4.1.29 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.31 **GLP Asphalt Facility Gravel Swale**



Photo 4.1.30 **PBMP 4.1 GLP Asphalt Facility Gravel Swale**



Photo 4.1.32 **PBMP 4.1 GLP Asphalt Facility Gravel Swale**

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am

Photographer: Cale Yamada

Kennedy/Jenks Consultants

Engineers & Scientists



Photo 4.1.33 **PBMP 4.1 GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.35 **GLP Asphalt Facility Gravel Swale**



Photo 4.1.34 **PBMP 4.1 GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.36 **GLP Asphalt Facility Gravel Swale**

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am





PBMP 4.1 Photo 4.1.37 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.39 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.38 **GLP Asphalt Facility Gravel Swale**



Photo 4.1.40 **PBMP 4.1 GLP Asphalt Facility Gravel Swale**

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am

Photographer: Cale Yamada

Kennedy/Jenks Consultants
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PBMP 4.1 Photo 4.1.41 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.43 GLP Asphalt Facility Gravel Swal



PBMP 4.1 Photo 4.1.42 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.44 GLP Asphalt Facility Gravel Swale

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am

Photographer: Cale Yamada



PBMP 4.1 Photo 4.1.45 **GLP Asphalt Facility Gravel Swale**



Photo 4.1.47 **PBMP 4.1 GLP Asphalt Facility Gravel Swale**

Kennedy/Jenks Consultants **Engineers & Scientists**



PBMP 4.1 Photo 4.1.46 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.48 **GLP Asphalt Facility Gravel Swale**

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am





PBMP 4.1 Photo 4.1.49 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.51 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.50 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.52 GLP Asphalt Facility Gravel Swale

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am

Photographer: Cale Yamada

Kennedy/Jenks Consultants

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PBMP 4.1 Photo 4.1.53 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.55 **GLP Asphalt Facility Gravel Swale**



Photo 4.1.54 **PBMP 4.1 GLP Asphalt Facility Gravel Swale**

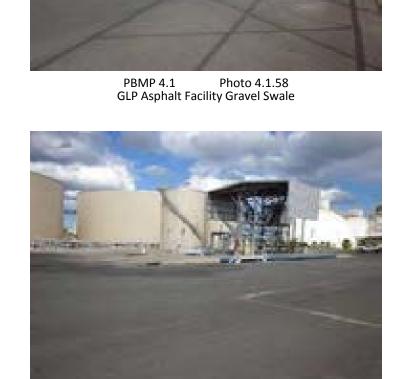


PBMP 4.1 Photo 4.1.56 **GLP Asphalt Facility Gravel Swale**

Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am







PBMP 4.1 Photo 4.1.60 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.57 GLP Asphalt Facility Gravel Swale



PBMP 4.1 Photo 4.1.59 GLP Asphalt Facility Gravel Swale

Kennedy/Jenks Consultants Facility: Kalaeloa Harbor, Kapolei, HI Date Photos Taken: 05 June 2017 9am – 10am **Engineers & Scientists** Photographer: Cale Yamada



PBMP 4.1 Photo 4.1.61 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.63 **GLP Asphalt Facility Gravel Swale**



PBMP 4.1 Photo 4.1.62 **GLP Asphalt Facility Gravel Swale**

Appendix B4: Permit-Specific Information - Kalaeloa Barbers Point Harbor

5. Potential Violations

There are no Potential Violations identified for this permit.

6. Deficiencies

There are no Deficiencies identified for this permit.



Revised Audit Work Plan, November 2016

State of Hawaii Department of Transportation Office of Environmental Compliance



Revised Audit Work Plan

State Project No. OSC-15-01

November 2016

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Table of Contents

List of Tables .			iv
List of Figures			<i>i</i> v
List of Appena	lices		iv
List of Acronyr	ทร		ν
Section 1:	Introduction, Purpose, and Goals		
Section 2:	Aud	it Team and HDOT Personnel	3
Section 3:	Aud	it Notes and Guidelines	7
	3.1 3.2 3.3 3.4	Health, Safety, and Site Access Considerations	7 8
Section 4:	Audit Structure and Schedule		
Section 5:	Prog	gram Element Audits	13
	5.1	Pre-Audit	13 14
	5.2	5.1.3 Records Review	14 14 14
	5.3	5.2.3 Post-Onsite Evaluation Review Period	15 15 16
Section 6:	Pote	ential Violations and Deficiencies	19
	6.1 6.2 6.3 6.4	Identification of Finding of Concern Audit Team Consultation Potential Violation Decision Tree Deficiency Decision Tree	20 21
Section 7:	Annual Compliance Report23		
References			2/

List of Tables

Table 4-1 C	D Appendix	A Deadlines
-------------	------------	-------------

Table 5-1 Tentative On-Site Evaluation Dates

List of Figures

Figure 2-1	Organizational	Chart
------------	----------------	-------

- Figure 5-1 Program Element Audit Schedule
- Figure 6-1 Potential Violation and Deficiency Decision Tree

List of Appendices

- A Consent Decree Sections Pertaining to Audit (10.d Page and Appendix A)
- B1 B6 PEAR 1 6 Guiding Questions
 - B1: PEAR #1 Post-Construction / Permanent Best Management Practices
 - B2: PEAR #2 Construction Site Runoff Control
 - B3: PEAR #3 Public Outreach / Public Involvement
 - B4: PEAR #4 Illicit Discharge Detection and Elimination (IDDE) Program Element and Industrial Commercial Activities/Tenant (I/C) Program
 - B5: PEAR #5 Pollution Prevention / Good Housekeeping Program
 - B6: PEAR #6 Staffing, Funding, Organizational Structure, Availability of Resources, and Storm Water Program Sustainability
- C1 C6 PEAR 1 6 Schedule
 - C1: PEAR #1 Schedule for Post-Construction / Permanent Best Management Practices
 - C2: PEAR #2 Schedule for Construction Site Runoff Control
 - C3: PEAR #3 Schedule for Public Outreach / Public Involvement
 - C4: PEAR #4 Schedule for Illicit Discharge Detection and Elimination (IDDE) Program Element and Industrial Commercial Activities/Tenant (I/C) Program
 - C5: PEAR #5 Schedule for Pollution Prevention / Good Housekeeping Program
 - C6: PEAR #6 Schedule for Staffing, Funding, Organizational Structure, Availability of Resources, and Storm Water Program Sustainability
- D1 D3 Notices to EPA & DOH
 - D1: Draft Notice of Potential Violation
 - D2: Final Notice of Potential Violation
 - D3: Notice of Corrective Action

List of Acronyms

ACR Annual Compliance Report

AWPC Audit Work Plan Commencement

BMP best management practice

CD Consent Decree (Civil Action 1:14-CV-00408-JMS-KSC)

CFR Code of Federal Regulations

DOH Department of Health

EPA United States Environmental Protection Agency

HAR Hawaii Administrative Rules

HARP Hazard Appraisal and Recognition Plan
HDOT State of Hawaii Department of Transportation

MEP maximum extent practicable

MS4 Municipal Separate Storm Sewer System

NPDES National Pollutant Discharge Elimination System

PEAR Program Element Audit Report

PM Project Manager
QA quality assurance
QC quality control

SWMPP Storm Water Management Program Plan

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Section 1: Introduction, Purpose, and Goals

Under Paragraph 10.d of the Consent Decree (Civil Action 1:14-CV-00408-JMS-KSC) entered on 5 November 2014 (CD) with the United States Environmental Protection Agency (EPA) and the State of Hawaii (State) Department of Health (DOH), the State of Hawaii Department of Transportation (HDOT) is required to perform compliance audits of Municipal Separate Storm Sewer System (MS4)¹ permits issued to HDOT's Airports, Highways, and Harbors Divisions (referred to herein as the singular "MS4 Permit Audit"). Specific requirements for the MS4 Permit Audit are defined in Appendix A of the CD and included in Appendix A of this document. The MS4 Permit Audit will be conducted in accordance with this Audit Work Plan (AWP) by Kennedy/Jenks Consultants (Kennedy/Jenks), the selected independent third-party audit firm.

This AWP was conditionally approved by EPA & DOH on 31 October 2016. As memorialized in the conditional approval letter, HDOT will begin the audit on 15 March 2017. This date is hereafter referred to as the AWP Commencement date (AWPC). This AWP includes project milestones with defined dates in some cases (e.g., "15 April 2017") while other dates may be specified relative to the AWPC (e.g., "30 days after AWPC"). All "days" in this AWP refer to calendar days as opposed to business days.

The defined purpose of the MS4 Permit Audit is to assess HDOT's current regulatory and administrative compliance with its MS4 permits, DOH National Pollutant Discharge Elimination System (NPDES) General Permit Coverage Authorizing Discharges of Storm Water and Certain Non-Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (Hawaii Small MS4 General Permit), applicable Storm Water Management Program Plans (SWMPPs), and the CD.

The defined goals of the MS4 Permit Audit focus on meeting the requirements listed in Appendix A of the CD, including:

- Evaluating compliance with HDOT MS4 permits and the CD
- Identifying information gathered during the MS4 Permit Audit that may be used to promote information and technology transfer between HDOT Divisions
- Identifying Potential Violations (areas where the evaluation found the permittee not in compliance with a specific permit requirement or SWMPP commitment) and Deficiencies (items which, if not corrected, may be anticipated to lead to Potential Violations) in HDOT's stormwater programs and assisting with timely self-correction of identified Potential Violations and Deficiencies by HDOT.

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¹ The MS4 refers to the conveyance system in addition to the jurisdiction(s) which own/operate the system.

In addition to meeting the CD requirements and EPA & DOH expectations, the overarching goal of the MS4 Permit Audit is to develop internal trust and collaboration within HDOT. The Audit Team will seek HDOT-wide opportunities for improvement rather than focusing on minor issues of non-compliance.

Reporting requirements of the MS4 Permit Audit are defined in Appendix A Section D.7. of the CD and include:

- A specific statement of the procedures followed, HDOT sites and activities visited, and all materials reviewed during the MS4 Permit Audit
- Retrospective analysis of activities that may be outmoded, ineffective, insufficient, or excessively burdensome, and providing recommendations to modify, streamline, or augment them in accordance with what has been learned during the MS4 Permit Audit, as appropriate.
- Identification of Potential Violations and Deficiencies and of MS4 permit conditions, applicable SWMPPs, the CD, and/or other applicable regulations, and providing recommendations for improvements as found to be appropriate
- Identification of best practices and opportunities for information/technology transfer to be applied across the three HDOT Divisions
- An analysis of the practices implemented for each HDOT Division's program elements and a determination as to whether identified best practices can be universally implement across all three Divisions. If best practices cannot be universally implemented, the report will clearly describe impediments identified.

In accordance with requirements defined in Appendix A of the CD, EPA's *MS4 Program Evaluation Guidance* (hereinafter EPA (2007) guidance) was consulted in the development of this AWP. The audit protocols included herein are intended to promote consistency among regulated facilities when conducting environmental audits and to validate that the MS4 Permit Audit is conducted in a thorough and comprehensive manner. Program evaluation worksheets (included in Appendix B) were developed to guide the Audit Team while performing the MS4 Permit Audit. Each worksheet addresses a separate program element, and includes key questions derived from the EPA (2007) guidance document recommended to be considered during an MS4 evaluation. While this AWP is based on the EPA (2007) guidance for auditing small MS4s, HDOT has adapted the guidance to focus some aspects of the audit process to reflect the unique nature of HDOT operations.

Section 2: Audit Team and HDOT Personnel

Figure 2-1 provides an organizational chart defining the Audit Team and HDOT staff that will be involved in the MS4 Permit Audit.

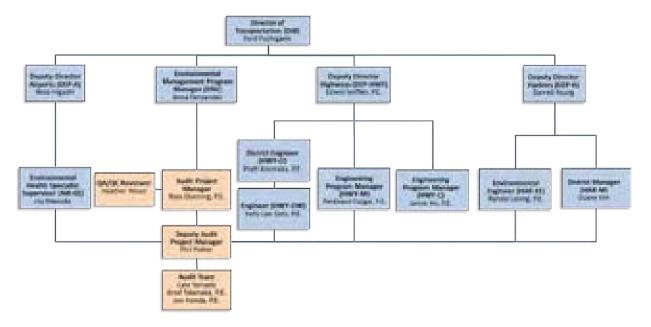


Figure 2-1 Organizational Chart

Additional information describing key MS4 Permit Audit personnel is provided below.

HDOT Project Manager – Anna Fernandez

In her role as Environmental Program Manager, Anna Fernandez reports directly to the HDOT Director. She serves as the HDOT Project Manager (PM) for this project. In this role, she administers and manages Kennedy/Jenks in performing the MS4 Permit Audit and their contact with HDOT leaders and stakeholders.

Deputy Director(s)

Deputy Directors report directly to the HDOT Director. They are responsible for facilitating the Audit Team's access to HDOT personnel and facilities within their respective Divisions as appropriate. The following Deputy Directors will be directly involved in the MS4 Permit Audit process:

Airports (DEP-A) – Ross Higashi Highways (DEP-HWY) – Edwin Sniffen, P.E. Harbors (DEP-H) – Darrell Young

MS4 Permit Coordinator(s)

MS4 Permit Coordinators are those HDOT personnel responsible for managing compliance with the MS4 permit for each Division, district, or designated MS4 permitted area. The following MS4 Permit Coordinators will be directly involved in the MS4 Permit Audit process:

Airports (AIR-EE) – Joy Masuda (Environmental Health Specialist Supervisor)
Oahu Highways (HWY-OW) – Kelly Lee Sato, P.E. (Engineer)
Maui Highways (HWY-M) – Ferdinand Cajigal, P.E. (Engineering Program Manager)
Oahu Harbors (HAR-EE) – Randal Leong, P.E. (Environmental Engineer)
Maui Harbors (HAR-M) – Duane Kim (District Manager)

Additional Key MS4 Permit Audit Personnel

The following key staff will also be consulted throughout the MS4 Permit Audit Process:

District Engineer (HWY-O) - Pratt Kinimaka, P.E. Engineering Program Manager (HWY-C) - Jamie Ho, P.E.

Audit Project Manager – Ross W. Dunning, P.E. / Principal (Kennedy/Jenks)

Ross is a Principal of Kennedy/Jenks and leads their companywide stormwater practice. He has assisted many Western U.S. Port authorities for almost 20 years with development of strategies and stormwater management plans to address Clean Water Act and NPDES regulations. He is Kennedy/Jenks' point of contact for the HDOT PM, and manages the Audit Team to verify that MS4 Permit Audit procedures and reports meet CD requirements and are on schedule. The Audit PM is responsible for updating this Audit Work Plan (with the approval of the HDOT PM), producing schedules, preparing audit reports, and maintaining audit records.

Lead Quality Assurance/Quality Control (QA/QC) Reviewer: Heather Wood (Kennedy/Jenks)

Heather is the former Director of Sustainability for the Port of Virginia, responsible for development of their environmental programs and permit compliance (including NPDES). Heather is also the former Chair of the American Association of Port Authorities Environmental Committee. She is Kennedy/Jenks' Ports and Harbors Sector Leader. In her role as the Lead QA/QC Reviewer, she will direct the review of MS4 Permit Audit work products, including draft and final audit reports, by qualified Kennedy/Jenks staff.

Deputy Audit Project Manager – Phil Potter (Kennedy/Jenks)

Phil is based in Kennedy/Jenks' Honolulu office and leads the firm's stormwater practice in Hawaii. For over 8 years, he has assisted municipal clients including the HDOT Highways Oahu District and the City and County of Honolulu with development and implementation of their NPDES compliance programs. In his role as the Deputy Audit PM, Phil is responsible for assisting the Audit PM in the execution of the Audit Work Plan and will directly coordinate with the HDOT MS4 Permit Coordinators and other stakeholders.

Auditors – Cale Yamada; Brad Takenaka, P.E.; Jon Honda P.E. (Kennedy/Jenks)

Cale, Brad, and Jon are experienced stormwater professionals in Kennedy/Jenks' Honolulu office. Among their many stormwater projects, they currently assist the City and County of Honolulu with ongoing development and implementation of its municipal stormwater program including, but not limited to, providing periodic MS4 program compliance inspections for hundreds of City and County industrial facilities throughout the island of Oahu.

Auditors are responsible for performing inspections of HDOT facilities and documentation, and performing interviews with HDOT employees responsible for MS4 program implementation and management in order to assess compliance with applicable MS4 program and CD requirements. Auditors are also responsible for coordinating with the Audit PM and Deputy Audit PM regarding any Potential Violations and Deficiencies identified. Hereinafter, the "Audit Team" refers to the Kennedy/Jenks' staff introduced above.

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Section 3: Audit Notes and Guidelines

This Section addresses various topics intended to guide the Audit Team in completing the MS4 Permit Audit in a safe and efficient manner.

3.1 Health, Safety, and Site Access Considerations

Prior to initiating onsite evaluations (see Section 5.2), the Audit PM will lead the Audit Team in developing a Hazard Appraisal and Recognition Plan (HARP), following Kennedy/Jenks' standard safety program. The HARP describes how to identify and analyze safety risks associated with field activities, operations, and facilities; approaches for mitigating identified risks; and processes for documenting and reporting accidents, near misses, and potentially unsafe conditions which may be encountered in the field. The HARP is a "living document" which will be updated as appropriate throughout the term of the MS4 Permit Audit. The Audit Team will wear appropriate personal protective equipment (hard hat, safety vest, safety shoes, protective eyewear, and hearing protection as appropriate) while performing the onsite evaluations.

Harbors Facilities

At this time, no special security clearances or requirements are defined to be necessary at Harbors facilities and/or project sites, as long as the Audit Team is escorted by personnel with valid Transportation Worker Identification Credentials (TWIC) and documentation of Maritime Security (MARSEC) Facility Security Awareness training certification. Active loading or unloading of cargo may necessitate additional safety requirements at certain pier locations.

Airports Facilities

At this time, Airports Division facilities to be evaluated are anticipated to be outside secured air operations areas; therefore, no special requirements or clearances are defined to be necessary. Adequate notice will be provided to the Airports Division MS4 Permit Coordinator to arrange security escort as found to be necessary.

Highways Facilities

At this time, there are no defined security restrictions to access Oahu District or Maui District Highway facilities as the Audit Team will be escorted by HDOT personnel at all times.

3.2 Quality Control Procedures

The Audit PM is responsible for ensuring that Kennedy/Jenks' effort and deliverables meet their company's professional mandate to consistently perform work in a technically correct manner, meeting the standard of care for their profession. The standard of care is defined to represent the watchfulness, attention, caution, prudence, and skill that other qualified professionals in the same or similar circumstances would exercise.

Kennedy/Jenks' quality assurance (QA) program includes processes and procedures developed over their near century-old history to achieve and maintain a rigorous level of quality, planning,

application, and verification. Its quality control (QC) program implements this process and QC reviewers will continuously monitor their effort and work products on this project to meet contract and CD requirements, Kennedy/Jenks' QA/QC standards, and HDOT's expectations.

3.3 Photographs

Digital photographs collected and archived during the course of the MS4 Permit Audit will be managed in accordance with EPA's *Digital Camera Guidance for EPA Civil Inspections and Investigations* (2006). Photographs taken will be organized into photograph logs with each photograph numbered with the date and time included. A brief photograph caption will identify the facility or site name, describe what is depicted in the photograph, the location, direction, and other pertinent data (e.g., the location within the facility or site) as appropriate.

3.4 "Maximum Extent Practicable" Concept

Unlike NPDES industrial wastewater permits which typically contain specific end-of-pipe effluent limits based on water quality standards or available treatment technology, HDOT's MS4 permits include programmatic requirements involving the implementation of BMPs in order to reduce pollutants discharged to the "maximum extent practicable" (MEP). In addition, HDOT's permits allow flexibility in the types of BMPs and activities implemented to meet permit requirements. There is also added complexity in evaluating several similar permits applicable to the very different operations conducted at HDOT Highways, Airports, and Harbors facilities. This makes it challenging to assess the true effectiveness of HDOT's several MS4 stormwater programs and how they may be integrated.

Per EPA (2007) guidance, HDOT is considered a non-traditional MS4 permittee, and as such, the evaluation of its MS4 programs will be specific to their particular circumstances and applicable permit requirements. Some HDOT MS4 permits contain broad requirements that outline the basic SWMPP components the permittee is required to implement, giving the permittee the flexibility to develop a program to meet these broad requirements. Other MS4 permits are more prescriptive and specify in detail the minimum activities and best management practices (BMPs) for each program element.

Given these inherent operational differences and challenges, each HDOT permittee has traditionally applied different approaches to comply with specific permit requirements based on MS4-specific traits or issues. For example, EPA regulations require permittees to develop "procedures for site inspection and enforcement" for addressing construction activities. Few MS4 permits specify how the permittee should inventory their active construction projects or track enforcement activities. A permittee with only a few construction projects a year may be able to use a paper system to inventory and track construction projects. A permittee with hundreds or thousands of construction projects would likely need a database or similar electronic tracking system to ensure it was implementing the program to a level considered to meet MEP.

It is relatively straightforward to assess whether HDOT has developed certain programs and conducted various activities that are called for and within the timeframes specified in each of the permits under consideration, as well as activities or programs specified under SWMPPs or other documents prepared by HDOT. The challenge for the Audit Team and HDOT is to assess

whether the programs and activities implemented have or will constitute MEP. EPA (2007) guidance will assist with this determination, but is not definitive. Determination requires application of the Audit Team's best professional judgment.

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Section 4: Audit Structure and Schedule

For each of the six program elements required to be reviewed by the CD, Kennedy/Jenks will review the six permitted MS4 programs concurrently, developing six Program Element Audit Reports (Final PEARs) that represent the culmination of the auditing efforts across the three HDOT Divisions.

Appendix A of the CD defines various project milestones and deadlines, described for ease of reference below:

Table 4-1 CD Appendix A Deadlines

Program Element	Evaluation Complete: ^(a)	Draft PEAR to HDOT: (d)	HDOT Review of Draft PEAR: (e)	Final PEAR to HDOT: ^(f)
PEAR #1: Post-Construction Runoff Control / Permanent	3 Months (90 Days) ^(b)	135 Days After	165 Days After	210 Days After
	After AWPC ^(c)	AWPC	AWPC	AWPC
Best Management Practices	13 June	28 July	27 August	11 October
	2017	2017	2017	2017
PEAR #2: Construction Site	9 Months (270 Days)	315 Days After	345 Days After	390 Days After
	After AWPC	AWPC	AWPC	AWPC
Runoff Control	10 December	24 January	23 February	9 April
	2017	2017	2017	2018
PEAR #3: Public Outreach /	15 Months (450 Days)	495 Days After	525 Days After	570 Days After
	After AWPC	AWPC	AWPC	AWPC
Public Involvement	8 June	23 July	22 August	8 October
	2018	2018	2018	2018
PEAR #4: Illicit Discharge Detection and Elimination Program Element and	21 Months (630 Days) After AWPC	675 Days After AWPC	705 Days After AWPC	750 Days After AWPC
Industrial Commercial	5 December	19 January	18 February	4 April
Activities/Tenant Programs	2018	2019	2019	2019
PEAR #5: Pollution Prevention	27 Months (810 Days)	855 Days After	885 Days After	930 Days After
	After AWPC	AWPC	AWPC	AWPC
/ Good Housekeeping	3 June	18 July	17 August	1 October
	2019	2019	2019	2019
PEAR #6: Staffing, Funding, Organizational Structure, Availability of Resources and	33 Months (990 Days) After AWPC	1035 Days After AWPC	1065 Days After AWPC	1110 Days After AWPC
Storm Water Program Sustainability	30 November	14 January	13 February	29 March
	2019	2020	2019	2020

Notes:

(a) "Evaluation" as referenced in CD Appendix A Section B.5. is defined in this AWP to represent the conclusion of the Post-Onsite Evaluation Review Period (See Section 5.2.3) for PEARs #1, 2, 4, and 5. For PEARs #3 and 6, no onsite evaluation is required and therefore "evaluation" is defined to represent the date of conclusion of the Records Review period. Please refer to Appendix C for more detail.

- (b) "Months" are based on 30-day months in this AWP.
- (c) AWPC = Audit Work Plan Commencement (15 March 2017)
- (d) Pursuant to CD Appendix A Section D.2., Kennedy/Jenks will complete a draft audit report and transmit it to HDOT within 45 days of completing an audit of a program element (defined in this AWP as the conclusion of "evaluation", as discussed in Note (a)).
- (e) Pursuant to CD Appendix A Section D.3., HDOT will review the draft PEAR to correct any factual inaccuracies within 30 days of receipt.
- (f) Pursuant to CD Appendix A Section D.4., Kennedy/Jenks will complete a final PEAR within 120 days of completing an audit of a program element (defined in this AWP as the conclusion of "evaluation", as discussed in Note (a)).

Section 5: Program Element Audits

Each program element audit will follow a similar schedule and structure, discussed generally in this section. The Program Element Audits will occur over a 37-month period depicted graphically below (Figure 5-1):

Figure 5-1 Program Element Audit Schedule



Appendices B1 - B6 list the basic information anticipated to be reviewed for each MS4 program element to be audited. The Audit Team will utilize worksheets provided in Appendices B1 - B6 to collect and track information for each MS4 permit and element. References to Appendices C1 - C6 are also included, defining specific schedules for each of the six PEARs. Each Program Element Audit will include three phases (Pre-Audit, Onsite Evaluation, and Reporting), detailed in the following sections.

5.1 Pre-Audit

This Section describes the first phase of each Program Element Audit.

5.1.1 Notice of Audit

The Audit Team will schedule events, confirm appropriate participants, and begin planning the upcoming program element audit with the HDOT PM prior to initiating each Program Element Audit (Appendices C1 - C6 Item 1). The HDOT PM will coordinate with the MS4 Permit Coordinators to provide the following for each of the six MS4 permits:

- Facility or Division-specific SWMPPs
- Recent Annual Reports
- Documentation of required training, inspection reports, legal enforcement correspondence, if any, etc.
- Relevant memoranda of understanding with adjacent of contributing agencies, municipalities, etc.
- Organizational charts specifically listing HDOT staff with MS4 permit authority and responsibility.

The HDOT PM will coordinate with the MS4 Permit Coordinators to identify individuals and stakeholders that should be engaged during the MS4 Permit Audit.

5.1.2 Records Request

The Audit Team will review those sections of the NPDES permits, SWMPPs, guidance documents, the CD, etc. pertinent to the each individual audit element. Based on this review, the Audit Team will develop a records request and submit it to the HDOT PM (Appendices C1 - C6 Item 2). Where documentation is required (completed forms, logs, sign-in sheets, etc.), the Audit Team will request a subset of relevant records for verification. Electronic records are preferred, but physical copies of hard copy records are also acceptable. The HDOT PM will work with the MS4 Permit Coordinators to acquire and provide requested records to the Audit Team (Appendices C1 - C6 Item 3).

5.1.3 Records Review

The Audit Team will compare the program element requirements and commitments identified in the NPDES permits, SWMPPs, CD, annual reports, etc. and the records obtained in the record review (Appendices C1 - C6 Item 4). This review will be informed to the extent appropriate by the interview questionnaire provided in Appendices B1 - B6. It is expected that several conference calls between the Audit Team, HDOT PM, and MS4 Permit Coordinators may be conducted during this period.

5.2 Onsite Evaluation

This Section describes the second phase of each Program Element Audit.

5.2.1 Pre-Onsite Evaluation Conference Call

The Audit Team and HDOT PM will contact each MS4 Permit Coordinator to confirm schedules, address questions and security concerns, confirm personnel safety equipment needed, and organize training and orientation briefings that may be required (Appendices C1 - C6 Item 5).

5.2.2 Onsite Evaluation

For work planning purposes, it is assumed that onsite evaluations for each Program Element will be conducted over the course of five (5) days (except for PEAR #4, which requires an extra day). Detailed activity descriptions and schedules are included in Appendices C1 - C6 (Item 6). It should be noted that following EPA (2007) guidance, PEAR #3 and PEAR #6 do not require onsite evaluations². The onsite evaluations for each Program Element are tentatively scheduled during the following time periods (Table 5-1):

Revised Audit Work Plan, State of Hawaii DOT

² Although no on-site evaluation is required for PEAR #3 (Public Outreach / Public Involvement Program), the Audit Team will endeavor to identify and attend events such as Harbors' tenant outreach in order to gain a well-rounded understanding of this program.

Table 5-1 Tentative On-Site Evaluation Dates

PEAR	On-Site Evaluation		
PEAR #1: Post-Construction / Permanent Best	Tuesday 30 May 2017 to		
Management Practices	Monday 5 June 2017		
PEAR #2: Construction Site Runoff Control	Monday 27 November 2017 to		
PEAR #2. Construction Site Runon Control	Friday 1 December 2017		
PEAR #3: Public Outreach / Public Involvement Program	[none required]		
PEAR #4: Illicit Discharge Detection and	Monday 19 November 2018 to		
Elimination Program Element and Industrial Commercial Activities/Tenant Program	Wednesday 28 November 2018		
PEAR #5: Pollution Prevention / Good	Monday 20 May 2019 to		
Housekeeping Program	Friday 24 May 2019		
PEAR #6: Staffing, Funding, Organizational Structure, Availability of Resources, and Storm Water Program Sustainability	[none required]		

5.2.3 Post-Onsite Evaluation Review Period

Following the Onsite Evaluations, the Audit Team will review the findings of the Pre-Audits and Onsite Evaluations and address final evaluation-related tasks that may have been noted (Appendices C1 - C6 Item 7). This review period completes the evaluation of the program element, as referenced in CD Appendix A Section B.5.

5.3 Reporting

This Section describes the third phase of each Program Element Audit.

5.3.1 Draft PEARs

Pursuant to the CD, the Audit Team will prepare draft PEARs documenting the procedures followed, sites and activities visited, materials reviewed, and a summary of major findings from the program element audits of the six HDOT NPDES permits (Appendices C1 - C6 Item 8). The PEARs will be structured so that they may be easily incorporated into each Division's Annual Compliance Report (ACR) (see Section 7).

The Audit Team will endeavor to draw defensible conclusions based on the NPDES permit requirements and conditions, the SWMPP developed to meet the permit goals, measurable achievement of those goals, and the Audit Team's best professional judgment interpretation of compliance with the NPDES regulations.

EPA (2007) guidance describes that, in some cases, it may not be possible to assess compliance with a program component because of the limitations of the MS4 program evaluation process. If this is found to be the case, the draft PEAR for the program element will state that this is the case and provide as much supporting information as possible. Similarly, if there were no findings of note for a particular SWMPP or NPDES component, this fact will be stated in the PEAR.

If the Audit Team identifies what may be a Potential Violation or Deficiency at any point during the Pre-Audit, Onsite Evaluation, or Reporting periods, actions will be taken in accordance with the decision tree defined in Section 6 for the Audit Team, HDOT PM, and MS4 Permit Coordinators to follow. The draft PEAR will describe the two findings as follows:

- Findings reviewed per Section 6 and found to be Potential Violations, reported to DOH/EPA and addressed via Corrective Actions.
- Findings found to be Deficiencies, for which recommendations for improvement will be included.

Each draft PEAR will identify BMPs and opportunities for information/technology transfer that may be considered for application across the three HDOT Divisions. The draft PEARs will also analyze the practices implemented for each HDOT Division's program elements and assess whether identified best practices can be universally implemented across the three HDOT Divisions. If best practices cannot be universally implemented, the draft PEAR report will describe identified impediments (such as legal barriers). The draft PEAR will also identify positive program elements considered to exceed the NPDES requirements and SWMPP. Finally, the draft PEAR will include a retrospective analysis of activities that are considered to be potentially outmoded, ineffective, insufficient, or excessively burdensome. Recommendations to modify, streamline, or expand them in accordance with what has been learned will be listed.

The Audit Team will complete the draft PEAR within 45 days of the completion of the evaluation for each program element. The Audit Team will provide five (5) copies of the draft PEAR and one electronic file copy in Word (Version 2007 or earlier) to the HDOT PM.

5.3.2 HDOT Review

Upon receipt, the HDOT PM will distribute copies of the draft PEARs to the appropriate MS4 Permit Coordinators, who will be responsible for reviewing the reports and distributing the reports to key personnel for their review. The MS4 Permit Coordinators will submit to the HDOT PM a consolidated written request for clarification and corrections to the draft PEAR for their respective permit as found to be necessary (Appendices C1 - C6 Item 9). The HDOT PM will then submit the consolidated requests and corrections to the Audit PM (Appendices C1 - C6 Item 10).

5.3.3 Final Audit Report

Upon receipt of the consolidated requests and corrections, the Audit Team will make appropriate changes to the draft PEARs and submit the final PEARs (Appendices C1 - C6 Item 11).

For PEARs #1 - 5, the Final PEAR is scheduled to be submitted approximately 25 days in advance of the CD deadline. This is intended to afford additional time for the Divisions in each subsequent Program Element Audit. The CD is structured such that, if followed strictly, only 60 calendar days are afforded for Steps 1 to 7 of PEARs #2 - 6. For example, Final PEAR #1 is due at 210 days following AWPC and the evaluation of PEAR #2 is due at 270 days following AWPC. By reducing the time it takes Kennedy/Jenks to write the Final PEAR, an additional 25 days are afforded to the Divisions to fulfill the records request for the subsequent audit (Appendices C2 - C6 Item 3).

The Audit Team will provide five (5) copies of the final PEARs and one electronic file copy in Word (Version 2007 or earlier) to the HDOT PM.

5.3.4 Post-Audit Report Review

The HDOT PM and Audit PM will meet after the submission of each PEAR to discuss QC procedures and potential improvements to be made prior to the subsequent PEAR.

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Section 6: Potential Violations and Deficiencies

If at any point during the Pre-Audit, Onsite Evaluation or Reporting Periods the Audit Team identifies what may represent a Potential Violation or Deficiency (hereinafter "Finding of Concern"), the Audit Team, HDOT PM, and MS4 Permit Coordinators will follow the decision tree shown on Figure 6-1.

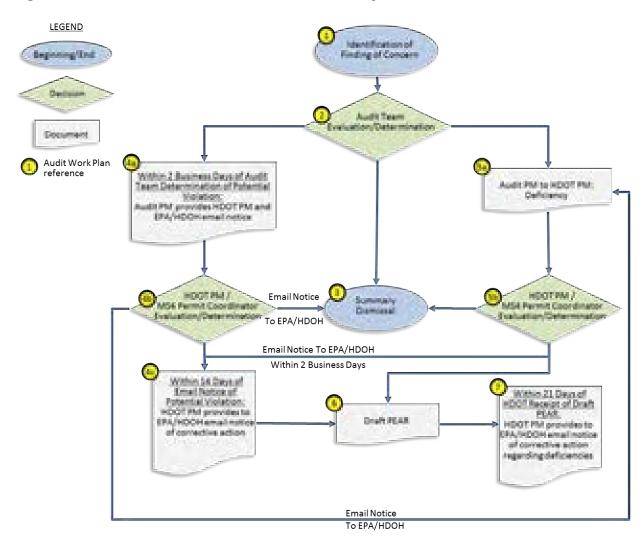


Figure 6-1 Potential Violation and Deficiency Decision Tree

1

6.1 Identification of Finding of Concern

②

6.2 Audit Team Consultation

Upon identification of a Finding of Concern, the Audit Team will consult internally to assess whether the Finding of Concern may represent a Potential Violation, a Deficiency, or whether it summarily merits dismissal.

<u>Potential Violation</u> - The Audit Team will categorize the Finding of Concern as a Potential Violation if it meets the EPA (2007) guidance definition of an "area where the evaluation found the permittee not in compliance with a specific permit requirement or SWMPP commitment". These occurrences would follow the procedures listed in Section 6.3.

<u>Deficiency</u> – The Audit Team will categorize the Finding of Concern as a Deficiency if it meets the Consent Decree definition of an "item which, if not corrected, will lead to potential violations"¹. These occurrences would follow the procedures listed in Section 6.4.

Summary Dismissal – The Audit Team will dismiss the Finding of Concern if it does not meet either the definition of a Potential Violation or a Deficiency. No further action will be required.

¹ EPA (2007) guidance further elaborates that deficiencies are areas of concern impeding effective program implementation. They are typically areas where the permit or SWMPP does not describe specifically how the permittee should conduct an activity, yet the evaluator believes the permittee may consider altering how they conduct the activity to meet water quality goals. Deficiencies can also be areas where future permit violations could result if the permittee continues on its present path. The Audit Team will look for opportunities to enhance program elements (e.g. recommending that MS4 Coordinators perform required annual reviews earlier in the year, thereby allowing time for self-correction).

6.3 Potential Violation Decision Tree

Notification: Audit PM to HDOT PM and EPA & DOH

If the Finding of Concern is categorized by the Audit Team as a Potential Violation, the Audit PM will notify the HDOT PM and EPA & DOH via email within 2 business days of making the determination using the form presented in Appendix D1. Additionally, the HDOT PM will be notified via telephone. These notifications will include the following information:

- 1. Specific details of the Potential Violation
- 2. Related photographs, if any
- 3. Applicable regulatory references [i.e., NPDES permit, SWMPP, Hawaii Administrative Rules (HAR), or Code of Federal Regulations (CFR) references, as applicable].

Evaluation/Determination

The HDOT PM will consult with the appropriate MS4 Permit Coordinator to further investigate the factual accuracy of the Potential Violation determination. Based on that consultation, the Potential Violation may be summarily dismissed (if found to be factually inaccurate) or re-categorized as a Deficiency (if incorrectly categorized as a Potential Violation). Both of these scenarios would be accompanied by email notification from the HDOT PM to EPA & DOH using the form presented in Appendix D2. The time required for this consultation is included in the 14-day timeline described in Item 4c, below.

Determination of Potential Violation

If the Finding of Concern is confirmed to be a Potential Violation, the HDOT PM will then work with the appropriate MS4 Permit Coordinator to assess suitable corrective actions.

Unless otherwise agreed upon with EPA & DOH, HDOT will correct the Potential Violation within 14 days of initial Audit Team email notification to EPA & DOH (see Item 4a above). Email notification of the Corrective Action will be provided to EPA & DOH by the HDOT PM using the forms presented in Appendix D2 and Appendix D3. The Consent Decree allows HDOT the option to request an extension to this reporting deadline. In order for EPA & DOH to agree to an extension, HDOT must provide a corrective action workplan, including a final compliance date, to EPA & DOH.

-

¹ Per EPA & DOH request, Connor Adams (EPA) and Matthew Kurano (DOH) will be copied on all email notifications to EPA & DOH.

6.4 Deficiency Decision Tree



Notification: Audit PM to HDOT PM

If a Finding of Concern is categorized as a Deficiency, the Audit PM will notify the HDOT PM via telephone and email and include the following information:

- 1. Specific details of the Deficiency
- 2. Related photographs, if any
- 3. Applicable regulatory references (i.e., NPDES permit, SWMPP, HAR, or CFR references, as applicable).

Evaluation/Determination

The HDOT PM will consult with the appropriate MS4 Permit Coordinator to further investigate the factual accuracy of the Deficiency determination. Based on that consultation, the Deficiency may be summarily dismissed (if found to be factually inaccurate) or re-categorized as a Potential Violation (if incorrectly categorized as a Deficiency). The latter scenario will be accompanied by an email notification to EPA & DOH within 2 business days of making the determination using the form presented in Appendix D2.

Deficiency

If the finding is confirmed to be a Deficiency, this finding (along with confirmed Potential Violations) will be documented in the appropriate draft PEAR. The HDOT PM will work with the appropriate MS4 Permit Coordinator to assess the appropriate corrective actions.

Unless otherwise agreed upon with EPA & DOH, HDOT will correct Deficiencies within 21 days of receiving the draft PEAR (Appendices C1 - C6 Item 8). Email notification of the Corrective Action will be provided to EPA & DOH by the HDOT PM using the form included in Appendix D3. The CD allows HDOT the option to request an extension to this reporting deadline. In order for EPA & DOH to agree to an extension, HDOT must provide a corrective action workplan, including a final compliance date, to EPA & DOH.

Section 7: Annual Compliance Report

Due to the differences in Division operations, not all portions of each PEAR will be applicable to all MS4 permittees. As such, the PEARs will be structured so that they may be easily incorporated into each Division's Annual Compliance Report (ACR). The HDOT PM will work with each permittee to ensure that the appropriate PEAR content is included in each individual ACR. Each ACR will include a detailed summary of actions taken as a result of the audit reports and dates at which corrective actions, if warranted, were taken.

Additionally, pursuant to CD Appendix A Section D.5., the HDOT PM will submit each original draft and final PEAR to EPA & DOH at the same time that ACRs are submitted. Within the draft and final PEAR, an authorized HDOT official will certify that, to the best of the official's knowledge and information, the MS4 Permit Audit was conducted in accordance with this AWP. If items have not been corrected, HDOT will provide a schedule for implementing corrective measures.

References

- United States Environmental Protection Agency. 2005. Small SM4 Stormwater Program Overview. December. Accessed online at https://www3.epa.gov/npdes/pubs/fact2-0.pdf>.
- United States Environmental Protection Agency. 2006. Digital Camera Guidance for EPA Civil Inspections and Investigations. July. Accessed online at https://www.epa.gov/sites/production/files/2013-09/documents/digitalcameraguide.pdf.
- United States Environmental Protection Agency. 2007. *MS4 Program Evaluation Guidance*. Accessed online at https://www3.epa.gov/npdes/pubs/ms4guide_withappendixa.pdf>.

Appendix A

Consent Decree Sections Pertaining to Audit (10.d Page and Appendix A)

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APPENDIX A

ENVIRONMENTAL COMPLIANCE AUDITS

A. General Provisions

- 1. This Appendix provides details of the NPDES MS4 compliance audits required by Paragraph 10.d of the Consent Decree. The audits shall include evaluation of common stormwater program elements at each of HDOT's three divisions (Airports, Highways and Harbors), as stated in Paragraph A.3 below, throughout the state on a per element schedule. The audits shall be completed to fulfill the following goals:
 - a. Determine compliance with the federal regulations and state MS4 permits and regulations and this Consent Decree (see Paragraph A.2, below);
 - b. Ensure information gathered during the audits is used to promote information and technology transfer between divisions; and
 - c. Identify deficiencies and potential violations that are discovered by the third party auditor and allow for timely self-correction of the deficiencies and potential violations by HDOT.
- 2. The audits shall be designed to assess current regulatory and administrative compliance with the following items throughout each of HDOT's divisions:
 - a. The Hawaii NPDES General Permit Authorizing Discharges of Storm Water and Certain Non-Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (Hawaii Small MS4 General Permit), Hawaii Administrative Rules, chapter 11-55, Appendix K;
 - b. NPDES permit, Permit No. HI S000001, MS4 Permit for the HDOT-Highways, Oahu District;
 - c. NPDES Permit, Permit No. HIS000005, MS4 Permit for the HDOT-Airports, Honolulu International Airport;
 - d. Applicable Storm Water Management Plans (SWMPs); and
 - e. This Consent Decree.
 - f. Future NPDES MS4 permits and SWMPs issued to HDOT. This obligation shall not delay or prevent termination of the Consent Decree.
- 3. The audits shall include, but not be limited to, an evaluation of the following MS4 Program Elements as they relate to compliance at each of HDOT's three divisions:
 - a. Public Education/Outreach and Participation/Involvement
 - b. Illicit Discharge Detection and Elimination (including commercial/tenant oversight programs)
 - c. Construction Site Runoff Control
 - d. Post-Construction Runoff Control/Permanent BMPs
 - e. Pollution Prevention/ Good Housekeeping
 - f. An analysis of how Staffing, Funding, Organizational Structure, Availability of Resources and Storm Water Program Sustainability impact MS4 compliance
- 4. HDOT shall audit Program Elements for the Harbors, Airports and Highways Divisions in accordance with the schedule defined in the Work Plan described in Paragraph B.1, below.

- 5. The audits shall be conducted by a qualified third party environmental consulting firm retained by HDOT and selected by a committee consisting of representatives of the HDOH and HDOT. The selection committee shall choose an audit firm which is experienced with environmental auditing and the permits and regulations described in Paragraph A.2, above.
- 6. The requirements of this Appendix related to the consulting firm's qualifications, authority to conduct the audits, and production of the HDOT Audit Reports (Audit Reports) shall be incorporated in any contract relating to the audits entered into by HDOT and the selected consulting firm to the extent allowed by State Procurement Code.
- 7. Any violations by HDOT discovered though the execution of the Environmental Compliance Audit detailed in this Appendix are neither "voluntarily discovered" within the terms of EPA's revised *Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations Policy* (Audit Policy) nor voluntarily disclosed to EPA under EPA penalty policies. Accordingly, any such violations are ineligible for penalty mitigation or other favorable treatment under the Audit Policy.
- 8. HDOT agrees not to attempt to use any state audit and/or privilege laws to restrict EPA's or HDOH's ability to review the Audit Reports at HDOT facilities to determine if the audits have been properly completed and HDOT has corrected any uncorrected non-compliance, potential violation, or deficiency as per its certification (see Paragraph F below). Also, HDOT agrees not to attempt to use any state audit and/or privilege laws to restrict EPA's or HDOH's ability to obtain, review and/or use the Audit Reports in any action to enforce the audit provisions of the Consent Decree. Neither information contained in the Audit Reports, nor underlying information upon which the Audit Reports relied, that indicates regulatory violations at any HDOT facility, shall be claimed as confidential business information by HDOT or its consulting firm.

B. Procurement of Services/Audit Work Plan

- 1. HDOT shall advertise a Request for Qualifications from third party audit firms to conduct the audits. Advertisement for the Request for Qualifications shall not exceed forty-five (45) days.
- 2. Within thirty (30) days of the end of the Request for Qualifications period, the HDOT and HDOH selection committee shall conduct the professional services selection of an audit firm and provide the recommendation to the Director.
- 3. Within fifteen (15) days of the selection committee recommendation to the Director of Transportation, or another length of time agreed to by EPA and HDOH, HDOT shall notify the potential audit firm with a letter of selection, pending negotiation of fees.
- 4. Within thirty (30) days or another length of time agreed to by EPA and HDOH, HDOT shall, as approved by the Director of Transportation, award the selected audit firm and proceed to process the contract for the audit work. Within seven (7) days of each milestone, HDOT shall notify EPA and HDOH by email that the following milestones were completed:
 - a. Request for Qualifications advertisement;
 - b. Awarding of contract between HDOT and the selected audit firm;
 - c. Notice to Proceed on the Audit.
- 5. On or before September 16, 2016, HDOT shall submit a draft audit work plan (Audit Work Plan) to EPA and HDOH for review and approval. In developing the Audit Work Plan, HDOT shall consult EPA's guidance on auditing small MS4s:

http://www.epa.gov/npdes/pubs/ms4guide withappendixa.pdf The Audit Work Plan shall include the following audit schedule and describe each task necessary to accomplish the Audit Scope with targeted time frames for the consulting firm to complete:

- a. 3 months after the Audit Work Plan is approved: Evaluation of Post Construction/Permanent BMP programs for all three HDOT divisions;
- b. 9 months after the Audit Work Plan is approved: Evaluation of Construction Site Runoff Control programs for all three HDOT divisions;
- c. 15 months after the Audit Work Plan is approved: Evaluation of Public Outreach/Public Involvement for all three HDOT divisions;
- d. 21 months after the Audit Work Plan is approved: Evaluation of Illicit Discharge Detection and Elimination, Industrial Commercial Activities/Tenant Programs for all three HDOT Divisions;
- e. 27 months after the Audit Work Plan is approved: Evaluation of Pollution Prevention/Good Housekeeping for all three HDOT Divisions;
- f. 33 months after the Audit Work Plan is approved: Evaluation of Staffing, Funding, Organizational Structure, Availability of Resources and Storm Water Program Sustainability for all three HDOT divisions.
- 6. The Audit Work Plan shall include, but is not limited to: the minimum documents to be reviewed (e.g. SWMPs, training records, inspection reports, etc.), minimum number of field verifications, as necessary, for each program element evaluated, deliverables (notices of potential violations, draft and final audit reports), and reporting deadlines.
- 7. EPA, after consultation with HDOH, may reject the draft Audit Work Plan in whole or in part. If EPA rejects the Audit Work Plan or any portion of it, EPA shall identify the reason(s) in writing to HDOT for such rejection and may require HDOT to redraft the Audit Work Plan in its entirety or part. EPA shall provide any comments to HDOT within forty-five (45) days.
- 8. If EPA and HDOH reject the Audit Work Plan in whole or part, HDOT shall resubmit a revised Audit Work Plan within one hundred and twenty (120) days. After submission of the revised Audit Work Plan, EPA, after consultation with HDOH, shall provide any comments to HDOT within forty-five (45) days. HDOT will review all comments and make all required modifications to the revised Audit Work Plan. If EPA does not provide written comments, the revised Audit Work Plan shall be deemed approved by EPA and HDOH.

C. Audits

- 1. HDOT shall take all appropriate measures to facilitate the audit firm in performing the audits in accordance with the approved Audit Work Plan.
- 2. HDOT shall grant the audit firm full access to and unrestricted review of all HDOT records, documents and information that the audit firm requires to complete the audits.

D. Reporting/Audit Reports

- 1. HDOT shall require the audit firm to provide preliminary written notice of any potential violations identified in any audit to HDOT, EPA and HDOH within 2 business days following an audit of a program element in Paragraph B.1, above.
- 2. HDOT shall require the audit firm to complete a draft audit report to HDOT within 45 days of completing an audit of a program element.
- 3. HDOT shall review the draft audit report to correct any factual inaccuracies within 30 days after receiving the draft audit report.
- 4. HDOT shall require the audit firm to complete a final audit report within 120 days, or another length of time agreed to by EPA and DOH, of completing an audit of a program element.
- 5. HDOT shall submit original draft and final audit reports to EPA and HDOH with the Annual Compliance Report (ACR).
- 6. HDOT shall provide a detailed summary of any actions taken as a result of the audit reports and dates at which those actions were taken with the ACR.
- 7. The HDOT Audit Reports shall contain:
 - a. A specific statement of the procedures followed, HDOT sites and activities visited and all materials reviewed during the audits;
 - b. Retrospective analysis of activities that may be outmoded, ineffective, insufficient, or excessively burdensome, and recommendations to modify, streamline, or expand them in accordance with what has been learned;
 - c. An identification of deficiencies (items which, if not corrected, will lead to potential violations) and potential violations with the applicable SWMPs, this Consent Decree, and/or applicable permit and regulations, and recommendations for improvement;
 - d. Identification of best practices and opportunities for information/technology transfer to be applied across all divisions; and
 - e. An analysis of the practices implemented for each Division's program elements and a determination as to whether identified best practices can be universally implement across all three Divisions. If best practices cannot be universally implemented, the report shall clearly describe the identified impediments.
- 8. HDOT shall correct any deficiency or potential violation identified in the Audit Reports or otherwise discovered by HDOT as part of the audit process set forth herein within the time frames identified in Paragraph E below.

E. Corrections of Potential Violations and Deficiencies

- HDOT shall correct any potential violations within 14 days of notification as described in D.1 of this Appendix, or another period of time agreed to by EPA and DOH. In order for EPA and DOH to agree to an extension, HDOT must provide a corrective action workplan, including a final compliance date, to EPA and HDOH.
- 2. HDOT shall correct any deficiencies within 21 days of receiving the draft Audit Report, or another period of time agreed to by EPA and HDOH. In order for EPA and HDOH to agree to an extension, HDOT must provide a corrective action workplan, including a final compliance date, to EPA and HDOH.
- 3. If HDOT corrects any violation discovered through the Audit process within the time frames described above, it shall not be subject any related stipulated penalties under Paragraph 30.

- 4. Notwithstanding anything in E.3 of this Appendix, the United States and HDOH reserve all legal and equitable remedies available to enforce the provisions of this Consent Decree or to obtain penalties or injunctive relief under the Act or its implementing regulations, or under other federal or State laws, regulations, or permit conditions, if HDOH or EPA independently discovers a violation of a permit, law, or statute.
- 5. Similarly, United States and HDOH, reserve all legal and equitable remedies available to enforce the provisions of this Consent Decree or to obtain penalties or injunctive relief under the Act or its implementing regulations, or under other federal or State laws, regulations, or permit conditions, if an activity or violation poses an immediate threat to human health or the environment.

F. Certifications

1. HDOT shall provide the following information and certifications to EPA and HDOH regarding completion of each audit and correction of any non-compliance or potential violation identified in the Audit Reports or otherwise discovered by HDOT as part of the audit process within an Environmental Compliance Audit section of the ACR. An authorized HDOT official shall certify that, to the best of the official's knowledge and information, the audits were conducted in accordance with the Work Plan described above, the Audit Reports are submitted to HDOT, EPA and HDOH in the ACR as described above, and all items of non-compliance identified in the Audit Reports have been corrected or steps have been taken to correct them. If all items have not been corrected, HDOT must include a schedule for correcting the issue.

Appendix B

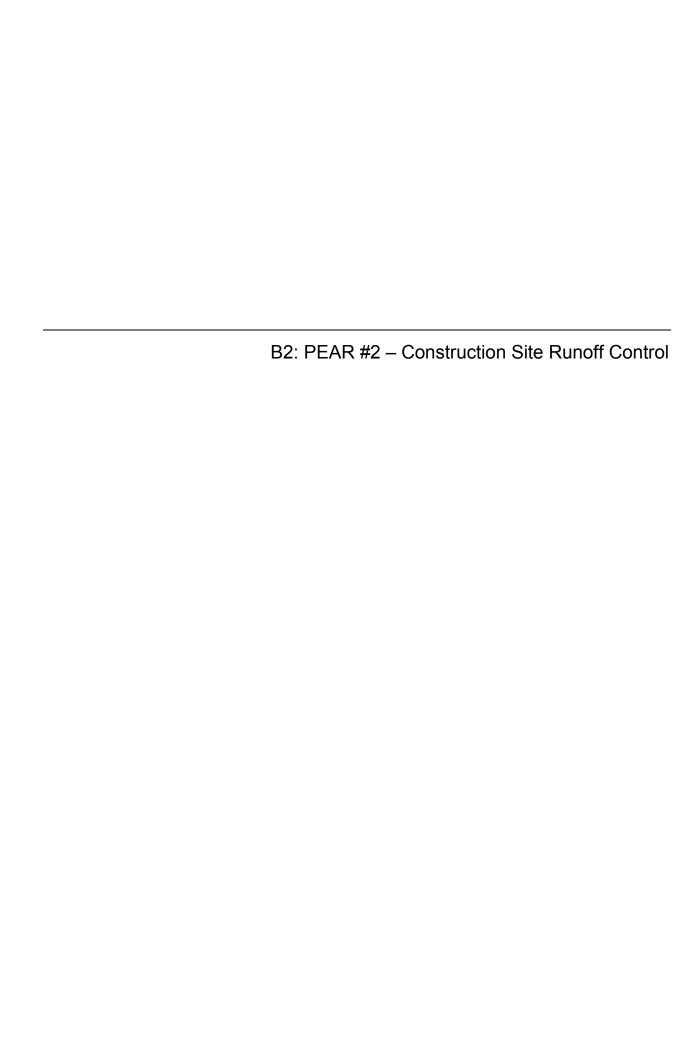
PEAR 1 through 6 Guiding Questions

		Airr	oorts	Har	bors	High	ways
Question Number	Question	Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
Α	Overall Approach						
A1	Discuss the process chronologically in the order that a project would occur. Walk us through the						
Ai	process as if we were a developer proposing a project.						
В	Laws/Rules/Regulations/Policies						
B1	What legal authority does the permittee have to require post-construction BMPs on development						
БІ	sites and to ensure maintenance?						
B2	Does the permittee's legal authority address post-construction requirements for all projects						
DZ	disturbing one acre or more?						
B3	Does the legal authority require site design, source control, and stormwater treatment BMPs?						
B4	What exemptions do the laws/rules/regulations/policies or other legal authority allow?						
B5	What procedures for alternative compliance (i.e., planning-level BMPs and other non-structural controls) are allowed?						
В6	Does the legal authority authorize the permittee to require stormwater management plans to address post-construction impacts?						
B7	Do the laws/rules/regulations/policies outline the contents of an approvable plan and responsibilities for operation and maintenance of approved BMPs?						
С	Post-Construction BMP Standards						
C1	What technical guidance (e.g., BMP manual) does the permittee use as the standard for design and selection of post-construction BMPs? Note: It is not necessary to do a thorough review of the						
C2	manual or standards used by the permittee. Are project proponents required to follow a technical guidance manual?						
C2							
	Does the guidance provide siting and use criteria for the BMPs to ensure proper and adequate BMPs are being selected and implemented?						
C4	Does the guidance provide siting and use criteria for BMP selection based on the development context (i.e., BMP selection appropriate for ultra urban-areas versus those more appropriate for more rural settings with larger parcels)?						
C5	Are pollutants of concern that are typically generated by the proposed development type considered when selecting or approving BMPs?						
C6	Does the technical manual provide guidance on sizing, performance, and location of BMPs?						
C7	When was the BMP manual last updated?						
C8	Does the permittee have different requirements or standards for different types of developments (e.g., specific post-construction requirements for gas stations or automobile repair facilities)?						
C9	Does the permittee have design manuals related to land-efficient site designs (e.g. better site design, better models for large retailers)?						
C10	Does the permittee promote source control and site design standards to reduce the generation of pollutants in addition to treatment BMPs?						
C11	Does the permittee include in standards and manuals specifications for innovative site design practices, such as low-impact development and other techniques that manage runoff on-site?						

		Airr	oorts	Har	bors	Highways	
Question Number	Question	Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
C12	Are project applicants encouraged or required to use vegetative BMPs that promote infiltration, such as swales, biofiltration practices, etc., where possible?						
C12	Does the permittee offer financial incentives to support post-construction stormwater goals (e.g., programs to support redevelopment, such as enterprise zones, or stormwater utility credits)?						
D	Plan Review and Approval Procedures						
D1	Which Division/District is responsible for post-construction stormwater plan review?						
D2	How many plan reviewers are there?						
D3	How many plans submitted for review (private and public projects) each year?						
D4	What is the project size threshold for the permittee to require post-construction BMPs?						
D5	Does the permittee apply standard conditions that incorporate post-construction installation and						
De	maintenance requirements into its plan review process?						
D6 D7	Do plan reviewers use specific criteria or a checklist when reviewing plans? Does the permittee consider pollutants of concern or whether the project discharges to a 303(d)						
D8	listed impaired water when determining which BMPs are required? Does the permittee consider such regional concerns as smart growth initiatives, watershed master plans, and other larger-scale planning efforts to ensure that each new development and redevelopment plan is consistent with the goals of these initiatives?						
D9	For up to three sets of post-construction plans provided by permitee:						
D9a	Are adequate BMPs included on plans, details, and drawings?						
D9b	What types of standard conditions or notes are included?						
D90	Are maintenance requirements specified?						
D9d	Do the location of BMPs hinder maintenance?						
D30	What types of projects must be reviewed by the permittee for post-construction stormwater controls?						
D10	Does the permittee have a process to identify priority projects identified in the MS4 NPDES permit?						
D11	What types of standards or technical guidance do the permittee's reviewers use to review projects?						
D13	Does the permittee condition improvements to existing developments with requirements for post-						
_	construction stormwater controls? How are these redevelopment requirements triggered?						
E	Post-Construction BMP Inventory						
E1	How does the permittee track the installation and maintenance of post-construction BMPs?						
E2	Is your post-construction BMP inventory managed in a database and/or linked to GIS?						
E3	What information is collected?						
F	BMP Inspection & Maintenance						
F1	Does the permittee require maintenance agreements for all projects with post-construction BMPs?						
F2	Are as-built inspections conducted at the conclusion of a project to ensure the BMP has been built properly? What Division/District is responsible for this?						
F3	Do staff conduct these inspections or are they self-certified?						
F4	Does the permittee inspect private facilities or require inspections by owner/operators?						

		Δirn	oorts	Har	Harbors Highwa				
Question Number	Question	Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit		
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001		
F5	If the permittee performs the inspections, how often are they performed?								
F6	If owner/operators are required to inspect and maintain their BMPs, how is this authorized? Through a MOU? Through conditions of approval? Through another type of agreement?								
F7	How does the permittee ensure inspections are occurring? Reminder notices? Inspection reports?								
F8	Who is responsible for structural stormwater BMP maintenance (public and private)? Permitee? Owner?								
G	Enforcement								
G1	How does the permittee require proper maintenance and repair after the inspection?								
G2	What types of enforcement actions are provided by laws/rules/regulations/policies (e.g., notices of violation, abatement)?								
G3	Is the permittee's enforcement authority limited (e.g., limits on the dollar amount of fines, inability to issue civil penalties)?								
G4	How many enforcement actions have been taken in the past year due to lack of BMP maintenance?								
Н	Public Construction Projects								
H1	For staff:								
H1a	Are plan reviewers trained on post-construction BMPs and requirements?								
H1b	What type of training do staff performing "as built" and post-construction inspections receive?								
H1c	How often are the trainings conducted?								
H1d	How many staff have been trained?								
H1e	What type of training or education does the permittee provide to developers and engineers on post-construction requirements?								
H2	For developers and plan designers:								
H2a	What types of educational materials have been developed and distributed to developers and designers regarding post-construction BMPs and application requirements?								
H2b	How are the materials distributed? At the permit desk? During inspections?								
H2c	What type of training does the permittee provide or advertise to local developers and designers?								
H2d	How often is this training conducted?								
H2e	How many developers and designers have been trained?								
H2f	Are they required to attend?								
14.5	Consent Decree Questions								
l1a	Have activities been identified that may be outmoded, ineffective, insufficient, or excessively burdensome?								
I1b	What are recommendations to modify, streamline, or expand such activities in accordance with what has been learned?								
I2a	Have deficiencies or potential violations been identified?								
l2b	What are recommendations for correcting these deficiencies or potential violations?								
14	Have best practices and opportunities for information/technology transfer to be applied across all Divisions been identified? If so, describe.								

		Airp	orts	Har	bors	High	ways
		Kahului	Honolulu	Honolulu	Kalaeloa	Maui District	Oahu District
		Airport	International	Harbor	Barbers Point		
Question			Airport		Harbor		
Number	Question	Con all MC4	les alicei alcond	Con all MC4	Const MC4	Con all MC4	les alis ei als cal
		Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
		Permit	remin	remin	remin	rennit	rennit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
15	Can identified best practices be universally implemented across all three Divisions? Why or why						
	not?						
16	If best practices cannot be universally implemented, what are the identified impediments?						

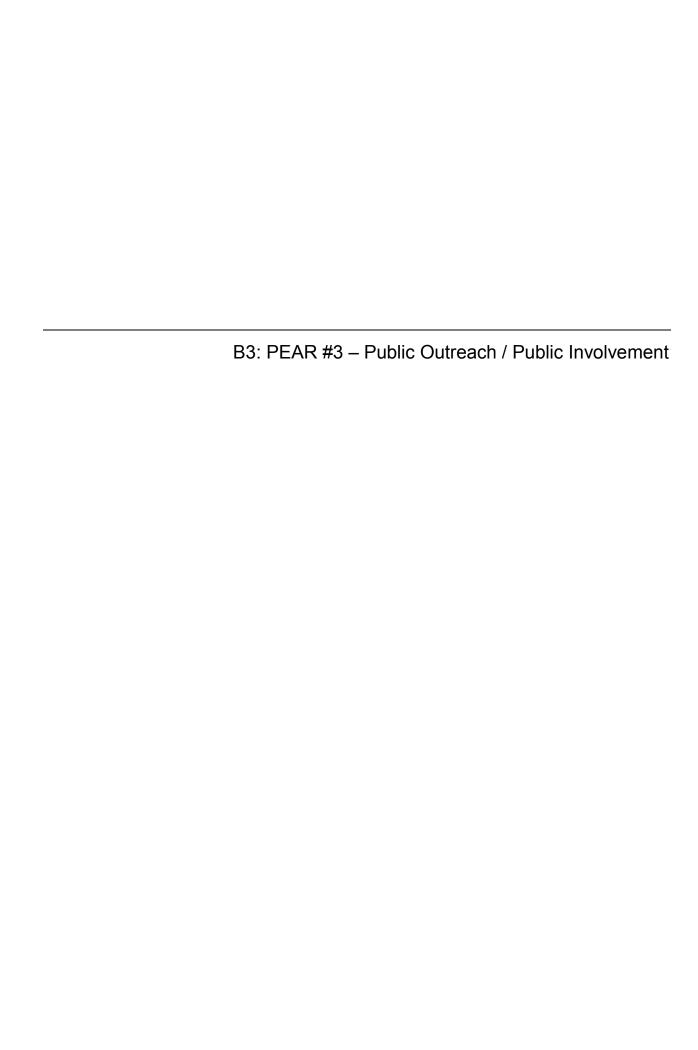


		Airr	oorts	Har	bors	Highways	
Question Number	Question	Kahului Airport Small MS4	Honolulu International Airport	Honolulu Harbor Small MS4	Kalaeloa Barbers Point Harbor Small MS4	Maui District Small MS4	Oahu District
		Permit	Permit	Permit	Permit	Permit	Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
Α	Laws/Rules/Regulations/Policies						
A1	What legal authority does the permittee have to require erosion and sediment control BMPs on construction sites and to ensure compliance?						
A2	Does the permittee's legal authority address stormwater quality for all projects disturbing at least 1 acre?						
A3	What exemptions do the laws/rules/regulations/policies or other legal authority allow?						
A4	Does the legal authority authorize the permittee to require erosion and sediment control plans?						
В	Construction Site Inventory						
B1	How does the permittee track construction projects?						
B2	Is the following information collected?						
B2a	The number and status (active/inactive/completed) of construction sites						
B2b	The number, frequency, results, and follow-up actions resulting from inspections						
B2c	The actions taken to resolve the issues and dates when compliance was achieved.						
B2d	The number and type of enforcement actions taken at sites in violation						
B2e	Complaints submitted by the public						
B3	Does the inventory include construction sites disturbing less than 1 acre?						
B4 B5	What is the threshold for tracking projects?						
	Does the inventory track which sites have submitted an NOI for coverage under a state/EPA construction general permit?						
B6	How is the inventory updated? How often?						
B7	Does the permittee prioritize projects for more frequent or targeted inspections? If yes, based on what criteria?						
С	Construction Requirements and BMPs						
C1	What technical guidance (e.g., BMP manual or fact sheets) does the permittee use as the standard for design and selection of nonstructural and structural construction BMPs?						
C2	Are project applicants required to follow these technical manuals?						
C3	Does the guidance set minimum operation and maintenance requirements for BMPs?						
C4	Does the guidance include installation requirements for the BMPs?						
C5	Does the guidance provide proper siting and use criteria for BMPs to ensure that adequate BMPs are being selected and implemented?						
C6	Does the permittee provide guidance as to recommended BMPs to be used?						
C7	Does the permittee have different requirements or standards for different times of the year (i.e., during the rainy season vs. the dry season)?						
D	Plan Review Procedures						
D1	Does the permittee hold pre-application meetings on any construction project? Are stormwater and erosion and sediment control requirements addressed at these meetings?						
D2	What is the permittee's threshold for plan review? (For example, does the permittee review plans for all projects disturbing greater than 1 acre, or do they use another threshold?)						

		Airr	oorts	Har	bors	Highways	
Question Number	Question	Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
Number		Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
D3	Does the permittee apply standard conditions that incorporate erosion and sediment control requirements into its plan review process?						
D4	Do the plan reviewers verify whether the project applicant has submitted an NOI to the state or EPA? Is evidence of NOI submission required before a plan can be approved or a local permit issued?						
D5	Do plan reviewers use specific criteria or a checklist when reviewing plans?						
D6	Does the permittee consider during the review process whether the construction project discharges to a TMDL/impaired water?						
D7	For up to two construction plans provided:						
D7a	Are adequate BMPs included on plans?						
D7b	What types of standard conditions or notes are included?						
D7c	Are maintenance requirements specified?						
D7d	Are BMPs addressing other construction activities, such as materials storage and waste						
	disposal, incorporated into the construction plans?						
D7e	Do the plans include notes addressing the prohibition of non-stormwater discharges?						
D7f	Were comments provided by the permittee to the project proponent reasonable and appropriate?						
E	Construction Site Inspections						
E1	Does the permittee adequately inspect the following phases of construction?						
E1a	Clearing and grubbing and site preparation						
E1b	Mass grading and public infrastructure/utility construction						
E1c	Building construction and final grading						
E1d	Final stabilization						
E2	What group is charged with erosion and sediment control inspections?						
E3	Do the inspectors use a checklist or inspection form during each inspection?						
E4	How many inspectors does the permittee use to verify erosion and sediment control compliance at construction sites?						
E5	Does this number appear adequate to assess active construction occurring in the permitted area? Compare this to the total number of construction sites that need to be inspected at any one time (number of inspections per construction site per year). Consider project durations and phasing, local conditions (e.g., dry vs. wet seasons), and additional duties assigned to inspectors.						
E6	Does the permittee have an established prioritization process for establishing inspection frequency?						
E7	If so, on what factors is the prioritization based (i.e., size, proximity to water body, sensitive areas)? How often are sites inspected?						
E8	Does the permittee target inspections during and immediately after wet weather events? If so:						
E8a	What size rain event triggers an inspection?						
E8b	How soon after a rain event?						
E9	Is there an established rainy season for the area? Are sites inspected prior to the start of the rainy						
Lis	season to determine preparedness?						

		Airp	orts	Har	bors	Highways	
Question Number	Question	Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
Humber		Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
_		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
F	Program Support and Resources						
F1	Does the program have a dedicated source of funding to support plan review staff and inspectors?						
G G1	Enforcement What types of enforcement actions are provided for in applicable laws/rules/regulations/policies (e.g.						
	What types of enforcement actions are provided for in applicable laws/rules/regulations/policies (e.g., notices of violation, "stop work" orders, fines)?						
G2	Is use of these actions outlined in an established, escalating enforcement policy?						
G3	Review with the permittee statistics on enforcement of construction site erosion and sediment controls.						
G3a	How many enforcement actions are taken per year?						
G3b	Are follow-up inspections conducted to verify compliance?						
G4	Are there limitations on the permittee's enforcement authority (e.g., limits on the dollar amount of fines, inability to issue civil penalties)?						
G5	Do staff feel that their enforcement authority is adequate to achieve compliance on construction projects?						
Н	Training and Education						
H1	For staff:						
H1a	What type of training do construction inspectors receive? Are plan reviewers trained on erosion and sediment control BMPs and requirements?						
H1b	How often is training conducted?						
H1c	How many staff have been trained?						
H1d	What type of follow-up is conducted by the permittee to verify that the training is effective?						
H2	For construction operators:						
H2a	What types of educational materials have been developed and distributed to construction operators?						
H2b	How are the educational materials distributed?						
H2c	What type of training does the permittee provide or advertise to local construction operators?						
H2d	How often is this training conducted? How many construction site operators have been trained?						
H2e	Are contractors and developers required to attend?						
H2f	Are training sessions held in cooperation with other local permittees or regional authorities?						
I	Public Construction Projects						
l1	Do RFPs or contracts include language specifying stormwater requirements?						
12	Are inspection and maintenance requirements specified in the contract?						
13	What oversight does the permittee implement to ensure the contractor is implementing all requirements appropriately and adequately?						
14	What penalties are in place to require compliance from the permittee's contractors?						
J	Consent Decree Questions						
J1a	Have activities been identified that may be outmoded, ineffective, insufficient, or excessively burdensome?						

		Airp	orts	Har	bors	High	ways
		Kahului	Honolulu	Honolulu	Kalaeloa	Maui District	Oahu District
		Airport	International	Harbor	Barbers Point		
Question			Airport		Harbor		
Number	Question	0		0	0	0	
		Small MS4	Individual	Small MS4	Small MS4	Small MS4	Individual
		Permit	Permit	Permit	Permit	Permit	Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
J1b	What are recommendations to modify, streamline, or expand such activities in accordance with						
	what has been learned?						
J2a	Have deficiencies or potential violations been identified?						
J2b	What are recommendations for correcting these deficiencies or potential violations?						
J3	Have best practices and opportunities for information/technology transfer to be applied across all						
	Divisions been identified? If so, describe.						
J4	Can identified best practices be universally implemented across all three Divisions? Why or why						
	not?						
J5	If best practices cannot be universally implemented, what are the identified impediments?						



Appendix B3: PEAR #3 - Public Outreach / Public Involvement

		Airr	ports	Har	bors	High	ways
Question Number	Question	Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
Number		Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
Α	Goals and Objectives						
A1	Does the permittee have a strategy document for education and participation?						
A2	Does the document include specific goals?						
A3	On what are the goals based?						
<u>A4</u>	Are the goals measurable? How?						
В	Message Development						
B1	Have specific messages been developed for stormwater outreach?						
B2	On what are the messages based? Pollutants of concern? General awareness? Problem target audience? All of the above?						
В3	Are different messages used for different target audiences (i.e., children, homeowners, industry, etc.) or is one central message used for all?						
B4	Do the messages encourage participation in stormwater-related activities?						
B5	Do the messages educate about behavior changes that the audience can make to contribute to a solution?						
B6	Have messages been developed specific to reducing illicit discharges with information about how to report them to the appropriate authorities?						
В7	Have messages been developed to educate pesticide, fertilizer, and herbicide applicators (including homeowners) about ways to reduce stormwater pollution?						
С	Target Audiences						
C1	Has the permittee identified target audiences for outreach efforts? How are these target audiences selected? What are the target audiences?						
C2	What land use groups (i.e., industry, commercial businesses) has the permittee targeted?						
C3	Have certain ethnic groups or nationalities been identified as audiences to be targeted based on an evaluation of local demographics?						
C4	Have the target groups been reevaluated based on evaluation of the strategy and progress that has been made?						
C5	For Phase I permittees: have they targeted pesticide, herbicide, and fertilizer applicators (including homeowners) and construction site operators for outreach?						
C6	For Phase II permittees: have they targeted industries or commercial businesses of concern for outreach?						
D	Message Packaging						
D1	Does the permittee have a variety of written educational materials?						
D2	Does the permittee have a variety of other packages (i.e., Web site, presentations, displays) for educational materials?						
D3	Did the permittee produce the education and outreach materials in the different languages that are spoken in the community?						
D4	Do the permittee's materials explain stormwater issues in easy-to-understand terms?						

Appendix B3: PEAR #3 - Public Outreach / Public Involvement

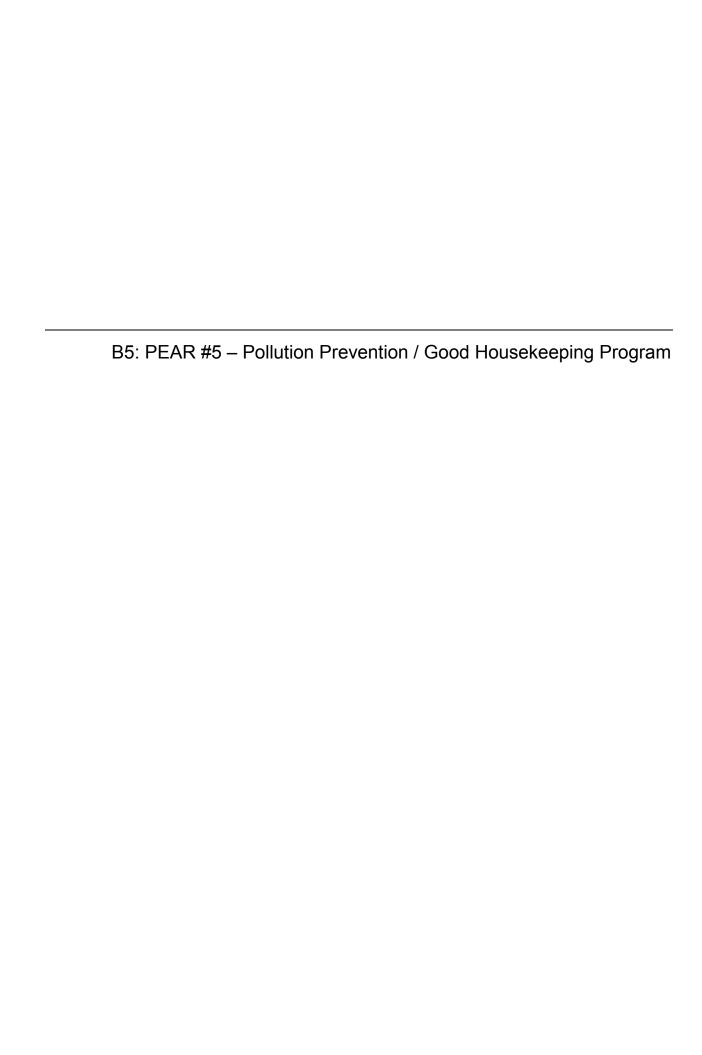
			Airr	oorts	Har	bors	Hiah	ways
E Distribution Mechanisms E1 Does the permittee track distribution of materials to measure effectiveness? E2 Is the permittee track distribution of materials to measure effectiveness? E3 Does the permittee cusced solely on distribution or is an effort made to evaluate the impact of the messages? E3 Does the permittee uses a variety of distribution mechanisms to target various audiences? E7 Evaluation Methods E8 The Availation Methods E9 The Who does the permittee evaluate the effectiveness of the outreach strategy? E9 Has the permittee conducted a public awareness survey? E9 Has the permittee conducted a public awareness survey? E9 Has the permittee conducted a public involvement and participation? Changing audience behaviors? Increasing general stormwater awareness? E9 Public Participation Activities E9 Public Participation E9 Public Public to participate in stormwater-related activities? E9 Public Participation E9 Public Public to participate in stormwater-related activities? E9 Public Participation E9 Public Public to participate in stormwater-related activities? E9 Public Participation E9 Public Public to participa		Question	Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
E Distribution Mechanisms E1 Does the permittee track distribution or materials to measure effectiveness? E2 Is the permittee focused solely on distribution or is an effort made to evaluate the impact of the messages? E3 Does the permittee var variety of distribution mechanisms to target various audiences? F1 Evaluation Methods F1 How does the permittee evaluate the effectiveness of the outreach strategy? F3 Which outreach materials have been the most effective in soliciting public involvement and participation? Changing audience behaviors? Increasing general stormwater awareness? F4 Have any changes been made to the outreach strategy or materials based on an evaluation of effectiveness? G Public Participation Activities G1 What oportunities does the permittee give to the public to review and comment on any changes to the SWMP, such as public comment via a Web site, a public meeting, or a stormwater advisory group? G2 What volunteer opportunities (i.e., stream cleanups, storm drain stenciling) does the permittee coordinate or publicize to encourage the public to participate in Stormwater-related activities? G3 Does the permittee sponsor or promote any of the following activities? G3 Does the permittee sponsor or promote any of the following activities? G3 Esenchistreamflake cleanups G3 Stormwater citizen panel H Consent Docree Questions H1a Have activities been identified that may be outmoded, ineffective, insufficient, or excessively burdensome? H2b What are recommendations to modify, streamline, or expand such activities in accordance with what has been learned? H3ve best practices and opportunities for information/technology transfer to be applied across all bytioshos been identified? H4ve best practices be universally implemented across all three Divisions? Why or why not?			Permit	Permit	Permit	Permit	Permit	Permit
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E2 Is the permittee focused solely on distribution or is an effort made to evaluate the impact of the messages? E3 Does the permittee use a variety of distribution mechanisms to target various audiences? F1 How does the permittee conducted a public awareness survey? F2 Has the permittee conducted a public awareness survey? F3 Which outneach materials have been the most effective in soliciting public involvement and participation? Changing audience behaviors? Increasing general stormwater awareness? F4 Have any changes been made to the outreach strategy or materials based on an evaluation of effectiveness? F6 Public Participation Activities G1 What opportunities does the permittee give to the public to review and comment on any changes to the SWMP, such as public comment via a Web site, a public meeting, or a stormwater advisory group? G2 What volunteer opportunities (i.e., stream cleanups, storm drain stenciling) does the permittee coordinate or publicize to encourage the public to participate in stormwater-related activities? G3 Does the permittee sponsor or promote any of the following activities? G3a Beachstreamdake cleanups G3b Volunteer stream monitoring G3c Stream clean-ups or equivalent activities G3d Stream clean-ups or equivalent activities G3d Stream clean-ups or equivalent activities G3d Stormwater citizen panel G4 Consent Decree Questions H1 Ave activites been identified that may be outmoded, ineffective, insufficient, or excessively burdensome? H2b What are recommendations to modify, streamline, or expand such activities in accordance with what has been learned? H2ve deficiencies or potential violations been identified? H3ve best practices and opportunities for information/technology transfer to be applied across all Divisions been identified that no proper information/technology transfer to be applied across all Divisions been identified the storactions or information/technology transfer to be applied across all Divisions been identified the storactions.								
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	H5							

		Airp	oorts	Har	bors	Highways	
Question Number	Question	Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
Α	Legal Authority (IDDE)						
A1	Does the permittee have laws/rules/regulations/policies to prohibit illicit discharges and dumping to the MS4?						
A2	What exclusions are included in laws/rules/regulations/policies?						
A3	What enforcement mechanisms are authorized in the event of an illicit discharge being detected?						
A4	Has an enforcement escalation plan been developed?						
B	Mapping (IDDE)						
B1 B2	Does the permittee have a map showing storm drain pipes, outfalls, and storm drain inlets? Is the map readily available to the personnel who would respond to an illicit discharge incident?						
B3	Does the permittee have a map of the storm drain system showing the locations of outfalls and municipally maintained structural stormwater controls?						
С	Field Screening (IDDE)						
C1	How are field screening areas identified?						
C2	Are areas of the MS4 prioritized based on incidents of illicit discharges, land use, dumping reports, etc.?						
C3	How often are field screening areas evaluated?						
C4	Are outfalls inspected during dry weather to identify any potential dry-weather discharges? What does the inspection include?						
C5	If dry-weather flows are present, are they being sampled to determine potential sources of pollutants? For what parameters?						
C6	Does the permittee have a database (or other method) to track locations of illicit discharges, spills, and illegal dumping?						
C7	Does the database track dry-weather monitoring or screening data?						
D	Investigation of Potential Illicit Discharges (IDDE)						
D1	Does the permittee have a procedure for tracing the source of an active illicit discharge?						
D2	Who performs the investigations?						
D3	Are these procedures written in a document or plan?						
D4 D5	What equipment does the permittee use to find illicit discharges? Does the permittee have equipment to videotape storm drains, or can it quickly contract out this work?						
D6	How are investigations tracked?						
D7	Has an enforcement response plan been adopted for use when an illicit discharge source has been located?						
E	Spill Response and Prevention (IDDE)						
E1	Does the permittee have a clear set of procedures in place that details who is responsible for responding to spills and emergency situations?						
E2	Do field staff have spill containment supplies in their vehicles, and are they trained to contain minor spills?						

		Δirr	oorts	Har	bors	Highways	
		Kahului Airport	Honolulu International	Honolulu Harbor	Kalaeloa Barbers Point	Maui District	Oahu District
Question Number	Question	Small MS4	Airport Individual	Small MS4	Harbor Small MS4	Small MS4	Individual
		Permit	Permit	Permit	Permit	Permit	Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
E3	Is a contractor or other entity available for larger spills?						
E4	Does the permittee have the ability to collect cleanup and abatement costs from the responsible party?						
E5	How are spills and spill response tracked to ensure adequate reporting?						
F	Public Awareness and Reporting Program (IDDE)						
F1	Does the permittee prioritize subwatersheds or neighborhoods and assign resources for educational efforts based on frequency and types of illicit discharge incidents?						
F2	Is there a general phone number or "hotline" in the phone book or Web site that people can call to report a spill or dumping?						
F3	What types of public outreach materials are available to publicize public reporting?						
F4	Does the permittee track the number of public calls or complaints reporting illicit discharges?						
G	Preventing Sanitary Sewer Discharges (IDDE)						
G1	Has the permittee conducted any studies or evaluations to determine whether sanitary sewers are contributing pollutants to the MS4?						
G2	What is the extent of infiltration and inflow into the sanitary sewer system? How is this impacting discharge from the MS4?						
G3	If the permittee also operates a sanitary sewer system, do they have procedures to prevent sewage spills and SSOs to the MS4?						
Н	Education and Training (IDDE)						
H1	What type of training do field staff (e.g., storm sewer maintenance crews, street sweepers) receive on spill response and IDDE?						
H2	Are staff generally educated about what illicit discharges are and how to report them?						
	Legal Authority (I/C)						
I1	Does the Phase I permittee have the authority to require industrial and commercial facilities to implement stormwater BMPs?						
12	Does the Phase I permittee have the authority to conduct inspections and enforce requirements?						
I3	What laws/rules/regulations/policies provide this legal authority?						
14	What types of facilities are covered under this legal authority?						
15	Who (e.g., specific staff, Division/District, etc.) has the authority to enforce the laws/rules/regulations/policies and/or inspect the facilities?						
16	What exemptions do the laws/rules/regulations/policies or other legal authority allow?						
J	Facility Inventory (I/C)						
J1	Has the permittee completed an inventory of industrial/commercial facilities discharging to the stormwater system?						
J2	What types of facilities are included on the inventory?						
J3	What sources were used to create the inventory?						
J3A	Facilities that filed NOIs for EPA MSGP or state industrial general permit coverage?						
J3B	Significant industrial users within the pretreatment program?						

		Airp	oorts	Har	bors	Highways	
Question Number	Question	Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit
100	Dustrana lineana a	HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
J3C	Business licenses?						
J3D J3E	Phone book?						
	"Windshield" survey?						
J4	Does the inventory include all the industrial/commercial facilities subject to the industrial general permit?						
J5	Does the permittee periodically check to see if new facilities that must be covered by an industrial stormwater general permit have filed an NOI?						
J6	What is the process for notifying the permitting authority of non-filers?						
J7	If applicable, does the inventory include all the facilities specified as required in the MS4 NPDES permit?						
J8	How is the inventory updated? How often?						
J9	What information is maintained about the facilities?						
J10	How is the inventory maintained and stored?						
J11	Does the permittee prioritize the facilities?						
J12	Is the prioritization based on facility type, past inspection or enforcement results, proximity to receiving waters, potential pollutant sources on-site, and so forth?						
J13	Is the prioritization used to determine frequency of inspections?						
J14	Has the permittee mapped the locations of prioritized facilities to cross-reference reports of dumping, illicit discharges, or other water quality issues?						
K	Standards, BMPs and Outreach (I/C)						
K1	Has the permittee adopted standards or BMPs that industrial/commercial facilities are required to implement (e.g., all car dealerships must install a wash rack plumbed to the sanitary sewer)?						
K2	Are the requirements for new developments only or are they triggered by improvements of existing facilities? Are there schedules for implementing retrofits?						
K3	Are these standards applicable to existing facilities, new facilities, or both?						
K4	Does the permittee refer facility operators to specific stormwater BMP or standards guidance documents?						
K5	What type of educational program has been developed for industrial and commercial facility operators?						
K6	What type of brochures, handouts, or guidance on BMPs is provided to these facilities by the permittee?						
K7	When is this information provided? During inspections? During training events? During professional organization presentations?						
L	Staff Training (I/C)						
 L1	What type of training do the industrial and commercial inspectors receive?						
L2	How often?						
L3	If additional inspectors are used (e.g., food safety inspectors for restaurant inspections, pretreatment inspectors), are they trained specifically on stormwater BMPs and requirements? By whom?						

		Airr	oorts	Har	bors	Highways	
Question Number	Question	Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
Trainio.		Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
M	Inspections (I/C)						
M1	Who performs inspections and for what types of facilities (e.g., health inspectors for restaurants, pretreatment inspectors for industrial facilities with a pretreatment permit)						
M2	How often are industrial and commercial facilities inspected? How is the frequency determined?						
M3	Does the permittee's industrial/commercial inspector(s) use a standard checklist during inspections?						
M4	Is a report written after the inspection? How is the inspection documented in the file?						
M5	Does the permittee verify NPDES permit coverage for facilities?						
M6	For industrial facilities, does the inspector review the SWPPP and monitoring data during the inspection?						
M7	Does the permittee refer non-filers to the permitting authority?						
M8	Do inspectors provide educational materials during inspections? What types?						
M9	If multiple Divisions/Districts perform inspections, how is information transferred or cataloged?						
N	Program Support and Resources (I/C)						
N1	Does the program have a dedicated source of funding to support inspectors?						
0	Enforcement (I/C)						
O1	In instances of noncompliance, do the inspection staff use a formalized, approved enforcement escalation procedure?						
02	How was the enforcement escalation procedure developed? Is it used? Is it effective?						
O3	Who is authorized to apply various enforcement procedures (e.g., NOVs, fines)?						
04	What types of penalties are readily available to the inspection staff?						
O5	What is the most common method of gaining compliance (e.g., NOVs, fines, abatement)?						
O6	Can the permittee describe a recent non-compliance issue at an industrial/commercial facility? If so, how was compliance achieved?						
07	At what point are non-compliance cases referred to the NPDES permitting authority? How many have been referred in the last 12 months?						
Р	Consent Decree Questions						
P1a	Have activities been identified that may be outmoded, ineffective, insufficient, or excessively burdensome?						
P1b	What are recommendations to modify, streamline, or expand such activities in accordance with what has been learned?						
P2a	Have deficiencies or potential violations been identified?						
P2b	What are recommendations for correcting these deficiencies or potential violations?						
P3	Have best practices and opportunities for information/technology transfer to be applied across all Divisions been identified? If so, describe.						
P4	Can identified best practices be universally implemented across all three Divisions? Why or why not?						
P5	If best practices cannot be universally implemented, what are the identified impediments?						



	Question	Airg	oorts	Har	bors	High	ways
Question Number		Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit
Λ	Infrastructure Mapping and Characterization	HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
Α	Does the permittee have a map showing all inlets, outfalls, storm drain conduits, stormwater						
A1	management facilities, and receiving water bodies?						
A2	Does this map include catch basins and structural stormwater controls?						
A3	Is the map readily available and used by maintenance field staff when performing maintenance activities?						
A4	Is the map in hard copy format only or is it also in a geographic information system (GIS)?						
A5	Are infrastructure assets or components named or numbered to better track necessary maintenance and repairs?						
A6	Is information regarding stormwater infrastructure maintained in a database or mapping system? What types of data are maintained?						
A6a	Type of structure or asset						
A6b	Location (address, latitude/longitude)						
A6c	Photo						
A6d	Date built						
A6e	Date last inspected						
A6f	Date last cleaned/maintained						
В	Catch Basin Cleaning						
B1	Does the permittee have a schedule for routine maintenance or cleaning of catch basins?						
B1a	How many are cleaned and how often?						
B1b	Has the permittee targeted certain areas for more frequent maintenance?						
B1c	Does the permittee set goals for how many basins are inspected and cleaned each year?						
B1d	How does the permittee track and record cleaning and maintenance needs?						
B1e	What information is documented? Does the permittee track which catch basins are cleaned, how much material is removed, and so forth?						
B1f	How does the permittee use the data collected to further its program or evaluate program effectiveness? Are the data used to help prioritize cleaning frequency? Are they used to identify areas for targeted outreach?						
B2	What are the permittee's procedures for disposing of waste removed from catch basins or storm drains?						
B2a	Does the permittee flush material that could potentially discharge to surface water?						
B2b	If the material is removed using a wet vacuum, how is the material dewatered? How is the decanted water disposed?						
В3	Does the permittee have a schedule for routine maintenance or inspection of storm drain pipes?						
B4	What are the permittee's maintenance procedures for cleaning clogged storm drain pipes?						
С	Stormwater Management Structures						
C1	Are catch basins and other inlet structures marked so that the public knows they drain to surface waters?						

		Δirr	oorts	Har	bors	High	ways
Question Number	Question	Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
C2	Has the permittee inventoried the type and location of public stormwater management structures in its jurisdiction? How are the data collected and stored?						
C2a	Pump stations						
C2b	Drainage structures (debris basins, detention basins, regional ponds, etc.)						
C2c	Structural treatment controls						
C2d	Open channels						
C3	How is vegetation maintained in grassed swales, rain gardens, pond perimeters, and other vegetated stormwater controls?						
C4	Has the permittee mapped private stormwater management structures?						
C5	How often are these facilities inspected?						
C6	Are the stormwater management structures regularly maintained by the permittee?						
C6a	Are records kept of material and debris removed during maintenance?						
C6b	How is maintenance conducted? Are chemicals used to maintain vegetation and pests?						
C7	How does the permittee use the data collected to further its program or evaluate program effectiveness? Are the data used to help prioritize cleaning frequency? Are they used to identify areas for targeted outreach based on type and volume of materials removed?						
D	Street Sweeping						
D1	Does the permittee regularly sweep streets? Public parking lots?						
D2	What is the schedule for street sweeping?						
D3	Are areas scheduled for sweeping based on aesthetics only or is consideration given for reducing impacts on the stormwater management infrastructure and surface water?						
D4	What types of sweepers are used? Wet or dry?						
D5	How is street-sweeping debris disposed? If the debris is dewatered, how is this done? How is the decanted water disposed?						
D6	Are records kept of the amount of debris collected?						
D7	How does the permittee use the data collected to further its program or evaluate program effectiveness? Are the data used to help prioritize cleaning frequency?						
E	Public Streets, Roads and Highway Maintenance						
E1	What types of public streets, roads, and highways operation and maintenance practices and procedures are performed by the permittee?						
E2	Are BMPs used by field crews to minimize stormwater impacts during road maintenance or repair activities?						
E3	What types of BMPs are used? Discuss BMPs used for such activities as:						
E3a	Ditch cleaning						
E3b	Sidewalk repair						
E3c	Asphalt patching						
E3d	Curb and gutter repair						
E3e	Street striping						

		Δirr	oorts	Har	bors	Highways		
Question Number	Question	Kahului Airport Small MS4	Honolulu International Airport	Honolulu Harbor Small MS4	Kalaeloa Barbers Point Harbor Small MS4	Maui District Small MS4	Oahu District Individual	
		Permit	Permit	Permit	Permit	Permit	Permit	
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001	
E3f	Sign painting							
E3g	Maintaining dirt and gravel roads (preventing erosion, dust control)							
F	Facility Inventory							
F1	Does the permittee have an inventory of public facilities? At a minimum, this list should include the following, as applicable:							
F1a	Public works yards							
F1b	Public transit facilities							
F1c	Wastewater and domestic water treatment plants							
F1d	Sanitary sewer system overflow locations							
F1e	Public parks/open areas							
F1f	Public parking lots							
F1g	Public buildings							
F1h	Landfills and hazardous waste disposal sites, transfer locations, or storage facilities							
F2	Have the facilities been inspected and assessed for water quality impacts?							
F3	Are any facilities required to apply for coverage under a general industrial permit? Do these facilities have SWPPPs?							
G	Chemical and Hazardous Material Use and Disposal							
G1	What types of chemicals or hazardous materials are used by the permittee?							
G2	Where are these materials stored?							
G3	Has the permittee implemented an alternative materials program to reduce the use of hazardous materials?							
G4	Has the permittee implemented an inventory reduction program to reduce the quantity of chemicals and hazardous materials stored and used?							
G5	Does the permittee have a household hazardous waste collection center for the public?							
G5a	Are records of the quantity of materials collected maintained by type of material?							
G5b	How does the permittee notify the public of these sites?							
G6	Does the permittee have special household hazardous waste collection days?							
G7	How does the permittee use the data collected to further its program or evaluate program effectiveness? Are the data used to help prioritize maintenance frequency? Are they used to identify areas of targeted outreach?							
Н	Pesticide, Herbicide and Fertilizer Application and Management							
H1	What kind of program has been established to address pollutants associated with the application of pesticides, herbicides, and fertilizer at public facilities?							
H2	Are the permittee's fertilizer/pesticide applicators certified? Are permits or other certifications							
H3	required? Where are the chemicals stored? Are appropriate procedures and secondary containment followed?							
	Where are the chemicals stored? Are appropriate procedures and secondary containment followed?							
H4 H5	Is there a pesticide/fertilizer application plan? Does the permittee practice integrated pest management (IPM) or use alternatives to pesticides?							
ПЭ	Does the permittee practice integrated pest management (IPM) or use alternatives to pesticides?							

		Airr	oorts	Harbors		Highways	
Question Number	Question		Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit
		Permit HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
H6	How does the permittee implement alternative landscaping to minimize the use of fertilizers and pesticides?						
H7	What types of educational activities does the permittee conduct for applicators?						
H8	What types of BMPs are used during application of pesticides in public rights-of-way?						
H9	What types of BMPs are used during application of pesticides at municipal facilities such as parks?						
118	Municipal Staff						
111	•						
I1	Have standard operating procedures or their equivalent been developed to ensure that municipal field staff integrate stormwater quality BMPs into their daily activities?						
12	Have BMPs or standards been officially adopted by the permittee for use by municipal field staff?						
13	What reference materials or guidance documents are provided to field staff regarding BMP specifications and details?						
14	How does the permittee ensure that staff are fulfilling their responsibilities as outlined in standard operating procedures? Do managers provide oversight on a regular basis?						
J	Contracted Services Staff						
J1	Does the permittee require contractors to incorporate stormwater quality BMPs into their activities?						
J2	How are BMPs required? Are the requirements outlined in requests for proposals? Are they included in contracts?						
J3	Have BMPs or standards been officially adopted by the permittee for use by contractual staff?						
J4	What reference materials or guidance documents are provided to contractual staff regarding BMP specifications and details?						
J5	How does the permittee ensure that contractors are fulfilling their responsibilities as outlined in their contracts? Are inspections performed? Are periodic reports submitted?						
K	Training and Education						
K1	What type of general stormwater training is provided to staff that are not involved in field activities? How often?						
K2	How are new employees trained?						
K3	What types of activity-specific training is provided to field staff? Is information on specific BMPs provided?						
K4	Is any training provided to contract staff?						
L	Consent Decree Questions						
L1a	Have activities been identified that may be outmoded, ineffective, insufficient, or excessively burdensome?						
L1b	What are recommendations to modify, streamline, or expand such activities in accordance with what has been learned?						
L2a	Have deficiencies or potential violations been identified?						
L2b	What are recommendations for correcting these deficiencies or potential violations?						
L3	Have best practices and opportunities for information/technology transfer to be applied across all Divisions been identified? If so, describe.						

		Airports		Harbors		Highways	
Question Number		Kahului	Honolulu	Honolulu	Kalaeloa	Maui District	Oahu District
		Airport	International	Harbor	Barbers Point		
			Airport		Harbor		
	Question	Small MS4 Individual Small MS4 Permit Permit Permit					
i tuiliboi					Small MS4	Small MS4	Individual
			Permit	Permit	Permit	Permit	Permit
		111 4 41/ 50 40	LII C00000E	III 001/D400	III 00KD 400		111 0000004
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
L4	Can identified best practices be universally implemented across all three Divisions? Why or why not?						
L5	If best practices cannot be universally implemented, what are the identified impediments?						



		Airr	oorts	Har	bors	Highways	
Question	Question	Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
Number	QUESTION	Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
_		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
Α	SWMP Planning Documents						
A1	Has a SWMP Plan been developed? If so, when? Last revised?						
A2	Is there a schedule for revision of the SWMP plan?						
A3	Is there an additional MS4-wide document, plan, or program? Who developed it?						
A4	How were internal and external stakeholders included in the development or revision of the SWMP plan?						
В	Staff Inventory and Organization						
B1	Does the permittee have a person designated to lead and coordinate the stormwater program and activities?						
B2	Does the SWMP planning document include an organization chart listing responsible parties for each SWMP component?						
С	Performance Standards or Goals						
C1	Has the permittee established measurable goals or performance standards for program components?						
C2	If performance standards have been established, are they measurable or are they essentially BMP recommendations with level of service (i.e., number of miles swept) requirements?						
C3	Does the permittee attempt to quantify or assess a program or a BMP's water quality impact or effectiveness as opposed to merely tracking level of service?						
D	Prioritization of Resources						
D1	Has the permittee identified specific pollutants of concern for its local water bodies?						
D2	Are these pollutants of concern consistent with priorities identified in the 303(d)-listed impairments for local water bodies?						
D3	Are these pollutants of concern consistent with any water quality monitoring data or studies conducted by the permittee or another agency?						
D4	Has the permittee developed strategies to specifically address those pollutants?						
D5	How does the permittee decide on program priorities? Are these reassessed periodically?						
D6	Does the SWMP include a schedule of activities?						
D7	Does the MS4 discharge to a water body on the state's list of impaired waters?						
D7a	What pollutants are identified on the list?						
D7b	Has stormwater been identified as a source?						
D7c	Does the SWMP specifically address this pollutant?						
D7d	Does the SWMP identify BMPs specifically for sources or discharges to the listed water body						
D8	Has a TMDL been developed for a water body to which the MS4 discharges and for which stormwater has been identified as a pollutant source?						
D8a	What pollutants are addressed in the TMDL?						
D8b	Does the TMDL specifically address (or include wasteload allocations for) stormwater?						
D8c	Has the corrective action plan or other planning to address TMDLs been reviewed for integration with the SWMP?						

		Airp	orts	Har	bors	Highways	
Question Number	Question	Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit HI S000001
D8d	Does the permittee's stormwater program address the pollutants of concern identified in the	HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	пі 5000001
200	TMDL?						
D9	Is the permittee participating in any watershed planning efforts?						
D10	Have any goals been developed based on watershed issues, strategies, or challenges?						
D11	Has the permittee established a set of indicators or parameters to assess progress toward meeting the goal(s) of the watershed plan?						
D12	Is the permittee's stormwater program implemented on a watershed basis?						
E	Assessment and Evaluation of Programs						
E1	Does the permittee regularly measure progress against the established performance standards and goals?						
E2	Are the goals quantifiable?						
E3	Is the permittee analyzing data in the annual report to identify program activities that may need to change to address problem areas?						
E4	Has the SWMP been altered based on this evaluation?						
F	Assessment and Evaluation of BMPs						
F1	Is the permittee able to track both structural BMPs and non-structural BMPs and activities?						
F2	Has the permittee set measurable goals or performance standards to evaluate individual BMPs and activities or suites of BMPs that address a particular pollutant source?						
F3	Is there a process to evaluate or revise individual BMPs and suites of BMPs when receiving water outcomes or endpoints are not being met?						
F4	Do assessments evaluate impacts of BMPs on ground water?						
F5	Is the permittee analyzing data in the annual report to identify individual BMPs or suites of BMPs that may need to change to address problem areas?						
G	Assessment and Evaluation of Water Quality						
G1	Has the permittee documented environmental, water quality, stream corridor, habitat, or other types of improvements?						
G2	Has the permittee estimated reductions in pollutant loadings from the MS4 or other quantifiable water quality benefits expected as the result of the municipal stormwater program?						
Н	Dry & Wet Weather Outfall Screening and Monitoring (If Applicable)						
H1	Does the permittee conduct dry or wet weather screening at outfalls to characterize stormwater flows from the MS4?						
H2	Does the permittee have written screening procedures?						
H3	What is the permittee's schedule for screening the sites?						
H4	Are parts of the permit area prioritized for screening based on incidents of illicit discharges, land use, dumping reports, etc.?						
H5	What parameters are being tested?						
H6	How does the permittee prioritize sites for follow-up (e.g., magnitude and nature of suspected discharge)?						

	Question	Airg	oorts	Har	bors	High	ways
Question Number		Kahului Airport Small MS4 Permit	Honolulu International Airport Individual Permit	Honolulu Harbor Small MS4 Permit	Kalaeloa Barbers Point Harbor Small MS4 Permit	Maui District Small MS4 Permit	Oahu District Individual Permit
H7	Who conducts the sampling? What kind of training have sampling personnel received?	HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
H8	What type of records are kept?						
H8a	Analytical results						
H8b	Date and duration (in hours) of the storm events sampled (rainfall data)						
H8c	Rainfall measurements or estimates (in inches) of the storm event which generated the sampled runoff (rainfall data)						
H8d	Duration (in hours) of the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event (rainfall data)						
H8e	Estimate of the total flow of the discharge sampled (stage and velocity)						
H9	What analytical methods are used (i.e., 40 CFR Part 136)?						
H10	What are the results of the initial sampling and analysis?						
H11	Has the permittee made any changes to the monitoring program based on past results and experience?						
H12	How have monitoring results been used to assess program components?						
H13	Are monitoring data used to estimate pollutant loads for a TMDL?						
	Biological Monitoring (If Applicable)						
I1	Does the permittee perform biological sampling?						
12	Has a plan been developed to conduct biological sampling? If so, does the plan include the following:						
I2a	Identification of sampling stations and rationale for selection						
l2b	Location of known major MS4 outfalls discharging to water bodies in which sampling stations were chosen						
I2c	Land use activities near sampling stations						
I2d	Frequency of monitoring						
13	Who conducts biological sampling and what training have they received?						
14	Has the permittee made any changes to the monitoring program based on past results and experience?						
15	How have monitoring results been used to assess program components?						
J	Ambient Monitoring (If Applicable)						
J1	Does the permittee conduct ambient monitoring to characterize water quality conditions in receiving waters?						
J2	How were the sampling sites selected?						
J3	Is sampling conducted both during dry weather and wet weather?						
J4	What is the frequency of sampling?						
J5	What parameters are analyzed? What sampling and analytical methods have been used?						
J6	Does the permittee have a written protocol or procedures for this sampling program?						
J7	Who conducts the sampling and what training have they received?						
J8	Has the permittee made any changes to the monitoring program based on past results and experience?						

		Airports		Harbors		Highways	
Question	Question	Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
Number	Question	Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
		HI 14KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
	How have monitoring results been used to assess program components?						
	Are monitoring data used to estimate pollutant loads for a TMDL?						
	Data Collection and Reporting						
	What reporting requirements are included in the MS4 NPDES permit?						
	For co-permittees or Phase II permittees that rely on other entities to implement required elements of the program, how are data provided or reported?						
	How are the required data collected, tracked, and reported?						
K3a	Is there a database?						
K3b	Are there reporting forms?						
K4	Are there internal reporting deadlines within the municipal program structure?						
	Are the appropriate data being collected by the permittee to be able to measure effectiveness and determine if performance standards are being met?						
	How are data disseminated to those who use them, if at all?						
L	Consent Decree Questions						
L1a	Have activities been identified that may be outmoded, ineffective, insufficient, or excessively burdensome?						
L1b	What are recommendations to modify, streamline, or expand such activities in accordance with what has been learned?						
L2a	Have deficiencies or potential violations been identified?						
L2b	What are recommendations for correcting these deficiencies or potential violations?						
	Have best practices and opportunities for information/technology transfer to be applied across all Divisions been identified? If so, describe.						
L4 (Can identified best practices be universally implemented across all three Divisions? Why or why not?						
L5	If best practices cannot be universally implemented, what are the identified impediments?						

Appendix C

PEAR 1 through 6 Schedule



1. Notice of Audit

- Within 7 Days of AWPC
- Within 7 Days of Last Milestone
- By Wednesday 22 March 2017

2. Records Request

- Within 14 Days of AWPC
- Within 7 Days of Last Milestone
- By Wednesday 29 March 2017

3. Fulfillment of Records Request

- Within 43 Days of AWPC
- Within 29 Days of Last Milestone
- By Thursday 27 April 2017

4. Records Review Complete

- Within 57 Days of AWPC
- Within 14 Days of Last Milestone
- By Thursday 11 May 2017

5. Pre-Onsite Evaluation Conference Call

- Within 64 Days of AWPC
- Within 7 Days of Last Milestone
- By Thursday 18 May 2017

6. Completion of Onsite Evaluation

- Within 82 Days of AWPC
- Within 18 Days of Last Milestone
- By Monday 5 June 2017

The table below provides a preliminary schedule for the onsite evaluation week.

Appendix C1: Schedule for PEAR #1 - Post-Construction / Permanent Best Management Practices

Airports		Harbors		Highways	
Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
Small MS4	Individual Permit	Small MS4	Small MS4	Small MS4	Individual
Permit		Permit	Permit	Permit	Permit
HI 4KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
76 Days	77 Days	79 Days	82 Days	76 Days	78 Days
After AWPC	After AWPC	After AWPC	After AWPC	After AWPC	After AWPC
Tuesday	Wednesday	Friday	Monday	Tuesday	Thursday
30 May 2017	31 May 2017	2 June 2017	5 June 2017	30 May 2017	1 June 2017
8am – 9am	8am – 9am	8am – 9am	8am – 9am	1pm – 2pm	8am – 9am
Kickoff Meeting	Kickoff Meeting	Kickoff Meeting	Kickoff Meeting	Kickoff Meeting	Kickoff Meeting
[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]
9am – 11am	9am – 11am	9am – 11am	9am – 11am	2pm – 4pm	9am – 11am
Onsite	Onsite	Onsite	Onsite	Onsite	Onsite
Evaluation	Evaluation	Evaluation	Evaluation	Evaluation	Evaluation
[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]
BMP 1: OGG CONRAC, location tentative	BMP 1: Pervious pavement and bioswale systems, NDWP New Employee Parking Lots at Elliott St.	BMP 1: Alaska Marine Lines, Pier 29	BMP 1: GLP Asphalt Facility	[BMPs will be inspected only if they are installed by this time]	BMP 1: University Ave. Bioswales, In median of H-1 ramps to University Ave. on makai side of freeway
BMP 2: Wash rack, location tentative	BMP 2: Contech CDS 2025 System and FloGuard drop inlet filtration insert, NDWP Diamondhead Site Improvements, GSE Lot fronting Hardstand 3	BMP 2: Matson Auto Facility, Pier 32	[Additional BMPs will be inspected only if they are installed by this time]		BMP 2: Fort Weaver Rd. CDS Units, Fort Weaver Rd., Ewa
[An additional BMP will be inspected only if one is installed by this time]	BMP 3: Bioswale system, Kalewa St Storage Lots 1-6, Corner of Lagoon and Kalewa St.	BMP 3: HC&D Facility, Pier 60			BMP 3: Luluku Storm Water Treatment System, H-3/Likelike interchange, Kaneohe
11am – 12pm	11am – 12pm	11am – 12pm	11am – 12pm	4pm – 5pm	11am – 12pm
Debrief	Debrief	Debrief	Debrief	Debrief	Debrief
Meeting	Meeting	Meeting	Meeting	Meeting	Meeting
[See Note (c)]	[See Note (c)]	[See Note (c)]	[See Note (c)]	[See Note (c)]	[See Note (c)]

Appendix C1: Schedule for PEAR #1 - Post-Construction / Permanent Best Management Practices

Notes:

- (a) MS4 Permit Coordinators will have the opportunity to present information on their program during the Kickoff Meeting. At least a half hour should be available for MS4 Permit Coordinators (or their designees) to present.
- (b) The Audit Team will then verify that up to three (3) structural and source control BMPs approved by each permittee and subject to post-construction requirements were installed and are being maintained properly in the field. Approved plans and inspection records for each BMP will have been reviewed ahead of the onsite evaluation (during the records review period). The BMPs identified in this Appendix are preliminary and are subject to modification.
- (c) The Debrief Meeting will be limited to discussing any findings that need clarification and any required communication moving forward.

7. End of Post-Onsite Evaluation Review Period

- Within 90 Days of AWPC
- Consent Decree Deadline: Within 90 Days of AWPC
- Within 8 Days of Last Milestone
- By Tuesday 13 June 2017

8. Completion of Draft PEAR & Distribution to MS4 Permit Coordinators

- Within 135 Days of AWPC
- Consent Decree Deadline: Within 135 Days of AWPC
- Within 45 Days of Last Milestone
- By Friday 28 July 2017

Written Request for Clarification and Corrections MS4 Permit Coordinators to HDOT PM

- Within 162 Days of AWPC
- Within 27 Days of Last Milestone
- By Thursday 24 August 2017

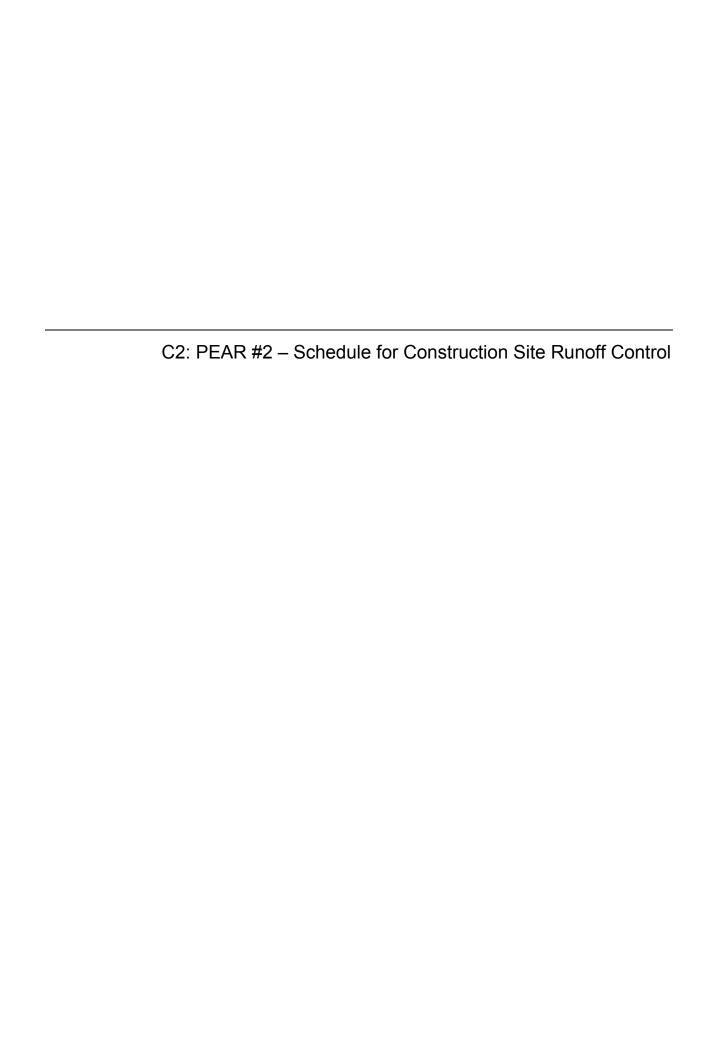
10. Written Request for Clarification and Corrections HDOT PM to Audit PM

- Within 163 Days of AWPC¹
- Consent Decree Deadline: Within 165 Days of AWPC
- Within 1 Days of Last Milestone
- By Friday 25 August 2017

- Within 183 Days of AWPC²
- Consent Decree Deadline: 210 Days of AWPC
- Within 20 Days of Last Milestone
- By Thursday 14 September 2017

¹ This deadline is 2 days ahead of the CD Deadline as the CD Deadline falls on a Sunday.

² The main Audit Work Plan Section 5.3.3 provides an explanation of why this document is submitted ahead of the CD deadline.



Appendix C2: Schedule for PEAR #2 - Construction Site Runoff Control

1. Notice of Audit

- Within 190 Days of AWPC
- Within 7 Days of Last Milestone
- By Thursday 21 September 2017

2. Records Request

- Within 197 Days of AWPC
- Within 7 Days of Last Milestone
- By Thursday 28 September 2017

3. Fulfillment of Records Request

- Within 226 Days of AWPC
- Within 29 Days of Last Milestone
- By Friday 27 October 2017

4. Records Review Complete

- Within 239 Days of AWPC
- Within 13 Days of Last Milestone
- By Thursday 9 November 2017

5. Pre-Onsite Evaluation Conference Call

- Within 246 Days of AWPC
- Within 7 Days of Last Milestone
- By Thursday 16 November 2017

6. Completion of Onsite Evaluation

- Within 261 Days of AWPC
- Within 15 Days of Last Milestone
- By Friday 1 December 2017

The table below provides a preliminary schedule for the onsite evaluation week.

Appendix C2: Schedule for PEAR #2 - Construction Site Runoff Control

Airports		Harbors		Highways	
Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
HI 4KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
257 Days After AWPC	258 Days After AWPC	260 Days After AWPC	261 Days After AWPC	257 Days After AWPC	259 Days After AWPC
Monday 27 November 2017	Tuesday 28 November 2017	Thursday 30 November 2017	Friday 1 December 2017	Monday 27 November 2017	Wednesday 29 November 2017
8am – 9am Kickoff Meeting [See Note (a)]	8am – 9am Kickoff Meeting [See Note (a)]	8am – 9am Kickoff Meeting [See Note (a)]	8am – 9am Kickoff Meeting [See Note (a)]	1pm – 2pm Kickoff Meeting [See Note (a)]	8am – 9am Kickoff Meeting [See Note (a)]
9am – 11am Onsite Evaluation [See Note (b)]	9am – 11am Onsite Evaluation [See Note (b)]	9am – 11am Onsite Evaluation [See Note (b)]	9am – 11am Onsite Evaluation [See Note (b)]	2pm – 4pm Onsite Evaluation [See Note (b)]	9am – 11am Onsite Evaluation [See Note (b)]
Construction Site #1: OGG Consolidated Rent A Car Facility, Kahului Airport, Near Hemaloa St and Keolani Pl.	Construction Site #1: HNL Consolidated Rent A Car Facility, Rent-A-Car Lots, Corner of Aolele, Rodgers, Paiea St.	Construction Site #1: New Kapalama Container Yard, Kapalama, Honolulu Harbor	[Unable to forecast construction projects; will be re-contacted by Kennedy/Jenks Consultants closer to the date]	Construction Site #1: Kuihelani Highway Resurfacing	[Unable to forecast construction projects; will be re- contacted by Kennedy/Jenks Consultants closer to the date]
Construction Site #2: OGG Vehicle Washrack Installation, AOA side, Near Cargo Building and Triturator	Construction Site #2: HNL NDWP IIT Mauka Extension, Mauka Interisland Terminal, Existing Commuter Air Terminal	Construction Site #2: Piers 24-29 Utilities		[An additional construction site will be inspected only if one is active at this time]	
11am – 12pm Debrief Meeting [See Note (c)]	11am – 12pm Debrief Meeting [See Note (c)]	11am – 12pm Debrief Meeting [See Note (c)]	11am – 12pm Debrief Meeting [See Note (c)]	4pm – 5pm Debrief Meeting [See Note (c)]	11am – 12pm Debrief Meeting [See Note (c)]

Appendix C2: Schedule for PEAR #2 - Construction Site Runoff Control

Notes:

- (a) MS4 Permit Coordinators will have the opportunity to present information on their program during the Kickoff Meeting. At least a half hour should be available for MS4 Permit Coordinators (or their designees) to present.
- (b) The Audit Team will then accompany construction inspectors as they conduct up to two (2) inspections. The purpose of the field evaluation is to assess the permittee's construction inspection program—how knowledgeable the inspectors are about stormwater requirements and BMPs, how thorough of an inspection they conduct, and how they handle problems identified at construction sites. The construction sites identified in this Appendix are preliminary and are subject to modification.
- (c) The Debrief Meeting will be limited to discussing any findings that need clarification and any required communication moving forward.

7. End of Post-Onsite Evaluation Review Period

- Within 268 Days of AWPC¹
- Consent Decree Deadline: Within 270 Days of AWPC
- Within 7 Days of Last Milestone
- By Friday 8 December 2017

8. Completion of Draft PEAR & Distribution to MS4 Permit Coordinators

- Within 313 Days of AWPC²
- Consent Decree Deadline: Within 315 Days of AWPC
- Within 45 Days of Last Milestone
- By Monday 22 January 2018

9. Written Request for Clarification and Corrections MS4 Permit Coordinators to HDOT PM

- Within 338 Days of AWPC
- Within 25 Days of Last Milestone
- By Friday 16 February 2018

10. Written Request for Clarification and Corrections HDOT PM to Audit PM

- Within 342 Days of AWPC²
- Consent Decree Deadline: Within 345 Days of AWPC
- Within 4 Days of Last Milestone
- By Tuesday 20 February 2018

11. Completion of Final PEAR

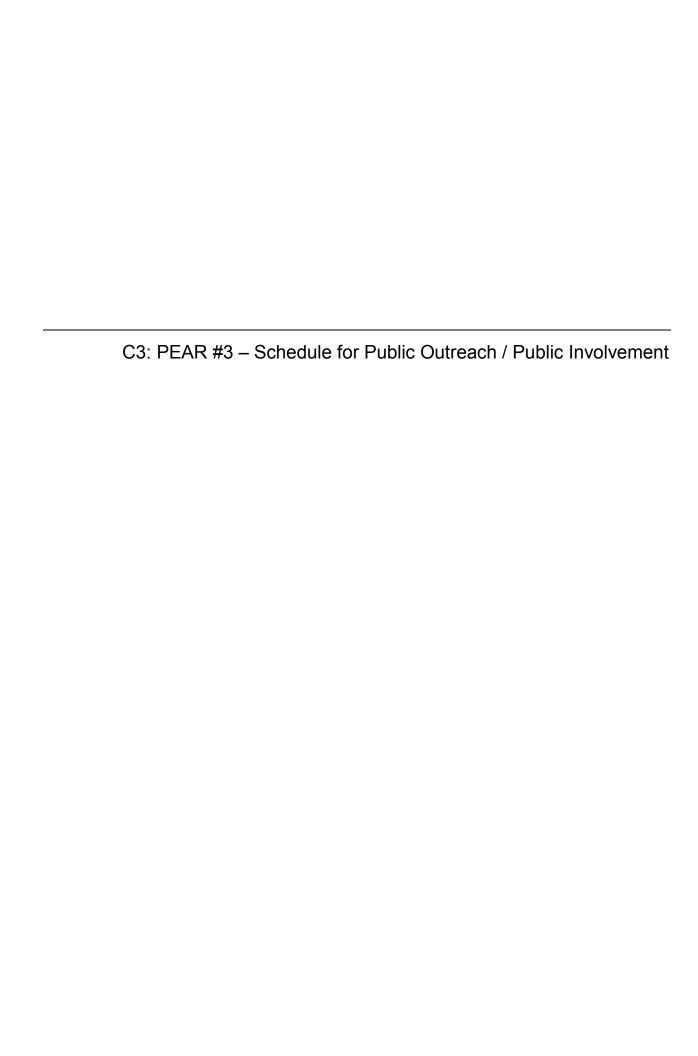
- Within 362 Days of AWPC³
- Consent Decree Deadline: 390 Days of AWPC
- Within 20 Days of Last Milestone
- By Monday 12 March 2018

Revised Audit Work Plan, State of Hawaii DOT

¹ This deadline is 2 days ahead of the CD Deadline as the CD Deadline falls on a Sunday.

The deadline is ahead of the CD Deadline due to the required shift in the #7 deadline.

³ The main Audit Work Plan Section 5.3.3 provides an explanation of why this document is submitted ahead of the CD deadline.



Appendix C3: Schedule for PEAR #3 - Public Outreach / Public Involvement Program

1. Notice of Audit

- Within 369 Days of AWPC
- Within 7 Days of Last Milestone
- By Monday 19 March 2018

2. Records Request

- Within 377 Days of AWPC
- Within 8 Days of Last Milestone
- By Tuesday 27 March 2018

3. Fulfillment of Records Request

- Within 420 Days of AWPC
- Within 43 Days of Last Milestone
- By Wednesday 9 May 2018

4. Records Review Complete

- Within 450 Days of AWPC
- Consent Decree Deadline: Within 450 Days of AWPC
- Within 30 Days of Last Milestone
- By Friday 8 June 2018

For this Program Element, the end of the records review period represents the completion of evaluation. No onsite evaluation will occur for this program element. It is expected that several conference calls between the Audit Team, HDOT PM, and MS4 Permit Coordinators may be conducted during the records review period. If requested by the Audit Team or MS4 Permit Coordinator, an in-person meeting may be scheduled during this period.

Airports		Harbors		Highways	
Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
HI 4KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
Between 19 March 2018 and 8 June 2018, conference calls and in- person meetings will be scheduled as needed.	Between 19 March 2018 and 8 June 2018, conference calls and in-person meetings will be scheduled as needed.	Between 19 March 2018 and 8 June 2018, conference calls and in- person meetings will be scheduled as needed.	Between 19 March 2018 and 8 June 2018, conference calls and in-person meetings will be scheduled as needed.	Between 19 March 2018 and 8 June 2018, conference calls and in- person meetings will be scheduled as needed.	Between 19 March 2018 and 8 June 2018, conference calls and in-person meetings will be scheduled as needed.

Appendix C3: Schedule for PEAR #3 - Public Outreach / Public Involvement Program

5. – 7. Not Applicable (See #4)

8. Completion of Draft PEAR & Distribution to MS4 Permit Coordinators

- Within 495 Days of AWPC
- Consent Decree Deadline: Within 495 Days of AWPC
- Within 45 Days of Last Milestone
- By Monday 23 July 2018

9. Written Request for Clarification and Corrections MS4 Permit Coordinators to HDOT PM

- Within 523 Days of AWPC
- Within 28 Days of Last Milestone
- By Monday 20 August 2018

10. Written Request for Clarification and Corrections HDOT PM to Audit PM

- Within 525 Days of AWPC
- Consent Decree Deadline: Within 525 Days of AWPC
- Within 2 Days of Last Milestone
- By Wednesday 22 August 2018

11. Completion of Final PEAR

- Within 545 Days of AWPC¹
- Consent Decree Deadline: 570 Days of AWPC
- Within 20 Days of Last Milestone
- By Tuesday 11 September 2018

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¹ The main Audit Work Plan Section 5.3.3 provides an explanation of why this document is submitted ahead of the CD deadline.

C4: PEAR #4 – Schedule for Illicit Discharge Detection and Elimination (IDDE) Program Element and Industrial Commercial Activities/Tenant (I/C) Program

Appendix C4: Schedule for PEAR #4 - Illicit Discharge Detection and Elimination Program Element and Industrial Commercial Activities/Tenant Program

1. Notice of Audit

- Within 552 Days of AWPC
- Within 7 Days of Last Milestone
- By Tuesday 18 September 2018

2. Records Request

- Within 559 Days of AWPC
- Within 7 Days of Last Milestone
- By Tuesday 25 September 2018

3. Fulfillment of Records Request

- Within 583 Days of AWPC
- Within 24 Days of Last Milestone
- By Friday 19 October 2018

4. Records Review Complete

- Within 597 Days of AWPC
- Within 14 Days of Last Milestone
- By Friday 2 November 2018

5. Pre-Onsite Evaluation Conference Call

- Within 604 Days of AWPC
- Within 7 Days of Last Milestone
- By Friday 9 November 2018

6. Completion of Onsite Evaluation

- Within 623 Days of AWPC
- Within 19 Days of Last Milestone
- By Wednesday 28 November 2018

The table below provides a preliminary schedule for the onsite evaluation period.

Appendix C4: Schedule for PEAR #4 - Illicit Discharge Detection and **Elimination Program Element and Industrial Commercial Activities/Tenant Program**

Ai	rports	На	rbors	Н	ighways
Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
Small MS4 Permit HI 4KE349	Individual Permit	Small MS4 Permit HI 03KB482	Small MS4 Permit	Small MS4 Permit	Individual Permit
	HI S000005			HI 14KE352	HI S000001
614 Days	616 Days	621 Days	622 Days	615 Days	623 Days
After AWPC	After AWPC	After AWPC	After AWPC	After AWPC	After AWPC
Monday	Wednesday	Monday	Tuesday	Tuesday	Wednesday
19 November	21 November	26 November	27 November	20 November	28 November
2018	2018	2018	2018	2018	2018
8am – 9am	8am – 9am	8am – 9am	8am – 9am	8am – 9am	8am – 9am
IDDE Kickoff	IDDE Kickoff	IDDE Kickoff	IDDE Kickoff	IDDE Kickoff	IDDE Kickoff
Meeting	Meeting	Meeting	Meeting	Meeting	Meeting
[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]
9am – 11am	9am – 11am	9am – 11am	9am – 11am	9am – 11am	9am – 11am
IDDE Onsite	IDDE Onsite	IDDE Onsite	IDDE Onsite	IDDE Onsite	IDDE Onsite
Evaluation	Evaluation	Evaluation	Evaluation	Evaluation	Evaluation
[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]
Outfall #1: Near baseyard, Keolani Place	Outfall #1: Near Iolana Place, Off Lagoon Drive	Outfall #1: SDDH035050, Pier 38	Outfall #1: SDDBP043660, Pier P-4	Outfall #1: Outlet No. 1	Outfall #1: PID 304162 Jarrett White Rd., north of Mahiole St.,
Outfall #2: Sampling #G, Basin G	Outfall #2: Aolewa Place, Near Access A	Outfall #2: SDDH0517960, Pier 51	[Outfall #1 is the only accessible outfall at this harbor, due to safety concerns]	Outfall #2: DP3	Outfall #2: PID 301831, Kaahele St., north of Moanalua Rd.
11am – 12pm	11am – 12pm	11am – 12pm	11am – 12pm	11am - 12pm	11am – 12pm
IDDE Debrief	IDDE Debrief	IDDE Debrief	IDDE Debrief	IDDE Debrief	IDDE Debrief
Meeting	Meeting	Meeting	Meeting	Meeting	Meeting
[See Note (d)]	[See Note (d)]	[See Note (d)]	[See Note (d)]	[See Note (d)]	[See Note (d)]
12pm – 1pm	12pm – 1pm	12pm – 1pm	12pm – 1pm	12pm – 1pm	12pm – 1pm
LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1pm – 2pm	1pm – 2pm	1pm – 2pm	1pm – 2pm	[I/C Program not	1pm – 2pm
I/C Kickoff	I/C Kickoff	I/C Kickoff	I/C Kickoff	evaluated, as	I/C Kickoff
Meeting	Meeting	Meeting	Meeting	Maui Highways	Meeting
[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	does not have an	[See Note (a)]
2pm – 4pm	2pm – 4pm	2pm – 4pm	2pm – 4pm	I/C Program]	2pm – 4pm
I/C Onsite	I/C Onsite	I/C Onsite	I/C Onsite		I/C Onsite
Evaluation	Evaluation	Evaluation	Evaluation		Evaluation
[See Note (c)]	[See Note (c)]	[See Note (c)]	[See Note (c)]		[See Note (c)]
I/C Facility #1: UPS, 9682 Hemaloa PI.	I/C Facility #1: UPS, 128 Mokuea Pl.	I/C Facility #1: Young Brothers Maintenance Facility, Pier 39	I/C Facility #1: Marisco		I/C Facility #1: First Hawaiian Bank, 94-205 Leoku St., Waipahu, HI
I/C Facility #2: ASIC-HFFC, 761 Kaonawai PI.	I/C Facility #2: United Airlines, 110 Lauhoe PI.	I/C Facility #2: Matson Maintenance Facility, Piers 52-53	I/C Facility #2: Grace Pacific		I/C Facility #2: CM Recycling, 204 Sand Island Access Rd., Honolulu, HI
4pm – 5pm	4pm – 5pm	4pm – 5pm	4pm – 5pm		4pm – 5pm
I/C Debrief	I/C Debrief	I/C Debrief	I/C Debrief		I/C Debrief
Meeting	Meeting	Meeting	Meeting		Meeting
[See Note (d)]	[See Note (d)]	[See Note (d)]	[See Note (d)]		[See Note (d)]

Appendix C4: Schedule for PEAR #4 - Illicit Discharge Detection and Elimination Program Element and Industrial Commercial Activities/Tenant Program

Notes:

- (a) MS4 Permit Coordinators will have the opportunity to present information on their program during the Kickoff Meetings. At least a half hour should be available for MS4 Permit Coordinators (or their designees) to present.
- (b) Illicit Discharge Detection and Elimination (IDDE) Program: The Audit Team will accompany inspectors in the field as they conduct up to two (2) dry-weather outfall screenings. The outfalls identified in this Appendix are preliminary and are subject to modification.
- (c) Industrial/Commercial (I/C) Program: The Audit Team will accompany inspectors in the field as they inspect up to two (2) industrial/commercial facilities. The facilities identified in this Appendix are preliminary and are subject to modification.
- (d) The Debrief Meeting will be limited to discussing any findings that need clarification and any required communication moving forward.

7. End of Post-Onsite Evaluation Review Period

- Within 630 Days of AWPC
- Consent Decree Deadline: Within 630 Days of AWPC
- Within 7 Days of Last Milestone
- By Wednesday 5 December 2018

8. Completion of Draft PEAR & Distribution to MS4 Permit Coordinators

- Within 674 Days of AWPC¹
- Consent Decree Deadline: Within 675 Days of AWPC
- Within 44 Days of Last Milestone
- By Friday 18 January 2019

9. Written Request for Clarification and Corrections MS4 Permit Coordinators to HDOT PM

- Within 700 Days of AWPC
- Within 26 Days of Last Milestone
- By Wednesday 13 February 2019

10. Written Request for Clarification and Corrections HDOT PM to Audit PM

- Within 702 Days of AWPC²
- Consent Decree Deadline: Within 705 Days of AWPC
- Within 2 Days of Last Milestone
- By Friday 15 February 2019

- Within 723 Days of AWPC³
- Consent Decree Deadline: 750 Days of AWPC
- Within 21 Days of Last Milestone
- Bv Fridav 8 March 2019

¹ This deadline is 1 day ahead of the CD Deadline as the CD Deadline falls on a Saturday.

² The deadline is ahead of the CD Deadline due to the required shift in the #8 deadline.

³ The main Audit Work Plan Section 5.3.3 provides an explanation of why this document is submitted ahead of the CD deadline.



Appendix C5: Schedule for PEAR #5: Pollution Prevention / Good Housekeeping Program

1. Notice of Audit

- Within 730 Days of AWPC
- Within 7 Days of Last Milestone
- By Friday 15 March 2019

2. Records Request

- Within 737 Days of AWPC
- Within 7 Days of Last Milestone
- By Friday 22 March 2019

3. Fulfillment of Records Request

- Within 762 Days of AWPC
- Within 25 Days of Last Milestone
- By Tuesday 16 April 2019

4. Records Review Complete

- Within 776 Days of AWPC
- Within 14 Days of Last Milestone
- By Tuesday 30 April 2019

5. Pre-Onsite Evaluation Conference Call

- Within 783 Days of AWPC
- Within 7 Days of Last Milestone
- By Tuesday 7 May 2019

6. Completion of Onsite Evaluation

- Within 800 Days of AWPC
- Within 17 Days of Last Milestone
- By Friday 24 May 2019

The table below provides a preliminary schedule for the onsite evaluation week.

Appendix C5: Schedule for PEAR #5: Pollution Prevention / Good Housekeeping Program

Airports		Har	bors	Highways	
Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
Small MS4	Individual Permit	Small MS4	Small MS4	Small MS4	Individual
Permit		Permit	Permit	Permit	Permit
HI 4KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
796 Days	797 Days	799 Days	800 Days	796 Days	798 Days
After AWPC	After AWPC	After AWPC	After AWPC	After AWPC	After AWPC
Monday	Tuesday	Thursday	Friday	Monday	Wednesday
20 May	21 May	23 May	24 May	20 May	22 May
2019	2019	2019	2019	2019	2019
8am – 9am	8am – 9am	8am – 9am	8am – 9am	1pm – 2pm	8am – 9am
Kickoff	Kickoff	Kickoff	Kickoff	Kickoff	Kickoff
Meeting	Meeting	Meeting	Meeting	Meeting	Meeting
[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]	[See Note (a)]
9am – 11am	9am – 11am	9am – 11am	9am – 11am	2pm – 4pm	9am – 11am
Onsite	Onsite	Onsite	Onsite	Onsite	Onsite
Evaluation	Evaluation	Evaluation	Evaluation	Evaluation	Evaluation
[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]	[See Note (b)]
Facility #1: OGG Baseyard, Keolani Pl.	Facility #1: HNL Baseyard, 2919 Aolele St.	Facility #1: Sand Island Baseyard, 48 Sand Island Access Road	Facility #1: Kalaeloa Storage Facility	Facility #1: HWY- M Kahului Baseyard, 650 Palapapa Dr.	Facility #1: Kakoi Baseyard, 727 Kakoi St.
Facility #2: ARFF Station, Onsite	Facility #2: Crash Fire Station 2, off Lagoon Drive	[DOT-HAR only operates one maintenance facility at Honolulu Harbor]	[DOT-HAR only operates one maintenance facility at Kalaeloa Harbor]	Facility #2: HAR- M Kahului Harbor, 103 Ala Luina St.	Facility #2: Windward Baseyard, 45-889 Pookela St.
11am – 12pm	11am – 12pm	11am – 12pm	11am – 12pm	4pm – 5pm	11am – 12pm
Debrief	Debrief	Debrief	Debrief	Debrief	Debrief
Meeting	Meeting	Meeting	Meeting	Meeting	Meeting
[See Note (c)]	[See Note (c)]	[See Note (c)]	[See Note (c)]	[See Note (c)]	[See Note (c)]

Appendix C5: Schedule for PEAR #5: Pollution Prevention / Good Housekeeping Program

Notes:

- (a) MS4 Permit Coordinators will have the opportunity to present information on their program during the Kickoff Meeting. At least a half hour should be available for MS4 Permit Coordinators (or their designees) to present.
- (b) After the Kickoff Meeting, the Audit Team will conduct a walk-through of up to two (2) permittee owned or operated facilities (maintenance yards, chemical storage facilities, etc.) with a facility supervisor and/or other key staff to verify that activities are performed as described in the SWMPP. The facilities identified in this Appendix are preliminary and are subject to modification.
- (c) The Debrief Meeting will be limited to discussing any findings that need clarification and any required communication moving forward.

7. End of Post-Onsite Evaluation Review Period

- Within 810 Days of AWPC
- Consent Decree Deadline: Within 810 Days of AWPC
- Within 10 Days of Last Milestone
- By Tuesday 3 June 2019

8. Completion of Draft PEAR & Distribution to MS4 Permit Coordinators

- Within 855 Days of AWPC
- Consent Decree Deadline: Within 855 Days of AWPC
- Within 45 Days of Last Milestone
- By Thursday 18 July 2019

9. Written Request for Clarification and Corrections MS4 Permit Coordinators to HDOT PM

- Within 882 Days of AWPC
- Within 27 Days of Last Milestone
- By Wednesday 14 August 2019

10. Written Request for Clarification and Corrections HDOT PM to Audit PM

- Within 884 Days of AWPC¹
- Consent Decree Deadline: Within 885 Days of AWPC
- Within 2 Day of Last Milestone
- By Friday 16 August 2019

- Within 905 Days of AWPC²
- Consent Decree Deadline: 930 Days of AWPC
- Within 21 Days of Last Milestone
- By Friday 6 September 2019

¹ This deadline is 1 day ahead of the CD Deadline as the CD Deadline falls on a Saturday.

² The main Audit Work Plan Section 5.3.3 provides an explanation of why this document is submitted ahead of the CD deadline.



Appendix C6: Schedule for PEAR #6 - Staffing, Funding, Organizational Structure, Availability of Resources, and Storm Water Program Sustainability

1. Notice of Audit

- Within 912 Days of AWPC
- Within 7 Days of Last Milestone
- By Friday 13 September 2019

2. Records Request

- Within 919 Days of AWPC
- Within 7 Days of Last Milestone
- By Friday 20 September 2019

3. Fulfillment of Records Request

- Within 961 Days of AWPC
- Within 42 Days of Last Milestone
- By Friday 1 November 2019

4. Records Review Complete

- Within 989 Days of AWPC¹
- Consent Decree Deadline: Within 990 Days of AWPC
- Within 28 Days of Last Milestone
- By Friday 29 November 2019

For this Program Element, the end of the records review period represents the completion of evaluation. No onsite evaluation will occur for this program element. It is expected that several conference calls between the Audit Team, HDOT PM, and MS4 Permit Coordinators will be conducted during the records review period. If requested by the Audit Team or MS4 Permit Coordinator, an in-person meeting may be scheduled during this period.

Airports		Harbors		Highways	
Kahului Airport	Honolulu International Airport	Honolulu Harbor	Kalaeloa Barbers Point Harbor	Maui District	Oahu District
Small MS4 Permit	Individual Permit	Small MS4 Permit	Small MS4 Permit	Small MS4 Permit	Individual Permit
HI 4KE349	HI S000005	HI 03KB482	HI 03KB488	HI 14KE352	HI S000001
Between	Between	Between	Between	Between	Between
13 September	13 September	13 September	13 September	13 September	13 September 2019
2019 and	2019 and	2019 and	2019 and	2019 and	and 29 November
29 November	29 November	29 November	29 November	29 November	2019, conference
2019.	2019, conference	2019.	2019.	2019.	calls and in-person
conference	calls and in-person	conference	conference calls	conference	meetings will be
calls and in-	meetings will be	calls and in-	and in-person	calls and in-	scheduled as
person	scheduled as	person	meetings will be	person	needed.
meetings will	needed.	meetings will	scheduled as	meetings will be	
be scheduled		be scheduled	needed.	scheduled as	
as needed.		as needed.		needed.	

5. – 7. Not Applicable (See #4)

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¹ This deadline is 1 day ahead of the CD Deadline as the CD Deadline falls on a Saturday.

Appendix C6: Schedule for PEAR #6 - Staffing, Funding, Organizational Structure, Availability of Resources, and Storm Water Program Sustainability

8. Completion of Draft PEAR & Distribution to MS4 Permit Coordinators

- Within 1034 Days of AWPC²
- Consent Decree Deadline: Within 1035 Days of AWPC
- Within 45 Days of Last Milestone
- By Monday 13 January 2020

9. Written Request for Clarification and Corrections MS4 Permit Coordinators to HDOT PM

- Within 1058 Days of AWPC
- Within 24 Days of Last Milestone
- By Thursday 6 February 2019

10. Written Request for Clarification and Corrections HDOT PM to Audit PM

- Within 1064 Days of AWPC²
- Consent Decree Deadline: Within 1065 Days of AWPC
- Within 6 Days of Last Milestone
- By Wednesday 12 February 2020

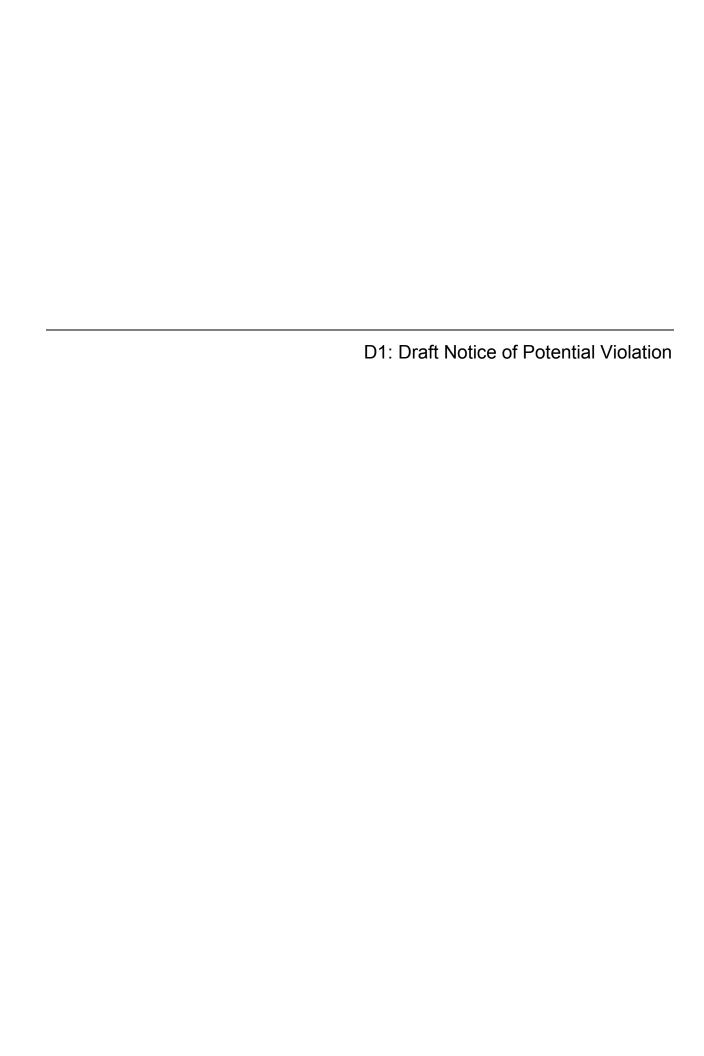
- Within 1108 Days of AWPC³
- Consent Decree Deadline: 1110 Days of AWPC
- Within 44 Days of Last Milestone
- By Friday 27 March 2020

² The deadline is ahead of the CD Deadline due to the required shift in the #4 deadline.

³ This deadline is 2 days ahead of the CD Deadline as the CD Deadline falls on a Sunday.

Appendix D

Notices to EPA & DOH



State of Hawaii Department of Transportation MS4 Permit Audit Draft Notice of Potential Violation

Potential Violation Tracking #:						
Determination of Potential Violation Date: Potential Violation Notification Date: (Today's Date)						
Potential Violation Narrative Description:						
Description of Attached Photographs (if applicable):						
Applicable Regulatory References						
NPDES Permit No.:						
SWMPP:						
Hawaii Administrative Rules (HAR):						
Code of Federal Regulations (CFR):						



State of Hawaii Department of Transportation MS4 Permit Audit Final Notice of Potential Violation

Potential Violation Tracking #:					
Determination of Potential Violation Date:					
Potential Violation Notification Date: Today's Date)					
The Audit Team must submit this notice within 2 business days of determining that a potential violation has occurred.					
Potential Violation Narrative Description:					
Description of Attached Photographs (if applicable):					
Applicable Regulatory References					
NPDES Permit No.:					
SWMPP:					
Hawaii Administrative Rules (HAR):					
Code of Federal Regulations (CFR):					
Result of HDOT PM Review:					
□ Confirmed Potential Violation ○ Email Notice of Corrective Action sent to EPA/DOH on: (Due Within 14 Colonder Days of Potential Violation Natification Date)					
(Due Within 14 Calendar Days of Potential Violation Notification Date) ☐ Re-categorized as Deficiency					
○ Email Notice sent to EPA/DOH on: □ Summarily Dismissed					
Email Notice sent to EPA/DOH on:					



State of Hawaii Department of Transportation MS4 Permit Audit Notice of Corrective Action

HDOT must submit this notice within 21 calendar days of receiving the relevant Draft PEAR. SECTION C	Corrective Action in Response to:			
SECTION A – Corrective Action in Response to Potential Violation Potential Violation Tracking #: Potential Violation Notification Date: (from Notice of Potential Violation Form) Corrective Action Notification Date: (Today's Date) HDOT must submit this notice within 14 calendar days of the Potential Violation Notification Date. SECTION B – Corrective Action in Response to Deficiency HDOT Receipt of Draft PEAR Date: (Corrective Action Notification Date: (Today's Date) HDOT must submit this notice within 21 calendar days of receiving the relevant Draft PEAR. SECTION C Description of Corrective Action	☐ Potential Violation (complete	e Section A & C)		
Potential Violation Tracking #: Potential Violation Notification Date: (from Notice of Potential Violation Form) Corrective Action Notification Date: (Today's Date) HDOT must submit this notice within 14 calendar days of the Potential Violation Notification Date. SECTION B – Corrective Action in Response to Deficiency HDOT Receipt of Draft PEAR Date: Corrective Action Notification Date: (Today's Date) HDOT must submit this notice within 21 calendar days of receiving the relevant Draft PEAR. SECTION C Description of Corrective Action	☐ Deficiency (complete Section	n B & C)		
(from Notice of Potential Violation Form) Corrective Action Notification Date:	SECTION A – Corrective Action in F	Response to Potential Violation		
(Today's Date) HDOT must submit this notice within 14 calendar days of the Potential Violation Notification Date. SECTION B – Corrective Action in Response to Deficiency HDOT Receipt of Draft PEAR Date: Corrective Action Notification Date: (Today's Date) HDOT must submit this notice within 21 calendar days of receiving the relevant Draft PEAR. SECTION C Description of Corrective Action	Potential Violation Tracking #: Potential Violation Notification Date: (from Notice of Potential Violation Form)			
SECTION B – Corrective Action in Response to Deficiency HDOT Receipt of Draft PEAR Date:		Corrective Action Notification Date:(Today's Date)		
HDOT Receipt of Draft PEAR Date: Corrective Action Notification Date: (Today's Date) HDOT must submit this notice within 21 calendar days of receiving the relevant Draft PEAR. SECTION C Description of Corrective Action	HDOT must submit this notice	within 14 calendar days of the Potential Violation Notification Date.		
Corrective Action Notification Date:(Today's Date) HDOT must submit this notice within 21 calendar days of receiving the relevant Draft PEAR. SECTION C Description of Corrective Action	SECTION B – Corrective Action in F	Response to Deficiency		
(Today's Date) HDOT must submit this notice within 21 calendar days of receiving the relevant Draft PEAR. SECTION C Description of Corrective Action	HDOT Receipt of Draft PEAR Date:			
SECTION C Description of Corrective Action	Corrective Action Notification Date: (Today's Date)			
Description of Corrective Action	HDOT must submit receiving	this notice within 21 calendar days of g the relevant Draft PEAR.		
	SECTION C			
Description of Attached Photographs (if applicable):	Description of Corrective Action			
Description of Attached Photographs (if applicable):				
Description of Attached Photographs (if applicable):				
Description of Attached Photographs (if applicable):				
Description of Attached Photographs (if applicable):				
Description of Attached Photographs (if applicable):				
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	Description of Attached Photograph	s (if applicable):		