

# STORM WATER MANAGEMENT PLAN (SWMP)

## Permit:

Notice of General Permit Coverage (NGPC) for the University of Hawaii at Manoa (UHM) National Pollutant Discharge Elimination System (NPDES) Small Municipal Separate Storm Sewer System (MS4)

File No. HI 03KB495 - administratively extended on Nov. 29, 2016.

Notice of Intent for continued coverage submitted May 11, 2022, addressed CWB's request to resubmit notice of intent with the missing attachments, revised notice of intent submitted August 23, 2023.

CWB changed the file number from 03KB495 to file number 22KG716.

File No. HI 22KG716 SWMP public notice September 22, 2023.

**File No. HI 22KG716 effective October 27, 2023** and shall expire at midnight January 14, 2027 or when amendments to HAR 11-55 appendix K are adopted, whichever occurs first.

## Permittee:

University of Hawaii at Manoa  
2444 Dole Street  
Honolulu, Hawaii 96822

This plan has been prepared by the UHM Environmental, Health and Safety Office (EHSO), Environmental Compliance Program (ECP).

Questions about this plan shall be directed to the UHM EHSO ECP:

2040 East-West Road  
Honolulu, Hawaii 96822  
<https://www.hawaii.edu/ehso/environmental-compliance/>  
808-956-9173

**SWMP Revision Date: November 14, 2024**

## Certification

Certifying Person: Vice President for Administration University of Hawaii System

Authorized Representative: UHM EHSO Environmental Compliance Program Manager

This SWMP must be certified by either the Certifying Person or Authorized Representative.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

<i>Tavia Oshiro</i>	<i>ECP Program Manager</i>	<i>Tavia Oshiro</i>	<i>November 14, 2024</i>
Printed Name	Title	Signature	Date

## Revision Log

Each revision shall be recorded here and include a date, brief summary of the revision, and the certification/date/signature of the Authorized Representative.

Revisions, as allowed for by this SWMP, shall be reported in the annual report for the year in which the revision was made.

<b>Revision Summary</b>	<b>Revision Date</b>	<b>AR Signature &amp; Date</b>
Formatting	Nov. 2016	
Updated SWMP, e.g. construction project monitoring, to include proposed Appendix K amendments.	Jan. 2017	
Inspection checklists were digitized and are updated to reflect site uses.	June 2018- Present	
A digitized stormwater inventory was created in GIS based on the 2012 UH Manoa survey and field verified.	June 2018 - Ongoing	
Added additional outfalls and including these outfalls in inspections.	Throughout 2019	
Construction requirements were updated to meet CCH requirements and BBP and checklists were moved from the main document to Appendix B to consolidate UH and CCH data collection.	Sept. 2019	
Re-described the campus and scope of this SWMP	Nov. 2019	
Illicit discharge and outdoor spill response and controls were updated to reflect site response and spill response materials.	Nov. 2019	
Replacing construction specification section 01567 Pollution Control with section 01560 Environmental Controls.	2019 through 2020	
Developed SWPPP template and construction project inspection template, both modified from the CCH templates.	2019	
Replaced old SWMP team table with table from SPCC plan. Reformatted SWMP to align with formatting style of SPCC plan. Referenced spill response, clean-up, and reporting procedures from the SPCC plan for consistency and efficient updating.	Dec. 2019	
Fixed typos and formatting, completed section 3, corrected a reference to the spill response section.	Jan. 25, 2020	
Expanded Stormwater system and Asset Management descriptions. Edited measurable goals for Illicit Discharge, Public Education, General Housekeeping, Construction and Post-Construction BMPs. Expanded and revised public outreach and illicit discharge detection.	Aug. 18, 2021	
Revised Section 5 public outreach and illicit discharge detection. Formatting.	Jan. 7, 2022	
Added Attachment O: Checklist for HAR 11-55	Jan. 21, 2022	
Incorporated updates to align with the amended HAR 11-55 Appendix K, dated January 15, 2022. A public notice was posted on Sept. 22, 2023 to solicit comments on the permit renewal	May 11, 2022	

<p>application, which included the May 11, 2022 version of this SWMP.</p>		
<p>CWB changed the file number from 03KB495 to file number 22KG716.          File No. HI 22KG716 SWMP public notice September 22, 2023.          File No. HI 22KG716 effective October 27, 2023.</p>	<p>Oct. 27, 2023</p>	
<p>Program Updates in 2024:</p> <ul style="list-style-type: none"> <li>• Minor typos and clarifications addressed.</li> <li>• Added “or as needed” to the following sentence: ECP lead training is completed by all SWMP Team Members on an annual basis, or as needed, and documented in an Excel Workbook maintained by the ECP. Re-training is also part of incident debriefs.</li> <li>• Construction Storm Water Best Management Practices Plan Template updated to:             <ul style="list-style-type: none"> <li>○ Align with the HDOT Highways Construction Storm Water BMPP;</li> <li>○ Prohibit the use/construction of temporary pits (below grade) or temporary pits above grade (bermed area) as concrete washouts (projects must use commercially available washouts or project-constructed washout containers);</li> <li>○ Require that appropriate BMPs, capable of treating for hydrocarbon pollutants, are used for paving projects or other work with hydrocarbon pollution potential;</li> <li>○ Require that sediment filters (e.g. fiber rolls, biosocks, etc.) are new/unused.</li> </ul> </li> <li>• Add the safety assessment requirement for the outfall inspections</li> <li>• Updated web links and removed the reference to the Surfrider Foundation UH Manoa Chapter</li> <li>• Revised Grease Interceptor section to reflect construction updates and changes</li> <li>• Removed references to COVID closure</li> <li>• Updated Outfall Inspection frequency and methods</li> </ul>	<p>Jan. 26, 2024          Jan. 26, 2024</p> <p>Aug.22, 2024</p> <p>Sept.23, 2024</p> <p>Nov. 14, 2024</p>	

# 1 Contents

1	Overview of this Storm Water Management Plan (SWMP) [HAR 11-55 K.4 & K.6]	7
1.1	Applicability and Scope	8
2	SWMP Team	9
2.1	SWMP Team Members and Responsibilities	10
2.2	Training	14
3	Annual Report & Reporting Planned Changes [HAR 11-55 K 10(a) & (b)]	15
4	Stormwater System	15
4.1	Discharge Locations and Sub-Basins	15
4.2	Outfall Descriptions	16
4.3	Surface and Other Drainage Areas	17
5	Minimum Control Measure 1 - Public Education and Outreach	17
5.1	UHM Education and Outreach Programs and Initiatives	17
5.2	Measurable Goals	21
6	Minimum Control Measure 2 – Public Involvement/Participation	21
6.1	Measurable Goals	21
7	Minimum Control Measure 3 - Illicit Discharge Detection and Elimination	22
7.1	Enforcement Procedures	23
7.1.1	UHM Schools/Departments/Programs	23
7.1.2	UHM Contractors and Vendors	23
7.1.3	Illicit Discharge Procedure Checklist	23
7.2	Inspections	24
7.2.1	Construction Inspections	24
7.2.2	Storm Water Outfall Inspections	25
7.2.3	Food Services	25
7.3	Spill Response, Clean-Up, and Reporting	26
7.4	Record Keeping	26
7.5	Measurable Goals	26
8	Minimum Control Measure 4 - Construction Site Runoff Control	27
8.1	Construction Project Monitoring	27
8.2	Construction Project Design Review	27
8.3	Construction Project Specifications	27
8.4	Pre-Construction Meeting and Site Visit	28

8.5	Post-Construction Site Visit and Project Close-Out .....	28
8.6	Inspections & Complaints and Concerns Received from the Public .....	28
8.7	Measurable Goals .....	29
9	Minimum Control Measure 5 - Post-Construction Storm Water Management in New Development and Redevelopment.....	29
9.1	Measurable Goals .....	30
10	Minimum Control Measure 6 - Pollution Prevention/Good Housekeeping .....	30
10.1	Best Management Practices .....	30
10.2	Measurable Goals .....	30

## Figures

- Figure 1: University of Hawaii at Manoa Small MS4
- Figure 2: University of Hawaii at Manoa Storm Water Network
- Figure 3: University of Hawaii at Manoa Land Cover
- Figure 4: University of Hawaii at Manoa Site Use

## Attachments

- Attachment A: CCH Construction Site BMP Checklist
- Attachment B: Environmental Compliance Checklist
- Attachment C: Outfall Inspection Form
- Attachment D: UHM Spill Prevention, Control and Countermeasure (SPCC) Plan
- Attachment E: Construction Project Monitoring Excel Form
- Attachment F: Construction Specifications Section 01560 Environmental Controls
- Attachment G: UH Construction ESCP & BMPP Template
- Attachment H: UH Construction SWPPP Template
- Attachment I: Prevent Storm Water Pollution – Food Service Operations
- Attachment J: NPDES MS4 Compliance Activities for Landscaping Operations
- Attachment K: NPDES MS4 Compliance Activities for Student Housing Operations
- Attachment L: NPDES MS4 Compliance Activities for Transportation Services
- Attachment M: Storm Water Pollution Prevention Best Management Practices – Building Pressure Washing
- Attachment N: Storm Water Pollution Prevention Best Management Practices – Sidewalk and Walkway Pressure Washing
- Attachment O: Checklist HAR 11-55 Appendix K
- Attachment P: Connection Licenses CCH

## 1 Overview of this Storm Water Management Plan (SWMP) [HAR 11-55 K.4 & K.6]

This Storm Water Management Plan (SWMP) describes the processes and best practices implemented by the University of Hawaii at Manoa (UHM) in order to reduce discharges of pollutants, via storm water, to the maximum extent practicable and protect water quality in Manoa Stream, Ala Wai Canal, and ultimately the Pacific Ocean.

This SWMP is developed and implemented in accordance with the HAR 11-55 Standard NPDES General Permit Conditions and the NPDES General Permit Authorizing Discharges of Storm Water from Small Municipal Separate Storm Sewer Systems Appendix K (current version dated January 15, 2022).

The Appendix K, dated January 15, 2022, requires an assessment of the effectiveness of each control measure the SWMP implemented during the previous permit term. The ECP's approach to compliance includes constant evaluation of the program and incorporating feedback from stakeholders. The UHM has been successful in implementing the measurable goals for all six minimum control measures because of the dedication of the past UHM Environmental Compliance Program Managers, the hiring of the current ECP Inspector, the support from the UHM Environmental, Health and Safety Office, and UHM Administration, the support and collaboration of all UHM SWMP Team Members (especially Campus Operations and the Landscaping Department, Campus Planning and Facilities, Office of Project Delivery and Construction Management, Department of Public Safety, and Commuter Services), collaboration with UHM Systems Integration, and the guidance from the City and County of Honolulu and the Hawaii Department of Health Clean Water Branch. The most notable improvements to the SWMP include the University's ongoing efforts to centralize asset management, centralized project and work flow management systems, the PE certification of the UHM SPCC Plan, and the UHM standardized and coordinated response for exterior spills/releases. The modifications to this SWMP have been made to comply with the amended Appendix K, dated January 15, 2022, and the most notable change to this SWMP is how the measurable goals are more clearly expressed in specific and measurable terms.

The contents of this SWMP are enforceable under this permit. Per HAR 11-55 K. 6. (c), *any modifications to the BMPs and measurable goals will require submittal of a new Notice of Intent (NOI) and filing fee, unless clearly accounted for in its SWMP and that has been public noticed.* To ensure UHM can continually improve its compliance, this SWMP will allow for best practices and guidance, such as Sidewalk Pressure Washing Best Practices and the Construction Specification Section titled Environmental Controls 01560, to be updated in such a way that results in the guidance being more stringent, more specific, and improved. UHM may determine that updates are necessary in response to more stringent or specific regulatory guidance, improvements to industry standards/best practices/technology, and lessons learned and/or feedback from the SWMP team and/or the public. Best practices and guidance will not be updated in a manner that results in reduced compliance or reduced compliance goals. The measurable goals shall not be modified.

Best practices evaluated and implemented at UHM align with best practices implemented by other State entities, such as the Department of Transportation (DOT), and the City and County of Honolulu (CCH). UHM believes the consistency of best practices and guidance enhances compliance, specifically by third party contractors who have experience working with State and CCH entities.

This SWMP addresses the following NGPC compliance elements and minimum control measures [HAR 11-55 K 6(a)].

- SWMP Updates
- SWMP Applicability and Scope
- SWMP Team
- Training
- Annual Report
- Facility Maps

Minimum Control Measures:

- Public Education & Outreach [HAR 11-55 K 6(a)(1)]
- Public Involvement/Participation [HAR 11-55 K 6(a)(2)]
- Illicit Discharge Detection & Elimination [HAR 11-55 K 6(a)(3)]
- Construction Site Runoff Control [HAR 11-55 K 6(a)(4)]
- Post Construction Storm Water Management [HAR 11-55 K 6(a)(5)]
- Pollution Prevention/Housekeeping [HAR 11-55 K 6(a)(6)]

There is no Waste Load Allocation (WLA) assignment to the UHM and therefore an Implementation & Monitoring Plan is not required and is not included in this SWMP.

## 1.1 Applicability and Scope

UHM's NGPC covers storm water and certain non-storm water discharges (listed below), provided they do not cause or contribute to any violation of water quality standards.

Authorized non-storm water discharges include [HAR 11-55 K 1(a)]:

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration
- Uncontaminated pumped ground water
- Discharges from potable water sources and foundation drains
- Air conditioning condensate
- Irrigation water
- Springs
- Water from crawl space pumps and footing drains
- Lawn watering runoff
- Water from *individual residential car* washing (This does NOT apply to UHM as there is no personal-owned car washing permitted at the UHM campus.)
- Flows from riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Residual street wash water
- Discharges or flows from firefighting activities

This SWMP covers storm water discharges and authorized non-storm water discharges (see above) from all operations at the UHM campus, as described below, except for discharges that would require and be



covered by separate permit coverage such as construction projects with soil disturbance of 1 acre or greater, industrial activities, construction hydrotesting, and construction dewatering.

The main UHM campus is divided into two portions by Dole Street; upper campus and lower campus, as well as listed UHM-based off-campus facilities, as described below.

UHM upper campus is comprised of University facilities, including academic buildings, food services, student and faculty housing, Wa’ahila Apartments, operations support facilities, the National Weather Services, the East-West Center facilities, and is bordered by Mid-Pacific Institute and residential areas to the north, Manoa Stream to the east, Dole Street to the south, and University Avenue to the west. The upper campus also includes the College of Education and University Laboratory School campus located at 1776 University Avenue, bordered by Metcalf Street to the north, University Avenue to the east, Dole Street to the south, and residential areas to the west.

UHM lower campus is primarily comprised of student housing, food services, parking structures, various athletic buildings, supporting facilities (e.g. fields, track, stadium, etc.), Kamakakuokalani Center for Hawaiian Studies, and is bordered by Dole Street to the north, residential areas and Manoa Stream to the east, H-1 freeway and residential areas to the south and University Avenue to the west.

The UHM-based off-campus facilities covered by this SWMP include Kau’iokahaloa Nui Apartments, Kau’iokahaloa Iki Condominiums, CTAHR Research Facilities, and Institute for Astronomy located along Woodlawn Drive.

The following tenant organizations are also covered by this SWMP.

- East-West Center (located on UHM Campus)
- National Weather Service (located in the Hawaii Institute of Geophysics building)

## 2 SWMP Team

SWMP team members have been made fully aware of their operations’ potential impact to the environment and their compliance responsibilities via training and incident investigations and debriefs.

While overall NGPC compliance is overseen by the Environmental Compliance Program, the SWMP Team functions as a whole to ensure permit compliance. Communication between the Environmental Compliance Program and various SWMP team members occurs frequently. Strong and efficient working relationships have been established. The following are continually achieved by the team and considered in achieving measurable goals:

- Detection of active and/or potential illicit discharges;
- Discussion (and necessary correction) of planned activities involving outdoor water use;
- Input into planning of projects;
- Correction of non-compliance observed during inspections;
- Training and information sharing;
- Working with contractors to review project-specific erosion and sediment control plans and best practices plans;

- Spill detection, response, and debrief, including discussion of improvements to training and processes described in the SWMP;
- Submission of work orders required to address compliance issues and track corrective actions.

## 2.1 SWMP Team Members and Responsibilities

Department	Responsibilities as it relates to storm water management and compliance, as well as overall environmental compliance
<p>Environmental Compliance Program</p> <p>Tavia Oshiro</p> <p>Desk: 808-956-9173</p> <p>Main: 808-956-8660</p> <p>Cell: 808-271-0859</p> <p>Email: <a href="mailto:tavias@hawaii.edu">tavias@hawaii.edu</a></p> <p>Emergency: DPS: 808-956-6911</p>	<ul style="list-style-type: none"> <li>• Oversees UHM compliance with applicable environmental regulations, including but not limited to, the NPDES NGPC, IWDP, UIC, SPCC, Spill Preparedness/Response/Reporting, HPCRA Reporting.</li> <li>• Has primary oversight of the SWMP (including revisions) and NGPC compliance.</li> <li>• Coordinates with Federal and State regulators, as well as other SWMP Team Members.</li> <li>• Maintains all NGPC documentation; and, ensures NGPC requirements are addressed.</li> <li>• UH liaison with storm water regulatory entities (e.g. DOH CWB) and UH internal auditing of project storm water compliance.</li> <li>• Prepares and submits annual report to DOH CWB.</li> <li>• Conducts training, inspections, and develops informational material.</li> <li>• Audits Industrial Wastewater Discharge Permits, specifically the grease interceptor maintenance and inspections.</li> <li>• Periodically audits inspection and maintenance records to confirm inspections are completed and issues are addressed in a timely manner.</li> <li>• Responds to spills.</li> <li>• Notifies regulatory agencies of spills/releases and illicit discharges.</li> <li>• Facilitates spill investigations/debriefs.</li> <li>• Provides guidance in spill response and clean-up procedures and spill response kits.</li> <li>• Advises project managers and construction managers on projects that impact environmental compliance.</li> <li>• Coordinates with the EHSO Occupational Safety Program and CTAHR Health and Safety Program - Annually inspects laboratories and shops and would be able to identify equipment or containers that qualify as SPCC-covered equipment.</li> <li>• Coordinates with the EHSO Hazardous Waste Program – oversees the central hazardous waste management and storage in the Environmental Protection Facility.</li> </ul>

<b>Department</b>	<b>Responsibilities as it relates to storm water management and compliance, as well as overall environmental compliance</b>
Campus Operations and Facilities (COPF)	<ul style="list-style-type: none"> <li>• Inspects, maintains, provides technical guidance, and oversees the addition/removal/modification of Storm Drain System assets, IWDP assets, SPCC covered equipment, etc.</li> <li>• Maintains inspection records, maintenance records, as-built drawings/specifications, equipment manuals for Storm Drain System assets, IWDP assets, SPCC covered equipment, etc.</li> <li>• Oversees the Industrial Wastewater Discharge Permits.</li> <li>• Notifies EHSO of spills that result in releases to the environment.</li> <li>• Notifies EHSO before installing, modifying, removing Storm Drain System assets, IWDP assets, and SPCC-covered equipment.</li> <li>• Fire Safety oversees fire suppression inspection, testing, maintenance (hydrants).</li> <li>• Landscape Department:             <ul style="list-style-type: none"> <li>○ Maintains landscaped areas.</li> <li>○ Exterior pesticide application.</li> <li>○ Installs and repairs landscape irrigation.</li> <li>○ Manages campus trash and recycling.</li> <li>○ Pressure washes walkways.</li> <li>○ Cleans the sidewalks and streets.</li> <li>○ Clears storm drains up to the lateral pipe.</li> <li>○ UHM centralized spill response and clean-up services. Although each department is expected to have minor spill response capabilities, when a department’s capabilities are exceeded and the Landscape Department is capable, the Landscape Department will provide centralized spill response and clean-up, with the understanding that all associated costs are billed back to the responsible department.</li> <li>○ Maintains minor spill response capabilities, including trained personnel, procedures, and supplies.</li> <li>○ Minor road and concrete repairs.</li> </ul> </li> <li>• Plumbing &amp; Mechanical Professional Support:             <ul style="list-style-type: none"> <li>○ Clears storm drains pipe sections.</li> <li>○ Repairs pipe leaks.</li> </ul> </li> <li>• Work Coordination Center: oversees contracted maintenance work such as road repair and gutter clearing.</li> </ul>
Department of Public Safety (DPS)	<ul style="list-style-type: none"> <li>• “Initial Responder” role in response to spills outside of buildings and facilitates emergency notification to EHSO, other UHM Departments, as well as Emergency Responders as necessary.</li> <li>• Secures the area to prevent contact with the spill.</li> <li>• May place containment materials such as berms, drain blockers, etc.</li> <li>• Reports storm water pollution issues or instances of non-compliance to EHSO.</li> </ul>

<b>Department</b>	<b>Responsibilities as it relates to storm water management and compliance, as well as overall environmental compliance</b>
Information and Technology Services	<ul style="list-style-type: none"> <li>• Inspects and maintains ASTs and generators that serve ITS facilities/operations.</li> <li>• Maintains inspection records, maintenance records, and as built drawings/specifications, equipment manuals for SPCC-covered equipment.</li> <li>• Notifies EHSO of oil spills that result in releases to the environment.</li> <li>• Notifies EHSO before installing, modifying, removing SPCC-covered equipment or making any changes that change containment and/or risk of discharge.</li> <li>• Maintains minor spill response capabilities, including trained personnel, procedures, and supplies.</li> </ul>
Student Services (Student Housing and Campus Center)	<ul style="list-style-type: none"> <li>• Inspects and maintains ASTs and generators that serve Student Housing facilities/operations.</li> <li>• Inspects and maintains grease interceptors/grease traps and bulk oil collection.</li> <li>• Maintains inspection records, maintenance records, and as built drawings/specifications, equipment manuals for SPCC-covered equipment.</li> <li>• Notifies EHSO of oil spills that result in releases to the environment.</li> <li>• Notifies EHSO before installing, modifying, removing SPCC-covered equipment or making any changes that change containment and/or risk of discharge.</li> <li>• Maintains minor spill response capabilities, including trained personnel, procedures, and supplies.</li> <li>• Grounds:             <ul style="list-style-type: none"> <li>○ Maintains landscaped areas.</li> <li>○ Exterior pesticide application.</li> <li>○ Installs and repairs landscape irrigation.</li> <li>○ Manages trash and recycling.</li> <li>○ Pressure washes walkways.</li> <li>○ Clears storm drains up to the lateral pipe.</li> <li>○ Maintains minor spill response capabilities, including trained personnel, procedures, and supplies.</li> <li>○ Minor road and concrete repairs.</li> </ul> </li> </ul>
Manoa Dining Services	<ul style="list-style-type: none"> <li>• Inspects and maintains grease interceptors/grease traps and bulk oil collection.</li> <li>• Inspects and maintains kitchen equipment such as fire suppression hoods.</li> <li>• Maintains inspection records and maintenance records.</li> <li>• Notifies EHSO of oil spills that result in releases to the environment.</li> </ul>

<b>Department</b>	<b>Responsibilities as it relates to storm water management and compliance, as well as overall environmental compliance</b>
	<ul style="list-style-type: none"> <li>• Notifies EHSO before installing, modifying, removing SPCC-covered equipment or making any changes that change containment and/or risk of discharge.</li> <li>• Maintains minor spill response capabilities, including trained personnel, procedures, and supplies.</li> <li>• Manages trash and recycling.</li> </ul>
Food Services (Auxiliary Services)	<ul style="list-style-type: none"> <li>• Inspects and maintains grease interceptors/grease traps and bulk oil collection.</li> <li>• Inspects and maintains kitchen equipment such as fire suppression hoods.</li> <li>• Maintains inspection and maintenance records.</li> <li>• Notifies EHSO of oil spills that result in releases to the environment.</li> <li>• Notifies EHSO before installing, modifying, removing SPCC-covered equipment or making any changes that change containment and/or risk of discharge.</li> <li>• Maintains minor spill response capabilities, including trained personnel, procedures, and supplies.</li> <li>• Manages trash and recycling.</li> </ul>
Commuter and Fleet Services (Transportation Services)	<ul style="list-style-type: none"> <li>• Inspects and maintains ASTs and portable oil storage containers that serve Commuter and Fleet Services facilities/operations.</li> <li>• Maintains inspection and maintenance records.</li> <li>• Notifies EHSO of oil spills that result in releases to the environment.</li> <li>• Notifies EHSO before installing, modifying, removing SPCC-covered equipment or making any changes that change containment and/or risk of discharge.</li> <li>• Maintains minor spill response capabilities, including trained personnel, procedures, and supplies.</li> <li>• Grounds:               <ul style="list-style-type: none"> <li>○ Maintains landscaped areas.</li> <li>○ Exterior pesticide application.</li> <li>○ Installs and repairs landscape irrigation.</li> <li>○ Manages trash and recycling.</li> <li>○ Pressure washes walkways.</li> <li>○ Clears storm drains up to the lateral pipe.</li> <li>○ Maintains minor spill response capabilities, including trained personnel, procedures, and supplies.</li> <li>○ Minor road and concrete repairs.</li> </ul> </li> </ul>
Athletics	<ul style="list-style-type: none"> <li>• Inspects and maintains grease interceptors/grease traps and bulk oil collection.</li> <li>• Manages one trash compactor which has an oil capacity not exceeding 35 gallons.</li> </ul>

Department	Responsibilities as it relates to storm water management and compliance, as well as overall environmental compliance
	<ul style="list-style-type: none"> <li>• Notifies EHSO of oil spills that result in releases to the environment.</li> <li>• Notifies EHSO before installing, modifying, removing SPCC-covered equipment or making any changes that change containment and/or risk of discharge.</li> <li>• Maintains minor spill response capabilities, including trained personnel, procedures, and supplies.</li> <li>• Grounds:               <ul style="list-style-type: none"> <li>○ Maintains landscaped areas.</li> <li>○ Exterior pesticide application.</li> <li>○ Installs and repairs landscape irrigation.</li> <li>○ Pressure washes walkways.</li> <li>○ Maintains minor spill response capabilities, including trained personnel, procedures, and supplies.</li> </ul> </li> </ul>
Art Department	<ul style="list-style-type: none"> <li>• Inspects and maintains the generator and associated sub-base tank that serves the Art Department facilities/operations.</li> <li>• Maintains inspection and maintenance records for their generator.</li> <li>• Notifies EHSO of spills that result in releases to the environment.</li> <li>• Notifies EHSO before installing, modifying, removing SPCC-covered equipment or making any changes that change containment and/or risk of discharge.</li> <li>• Maintains minor spill response capabilities, including trained personnel, procedures, and supplies.</li> </ul>

## 2.2 Training

ECP lead training is completed by all SWMP Team Members on an annual basis, *or as needed*, and documented in an Excel Workbook maintained by the ECP. Re-training is also part of incident debriefs.

Training generally includes the following topics. Emphasis may vary depending on the audience and their specific operations and responsibilities, as well as recent incidents and lessons learned.

- Discussion about water quality and environmental compliance regulations
- UHM MS4
- Low impact development
- Operations and activities that generate pollutants at UHM
- Best practices
- Construction projects (design review, best practices, etc.)
- Illicit discharges, reporting, and other compliance issues
- Inspections and corrective action expectations
- Spill potential/prevention/response as well as a spill response table top drill
- Spill/discharge reporting and emergency notification
- Program evaluation and feedback

### 3 Annual Report & Reporting Planned Changes [HAR 11-55 K 10(a) & (b)]

The Environmental Compliance Program Manager submits the annual report to the Department of Health Clean Water Branch (DOH CWB), via e-Permitting, on or before January 28 of the following year. The annual report shall cover **each calendar year during the term of the permit** and include the following:

- Status of compliance with the terms and conditions of the permit;
- Assessment of the effectiveness of each component in this SWMP, including the status of achieving the measurable goals for each BMP; and,
- Summary of the storm water activities planned to be undertaken during the next calendar year.

Planned changes to the UHM campus/facilities, if they meet the criteria in 40 CFR 122.41 (I) (1), shall be reported to the DOH CWB on a quarterly basis, January/April/July/October.

### 4 Stormwater System

The UHM storm water system covers approximately 211 acres in lower Manoa Valley. The campus is a developed site located within a largely residential area. The campus includes large institutional buildings, dense housing, open green spaces, parking lots, walkways, and athletic fields. The average annual rainfall is approximately 39 inches.

The UHM stormwater system has been field surveyed and includes inlets, subsurface pipe conduits, swales, surface runoff and outfalls. Storm water system assets have been converted to shapefiles, assigned unique IDs, and are uploaded to the shared ArcGIS online viewer (accessible by UH Manoa email users with ArcGIS accounts). Storm water inlets have been further categorized as manholes, inlets, rain gutter connections, etc. Photos of each of the 1000+ inlets are being compiled.

#### 4.1 Discharge Locations and Sub-Basins

The system discharges to Class 2 Manoa Stream at six (6) locations. The upper campus portion bordered by Dole St. and University Ave. discharges to Outfall A, B1, B and E (Figure 2). These outfall IDs correspond to the UHM drainage basins and conduit system A through E.

**Table 1: Drainage Basins - UHM Campus**

Drainage Basin	UH Acres	Location	Outfall	Discharge Location
A	13.19	Upper Campus	A	Manoa Stream
B	36.8	Upper Campus	B	Manoa Stream
B1	0.14	Upper Campus: Portion East West Center	B1	Manoa Stream
C	28.6	Upper Campus	E	Manoa Stream
D	18.5	Upper Campus	E	Manoa Stream
E	40.7	Upper Campus	E	Manoa Stream
L	48.7	Athletics	M	CCH MS4

M	17.3	Athletics	M	CCH MS4
N	4.4	Hale Noelani	N	Manoa Stream
P	2.7	Hale Wainani	P	Manoa Stream

## 4.2 Outfall Descriptions

Outfall A is a concrete pipe located behind Jefferson Hall. The drainage system includes a portion of a channelized stream which is visible on the border of UHM and Mid-Pacific School. This outfall serves a small sub-basin which includes the motor pool, Biomedical Building and Pope Laboratory. Outfall A is the only outfall which has regular, but variable flow. This outfall and associated drainage sub-basin appear to be connected to the greater CCH stormwater system in Manoa.

All other outfalls on campus are predominately dry unless after heavy rains.

Outfall B1 is a narrow concrete pipe which rarely contains water – it primarily drains surface water from the hill and Jefferson Hall structure. There is no larger stormwater connections identified.

Outfall B is a 4' tall arched concrete conduit which drains approximately 29 acres of campus via underground stormwater pipes and inlets along the western side of East-West Rd. Outfall B1 does release water after heavy rains, however, the discharge is not great enough to disturb the leaf litter in front of the pipe, indicating a low velocity and volume. Based on the general topography and land cover, it is possible that a portion of drainage from this sub-basin evaporates on the grass or sheet flows to Dole St. rather than discharging through Outfall B.

Outfall E is the largest in the system and drains the majority of upper campus (close to 90 acres). It is a large concrete pipe (approx. 4' diameter) and has a concrete platform and a flow diffuser to reduce velocity to Manoa Stream. It often appears to have some standing water due to rainfall and wash over from Manoa Stream. During and after heavy rains, low but consistent flow is visible. The water velocity does not gouge out the flow diffuser or vegetation in front of the structure.

Outfall M is not visible above ground. It connects the underground stormwater system at the Athletics sub-basin to the CCH system near Kalo place. The Outfall M sub-basin includes parking areas, roadways, maintained fields, and large athletic complexes. The sub-basin is located in the former quarry and it is below grade from the upper campus and student housing. Due to the low-lying topography, much of the rainfall infiltrates or evaporates on-site.

Outfall N is a small concrete pipe which drains the roadways, walking paths, parking areas and maintained grass around Hale Noelani. This portion of Manoa Stream also receives surface runoff from the grassy slopes.

Outfall P is a small pipe which drains the roadways, walking paths, parking areas and maintained grass around Hale Wainani This portion of Manoa Stream also receives surface runoff.



### 4.3 Surface and Other Drainage Areas

Student Housing includes a smaller storm water network which consists of underground pipe conduits and grassy swales. Frear Hall, Gateway House, and the Hale Aloha Complex do not have a storm water system. Rainfall infiltrates into the ground, evaporates, or drains via surface runoff.

The College of Education and University Laboratory School campus has a small storm drain system. Evaporation and infiltration into the ground would be expected on the large grassy site. The small storm water system located around the Multi-Purpose Building discharges into the CCH MS4 at one connection point at the intersection of Dole Street and University Avenue on the northwest corner. The CCH MS4 discharges into Ala Wai Canal and ultimately discharges to the Pacific Ocean.

The UHM-based off-campus facilities along Woodlawn Drive are not connected to the UHM MS4. Storm water from these areas consists of surface runoff and flows into the CCH MS4. The CCH MS4 feeds into the drainage swale along the UHM and Mid-Pacific School boundary and discharges to Outfall A. The surrounding parcels (Noelani Elementary, Manoa Public Library, and the surrounding residences) all appear to discharge to the CCH MS4 and, ultimately, Outfall A.

Athletics also includes a stormwater pipe near the quarry pond where water is heard continually flowing in front of the Softball Stadium storage building. This is likely spring water from the quarry pond area.

## 5 Minimum Control Measure 1 - Public Education and Outreach

See Attachment O.

As the largest educational and research institution in the state, UHM provides local, state, national and international education and outreach through classes, programs, research institutes, academic centers, federal partnerships and student-led research and outreach on campus. UHM provides various educational degree programs, certificate programs, and includes various organizations on campus which have an emphasis in water quality, water resource management, and land use planning. Many of these educational opportunities are available to the general public.

### 5.1 UHM Education and Outreach Programs and Initiatives

See Section 2 SWMP Team, which includes identification of team members and their responsibilities, site user/staff training and outreach.

See UHM's planning goals by reviewing the information at the *Planning the Future for UH Manoa* website link: <https://manoa.hawaii.edu/campus-environments/> and the *UH Manoa Strategic Plan* website link: <https://manoa.hawaii.edu/strategicplan/>.

See UHM's Office of Sustainability Executive Sustainability Policy, Executive Policy EP 4.202. The purpose of the Office of Sustainability is:

- To establish a mechanism through which administrators, faculty, staff, and students implement the sustainability goals in accordance with the policy established by the Board of Regents (BOR)

- To further define goals in the areas of operations, curriculum, research and scholarship, campus and community engagement, and cultural connections. These goals shall serve to guide the campus strategic planning efforts for all campuses.
- **To provide system-wide metrics and targets for improved efficiency and reduced resource waste for buildings, climate, dining, energy, grounds, purchasing, transportation, waste and water, along with timelines and a reporting framework.**
- To establish mechanisms to track and re-invest savings from sustainability initiatives in order to maximize efficiencies and reduce waste.
- To establish a university-wide culture that integrates sustainability values in an island context with global impact.  
<https://www.hawaii.edu/policy/?action=viewPolicy&policySection=ep&policyChapter=4&policyNumber=202&menuView=closed>

UHM education and outreach events are tracked by the ECP. A summary is provided below and an updated log is maintained by the ECP. The ECP may be contacted for a current copy of the log.

Public education and outreach opportunities are also shared with the UHM community by the Manoa Sustainability Council (<http://manoa.hawaii.edu/sustainability/msc/>), a relatively monthly forum for communication between students, faculty and staff regarding UHM sustainability projects, events, and initiatives.

<b>Schools and Departments: Education, Research and Outreach</b>		
Course Catalog	Course across departments address specific and comprehensive water quality issues.	<a href="https://manoa.hawaii.edu/catalog/courses-overview/">https://manoa.hawaii.edu/catalog/courses-overview/</a>
School of Ocean and Earth Sciences and Technology	SOEST includes the Dept. of Atmospheric Sciences, Dept. of Earth Sciences, Dept of Oceanography, and Dept of Ocean and Resource Engineering. SOEST is also the research powerhouse of the University, generating fully one third of the total extramural funding received at UH Manoa. The School is operational 24/7/365, with programs and people across all the Hawaiian Islands and around the globe. SOEST faculty work with community groups and agencies at local, state, and federal levels, to perform the fundamental research that underlies policy development in water quality, renewable energy, natural hazard management, climate change impacts, and sustainable ecosystems	<a href="https://www.soest.hawaii.edu/soestwp/about/">https://www.soest.hawaii.edu/soestwp/about/</a>
Dept. of Natural Resources and Environmental Management	The NREM department emphasizes the science and management of natural resources and their links to environmental quality. We provide students with scientific knowledge of the physical, chemical, biological, economic, social, and policy elements of natural resources management. This allows them to understand the principles that underpin productive, sustainable land use, and enhanced environmental quality. Graduating students will be able to solve contemporary resource use problems and assist in sound decision making for optimizing land use and managing agricultural and forestry systems, watersheds, and landscapes in an ecologically sound manner.	<a href="https://cms.ctahr.hawaii.edu/nrem/">https://cms.ctahr.hawaii.edu/nrem/</a>

<p>Civil and Environmental Engineering</p>	<p>The CEE department goals include 1) educate civil engineers that meet the requirements of the profession, committed to life-long learning, and have the potential to be the future leaders of the profession; 2) create, develop, and disseminate new knowledge through high quality, innovative research; 3) provide service to various agencies of the State and Counties of Hawaii and the engineering community; and 4) provide leadership to the Civil Engineering profession in the Asia/Pacific Region.</p> <p>Recent stormwater specific projects/classes include Dr. Ocean Francis' five course module "Stormwater Drainage Design and Best Management Practices with Applications to Roadways and Climate Change". The program begins by introducing the concept of stormwater management, including key terms and definitions, and an overview of the main components of stormwater management systems. It then moves into greater detail about the different types of runoff, how runoff is generated, and common problems that arise due to excess runoff. The participants engage in a group activity where different management systems are introduced, and participants must choose which systems would be most appropriate to use for a variety of scenarios. The role of climate change is discussed in relation to future considerations for stormwater management. Further instruction is provided on general principles of stormwater and roadway design as it relates to runoff. The program wraps up with a short discussion of the principles and a course evaluation.</p>	<p><a href="http://www.cee.hawaii.edu/">http://www.cee.hawaii.edu/</a></p>
<p>Hawaiiinuiakea School of Hawaiian Studies</p>	<p>To achieve and maintain excellence in the pursuit of knowledge concerning the Native people of Hawai'i, their origin, history, language, literature, religion, arts and sciences, interactions with their oceanic environment and other peoples; and to reveal, disseminate, and apply this knowledge for the betterment of all peoples. The school includes the organization Ka Papa Lo'i 'o Kānewai, which sustains a thriving taro patch that shares its resources with the community. There are a variety of native and indigenous trees and shrubs growing along Manoa stream and low-lying slopes which area maintained by the school and organization. Ka Papa Lo'i 'o Kānewai provides educational outreach to schools and other members of the community and teaches about specific historical and current issues relating to the Hawaiian system of stream management.</p>	<p><a href="https://manoa.hawaii.edu/hshk/ka-papa-loi-o-kanewai/programs/">https://manoa.hawaii.edu/hshk/ka-papa-loi-o-kanewai/programs/</a></p>
<p>College of Tropical Agriculture and Human Resources</p>	<p>CTAHR is the "founding" department of UH Manoa. CTAHR includes Family and Consumer Sciences (FCS), Human Nutrition, Food and Animal Sciences (HNFAS), Molecular Biosciences and Bioengineering (MBBE), Natural Resources and Environmental Management (NREM), Plant and Environmental Protection Sciences (PEPS) and Tropical Plant and Soil Sciences (TPSS). The school also supports the statewide agricultural research stations and cooperative extension programs. CTAHR works extensively in soil health and management which includes preventing soil loss and erosion through good land management.</p>	<p><a href="https://cms.ctahr.hawaii.edu/">https://cms.ctahr.hawaii.edu/</a></p>
<p>Interdepartmental</p>	<p>UH Manoa offers a wide variety of sustainability-focused courses across campus. Relevant courses can apply to be cross-listed with the Institute for Sustainability and Resilience.</p>	<p><a href="https://manoa.hawaii.edu/sustainability/courses/">https://manoa.hawaii.edu/sustainability/courses/</a></p>

Centers and Offices			
UH Sea Grant	<p>As an organized research unit of SOEST, and with core funding provided by the National Oceanic and Atmospheric Administration, Hawai'i Sea Grant engages and connects academia, federal, state and local government, industry, and the local community with excellence in research, outreach, and education. One component of the 2020-2021 SeaGrant Strategic Plan calls for a focus on resilient communities and economies. Hawai'i Sea Grant is a collaborator on 'Ike Wai, a \$20 million dollar National Science Foundation award to the UH System to engage in a five-year study of water sustainability issues.</p> <p>SeaGrant also includes the Center for Smart Building and Community Design (SBCD) which focuses on Green Infrastructure solutions stormwater swales and rain gardens. UH Sea Grant Faculty member Mary Donahue was recently appointed to the National Academies of Sciences Committee on United States Contributions to Global Ocean Plastic Waste. The committee is undertaking an 18-month study to assess and document the magnitude of the problem. It will evaluate the different types and prevalence of the debris; assess the amount that is imported to and exported from the U.S.; determine the value of a national marine debris tracking and monitoring system; and recommend potential ways to substantially reduce the plastic waste that is generated.</p>		<a href="https://seagrant.soest.hawaii.edu/">https://seagrant.soest.hawaii.edu/</a>
Center for Water Resource Sustainability: Water Resources Research Center	<p>The WRRC conducts education, outreach and research on water issues and water quality. WRRC researchers have produced approximately 400 Technical Reports, Technical Memoranda, and other project reports documenting the research performed at the Center since its establishment. Researchers have been active in Manoa water quality issues including the 2004 Manoa Stream flood, the Ala Wai Canal sewage spill of 2006, and flood mitigation projects in the Manoa /Ala Wai Watershed.</p>		<a href="https://www.wrcc.hawaii.edu/education-outreach/resources/">https://www.wrcc.hawaii.edu/education-outreach/resources/</a>
Student Led Research/Outreach/Volunteer			
Education and Research	Individual Research: Thesis Projects	UH Students have written nearly 1,000 dissertations which focus on stormwater issues in Hawaii.	
Outreach, Education and Manoa Stream Data Collection	Manoa Stream Data Collection: Smart Ala Wai	Real time stream water and precipitation data collection network for the Ala Wai Watershed coordinated by UH faculty, undergraduate and graduate students along with partnerships with Iolani School, Kamehameha Schools, Kanewai Cultural Resources Center, and nonprofit Purple Maia. The data collection will allow a significantly improved understanding of the hydrological and biogeochemical functioning of the complete Ala Wai ecosystem.	<a href="http://www.smart-alawai.manoa.hawaii.edu/">http://www.smart-alawai.manoa.hawaii.edu/</a>
Student Run Outreach and Education Groups	Chi Epsilon	Chi Epsilon is the National Civil Engineering Honor Society dedicated to maintaining and promoting the status of civil engineering. The group organizes campus-based activities, including stormwater inlet plaques at UHM. The placards provide students and visitors with the message not to dump, as all campus storm drains lead to a stream	<a href="https://sites.google.com/site/xeuhmanoa/home?authuser=0">https://sites.google.com/site/xeuhmanoa/home?authuser=0</a>

<u>Library</u>			
Education, Research and Outreach	UH Manoa Library System	The library contains a wide assortment of materials on storm water management, including low impact development (e.g., green roofs and retention basins); water quality assessments; water pollution; and, best management practices. The public is allowed to view documents in the library and use library computers for one hour. Groups may contact the library for use.	

## 5.2 Measurable Goals

See Attachment O.

1. Identify two public outreach events per calendar year and list on ECP Outreach/Education Log.
2. Identify two educational outreach events per calendar (conferences/seminars/cross program research) held at UH which address water quality topics.

## 6 Minimum Control Measure 2 – Public Involvement/Participation

See Attachment O.

This SWMP, in the version approved by the CWB, will be public noticed per HAR 11-55 K 13.

The UH Community is considered as the public with respect to public involvement and participation in the development, implementation, and review of this SWMP. This SWMP will be posted on the EHSO website and the ECP will work with UHM Communications to post an annual announcement of the SWMP and invitation for review and comment in the weekly UH News Email that is distributed to the entire UH System. The comments received will be tracked and considered in revisions to the SWMP.

The SWMP Team will be asked for feedback of the SWMP in trainings and during incident debriefs. Feedback will be tracked and considered in revisions to the SWMP.

### 6.1 Measurable goals include

See Attachment O.

1. Annual review the SWMP posting on the ECP website.
2. Annual announcement of the SWMP and invitation for review and feedback to be posted in the weekly UH News Email.
3. Tracking feedback from the annual announcement of the SWMP and the various trainings and incident debriefs and posting the feedback on the ECP website annually for the prior calendar year.

## 7 Minimum Control Measure 3 - Illicit Discharge Detection and Elimination

See Attachment O.

Illicit discharges are defined as anything other than storm water and the Appendix K listed authorized non-storm water discharges entering into the UHM MS4 or Manoa Stream.

Pollutants that exists at the UHM campus and could enter the UHM MS4 or Manoa Stream include the following.

- Oils, as defined by SPCC regulations, that originate from vehicles, equipment, generators, portable oil or fuel storage containers, stationary fuel storage tanks, transformers, hydraulic elevators, etc.
- Non-stabilized/eroding soil
- Unprotected stockpiles
- Concrete debris and wash water
- Pesticides that are not applied per manufacturer specifications
- Fertilizers that are not applied per manufacturer specifications
- Chemicals, e.g. paint, cleaners, solvents, detergents applied outdoors
- Wash water from vehicle and equipment washing, pressure washing waste water, etc.
- Uncontained trash, including recyclables, waste equipment, unwanted indoor furniture
- Food operation waste
- Grease from grease traps/interceptors
- Bulk used oil
- Green waste resulting directly from landscaping operations

Circumstances that can “potentially” result in illicit discharges, listed below, are also monitored and must be corrected in a timely manner.

- Erosion controls that are failing or need maintenance
- Sediment controls that are failing or need maintenance
- Stockpiles that are improperly managed
- Improper storage of chemicals (outdoors)
- Oil-containing equipment located outdoors
- Food service and maintenance areas that exhibit poor housekeeping

Potential illegal connections and illicit discharges to the MS4 are typically identified through the following methods of detection:

- Staff Reporting (DPS, BGM, EHSO, Athletics, Student Housing observes issues in the field). Staff are onsite at UHM 24/7 365 days a week.
- Scheduled inspections of facilities for permit requirements (laboratories, loading dock areas, service areas, trash collection areas, food service, etc.)
- Maintenance requests
- Outfall field screening (quarterly)
- Complaints received from the DOH or the CCH

## 7.1 Enforcement Procedures

### 7.1.1 UHM Schools/Departments/Programs

UHM has a decentralized management structure and includes Schools, Departments and Programs. It can be a challenge to navigate the different chains of command when addressing potential deficiencies and illicit discharges. To best meet this challenge, which is unique to a University organization, the ECP focuses on the following:

- strong internal working relationships;
- commitment to customer service;
- commitment to compliance through education and internal and public involvement and accountability;
- promotion of environmental and community stewardship.

When the ECP becomes aware of potential deficiencies and potential illicit discharges:

- The ECP works directly with the School/Department/Program Facility or Program Manager to immediately stop the activity and implement mitigating actions and corrective actions.
- Training and inspection frequency may be increased to monitor an ongoing situation or area with repeated issues.
- If working directly with the Facility or Program Manager is not effective, i.e. the potential deficiencies persist, the ECP will elevate the issue starting with the Manager's immediate supervisor and copying the EHSO Director. Depending on the potential risk to compliance, higher level administrators may be notified at that time.

### 7.1.2 UHM Contractors and Vendors

Examples of UHM contractors and vendors include commercial kitchen operators (e.g. Sodexo, Panda Express, Bale, etc.), construction general contractors and sub-contractors, and repair and maintenance Contractors (e.g. HVAC service technicians, equipment repair technicians).

When the ECP becomes aware of potential deficiencies and potential illicit discharges:

- The ECP works directly with the Contractor/Vendor and the corresponding UH Contract Manager to immediately stop the activity and implement mitigating actions and corrective actions.
- Training and inspection frequency may be increased to monitor an ongoing situation or area with repeated issues.
- If potential deficiencies persist, or it is determined that continued work with the Contractor or Vendor is a risk to the University, the ECP will discuss the potential for terminating the contract and future work with the Contractor or Vendor with the UH Contract Manager.

### 7.1.3 Illicit Discharge Procedure Checklist

If an illicit discharge occurs or is occurring:

- The responsible individuals will be ordered to stop and immediately implement mitigating actions and the ECP will continue to monitor progress and assess the situation.
- The ECP will immediately notify the CWB (and any other applicable regulatory agency) and follow up with a written report.
- The Dean/Chair/Director of the responsible School/Department/Program will be notified within 24 hours.
- A formal communication will be transmitted to the responsible School/Department/Program or UH Contract Manager that:
  - documents the illicit discharge and the activities that resulted in the illicit discharge;
  - clearly states that the non-compliant activities may not continue;
  - includes references to the applicable permit and regulatory requirements;
  - outlines the minimum required corrective actions, required schedule of completion, and requirements for a report summarizing the corrective actions implemented that must be submitted to the ECP;
  - includes a compliance schedule, as necessary;
  - includes requirement for training, as necessary; and,
  - specifies any increases in ECP inspection frequency.

## 7.2 Inspections

### 7.2.1 Construction Inspections

Frequency: Bi-weekly by ECP.

Contractors are required by the University to complete storm water BMP inspections weekly, at minimum.

Contractors on UHM construction projects with soil disturbance are required to use the *CCH Construction Site BMP Inspection Checklist for NPDES Permitted Construction Projects* (see Attachment A) which standardizes the forms used by UHM construction projects and enhances compliance because more and more contractors are familiar with this form since its implementation in 2017. The ECP allows for the use of other inspection checklists when there is no soil disturbance. Inspection reports are uploaded by the contractor to the UHM construction management online portal e-Builder.

During project construction, the ECP will inspect the construction sites weekly for compliance with the identified BMPs, permit requirements, and compliance with Construction Specification Section 01560. These inspections are tracked via an abbreviated inspection form (Environmental Compliance Checklist) and automatically uploaded to a shared Google Drive. This form is attached as Attachment B. This form reviews the site specific BMPs, sediment and erosion controls, housekeeping, deficiencies and corrective actions needed, if any. Photos are also taken and uploaded to the ECP server for clarification purpose.

Deficiencies and corrective actions will be noted and discussed with the site supervisor that day (if present/available), and notes and photos will be forwarded to the UH Construction Manager the same day. Corrective actions will be tracked and noted, and will be resolved within 24 hours. If corrective actions are noted, the weekly contractor-submitted inspection form will be reviewed to see if



deficiencies were/were not observed during the week, and whether inspection training may be needed to prevent future problems.

### 7.2.2 Storm Water Outfall Inspections

Inspections are conducted quarterly when safe to do so. Inspections assess general conditions of the outfall including trash, blockages, flow (regular or intermittent), general water quality description (clear/murky), sheen/discoloration, and observable impairments. Outfall M is a manhole and is not typically accessible, but was opened and inspected during a CCH inspection in 2024.

The inspections are visual and results are entered on a shared Google Drive form (Outfall Inspections). A printout of the form is included as Attachment C. A map is attached in Figure 2.

Depending on the nature of the deficiency, different offices may be contacted to provide the appropriate responses, see Section 2 SWMP Team. If staining, discoloration, soapy material or other pollutants are observed, the source would likely be located within the outfall's drainage basin and inlets. Construction and work site inlets will be inspected first with a broader review of inlets within the drainage basin. The revised storm water inlet and outfall map will be used to search the drainage area. Once identified, spill response procedures will apply. If sediment, tree limbs, or debris is blocking/obscuring the outfalls, plumbing or landscaping may be tasked with removal/clearing.

### 7.2.3 Food Services

Frequency: As required by the IWDP and SPCC (Attachment D).

Food Services are provided across UHM at Paradise Palms, Campus Center, Hemenway Hall, Student Housing Cafeterias (Hale Aloha Cafeteria and Gateway), Stan Sherriff Center, Les Murakami Stadium, and food trucks across campus. UH Lab school is located on a UHM parcel and maintains their own grease interceptor. There is an uncompleted grease interceptor at TC Ching; an IWDP permit was approved but it was not needed. As of 2024 the Stan Sheriff Center is in process of installing new and updated grease interceptors. These have not yet been connected to the system.

Food Service providers receive annual training on disposal and waste handling to ensure NPDES compliances. If the facility uses a grease interceptor, they are permitted under the CCH Industrial Wastewater Discharge Permits (IWDP). However, if the grease interceptor is not cleaned or maintained properly, there is potential for grease to backup and overflow from the manhole covers and enter storm water inlets and drains. Grease Interceptor inspections therefore serve dual purposes, to ensure compliance with IWDP requirements, and to prevent potential NPDES illicit discharges.

Each grease interceptor has a CCH-assigned cleaning frequency requirement based on size and use. Low-usage devices may require biannual, annual or biennial inspections. Smaller or heavily used units may require weekly cleanings. Inspections are conducted based on cleaning frequency to verify that IWDP requirements are met and if grease interceptors are identified as needing additional cleaning. During the inspection, potential illicit discharges and general site conditions around dumpsters/trash areas and stormwater inlets are also noted and tracked. Corrective actions, if needed, are recorded and tracked. The food service contractors and the appropriate UHM facilities managers are notified if violations are observed. When sites are not in use the frequency of cleaning may vary.

Table 2: Grease Interceptors UH Manoa

Location	Name	CCH Barcode
Agricultural Science Facility		Not connected
Campus Center		6755
Clarence TC Ching		Not installed
Gateway House Dorm		3580
Hale Aloha Cafeteria		267
Hemenway Hall (BaLe)		12520
Les Murakami Baseball Stadium		276
Paradise Palms		263
Stan Sheriff	Main	0269
Stan Sheriff	GT #1	0269
Stan Sheriff	GT #6	0274
Stan Sheriff	GT # 3	0271
Stan Sheriff	GT #4	0272
Stan Sheriff	GT #5	0273
Stan Sheriff	GT #2	0270
UH Lab School		6436

### 7.3 Spill Response, Clean-Up, and Reporting

For spill response, clean-up, and reporting procedures, see the UHM Spill Prevention, Control and Countermeasure (SPCC) Plan, Section 7. (See Attachment D)

### 7.4 Record Keeping

All inspection, corrective actions, and reported spills records shall be retained for no less than 5 years.

### 7.5 Measurable Goals

See Attachment O.

1. Track all identified illicit discharges and corrective actions on ECP Compliance Spreadsheet.
2. Complete campus inspection monthly and focus on high activity areas such as the Art Building exterior areas and the Marine Science Building loading/service area. Track discharges/corrective actions in the ECP Compliance Spreadsheet.
3. Complete environmental compliance training for SWMP Team Members and any others who, based on their activities, require training. Track training completion.
4. 100% completion of outfall inspections, conducted quarterly and tracked by ECP.
5. 50% completion of construction project inspections, bi-weekly frequency, tracked by ECP.
6. 100% completion of campus inspections, conducted bi-monthly and tracked by ECP

7. 50% completion of internal audit of grease interceptor maintenance logs, frequency to correspond with the CCH ENV inspector specified frequency, tracked by ECP using the UH SPCC Tracking log.

## 8 Minimum Control Measure 4 - Construction Site Runoff Control

See Attachment O.

For all construction activities at the UHM campus, the following requirements apply. In addition to these requirements and any other applicable state or federal regulations, including NPDES permits for construction, UHM construction activities are also subject to applicable CCH Rules Relating to Water Quality.

### 8.1 Construction Project Monitoring

The Environmental Compliance Program tracks all UHM construction projects, as well as some UH construction projects that take place outside UHM.

- An excel workbook “database” summarizes project information, design review comments, dates of meetings including preconstruction meetings, SWPPP/BMPP/ESCP review dates and comments, project status, start and end dates, etc. (See Attachment E).
- An electronic folder for each project is maintained and contains all documents reviewed by the ECP, including NPDES permits (if applicable), SWPPP/BMPP/ESCP, design and bid documents.
- Inspection findings and corrective actions are recorded in Google Forms.
- UHM also utilizes a cloud-based construction management system, e-Builder, where the information described above is also retained.

### 8.2 Construction Project Design Review

Construction projects are reviewed by the ECP beginning in the programming/basis of design & cost estimate phase through design and final bid document review. If NPDES permits for construction activity and any CCH storm water requirements apply, it will be determined during the design review phase and specified appropriately. All submittals required by NPDES for construction activity and all submittals required by applicable CCH water quality rules are reviewed by the ECP prior to being submitted to the regulatory/permitting entity.

### 8.3 Construction Project Specifications

At minimum, all project specifications are required to include the Specification Section 01560 Environmental Controls (Attachment F).

Specification Section 01560 Environmental Controls Summary:

- Contractors are required to comply with all applicable City, State, and Federal regulations.
- Contractors are required to develop and implement a SWPPP, if there is soil disturbance and even if the project is not required to have a NPDES permit for construction activity. The UHM SWPPP template (Attachment H) is modified from the CCH SWPPP template and provided to

contractors. The SWPPP must be submitted to the ECP for review and approval prior to any work starting.

- For projects with no soil disturbance, Contractors are required to develop and implement a BMPP, which must be submitted to the ECP for review and approval prior to any work starting. A BMPP template is provided to the Contractors (Attachment G).
- Contractors are required to conduct and document weekly storm water compliance inspections and inspections within 0.25 inches of rainfall within 24 hours, at minimum. UH prefers that contractors use the CCH inspection form and tailor it to the project. The contractor's inspector must be qualified, and this can be met by becoming a CCH certified ESCP coordinator.
- Suspension of work – violation of any specification section 01560 requirements is cause for suspension of the work causing the violation with no additional compensation and no extension of time being granted. If no corrective action is taken by the contractor within 24 hours, then the University takes action necessary to correct the situation and costs are extended to the contractor.
- If required by CCH, the certified ESCP Coordinator must be furnished by the Contractor.

#### 8.4 Pre-Construction Meeting and Site Visit

A pre-construction meeting is conducted for each construction project and coordinated by the project's construction manager. Pre-construction meetings are attended by the ECP Program Manager and/or Inspector. Project specific environmental compliance requirements such as storm water inspections by the contractor and by the ECP, BMP maintenance, SWPPP updating, etc. are discussed. If the SWPPP has not yet been submitted for review and approval by the ECP, then this will be discussed and the ECP will offer assistance to the contractor in developing and implementing the SWPPP.

A preconstruction site visit is required to be conducted with the contractor and the ECP as well as the construction manager and may include the project manager. The site visit will involve visually inspecting sediment and erosion controls as well as other best practices as described in the project SWPPP.

#### 8.5 Post-Construction Site Visit and Project Close-Out

Before sediment controls/temporary BMPs are removed and before landscaping and/or stabilization is accepted, a post-construction site visit shall be conducted with the ECP and contractor and/or construction manager present. Once stabilization has been accepted by the ECP, then temporary BMPs can be removed and applicable permits can be closed out (NPDES and CCH).

#### 8.6 Inspections & Complaints and Concerns Received from the Public

Construction Notices are emailed to the UHM Community for all construction and maintenance projects at the UHM campus. The notices are also posted on the Office of Planning and Facilities website <https://manoa.hawaii.edu/opf/constructionnotices.php> where you can access the information including the summary of the construction work, dates and times of work, and who to contact directly with any questions or concerns.

The ECP works closely with the UH Office of Planning and Facilities, the UH Construction Management Department, and the UH Campus Operations and Facilities Department to address all UH Community and Public questions and concerns related to environmental compliance.

Refer to section 7 Illicit Discharge Detection and Elimination for responses to potential non-compliance and illicit discharges.

## 8.7 Measurable Goals

See Attachment O.

1. 100% of construction projects are tracked from design to close-out.
2. 100% Inspections and corrective actions are completed and documented.
3. 100% ECP participation in construction preconstruction meeting, preconstruction site visit, and post construction site visit completed and documented.

## 9 Minimum Control Measure 5 - Post-Construction Storm Water Management in New Development and Redevelopment

See Attachment O.

UHM is subject to CCH Water Quality Rules and post construction and low impact development (LID) requirements which address post construction runoff from new development and redevelopment projects, structural and non-structural BMPs (LID) designed and implemented to minimize water quality impacts and attempt to maintain pre-development runoff conditions, and post-construction operation and maintenance programs for structural BMPs and LIDs. UHM is also subject to post-construction inspections by CCH.

Post-construction site runoff controls or low impact development (LID) are specified during the project design phase by the design consultant(s) as required by the CCH, along with an operations and maintenance programs to ensure LID maintenance and proper operation.

Before sediment controls/temporary BMPs are removed and before landscaping and/or stabilization is accepted, a post-construction site visit shall be conducted with the ECP and contractor and/or construction manager present. Once stabilization has been accepted by the ECP, then temporary BMPs can be removed and applicable permits can be closed out (NPDES and CCH).

LIDs have been primarily experimental at UHM to assess effectiveness. The ECP inventories and maps all LID on campus and notes performance or maintenance issues as well as lessons learned. The ECP uses this information to advise, in coordination with COPF, on the selection and design of LID during the design phase, as well as construction/installation/and commissioning of the LID during the construction phase.

The CCH guidance documents are referred to when reviewing and selecting LID.

## 9.1 Measurable Goals

See Attachment O.

1. Annually review of the ECP Environmental Compliance Inspection Data and summary table of corrective actions based on BMP performance and maintenance. This summary table will be included in the annual report, which will be posted on the ECP website.
2. Record planned and existing LID in the UHM 1Map system and annually report updates to the system in the annual report, which will be posted on the ECP website.
3. By the end of 2024, provide an online viewer/map on the ECP website which will show the LIDs and performance of each.

## 10 Minimum Control Measure 6 - Pollution Prevention/Good Housekeeping

See Attachment O.

### 10.1 Best Management Practices

Stormwater inlets for each of the facility areas have been mapped and identified to assist in locating and protecting them should a spill occur.

Best Management Practices Guidelines or Plans for site maintenance, material storage and spill response have been developed and distributed to UHM Departments/Contractors/Vendors, as applicable, see the list below. The BMP guidance and plans are covered during training and discussed and evaluated during incident debriefs. Feedback received during training and incident debriefs is used to evaluate the BMP guidance and consider revisions that would improve compliance and the protection of water quality.

- UHM Spill Prevention, Control and Countermeasure Plan (Attachment D)
- Prevent Storm Water Pollution – Food Service Operations (Attachment I)
- NPDES MS4 Compliance Activities for Landscaping Operations (Attachment J)
- NPDES MS4 Compliance Activities for Student Housing Operations (Attachment K)
- NPDES MS4 Compliance Activities for Transportation Services (Attachment L)
- Storm Water Pollution Prevention Best Management Practices – Building Pressure Washing (Attachment M)
- Storm Water Pollution Prevention Best Management Practices – Sidewalk and Walkway Pressure Washing (Attachment N)

### 10.2 Measurable Goals

See Attachment O.

1. Annually generate a summary report of non-compliance over the past calendar year and post to the ECP website.

2. Annually review and update best practices guidelines to reflect non-compliance and feedback from department staff/contractors/vendors who are expected to implement these best practices. Track changes made based on comments/responses. Post updates to the ECP SWMP and website annually and report on the updates in the annual report.
3. Annually review training and update to reflect non-compliance issues and feedback from department staff/contractors/vendors.