

Maui Storm Water Management Program Plan

Prepared in accordance with
Hawaii Administrative Rules, Chapter 11-55
Appendix K for Kahului, Maui – File No. HI 14KE352

State of Hawaii, Department of Transportation
Highways Division – Maui District

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TABLE OF CONTENTS

Table of Contents	i
List of Figures.....	iv
List of Tables	iv
Appendices.....	v
Acronyms and Abbreviations	vi
Definitions of Key Terms.....	viii
Introduction.....	xiii
i. Regulatory Overview	xiii
ii. Program Approach	xv
iii. Document Organization	xv
iv. Reporting.....	xvi
v. Roles and Responsibilities	xvi
1.0 Public Education and Outreach.....	1
1.1 Overview.....	1
1.1.1 Purpose.....	1
1.1.2 Permit Requirement	1
1.2 Public Education and Outreach Program Activities	1
1.2.1 Identification of MS4 Users.....	1
1.2.2 Public Outreach and Training Strategy.....	3
1.3 Measurable Goals.....	6
2.0 Public Involvement/Participation	9
2.1 Overview.....	9
2.1.1 Purpose.....	9
2.1.2 Permit Requirement	9
2.2 Program Activities	9
2.2.1 Development.....	9
2.2.2 Implementation	9
2.2.3 Review	9
2.3 Measurable Goals.....	10
3.0 Illicit Discharge Detection and Elimination.....	11
3.1 Overview.....	11
3.1.1 Purpose.....	11
3.1.2 Permit Requirement	11
3.2 Program Activities	12
3.2.1 Examining Regulatory Issues	13

3.2.2	Identifying Illicit Discharges and Illegal Connections	14
3.2.3	Developing a Tracking and Reporting System for Illicit Discharges and Illegal Connections.....	17
3.2.4	Detecting and Eliminating Illicit Discharges and Illegal Connections.....	18
3.2.5	Preventing Illicit Discharges.....	19
3.2.6	Developing and Conducting Public Education and Outreach.....	20
3.2.7	Developing and Conducting Training.....	20
3.3	Measurable Goals.....	21
4.0	Construction Site Runoff Control.....	23
4.1	Overview.....	23
4.1.1	Purpose.....	23
4.1.2	Permit Requirement	23
4.2	Construction Site Runoff Control Program Activities.....	23
4.2.1	Types of Construction Projects.....	23
4.2.2	Enforcement Authority	24
4.2.3	NPDES Policies and Site-Specific BMP Requirements	24
4.2.4	Site-Specific BMP Plan Review and Approval Process	25
4.2.5	Methods of Discovery.....	26
4.2.6	Inspection.....	27
4.2.7	Enforcement.....	28
4.3	Measurable Goals.....	29
5.0	Post-Construction Storm Water Management in New Development and Redevelopment	31
5.1	Overview.....	31
5.1.1	Purpose.....	31
5.1.2	Permit Requirement	31
5.2	Program Activities	31
5.2.1	Regulatory Mechanisms and Enforcement	31
5.2.2	Structural and Non-Structural Permanent BMPs.....	32
5.2.3	Long-Term Operations and Maintenance	32
5.3	Measurable Goals.....	33
6.0	Pollution Prevention/Good Housekeeping	35
6.1	Overview.....	35
6.1.1	Purpose.....	35
6.1.2	Permit Requirement	35
6.2	Pollution Prevention/Good Housekeeping Program Activities	35
6.2.1	Roadway Maintenance – Street Sweeping.....	35
6.2.2	Roadway Maintenance – Chemical Application.....	36
6.2.3	Drainage System Maintenance – Storm Drain Cleaning	37

6.2.4 Maintenance Facility Operations – Kahului Baseyard	37
6.3 Measurable Goals.....	37
7.0 Basic Water Quality Criteria and Inspections	39
7.1 Overview.....	39
7.1.1 Purpose.....	39
7.1.2 Permit Requirement	39
7.2 Program Activities	39
7.3 Measurable Goals.....	40

LIST OF FIGURES

Figure 1-1: Maui District MS4 xiv
Figure 1-2: Maui District MS4 Organization Chart..... xviii

LIST OF TABLES

Table 1-1: Summary of Key MS4 Users..... 2
Table 1-2: Proposed Training Needs 5
Table 1-3: Public Education and Outreach Measurable Program Goals 7
Table 2-1: Public Involvement/Participation Program Measurable Goals 10
Table 3-1: Illicit Discharge Program Measurable Goals 21
Table 4-1: Construction Site Runoff Control Program Measurable Goals..... 29
Table 5-1: Post-Construction SWM Program Measurable Goals..... 33
Table 6-1: Pollution Prevention/Good Housekeeping Program Measurable Goals 38
Table 7-1: Basic Water Quality Measurable Goals 40

APPENDICES

- A.1 National Pollutant Discharge Elimination System (NPDES) Notice of Intent (NOI) Form K
- A.2 Notice of General Permit Coverage (NGPC)
- A.3 HAR 11-55, Appendix A and K
- B.1 *Reserved for Public Outreach and Training Strategy*
- C.1 Application for A Private Storm Drain Connection and/or Discharge Permit to the State of Hawaii Highways Division Storm Drain System
- C.2 Permit for Connection to the State Highways Drainage System
- C.3 Permit to Discharge into the State Highways Drainage System
- C.4 MS4 Site Investigation Sheet (SIS)
- C.5 Industrial/Commercial MS4 Site Investigation Sheet (SIS)
- D.1 Permit to Perform Work Upon State Highways
- D.2 Hawaii Standard Specifications For Road and Bridge Construction
- D.3 Construction Best Management Practices Field Manual
- D.4 Site-Specific Best Management Practices (BMP) Plan Review Checklist
- D.5 Water Pollution and Erosion Control Notes
- D.6 National Pollutant Discharge Elimination System (NPDES) Requirements for Permit Projects Within State Highway Right-of-Way Notes
- D.7 Site-Specific Best Management Practice Plan Inspection and Maintenance Report Form
- D.8 Independent (Third Party) Inspection Checklist
- E.1 Storm Water Permanent Best Management Practices Manual
- F.1 Chemical Applications Training Plan
- F.2 Final Storm Water Pollution Control Plan Kahului Baseyard

ACRONYMS AND ABBREVIATIONS

BMP	Best Management Practice
CFR	Code of Federal Regulations
County	County of Maui
CWA	Clean Water Act
GIS	geographic information system
GPS	global positioning system
HAR	Hawaii Administrative Rules
HAZMAT	hazardous material
HDOH	State of Hawaii Department of Health
HDOT Airports	State of Hawaii Department of Transportation, Airports Division
HDOT Harbors	State of Hawaii Department of Transportation, Harbors Division
HDOT	State of Hawaii Department of Transportation, Highways Division
HWY-DD	HDOT Highways Division, Design Branch, Design Section
HWY-DE	HDOT Highways Division, Design Branch, Environmental Section
HWY-DH	HDOT Highways Division, Design Branch, Hydraulic Design Section
HWY-DS	HDOT Highways Division, Design Branch, Technical Design Section
HWY-LR	HDOT Highways Division, Materials Testing and Research Branch
HWY-P	HDOT Highways Division, Planning Branch
HWY-T	HDOT Highways Division, Traffic Branch
Maui District	HDOT Highways Division, Maui District
Maui District SWMP	Maui Storm Water Management Program
Maui District SWMP Plan	Maui Storm Water Management Program Plan
MFD	Maui Fire Department
MOU	Memorandum of Understanding
MP	mile post (or mile marker)
MS4	Municipal Separate Storm Sewer System
NGPC	Notice of General Permit Coverage

NPDES	National Pollutant Discharge Elimination System
PSA	public service announcement
SIC	standard industrial classification
SWPCP	Storm Water Pollution Control Plan
TMDL	total maximum daily load
TMK	Tax Map Key
U.S.C.	United States Code
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	underground storage tank
WLA	waste load allocation

DEFINITIONS OF KEY TERMS

303(d) List – Under Section 303(d) of the Clean Water Act, states are required to compile a list of impaired waters that fail to meet any of their applicable water quality standards or cannot support their designated or existing uses. This list, called a “303(d) list” is submitted to Congress every two years, and states are required to develop a Total Maximum Daily Load (TMDL) for each pollutant causing impairment for water bodies on the list.

Best Management Practices (BMP) – According to 40 CFR 122.2, schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of 'waters of the United States'. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Clean Water Act (CWA) – The Clean Water Act is an act passed by the U.S. Congress to control water pollution. It was formerly referred to as the Federal Water Pollution Control Act of 1972 or Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500), 33 U.S.C. 1251 et seq., as amended by Public Law 96-483, Public Law 97-117, and Public Laws 95-217, 97-117, 97-440, and 100-04.

Code of Federal Regulations (CFR) – The document that codifies all rules of the executive departments and agencies of the federal government. It is divided into fifty volumes, known as titles. Title 40 of the CFR (referenced as 40 CFR) lists all environmental regulations.

Connection Permit – A permit issued by Maui District for physical connections into the Maui District MS4.

Consultant – The consultant procured by HDOT in order to provide various functions in support of the requirements of the Maui District MS4 NPDES Permit.

Contract Project – A construction project, which is designed either by HDOT personnel or by engineering consultant firms, and is contracted to a private contractor.

Construction BMPs – BMPs to address a short-term storm water contamination threat during construction. They are removed at the conclusion of a construction phase or project.

Detention Device – Facilities designed to collect and temporarily detain a portion of the storm water runoff for a specified period of time and to permit settlement of particulate pollutants.

Discharge – Any liquid, semi-solid or solid substance that is released into and from the Maui District MS4.

Discharge Permit – A permit issued by Maui District for discharges during construction into the Maui District MS4.

Drainage Area – That portion of the surface area from which storm water runoff flows to a given location. With respect to a highway, this location may be either a culvert, the farthest point of a channel, or an inlet to a roadway drainage system.

Encroachment – Occupancy of HDOT rights-of-way by non-project structures or object of any kind or character; also, the activities of other parties within the HDOT rights-of-way.

Encroachment Project – A construction project undertaken by a non-HDOT entity (i.e., third party) within the HDOT rights-of-way and requires the issuance by HDOT of a Permit to Perform Work upon State Highways.

Erosion – The wearing away of land surface, primarily by wind or water. Erosion occurs naturally as a result of weather or runoff but can be intensified by clearing, grading, or excavation of the land surface.

Erosion Control – Stabilizing a disturbed or exposed surface area in order to prevent soil particles from being detached and causing sediment accumulation in nearby surface waters.

Good Housekeeping – A common practice related to the storage, use, or cleanup of materials performed in a manner that minimizes the discharge of pollutants.

Herbicides – Chemical compounds that are used to control weeds.

Illegal Connection – Any connection to the Maui District MS4 that is not permitted by a drain connection permit from Maui District.

Illicit Discharge – Any discharge that is not composed entirely of storm water, except the following types of discharges provided that they do not contain pollutants in amounts that will cause or contribute to a violation of an applicable water quality standard:

- Water line flushing;
- Landscape irrigation;
- Diverted stream flows;
- Rising ground waters;
- Uncontaminated ground water infiltration (as defined in 40 CFR §35.2005(20));
- 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;
- Water from charity car washes;
- Flows from riparian habitats and wetlands;
- Dechlorinated swimming pool discharges;
- Residual street wash water; and
- Discharges or flows from fire fighting activities.

In-House Project – A construction project that is performed by HDOT personnel. These projects are typically small and maintenance related.

Initial Inspection – Inspections conducted on projects that require NPDES coverage, to verify that the construction BMPs identified in the site-specific BMP plan are properly installed and in the correct locations prior to the commencement of ground-disturbing activity.

Maintenance Activities – Routine activities that may require cutting, clearing, grading, or excavation to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

Maintenance Projects – Projects that are performed by outside contractors and are overseen by Maui District’s Maintenance Section (HWY-MM). These projects are typically highway maintenance-related.

Maui District MS4 – The small municipal separate storm sewer system on Kahului, Maui whose boundaries are delineated by the 2010 U.S. Census Urban Area Map.

Maui District MS4 NPDES Permit – A General NPDES permit issued by HDOH to HDOT for discharges from the small municipal separate storm sewer system on Kahului, Maui and designated as Permit No.14KE352.

MS4 User – Those who perform work upon, perform work adjacent to, or use the HDOT roadways and facilities included in the Maui District MS4 network.

Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a state, city, town, or other public body, that is designed or used for collecting or conveying storm water, that is not a combined sewer, and that is not part of a publicly owned treatment works [40 CFR 122.26(b)(8)].

National Pollutant Discharge Elimination System (NPDES) – The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the CWA.

Non-point Source Pollutants – Pollutants that come from many different sources. Unlike pollution from industrial and sewage treatment plants, non-point source pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even underground sources of drinking water. These pollutants include:

- Excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas;
- Oil, grease, and toxic chemicals from urban runoff and energy production;
- Sediment from improperly managed construction sites, crop and forest lands, and eroding stream banks;
- Salt from irrigation practices and acid drainage from abandoned mines;
- Bacteria and nutrients from livestock, pet wastes, and faulty septic systems; and
- Atmospheric deposition and hydromodification.

Notice of Intent (NOI) – Form completed and signed by a construction site operator or an industrial facility operator notifying the State of Hawaii Department of Health (HDOH) that the operator will comply with an applicable NPDES general permit.

Nutrients – Any substance assimilated by living things that promotes growth. The term is generally applied to nitrogen and phosphorus in wastewater, but is also applied to other essential and trace elements.

Outfall – Refers to the discharge point of a municipal storm sewer system to a conveyance ditch or natural stream channel.

Performance Measures – Quantitative indicators of how well (or poorly) a program meets a specific objective.

Permanent BMPs – Storm water BMPs designed to be installed and remain in place as part of the project features to provide long-term storm water quality or quantity control.

Periodic Inspections – Inspections of a contract, in-house, or encroachment project's construction BMPs by an independent inspector who is not involved in overseeing other aspects of the projects construction.

Point Source Pollution – Point source pollution is when sources of pollution can be traced to a single point into the receiving water. Point Sources account for over 60 percent of the water pollution in the U.S. today. Industry and domestic sewage treatment plants play a major role in point source pollution. Industrial and domestic waste water and discharges include oils, greases, metals, chemicals, nutrients and sediments.

Primary Activities – Categories of activities performed by MS4 Users that aid in developing outreach and training activities. Categories include:

- **Driving** – Those who drive on roadways, but do not necessarily perform other activities within or adjacent to HDOT rights-of-way.
- **Non-Storm Water Discharger** – Those who have the potential to generate non-storm water discharges, listed in HAR 11-55, Appendix K, Part 1.(a), but do not necessarily perform other activities within or adjacent to HDOT rights-of-way.
- **Road Work** – Those who perform road work within and adjacent to HDOT rights-of-way.
- **Landscaping** – Those who perform landscaping work within and adjacent to HDOT rights-of-way.

Sanitary Sewer – Pipes that carry only domestic waste water, not storm water.

Sediment – Organic or inorganic material that is carried by or is suspended in water and that settles out to form deposits in the storm drain system or receiving waters.

Sediment Load – Sediment particles maintained in the water column by turbulence and carried with the flow of water.

Site Specific BMP Plan – A plan for controlling pollutants in storm water discharges from sites that meets the requirements of the NPDES for Storm Water Discharges Associated with Construction Activities General Permit.

Soil Stabilization – Erosion control measures used to minimize erosion.

Spill – An accidental dumping or spilling of a potential pollutant onto the ground or into a waterway.

State Waters – All waters, fresh, brackish, or salt, around and within the State, including, but not limited to, coastal waters, streams, rivers, drainage ditches, ponds, reservoirs, canals, ground waters, and lakes.

Storm Water – Storm water runoff, and surface runoff and drainage.

Construction BMPs – BMPs that address a short-term storm water contamination threat during construction. They are removed at the conclusion of a construction phase or project.

Total Maximum Daily Load (TMDL) – A TMDL establishes the maximum amount of an impairing substance or stressor that a water body can assimilate and still meet Water Quality Standards (WQSs) and allocates that load among pollution contributors. TMDLs are also a tool for implementing State water quality standards. They are based on the relationship between pollution sources and in-stream water quality conditions. A TMDL addresses a single pollutant or stressor for each water body.

Waste Load Allocation – The maximum quantity of pollutants each discharger of waste is allowed to release into a particular waterway as set by an authority. Discharge limits are usually required individually for each specific water quality criterion.

Water Quality Standards (WQSs) – State adopted and USEPA-approved ambient standards for water bodies. The standards prescribe the use of water body and establish the water quality criteria that must be met to protect water bodies.

Watershed – The area of land that catches rain and snow and drains or seeps into a receiving water such as marsh, stream, river, lake or ocean.

INTRODUCTION

This Maui District Storm Water Management Program Plan (Maui District SWMP Plan) establishes a manageable and comprehensive program for all State of Hawaii Department of Transportation, Highways Division (HDOT) activities and entities that have a relationship with Maui District's Municipal Separate Storm Sewer System (Maui District MS4). As such, this document describes the system of programs and activities that the HDOT will undertake to reduce the discharge of storm water pollutants, to the maximum extent practicable from the Maui District MS4. Ultimately, the goal of the Maui District SWMP is to protect water quality and to satisfy the conditions of Maui District's National Pollutant Discharge Elimination System (NPDES) Small MS4 General Permit for Kahului, Maui (Permit File No. HI14KE352).

i. Regulatory Overview

A municipal separate storm sewer system (MS4) is a conveyance or system of conveyances owned by a public entity (state, city, town, etc.) and designed or used to collect or transmit storm water (40 CFR 122.26 (b)(8)). Highways, in particular, are designed with drainage features to safely convey water away from the roadway to eliminate water hazards. Typical roadway storm water runoff contains oil, sediment, and pollutants that have potential to affect the quality of State Waters. In an effort to prevent water quality degradation from these untreated discharges to local water bodies, MS4s are regulated by federal and State law.

Clean Water Act Legislation

Federal regulations on storm water discharges were established in the 1977 Clean Water Act (CWA) (33 U.S.C. 1251 et. seq.), as amended in 1987, which created a two-phase regulatory program. Phase I was put into effect through storm water regulations promulgated by the U.S. Environmental Protection Agency (USEPA) in November 1990 (40 CFR 122.26). It required NPDES storm water permits for priority sources of pollutants, including industrial sites, construction areas that disturbed greater than five acres, and MS4s serving populations over 100,000, which are considered large and medium separate storm sewer systems. The Phase I MS4 regulations generally require MS4s to reduce discharges of pollutants to the maximum extent practicable and to prohibit illicit discharges into the MS4. The Phase II regulations (40 CFR 122.32) published in December 1999 expanded the program to include small MS4s, which serve populations less than 100,000, construction sites between one to five acres, and previously exempted industrial activities associated with municipalities. Generally, the MS4s regulated by Phase I are covered by individual permits and Phase II MS4s are covered by general permit processes.

The CWA grants authority to states to administer the NPDES program. Locally, the State of Hawaii Department of Health, Clean Water Branch (HDOH) oversees Hawaii's program in accordance with Chapter 342D of the Hawaii Revised Statutes (HRS) and Chapter 11-55 of the Hawaii Administrative Rules (HAR).

Maui District National Pollutant Discharge Elimination System Permit Requirement

Since Phase II storm water regulations are based on the decennial Census definition of an urbanized area, the number of regions regulated by the small MS4 program grows with each release of the U.S. Census and U.S. Census Urban Area Maps. According to the U.S. Census

Bureau, an area designated with an urban classification meets the criteria of having a densely settled core of census tracts or blocks that meet minimum population density requirements¹. The most recent 2010 Census Urban Area Map identified Kahului, Maui as an urbanized area, qualifying the HDOT drainage system or MS4 within the region for regulatory oversight within the NPDES program. Figure 1-1 provides a map of the affected MS4 and the delineated 2010 Census Urban Area for Kahului.

Figure 1-1: Maui District MS4



In accordance with Phase II of the NPDES program and HRS 342D, Maui District prepared a Notice of Intent (NOI) requesting coverage under the General NPDES Permit Authorizing Discharges from Small MS4s (HAR 11-55, Appendix K and A). A copy of the NOI is provided in Appendix A.1. Approval of the Maui District MS4 NPDES permit, also known as the Notice of General Permit Coverage (NGPC), is provided in Appendix A.2. The NGPC requires that the Permittee (Maui District) meet the requirements prescribed by HAR 11-55, Appendix A and K,

¹ <https://www.census.gov/geo/reference/ua/urban-rural-2010.html>

and submit a Storm Water Management Program Plan in accordance with HAR 11-55, Appendix K. HAR 11-55, Appendix A and K are provided in Appendix A.3 of this document.

ii. Program Approach

Maui District has adopted an adaptive management approach to its storm water program, with this document serving as a starting point for the implementation of programs specifically targeted at meeting the requirements of HAR 11-55, Appendix K. The SWMP's effectiveness in improving water quality will take a number of years to fully develop, requiring regular tracking and compilation of data for each program component. The first two years of the Maui District MS4 NPDES Permit are focused on developing the plan, identifying resources, training, and establishing baseline information and analyses of trends for setting effective protocols and procedures.

The goal of the ongoing process is to achieve incremental improvement through the evaluation of collected information, allowing for an iterative process of understanding to the extent that water quality is being improved by the various Maui District SWMP activities. The relationships between the Maui District SWMP programs and environmental outcomes will be better established through this iterative review process.

The relationship between the activities of a program and the environmental objectives and/or outcomes is dynamic. For example the elements of a construction inspection program would create improved contractor performance in maintaining BMPs and contractor compliance. SWMP activities and outcomes will be evaluated against one other to assess the effectiveness in achieving the goals of the program. With this approach, SWMP development does not end with the milestone delivery of the Maui District SWMP Plan. Program objectives, activities, and process will be continually refined and opportunities for involvement from stakeholders in developing individual program components will be afforded as the SWMP progresses to create meaningful environmental outcomes.

Resource constraints will require prioritization of Maui District SWMP activities so that efforts can be focused on program elements where water quality improvements can be achieved cost-effectively. However, while prioritization may result in decisions and choices made in the selection of which BMP activities to emphasize, complying with the Maui District MS4 NPDES Permit requirements will ultimately govern.

iii. Document Organization

This document has been organized for consistency with the order of minimum control measures described in HAR 11-55, Appendix K. Each chapter within the SWMP Plan:

- Provides the purpose for the program and its regulatory requirements;
- Describes the activities, policies, and procedures involved in meeting those requirements, including roles, responsibilities and reporting measures, when appropriate; and
- Identifies outcome goals or objectives that have been placed into targeted years for accomplishment. Since the Annual Report is intended to document program progress in achieving these objectives, target years are calendar years for consistency with the

Annual Report. Accordingly, Year 1 refers to the 2014 calendar year, Year 2 refers to the 2015 calendar year, and Year 3 refers to the 2016 calendar year.

In order to provide an integrated program, Part 7 of Appendix K, Basic Water Quality and Inspections, while not required for inclusion within the SWMP Plan as a minimum control measure, is described in Section 7 of this document. To reduce redundancy within the document, reporting and organizational roles and responsibilities are described in the remaining sections of this Chapter.

iv. Reporting

Implementation of the Maui District SWMP begins subsequent to the submission of the plan to HDOH. The plan outlines the programs and activities to be performed to achieve and maintain compliance with permit conditions. In order to monitor program effectiveness, adequate documentation of program activities is necessary. Each year an Annual Report will be submitted by January 28th to HDOH to cover the previous calendar year. The report is required to include:

- Status of compliance with the conditions of the MS4 permit;
- Assessment of the SWMP, including progress toward implementing each minimum control measure;
- Modifications made to the SWMP and implementation schedule, including justifications;
- Summary of the storm water activities planned to be undertaken during the next calendar year; and
- Major modifications made to the Maui District MS4, including, but not limited to, addition and removal of outfalls, drainage lines, and treatment facilities.

Other reports are required based on the following events:

Planned Changes

Any planned physical alterations or additions to the permitted facility not covered by 40 CFR 122.41 (1) (1) (i), (ii) and (iii) will be reported on a quarterly basis.

Significant Modifications

Significant modifications to the SWMP that would result in a major reduction in the overall scope and/or level of effort must be reported in writing to the Director of Health for approval at least thirty days prior to the initiation date of the modification.

v. Roles and Responsibilities

The organizational structure of HDOT Highways is shown in Figure 1-2. The colored dots represent program involvement for each of the respective entities. HDOT Highways is one of three divisions of the State of Hawaii Department of Transportation. The others are Harbors Division and Airports Division. Highways division is led by an Administrator under the HDOT Director and Deputy Director. There are six branches and four districts that have different responsibilities for the planning, design, construction, operation and maintenance of the

statewide highway network, which includes the storm water drainage systems, such as the Maui District MS4, and ancillary facilities, such as baseyards. The six branches are:

- Planning Branch – responsibilities include long-term planning of the State Highway System, including the project development process (i.e., conceptual engineering and State and federal environmental review process);
- Design Branch – responsibilities include managing or conducting the design of highways and other projects undertaken by HDOT Highways, and providing technical design services to other branches and district offices;
- Right-of-Way Branch – responsibilities include securing the rights-of-way, easements and other real property interests needed for the highway network, and preparation of relocation agreements with utility agencies;
- Materials Testing and Research Branch – responsibilities include materials testing, research and development, soil engineering, pavement design, and providing technical services that involve water quality, noise and air pollution;
- Construction and Maintenance Branch – responsibilities include providing review and management services on statewide highway construction and maintenance programs, review of maintenance procedures and practices, and review and consolidation of district construction and maintenance budgets; and
- Traffic Branch – responsibilities include preparation of traffic design plans, managing the safety improvement and traffic systems management programs, and reviewing environmental documentation and application for permits.

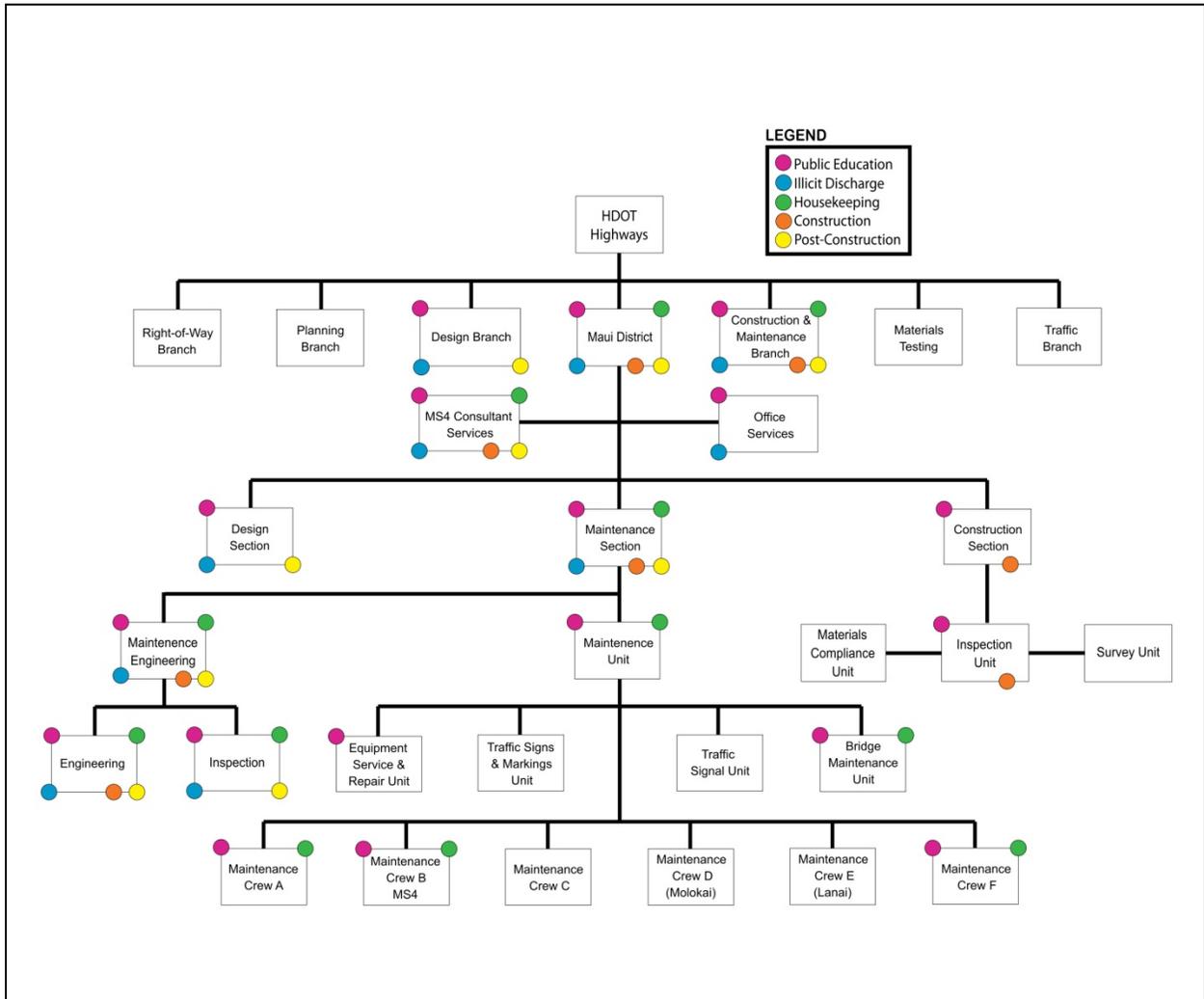
The four districts are:

- Maui District (includes the Islands of Maui, Molokai and Lanai),
- Oahu District,
- Kauai District, and
- Hawaii District (Big Island).

The Maui District is responsible for performing field inspections and field engineering of all Maui District highway construction projects, and the maintenance, alteration and repair of existing Maui District (including Molokai and Lanai) roadways and related structures.

Some of the branches and districts listed above, or more precisely, the sections and units within some of these entities, currently have responsibilities under the Maui District SWMP, as shown in Figure 1-2. In addition, Maui District is supported by consultants, procured by HDOT Highways, to provide services on an as-needed basis for the various functional areas of the Maui District SWMP, including development and implementation.

Figure 1-2: Maui District MS4 Organization Chart



1.0 PUBLIC EDUCATION AND OUTREACH

1.1 Overview

1.1.1 Purpose

The purpose of the Public Education and Outreach Program is to teach and train HDOT staff, contractors, business owners, and residents, on what they can do to reduce pollutants in storm water in their daily activities. The Public Education and Outreach program is therefore the only component of the Maui District SWMP that involves all of the programs and Maui District personnel. Outreach involves informing as many people as possible and, over time, changing general human behavior to reduce pollutants. Education and outreach contribute to other programs, such as Post Construction BMPs, Illicit Discharge Detection and Elimination and Construction Site Runoff Control.

1.1.2 Permit Requirement

Part 6.(a)(1) of Appendix K of the State of Hawaii's NPDES General Permit (HAR 11-55) requires an operator of a regulated small MS4 to:

Develop and implement a public education program to distribute educational materials to users of the permittee's small municipal separate storm sewer system or equivalent outreach activities emphasizing the following:

- (A) *Impacts of storm water discharges on water bodies,*
- (B) *Hazards associated with illicit discharges, and*
- (C) *Measures that users of the permittee's small municipal separate storm sewer system can take to reduce pollutants in storm water runoff, including, but not limited to, minimizing fertilizer application and practicing proper storage and disposal of chemicals and wastes*

1.2 Public Education and Outreach Program Activities

1.2.1 Identification of MS4 Users

The on-going identification of Maui District MS4 Users and their role in the Maui District SWMP is key to the success of this program. Maui District has defined users to include those who perform work upon, perform work adjacent to, or use the HDOT roadways and facilities included in the Maui District MS4 network. Table 1-1 summarizes various types of users along with their primary activities as it relates to this SWMP. The following primary activities have been identified:

- Driving – Those who drive on roadways, but do not necessarily perform other activities within or adjacent to HDOT rights-of-way.

- Non-Storm Water Discharger – Those who have the potential to generate non-storm water discharges listed in HAR 11-55, Appendix K, Part 1.(a), but do not necessarily perform other activities within or adjacent to HDOT rights-of-way.
- Road Work – Those who perform road work within and adjacent to HDOT rights-of-way.
- Landscaping – Those who perform landscaping work within and adjacent to HDOT rights-of-way.

The emphasis areas of outreach and education are based on HAR 11-55, Appendix K, Part 6.(a)(1). Although each emphasis area will be included in various trainings, Table 1-1 is intended to show where to focus and prioritize outreach and training efforts. Table 1-1 will be updated as necessary to include additional users and/or activities.

Table 1-1: Summary of Key MS4 Users

User	Primary Activity/Use				Emphasis ¹		
	Driving	Non-Storm Water Discharger ²	Road Work	Landscaping	A	B	C
Maui Residents	X				X		X
Tourists/Visitors	X				X		
Maui Fire Department		X			X	X	X
Commercial Business Owners		X			X	X	X
Industrial Business Owners		X			X	X	X
Connection Permit Holders			X		X	X	X
Encroachment Permit Holders			X		X	X	X
NPDES permit holders (esp. Appendix K, Appendix C, Appendix F, and Appendix G)			X	X	X	X	X
Construction Contractors			X	X	X		X
HDOT Maui District Maintenance Personnel			X	X	X	X	X
HDOT Maui District Construction Personnel			X	X	X	X	X
Landscaping Contractors				X	X		X
¹ Emphasis areas from HAR 11-55, Appendix K, Part 6.(a)(1): A - Impacts of storm water discharges on water bodies, B - Hazards associated with illicit discharges, and C - Measures that users of the permittee's small municipal separate storm sewer system can take to reduce pollutants in storm water runoff, including, but not limited to, minimizing fertilizer application and practicing proper storage and disposal of chemicals and wastes; ² Non-storm water discharges are listed in HAR 11-55, Appendix K, Part 1.(a)							

1.2.2 Public Outreach and Training Strategy

Maui District will develop a detailed Public Outreach and Training Strategy as part of this program, which will provide the framework for outreach and training for the duration of the permit. Maui District will be responsible to oversee the elements of this strategy. This strategy will include participating in or hosting outreach activities, producing and distributing educational material and media, and forming partnerships. These items are briefly described in the following sections.

As this program matures, the training element will benefit from the participation of Maui District Personnel who have supervisory roles, oversee construction or maintenance activities and manage construction or service contractors. These personnel could take training to a higher level by having a larger role during training sessions, discussing current procedures and relating them to recent relevant projects and events.

Similarly, the public outreach activities could involve Maui District personnel either as volunteers or they may be able to engage themselves, their families, and others in attending events, disseminating information, or promoting the messages.

1.2.2.1 Outreach Activities

Outreach activities can include meetings, presentations, programs, and event booths where participants are given educational material and engaged in activities or discussion about the Maui District SWMP. Outreach activities could include:

- Teacher Meetings – Teachers and principals of local schools could be brought together for the purpose of brainstorming how they could benefit from participation with Maui District in its storm water awareness effort.
- School Presentations – A brief presentation about storm water and how it impacts the ocean and fish. These presentations could be targeted toward specific age groups and involve classroom activities and educational material.
- Adopt-A-Highway – Further developing the current Adopt-A-Highway Program on Maui would solicit businesses and other organizations to volunteer to help clean debris and materials from highway rights-of-way that they “adopt.” Not only do those who volunteer become more aware about the detrimental effects of highway littering and debris, but the general public may also become more aware of the same effects by observing the signage and the volunteers.

1.2.2.2 Educational Material

Educational material provides information in a format that allows broad distribution to a large audience. Material can not only be used actively during outreach activities, but also handed out during presentations and given individually to people interested in certain topics. Along with educational material, logo branded giveaway items go home with people where they can be placed on a refrigerator, kept in the car, or even used at the market (e.g., magnets, litter bags, and tote bags). Examples of educational material already developed for HDOT include:

- Storm Water Activity Book – A book of activities related to storm water that children can do with their parents and other adults.
- Quizzes – Tests current knowledge of storm water and provide an opportunity to hand out giveaway items as prizes.
- Brochures – Contain a large amount of information that can be easily presented for future reading. Brochures could also be co-sponsored and developed through partnerships as discussed in Section 1.2.2.3.
- Rack Cards – Simple brochures, each with a single message, that are designed to stand alone and can be left on racks at automotive stores, home improvement stores, and even big box retailers where they would be picked up by customers purchasing items relating to what is on the rack card (e.g., household hazardous waste rack card could be placed next to a bottle of motor oil or pesticide).
- A detailed discussion of these activities and a proposed schedule will be included in the Public Outreach and Training Strategy.

1.2.2.3 Partnerships

Partnerships with agencies, businesses, and organizations serve to coordinate efforts to meet individual goals. Once a partnership is started, it will naturally change over time, growing or shrinking with the program needs of both sides. Partnerships may be solicited at any time and need little initial coordination.

Possible partnership entities could include:

- Holders of other MS4 Permits such as Maui County.
- Commercial businesses located within the MS4, such as the Queen Kaahumanu Center.
- Businesses that hold connection permits to the Maui District MS4.
- Businesses that have potential to discharge toxic or hazardous material to the Maui District MS4 such as gas stations.

Partnership opportunities could include:

- Joint development of outreach material such as brochures.
- Joint booths and advertisements at events to reduce costs.
- Links, downloads, and/or media announcements on each other's websites.
- Storm water related public service announcements (PSA) on the television, radio, or newspaper.

1.2.2.4 *Training*

Training needs vary widely for the various Maui District SWMP component programs. The Public Outreach and Training Strategy will specify:

- Topics – Each Maui District SWMP component program has various topics of interest to the different types of MS4 Users.
- Suggested Trainers – Trainers could include consultants, contractors, HDOT personnel, or other agency personnel (e.g., Maui County)
- Suggested Audience – The different types of MS4 Users require different training.
- Training Frequency – Training could be held regularly (e.g., annually) or as-needed (e.g. for new employees).

Where there is overlap in audience, various topics could be consolidated into a single training to save on time and resources. Table 1-2 summarizes the component programs, proposed topics for training, and proposed audience.

Table 1-2: Proposed Training Needs

Program(s)	Potential Topics for Training	Potential Audience
Construction Site Runoff Control	<ul style="list-style-type: none"> • Development of Site-Specific BMP Plans/Storm Water Pollution Prevention Plans • BMP plan implementation and maintenance • Inspection of BMPs • Enforcement policies 	<ul style="list-style-type: none"> • HDOT Contractors • Maui District project managers, engineers and inspectors • Design Consultants
Maintenance - Debris Control Program	<ul style="list-style-type: none"> • Street sweeping and drain inlet cleaning policies and procedures 	<ul style="list-style-type: none"> • Maui District maintenance engineers and inspectors • Service contractors
Maintenance - Chemical Application Program	<ul style="list-style-type: none"> • Proper application and use of chemicals 	<ul style="list-style-type: none"> • Maui District project managers, maintenance engineers, and inspectors • Landscaping contractors
Maintenance - Facility Management	<ul style="list-style-type: none"> • Storm Water Pollution Control Plans • Pollutant management • Spill prevention and response • Reporting • Inspection 	<ul style="list-style-type: none"> • Maui District maintenance engineers and inspectors

Program(s)	Potential Topics for Training	Potential Audience
Post-Construction SWM Program	<ul style="list-style-type: none"> • List of required permits, implementing agencies, fees, overviews, trigger, timelines • Selection, design, installation, operation and maintenance of storm water treatment controls • Brief discussion of potential environmental impacts associated with storm water runoff • Potential enforcement actions for non-compliance • Permanent BMP Manual and the Design Checklist Tool • Maintenance of permanent BMPs 	<ul style="list-style-type: none"> • Connection Permit Holders • Project/design managers (or design consultants) • Encroachment project applicants who will need to consider permanent BMPs as part of their projects • Contractors who perform design work for HDOT • Maui District personnel with project design and construction storm water responsibilities, including design engineers, construction engineers, maintenance engineers, inspectors, and plan review staff
Illicit Discharge Detection and Elimination	<ul style="list-style-type: none"> • Information and awareness of the Maui District MS4 NPDES Permit, Connection/Discharge Permits, and the overall Maui District SWMP • Information and awareness of the important role that Maui District staff serves in protecting the water quality in the State • Environmental background and regulatory requirements; • Highway responsibilities for storm water management • Types of facilities covered by the NPDES general permit for industrial storm water, and other applicable NPDES permit • BMPs and other control measures for industrial and commercial facilities to control storm water pollution • Identifying and eliminating illegal connection, illicit discharges and spills to the Maui District MS4 • Inspection and enforcement techniques 	<ul style="list-style-type: none"> • Personnel responsible for carrying out any element of the Illicit Discharge Program, including Maui District engineers, inspectors, administrative support staff, and any other staff involved in the Illicit Discharge Program

1.3 Measurable Goals

Table 1-3 describes the goals and activities to meet each goal, including annual targets, for the Public Education and Outreach Program.

Table 1-3: Public Education and Outreach Measurable Program Goals

Goal	Activities and Targets		
	Year 1	Year 2	Year 3
Develop partnerships with other agencies, organizations, and/or businesses	Identify potential partnerships and identify contact persons	Establish one or two active partnerships	Build on active partnerships and establish new partnerships as program necessitates
Develop and implement a Public Outreach and Training Strategy	Identify specific Maui District MS4 User needs and initiate draft of the Public Outreach and Training Strategy	Finalize the Public Outreach and Training Strategy	Begin implementation of Public Outreach and Training Strategy elements
Expand list of key MS4 Users	Identify additional MS4 Users and/or expand on existing groups.	Modify list of MS4 Users to be included in the Public Outreach and Training Strategy.	Include outreach to additional MS4 Users in outreach and training.

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2.0 PUBLIC INVOLVEMENT/PARTICIPATION

2.1 Overview

2.1.1 Purpose

The purpose of public involvement and participation is to provide opportunities to involve users of the Maui District MS4 in the development, implementation, and review of the Maui District SWMP. Participation involves engaging these users in the process, allowing them take ownership of the program, encouraging them to change their behavior, and providing opportunities for them to show how they are working to reduce pollutants. Maui District will be responsible for managing public involvement of the Maui District SWMP.

2.1.2 Permit Requirement

Part 6.(a)(2) of Appendix K of the State's General Permit (HAR 11-55) requires an operator of a regulated small MS4 to:

Include users of the permittee's small municipal separate storm sewer system in developing, implementing, and reviewing the storm water management plan

2.2 Program Activities

2.2.1 Development

The Maui District SWMP is the framework within which Maui District will operate to meet program goals. Development of the Maui District SWMP, therefore, involves high-level decision-making of the detailed processes required to meet the requirements of the MS4 Permit. When available, public feedback will be considered during the development of program components of the Maui District SWMP.

2.2.2 Implementation

The implementation phase is where coordination and cooperation of all MS4 users and HDOT Maui District becomes crucial. During the implementation of the Maui District SWMP, key MS4 users will be identified. These are the people who carry out the program elements and have a role in determining the success or failure of the program. Providing opportunities for them to review, comment, and suggest ideas about the Maui District SWMP programs during the implementation phase will help to improve operations and refine the programs over time.

Public Education and Outreach (Section 1.0) is part of the implementation phase and is an appropriate avenue for involving these key MS4 Users. Any feedback as a result of these outreach activities will be considered in the review and further development of the Maui District SWMP.

2.2.3 Review

Involving the key MS4 users throughout the course of development and implementation of the Maui District SWMP gives everyone the opportunity to be a part of the review process for plans,

procedures, and other documents that Maui District develops. By viewing the Maui District SWMP as the framework, modifications to the process can be made regularly and reported in the annual reports.

2.3 Measurable Goals

Table 2-1 describes the goals and activities to meet each goal, including annual targets, for the Public Involvement/Participation Program.

Table 2-1: Public Involvement/Participation Program Measurable Goals

Goal	Activities and Targets		
	Year 1	Year 2	Year 3
Involve MS4 Users in on-going review of SWMP	Solicit feedback from key MS4 Users on the Maui District SWMP procedures.	Solicit feedback from key MS4 Users on the Maui District SWMP procedures.	Solicit feedback from key MS4 Users on the Maui District SWMP procedures.
Involve MS4 Users in on-going SWMP development	Based on feedback, evaluate Maui District SWMP procedures based on input from key MS4 users.	Based on feedback, evaluate Maui District SWMP procedures based on input from key MS4 users and revise as necessary.	Based on feedback, evaluate Maui District SWMP procedures based on input from key MS4 users and revise as necessary.

3.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION

3.1 Overview

3.1.1 Purpose

The objectives of the Illicit Discharge Detection and Elimination Program (Illicit Discharge Program) are to detect and eliminate illicit discharges, as well as to remove illegal connections to the Maui District MS4.

3.1.2 Permit Requirement

Part 6.(a)(3) of Appendix K of the State's General Permit (HAR 11-55) requires an operator of a regulated small MS4 to:

Develop, implement, and enforce a program to detect and eliminate illicit discharges that, at a minimum, includes the following:

- (A) *Establishment of rules, ordinances, or other regulatory mechanism, including enforcement procedures and actions, that prohibit non-stormwater discharges, except those listed in Section 1 [of HAR 11-55, Appendix K] that do not cause or contribute to any violations of water quality standards, into the permittee's small municipal separate storm sewer system,*
- (B) *Procedures to detect and eliminate illicit discharges (as defined in 40 CFR Section 122.26(b) (2) ["Illicit discharge means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities."], and*
- (C) *Compilation of a list of non-storm water discharges or flows that are considered to be significant contributor of pollutants to the system and measures to be taken to prevent these discharges into the permittee's small municipal separate storm sewer system, or reduce the amount of pollutants in these discharges.*

HAR 11-55, Appendix K, Part 1.(a) authorizes the following types of non-storm water discharges (if they do not contain pollutants in amounts that will cause or contribute to a violation of an applicable water quality standard):

- Water line flushing;
- Landscape irrigation;
- Diverted stream flows;
- Rising ground waters;
- Uncontaminated ground water infiltration (as defined in 40 CFR §35.2005(20));
- 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;
- Water from charity car washes;
- Flows from riparian habitats and wetlands;
- De-chlorinated swimming pool discharges;
- Residual street wash water; and
- Discharges or flows from fire fighting activities.

This section will serve as a reference for members of the Maui District SWMP team who have responsibilities associated with the detection and elimination of illicit discharges to the Maui District MS4.

3.2 Program Activities

The Maui District SWMP will include the following program activities to satisfy Illicit Discharge Program minimum control measure requirements specified in HAR 11-55, Appendix K:

- Examining Regulatory Issues
- Identifying Illicit Discharges and Illegal Connections
- Developing a Tracking and Reporting System for Illicit Discharges and Illegal Connections
- Detecting and Eliminating Illicit Discharges and Illegal Connections
- Preventing Illicit Discharges
- Developing and Conducting Public Education and Outreach
- Developing and Conducting Training

The following document was an invaluable reference used in developing program activities for the Maui District MS4 Illicit Discharge Program: Edward Brown, Deb Caraco, and Robert Pitt, *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, Center for Watershed Protection, Ellicott City, MD, 2004.

3.2.1 Examining Regulatory Issues

3.2.1.1 Existing Regulatory Programs: Maui District MS4 Connection and Discharge Permits

Maui District currently administers a permitting program for any individual, business (commercial or industrial), or agency that wishes to establish a permanent physical connection to their MS4 (connection permit) and/or to discharge its storm water runoff into the Maui District MS4 (discharge permit). Under the Illicit Discharge Program, Maui District will continue this permitting program and will develop and maintain a database that includes all permitted connections/discharges to the MS4 (see Section 3.2.3).

A request for a physical connection or permission to discharge construction-related storm water to the Maui District MS4 is made by submitting a completed *Application for A Private Storm Drain Connection and/or Discharge Permit to the State of Hawaii Highways Division Storm Drain System* (see Appendix C.1). For each connection/discharge location, the applicant is required to submit information on the connection/discharge location, size, type of discharge, flow rate, and a Drainage Report, if applicable.

In addition, the applicant is required to indicate whether the subject property or facility (project) generates storm water associated with an “industrial” activity. If so, the applicant must submit analysis of a storm water sample performed by a laboratory acceptable to the State within one year after the date of the connection/discharge. Owners of properties associated with certain types of industrial activities are required by 40 CFR 122.26(c) to obtain NPDES permit/permit coverage for industrial activities, which requires them to monitor storm water discharges that leave their property, regardless of whether the activity or facility directly or indirectly discharges into the Maui District MS4. Those property owners under NPDES coverage for industrial activities are required to report monitoring results directly to HDOH.

If the subject project disturbs one acre or greater, 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, the applicant is also required to submit a permanent BMP plan with the connection/discharge application, including documentation for future maintenance. If a permanent BMP plan is not included, the applicant must submit documentation demonstrating that the project is either exempt from permanent BMP requirements or qualifies for a variance from permanent BMP requirements. (see Section 5.2.1 and Appendix E.1, Chapter 3)

Applicants for both connection and discharge permits are required to disclose whether the subject facility, activity or property requires NPDES permit/permit coverage. If so, the applicant must attach a copy of the NPDES permit/permit coverage with the application. If the property does not have an NPDES permit, but Maui District finds based on information contained in the application that the property appears to be engaged in an activity that requires an NPDES permit/permit coverage, the applicant is referred to HDOH for consultation. A Maui District MS4 connection or discharge permit is not issued until either the applicant secures NPDES permit/permit coverage or a determination from HDOH that NPDES coverage is not required.

After review and approval of the application and submitted documents by Maui District are complete, a *Permit for Connection to the State Highways Drainage System* (see Appendix C.2) or a *Permit to Discharge into the State Highways Drainage System* (see Appendix C.3) is issued by

Maui District. The permittee (*Licensee*) must sign the permit, thereby agreeing to terms and conditions included in the *Permit*.

Permit conditions require connection/discharge permit licensees to notify Maui District at least 48 hours before connection construction begins or before commencing discharge to the Maui District MS4. Discharge permit holders are required to notify Maui District at the conclusion of the discharge operations to allow Maui District to conduct final inspections as necessary. In addition, permit licensees are required to notify HDOT Highways of changes in activities at the project or of changes in ownership.

3.2.1.2 *Future Regulatory Programs*

Maui District will evaluate existing regulatory mechanisms that prohibit illicit discharge/illegal connections and will identify new mechanisms or amendments to existing mechanisms that will allow Maui District to administer and to enforce more effectively the Illicit Discharge Program. Maui District will propose amended or new policies, ordinances, and/or procedures and will work with appropriate stakeholders to develop draft and final versions of those proposed regulatory mechanisms for review/approval/adoption by Maui District.

3.2.2 Identifying Illicit Discharges and Illegal Connections

The following activities will trigger the identification of parcels that warrant investigation of potential illicit discharges and illegal connections:

- Public reporting or complaints,
- Desktop assessment of illicit discharge potential, and
- Field screening of MS4 outfalls.

3.2.2.1 *Public Reporting or Complaints*

Information from the public is an important source for identifying potential illicit discharges or illegal connections. Currently, Maui District receives public complaints via phone calls or other communications to the Maui District Office. Maui District will develop and maintain an illicit discharge/illegal connection database (see Section 3.2.3) that will include potential illegal connection and illicit discharge complaints received through the Maui District Office. Maui District staff will assess complaints, rank them for potential risks to the MS4, and then schedule and conduct follow-up investigations, targeting high-risk sites for priority screening (see Section 3.2.4).

The database will include a number of fields to map and track the progress of follow-up investigations, such as the TMK of the suspect parcel, information about each suspected improper discharge, the nature of the investigation of that discharge, follow-up activities, and the resolution of each investigation. The database will have the capability of identifying whether a suspect property has NPDES permit coverage. If the property or facility has such coverage, Maui District will notify HDOH of the complaint and potential violation. After HDOH acknowledges receipt of the complaint and confirms that they will investigate, Maui District will close the complaint record with a database entry that the complaint has been referred to HDOH.

For properties that do not have NPDES permit coverage, first, the database will be updated to reflect the newest records from all data sources. Then, investigations will be scheduled based on Maui District's assessment of the relative risk that the discharge may be contaminated with pollutants, and the affect that discharge might have on the quality of storm water runoff entering the Maui District MS4.

3.2.2.2 *Desktop Assessment of Illicit Discharge Potential (IDP)*

Desktop assessment will use existing background data and other information to provide a relatively quick, initial characterization of IDP at the subwatershed level that will shape the initial direction of the Illicit Discharge Program. Desktop assessment of IDP will involve four basic activities as follows:

1. Delineate Subwatersheds and Compile Mapping Data: Subwatersheds or other drainage units within the MS4 will be delineated. This will create smaller, more manageable work areas. Available mapping data (GIS layers) for each drainage unit will be gathered to aide in understanding the character of individual subwatersheds or drainage units and how these data may be used to facilitate delineating subwatershed boundaries that will most conducive to identifying IDP.
 - Aerial photos or orthophotos,
 - Subwatershed or catchment boundaries,
 - Hydrology including storm water pipe networks,
 - Land use or zoning,
 - MS4 connection/discharge permittees,
 - MS4 outfalls,
 - Storm drain systems,
 - NPDES storm water permittees,
 - Sanitary sewer systems,
 - Standard Industrial Classification (SIC) codes for all industries,
 - Street map or equivalent GIS layers,
 - Topography,
 - Historical industrial uses or landfills,
 - Current and past known locations of illicit discharges,
 - Areas served by septic systems.
2. Develop Watershed Discharge Screening Factors: Watershed or subwatershed ranking criteria will be developed using GIS analyses. This step of the desktop assessment defines and computes discharge factors to prioritize subwatersheds for follow-up

investigations based on their IDP. The following discharge screening factors will be considered:

- Past discharge complaints and reports,
 - Poor dry weather water quality,
 - Presence of industrial and commercial facilities, particularly older industrial operations,
 - Density of generating sites or industrial NPDES storm water permits,
 - Storm water outfall density,
 - Age of subwatershed development,
 - Conversion of septic systems to public sanitary sewer systems,
 - Historic combined sewer systems,
 - Aging or failing sanitary sewer infrastructure, and
 - Density of aging septic systems.
3. Apply Screening Criteria: Screen and rank IDP at the subwatershed and MS4 coverage area level. This process involves the following steps:
- Selecting the group of screening factors most appropriate for the Maui District MS4 community,
 - Assigning points for each subwatershed for each screening factor, based on defined scoring criteria for each screening factor,
 - Calculating the total subwatershed score for all of the screening factors to designate whether it has a low, medium, or high risk to produce illicit discharges, and
 - Targeting high-risk subwatersheds for priority field screening.
4. Generate maps to support field investigations: The last step in the desktop assessment process involves producing maps for field crews to use during screening and investigations of suspected illicit discharge generators. The maps will be relatively simple, uncluttered maps with enough information, such as system infrastructure, streets, landmarks, property boundaries, and known outfall or discharge locations that will allow inspectors to navigate their way in the field.

3.2.2.3 *Field Screening of MS4 Outfalls*

Maui District MS4 outfalls will be field screened for illicit discharges and illegal connections. During outfall screenings, inspectors will collect data regarding the presence of pollutants, which could be an indication that one or more parcels or the roadways along the drainage system of the outfall are causing an illicit discharge or that an illegal connection may exist.

Outfalls located within the Maui District MS4 Region will be screened according to priorities and frequencies established during the desktop assessment of IDP (see Section 3.2.2.2) and will be coordinated with the permanent BMP inspection program described in Section 5.2.3 and the outfall and discharge point inspection program described in Section 7.2.

The procedures for finding and reporting illicit discharges identified at Maui District MS4 outfalls are similar to other inspection procedures. Data gathered from the outfall screenings will be reviewed by Maui District staff on a regular basis. Any reported illicit discharge will be referred to the Maui District Engineer for appropriate action.

3.2.3 Developing a Tracking and Reporting System for Illicit Discharges and Illegal Connections

The Maui District MS4 Illicit Discharge and Illegal Connection tracking and reporting system (Maui District MS4 Database) will consist of a relational database linked to a GIS system, which Maui District will use to store and analyze data and to produce maps. Because storm water flowing from industrial and commercial areas may be a significant source of pollutants that enter the Maui District MS4, Maui District will place a particular emphasis on including data from those types of sources. Key data from all types of sources will include the following:

- Existing and Newly Permitted Maui District MS4 Connection and Discharge Data: Data fields will include permit holder identification, permit number, property location, TMK, discharge type, inspection/investigation records, and if applicable, NPDES permit information and industrial/commercial discharge information.
- Outfall Screening Data: Location data (geospatial coordinates, if available), watershed and subwatershed information, contributing land use data, photographs, inspection and maintenance data, if applicable, follow-up monitoring data, and status/disposition of any enforcement actions.
- Industrial Facility Data: Types of industrial facilities to be included in the database are municipal landfills (open and closed); hazardous waste recovery, treatment, storage, and disposal facilities; facilities subject to Section 313 of the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. 11023; facilities adjacent to HDOT Highways rights-of-way or facilities discharging to the Maui District MS4; facilities subject to General Industrial Storm Water permit coverage or any other applicable NPDES permit coverage; and any other industrial facility that either HDOT Highways or HDOH determines is contributing a substantial pollutant loading to the Maui District MS4. Inventoried data from these sites will typically include:
 - Facility activity, zoning, land use, and parcel ownership data,
 - Field investigation data, and
 - Readily available intra-agency informational data.
- Commercial Facility Data: Types of commercial facilities to be included in the database are retail gasoline outlets; retail automotive services, including repair facilities; and restaurants. Inventoried data will be similar to data previously described for industrial facilities.

- Maui District MS4 Illicit Discharge/Illegal Connection and Hazardous Waste Spill Investigation Data: Inventoried data will include discharge type, responsible party, documentation of HDOT Highway’s response to the incident, and investigation disposition.
- Maui District’s Public Complaint Data: Information collected from caller complaints or other communications to Maui District regarding potential illicit discharge/illegal connections to the Maui District MS4 will be included in the database.

3.2.4 Detecting and Eliminating Illicit Discharges and Illegal Connections

Once properties or facilities have been identified and ranked as potential illicit discharge/illegal connection sites warranting field investigations, Maui District will conduct the work as described in this section.

3.2.4.1 Detecting Illicit Discharges and Illegal Connections: Field Investigation Process

Investigations for non-storm water discharges will be conducted during dry weather. The investigator will record observations made during inspections of a property or facility suspected of illicit discharges or illegal connections, on a MS4 Site Investigation Sheet (SIS) (see Appendix C.4). For industrial or commercial site investigations, inspectors will record data on an Industrial/Commercial MS4 Site Investigation Sheet (SIS) (see Appendix C.5). Investigators will use the following general procedures when conducting illicit discharge or illegal connection investigations:

- Obtain plans of the relevant drainage facilities within HDOT Highways rights-of-way (i.e., location of all associated Maui District MS4 outfalls or flow paths by which the suspected illicit discharge or illegal connection could enter or affect State waters) using the Maui District MS4 Database prior to conducting the site investigation.
- Confirm the location of the reported or suspected illicit discharge or illegal connection to the Maui District MS4, if any.
- Record the location, size, depth, and orientation of any illicit discharge or illegal connection.
- Record any unusual colors, stains, or odors observed from any illicit discharge or illegal connection.
- Assess the likely source of any illegal connection and point of entry into the right-of-way based on the connection’s configuration and alignment.
- For any surface discharges, record the location of any stains or other evidence proving direction of flow into the MS4 system.
- Photograph the location of any discharge or connection at or along the suspected point of entry into the right-of-way. Include photographs of any surface stains and of all adjacent properties. Note and record the frame numbers of the photographs, the time and location of the photographs, and other pertinent information for future reference.
- Prepare a neat, accurate sketch of the relevant aspects of the site and the potential illegal connection or flow path of the illicit discharge.

- Record the date and time of the investigation and complete the checklist or GPS data inputs as fully as possible.

3.2.4.2 *Eliminating Illicit Discharges and Illegal Connections: Follow-Up Actions*

Investigators will use the following general procedures to follow-up on illicit discharge or illegal connection investigations:

- Use the Maui District MS4 Database to determine the location of the Maui District MS4 outfall or flow path by which flow from the suspected illicit discharge or illegal connection would enter State waters. This and all other information and findings of suspected illicit dischargers or illegal connections will be reported to the Maui District Engineer, who will then determine the legality of the discharge or connection and select the appropriate follow-up action. For those parcels or activities with confirmed illicit discharges or illegal connections, Maui District will:
 - Send the property owner a letter, with an attached application for a connection or discharge permit, requiring the owner to complete and return the application;
 - Send a letter to the property owner requesting additional information regarding the discharge or connection;
 - Schedule a site meeting with the property owner to obtain additional information regarding the illicit discharge or illegal connection; and
 - Send a warning letter to the property owner advising the owner to remove the illegal connection or to eliminate the illicit discharge by a specified date or face an enforcement action.
- For those parcels or activities confirmed to have no illicit discharges or illegal connections, Maui District will:
 - Document that the parcel or activity has no physical connection with the Maui District MS4, or
 - Document that the parcel or activity has no discharges other than overland storm water sheet flow through non-industrial/non-commercial activities.
- Inspection reports will be submitted to HDOH within two months of the inspection date, and records of all inspections will be maintained for a minimum of five years.
- If Maui District later grants a connection or discharge permit to a parcel used for industrial or commercial activities that had been subject to an investigation, this parcel would then undergo regular inspections as described in Section 3.2.4.1.

3.2.5 Preventing Illicit Discharges

Intermittent and transitory illicit discharges are difficult to detect through outfall screening or indicator monitoring. Consequently, an effective way to manage these discharges is to conduct public education and outreach programs focused on pollution prevention practices that will prevent or will minimize illicit discharges from occurring in the community. An illicit discharge prevention program requires identifying key behaviors of neighborhoods, generating sites, and

municipal operations that produce intermittent and transitory discharges. These key discharge behaviors are then targeted for improved pollution control practices that will prevent or reduce the risk of illicit discharges.

Desktop assessment of IDP described in Section 3.2.2.2 will be the primary means of identifying specific discharge behaviors and generating sites that will be targeted for education and enforcement efforts to prevent illicit discharges. Targeted pollution prevention programs typically focus on three sectors of the community:

- **Neighborhood Discharges:** The program could include storm drain stenciling, lawn care, septic system maintenance, vehicle fluid changing, car washing, household toxins waste disposal, and swimming pool draining.
- **Generating Sites:** A program for this community sector that includes common business operations could involve business outreach, spill prevention and response plans, employee training, and site inspections.
- **Municipal Housekeeping:** This group of pollution prevention practices is performed during municipal operations, such as sewer and storm drain maintenance, plumbing code revision, and household toxins waste and used oil collection services.

Since typical municipal housekeeping activities are mainly the responsibility of Maui County, Maui District MS4 illicit discharge prevention will focus on two of the three sectors discussed: neighborhood discharges and generating sites.

Infiltration of wastewater effluent from surrounding properties is a potential pollutant that could enter the Maui District MS4. To address this issue, Maui District will continue to support other State, County, and Federal agencies to prevent entry of spills into the Maui District MS4 and contamination of surface water, ground water, and soil, to the maximum extent practicable.

Maui Fire Department (MFD) is normally the lead agency for emergency response to spills on all non-military lands of Maui. In the event of a spill or overflow from a municipal wastewater facility, Maui County is responsible for immediately responding to perform clean up and repairs to the system. If requested, Maui District will assist the MFD and Maui County with spill response for spills within HDOT Highways rights-of-way.

3.2.6 Developing and Conducting Public Education and Outreach

Maui District will develop a Public Education and Outreach Strategy, described in Section 1.2.2, which will include an Illicit Discharge Program component.

3.2.7 Developing and Conducting Training

Training is an important element of the Illicit Discharge Program because it ensures that personnel responsible for conducting inspections or managing the program's system are knowledgeable in the process of detecting, eliminating, and preventing illicit discharges or illegal connections. Section 1.2.2.4 Training under Public Education and Outreach discusses the overall training program for the Maui District SWMP.

3.3 Measurable Goals

Table 3-1 describes the goals and activities to meet each goal, including annual targets, for the Illicit Discharge Program.

Table 3-1: Illicit Discharge Program Measurable Goals

Goal	Activities and Targets		
	Year 1	Year 2	Year 3
Establish mechanisms to prohibit illicit discharges/illegal connections.	Evaluate and identify current ordinances, policies, and/or procedures related to prohibition of illicit discharges/illegal connections.	Propose changes in ordinance, policy, and/or procedural language to stakeholders.	Draft changes in ordinances, policies, and/or procedures for stakeholders' coordination.
Design and develop database to detect and eliminate illicit discharges/illegal connections	Conduct preliminary design/development of Maui District MS4 Database.	Conduct final design/development of Maui District MS4 Database.	Use Maui District MS4 Database to schedule and track illicit discharge investigations.
Use public complaints to detect and identify possible illicit discharges/illegal connections	Compile list of public complaints of possible illicit discharges/illegal connections.	Prioritize list of sites generated by public complaints of possible illicit discharges/illegal connections and conduct initial field investigations of highest-priority sites.	Investigate all other suspect sites generated by public complaints.
Use desktop assessment to detect and identify possible illicit discharges/illegal connections	Identify data needed for desktop assessment of IDP.	Conduct desktop assessment of IDP and develop prioritized list of parcels suspected of illicit discharges/illegal connections.	Begin field investigations of suspect sites generated by desktop assessment, starting with highest-priority sites.
Use outfall screening to detect and identify possible illicit discharges/illegal connections	Develop list of MS4 Outfalls and supporting data needed for field screening.	Conduct initial field screening of MS4 Outfalls.	Continue follow-up field screening of MS4 Outfalls.
Conduct field investigations to detect and identify possible illicit discharges/illegal connections	Initiate development of training program for staff who will conduct field investigations of sites suspected of illicit discharges/illegal connections.	Train staff and begin field investigations of highest-priority sites suspected of illicit discharges/illegal connections.	Continue to conduct field investigations of other sites suspected of illicit discharges/illegal connections.
Conduct follow-up investigations to eliminate known illicit discharges/illegal connections	None	Pursue follow-up actions for highest-priority sites with confirmed illicit discharges/illegal connections.	Continue follow-up actions for other sites with confirmed illicit discharges/illegal connections.

Goal	Activities and Targets		
	Year 1	Year 2	Year 3
Promote pollution prevention practices through public education and outreach programs designed to prevent/minimize illicit discharges.	Initiate development of pollution prevention plan to prevent/minimize illicit discharges.	Continue development of pollution prevention plan to prevent/minimize illicit discharges.	Conduct public education and outreach programs to promote pollution prevention practices.

4.0 CONSTRUCTION SITE RUNOFF CONTROL

4.1 Overview

4.1.1 Purpose

The objective of the Construction Site Runoff Control Program (Construction Program) is to minimize the potential for polluted storm water runoff from construction sites to enter into the MS4 and ultimately discharge into State receiving waters.

4.1.2 Permit Requirement

Part 6.(4) of Appendix K of the State's General Permit (HAR 11-55) requires an operator of a regulated small MS4 to:

Develop, implement, and enforce a program to reduce pollutants in storm water runoff entering the permittee's small municipal separate storm sewer 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) *Establishment of 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 best management practices,*
- (C) *Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause 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.*

4.2 Construction Site Runoff Control Program Activities

4.2.1 Types of Construction Projects

The Construction Program covers three primary types of construction projects: contract, in-house, and encroachment projects.

Contract projects are construction projects that use outside contractors through a competitive bid process. The plans, specifications and estimates (PS&E) of contract projects are prepared by either HDOT personnel or engineering consultants. The construction of contract projects is managed by Maui District. Contract projects can vary in complexity and size from simple resurfacing to construction of new freeways.

In-house construction projects are those projects that are designed by Maui District and constructed by the Maui District Maintenance Section. These projects are typically small and maintenance-related. Some in-house projects are constructed by outside contractors and are overseen by Maui District.

Encroachment construction projects are non-HDOT construction activities (activities conducted by others) that include work within the HDOT rights-of-way and/or require permits or approvals from HDOT. Examples of HDOT permits include the *Permit to Perform Work Upon State Highways* (Appendix D.1), as well as connection and discharge permits described in Section 3.

4.2.2 Enforcement Authority

In accordance with applicable permits and any project specific requirements (Hawaii Standard Specifications for Road and Bridge Construction, Project Special Provisions and Hawaii Revised Statutes), HDOT has the authority to enforce compliance with NPDES permit requirements on construction projects. Mechanisms and appropriate actions include:

- Hawaii Standard Specifications Section 108.10 (Appendix D.2), which provides for the suspension of work due to the failure on the part of the contractor to comply with provisions of the contract;
- Hawaii Standard Specifications Section 108.11 (Appendix D.2), which provides for termination of contract for cause;
- Hawaii Standard Specifications Section 109.10 (Appendix D.2), which provides for withholding of payment for unsatisfactory progress;
- Project Special Provision Section 209 (Appendix D.2), which defines construction requirements relating to Temporary Water Pollution, Dust and Erosion Control including:
 - adherence to standards set forth in the HDOT “Construction Best Management Field Manual” (Appendix D.3);
 - the assessment of deductions in monthly progress payments;
 - the assessment of liquidated damages;
 - temporary suspension of work; and
 - reimbursement to the State for full amount of the cost for all citations or fines.

Hawaii Revised Statutes, Chapter 342D provides HDOH the authority to implement and enforce the conditions of the NPDES Permits for construction projects holding NGPC or NPDES Individual Permits.

4.2.3 NPDES Policies and Site-Specific BMP Requirements

As required by the Clean Water Act, any individual, agency, business or organization, including HDOT, is required to obtain NPDES coverage for construction activities that disturb one (1) acre or more of land area, or result in the discharge of dewatering or hydrotesting effluent into State waters. HDOH administers the NPDES Program for the State, and requires submittal to HDOH of a Notice of Intent (NOI) to obtain a Notice of General Permit Coverage (NGPC), or an

individual permit application which includes a site-specific BMP plan that complies with State and federal standards.

Under the Construction Program, no applicable contract, in-house, or encroachment project will be allowed to proceed to construction unless the project sponsor or representative (e.g., a Maui District project manager or contractor hired by Maui District) provides proof that the project has received from HDOH an NGPC, or other applicable NPDES Permit (e.g., Individual NPDES Permit, NGPC authorizing discharges associated with dewatering or hydrotesting, etc.). For contract and in-house projects Notice-To-Proceed will not be issued until all necessary permits are obtained and a Site-Specific BMP Plan is accepted by Maui District. For encroachment projects, a *Permit to Perform Work Upon State Highways* will not be issued until all necessary permits are obtained and a Site-Specific BMP Plan is accepted by Maui District.

The following procedures will be used to verify that applicable projects have NPDES coverage:

- For contract and in-house projects, HDOT project managers will be instructed to use a *Site-Specific Best Management Practices (BMP) Plan Review Checklist* (Appendix D.4) during PS&E development (or the environmental review process) to verify whether or not their projects require NPDES coverage, regardless of whether the design is done by HDOT personnel or by engineering consultants.
- For encroachment projects, the applicant must provide proof that a NOI or NPDES permit application was submitted and approved by HDOH before the application can be processed. For example, the *Permit to Perform Work Upon State Highways* requires that the applicant disclose NPDES applicability. The connection and discharge permit applications also have similar provisions.

4.2.4 Site-Specific BMP Plan Review and Approval Process

Under the Construction Program the review and approval process of Site-Specific BMP Plans for projects that require NPDES coverage will be conducted in the following manner:

- For contract and in-house projects, HDOT project managers direct staff, engineering consultants, or contractors to prepare the site-specific BMP plan. The *Site-Specific Best Management Practices (BMP) Plan Review Checklist* will be used as a guideline in the development of the Site-Specific BMP plan. The Site-Specific BMP Plan will be reviewed and accepted by Maui District.
- For encroachment projects, as required by the *Permit to Perform Work Upon State Highways* the applicant is required provide a Site-Specific BMP Plan if the project requires NPDES coverage. Applicants are encouraged to refer to the *Site-Specific Best Management Practices (BMP) Plan Review Checklist* during the development of the Site-Specific BMP Plan to ensure that the plan will meet all NPDES permit requirements. The Site-Specific BMP plan will be reviewed and accepted by Maui District prior to the issuance of a *Permit to Perform Work Upon State Highways*.

The *Site-Specific Best Management Practices (BMP) Plan Review Checklist* will be used as a guide in developing and reviewing Site-Specific BMP Plans. In general, the size, scope and type of project are important considerations that factor into the level of detail required for developing a Site-Specific BMP Plan. Common elements of a Site-Specific BMP Plan include:

- Identifying potential pollutants that could affect the quality of storm water, dewatering effluent, or hydrotesting discharges from the construction site;
- BMPs that will need to be implemented during construction, including their precise locations, to control the quality of storm water runoff from construction activities, or discharges from hydrotesting or dewatering activities;
- Construction notes addressing erosion control and storm water pollution prevention requirements, which become part of the construction contract documents; and
- Copy of *Water Pollution and Erosion Control Notes* (Appendix D.5).

The review of Site-Specific BMP Plans involves determining whether the construction BMPs identified in the plan are appropriate and reasonable for the specific project. The review will verify that the Site-Specific BMP Plan fully meets the requirements of:

- The Checklist as described above;
- The following HDOT publications:
 - *Water Pollution and Erosion Control Notes*;
 - *Hawaii 2005 Standard Specifications for Road and Bridge Construction (2005)* including Subsection 107.13 and Section 209; and
 - *National Pollutant Discharge Elimination System Requirements (NPDES) for Permit Projects Within State Highway Right-of-Way Notes* (Appendix D.6); and
 - *Construction Best Management Practices Field Manual* (Appendix D.3);
- Stipulations contained in General Construction Activities Storm Water NPDES Permit, or any other applicable requirements of the Hawaii NPDES permit program where applicable.

4.2.5 Methods of Discovery

Non-compliance with requirements may be identified through the following sources:

- Observations made by Maui District personnel conducting routine activities within a project site;
- Project and permit required inspection/monitoring activities;
- Contractor compliance activities such as conducting, preparing and submitting inspection reports or preparing, implementing and updating site-specific BMP Plans;
- Regulatory agency inspections or audits; or
- Public complaints received by Maui District.

Reports of potential non-compliances associated with construction activities from external sources such as the general public or regulatory agencies will be received by Maui District and referred to the Maui District Construction Section for appropriate action.

Non-compliances will be documented by the Maui District Construction Section along with any corrective actions necessary to achieve compliance in a timely manner in accordance with applicable permit requirements. When necessary, enforcement actions will be initiated by the Maui District Construction Section (see Section 4.2.7). Follow-up notification to reporting parties may be documented by Maui District when deemed appropriate.

4.2.6 Inspection

This section describes the procedures for inspections of contract and in-house project sites to verify and document whether the construction BMPs have been installed properly. Two types of inspections will be conducted under the Construction Program:

- Initial inspections will be conducted on projects that require NPDES coverage, to verify that the construction BMPs identified in the Site-Specific BMP Plan are properly installed and in the correct locations prior to the commencement of ground-disturbing activity; and
- Periodic inspections to monitor the construction BMPs of all construction projects, regardless of whether they require NPDES coverage, to ensure that their construction BMPs are working properly throughout the life of the construction period.

A list of active construction projects and database of inspection data will be developed and maintained by the Maui District Construction Section.

4.2.6.1 Initial Inspections

For contract and in-house projects that require NPDES coverage, a qualified engineer or inspector (the Inspector) will inspect the construction BMPs to verify that they were installed in accordance with the approved Site-Specific BMP plan prior to approving the initiation of ground-disturbing activities that the BMPs are designed to address. The initial inspections will be conducted by Maui District Construction Section staff. The following general procedures for conducting the initial inspections at construction sites are provided below:

- The individual responsible for the construction activity shall provide Maui District advance notice as to when the installation of the construction BMPs is anticipated to be completed.
- Prior to the inspection, the Inspector shall review and become familiar with the project's Site-Specific BMP Plan. Depending on the size of the project, more than one inspector may be used.
- Prior to the initiation of any ground disturbing activities, the Inspector shall inspect the site(s) to determine whether the construction BMPs identified in the Site-Specific BMP Plan have been properly installed in the correct locations.
- The Inspector shall then document or record whether or not the construction BMPs as specified in the Site-Specific BMP Plan were properly installed using a standardized inspection form (Appendix D.7).
- If the Inspector finds that the BMPs are properly installed in accordance with the Site-Specific BMP Plan, ground-disturbing activities can proceed.

- If the Inspector finds that the BMPs are not properly installed in accordance with the Site-Specific BMP Plan, ground-disturbing activities will not be allowed to start, and the Inspector will re-schedule another inspection to allow the individual responsible for the construction activity to fix the problem.

If the Site-Specific BMP Plan specifies that construction BMPs are to be installed in phases, the start of each phase will be treated as an initial inspection.

4.2.6.2 *Periodic Inspections*

NPDES permitted projects with NGPC's (coverage under the HAR 11-55, Appendix C) and non-NPDES permitted projects will be subject to periodic weekly inspections of BMPs and rainfall event inspections when rainfall in excess of 0.25 inches is observed on-site within a 24-hour period. Individual NPDES permitted projects will be subject to weekly inspections, rainfall inspections and other inspections as specified in the project-specific Individual NPDES permit. HDOT requires that construction projects, regardless of whether they require NPDES coverage, include construction BMPs.

For HDOT construction projects within the Maui District MS4, weekly inspections will be performed by Maui District Construction Section inspectors. The inspectors will use an inspection checklist, which is provided in Appendix D.8. Inspections will be recorded into a central database to allow for periodic reporting of findings. Inspectors will immediately inform the contractor or project contact person if any illicit discharge, deficiency, or violations of the NGPC or other NPDES permit is found so that the problem can be corrected or addressed in accordance with time frames stipulated in the permit conditions.

In the event evidence of discharge is discovered during periodic inspections an investigation of the nature of the discharge and its impacts will be performed. A discharge report will be produced to document the findings of the investigation including any corrective actions that have been taken to address any issues with site-specific BMPs or project activities. Discharge reports will be filed in a central database to allow for periodic reporting.

For projects covered under individual NPDES permit coverage, periodic inspections will be performed in accordance with the individual NPDES permit conditions which may also include periodic inspection of receiving waters for indications of discharge.

4.2.7 Enforcement

For HDOT construction projects, Maui District will develop and implement an enforcement response plan using applicable legal mechanisms (see Section 4.2.2) to address and correct non-compliances and deter future non-compliance. Enforcement methodology will include the use of verbal notification or written notice and may involve the assessment of liquidated damages, withholding of payment, partial or total suspension of work or referrals to HDOH. As part of the enforcement response plan, timetables for addressing non-compliances and potential liquidated damages to be assessed for HDOT construction projects will be developed.

4.3 Measurable Goals

Table 4-1 describes the goals and activities to meet each goal, including annual targets, for the Construction Site Runoff Control Program.

Table 4-1: Construction Site Runoff Control Program Measurable Goals

Goal	Activities and Targets		
	Year 1	Year 2	Year 3
Establish mechanisms to require erosion and sediment controls on all projects.	Evaluate and identify current ordinances, policies and procedures related to erosion and sediment control requirements.	Propose changes in ordinance, policy and/or procedure language to stakeholders.	Draft changes in ordinances, policies and/or procedures for stakeholder coordination.
Develop requirements for implementation of erosion and sediment controls on all projects.	Evaluate current requirements for implementation of erosion and sediment controls.	Develop and propose changes in requirements.	Initiate implementation of changes in requirements.
Develop enforcement procedures and actions relating to non-compliance with established erosion and sediment control requirements.	Evaluate current methods of authority and enforcement.	Develop enforcement response strategy based upon identification of forms of non-compliance, enforcement actions, applicable timeframes for corrective actions and allowable penalties.	Draft and initiate implementation of enforcement response plan.
Develop a database to track BMP inspections, corrective actions and compliance with implemented policies related to erosion and sediment controls.	Evaluate current practices and identify data requirements for the development of a database system for construction BMP activities.	Initiate development of a centralized BMP inspection and tracking database.	By the end of Year 3 all active Maui District construction projects will utilize a central BMP inspection and reporting database.

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5.0 POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

5.1 Overview

5.1.1 Purpose

The Post-Construction Storm Water Management in New Development and Redevelopment Program (Post-Construction SWM Program) incorporates the installation of appropriate permanent BMPs for certain new development and redevelopment projects that Maui District undertakes as well as certain types of encroachment projects. Permanent BMPs are designed to be installed and remain in place to provide for long-term storm water quality or quantity control.

The Post-Construction SWM Program applies to 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.

5.1.2 Permit Requirement

Part 6.(a)(5) of Appendix K of the State of Hawaii's NPDES General Permit (HAR 11-55) requires an operator of a regulated small MS4 to:

Develop, implement, and enforce a program to reduce pollutants in storm water 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:

- (A) *Establishment of rules, ordinances, or other regulatory mechanisms, including enforcement procedures and actions, to 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 pre-development runoff conditions; and*
- (C) *Procedures of long-term operation and maintenance of BMPs.*

5.2 Program Activities

5.2.1 Regulatory Mechanisms and Enforcement

Maui District will follow HDOT's Post-Construction SWM Program (Post-Construction SWMP) and HDOT's *Storm Water Permanent Best Management Practices Manual* (current version, February 2007; revisions to be released in March 2015) (Permanent BMP Manual) (Appendix E.1) for the Post-Construction SWM Program. As a Statewide program, HDOT's Post-Construction SWMP and the Permanent BMP Manual are intended to be comprehensive and in compliance with the requirements of HAR 11-55, Appendix K. Maui District will work with HWY-DE, who oversees updates to the statewide policy and Permanent BMP Manual to identify

and evaluate whether further revisions are needed for consistency with HAR 11-55, Appendix K and Maui District's MS4 Permit.

The Draft Permanent BMP Manual contains a Storm Water Control Design Checklist Tool to facilitate Maui District project/design managers (or design consultants) and encroachment project applicants in considering permanent BMPs as part of their projects. The Design Checklist Tool will be completed by project/design managers and encroachment project applicants for Maui District projects and encroachment projects, regardless of whether the project requires permanent BMPs. With support from HWY-DE and HWY-DH on Oahu, the Maui District Maintenance Section will review the proposed BMPs for all projects.

Maui District also administers a permitting program for any individual, business (commercial or industrial), or agency that wishes to establish a permanent physical connection or to discharge construction-related storm water to the Maui District MS4 (see Section 3.2.1.1). The application (Appendix C.2) asks about permanent BMPs and requires documentation for future maintenance. If permanent BMPs are not included, applicants must submit documentation demonstrating that they are not practical to qualify for an exemption or variance. With support from HDOT HWY-DE and HWY-DH on Oahu, the Maui District Maintenance Section reviews the proposed BMPs in the application for the connection permit.

5.2.2 Structural and Non-Structural Permanent BMPs

HDOT's Permanent BMP Manual provides guidance for selecting permanent BMPs. Selection of the appropriate BMPs for a particular project should be site specific and applicable to site conditions with the goals of minimizing water quality impacts. No single BMP would be able to achieve pollutant reduction for every given situation. Each BMP described in the Manual has its advantages and disadvantages. Therefore, the designer or project/design manager should consider the benefits, costs, pollutant removal efficiency, aesthetical acceptability, and other pertinent factors when selecting BMPs for individual projects. Copies of the Permanent BMP Manual and any updated versions will be provided to Maui District staff involved in new development or redevelopment projects, such as project managers, design engineers, construction engineers, and plan reviewers. The Permanent BMP Manual will also be available on-line on the public website www.StormWaterHawaii.com which will also make it available to private consultants and contractors. Completion of the Design Checklist Tool from the Permanent BMP Manual for all design and encroachment projects regardless of whether the project requires permanent BMPs ensures that all projects consider permanent BMPs.

The training element of the Post-Construction SWM Program will be described in more detail in the Public Outreach and Training Strategy (see Section 1.2.2).

5.2.3 Long-Term Operations and Maintenance

Inspections, maintenance and record keeping will be conducted as described in the Permanent BMP Manual. Maintenance of permanent BMPs will depend on their types and sizes. Depending on the BMP constructed, regular inspections, monitoring, repairs, and/or retrofits may be required. All permanent BMPs installed as part of a new development or redevelopment by either Maui District or another entity will be maintained by Maui District Maintenance personnel, unless the permanent BMP is not in the Maui District rights-of-way. Those permanent BMPs outside

the rights-of-way that have connection to the Maui District MS4 will be inspected and maintained by the licensee of the connection permit.

For each permanent BMP, a database will include information about its type and location, as well as its inspection and maintenance requirements. The Permanent BMP Manual does not prescribe a checklist for inspecting the permanent BMPs due to the varied nature of the BMP. Maui District will evaluate whether an inspection checklist is appropriate for development and coordinate with HWY-DE.

Training on the maintenance of permanent BMPs will be for contractors who perform design work for HDOT and Maui District personnel with project design and construction storm water responsibilities, including design engineers, construction engineers, maintenance engineers, inspectors, and plan review staff.

5.3 Measurable Goals

Table 5-1 describes the goals and activities to meet each goal, including annual targets, for the Post-Construction SWM Program.

Table 5-1: Post-Construction SWM Program Measurable Goals

Goal	Activities and Targets		
	Year 1	Year 2	Year 3
Connection permit applications for all encroachment projects.	Initiate development of a training program for anyone who should be filing connection permit applications.	Continue to develop training program.	Conduct training sessions.
Establish mechanisms to require permanent BMPs for post-construction runoff from new development and redevelopment projects.	Evaluate and identify current ordinances, policies and procedures related to post-construction runoff.	Propose changes in ordinance, policy and/or procedure language to stakeholders.	Draft changes in ordinances, policies and/or procedures for stakeholder coordination.
Use of Permanent BMP Manual and the Design Checklist Tool	Evaluate the Draft Permanent BMP Manual and the Design Checklist Tool to identify any inconsistencies with the Maui District MS4 Permit.	Continue to evaluate the Draft Permanent BMP Manual/ Design Checklist Tool and develop training program to cover Permanent BMP Manual	Conduct training sessions.
Checklist to facilitate inspection of permanent BMPs.	Collect and evaluate checklists from other entities.	Develop a checklist, if useful for Maui District.	Inspect permanent BMPs in highway rights-of-way.
Inventory and database of permanent BMPs in highway rights-of-way.	Evaluate system to inventory permanent BMPs in highway rights-of-way.	Conduct inventory of existing permanent BMPs in highway-rights-of-way.	Database permanent BMPs in highway rights-of-way.

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6.0 POLLUTION PREVENTION/GOOD HOUSEKEEPING

6.1 Overview

6.1.1 Purpose

The objective of the Pollution Prevention/Good Housekeeping Program is to minimize the potential for operation and maintenance related activities to generate polluted storm water runoff which may enter into the MS4 and ultimately discharge into State receiving waters. This can be accomplished by establishing good housekeeping control measures including development of standardized maintenance activity and maintenance activity best management practices. The Pollution Prevention/Good Housekeeping Program will include training of stakeholders on good housekeeping practices to ensure proper implementation of best management practices.

6.1.2 Permit Requirement

Part 6.(a)(6) of Appendix K of the State's General Permit (HAR 11-55) requires an operator of a regulated small MS4 to:

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.*

6.2 Pollution Prevention/Good Housekeeping Program Activities

6.2.1 Roadway Maintenance – Street Sweeping

Public use of Maui District roadways causes the accumulation of litter, debris, sediment and other matter within the rights-of-way, which may enter the Maui District MS4 during storm events. Polluting material typically found on roadways includes litter from motorists and pedestrians, material from illegal dumping, runoff from construction activities within and adjacent to the roadway, debris from vehicles, degraded pavement materials, vegetative debris and accumulated sediment. One strategy to minimize the potential accumulation of material in the MS4 is timely removal of debris from streets via street sweeping using industry-standard sweeping vehicles.

Periodic street sweeping within the Maui District MS4 is conducted by Maui District Maintenance Section personnel. During years 1 and 2, current street sweeping practices within the MS4 will be evaluated. Ride-along inspections will be scheduled whereby a Maui District Maintenance inspector will accompany maintenance personnel during street sweeping operations to collect information including the limits of swept area (roadway name, begin and end milepost), the amount of debris collected, and the categorization of the type of debris collected. This information will be collected in year 2 to assist in the establishment of a baseline for the development of a street sweeping program. Analysis of baseline data including consideration of

accumulation rate and potential impacts to the quality of State waters will assist Maui District in the prioritization of roadway sweeping activities and serve as a basis for establishment of street sweeping frequency for each roadway in the future.

As part of the Pollution Prevention/Good Housekeeping Program a database will be developed to track the progress of the street sweeping operations. Upon completion of baseline evaluations in year 2 and the establishment of a database for street sweeping activities, the development of a street sweeping plan will be initiated for roadways within the MS4.

6.2.2 Roadway Maintenance – Chemical Application

The objective of the Pollution Prevention/Good Housekeeping Program is to minimize pollutant loading in storm water from all maintenance related activities including the application of fertilizers and herbicides within HDOT rights-of-way. Maui District Maintenance personnel and HDOT landscape contractors must follow the procedures and BMPs described in this section. Construction and maintenance of landscaped areas within HDOT rights-of-way may require the application of chemicals in addition to physical care to control weedy plants. Control of weedy plants is often accomplished by the use of herbicides.

BMPs that address the management of weed and pest control consist of:

- Ensuring that Maui District Maintenance personnel and contractors properly use fertilizers and herbicides when maintaining HDOT rights-of-way through proper training and educational activities; and
- Executing integrated pest management measures that rely on non-chemical solutions and/or use of native vegetation.

Maui District Maintenance personnel and licensed contractors use only brand-name herbicides such as Roundup®, a systemic contact weed killer. These herbicides may be applied to large areas by Maui District Maintenance personnel, contractors and landscape crews using a spray truck and/or 2-1/2-gallon hand sprayers. Personnel applying herbicides are required to wear protective clothing and accessories and follow all manufacturers' application guidelines.

Maui District will evaluate current chemical application practices for opportunities to improve the chemical application program through the development of training for personnel. The training will consist of instructing landscape maintenance personnel that handle or have responsibility for using fertilizers and herbicides about good housekeeping procedures, such as cleaning and maintaining equipment; properly storing and disposing of chemicals; and general procedures for applying herbicides.

Training for herbicide management will include the proper handling and application procedures to prevent contamination of storm water runoff. Also, the training for this BMP will include instruction on the adjustment irrigation systems to suit site conditions and the avoiding of conveyance of chemically contaminated runoff to down-slope areas where it can enter the MS4 or directly into receiving waters.

A training strategy will be developed to train personnel, including supervisors, employed by HDOT staff or service contractors (e.g., landscaping construction and maintenance contractors) involved in the use, storage, management, and application of herbicides. No person will be

allowed to apply herbicides within HDOT rights-of-way or its other properties unless the applicator has first received this training.

6.2.3 Drainage System Maintenance – Storm Drain Cleaning

Drainage infrastructure of the Maui District MS4 includes inlets, catch basins. During years 1 and 2, inlets within the MS4 will be inspected by Maui District to determine the amount of debris and sediment that is accumulated within the drainage systems of the MS4. Information collected during these inspections will include the degree of accumulation of debris, the type of debris, potential sources and an evaluation of potential impacts. Baseline data collected during years 1 and 2 will be evaluated to develop a storm drain cleaning strategy which shall include consideration of accumulation rate and potential impacts to the quality of State waters. Areas where a high degree of accumulation is observed during baseline analysis will be flagged for evaluation for potential issues within the contributing drainage area with regards to erosion or other factors contributing to the high degree of accumulation of debris or materials/pollutants observed.

Similar to the street sweeping program, a database will be developed to track the progress of the storm drain cleaning operations. Continual analysis of storm drain cleaning data will assist Maui District in the development of a storm drain cleaning program including the prioritization of storm drain cleaning activities and serve as a basis for adjustment of drain cleaning frequency for each roadway in the future.

6.2.4 Maintenance Facility Operations – Kahului Baseyard

Maintenance and baseyard facilities have the potential to pollute storm water runoff passing through these properties because these are the locations where HDOT park many of its vehicles and equipment; conduct washing, fueling and maintenance of these vehicles and equipment; and store materials and chemicals used to maintain its highway network. The goal of the Pollution Prevention/Good Housekeeping Program is to operate Maui District's Kahului Baseyard in a manner that would prevent impacts to the quality of receiving water bodies to the maximum extent practicable. Strategies that will be used to achieve this include:

- Implementation of the Kahului Baseyard Storm Water Pollution Control Plan (SWPCP), prepared in June 2009 (Appendix F.2);
- Establishing contact persons and holding regular inspections; and
- Supporting a training program for Maui District personnel who operate and maintain the baseyard on procedures for pollution prevention and good housekeeping.

A description of the activities associated with the Kahului Baseyard, a listing of potential pollutants, and appropriate BMP measures including material storage procedures, spill prevention and response, and hazardous waste management procedures are outlined in the SWPCP.

6.3 Measurable Goals

Table 6-1 describes the goals and activities to meet each goal, including annual targets, for the Pollution Prevention/Good Housekeeping Program.

Table 6-1: Pollution Prevention/Good Housekeeping Program Measurable Goals

Goal	Activities and Targets		
	Year 1	Year 2	Year 3
Establish a program to prevent and reduce storm water pollution through maintenance activities.	Initiate evaluation of current storm drain system and roadway maintenance practices.	Inspect all storm drains within the MS4 and monitor street sweeping activities. Initiate development of storm drain cleaning and street sweeping programs.	Develop and initiate implementation of storm drain inspection and street sweeping programs.
Establish a program to prevent and reduce storm water pollution from baseyard activities.	Initiate evaluation of current Kahului Baseyard activities against established SWPCP procedures.	Identify and develop changes in procedures to improve upon the Kahului Baseyard SWPCP.	Implement procedures for Kahului SWPCP improvements identified in year 2.
Develop a training program supporting pollution prevention and good housekeeping measures.	Initiate evaluation current practices to identify training requirements for maintenance activities.	Develop maintenance program training strategy consisting of training topics, target audiences and training frequency requirements.	Initiate implementation of maintenance training program.

7.0 BASIC WATER QUALITY CRITERIA AND INSPECTIONS

7.1 Overview

7.1.1 Purpose

The purpose of inspecting receiving state waters, effluent, and control measures and best management practices is to protect water quality. Outfalls and discharge locations are shown in Attachments A.2 and A.3 of the NPDES NOI (Appendix A.1). A visual inspection program for these locations will be developed to look for evidence of turbidity, color, floating oil and grease, floating debris and scum, materials that will settle, substances that will produce taste in the water or detectable off-flavor in fish, and inspect for items that may be toxic or harmful to human or other life.

7.1.2 Permit Requirement

Part 7 of Appendix K of the State of Hawaii's NPDES General Permit (HAR 11-55) requires that the:

- A. *The permittee shall not cause or contribute to a violation of the basic water quality criteria as specified in Section 11-54-4.*
- B. *The permittee shall timely inspect the receiving state waters, effluent, and control measures and best management practices to detect violations of and conditions which may cause violations of the basic water quality criteria as specified in Section 11-54-4 (e.g. the permittee shall look at effluent and receiving state waters for turbidity, color, floating oil and grease, floating debris and scum, materials that will settle, substances that will produce taste in the water or detectable off-flavor in fish, and inspect for items that may be toxic or harmful to human or other life.*

7.2 Program Activities

In order to avoid causing or contributing to a violation of the basic water quality criteria as specified in Section 11-54-4, Maui District will inspect the receiving state waters, effluent, and control measures and best management practices at the outfalls and discharge locations as shown on Attachments A.2 and A.3 of the NOI (Appendix A.1). An inspection team for Maui District will look for turbidity, color, floating oil and grease, floating debris and scum, materials that will settle, substances that will produce taste in the water or detectable off-flavor in fish, and inspect for items that may be toxic or harmful to human or other life. The inspection team will note weather, previous rainfall, and other conditions affecting discharge.

A data collection form and a database will be developed to store inspection information. Inspections will occur biannually starting during Year 2 to include both wet and dry season conditions. The information collected about each outfall and discharge point will be stored in a database and will be coordinated with the Illicit Discharge Program as described in Section 3.2.2.

7.3 Measurable Goals

Table 7-1 describes the goals and activities to meet each goal, including annual targets, for the basic water quality.

Table 7-1: Basic Water Quality Measurable Goals

Goal	Activities and Targets		
	Year 1	Year 2	Year 3
Outfall and Discharge Point inspections.	Draft an inspection form and a database to store inspection data.	Continue to develop an inspection form and a database to store inspection data and begin biannual inspection of outfall and discharge points.	Continue to Inspect Discharge Points and Outfalls.

