State of Hawaii Department of Transportation, Highways Division, Oahu District

Storm Water Management Program Plan

PROTECT OUR WATER

MĀLAMA I KA WAI

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

www.stormwaterhawaii.com

Hawaii State Department of Transportation
Highways Division, Oahu District
Storm Water Management Program
NPDES Permit No. HI S000001
April 2015

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State of Hawaii Department of Transportation
Highways Division, Oahu District

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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

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ACRONYMS AND ABBREVIATIONS

AMS	Asset Management System
BAT	Best Available Technology
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practice
CCH	City and County of Honolulu
CFR	Code of Federal Regulations
CON	State of Hawaii Department of Transportation, Highways Division, Contracts Office
CPMS	Construction Project Management System
CWA	Clean Water Act
CWB	State of Hawaii Department of Health, Clean Water Branch
DCA	Debris Cleaning Assessment
DFM	City and County of Honolulu's Department of Facility Maintenance
DMR	Discharge Monitoring Report
DMS	Data Management System
DOH	State of Hawaii Department of Health
DOT-HWYS	State of Hawaii Department of Transportation, Highways Division, Oahu District
EC	Emergency Coordinator
EDOP	Effective Date of the MS4 Permit
EMS	Environmental Management System
ENV	City and County of Honolulu's Department of Environmental Services
ERP	Enforcement Response Plan
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act

GIS	Geographic Information System
HAR	Hawaii Administrative Rules
HAZMAT	Hazardous Material
HEER	Hazard Evaluation and Emergency Response
HFD	City and County of Honolulu Fire Department
HHW	Household Hazardous Waste
HPD	City and County of Honolulu Police Department
HRS	Hawaii Revised Statutes
HWY-C	State of Hawaii Department of Transportation, Highways Division, Construction and Maintenance Branch
HWY-D	State of Hawaii Department of Transportation, Highways Division, Design Branch
HWY-DE	State of Hawaii Department of Transportation, Highways Division, Design Branch, Environmental Permitting and Project Compliance Section
HWY-L	State of Hawaii Department of Transportation, Highways Division, Materials Testing and Research Branch
HWY-O	State of Hawaii Department of Transportation, Highways Division, Oahu District (For the purpose of this document, HWY-O specifically refers to staff of DOT-HWYS)
HWY-OM	State of Hawaii Department of Transportation, Highways Division, Oahu District, Maintenance Section
HWY-OR	State of Hawaii Department of Transportation, Highways Division, Oahu District, Rural Construction Section
HWY-OT	State of Hawaii Department of Transportation, Highways Division, Oahu District, Tunnel Operations Section
HWY-OU	State of Hawaii Department of Transportation, Highways Division, Oahu District, Urban Construction Section
HWY-OW	State of Hawaii Department of Transportation, Highways Division, Oahu District, Environmental Management Section

HWY-P	State of Hawaii Department of Transportation, Highways Division, Planning Branch
HWY-R	State of Hawaii Department of Transportation, Highways Division, Right-of-Way Branch
HWY-T	State of Hawaii Department of Transportation, Highways Division, Traffic Branch
IDDE	Illicit Discharge Detection and Elimination
IC	Industrial and Commercial
I&M Plan	Implementation and Monitoring Plan
KPI	Key Performance Indicators
LID	Low Impact Development
MEP	Maximum Extent Practicable
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
MS4 SIS	MS4 Site Investigation Sheet
NGPC	Notice of General Permit Coverage
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
PBMP	Permanent Best Management Practice
PID	Point Identification Number
ROW	Right-of-Way
SIC	Standard Industrial Classification
SSBMP	Site-Specific Best Management Practice
SWMP	Storm Water Management Program
SWMPP	Storm Water Management Program Plan

SWPCP	Storm Water Pollution Control Plan
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TMK	Tax Map Key
TN	Total Nitrogen
TOB	Top of Bank
TP	Total Phosphorous
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
WLA	Waste Load Allocation

DEFINITIONS OF KEY TERMS

Best Management Practice (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 DOT-HWYS for a physical connection into the MS4.

Consent Decree – Consent Decree Civil Action No. CV05-00636-HG- KSC.

Construction Activity – The act or process of developing or improving land which involves the disturbance of land, and includes clearing, grading, and excavation.

Contract Construction Project – A construction activity, which is designed either by DOT-HWYS' personnel or by DOT-HWYS' engineering consultant firms, and is constructed by a private contractor.

Critical Deficiencies – Those deficiencies that pose an immediate threat for the discharge of pollutants to the storm drain system, surface water, or State Waters. Critical deficiencies include, but are not limited to, the following examples:

(1) Any observed discharge, or evidence of discharge, of untreated storm water or non-storm water to the storm drain system, surface waters, or State Waters generated by construction activity.

(2) Absence of linear barriers and/or perimeter controls required by the BMP Plan.

(3) There are identified storm drain inlets, surface waters, or State Waters within or adjacent to the project site in close proximity to disturbed soil areas without control measures in place that pose an immediate threat of untreated storm water discharges.

(4) Work in an active stream channel or other surface water body without proper implementation of required BMPs.

(5) Presence of any spilled oil or hazardous materials near to unprotected storm drain inlet, surface waters, or State Waters.

CWA Section 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.

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

Discharge Permit – A permit issued by DOT-HWYS to discharge storm water runoff into the MS4.

Disturbance of Land – The penetration, turning, or moving of soil or resurfacing of pavement with exposure of the base course or the exposure of bare soil or ground surface; including the land surface exposed by construction roads, baseyards, staging areas, demolition, headquarters, and parking areas. It includes "grubbing" in its normal meaning of the use of equipment to knock down and push vegetation out of the way, typically uprooting vegetation and disturbing the ground surface.

Encroachment Permit – A permit (e.g., Permit to Perform Work Upon State Highways, Permit to Discharge into the State Highways Drainage System, Permit to Connect to the State Highways Drainage System, etc.) issued by DOT-HWYS for activities undertaken by a non-DOT-HWYS entity (i.e., third party) that will occur within or affect DOT-HWYS' right-of-way.

Encroachment Permit Construction Projects – Construction activity that occurs within DOT-HWYS' right-of-way and is not under the authority (funding) of or administered by DOT-HWYS. Encroachment permit construction projects are required to obtain a Permit to Perform Work Upon State Highways prior to construction activities commencing.

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.

Household Hazardous Waste – Leftover household products that contain corrosive, toxic, ignitable, or reactive ingredients.

Illegal Connection – Any connection to the MS4 that is not permitted by a connection permit from DOT-HWYS.

Illicit Discharge – Any discharge that is not composed entirely of storm water, with the exception of 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;
- Exterior building wash water (water only);
- Residual street wash water (water only), including wash water from sidewalks, plazas, and driveways, but excluding parking lots; and
- Discharges or flows from fire fighting activities.

Independent Inspections – Site inspections conducted on contract and encroachment permit construction projects by an independent inspector.

Independent Inspector – A qualified construction inspector that is not involved in a construction projects' day-to-day planning, design, or implementation.

Low Impact Development (LID) – A comprehensive land planning and engineering design approach with a goal of maintaining and enhancing the pre-development hydrologic regime of urban and developing watersheds.

Major Deficiencies – Those deficiencies that are significant problems which could result in the discharge of pollutants to the storm drain system, surface waters, or State Waters. Major deficiencies include, but are not limited to, the following examples:

(1) No BMP Plan or NPDES permit (if required).

(2) Linear barriers and/or perimeter controls in areas tributary to a water body or drain inlet are installed as required by the BMP Plan, but are not functional. This includes silt fences that are not anchored properly, have collapsed, been driven over or overwhelmed by accumulated sediment.

(3) Hazardous materials or waste is stored within the project without containment or implementation of BMPs.

(4) Oil, fuel, or brake or transmission fluid spills covering more than one square yard and/or adjacent to protected storm drain inlets, surface waters, or State Waters.

(5) Any discharge of sediment or other deleterious material resulting from dewatering operations conducted without implementation of required BMPs for dewatering.

(6) Sediment tracking more than 50 feet from project ingress/egress location(s).

(7) Expansion of the active disturbed soil area limit without written approval.

(8) Soil stabilization and sediment controls are not installed in accordance with applicable construction site BMP Plan.

(9) Sediment controls are installed in accordance with the BMP Plan, but there is a large unstabilized disturbed soil area with insufficient controls down gradient to prevent the discharge of untreated storm water to the storm drain system, surface waters, or State Waters if a rain event generates runoff.

(10) Dust from project site visibly blowing off the site and into storm drain conveyances or adjacent surface water bodies.

Minor Deficiencies – Those deficiencies that do not pose a threat for discharge of untreated storm water or pollutants to the storm drain system, surface waters, or State Waters, but are not in strict conformance with the SWPPP or BMP Plan. Minor deficiencies include, but are not limited to, the following examples:

(1) BMP Plan does not reflect current operations and an amendment is recommended.

(2) BMPs are not deficient, but are not consistent with the BMP Plan.

(3) Linear barriers and/or perimeter controls are installed as required by the BMP Plan, but require minor maintenance. For example, a silt fence which is not anchored properly throughout the entire length of an inlet protection device with some accumulated silt.

(4) Soil stabilization or sediment controls are installed as required by the BMP Plan, but not properly maintained.

(5) Site inspections by project staff are not being conducted at the required frequencies.

(6) Non-storm water or waste management BMPs improperly maintained.

(7) Oil, fuel, or brake or transmission fluid spills covering less than one square yard and not adjacent to storm drain inlets, surface waters, or State Waters.

(8) Evidence of active wind erosion on unstabilized slopes/stock piles.

(9) Minor tracking less than 50 feet from project ingress/egress locations.

(10) Major deficiencies which are corrected prior to the inspector leaving the site.

MS4 Permit – National Pollutant Discharge Elimination System Permit No. HI S000001

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 CFR122.26(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.

Notice of Intent (NOI) – Form completed and signed by a construction site operator or an industrial facility operator notifying the DOH 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 – Outfall is a point source where the MS4 discharges to State Waters and does not include open conveyances connecting two MS4s, pipes, tunnels, or other conveyances which connect segments of the same stream or State Waters and are used to convey State Waters [40 CFR 122.26(b)(9)].

Permanent Best Management Practice (PBMP) – A specific practice intended to reduce storm water volume and/or the pollution typically associated with storm water runoff. Such practices may include LID design features, source control methods, or manufactured devices designed to capture pollutants.

Pollutants – Refer to the waste material that contaminates air, soil, or water. In the context of storm water quality, pollutants often refer to the following:

- Nutrients - phosphorous and nitrogen;
- Suspended solids - sediment suspended in the water;
- Organic carbon and hydrocarbons;
- Bacteria;
- Trace metals;
- Pesticides; and
- Trash and debris.

Program Element – Individual programs that comprise DOT-HWYS' overall Storm Water Management Program (i.e., Public Education and Outreach Program, Construction Runoff Control Program, etc.)

Redevelopment Project – A project that consists of reconstruction of or new construction on an existing impervious area exceeding 5,000 square feet.

Routine Maintenance Projects – Scheduled or cyclical projects performed to preserve the life of a system; to restore the original function or delay the deterioration of an existing asset without substantially increasing its structural capacity; or to maintain the original line and grade, hydraulic capacity or original purpose of a facility, system or asset, in which land disturbance does not go beyond the original footprint of the previous structure.

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.

Service Contractor – The contractor or contractors procured by DOT-HWYS in order to provide various services.

Sheet Flow – Flow that occurs overland in places without defined channels. The flood water spreads out over a large area at a uniform depth. Also referred to as overland flow.

Site – Any location in the State of Hawaii that DOT-HWYS owns, leases, or operates, and at which there is or will be construction resulting in ground-disturbing activities greater than or equal to one acre or that is otherwise subject to the NPDES storm water construction regulations set forth at 40 CFR § 122.26(b)(14)(x) or 40 CFR § 122.26(b)(15).

Source Control BMP – Appropriate operational or structural measures that prevent or reduce pollutants from entering storm water. Examples of operational source control BMPs include good housekeeping practices, spill prevention, and employee training. Structural source control BMPs consist of enclosures or roofs for working areas where pollutants are present or installing devices that direct contaminated storm water to appropriate treatment BMPs.

State Waters – As defined by section 342D-1, HRS, means 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; provided that drainage ditches, ponds, and reservoirs required as part of a water pollution control system are excluded. In accordance with HAR 11-54-1, this definition applies to all State Waters, including wetlands, subject to the following exceptions: (1) This chapter [HAR 11-54-1] does not apply to groundwater, except the director may in the director's discretion take appropriate actions when the director believes that the discharge of pollutants to the ground or groundwater has adversely affected, is adversely affecting, or will adversely affect the quality of any State Water other than groundwater. (2) This chapter does not apply to drainage ditches, flumes, ponds and reservoirs that are required as part of a water pollution control system. (3) This chapter does not apply to drainage ditches, flumes, ponds, and reservoirs that are used solely for irrigation and do not overflow into or otherwise adversely affect the quality of any other State Waters, unless such ditches, flumes, ponds, and reservoirs are waters of the United States as defined in 40 C.F.R. section 122.2. The State of Hawaii has those boundaries stated in the Hawaii Constitution, art. XV § l.

Storm Water – Water that accumulates on land as a result of storms and can include runoff from urban areas such as roads and highways.

Storm Water Runoff – Precipitation which flows over the ground.

Swale – An elongated depression in the land surface that is at least seasonally wet, usually heavily vegetated, and normally without flowing water. Swales discharge storm water into primary drainage channels and may provide some groundwater recharge.

Top of Bank (TOB) – The break in slope between the bank and surrounding terrain. TOB is the point closest to the boundary of the active floodplain of a stream where a break in the slope of the land occurs.

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 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 (WLA) – 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 – 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.

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EXECUTIVE SUMMARY

ES.1 Overview of Storm Water Management Program Plan

The State of Hawaii Department of Transportation, Highways Division, Oahu District (DOT-HWYS) owns and manages a municipal separate storm sewer system (MS4) that conveys storm water runoff from DOT-HWYS' right-of-way (ROW) to State Waters. DOT-HWYS administers a Storm Water Management Program (SWMP) to comply with state and federal storm water regulations, including the Clean Water Act (CWA), and to reduce the discharge of pollutants from the MS4 to receiving water bodies to the maximum extent practicable (MEP). The State of Hawaii Department of Health (DOH) issued DOT-HWYS the National Pollutant Discharge Elimination System (NPDES) Permit No. HI S000001 (MS4 Permit), authorizing DOT-HWYS to discharge storm water runoff and certain non-storm water discharges from the MS4, and storm water runoff from DOT-HWYS' five municipal industrial facilities, into State Waters in and around the Island of Oahu, Hawaii. The MS4 Permit became effective on October 28, 2013, and will expire at midnight, September 26, 2018. On January 30, 2006, the United States Environmental Protection Agency (USEPA) and DOH issued the Consent Decree Civil Action No. CV05-00636-HG- KSC (Consent Decree) to DOT-HWYS, which stipulates storm water requirements with which DOT-HWYS must comply. Until termination of the Consent Decree, DOT-HWYS will implement the SWMP in compliance with the requirements of the Consent Decree in addition to those set forth in the MS4 Permit.

This Storm Water Management Program Plan (SWMPP) describes the program elements and associated best management practices (BMPs) administered by the SWMP in order to comply with applicable storm water requirements and reduce the discharge of pollutants from the MS4 to State Waters to the MEP. The SWMP is composed of the following program elements:

ES.2 Public Education and Outreach Program
ES.3 Illicit Discharge Detection and Elimination Program
ES.4 Construction Site Runoff Control Program
ES.5 Post-Construction Storm Water Management in New Development and Redevelopment Program
ES.6 Pollution Prevention/Good Housekeeping – Debris Control BMPs Program
ES.7 Pollution Prevention/Good Housekeeping – Chemical Applications BMPs Program
ES.8 Pollution Prevention/Good Housekeeping – Erosion Control BMPs Program
ES.9 Pollution Prevention/Good Housekeeping – Maintenance Activities BMPs Program
ES.10 Industrial and Commercial Activities Discharge Management Program
ES.11 Municipal Industrial Facilities Program
ES.12 Monitoring Program
ES.13 Total Maximum Daily Load Program
ES.14 Reporting Program

The SWMPP chapters are organized by program element. Each chapter addresses the requirements, program activities implemented to comply with those requirements, personnel, and measurable goals related to the program element being discussed. Brief summaries of each program element are provided in the following sections.

ES.2 Public Education and Outreach Program

The Public Education and Outreach Program (Public Education Program) addresses the need to inform the general public about ways in which their daily activities may affect the quality of storm water runoff and receiving waters. The purpose of the Public Education Program is to motivate the community to control pollutants at the source by increasing public awareness of storm water pollution issues. DOT-HWYS' strategy for educating target groups about the impacts of pollutants in storm water runoff is outlined in the Public Education Plan. The Public Education Program's primary responsibilities are to implement the Public Education Plan and encourage public participation in DOT-HWYS' storm water management efforts. The Public Education Program is discussed in Chapter 2.

ES.3 Illicit Discharge Detection and Elimination Program

The Illicit Discharge Detection and Elimination Program (IDDE Program) is responsible for detecting and eliminating illegal connections and illicit discharges to the MS4. The IDDE Program fulfills this function by permitting and tracking permits for private drain connections; responding to public complaints of potential illicit discharges; screening outfalls for evidence of improper discharges; implementing spill prevention and response BMPs; and tracking information about illegal connections, illicit discharges, and spills to the MS4. The IDDE Program is discussed in Chapter 3.

ES.4 Construction Site Runoff Control Program

The purpose of the Construction Site Runoff Control Program (Construction Program) is to reduce to the MEP the discharge of pollutants from private and public construction projects implemented within or otherwise encroaching on DOT-HWYS' right-of-way. There are two types of construction projects – contract construction projects and encroachment permit construction projects – both of which are required to comply with applicable DOT-HWYS' policies and standards. The Construction Program requires proposed construction projects to implement BMPs and standards in accordance with DOT-HWYS' policies, maintains an inventory of construction projects, reviews project plans and permits, conducts site inspections, implements enforcement actions, as necessary, and provides Construction BMP Training. The Construction Site Runoff Control Program is discussed in Chapter 4.

ES.5 Post-Construction Storm Water Management in New Development and Redevelopment Program

The purpose of the Post-Construction Storm Water Management in New Development and Redevelopment Program (Post-Construction Program) is to address storm water runoff from all

new development and redevelopment projects that result in a land disturbance of one acre or more and smaller projects that have the potential to discharge pollutants to the MS4. The Post-Construction Program institutes procedures to incorporate the installation of appropriate permanent BMPs (PBMPs) for non-exempt contract and encroachment permit construction projects. PBMPs are designed to be installed and remain in place as part of a project to provide for long-term storm water quality or quantity control. The Post-Construction Program is discussed in Chapter 5.

ES.6 Pollution Prevention/Good Housekeeping – Debris Control BMPs Program

The Debris Control BMPs Program (Debris Control Program) implements BMPs to reduce the amount of pollutants entering and discharging from the MS4. The Debris Control Program encompasses several sub-programs, including a Street Sweeping Program, a Storm Drain System Inspection and Cleaning Program, and a Trash Reduction Program. The Debris Control Program utilizes the asset management system (AMS) to maintain an inventory of MS4 structures and PBMPs, track debris removal activities, and evaluate inspection and cleaning priorities. The Debris Control Program also administers the installation and maintenance of educational storm drain placards and projects to retrofit structural BMPs. The Debris Control Program is discussed in Chapter 6.

ES.7 Pollution Prevention/Good Housekeeping – Chemical Applications BMPs Program

The Chemical Applications BMPs Program (Chemical Applications Program) is responsible for implementing BMPs, including a training program, to reduce the contribution of pollutants to the MS4 associated with the application, storage, and disposal of chemicals (i.e., pesticides, herbicides, and fertilizers). The Chemical Applications Program conducts an annual Chemical Applications Training, which is supplemented by several chemical applications BMPs guidance documents. The Chemical Applications Program is discussed in Chapter 7.

ES.8 Pollution Prevention/Good Housekeeping – Erosion Control BMPs Program

The purpose of the Erosion Control BMPs Program (Erosion Control Program) is to prioritize permanent erosion control improvements at erosional areas with the potential for significant water quality impacts, in addition to erosional areas that pose public safety concerns. The Erosion Control Program addresses erosional areas by implementing permanent erosion control projects, installing temporary erosion control BMPs, and addressing erosion at DOT-HWYS' storm drain outlets. The Erosion Control Program also developed the *Maintenance Plan for Vegetated Portions of the MS4*, to prevent the excessive removal of vegetation and over-application of herbicides in vegetated portions of the drainage system. The Erosion Control Program is discussed in Chapter 8.

ES.9 Pollution Prevention/Good Housekeeping – Maintenance Activities BMPs Program

The Maintenance Activities BMPs Program (Maintenance Activities Program) establishes pollution prevention strategies to be implemented by DOT-HWYS' personnel and service contractors during maintenance activities. Maintenance activities include, but are not limited to, debris and trash removal, curb and gutter replacement, repaving without disturbing the base course, tunnel washing, and landscape maintenance. The Maintenance Activities Program provides annual Maintenance Baseyard Storm Water Training for DOT-HWYS' personnel who have responsibilities associated with maintenance activities. The Maintenance Activities Program is discussed in Chapter 9.

ES.10 Industrial and Commercial Activities Discharge Management Program

The Industrial and Commercial Activities Discharge Management Program (IC Program) is designed to reduce, to the MEP, the discharge of pollutants from industrial and commercial facilities and activities that initially discharge into the MS4. IC Program staff issue and track connection and discharge permits, maintain industrial and commercial facility inventories, conduct facility inspections, and pursue enforcement actions, as necessary. The IC Program is discussed in Chapter 10.

ES.11 Municipal Industrial Facilities Program

The Municipal Industrial Facilities Program addresses pollutants in storm water runoff associated with DOT-HWYS' municipal industrial facilities (i.e., baseyards) and related maintenance activities. The Municipal Industrial Facilities Program is responsible for inspecting baseyards, developing and implementing Storm Water Pollution Control Plans (SWPCPs), and providing BMP training to baseyard personnel. DOT-HWYS owns and operates five industrial baseyards, as follows: Keehi, Kakoi, Pearl City, Waianae, and Windward Baseyards. The Municipal Industrial Facilities Program provides the framework for the proper management of these baseyards, which are covered by the MS4 Permit and required to comply with Hawaii Administrative Rules, Chapter 11-55, Appendix B. The Municipal Industrial Facilities Program is discussed in Chapter 11.

ES.12 Monitoring Program

The purpose of the Monitoring Program is to measure the effectiveness of the SWMP and assess water quality issues in watersheds resulting from storm water discharges to receiving waters. The Monitoring Program is responsible for submitting an Annual Monitoring Plan to DOH by June 1st of each year and implementing it over the coming fiscal year. The Monitoring Program also submits an Annual Monitoring Report by October 31st of each year that covers the past fiscal year. The Monitoring Program is discussed in Chapter 12.

ES.13 Total Maximum Daily Load Program

Prior to the effective date of the MS4 Permit, DOH completed and the USEPA approved total maximum daily loads (TMDLs) for the Ala Wai Canal, Kawa Stream, Waimanalo Stream, Kapaa Stream, and Kaneohe Stream. The purpose of the Total Maximum Daily Load Program (TMDL Program) is to comply with the Schedule of Compliance found in Part F.3.c of the MS4 Permit, submit Implementation and Monitoring Plans (I&M Plans), and implement BMPs to comply with waste load allocation (WLA) reductions for the aforementioned water bodies. TMDL compliance is assessed on a watershed scale and exhibited through quantitative analyses of the required load reductions for total nitrogen (TN), total phosphorous (TP), and total suspended solids (TSS). The TMDL Program relies collaboratively on the effective implementation of BMPs by various SWMP program elements (e.g., Debris Control Program, Erosion Control Program, etc.) to attain and demonstrate compliance with WLA reductions for TMDL water bodies. The TMDL Program is discussed in Chapter 13.

ES.14 Reporting Program

The Reporting Program is responsible for submitting Annual Reports to DOH by October 31st of each year. Annual Reports are the primary mechanism through which DOT-HWYS documents SWMP activities and demonstrates compliance with the MS4 Permit and Consent Decree. Annual Reports provide a detailed description of the storm water management activities conducted by each program element during the reporting period, as well as an evaluation of the effectiveness of such activities, the resources allocated to implement the SWMP, and an explanation of anticipated future activities. The Reporting Program is discussed in Chapter 14.

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Chapter 1
Overview of Storm Water Management Program Plan

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CHAPTER 1
OVERVIEW OF STORM WATER MANAGEMENT PROGRAM PLAN

The State of Hawaii Department of Transportation, Highways Division, Oahu District (DOT-HWYS) owns and operates a municipal separate storm sewer system (MS4) on the Island of Oahu, Hawaii. The State of Hawaii Department of Health (DOH) issued DOT-HWYS the National Pollutant Discharge Elimination System (NPDES) Permit No. HI S000001 (MS4 Permit) (Appendix A.1), authorizing DOT-HWYS to discharge storm water runoff and certain non-storm water discharges from the MS4 and from DOT-HWYS' five municipal industrial facilities (i.e., baseyards), into State Waters. The MS4 Permit became effective on October 28, 2013, and will expire at midnight, September 26, 2018. The MS4 Permit legally requires the DOT-HWYS Storm Water Management Program (SWMP) to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), and to reduce the discharge of pollutants from DOT-HWYS' baseyards to the appropriate discharge limitations subject to the Best Available Technology (BAT)/Best Conventional Pollutant Control Technology (BCT) discharge requirement, consistent with the Clean Water Act (CWA) and other respective federal and state requirements for such facilities.

At the time of the preparation of this Storm Water Management Program Plan (SWMPP), Parts A.6, D.1.g.(1), F.2, F.3.c.(3), F.3.c.(4), and H of the MS4 Permit are pending a settlement agreement between DOT-HWYS and DOH. Where referenced throughout this SWMPP, the aforementioned Parts reflect the proposed settlement language.

On January 30, 2006, the United States Environmental Protection Agency (USEPA) and DOH issued the Consent Decree Civil Action No. CV05-00636-HG- KSC (Consent Decree) (Appendix A.2) to DOT-HWYS, which stipulates storm water requirements with which DOT-HWYS must comply. Until termination of the Consent Decree, DOT-HWYS will implement the SWMP in compliance with the requirements of the Consent Decree in addition to those set forth in the MS4 Permit.

Following an introduction of the organizational structure of DOT-HWYS SWMP, this chapter provides information on the topics listed below:

1. Purpose and structure of the SWMPP;
2. Applicable storm water regulations and DOT-HWYS' legal authority; and
3. Overview of the asset management system (AMS).

1.0 Program Organization

The SWMP is administered by DOT-HWYS Environmental Management Section (HWY-OW), with the support of a master consultant. This SWMPP includes a unique organizational chart for each program element to account for the large number of DOT-HWYS' branches, sections, units, subunits, and personnel involved in the implementation of the SWMP, and to clearly define the roles and responsibilities of each. Additionally, DOT-HWYS utilizes private consultants,

engineering firms, and service contractors to ensure the SWMP is implemented effectively and efficiently. DOT-HWYS oversees that the activities conducted by such entities are done so in accordance with the MS4 Permit and any other applicable federal and state storm water regulations.

1.1 Purpose and Structure of SWMPP

The purpose of this SWMPP is to describe the procedures, program activities, and best management practices (BMPs) DOT-HWYS will implement during the effective term of the MS4 Permit in order to reduce, to the MEP, the discharge of pollutants to and from the MS4, protect water quality, comply with the MS4 Permit and Consent Decree, and satisfy the appropriate water quality requirements of the CWA.

The SWMPP chapters are organized by program element, as follows:

Chapter 1: Overview of SWMPP

Chapter 2: Public Education and Outreach Program

Chapter 3: Illicit Discharge Detection and Elimination Program

Chapter 4: Construction Site Runoff Control Program

Chapter 5: Post-Construction Storm Water Management in New Development and Redevelopment Program

Chapter 6: Pollution Prevention/Good Housekeeping – Debris Control BMPs Program

Chapter 7: Pollution Prevention/Good Housekeeping – Chemical Applications BMPs Program

Chapter 8: Pollution Prevention/Good Housekeeping – Erosion Control BMPs Program

Chapter 9: Pollution Prevention/Good Housekeeping – Maintenance Activities BMPs Program

Chapter 10: Industrial and Commercial Activities Discharge Management Program

Chapter 11: Municipal Industrial Facilities Program

Chapter 12: Monitoring Program

Chapter 13: Total Maximum Daily Load Program

Chapter 14: Reporting Program

Each chapter begins with a brief introduction, followed by a list of the major BMPs or program activities implemented by the program element being discussed. The numbered list of BMPs corresponds to individual sections within the chapter.

Tables are provided in the beginning of each chapter that outline the MS4 Permit and Consent Decree requirements that pertain to the program element and the section(s) in which each requirement is addressed.

The program element's organizational chart is provided at the beginning of the chapter. Each section within the chapter describes the program activities DOT-HWYS implements to attain

compliance with a specific MS4 Permit and/or Consent Decree requirement(s). To further designate roles and responsibilities, an organizational chart is included at the end of each section, with the personnel responsible for implementation of the BMP(s) discussed in that section highlighted in yellow.

A table is provided in the final section (i.e., Measuring Program Effectiveness) of each chapter that outlines standards and/or milestones for the program element to attain. The purpose of this section is to establish measurable goals for the implementation of specific BMPs and to address DOT-HWYS' plan for monitoring the effectiveness of their implementation.

Cumulatively, the BMPs and storm water management procedures implemented by each program element compose DOT-HWYS' strategy for reducing the discharge of pollutants to and from the MS4 to the MEP.

1.2 Storm Water Regulations and Legal Authority

DOT-HWYS is required to comply with the following state and federal storm water regulations in addition to the requirements established by the MS4 Permit and Consent Decree:

- Clean Water Act, as amended, (33 U.S.C. §1251 et. seq.);
- Title 40 of the Code of Federal Regulations (CFR);
- Hawaii Revised Statutes (HRS), Chapter 342D; and
- Hawaii Administrative Rules (HAR), Department of Health (DOH), State of Hawaii, Chapters 11-54 and 11-55 (HAR, Chapter 11-54 and 11-55).

On July 13, 1999, DOT-HWYS entered into a Memorandum of Understanding (MOU) with DOH (Appendix A.3), for the purpose of assisting DOT-HWYS in controlling illicit discharges into the MS4. Under HRS Chapter 342D, this MOU authorizes DOT-HWYS to prosecute administratively against illicit discharges to the MS4, therefore providing DOT-HWYS with the legal authority necessary to implement and enforce the policies and procedures described in this SWMPP.

On February 1, 2002, DOT-HWYS signed an MOU with the City and County of Honolulu (CCH) Department of Environmental Services (ENV) and Department of Facility Maintenance (DFM) (Appendix A.4). CCH owns and operates a MS4 and has been issued a MS4 NPDES permit by DOH. CCH's MS4 and DOT-HWYS' MS4 are interconnected in certain locations. The objectives of this MOU are to establish effective intergovernmental coordination between DOT-HWYS and CCH, delineate the roles and responsibilities of each agency, minimize duplication of efforts, and ensure accountability.

1.3 Asset Management System

DOT-HWYS implements a comprehensive Geographic Information System (GIS)-based asset management system (AMS) as its primary mechanism to inventory and monitor SWMP

activities. DOT-HWYS' Storm Water AMS utilizes GIS, relational and spatial databases, a web-based map application, and multiple servers. It supports individual modules, each of which relates to a specific program activity. DOT-HWYS uses the AMS to maintain a map and inventory of MS4 drainage structures and permanent BMPs; track inspection dates and debris removal activities; and establish street sweeping and drain cleaning priorities based on material accumulation rates and/or the potential threat of discharge to State Waters that may have an effect on water quality.

To date, the AMS consists of the following modules:

- Street Sweeping Module;
- Construction Projects Module;
- Drain Inspection Module;
- Open Channels Module;
- Outfalls Module;
- Maintenance Facilities Module; and
- Permanent BMPs Module.

The Debris Control BMPs Program uses the Street Sweeping, Drain Inspection, Open Channels, and Outfalls Modules to track inspection dates and debris removal activities. Inspectors input information about the debris removed from street sweeping and drain cleaning activities into the AMS, such as the volume of debris removed, as well as the percentage of sediment, organic matter, trash, and "other" present. These modules allow DOT-HWYS to monitor the quantity and type of debris removed from specific highway routes and MS4 structures. DOT-HWYS annually assesses this data to identify highway segments and associated MS4 structures that may require more frequent sweeping/cleaning. The modules utilized by the Debris Control BMPs Program assist program managers in establishing priority-based schedules.

The Construction Runoff Control Program uses the Construction Projects Module to track inspection dates and results for independent (third-party) inspections of contract and encroachment permit construction projects.

The Municipal Industrial Facilities Program uses the Maintenance Facilities Module to track inspection dates, results, and follow-up activities for DOT-HWYS' baseyard inspections.

The Post-Construction Storm Water Management in New Development and Redevelopment Program uses the Permanent BMPs Module to track the frequency of inspections and maintenance of permanent BMPs.

The AMS is DOT-HWYS' principal management tool for short-term planning and long-term compliance monitoring. The AMS allows program managers to assess compliance with MS4 Permit requirements, measure efficiency, and make modifications as necessary, by facilitating visibility of resources and comprehensive data analysis.

Chapter 2
Public Education and Outreach Program

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CHAPTER 2
PUBLIC EDUCATION AND OUTREACH PROGRAM

Daily activities, such as mowing the lawn, washing our cars, or walking the dog, have the potential to introduce small amounts of pollutants to roads and storm drains. With nearly a million people living on the island of Oahu, small contributions of pollutants from each person can have a significant cumulative impact on urban water quality. Fortunately, this means that a comprehensive public effort to curb polluting behaviors can considerably improve the quality of storm water runoff. Changing public behavior begins with raising awareness about the importance of protecting storm water and the steps we can take to do so. The Public Education and Outreach Program (Public Education Program) is designed to strategically target specific audiences, through various mediums and events, in order to educate the public about caring for our waters. Clean water requires a joint public effort, and the Public Education Program strives not only to provide education, but also to include the public in DOT-HWYS' storm water management efforts.

The Public Education Program consists of the following BMPs:

1. Develop and implement a Public Education and Outreach Plan (Public Education Plan).
2. Solicit public participation and involvement in the development, review, and implementation of the SWMP.

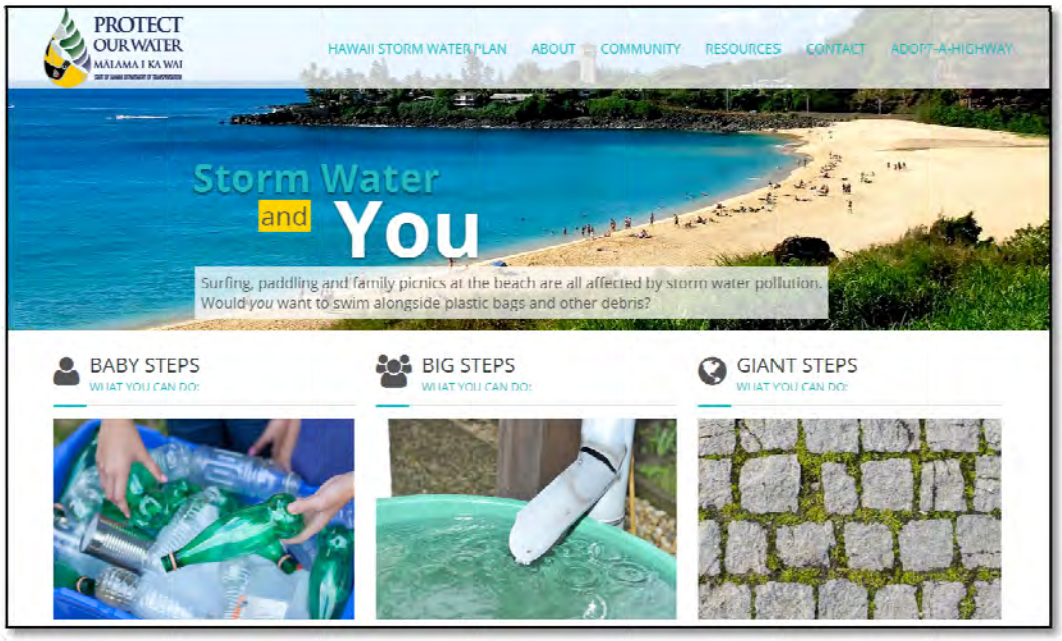
The Public Education Program is administered in accordance with the MS4 Permit requirements outlined in Table 2-1.

Table 2-1. MS4 Permit Requirements for the Public Education Program

MS4 Permit Reference	SWMPP Section
Part D.1.a *The Permittee shall further develop and implement a comprehensive education and involvement program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water as well as enabling the public to identify and report a pollution-causing activity (i.e., spotting an illicit discharge) and the steps that the public can take to reduce pollutants in storm water runoff. The program should create: changes in attitude, knowledge, and awareness; BMP implementation; pollutant load reduction; and changes in discharge and receiving water quality. The SWMP shall include a written public education plan for how the Permittee will reach all targeted audiences and implement the permit requirements described below. The Permittee may fulfill portions of this requirement by cooperating with the City and County of Honolulu's (City) storm water public education program.*	Section 2.1

MS4 Permit Reference	SWMPP Section
Part D.1.a.(1) *Targeted Groups - The Permittee shall address the following targeted groups in the public education plan with appropriate messages, and shall describe outreach activities and anticipated frequencies that each activity will be conducted over the permit term:* • *Locations of illicit discharges* • *Homeowners, School Children, and the General Public* • *DOT-HWYS employees* • *DOT-HWYS consultants* • *Construction industry* • *Industrial facilities covered by the NPDES permit program* • *Commercial businesses such as landscape service and maintenance (e.g., to prevent the use of leaf blowers from blowing material into the drainage structures), automobile detailing, automobile repair and maintenance, retail gasoline outlets, and restaurants, including those types of businesses highly ranked, according to relative risk of discharge of contaminated runoff to the DOT-HWYS MS4. Refer to Part D.1.g.(4).* • *Department of Agriculture* • *Department of Education* • *Department of Hawaiian Home Lands* • *Department of Land and Natural Resources* • *Natural Resources Conservation Service* • *Any other source that the Permittee determines may contribute a significant pollutant load to its MS4*	Section 2.1
Part D.1.a.(2) *General Public - The Permittee shall include in the public education plan the following activities, with anticipated frequencies that each activity will be conducted over the permit term:* • *Public Service Announcements (PSAs)* • *Adopt-A-Highway Program* • *School programs* • *Distribution of brochures* • *Participation in special events (e.g., Clean-A-Reef) and exhibits* • *Web site* • *Pesticides, herbicides, and fertilizer use program* • *Water conservation* • *Proper disposal of grass clippings, leaves, and other green waste* • *Proper disposal of household hazardous waste*	Section 2.1
Part D.1.a.(3) *Evaluation Methods - The Permittee shall evaluate the progress of the public education program based on the following:* • *An annual survey of Oahu residents to measure both behavior and knowledge relating to storm water. The surveys can be conducted in person at events, on the phone, or using Web-based survey tools. The results of the survey shall be compared to past surveys.* • *Number of brochures distributed* • *Participation in events* • *Volunteer hours* • *Any other methods that the Permittee determines to be effective* *The results of the evaluation shall be summarized in the Annual Report.*	Section 2.1

MS4 Permit Reference	SWMPP Section
Part D.1.b *The Permittee shall include the public in developing, reviewing, and implementing the SWMP. The draft and final SWMP shall be made available to the public on the DOT-HWYS Website and at local offices. An informational meeting shall be scheduled and announced prior to finalizing the SWMP to solicit comments and answer questions from the public. Other activities to involve the public may include providing volunteer opportunities that improve water quality, organizing a citizen advisory group to solicit ongoing input from the public about changes to the SWMP and specific SWMP-related projects, or organizing clean-up events to educate the public about impacts of storm water.*	Section 2.2
Part A.6 *All "Plans" (e.g., SWMP Plan, Enforcement Response Plan, Trash Reduction Plan, Plan for Requiring LID in its Standards; etc.) shall be available on DOT-HWYS website for a minimum of 30 calendar days for public review and comment. DOT-HWYS shall notify DOH by email at cleanwaterbranch@doh.hawaii.gov of the plan on their website within five (5) calendar days of the plan being available. DOT-HWYS shall address all comments received within the 30 calendar day period and provide both comments and responses to DOH with its submittal of the Plan in accordance with the deadline as specified in Part H. All Plans shall be implemented upon submittal regardless of DOH's review and acceptance. If any deficiencies are found by DOH after submittal, the Permittee shall correct the deficiencies to DOH's satisfaction within 30 calendar days or such other time as agreed to in writing and resubmit the plan. In addition to the Plans being available for public comment, the current/existing plans shall also be available on DOT-HWYS website.*	Section 2.2



The website www.stormwaterhawaii.com connects the public with information, special events, training activities, and education outreach materials.

2.0 Program Organization

To fulfill the requirements of the MS4 Permit and the Consent Decree, the following organizational structure has been established for the Public Education Program.

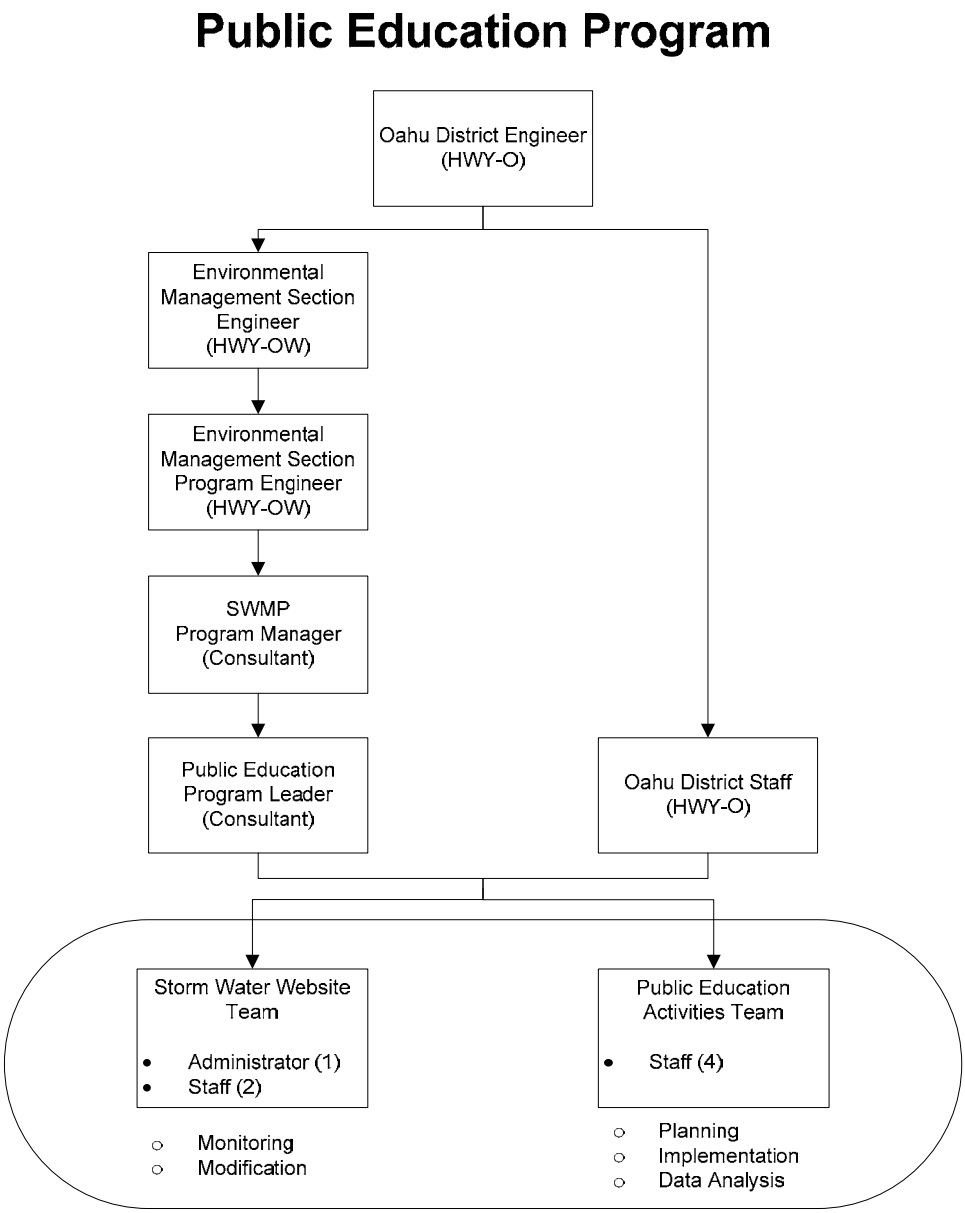


Figure 2-1. Public Education Program Organizational Chart
(Note: The number in parenthesis indicates the number of individuals involved.)

2.1 Public Education Plan

The Public Education Plan (Appendix B.1) outlines DOT-HWYS' strategy for educating target groups about the impacts of storm water. It includes information about the types of activities and media outlets that will be used to disseminate the message, the anticipated frequencies of each activity, and the types of pollutants or pollution causing behaviors the outreach efforts are designed to address. The Public Education Plan also includes standards/milestones and methods for evaluating the effectiveness of the Public Education Program.

The Public Education Plan is structured as follows:

Chapter 1: Introduction – Introduces basic storm water concepts and the purpose of the Public Education Program as it relates to those concepts.

Chapter 2: Goals – Identifies the goals of the Public Education Program for the MS4 Permit term.

Chapter 3: Target Groups – Outlines the desired behavior for each target group specified in Part D.1.a.(1) of the MS4 Permit.

Chapter 4: Public Education and Outreach Implementation – Describes the plan for implementing the Public Education Program and comprises the majority of the document. This chapter details the tools and tactics that will be used to encourage desired behaviors from each target group. It is organized by the various approaches DOT-HWYS anticipates using to educate and involve the public. The approaches include community outreach, public involvement, partnerships, collateral material, school outreach, and media outreach.

Chapter 5: Road Map – Establishes target activities and anticipated frequencies for each year of the MS4 Permit term, in accordance with Part D.1.a.(2) of the MS4 Permit.

Chapter 6: Measurement of Effectiveness – Establishes a strategy for measuring the effectiveness of each anticipated public outreach activity, in accordance with Part D.1.a.(3) of the MS4 Permit. An evaluation matrix (Appendix A of the Public Education Plan), which institutes measurable goals for each program tool or tactic, was developed to assist in the process of measuring program effectiveness.

Refer to the Public Education Plan for detailed information regarding DOT-HWYS' strategy to educate the public about the impacts of storm water and the actions that can be taken to reduce the discharge of pollutants to storm water runoff.

The Public Education Plan is implemented by the Public Education Program Leader, various HWY-O staff, the Storm Water Website Team, and the Public Education Activities Team, as shown in Figure 2-2.

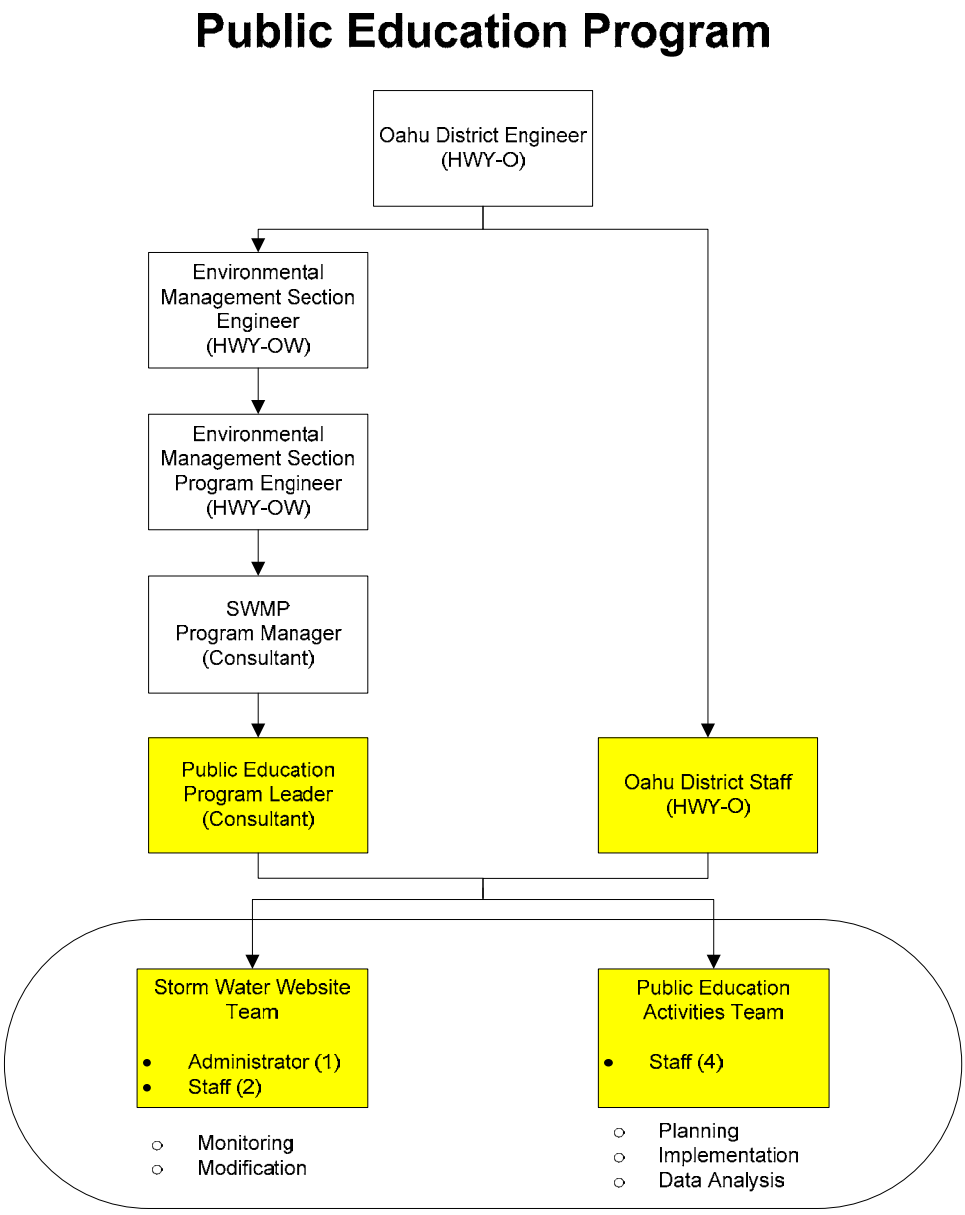


Figure 2-2. Public Education Program Organizational Chart for Roles and Responsibilities Related to the Public Education Plan

2.2 Public Involvement and Participation

DOT-HWYS fosters public involvement in the SWMP by administering public service programs, forming partnerships in the community, and providing the public with the opportunity to review and comment on various plans, including the SWMPP.

The SWMP booth provides an interactive learning experience at public events.

2.2.1 Public Service Programs

DOT-HWYS' primary public service campaign is the Adopt-A-Highway Program, which is a public service program for volunteers to pick up litter along Oahu's state highways. As a result of volunteer commitment, litter is prevented from reaching storm drains and ultimately discharging into the ocean. By including citizens in the comprehensive effort to reduce the amount of pollutants in storm water, the Adopt-A-Highway Program allows members of the community to take direct action as well as raise awareness within their respective communities. More information on the Adopt-A-Highway Program can be found in Section 4.2.1 of the Public Education Plan.

The Adopt-A-Highway Program organizes volunteers to pick up litter along Oahu's state highways. Blue lines are the adopted highways to date, and the red lines are highways available for adoption.

2.2.2 Community Partnerships

Community partnerships are an effective way to broaden the scope of the Public Education Program's audience and reach. DOT-HWYS is committed to continuing its partnerships with local restaurants, government agencies, and non-profit organizations, while seeking to form new partnerships in the community as well.

Refer to Section 4.3 of the Public Education Plan for further information about DOT-HWYS' existing and future community partnerships.

In partnership with Sea Life Park, a colorful display was created within the touch pool area and served to educate the visitors about the importance of allowing only rain water to enter the storm water drains in order to protect the quality of Hawaii's water.

2.2.3 Public Review and Comment

In accordance with Part A.6 of the MS4 Permit, DOT-HWYS provides the public with the opportunity to review and comment on various plans prior to their finalization. The plans are made available on the "Resources" page of DOT-HWYS' website, www.stormwaterhawaii.com, for a minimum of 30 calendar days. During the 30-day period, the public may provide comments through the comment form on the website. DOT-HWYS addresses all comments received within the specified timeframe and provides both comments and responses to DOH with its submittal of final plans.

As required by Part D.1.b of the MS4 Permit, DOT-HWYS provides the public the opportunity to be involved in the development, review, and implementation of the SWMPP. The draft SWMPP was made available to the public for review on www.stormwaterhawaii.com and at DOT-HWYS' Kakoi District Office, for a 30-day public comment period. The public was provided the opportunity to comment via the website comment form, email, and mail.

A community informational meeting was held at Radford High School on March 11, 2015, to solicit comments and answer questions from the public prior to the finalization of the SWMPP. A sign-in sheet of attendees is provided in Appendix B.2.

Efforts by DOT-HWYS to publicize the details of the SWMPP's availability and community informational meeting are as follows:

- Announced a draft SWMPP press release and calendar release to 15 media outlets;
- Advertised by local news outlet, KHON, on their website and social media;
- Purchased and ran a legal advertisement in the *Honolulu Star-Advertiser* on February 26, 2015;
- Notified 1,339 stakeholders via email newsletter;
- Posted a notice on Department of Transportation's website;
- Promoted on DOT-HWYS' social media outlets, Facebook and Twitter;
- Posted informational flyers at DOT-HWYS' Punchbowl Office and Kapolei Office; and
- Posted informational flyers at the Aiea, Kaneohe, Kailua, Kapolei, and Manoa Public Libraries.

The final SWMPP is made available to the public on www.stormwaterhawaii.com and at the Kakoi District Office, as of April 27, 2015.

2.3 Monitoring Program Effectiveness

Table 2-2 provides measurable standards/milestones for the BMPs discussed in this chapter and DOT-HWYS' strategy for monitoring the effectiveness of their implementation.

Table 2-2. Standards/Milestones for the Public Education Program

Section	BMP	Standard/Milestone	Monitoring Effectiveness
2.1	Public Education Plan	• Submit Public Education Plan within 18 months from the effective date of the MS4 Permit (EDOP).	• Milestone completed on 4/27/2015.
2.2	Public Participation and Involvement in SWMP	• Submit SWMPP for public review and schedule an information meeting within 18 months from the EDOP.	• Milestone completed on 4/27/2015.

Measuring the effectiveness of public outreach activities provides a feedback mechanism for the continual improvement of the Public Education Program. Program effectiveness is evaluated based on the following two sets of indicators:

- Process Indicators – Indicators related to execution of the outreach program itself (*e.g.,* number of organizations involved in the Adopt-A-Highway Program).
- Impact Indicators – Indicators related to achievement of goals and objectives of the program (e.g., number of trash bags filled from Adopt-A-Highway events).

As previously mentioned, an evaluation matrix was developed for the purpose of monitoring the effectiveness of the Public Education Program. Goals were set as benchmarks to evaluate each tool and tactic on the basis of its indicator. The evaluation matrix is provided in Appendix A of the Public Education Plan. Further information about DOT-HWYS' strategy for monitoring the effectiveness of the Public Education Program can be found in Section 6.0 of the Public Education Plan.

Chapter 3
Illicit Discharge Detection and Elimination Program

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CHAPTER 3
ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

The primary function of the Illicit Discharge Detection and Elimination Program (IDDE Program) is to detect and eliminate illegal connections and illicit discharges into the MS4. The IDDE Program is administered in conjunction with the Industrial and Commercial Activities Discharge Management Program (IC Program), with which it shares a common purpose, policies, and personnel.

The IDDE Program includes the following BMPs:

1. Require, issue, and track permits for private drain connections.
2. Detect illegal connections and illicit discharges.
3. Implement an Outfall Field Screening Plan to screen for improper discharges.
4. Investigate potential illegal connections and illicit discharges and conduct follow-up actions.
5. Establish and implement enforcement policies for illegal connections and illicit discharges into the MS4.
6. Prevent, respond to, contain, and clean up all wastewater and other spills that may enter into the MS4.
7. Track illegal connections, illicit discharges, spills, and follow-up actions.
8. Facilitate the proper management and disposal or recycling of used oil and toxic material.
9. Train IDDE Program staff to identify and eliminate illegal connections, illicit discharges, and spills into the MS4.

The IDDE Program is administered in accordance with the MS4 Permit and Consent Decree requirements outlined in Table 3-1 and Table 3-2, respectively.

Table 3-1. MS4 Permit Requirements for the IDDE Program

MS4 Permit Reference	SWMPP Section
Part D.1.c The Permittee shall implement the ongoing SWMP to detect and eliminate illicit connections and illegal discharges into its MS4 and shall include an improved program in the revised SWMP Plan. The program shall include:	
Part D.1.c.(1) Connection Permits for private drain connections - Within one (1) year after the effective date of this permit the Permittee shall establish requirements for issuing connection permits and require obtaining the permit prior to allowing the drain connections. A database shall be maintained of all permitted connections to its MS4. Prior to issuing a connection permit, the Permittee shall ensure the following are met: • *the project has provided proof of filing a Notice of Intent (NOI) or NPDES application, if applicable; and* • *control measures comply with its requirements to minimize pollutant discharge into its MS4*	Section 3.1

MS4 Permit Reference	SWMPP Section
Part D.1.c.(2) *Field Screening - The Permittee shall implement its Outfall Field Screening Plan for observing major and minor outfalls to screen for improper discharges. The plan shall designate priority areas for screening, specify the frequency for screening, and identify the procedures to be followed if a discharge is observed. At a minimum, outfalls in priority areas shall be screened once per permit term.*	Section 3.3
Part D.1.c.(3) *Tracking - The Permittee shall maintain a database of illicit connections, illegal discharges, and spills that tracks the type of discharge, responsible party, DOT-HWYS response, and resolution of the discharge to the MS4.*	Section 3.7
Part D.1.c.(4) *Investigate complaints - The Permittee shall promptly investigate observed, suspected, or reported illicit flows and pursue enforcement actions, as appropriate. Complaints made to the CWB, which discharge to the DOT-HWYS MS4 will be forwarded to the Permittee for their action. The Permittee shall:*	Section 3.4
Part D.1.c.(4).(i) *Develop and implement a database to identify illicit discharge activities by Tax Map Key (TMK). The database shall include information about each suspected improper discharge, the Permittee's investigation of that discharge, follow-up activities, and the resolution of each discharge;*	Section 3.7
Part D.1.c.(4).(ii) *Implement a program to facilitate public reporting of illicit discharges (i.e., environmental hotline and/or website for reporting), including providing at least one contact that the public can reach (including phone number and/or email address) be clearly posted on its website; and*	Section 3.2
Part D.1.c.(4).(iii) *Develop a response plan for the investigation of illicit discharges to be consistent with the requirements in this permit.*	Section 3.4
Part D.1.c.(5) *Enforcement – Within one (1) year after the effective date of this permit the Permittee shall:*	Section 3.5
Part D.1.c.(5).(i) *Establish policies for enforcement and penalties when in noncompliance with its requirements as developed in accordance with Part D.1.c.(1), including for persons illegally discharging pollutants to its MS4, and*	Section 3.5
Part D.1.c.(5).(ii) *Pursue enforcement actions against property owners in non-compliance with its requirements, those with illegal drain connections, and persons without direct connections whom illegally discharging pollutants to its MS4.*	Section 3.5
Part D.1.c.(6) *Prevent and Respond to Spills to the DOT-HWYS MS4 - The Permittee shall implement its ongoing SWMP to prevent, respond to, contain, and clean up all wastewater and other spills that may enter into its MS4 from any source (including private laterals and failing cesspools). This program shall be included in the SWMP. Spill response teams, which may consist of local, state, and/or federal agencies, shall prevent entry of spills into the DOT-HWYS MS4 and contamination of surface water, ground water, and soil to the MEP.* *The Permittee shall coordinate spill prevention, containment, and response activities throughout all appropriate departments, programs, and agencies to ensure maximum water quality protection at all times.* *The Permittee shall notify DOH of all wastewater spills or overflows from private laterals and failing septic systems into its MS4. The Permittee shall prevent, respond to, contain, and clean up wastewater from any such notification.*	Section 3.6
Part D.1.c.(7) *Facilitate Disposal of Used Oil and Toxic Materials - The Permittee shall implement its ongoing SWMP to facilitate the proper management and disposal or recycling of used oil, vehicle fluids, toxic materials, and other household hazardous wastes. Such a program shall include educational activities, public information activities, and identification of collection sites or methods.*	Section 3.8

MS4 Permit Reference	SWMPP Section
Part D.1.c.(8) *Training - The Permittee shall provide annual training to staff on identifying and eliminating illicit connections, illegal discharges, and spills to its MS4. This training shall be specific to DOT-HWYS activities, policies, rules, and procedures.*	Section 3.9

Table 3-2. Consent Decree Requirements for the IDDE Program

Consent Decree Reference	SWMPP Section
Pg 26, Section V.10.k.(1) *HDOT shall develop procedures for identifying and responding to possible illicit connections and illegal discharges. These procedures shall include, but not be limited to, specific time deadlines for responding to identified discharges. Such identification and response procedures shall be coordinated with the inspection procedures required under the revised Debris Removal Best Management Practices Program set forth in Paragraph 10.f, above.*	Section 3.4

Industrial vacuum trucks are utilized to clean the storm drains.

3.0 Program Organization

To fulfill the requirements of the MS4 Permit and the Consent Decree, the following organizational structure has been established for the IDDE Program.

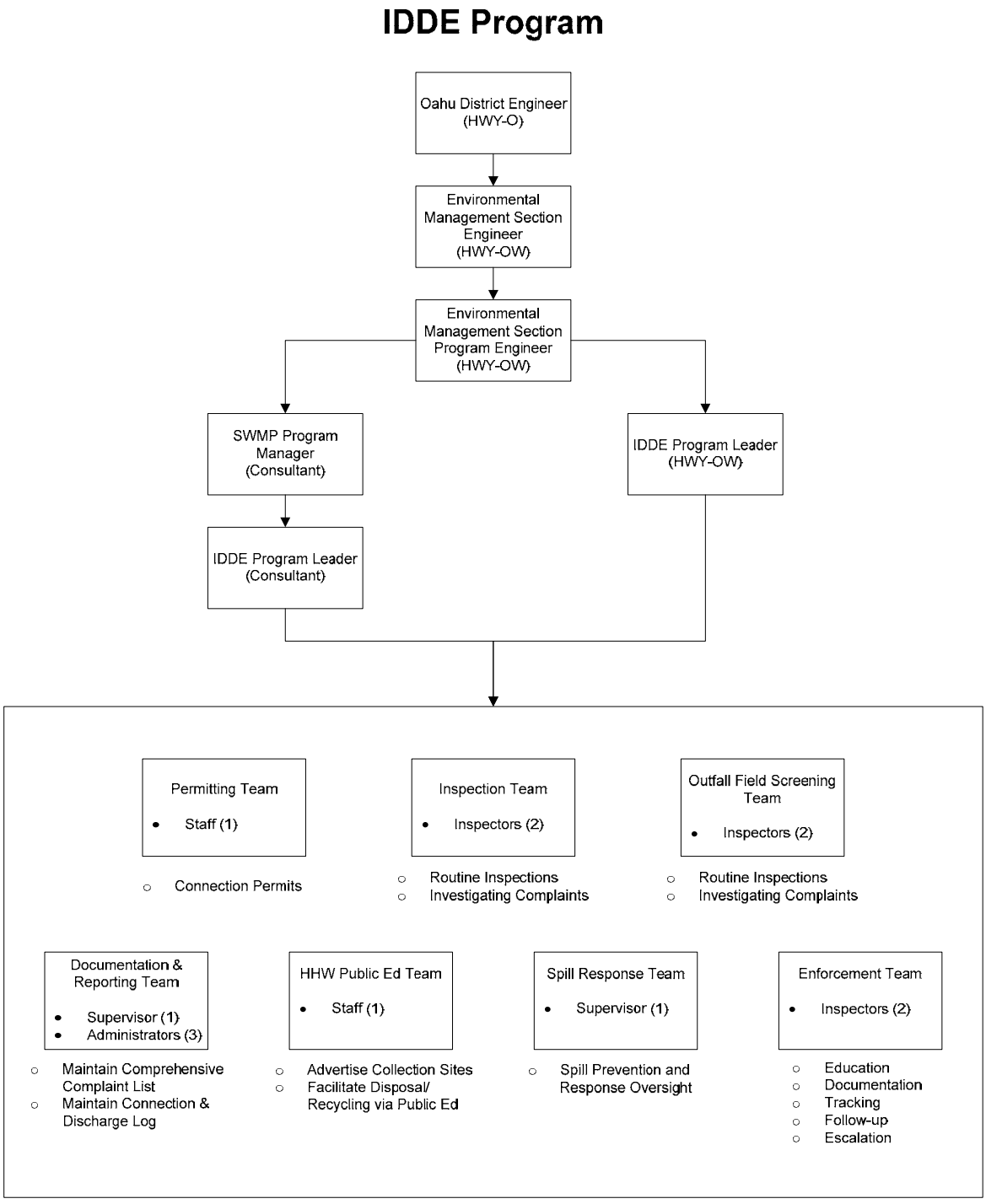


Figure 3-1. IDDE Program Organizational Chart
(Note: The number in parenthesis indicates the number of individuals involved.)

3.1 Connection Permits

DOT-HWYS administers a permitting program for any business (industrial or commercial) that establishes a permanent physical connection to the MS4 (connection permit) and/or discharge its storm water runoff into the MS4 (discharge permit).

3.1.1 Permitting New Connections

A permit must be acquired prior to constructing a physical drain connection to the MS4. A connection permit for the establishment of a new, private drain connection will not be issued until:

- The applicant has provided proof of filing a Notice of Intent (NOI) or an Industrial NPDES Permit application with the DOH, if applicable; and
- The applicant has control measures that comply with DOT-HWYS' requirements to minimize pollutant discharge into the MS4.

A request for a connection permit is made by submitting two separate forms. The first form that must be completed is the *Application for a Private Storm Drain Connection and/or Discharge Permit to the State of Hawaii Highways Division Storm Drain System* (Appendix C.1). For each connection, the applicant is instructed to submit information on the connection location, size, type of discharge and flow rate, as well as a facility drainage report. In addition, the applicant is required to indicate if their facility or activities generate Industrial Storm Water, as defined by 40 CFR Part 122.26(b)(14), and whether or not they have obtained an NGPC under HAR, Chapter 11-55, Appendix B, NPDES General Permit Authorizing the Discharge of Storm Water Associated with Industrial Activities (General Industrial Storm Water Permit aka Industrial NPDES Permit).

A second form, the *Permit for Connection to the State Highways Drainage System* (Appendix C.2), must be filled out and submitted to DOT-HWYS, stating that the applicant agrees to the terms and conditions of the connection permit.

In order to complete the application process, the forms must be filled out and mailed to:

State of Hawaii
Department of Transportation
Highways Division, Oahu District
727 Kakoi Street
Honolulu, Hawaii 96819-2017
Attn: Environmental Management Section Program Engineer

3.1.2 Permitting Existing Connections

Existing connections to the MS4 are considered illegal if they have not been licensed by DOT-HWYS. When an illegal connection is identified, the IDDE inspectors determine if the connection is from an allowable source. If the connection is not from an allowable source or is conveying an illicit discharge, the case is treated as an illicit discharge. If the connection is from an allowable source and there is no illicit discharge, the appropriate corrective action is to file an application for a connection permit. Written documentation, which includes an inspection report, the connection permit forms described in Section 3.1.1, and a violation notification, is mailed to the property owner or facility representative within 30 calendar days of the inspection date. The property owner or facility representative has 30 days from the date marked on the violation notification to mail the completed connection permit forms to DOT-HWYS. The illegal connection is considered resolved upon DOT-HWYS' approval of the completed connection permit forms. If the property owner does not submit the completed connection permit forms within the allotted 30-day timeframe, IDDE Program staff may pursue enforcement actions in accordance with the escalating enforcement policy described in Section 10.8.

DOT-HWYS has an existing Memorandum of Understanding with the CCH (Appendix A.4) that establishes that interconnections between the DOT-HWYS MS4 and the CCH MS4 are not considered private drain connections, and therefore do not require private drain connection permits. DOT-HWYS extends this determination to other facilities which require an NPDES MS4 Permit. Therefore, the requirement to apply for and obtain a connection permit does not apply to those facilities which require an NPDES MS4 Permit.

Inspectors document an existing connection to the MS4.

The Inspection Team, Permitting Team, and Documentation & Reporting Team are responsible for the identification, issuance, and tracking of connection permits, as shown in Figure 3-2.

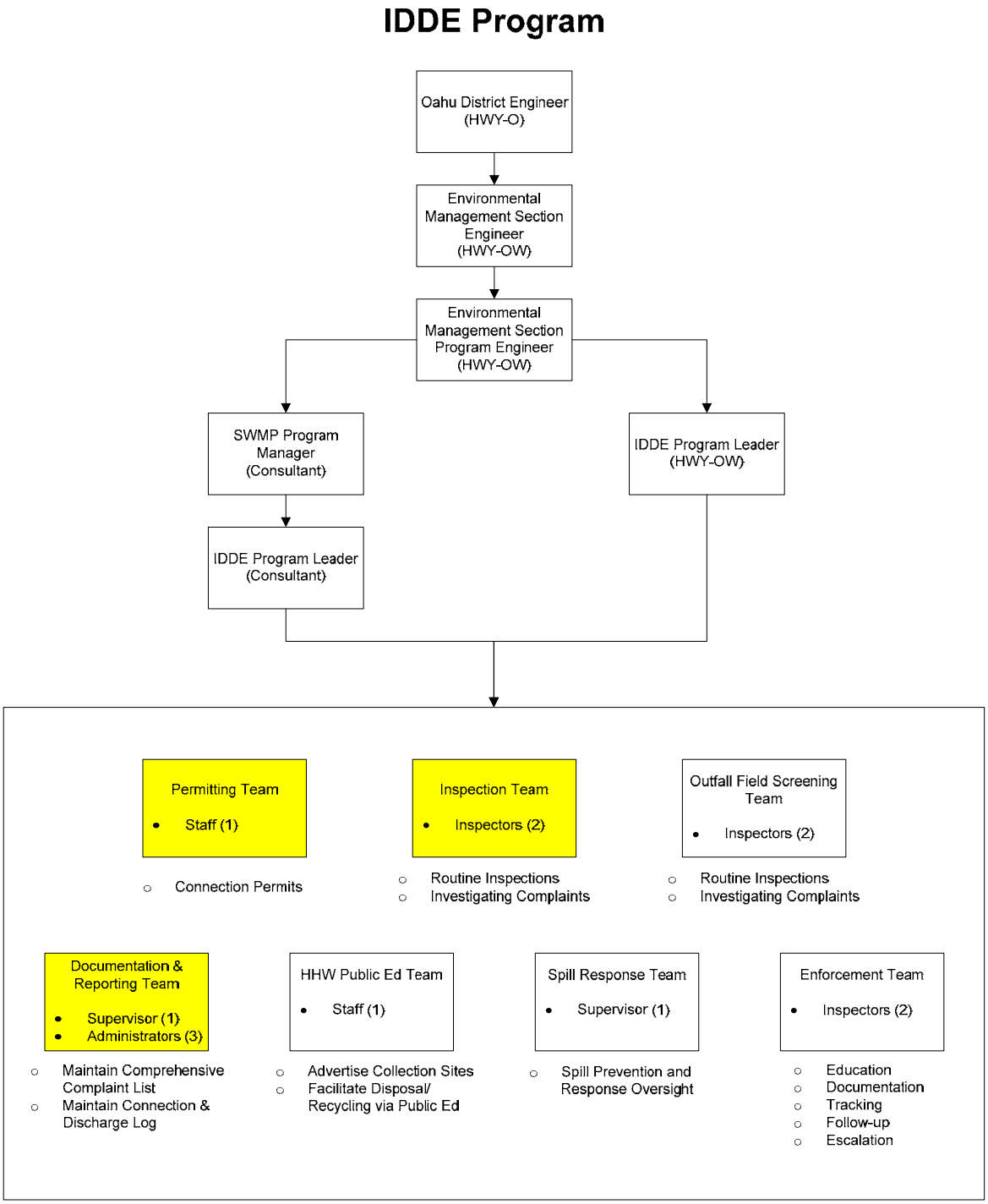


Figure 3-2. IDDE Program Organizational Chart for Roles and Responsibilities Related to Issuing Connection Permits

3.2 Detecting Illegal Connections and Illicit Discharges

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

- Scheduled inspections of industrial and commercial facilities and activities conducted by the IC Program;
- Water quality monitoring;
- Storm drain inspections and cleaning;
- Outfall field screening;
- Public complaints; and
- Complaints received from the DOH or the CCH.

The IC Program's inspection procedures and frequencies are addressed in Chapter 10.

Water quality monitoring is performed by the Monitoring Program (Chapter 12), and storm drain inspections and cleaning are conducted under the Debris Control Program (Chapter 6).

Outfall field screening will be discussed in Section 3.3.

Public complaints about suspected illicit discharges are a valuable source of information because they magnify the oversight capacity of the IDDE Program. The public is encouraged to report suspected illicit discharges by filling out online reporting forms, at www.stormwaterhawaii.com, or by calling the storm water reporting hotline, at (808)-831-6714.

The IDDE Program, in conjunction with the Public Education Program, facilitates public complaints through educational media and outreach activities. The reporting hotline phone number and online reporting form are advertised on informational magnets that are distributed at storm water outreach events and on brochures that are provided to industrial and commercial facilities during routine inspections.

The teams depicted in Figure 3-3, as well as the various programs referenced in this section, are involved in the detection of illegal connections and illicit discharges.

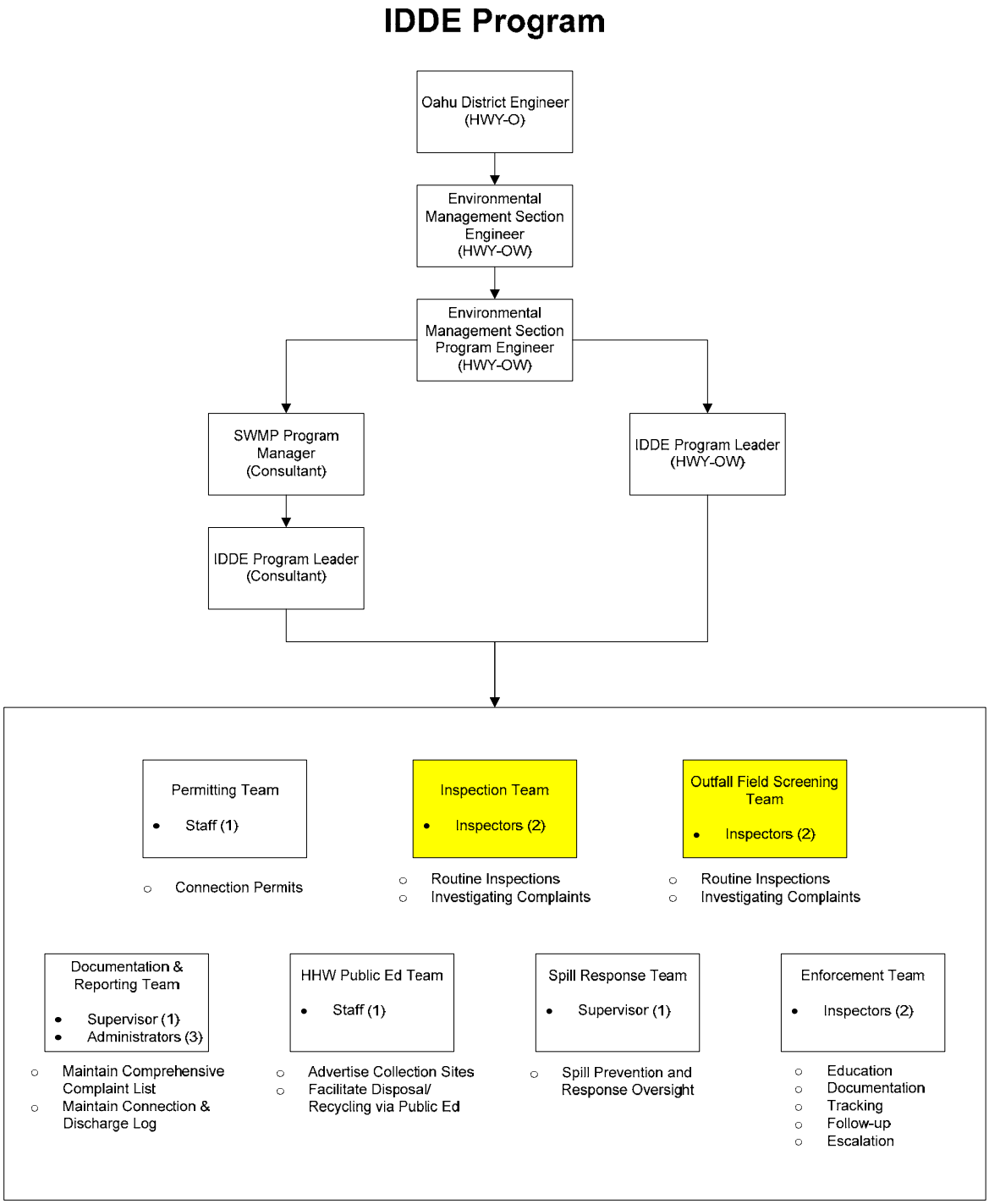


Figure 3-3. IDDE Program Organizational Chart for Roles and Responsibilities Related to Detecting Illegal Connections and Illicit Discharges

3.3 Outfall Field Screening

DOT-HWYS screens major and minor outfalls for the purpose of detecting and eliminating improper discharges. Priority areas for inspection are designated in the Outfall Field Screening Plan (Appendix C.3). Outfalls in priority areas are screened at least once per permit term. In addition to conducting screening in accordance with the Outfall Field Screening Plan, inspectors also investigate observed, suspected, or reported illicit flows at outfalls. The Outfall Field Screening Plan describes the procedures that are to be followed from when a potential illicit discharge is observed or suspected.

Inspectors observed this clean outfall during a routine outfall field screening.

The Outfall Field Screening Team is responsible for the implementation of the Outfall Field Screening Plan, as shown in Figure 3-4.

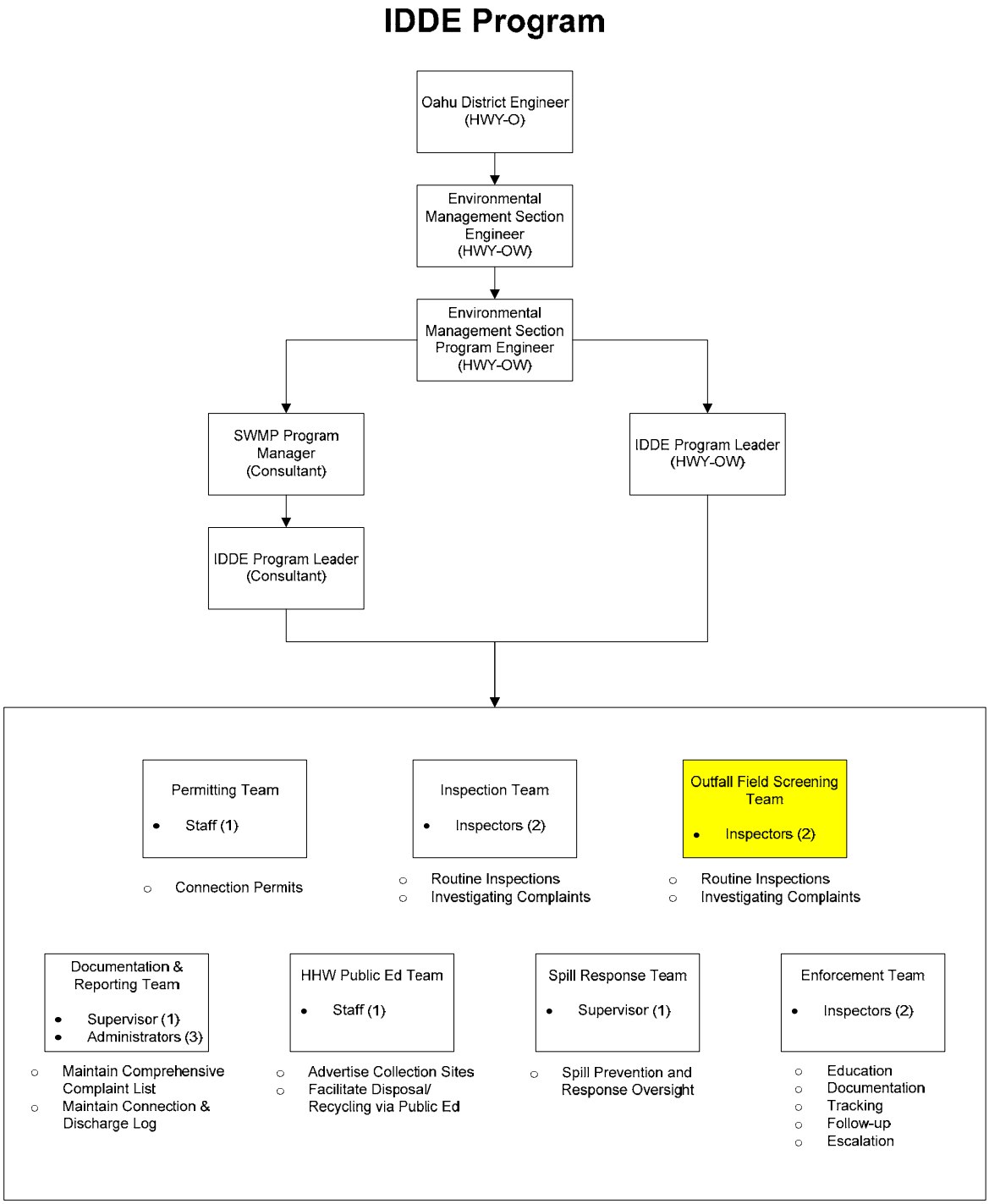


Figure 3-4. IDDE Program Organizational Chart for Roles and Responsibilities Related to Outfall Field Screening

3.4 Investigating Illegal Connections and Illicit Discharges

This section describes the IDDE Program's response plan for investigating observed, suspected, or reported illegal connections and illicit discharges associated with industrial and commercial facilities and activities.

Inspectors shall promptly initiate investigation of the complaint within 24 hours of the next business day from receipt of the complaint report. Inspectors initiate investigation of a complaint response with information gathering and, as applicable, conduct subsequent investigative actions. The complaint response may involve one or more of the following:

- Information Gathering;
- Basic Site Research; and
- Field Investigation.

Information Gathering

If possible, inspectors determine whether the discharge location may affect the MS4 or DOT-HWYS' ROW, and/or whether the discharge type is from a DOT-HWYS allowable non-storm water discharge source as listed in Part B.2 of the MS4 Permit. If inspectors determine the reported discharge location is not the responsibility of DOT-HWYS, the inspectors forward the complaint to the responsible agency. Should inspectors identify that the reported discharge type is from a DOT-HWYS allowable non-storm water discharge source, the case is considered closed. If the discharge is an unacceptable non-storm water discharge and/or if the inspectors cannot make such determination, basic site research will be conducted.

Basic Site Research

Inspectors use the AMS to review the following, as applicable; storm drainage network in the area, site maps, upstream structures, associated outfalls, and the flow path where the suspected illegal connection and/or illicit discharge could enter State Waters. Inspectors may need to obtain highway as-built plans and/or the industrial and commercial facility drainage plans.

Inspectors may consult the CCH's Department of Planning and Permitting website for plat maps and property information to confirm the location of the reported illegal connection and/or illicit discharge.

Field Investigation

Inspectors conduct a field investigation to visually identify the reported illegal connection and/or illicit discharge. The IDDE Complaint MS4 Site Investigation Sheet (MS4 SIS) (Appendix C.4) and photographs are used to document inspection findings.

Inspectors address cases involving potential illegal connections, as follows. If possible, inspectors identify the illegal connection's configuration, orientation, alignment, and point of entry into DOT-HWYS' ROW or the MS4. If the suspected illegal connection is permitted,

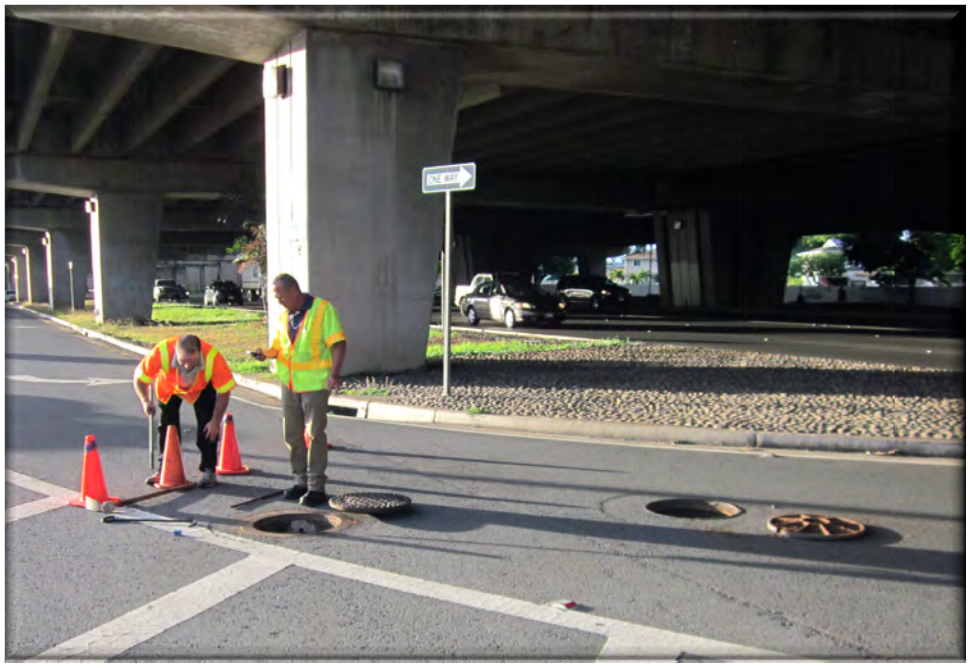
abandoned, or not present, inspectors close the case and document the inspection findings. Should the inspectors observe an unacceptable non-storm water discharge from the illegal connection the complaint case is handled as an illicit discharge. If the source of the illegal connection is identified, inspectors initiate DOT-HWYS' escalating enforcement policy.

For cases involving potential illicit discharges, inspectors identify the amount and type of illicit discharge, source, and point of entry into the MS4. Inspectors observe for indications of discharge such as dry weather flow, staining, and odor.

Inspectors attempt to determine the source of the discharge through observation of the flow direction and the surrounding activities and facilities. Further investigation may require water sampling and/or dye testing.

Should the source of the discharge not be determined during the field investigation, additional research may be needed, and inspectors may revisit the site as often as necessary to identify and locate the source of the illicit discharge. If inspectors do not observe any indications of a non-storm water discharge on-site, case findings are documented and the case is considered closed.

If the source of the discharge is identified, inspectors initiate DOT-HWYS' escalating enforcement policy.



Inspectors investigate the storm drains for potential illicit discharge activity.

The personnel and teams depicted in Figure 3-5 are involved in the investigation of observed, suspected, or reported illegal connections, illicit discharges, and illicit flows.

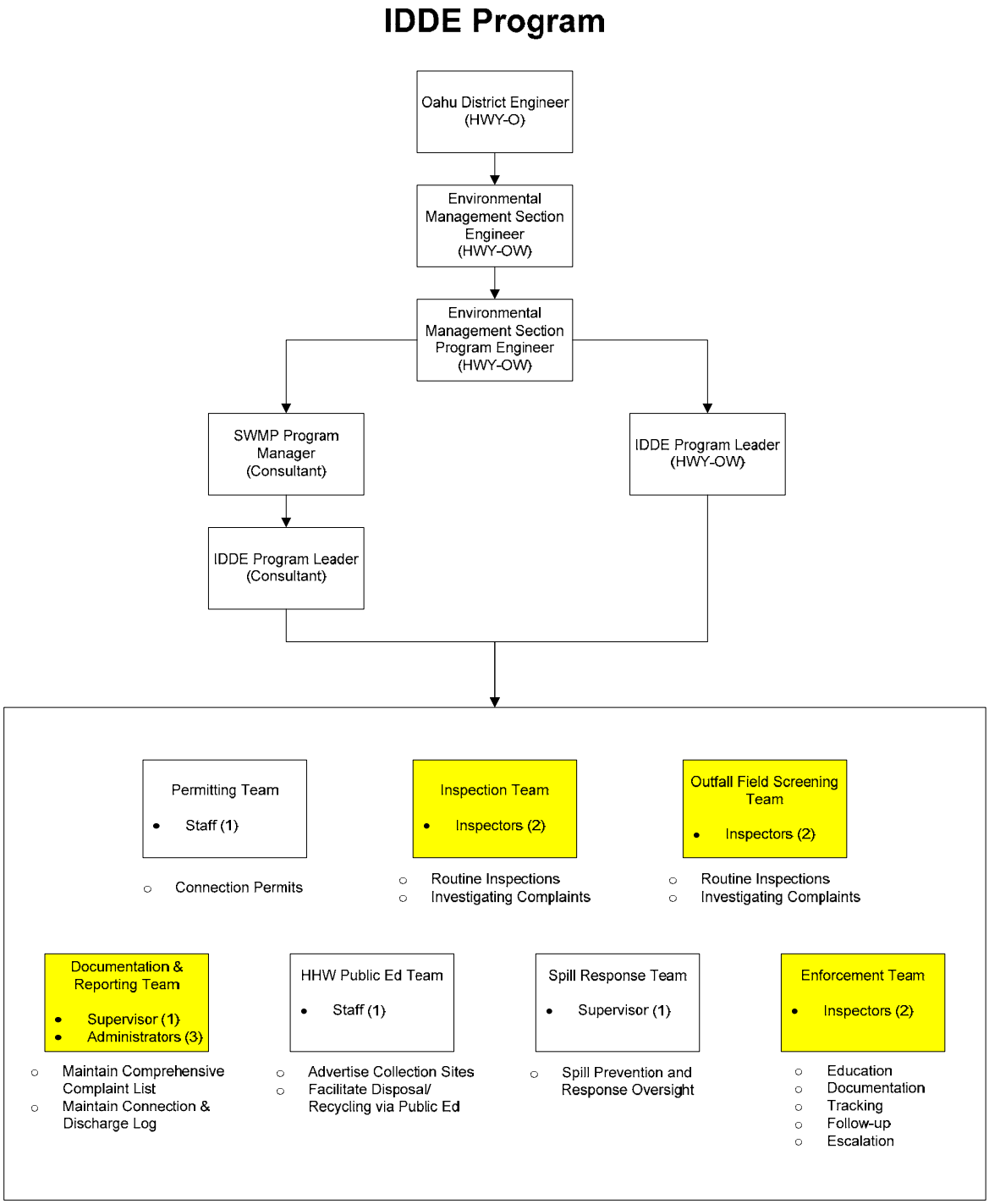


Figure 3-5. IDDE Program Organizational Chart for Roles and Responsibilities Related to the Investigation of Potential Illegal Connections and Illicit Discharges

3.5 Enforcement Policy

DOT-HWYS' enforcement policy for illegal connections and illicit discharges into the MS4 is administered by the IC Program and described in Section 10.8 of this SWMPP. The personnel and teams depicted in Figure 3-6 are responsible for implementing DOT-HWYS' enforcement policy.

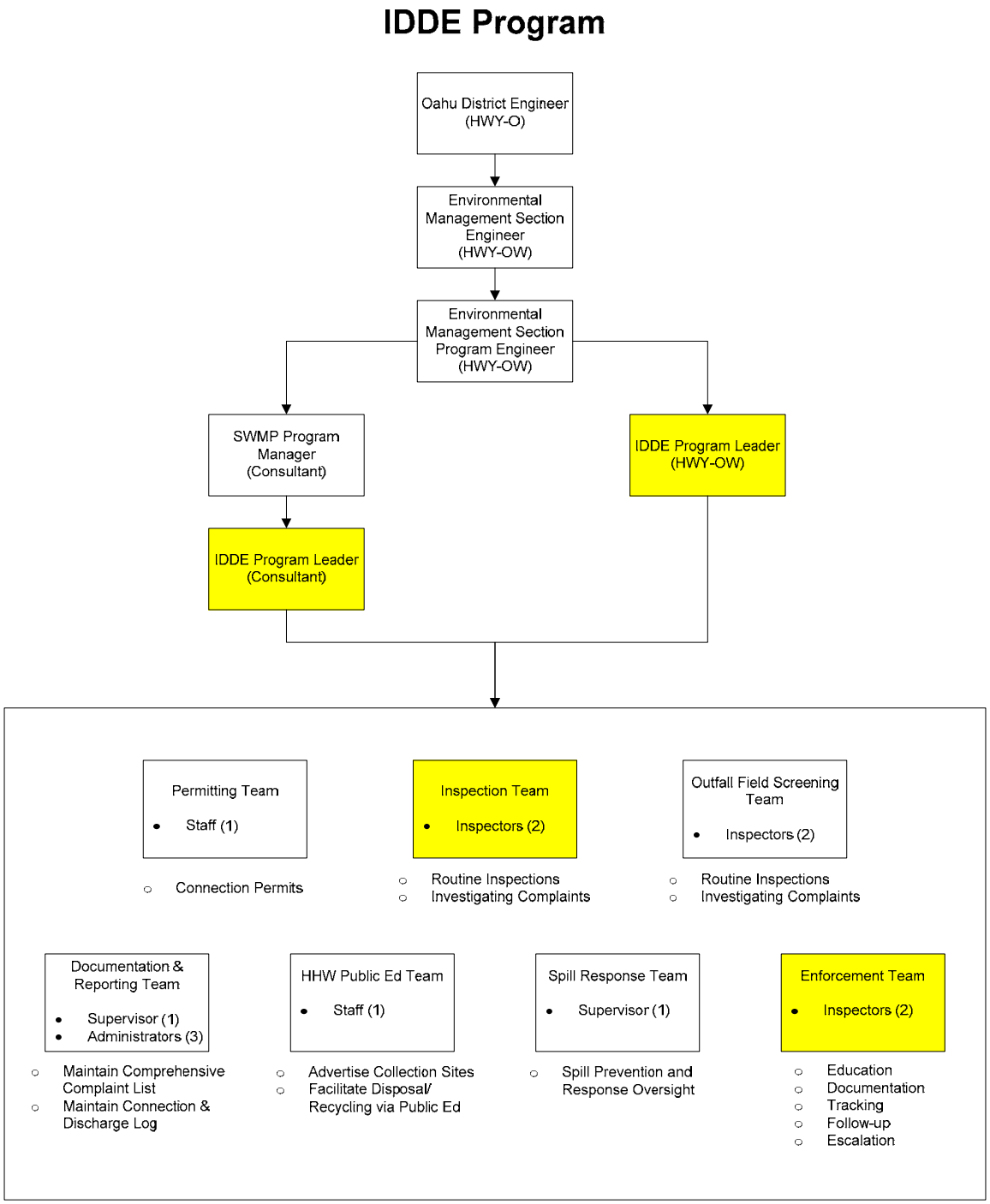


Figure 3-6. IDDE Program Organizational Chart for Roles and Responsibilities Related to Enforcement

3.6 Spill Prevention and Response

DOT-HWYS implements spill response procedures to immediately contain and cleanup spills/discharges from entering, or which have already entered, into the MS4.

The spill response process is triggered by H-3 Tunnel Dispatch notification of complaint calls; spills reported on the highways; complaints reported via phone calls, e-mails, and www.stormwaterhawaii.com; and storm water violations observed during routine site inspections of industrial and commercial facilities, outfall field screening inspections, and debris control inspections. Spills initially reported to DOT-HWYS or observed during routine inspections are forwarded to H-3 Tunnel Dispatch for immediate action. The H-3 Tunnel Dispatch 24/7 office forwards spill complaint call information received during regular work hours to the appropriate DOT-HWYS' Maintenance Section (HWY-OM) personnel in accordance with emergency contact information provided to DOT-HWYS' Tunnel Operations Section (HWY-OT). Complaint calls received after hours are forwarded to the HWY-OM On-Call Supervisor. The HWY-OM contact person or the On-Call Supervisor shall be, or shall designate, the Emergency Coordinator (EC). The EC takes the steps necessary to obtain as much of the following information as possible: date and time of spill, type of material (i.e., hazardous or nonhazardous), volume to contain or cleanup, location of spill, ground surface on which material spilled, how the spill occurred, type of cleanup equipment and/or trucks needed, the level of threat to water quality, and the level of threat to public safety.

The EC initiates the investigation of the reported spill incident to determine the appropriate follow-up action and coordinates the response for containment and cleanup. DOT-HWYS and/or their service contractor facilitates the response measures for containment and cleanup of spills. Tasks may include, but are not limited to, the following:

- Issue verbal order to cease the illicit discharge/spill;
- Determine if pollutants are entering or threatening to enter State Waters;
- Determine if pollutant is sewage or wastewater;
- Contain the discharge/spill area;
- Cleanup and call for assistance, as needed;
- Notify authorities and regulatory agencies;
- Conduct a field investigation; and
- Prevent spill entry into the MS4 (e.g., block drain inlets).

The EC will have a "tool box" of HWY-OM resources to facilitate immediate containment/cleanup and prevent/minimize pollutants from entering into the MS4. The EC investigates the spill incident, determines the appropriate action to take and the resources to employ from the HWY-OM "tool box", and coordinates the response for containment and cleanup.

The HWY-OM "tool box" includes:

- HWY-OM personnel: HWY-OM is comprised of crews and baseyards located throughout Oahu. As determined by the EC, they may be requested to provide support and resources for the spill response process.
    - The Special Services Subunit can provide sweepers and vacuum trucks to clean up nonhazardous spills/discharges, labor support such as people with brooms and shovels, and installation of BMPs around a drain.
    - The Structures Subunit can perform preventative measures on storm drains, including repairs for catch basins, plugging drain pipes, and installation of BMPs around drain and inlets.
    - The Landscaping Subunit can respond to major spills in their work areas; and can provide labor support such as people with brooms and shovels and installation of BMPs around a drain.
    - The Bridge Maintenance Subunit can respond to a spill/discharge incident occurring on a bridge; and can provide labor support such as people with brooms and shovels, and installation of BMPs around a drain.
- Materials and Equipment: Warehouse inventory will be maintained with the necessary materials for containment and cleanup of oil, solvent, coolants, water, and hazardous/chemical spills.
- Vehicles and baseyards are currently equipped with spill kits and spill equipment.
- Service Contractor: A Spill Response Contractor is available for response to hazardous/ chemical spills. The contractor is available 24/7 to provide spill response services for cleanup and removal of accumulated product resulting from the release.

DOT-HWYS' illicit discharge and spill response notification procedures and contact information are provided in Table 3-3.

Table 3-3. Illicit Discharge and Spill Response Notification Procedures

Illicit Discharge and Spill Response Notification and Contact Information	Telephone Number
H-3 Tunnel Dispatch 24/7 The H-3 Tunnel Dispatch office should be notified immediately about illicit discharges and spills so they can contact the EC who will initiate DOT-HWYS' procedures for Illicit Discharge and Spill Response.	**(808) 485-6200**
Honolulu Fire Department, Honolulu Police Department If there is an emergency or life-threatening situation, 911 should be called first. Honolulu Fire Department (HFD) is normally the lead agency for emergency response to spills on all non-military lands of Oahu. If requested, DOT-HWYS will assist the HFD with spill response for spills within DOT-HWYS' ROW.	**911**
CCH, ENV In the event of a spill or overflow from a municipal wastewater facility, DOT-HWYS will immediately notify the CCH, ENV of any reported wastewater discharges into the MS4.	**(808) 768-7272** **or** **(808) 768-3300**
HWY-OW EMS The EC should notify the State Highways Division, Oahu District, Environmental Management Section (HWY-OW) Engineer of any illicit discharges/spills entering into the MS4.	**(808) 483-2569** **or** **(808) 221-7204**
Spill Response Contractor 24/7 The spill response contractor should be notified for assistance when a spill is beyond the EC's capacity for removal or to dispose of spent absorbents. (Current contractor is Pacific Commercial Services.)	**(808) 206-9989**

Illicit Discharge and Spill Response Notification and Contact Information	Telephone Number
DOH CWB, Oahu The EC should immediately notify the DOH CWB of pollutants entering or threatening to enter State Waters. The EC should immediately notify DOH of any municipal wastewater spills or overflows from private laterals and failing septic systems that discharges into the MS4. The EC should immediately notify the DOH CWB of any spills of any chemical of a *reportable quantity*; and a written notification must also be submitted no later than 30 days after the initial release. *Note:* The reportable quantity for oil and fuel products is a spill of 25 gallons or more, a spill not cleaned within 72 hours, or a spill that threatens ground or surface waters.	**(808) 586-4309**
DOH Hazard Evaluation and Emergency Response (HEER) Office, Oahu The EC should notify the HEER office of any discharge/spill that enters State Waters after work hours. The EC should notify the HEER office of any chemical spill of a *reportable quantity*, and a written notification must also be submitted no later than 30 days after the initial release. *Note:* Reportable quantity for oil and fuel products is a spill of 25 gallons or more, a spill not cleaned within 72 hours, or a spill that threatens ground or surface waters.	**(808) 586-4249** **or** **(808) 247-2191** *(after hours)*
U.S. Coast Guard Marine Safety Office, Oahu The U.S. Coast Guard should be notified of any quantity spill that reaches the ocean.	**(808) 522-8260**

As depicted in Figure 3-7, the Spill Response Team administers the Spill Prevention and Response Program.

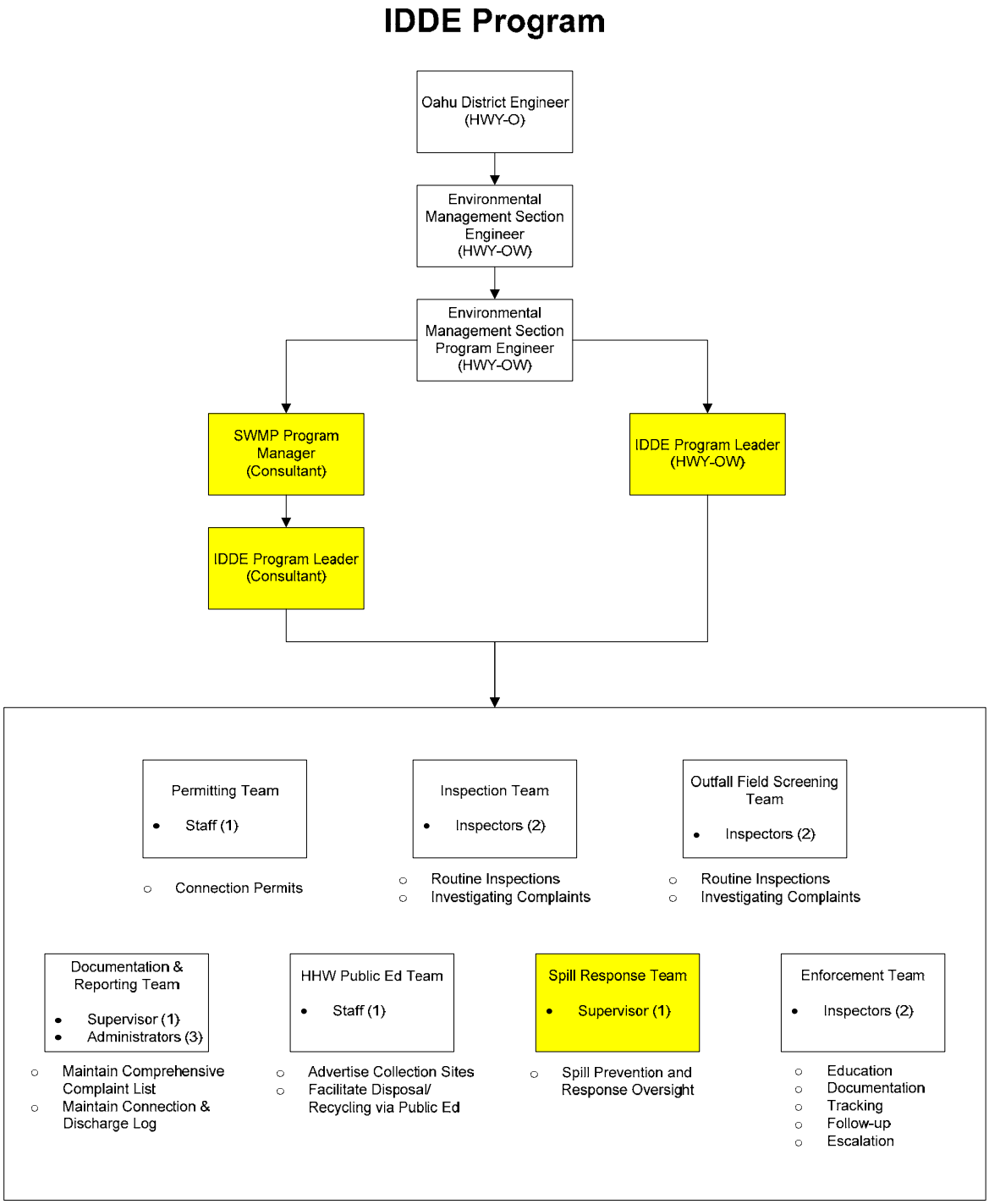
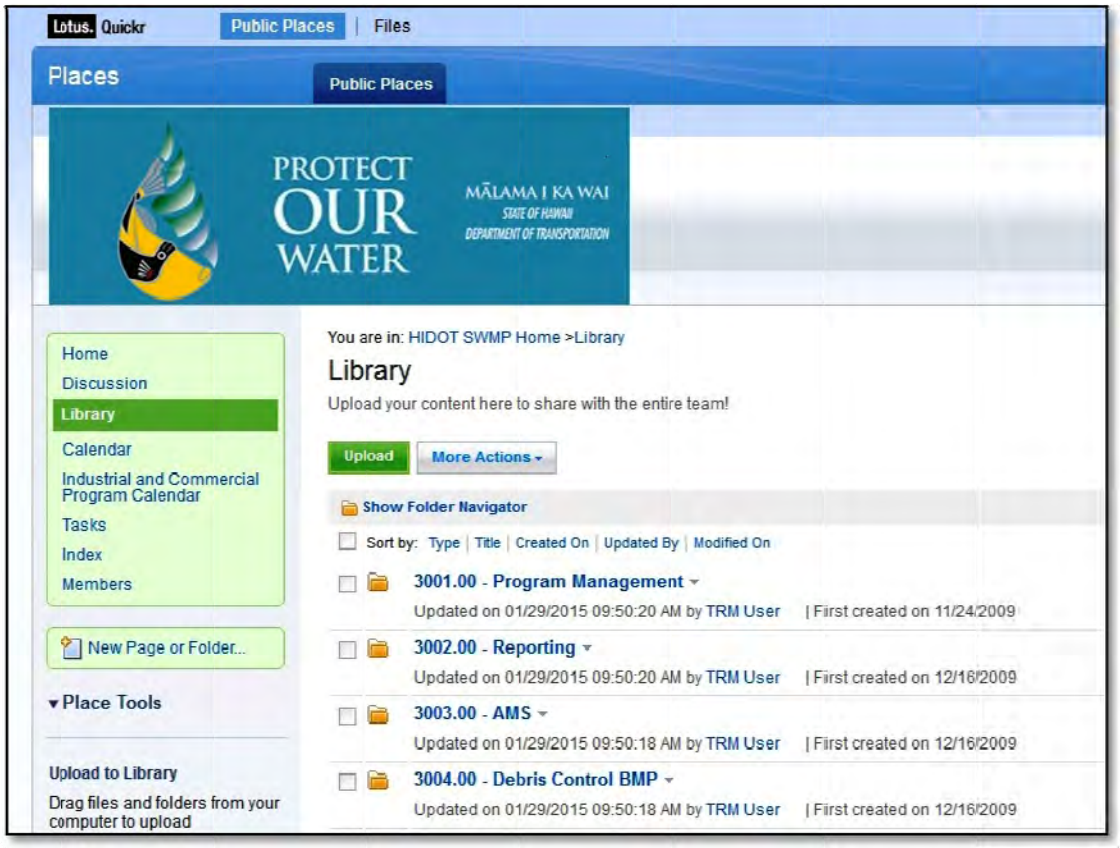


Figure 3-7. IDDE Program Organizational Chart for Roles and Responsibilities Related to Spill Prevention and Response

3.7 Tracking Illegal Connections, Illicit Discharges, and Spills

The Comprehensive Complaint List is used to document information about illegal connections, illicit discharges, and spills to the MS4. For each case, the database is used to track the type of discharge, the responsible party, DOT-HWYS' response and follow-up activities, and the resolution. Illegal connections and illicit discharge activities can be queried by Tax Map Key (TMK), if applicable.



A database and file share system are utilized to track and document illicit discharges, illegal connections, and spills to the MS4.

The IDDE Program Leader and the Documentation & Reporting Team coordinate with the Inspection Team and Enforcement Team in order to maintain the Comprehensive Complaint List, as shown in Figure 3-8.

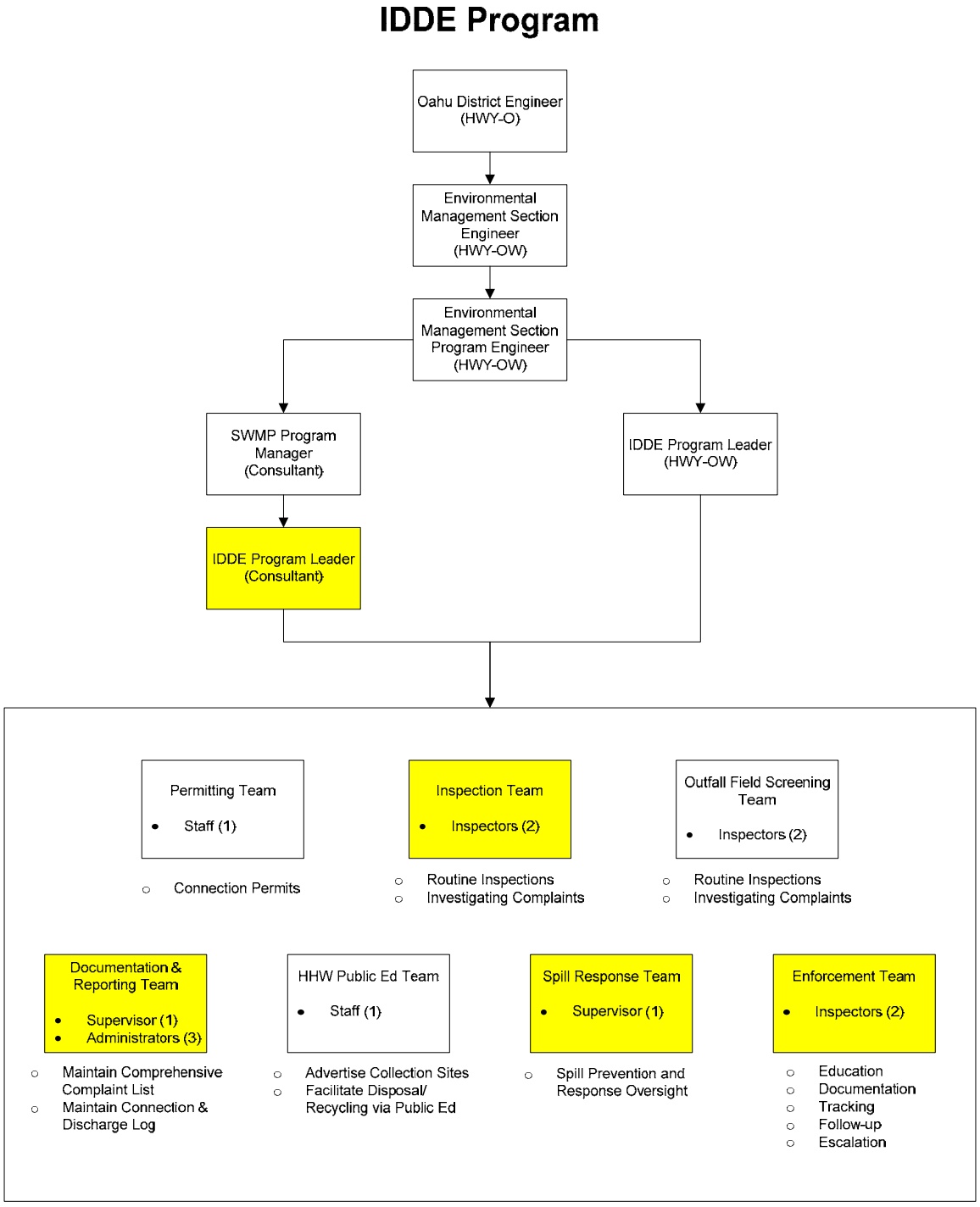


Figure 3-8. IDDE Program Organizational Chart for Roles and Responsibilities Related to Tracking Illegal Connections, Illicit Discharges, and Spills

3.8 Household Hazardous Waste Disposal

The EPA defines household hazardous waste (HHW) as, "leftover household products that contain corrosive, toxic, ignitable, or reactive ingredients." Safe handling and proper disposal of HHW (e.g., paints, cleaners, oils, batteries, and pesticides that contain potentially hazardous ingredients) are important to protecting human health and the environment.

The CCH provides a bi-monthly service for the collection of HHW products that require special handling. Oahu residents who wish to drop off HHW can call the CCH, at (808)-768-3201, to make an appointment during a scheduled collection event. Further information about HHW, including waste prevention tips, is provided at http://www.opala.org/solid_waste/Household_Hazardous_Waste.html#tips.

DOT-HWYS facilitates the proper management and disposal or recycling of toxic materials and other HHW by advertising information about the CCH's collection program.

The following information is available on www.stormwaterhawaii.com and on DOT-HWYS' informational HHW brochures, which are provided at SWMP public outreach events:

- A list of materials that require special handling and should be disposed of at a HHW collection event;
- Dates of HHW collection events;
- CCH's contact information to schedule appointments; and
- CCH's website address for further information about HHW.

Certain materials, such as used oil and vehicle fluids, can be disposed of at home with the trash. DOT-HWYS facilitates the proper disposal of used oil and vehicle fluids by distributing educational brochures and/or oil change boxes at applicable public outreach events.

As depicted in Figure 3-9, the HHW Public Education Team supports the Public Education Program in educating the public about the proper disposal of used oil, vehicle fluids, toxic materials, and other HHW.

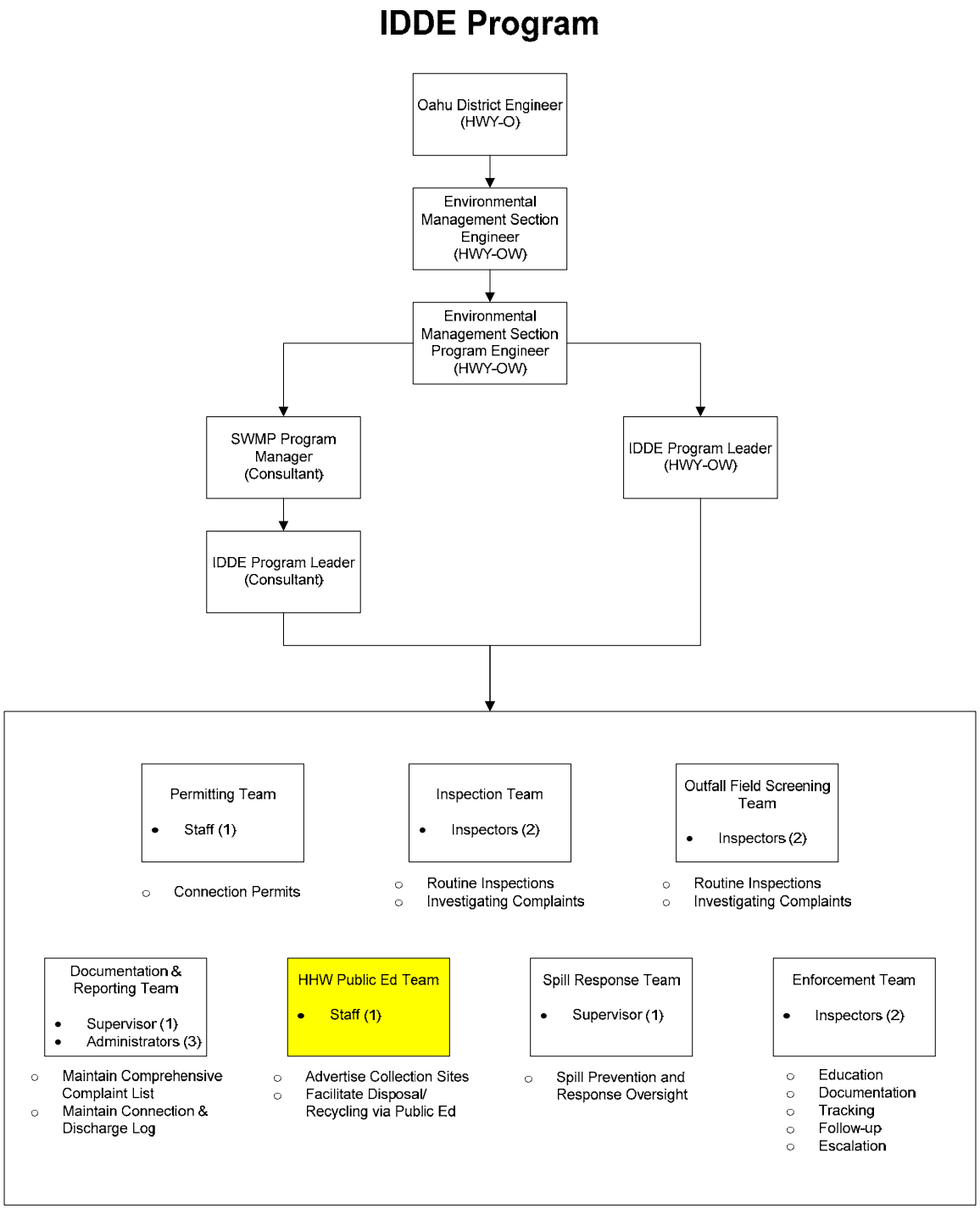


Figure 3-9. IDDE Program Organizational Chart for Roles and Responsibilities Related to Household Hazardous Waste Disposal

3.9 Training

IDDE Program staff receive annual training on how to identify and eliminate illegal connections, illicit discharges, and spills to the MS4. Training content is specific to the IDDE Program's policies, rules, procedures, and activities, such as investigating complaints and pursuing enforcement actions, as necessary.

Periodic "on-the-job" training sessions instruct field inspectors on the methods for detecting, investigating, eliminating, and reporting illegal connections and illicit discharges.

The SWMP Program Manager is responsible for ensuring that IDDE Program staff receive training, annually, as shown in Figure 3-10.

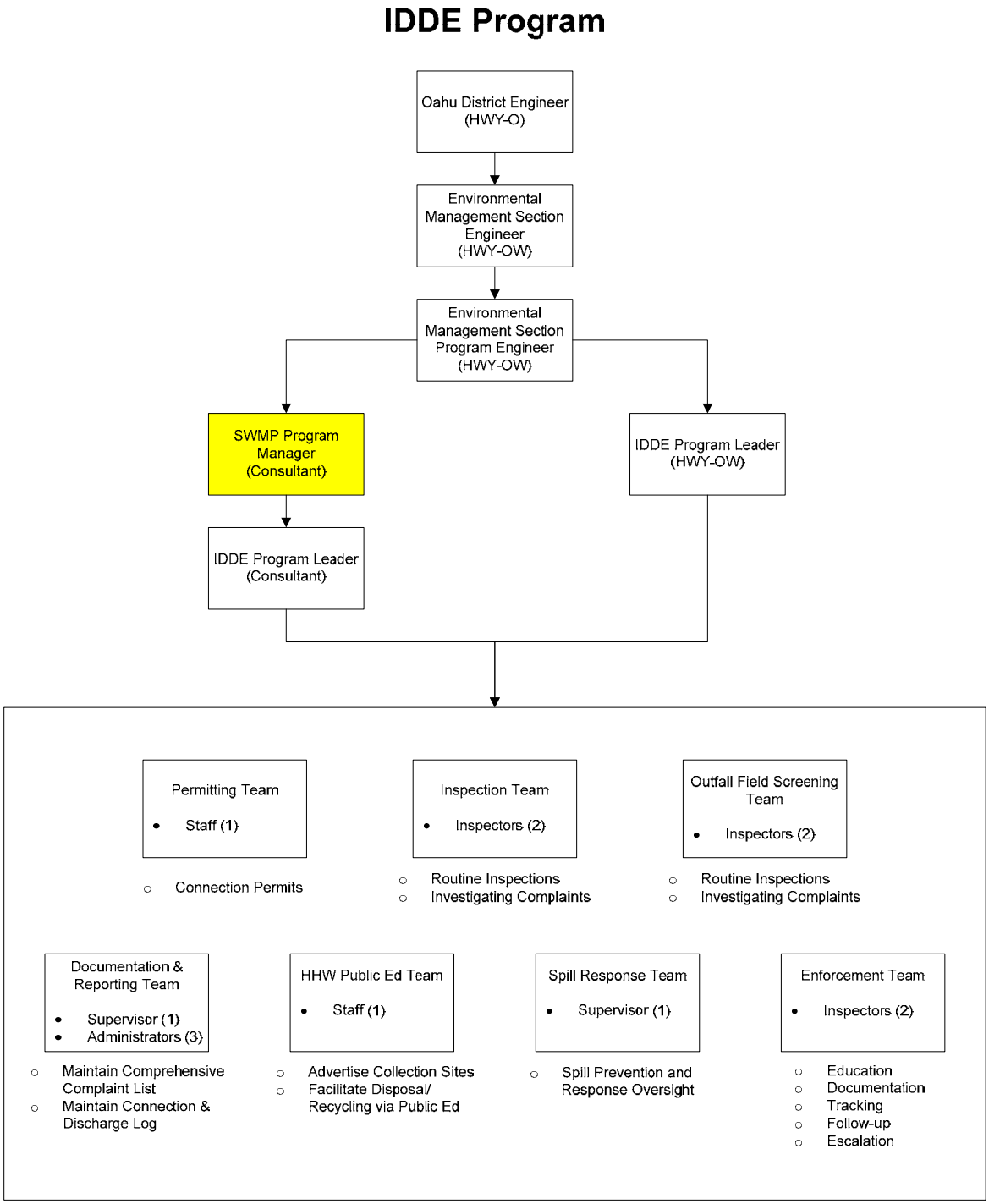


Figure 3-10. IDDE Program Organizational Chart for Roles and Responsibilities Related to Training

3.10 Monitoring Program Effectiveness

Table 3-4 provides measurable standards/milestones for the BMPs discussed in this chapter and DOT-HWYS' strategy for monitoring the effectiveness of their implementation.

Table 3-4. Standards/Milestones for the IDDE Program

Section	BMP	Standard/Milestone	Monitoring Effectiveness
3.1	Connection Permits	• Ensure that all observed connections are permitted, as necessary.	• Use the Comprehensive Complaint List to track the number of letters requiring connection permits issued. • Use the Connection and Discharge Log to track connection permits issued.
3.2	Detecting Illegal Connections and Illicit Discharges	• Maintain the functionality of the storm water reporting hotline and online reporting forms.	• Ensure the hotline and website function properly.
3.3	Outfall Field Screening	• Screen outfalls in priority areas at least once per MS4 Permit term.	• Track the number of priority outfalls/number of outfalls screened during the MS4 Permit term.
3.4	Investigating Illegal Connections and Illicit Discharges	• Investigate public complaints and resolve cases.	• Track public complaint cases in the Comprehensive Complaint List.
3.5	Enforcement	• Develop and implement enforcement policies.	• Track enforcement actions using the Comprehensive Complaint List.
3.6	Spill Response	• Implement spill response procedures in accordance with those described in Section 3.6.	• Track spills into the MS4, follow-up actions, and resolutions using the Comprehensive Complaint List.
3.7	Tracking	• Track all cases of observed illegal connections, illicit discharges, spills into the MS4, and follow-up actions.	• Track cases and follow-up actions in the Comprehensive Complaint List.
3.8	HHW Public Ed	• Provide information to the public about disposal locations for HHW on Oahu.	• Ensure phone number for collection sites and times is posted on website.
3.9	Training	• Provide annual training to IDDE Program staff.	• Maintain sign-in sheets of all training attendees.

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Chapter 4
Construction Site Runoff Control Program

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CHAPTER 4
CONSTRUCTION SITE RUNOFF CONTROL PROGRAM

The purpose of the Construction Site Runoff Control Program (Construction Program) is to reduce to the MEP the discharge of pollutants from private and public construction projects implemented within or otherwise encroaching DOT-HWYS' right-of-way. The Construction Program's requirements apply to all projects conducting construction activities within or otherwise encroaching DOT-HWYS' right-of-way. There are two types of construction projects – contract construction projects and encroachment permit construction projects – both of which are required to comply with applicable DOT-HWYS' policies and standards. DOT-HWYS does not perform in-house or maintenance construction activity.

The Construction Program includes the following elements:

1. Require proposed construction projects to implement BMPs and standards in accordance with DOT-HWYS' policies.
2. Maintain an inventory of construction projects and track project information.
3. Administer the review and approval of construction project plans and permits.
4. Conduct inspections using standard inspection forms and track inspections in databases.
5. Establish enforcement policies and penalties for projects in non-compliance with DOT-HWYS' policies, standards, and project-specific requirements and permits. Develop and implement an Enforcement Response Plan (ERP).
6. Provide annual construction BMP training to DOT-HWYS' staff with construction storm water responsibilities.
7. Provide educational material to permit applicants, contractors, developers, property owners, and other responsible parties.

The Construction Program is administered in accordance with the MS4 Permit and Consent Decree requirements outlined in Table 4-1 and Table 4-2, respectively.

Table 4-1. MS4 Permit Requirements for the Construction Program

MS4 Permit Reference	SWMPP Section
Part D.1.d *Permittee shall implement a construction site management program to reduce to the MEP the discharge of pollutants from both private and public construction projects (i.e., contract, in-house, maintenance, and encroachment). The construction site management program shall include the following minimum elements:*	
Part D.1.d.(1) *Requirement to implement BMPs - Within one (1) year of the effective date of this permit the Permittee shall establish policies to require proposed construction projects to implement BMPs and standards described in the following:* *• Hawaii Standard Specifications for Road and Bridge Construction and/or Special Provisions*	Section 4.1

MS4 Permit Reference	SWMPP Section
• *Construction Best Management Practices Field Manual* • *Maintenance Activities Best Management Practices Field Manual* • *Storm Water Permanent Best Management Practices Manual* *These standards shall be annually reviewed and, as necessary, revised to include descriptions of new, modified, or revised BMPs, including permanent BMPs and LID practices. Any revisions shall be discussed within its Annual Report and the documents included within its SWMP Plan. All documents shall be made available to DOT-HWYS staff, contractors, and consultants, as appropriate.*	
Part D.1.d.(2) *Inventory of construction sites - Within six (6) months of the effective date of this permit, the Permittee shall, implement a system to track both private and public construction projects (i.e., contract, in-house, maintenance, and encroachment). This system shall track information on the project (including permit or file number, if available), status of plan review and approval, inspection dates, and if applicable, enforcement actions and whether the project has applied for coverage under HAR, Chapter 11-55, Appendix C, NPDES General Permit Authorizing the Discharge of Storm Water Associated with Construction Activity (a.k.a. General Construction Activity Storm Water permit) (unless the project will disturb less than one acre of land) and satisfied any other applicable requirements of the NPDES permit program (i.e., an individual NPDES permit).*	Section 4.2
Part D.1.d.(3).(i) *Prior to approval of the construction plans and specifications, DOT-HWYS shall review the appropriate Site-Specific BMP Plan and other pollution prevention measures (e.g., for Erosion and Sediment Control, Grading, Post-construction BMP and Landscaping) or similar plan(s)/document(s) to verify that meets the following requirements:* • *DOT-HWYS' Standard Specifications and Special Provisions;* • *DOT-HWYS' Construction BMP Field Manual;* • *DOT-HWYS' Storm Water Permanent Best Management Practices Field Manual;* • *DOT-HWYS' Maintenance Activities Best Management Practices Field Manual;* • *HAR, Chapter 11-55, Appendix C, and any other requirements under the NPDES permit program, as applicable; and* • *Implementation of measures to ensure that the discharge of pollutants from the site will be reduced to the appropriate discharge limitations subject to the Best Available Technology currently available (BAT)/ Best Conventional Pollutant Control Technology (BCT) discharge requirement, consistent with the CWA and other respective federal and state requirements for such facilities and will not cause or contribute to an exceedance of water quality standards.*	Section 4.3
Part D.1.d.(3).(ii)*Require a permit or written equivalent approval for drainage connections to its MS4, discharge of surface storm water runoff of storm water associated with construction (i.e., from both private and public projects) or discharge permit (i.e., hydrotesting and dewatering effluent or other non-storm water, except those allowed under this permit) into their MS4 and maintain a database of the permits/approvals. Prior to issuing a drainage connection, discharge of surface runoff permit/approval, discharge permit, Permit to Perform Work Upon State Highways, or encroachment permit the Permittee shall ensure that the following are met:* • *The project owner has provided proof of filing an NOI Form C or NPDES application for the discharge of storm water associated with construction activities that disturb one (1) acre or more;* • *The project owner has provided proof of filing a NOI Form F and/or G or NPDES application for the discharge, if applicable; and* • *A Site-Specific BMP Plan or other documents (e.g., Erosion and Sediment*	Section 4.3

MS4 Permit Reference	SWMPP Section
Control, Grading, Post-construction BMP and Landscaping Plans, Dewatering Plan, and Hydrotesting Plan)relating to pollution prevention or similar document(s) have been reviewed and accepted by DOT-HWYS;	
Part D.1.d.(3).(iii)*Not allow construction to commence on any private or public construction project (i.e., contract, in-house, maintenance, and encroachment) unless and until it has verified that the project has received from DOH a Notice of General Permit Coverage (NGPC) under HAR, Chapter 11-55, Appendix C, NPDES General Permit Authorizing the Discharge of Storm Water Associated with Construction Activity (General Construction Activity Storm Water permit) (unless the project will disturb less than one (1) acre of land) and satisfied any other applicable requirements of the NPDES permit program (i.e., an individual NPDES permit);*	Section 4.3
Part D.1.d.(3).(iv)*Within 90 calendar days of the effective date of this permit, the Permittee shall update and submit for review and acceptance, a plan review checklist that its reviewers shall use in evaluating the plans and BMPs or other similar document(s) which have been implemented pursuant to this Part [i.e., Part D.1.d.]. Copies of this plan review checklist shall be provided to applicants for connection, discharge, and encroachment permits and permits to perform work upon State Highways; and to consultants and contractors for their use in developing the Plans or other similar document(s) for DOT-HWYS-contracted construction projects. The plan review checklist shall include, at a minimum, but not be limited to comments on any deficiencies and the date when comments were addressed to the satisfaction of DOT-HWYS. A system shall be implemented to ensure all comments, identified during the review process has been properly addressed.*	Section 4.3
Part D.1.d.(4).(i) *Prior to the initiation of ground-disturbing activities at any site, except for activities associated with the installation of BMPs at a site, an engineer or qualified inspector employed or retained by the Permittee who reviews and becomes familiar with the project's site-specific BMP Plan and/or other equivalent document(s), shall inspect the site to verify BMPs as required by the BMP Plan and/or other documents have been installed correctly and in the correct locations prior to the commencement of ground-disturbing activity. Inspections shall include a review of site Erosion and Sediment Controls, good housekeeping practices, and compliance with DOT-HWYS-accepted erosion and sediment control plans, construction BMPs Plans, or other similar documents and DOT-HWYS approved permits. The inspector shall also identify and remedy any site conditions having the potential for erosion and sediment runoff, including other pollutant discharges which may occur as a result of the project's construction activities.*	Section 4.4
Part D.1.d.(4).(ii)*In addition to inspections required by the NPDES permit program, all contract, in-house and maintenance construction projects shall be inspected at least monthly by a qualified construction inspector who is independent (i.e., not involved in the day-to-day planning, design, or implementation) of the construction projects to be inspected. The Permittee may use more than one (1) qualified construction inspector for these inspections. The reporting procedures shall include, at a minimum, notification of any critical deficiencies to the DOH. Upon three successive monthly inspections that indicate, in total, no critical or major deficiencies or less than six (6) minor deficiencies with no more than three (3) minor deficiencies in one (1) month in a project's BMPs or other storm water management activities, the Permittee may decrease the inspection frequency for such project to quarterly. However, if while under a quarterly inspection frequency, an inspection of a project conducted pursuant to this paragraph indicates at least one critical or major deficiency or a total of*	Section 4.4

MS4 Permit Reference	SWMPP Section
three (3) or more minor deficiencies in the project's BMPs or other storm water management activities, the inspections frequency shall immediately return to no less than monthly. This reduced inspection frequencies option is contingent upon the Permittee having defined each type (i.e., critical, major, or minor) of deficiency. The Permittee shall further develop and implement written procedures for appropriate corrective actions and follow-up inspections when deficiencies had been identified at an inspected project. The corrective action procedures shall at a minimum require that 1) any critical deficiencies shall be corrected or addressed before the close of business on the day of the inspection at which the deficiency is identified, and 2) any major deficiencies shall be corrected or addressed as soon as possible, but in no event later than five (5) calendar days after the inspection at which the deficiency is identified or before the next forecasted precipitation, whichever is sooner.	
Part D.1.d.(4).(iii)*All construction projects with a Permit to Perform Work Upon State Highways, connection permit, encroachment permit, or discharge of surface runoff permit/approval shall be inspected at least once annually or once during the life of the project, whichever comes first, by a qualified construction inspector who is independent (i.e., not involved in the day-to-day planning, design, or implementation) of the construction projects to be inspected. The Permittee may use more than one (1) qualified construction inspector for these inspections. If the project has a site-specific BMP Plan or other equivalent document(s), the inspection shall also verify that the BMPs were properly installed and at the locations specified in the Plan. The reporting procedures shall include, at a minimum, notification of any critical deficiencies to the DOH.*	Section 4.4
Part D.1.d.(4).(iv)*Develop and implement a standard inspection form(s) and reporting and corrective procedures for inspections, including use of an inspection checklist, or equivalent, and the Permittee shall track inspection results in a database or equivalent system. The inspection checklist shall, include at a minimum, but not be limited to identifying any deficiencies and the date of the corrective actions. Photos shall accompany the inspection checklist to document the deficiencies. The inspection form(s), inspection checklist, reporting and corrective procedures shall be submitted to DOH for review and acceptance within 90 calendar days of the effective date of this permit.*	Section 4.4
Part D.1.d.(5).(i) *Enforcement – Within one (1) year of the effective date of this permit, the Permittee shall: Establish policies for enforcement and penalties for those in non-compliance with Part D.1.d.(1) requiring the implementation of standards, and*	Section 4.5
Part D.1.d.(5).(ii)*Develop and implement an Enforcement Response Plan to include written procedures for appropriate corrective and enforcement actions, and follow-up inspections when an inspected project is not in full compliance with its requirements, other DOT-HWYs permits, and any other applicable requirements under the NPDES permit program.*	Section 4.5
Part D.1.d.(6)*Process to refer noncompliance and non-filers to DOH - In the event the Permittee has exhausted its use of sanctions and cannot bring a construction site or construction operator into compliance with its policies, standards, or this permit, or otherwise deems the site to pose an immediate and significant threat to water quality, the Permittee shall provide e-mail notification to cleanwaterbranch@doh.hawaii.gov, Attn: Enforcement Section Supervisor within one (1) week of such determination. E-mail notification shall be followed by written notification in accordance with Part A.6. and include a copy of all inspection checklists, notes, and related correspondence in pdf format (300 minimum dpi) within two (2) weeks of the determination. In instances where an inspector identifies a site that has not applied for permit coverage under the*	Section 4.5

MS4 Permit Reference	SWMPP Section
NPDES permit program, the Permittee shall provide written notification in accordance with Part A.6. to DOH within two (2) weeks of the discovery.	
***Part D.1.d.(7)** Training - The Permittee shall provide annual training on the Construction BMPs Program Plan to all DOT-HWYS staff with construction storm water responsibilities, including construction engineers, construction and maintenance inspectors, and plan reviewers. This training shall be specific to DOT-HWYS activities (including the proper installation and maintenance of accepted BMPs), policies, rules and procedures.*	Section 4.6
***Part D.1.d.(8)** Education - The Permittee shall implement an education program as part of its ongoing SWMP to ensure that project applicants, contractors, developers, property owners, and other responsible parties have an understanding of the storm water requirements they need to implement.*	Section 4.7

Table 4-2. Consent Decree Requirements for the Construction Program

Consent Decree Reference	SWMPP Section
***Pg 12, Section V.9.b.(1)**Within 90 days after entry of the Consent Decree, any Contractor (either professional consultant or construction contractor) involved with construction at HDOT facilities or within State Highways rights-of-way shall be required to obtain the CCH Manual.*	Section 4.3
***Pg 13, Section V.9.b.(2)** HDOT shall provide annual training on the Construction BMP Program Plan to all staff with construction storm water responsibilities, including construction engineers, maintenance staff, and plan reviewers. This training shall be specific to HDOT activities (including the proper installation and maintenance of approved BMPs), policies, and procedures. The first annual training shall be conducted by no later than September 15, 2005 or within 30 days after entry of this Decree, whichever is later.*	Section 4.6
***Pg 13, Section V.9.b.(3)** Beginning 30 days after entry of this Decree, HDOT shall not allow construction to commence on any contract, in-house, or encroachment permit project unless and until it (a) has verified that the project has received from DOH a Notice of General Permit Coverage under the Hawaii General Construction Activities Storm Water permit (unless the project will disturb less than one acre of land) and has satisfied any other applicable requirements of the Hawaii NPDES permit program, and (b) has reviewed the applicable Site-Specific BMP Plan to verify that it fully meets all requirements of the following, to the extent that they are applicable: (i) HDOT's Standard Provisions (Sections 107.17 and 209); (ii) Water Pollution and Erosion Control Notes; (iii) NPDES Requirements for Permit Projects Within State Highway Right-of-Way Notes; (iv) the General Construction Activities Storm Water NPDES permit; and (v) any other applicable requirements of the Hawaii NPDES permit program. For encroachment permit projects, HDOT shall only be responsible for the activities described in Subparagraphs 9.b.(1) and 9.b.(3) above, for work that occurs within HDOT rights-of-way.*	Section 4.3
***Pg13, Section V.9.b.(4)**Within 10 business days after entry of this Decree, HDOT shall submit for approval a checklist that its reviewer shall use in evaluating the BMP plans pursuant to this Paragraph. Upon approval, HDOT shall provide copies this checklist to applicants for encroachment permits and to contractors for their use in developing construction Site-Specific BMP Plans for HDOT-contracted construction projects.*	Section 4.3

Consent Decree Reference	SWMPP Section
Pg 14, Section V.9.b.(5) *Upon entry of this Decree, prior to the initiation of ground-disturbing activities at any Site, except for activities associated with the installation of BMPs at a Site, no other construction activities may commence until an HDOT engineer (or an engineer retained by HDOT) or qualified inspector reviews and becomes familiar with the projects' site-specific BMP plan and inspects the Site to determine whether the BMPs required by the BMP plan have been installed correctly and in the correct locations. The engineer or qualified inspector who conducts this inspection shall document that the BMPs required by the BMP plan have been installed correctly and in the correct locations prior to the commencement of any other ground-disturbing activity.*	Section 4.4
Pg 19, Section V.10.c.(2) *To the extent that HDOT utilizes contractors, with the exception of general contractors used to construct contract construction projects, to implement any SWMPP activities, HDOT shall require that such contractors receive training equivalent to that included in HDOT's training program in all applicable areas.*	Section 4.6
Pg 19, Section V.10.c.(3)*No less than annually, HDOT shall offer appropriate storm water runoff management training to general contractors and subcontractors used to construct HDOT's contract construction projects. Such training shall emphasize sediment and erosion control requirements and BMPs (Chapter 2 in the CCH manual), but shall additionally cover, in appropriate detail, requirements and BMPs for all of the other Contractor Activities covered in Chapter 1 of the CCH Manual.*	Section 4.6
Pg 19, Section V.10.c.(4)*Prior to the issuance of any Notice to Proceed, or the equivalent, to any contractor or any contract construction project, HDOT shall hold a preconstruction meeting with the project's prime contractor during which the requirements of the General Construction Activities Storm Water Permit shall be discussed, as well as (a) Standard Provisions (Sections 107.17 and 209); (b) "Water Pollution and Erosion Control Notes"; and (c) the applicable requirements of this Consent Decree.*	Section 4.7
Pg22, Section V.10.g.(1) *HDOT shall revise the following documents to require use of the CCH Manual and the City and County of Honolulu's "Rules for Soil Erosion Standards and Guidelines," April 1999: (a) Standard Provisions (Sections 107.17 and 209); (b) "Water Pollution and Erosion Control Notes"; and (c) "NPDES Requirements for Permit Projects Within State Highway Right-of-Way Notes." These revised documents shall be used, to the extent applicable, on all contract, in-house, and encroachment permit construction projects on Oahu. HDOT shall incorporate these revised documents, either explicitly or by reference, into its revised SWMPP.*	Section 4.3
Pg 22, Section V.10.g.(2).(a) *In addition to inspections required by the Hawaii General Construction Activities Storm Water permit, and as otherwise required under the Hawaii NPDES permit program, all in-house and contract construction projects shall be inspected at least monthly by a qualified construction inspector who is independent (i.e., not involved in the projects' day-to-day planning, design, or implementation) of the construction projects to be inspected. HDOT may use more than one qualified construction inspector for these inspections.*	Section 4.4
Pg 22, Section V.10.g.(2).(a)*HDOT, in consultation with DOH, shall develop and implement a standard inspection form, and reporting procedures for use in these inspections. The inspection form shall include, at a minimum, a checklist for the proper installation of BMPs specified in the BMP plan, and the reporting procedures shall include, at a minimum, notification of critical deficiencies to the Director of HDOT and DOH.*	Section 4.4

Consent Decree Reference	SWMPP Section
Pg 22, Section V.10.g.(2).(a) *HDOT shall further develop and implement written procedures for appropriate corrective actions and follow-up inspections when an inspected project is not in full compliance with this Consent Decree, the HDOT MS4 permit, the Hawaii General Construction Activities Storm Water permit, or any other applicable requirements under the Hawaii NPDES permit program. The corrective action procedures shall at a minimum require that (i) any critical deficiencies shall be corrected or addressed before the close of business on the day of inspection at which the deficiency is identified, and (ii) any major deficiencies shall be corrected or addressed as soon as possible, but in no event later than five business days after the inspection at which the deficiency is identified or before the next forecasted precipitation, whichever is sooner.*	Section 4.4
Pg 23, Section V.10.g.(2).(b) *All encroachment permit construction projects shall be inspected at least once during the life of the project, and any project of the types listed immediately below shall be inspected at least annually if it continues longer than one year's duration:* *(1) Housing/commercial development improvements; (2) Utility main instillation; (3) Landscape/irrigation installation; (4) Drainline connections* *All inspections shall be conducted by a qualified construction inspector. HDOT may use more than one qualified construction inspector for these inspections.*	Section 4.4
Pg 23, Section V.10.g.(2).(b)*HDOT, in consultation with DOH, shall develop and implement a standard inspection form and reporting procedures for use in these inspections. The inspection form shall include, at a minimum, a checklist for the proper installation of BMPs specified in the BMP plan, and the reporting procedures shall include, at a minimum, notification of any critical deficiencies to the Director of HDOT and DOH.*	Section 4.4
Pg 23, Section V.10.g.(2).(b)*HDOT shall further develop and implement written procedures for appropriate corrective actions and follow-up inspections when an inspected project is not in full compliance with this Consent Decree, the HDOT MS4 permit, or the Hawaii General Construction Activities Storm Water permit.*	Section 4.4

4.0 Program Organization

To fulfill the requirements of the MS4 Permit and the Consent Decree, the following organizational structure has been established for the Construction Program.

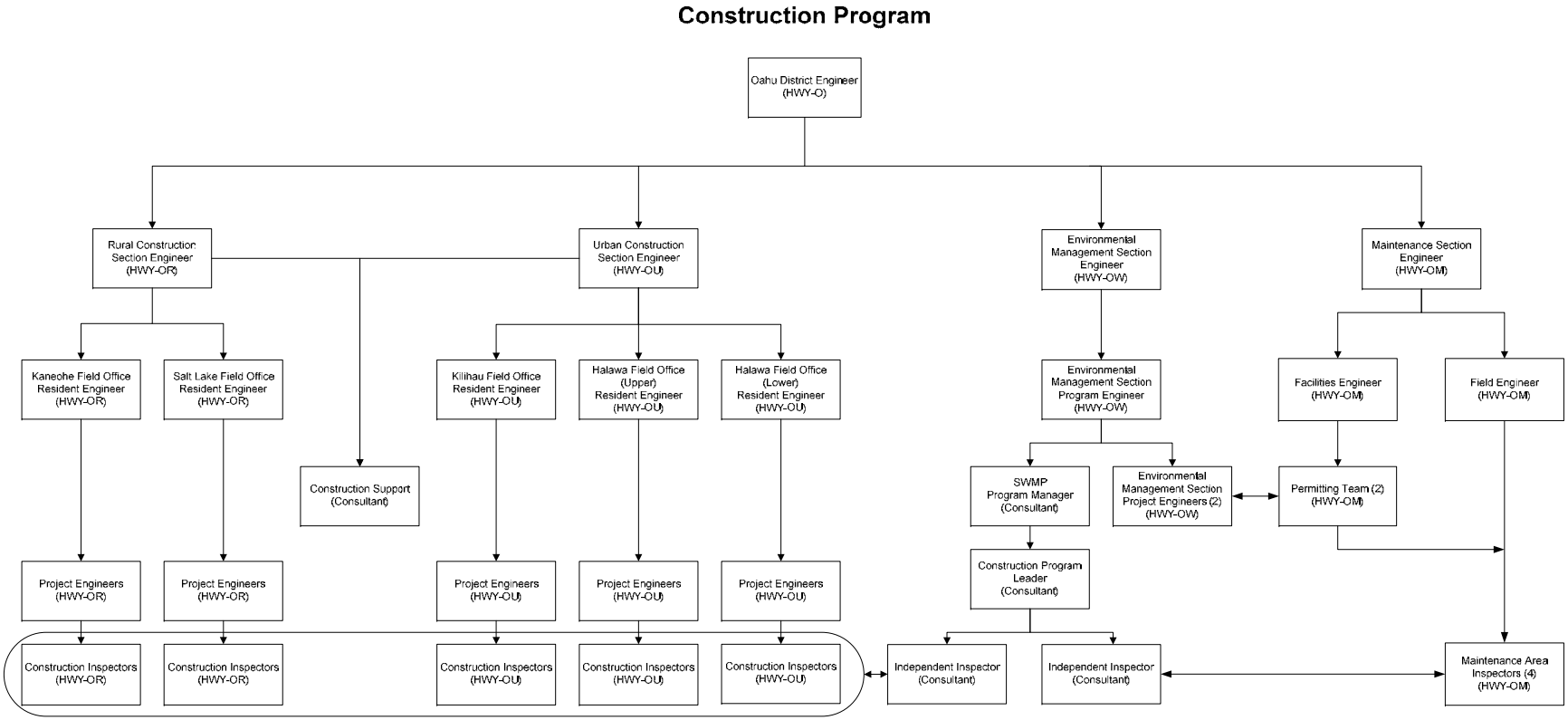


Figure 4-1. Construction Program Organizational Chart
(Note: The number in parenthesis indicates the number of individuals involved.)

4.1 BMP Implementation

DOT-HWYS uses the manuals and standards discussed in this section to provide guidance for implementing BMPs on construction projects.

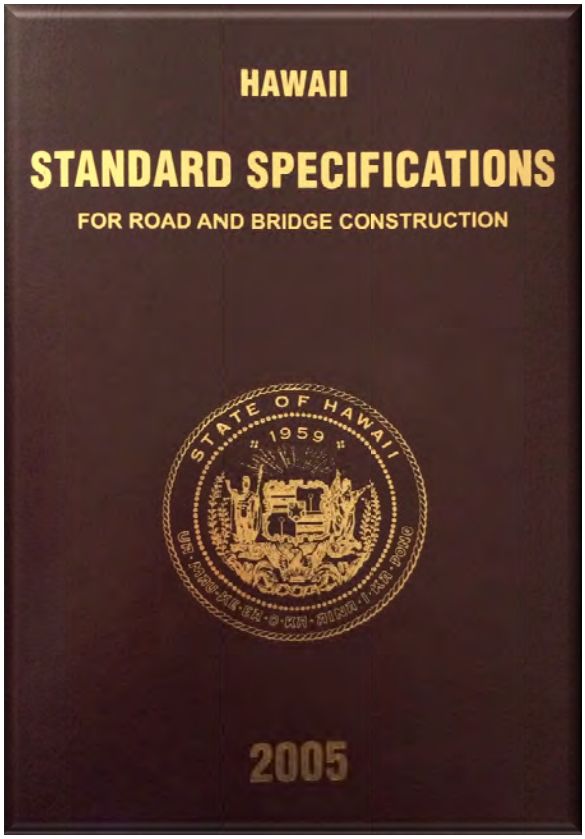
In accordance with DOT-HWYS' policies and Part D.1.d.(1) of the MS4 Permit, proposed construction projects are required to implement the BMPs and standards described in the following:

- *Hawaii Standard Specifications for Road and Bridge Construction and/or Special Provisions*;
- *Construction Best Management Practices Field Manual* (Appendix D.1);
- *Maintenance Activities Best Management Practices Field Manual*(Appendix I.1); and
- *Storm Water Permanent Best Management Practices Manual* (Appendix E.1).

These documents are available on the websites listed below for DOT-HWYS' staff, contractors, and consultants:

The *Hawaii Standard Specifications for Road and Bridge Construction and/or Special Provisions* is available for download on DOT-HWYS' website at http://hidot.hawaii.gov/highways/s2005-standard-specifications/2005-standard-specifications/.

The *Construction Best Management Practices Field Manual* (*Construction BMPs Field Manual*), *Maintenance Activities Best Management Practices Field Manual* (*Maintenance BMPs Field Manual*), and *Storm Water Permanent Best Management Practices Manual* (*Permanent BMPs Manual*) are available on www.stormwaterhawaii.com and as appendices to this SWMPP.



Hawaii Standard Specifications for Road and Bridge Construction are a compilation of provisions and requirements.

As shown in Figure 4-2, the Environmental Management Section Engineer is responsible for ensuring the documents discussed in this section are made available to the appropriate parties, reviewed annually, and revised as necessary to account for new, modified, or revised BMPs, including permanent BMPs and LID practices. Any revisions to these documents will be discussed in the Annual Report.

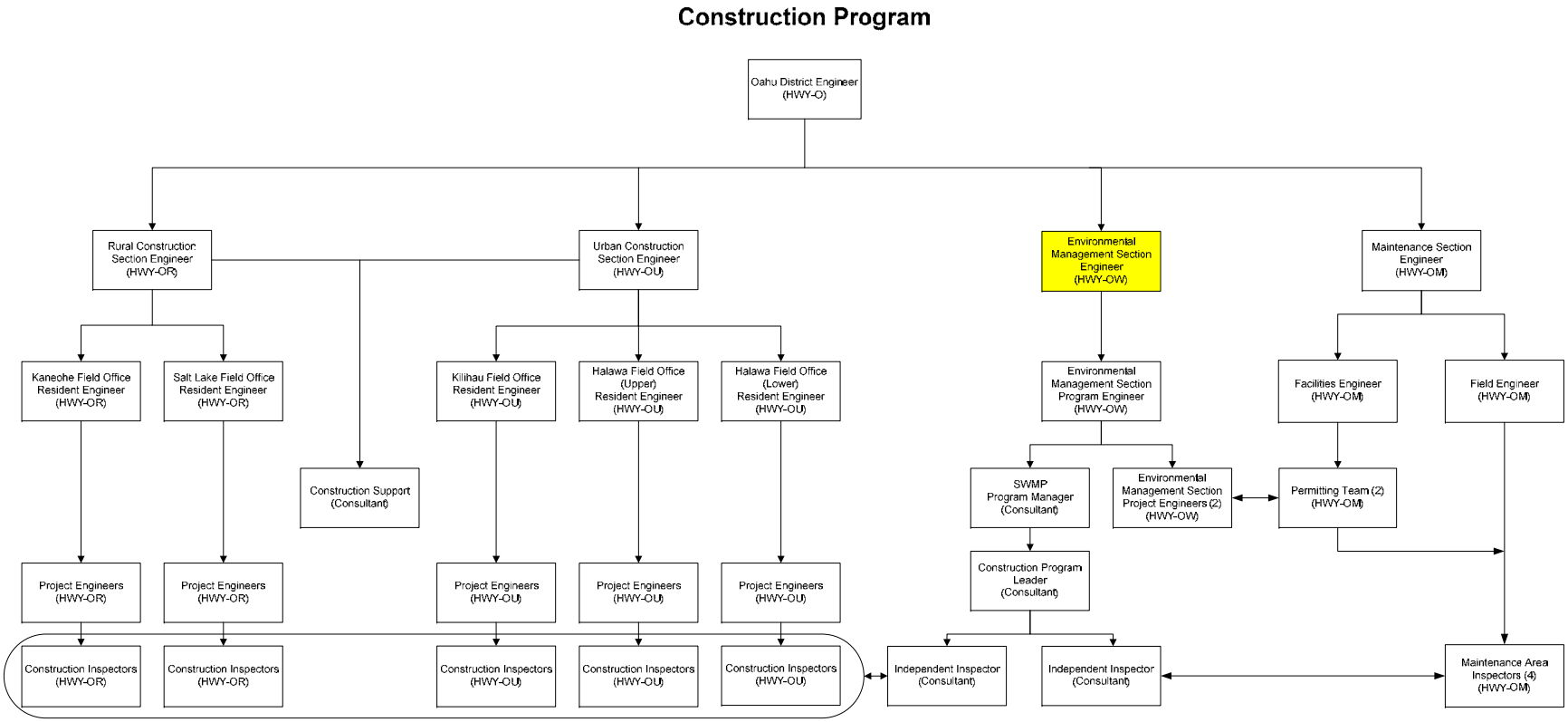


Figure 4-2.Construction Program Organizational Chart for Roles and Responsibilities Related to BMP Implementation

4.2 Inventory of Construction Projects

DOT-HWYS uses various systems to maintain an inventory of contract and encroachment permit construction projects. These systems include databases, spreadsheets, and project files that are maintained by HWY-OU, HWY-OR, and HWY-OW.

The information tracked for contract construction projects and encroachment permit construction projects may include the project title, project number, or permit number, status of plan review and approval, inspection dates, and if applicable, enforcement actions.

Construction projects are required to implement BMPs to protect water quality.

Resident Engineers at the field offices maintain an inventory of contract construction projects, while HWY-OW and the Permitting Team keep inventory of encroachment permit construction projects. Their role in tracking construction projects is highlighted in Figure 4-3.

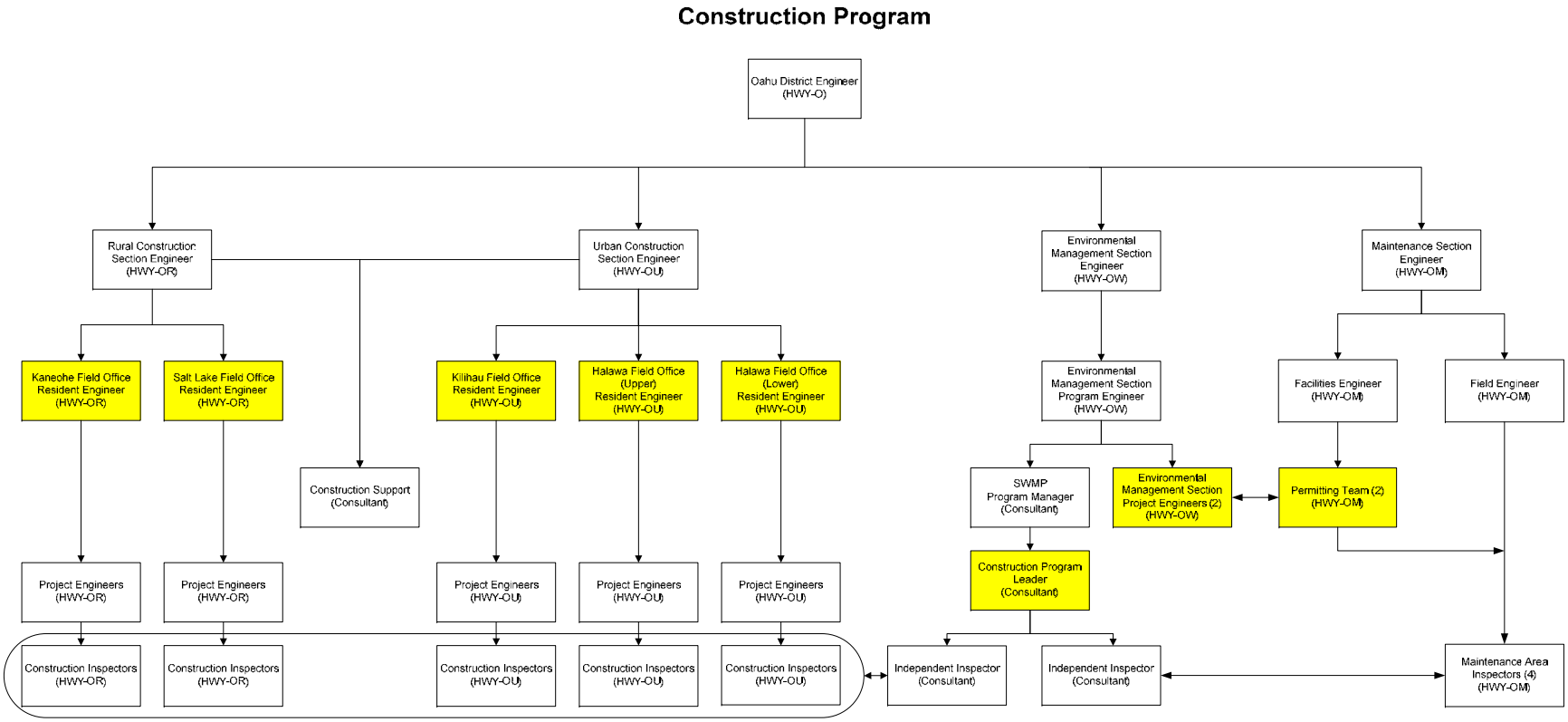


Figure 4-3. Construction Program Organizational Chart for Roles and Responsibilities Related to Construction Project Inventory

4.3 Plan Review and Permitting

DOT-HWYS conducts plan review and issues permits, as applicable, for contract construction projects and encroachment permit construction projects.

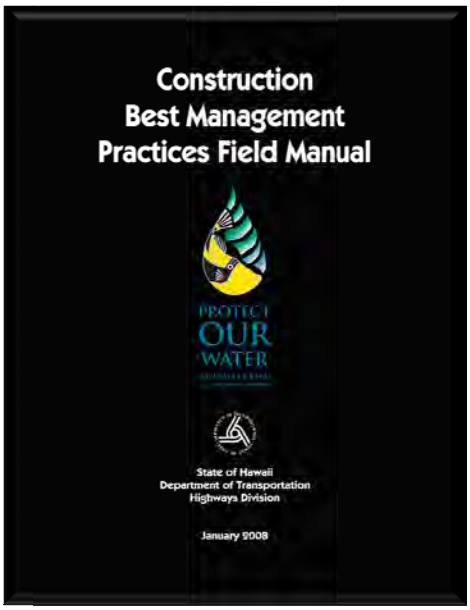
4.3.1 Project Plan Review and Approval

DOT-HWYS reviews construction projects' Site-Specific BMP (SSBMP) Plans and other pollution prevention measures (e.g., Storm Water Pollution Prevention Plans, Water Pollution & Erosion Control Notes, Erosion Control Plans, Grading Plans, etc.) to verify that they meet the requirements outlined in Part D.1.d.(3).(i) of the MS4 Permit.

In accordance with the Consent Decree, DOT-HWYS revised the following documents to require use of the CCH's BMP Manual and the CCH's "Rules for Soil Erosion Standards and Guidelines," April 1999:

- Standard Provisions (Sections 107.17 and 209);
- Water Pollution and Erosion Control Notes; and
- NPDES Requirements for Permit Projects Within State Highway Right-of-Way Notes.

However, in 2008, DOT-HWYS developed the *Construction BMPs Field Manual*, which now supersedes use of the CCH's BMP Manual.



The Construction BMP Field Manual provides guidance on BMP installation and maintenance procedures for construction activities.

Contract Construction Projects

DOT-HWYS provides copies of the Site-Specific BMP Plan/Storm Water Pollution Prevention Plan (SWPPP) Review Checklist (SSBMP Plan/SWPPP Review Checklist) (Appendix D.2) to consultants and contractors for their use during the development of SSBMP Plans and SWPPPs. Contract construction projects are required to provide either a SSBMP Plan or a SWPPP, and a completed SSBMP Plan/SWPPP Review Checklist to the project's Resident Engineer.

Prior to the approval of construction plans and specifications for contract construction projects, DOT-HWYS reviews project plans to ensure that Water Pollution & Erosion Control Notes, Erosion Control Plans, and Grading Plans have been incorporated, as applicable.

Prior to the commencement of construction activities for contract construction projects, DOT-HWYS reviews the construction projects' SSBMP Plan or SWPPP. DOT-HWYS uses the SSBMP Plan/SWPPP Review Checklist to verify that a project's SSBMP Plan or SWPPP meets the requirements outlined in Part D.1.d.(3).(i) of the MS4 Permit. The SSBMP Plan/SWPPP Review Checklist is used by DOT-HWYS to comment on any deficiencies in the SSBMP Plan or SWPPP and track the dates the comments were addressed.

DOT-HWYS does not allow construction to commence until it verifies and documents on the SSBMP Plan/SWPPP Review Checklist, that the project has received a Notice of General Permit Coverage (NGPC) under HAR, Chapter 11-55, Appendix C, NPDES General Permit Authorizing the Discharge of Storm Water Associated with Construction Activity (unless the project will disturb less than once acre of land) and has satisfied any other applicable requirements of the NPDES permit program (i.e., an individual NPDES permit). The project's NGPC status is tracked as part of the construction site inventory discussed in Section 4.2.

Encroachment Permit Construction Projects

DOT-HWYS provides a copy of the SSBMP Plan/SWPPP Review Checklist to applicants for *Permit to Connect to the State Highways Drainage System* (connection permit) (Appendix C.2), *Permit to Discharge into the State Highways Drainage System* (discharge permit) (Appendix J.1), and *Permit to Perform Work Upon State Highway*s (Appendix D.3). Encroachment permit construction projects are required to provide a SSBMP Plan/SWPPP and BMP Checklist when they apply for a *Permit to Perform Work on State Highways.*

Prior to the commencement of construction activities for an encroachment permit construction project, DOT-HWYS reviews SSBMP Plans and SWPPPs, if applicable. DOT-HWYS uses the SSBMP Plan/SWPPP Review Checklist to verify that the project's SSBMP Plan/SWPPP meets the requirements outlined in Part D.1.d.(3).(i) of the MS4 Permit.

For encroachment permit construction projects, it is the project owner's responsibility to submit the NGPC to DOT-HWYS. The project's NGPC status is tracked as part of the construction site inventory discussed in Section 4.2.

4.3.2 Permitting

Encroachment permit construction projects proposing to construct a connection to the MS4 are required to obtain a connection permit from DOT-HWYS. Encroachment permit construction projects requesting to discharge surface storm water runoff associated with construction, hydrotesting, dewatering effluent, or other non-storm water discharges to the MS4, must obtain a discharge permit. To complete the application process for a connection and/or discharge permit, an *Application for a Private Storm Drain Connection and/or Discharge Permit to the State of Hawaii Highways Division Storm Drain System* (Appendix C.1) must be submitted to DOT-HWYS. Furthermore, encroachment permit construction projects must obtain a *Permit to Perform Work Upon State Highways* before they are allowed to perform any construction activities within DOT-HWYS' right-of-way.

Prior to issuing a connection permit, discharge permit, or *Permit to Perform Work Upon State Highways*, DOT-HWYS uses the SSBMP Plan/SWPPP Review Checklist to ensure that the following are met:

- The project owner has provided proof of filing a NOI Form C or NPDES application for the discharge of storm water associated with construction activities that disturb one acre or more;
- The project owner has provided proof of filing a NOI Form F and/or G or NPDES application for the discharge, if applicable; and
- A SSBMP Plan or other documents (e.g., Erosion and Sediment Control, Grading, Post-construction BMP and Landscaping Plans, Dewatering Plan, and Hydrotesting Plan) relating to pollution prevention or similar document(s) have been reviewed and accepted by DOT-HWYS.

The following roles and responsibilities related to plan review and permitting are represented in Figure 4-4: Resident Engineers and Project Engineers review contract construction project plans to ensure compliance with Part D.1.d.(3).(i) of the MS4 Permit. Resident Engineers and Project Engineers, with the assistance of Construction Support, review SSBMP Plans/SWPPPs for contract construction projects. The Environmental Management Section Project Engineers review SSBMP Plan/SWPPPs for encroachment permit construction projects. The Environmental Management Section Project Engineers and the Permitting Team are responsible for reviewing, issuing, and tracking permit approvals for encroachment permit construction projects.

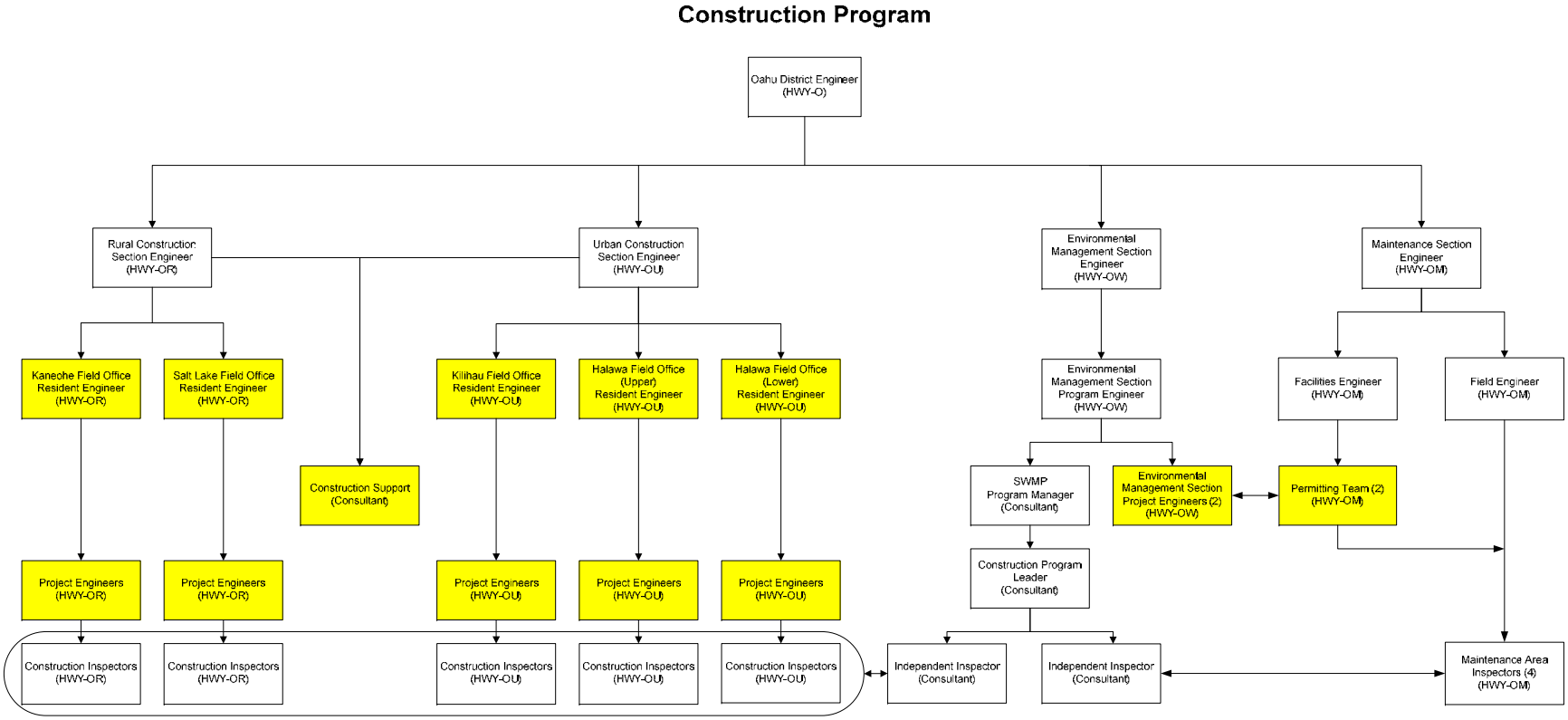


Figure 4-4. Construction Program Organizational Chart for Roles and Responsibilities Related to Plan Review and Permitting

4.4 Inspections

DOT-HWYS conducts initial and independent inspections of construction projects and has developed corrective action and reporting procedures in accordance with Part D.1.d.(4) of the MS4 Permit.

4.4.1 Initial Inspections

Prior to the initiation of ground-disturbing activities at any site, except for activities associated with the installation of BMPs, the Project Engineer, Construction Inspector, or Maintenance Area Inspectors inspects the construction site to verify that BMPs have been installed correctly and in the correct locations, as required by the project's SSBMP Plan and/or other documents. Initial inspections are conducted on any areas affected by DOT-HWYS construction activities and at sites otherwise constructed within DOT-HWYS' right-of-way. Inspections include a review of site erosion and sediment controls, good housekeeping practices, and compliance with DOT-HWYS-accepted erosion and sediment control plans, SSBMP Plan, or other similar documents and DOT-HWYS-approved permits. If the inspector identifies any site conditions that have the potential for erosion and sediment runoff, including other pollutant discharges which may occur as a result of the project's construction activities, construction will not be allowed to commence until the deficiency is remedied.

4.4.2 Independent Inspections

Contract Construction Project Inspections

In addition to inspections required by the NPDES permit program, contract construction projects are required to be inspected by a qualified construction inspector who is independent (i.e. not involved in the day to day planning, design, or implementation) of the construction project to be inspected. The Independent Inspector inspects all contract construction projects at least monthly, using a standard inspection form. The inspection frequency for a specific project may be decreased to quarterly if, upon three successive monthly inspections, the following criteria are met:

- No critical or major deficiencies;
- Less than six minor deficiencies; and
- No more than three minor deficiencies in one month in a project's BMPs or other storm water management activities.

However, if while under a quarterly inspection frequency, the Independent Inspector identifies at least one critical or major deficiency or a total of three or more minor deficiencies, the inspection frequency of the construction project will immediately return to no less than monthly.

Encroachment Permit Construction Project Inspections

All construction projects with a connection permit, discharge permit, and/or *Permit to Perform Work Upon State Highways* are inspected at least once annually or once during the life of the project, whichever comes first, by an independent inspector who is not involved in the day-to-day planning, design, or implementation of the construction project to be inspected. If a project has a SSBMP Plan or other equivalent document(s), the inspector verifies that BMPs were properly installed and at the locations specified in the plan. The inspection is documented using a standard inspection form.

4.4.3 Corrective Action and Reporting Procedures

In accordance with Part D.1.d.4.(iv) of the MS4 Permit, DOT-HWYS submitted standard inspection forms (Appendix D.4, D.5 and D.6) and corrective and reporting procedures for inspections to DOH, within 90 days of the effective date of the MS4 Permit.

Corrective Procedures

DOT-HWYS implements the following procedures to correct or address deficiencies identified during inspections conducted under Part D.1.d.(4).(ii) of the MS4 Permit:

1. Conduct inspections of BMPs on DOT-HWYS' contract construction projects.
    a. If the inspector identifies a critical deficiency during the site visit, the deficiency shall be corrected or addressed before the close of business on the day of the inspection when the deficiency is identified.
    b. If the inspector identifies a major deficiency during the site visit, the deficiency shall be corrected or addressed as soon as possible, but in no event later than five calendar days after the inspection at which the deficiency is identified or before the next forecasted precipitation, whichever is sooner.
2. Inspector provides a post-inspection briefing to construction project personnel (e.g., DOT-HWYS Project Engineer, DOT-HWYS Construction Inspector, Construction Manager, Contractor's Representative) summarizing the BMP deficiencies identified.
3. Inspector completes the *Independent (Third Party) Inspection Checklist* (Appendix D.5) and submits the checklist with accompanying photographs to the DOT-HWYS personnel.
4. The DOT-HWYS personnel notifies the contractor of any deficiencies identified by the inspector.
5. DOT-HWYS personnel verify that the deficiencies have been addressed and document the date deficiencies were corrected and the corrective actions taken.
6. DOT-HWYS personnel follow procedures for enforcement and follow-up actions as outlined in the ERP (Section 4.5).

Reporting Procedures

In addition to corrective procedures, Parts D.1.d.(4).(ii) and D.1.d.(4).(iii) of the MS4 Permit require that reporting procedures be developed and include, at a minimum, notification of any critical deficiencies to the DOH.

The following reporting procedures have been developed for inspections conducted under Part D.1.d.(4).(ii) of the MS4 Permit:

1. Conduct inspections of BMPs on DOT-HWYS contract construction projects.
2. If the inspector identifies a critical deficiency during the site visit, the deficiency shall be corrected or addressed before the close of business on the day of the inspection when the deficiency was identified.
3. Inspector provides a post-inspection briefing to construction project personnel (e.g., DOT-HWYS Project Engineer, DOT-HWYS Construction Inspector, Construction Manager, Contractor's Representative) summarizing the BMP deficiencies identified.
4. Inspector completes the *Independent (Third Party) Inspection Checklist* and submits the checklist with accompanying photographs to the DOT-HWYS personnel.
5. The DOT-HWYS personnel notifies the Contractor of any deficiencies identified by the inspector.
6. DOT-HWYS personnel verify that the deficiencies have been addressed and document the date deficiencies were corrected and the corrective actions taken.
7. The inspector notifies HWY-OW of the critical deficiency and corrective action taken.
8. HWY-OW notifies the DOH of the critical deficiency, which includes a copy of the inspection report and photo documentation.

The following reporting procedures have been developed for inspections conducted under Part D.1.d.(4).(iii) of the MS4 Permit:

1. Conduct inspections of BMPs on construction projects with a *Permit to Perform Work Upon State Highways*, connection permit, and discharge of surface runoff permit/approval at least once annually or once during the life of the project, whichever comes first.
2. If the inspector identifies a critical deficiency during the site visit, the deficiency shall be corrected or addressed before the close of business on the day of the inspection when the deficiency is identified.
3. Inspector completes the *Independent (Third Party) Inspection Checklist (Short Form)* (Appendix D.6) and submits the checklist with accompanying photographs to the DOT-HWYS personnel.
4. DOT-HWYS personnel verify that the deficiencies have been addressed and document the date deficiencies were corrected and the corrective actions taken.
5. The inspector notifies HWY-OW of the critical deficiency and corrective action taken.

HWY-OW notifies the DOH of the critical deficiency, which includes a copy of the inspection report and photo documentation.

4.4.4 Tracking Inspection Results

In accordance with Part D.1.d.(4).(iv) of the MS4 Permit, DOT-HWYS tracks the results of inspections. Inspections conducted as described above in Sections 4.4.1 and 4.4.2 are tracked using databases or equivalent systems managed by DOT-HWYS.

Initial Inspections on Contract Construction Projects

The results for initial inspections conducted prior to construction commencing on contract construction projects are documented on the *Site-Specific Best Management Practice/Storm Water Pollution Prevention Inspection and Maintenance Report* (Appendix D.4) and tracked in DOT-HWYS' Construction Project Management System (CPMS).

Initial Inspections on Encroachment Permit Construction Projects

The results for initial site inspections conducted prior to construction commencing on encroachment permit construction projects are documented on the BMP Checklist and tracked in the AMS.

Independent Inspections on Contract Construction Projects

The results for independent inspections conducted on contract construction projects are documented on the *Independent (Third Party) Inspection Checklist* and tracked in the AMS.

Independent Inspections on Encroachment Permit Construction Projects

The results for independent inspections conducted on encroachment permit construction projects are documented on the *Independent (Third Party) Inspection Checklist (Short Form)* and tracked in the AMS.

The Project Engineers and/or Construction Inspectors conduct initial inspections for contract construction projects. The Maintenance Area Inspectors conduct initial inspections for applicable encroachment permit construction projects. The Independent Inspectors conduct independent inspections of encroachment permit and contract construction projects, and report their findings to the Construction Program Leader. The Construction Program Leader assisted with the development and submission of corrective action and reporting procedures. Project Engineers and/or Construction Inspectors track initial inspections conducted on contract construction projects. The Construction Program Leader tracks initial inspections and independent inspections on encroachment permit construction projects. The Independent Inspector tracks independent inspections on contract construction projects. These roles and responsibilities related to construction project inspections are depicted in Figure 4-5.

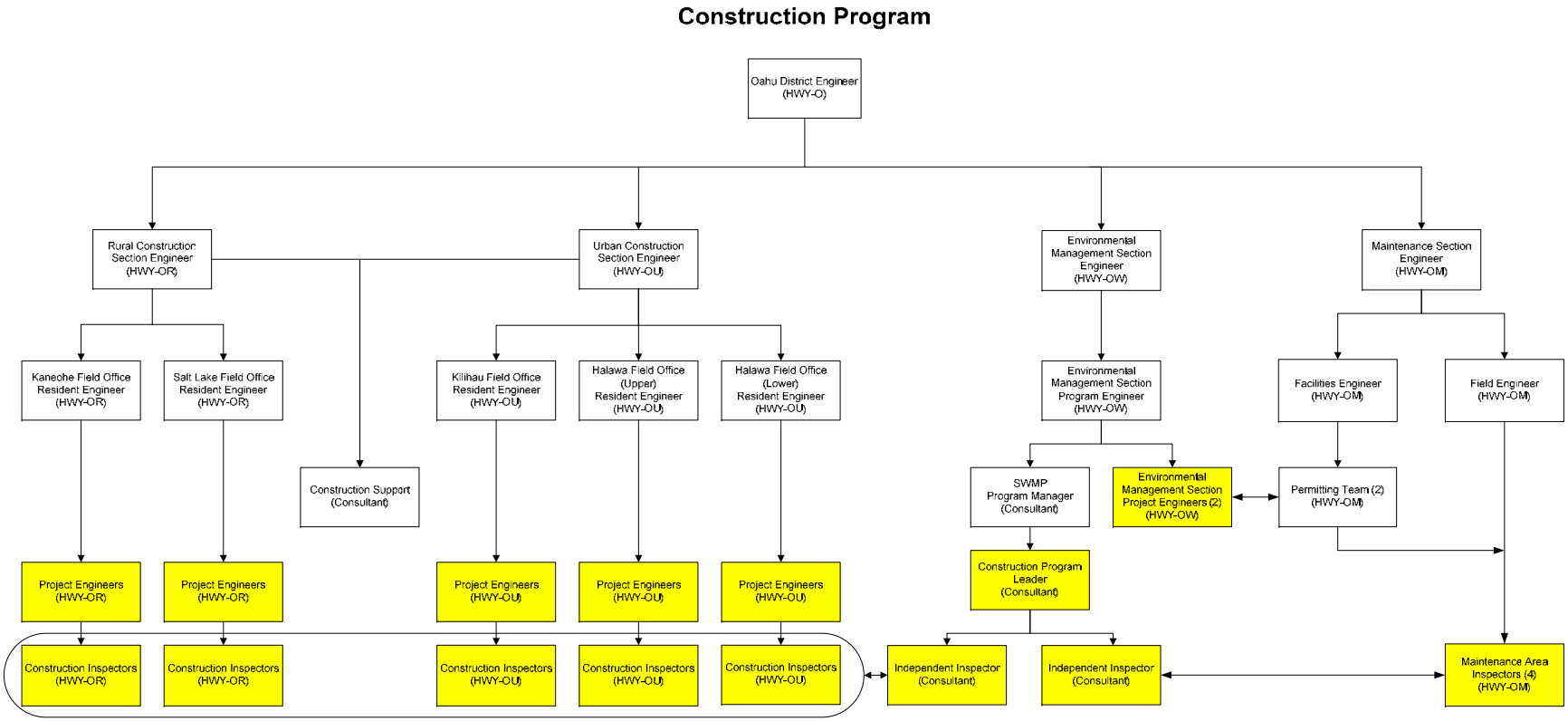


Figure 4-5. Construction Program Organizational Chart for Roles and Responsibilities Related to Inspections

4.5 Enforcement

Contract and encroachment permit construction projects are required to implement BMPs to prevent the discharge of pollutants in accordance with the Part D.1.d.(1) of the MS4 Permit (Section 4.1). To satisfy Part D.1.d.(5) of the MS4 Permit, DOT-HWYS developed an Enforcement Response Plan (ERP) (Appendix D.7) that describes DOT-HWYS' procedures for enforcement and follow-up actions, including assessment of penalties, when a contract or encroachment permit construction project is not in compliance with the MS4 Permit, policies, standards, requirements, and/or applicable permits. Implementation of the ERP ensures a consistent response by DOT-HWYS for compliance with the MS4 Permit and provides the framework for DOT-HWYS to impose enforcement on construction projects if necessary. Specifically, the ERP outlines DOT-HWYS' ability to assess liquidated damages or revoke permits as necessary.

In the event that DOT-HWYS has exhausted its use of sanctions and cannot bring a construction site or construction operator into compliance with its policies, standards, or the MS4 Permit, or otherwise deems the site to pose an immediate and significant threat to water quality, DOT-HWYS will provide e-mail notification to cleanwaterbranch@doh.hawaii.gov within one week of such determination. E-mail notification is followed by written notification within two weeks of the determination and includes a copy of all inspection checklists, notes, and related correspondence. In instances where an inspector identifies a site that has not applied for permit coverage under the NPDES permit program, DOT-HWYS provides written notification to DOH within two weeks of the discovery.

As depicted in Figure 4-6, the Rural Construction Section Engineer, Urban Construction Section Engineer, Environmental Management Section Engineer, and Maintenance Section Engineer are responsible for ensuring the implementation of the ERP.

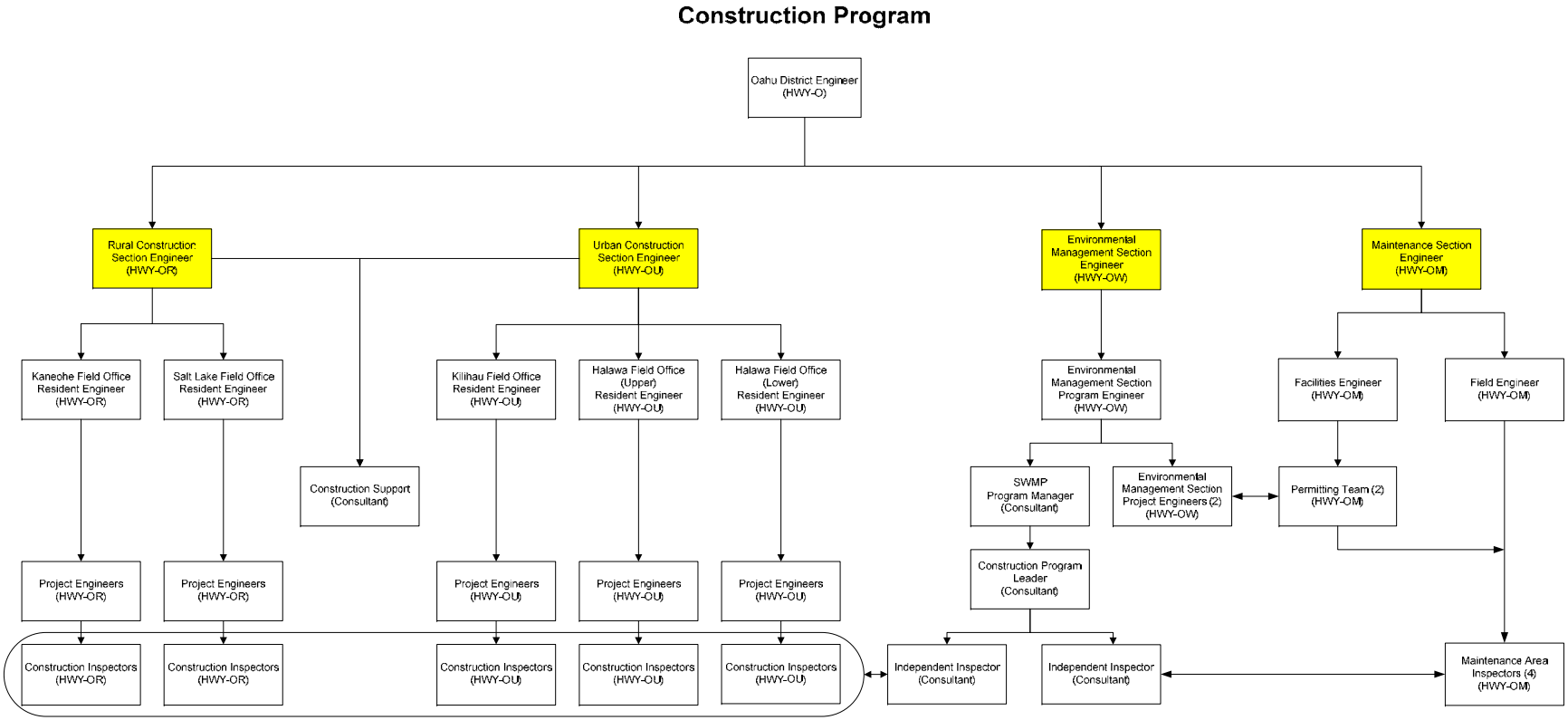


Figure 4-6. Construction Program Organizational Chart for Roles and Responsibilities Related to Enforcement

4.6 Construction BMP Training

DOT-HWYS provides annual Construction BMP Training to all DOT-HWYS staff with construction storm water responsibilities, including construction engineers, construction and maintenance inspectors, and plan reviewers. The Construction BMP Training may include a review of SWMPP development; proper installation, maintenance, and inspection of construction BMPs; as well as a review of policies, rules, and procedures.

DOT-HWYS conducts annual Construction BMP Training.

As depicted in Figure 4-7, the Environmental Management Section Engineer, SWMP Program Manager, and Construction Program Leader are responsible for coordinating the Construction BMP Training.

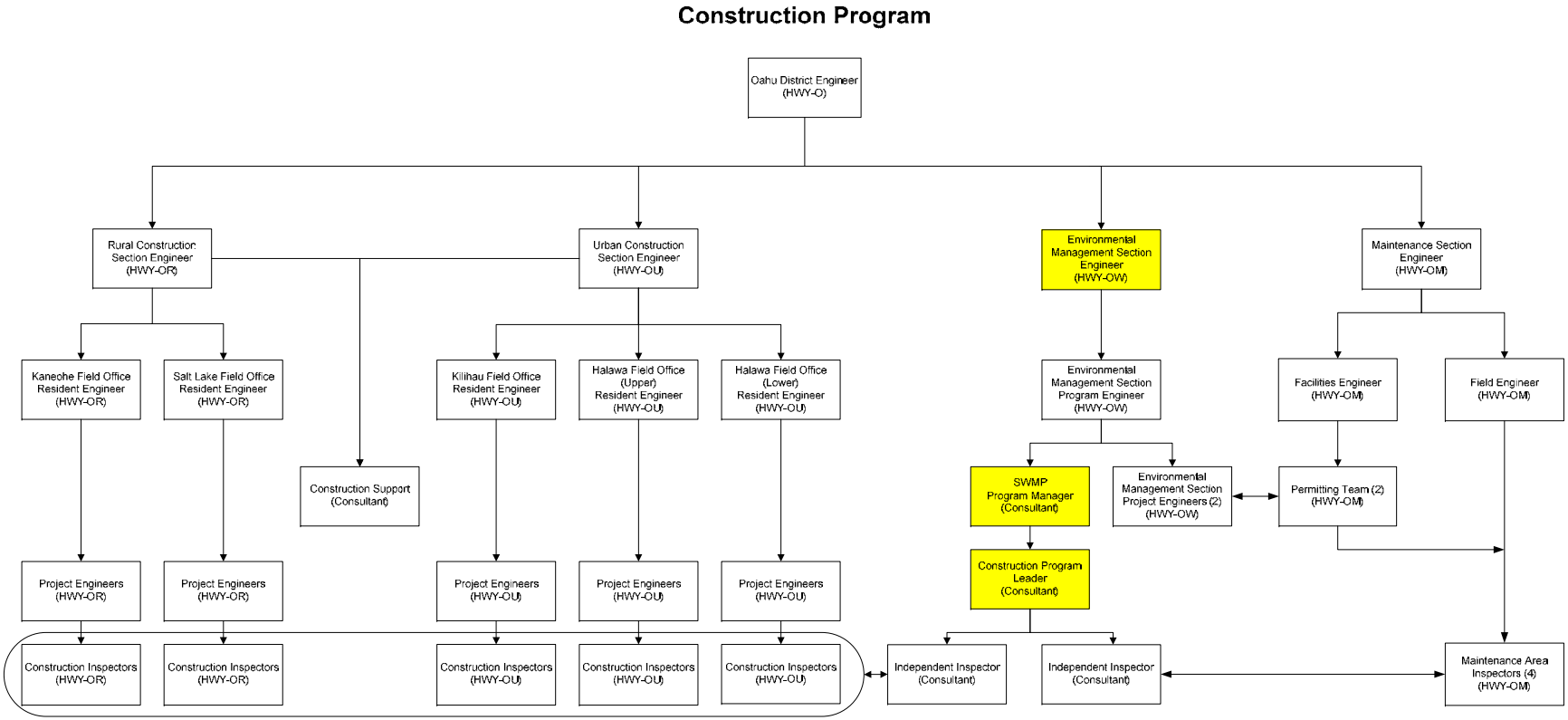


Figure 4-7. Construction Program Organizational Chart for Roles and Responsibilities Related to Training

4.7 Education

In addition to the Construction BMP Training, DOT-HWYS provides educational material to ensure that project applicants, contractors, developers, property owners, and other responsible parties have an understanding of the storm water requirements they need to implement.

Educational materials, including a Permit Holders Guide to Understanding Storm Water (Appendix D.8), are provided to encroachment permit construction project applicants at the time they apply for a *Permit to Perform Work Upon State Highways*. At this time, DOT-HWYS also verifies that the contractor has a copy of the *Construction BMPs Field Manual*.

For contract construction projects, DOT-HWYS educates contractors on a project-by-project basis for the development and review of SSBMP Plans or SWPPPs and BMP implementation. Additionally, DOT-HWYS holds a Pre-Construction Conference and Water Pollution and Erosion Control Conference prior to construction commencing. DOT-HWYS also provides contractors with a copy of the following materials:

- "What HDOT Contractors Need to Know About Staging Areas";
- "What HDOT Contractors Should Expect During a DOH Compliance Inspection";
- "What HDOT Contractors Need to Know About HDOT's Enforcement Response Plan for Construction Site Runoff Control";
- "What HDOT Contractors Should Know About Solid Waste";
- Illegal Dumping Poster;
- State of Hawaii DOH Illegal Dumping Notice (April 2011);
- Construction BMP Training on a compact disk;
- *Construction BMPs Field Manual*;
- ERP; and
- Consent Decree.

As depicted in Figure 4-8, the Resident Engineers are responsible for distributing educational materials to contract construction projects, and the Permitting Team is responsible for providing educational materials to encroachment permit construction projects. Additionally, the Environmental Management Section Engineer, SWMP Program Manager, and Construction Program Leader provide educational materials to Construction BMP Training attendees and to participants at educational outreach events.

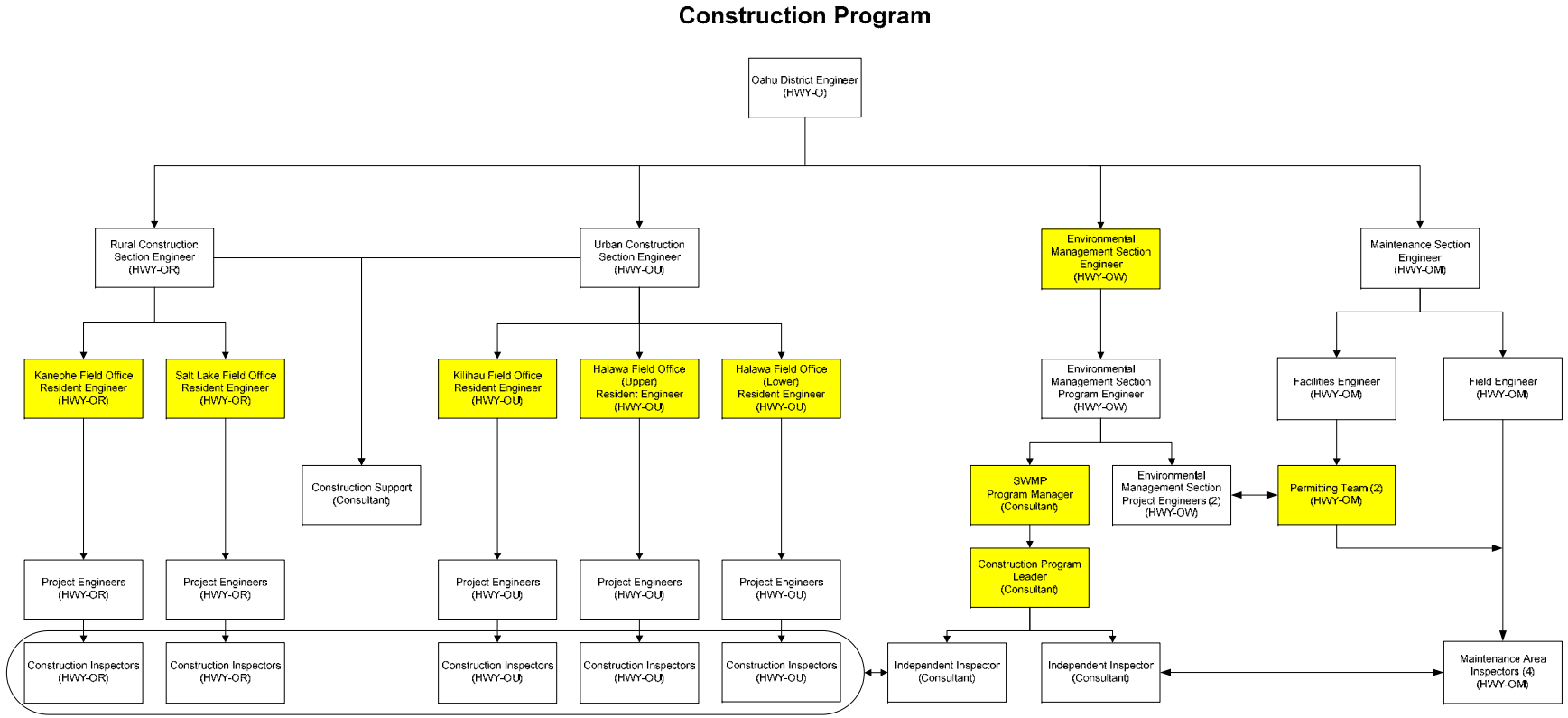


Figure 4-8. Construction Program Organizational Chart for Roles and Responsibilities Related to Education

4.8 Monitoring Program Effectiveness

Table 4-3 provides measurable standards/milestones for the BMPs discussed in this chapter and DOT-HWYS' strategy for monitoring the effectiveness of their implementation.

Table 4-3. Standards/Milestones for the Construction Program

Section	BMP	Standard/Milestone	Monitoring Effectiveness
4.1	BMP Implementation	• Establish policy to require proposed construction projects implement BMPs and standards. • Annually review and as necessary revise the Hawaii Standards Specifications for Road and Bridge Construction and/or Special Provision, *Construction BMPs Field Manual*, *Maintenance BMPs Field Manual*, and the *Permanent BMPs Manual*.	• Milestone completed on 10/27/ 2014. • Report revisions in the Annual Report.
4.2	Inventory of Construction Sites	• Use CPMS to track contract construction projects. • Use databases to track encroachment permit construction projects.	• Confirm that all contract construction projects have been entered into CPMS. • Confirm that all encroachment permit construction projects have been entered into databases.
4.3	Plan Review and Permitting	• Review all contract and encroachment permit construction project's SSBMP Plans and other pollution prevention measures to verify that they meet the requirements outlined in Part D.1.d.(3).(i) of the MS4 Permit. • Use databases to track connection permits, discharge permits, and Permits to Perform Work Upon State Highways.	• Document project plan review using the SSBMP Plan/SWPPP Plan Review Checklist. Maintain completed SSBMP Plan/SWPPP Plan Review Checklist in project files for all projects. • Confirm permits or written equivalent approvals are tracked in databases.

Section	BMP	Standard/Milestone	Monitoring Effectiveness
4.4	Inspections	• Inspect all sites to verify BMPs as required by the BMP Plan and/or other documents have been installed correctly and in the correct locations prior to the commencement of ground-disturbing activities. • Inspect all contract construction projects in accordance with Part D.1.d.4.(ii) of the MS4 Permit. • Inspect all construction projects with a connection permit, discharge permit, or *Permit to Perform Work Upon State Highways* in accordance with Part D.1.d.4.(iii) of the MS4 Permit.	• Track initial inspections for contract construction projects in CPMS. • Track initial inspections for encroachment permit construction projects in AMS. • Track independent inspections for contract construction projects in AMS. • Track independent inspections for encroachment permit construction projects in AMS.
4.5	Enforcement	• Develop and implement an ERP.	• Milestone completed on 10/27/2014.
4.6	Construction BMP Training	• Provide annual training for DOT-HWYS staff with construction storm water responsibilities.	• Maintain sign-in sheets of all training attendees.
4.7	Education	• Provide education on storm water requirements to project applicants, contractors, developers, property owners, and other responsible parties.	• Ensure that educational materials are distributed at DOT-HWYS District Office, Pre-Construction Conferences, and are available for download on www.stormwaterhawaii.com.

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Chapter 5
Post-Construction Storm Water Management in New Development and Redevelopment Program

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CHAPTER 5
POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT PROGRAM

The purpose of the Post-Construction Storm Water Management in New Development and Redevelopment Program (Post-Construction Program) is to address storm water runoff from all new development and redevelopment projects that result in a land disturbance of one acre or more and smaller projects that have the potential to discharge pollutants to the MS4.

The Post-Construction Program implements the following control measures to minimize storm water impacts to the MEP and ensure permanent controls are in place for applicable projects:

1. Revise the *Storm Water Permanent BMPs Manual* (Appendix E.1) to include low impact development (LID) requirements.
2. Review and accept plans for projects to ensure that appropriate permanent BMPs (PBMPs) have been included in the project design and bid package.
3. Use the AMS to track the inspection frequency and maintenance of PBMPs.
4. Provide education and outreach materials to parties applying for DOT-HWYS' permits on the selection, design, installation, operation, and maintenance of storm water BMPs, structural controls, PBMPs, and LID practices.
5. Provide annual training for DOT-HWYS staff and contractors responsible for inspecting PBMPs and LID practices.

The Post-Construction Program is administered in accordance with the MS4 Permit requirements outlined in Table 5-1.

Table 5-1. MS4 Permit Requirements for the Post-Construction Program

MS4 Permit Reference	SWMPP Section
Part D.1.e *The Permittee shall further develop, implement, and enforce a program to address storm water runoff from all (i.e., both private and public) new development and redevelopment projects that result in a land disturbance of one (1) acre of more and smaller projects that have the potential to discharge pollutants to the DOT-HWYS' MS4. The Permittee's program must ensure that permanent controls are in place to prevent or minimize water quality impacts to the MEP. Review and update as necessary the criteria defining when and the types of permanent post-construction BMPs, including among other thing LID techniques, must be included in a project design to address storm water impacts and pollutants of concern. For State waters on the State CWA Section 303(d) list or State established and EPA approved TMDLs, the pollutants of concern to be targeted shall include the parameters causing impairment. Consideration shall also be provided for trash reduction techniques as to comply with its short and long term plans as required in Section D.1.(f)(1)(v). The program shall include, at a minimum, the following elements:*	Section 5.1 Section 5.2

MS4 Permit Reference	SWMPP Section
Part D.1.e.(1) *Standards Revision – The Permittee shall revise its standards for addressing post-construction BMPs to include Low Impact Development (LID) requirements. Within six (6) months of the effective date of this permit, the Permittee shall submit to DOH for review and acceptance, a plan for requiring LID in the standards to the MEP, including revision to the plan review and inspection checklist to include LID. LID refers to storm water management practices which seek to mimic a site's predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating storm water runoff close to its source. The standards shall ensure that the management practices are prioritized to favor infiltration, evapotranspiration, or harvesting/reuse of stormwater followed by other practices that treat and release stormwater. The standards shall be applicable to all construction projects disturbing at least one (1) acre and smaller projects that have the potential to discharge pollutants to the DOT-HWYS' MS4. LID employs principles such as preserving and recreating natural landscape features and minimizing imperviousness to create functional and appealing site drainage that treats storm water as a resource, rather than a waste product. LID treatment measures include harvesting and use, infiltration, evapotranspiration, or biotreatment. The plan for the implementation of LID provisions in the DOT-HWYS' standards shall include at a minimum the following:* • *Criteria for requiring implementation.* • *Investigation into the development of quantitative criteria for a specific design storm to be managed by LID techniques. Examples of design storm requirements include: 24-hour, 85% storm through infiltration; on-site management of the first inch of rainfall within a 24-hour period; retention of the 100-year, 2-hour storm; or on-site management of the 24-hour, 95% storm.* • *Feasibility criteria for circumstances in which a waiver could be granted for the LID requirements.* • *When a LID waiver is granted, alternatives such as offsite mitigation and/or non-LID treatment control BMPs could be required.* *A draft of the revised Standards shall be submitted to the DOH in accordance with Part A.6. for review and acceptance within 12 months after the effective date of this permit and include at a minimum the above. Within 18 months after the effective date of this permit, subject to adoption by rulemaking or other equivalent process, the revised Standards shall be submitted to the DOH in accordance with Part A.6. To the extent that the revised Standards have not been adopted, the Permittee shall submit a compliance schedule for adoption, which shall not exceed 24 months after the effective date of this permit.*	Section 5.1
Part D.1.e.(2) *Review of Plans for Post-Construction BMPs – For design-bid-build projects, the Permittee shall not advertise any construction project nor award any construction contract until the project design has been reviewed and accepted to ensure that appropriate permanent post-construction BMPs, which include LID practices upon adoption into its Standards, have been included in the project design and are included in the bid package to ensure compliance with this part of the permit. For design-build projects, the Permittee shall review and approve the project design the same as for design-bid-build projects prior to implementation. No project shall proceed without the inclusion of appropriate permanent post-construction BMPs unless a waiver is granted by DOT-HWYS based on specific documentation demonstrating that such post-construction BMPs are not feasible. Project documents for projects that will include installation of permanent post-construction BMPs shall also include appropriate requirements for their future continued maintenance.*	Section 5.2

MS4 Permit Reference	SWMPP Section
Part D.1.e.(3) *BMP, Operation and Maintenance, and Inspection Database - The Permittee shall implement its Asset Management System to track the frequency of inspections and maintenance of the Permanent BMPs. In addition to the standard information collected for all projects (e.g., project name, owner, location, start/end date, etc.), the database shall also include, at a minimum:* • *Type and number of LID practices* • *Type and number of Source Control BMPs* • *Type and number of Treatment Control BMPs* • *Latitude/Longitude coordinates of controls using Global Positioning Systems (GPS) and NAD83 or other Datum as long as the datum remains consistent* • *Photographs of controls* • *Operation and maintenance requirements* • *Frequency of inspections* • *Frequency of maintenance* *All stormwater treatment and LID BMPs shall be inspected at least once a year for proper operation; maintenance shall be performed as necessary to ensure proper operation.*	Section 5.3
Part D.1.e.(4).(i) *Project Proponents - The Permittee shall provide education and outreach material for those parties who apply for DOT permits (i.e., developers, engineers, architects, consultants, construction contractors, excavators, and property owners) on the selection, design, installation, operation and maintenance of storm water BMPs, structural controls, post construction BMPs, and LID practices. The outreach material may include a simplified flowchart for thresholds triggering permits and requirements, a list of required permits, implementing agencies, fees, overviews, timelines and a brief discussion of potential environmental impacts associated with storm water runoff.*	Section 5.4
Part D.1.e.(4).(ii) *Inspectors - All Permittee staff and those contractors under DOT-HWYS contract responsible for inspecting permanent post-construction BMPs and LID practices shall receive annual training.*	Section 5.5

Hydrodynamic separators (left) and storm catch basin filter systems (right) trap trash, debris, and sediment before it can enter the MS4 and be discharged to the ocean.

5.0 Program Organization

To fulfill the requirements of the MS4 Permit and the Consent Decree, the following organizational structure has been established for the Post-Construction Program.

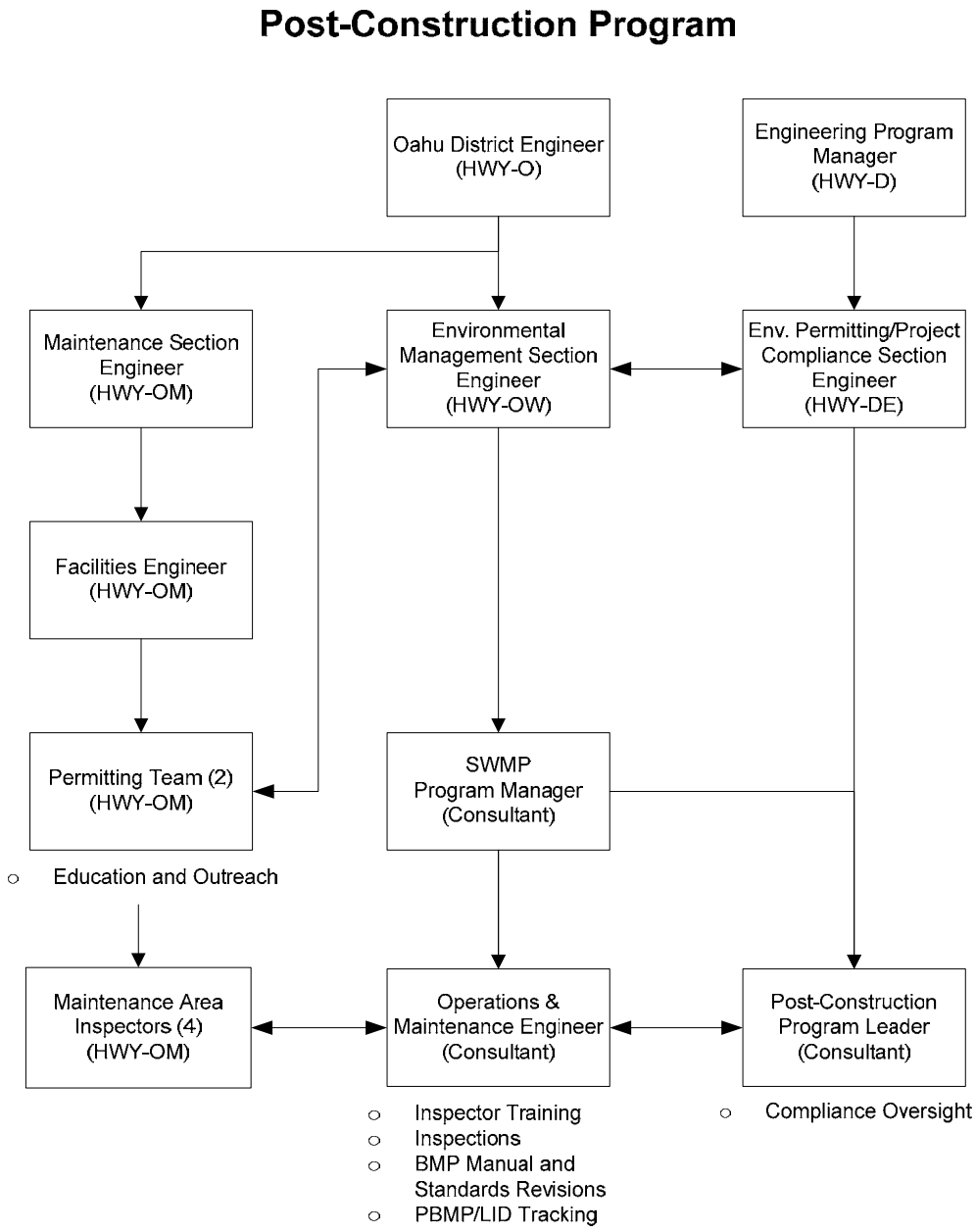

Figure 5-1. Post-Construction Program Organizational Chart
(Note: The number in parenthesis indicates the number of individuals involved.)

5.1 Low Impact Development

The Low Impact Development Center defines LID as, "The concept of employing principles such as preserving and recreating natural landscape features and minimizing imperviousness." Site developments result in land use and land cover changes that alter the natural hydrology of an area. LID techniques are storm water management practices that seek to mimic a site's predevelopment hydrology by minimizing disturbed areas and impervious cover, and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating storm water runoff close to its source.

Part D.1.e.(1) of the MS4 Permit requires DOT-HWYS to revise its standards for addressing post-construction BMPs to include LID requirements. DOT-HWYS' standards for post-construction storm water management in new development and significant redevelopment areas are established in the *Storm Water Permanent BMPs Manual* (*Permanent BMPs Manual)*. DOT-HWYS revised the *Permanent BMPs Manual* to include LID requirements and submitted it to DOH within 18 months of the effective date of the MS4 Permit, along with a compliance schedule for the adoption of these standards. The compliance schedule requires adoption of the revised standards within 24 months of the effective date of the MS4 Permit.

The revised standards include the following information regarding LID requirements and techniques:

- Criteria for requiring implementation;
- Quantitative criteria for a specific design storm to be managed by LID techniques;
- Feasibility criteria for circumstances in which a waiver could be granted for the LID requirements; and
- Alternatives that may be required when a LID waiver is granted, such as offsite mitigation and/or non-LID treatment control BMPs.

As shown in Figure 5-2, the Operations and Maintenance Engineer, Post-Construction Program Leader, and Environmental Permitting and Project Compliance Section (HWY-DE) Engineer are responsible for revising the standards and ensuring their adoption in accordance with the compliance schedule.

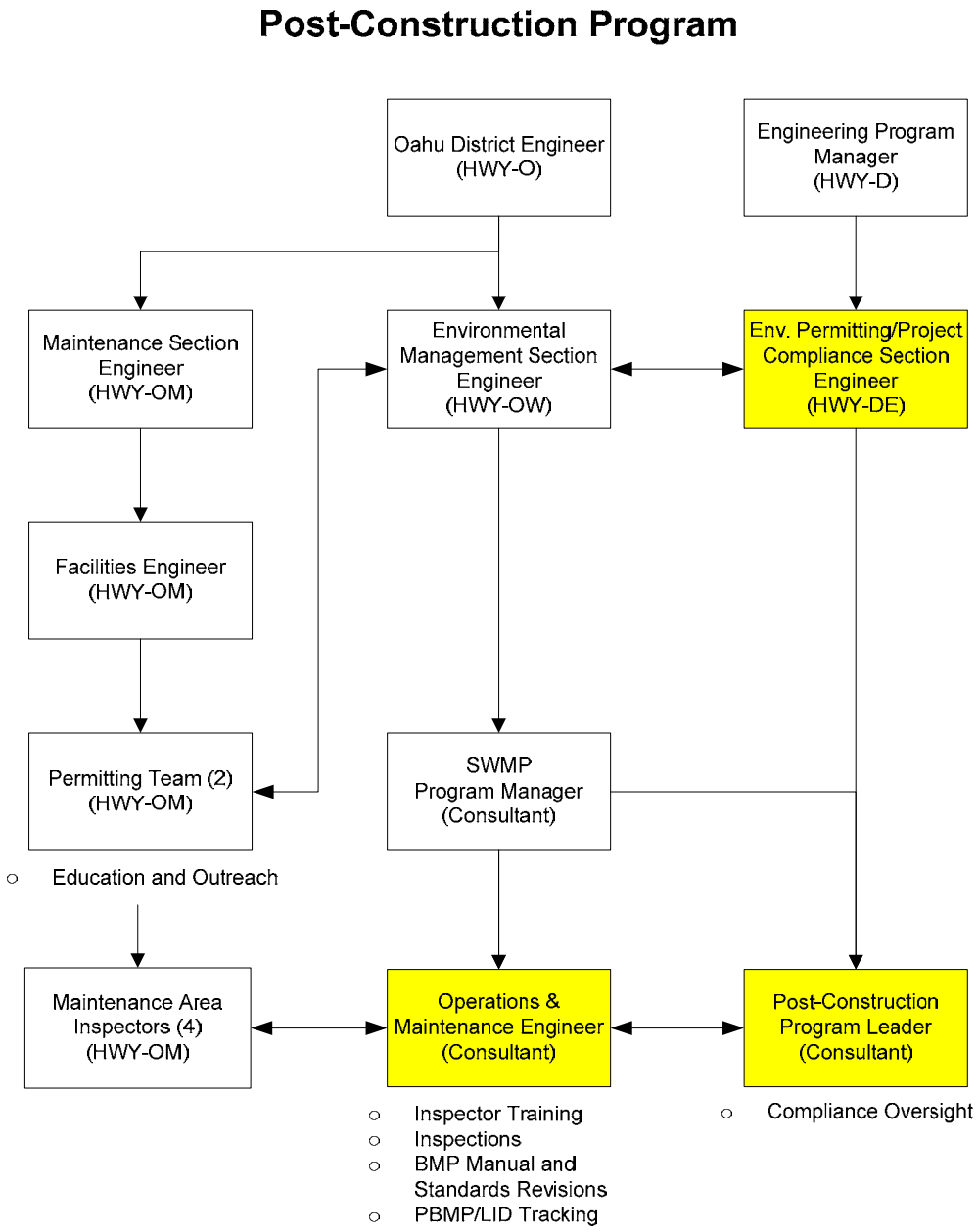

Figure 5-2. Post-Construction Program Organizational Chart for Roles and Responsibilities Related to Standards Revisions

5.2 Project Plan Review

In accordance with Part D.1.e.(2) of the MS4 Permit, DOT-HWYS reviews non-exempt contract construction project plans using a plan review checklist to ensure that appropriate PBMPs, including LID practices, have been included in the project design in accordance with the standards and criteria set forth in the *Permanent BMPs Manual*. DOT-HWYS reviews and updates the criteria defining when and what types of PBMPs must be included in project designs, as necessary. For projects within TMDL watersheds and/or watersheds containing CWA Section 303(d) listed waterbodies, the appropriate PBMPs shall be selected to target the pollutants causing impairment.

DOT-HWYS does not advertise or award any construction contract until the project plans have been reviewed and accepted to ensure the appropriate PBMPs have been included in the project design and bid package. DOT-HWYS does not allow any project to proceed without the inclusion of appropriate PBMPs, unless a waiver is granted based on specific documentation demonstrating that such PBMPs are not feasible.

Vegetated buffers trap sediment and reduce storm water runoff by providing opportunities for storm water infiltration.

As depicted in Figure 5-3, the Environmental Permitting and Project Compliance Section Engineer is responsible for overseeing the review of non-exempt contract construction project plans.

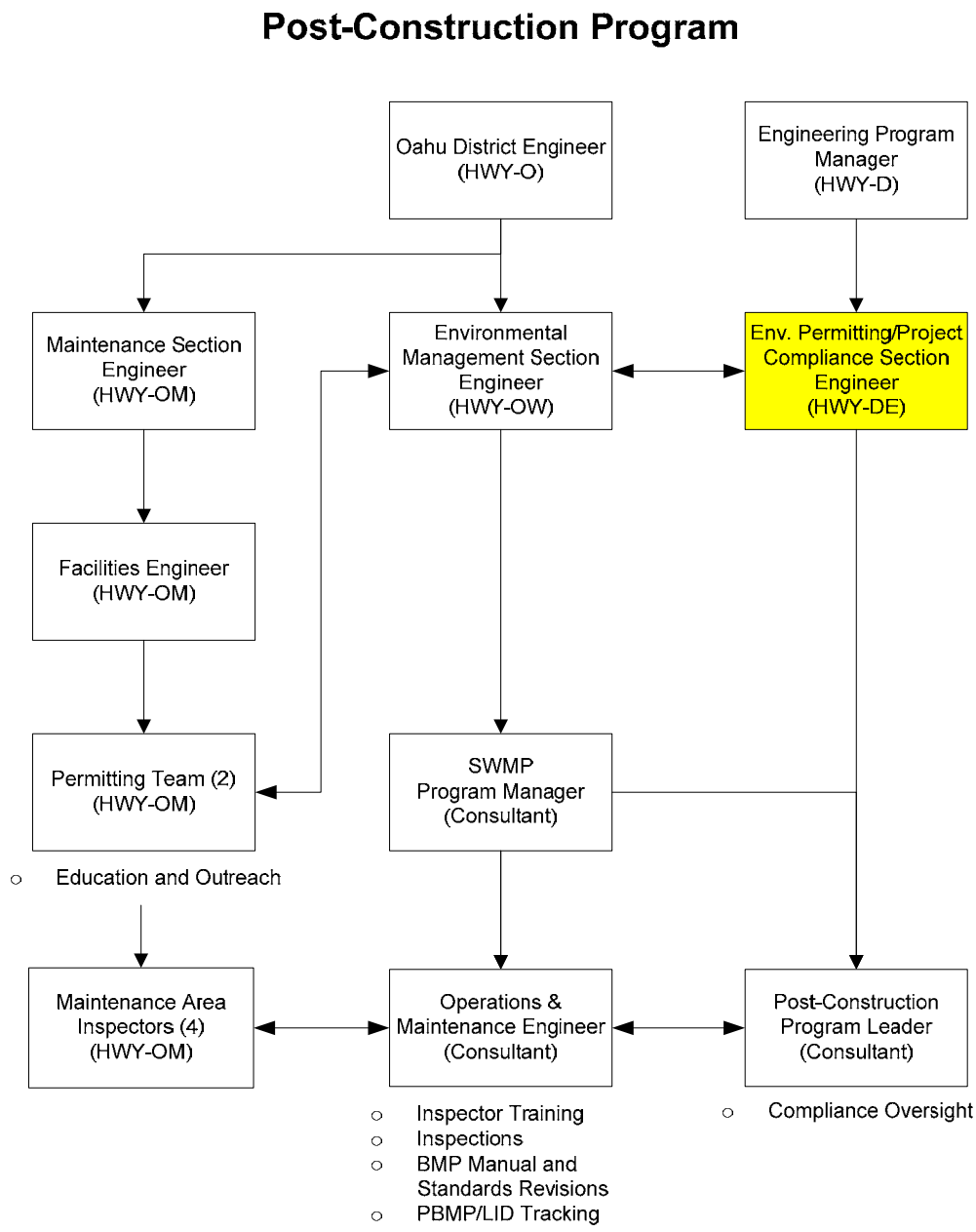

Figure 5-3. Post-Construction Program Organizational Chart for Roles and Responsibilities Related to Project Plan Review

5.3 Tracking PBMPs

In accordance with Part D.1.e.(3) of the MS4 Permit, DOT-HWYS uses the AMS to track the following information for projects with PBMPs:

- Project information (e.g., project name, owner, location, start/end date, etc.);
- Type and number of LID practices;
- Type and number of source control BMPs;
- Type and number of treatment control BMPs;
- Latitude/longitude coordinates using GPS;
- Photographs of controls;
- Operation and maintenance requirements;
- Frequency of PBMP inspections; and
- Frequency of PBMP maintenance.

Projects that include PBMPs must also include appropriate requirements for their continued future maintenance. All storm water treatment and LID BMPs required by DOT-HWYS are inspected at least once a year for proper operation. Maintenance is performed as necessary to ensure proper operation.

Constructed bioswales provide a location for storm water to collect and infiltrate through an engineered soil matrix before entering an under drain system that connects to the MS4.

As shown in Figure 5-4, the Operations and Maintenance Engineer is responsible for maintaining information on the AMS for projects with PBMPs and LID practices. The Maintenance Area Inspectors and the Operations and Maintenance Engineer inspect storm water treatment and LID BMPs installed by DOT-HWYS.

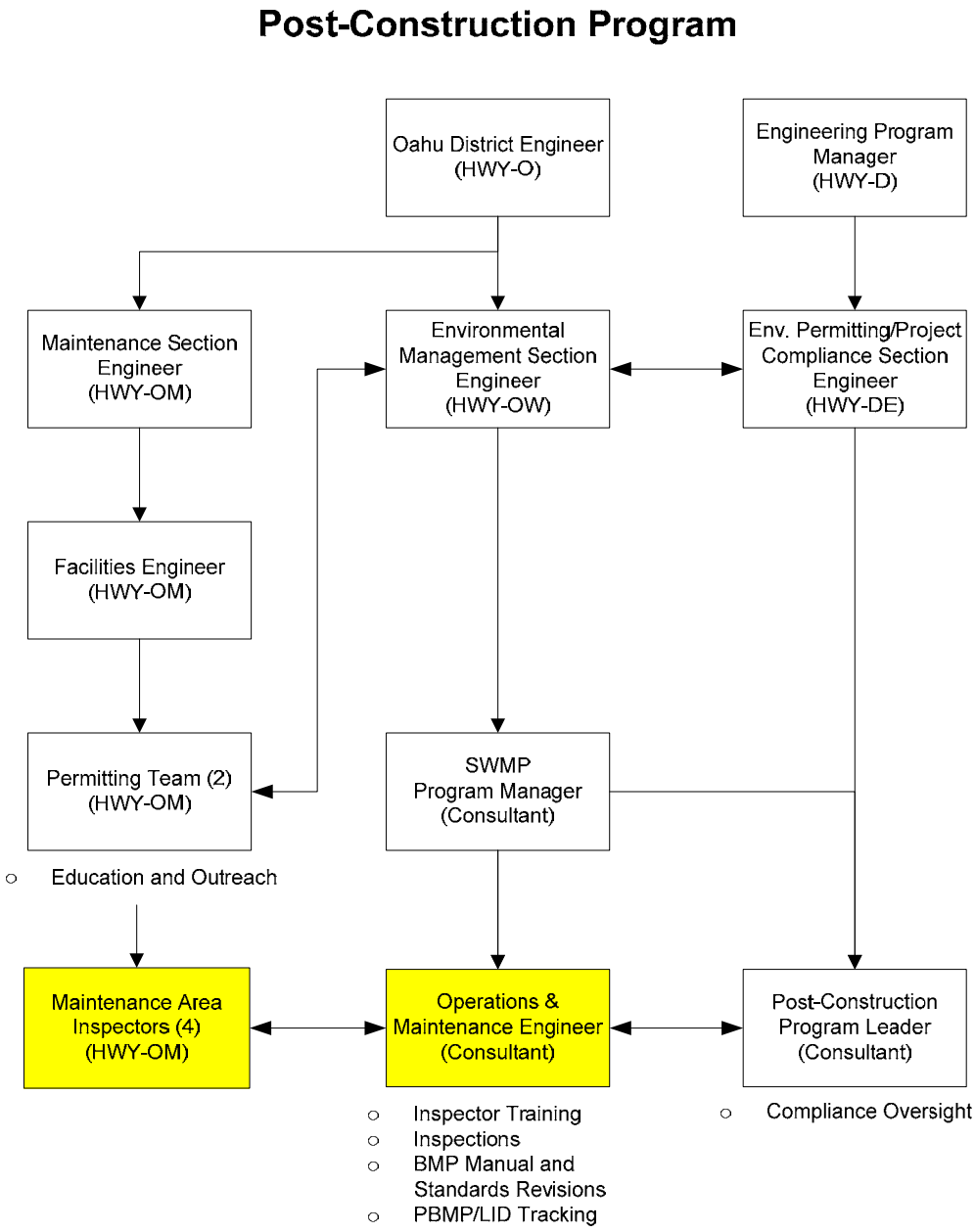

Figure 5-4. Post-Construction Program Organizational Chart for Roles and Responsibilities Related to Tracking and Inspecting PBMPs

5.4 Education and Outreach

In accordance with Part D.1.e.(4).(i), DOT-HWYS provides materials through its district offices, design office, and www.stormwaterhawaii.com in order to educate DOT-HWYS' permit applicants (i.e., developers, engineers, architects, consultants, construction contractors, excavators, and property owners) regarding the selection, design, installation, operation, and maintenance of PBMPs. The objective is to ensure applicants understand DOT-HWYS' standards for storm water controls. DOT-HWYS also provides training to permit applicants preceding significant changes to storm water standards, on an as-needed basis.

The Kakoi Rain Garden at the DOT-HWYS office is a Low Impact Development Best Management Practice.

The Permitting Team and the Environmental Permitting and Project Compliance Section Engineer are responsible for distributing education and outreach materials to DOT-HWYS' permit applicants, as depicted in Figure 5-5.

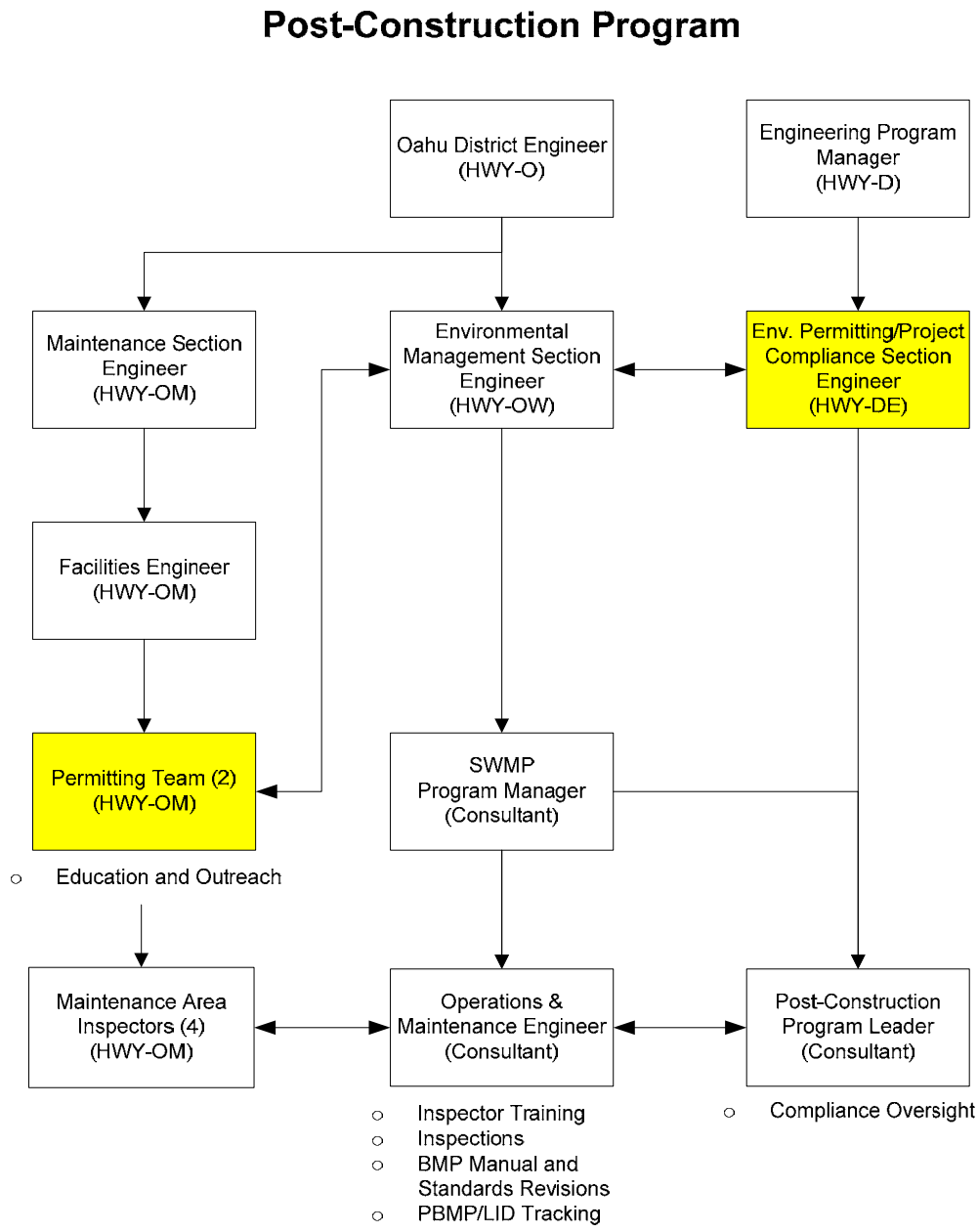

Figure 5-5. Post-Construction Program Organizational Chart for Roles and Responsibilities Related to PBMP Education and Outreach

5.5 Training

In accordance with Part D.1.e.(4).(ii) of the MS4 Permit, DOT-HWYS provides annual training to all DOT-HWYS' staff and contractors responsible for inspecting PBMPs. The training covers inspection and maintenance procedures and provides feedback to DOT-HWYS that is used to refine and improve the PBMP operations and maintenance program. PBMP inspection and maintenance training is conducted by the Operations and Maintenance Engineer, as depicted in Figure 5-6.

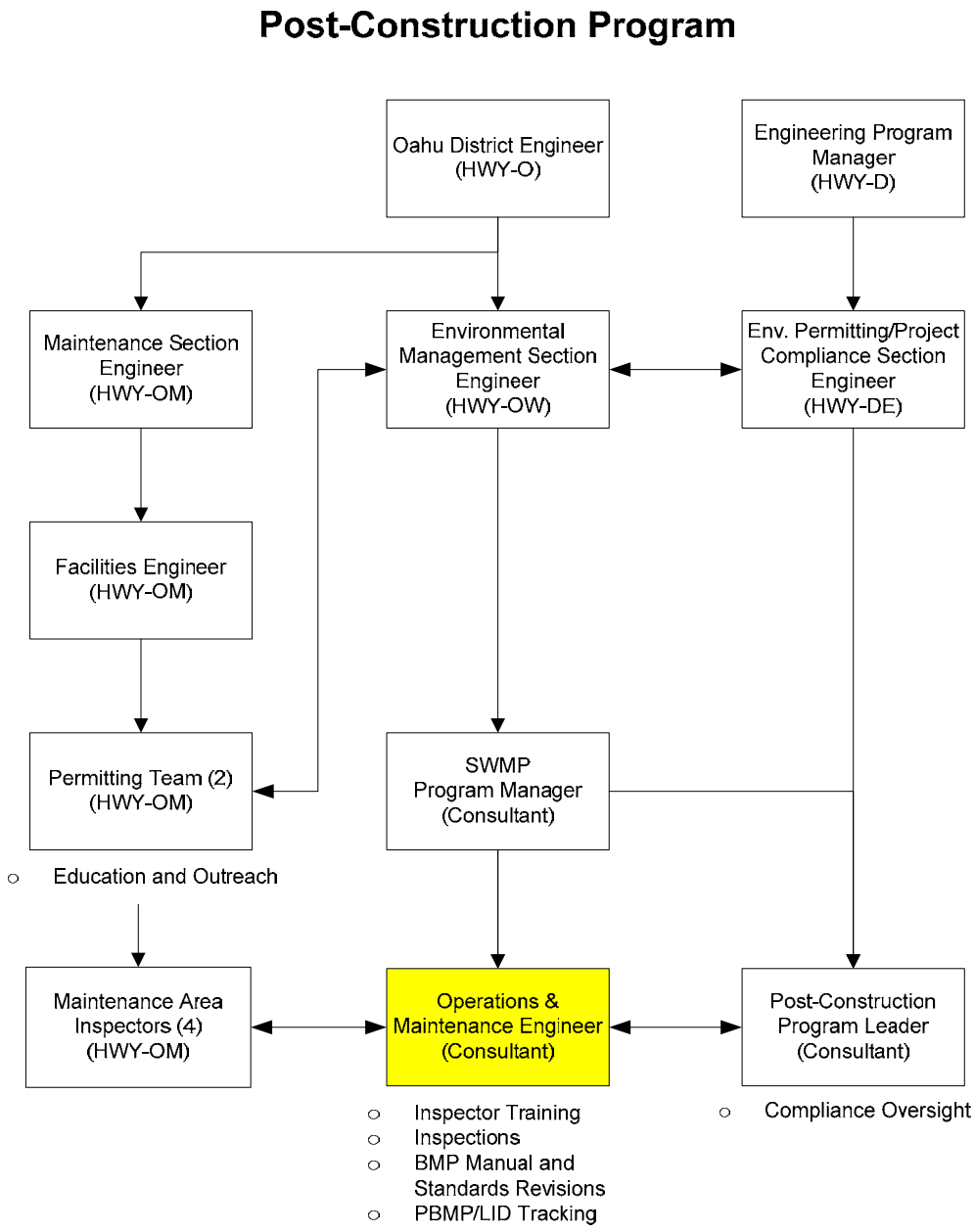

Figure 5-6. Post-Construction Program Organizational Chart for Roles and Responsibilities Related to Inspection and Maintenance Training

5.6 Monitoring Program Effectiveness

Table 5-2 provides measurable standards/milestones for the BMPs discussed in this chapter and DOT-HWYS' strategy for monitoring the effectiveness of their implementation.

Table 5-2. Standards/Milestones for the Post-Construction Program

Section	BMP	Standard/Milestone	Monitoring Effectiveness
5.1	Low Impact Development	• Revise the *Permanent BMPs Manual* to include LID requirements. Submit the revised standards and a compliance schedule to DOH.	• Milestone completed on 4/27/2015.
5.2	Plan Review	• Review and approve non-exempt contract construction project plans to ensure that appropriate PBMPs, including LID practices, have been included in the project design.	• Document project plan review using the plan review checklist. Maintain completed plan review checklists in project files.
5.3	Tracking PBMPs	• Use the AMS to track projects with PBMPs in accordance with Part D.1.e.(3) of the MS4 Permit.	• Confirm that all PBMPs have been entered into the AMS.
5.4	Education for Permit Applicants	• Provide education and outreach material for those parties who apply for DOT permits on the selection, design, installation, operation and maintenance of storm water BMPs, structural controls, post construction BMPs and LID practices.	• Ensure that education materials cover all required elements and are distributed to the appropriate parties during design review and permitting processes.
5.5	Training	• Provide annual training for DOT-HWYS' staff and contractors responsible for inspecting PBMPs and LID practices.	• Maintain sign-in sheets of all training attendees.

Chapter 6
Pollution Prevention/Good Housekeeping Debris Control BMPs Program

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CHAPTER 6
POLLUTION PREVENTION/GOOD HOUSEKEEPING DEBRIS CONTROL BMPS PROGRAM

Removing debris from highways and storm drainage structures minimizes the amount of pollutant material present in storm water runoff that enters receiving water bodies. The Debris Control BMPs Program (Debris Control Program) implements a series of BMPs to reduce the discharge of pollutants to and from the MS4 to the MEP.

The Debris Control Program consists of the following BMPs and sub-programs:

1. Use the AMS to maintain an inventory of highways, permanent BMPs (PBMPs), and MS4 structures; track system maintenance and debris removal activities; create schedules; and evaluate inspection and cleaning priorities.
2. Implement a Street Sweeping Program with priority-based schedules.
3. Implement a Storm Drain System Inspection and Cleaning Program with priority-based schedules.
4. Install and maintain storm drain placards at storm drain inlets for the purpose of educating the public.
5. Create and submit to DOH an Action Plan for Retrofitting Structural BMPs.
6. Implement a Trash Reduction Program to reduce trash loads to and from the MS4.

The Debris Control Program is administered in accordance with the MS4 Permit and Consent Decree requirements outlined in Table 6-1 and Table 6-2, respectively.

Table 6-1. MS4 Permit Requirements for the Debris Control Program

MS4 Permit Reference	SWMPP Section
Part D.1.f *The Permittee shall further develop and implement a system maintenance program to reduce to the MEP the discharge of pollutants from all Permittee-owned facilities, roads, parking lots, baseyards, maintenance facilities, and the DOT-HWYS' MS4. The program shall include:*	
Part D.1.f.(1).(i) *Asset Management System and Mapping - The Permittee shall implement a comprehensive Asset Management System and map of its MS4, including structural and vegetative BMPs; and inventory of related appurtenances including maintenance equipment, to ensure appropriate debris removal and system maintenance. The asset management system shall, at a minimum, assign an identification number for each drain inlet, outfall, and BMPs, and map their location on the Geographic Information System (GIS). The Permittee shall use this asset management system to establish priorities and to schedule and track efforts of appropriate system maintenance and debris removal program activities such as street sweeping, catch basin cleaning, and green waste and accumulated soil removal. The asset management system shall include justification of its priorities on the basis of potential impacts to water quality.*	Section 6.1 Section 6.2 Section 6.3

MS4 Permit Reference	SWMPP Section
Part D.1.f.(1).(ii) *Inspection/Maintenance Schedule - The Permittee shall include in its SWMP procedures and a schedule for inspections of:* *a) All state highways on Oahu for the purpose of identifying if sweeping of roadways, shoulders, and/or medians is needed; and* *b) All state highway storm drainage system catch basins, gutters and open ditches, trenches, and BMPs on Oahu for the purpose of identifying if maintenance/cleaning of such structures are needed.* *In both cases, the need for sweeping and/or maintenance/cleaning shall, at a minimum, be determined based upon material accumulation rates and/or potential threat of discharge to State waters that may have an effect on water quality. The schedule shall provide that each highway mile, storm drainage feature, and BMP is inspected at least once during the term of this permit (maintenance/cleaning may be conducted in lieu of inspections to satisfy this requirement). The adopted procedures shall provide for the identification of highway segments and their associated storm drainage features and BMPs that may require more frequent sweeping and/or structure cleaning based upon material accumulation rates and potential threat of discharge to State waters that may have an effect on water quality. The procedures shall establish debris accumulation thresholds above which sweeping and/or structure cleaning must occur. The priority-based schedule shall be annually reviewed; updated as necessary; and the changes, along with explanations of the changes submitted within the Annual Report.*	Section 6.2 Section 6.3
Part D.1.f.(1).(iii) *Storm Drain Placards - The Permittee shall evaluate the effectiveness of its placards and revise it as necessary to meet its purpose. The purpose of the placards shall be discussed within the SWMP. A minimum of 75 new placards shall be installed per year. Priority shall be given to the Permittee's highways in industrial and commercial areas and areas with pedestrian traffic. The Permittee shall implement its system to track placement of placards and procedures for maintenance staff to inspect and replace, as necessary, placards during routine maintenance activities.*	Section 6.4
Part D.1.f.(1).(iv) *Action Plan for Retrofitting Structural BMPs - Provide the DOH with an Action Plan for Retrofitting Structural BMPs within one (1) year of the effective date of this permit, which shall identify retrofits to be implemented, explanation on the basis for their selection and an implementation schedule. The implementation schedule shall cover a five (5) year period and be updated yearly to include additional retrofit projects with water quality protection measures. The annual updates to the implementation schedule shall be included in the Annual Report with a description of the projects status. The Action Plan may include, but not be limited to projects in compliance with any TMDL implementation and monitoring plan.*	Section 6.5
Part D.1.f.(1).(v) *Trash Reduction Plan - Within three (3) years after the effective date of this permit, the Permittee shall develop and submit to DOH for review and acceptance, a trash reduction plan which assesses the issue, identifies and implements control measures, and monitor these activities to reduce trash loads from the MS4. The plan shall include, at a minimum and be formatted consistent with the following:* *• Quantitative estimate of the debris currently being discharged (baseline load) from the MS4, including methodology used to determine the load.* *• Description of control measures currently being implemented as well as those needed to reduce debris discharges from the MS4 consistent with short-term and long-term reduction targets.* *• A short-term plan and proposed compliance deadline for reducing debris discharges from the MS4 by 50% from the baseline load.*	Section 6.6

MS4 Permit Reference	SWMPP Section
• *A long-term plan and proposed compliance deadline for reducing debris discharges from the MS4 to zero.* • *Geographical targets for trash reduction activities with priority on waterbodies listed as impaired for trash on the State's CWA Section 303(d) list.* • *Trash reduction-related education activities as a component of Part D.1.a.* • *Integration of control measures, education and monitoring to measure progress toward reducing trash discharges.* • *An implementation schedule.* • *Monitoring plan to aid with source identification and loading patterns as well as measuring progress in reducing the debris discharges from the MS4.* • *The Annual Report shall include a summary of its trash load reduction actions (control measures and best management practices) including the types of actions and levels of implementation, the total trash loads and dominant types of trash removed by its actions, and the total trash loads and dominant types of trash for each type of action.* *The plan shall provide for compliance with the above short-term and long-term discharge limits in the shortest practicable timeframe.*	

Table 6-2. Consent Decree Requirements for the Debris Control Program

Consent Decree Reference	SWMPP Section
Pg 21, Section V.10.f *HDOT shall revise its SWMPP to develop procedures and a schedule for inspections of:* *(1) all state highways on Oahu for the purpose of identifying whether sweeping or brooming of roadways, shoulders, or medians is needed, and* *(2) all state highway storm draining system catch basins, gutters and open ditches, trenches, and storm drains on Oahu for the purpose of identifying whether cleaning of such structures is needed.* *In both cases identified in the preceding Subparagraphs, the need for sweeping, brooming, or structure cleaning shall, in addition to other criteria, be determined based upon material accumulation rates and potential threat of discharges to waters of the United States that may have an effect on water quality. The schedule shall provide the each highway mile and storm drainage features is inspected at least once annually, but that highway segment drainages and their associated storm features that are located in High Priority Watersheds shall be inspected at least semiannually. The adopted procedures shall also provide for the identification of other highway segments (in addition to those located in High Priority Watersheds) and their associated storm drainage features that may require more frequent sweeping, brooming, or structure cleaning based upon material accumulation rates and potential threat of discharges to waters of the United States that may have an effect on water quality. The procedures shall establish debris accumulation thresholds above which sweeping, brooming, or structure cleaning must occur.*	Section 6.2 Section 6.3

6.0 Program Organization

To fulfill the requirements of the MS4 Permit and the Consent Decree, the following organizational structure has been established for the Debris Control Program.

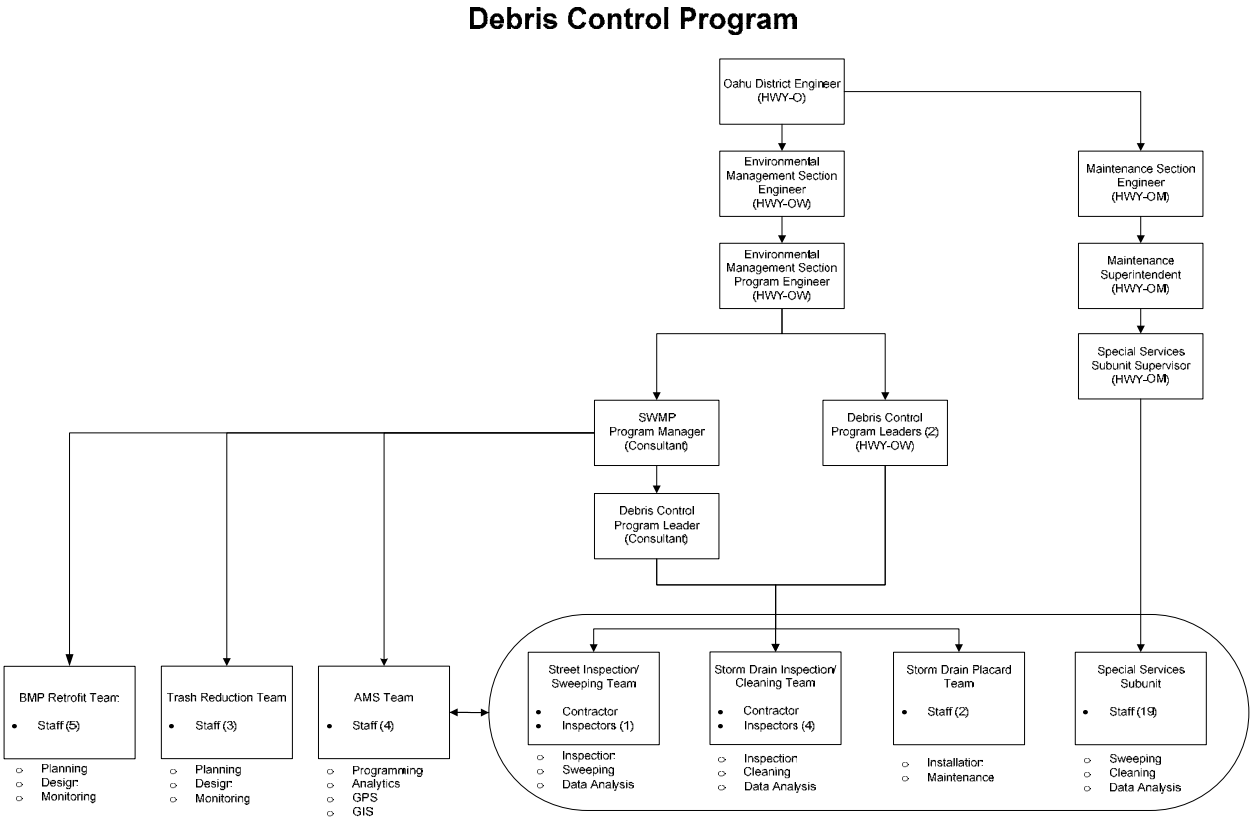

Figure 6-1. Debris Control Program Organizational Chart
(Note: The number in parenthesis indicates the number of individuals involved.)

6.1 Asset Management System (AMS)

The AMS is utilized to ensure that system maintenance and debris removal activities are conducted effectively. The AMS supports the Debris Control Program by providing a comprehensive GIS map as well as a relational database to inventory and monitor MS4 assets, drainage structures, and related equipment. A unique point identification (PID) number, which facilitates data inventory and tracking, is assigned to each MS4 structure. Inspection priority assignments and maintenance cleaning contract information are captured for each MS4 structure and street sweeping segment, to allow for real time inspection frequency compliance tracking and contract management support.

The function of the AMS is to systematically track activities conducted under the Debris Control Program, in order to facilitate an analysis of the efficiency and effectiveness of various program efforts. Maintaining a map of street sweeping segments and drainage system infrastructure, while tracking debris control activities, and inspections and cleaning results, allows the Debris Control Program to spatially analyze material accumulation rates and potential impacts to water quality. Therefore, the AMS provides the framework necessary for establishing priority-based sweeping, inspection and cleaning schedules. Priority-based street sweeping and storm drain inspection and cleaning schedules will be reviewed annually and revised as necessary.

The AMS Team manages the AMS and coordinates with the various teams depicted in Figure 6-2 to track and enter data. Furthermore, managerial staff utilize the AMS to establish priority-based schedules.

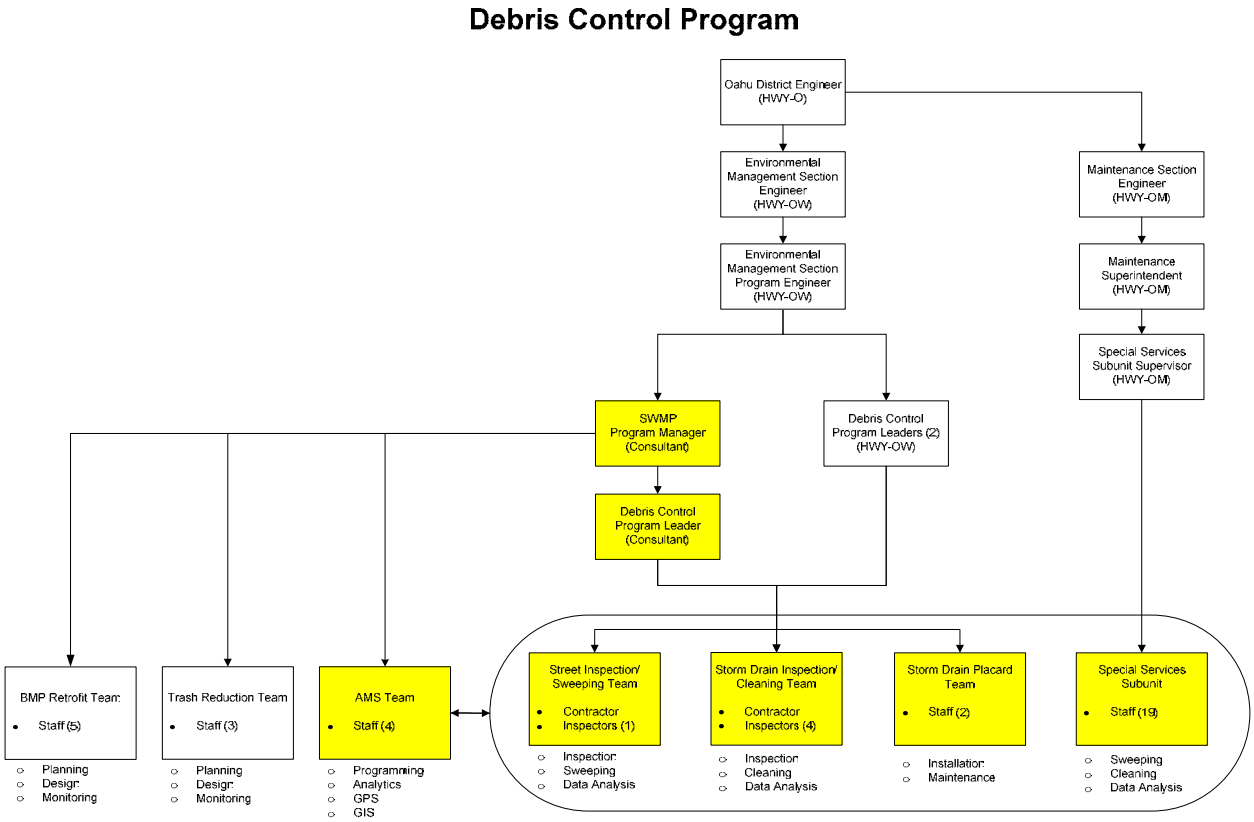

Figure 6-2. Debris Control Program Organizational Chart for Roles and Responsibilities Related to the AMS

6.2 Street Sweeping

Street sweeping has proven to be an effective method of removing sediment and debris from roadways before it reaches the drainage system.

DOT-HWYS is required, by the Consent Decree, to inspect each highway mile within high priority watersheds at least semiannually, and all other highway miles at least once annually. Inspections are typically conducted during sweeping activities. Upon termination of the Consent Decree, all state highways on Oahu will be inspected at least once during the MS4 Permit term for the purpose of identifying if sweeping of roadways, shoulder, and/or medians is needed.

Street sweeping schedules are currently completed in accordance with the minimum requirements specified in the Consent Decree. Highway segment sweeping schedules are divided into categories "A" and "B" based upon material accumulation rates and the potential threat of discharge affecting water quality. Category "A" segments are considered high priority and are swept at least once every five weeks. Category "B" segments are considered low priority and are swept once every fifteen weeks. Tables 6-3 and 6-4 list the schedule category for each highway segment.

Table 6-3. Schedule Category for Group "A" Highway Street Sweeping Segments

GROUP A - Swept once every five (5) weeks			
Route No.	**Route Name**	**MP Start - End**	**Approx. Curb Mileage**
H-1	Queen Liliuokalani Fwy., Lunalilo Fwy.	Palalai IC (0.00) to Ainakoa Ave. (27.16)	108.64
H-2	Veterans Memorial Fwy.	Waiawa IC (0.00) to Wilikina Dr. (8.33)	33.32
H-3	John A. Burns Fwy.	Halawa IC (0.00) to MCBH-Kaneohe (15.32)	61.28
H-201	Moanalua Fwy.	Halawa IC (0.00) to Middle St. IC (4.09)	16.36
61	Pali Hwy., Kalanianaole Hwy., Kailua Rd.	Vineyard Blvd. (0.00) to Kawainui Br. (10.60)	42.40
63	Kalihi St., Likelike Hwy.	Kalihi St. North of Kam. Shopping Ctr. (1.42) to Kahekili Hwy. (8.28)	27.44
64	Sand Island Access Rd.	Sand Is. Park (0.00) to Matson (0.88)	1.76
	Sand Island Access Rd.	Matson (0.88) to over Bridge (1.54)	2.64
	Sand Island Access Rd.	Bridge (1.54) to Auiki St. (2.01)	0.96
	Sand Island Access Rd.	Auiki St. (2.01) to Nimitz Hwy. (2.60)	2.32
65	Kaneohe Bay Dr., Mokapu Blvd.	Kamehameha Hwy. (0.00) to Puohala St. (0.39)	1.56
	Kaneohe Bay Dr., Mokapu Blvd.	Puohala St. (0.39) to Mikiola Dr. (1.68)	2.58
	Kaneohe Bay Dr., Mokapu Blvd.	Mikiola Dr. (1.68) to Kalaheo Ave. (4.15)	9.88
72	Kalanianaole Hwy.	Kailua Rd. (0.00) to Ranch (2.50)	10.00
	Kalanianaole Hwy.	Ranch (2.50) to Bellows Gate (4.13)	3.26
	Kalanianaole Hwy.	Lunalilo Home Rd. (13.26) to Hawaii Kai Marina (13.91)	1.30
	Kalanianaole Hwy.	Hawaii Kai Marina (13.91) to Ainakoa Ave. (18.44)	18.12

GROUP A - Swept once every five (5) weeks			
Route No.	**Route Name**	**MP Start - End**	**Approx. Curb Mileage**
76	Ft. Weaver Rd., Kunia Rd.	Farrington Hwy. (6.01) to H-1 Fwy. (6.64)	2.52
78	Moanalua Fwy.	Aiea I/C (0.00) to Rte. H-201/Halawa I/C (0.74)	2.96
80	Kamehameha Hwy.	Wilikina Dr. (0.00) to Avocado St. (0.10)	0.40
	Kamehameha Hwy.	Avocado St. (0.10) to Kamananui Rd. (1.88)	3.56
83	Kahekili Hwy., Likelike Hwy., Kamehameha Hwy.	Kahuhipa Rd. (39.92) to Likelike Hwy. Ramp (40.71)	3.16
	Kahekili Hwy., Likelike Hwy., Kamehameha Hwy.	Likelike Hwy. Ramp (40.71 - 41.12)	0.82
	Kahekili Hwy., Likelike Hwy., Kamehameha Hwy.	Likelike Hwy. Ramp (41.12) to Pali Hwy. (43.92)	11.20
92	Nimitz Hwy., Ala Moana Blvd.	Pearl Harbor Main Gate (0.00) to Sand Island Access Rd. (9.26)	37.04
92	Nimitz Hwy. Frontage Rd.	Aolele St. (1.49) to Lagoon Dr. (2.88)	2.78
93	Farrington Hwy.	Palailai I/C (0.00) to Tracks Beach (4.20)	16.80
	Farrington Hwy.	Tracks Beach (4.20) to Hakimo Rd. (6.90)	5.40
	Farrington Hwy.	Hakimo Rd. (6.90) to Kaukama Rd. (7.95)	4.20
	Farrington Hwy.	Kaukama Rd. (7.95) to Kaena Pt. (19.53)	23.16
98	Vineyard Blvd., Halona St., Olomea St.	Houghtailing St. (N/A) to H-1 EB on-ramp (1.76)	8.48
99	Kamehameha Hwy., Kamananui Rd., Wilikina Dr., Farrington Hwy.	2.5 miles Mauka of Weed Circle (2.50) to McNair Gate (8.00)	11.00
	Kamehameha Hwy., Kamananui Rd., Wilikina Dr., Farrington Hwy.	McNair Gate (8.00) to (after) Lanikuhana Blvd. (13.45)	21.80
	Kamehameha Hwy., Kamananui Rd., Wilikina Dr., Farrington Hwy.	(after) Lanikuhana Blvd. (13.45) to Ka Uka Blvd. (15.14)	3.38
	Kamehameha Hwy., Kamananui Rd., Wilikina Dr., Farrington Hwy.	KaUka Blvd. (15.14) to above H-1 Fwy. EB Nimitz/Hickam off-ramp (23.31)	32.68
750	Kunia Rd.	H-1 (0.00) to WalMart (0.60)	2.40
	Kunia Rd.	Walmart (0.60) to Wright Ave. (Adj.) (7.20)	13.20
	Kunia Rd.	Wright Ave. (Adj.) (7.20) to Wilikina Dr. (8.05)	3.40
930	Farrington Hwy., Kaukonahua Rd.	Puuiki St. (5.52) to Cane Haul Rd. (5.95)	0.86
	Farrington Hwy., Kaukonahua Rd.	Cane Haul Rd. (5.95) to Goodale Ave. (6.13)	0.72
	Farrington Hwy., Kaukonahua Rd.	Goodale Ave. (6.13) to Weed Circle (7.64)	3.02
	Farrington Hwy., Kaukonahua Rd.	Weed Circle (7.64 - 7.85)	0.84
	Farrington Hwy., Kaukonahua Rd.	Weed Circle (7.85 - 7.92)	0.14
7012	Whitmore Ave.	Kamehameha Hwy. (0.00) to Naval Comm. Sta. (1.90)	3.80
7101	Farrington Hwy.	Kunia Rd. (0.00) to Kamehameha Hwy.-Pearl City (3.00)	12.00
7239	Ulune St., Halawa Valley Rd.	Kahuapaani St. (0.00) to Intersection (0.20)	0.80
	Ulune St., Halawa Valley Rd.	Intersection (0.20) to Iwaiwa St. (0.32)	0.24
7241	Kahuapani St., Halawa Hts. Rd.	Salt Lake Blvd. (0.00) to Hulumanu St. (1.10)	4.40
	Kahuapani St., Halawa Hts. Rd.	Hulumanu St. (1.10) to Camp Smith (2.32)	2.44

GROUP A - Swept once every five (5) weeks			
Route No.	**Route Name**	**MP Start - End**	**Approx. Curb Mileage**
7350	Bougainville Dr.	Radford Dr. (0.00) to Salt Lake Blvd. (0.59)	1.18
7351	Radford Dr.	Kamehameha Hwy. (0.00) to Bougainville Dr. (0.23)	0.46
7401	Kamehameha Hwy.	Middle St. (0.00) to 100' east of Kalihi Stream Bridge (0.10)	0.40
7413	Liliha St.	King St. (0.00) to H-1 Liliha O/P (0.35)	0.70
7415	Middle St.	Kaua St. (0.00) to Kamehameha Hwy. (0.41)	0.82
	Middle St.	Kamehameha Hwy. (0.41) to Dillingham Blvd. (0.51)	0.40
7601	Old Waialae Rd.	Kapiolani Blvd (0.00) to S.King St. (0.41)	0.82
TOTAL MILEAGE (approx), GROUP A			**588.20**

Table 6-4. Schedule Category for Group "B" Highway Street Sweeping Segments

GROUP B - Swept once every fifteen (15) weeks			
Route No.	**Route Name**	**MP Start - End**	**Approx. Curb Mileage**
63	Kalihi St., Likelike Hwy.	Nimitz Hwy. (0.00) to Day Pl. (0.74)	1.48
	Kalihi St., Likelike Hwy.	Day Pl. (0.74) to Kalihi St. North of Kam. Shopping Ctr. (1.42)	2.72
72	Kalanianaole Hwy.	Bellows Gate (4.13) to Lunalilo Home Rd. (13.26)	18.26
76	Ft. Weaver Rd., Kunia Rd.	Ft. Weaver Gate (0.00) to Hanakahi St. (2.11)	4.22
	Ft. Weaver Rd., Kunia Rd.	Hanakahi St. (2.11) to Farrington Hwy. (6.01)	15.60
83	Kamehameha Hwy., Kahekili Hwy., Likelike Hwy.	Weed Circle (0.00) to Haiku Rd. (South Bound) (39.59)	79.18
	Kamehameha Hwy., Kahekili Hwy., Likelike Hwy.	Haiku Rd. (39.59) to Kahuhipa St. (39.92)	1.32
99	Kamehameha Hwy., Kamananui Rd., Wilikina Dr., Farrington Hwy.	Weed Circle (0.00) to 2.5 miles Mauka of Weed Circle (2.50)	5.00
	Kamehameha Hwy., Kamananui Rd., Wilikina Dr., Farrington Hwy.	Above H-1 Fwy & EB Nimitz/Hickam off-ramp (23.31) to Pearl Harbor I/C (23.83)	2.08
901	Ft. Barrette Rd.	Renton Rd. (0.00) to Kapolei H.S. (0.14)	0.56
	Ft. Barrette Rd.	Kapolei HS (0.14) to H-1 East Entrance (1.38)	2.48
930	Farrington Hwy., Kaukonahua Rd.	Kaena Pt. (0.00) to Puuiki St. (0.52)	11.04
7110	Farrington Hwy.	Kunia Rd. (0.00) to Old Ft. Weaver Rd. (0.62)	2.48
7141	Iroquois Rd.	Ft. Weaver Rd. (0.00) to W. Loch Navy Gate (1.51)	3.02
7310	Puuloa Rd.	Nimitz Hwy. (0.00) to Kilihau St. (0.14)	0.56

GROUP B - Swept once every fifteen (15) weeks			
Route No.	**Route Name**	**MP Start - End**	**Approx. Curb Mileage**
	Puuloa Rd.	Kilihau St. (0.14) to Pukoloa St. (0.69)	0.80
	Puuloa Rd.	Pukoloa St. (0.69) to Moanalua Fwy. (1.03)	1.96
7345	Jarrette White Rd.	Moanalua Fwy. (0.00) to Ala Mahamoe St. (0.33)	1.32
	Jarrette White Rd.	Ala Mahamoe St. (0.33) to Tripler Hospital (0.55)	0.44
8930	North-South Rd.	H-1 Fwy. (0.00) to Kapolei Pkwy. (2.47)	9.88
8940	Franklin D. Roosevelt Ave.	Geiger Rd./FBPNAS Gate (0.00) to West Permimeter Fence BDRY (3.44)	6.88
8945	Enterprise Ave.	Franklin D. Roosevelt Ave. (0.00) to Midway Ave. (0.98)	1.96
8955	Coral Sea Rd.	Franklin D. Roosevelt Ave. (0.00) to Barbers Point Air Station Gate (2.69)	5.38
TOTAL MILEAGE (approx), GROUP B			**178.62**

Figure 6-3 displays all “A” and “B” highway street sweeping segments on a map of Oahu.

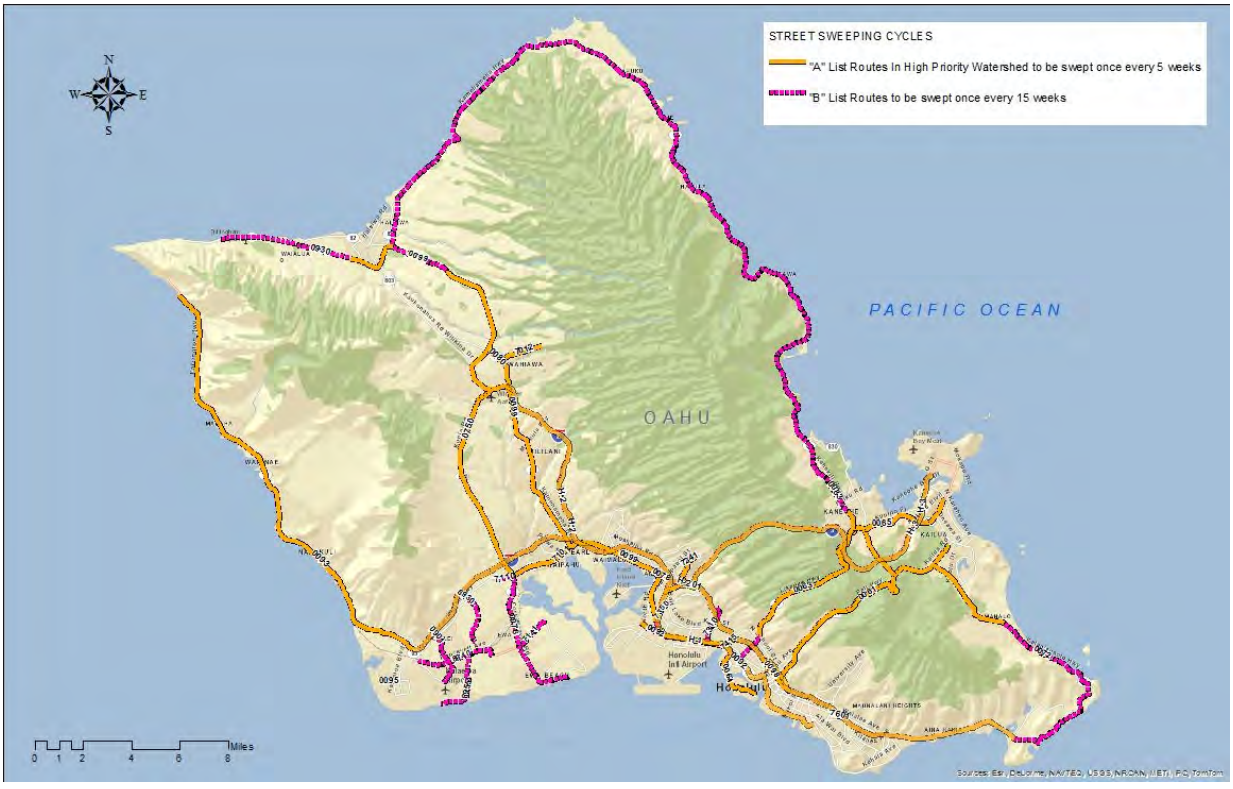

Figure 6-3. Group “A” and “B” Highway Street Sweeping Segments.

Key Performance Indicators (KPIs) are utilized to allow Debris Control Program staff to visually track the progress of scheduled debris control activities, such as street sweeping and inspections of storm drain structures, with the target frequencies for a given cycle schedule. KPIs are generated at the beginning of each cycle schedule and can be viewed graphically or numerically. For example, street sweeping is tracked independently for "A" and "B" segments using the KPIs shown in Figure 6-4. The grey arrow corresponds to the "target", or number of street sweeping segments that are scheduled for sweeping during the given cycle. The orange arrow indicates the "actual" number of segments that have been swept since the beginning of the cycle. With the use of KPIs, inspectors and managers can quickly assess whether or not they are on target for completing scheduled debris control activities for each cycle. Street sweeping KPIs are generated based on the information uploaded by the inspector and are automatically updated daily.

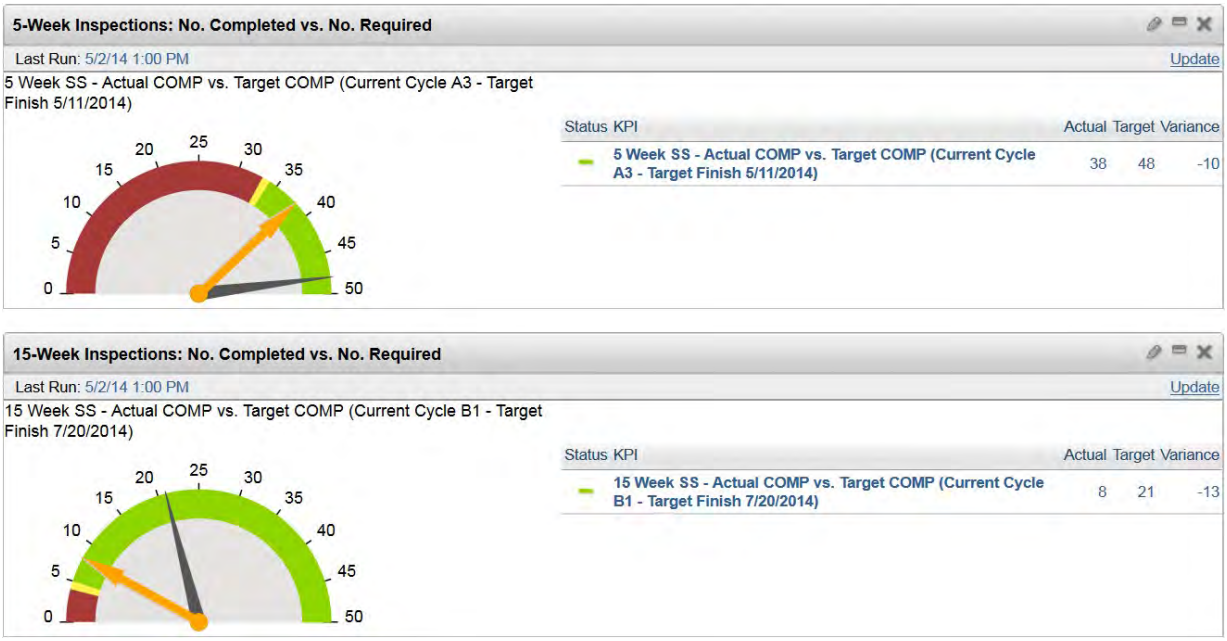

Figure 6-4. Street Sweeping Module KPI

A map depicting completed and non-completed segments provides both the inspector and program leader with an additional visual representation of the schedule status (Figure 6-5).

Figure 6-5. Street Sweeping Inspection by Status (Blue – Complete, Yellow – Not Complete)

DOT-HWYS has initiated a Debris Cleaning Assessment (DCA) (Appendix K.1) as part of the TMDL Program. The results of the DCA will be used to support future decisions regarding street sweeping frequencies. The DCA is described in more detail in Section 13.1. The need for sweeping is, at a minimum, determined based upon material accumulation rates and/or the potential threat of discharge to State Waters that may have an effect on water quality. The priority-based schedules are annually reviewed, and adjusted as necessary. To date, the annual review of material accumulation rates has not indicated a need for more frequent sweeping. Any changes made to the schedule, along with explanations of the changes, will be submitted within the Annual Report.

The Street Inspection & Cleaning Team and the Special Services Subunit implement the Street Sweeping Program, as shown in Figure 6-6. The Debris Control Program Leaders manage contracts related to this program.

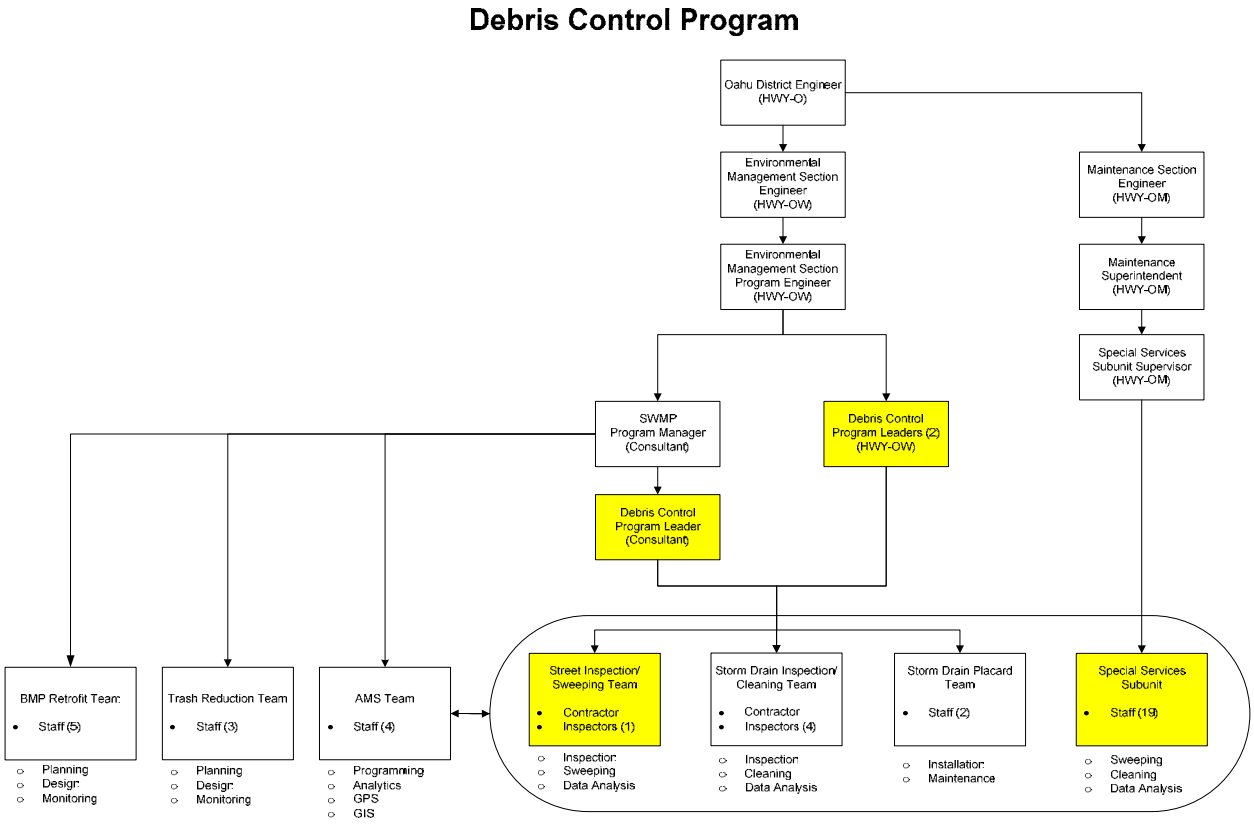

Figure 6-6. Debris Control Program Organizational Chart for Roles and Responsibilities Related to the Street Sweeping Program

6.3 Storm Drain System Inspection and Cleaning

It is necessary to remove debris from the drainage system in order to reduce the amount of pollutants discharged to receiving waters to the MEP. The Debris Control Program inspects the MS4 for the purpose of determining if cleaning or maintenance is needed. Storm drainage system infrastructure inspected and cleaned under this program includes catch basins, gutters, and open channels. Inspection and maintenance activities for PBMPs are discussed in Section 5.3.

Inspection and maintenance schedules are based on requirements prescribed by the Consent Decree and on an annual assessment of material accumulation rates and/or potential impacts to water quality. The Consent Decree dictates that storm drain structures located within CWA Section 303d listed high priority watersheds are inspected at least once semi-annually. Structures that may require more frequent cleaning due to high material accumulation rates or a potential threat to water quality are also inspected semi-annually. All other structures are inspected at least

once annually. The priority-based schedules are annually reviewed and adjusted as necessary. Any changes made to the schedule, along with explanations of the changes, will be submitted within the Annual Report.

Storm drainage structures are cleaned when a one-third debris accumulation threshold is reached or exceeded. If the depth of deposited sediment and debris is at least one-third the depth from the invert of the structure to the invert of the lowest pipe or opening into or out of the structure, cleaning is required. Linear features are cleaned at the discretion of the Debris Control Program managers.

The AMS is used to establish priorities and to schedule and track efforts of appropriate system maintenance and debris removal activities. KPIs are used to monitor the progress of drainage structure inspections and cleanings. Example KPIs are shown in Figures 6-7 and 6-8. In the KPIs, "COMP" indicates the number of inspections and/or cleanings completed (if cleaning was necessary). "INPRG" indicates the number of structures that have been inspected and marked for cleaning, for which cleaning has not yet occurred. "WINSP" indicates the number of structures that have not yet been inspected. The KPIs provided below show the structures that one individual inspector is responsible for, and therefore do not numerically represent the complete inventory of that structure type.

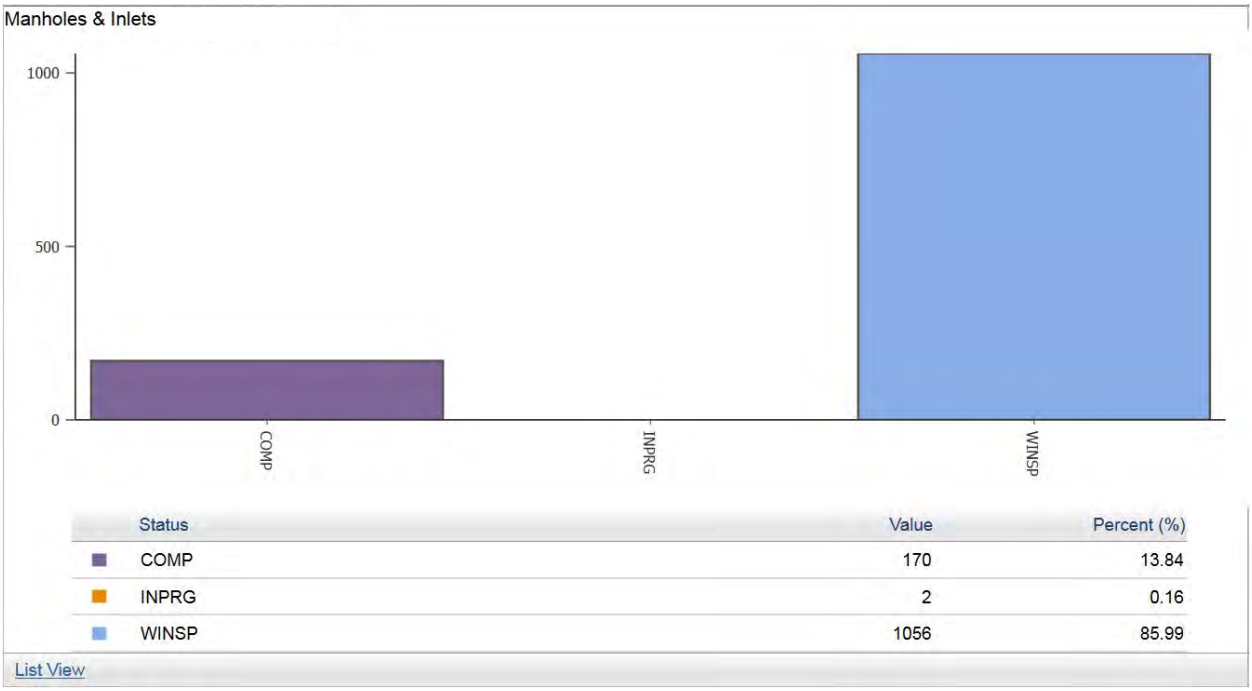

Figure 6-7. Manhole & Inlet Inspection KPI

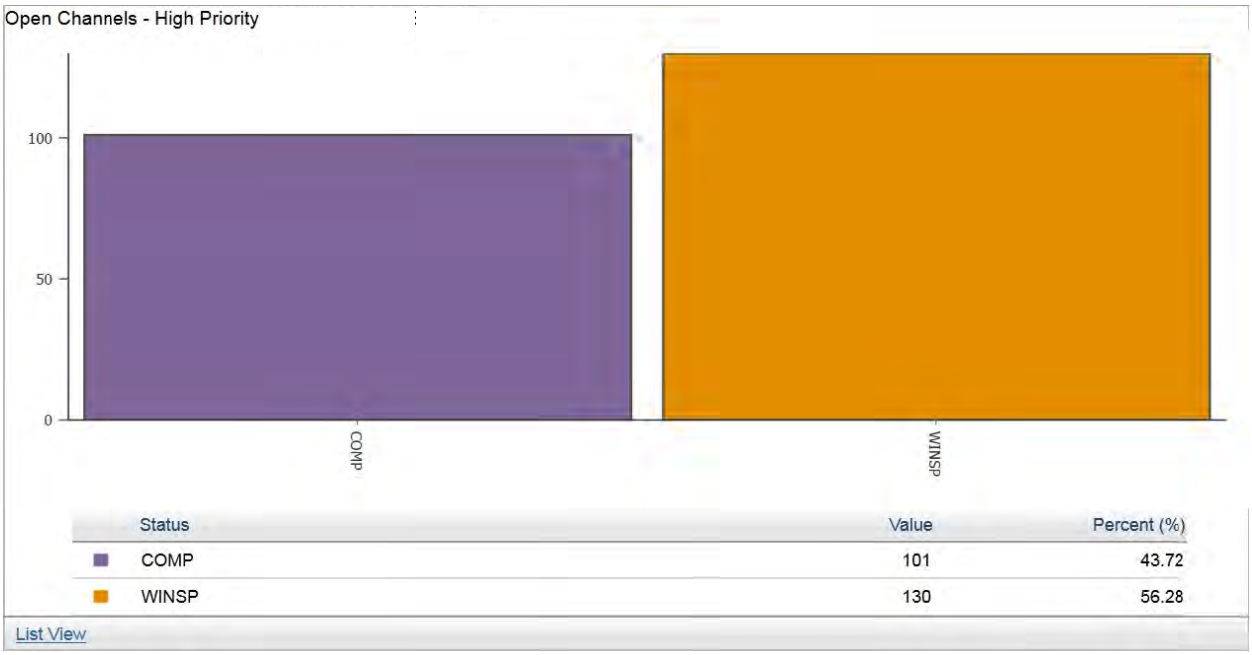

Figure 6-8. Open Channel Inspection KPI

DOT-HWYS inspects storm drain structures on a priority-based schedule and cleans structures when the accumulation threshold is reached.

The Storm Drain Inspection & Cleaning Team and the Special Services Subunit implement the Storm Drain System Inspection and Cleaning Program, as shown in Figure 6-9. The Debris Control Program Leaders manage contracts related to this program.

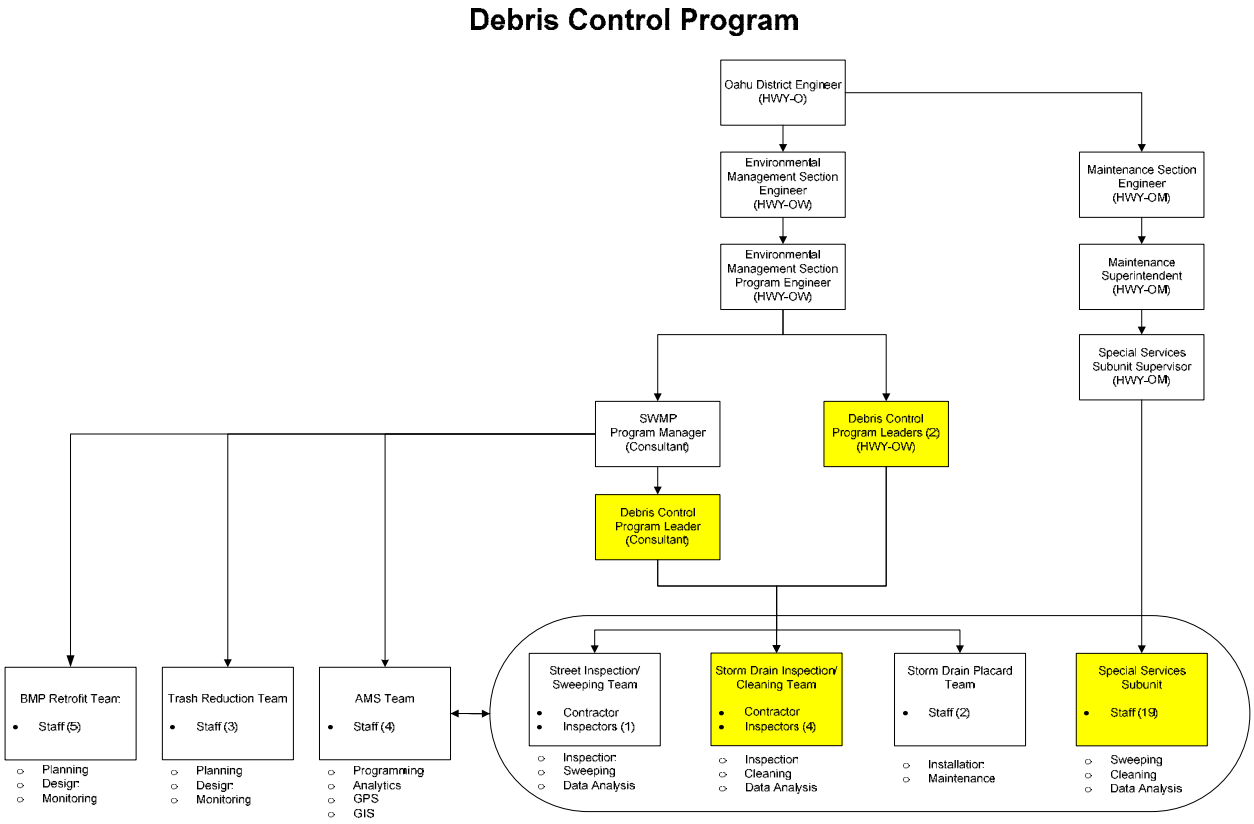

Figure 6-9. Debris Control Program Organizational Chart for Roles and Responsibilities Related to the Storm Drain System Inspection and Cleaning Program

6.4 Storm Drain Placards

In 2001, DOT-HWYS launched a program to install informational placards on storm drains on Oahu. The placards, shown in Figure 6-10, inform the public that storm drains lead directly to the ocean. The intent of the storm drain placards is to raise public awareness about this direct connection and ultimately affect public behavior by reducing the amount of pollutants that are intentionally or negligibly dumped into storm drains.

Figure 6-10. DOT-HWYS' Storm Drain Placard

The ocean has meaningful significance to the majority of people living in Hawaii. A large portion of the public directly depends on a healthy ocean for their livelihoods, immediate subsistence, and/or recreational needs. Many people also appreciate the ocean for its aesthetic beauty, economic value, and cultural significance to the community. For these reasons, establishing a mental connection between storm drains and the ocean, much like the physical connection itself, has the potential to have far reaching effects on public behavior.

DOT-HWYS installs a minimum of 75 new storm drain placards every year, primarily in areas with heavy pedestrian traffic or a high concentration of commercial and industrial facilities. Once placards are installed in all high priority areas (i.e., heavy pedestrian traffic and/or high concentration of commercial and industrial facilities) within DOT-HWYS' right-of-way, DOT-HWYS will focus its efforts on placard inspection, repair, and maintenance, in lieu of continued installation. Each placard is assigned a number, which corresponds to the PID number of the storm drain it is located on.

The AMS is used to track the placement of storm drain placards by placard number, associated storm drain PID number and GPS location (Figure 6-11). Storm drain placards are assessed for maintenance or replacement needs during routine inspections of storm drains, at the frequency established in Section 6.3.

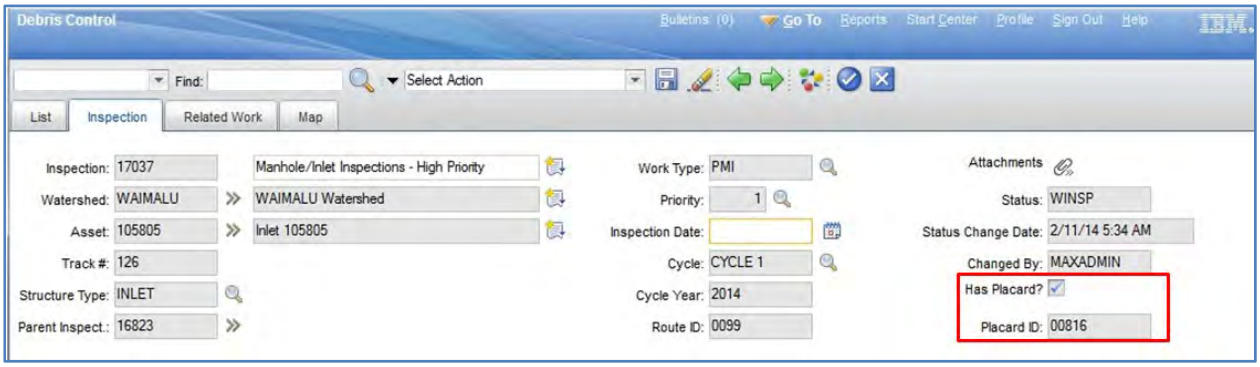

Figure 6-11. Placard Attribute Data

DOT-HWYS uses the public awareness survey to evaluate the effectiveness and recognizability of storm drain placards. In the survey, participants are asked whether or not they are familiar with the "No dumping, drains to ocean" placards at storm drains. Results are tallied, annually, and can be compared from one year to the next.

The Storm Drain Placard Team is responsible for installing, inspecting, and maintaining DOT-HWYS' storm drain placards, as shown in Figure 6-12.

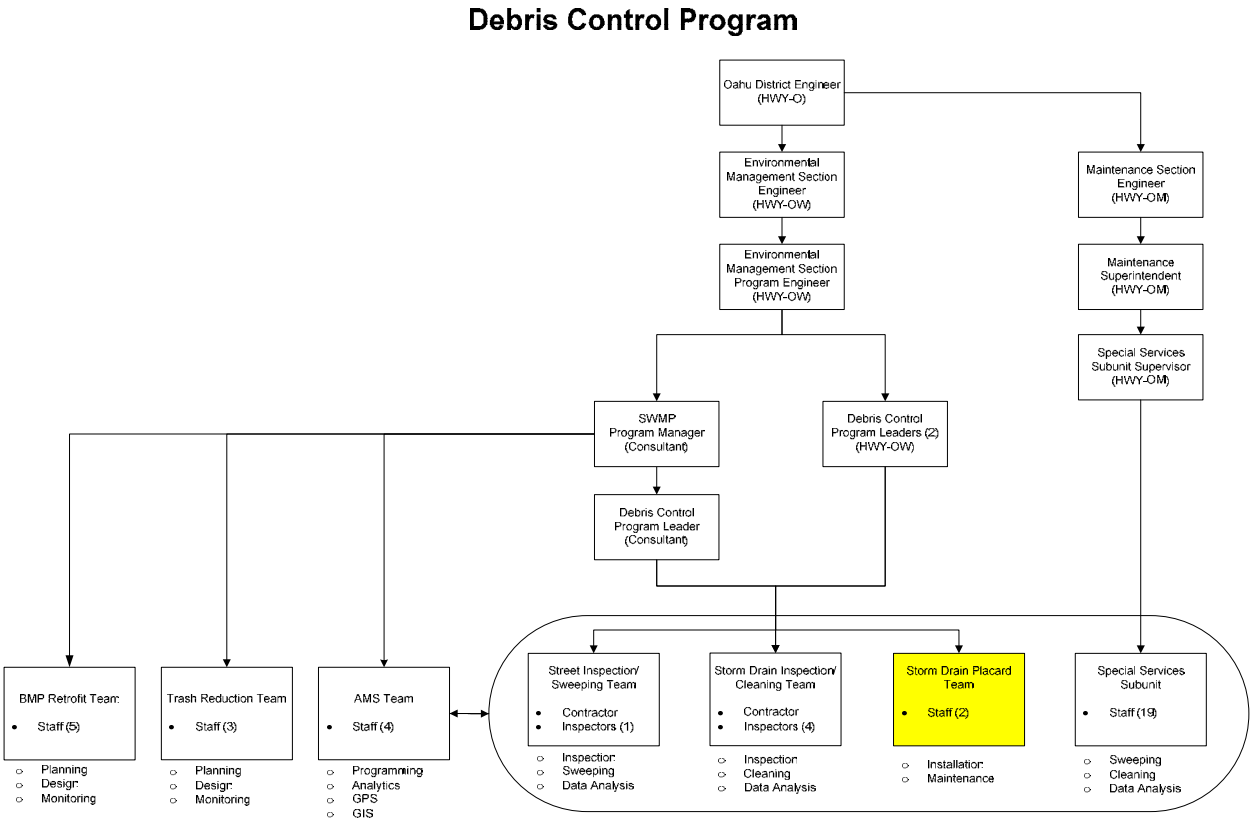

Figure 6-12. Debris Control Program Organizational Chart for Roles and Responsibilities Related to Storm Drain Placards

6.5 Action Plan for Retrofitting Structural BMPs

Part D.1.f.(1).(iv) of the MS4 Permit requires DOT-HWYS to provide DOH with an Action Plan for Retrofitting Structural BMPs (Appendix F.1), which includes identification of the retrofits to be implemented, an explanation on the basis of their selection, and a five-year implementation schedule. The purpose of the Action Plan for Retrofitting Structural BMPs is to reduce storm water pollution by designing and constructing/installing appropriate and cost-effective BMPs (retrofits) in strategic locations and structures within the existing MS4. Potential retrofit sites were selected through the review of previous MS4 studies and from data collected during routine MS4 monitoring and maintenance activities. A total of 38 sites were selected for retrofits throughout the MS4 during the five-year implementation period. The following criteria were used to determine final site selections for the five-year implementation schedule:

1. Verified as a structure or feature of the MS4;
2. Located within DOT-HWYS' right-of-way or known to have an access easement, and has readily available construction and maintenance access;
3. Located in a TMDL or CWA Section 303(d) listed watershed; and has
4. Significant catchment of runoff from DOT-HWYS' right-of-way.

The BMP Retrofit Team is responsible for the development and implementation of the Action Plan for Retrofitting Structural BMPs, as shown in Figure 6-13.

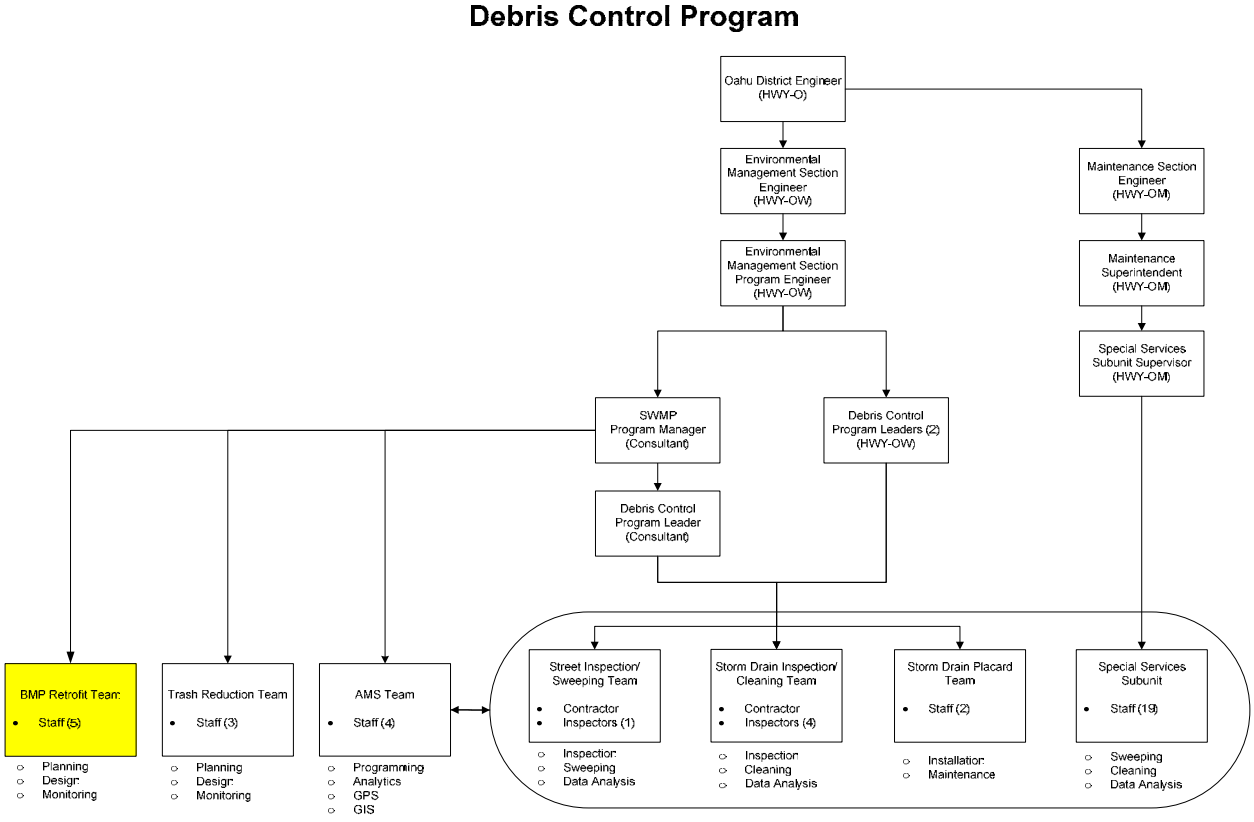

Figure 6-13. Debris Control Program Organizational Chart for Roles and Responsibilities Related to Retrofitting Structural BMPs

6.6 Trash Reduction

DOT-HWYS is developing a Trash Reduction Plan that will be submitted to DOH for review and acceptance within three years of the effective date of the MS4 Permit. The Trash Reduction Plan will be designed to assess and reduce trash loads from the MS4. The Trash Reduction Plan will contain the elements required in Part D.1.f.(1).(v) of the MS4 Permit; including a quantitative estimate of the debris currently being discharged from the MS4, a short-term plan and proposed compliance deadline for reducing debris discharges from the MS4 by 50% from the baseline load; a long-term plan and proposed compliance deadline for reducing debris discharges from the MS4 to zero, and an implementation schedule.

The Trash Reduction Team is responsible for developing and implementing the Trash Reduction Plan, as shown in Figure 6-14.

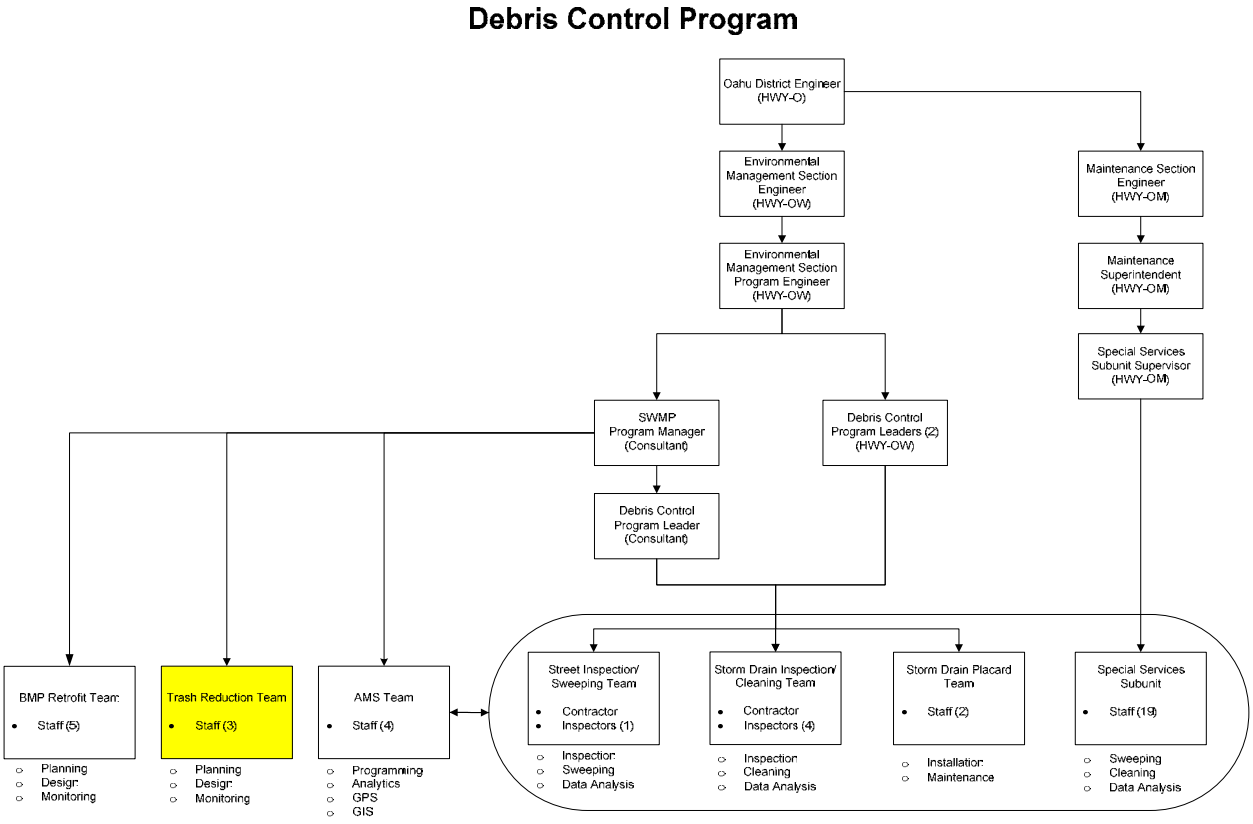

Figure 6-14. Debris Control Program Organizational Chart for Roles and Responsibilities Related to Trash Reduction

6.7 Monitoring Program Effectiveness

Table 6-5 provides measurable standards/milestones for the BMPs discussed in this chapter and DOT-HWYS' strategy for monitoring the effectiveness of their implementation.

Table 6-5. Standards/Milestones for the Debris Control Program

Section	BMP	Standard/Milestone	Monitoring Effectiveness
6.1	Asset Management System	• Utilize AMS to establish priorities and schedule and track efforts of debris removal program activities.	• Track and characterize debris removed from program activities and utilize information to revise priority-based schedules as feasible.
6.2	Street Sweeping	• Sweep 100% of segments in accordance with the priority-based schedules.	• Track the location and frequency of all street sweeping activities and compare against priority-based schedules.
6.3	Storm Drain System Inspection and Cleaning	• Inspect 100% of drainage structures in accordance with the priority-based schedules.	• Track the location, frequency, and structure type of all inspection activities and compare against priority-based schedules.
6.4	Storm Drain Placards	• Install 75 storm drain placards each year on pedestrian-accessible storm drain inlets.	• Track the location and placard number of all storm drain placards installed.
6.5	Action Plan for Retrofitting Structural BMPs	• Submit Action Plan for Retrofitting Structural BMPs within one year from the EDOP. • Construct/install 38 retrofits within the five year implementation period.	• Milestone completed on 10/27/2014. • Track and document retrofit BMP construction and installation locations.
6.6	Trash Reduction	• Submit Trash Reduction Plan within three years from the EDOP. • Comply with schedule/milestones established by Trash Reduction Plan.	• Milestone scheduled for completion on 10/27/2017. • Ensure timely completion of milestones established by Trash Reduction Plan.

Chapter 7
Pollution Prevention/Good Housekeeping Chemical Applications BMPs Program

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CHAPTER 7
POLLUTION PREVENTION/GOOD HOUSEKEEPING CHEMICAL APPLICATIONS BMPS PROGRAM

The Chemical Applications BMPs Program (Chemical Applications Program) is responsible for implementing BMPs, including a training program, to reduce the contribution of pollutants to the MS4 associated with the application, storage, and disposal of chemicals (i.e., pesticides, herbicides, and fertilizers). Chemical applications typically occur during landscape maintenance activities conducted by HWY-OM personnel and landscape maintenance service contractors. The BMPs required by the Chemical Applications Program pertain to all DOT-HWYS' personnel and service contractors that use chemicals within DOT-HWYS' right-of-way or at DOT-HWYS' municipal industrial facilities.

The Chemical Applications Program includes the following control measures:

1. Develop an Authorized Use List of the chemicals DOT-HWYS uses and implement a specific training program for all potential appliers on the proper application of these chemicals.
2. Implement BMPs for the application, storage, and disposal of chemicals.

The Chemical Applications Program is administered in accordance with the MS4 Permit requirements outlined in Table 7-1.

Table 7-1. MS4 Permit Requirements for the Chemical Applications Program

MS4 Permit Reference	SWMPP Section
Part D.1.f.(2).(i) *Training - The Permittee shall develop an Authorized Use List of the chemicals DOT-HWYS uses and implement a specific training program for all potential appliers (bulk and hand-held) of the chemicals (e.g., fertilizers, pesticides, and herbicides) in its proper application. The Permittee shall not permit the application of fertilizers, pesticides, or herbicides unless the applier has first received this training.*	Section 7.1
Part D.1.f.(2).(ii) *Implement appropriate requirements for pesticide, herbicide, and fertilizer applications - The Permittee shall implement BMPs to reduce the contribution of pollutants associated with the application, storage, and disposal of pesticides, herbicides, and fertilizers from municipal areas and activities to its MS4. Municipal areas and activities include, at a minimum, municipal facilities, public right-of-ways, and landscaped areas.* *Such BMPs shall include, at a minimum: (1) educational activities, permits, certifications and other measures for municipal applicators; (2) integrated pest management measures that rely on non-chemical solutions; (3) the use of native vegetation; (4) chemical application, as needed; and (5) the collection and proper disposal of unused pesticides, herbicides, and fertilizers.* *The Permittee shall ensure that their employees or contractors or employees of contractors applying registered pesticides, herbicides, and fertilizers shall work*	Section 7.2

MS4 Permit Reference	SWMPP Section
under the direction of a certified applicator, follow the pesticide label, and comply with any other State, City, or government regulations for pesticides, herbicides, and fertilizers. All Permittee employees or contractors applying pesticides, herbicides or fertilizers shall receive training on the BMPs annually.	

7.0 Program Organization

To fulfill the requirements of the MS4 Permit and the Consent Decree, the following organizational structure has been established for the Chemical Applications Program.

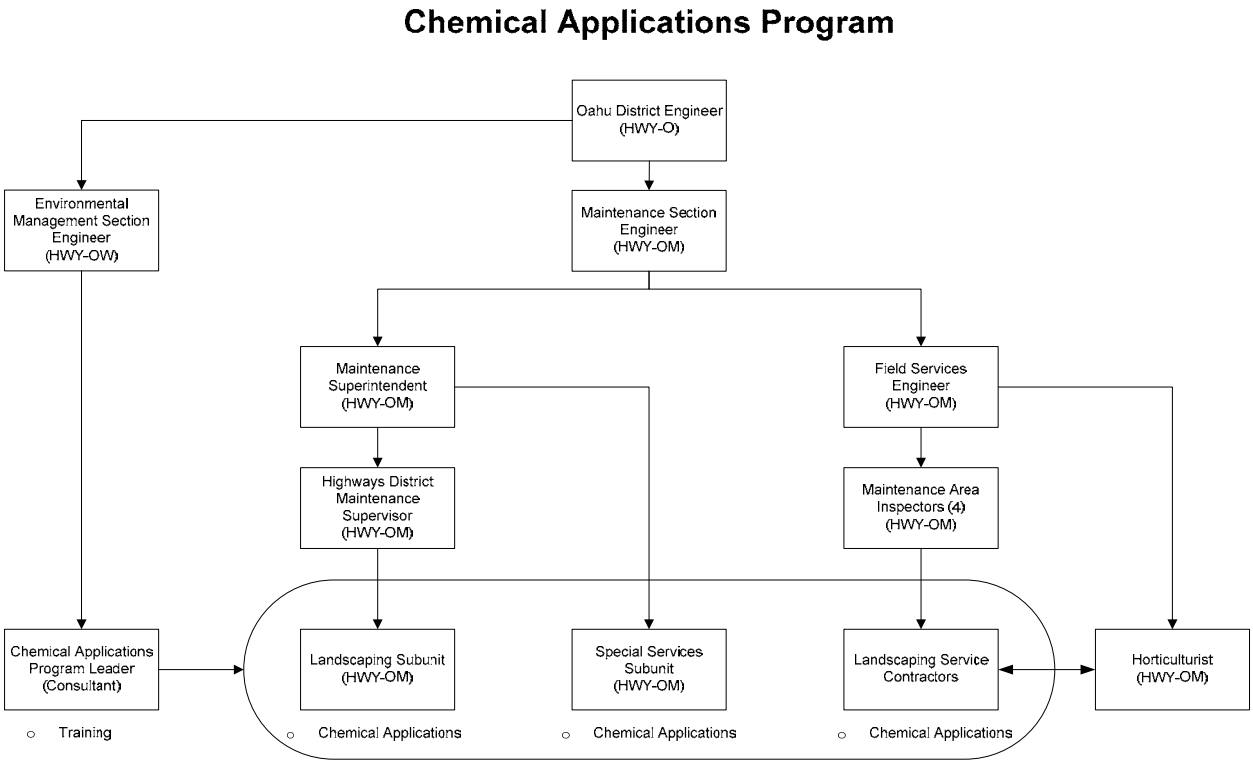


Figure 7-1. Chemical Applications Program Organizational Chart
(Note: The number in parenthesis indicates the number of individuals involved.)

7.1 Chemical Applications Training

An Authorized Use List (Appendix G.1) of the chemicals DOT-HWYS uses was developed to fulfill Part D.1.f.(2).(i) of the MS4 Permit. The Authorized Use List will be reviewed and updated, as necessary, when contracts for purchasing chemicals are prepared, or on an annual basis.

DOT-HWYS provides annual Chemical Applications Training, which is specific to the proper application of chemicals on the Authorized Use List. The training covers chemical applications BMPs (Section 7.2) that reduce the amount of pollutants in storm water, information about the Pesticide General Permit, appropriate conditions for chemical applications, record keeping of chemical applications, and general storm water awareness.

Potential appliers of chemicals are required to attend the Chemical Applications Training prior to applying chemicals within DOT-HWYS' right-of-way.

As depicted in Figure 7-2, the Chemical Applications Program Leader conducts training for HWY-OM personnel responsible for chemical applications (i.e., Landscaping Subunit and Special Services Subunit) and for potential appliers of chemicals employed by DOT-HWYS' landscaping service contractors. The Maintenance Section Engineer is responsible for ensuring that any individual applying chemicals in DOT-HWYS' right-of-way has first received Chemical Applications Training.

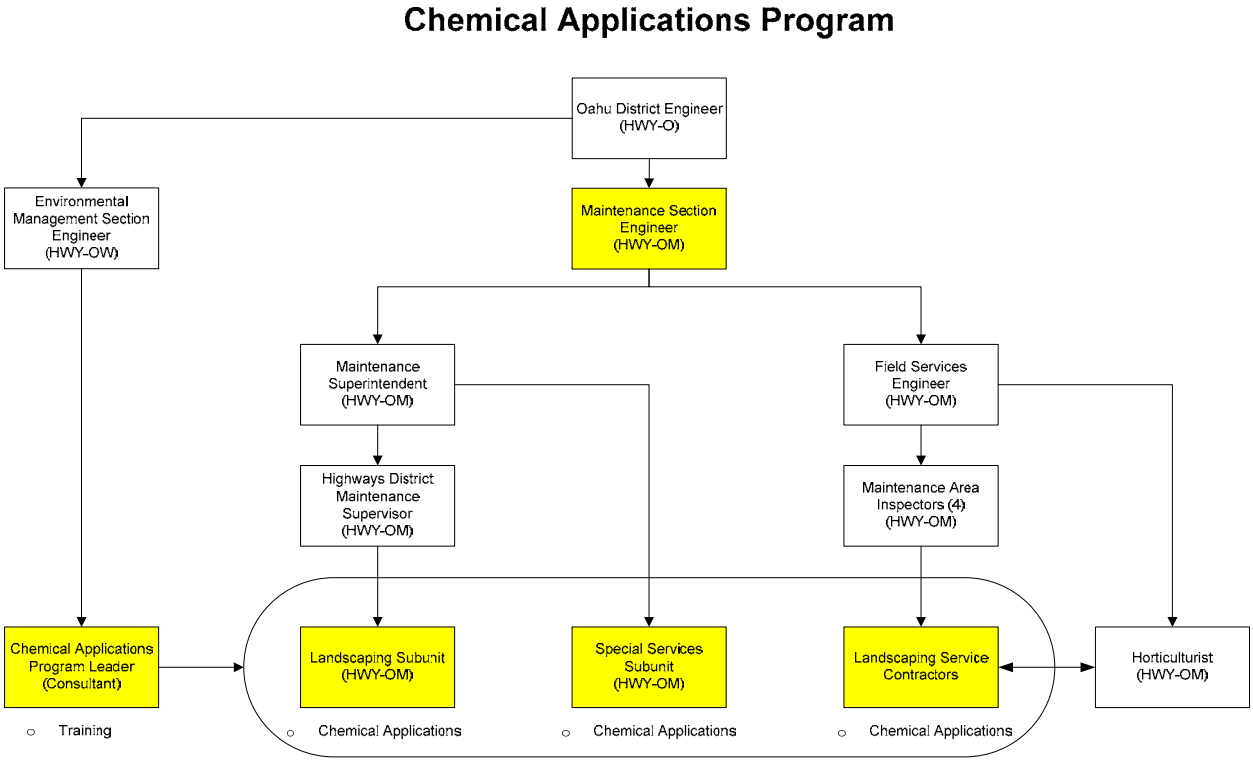


Figure 7-2. Chemical Applications Program Organizational Chart for Roles and Responsibilities Related to Chemical Applications Training

7.2 Chemical Applications BMPs

DOT-HWYS utilizes the following guidance documents for the purpose of establishing chemical applications BMPs and educating potential appliers on their implementation:

- *Chemical Applications Training Plan*, 2006 (Appendix G.2);
- *Highway Manual for Sustainable Landscape Maintenance*, 2011; and
- *Maintenance Plan for Vegetated Portions of the MS4*, 2014 (Appendix H.2).

The *Chemical Applications Training Plan* provides the framework for the Chemical Application Program's required BMPs. It also provides information about enforcement penalties for violating storm water regulations (i.e., Clean Water Act, HRS Chapter 342D, etc.). Copies of the *Chemical Applications Training Plan* are provided to HWY-OM staff and are required to be kept on-site at DOT-HWYS' municipal industrial facilities.

The *Highway Manual for Sustainable Landscape Maintenance* was published to encourage a culture of sustainable landscape maintenance practices, such as planting native vegetation, utilizing integrated pest management practices, and reducing the impacts of herbicide application through other sustainable practices.

The *Highway Manual for Sustainable Landscape Maintenance* is available on DOT-HWYS' website, at http://hidot.hawaii.gov/highways/landscape-architecture-program/.

Proper herbicide mixing is shown at Keehi Baseyard by the Special Services Subunit.

The *Maintenance Plan for Vegetated Portions of the MS4* is used to educate chemical appliers on the importance of maintaining vegetation in the drainage system for the purpose of erosion and sediment control.

Content from the guidance documents has been incorporated into the Chemical Applications Training, and attendees are encouraged to access these, and additional, resources at www.stormwaterhawaii.com.

To reduce the contribution of pollutants associated with chemical applications to the MS4, the Chemical Applications Program trains DOT-HWYS' staff and service contractors on the following topics and BMPs:

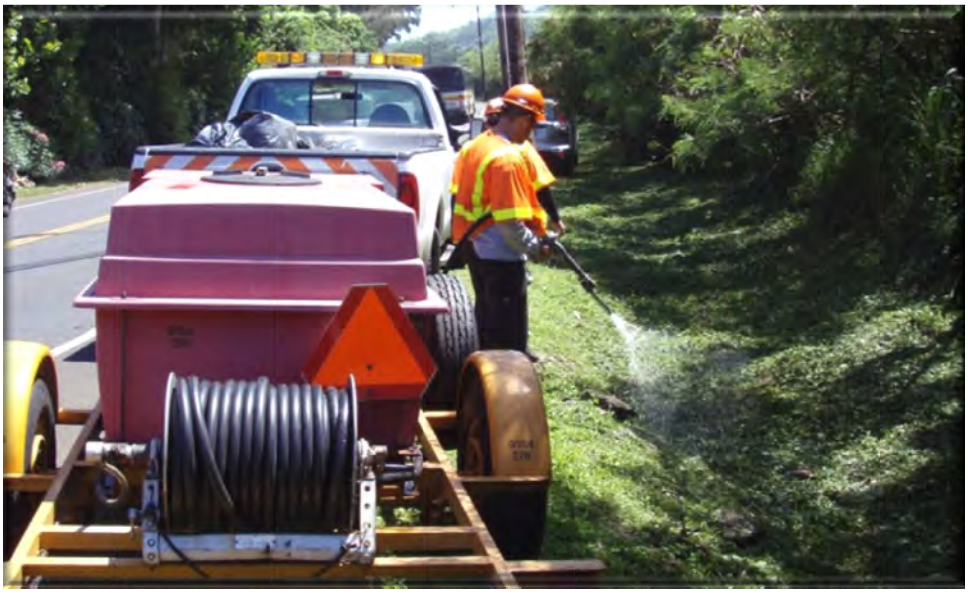
- Comply with applicable laws (e.g., HAR 11-55, Appendix M);
- Reduce usage;
- Proper chemical mixing and storage;
- Proper chemical application;
- Proper chemical disposal;
- Harmful effects on aquatic wildlife from misuse;
- Avoid stray product from being deposited on streets or other paved surfaces;
- Don't apply chemicals near sensitive areas, including streams, lakes, or wetlands;
- Be aware of storm drains in the area;
- Use protective devices where necessary;
- How to identify State Waters and areas that may trigger permit requirements;
- Use the least toxic chemical to accomplish the task;
- Only mix chemicals in sufficient quantities for the task;
- Excess mixed chemicals should be stored per manufacturer's instructions;
- Use as much of the product as possible (to reduce waste);
- Rinse empty chemical containers three times;
- Reuse rinse water;
- Do not dispose rinse water in storm drains or sanitary sewer;
- Clean and fuel equipment in contained areas;
- Never apply when rain is predicted within 24 hours;
- Do not spray chemicals during winds over 8 miles per hour;
- Spot spray rather than broadcasting or using the spray truck, where feasible;
- HAZCOM/PPE requirements;
- Record Keeping with Herbicide Usage Logs; and
- Deliver Herbicide Usage Logs to DOT-HWYS on a quarterly basis.

DOT-HWYS does not stock excess chemicals that require disposal. Instead, maintenance field staff are instructed to only mix chemicals in sufficient quantities for the task, store excess mixed chemicals per the manufacturer's instructions, and reuse rinse water.

To protect the quality of State Waters, DOT-HWYS has established the following policies for the application of chemicals by HWY-OM personnel and DOT-HWYS' service contractors. These policies are included in the Chemical Applications Training:

- DOT-HWYS shall **not** apply chemicals to any areas below and/or downstream of the top of bank (TOB). TOB is defined as the break in slope between the bank and surrounding terrain. TOB is the point closest to the boundary of the active floodplain of a stream where a break in the slope of the land occurs.
- DOT-HWYS shall **not** apply chemicals to any areas over State Waters or over the area enclosed by the top of the bank. This includes flat areas, overhanging trees, or foliage. State Waters include streams, rivers, oceans, coastal waters, wetlands, ponds, reservoirs, canals, ground water, and lakes.
- DOT-HWYS shall **not** apply pesticides to wetlands. Wetland is an area that is saturated with water either permanently or seasonally, consisting of wet soils, and supports wetland vegetation.
- DOT-HWYS shall ensure that chemical application to bridges with scuppers and/or deck drains shall **not** affect the State Waters and/or the TOB.
- DOT-HWYS shall **not** apply pesticides to any areas with standing or flowing waters. Examples of such areas include ditches with flowing waters, medians with open State Waters, etc.
- DOT-HWYS shall **not** spray roadside ditches that are naturally occurring and/or conveying State Waters.

In addition to the above mentioned constraints, DOT-HWYS shall comply with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements and any other applicable state and federal regulations. DOT-HWYS and its service contractors currently do not apply restricted use chemicals. Should this change, DOT-HWYS will ensure that HWY-OM staff and/or DOT-HWYS' service contractors applying restricted use chemicals do so under the direction of a certified applicator, follow the pesticide label, and comply with city, state, and federal regulations.



Proper application of herbicide is shown along Kamehameha Highway by DOT-HWYS.

The Maintenance Section Engineer is responsible for ensuring that HWY-OM staff conduct activities in compliance with these policies. The Maintenance Superintendent, Field Services Engineer, and Highways District Maintenance Supervisor are responsible for ensuring that any potential appliers of chemicals within DOT-HWYS' right-of-way implement the BMPs established by the Chemical Applications Program. Maintenance Area Inspectors periodically inspect service contractors during chemical applications to ensure proper BMP implementation. The Landscaping Subunit, Special Services Subunit, and landscaping service contractors are responsible for the implementation of the chemical applications BMPs outlined in this chapter and presented in the Chemical Applications Training. Figure 7-3 highlights the individuals and groups involved in the implementation of chemical applications BMPs.

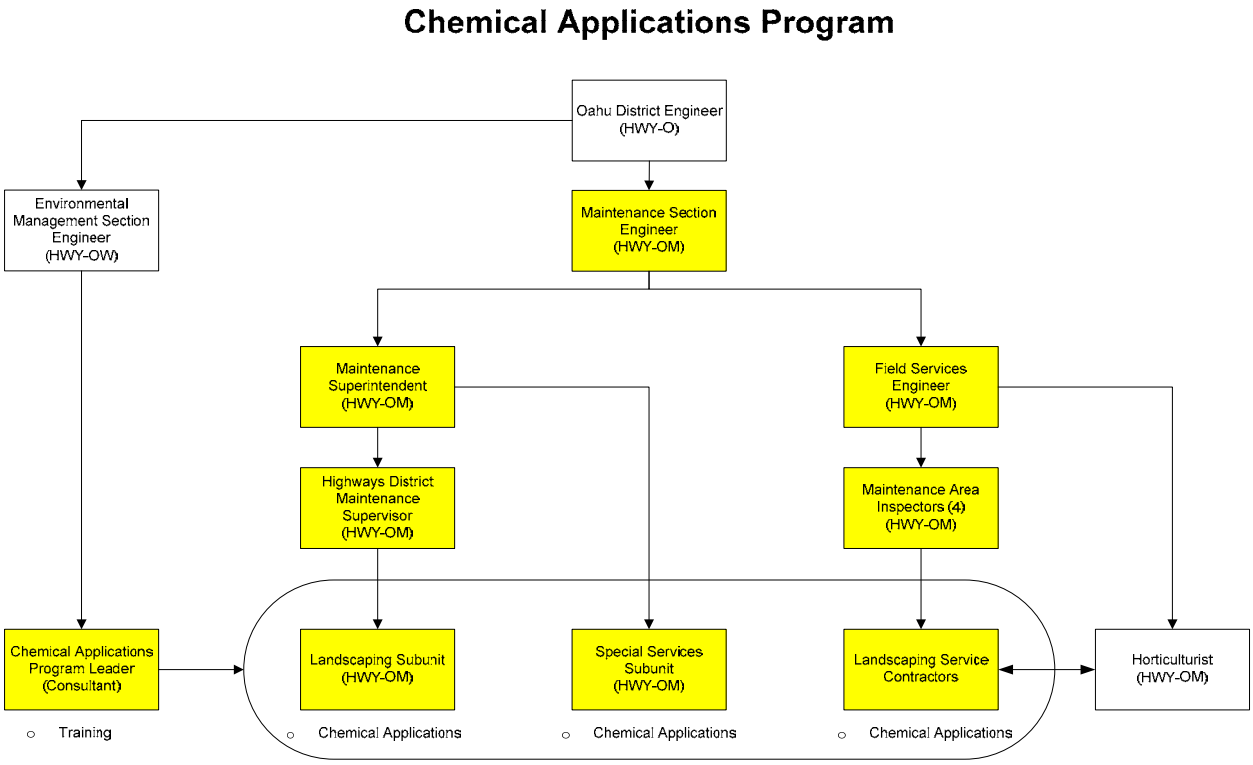


Figure 7-3. Chemical Applications Program Organizational Chart for Roles and Responsibilities Related to the Implementation of Chemical Applications BMPs

7.3 Monitoring Program Effectiveness

Table 7-2 provides measurable standards/milestones for the BMPs discussed in this chapter and DOT-HWYS' strategy for monitoring the effectiveness of their implementation.

Table 7-2. Standards/Milestones for the Chemical Applications Program

Section	BMP	Standard/Milestone	Monitoring Effectiveness
7.1	Authorized Use List and Training	• Develop an Authorized Use List of chemicals used by DOT-HWYS • Ensure that HWY-OM staff and landscape service contractors have received Chemical Applications Training prior to applying chemicals	• Milestone completed on 10/27/2014. • Maintain training records for HWY-OM staff in the HWY-O AS400 database. • Maintain training sign-in sheets for service contractors.
7.2	Chemical Application, Storage, and Disposal BMPs	• Implement the BMPs outlined in the Chemical Applications Training Plan and presented in the Chemical Applications Training	• During SWPCP inspections of DOT-HWYS' municipal industrial facilities, verify that HWY-OM field staff have the Chemical Applications Training Plan. • Periodically inspect service contractors during chemical applications to ensure proper BMP implementation.

Chapter 8
Pollution Prevention/Good Housekeeping Erosion Control BMPs Program

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CHAPTER 8
POLLUTION PREVENTION/GOOD HOUSEKEEPING EROSION CONTROL BMPS PROGRAM

The purpose of the Erosion Control BMPs Program (Erosion Control Program) is to prioritize permanent erosion control improvements at erosional areas with the potential for significant water quality impacts, in addition to erosional areas that pose public safety concerns.

The Erosion Control Program is responsible for implementing the following BMPs:

1. Identify erosional areas with the potential for significant water quality impact for the purpose of implementing erosion control improvements.
2. Submit to DOH a list of projects with an implementation schedule for constructing permanent erosion control improvements.
3. Implement temporary erosion control measures on erosional areas (i.e., highway-adjacent eroded slopes) within DOT-HWYS' ROW with the potential for significant water quality impact, if a permanent solution is not immediately possible.
4. Provide DOH with an action plan to address erosion at DOT-HWYS' storm drain system outlets with significant potential for water quality impacts.
5. Develop a maintenance plan for vegetated portions of the drainage system used for erosion and sediment control.

The Erosion Control Program is administered in accordance with the MS4 Permit and Consent Decree requirements outlined in Table 8-1 and Table 8-2, respectively.

Table 8-1. MS4 Permit Requirements for the Erosion Control Program

MS4 Permit Reference	SWMPP Section
Part D.1.f.(3).(i) *Implement permanent erosion control improvements, ensuring that erosional areas with the potential for significant water quality impact, but with limited public safety concerns, are also considered a high priority for remediation. Identification of erosional areas with the potential for significant water quality impact shall include areas where there is evidence of rilling, gullying, and/or other evidence of significant sediment transport, and areas in close proximity to receiving waters listed as impaired by either sediment, siltation and/or turbidity. The Permittee shall include procedures to identify and implement erosion control projects based on water quality concerns while continuing to address high profile public safety projects.*	Section 8.1 Section 8.2
Part D.1.f.(3).(ii) *Require the implementation of temporary erosion control measures (e.g., erosion control blankets and/or fabrics, gravel bag placement and silt fencing/fiber rolls) on erosional areas within DOT-HWYS right-of-ways with the potential for significant water quality impact if a permanent solution is not immediately possible. Notwithstanding any other implementation provisions, the SWMP shall require the implementation of such temporary erosion control measures on all applicable areas within 18 months of the effective date of this*	Section 8.1 Section 8.3

MS4 Permit Reference	SWMPP Section
permit. For projects which require a CWA Section 401 Water Quality Certification (WQC), the WQC application shall be submitted to DOH within one (1) year of the effective date of this permit and be implemented with six (6) months of the WQC or other regulatory permit(s) issuance date.	
***Part D.1.f.(3).(iii)** Develop a maintenance plan for vegetated portions of the drainage system used for erosion and sediment control, and LID features; including controlling any excessive clearing/removal, cutting of vegetation, and application of herbicide which affects its usefulness.*	Section 8.5
***Part D.1.f.(3).(iv)** Provide the DOH with an Action Plan to address erosion at its storm drain system outlets with significant potential for water quality impacts to be completed within one (1) year of the effective date of this permit, which shall identify outfalls to be addressed, explanation on the basis for their selection and an implementation schedule. The implementation schedule shall cover a five (5) year period. A status report on implementation of the plan shall be included in the Annual Report. The Permittee shall install velocity dissipators or other BMPs to reduce erosion at locations identified by the Islandwide Retrofit Study or through its periodic required inspections. The Action Plan may include, but not be limited to projects in compliance with any TMDL I&M Plan.*	Section 8.4
***Part D.1.f.(3).(v)** Submit a list of projects and an implementation schedule for permanent erosion control improvements as described in Part D.1.f.(3)(i) of this permit shall be submitted to DOH within one (1) year from the effective date of this permit.*	Section 8.2

Table 8-2. Consent Decree Requirements for the Erosion Control Program

Consent Decree Reference	SWMPP Section
***Pg 24, Section V.10.h.(1)** HDOT shall include water quality impacts as a priority in selecting projects for erosion control improvements, ensuring that erosional areas with the potential for significant water quality impact, but with limited public safety concerns, are also considered a high priority for remediation. Erosional areas with the potential for significant water quality impact shall include areas where there is evidence of rilling or gullying or other evidence of significant sediment transport and that are located within High Priority Watersheds. HDOT shall identify and implement erosion control projects based on water quality concerns while continuing to address high profile public safety projects.*	Section 8.1
***Pg 25, Section V.10.h.(2)** HDOT shall require the prompt implementation of temporary erosion control measures (e.g., erosion control blankets or fabrics, gravel bags, and silt fence/fiber rolls) on the erosional areas with the potential for significant water quality impact identified in the preceding Subparagraph if a permanent solution is not immediately possible.*	Section 8.3
***Pg 25, Section V.10.h.(3)** HDOT shall modify the list of approved erosion and sediment control BMPs to include, at least all of those contained in the CCH manual. The revised SWMPP shall also provide for the implementation of alternative erosion and sediment control BMPs where appropriate.*	Section 8.3
***Pg 25, Section V.10.h.(4)** HDOT shall undertake a program to evaluate the erosional potential of storm drain system outlets that discharge downslope of the roadbed. Where discharge points are observed to be creating erosional conditions, HDOTs program shall require installation of velocity dissipaters or other BMPs to reduce the risk of continued erosion at these locations.*	Section 8.4

8.0 Program Organization

To fulfill the requirements of the MS4 Permit and the Consent Decree, the following organizational structure has been established for the Erosion Control Program.

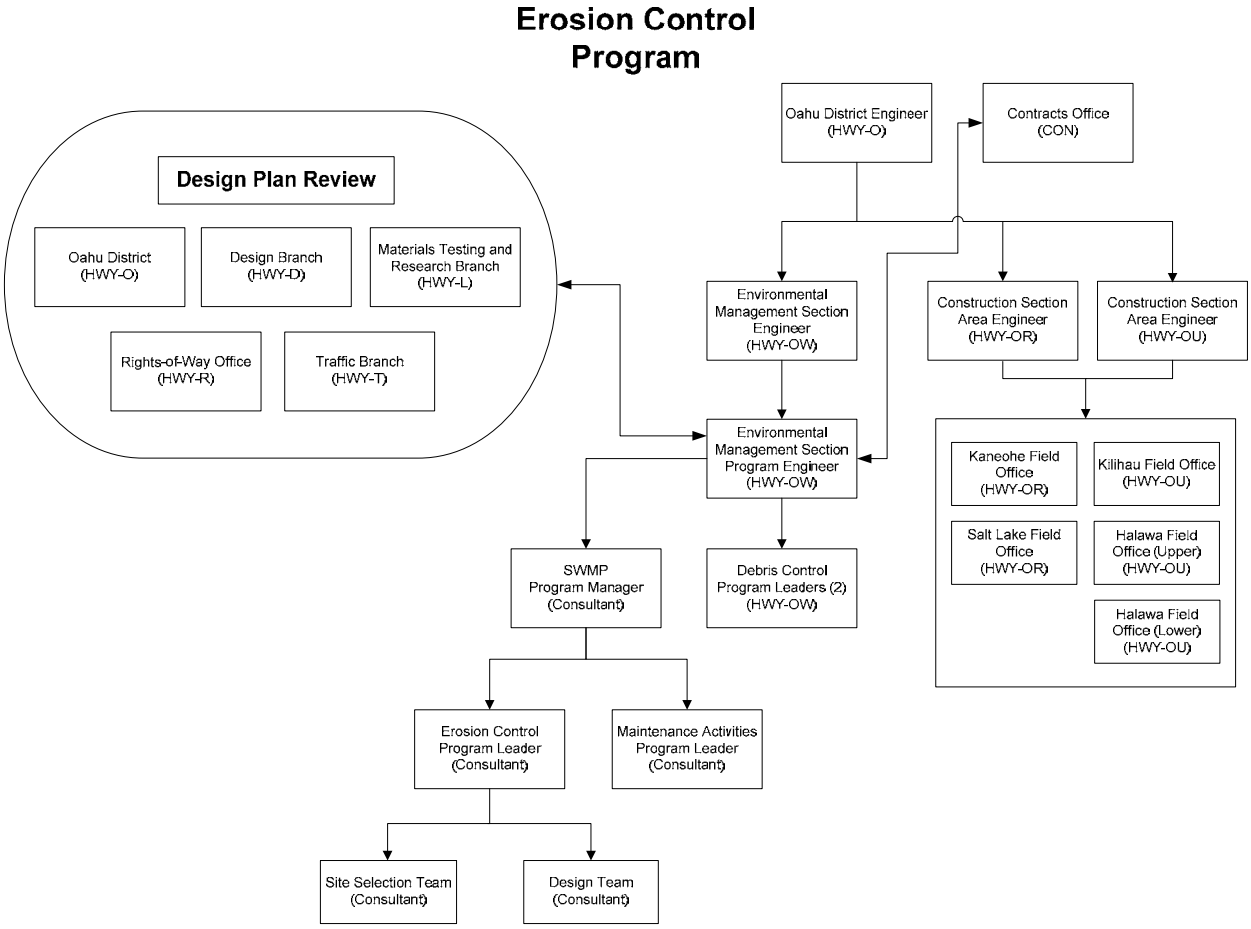

Figure 8-1. Erosion Control Program Organizational Chart
(Note: The number in parenthesis indicates the number of individuals involved.)

8.1 Identifying Erosional Areas

Erosion control projects are implemented for the purpose of protecting receiving water bodies, in addition to addressing public safety concerns. This section provides an explanation of the criteria and methodology used to identify erosional areas with the potential for significant water quality impact.

Parts D.1.f.(3).(i) and D.1.f.(3).(ii) of the MS4 Permit require DOT-HWYS to implement erosion control improvements on erosional areas with the potential for significant water quality impact, which includes erosional areas where there is evidence of rilling, gullying, and/or other evidence of significant sediment transport, as well as erosional areas in close proximity to receiving waters listed as impaired by sediment, siltation, and/or turbidity. Both the CWA Section 303(d) list and TMDL water bodies with WLA reductions assigned to DOT-HWYS were used to determine the inventory of watersheds listed as impaired for TSS and/or turbidity.

Erosional areas that met these criteria were further evaluated to determine if they had an effective vegetated buffer to mitigate potential sediment transport to the nearest water body. Vegetated buffers slow the velocity of storm water runoff, allowing sediment and other pollutants to settle out. A natural vegetated buffer of 50 feet or more located between the final discharge point of the MS4 and the nearest receiving water body was generally classified as effective at mitigating potential sediment runoff.

Articulated Concrete Block Mat Systems are an effective, economic method of erosion control in areas where establishing new vegetation is difficult.

Figure 8.2 represents the criteria used to define erosional areas with the potential for significant water quality impact.

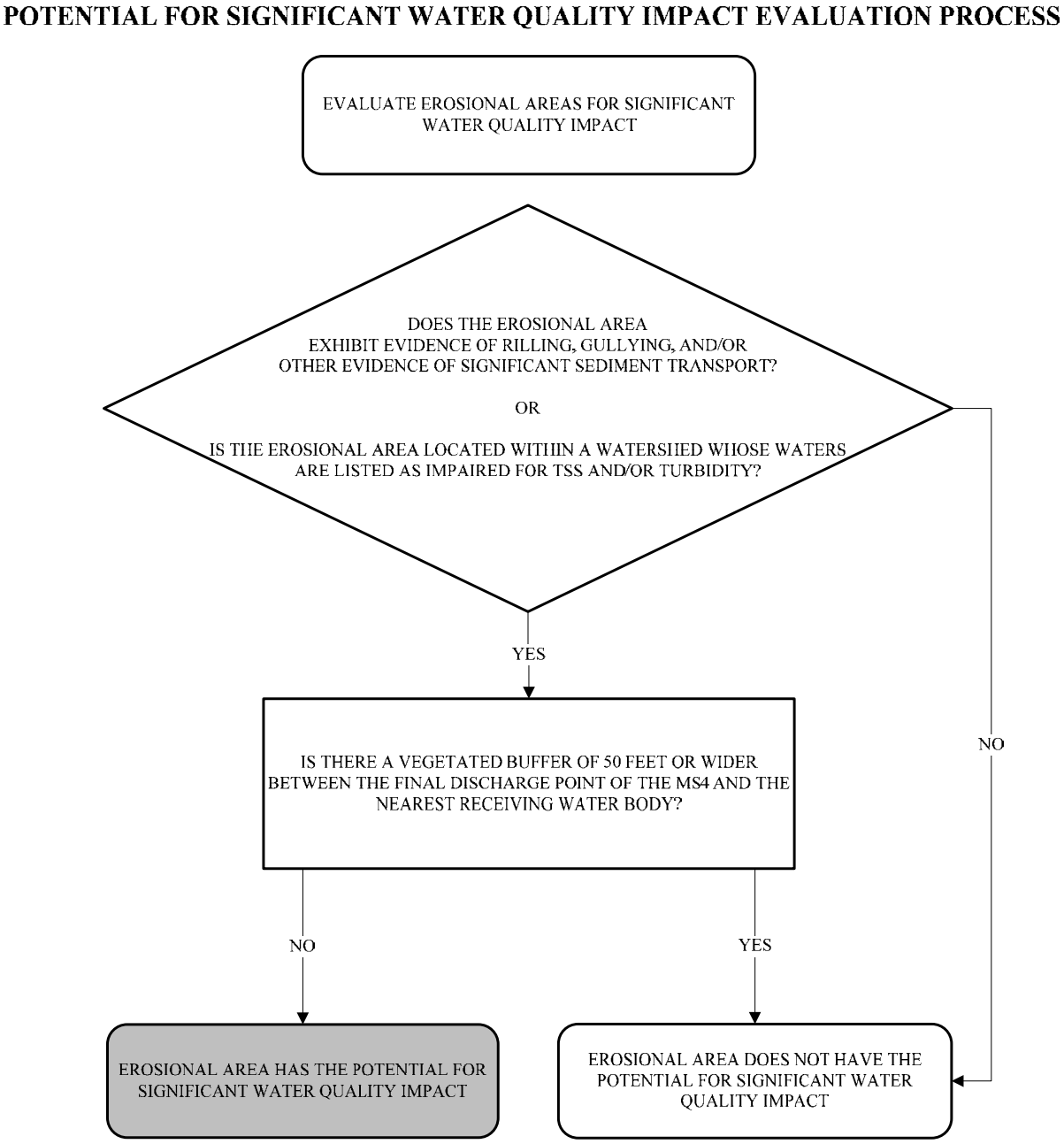

Figure 8-2. Criteria Used to Designate Sites with the Potential for Significant Water Quality Impact

In 2007, 957 erosional areas were identified within DOT-HWYS' ROW on Oahu and ranked using quantitative criteria. The findings were published in the *Islandwide Assessment of Erosional Areas on the Island of Oahu, 2007* (*Islandwide Assessment*), which was submitted as an appendix to DOT-HWYS' 2007 SWMPP.

The erosional areas identified in the *Islandwide Assessment* were evaluated for the potential for significant water quality impact, based on the criteria discussed in Section 8.1. From the original inventory of 957 sites, it was determined that 59 sites met the criteria for having the potential for significant water quality impact. All 59 sites exhibited evidence of rilling, gullying, and/or other evidence of significant sediment transport, and 54 were in close proximity to receiving waters listed as impaired for TSS and/or turbidity.

A Site Selection Team was tasked with identifying erosional areas with the potential for significant water quality impact, as shown in Figure 8-3.

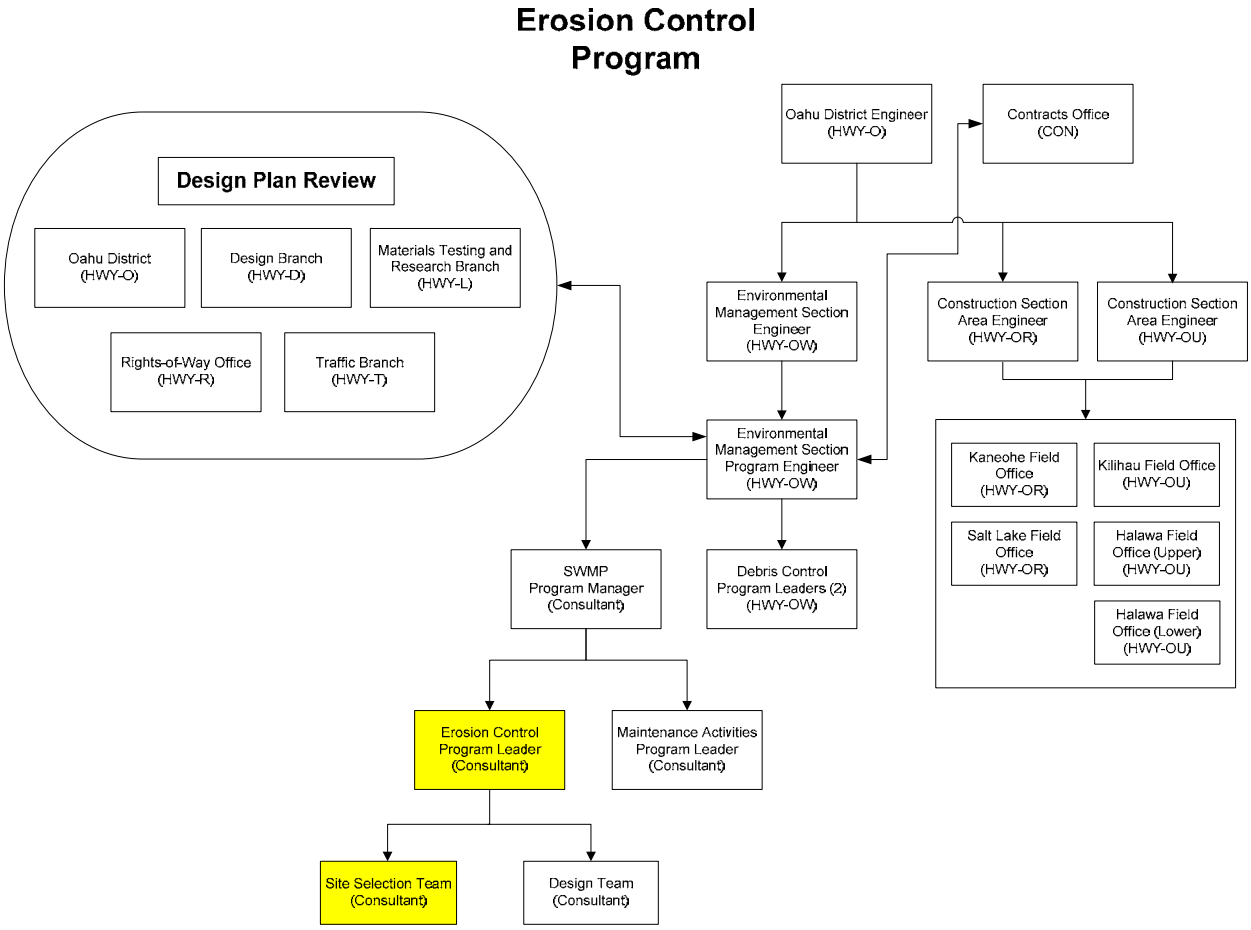

Figure 8-3. Erosion Control Program Organizational Chart for Roles and Responsibilities Related to Site Selection for Erosion Control Improvements

8.2 Permanent Erosion Control BMPs

The 59 erosional areas with the potential for significant water quality impact are considered a high priority for remediation.

Part D.1.f.(3).(v) of the MS4 Permit requires DOT-HWYS to submit a list of projects and an implementation schedule for permanent erosion control improvements to DOH within one year of the effective date of the MS4 Permit.

The list of erosional areas selected for permanent erosion control projects, along with a corresponding five-year implementation schedule, are provided in Table 8.3. The "implementation year" is the year in which the erosional area repair is scheduled to be completed; however, this schedule is subject to change due to funding availability, permitting delays, or other unforeseen circumstances. Eroded areas with an implementation year listed as "To be determined" are generally sites with restricted construction access, limited rights-of-way, significant environmental permitting requirements and/or prohibitive design and construction costs. DOT-HWYS will continue to work toward resolving these issues and will provide updates to the implementation schedule in the Annual Report. The list of projects and implementation schedule were submitted to DOH on October 27, 2014.

Table 8-3. Permanent Erosion Control Projects

Site ID	Route ID	Route	Watershed	Implementation Year
62	H-1	Interstate Route H-1	Kaloi	2014
81	99	Kamehameha Hwy	Waiawa	2014
221	61	Kalanianaole Hwy	Kawainui	2014
222	61	Kalanianaole Hwy	Kawainui	2014
505	80	Kamehameha Hwy	Kaukonahua	2014
534	99	Kamananui Road	Kaukonahua	2014
1009	H-1	Interstate Route H-1	Kaloi	2014
84	99	Kamehameha Hwy	Waiawa	2014
219	61	Kalanianaole Hwy	Kawainui	2014
440	H-1	Interstate Route H-1	Waiawa	2014
528	99	Kamananui Road	Kaukonahua	2014
125	72	Kalanianaole Hwy	Kapakahi-Waipio	2016
214	H-3	Interstate Route H-3	Kawainui	2016
215	H-3	Interstate Route H-3	Kawainui	2016
473	61	Pali Highway	Kawainui-Kaneohe	2016
474	61	Pali Highway	Kawainui-Kaneohe	2016
9003	H-3	Interstate Route H-3	Kawainui	2016
207	H-3	Interstate Route H-3	Kaneohe	2017
208	H-3	Interstate Route H-3	Kaneohe	2017
209	H-3	Interstate Route H-3	Kaneohe	2017
210	H-3	Interstate Route H-3	Kaneohe	2017

Site ID	Route ID	Route	Watershed	Implementation Year
1008	83	Kamehameha Hwy	Kaneohe	2017
47	H-1	Interstate Route H-1	Waikele-Kapakahi	2017
48	H-1	Interstate Route H-1	Waikele	2017
56	H-1	Interstate Route H-1	Kapakahi	2017
109	H-1	Interstate Route H-1	Waikele	2017
445	H-2	Interstate Route H-2	Waiawa	2018
230	H-2	Interstate Route H-2	Waiawa	2018
241	H-2	Interstate Route H-2	Waiawa	2018
907	750	Kunia Road	Kaukonahua	2018
57	H-1	Interstate Route H-1	Waikele	2018
110	H-1	Interstate Route H-1	Kapakahi	2018
446	H-2	Interstate Route H-2	Waiawa	2018
450	H-1	Interstate Route H-1	Waimalu	2018
89	99	Kamehameha Hwy	Halawa	2018
92	99	Kamehameha Hwy	Halawa	2018
510	99	Kamehameha Hwy	Waikele	2018
518	H-2	Interstate Route H-2	Waiawa	2018
519	H-2	Interstate Route H-2	Waiawa	2018
224	61	Kalanianaole Hwy	Kawainui	2019
239	H-2	Interstate Route H-2	Waiawa	2019
502	99	Kamehameha Hwy	Poamoho	2019
987	H-1	Interstate Route H-1	Waikele	2019
988	H-1	Interstate Route H-1	Waikele	2019
150	99	Kamehameha Hwy	Waikele	2019
21	750	Kunia Road	Waikele	To be determined
149	99	Kamehameha Hwy	Waikele	To be determined
246	H-2	Interstate Route H-2	Waiawa	To be determined
408	99	Kamehameha Hwy	Poamoho	To be determined
417	61	Kalanianaole Hwy	Kawainui	To be determined
418	61	Kalanianaole Hwy	Kawainui	To be determined
467	64	Sand Island Access	Kalihi	To be determined
496	99	Kamehameha Hwy	Poamoho	To be determined
507	80	Kamehameha Hwy	Kaukonahua	To be determined
521	99	Wilikina Drive	Kaukonahua	To be determined
913	H-3	Halawa Access Road	Halawa	To be determined
973	99	Kamehameha Hwy	Waiawa	To be determined
2010	750	Kunia Road	Waikele	To be determined
223	61	Pali Highway	Kawainui	To be determined

The personnel shown in Figure 8-4 are involved in the implementation of permanent erosion control improvements.

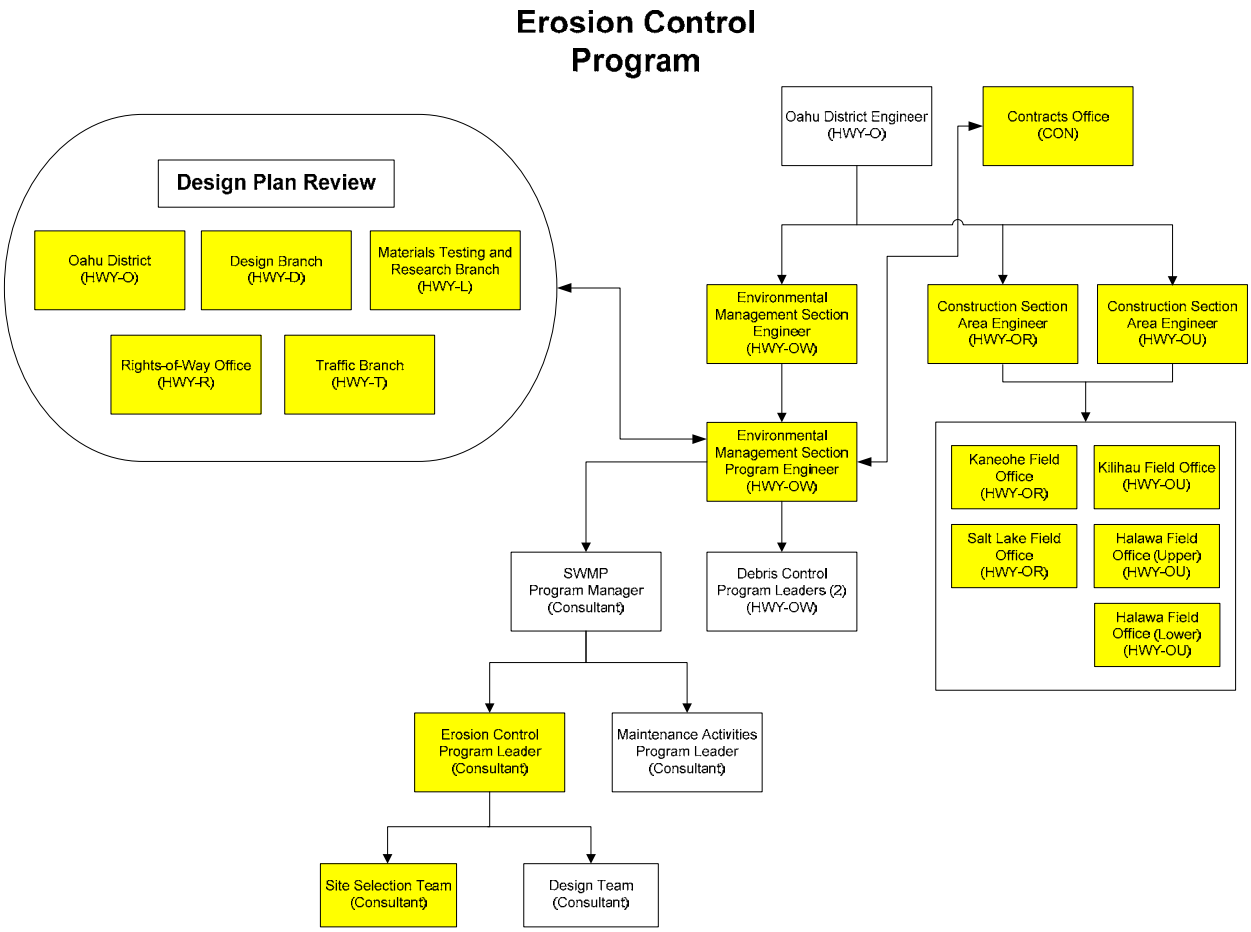

Figure 8-4. Erosion Control Program Organizational Chart for Roles and Responsibilities Related to Permanent Erosion Control Improvements

8.3 Temporary Erosion Control BMPs

Part D.1.f.(3).(ii) of the MS4 Permit requires DOT-HWYS to implement temporary erosion control improvements within 18 months of the effective date of the MS4 Permit, on any erosional area with the potential for significant water quality impact for which a permanent solution is not immediately possible. Of the 59 sites identified, 36 had existing temporary BMPs in place. Temporary BMPs were installed on the remaining 23 erosional areas within 18 months of the effective date of the MS4 Permit.

During the temporary BMP selection process, the Debris Control Program Leaders and Site Selection Team assessed the conditions of each erosional area requiring temporary BMPs to determine the most appropriate BMP type for each site. Erosion and sediment control BMPs were selected from the DOT-HWYS' *Construction BMPs Field Manual* (Appendix D.1), which includes the BMPs contained in the City and County of Honolulu's *BMP Manual for Construction Sites in Honolulu*, as required by the Consent Decree. Information about each erosional area requiring temporary BMPs is provided in Table 8.4.

Table 8-4. Temporary Erosion Control Sites

Site ID	Route ID	Route	Watershed
2010	750	Kunia Road	Waikele
467	64	Sand Island Access	Kalihi
507	80	Kamehameha Hwy	Kaukonahua
502	99	Kamehameha Hwy	Poamoho
89	99	Kamehameha Hwy	Halawa
973	99	Kamehameha Hwy	Waiawa
149	99	Kamehameha Hwy	Waikele
150	99	Kamehameha Hwy	Waikele
408	99	Kamehameha Hwy	Poamoho
496	99	Kamehameha Hwy	Poamoho
57	H-1	Interstate Route H-1	Waikele
56	H-1	Interstate Route H-1	Kapakahi
110	H-1	Interstate Route H-1	Kapakahi
47	H-1	Interstate Route H-1	Waikele-Kapakahi
48	H-1	Interstate Route H-1	Waikele
109	H-1	Interstate Route H-1	Waikele
987	H-1	Interstate Route H-1	Waikele
988	H-1	Interstate Route H-1	Waikele
246	H-2	Interstate Route H-2	Waiawa
230	H-2	Interstate Route H-2	Waiawa
241	H-2	Interstate Route H-2	Waiawa
445	H-2	Interstate Route H-2	Waiawa
913	H-3	Halawa Access Road	Halawa

Temporary erosion control improvements are administered by the personnel depicted in Figure 8-5.

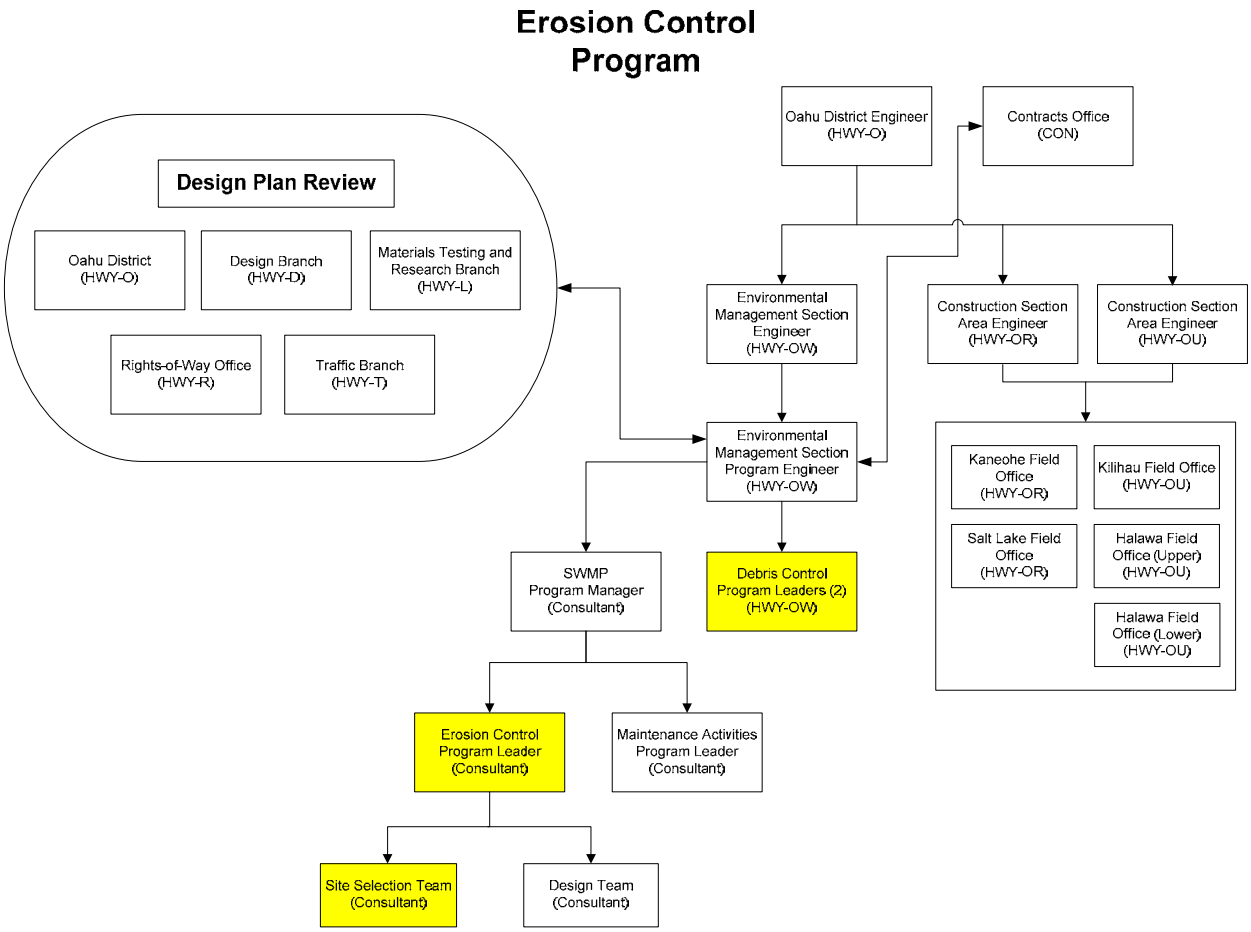

Figure 8-5. Erosion Control Program Organizational Chart for Roles and Responsibilities Related to Temporary Erosion Control Improvements

8.4 Action Plan to Address Erosional Outfalls

Part D.1.f.(3).(iv) of the MS4 Permit requires DOT-HWYS to provide DOH with an action plan to address erosion at its storm drain system outlets (i.e., erosional outfalls) that have the significant potential for water quality impacts, along with a five-year implementation schedule. The purpose of the *Action Plan to Address Erosional Outfalls* (Appendix H.1) is to reduce erosion at DOT-HWYS' MS4 outfalls on the island of Oahu that have the significant potential for water quality impacts, by implementing appropriate and cost-effective outfall repairs. Potential erosional outfall repair sites were selected through the review of previous MS4 studies and from data collected during routine MS4 monitoring and maintenance activities.

The following criteria were used to determine final site selections for the five-year implementation schedule:

1. Confirmed as an outfall from the MS4;
2. Classified as having significant potential for water quality impacts:
   - Erosion issues caused by discharge at outfall
   - Evidence of sediment transport to downstream receiving waters
   - Inadequate natural or man-made storm water treatment in flow path to receiving waters
3. Located within DOT-HWYS' ROW, or known to have an access easement, and have readily available construction and maintenance access;

Sites that are located in a TMDL, Consent Decree, or CWA Section 303(d) listed watershed were given a higher priority for remediation.

This previously eroded outfall was completely repaired and reconstructed. A rip rap apron provides protection from future erosion.

Figure 8-6 depicts the personnel involved in the development and implementation of the Action Plan to Address Erosional Outfalls.

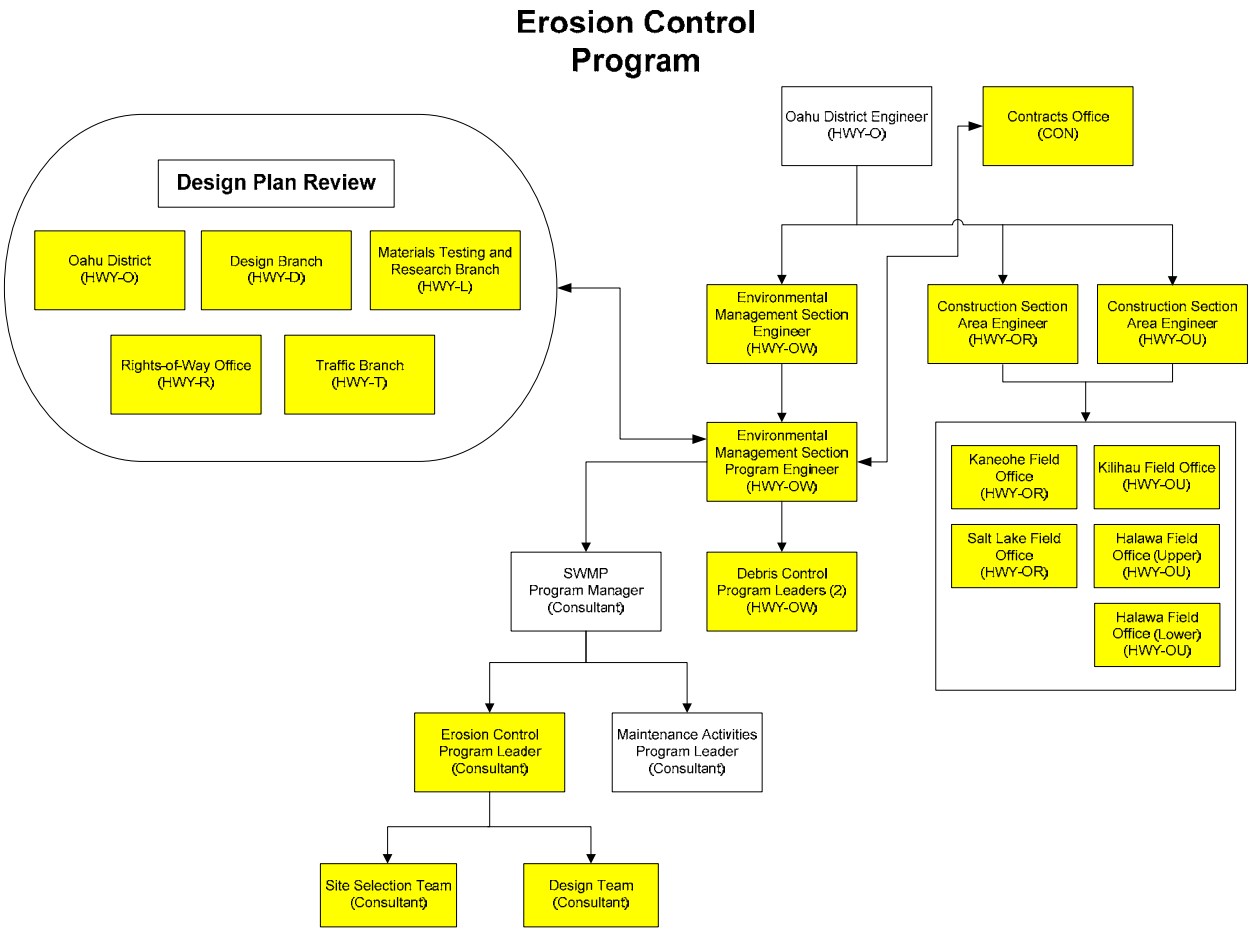

Figure 8-6. Erosion Control Program Organizational Chart for Roles and Responsibilities Related to the Action Plan to Address Erosional Outfalls

8.5 Maintenance Plan for Vegetation

Vegetated portions of the MS4 can effectively filter out sediment collected by storm water runoff, before it is discharged into receiving water bodies.

Part D.1.f.(3).(iii) of the MS4 Permit requires DOT-HWYS to develop a maintenance plan for vegetated portions of the drainage system used for erosion and sediment control. The *Maintenance Plan for Vegetated Portion of the MS4* (*Maintenance Plan*) (Appendix H.2) is intended for use by HWY-OM staff responsible for landscape maintenance activities, including herbicide applications. The purpose of the *Maintenance Plan* is to prevent the excessive removal of vegetation and over-application of herbicides in and around vegetated portions of the drainage system used for sediment and erosion control, in order to maintain the presence and usefulness of a vegetated buffer.

The *Maintenance Plan* instructs staff on proper landscape maintenance practices and explains the importance of maintaining vegetation in and along the MS4, including ditches, open channels, vegetated swales, bioretention basins, rain gardens, and other vegetated PBMPs. Content from the *Maintenance Plan* has been incorporated into the Chemical Application Training's instructional material (Section 7.1).

This eroded slope was repaired by applying a mixture of grass seed, fertilizer, and mulch, which was then secured in place using erosion control fabric. The newly planted grass is just beginning to sprout through the fabric.

The Maintenance Activities Program Leader is responsible for training HWY-OM staff on the content of the *Maintenance Plan*, as depicted in Figure 8-7.

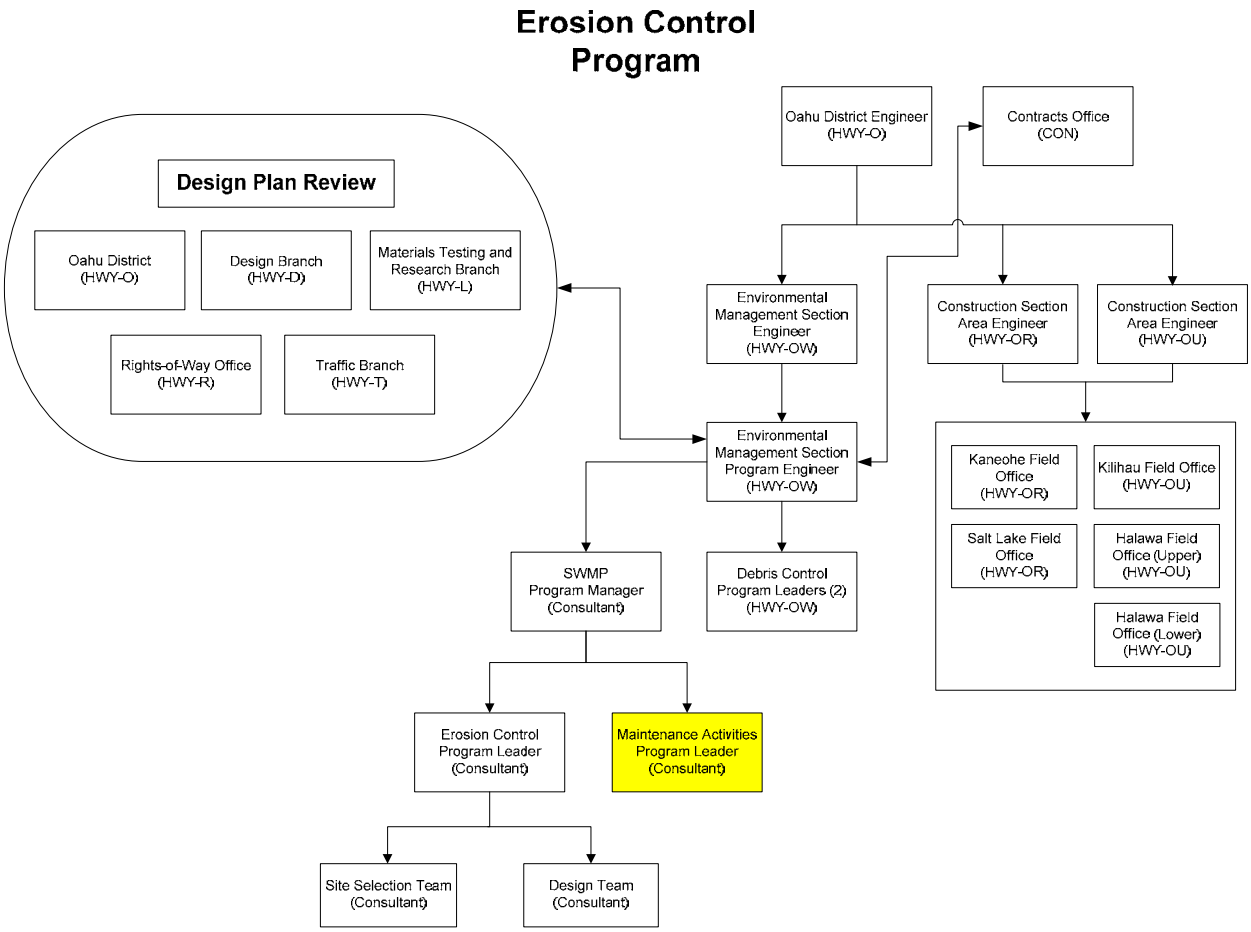

Figure 8-7. Erosion Control Program Organizational Chart for Roles and Responsibilities Related to the Maintenance Plan

8.6 Monitoring Program Effectiveness

Table 8-5 provides measurable standards/milestones for the BMPs discussed in this chapter and DOT-HWYS' strategy for monitoring the effectiveness of their implementation.

Table 8-5. Standards/Milestones for the Erosion Control Program

Section	BMP	Standard/Milestone	Monitoring Effectiveness
8.1	Identifying Erosional Areas	• Identify and maintain a database of erosional areas with the potential for significant water quality impacts.	• Milestone completed on 10/27/2014. • Utilize database to implement and track permanent erosion control projects at erosional areas with the potential for significant water quality impacts.
8.2	Permanent Erosion Control BMPs	• Submit a list of areas selected for permanent erosion control projects, along with an implementation schedule, to DOH within one year of the EDOP. • Construct permanent erosional control improvements in accordance with the submitted list of projects and implementation schedule.	• Milestone completed on 10/27/2014. • Create and maintain a database to track the status and schedule of permanent erosion control projects.
8.3	Temporary Erosion Control BMPs	• Implement temporary erosion control BMPs on areas with the potential for significant water quality impact, within 18 months of the EDOP when a permanent control is not immediately possible.	• Milestone completed on 4/27/2015.

Section	BMP	Standard/Milestone	Monitoring Effectiveness
8.4	Action Plan to Address Erosional Outfalls	• Provide action plan to address erosion at storm drain system outfalls with significant potential for water quality impact within one year from the EDOP. • Construction projects in accordance with implementation schedule.	• *Action Plan to Address Erosional Outfalls* submitted to DOH on 10/27/2014. • Create and maintain a database to track the status and schedule of erosional outfall projects.
8.5	Maintenance Plan	• Develop a maintenance plan for vegetated portions of the drainage system used for erosion and sediment control.	• *Maintenance Plan* completed on 10/27/2014.

Repair of this eroded slope involved applying a mixture of grass seed, fertilizer, and mulch, which was then secured in place using erosion control fabric. The newly planted grass has grown significantly, and completely obscures the erosion control fabric from view.

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Chapter 9
Pollution Prevention/Good Housekeeping Maintenance Activities BMPs Program

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CHAPTER 9
POLLUTION PREVENTION/GOOD HOUSEKEEPING MAINTENANCE ACTIVITIES BMPS PROGRAM

The Maintenance Activities BMPs Program (Maintenance Activities Program) establishes pollution prevention strategies for maintenance activities, including routine maintenance projects, administered by DOT-HWYS. Ensuring the implementation of proper source control measures and spill response procedures can effectively reduce the discharge of pollutants associated with maintenance activities. Appropriate implementation of BMPs is required for all maintenance activities.

The Maintenance Activities Program includes the following control measures:

1. Implement BMPs in accordance with the *Maintenance Activities BMPs Field Manual, 2006* (*Maintenance BMPs Field Manual*) (Appendix I.1).
2. Train staff on proper BMP implementation and pollution prevention strategies.
3. Operate a Flood Control Project at the Punahou Pump Station.

The Maintenance Activities Program is administered in accordance with the MS4 Permit and Consent Decree requirements outlined in Table 9-1 and Table 9-2, respectively.

Table 9-1. MS4 Permit Requirements for the Maintenance Activities Program

MS4 Permit Reference	SWMPP Section
Part D.1.f.(4).(i) *BMPs and Field Manual for municipal maintenance activities - The Permittee shall implement the BMPs as identified in the field manual titled "Maintenance Activities Best Management Practices Field Manual" (Field Manual) for all municipal maintenance activities. Examples of such activities include, but are not limited to: paving and road repairs, street cleaning, saw cutting, concrete work, curb and gutter replacement, buried utility repairs and installation, vegetation removal, painting and paving, debris and trash removal, spill cleanup, etc. The Field Manual shall be updated as necessary or at least once per permit term and include written procedures to minimize pollutant discharge for maintenance activities which have the potential to discharge pollutants to its MS4.*	Section 9.1
Part D.1.f.(4).(ii) *Training - The Permittee shall further develop and provide annual training to staff on proper municipal maintenance activities to prevent storm water pollution. The training shall cover the Field Manual, identify potential sources of pollution, general BMPs that can be used to reduce and/or eliminate such sources, and specific BMPs for their activities. The training shall incorporate components of the public education campaign and educate staff that they serve a role in protecting water quality. Staff shall be made aware of the NPDES permit, the overall SWMP, and the applicable BMPs Program(s).*	Section 9.2
Part D.1.f.(5) *Pump Station - The Permittee shall implement the flood control project activities described in its ongoing SWMP, including monthly inspection and maintenance of the Interstate H-1 Punahou Pump Station.*	Section 9.3

Table 9-2. Consent Decree Requirements for the Maintenance Activities Program

Consent Decree Reference	SWMPP Section
Pg 25, Section V.10.i *HDOT shall develop and implement a written set of maintenance BMPs for routine and emergency in-house activities. Activity-specific BMPs shall be reorganized as a manual and be created in a format that facilitates its use by field staff. It shall be distributed to all field staff and shall complement the overall goals of the BMPPP.*	Section 9.1

9.0 Program Organization

To fulfill the requirements of the MS4 Permit and Consent Decree, the following organizational structure has been established for the Maintenance Activities Program.

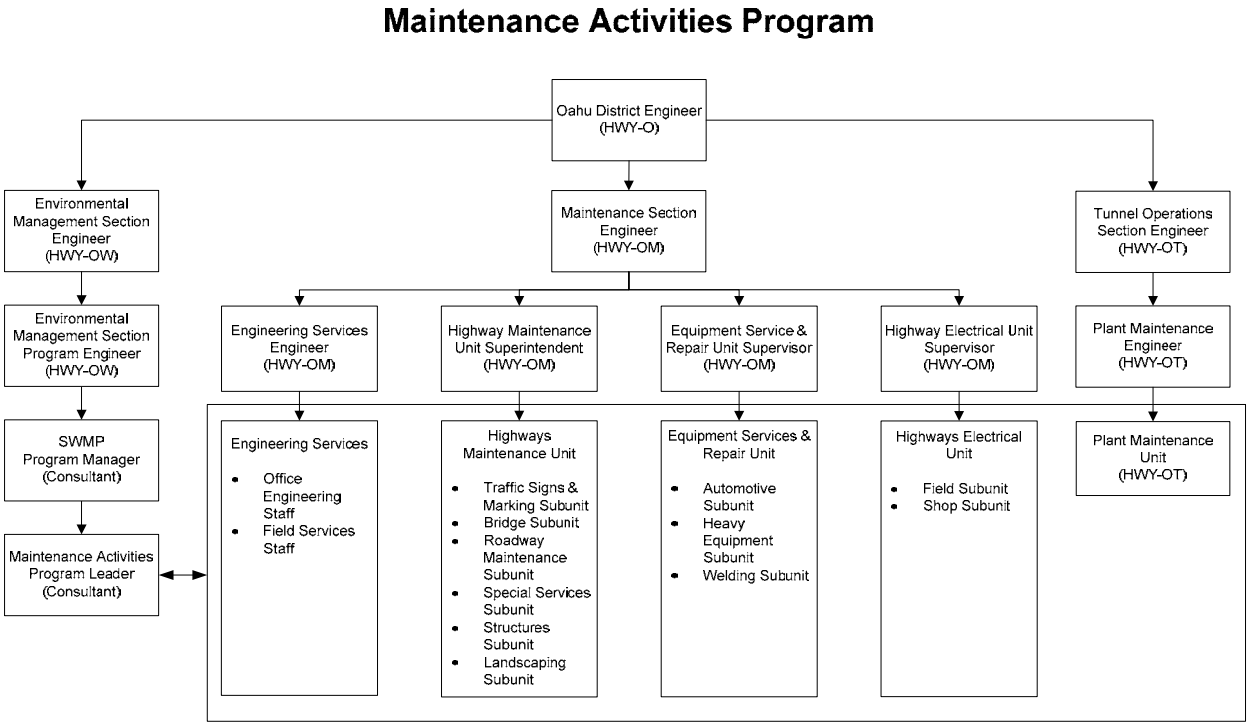
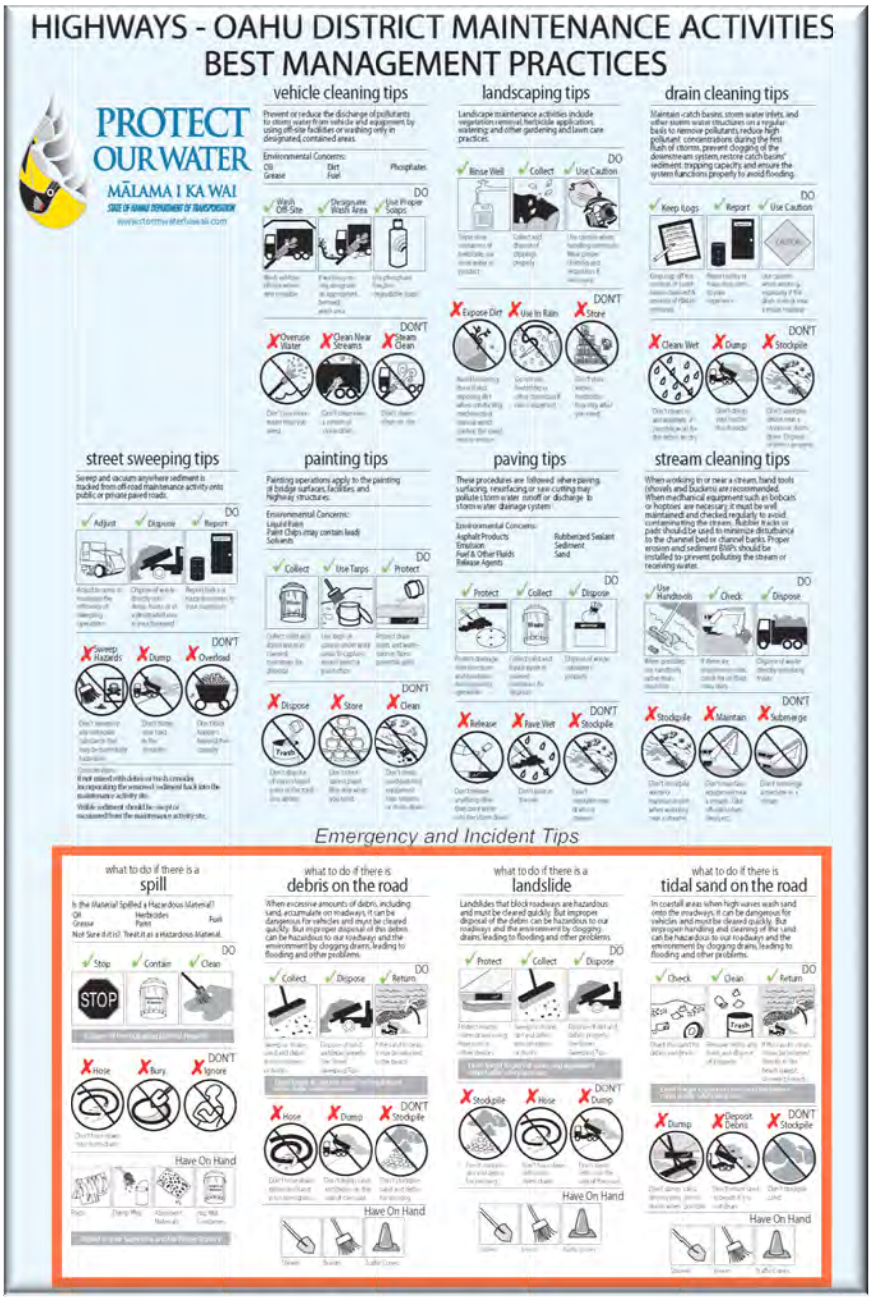


Figure 9-1. Maintenance Activities Program Organizational Chart

9.1 Maintenance Activities BMPs

All maintenance activities, routine maintenance projects, and baseyard operations should be conducted in accordance with the applicable provisions described in the *Maintenance BMPs Field Manual*. The *Maintenance BMPs Field Manual* includes BMPs to minimize pollutant discharge from maintenance activities that have the potential to release contaminants into the MS4. It is used to instruct maintenance personnel on ways in which to protect water quality during maintenance activities. *Maintenance BMPs Field Manuals* are provided to HWY-OM and HWY-OT field staff to keep in their vehicles for quick and easy reference.

The *Maintenance BMPs Field Manual* is available on DOT-HWYS' storm water website, at www.stormwaterhawaii.com, on the "Resources" page. The *Maintenance BMPs Field Manual* will be updated as necessary, or at least once during the MS4 Permit term. It is supplemental to an annual maintenance training course (Section 9.2).



Maintenance Activities BMP Poster is provided to all HWY-O Baseyards.

DOT-HWYS' service contractors that conduct maintenance activities (e.g., landscape maintenance, street sweeping, etc.) are expected to carry out operations in accordance with the Maintenance Activities Program's standards, training, and required BMPs.
Maintenance activities include, but are not limited to, paving and road repairs, street sweeping, saw cutting, concrete work, curb and gutter replacement, buried utility repairs and installation, removal of vegetation, painting and paving, debris and trash removal, and spill cleanup.

Routine maintenance projects are scheduled or cyclical projects performed to preserve the life of a system; to restore the original function or delay the deterioration of an existing asset without substantially increasing its structural capacity; or to maintain the original line and grade, hydraulic capacity or original purpose of a facility, system or asset, in which land disturbance does not go beyond the original footprint of the previous structure. Examples of routine maintenance projects include, but are not limited to, the replacement or repair of guard rails, sidewalks, street signs, fences, curbs, and signal poles; repaving without disturbing the base course; tunnel washing; rock fall mitigation; and landscaping maintenance.

Chapter 4 (Construction Site Runoff Control Program) describes the requirements and pollution prevention procedures for construction activities conducted by HWY-OM, which are not considered routine maintenance.

Maintenance activities and routine maintenance projects are performed and/or overseen by HWY-OM and HWY-OT, as depicted in Figure 9-2.

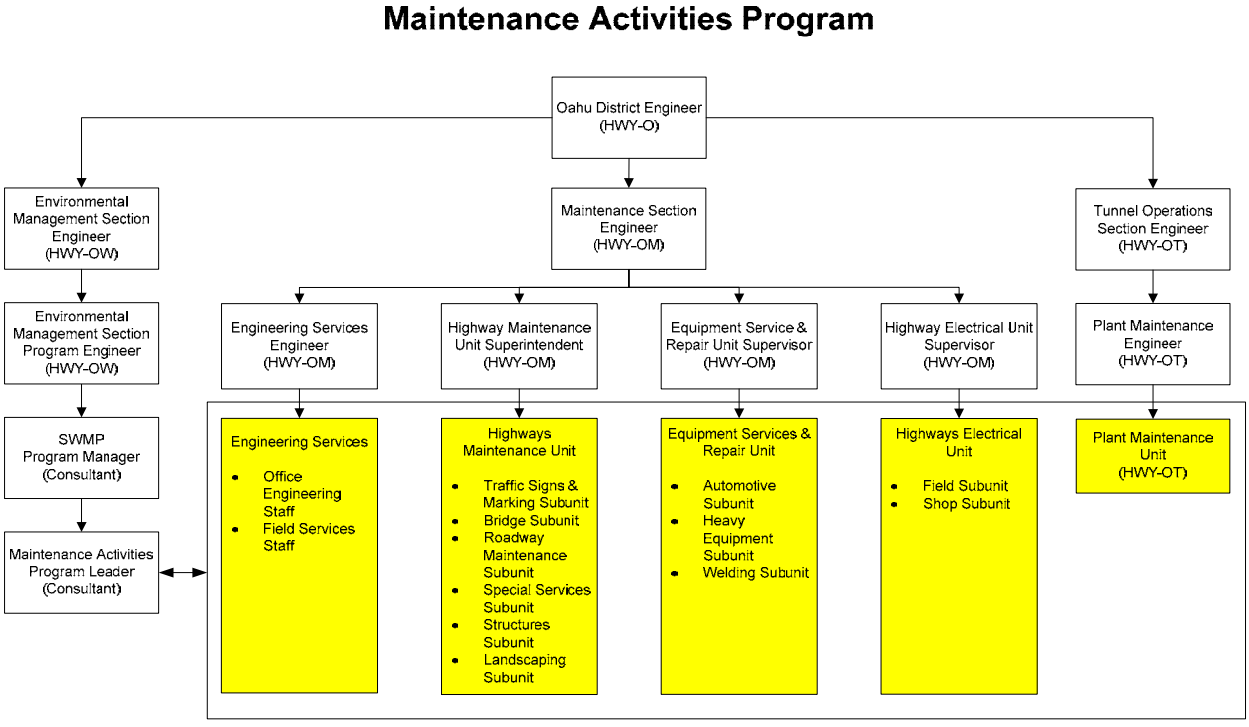


Figure 9-2. Maintenance Activities Program Organizational Chart for Roles and Responsibilities Related to BMP Implementation

9.2 Training

DOT-HWYS provides an annual Maintenance Baseyard Storm Water Training for HWY-OM and HWY-OT personnel who have responsibilities associated with maintenance activities and/or baseyard operations. The training addresses proper BMP implementation for general maintenance activities and for activities specific to each crew's responsibilities.

The Maintenance Baseyard Storm Water Training addresses the following topics:

- Content and application of the *Maintenance BMPs Field Manual*;
- Identification of potential sources of pollutants;
- BMP selection and implementation;
- Trainees' roles in protecting water quality;
- SWMP general awareness;
- Environmental policy and MS4 Permit requirements;
- Environmental Management System (EMS) overview;
- Vehicle washing;
- Fuel handling;
- Vehicle maintenance;
- Material storage;
- Erosion and sediment control;
- Debris control; and
- Chemical applications.

Staff that regularly conduct operations at maintenance baseyards are trained on the implementation of their respective baseyard's Storm Water Pollution Control Plan (SWPCP), as well.

Maintenance Baseyard Storm Water Training is conducted by the Maintenance Activities Program Leader, as depicted in Figure 9-3.

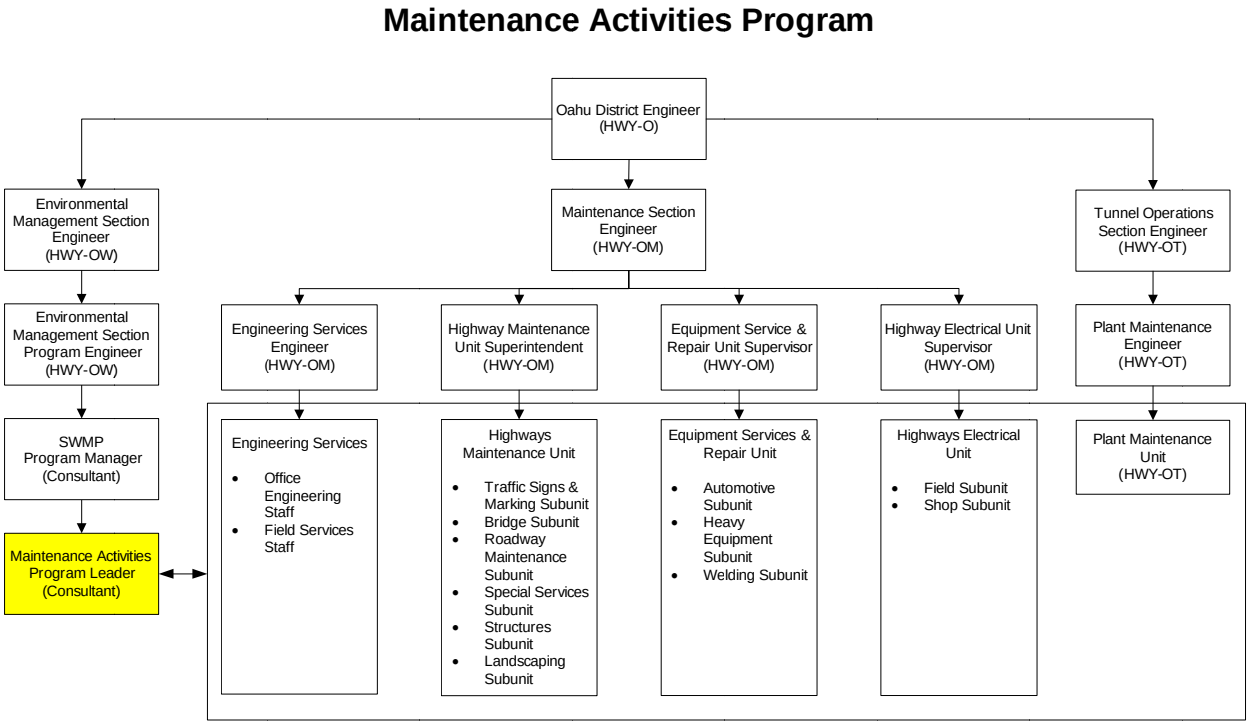


Figure 9-3. Maintenance Activities Program Organizational Chart for the Roles and Responsibilities Related to Training

DOT-HWYS maintains and cleans the Punahou Pump Station Wet Well.

9.3 Flood Control Project

DOT-HWYS operates the Punahou Pump Station, a flood control facility located on the H-1 Freeway, near the Punahou Street overpass (Figure 9-4). The pump station services a low point in the freeway where gravity drainage from a section of the roadway is not possible. The pump station is used to dewater sump areas on the roadway that collect water.

The drainage area of the pump station encompasses approximately a one half-mile section of the H-1 Freeway. Although the H-1 Freeway is swept periodically, the sweeping does not remove all debris from the roadway, and potential pollutants collect within the freeway's storm drainage system and the four inlets discharging to the pump station. Metal grates cover the drain inlets to keep out larger-sized debris. Within the wet well, there is a trash rack to further screen out debris that may be carried through the drain inlets and drain pipes. Water from the pump station is pumped to a nearby storm drain manhole and then to a covered concrete drainage canal through which Makiki Stream flows as it passes beneath the H-1 freeway.

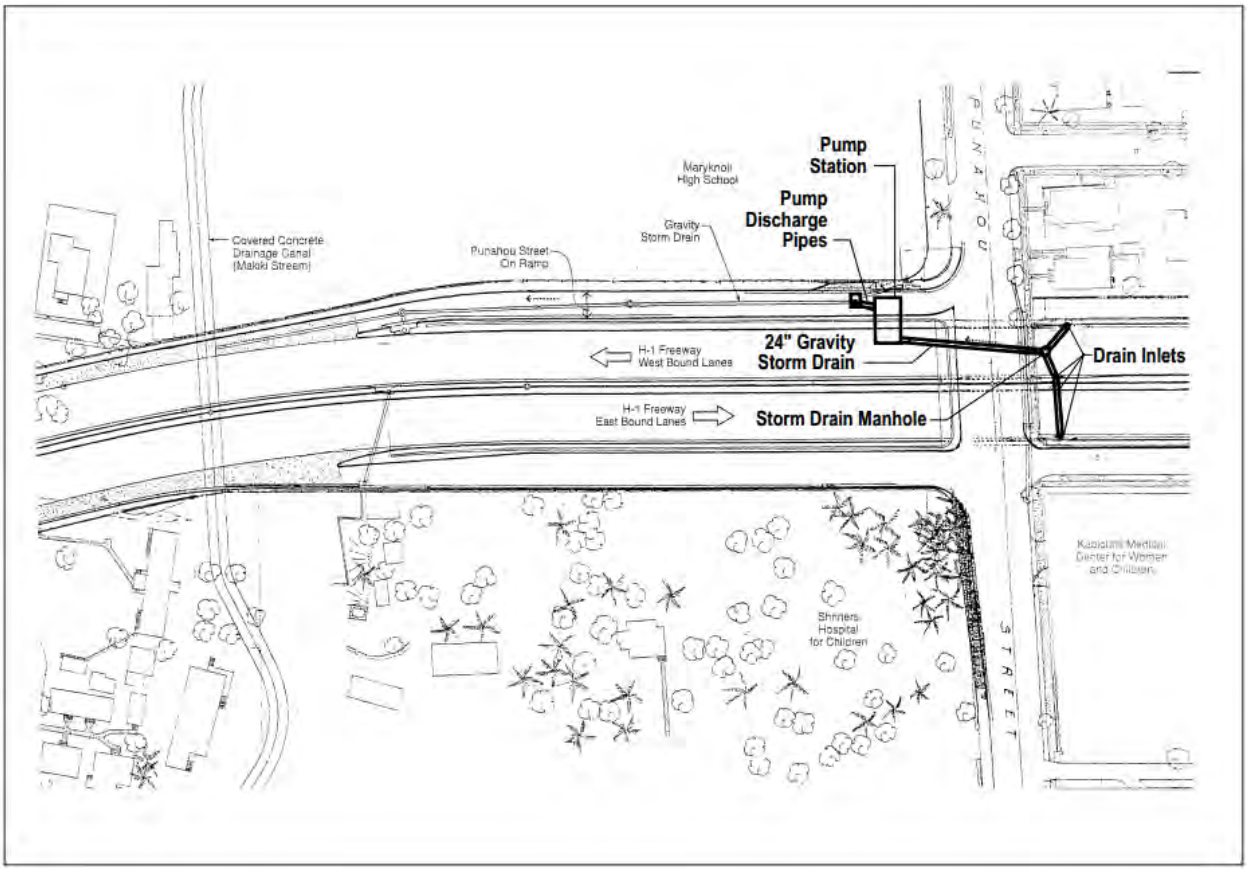


Figure 9-4. Punahou Pump Station

Inspections and pump station maintenance are performed, at least monthly, by HWY-OT's Plant Maintenance Unit. During inspections, the pump is tested to ensure that it is operating correctly.

The procedures for inspecting and maintaining the Punahou Pump Station are provided below:

- Inspections are performed to determine if cleaning or repairs are required;
- Emergency call dialer operation is tested and verified;
- Fuel supply lines and day tank for emergency back-up diesel engine are checked for leaks;
- Current fuel supply level is verified and entered into log;
- Pump station is swept and cleaned;
- Sump pump inlet is cleaned and the pump is tested for proper operation;
- Pumping equipment leaks of oil or petroleum products are contained using drip pans or absorbent material, and equipment is repaired to prevent further leaks;
- During maintenance and repair of the pump station, all waste oil is removed and placed in an approved container for disposal. Waste oil is not stored or left at the pump station; and
- Logs of pump station inspections and cleanings are maintained and included in the Annual Report.

Accumulated debris is removed from the pump station wet well, typically, once a year. All materials removed are properly disposed of. Debris removal and pump station cleaning reduces the amount of pollutants discharged to the MS4.

Accumulated debris is removed from the Punahou Pump Station Wet Well.

HWY-OT is responsible for the operation and maintenance of the Punahou Pump Station, as depicted in Figure 9-5.

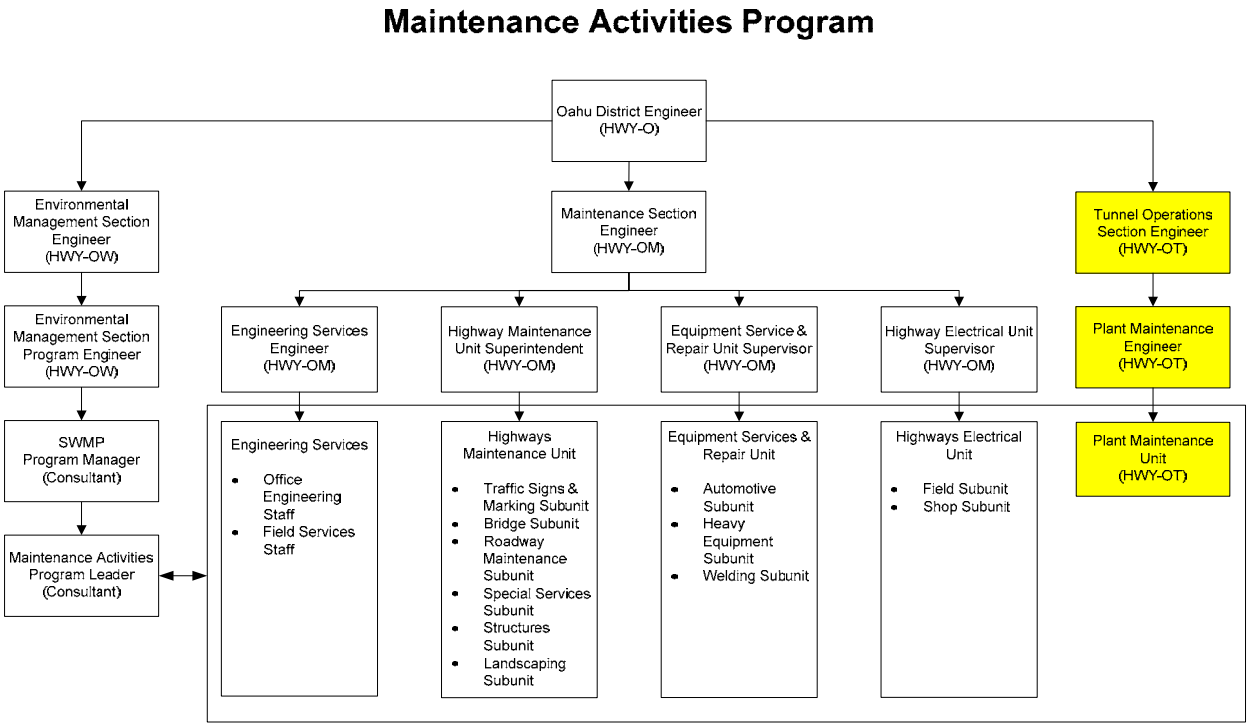


Figure 9-5. Maintenance Activities Program Organizational Chart for the Roles and Responsibilities Related to the Punahou Pump Station

9.4 Monitoring Program Effectiveness

Table 9-3 provides measurable standards/milestones for the BMPs discussed in this chapter and DOT-HWYS' strategy for monitoring the effectiveness of their implementation.

Table 9-3. Standards/Milestones for the Maintenance Activities Program

Section	BMP	Standard/Milestone	Monitoring Effectiveness
9.1	Maintenance Activities BMPs	• Provide *Maintenance BMPs Field Manuals* to HWY-OM and HWY-OT field staff to keep in their vehicles. • Update the *Maintenance BMPs Field Manual* as necessary, or at least once during the permit term.	• Verify that HWY-OM and HWY-OT field staff have the *Maintenance BMPs Field Manual* in their vehicles during SWPCP inspections. • Verify that the *Maintenance BMPs Field Manual* is updated as necessary, or at least once during the permit term.
9.2	Training	• HWY-OM and HWY-OT personnel who have responsibilities associated with maintenance activities attend the Maintenance Baseyard Storm Water Training on an annual basis.	• Maintain training records in the HWY-O AS400 database. • Maintain training presentations on HWY-O server.
9.3	Flood Control Project	• Perform monthly inspections and maintenance, as necessary, to ensure pump is operating correctly. • Remove accumulated debris from the pump station wet well, as necessary (typically once per year).	• Maintain accurate logs of pump station inspections and cleanings in the HWY-OT database and include in the Annual Report.

Chapter 10
Industrial and Commercial Activities Discharge Management Program

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CHAPTER 10
INDUSTRIAL AND COMMERCIAL ACTIVITIES DISCHARGE MANAGEMENT PROGRAM

Industrial and commercial facilities adjacent to DOT-HWYS' right-of-way have the potential to discharge pollutants into the MS4 due to their locale and the nature of their business operations. The Industrial and Commercial Activities Discharge Management Program (IC Program) conducts inspections of industrial and commercial facilities and activities that initially discharge into the MS4, tracks information about these facilities and activities, and implements enforcement policies in order to reduce the discharge of pollutants associated with industrial and commercial facilities and activities to the MEP. The IC Program is administered in conjunction with the IDDE Program, with which it shares common objectives, policies, and personnel.

The IC Program administers the following activities:

1. Issue and track connection and discharge permits.
2. Maintain and submit to DOH an inventory of industrial and commercial facilities and activities that initially discharge into the MS4.
3. Inspect industrial and commercial facilities and activities and identify potential sources of pollution to the MS4.
4. Designate priority areas for inspections.
5. Rank commercial facilities according to the relative risk of polluted runoff initially discharging into the MS4.
6. Provide training for IC Program staff.
7. Review SWPCPs for applicable industrial facilities.
8. Establish and implement an enforcement policy for industrial and commercial facilities and activities.

The IC Program is administered in accordance with the MS4 Permit and Consent Decree requirements outlined in Table 10-1 and Table 10-2, respectively.

Table 10-1. MS4 Permit Requirements for the IC Program

MS4 Permit Reference	SWMPP Section
Part D.1.g.(1) *Approval for Drainage Connections and Storm Water Discharge – DOT-HWYS shall require a permit or written equivalent approval for drainage connections from industrial and commercial facilities and for storm water discharge into the MS4 from industrial and commercial facilities subject to an NPDES Permit and maintain a database of such permits/approvals. The permit/approval shall obligate those industrial and commercial facilities to implement BMPs to ensure that there is no discharge of pollutants other than the allowable non-storm water discharges identified in Part B.2 of this permit into the MS4.*	Section 10.1

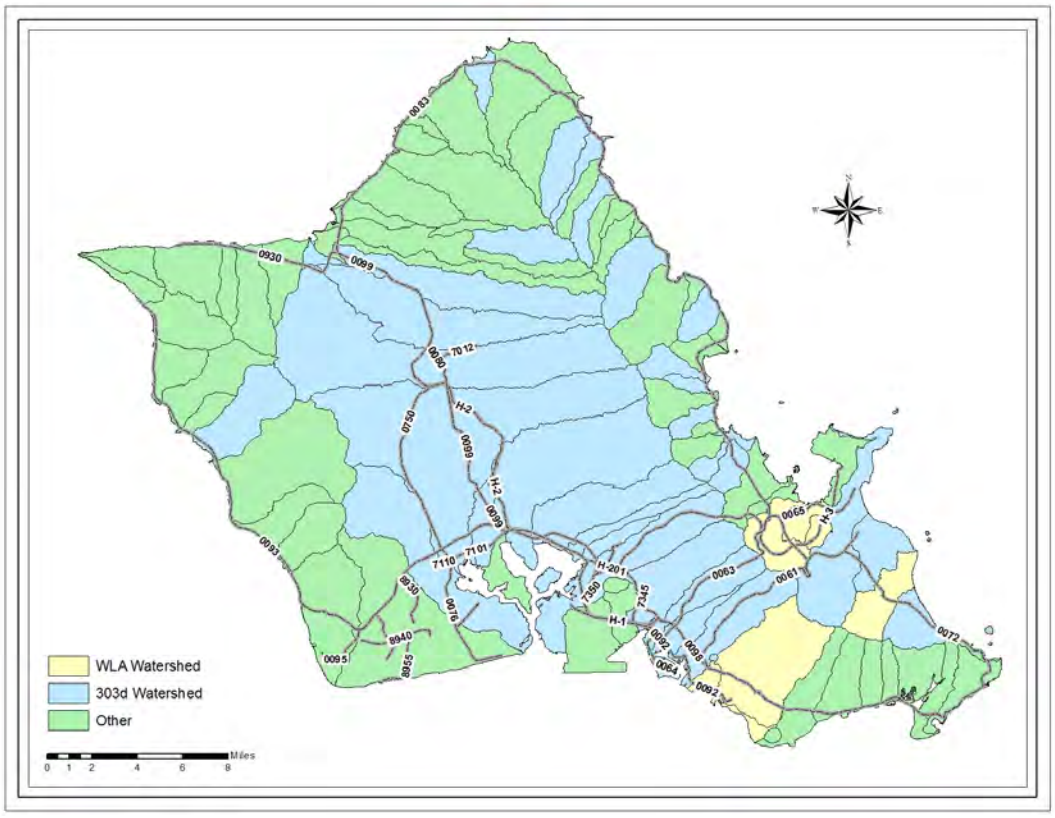
MS4 Permit Reference	SWMPP Section
For those other industrial and commercial facilities that may discharge storm water into the MS4 but do not have drainage connections and are not subject to an NPDES Permit, DOT-HWYS shall identify those facilities which pose a high risk of discharging pollutants to the MS4. For those industrial and commercial facilities identified as being high risk, DOT-HWYS shall conduct wet weather inspections over the permit term to determine whether the subject facility discharges pollutants to the MS4. For those facilities DOT-HWYS identifies as illicitly discharging pollutants to the MS4, DOT-HWYS shall require implementation of BMPs to prevent future illicit discharges of pollutants.	
Part D.1.g.(2) *Inventory and Map of Industrial Facilities and Activities - The Permittee shall update and submit, in electronic portable document format (pdf - minimum 300 dpi), the industrial facilities and activities inventory (industrial inventory), sorted by TMK, and map of such facilities and activities discharging, directly or indirectly, to its MS4 within its 4th Annual Report. The industrial inventory update may be based on the following:* • *Findings from the Storm Water Questionnaire Survey of Parcels Adjacent to Highway Rights-of-Way (Questionnaire Survey);* • *Available information about parcel owners from the City and the State; and/or* • *Collection of new information obtained during field activities or though other readily available intra-agency informational databases (e.g., business licenses, pretreatment permits, sanitary sewer hook-up permits).* *The industrial inventory shall include the facility name, street address, TMK, nature of business or activity, Standard Industrial Classification (SIC) code(s) that best reflect the facility product or service, principal storm water contact, receiving State water, and whether an NGPC under HAR, Chapter 11-55, Appendix B, NPDES General Permit Authorizing the Discharge of Storm Water Associated with Industrial Activities (General Industrial Storm Water permit) or any other applicable NPDES permit has been obtained, including a permit or file number and issuance date. At a minimum, the industrial inventory shall include facilities and activities such as:* • *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* • *Findings from follow-up investigations of the industrial facilities identified in the Questionnaire Survey* • *Facilities subject to NPDES permit coverage which are adjacent to the DOT-HWYS right-of-way or discharge to the MS4* • *And any other industrial facility that either the Permittee or DOH determines is contributing a substantial pollutant loading to the DOT-HWYS MS4.*	Section 10.2
Part D.1.g.(3) *Inventory and Map of Commercial Facilities and Activities - The Permittee shall update and submit, in pdf format (minimum 300 dpi), the commercial facilities and activities inventory (commercial inventory), sorted by priority areas, and map of such facilities and activities discharging, directly or indirectly, to its MS4 within its 4th Annual Report. The commercial inventory update may be based on the following:* • *Findings from the Questionnaire Survey;* • *Available information about parcel owners from the City and the State; and/or* • *Collection of new information obtained during field activities or through other readily available intra-agency informational databases (e.g., business licenses, pretreatment permits, sanitary sewer hook-up permits).*	Section 10.2

MS4 Permit Reference	SWMPP Section
The commercial inventory shall include, by priority area, the facility name, street address, TMK, nature of business or activity, SIC code(s) that best reflect the facility product(s) or service(s), principal storm water contact, and receiving State water. *At a minimum, the commercial inventory shall include facilities and activities such as:* *• Findings from investigations of the commercial facilities identified in the Questionnaire Survey* *• Retail Gasoline Outlets* *• Retail Automotive Services, including Repair Facilities* *• Restaurants* *• Any other commercial facility that either the Permittee or DOH determines is contributing pollutants to the DOT-HWYS MS4 that may cause or contribute to an exceedance of State water quality standards.*	
Part D.1.g.(4) *Prioritized Areas for Industrial and Commercial Facility and Activity Inspections - The Permittee shall implement the Prioritized Areas for Industrial and Commercial Facility and Activity Plan (refer to the SWMP Plan, Appendix L.2). Under that Plan, the Permittee is to designate priority areas for industrial and commercial facility and activity inspections, based on the relative risk that any discharge might be contaminated with pollutants.* *Within 60 calendar days of the effective date of this permit, the Permittee shall submit a status report to DOH. The status report shall identify the numbers of industrial and commercial facilities discharging into the Oahu MS4 and the number of inspections that have been completed during the prior permit term. The status report shall be organized by priority area. On an annual basis, the Permittee shall modify the Plan based on updated information from its industrial and commercial inventory, findings from previous inspections, the number of industrial and commercial facilities in the area, the density of these facilities, previous storm water violations in the area, and water quality impairments in the area. The modified Plan shall set a schedule that ensures inspections will be completed in accordance with the schedule in Part D.1.g.(5). This Plan shall be submitted with the Permittee's annual report.*	Section 10.4
Part D.1.g.(5) *Inspection of Industrial and Commercial Facilities and Activities - The industrial/commercial inspection program shall be implemented and updated as appropriate to reflect the outcomes of the investigations.* *The Permittee shall ensure industrial and commercial facilities and activities identified in the industrial and commercial inventories required under Parts D.1.g.(2) and D.1.g.(3) are inspected and re-inspected as often as necessary based on its findings to ensure corrective action was taken and the deficiency was resolved.* *At a minimum, the Permittee shall inspect each industrial facility that does not have NPDES permit coverage under the NPDES permit program at least twice every five (5) years, and each industrial facility that does have such NPDES permit coverage at least once every five (5) years. Any industrial facility discharging Industrial Storm Water (as defined by 40 C.F.R. Part 122.26(b)(14)) that does not have NPDES Permit coverage shall be reported to DOH within 30 calendar days of the inspection. Commercial dischargers are to be ranked according to relative risk of discharge of contaminated runoff to the DOT-HWYS MS4. The highly ranked commercial facilities shall be inspected at least once every five (5) years.* *All inspections shall be in accordance with the applicable portions (e.g., Chapter 11 – Storm Water) of the "NPDES Compliance Inspection Manual" (EPA 305-X-*	Section 10.3 Section 10.5

MS4 Permit Reference	SWMPP Section
04-001), dated July 2004. Inspectors shall be trained to identify deficiencies, assess potential impacts to receiving waters, evaluate the appropriateness and effectiveness of deployed BMPs, and require controls to minimize the discharge of pollutants to the DOT-HWYS MS4. The inspectors shall use an inspection checklist, or equivalent, and photographs to document site conditions and BMP conditions. Records of all inspections shall be maintained for a minimum of five (5) years, or as otherwise indicated. The Permittee shall submit semi-annual inspection report(s) to the DOH by October 31st and April 30th for inspections done within the previous period.	
Part D.1.g.(6).(i) *Storm Water Pollution Control Plan (SWPCP) Review and Acceptance for Industrial Facilities – The Permittee shall: Verify the facility owner has received NPDES permit coverage for the discharge of storm water associated with industrial activity or provided proof of filing an NOI, or NPDES application; and*	Section 10.7
Part D.1.g.(6).(ii) *Review and accept a Site-Specific Storm Water Pollution Control Plan (SWPCP) or other plans relating to pollution prevention or similar document(s).*	Section 10.7
Part D.1.g.(7) *Enforcement Policy for Industrial and Commercial Facilities and Activities - Within one (1) year of the effective date of this permit, the Permittee shall establish and implement its own polices for enforcement and penalties for industrial and commercial facilities which have failed to comply. The policy shall be part of an overall escalating enforcement policy and must consist of the following:* • *Conducting inspections.* • *Issuance of written documentation to a facility representative within 30 calendar days of storm water deficiencies identified during inspection. Documentation must include copies of all field notes, correspondence, photographs, and sampling results if applicable.* • *A timeline for correction of the deficiencies.* • *Provisions for re-inspection and pursuing enforcement actions, if necessary.* *In the event the Permittee has exhausted all available sanctions and cannot bring a facility or activity into compliance with its policies and this permit, or otherwise deems the facility or activity an immediate and significant threat to water quality, the Permittee shall provide e-mail notification to cleanwaterbranch@doh.hawaii.gov, Attn: Enforcement Section Supervisor within one (1) week of such determination. E-mail notification shall be followed by written notification and include a copy of all inspection checklists, notes, photographs, and related correspondence in pdf format (300 minimum dpi) in accordance with Part A.6. within two (2) weeks of the determination. In instances where an inspector identifies a facility that has not applied for the General Industrial Storm Water permit coverage or any other applicable NPDES permit, the Permittee shall provide email notification to DOH within one (1) week of such determination.*	Section 10.8
Part D.1.g.(8) *Training - The Permittee shall provide training to staff on how to conduct industrial and commercial inspections, the types of facilities covered by the General Industrial Storm Water permit coverage or any other applicable NPDES permit, components in a SWPCP for industrial facilities, BMPs and source control measures for industrial and commercial facilities, and inspection and enforcement techniques. This training shall be specific to DOT-HWYS activities, policies, rules, and procedures. Any updates to the training shall be submitted to DOH for review and acceptance within 90 calendar days of the change. Permittee inspectors shall receive annual training.*	Section 10.6

Table 10-2. Consent Decree Requirements for the IC Program

Consent Decree Reference	SWMPP Section
Pg 26, Section V.10.k.(2) *HDOT shall develop a program to conduct inspections of industrial and commercial holders of connection and discharge permits to its MS4. This industrial/commercial inspection program shall include scheduling inspections such that each industrial facility is inspected once every five years. Any industrial facility that does not have NPDES permit coverage under the Hawai'i NPDES permit program shall be reported to DOH no later than 30 days after the inspection date. Commercial dischargers are to be ranked according to relative risk of discharge of contaminated runoff to HDOT's MS4. The highly ranked commercial facilities shall be inspected at least once every 5 years. This industrial/commercial inspection program shall be updated as appropriate to reflect the outcomes of the investigations discussed in the preceding Subparagraph.*	Section 10.3



Priority areas for industrial and commercial facility inspections are defined by ranking watersheds based on number of facilities within the priority area, density (number of facilities/watershed acres), and the number of deficiencies and/or violations cited within the priority area.

10.0 Program Organization

To fulfill the requirements of the MS4 Permit and the Consent Decree, the following organizational structure has been established for the IC Program.

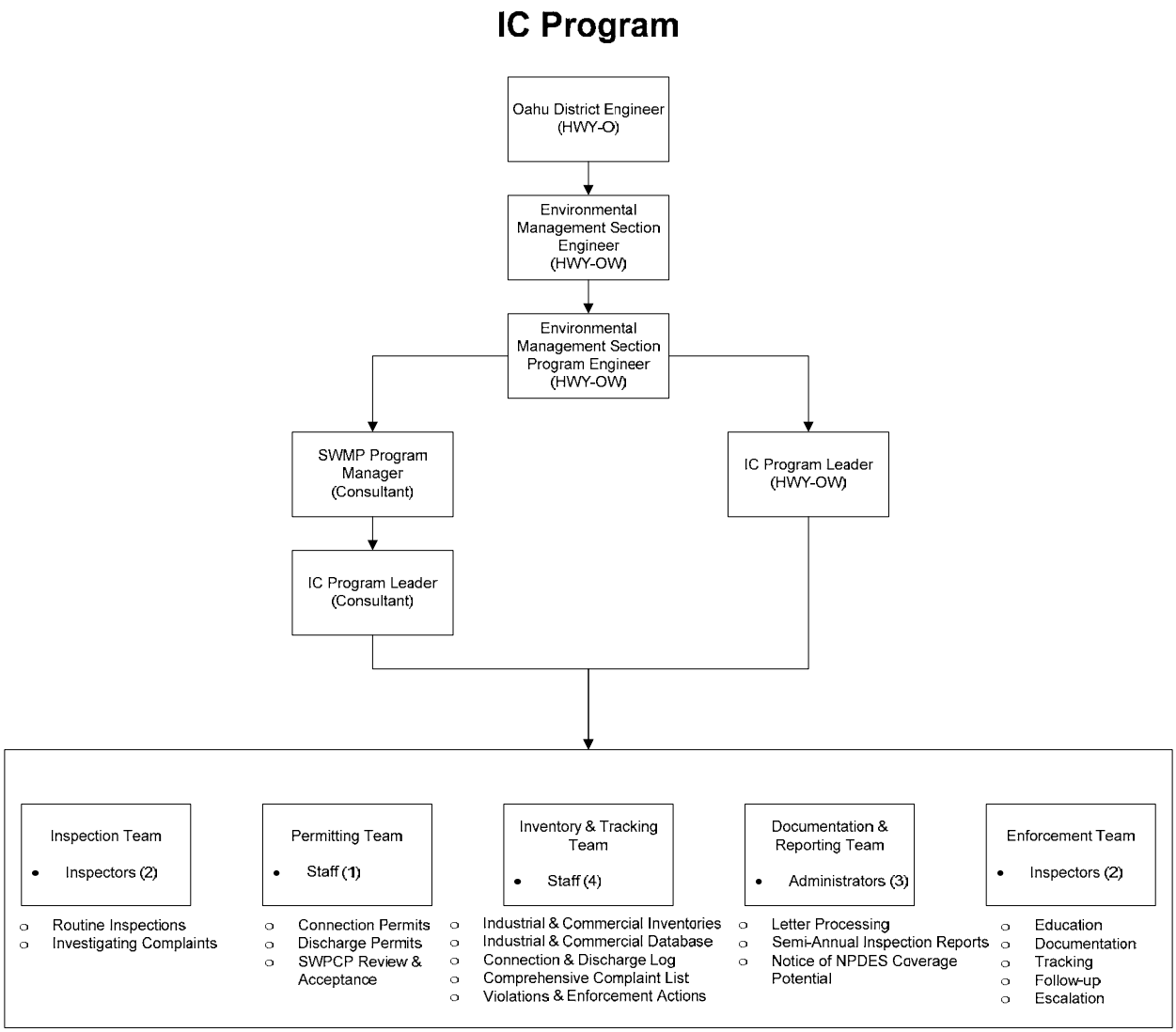


Figure 10-1. IC Program Organizational Chart
(Note: The number in parenthesis indicates the number of individuals involved.)

10.1 Connection and Discharge Permits

DOT-HWYS administers a permitting program for any business (industrial or commercial) that establishes a permanent physical connection to the MS4 (connection permit) and/or discharges its storm water runoff into the MS4 (discharge permit).

10.1.1 Permitting New Connections

A permit must be acquired prior to constructing a physical drain connection to the MS4. A connection permit for the establishment of a new, private drain connection will not be issued until:

- The applicant has provided proof of filing a Notice of Intent (NOI) or an Industrial NPDES Permit application with the DOH, if applicable; and
- The applicant has control measures that comply with DOT-HWYS' requirements to minimize pollutant discharge into the MS4.

A request for a connection permit is made by submitting two separate forms. The first form that must be completed is the *Application for a Private Storm Drain Connection and/or Discharge Permit to the State of Hawaii Highways Division Storm Drain System* (Appendix C.1). For each connection, the applicant is instructed to submit information on the connection location, size, type of discharge and flow rate, as well as a facility drainage report. In addition, the applicant is required to indicate if their facility or activities generate Industrial Storm Water, as defined by 40 CFR Part 122.26(b)(14), and whether or not they have obtained an NGPC under HAR, Chapter 11-55, Appendix B, NPDES General Permit Authorizing the Discharge of Storm Water Associated with Industrial Activities (General Industrial Storm Water Permit aka Industrial NPDES Permit).

A second form, the *Permit for Connection to the State Highways Drainage System* (connection permit) (Appendix C.2), must be filled out and submitted to DOT-HWYS, stating that the applicant agrees to the terms and conditions of the connection permit.

In order to complete the application process, the forms must be filled out and mailed to:

State of Hawaii
Department of Transportation
Highways Division, Oahu District
727 Kakoi Street
Honolulu, Hawaii 96819-2017
Attn: Environmental Management Section Program Engineer

10.1.2 Permitting Existing Connections

Existing connections to the MS4 are considered illegal if they have not been licensed by DOT-HWYS. When an illegal connection is identified, the IC inspectors determine if the connection is from an allowable source. If the connection is not from an allowable source or is conveying an illicit discharge, the case is treated as an illicit discharge. If the connection is from an allowable source and there is no illicit discharge, the appropriate corrective action is to file an application for a connection permit. Written documentation, which includes an inspection report, the connection permit forms described in Section 10.1.1, and a violation notification, is mailed to the property owner or facility representative within 30 calendar days of the inspection date. The property owner or facility representative has 30 days from the date marked on the violation notification to mail the completed connection permit forms to DOT-HWYS. The illegal connection is considered resolved upon DOT-HWYS' approval of the completed connection permit forms. If the property owner does not mail in the completed connection permit forms with the allotted 30-day timeframe, IC Program staff pursue enforcement actions in accordance with the escalating enforcement policy described in Section 10.8.

DOT-HWYS has an existing Memorandum of Understanding with the CCH (Appendix A.4) that establishes that interconnections between the DOT-HWYS MS4 and the CCH MS4 are not considered private drain connections, and therefore do not require private drain connection permits. DOT-HWYS extends this determination to other facilities which require an NPDES MS4 Permit. Therefore, the requirement to apply for and obtain a connection permit does not apply to those facilities which require an NPDES MS4 Permit.

The IC Program, in conjunction with the IDDE Program, maintains a database of all permitted connections and discharges to the MS4, called the Connection and Discharge Log.

10.1.3 Permitting Discharge of Surface Runoff

DOH requires facilities applying for Industrial NPDES Permits to first obtain a *Permit to Discharge into the State Highways Drainage System* (discharge permit) (Appendix J.1) from DOT-HWYS. The discharge permit authorizes the discharge of surface runoff into the MS4 from industrial and commercial facilities and obligates those facilities to implement BMPs to ensure that the discharge of pollutants is reduced to the MEP. DOT-HWYS tracks discharge permits using the Connection and Discharge Log.

For those industrial and commercial facilities that initially discharge surface runoff into the MS4 but do not have drainage connections and are not subject to an Industrial NPDES Permit, DOT-HWYS identifies certain facilities that pose a high risk of discharging pollutants to the MS4. The facility is identified as a High Risk Facility if the property owner or facility representative does not appropriately correct any storm water deficiencies identified during a routine inspection 60 days from the date of the initial warning letter. DOT-HWYS conducts an inspection of each High Risk Facility during a wet weather event at least once per MS4 Permit term, in accordance with Part D.1.g.(1) of the MS4 Permit. A "*wet weather event*" is defined as any amount of rainfall that could result in an illicit discharge from the site.

If the inspectors observe an illicit discharge from a High Risk Facility during a wet weather event, DOT-HWYS implements its escalating enforcement policy (Section 10.8), which requires BMP implementation and the development of a spill prevention and response plan to prevent future discharges of pollutants. If the inspectors do not observe an illicit discharge from a High Risk Facility during a wet weather event, the facility is no longer deemed as high risk. High Risk Facilities are tracked in the Comprehensive Complaint List.

DOT-HWYS' connection and discharge permitting process is administered by the Permitting Team and the Inspection Team, as depicted in Figure 10-2.

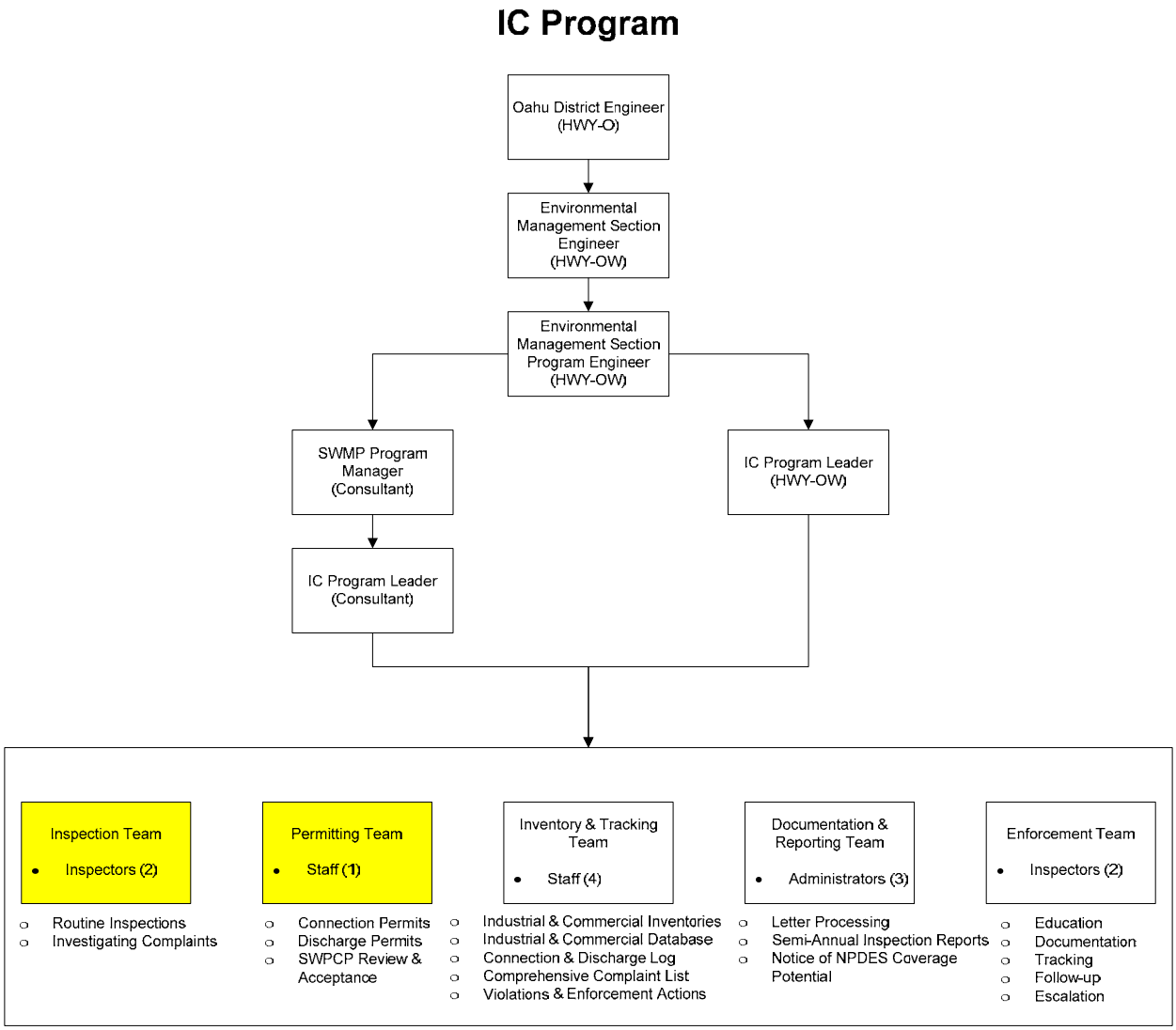


Figure 10-2. IC Program Organizational Chart for Roles and Responsibilities Related to Permitting

10.2 Facility Inventory

For the purpose of scheduling inspections and monitoring potential sources of pollution, DOT-HWYS keeps an inventory of industrial and commercial facilities and activities that initially discharge storm water into the MS4.

10.2.1 IC Database

The inventory of industrial and commercial facilities and activities is maintained on the Industrial and Commercial Database (IC Database). The IC Database is continually updated and is used to track the following information for industrial and commercial facilities:

- Facility name
- Street address
- Tax map key (TMK)
- Nature of business or activity
- Standard Industrial Classification (SIC) code(s)
- Principal storm water contact
- Receiving State Water

The IC Database is also used to track whether or not an industrial facility has obtained an Industrial NPDES Permit or any other applicable NPDES Permit. If the facility has Industrial NPDES coverage, a permit or file number and the issuance date are kept on the IC Database.

10.2.2 Inventory and Map Deliverables

Parts D.1.g.(2) and D.1.g.(3) of the MS4 Permit require DOT-HWYS to submit inventories, complete with maps, for industrial and commercial facilities and activities initially discharging into the MS4. The industrial facilities and activities inventory (industrial inventory) and the commercial facilities and activities inventory (commercial inventory) will include the information contained in the IC Database, as specified in Section 10.2.1. The industrial inventory will also include each facility's Industrial NPDES Permit coverage status, and if applicable, permit or file number and issuance date. The inventories and maps will be submitted within the 4th Annual Report.

The industrial inventory will be sorted by TMK and include, at a minimum, the following types of facilities and activities:

- Municipal landfills (open and closed) that initially discharge into the MS4;
- 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;

- Findings from follow-up investigations of the industrial facilities identified in the Questionnaire Survey;
- Facilities subject to Industrial NPDES Permit coverage that are adjacent to DOT-HWYS' right-of-way or discharge into the MS4; and
- Any other industrial facility that either DOT-HWYS or DOH determines is contributing a substantial pollutant loading to the MS4.

The commercial inventory will be sorted by priority area (Section 10.4) and include, at a minimum, the following types of facilities and activities:

- Findings from investigations of the commercial facilities identified in the Questionnaire Survey;
- Retail gasoline outlets;
- Retail automotive services, including repair facilities;
- Restaurants; and
- Any other commercial facility that either DOT-HWYS or DOH determines is contributing pollutants to the MS4 that may cause or contribute to an exceedance of State Water quality standards.

With regards to facilities covered under the CCH's MS4 permit, a signed MOU between DOT-HWYS and the CCH, dated February 2002, defines the roles and responsibilities between the two agencies as part of the controlling of illicit discharges into the MS4 (Appendix A.4). The objectives of the MOU are to:

1. Establish effective intergovernmental coordination between the DOT and the CCH;
2. Clearly delineate the roles and responsibilities of each agency in an effort to minimize, to the MEP, the discharge of any pollutant from one MS4 into the other MS4;
3. Minimize duplication of effort; and
4. Ensure accountability through judicious application of best management practices, design and engineering methods, and periodic water quality monitoring.

As such, facilities covered under the CCH's MS4 permit are excluded from DOT-HWYS' industrial and commercial inventories. Note, however, that Part D.1.g.(2) of the MS4 Permit specifically requires DOT-HWYS to include municipal landfills (open and closed) in the inventory. To comply with this requirement, the inventory will include any municipal landfill that initially discharges into the MS4.

The Inventory and Tracking Team is responsible for completing and submitting the industrial and commercial inventories, as shown in Figure 10-3.

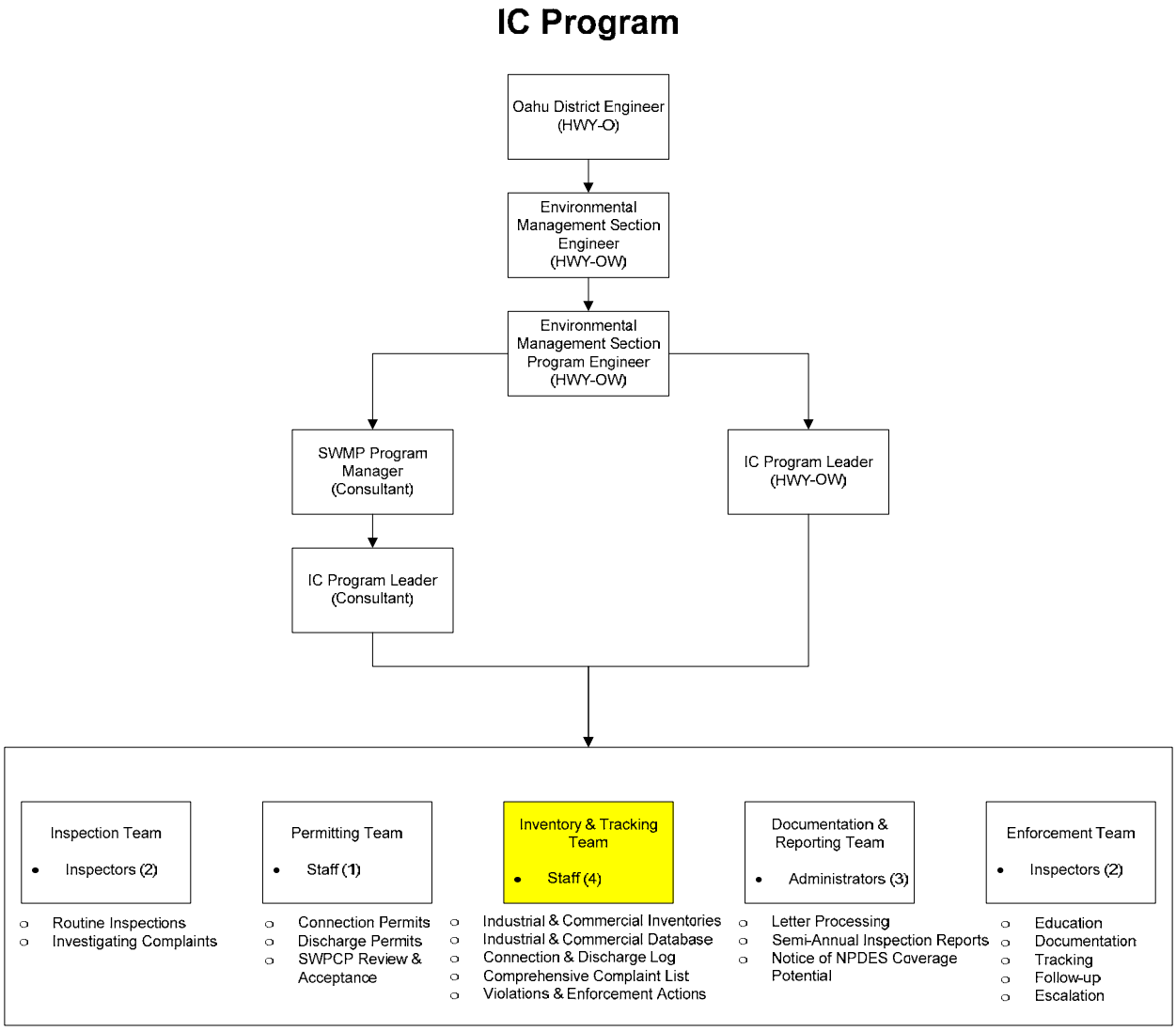


Figure 10-3. IC Program Organizational Chart for Roles and Responsibilities Related to the Facility Inventories

10.3 Inspections

IC Program inspectors conduct inspections of industrial and commercial facilities and activities for the purpose of reducing the potential of polluted runoff initially discharging into the MS4.

10.3.1 Inspection Procedures

IC inspectors assess the appropriateness and effectiveness of the BMPs implemented at a facility; identify illegal connections and illicit discharges into the MS4, potential sources of pollution, and deficiencies in BMP and/or SWPCP implementation; educate facility owners about storm water-related issues and proper source control measures; and require corrective actions when deficiencies are identified. Inspectors are trained on a variety of topics, including sources of pollution, inspection and enforcement techniques, the types of facilities covered under the USEPA's Multi-Sector General Permit, and the general components of a SWPCP. Training for IC Program inspectors will be discussed further in Section 10.6.

IC inspectors use the Industrial and Commercial MS4 Site Investigation Sheet (MS4 SIS) (Appendix J.4) to document findings during inspections. Inspection results are documented in the IC Database. Additionally, inspection reports, with accompanying photographs, are kept on DOT-HWYS' data management system (DMS). Deficiencies are documented on a database called the Comprehensive Complaint List. Records of inspections are maintained for a minimum of five years. DOT-HWYS submits semi-annual inspection reports to DOH for industrial and commercial inspections conducted during the previous term by October 31st and April 30th of each year. The inspection terms span from January 1st to June 30th and July 1st to December 31st, respectively. All inspections are conducted in accordance with the applicable portions of the NPDES Compliance Inspection Manual (USEPA 305-X-04-001), published in July, 2004.

Facilities discharging Industrial Storm Water, as defined by 40 CFR Part 122.26(b)(14), may be required to obtain, from DOH, a NGPC for an Industrial NPDES Permit. IC Program staff verify Industrial NPDES Permit coverage using the DOH's website http://eha-web.doh.hawaii.gov/ehw/MapViewer/Default.aspx and/or by submitting a request to DOH CWB to access a government record. If IC Program staff identify a facility discharging Industrial Storm Water that does not have Industrial NPDES Permit coverage or a Certification of No-Exposure on file with DOH, DOT-HWYS provides e-mail notification to DOH within one week of such determination, and no later than 30 calendar days after the date of the site inspection. DOH determines whether or not the facility is required to obtain a NGPC and administers the permitting process accordingly.

10.3.2 Inspection Schedules

Priority areas for industrial and commercial facility and activity inspections are selected based on the relative risk that any discharge might be contaminated with pollutants. Specific priority areas and inspection schedules are designated under the Prioritized Area Plan for Industrial and Commercial Facility and Activity Inspections (Prioritized Area Plan) (Appendix J.2), which will be discussed in Section 10.4. At a minimum, industrial facilities that do not have Industrial NPDES Permit coverage will be inspected at least twice every five years, while each industrial

facility with Industrial NPDES Permit coverage will be inspected at least once every five years. The ranking system used to designate high priority commercial facilities will be described in Section 10.5. Highly ranked commercial facilities will be inspected at least once every five years.

The IC inspection program, including inspection schedules and area prioritization, will be modified as necessary to account for inspection findings and updates to water quality impairments.

In addition to conducting scheduled inspections, IC inspectors investigate potential illegal connection and illicit discharges in response to public complaints. Public complaints are investigated in conjunction with the IDDE Program (Section 3.4).

The IC Inspection Program is administered by the Inspection Team, as shown in Figure 10-4.

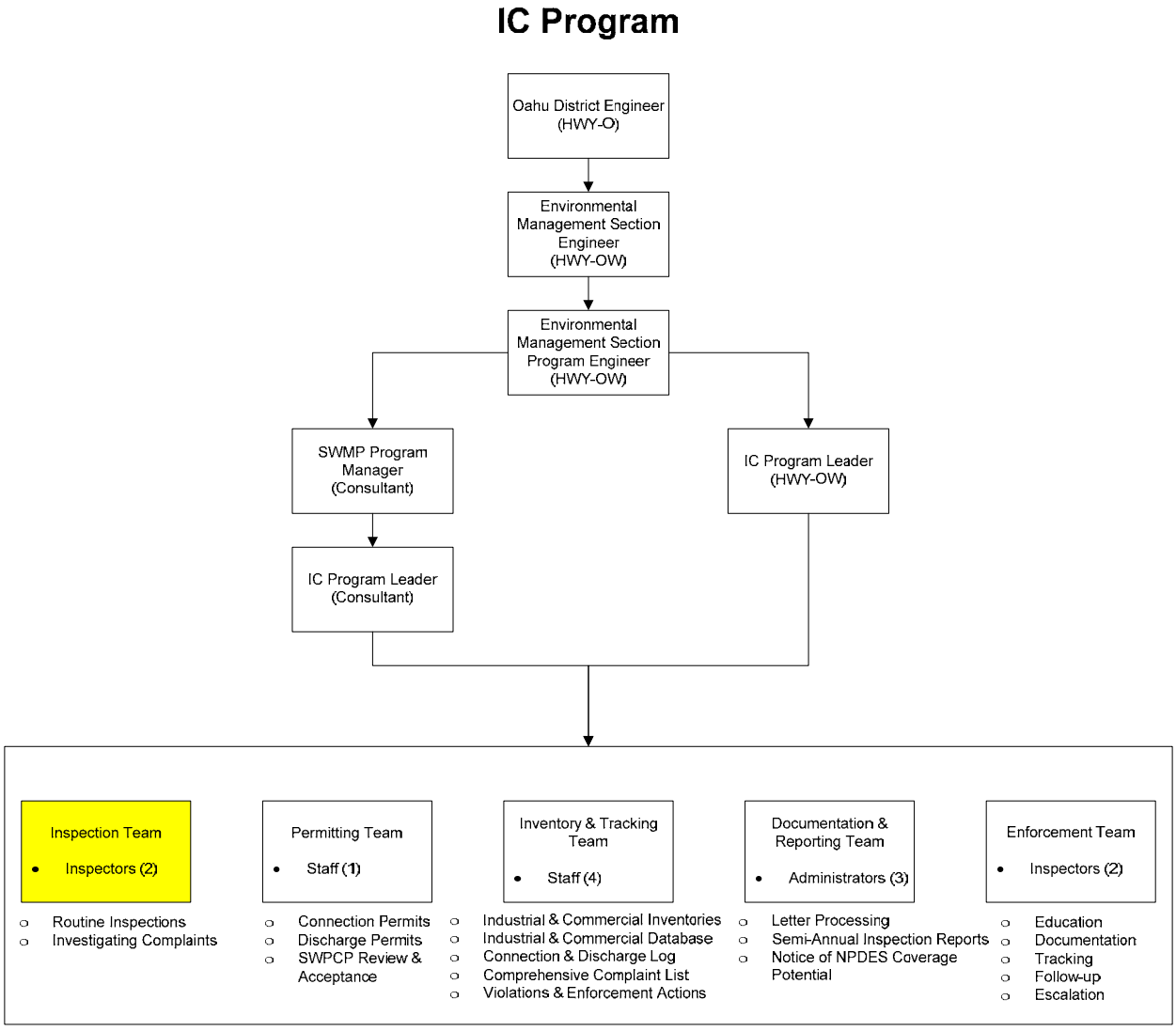


Figure 10-4. IC Program Organizational Chart for Roles and Responsibilities Related to Inspections

10.4 Prioritized Area Plan

The Prioritized Area Plan (Appendix J.2) designates priority areas for industrial and commercial facility and activity inspections according to the relative risk that any discharge might be contaminated with pollutants. The Prioritized Area Plan was originally published as an appendix to the 2007 SWMPP. It has been modified to include up-to-date information about inspection findings, previous deficiencies and/or violations, industrial and commercial inventories, facility densities in priority areas, and water quality impairments (i.e., TMDLs, WLAs, and CWA Section 303(d) listed impaired water bodies).

Priority areas were defined by watershed. WLA watersheds were given the highest priority. CWA Section 303(d) listed impaired water bodies were given the second highest priority. All other watersheds were given the lowest priority. Watersheds within each priority level were ranked based on the number of facilities within the priority area, the density of industrial and commercial facilities in the area (number of facilities/watershed acres), and the number of deficiencies and/or violations cited within the priority area.

The modified Prioritized Area Plan includes an inspection schedule that establishes inspection frequencies for industrial and commercial facilities and activities, in accordance with the frequencies described in Section 10.3.2. The Prioritized Area Plan and inspection schedule were submitted with DOT-HWYS' October 31, 2014, Annual Report, as required by Part D.1.g.(4) of the MS4 Permit. The Prioritized Area Plan will be reviewed annually and updated as needed.

Part D.1.g.(4) also required DOT-HWYS to submit the Industrial and Commercial Discharge Management Program Status Report (Status Report) (Appendix J.3) to DOH within 60 days of the effective date of the MS4 Permit. The Status Report included the total number of industrial and commercial facilities initially discharging into the MS4; and a table denoting the total number of inspections, organized by priority area, conducted at industrial and commercial facilities during the previous MS4 Permit term.

The IC Program Leader is responsible for the completion of the Prioritized Area Plan, as shown in Figure 10-5.

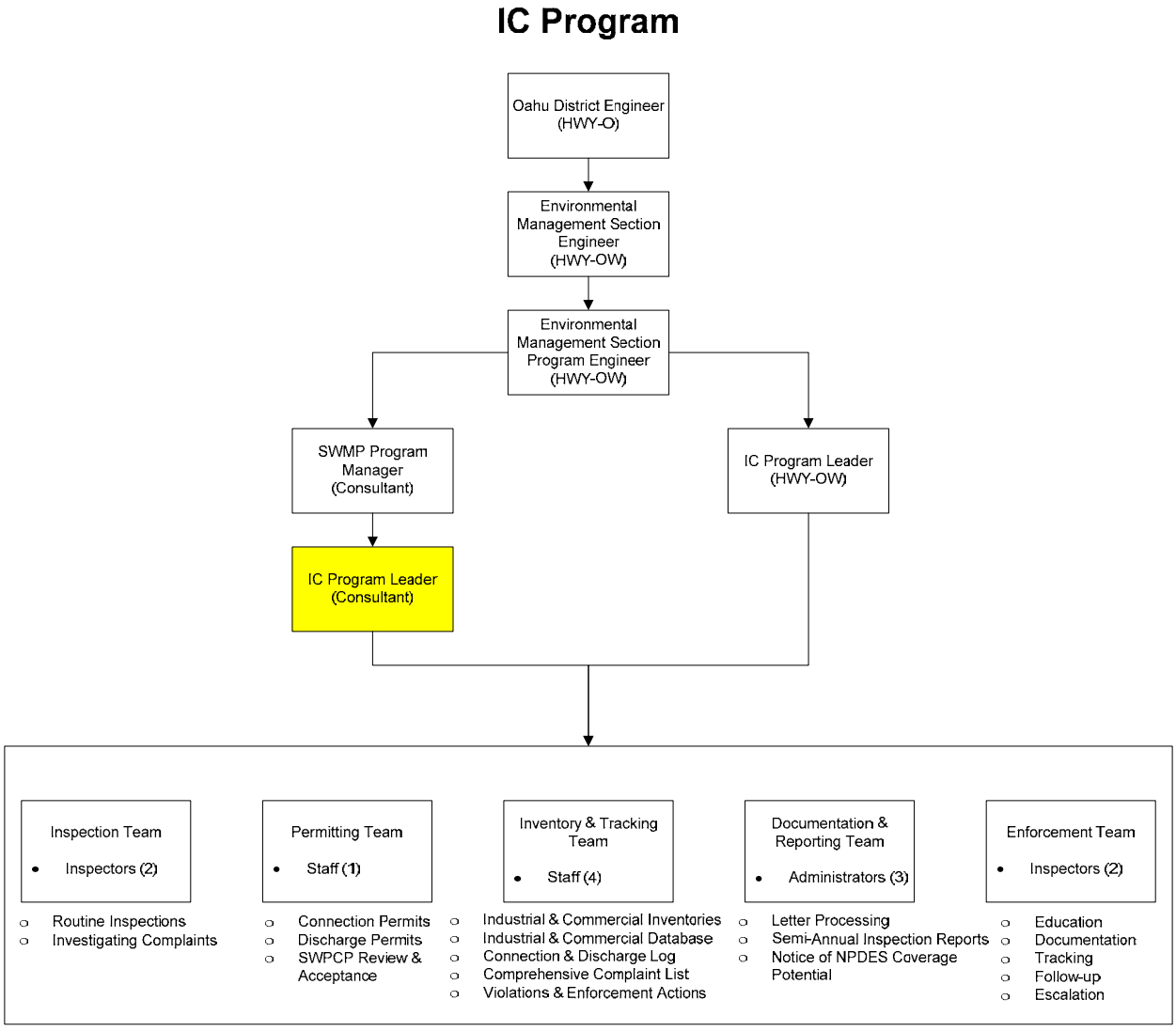


Figure 10-5. IC Program Organizational Chart for Roles and Responsibilities Related to the Prioritized Area Plan

10.5 Commercial Facility Ranking

In accordance with Part D.1.(g).(5) of the MS4 Permit, DOT-HWYS created a system to rank commercial facilities that initially discharge into the MS4, according to the relative risk of a facility discharging contaminated runoff into the MS4.

10.5.1 Facility Ranking Criteria

Commercial facilities were ranked using a point system, with each facility receiving a score from 1 to 6 points. Commercial facilities with a score of 3 points or higher were classified as high priority. Facilities ranked as high priority will be inspected at least once every five years.

Three variables were considered to determine a facility's score – the nature of the business or activity; whether or not the facility has a physical connection to the MS4; and the number of non-compliant cases that occurred during the previous MS4 Permit term.

Nature of Business

Two points were allocated to facilities with a high potential for spills and/or pollutant discharge into the MS4 or State Waters, based on any of the following site-specific activities:

- Generation of used cooking oil (i.e., operates deep fryers);
- Generation of used motor oil (i.e., conducts oil changes);
- Fueling stations and fuel/petroleum storage;
- Vehicle repair and/or maintenance;
- Scrap vehicle storage;
- Vehicle washing;
- Outside handling and/or storage of raw materials;
- Storage of solvents, hazardous chemicals and/or hazardous waste;
- Loading dock(s); and
- Activities that create the potential for sediment discharge (e.g., ground disturbance, sediment stockpiling, etc.).

All other facilities were considered to have a low potential for spills and/or pollutant discharge into the MS4 or State Waters and were allocated 1 point.

Connection

Facilities with a physical connection to the MS4 were given 1 point. Facilities without a connection to the MS4 were given 0 points.

Previous Cases of Non-Compliance

The IC Program conducted routine inspections and responded to complaints of potential non-compliance during the previous MS4 Permit term.

Facilities issued two or more cases of non-compliance during the previous permit term were given 3 points. Facilities with one case of non-compliance were given 2 points. Facilities that were not inspected during the previous permit term were given 1 point. Facilities with no cases of non-compliance were given 0 points.

10.5.2 Facility Ranking Results

Each commercial facility was given a score based on a summation of their total points, which determined their rank. Facility ranking results are documented on the IC Database.

Fueling stations and fuel/petroleum storage are facilities with a high potential for spills and/or pollutant discharges.

The IC Program Leader is responsible for ranking commercial facilities, as shown in Figure 10-6.

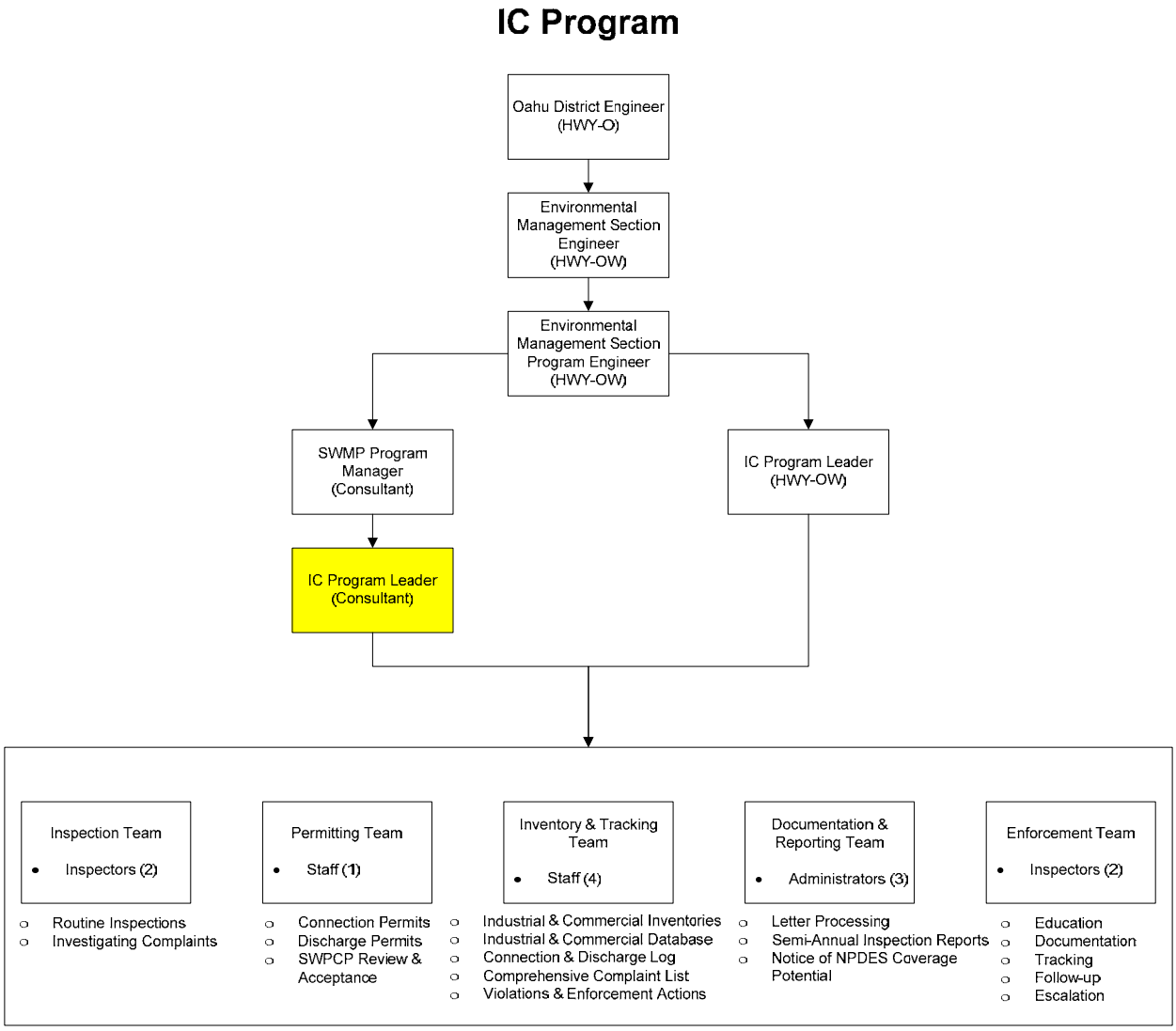


Figure 10-6. IC Program Organizational Chart for Roles and Responsibilities Related to Commercial Facility Ranking

10.6 Training

Training on how to conduct industrial and commercial inspections is provided to staff in the IC Program on an as-needed basis, or at least annually. The training includes a formalized "on-the-job" method and a review of applicable sections (e.g., Chapter 11 – Storm Water) of the "NPDES Compliance Inspection Manual" (EPA 305-X-04-001), dated July 2004. Therefore, training will follow the guidance offered in several chapters of the "NPDES Compliance Inspection Manual", as it relates to industrial and commercial facilities and activities, specifically with regard to storm water pollution control.

The content of the training includes the following:

- Inspection and enforcement techniques;
- Identifying deficiencies during inspections of industrial and commercial facilities or activities;
- Assessing potential impacts to receiving waters;
- BMPs and source control measures for industrial and commercial facilities to reduce storm water pollution;
- Evaluating the appropriateness and effectiveness of BMPs;
- Types of facilities covered by the General Industrial Storm Water Permit or any other applicable Industrial NPDES Permit;
- Components of a SWPCP for industrial facilities; and
- Forms and/or processes for documenting inspections of industrial and commercial facilities and activities.

The IC Program training is provided to any staff whose responsibilities include inspections of industrial and commercial facilities and activities. It is specific to DOT-HWYS' activities, policies, rules, and procedures. Training is documented using sign-in sheets, and updates to the training program will be submitted to DOH for review and acceptance within 90 calendar days of the change.

Inspectors receive "on-the-job" training on how to conduct industrial and commercial inspections.

The SWMP Program Manager is responsible for ensuring that IC Program staff are trained annually, as shown in Figure 10-7.

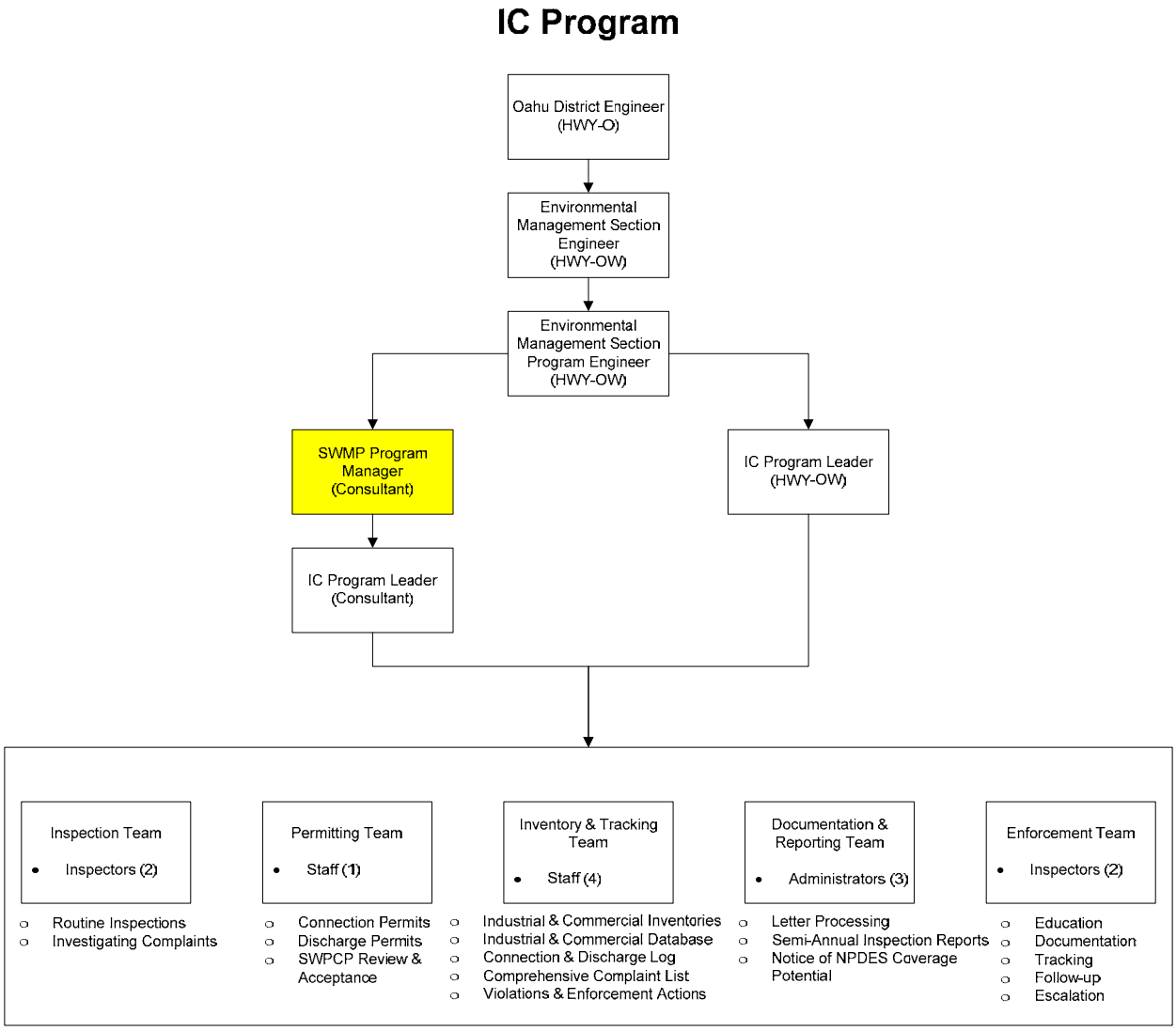


Figure 10-7. IC Program Organizational Chart for Roles and Responsibilities Related to Training

10.7 SWPCP Review

Facilities that apply for Industrial NPDES Permit coverage with DOH are required to develop and implement SWPCPs as a stipulation of the permitting process. Part D.1.g.(6).(ii) of the MS4 Permit requires DOT-HWYS to review and accept industrial facilities' SWPCPs or other plans relating to pollution prevention. The Permitting Team reviews and accepts industrial facilities' SWPCPs when such facilities apply for a connection, and/or discharge permit with DOT-HWYS.

Facilities with Industrial NPDES Permit coverage may be required to keep a SWPCP, or other plans or documents relating to storm water pollution prevention, on-site. IC Program inspectors

review these SWPCPs or other pertinent documents if they are available during inspections. As required by Part D.1.g.(6).(i) of the MS4 Permit, IC inspectors also verify that the facility owner has received Industrial NPDES Permit coverage for the discharge of storm water associated with industrial activity or can provide proof of filing an NOI or Industrial NPDES application, if applicable (Section 10.3.1).

The Inspection Team and Permitting Team are involved in the SWPCP review and acceptance process, as shown in Figure 10-8.

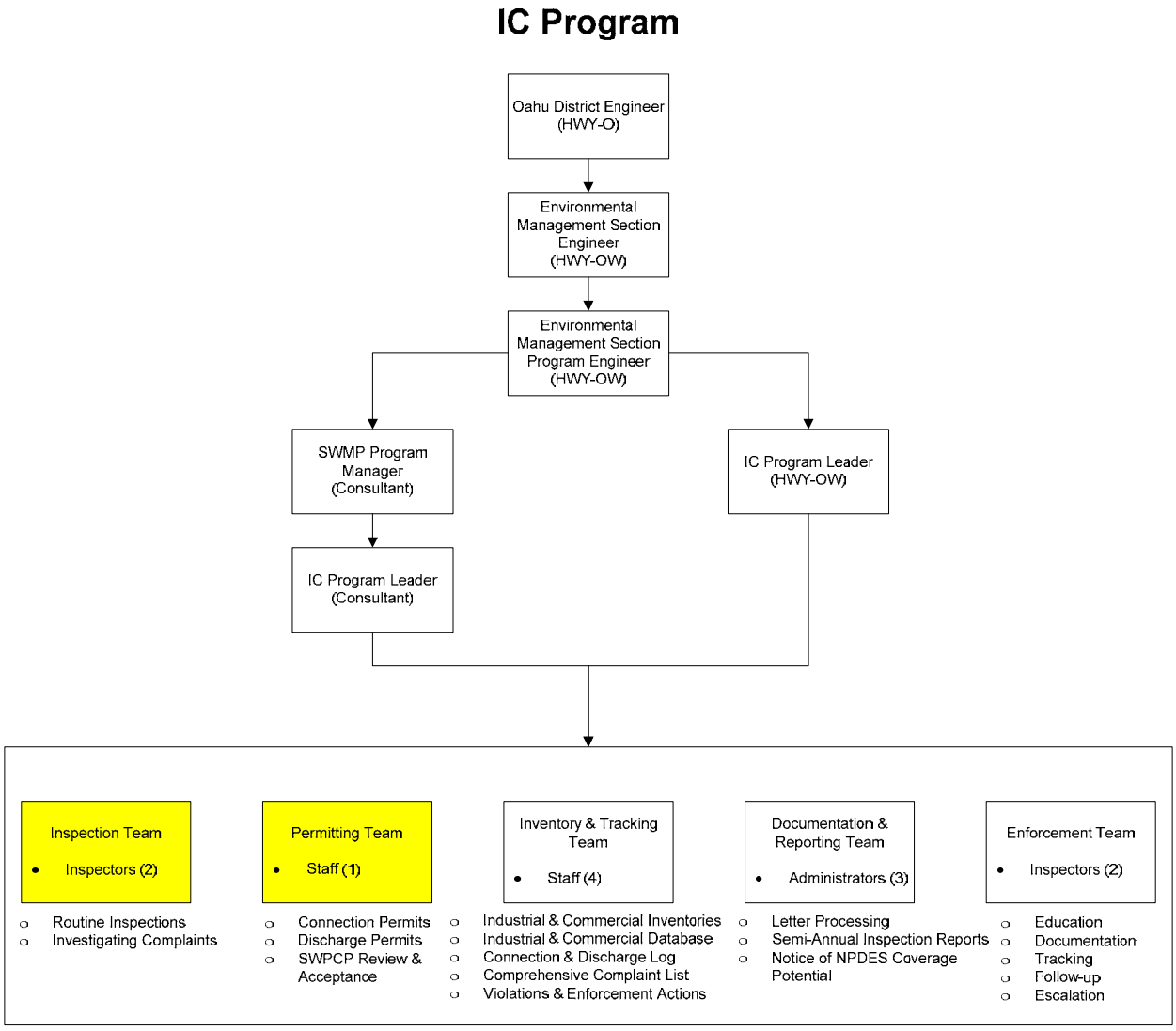


Figure 10-8. IC Program Organizational Chart for Roles and Responsibilities Related to SWPCP Review

10.8 Enforcement

DOT-HWYS has established an Enforcement Policy for the IC Program to reduce, to the MEP, the discharge of pollutants from all industrial and commercial facilities and activities which initially discharge into the MS4. The Enforcement Policy shall be executed through the DOT-HWYS MOU with DOH in accordance with HRS Chapter 342D-2 Administration, Chapter 342D-30 Civil Penalties, Chapter 342D-31 Administrative Penalties, and Chapter 342D-50(a)(d) Water Pollution Control; shall conform to HAR Chapter 11-55-40 for fines to settle verifiable violations of HRS Chapter 342D; shall utilize the connection and discharge permits issued by DOT-HWYS; and shall be in compliance with requirements of the MS4 Permit.

In summary, industrial and commercial facilities that are subject to compliance with the IC Program fall into one of the following categories:

1. NPDES facilities with physical connections;
2. NPDES facilities without physical connections;
3. Non-NPDES facilities with physical connections; and
4. Non-NPDES facilities without connection/discharge permits.

(Note: NPDES facilities are those subject to or holding an Industrial NPDES Permit issued by the DOH.) For each category, enforcement actions are triggered when a facility fails to comply with corrective actions necessary to address any storm water pollution control deficiency, and when an illicit discharge violation occurs. A "*deficiency*" is defined as any potential pollutant that could discharge into the MS4 during a rain event. A "*violation*" is defined as any non-allowable storm water discharge into DOT-HWYS' right-of-way, the MS4, or State Waters.

The IC Program's Inspection and Enforcement Teams are responsible for conducting site inspections, identifying deficiencies and violations, documenting site visit findings, and enforcing compliance with the MS4 Permit and Consent Decree.

10.8.1 Addressing Deficiencies

During the initial site inspection, inspectors provide verbal instruction to the owner to correct any deficiency while on-site. Deficiencies include observation of inadequate pollution control measures to prevent the potential illicit discharge of pollutants, an illegal physical connection, the need for a discharge permit, and/or a requirement for the facility to have an Industrial NPDES Permit. Within 30 days of identifying any uncorrected storm water pollution control deficiency, written documentation will be sent to the facility owner or representative and may include the following:

- Require the facility to apply for a connection permit;
- Require the facility to apply for a discharge permit;
- Require the facility to submit a written response that clearly identifies the BMPs or other pollution control measures they are implementing to correct deficiencies at their facility;
- Require the facility to implement appropriate BMPs;

- Terminate connection permit and/or discharge permit;
- Plug and/or sever facility's physical connection;
- Report facility's discharge permit termination to DOH for Industrial NPDES Permit noncompliance;
- Place facility on high risk list for future inspection to screen for violations; and
- 30 day timeline to correct deficiency.

Documentation includes copies of all field notes, correspondence, photographs, and sampling results if applicable.

10.8.2 Addressing Illicit Discharge Violations

Illicit discharges into the MS4 violate the MS4 Permit, HRS Chapter 342D, HAR Chapters 11-54 and 11-55, and the CWA (as amended, 33 USC 1251).

If an illicit discharge is identified, the inspectors or designated on-site authority issue a verbal order to immediately cease discharging and/or causing the discharge of pollutants into the MS4. Inspectors are instructed to notify H-3 Tunnel Dispatch (at 808-485-6200), who will contact a DOT-HWYS representative to initiate illicit discharge and spill response measures (Section 3.6).

The Enforcement Team will implement enforcement actions that may include the following:

- Require the facility to immediately cease and desist discharging and/or causing the discharge of pollutants into the MS4;
- Require the facility to clean portions of the MS4 affected by the illicit discharge within 24 hours of receipt of violation notice, and to provide documentation of corrective actions and evidence of the cleaned site within 20 days of receipt of violation notice;
- Require the facility to submit a written response that clearly identifies the BMPs or other pollution control measures they are implementing to correct deficiencies at their facility;
- Require the facility to develop a spill prevention and response plan which describes measures that will be taken to prevent any future illicit discharge of pollutants into the MS4;
- Require the facility to apply for a connection permit;
- Require the facility to apply for a discharge permit;
- Terminate connection permit and/or discharge permit; and
- Plug and/or sever property's physical connection.
- Follow-up inspection to verify cleanup and compliance with MS4 Permit requirements, as applicable.

For those facilities which DOT-HWYS has exhausted all available sanctions, and determined it cannot bring a facility or activity into compliance with their policies and the MS4 Permit, or otherwise deems the facility or activity an immediate and significant threat to water quality, DOT-HWYS will provide e-mail notification to cleanwaterbranch@doh.hawaii.gov, Attn: Enforcement Section Supervisor, within one week of such determination. E-mail notification will be followed by written notification and include a copy of all inspection checklists, notes, photographs, and related correspondence within two weeks of the determination, in accordance with Part D.1.g.(7) of the MS4 Permit.

The Inspection and Enforcement Teams, as depicted in Figure 10-9, are responsible for implementing the IC Program's enforcement policy.

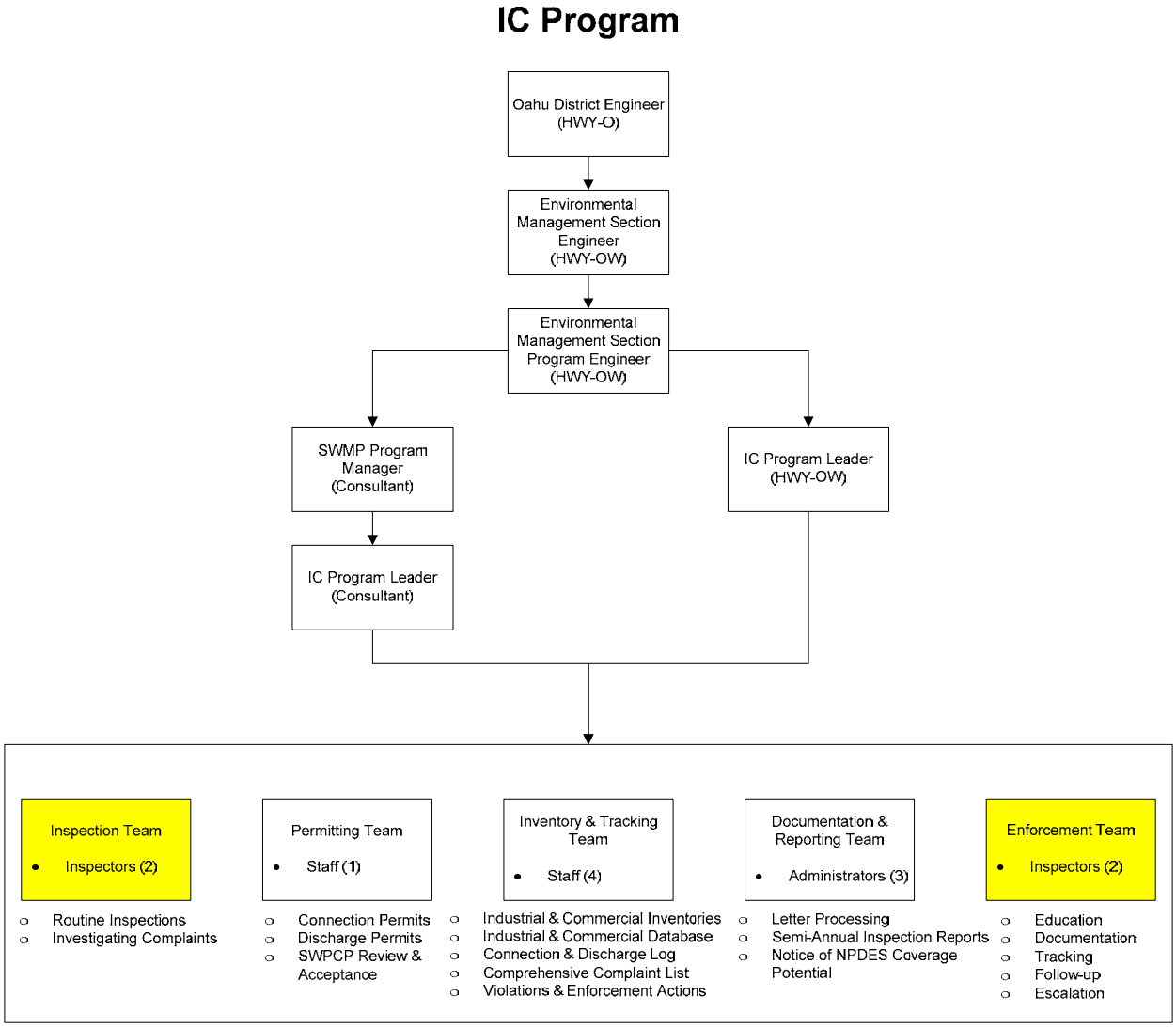


Figure 10-9. IC Program Organizational Chart for Roles and Responsibilities Related to Enforcement

10.9 Monitoring Program Effectiveness

Table 10-3 provides measurable standards/milestones for the BMPs discussed in this chapter and DOT-HWYS' strategy for monitoring the effectiveness of their implementation.

Table 10-3. Standards/Milestones for the IC Program

Section	BMP	Standard/Milestone	Monitoring Effectiveness
10.1	Connection and Discharge Permits	• Issue and track connection and discharge permits.	• Track permits issued using the Connection and Discharge Log.
10.2	Facility Inventory	• Submit the industrial and commercial inventories and maps within the 4th Annual Report.	• Milestone schedule for completion on 10/27/2017.
10.3	Inspections	• Inspect highly ranked commercial facilities and industrial facilities with NPDES coverage once every five years. Inspect industrial facilities without NPDES coverage twice every five years.	• Track inspections in the Industrial and Commercial Database.
10.4	Prioritized Area Plan	• Submit the modified Prioritized Area Plan with the Annual Report.	• Milestone completed on 10/27/2014.
10.5	Commercial Facility Ranking	• Rank commercial facilities according to the relative risk of a facility discharging contaminated runoff into the MS4.	• Milestone completed on 4/27/2015.
10.6	Training	• Provide annual training to IC Program staff.	• Maintain sign-in sheets of all training attendees
10.7	SWPCP Review	• Review SWPCPs for applicable industrial facilities.	• Use MS4 SIS to document on-site SWPCP review.
10.8	Enforcement	• Establish and implement enforcement policies within one year of the EDOP.	• Milestone completed on 10/27/2014.

Chapter 11
Municipal Industrial Facilities Program

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CHAPTER 11
MUNICIPAL INDUSTRIAL FACILITIES PROGRAM

The Municipal Industrial Facilities Program takes a deliberate approach to assessing the source and type of potential pollutants associated with operations conducted at municipal industrial facilities (i.e., baseyards), and strategically implements the BMPs necessary to reduce the discharge of pollutants from baseyards and related maintenance activities to the MEP. HWY-OM is responsible for implementing and overseeing the Municipal Industrial Facilities Program.

The Municipal Industrial Facilities Program includes the following control measures:

1. Inspect baseyards.
2. Submit and implement Storm Water Pollution Control Plans (SWPCPs).
3. Implement BMPs during baseyard operations and maintenance activities.
4. Provide training to baseyard staff, including training a supervisor or designee(s) at each baseyard who is responsible for overseeing daily activities and ensuring SWPCP implementation.

The Municipal Industrial Facilities Program is administered in accordance with the MS4 Permit and Consent Decree requirements outlined in Table 11-1 and Table 11-2, respectively.

Table 11-1. MS4 Permit Requirements for the Municipal Industrial Facilities Program

MS4 Permit Reference	SWMPP Section
Part E.1 *DOT-HWYS Municipal Industrial facilities (i.e., baseyards) covered under this permit shall comply with the requirements in HAR, Chapter 11-55, Appendix B. The following baseyards are covered under this permit: Keehi, Kakoi, Pearl City, Waianae, and Windward Baseyards.*	Section 11.1
Part E.2 *An individual at each facility (e.g., yard foreman) shall be charged with ensuring implementation of the SWPCP. This individual shall be trained to implement the SWPCP, including but not limited to, collecting storm water samples and analyzing samples for temperature and pH, conducting inspections, identifying deficiencies and performing corrective actions. To ensure consistency and provide assistance and oversight, the Permittee shall identify an individual, also trained in the above independent of any specific baseyard, who shall conduct inspections of all five (5) baseyards semi-annually.*	Section 11.1.1 Section 11.1.4
Part E.3 *The Permittee shall submit within 90 calendar days from the effective date of this permit for review and acceptance, the CWB NOI General Form, CWB NOI Form B and SWPCP for each baseyard, which has not yet been submitted and be included within its SWMP Plan. The SWPCPs must be implemented upon submittal to DOH.*	Section 11.1.2
Part E.4 *The Permittee may add new or currently existing Municipal Industrial facilities into this permit by requesting in writing to the DOH. Along with a written request, the Permittee shall submit the applicable NOI Forms and SWPCP, and other attachments to the DOH for review and comment, including updating its SWMP Plan. Upon acceptance of the information, the DOH will acknowledge by letter, the inclusion of the facility into this permit. The SWPCP must be implemented upon the start-up of the facility or for an existing municipal*	

MS4 Permit Reference	SWMPP Section
industrial facility; the SWPCP must be implemented upon submittal of the written request.	
Part E.5 *For the submittal of facility information, please contact the CWB for the forms and submittal instructions.*	

Table 11-2. Consent Decree Requirements for the Municipal Industrial Facilities Program

Consent Decree Reference	SWMPP Section
Pg 15, Section V.9.e(1) *To ensure consistency and provide assistance and oversight, HDOT shall identify an individual, also trained to conduct inspections and identify areas for BMP improvement and independent of any specific baseyard, who shall conduct inspections of all six baseyards at least quarterly.*	Section 11.1.1

11.0 Program Organization

To fulfill the requirements of the MS4 Permit and the Consent Decree, the following organizational structure has been established for the Municipal Industrial Facilities Program.

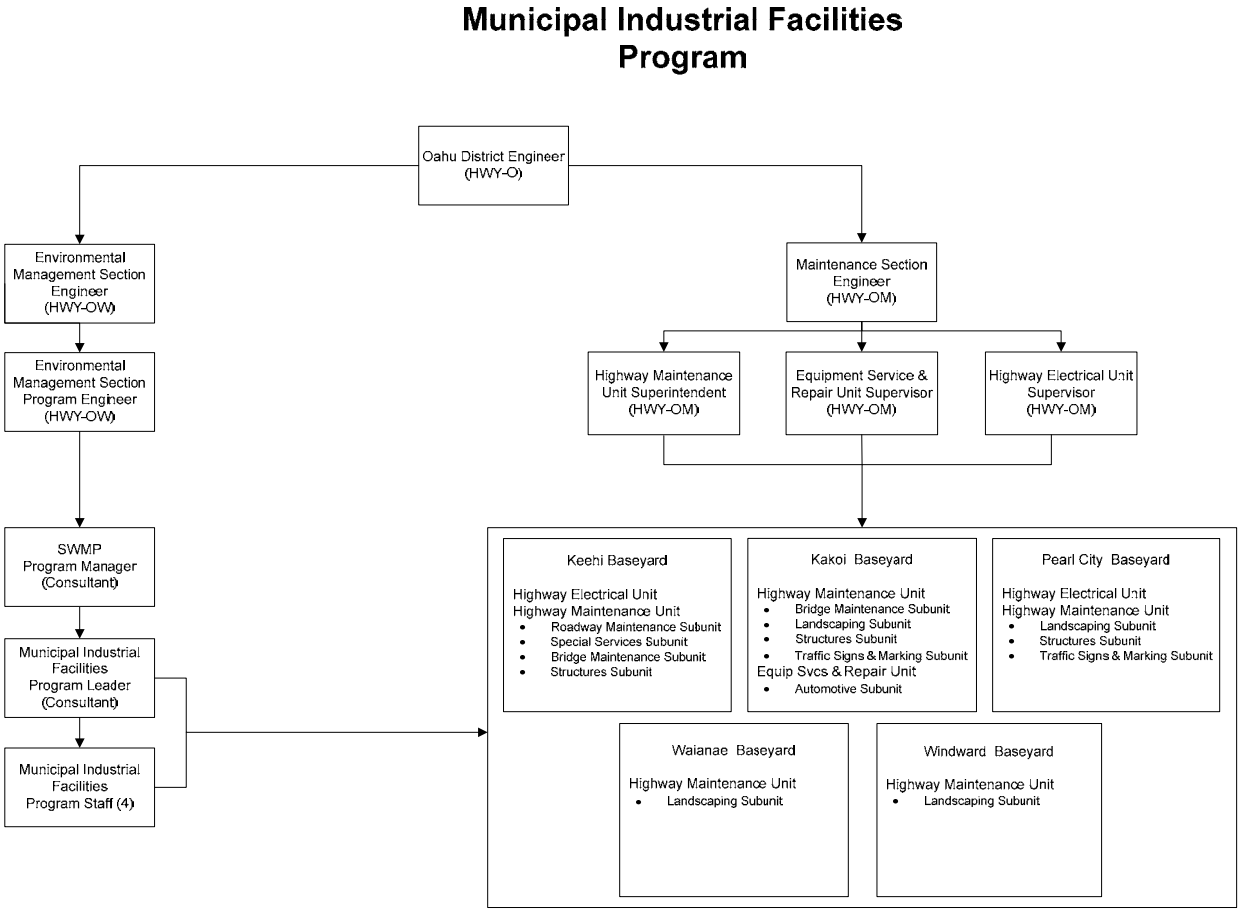

Figure 11-1. Municipal Industrial Facilities Program Organizational Chart
(Note: The number in parenthesis indicates the number of individuals involved.)

11.1 Baseyard Overview

DOT-HWYS owns and operates five industrial baseyards on Oahu that are covered by the MS4 Permit and required to comply with HAR, Chapter 11-55, Appendix B (HAR 11-55, App. B). The Municipal Industrial Facilities Program provides the framework for the proper management of those baseyards.

The five baseyards, named for their locations, are:

- Keehi;
- Kakoi;
- Pearl City;
- Waianae; and
- Windward Baseyards.

Figure 11-2 depicts the locations of these five baseyards.

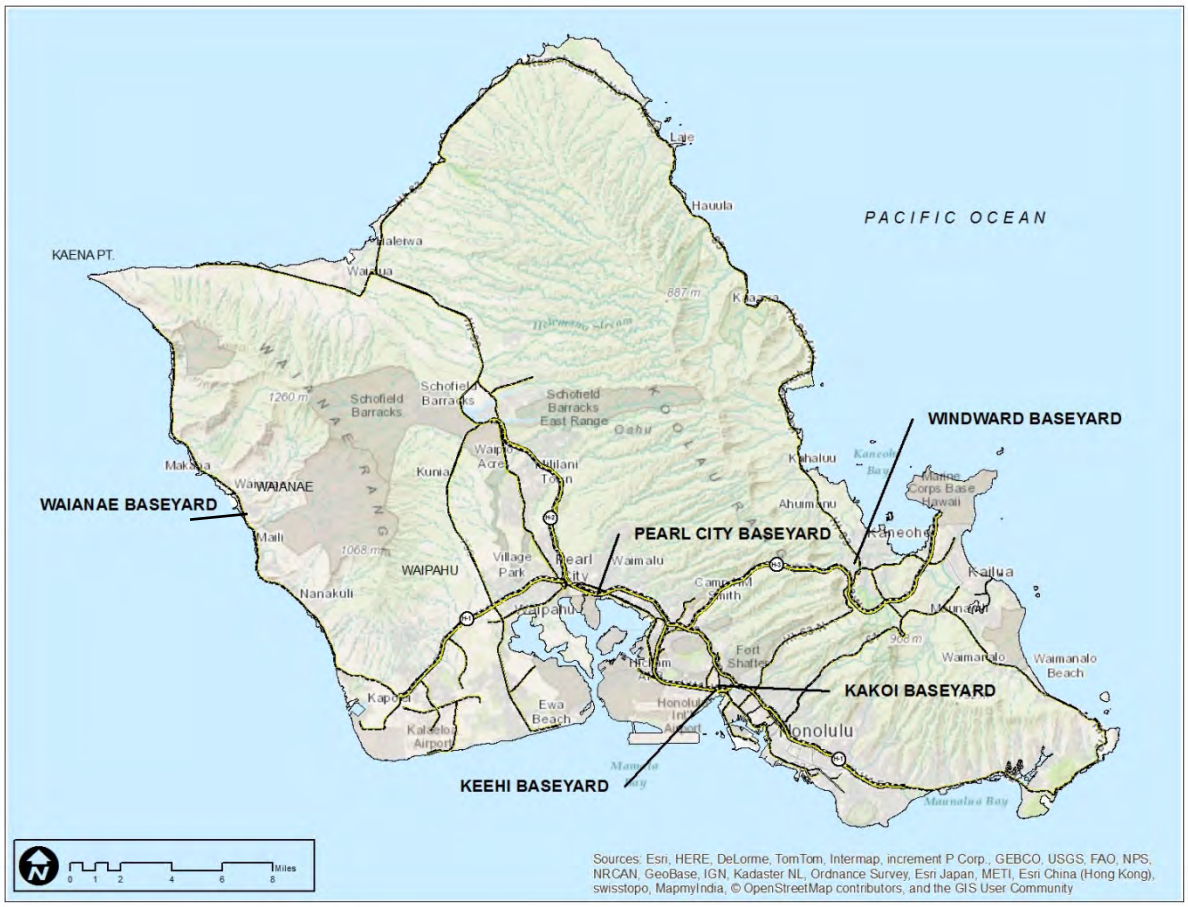

Figure 11-2. Locations of DOT-HWYS' Oahu Baseyards

In general, baseyards support maintenance activities conducted by HWY-OM and various DOT-HWYS' units and subunits. They are primarily used for parking and storing light vehicles and heavy equipment. Baseyards are also used to store various hazardous materials (e.g., paint, herbicide, petroleum products, etc.), raw materials (e.g., aggregates), and traffic marking and safety devices (e.g., guardrails, chain-link fence, traffic signs, etc.). Vehicle wash racks are operated at the Keehi, Pearl City, Waianae, and Windward Baseyards. Certain activities are conducted at the Kakoi Baseyard only, including vehicle and equipment fuel dispensing via diesel and gasoline underground storage tanks (USTs), used oil storage, and light vehicle and heavy equipment repair and maintenance. Solid and hazardous waste, scrap metal, green waste, mattresses, and rubber tire waste are handled at the Keehi Baseyard prior to recycling or disposal. A dewatering facility is operated at the Pearl City Baseyard. Section 11.2 provides further information regarding the activities conducted at each baseyard.

The baseyard operations described in this section are carried out by the various units, subunits, and personnel depicted in Figures 11-3 through 11-6.

Only the Kakoi Baseyard has a vehicle and equipment fuel station with dispensing via diesel and gasoline underground storage tanks.

11.1.1 Baseyard Inspections

In order to provide assistance, pollution control consistency, and additional oversight, an inspector that is independent of any specific baseyard conducts quarterly inspections of the baseyards, as dictated by the Consent Decree. Upon termination of the Consent Decree, inspections may be reduced to a semi-annual frequency, as required by Part E.2 of the MS4 Permit. The AMS is used to track inspection dates, findings, and, if applicable, corrective actions. Inspection findings are accompanied by photograph documentation.

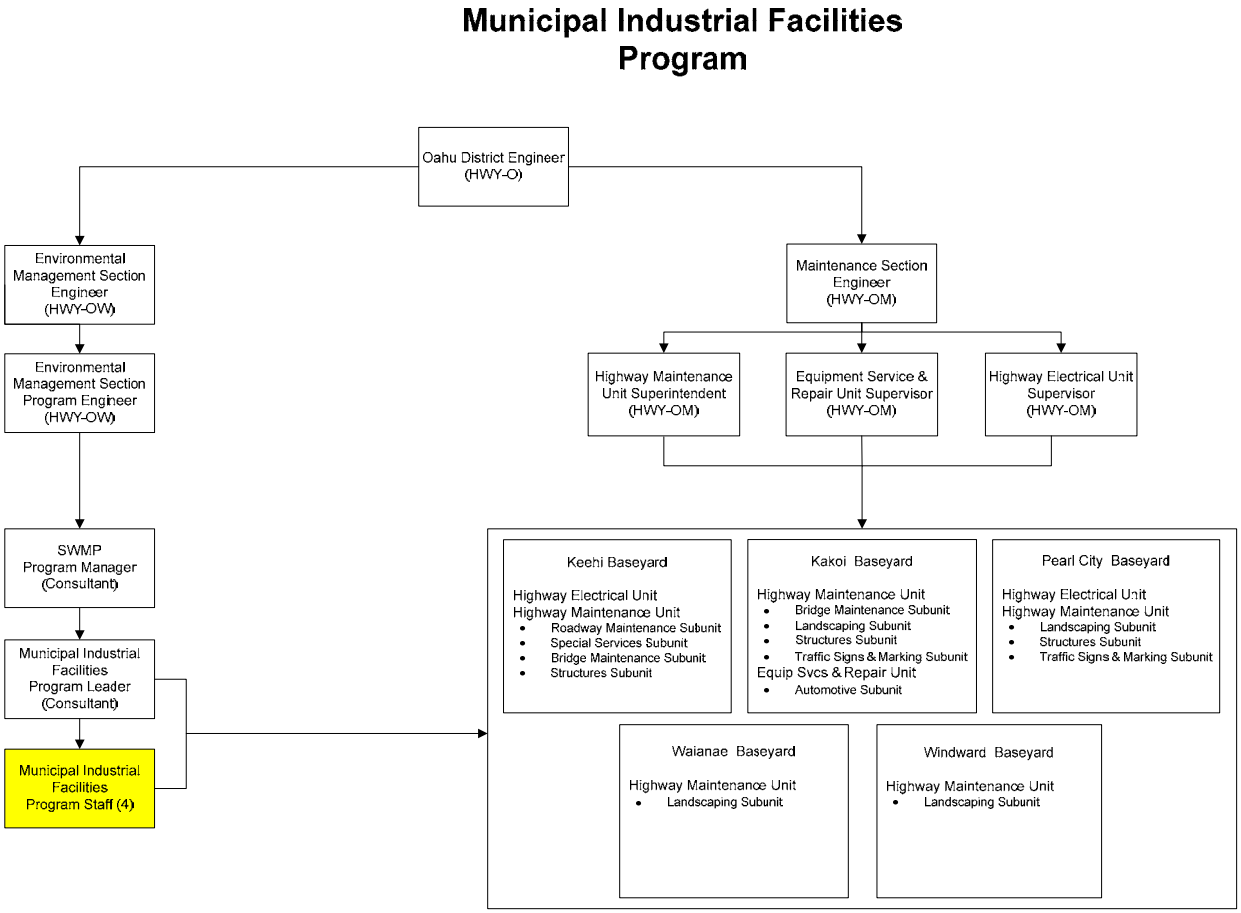

Figure 11-3. Municipal Industrial Facilities Program Organizational Chart for Roles and Responsibilities Related to Baseyard Inspections

11.1.2 SWPCPs Implementation

The Municipal Industrial Facilities Program sees that all baseyards are operated and maintained in full compliance with their respective SWPCPs and the stipulations set forth by HAR 11-55, App. B. As required by the MS4 Permit, Part E.3, an Industrial Storm Water Discharge Notification Form and a SWPCP were submitted for all five baseyards within 90 days of the effective date of the MS4 Permit. The SWPCPs are available on www.stormwaterhawaii.com. Any changes made to SWPCPs will be disclosed in the Annual Report.

The SWPCPs establish the BMPs that are implemented at the maintenance baseyards. The BMPs included in the SWPCPs are site-specific and account for the types of industrial activities conducted and materials stored at a given baseyard. A hard copy of the respective SWPCP is kept at each baseyard. In order to minimize the discharge of pollutants in storm water runoff, HAR 11-55, App. B dictates the content of the SWPCPs and establishes water quality monitoring requirements for the baseyards. As stipulated, SWPCPs include the following information:

- Brief facility description;
- Detailed site map;
- Discussion of drainage areas;
- Pollutant control strategy;
- Spill prevention and response plan;
- Information about previous leaks and/or spills over a five year period;
- Information regarding storm water discharges that required notification;
- Inspection checklist; and
- Storm water monitoring plan.

The storm water monitoring plan for each baseyard includes a rationale for selecting water sampling locations, a description of sample collection methods, a list of parameters to be monitored, the sample type, test procedures, detection limits, flow calculation methods, procedures for data collection, and inspection procedures.

Spill prevention and response plans are included in each baseyard's SWPCP, and spill response materials are kept on-site at each facility.

Contact information for the supervisor of each baseyard, and the personnel that are to be notified in the case of an emergency spill, including the Emergency Coordinator and Division Environmental Engineer, are listed in each SWPCP. Some SWPCPs have multiple pollution control contacts because these baseyards support multiple units or subunits.

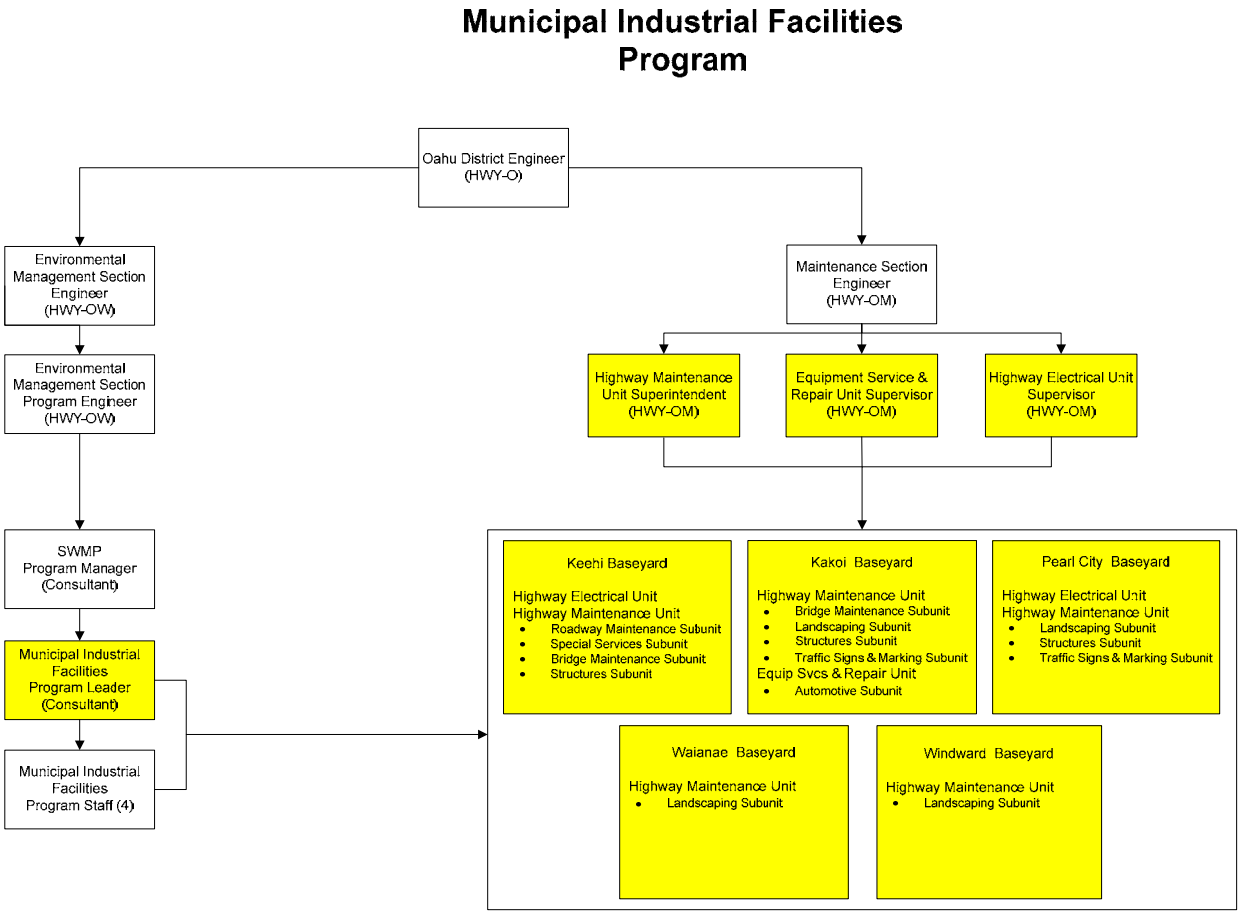

Figure 11-4. Municipal Industrial Facilities Program Organizational Chart for Roles and Responsibilities related to SWPCP Implementation

11.1.3 BMP Implementation

Preventative, source control strategies are the most cost-effective approach to reducing the discharge of pollutants to storm water runoff. Proper BMP implementation is central to protecting the quality of receiving water.

The pollutant control strategies found in the SWPCPs outline the BMPs used to minimize the discharge of pollutants at each baseyard. The strategies list potential pollutants and recommended BMPs for each type of industrial activity conducted on-site. Industrial activities and their corresponding BMPs are separated into activity-based categories, such as good housekeeping, baseyard operations, washing, fueling, vehicle and equipment storage, material storage, waste management, and structural BMPs. Photos and a brief description of each BMP provide an easy-to-follow, site-specific approach to proper BMP implementation.

Keehi Baseyard vehicle and equipment wash rack is designed to contain, collect, treat, and recycle wash water for vehicle washing.

It is important to select appropriate methods of material storage that reduce the risk of potential pollutants contaminating storm water runoff. Typically, solid waste picked up from highways and bulk materials, such as gravel, sand, and asphalt, are stored within concrete bins. Materials such as paints, herbicides, and motor oil, are kept in their manufacturers' containers (or other approved containers) and are typically stored indoors. If hazardous materials are stored outdoors, they are placed under cover and on spill prevention pallets, so they will not come in contact with storm water sheet flow. Proper methods for material storage are discussed in detail in the SWPCPs.

The *Maintenance BMPs Field Manual* (Appendix I.1) provides additional guidance for baseyard personnel on proper BMP selection and implementation.

The site descriptions, operations, drainage characteristics, and potential pollutants associated with each baseyard will be discussed at length in Section 11.2.

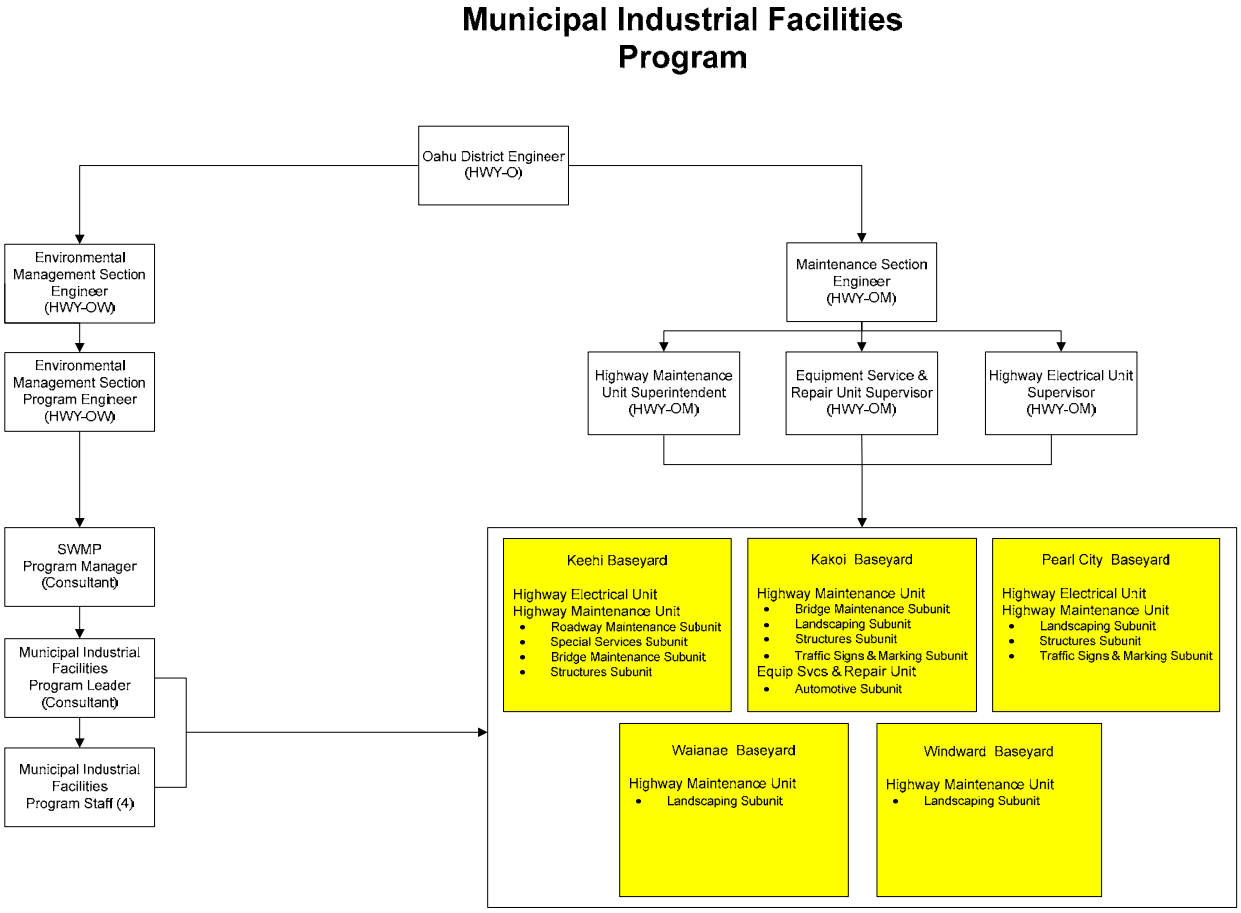

Figure 11-5. Municipal Industrial Facilities Program Organizational Chart for Roles and Responsibilities related to BMP Implementation

11.1.4 Training

Baseyards support crews that conduct a large portion of their day-to-day activities in the field (e.g., landscaping maintenance, sign replacement, etc.). Maintenance staff, including crews that utilize baseyards, annually attend the Maintenance Baseyard Storm Water Training (Section 9.2). The training covers topics such as the identification of potential sources of pollutants, BMP and SWPCP implementation, and staff's role in protecting water quality both at baseyards and in the field.

The Maintenance Baseyard Storm Water Training addresses the following topics:

- Content and application of the *Maintenance BMPs Field Manual*;
- Identification of potential sources of pollutants;
- BMP selection and implementation;
- Trainees' roles in protecting water quality;
- SWMP general awareness;
- Environmental policy and MS4 Permit requirements;
- EMS overview;
- Vehicle washing;
- Fuel handling;
- Vehicle maintenance;
- Material storage;
- Erosion and sediment control;
- Debris control; and
- Chemical applications.

In addition to attending the Maintenance Baseyard Storm Water Training, baseyard supervisors or designee(s) are trained on the following activities, as required by Part E.2 of the MS4 Permit:

- SWPCP implementation;
- Collecting storm water samples;
- Analyzing samples for temperature and pH;
- Conducting inspections;
- Identifying deficiencies; and
- Performing corrective actions.

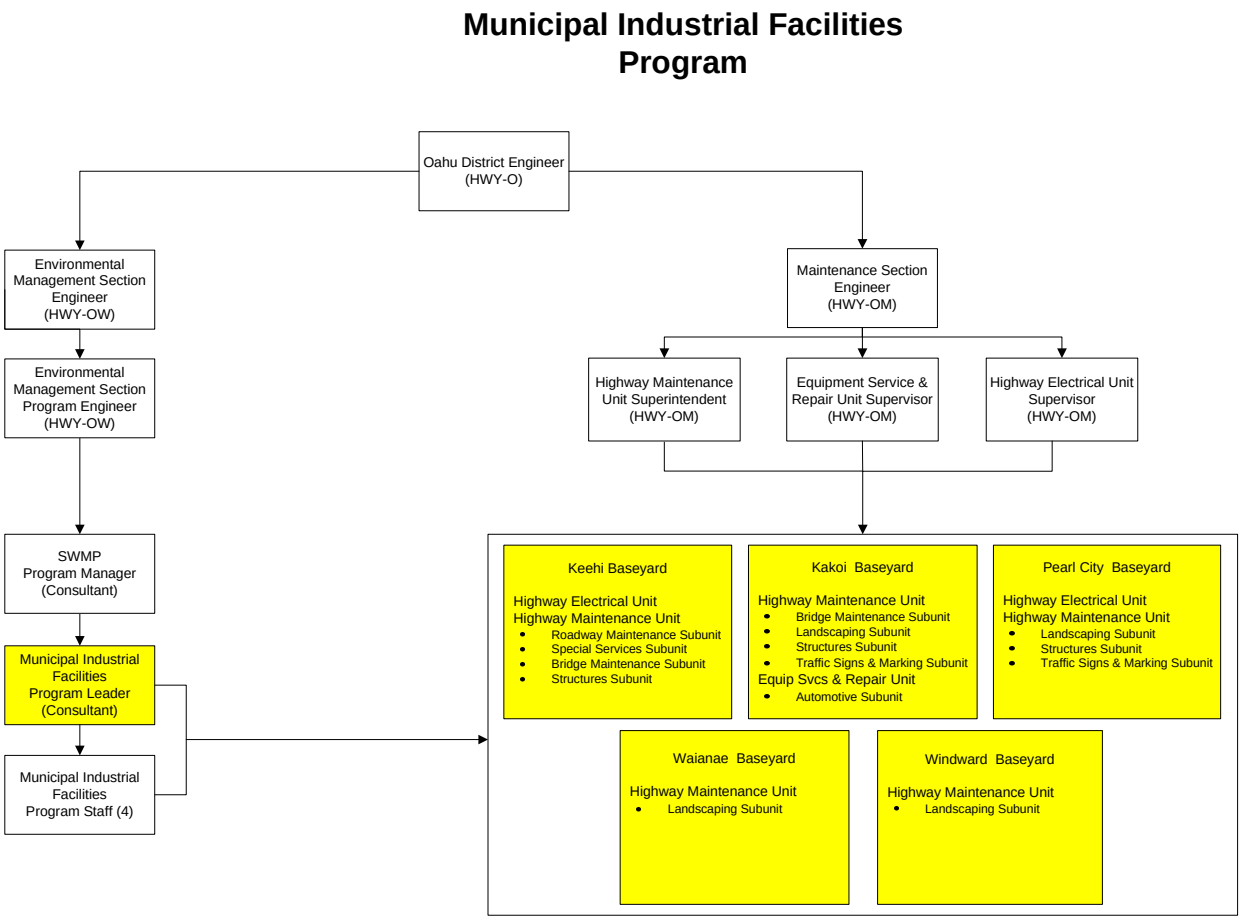

Figure 11-6. Municipal Industrial Facilities Program Organizational Chart for Roles and Responsibilities Related to Training

11.2 Baseyard Descriptions

This section provides brief descriptions of the site layout, uses, drainage conditions, and potential pollutants associated with each baseyard. More detailed descriptions are provided in the baseyards' SWPCPs.

11.2.1 Keehi Baseyard

The Keehi Baseyard is located at the Keehi Viaduct, beneath the Interstate H-1 Freeway, in Honolulu.

Site Description and Use

The baseyard has an elongated shape that is bordered on the north and south sides by the westbound and eastbound lanes of Nimitz Highway, respectively. The baseyard is bordered on the east side by Moanalua Stream. An unnamed canal runs west to east through the middle of the site and drains into the Moanalua Stream.

The Keehi Baseyard contains the following DOT-HWYS' Electrical and Maintenance Units:

- Highway Electrical Unit;
- Roadway Maintenance Subunit;
- Special Services Subunit;
- Bridge Maintenance Subunit; and
- Structures Subunit.

The facility is used as a storage area for DOT-HWYS' maintenance supplies and equipment. Equipment and materials stored on-site include vehicles, street sweepers, vacuum trucks, trucks and trailers, and materials supplies. The baseyard is also used to temporarily store solid and hazardous wastes picked up from DOT-HWYS' right-of-ways throughout Oahu, prior to transport and disposal at an appropriate facility.

The Highway Electrical Unit occupies the western-most portion of the site. In addition, the Highway Electrical Unit uses an area near the eastern boundary to store telephone and light poles. The Roadway Maintenance Subunit is responsible for maintaining the waste storage area located in the southeastern corner of the site. The Special Services Subunit, which includes plumbers, street sweepers, and vacuum truck operators, utilizes the site primarily to store their trucks, vehicles and parts. The Bridge Maintenance Subunit occupies the northwestern portion of the site (woodworking shop and storage compound), and the Structures Subunit occupies the northeastern portion of the site (storage compound). There is an office building, which consists of three trailers. Vehicles stored at this baseyard are parked near the office and along the southern perimeter. The site also has a vehicle wash rack that is designed to contain, collect, treat, and recycle wash water for vehicle washing. A designated hazardous waste storage area is located at the entrance of the baseyard, close to the guard shack.

A site map of the Keehi Baseyard is provided in Figure 11-7.

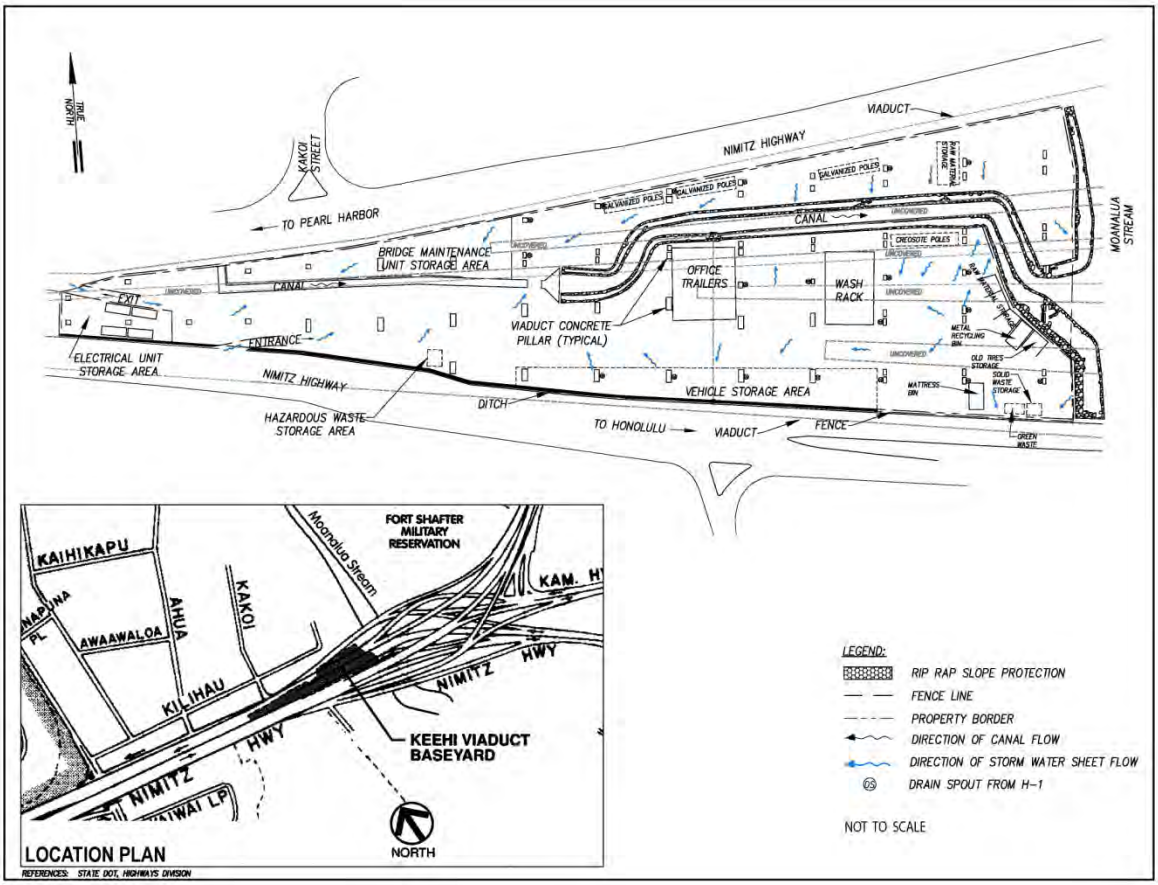

Figure 11-7. Site Map of Keehi Baseyard

Drainage Characteristics

There are no drainage inlets on-site. However, the drainage ditch along the southern boundary of the site is connected to the unnamed canal that runs through the center of the site via an underground pipeline that runs beneath the offices.

The majority of the site is under the cover of the freeway viaduct and therefore, is not exposed to rainfall. However, storm water can flow through the site from the entrance and exit to Nimitz Highway, the uncovered areas of the site, and from the freeway viaduct downspouts. Storm water runoff generally sheet flows either to the unnamed canal or the southern drainage ditch.

Storm water can enter the unnamed canal either directly or through the discharge pipe from the southern drainage ditch. Berms have been placed on the land surface surrounding the unnamed canal to prevent debris from flowing into the waterway. The unnamed canal flows from west to east through the center of the site into the Moanalua Stream, which is considered a Class 2, Inland Stream. The Moanalua Stream, which borders the eastern edge of the site, empties into Keehi Lagoon, which is identified as a Class A, Embayment.

Potential Pollutants Associated with Baseyard Activities

Potential pollutants associated with activities at the Keehi Baseyard may include:

- Universal and hazardous wastes;
- Petroleum products (e.g., gasoline, diesel, motor oil, and hydraulic oil);
- Herbicides (e.g., Roundup®);
- Minor leaks/drips of oils and lubricants from vehicles;
- Hazardous material storage;
- Miscellaneous paints and solvents;
- Tar from tack oil spray;
- Soaps, detergents, and wash waters;
- Creosote-treated wooden telephone poles;
- Street sweepings, green waste, and solid waste; and
- Sand, gravel, etc.

Keehi Baseyard storage areas for solid waste and raw materials are beneath the Interstate H-1 Freeway viaduct.

11.2.2 Kakoi Baseyard

The Kakoi Baseyard is located in Mapunapuna, an industrial and warehouse district in Honolulu.

Site Description and Use

The Kakoi Baseyard is occupied by the following DOT-HWYS' Maintenance and Equipment Service and Repair Units:

- Bridge Maintenance Subunit;
- Landscaping Subunit;
- Equipment Service and Repair Unit;
  - Heavy Automotive Subunit
  - Small Engine Shop
  - Welding Shop
- Structures Subunit;
- Traffic Signs and Marking Subunit; and
- District Warehouse.

Except for limited portions of landscaped areas, the entire site is paved. The DOT-HWYS Oahu District Office Administration Building is located in the northwest portion of the property with a Fuel Station located to the east of the building. The Maintenance Building is located along the southwestern portion of the property. The Sign Shop and Marking Subunit Storage Area are located in the southwestern corner. The District Warehouse is located along the southern portion of the property and the Landscaping Subunit occupies the southeastern corner of the baseyard. The Equipment Service and Repair Unit (Heavy) is located in the western portion of the property, and the Automotive Subunit is located in the central portion of the property. Shops and maintenance crews use the baseyard to store equipment and materials and to support various DOT-HWYS' maintenance operations. The Equipment Service and Repair Unit repairs vehicles and equipment and also operates the Small Engine Shop and the Welding Shop. With the exception of refueling vehicles and equipment, all significant maintenance operations and activities occur under cover or indoors. The baseyard does not maintain raw material stockpiles or perform any vehicle or equipment washing. These activities are conducted at the nearby Keehi Baseyard.

A site map of the Kakoi Baseyard is provided in Figure 11-8.

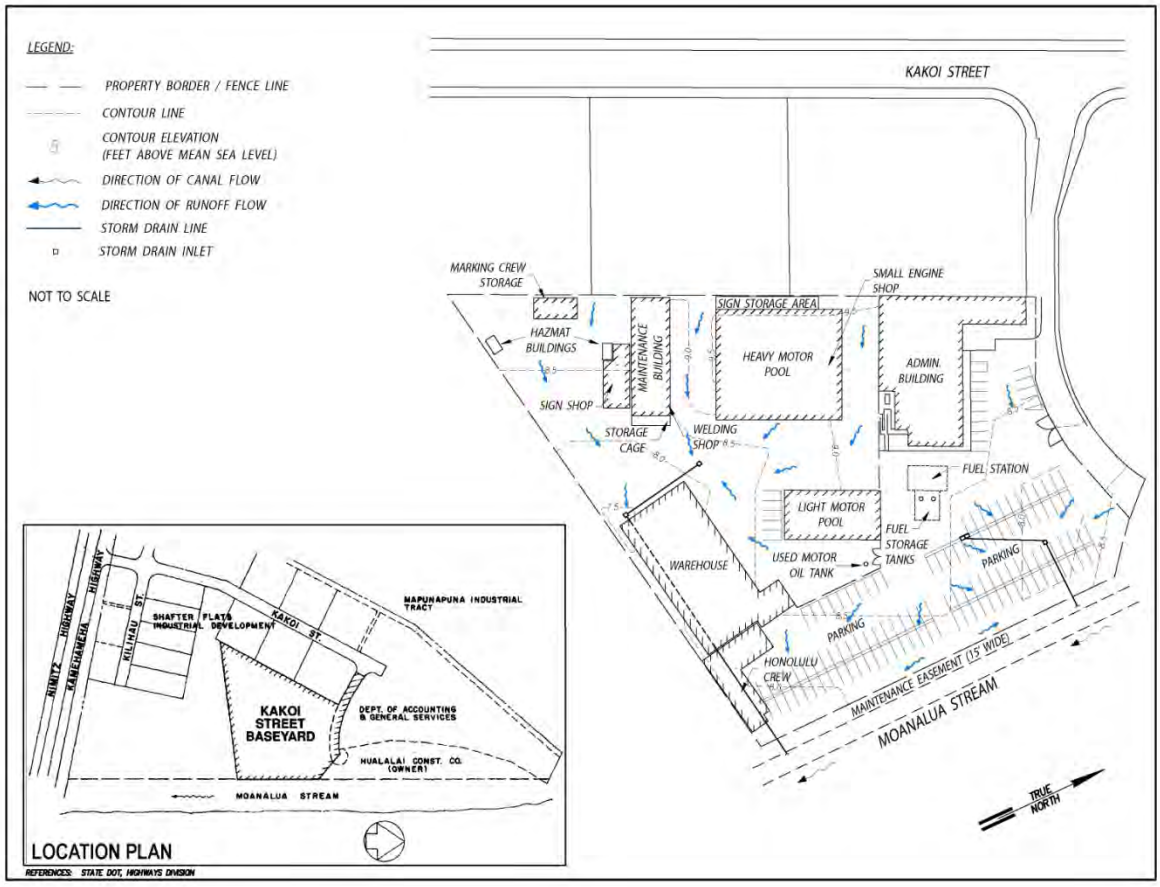

Figure 11-8. Site Map of Kakoi Baseyard

Drainage Characteristics

The majority of the site is graded towards the paved area in the southern portion of the property where two storm drain inlets are located. These two storm drains are connected to a drain pipe that runs along the southern border of the site and discharges to Moanalua Stream at a point located just off of the southeast corner of the baseyard. Two additional storm drain inlets are located in the parking lot in the northeastern portion of the property. These two storm drains collect runoff from the eastern portion of the site and are connected to a drain pipe that discharges to Moanalua Stream off of the northeastern corner of the baseyard. The property is bordered by Moanalua Stream, and it empties into the Keehi Lagoon.

Potential Pollutants Associated with Baseyard Activities

Potential pollutants associated with activities at the Kakoi Baseyard may include:

- Gasoline and diesel stored in USTs;
- Minor leaks/drips of oils and lubricants from vehicles;

- Miscellaneous paints, solvents, aerosols, adhesives, cleaners, herbicides, and mercury lamps;
- Petroleum lubricants, solvents, brake fluid, hydraulic oil, motor oil, antifreeze, etc.; and
- Used oil stored in USTs.

Kakoi Baseyard shops and maintenance crews use the baseyard to store equipment and materials (top photo). The Light Vehicle and Heavy Equipment Motor Pool is located in the central portion of the property (bottom photo).

11.2.3 Pearl City Baseyard

The Pearl City Baseyard is located in the south central portion of Oahu, beneath the H-1 Freeway in Pearl City.

Site Description and Use

The Pearl City Baseyard contains the following DOT-HWYS' Electrical and Maintenance Units:

- Highway Electrical Unit;
- Landscaping Subunit;
- Structures Subunit; and
- Traffic Signs and Marking Subunit.

The primary purpose of the Pearl City Baseyard is to support roadwork and landscape maintenance conducted nearby by HWY-OM and the Landscaping Subunit. The Landscaping Subunit uses the baseyard to park vehicles and landscape maintenance equipment (e.g., mowers, weed eaters, bobcat loader, etc.) and to store fuels and hazardous materials. Flammable cabinets located inside a storage container are also used to store small quantities of herbicide, gasoline, motor oil, and 2-cycle oil. Occasionally, minor equipment maintenance is conducted within the covered paved areas. Only limited equipment (e.g., lawn mowers, chainsaws, etc.) fueling is conducted on-site. Vehicles are not fueled within the baseyard. The Highway Electrical Unit, Traffic Signs and Marking Subunit, and Structures Subunit also use the baseyard, primarily for the purpose of storing supplies.

Access to the baseyard is available through an unnamed access road off of Lehua Avenue. The access road connects to the baseyard driveway, which forms the southern boundary of the facility. Highway pillars serve to divide the baseyard into different service areas. From west to east, these service areas include: salvage equipment storage, Highway Electrical Unit storage area, Traffic Signs and Markings Subunit storage area, aggregate storage, employee parking and office, wash rack, dewatering area, and Structures Subunit. The majority of the site is situated under the cover of the freeway viaduct and groundcover generally consists of asphalt with isolated areas of exposed soil. The paved areas are used for parking and storage of vehicles and supplies. The paved area is also used to store raw materials, such as gravel, sand, and asphalt. An administration building is located in the central portion of the site, and two Conex shipping containers are used to store equipment adjacent to the raw material storage. The baseyard is outfitted with a wash rack that serves as a vehicle and equipment washing location for numerous landscape and roadway maintenance vehicles and small equipment. The baseyard dewatering facility serves as a pre-treatment location for storm drain wash water derived by roadway maintenance crews. The wash water from the wash rack and liquids from the dewatering facility are processed in oil/water separators prior to being discharged into the City and County of Honolulu's (CCH's) sanitary sewer system. No wash water flows offsite or into any storm drains or natural waterways.

A site map of the Pearl City Baseyard is provided in Figure 11-9.

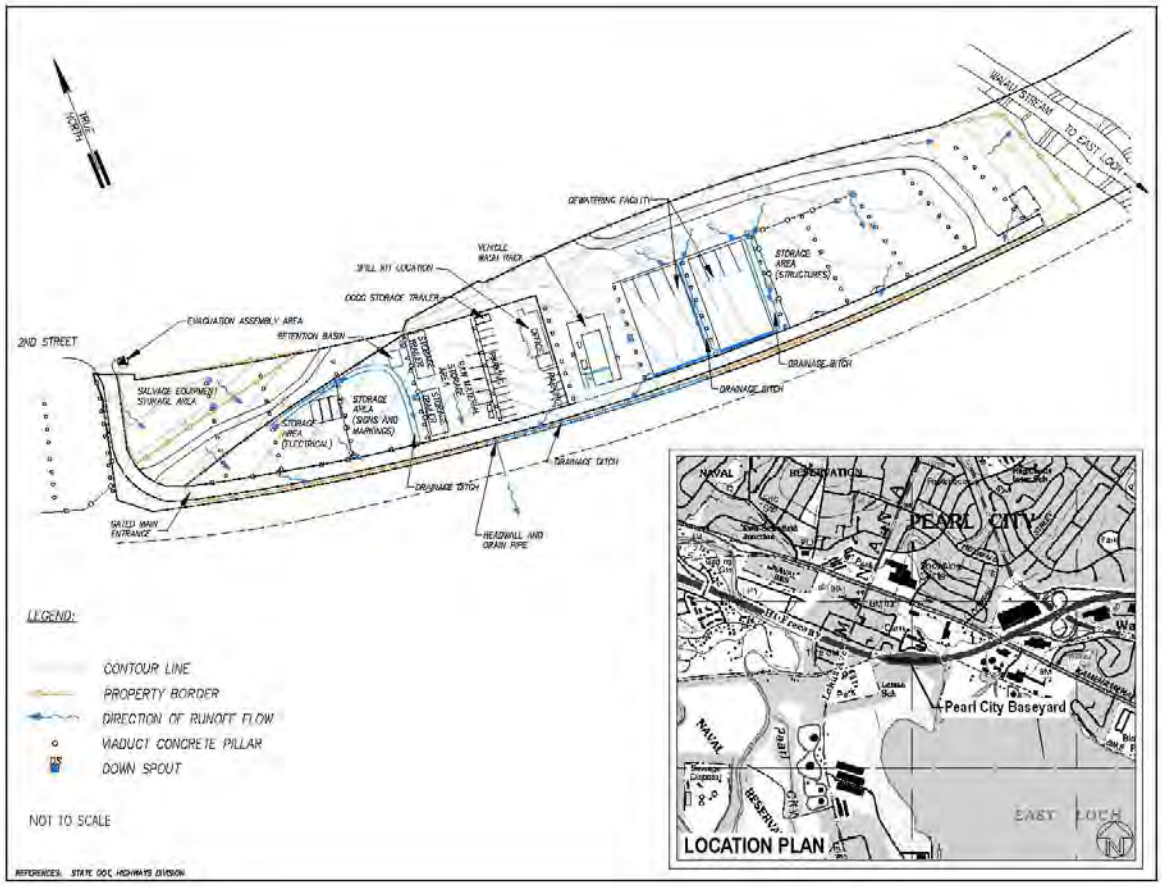

Figure 11-9. Site Map of Pearl City Baseyard

Dewatering Facility

The Pearl City Baseyard operates a dewatering facility to meet this requirement. It includes the following elements:

- Settling basins;
- Filter beds;
- Collection and transport pipes;
- Oil interceptor pit; and
- Post-dewatering debris or storage area.

The settling basin is a concrete-lined area in which saturated debris, sediment, and trash removed from the Oahu MS4 are dumped and left to settle. The settling basins are constructed partially below grade and are accessible by truck ramps. The capacity of the settling basin is approximately 11,370 gallons. The water from the debris undergoes primary filtering in the

filtering beds before it is discharged into the CCH's sanitary sewer system. Like the settling basins, the filter beds are constructed partially below grade and are accessible by truck ramps. As the heavier debris settles in the bottom of the settling basin, the water, which still contains some sediment, flows into the filter bed through openings between the settling basin and drying bed. The flow rate can be controlled by placing stop logs within the gaps. The bottom of the filter bed contains a multi-layered granular filter. A system of collection drain pipes is placed below the filter to capture the water. The pipes direct water to an oil/water separator. The water is then discharged through pipes to the CCH's sanitary sewer system. The materials remaining in the settling basin and the filter beds are transported to a municipal landfill for disposal. Temporary storage areas are available for material that cannot be immediately transported to a landfill.

Drainage Characteristics

Most of the baseyard is situated under the cover of the freeway viaduct, and therefore, is not exposed to rainfall. However, storm water can flow through the property from areas located outside of the freeway viaduct overhang and from several freeway downspouts. There is one drainage headwall located outside of the baseyard area that drains all the water flowing from the baseyard to the south toward a field. Discharge to the field may percolate into the ground or be conveyed to the East Loch of Pearl Harbor. The wash rack, which is used by numerous landscape and roadway maintenance crews to wash vehicles and equipment, is situated on the northern side of the baseyard. The wash water is captured in a trench drain and sump and is processed in an oil/water separator before discharging into the CCH's sanitary sewer system.

The nearest water body is the Waiau Stream, which is a Class 2 stream that borders the eastern edge of the facility. The Waiau Stream empties into the East Loch of Pearl Harbor, which is classified by HAR 11-54-5.2(d) as an inland estuary.

Potential Pollutants Associated with Baseyard Activities

Potential pollutants associated with activities at the Pearl City Baseyard may include:

- Metals and minor leaks/drips of oils and lubricants from vehicles and equipment;
- Metals from equipment and material storage areas;
- Petroleum products (e.g., gasoline, diesel, motor oil, and hydraulic oil);
- Herbicides (e.g., Roundup®);
- Sand, gravel, etc.;
- Rubbish;
- Soaps, detergents, and wash waters (wash rack area); and
- Sediment and other materials (dewatering facility).

11.2.4 Waianae Baseyard

The Waianae Baseyard is located on the leeward side of Oahu, along Farrington Highway, in Waianae.

Site Description and Use

The Waianae Baseyard contains the following DOT-HWYS' Maintenance Unit:

- Landscaping Subunit

The baseyard is utilized as a staging area for landscape maintenance operations and minor repair activities on DOT-HWYS' roadways on the western portion of the island of Oahu. Minor repairs may include masonry, carpentry, signs and markings, potholes, guardrails, crash attenuators, chain link fence, and graffiti removal. The baseyard is outfitted with a wash rack that is utilized for washing vehicles and small equipment.

The baseyard includes an elevated paved area that is used for vehicle parking and storage. A mobile office trailer and vehicle shed are located on the pavement on the southwest corner of the site. The only other structures are four shipping containers used as storage; two 20-foot containers side-by-side located near the western area of the baseyard and two 40-foot containers located in the center of the paved portion of the baseyard. The unpaved portion of the facility is used primarily for storage of concrete pillars and raw materials (e.g., sand and gravel). The baseyard is outfitted with a wash rack that serves as a washing location for vehicles and equipment. The wash water is captured in a sump and is processed through a filtration system followed by an oil/water separator prior to being discharged into the CCH's sanitary sewer system. No wash water flows offsite or into any storm drains or natural waterways.

Waianae Baseyard is outfitted with a vehicle and equipment wash rack.

A site map of the Waianae Baseyard is provided in Figure 11-10.

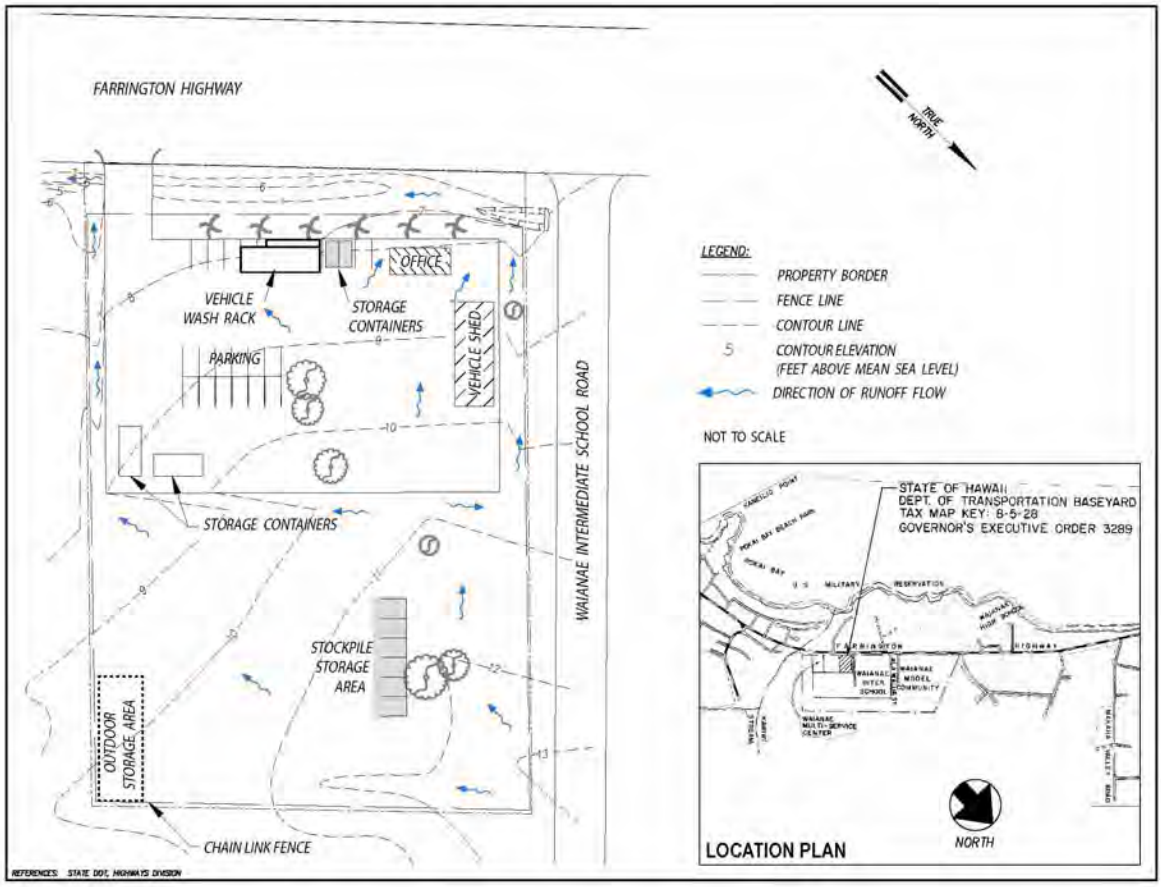

Figure 11-10. Site Map of Waianae Baseyard

Drainage Characteristics

There are no storm drain inlets at the facility. Generally, storm water at the site sheet flows in a southerly direction, towards the south corner of the facility. Drainage from the paved areas typically sheet flows to grassy or landscaped areas, where it infiltrates into the ground. Storm water may also sheet flow into a vegetative swale that is located along the southeastern edge of the property. The vegetative swale leads from the northwest to the southeast, to a storm drain inlet that is located approximately 100 feet southeast of the facility. The storm drain system empties into the Kaupuni Stream and eventually the Pacific Ocean, which is located approximately 1,000 feet to the south of the facility.

Potential Pollutants Associated with Baseyard Activities

Potential pollutants associated with activities at the Waianae Baseyard may include:

- Soaps, detergents, and wash waters (wash rack area);
- Gravel, dirt, concrete, and other materials;
- Minor leaks/drips of oils and lubricants from vehicles;
- Petroleum products (e.g., gasoline, diesel, motor oil, and hydraulic oil); and
- Herbicides (Roundup®).

Waianae Baseyard has designated storage areas for stockpile and aggregate.

11.2.5 Windward Baseyard

The Windward Baseyard is located near the Likelike and Kahekili Highways, on the windward side of the island.

Site Description and Use

The Windward Baseyard contains the following DOT-HWYS' Maintenance Unit:

- Landscaping Subunit

The baseyard is utilized as a staging area for landscape maintenance operations and minor repair activities on DOT-HWYS' roadways on the eastern portion of the island of Oahu. Minor repairs may include masonry, carpentry, signs and markings, potholes, guardrails, crash attenuators, chain link fence, and graffiti removal.

Access to the baseyard is available through a gate on the northeast end of the property that connects to Pookela Street. The baseyard is entirely paved except for landscaped areas along the southern, eastern, and western boundaries of the facility. The paved areas are used for parking and storage of vehicles and supplies. The paved area is also used to store raw materials, such as gravel, sand, and asphalt, as well as concrete barricades on the northern end of the facility. An administration building and vehicle shed are located on the southeastern end of the site, and two enclosed storage units are located within the paved area of the facility. A hazardous material storage container is located just north of the vehicle shed, and a Conex shipping container is used to store equipment in the center of the western side of the parking lot. The baseyard is outfitted with a wash rack that serves as a washing location for vehicles and small equipment. The wash water is captured in a sump and is subsequently processed in an oil/water separator prior to being discharged into the CCH's sanitary sewer system. No wash water flows offsite or into any storm drains or natural waterways.

A site map of the Windward Baseyard is provided in Figure 11-11.

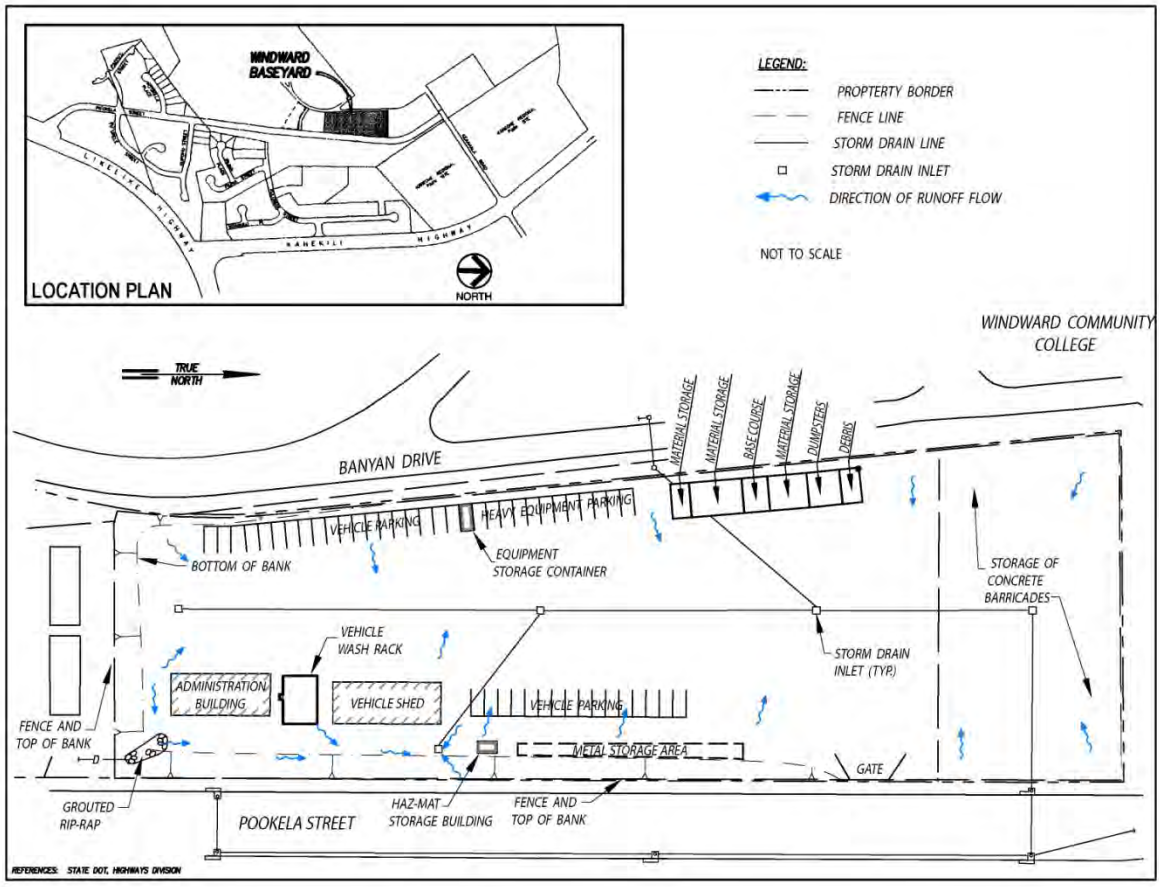

Figure 11-11. Site Map of Windward Baseyard

Drainage Characteristics

The site is graded towards the center of the property, including the landscaped areas, where storm drain inlets are located. There are four storm drain inlets in the center portion of the paved area and one storm drain inlet in the grassy swale near the eastern boundary. The drain inlets are interconnected and flow by gravity to the northernmost inlet within the baseyard. This last inlet is connected to the storm drain system on Pookela Street.

There is a drain pipe that discharges runoff from the HWY-O Kaneohe Field Office property into the Windward Baseyard property at the southeast corner behind the Administration Building. This flow drains through a grassy swale to the storm drain inlet behind the vehicle shed. Additionally there is a curb cut drain inlet located along Banyan Drive on the west edge of the facility that collects runoff from the roadway leading to the state hospital. Flow from this drain inlet connects into the baseyard storm drain system. The nearest water body is the Kapunahala Stream, which is located approximately 1,600 feet to the east of the facility, across Kahekili Highway. Kapunahala Stream feeds into Kaneohe Stream which empties into the Pacific Ocean.

Potential Pollutants Associated with Baseyard Activities

Potential pollutants associated with activities at the Windward Baseyard may include:

- Petroleum products (e.g., gasoline, diesel, motor oil, and hydraulic oil);
- Herbicides (Roundup®);
- Soaps, detergents, and wash waters (wash rack area);
- Metals from equipment parking and outdoor storage; and
- Gravel, dirt, concrete, and other materials.

Windward Baseyard stockpile and aggregate storage areas are located at the northern end of the facility.

11.3 Monitoring Program Effectiveness

Table 11-3 provides measurable standards/milestones for the BMPs discussed in this chapter and DOT-HWYS' strategy for monitoring the effectiveness of their implementation.

Table 11-3. Standards/Milestones for the Municipal Industrial Facilities Program

Section	BMP	Standard/Milestone	Monitoring Effectiveness
11.1.1	Baseyard Inspections	• An inspector that is independent of any specific baseyard conducts inspections of the baseyards.	• Use the AMS to track inspection dates, results and, if applicable, corrective actions. Include photograph documentation. • Compare results from inspections to identify trends and areas for improvement and/or training needs.
11.1.2	SWPCPs	• Operate and maintain baseyards in accordance with their respective SWPCPs.	• Conduct SWPCP inspections to help ensure that baseyards are operated and maintained in accordance with their respective SWPCPs, and use the AMS to track inspection results.
		• Keep a hard copy of the respective SWPCP at each baseyard.	• As part of the SWPCP inspections, verify the location of the respective SWPCP at each baseyard.
		• Conduct storm water sampling in accordance with the SWPCPs.	• As part of the SWPCP inspections, verify storm water sampling records (Discharge Monitoring Reports) for each baseyard.
		• Keep spill response materials on-site at each facility.	• As part of the SWPCP inspections, verify that spill response materials are kept on-site at each facility.

Section	BMP	Standard/Milestone	Monitoring Effectiveness
11.1.3	BMP Implementation	• Implement the BMPs found in the pollutant control strategies of the SWPCPs. • Implement the BMPs found in the *Maintenance BMPs Field Manual.*	• Conduct baseyard inspections to ensure that BMPs outlined in the SWPCPs are implemented, effective, and maintained.
11.1.4	Training	• Provide annual Maintenance Baseyard Storm Water Training to maintenance staff. • In addition to the Maintenance Baseyard Storm Water Training, provide training to baseyard supervisors or designee(s) on collecting storm water samples, conducting inspections, identifying deficiencies; and performing corrective actions.	• Maintain training records on the HWY-O AS400 database. • Maintain training presentations on the HWY-O server.

Chapter 12
Monitoring Program

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CHAPTER 12
MONITORING PROGRAM

The purpose of the Monitoring Program is to measure the effectiveness of the SWMP and assess water quality issues in watersheds resulting from storm water discharges to receiving waters. The Monitoring Program is responsible for submitting an Annual Monitoring Plan to DOH by June 1st of each year and implementing it over the coming fiscal year. The Monitoring Program also submits an Annual Monitoring Report by October 31st of each year that covers the past fiscal year. Annual storm water monitoring at DOT-HWYS' baseyards, which is conducted by the Municipal Industrial Facilities Program, will also be addressed in this chapter.

As stated above, the Monitoring Program includes the following control measures:

1. Submit and implement an Annual Monitoring Plan for each fiscal year of the MS4 Permit term.
2. Annually monitor storm water runoff at DOT-HWYS' municipal industrial facilities, for the parameters specified in Part F.2 of the MS4 Permit.
3. Submit an Annual Monitoring Report for each fiscal year of the MS4 Permit term.

The Monitoring Program is administered in accordance with the MS4 Permit requirements outlined in Table 12-1.

Table 12-1. MS4 Permit Requirements for the Monitoring Program

MS4 Permit Reference	SWMPP Section
Part F.1.a *Annual Monitoring Plan – The Permittee shall submit the Annual Monitoring Plan to the Director by June 1st of each year for review and acceptance. The Annual Monitoring Plan shall be implemented over the coming fiscal year.* *The monitoring program must be designed and implemented to meet the following objectives:*	Section 12.1
Part F.1.a.(1) *Assess compliance with this permit (including TMDL I&M Plans and demonstrating consistency with WLAs);*	Section 12.1
Part F.1.a.(2) *Measure the effectiveness of the Permittee's storm water management program;*	Section 12.1
Part F.1.a.(3) *Assess the overall health based on the chemical, physical, and biological impacts to receiving waters resulting from storm water discharges and an evaluation of the long term trends;*	Section 12.1
Part F.1.a.(4) *Characterize storm water discharges;*	Section 12.1
Part F.1.a.(5) *Identify sources of specific pollutants;*	Section 12.1
Part F.1.a.(6) *Detect and eliminate illicit discharges and illegal connections to the MS4; and*	Section 12.1
Part F.1.a.(7) *Assess the water quality issues in watershed resulting from storm water discharges to receiving waters.*	Section 12.1
Part F.1.b. *The plan shall, at a minimum, include the following items:*	Section 12.1

MS4 Permit Reference	SWMPP Section
Part F.1.b.(1) *Written narrative of the proposed monitoring plan's objectives, including but not limited to the objectives identified in Part F.1.a., and description of activities;*	Section 12.1
Part F.1.b.(2) *For each activity, a description of how the results will be used to determine compliance with this permit.*	Section 12.1
Part F.1.b.(3) *Identification of management measures proven to be effective and/or ineffective at reducing pollutants and flow.*	Section 12.1
Part F.1.b.(4) *Written documentation of the following:* *(i) Characteristics (timing, duration, intensity, total rainfall) of the storm event(s);* *(ii) Parameters for measured pollutant loads; and* *(iii) Range of discharge volumes to be monitored, as well as the timing, frequency, and duration at which they are identified;*	Section 12.1
Part F.1.b.(5) *Written documentation of the analytical methods to be used;*	Section 12.1
Part F.1.b.(6) *Written documentation of the Quality Assurance/Quality Control procedures to be used; and*	Section 12.1
Part F.1.b.(7) *Estimated budget to be implemented over the coming fiscal year.*	Section 12.1
Part F.2 *Storm Water Associated with Industrial Activities – The Permittee shall annually monitor the storm water runoff for the parameters specified below, for each DOT-HWYs Industrial Facility (i.e., baseyards), including any additional parameters which the Permittee also believes to be present in the storm water runoff. (See Tables in Permit)*	Section 12.2
Part G.2.a *Annual Monitoring Report – The Permittee shall submit the Annual Monitoring Report by October 31st of each year in pdf format (minimum 300 dpi) in accordance with Part A.6. The Annual Monitoring Report shall cover the past fiscal year.*	Section 12.3
Part G.2.b *The monitoring report shall at a minimum, include the following items:*	Section 12.3
Part G.2.b.(1) *Discussion on the activities/work implemented to meet each objective, as outlined in Part F.1.a., including any additional objectives identified by the Permittee, and the results [e.g., assessment of the water quality issues in each watershed resulting from storm water discharges, refer to Part F.1.a.(7)] and conclusions.*	Section 12.3
Part G.2.b.(2) *Written narrative of the past fiscal year's activities, including those coordinated with other agencies, objectives of activities, results and conclusions.*	Section 12.3
Part G.2.b.(3) *Data gathered on levels of pollutants in non-storm water discharges to the DOT-HWYS MS4; and*	Section 12.3
Part G.2.b.(4) *Using rainfall data collected by the Permittee and other agencies, the Permittee shall relate rainfall events, measured pollutant loads, and discharge volumes from the watershed and other watersheds that may be identified from time to time by the Director or Permittee.*	Section 12.3
Part G.2.b.(5) *The date when monitoring occurred for each municipal industrial facility covered under this permit. The monitoring event shall be of a representative storm event, where results were available for all required parameters following the QA/QC measures as described in your Annual Monitoring Plan.*	Section 12.3
Part G.2.b.(6) *Discharge Monitoring Reports (DMRs) for Municipal Industrial Facilities shall be included in the Annual Monitoring Report and be submitted via NetDMR once established by the DOH. NetDMR is a Web-based tool that allows NPDES permittees to electronically sign and submit their DMRs to EPA's Integrated Compliance Information System (ICIS-NPDES) via the Environmental Information Exchange Network. A DMR must be submitted for the facility which is scheduled to be monitored even if sampling was not conducted. An explanation as to why sampling was not conducted shall be explained with the submittal.*	Section 12.3

12.0 Program Organization

To fulfill the requirements of the MS4 Permit and the Consent Decree, the following organizational structure has been established for the Monitoring Program.

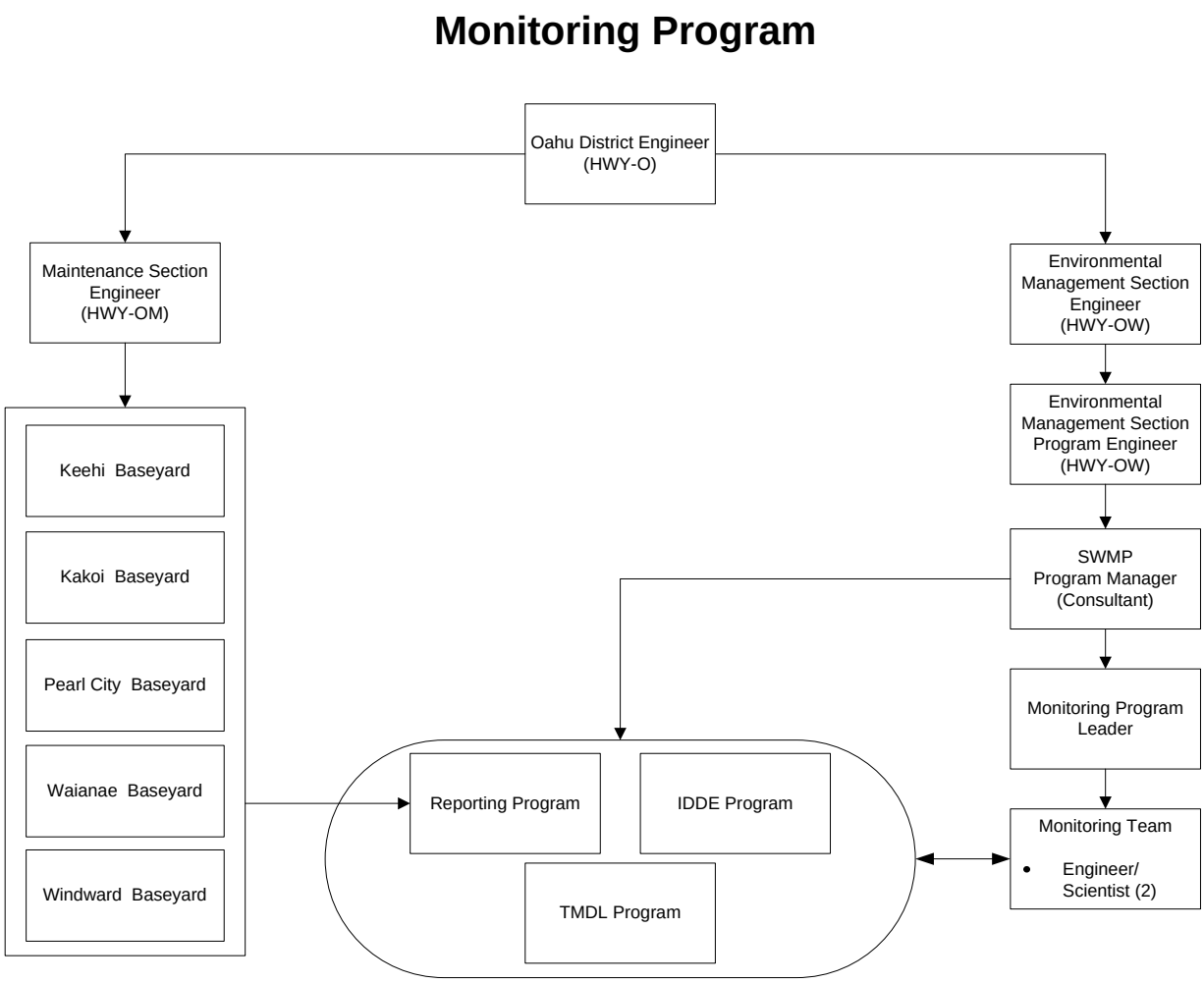


Figure 12-1. Monitoring Program Organizational Chart
(Note: The number in parenthesis indicates the number of individuals involved.)

12.1 Annual Monitoring Plan

Water quality monitoring helps DOT-HWYS assess the characteristics of highway storm water runoff and evaluate potential impacts to stream water quality. The Monitoring Program's activities are designed and implemented to meet the objectives outlined in Part F.1.a.(1) through Part F.1.a.(7) of the MS4 Permit.

The Annual Monitoring Plan (hereinafter referred to as "Plan") is submitted to the Director of DOH by June 1st of each year for review and acceptance. The purpose of the Plan is to outline DOT-HWYS' storm water monitoring procedures for each monitoring year. The Monitoring Program implements the submitted Plan over the coming fiscal year, which is defined as July 1st of the submittal year, through June 30th of the following year. The Plan includes the information specified in Part F.1.b.(1) through Part F.1.b.(7) of the MS4 Permit.

DOT-HWYS utilizes a watershed approach for its Monitoring Program by monitoring runoff within high priority watersheds. Monitoring efforts are concentrated in watersheds where total maximum daily load (TMDL) studies have been established or identified, or that have approved TMDLs in place for one or more pollutant(s). DOT-HWYS may also collect hand grab samples from historically sampled watersheds or additional watersheds listed in the CWA Section 303(d) list of impaired waters.

The Monitoring Program selects sampling locations within high priority watersheds that best characterize the runoff from DOT-HWYS' right-of-way to State Waters and, to the extent practicable, distinguishes these flows from storm water runoff discharged from off-site and non-DOT-HWYS' sources. All complete samples, including grab samples, are analyzed for total suspended solids (TSS), total nitrogen (TN), and total phosphorous (TP). Analyses are made between all variables of rainfall volume and intensity, runoff volume, and pollutant load for a range of storm intensities.

The Plan is developed and implemented by the Monitoring Team, under the guidance of the Monitoring Program Leader, as depicted in Figure 12-2.

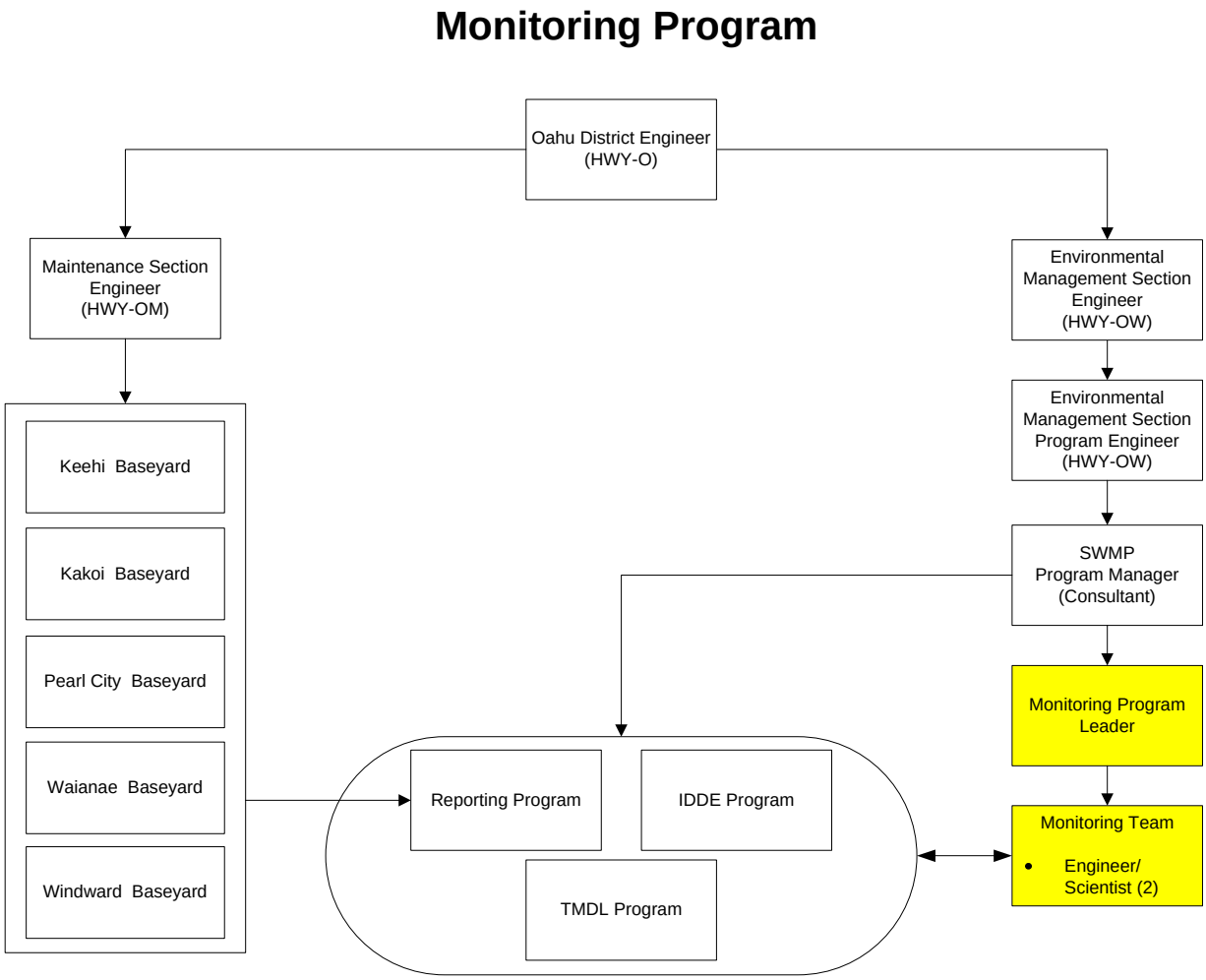


Figure 12-2. Monitoring Program Organizational Chart for Roles and Responsibilities Related to the Annual Monitoring Plan

12.2 Storm Water Monitoring at Baseyards

Storm water monitoring is conducted at DOT-HWYS' five baseyards (e.g., Keehi, Kakoi, Pearl City, Waianae, and Windward Baseyards) in accordance with the requirements set forth in HAR 11-55, App. B and Part F.2 of the MS4 Permit. Each baseyard's SWPCP contains a Storm Water Monitoring Plan, which is specific to that baseyard. The Storm Water Monitoring Plans describe the sampling methods and procedures utilized when collecting storm water samples at DOT-HWYS' baseyards. The SWPCPs also include a sampling checklist, which delineates procedures for proper water quality sampling at baseyards.

DOT-HWYS annually monitors storm water runoff at each baseyard for the parameters specified in Part F.2 of the MS4 Permit. One sample is collected from each baseyard's sampling collection point at least once per calendar year, during a representative storm event. A representative storm event is defined as rainfall that accumulates more than 0.1 inches of rain and occurs at least 72 hours after the previous measurable rain event of greater than 0.1 inches.

Samples are delivered to an approved laboratory with a completed Chain of Custody form, to ensure the integrity of the samples. Once laboratory analysis is received, a Discharge Monitoring Report (DMR) is completed and submitted to the DOH no later than 60 calendar days after the sample collection date. Additionally, a DMR for each baseyard is included in the Annual Monitoring Report and submitted to USEPA's Integrated Compliance Information System in accordance with Part G.2.b.(6) of the MS4 Permit. A DMR must be submitted with the Annual Monitoring Report even if sampling was not conducted during the calendar year. An explanation as to why sampling was not conducted shall be explained with the submittal.

DOT-HWYS' five baseyards, which are overseen by the Maintenance Section Engineer, are responsible for annually monitoring storm water runoff at the baseyards and preparing corresponding DMRs, as shown in Figure 12-3.

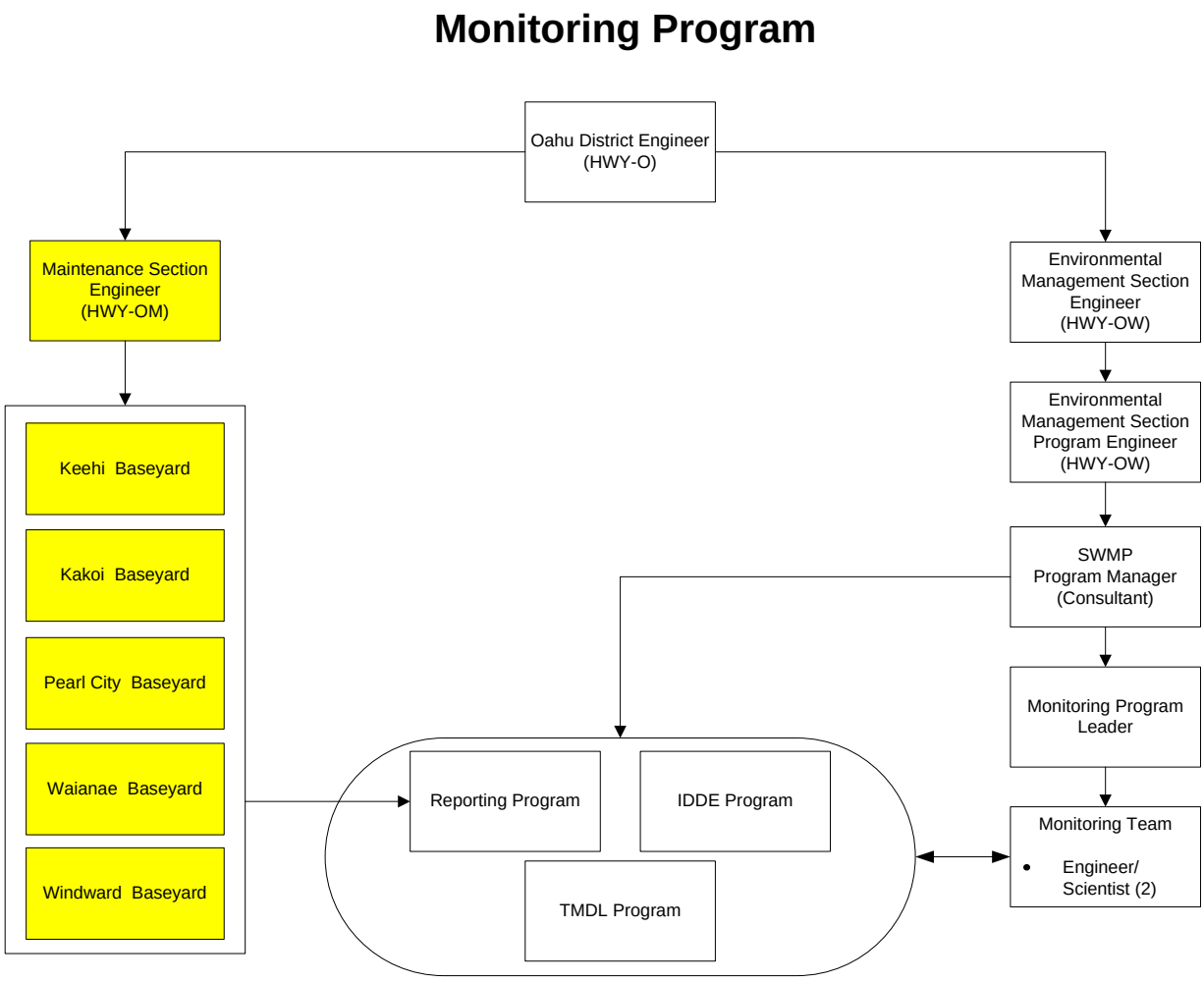


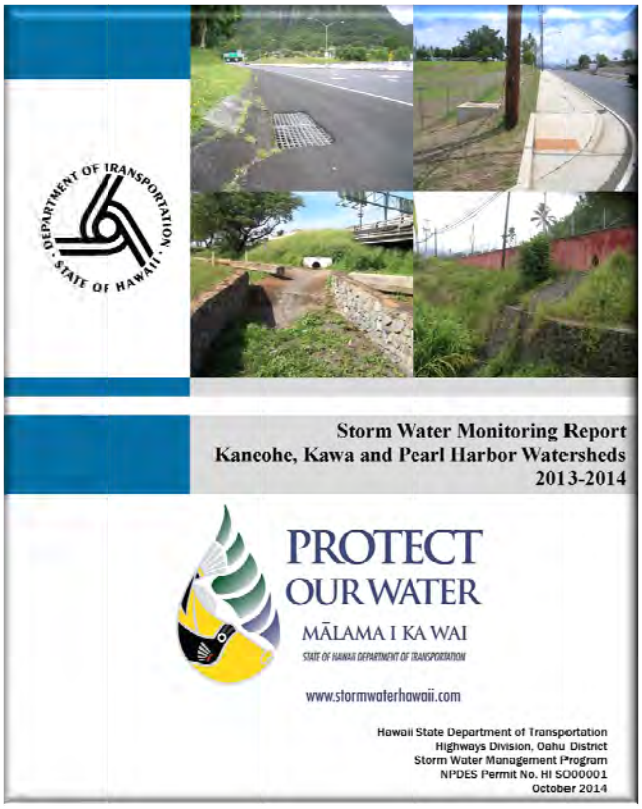
Figure 12-3. Monitoring Program Organizational Chart for Roles and Responsibilities Related to Storm Water Monitoring at Baseyards

12.3 Annual Monitoring Report

Annual Monitoring Reports detail the efforts conducted during the previous monitoring season. As required by Part G.2 of the MS4 Permit, DOT-HWYS submits an Annual Monitoring Report for the samples collected during the past fiscal year, by October 31st of each year.

In addition to the items required by Part G.2.b of the MS4 Permit, Annual Monitoring Reports include the following information:

- A detailed description of sampling activities, including types of samples, frequency of sample collection, and sampling methods used;
- Sampling date, time, location, and analytical results (includes the dates samples were received by the laboratory, analyzed, and reported);
- Analysis of the data to identify water quality trends and potential problems (including a comparison of rainfall events to pollutant loads and discharge volumes); and
- Discussion of potential pollutant source(s) in the event that elevated concentrations of a specific constituent are detected in the samples.



Monitoring runoff within high priority watersheds helps DOT-HWYS assess the characteristics of highway storm water runoff and evaluate potential impacts to stream water quality.

The Monitoring Team is responsible for developing the Annual Monitoring Report. They are supported by the Reporting Program, which coordinates with DOT-HWYS' baseyards to obtain information regarding their monitoring efforts and sampling results, as shown in Figure 12-4.

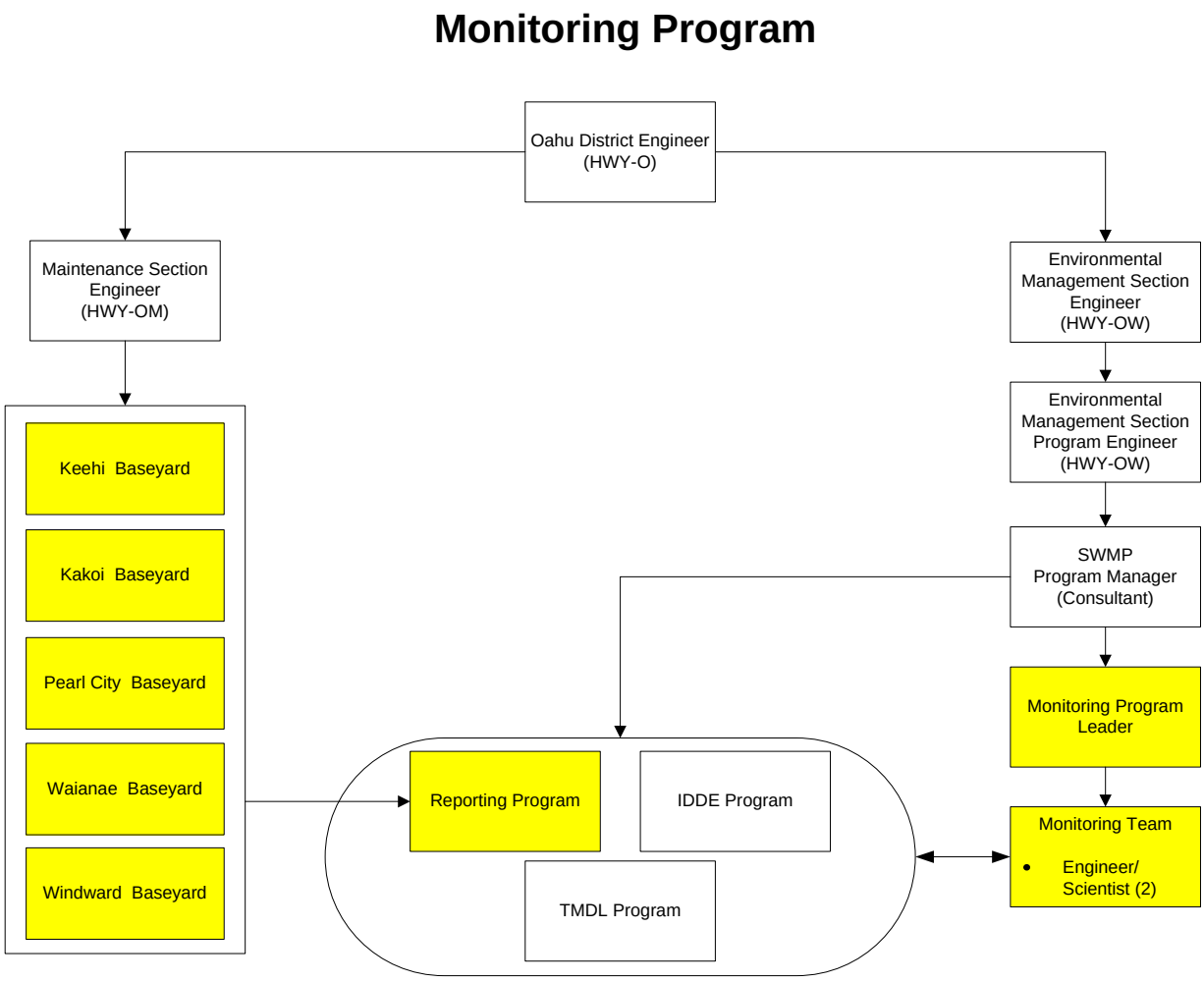


Figure 12-4. Monitoring Program Organizational Chart for Roles and Responsibilities Related to the Annual Monitoring Report

12.4 Monitoring Program Effectiveness

Table 12-2 provides measurable standards/milestones for the BMPs discussed in this chapter and DOT-HWYS' strategy for monitoring the effectiveness of their implementation.

Table 12-2. Standards/Milestones for the Monitoring Program

Section	BMP	Standard/Milestone	Monitoring Effectiveness
12.1	Annual Monitoring Plan	• Submit an Annual Monitoring Plan (AMP) by June 1st of each year, for the extent of the MS4 Permit term.	• Milestone completed on June 1st of each year.
		• Implement the AMP to assess water quality issues resulting from storm water discharges to receiving waters.	• Provide a written narrative of past fiscal year's activities in the Annual Monitoring Report (AMR).
		• Assess the impacts to receiving waters resulting from storm water discharges.	• Utilize monitoring data from DOT-HWYS and others to assess impacts to receiving waters.
		• Identify sources of specific pollutants.	• Identify specific pollutant sources based on inspections, water quality monitoring results, and other sources.
		• Detect and eliminate illegal connections and illicit discharges.	• Report illegal connections and illicit discharges, and provide follow-up on their elimination.
		• Assess the water quality issues in watersheds resulting from storm water discharges.	• Utilize monitoring data from DOT-HWYS and others to assess watershed issues.
12.2	Storm Water Monitoring at Baseyards	• Conduct water quality monitoring at DOT-HWYS' baseyards during a representative storm event, for the parameters required in Part F.2 of the MS4 Permit, once per calendar year.	• Report water quality monitoring completion dates for each DOT-HWYS' baseyard in the AMR.
		• Submit DMRs within 60 days of sampling and with the AMR.	• Maintain proof of submittals.
12.3	Annual Monitoring Report	• Submit an AMR by October 31st of each year, for the extent of the MS4 Permit term.	• Milestone completed on October 31st of each year.

Chapter 13
Total Maximum Daily Load Program

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CHAPTER 13
TOTAL MAXIMUM DAILY LOAD PROGRAM

Prior to the effective date of the MS4 Permit, DOH completed and the USEPA approved total maximum daily loads (TMDLs) for the Ala Wai Canal, Kawa Stream, Waimanalo Stream, Kapaa Stream, and Kaneohe Stream. The purpose of the Total Maximum Daily Load Program (TMDL Program) is to comply with the Schedule of Compliance found in Part F.3.c of the MS4 Permit, submit TMDL Implementation and Monitoring Plans (I&M Plans), and implement BMPs to comply with waste load allocation (WLA) reductions for the aforementioned water bodies. TMDL compliance is assessed on a watershed scale and exhibited through quantitative analyses of the required load reductions for total nitrogen (TN), total phosphorous (TP), and total suspended solids (TSS). The TMDL Program relies collaboratively on the effective implementation of BMPs by various SWMP program elements (e.g., Debris Control Program, Erosion Control Program, etc.) to attain and demonstrate compliance with WLA reductions for TMDL water bodies.

The TMDL Program implements the following components in order to comply with MS4 Permit requirements; applicable water quality standards; and the TMDLs/WLAs for Ala Wai Canal, Kawa Stream, Waimanalo Stream, Kapaa Stream, and Kaneohe Stream:

1. Complete milestones and submit deliverables to DOH in accordance with the Schedule of Compliance for each TMDL water body.
2. Implement BMPs to comply with WLA reductions, and submit to DOH, TMDL I&M Plans for Ala Wai Canal, Kawa Stream, Waimanalo Stream, Kapaa Stream, and Kaneohe Stream.
3. Develop I&M Plans for future TMDLs, as required.

The TMDL Program is administered in accordance with the MS4 Permit requirements outlined in Table 13-1.

Table 13-1. MS4 Permit Requirements for the TMDL Program

MS4 Permit Reference	SWMPP Section
Part F.3 *TMDL Implementation and Monitoring for Ala Wai Canal, Kawa Stream, Waimanalo Stream, Kapaa Stream, and Kaneohe Stream.*	Section 13.2
Part F.3.a *The Permittee shall submit to DOH a TMDL I&M Plan for Kaneohe Stream, Ala Wai Canal, Kawa Stream, Waimanalo Stream, and Kapaa Stream. The draft and final I&M Plans shall be made available on the Permittee's website for public review and comment. The plans shall be submitted within one (1) year of the effective date of this permit. Refer to Part F.3.c. - Schedules of Compliance. The plans shall include at a minimum the following:*	Section 13.2
Part F.3.a.(1) *Detailed information on the activities proposed to be implemented.*	Section 13.2

MS4 Permit Reference	SWMPP Section
Part F.3.a.(2) *Actual or literature documentation of the estimated effectiveness of the activities targeted to reduce the pollutants of concern such as total nitrogen, total phosphorus, total suspended solids, and turbidity in the watershed, as applicable, to demonstrate consistency with the annual or seasonal WLA reductions consistent with the assumption of the associated TMDL document.*	Section 13.2
Part F.3.a.(3) *A detailed and quantitative analysis which demonstrates that the proposed activities would ensure consistency with the annual or seasonal WLA reductions consistent with the assumption of the associated TMDL document.*	Section 13.2
Part F.3.a.(4) *Information from pre and post monitoring activities to quantitatively demonstrate consistency with the annual or seasonal WLA reductions consistent with the assumption of the associated TMDL document.*	Section 13.2
Part F.3.a.(5) *A monitoring plan which shall identify activities to demonstrate consistency with the annual or seasonal WLA reductions consistent with the assumption of the associated TMDL document.*	Section 13.2
Part F.3.b *The Permittee shall comply with the following annual or seasonal WLA reductions consistent with the assumptions of the associated TMDL document effective in accordance with the Schedules of Compliance in Part F.3.c.*	Section 13.2
Part F.3.b.(1) *Ala Wai Canal WLAs (See Table in Permit)*	Section 13.2
Part F.3.b.(2) *Kawa Stream WLAs (See Table in Permit)*	Section 13.2
Part F.3.b.(3) *Kapaa Stream WLAs (See Table in Permit)*	Section 13.2
Part F.3.b.(4) *Kaneohe Stream WLAs (See Table in Permit)*	Section 13.2
Part F.3.b.(5) *Waimanalo Stream WLAs (See Table in Permit)*	Section 13.2
Part F.3.c *TMDL Schedules of Compliance - The Permittee is required to provide proof of completion of each milestone and submittal of the deliverable by the date as indicated in the following tables. The Permittee shall comply with the WLA reductions consistent with the assumptions of the applicable TMDL document by the Final Compliance Date.*	Section 13.1
Part F.3.c.(1) *Ala Wai Canal WLAs (See Table in Permit)*	Section 13.1
Part F.3.c.(2) *Kawa Stream Schedule of Compliance (See Table in Permit)*	Section 13.1
Part F.3.c.(3) *Kapaa Stream Schedule of Compliance (See Table in Permit)*	Section 13.1
Part F.3.c.(4) *Kaneohe Stream Schedule of Compliance (See Table in Permit)*	Section 13.1
Part F.3.c.(5) *Waimanalo Stream Schedule of Compliance (See Table in Permit)*	Section 13.1
Part F.4 *As additional TMDLs are adopted by DOH and approved by the EPA that identify the Permittee as a source, the Permittee shall develop I&M Plans for a minimum of one (1) additional TMDL per year within one (1) year of the approval date. The Permittee shall include within each I&M Plan a compliance schedule with a final deadline to demonstrate consistency with the WLAs consistent with the assumption of the associated TMDL document. The schedule shall provide for the implementation of the BMPs, monitoring to evaluate its performance, and time to make adjustments necessary to demonstrate consistency with the WLAs consistent with the assumption of the associated TMDL document at the earliest possible time. If the schedule extends beyond a year, interim dates and milestones shall be included in the schedule with the time between interim dates not to exceed one (1) year.*	Section 13.3

13.0 Program Organization

To fulfill the requirements of the MS4 Permit and the Consent Decree, the following organizational structure has been established for the TMDL Program.

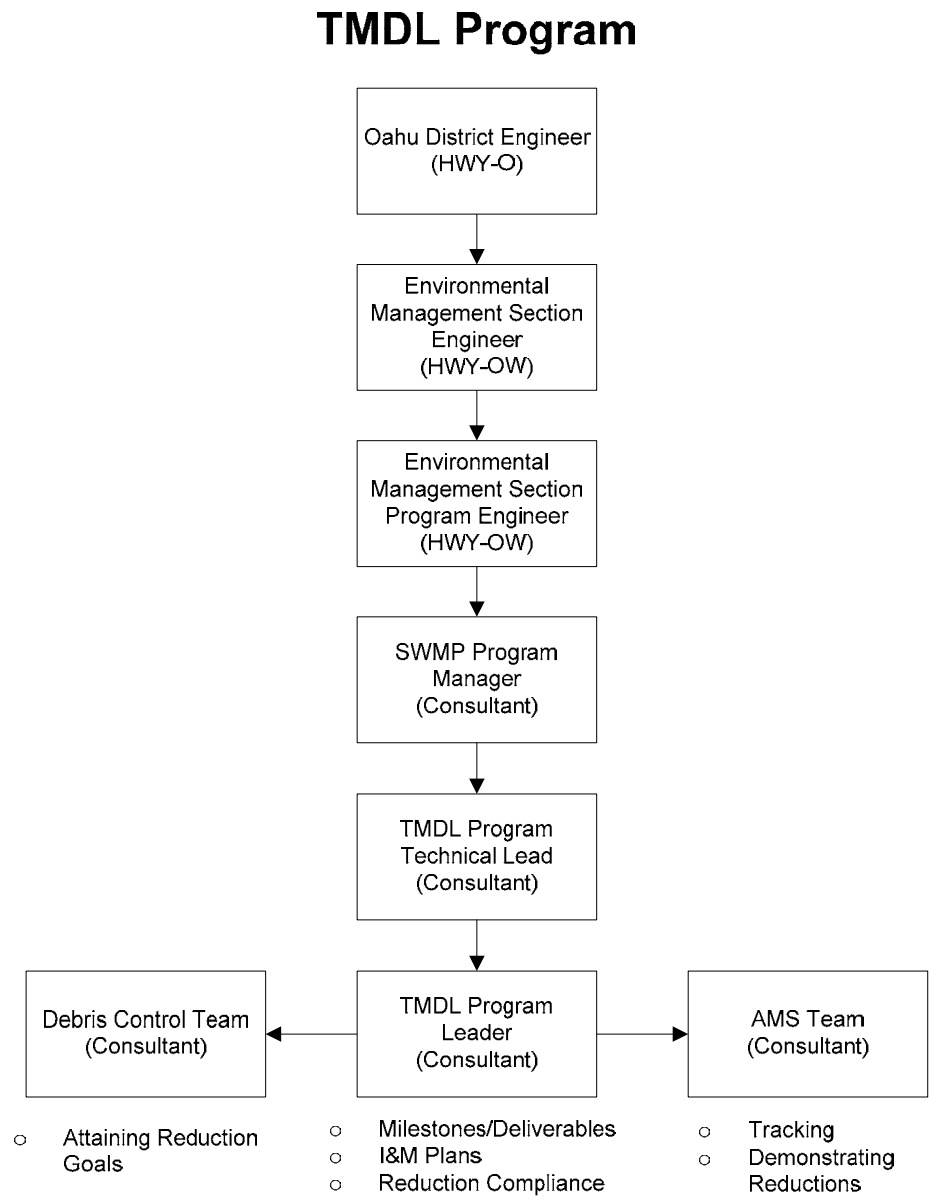

Figure 13-1. TMDL Program Organizational Chart

13.1 Schedule of Compliance

DOH included, in Part F.3.c of the MS4 Permit, a TMDL Schedule of Compliance for each established TMDL with a WLA assigned to DOT-HWYS. The TMDL Schedule of Compliance includes required milestones and submittal dates for I&M Plans, debris cleaning assessments, permanent BMP implementation (if applicable), and Final WLA Completion Reports.

DOT-HWYS' submitted a Debris Cleaning Assessment (DCA) Plan (Appendix K.1) to DOH within six months of the effective date of the MS4 Permit, in accordance with Part F.3.c. The DCA Plan documents DOT-HWYS' approach to better understanding the role of debris cleaning in the attainment of stipulated pollutant load reduction in TMDL watersheds.

Street sweeper dumps debris at Keehi Baseyard Transfer Station (left), and Inspector obtains samples of the street sweeping debris for the Debris Cleaning Assessment (right).

Figure 13-2 indicates the personnel responsible for ensuring compliance with Part F.3.c of the MS4 Permit.

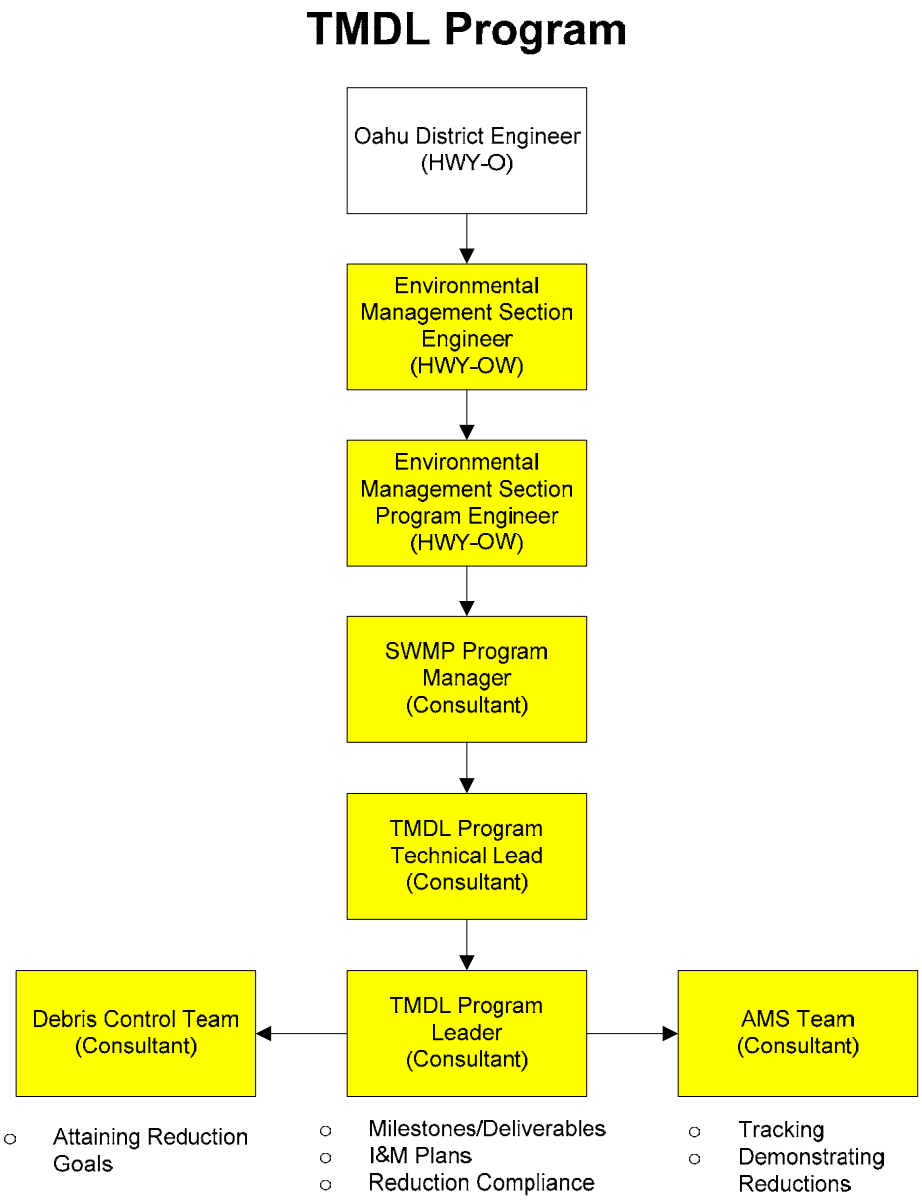

Figure 13-2. TMDL Program Organizational Chart for Roles and Responsibilities Related to the Schedule of Compliance

13.2 Implementation and Monitoring Plans

In accordance with Part F.3.a of the MS4 Permit, DOT-HWYS submitted to DOH, within one year of the effective date of the MS4 Permit, I&M Plans for the Ala Wai Canal, Kawa Stream, Waimanalo Stream, Kapaa Stream, and Kaneohe Stream (Appendices K.2 to K.6). The I&M Plans detail DOT-HWYS' strategy for attaining required pollutant load reductions and document compliance with Part F.3.a of the MS4 Permit.

Figure 13-3 shows the locations of the five TMDL watersheds on Oahu with WLA reductions assigned to DOT-HWYS.

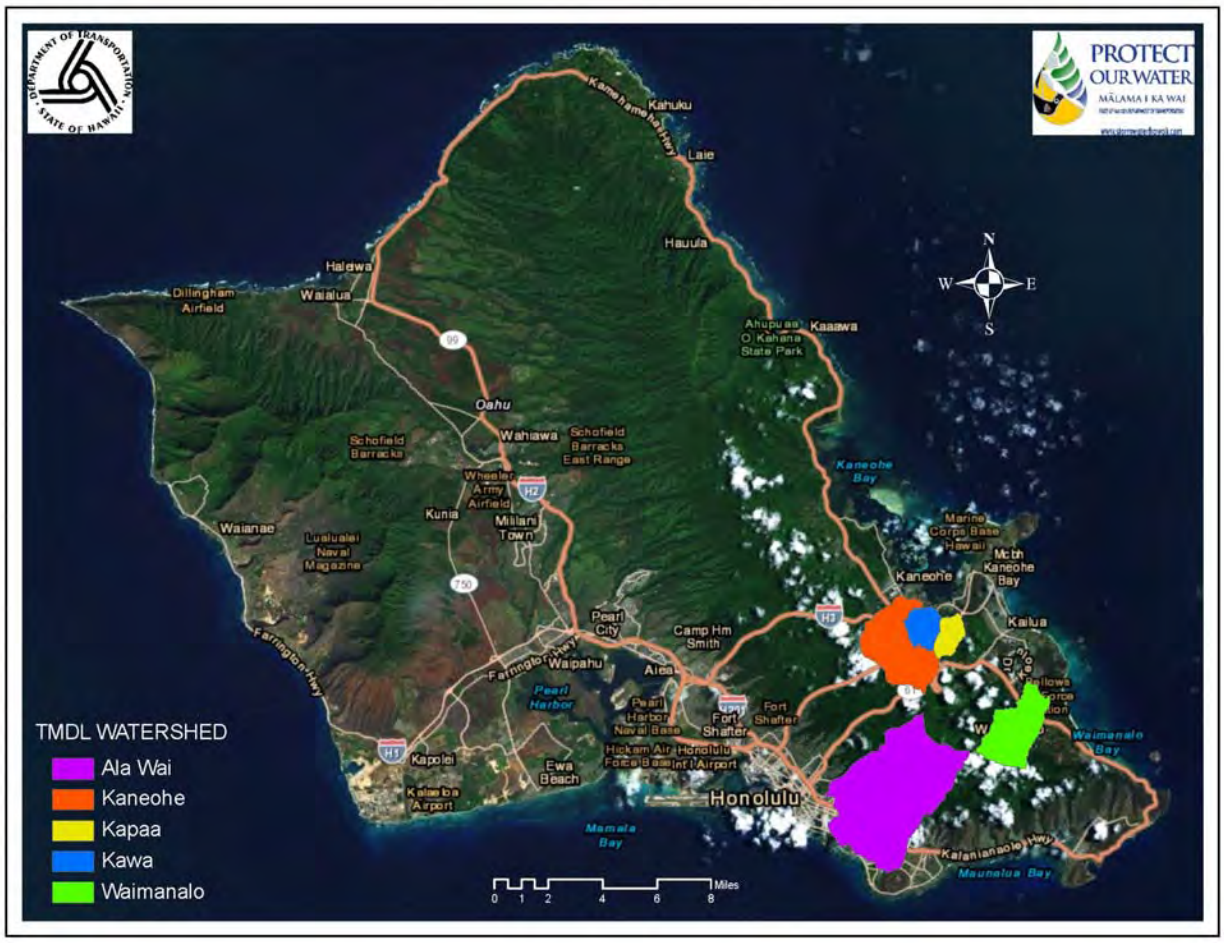

Figure 13-3. TMDL Watersheds with WLA reductions assigned to DOT-HWYS

As depicted in Figure 13-4, the TMDL Program Leader is responsible for the development of the I&M Plans, while the SWMP Program Manager and the TMDL Program Technical Lead are responsible for ensuring their implementation.

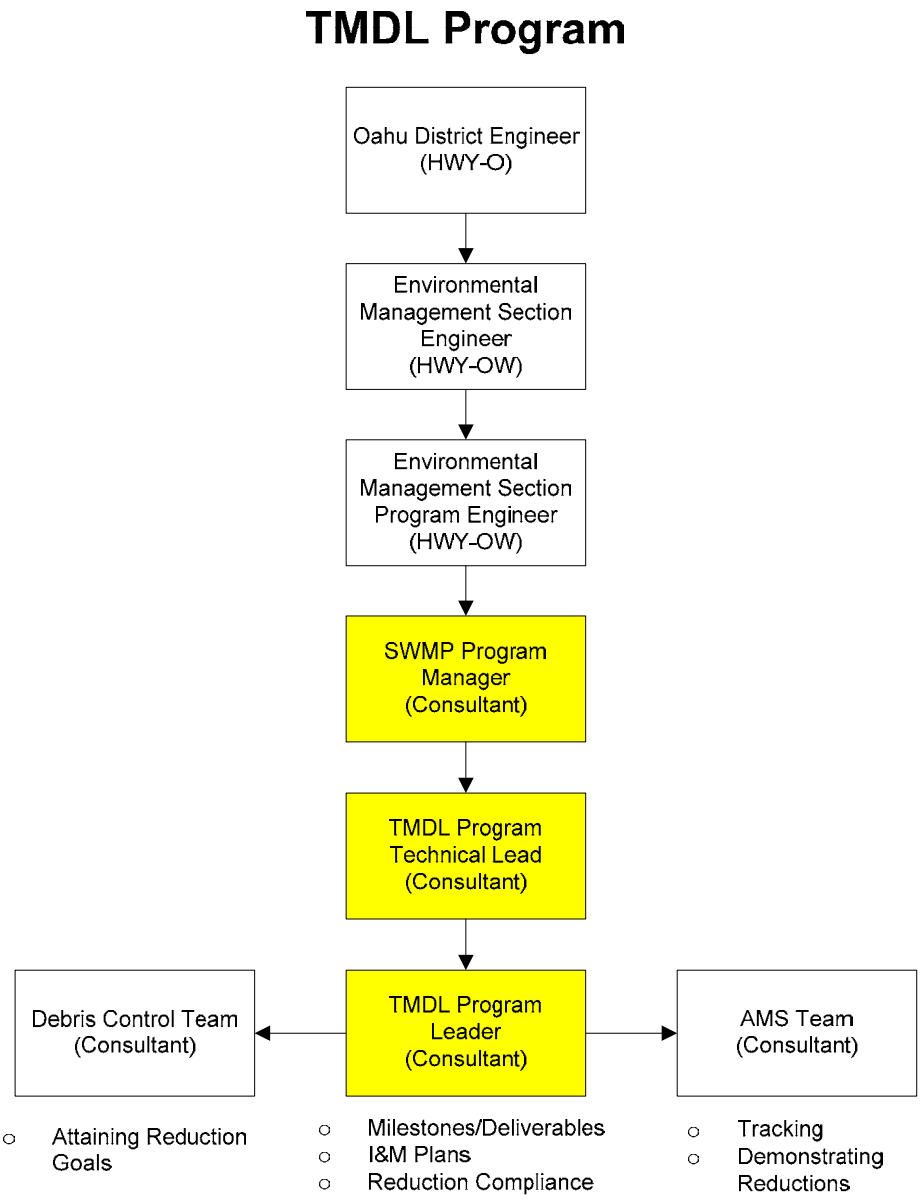

Figure 13-4. TMDL Program Organizational Chart for Roles and Responsibilities Related to the I&M Plans

13.3 I&M Plans for Future TMDLs

In accordance with Part F.4 of the MS4 Permit, as additional TMDLs are adopted by DOH and approved by the USEPA that identify DOT-HWYS as a source, DOT-HWYS will develop I&M Plans for a minimum of one additional TMDL per year, within one year of the approval date. DOT-HWYS will include within each I&M Plan a compliance schedule with a final deadline to demonstrate consistency with the WLAs consistent with the assumption of the associated TMDL document. If the schedule extends beyond a year, interim dates and milestones will be included in the schedule with the time between interim dates not exceeding one year.

As depicted in Figure 13-5, the TMDL Program Leader is responsible for the development of future I&M Plans.

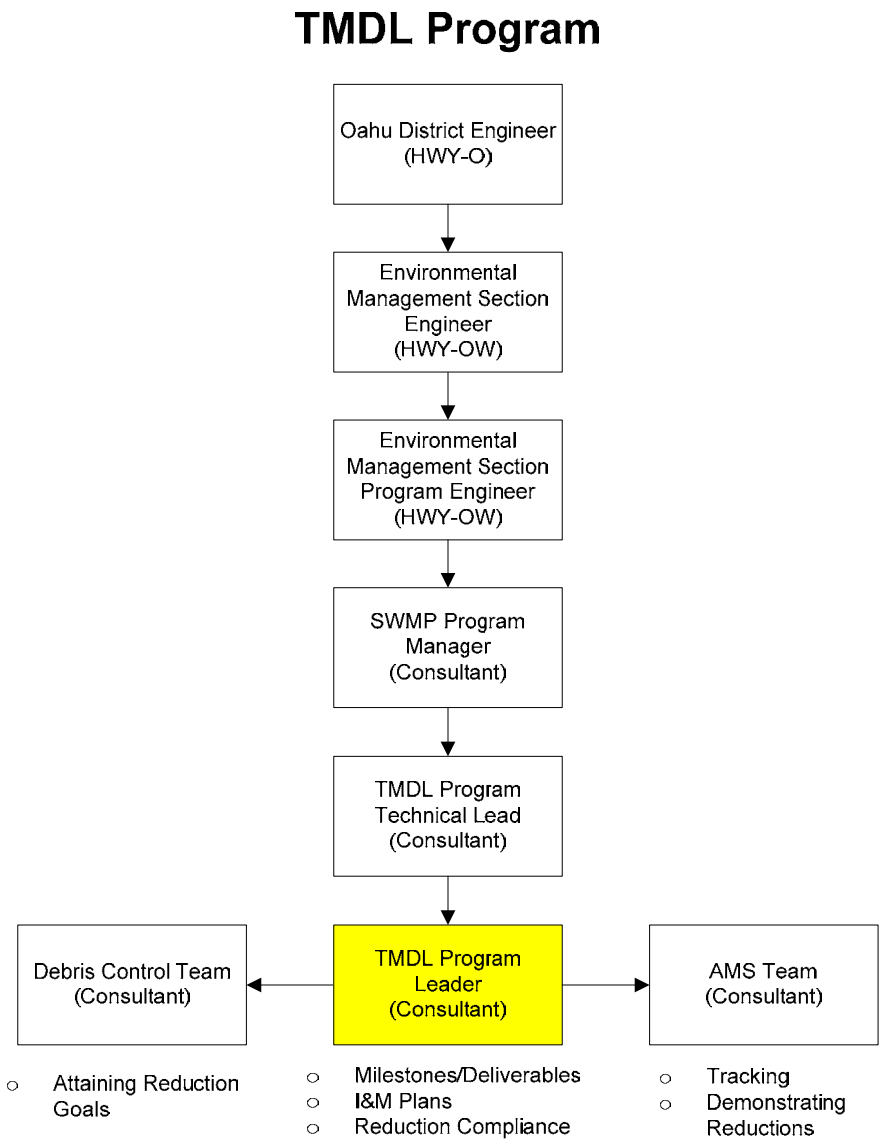

Figure 13-5. TMDL Program Organizational Chart for Roles and Responsibilities Related to I&M Plans for Future TMDLs

13.4 Monitoring Program Effectiveness

Table 13-2 provides measurable standards/milestones for the BMPs discussed in this chapter and DOT-HWYS' strategy for monitoring the effectiveness of their implementation.

Table 13-2. Standards/Milestones for the TMDL Program

Section	BMP	Standard/Milestone	Monitoring Effectiveness
13.1	Schedule of Compliance	• Complete milestones and submit deliverables to DOH in accordance with the Schedule of Compliance for each TMDL water body.	• Track milestone deliverables to DOH using master schedule.
13.2	I&M Plans	• Submit TMDL I&M Plans for Ala Wai Canal, Kawa Stream, Waimanalo Stream, Kapaa Stream, and Kaneohe Stream. • Implement BMPs as described in I&M Plans.	• Milestone completed on 10/27/2014. • Document BMP implementation in the Annual Report.
13.3	I&M Plans for Future TMDLs	• Develop I&M Plans for future TMDLs, as required.	• Submit future TMDL WLA I&M Plans as required.

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Chapter 14
Reporting Program

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CHAPTER 14
REPORTING PROGRAM

The Reporting Program is responsible for submitting Annual Reports to DOH by October 31st of each year. Annual Reports are the primary mechanism through which DOT-HWYS documents SWMP activities and demonstrates compliance with the MS4 Permit and Consent Decree. Annual Reports provide a detailed description of the storm water management activities conducted by each program element during the reporting period, as well as an evaluation of the effectiveness of such activities, the resources allocated to implement the SWMP, and an explanation of anticipated future activities. In addition, any modifications made to the SWMPP, certain plans, or the MS4 are also documented in Annual Reports.

This chapter covers the following topics:

1. SWMP reporting requirements and procedures as stipulated by the MS4 Permit and Consent Decree.
2. Content and structure of Annual Reports.

Annual Reports are submitted in accordance with the MS4 Permit and Consent Decree requirements outlined in Table 14-1 and Table 14-2, respectively.

Table 14-1. MS4 Permit Requirements for the Reporting Program

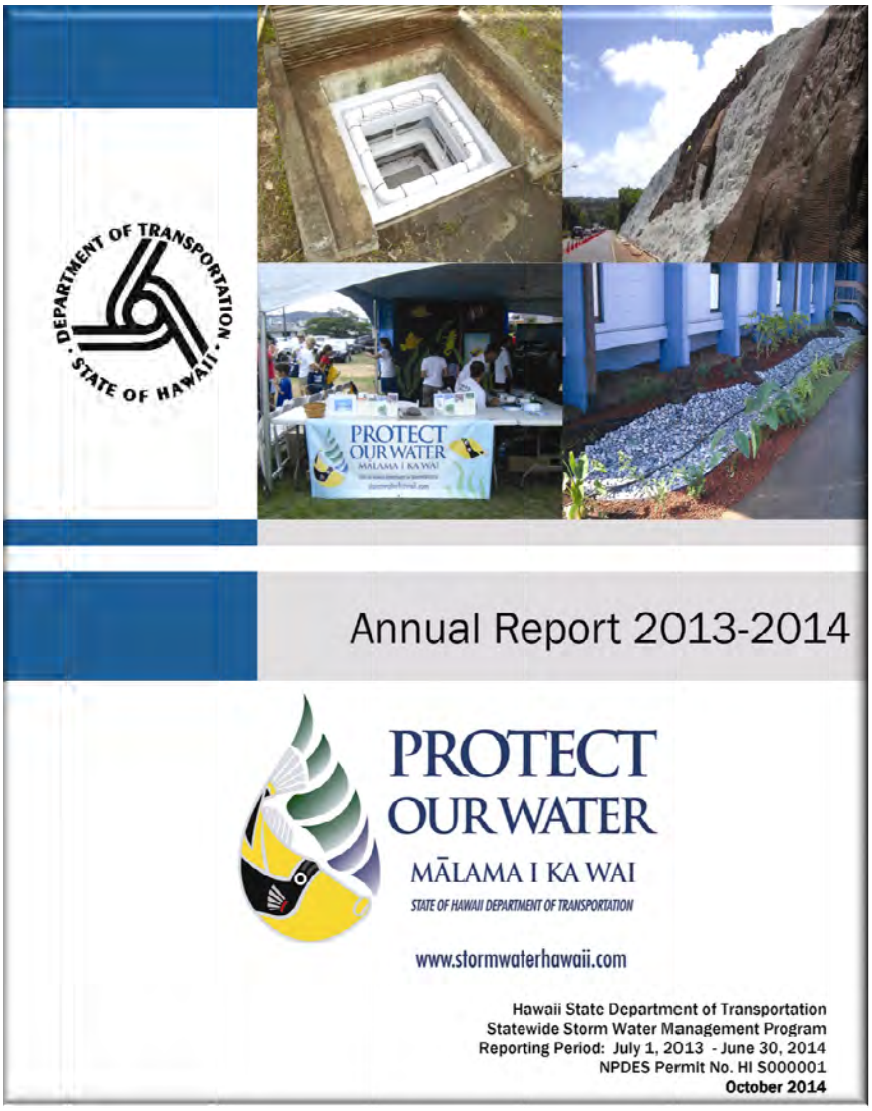
MS4 Permit Reference	SWMPP Section
Part G.1.a *The Permittee shall submit the Annual Report by October 31st of each year in pdf format (minimum 300 dpi) in accordance with Part A.6. The Annual Report shall cover the past fiscal year. The Annual Report for the fiscal year prior to the expiration date of the permit shall serve as the permit's renewal application. Submittal of the renewal application shall include a $1,000 filing fee.* (Note: The reference to Part A.6 in this requirement is an error in the MS4 Permit, which is intended to reference Part A.7.)	Section 14.1
Part G.1.b *The Permittee shall revise its SWMP to include a description of reporting procedures and activities, including schedules and proposed content of the Annual Reports such that, at a minimum, the following is reported for each storm water program component in each Annual Report:*	Section 14.1 Section 14.2
Part G.1.b.(1) *Requirements - Describe what the Permittee was required to do (describe status of compliance with conditions of this permit and other commitments set forth in the SWMP).*	Section 14.1 Section 14.2
Part G.1.b.(2) *Past Year Activities - Describe activities over the reporting period in comparison to the requirements, including, where applicable, progress accomplished toward meeting specific measurable goals, standards and milestones or other specific performance requirements. When requirements were not fully met, include a detailed explanation as to why the Permittee did not meet its commitments for the reporting period. Also describe an assessment of the SWMP, including progress towards implementing each of the SWMP program components.*	Section 14.2

MS4 Permit Reference	SWMPP Section
Part G.1.b.(3) *Future Activities - Describe planned activities, including, where applicable, specific activities to be undertaken during the next reporting period toward accomplishing specific measurable goals, standards and milestones or other specific performance requirements.*	Section 14.2
Part G.1.b.(4) *Resources - Report on the status of the Permittee's resource base for implementing this NPDES permit during the applicable reporting period and an estimate of the resources over and above those required in the current reporting period that will be required in the next reporting period.*	Section 14.2
Part G.1.c *Modifications - In each Annual Report, the Permittee shall describe any modifications made to the SWMP and implementation schedule during the past year, including justifications. The Permittee shall also describe major modifications made to the Permittee's MS4, including, but not limited to, addition and removal of outfalls, drainage lines, and DOT-HWYS facilities.*	Section 14.1
Part G.1.d *Program Effectiveness Reporting - Within one (1) year of the effective date of the permit, the Permittee shall submit to DOH a written strategy for determining effectiveness of its SWMP. The strategy shall include water quality monitoring efforts as well as program implementation information and other indicators. The Permittee shall include an assessment of program effectiveness and identification of water quality improvements or degradation beginning with the 2nd Annual Report.*	Section 14.1

Table 14-2. Consent Decree Requirements for the Reporting Program

Consent Decree Reference	SWMPP Section
Pg 20, Section V.10.d *HDOT shall revise its SWMPP to include a discussion of specific activities to be undertaken in order to assess BMP effectiveness, including an evaluation of success in achieving measurable goals and a discussion of available and applicable water quality monitoring data. Assessments of program effectiveness shall be conducted at least annually and be reported in HDOT's End-of-Year Report.*	Section 14.2
Pg 20, Section V.10.e *HDOT shall revise its SWMPP to include a description of reporting procedures and activities, including schedules and proposed content of semiannual and annual reports such that, at a minimum, the following is reported for each storm water program element (BMP Program) in each Mid-Year and End-of-Year Report:* *(1) Requirements: description of what HDOT was required to do (permit requirements, EPA or DOH order for compliance, or other commitments set forth in the SWMPP and this Consent Decree);* *(2) Past Year Activities: description of activities over the reporting period including, where applicable, progress accomplished toward meeting specific measurable goals or other specific performance requirements and including, when requirements were not fully met, a detailed explanation as to why HDOT did not meet its commitments for the reporting period;* *(3) Future Activities: description of planned activities including, where applicable, specific activities to be undertaken during the next reporting period toward accomplishing specific measurable goals or other specific performance requirements;* *(4) Resources: report on the status of HDOT's resource base for implementing both this Consent Decree and HDOT's NPDES permit during the applicable reporting period, together with an estimate of the resources over and above those required in the current reporting period that will be required in the next reporting period.* (Note: On March 26, 2014, DOT-HWYS notified DOH and	Section 14.2

Consent Decree Reference	SWMPP Section
EPA that Mid-Year Reports will no longer be submitted. Per Part G.1.a of the MS4 Permit, DOT-HWYS is only required to submit Annual Reports.)	
Pg 29, Section V.14 *For the first year after entry of this Consent Decree, HDOT shall submit quarterly reports to EPA and DOH that shall include the following information for the past quarter. The first quarterly report shall be due 60 days after the end of the first complete quarter following entry of this Consent Decree. All other reports shall be submitted no later than 45 days after the last day of each calendar quarter. After submittal of the fourth quarterly report referenced above HDOT shall, for the duration of this Decree, submit semiannual reports. Semiannual reports shall be due on August 31st and February 28th and shall cover the six month periods ending on June 30th and December 31st, respectively. HDOT may submit separate quarterly and semiannual reports for the Airports and Highways Divisions.*	Section 14.1



Annual Reports provide a detailed description of the storm water management activities conducted by each program element.

14.0 Program Organization

To fulfill the requirements of the MS4 Permit and the Consent Decree, the following organizational structure has been established for the Reporting Program.

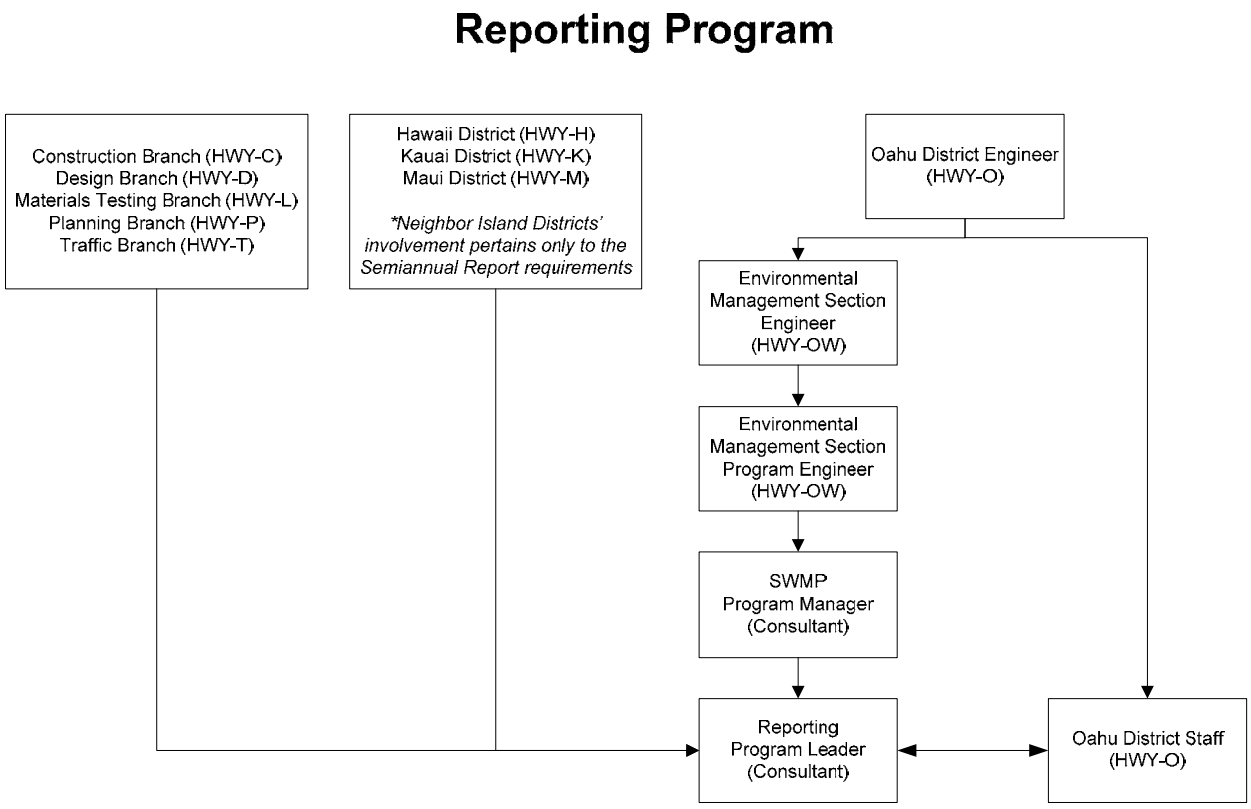


Figure 14-1. Reporting Program Organizational Chart

14.1 Addressing Requirements

DOT-HWYS is required by Part G.1.a of the MS4 Permit to submit an Annual Report to DOH and USEPA by October 31st of each year. In accordance with Part A.7 of the MS4 Permit, Annual Reports are submitted to DOH in pdf format through the e-Permitting Portal website, as well as through the mail in compact disc format. Hard copies are mailed to the USEPA in accordance with Part A.8 of the MS4 Permit. Annual Reports cover a reporting period from July 1st of the previous year to June 30th of the submittal year.

Parts G.1.b.(1) through G.1.b.(4) of the MS4 Permit and Section V.10.e of the Consent Decree dictate the information that DOT-HWYS is required to include in Annual Reports. The content included in Annual Reports will be discussed in Section 14.2.

As required by Part G.1.c, in conjunction with Part D.3, of the MS4 Permit, Annual Reports include a description of any modifications made to the SWMPP and/or implementation schedule,

and any major modifications made to the MS4. Modifications to the MS4 may include structural changes to the drainage system or DOT-HWYS facilities, as well as the addition or removal of MS4 drainage structures from the GIS database.

In accordance with Part G.1.d of the MS4 Permit, DOT-HWYS submitted a written strategy for determining the effectiveness of the SWMP (Program Effectiveness Strategy) (Appendix L.1) to DOH within one year of the effective date of the MS4 Permit. DOT-HWYS will include an assessment of program effectiveness and an identification of water quality improvements or degradation beginning with the 2nd Annual Report.

Table 14-3 summarizes additional information DOT-HWYS is required to include in Annual Reports, as necessary.

Table 14-3. Additional MS4 Permit Reporting Requirements

MS4 Permit Reference	Action
Part D.1.a.(3)	Summary of the public education evaluation results
Part D.1.d.(1)	Revisions to construction standards
Part D.1.f.(1).(ii)	Revisions to priority-based schedules for street sweeping/drain cleaning
Part D.1.f.(1).(iv)	Annual updates to the implementation schedule of the Retrofit Action Plan
Part D.1.f.(1).(v)	Summary of trash load reduction actions (types of actions, levels of implementation, the total trash loads and dominant types of trash removed by its actions, and the total trash loads and dominant types of trash for each type of action)
Part D.1.f.(3).(iv)	Status report on the implementation schedule for the Outfall Erosion Action Plan
Part D.1.g.(4)	Modified Industrial and Commercial Facility and Activity Plan
Part D.3.a	Report and justify all other modifications made to the SWMP
Part D.3.b	All alterations and/or additions to the DOT-HWYS MS4
Part G.3.a	Amendments to the City MOU
Part G.3.b	Amendments to the DOH MOU

Any amendments to the MOU between DOT-HWYS and the CCH (Appendix A.4) or the MOU between DOT-HWYS and DOH (Appendix A.3) will be summarized in the Annual Report, as required by Part G.3 of the MS4 Permit.

In addition to Annual Reports, DOT-HWYS submits semiannual reports to DOH and USEPA, in accordance with Section V.14 of the Consent Decree. Semiannual reports are submitted by August 31st and February 28th of each year and cover six month reporting periods ending on June 30th and December 31st, respectively. Upon termination of the Consent Decree, submission of semiannual reports will no longer be required.

Annual Monitoring Reports, which are required by Part G.2 of the MS4 Permit, are discussed in the Monitoring Program Chapter of this SWMPP (Chapter 12).

14.2 Annual Report Content

The requirements provided in Tables 14-1, 14-2, and 14-3 will be addressed in Annual Reports in accordance with the timeframes and circumstantial guidelines stipulated by the MS4 Permit and Consent Decree, as they pertain to each requirement.

The Annual Report chapters are organized by program element, as follows:

- Public Education and Outreach;
- Public Involvement/Participation;
- Illicit Discharge Detection and Elimination;
- Construction Site Runoff Control;
- Post-Construction Storm Water Management in New Development and Redevelopment;
- Pollution Prevention/Good Housekeeping;
- Industrial and Commercial Activities Discharge Management; and
- Water Quality Monitoring.

Each chapter in the Annual Report contains the following information:

- Requirements – This section describes what is required and DOT-HWYS' status of compliance with the MS4 Permit requirements.
- Past Activities – This section describes all DOT-HWYS' activities that were performed during the reporting period to meet the MS4 Permit requirements.
- Future Activities – This section describes planned activities, including specific activities to be undertaken during the next reporting period.
- Program Evaluation – This section reports on the progress of the program in comparison to performance measures provided in the *Monitoring Program Effectiveness* Section at the end of each SWMPP chapter. Graphical analysis, figures, and tables are used to facilitate assessment purposes.

The resources expended to implement the SWMP are detailed in the end of the Annual Report.

Annual Reports are utilized by program management to analyze the effectiveness of past SWMP activities and to guide an iterative approach to future decision making regarding resource allocation and program implementation.