

*Final Storm Water Pollution Control Plan
Kahului Baseyard*



Prepared For:
State of Hawai'i
Department of Transportation
Highways Division



Prepared By:



U.S. Army Corps of Engineers
Honolulu Engineer District

In association with:



Environet, Inc.

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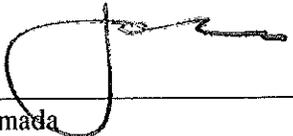
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Document: Kahului Baseyard

Storm Water Pollution Control Plan

Date of Issue: June 2009

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Jiro A. Sumada
Deputy Director
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JUN 15 2009

Date

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**State of Hawai'i
Department of Transportation
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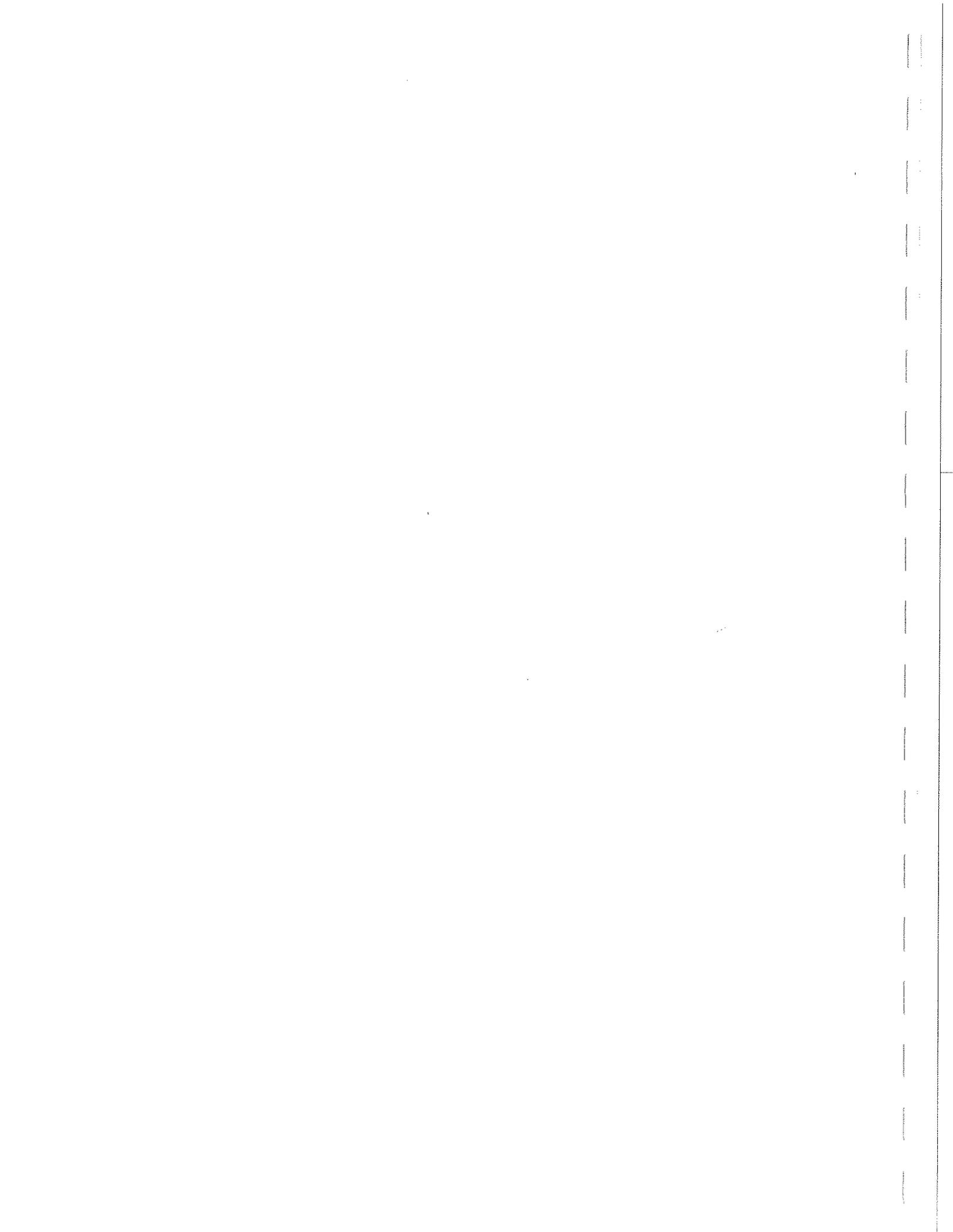


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List of Acronyms

AST	aboveground storage tank
BMP	best management practice
CCH	City and County of Honolulu
CFR	Code of Federal Regulations
CLP	EPA Contract Laboratory Program
COC	chain of custody
CWA	Clean Water Act
°C	degree Celsius
DMR	Discharge Monitoring Report
DOH	State of Hawai'i Department of Health
DOT	State of Hawai'i Department of Transportation
EC	Emergency Coordinator
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FWPCA	Federal Water Pollution Control Act
HAR	Hawai'i Administrative Rules
HEER	Hazard Evaluation and Emergency Response
Highways	Highways Division
µg/L	micrograms per liter
mg/L	milligrams per liter
MSDS	material safety data sheet
NA	not applicable
NPDES	National Pollutant Discharge Elimination System
NOAA	National Oceanic Atmospheric Administration
pH	potential of hydrogen
PPE	personal protective equipment
QA/QC	quality assurance/quality control
SWMP	Storm Water Management Program
SWPCP	Storm Water Pollution Control Plan
U.S.	United States

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Section 1 Introduction

In accordance with the requirements of the National Pollutant Discharge Elimination System (NPDES), the State of Hawai'i Department of Transportation (DOT), Highways Division (Highways) is required to develop a site specific Storm Water Pollution Control Plan (SWPCP) for the Kahului Baseyard located at 650 Palapala Drive in Kahului, Maui, Hawai'i. This document presents procedures to minimize the discharge of pollutants in storm water runoff from the Kahului Baseyard and to maintain compliance with the NPDES permit conditions.

1.1 Background

In 1972, Congress passed legislation under the Federal Water Pollution Control Act (FWPCA) creating the NPDES, which set the direction of water pollution control in the United States (U.S.). The NPDES program established permitting requirements for anyone wishing to discharge pollutants to the waters of the U.S. The discharge permit sets limits on the composition of discharge and the concentration of pollutants in the discharge.

According to studies on water quality, storm water discharges were identified as being a significant source of water pollution. To address this problem, the FWPCA was amended by the Clean Water Act (CWA) of 1977 to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The CWA provided the U.S. Environmental Protection Agency (EPA) with the authority to control point source storm water discharges that convey pollutants to the waters of the U.S., and also required each state to establish water quality standards for its surface waters. In 1987, the CWA was amended by the Water Quality Act which gave EPA authority to issue permits for storm water discharges associated with industrial activities, and discharges from large and medium municipal separate storm sewer systems. On November 16, 1990, the EPA issued regulations (contained in 40 Code of Federal Regulations (CFR) Parts 122, 123, and 124) establishing permit application requirements for these storm water discharges. The DOT Highways has facilities that engage in industrial activities, and therefore, is required to comply with the regulations covering storm water discharges.

The State of Hawai'i has been delegated NPDES permitting authority by the EPA. Through such delegation, the State of Hawai'i, Department of Health (DOH) is responsible for administering the NPDES program throughout Hawai'i in the same manner that the EPA's regional offices administer the program in states where permitting authority has not been delegated. On October 29, 1992, the DOH put rules into effect to implement the storm water program in the Hawai'i Administrative Rules (HAR) Title 11, Chapter 55, Water Pollution Control (Chapter 11-55), which includes NPDES permit requirements. HAR Title 11 Chapter 55 was revised and signed by Governor Linda Lingle on October 10, 2007 and the rules were effective October 22, 2007.

The NPDES program requires the DOT Highways to have a permit for discharge of storm water to State waters. This permit establishes discharge limitations, receiving water limitations, and specific provisions, including the requirement for the DOT Highways to develop and implement SWPCPs for its facilities with industrial activities.

1.2 Purpose

The primary objective of this SWPCP is to minimize the discharge of pollutants in storm water runoff from the Kahului Baseyard and to acquire a NPDES permit for discharge of storm water to State waters. This SWPCP was developed in accordance with the State's General Permit Authorizing Discharges of Storm Water Associated with Industrial Activities (HAR Chapter 11-55, Appendix B); as defined in 40 CFR §122.26(b)(14)(i) through §122.26(b)(14)(ix) and §122.26(b)(14)(xi). This SWPCP is designed to: (1) characterize the site; (2) identify potential pollutants at the site; (3) describe measures that shall be taken to prevent pollution of storm water discharge; (4) develop a storm water monitoring plan; and (5) implement and evaluate mitigation measures.

Section 2 Site Description

The Kahului Baseyard is located on the northern coast of Maui, at 650 Palapala Drive in Kahului. The baseyard is located approximately 0.75 mile southwest of the Kahului Airport. The baseyard consists of approximately 5.2 acres of land. The baseyard is bordered to the north by Mua Street, to the east by Kuleana Street, to the south by undeveloped land and Haleakalā Highway, and to the west by Palapala Drive. The baseyard includes an office building, maintenance office and shop, a repair shop, a vehicle and equipment wash shed, a truck storage shed, and a used oil storage area. Two fiberglass double walled aboveground storage tanks (ASTs) with 2,000 gallon capacities (one diesel and one gasoline) are currently in service and are located in the east portion of the site.

A site plan of the Kahului Baseyard is shown in Figure 2-1.

Facility Supervisor: Stephen Rodgers
Facility Address: 650 Palapala Drive
 Kahului, HI 96732
Telephone Number: (808) 873-3535

2.1 Facility Operations

The site is primarily used as a baseyard for DOT Highways maintenance operations. Activities conducted at the site include the following:

- vehicle parking;
- fueling of maintenance vehicles and equipment;
- washing of maintenance vehicles and equipment;
- loading and mixing of herbicides;
- storage of sand, gravel, asphalt, traffic signs, and building materials;
- service and storage of maintenance equipment; and
- storage of fuel, motor oil, hydraulic fluid, lubricant, solvents, herbicides, and small quantities of cleaning supplies.

Specifically, outdoor areas are used for vehicle parking, vehicle and equipment fueling, vehicle and equipment washing, loading and mixing of herbicides, and building material storage.

Vehicle parking is conducted in the asphalt paved areas of the site.

Fueling of maintenance vehicles and equipment with diesel and gasoline fuel is conducted at ASTs located at the east portion of the site. The ASTs have a secondary containment sump and

traffic bollards are installed around the ASTs. Spill response materials are located near the ASTs.

Washing of maintenance vehicles and equipment without soap is conducted near the vehicle and equipment wash shed (Figure 2-1). The wash area is asphalt and concrete paved, and is uncovered. The area is curbed on three sides (north, east, and south sides) with the west side being uncurbed to allow vehicles and equipment into the wash area. Wash water flows into a sump located in the center of the wash area. The vehicle and equipment wash system is equipped with an underground oil/water separator. Processed water from the oil/water separator discharged into the sanitary sewer system.

Maui highway landscape areas are maintained with application of herbicides. Loading and mixing of herbicides are conducted in an open area near the truck storage shed (Figure 2-1).

A stockpile of sand, gravel, and asphalt are stored in an aggregate storage area located in the south side of site near the truck storage shed. The area is asphalt paved without covering and consists of three concrete lined cells. Sediment booms are placed around the sand stockpile to trap silt and sediment. The asphalt stockpile is covered with tarps (Figure 2-1).

Small engine landscape maintenance equipment is stored inside shipping containers west of the maintenance office and shop. Heavy equipments and vehicles are stored in the open storage areas at the east and south sides of the baseyard or in the truck storage shed. Some traffic signs, equipment batteries, and empty 55 gallon drums are also stored in the truck storage shed.

Service of maintenance vehicles and equipment is conducted in the repair shop. Servicing of maintenance vehicles and equipment is conducted by an onsite mechanic and includes all repairs and the use of solvents. The oil generated during the maintenance is collected into a pan placed under the vehicle maintenance track within the repair shop. A used oil AST with a capacity of 300 gallons is located in the used oil shed near the truck storage shed. Spill response materials are located within the repair shop and used oil AST.

Manufacture and repair of traffic signs is conducted in the metal shop located within the maintenance office and shop.

Herbicides are kept in a locked room within the maintenance office and shop. Other chemicals used and stored at the site include gasoline fuel in a 2,000 gallon AST, diesel in a 2,000 gallon AST, motor oil in several 55 gallon drums, hydraulic fluid in several 55 gallon drums, used oil in a 300 gallon AST, and small quantities of lubricants, solvents, paints, and cleaning agents. Small quantities of fuel, hydraulic fluid, lubricants, and solvents are stored inside flammable material storage cabinets located within the maintenance office and shop and repair shop.

Trash is temporarily stored in covered garbage bins distributed throughout the baseyard. Trash is disposed of by a private contractor on a regular basis.

2.2 Site Drainage

There are two drainage areas located at the site. Drainage Area 1 consists of asphalt and concrete paved areas; Drainage Area 2 consists of the unpaved areas of the site.

There is one drainage structure within Drainage Area 1 which is an asphalt paved drainage swale. It is located along the north perimeter of the site (Figure 2-1). The baseyard is separated into an east section and west section by a chain link fence with an open space for vehicular traffic. The east section includes the maintenance office and shop, the repair shop, the ASTs, the vehicle and equipment wash shed, the truck storage shed and the used oil storage area. The west section includes the office building. The storm water at the east section generally flows from south to north and is collected into the drainage swale flowing westward. The water in the swale is discharged into Mua Street. The storm water at the west section flows northward and westward, and is discharged into Palapala Drive at the northwest corner of the site. Sediment/oil retention booms are placed at the two ends of the swale and also near the open space of the chain link fence to trap sediments and oil. Storm water from Mua Street flows onto Palapala Drive and then onto Keolani Place, approximately 125 yards west of the intersection of Keolani Place and Palapala drive. The canal (Kanaha Pond) in which the storm drain empties into flows northeast toward the Pacific Ocean.

Storm water from Drainage Area 2 primarily dissipates into the ground or flows offsite into undeveloped land at the south of the site.

2.3 *Climate*

The Kahului Baseyard is located on the southwest shore of the island of Maui. The overall climate on Maui is characterized by mild temperatures, cool and persistent tradewinds, a rainy winter season from October through April, and a dry summer season from May through September. The highest mean annual rainfall occurs near the summit of Pu'u Kukui Mountain and exceeds 360 inches. Along the coastal areas of Maui near the site, mean annual rainfall is less than 20 inches.

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Section 3 Potential Pollutants and Site Runoff

Potential pollutant activities/sources from the facility include small spills, leaks, or drips of gasoline, diesel, oils, lubricants, solvents, herbicides and cleaning agents associated with vehicle parking; fueling of maintenance equipment; service and storage of maintenance equipment; washing of vehicle and maintenance equipment; loading and mixing of herbicides; and storage of petroleum products, cleaning supplies and herbicides. These activities/sources have the potential to release pollutants offsite and ultimately into a surface water body.

3.1 Potential Pollutants

Potential pollutants derived from the activities conducted at the site include various petroleum products, herbicides, traces of heavy metals, sand, and solid waste debris.

A list of potential pollutant sources has been provided below:

- one 2,000 gallon capacity diesel AST;
- one 2,000 gallon capacity gasoline AST;
- several 55 gallon capacity motor oil drums in the repair shop;
- several 55 gallon capacity hydraulic fluid drums in the repair shop;
- one 300 gallon capacity used oil AST;
- maintenance equipment containing fuel;
- small quantities of petroleum products (gasoline, motor oil, hydraulic fluid), lubricants, solvents, paints, and cleaning products stored in either the original manufacturer's containers or in fuel containers with a five gallon capacity or less, and stored in the maintenance office and shop and repair shop;
- herbicides stored and loaded at the site;
- detergents from building and vehicle washing; and
- solid waste debris, gravel, sand, and asphalt stored on site.

3.2 Routine Runoff

Generally, routine runoff from the facility may consist of herbicides, sediment, dust, and silt that may have been deposited either by the rain, wind or from vehicular traffic. Herbicides, sediment, dust and silt may affect water quality parameters such as total suspended solids and turbidity. As is expected from areas with a baseyard and vehicular activity, the potential for minor amounts of petroleum products and herbicides to enter runoff exists.

3.3 Non-Routine Runoff

Non-routine runoff may be a result of spillage, leaks, fuel dispensing, or other emergency conditions (e.g., major equipment leaks). However, such incidents will be addressed immediately as described in the Spill Prevention and Response Plan (see Section 4.2).

Potential non-routine runoff may result from the following sources:

- fueling of vehicle or equipment;
- vehicle washing;
- facility washing;
- rubbish and litter;
- improper disposal of chemicals;
- chemical storage container failure;
- improper storage of chemicals (e.g., container deterioration, exposure to rain, no secondary containment);
- improper storage of raw materials;
- application and use of chemicals;
- major equipment leaks; and
- poor spill response management.

3.4 Historical Pollution Sources

There are no historical pollution sources identified for the site. Operations conducted at the site do not include the generation, use, or storage of hazardous chemicals that are listed in Section 313 of the Emergency Planning & Community Right-to-Know Act (EPCRA). Therefore, the site is not subject to the requirements of EPCRA.

Section 4 Pollution Control Program

The most cost-effective method to reduce or eliminate pollutants in storm water runoff is utilization of proper management practices, which promote pollution prevention. However, in cases where a release does occur, the implementation of sound spill response procedures can preclude discharge of chemical constituents to storm water and ultimately to surface water bodies. This section presents the best management practices (BMPs) that should be implemented at the Kahului Baseyard along with spill response procedures should a release occur.

4.1 Best Management Practices

By using proper management techniques and practices it is possible to improve control of the identified potential sources of pollutants and reduce the number of spills/releases to the storm water system. BMPs applicable to the Kahului Baseyard have been attached as Appendix A. The BMPs have been adapted from DOT Highway's December 2003 Storm Water Management Program (SWMP) Plan and the City and County of Honolulu (CCH), Department of Environmental Services, "Best Management Practices Manual for Construction Sites in Honolulu," May 1999.

The following table summarizes potential sources that may affect runoff and the BMPs to be utilized to minimize affected runoff from the Kahului Baseyard:

Table 4-1: Summary of Best Management Practices

Potential Sources of Affected Runoff	Potential Pollutants	BMP
Facility washing	asphalt mix, diesel, gasoline, hydraulic fluid, grease, oil, solvents, lubricants, traces of heavy metals (cadmium, chromium and lead), herbicides, soaps, and debris	<ul style="list-style-type: none"> • A1: Housekeeping Practices • A4: Material Storage
Equipment washing and maintenance	diesel, gasoline, hydraulic fluid, grease, oil, solvents, lubricants, herbicides, traces of heavy metals (cadmium, chromium and lead), herbicides, soaps and debris	<ul style="list-style-type: none"> • A1: Housekeeping Practices • A2: Vehicle and Equipment Washing, Maintenance and Repair
Major equipment leaks	diesel, gasoline, hydraulic fluid, oil and traces of heavy metals (cadmium, chromium and lead)	<ul style="list-style-type: none"> • A1: Housekeeping Practices • A5: Spill Prevention and Response
Fueling of equipment	diesel, gasoline, hydraulic fluid, grease, oil, and traces of heavy metals (cadmium, chromium and lead)	<ul style="list-style-type: none"> • A1: Housekeeping Practices • A3: Vehicle and Equipment Fueling
Improper storage of chemicals (e.g., container deterioration, exposure to rain, no secondary containment)	asphalt mix, diesel, gasoline, hydraulic fluid, grease, oil, solvents, lubricants, herbicides, and traces of heavy metals (cadmium, chromium and lead)	<ul style="list-style-type: none"> • A1: Housekeeping Practices • A4: Material Storage • A5: Spill Prevention and Response

Potential Sources of Affected Runoff	Potential Pollutants	BMP
Chemical storage container failure	diesel, gasoline, hydraulic fluid, grease, oil, solvents, lubricants, herbicides, and traces of heavy metals (cadmium, chromium and lead)	<ul style="list-style-type: none"> • A1: Housekeeping Practices • A4: Material Storage • A5: Spill Prevention and Response
Improper disposal of chemicals	diesel, gasoline, hydraulic fluid, grease, oil, solvents, lubricants, herbicides, and traces of heavy metals (cadmium, chromium and lead)	<ul style="list-style-type: none"> • A1: Housekeeping Practices • A6: Hazardous Waste Management
Rubbish storage containers	debris	<ul style="list-style-type: none"> • A1: Housekeeping Practices
Application and use of chemicals	grease, oil, solvents, lubricants, herbicides, and traces of heavy metals (cadmium, chromium and lead)	<ul style="list-style-type: none"> • A1: Housekeeping Practices • A5: Spill Prevention and Response • A7: Chemical Application

Notes:
A1 means Appendix A1

In addition, oil and sediment trap booms should be placed at the outfalls and open storage areas for such materials as sand at the baseyard.

4.2 Spill Prevention and Response Plan

Spill prevention and control practices are developed to provide site-specific information as well as prevention controls to eliminate the release and spread of pollutants handled and/or stored on-site. Site-specific practices include:

- specification of material handling procedures and storage requirements;
- specification of proper equipment operation to minimize risk of spillage;
- specification of equipment inspection and maintenance to minimize failure and risk of spillage;
- implementation of proper spill response procedures (included in this SWPCP below);
- visual inspection of paved areas for spills and leaks on a timely basis;
- provide spill-response supplies and equipment near the fueling area and in areas where vehicle and equipment maintenance is performed; and
- prompt removal of any spills or leaks.

4.2.1 Safety Measures

Safety measures include those specific to environmental issues, such as spill prevention, and general safety practices that may lead to prevention of accidents that could result in a release. General safety measures include traffic safety, vehicle/equipment maintenance practices, and fueling practices.

Emergency contact information is provided in Table 4-2.

4.2.2 Responsible Personnel and Emergency Contact Procedures

The Facility Supervisor will be responsible for training all facility personnel on spill response procedures and the use of spill kit components. The responsible parties will implement the plan, and following a spill, evaluate whether the plan was successful or unsuccessful in responding and how it can be improved. Toxic releases are not expected at the facility; therefore, this plan will address only spills of material associated with the storage and routine maintenance of DOT-owned vehicles and equipment.

Table 4-2: Emergency Contact Information

Contact	Telephone Number
Emergency (Medical Assistance, Fire Department, Police Department) <ul style="list-style-type: none"> If it is an emergency or life-threatening situation 911 should be called first. 	911
Facility Supervisor/Contact <ul style="list-style-type: none"> The Facility Supervisor/Contact should be notified immediately of all spills, leaks and releases that occur at the site. 	(808) 873-3535
DOT Highways District Supervisor <ul style="list-style-type: none"> The DOT District Supervisor should be notified immediately of all spills, leaks and releases that occur at the site so that they can assist in response and notify other entities, if required. 	(808) 873-3535

4.2.3 Spill Containment and Remediation

Small spills of oil (less than 25 gallons), which are capable of being cleaned up within 72 hours and do not threaten ground or surface waters, will be cleaned up promptly using absorbent materials or other acceptable practices, without disrupting facility operations. Daily inspections of the facility will identify any small spills, which will be addressed immediately.

Any spill, leak or release of hazardous substances greater than their reportable quantity as defined in HAR Chapter 11-451-6 (e.g., any spill, leak or release of petroleum products greater than 25 gallons and any spill, leak or release of petroleum products less than 25 gallons that is not remedied or contained within 72 hours, or any sheen observed on surface waters) must be reported to the DOH Hazard Evaluation and Emergency Response (HEER) Office. This requirement is established in the *HAR 11-45, State Contingency Plan*.

In the event of a large or uncontrolled release, the Facility Supervisor shall act as the Emergency Coordinator (EC) until relieved by the appropriate DOT Highways personnel.

In the event of any spill, employees should follow the guidelines listed below and in the Spill Prevention and Response BMP (Appendix A5), where practicable.

Step 1: STOP WORK

- Shut down pumps and equipment and secure valves and work operations.
- Shut down any nearby propane/fuel/compressed gas tanks.
- Move away from the affected area.

Step 2: ASSESS THE SITUATION

- Check the scene for safety.
- Determine what happened and the hazards present.
- Determine the number of victims and their condition.

Step 3: CALL THE AUTHORITIES

- Call on duty site manager.
- If on duty site manager is not available, call 911 for emergency situations.
- Notify supervisor and alert others in the facility of the incident via:
 - voice;
 - hand-held radios; and/or
 - other effective means.

Step 4: CONTROL THE SCENE

- Keep non-essential employees away from the spill area.
- Evaluate the situation and decide whether to implement a "fight or flight" (stay and contain the hazard or evacuate for personal safety) response. This should be done by the EC or other appropriate DOT Highways personnel by gathering the following information, if it can be done safely.
 - your name, location, and how you may be reached;
 - location of the release;
 - type, quantity, and description of the release;
 - hazards of the release;
 - type of media affected (soil, asphalt, concrete, etc.);
 - rate of the release;
 - migratory direction of the release;
 - potential for fire or explosion;
 - potential for human exposure;
 - potential for migration to surface water (ocean, storm drains, etc.);
 - never subject yourself or other personnel to unreasonable risk of illness or injury; and
 - remove all injured persons from the area of danger and render first aid.
- If the decision is to "fight," personnel are to don the appropriate personal protective equipment (PPE).
- Eliminate all possible sources of ignition/detonation such as vehicle engines, welding and grinding operations, and smoking.

- Remove or isolate ignitable and incompatible materials from the area of the release if the spill is of a flammable substance.
- Locate, stop, and contain the source of the release by:
 - closing, checking, repairing, plugging valves, and
 - plugging and patching holes.
- Confine the release to prevent further migration by using methods from the following list.
 - diking and berming using sand, soil, or other inert material;
 - sealing storm drains with plastic and sandbags;
 - placing granular sorbent or absorbent pads and booms;
 - diverting the chemicals from entering drains, manholes, streams, etc.; and
 - implementing retention techniques.
- Call the facility spill response contractor for cleanup and removal of accumulated product resulting from the release. The contractor will remove spilled product and properly dispose of the material in accordance with applicable state and federal regulations.
- If the release is not readily and easily controlled, evacuation may be necessary.
- If the decision is the "flight" option, the EC or other appropriate DOT Highways personnel is to immediately alert and evacuate all personnel.
- Evacuate all personnel along the nearest evacuation route to the designated assembly area.
- Implement proper decontamination procedures on vehicles, affected media, PPE, and equipment.
- Package all used decontamination solution, disposable PPE, and affected media in U.S. DOT - specified containers.
- Label, transport, and dispose of hazardous materials/waste in accordance with applicable government regulations.

Appendix B provides a Spill Response Documentation form that will be completed in accordance with Section 6.3 of this SWPCP.

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Section 5 Storm Water Monitoring Program

Periodic monitoring of storm water will enable the DOT Highways to make informed decisions regarding pollution prevention and control strategies at the site. Storm water monitoring should be conducted annually in accordance with the provisions of HAR 11-55 Appendix B; however, monitoring for this facility shall be conducted in accordance with the site-specific Storm Water Monitoring Plan. Samples of storm water runoff will be collected from a designated storm water monitoring site, as determined from site conditions, drainage maps, and site activities. The storm water monitoring site shall contain storm water that is representative of the overall storm water discharge of the site. Table 5-1 presents the annual storm water monitoring parameters.

In addition to the collection of storm water samples for laboratory analysis, the storm water monitoring program also includes the collection of field data to assist in the determination of storm water quality at the site.

5.1 Representative Storm Event

Storm water sampling should only occur during representative storm events, which is defined as a rainfall that accumulates more than 0.1 inch of rain and occurs at least 72 hours after the previous measurable rainfall (greater than 0.1 inch) (HAR Chapter 11-55-01m).

The National Oceanic and Atmospheric Administration (NOAA), National Weather Service Forecast Office, Honolulu, Hawai'i (www.prh.noaa.gov/pr/hnl/) can be used to determine rainfall totals.

5.2 Sampling Equipment

The following is a list of sampling equipment that will be required for each storm water monitoring event:

- laboratory provided precleaned sample containers (Table 5-1);
- plastic bags, sample cooler, with ice or Blue Ice®;
- potential of hydrogen (pH) meter;
- rain gauge;
- filtration system;
- disposable nitrile gloves;
- marking pen and log book;
- paper towels; and
- first aid kit.

Sampling equipment will be acquired from scientific and laboratory suppliers and sampling equipment will be on-site well in advance of the sampling event.

Table 5-1: Sample Containers

Parameter	Container	Preservative	Quantity ¹	Holding Time
Total Nitrogen	500-milliliter polyethylene plastic bottles	Sulfuric acid; Cool 4°C	Composite 4 grabs at 15 minute intervals	28 Days
Ammonia Nitrogen	500-milliliter polyethylene plastic bottles	Nitric Acid, Cool 4°C		48 hours
Nitrate + Nitrite	250 milliliter polyethylene plastic bottles	Sulfuric acid; Cool 4°C		28 Days
Total Phosphorus	500-milliliter polyethylene plastic bottles	Sulfuric acid; Cool 4°C		28 Days
Turbidity	None. turbidity will be determined in the field using Horiba	NA		NA
Total Suspended Solids	1-liter plastic bottles	Cool 4°C		7 Days
pH	None. pH will be determined in the field using Horiba..	Not applicable (NA)	1 grab within 15 minutes	NA
Dissolved Oxygen	None. Dissolve oxygen will be determined in the field using Horiba.	NA		NA
Oxygen Saturation	None. Oxygen saturation will be determined in the field using Horiba.	NA		NA
Temperature	None. Temperature will be determined in the field using Horiba.	NA		NA
Salinity	None. Salinity will be determined in the field using Horiba.	NA		NA
Oil and Grease	1-liter amber glass bottles	Hydrochloric acid; Cool 4°C		28 Days
Lead	500-milliliter polyethylene plastic bottles	Nitric acid, Cool 4°C	Composite 4 grabs at 15 minute intervals	6 Months
Acenaphthene	1-liter amber glass bottles	Cool 4°C		40 Days
Fluoranthene	1-liter amber glass bottles	Cool 4°C		40 Days
Naphthalene	1-liter amber glass bottles	Cool 4°C		40 Days
Poly nuclear aromatic hydrocarbons	1-liter amber glass bottles	Cool 4°C		40 Days

Parameter	Container	Preservative	Quantity ¹	Holding Time
Benzene	40-milliter glass vials	Hydrochloric acid; Cool 4°	1 grab within 15 minutes	14 Days
Ethylbenzene	40-milliter glass vials	Hydrochloric acid; Cool 4°		14 Days
Toluene	40-milliter glass vials	Hydrochloric acid; Cool 4°		14 Days

Notes:

¹ A grab sample is collected during the first 15 minutes of the discharge. A composite sample is a combination of at least two (2) grab samples, collected at 15 minute intervals. The composite shall be flow proportional; either the time interval between each grab sample or the volume of each grab sample must be proportional to the total flow of storm water discharge flow since the collection of the previous grab sample. The Permittee may collect grab samples manually or automatically. Samples for analysis shall be collected during the first 15 minutes of the discharge and at 15-minute intervals thereafter for the duration of the discharge, as applicable. If the discharge lasts for over an hour, sample collection may cease. If the duration of the discharge event is less than 30 minutes, the grab sample collected during the first 15 minutes of the discharge shall be analyzed as a grab sample and reported toward the fulfillment of the composite sample specification. If the duration of the discharge event is greater than 30 minutes, the Permittee shall analyze two (2) or more grab samples as a composite sample.

5.3 Storm Runoff Sample Collection

Storm water samples will be collected from the sampling points shown in Figure 2-1. Samples will be collected during the first 15 minutes of the discharge and at intervals thereafter as shown on Table 5-1. For composite samples, if the rainfall stops after only one sample has been collected, then the sample will be analyzed as a grab sample. If two or more samples were collected, the sample shall be combined proportionally to make a composite sample. This composite shall be flow proportional based on the time of collection between samples or the volume of each aliquot added to the composite sample. The storm water flow will be calculated or estimated based on the collected rain gauge data. All storm water samples will be collected directly into laboratory provided pre-cleaned sample containers.

5.4 Sample Labeling and Chain of Custody

Sample logs will be maintained by the Facility Supervisor to provide records of the sample collection and storm water events, observations, and measurements during the collection.

Each sample container sent to the laboratory must have its own sample identification label. The following information will be included on the sample label:

- site name;
- sample number;
- date and time of sampling;
- initials of the sampling personnel;
- sample preservative used (if any); and
- type of analysis to be performed.

Chain of custody (COC) information will be maintained for samples during all phases of sample collection, transport, and receipt and internal transfer within the laboratory.

5.5 Sample Handling and Shipping

Immediately following collection, samples will be placed in an insulated cooler filled with ice for preservation. The cooler shall be kept at approximately 4 ± 2 °C with ice or Blue Ice® packs until submitted to the laboratory. Glass containers should be wrapped in bubble wrap to prevent breakage during shipment, and placed in an individual Ziploc bag.

Samples will be transported to the laboratory within 24 hours of collection. COC forms will be placed inside a Ziploc bag and placed inside the sample cooler. Coolers will then be sealed and delivered directly to the laboratory.

5.6 Sample Analysis

The following list of analytes was determined based on the existing site conditions and activities conducted at the site on a regular basis (Table 5-2). The laboratories selected to perform the analyses will have a quality assurance/quality control (QA/QC) program in place and will be evaluated to perform the selected analyses. All analyses will be conducted according to the guidance outlined in EPA Contract Laboratory Program (CLP), EPA SW-846. The laboratories selected must also use testing procedures that conform with federal regulations in 40 CFR 136.

Table 5-2: Storm Water Monitoring Parameters

Storm Water Discharge Parameter	Storm Water Discharge Limitation ¹	Type of Sample
Total Nitrogen (µg/L)	No limitation at this time. Only monitoring and reporting is required.	Grab/Composite
Ammonia Nitrogen (µg/L)	No limitation at this time. Only monitoring and reporting is required.	Grab/Composite
Nitrate + Nitrite (µg/L)	No limitation at this time. Only monitoring and reporting is required.	Grab/Composite
Total Phosphorus (µg/L)	No limitation at this time. Only monitoring and reporting is required.	Grab/Composite
Turbidity (NTU)	5.0	Grab/Composite
Total Suspended Solids (mg/L)	No limitation at this time. Only monitoring and reporting is required.	Grab/Composite
pH (standard units)	The pH value shall not deviate more than 0.5 units from ambient conditions and shall not be lower than 7.0 nor higher than 8.6	Grab - The facility shall measure pH within fifteen minutes of obtaining the grab sample.
Dissolved Oxygen (mg/L)	No limitation at this time. Only monitoring and reporting is required.	Grab
Oxygen Saturation (%)	No limitation at this time. Only monitoring and reporting is required.	Grab

Storm Water Discharge Parameter	Storm Water Discharge Limitation ¹	Type of Sample
Temperature (°C)	No limitation at this time. Only monitoring and reporting is required	Grab
Salinity (ppt)	No limitation at this time. Only monitoring and reporting is required	Grab/Composite
Oil and Grease (mg/L)	15	Grab - The facility shall measure oil and grease using EPA Method 1664, Revision A.
Lead (µg/L)	140	Composite
Acenaphthene (µg/L)	320	Composite
Fluoranthene (µg/L)	13	Composite
Naphthalene (µg/L)	780	Composite
Polynuclear aromatic hydrocarbons (µg/L)	Shall report any detected concentration greater than 0.01µg/L	Composite
Benzene (µg/L)	1,700	Grab
Ethylbenzene (µg/L)	140	Grab
Toluene (µg/L)	2,100	Grab

Notes:

¹ Parameter concentration levels shall not exceed the criteria listed in the table. Concentration levels that exceed the criteria shall be reported to the director as required in section 10(c) of HAR 11-55 Appendix B.

µg/L - micrograms per liter ;

NTU - nephelometric turbidity units

mg/L - milligrams per liter

°C - Celsius degree

ppt - parts per trillion

5.7 Field Data

In addition to the collection of storm water samples for laboratory analysis, the following field data will be collected for each storm water monitoring event.

Site Specific Information -- Site location, date, monitoring personnel, type of equipment used, starting and ending times of the storm event, starting and ending times of the sample collection event, sample collection times, date of the previous 0.1 inch storm event, drainage area, rainfall intensity (as determined from rain gauge), and ground surface type.

Observations of Storm Water -- Visual observations of the storm water for signs of sedimentation, debris, and petroleum sheens. Olfactory observations of the storm water for chemical and petroleum odors.

Inspection of Receiving State Waters -- The storm water sampling activity shall include an inspection of the receiving state waters at the outfall to detect any apparent violations of the basic water quality criteria as specified in HAR Section 11-54-4.

5.8 Reporting Requirements

Storm water monitoring results shall be submitted to the Director of Health for the DOH Clean Water Branch. Results shall be submitted at least annually and no later than 60 days after the end of each monitoring year. The results must be reported on a NPDES Discharge Monitoring Report (DMR) Form (Appendix C). In addition to the DMR, the laboratory analytical data reports for all samples collected; quality assurance/quality control data; field data described above; any additional pollution control strategies to be implemented based on the monitoring results; and all field notes shall be included in the submittal. If storm water samples are not collected for a particular monitoring year, the DMR shall be completed indicating such. Storm water monitoring results submittals shall be delivered to:

Director of Health
Clean Water Branch
Environmental Management Division
State Department of Health
P.O. Box 3378
Honolulu, HI 96801-3378

If monitoring results exceed the effluent limitations listed in Table 5-2, an oral report shall be made to the DOH, Clean Water Branch via telephone (808) 586-4309 during normal business hours, as soon as the results become available, detailing the suspected origin or cause of the non-compliance and measures which will be taken to prevent re-occurrence. For after business hours, the non-compliance may be reported to the Hawai'i State Hospital Operator (808) 247-2191.

Section 6 SWPCP Implementation

Implementation steps for this SWPCP include: (1) the training of employees; (2) annual site inspections; (3) completion of documentation; and (4) revisions to this SWPCP.

6.1 Employee Training Program

Employee training programs are used to inform personnel, at all levels of responsibility, of the processes and materials with which they are working, the health and safety hazards, the best management practices for preventing releases, and the procedures for responding properly and rapidly to releases of potential pollutants. The important aspects of this control measure include the following actions.

- Training and retraining sessions held at least on an annual basis to assure adequate understanding of training goals and objectives may be conducted as a part of routine staff meetings. New employees will be trained on procedures of the SWPCP as part of their safety orientation.
- Training for regular employees will vary from monthly to annually and is the responsibility of the facility supervisors. At a minimum, the following topics will be reviewed with regular employees at least annually:
 - potential pollutants (Section 3.1);
 - past spills or releases and their causes;
 - all BMPs (Appendix A);
 - spill prevention and response (Section 4.2);
 - spill documentation (Appendix B);
 - spill reporting (Section 4.2.3 and Table 4-2);
 - storm runoff sample collection (Section 5.3); and
 - site inspections (Section 6.2).
- Making employees aware of BMPs for material handling, fueling, washing, equipment operation, visual inspection, preventative maintenance, and good housekeeping.
- Making employees aware of the concept of separation of process waste and storm water.
- Learning from information compiled on past releases and causes.
- Adequate training in release reporting procedures and spill cleanup measures.

A summary of the employee training program is provided in Table 6-1. A copy of the training log is provided in Appendix D and shall be completed after each training session.

Table 6-1: Summary of Employee Training Program

Training Topic	Trainee	Responsibility	Frequency
Potential Pollutants	Maintenance Staff	Facility Supervisor	Annually
Best Management Practices	Maintenance Staff	Facility Supervisor	Annually
Past Releases and Causes	Maintenance Staff	Facility Supervisor	Annually
Spill Prevention and Response Plan	Maintenance Staff	Facility Supervisor	Annually
Storm Runoff Sample Collection	Maintenance Staff	Facility Supervisor	Annually
Site Inspections	Maintenance Staff	Facility Supervisor	Annually

6.2 Protocol for Site Inspections

The DOT Highways Environmental Engineer or designee appointed by DOT Highways will perform semiannually inspections and monthly visual inspections to ensure that BMPs are in place and in proper working order. Using the Third-Party Site-specific SWPCP Facility Inspection Form (Appendix E), the inspector will make site observations to determine the following:

- preventative maintenance and housekeeping activities are being implemented and documented;
- spill prevention and response procedures are being implemented and spill prevention equipment is operational and ready;
- revisions to the SWPCP are implemented; and
- proper training procedures are implemented.

6.3 Documentation Procedures

Records shall be kept that document all spills, leaks and other discharges, including hazardous substances in reportable quantities that occur at the facility. A copy of the Spill Response Documentation Form is provided in Appendix B.

Reports of all inspections performed at the site shall be retained at the facility. The inspector shall document all observations, particularly the effectiveness of site BMPs. A copy of an example of the Training Log that should be completed by the Facility Supervisor to document all employee training with regards to this SWPCP is provided in Appendix D; actual Training Logs are available in the Training Binder.

The general Facility Inspection form is provided in Appendix E. Inspection records shall be analyzed annually (to correspond with annual inspections) to determine if BMPs are effective, and if not, what needs to be done to improve the methods used at the site.

All documentation shall be kept on-site for a minimum of five years. A copy of the SWPCP shall also be made available to personnel as a reference in the same location that material safety data sheets (MSDS) and other safety information are maintained.

6.4 Revisions to the SWPCP

This subsection describes the procedure for incorporating revisions into the SWPCP. Revisions will typically occur immediately after a site inspection. In addition, SWPCP reviews shall be performed periodically or as needed to assess the effectiveness of the BMPs and to implement appropriate revisions due to:

- changes to facilities onsite;
- changes to activities conducted onsite;
- changes in materials used onsite;
- changes in the materials handling/maintenance/fueling procedures; and/or
- changes in management practices.

Revisions may also be made if BMPs in the SWPCP do not achieve the general objectives of controlling pollutants in storm water discharges and/or the facility is found to be in violation of any storm water management practices. Revisions shall be incorporated into the SWPCP according to the following.

- The revision(s) are incorporated into the current digital file(s).
- The Revision Log provided in Appendix F1 that describes the revision(s) is completed.
- The revision date in the revised section(s) footer is updated.
- The Updated Revision History provided in Appendix F2 is updated.
- Copies of the revised section(s), Revision Log, and Updated Revision History are distributed to the Facility Supervisor.

SWPCP review and revisions will take no longer than 30 days to be completed. All personnel at the facility will be informed during staff meetings of any changes made to the SWPCP, and will be trained on new or modified procedures, as necessary.

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Section 7 References

- City & County of Honolulu, Department of Environmental Services, *“Best Management Practices Manual for Construction Sites in Honolulu,”* May 1999.
- Hawai‘i Administrative Rules (HAR) Title 11, Chapter 55, Water Pollution Control and Chapter 451, State Contingency Plan, October, 2002.
- State of Hawai‘i Department of Transportation, Highways Division *“Storm Water Management Program Plan, O‘ahu District, Pre-Final Compilation”* December 2003.
- U.S. Environmental Protection Agency, 33 CFR 153, Control of Pollution By Oil and Hazardous Substances, Discharge Removal, 40 CFR 110, Discharge of Oil, 40 CFR 116, Designation of Hazardous Substances, 40 CFR 122 EPA Administered Permit Programs: The National Pollutant Discharge Elimination System, and 40 CFR 300, National Oil and Hazardous Substances Pollution Plan.

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Appendix A: Best Management Practices (BMPs)

A1: Housekeeping Practices

A2: Vehicle and Equipment Washing, Maintenance and Repair

A3: Vehicle and Equipment Fueling

A4: Material Storage

A5: Spill Prevention and Response

A6: Hazardous Waste Management

Appendix A: Best Management Practices (BMPs)

A.1. Erosion Control

A.1.1. Sediment Control

A.1.1.1. Silt Fences

A.1.1.2. Sediment Basins

A.1.1.3. Stormwater Detention Ponds

A.1.1.4. Best Management Practices

A1**Housekeeping Practices BMP****Description**

Daily activities performed by the State of Hawai'i Department of Transportation (DOT), Highway Division (Highways) require the use of materials and products that are potential contaminants in storm water. Good housekeeping practices at the facilities where these materials are used and/or stored are intended to maintain a clean, safe, and orderly working environment. A clean and orderly work area reduces the possibility of accidental spills caused by mishandling of equipment and should reduce safety hazards to personnel.

Limitations

There are no major limitations to the implementation of this BMP. This BMP of good housekeeping practices is to be followed by all DOT personnel performing activities at the DOT facilities.

#	Approach	Check
A1-1	Train DOT employees in good housekeeping practices on an annual basis.	<input type="checkbox"/>
A1-2	Minimize water use in washing activities.	<input type="checkbox"/>
A1-3	Sweep or vacuum maintenance facility floors regularly to prevent tracking materials.	<input type="checkbox"/>
A1-4	Do not overfill trash receptacles or leave trash outside of containers.	<input type="checkbox"/>
A1-5	Keep trash receptacles of all sizes covered.	<input type="checkbox"/>
A1-6	Pickup and properly dispose of litter and debris on a regular basis.	<input type="checkbox"/>
A1-7	Use absorbent materials in work areas rather than hosing them down whenever possible.	<input type="checkbox"/>
A1-8	Maintain an ample supply of spill cleanup materials that are in good condition.	<input type="checkbox"/>
A1-9	Promptly clean spills with rags or absorbent material, and properly dispose of cleaning materials.	<input type="checkbox"/>
A1-10	Inspect facility storm drain inlets regularly for clogging and debris. Clean as necessary.	<input type="checkbox"/>
A1-11	Clean storm drain inlets by either shoveling or using of a vacuum truck.	<input type="checkbox"/>
A1-12	Material in storm drain inlets is not to be flushed downstream.	<input type="checkbox"/>
A1-13	Maintain accurate inventory of stored products and materials.	<input type="checkbox"/>
A1-14	Label products and material properly.	<input type="checkbox"/>
A1-15	Use up existing products and materials before purchasing or using additional ones of the same kind.	<input type="checkbox"/>
A1-16	Avoid excessive watering of landscaped areas to minimize runoff.	<input type="checkbox"/>
A1-17	Store materials removed from DOT's rights-of-way in covered areas to the extent practicable. Do not store in areas where storm water runoff flows to drain inlets.	<input type="checkbox"/>
A1-18	Dispose of materials removed from DOT's rights-of-way in a timely manner.	<input type="checkbox"/>
A1-19	Identify all chemical substances present in the workplace, compile MSDS, and store MSDS in an area where all employees have access.	<input type="checkbox"/>
A1-20	Perform facility inspections on a regular basis to ensure good housekeeping practices are being followed by facility personnel.	<input type="checkbox"/>

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A2**Vehicle and Equipment Washing, Maintenance, and Repair BMP****Description**

Routine maintenance of vehicles and equipment must be done to maintain their proper operation. In addition to washing, maintenance may include vehicle and equipment fluids removal, engine and parts cleaning, or tire repair and replacement. This BMP is intended to reduce the impact of these activities on storm water runoff.

Limitations

There are no major limitations to the implementation of this BMP.

#	Approach	Check
A2-1	Wash vehicles and equipment in designated areas away from storm drain inlets.	<input type="checkbox"/>
A2-2	Use vehicle wash racks whenever practical. Ensure that rinse water from wash racks and sinks does not drain to the storm drainage system. Connect all sinks to the sanitary sewer system.	<input type="checkbox"/>
A2-3	Prohibit washing and repair of personal vehicles at DOT facilities.	<input type="checkbox"/>
A2-4	Maintain DOT vehicles in good operating condition.	<input type="checkbox"/>
A2-5	Inspect damaged vehicles for fluid leaks as soon as possible. Use drip pans as necessary.	<input type="checkbox"/>
A2-6	Transfer removed vehicle fluids to designated storage container(s) as soon as possible.	<input type="checkbox"/>
A2-7	Use drip pans whenever changing vehicle fluids.	<input type="checkbox"/>
A2-8	Store exposed drums/containers of liquid material or wastes on secondary containment pallets when in use.	<input type="checkbox"/>
A2-9	Remove drip pan promptly after vehicle plugs have been tightened and checked to assure no leakage.	<input type="checkbox"/>
A2-10	Check degreasing solvent tank for leaks regularly. Repair as necessary.	<input type="checkbox"/>
A2-11	Allow parts to drain over solvent tank or drip pan. Do not allow solvent to drip or spill onto the floor.	<input type="checkbox"/>
A2-12	Designate areas in service bays for parts cleaning. Do not wash or rinse parts outdoors.	<input type="checkbox"/>
A2-13	Use a vacuum to cleanup dust from sanding.	<input type="checkbox"/>
A2-14	Use damp cloths, brooms, and absorbent material for cleaning. Do not hose or blow the area to remove dust.	<input type="checkbox"/>
A2-15	Maintain an ample supply of absorbent material near maintenance areas.	<input type="checkbox"/>
A2-16	Store materials for constructing temporary berms to protect storm drain inlets in the event of a spill.	<input type="checkbox"/>
A2-17	Install "No Dumping" placards on all storm drains at DOT facilities to educate personnel that non-storm water is not to be discharged to the storm drainage system.	<input type="checkbox"/>

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A3**Vehicle and Equipment Fueling BMP****Description**

During fueling of vehicles and equipment, there is the potential for leaked or spilled fuel to contaminate storm water. The procedures outlined in this BMP are intended to prevent fuel spills and leaks and reduce their impact on storm water.

Limitations

There are no major limitations to the implementation of this BMP.

#	Approach	Check
A3-1	Perform fueling of vehicles and equipment in designated areas, away from drain inlets, drainage channels, or receiving waters.	<input type="checkbox"/>
A3-2	Maintain an ample supply of spill cleanup materials and spill control equipment near fueling areas.	<input type="checkbox"/>
A3-3	Equip fuel trucks and mobile tanks with spill cleanup materials.	<input type="checkbox"/>
A3-4	Discourage topping off and unattended fueling.	<input type="checkbox"/>
A3-5	Post proper fueling and cleanup instructions in fueling areas.	<input type="checkbox"/>
A3-6	Avoid hosing off fueling area.	<input type="checkbox"/>
A3-7	Inspect portable fueling tanks along with hoses and dispensing nozzles regularly for cracks and leaks. Repair as needed.	<input type="checkbox"/>
A3-8	Check for proper operation of automatic shut off controls on fuel dispensing nozzles. Repair as needed.	<input type="checkbox"/>

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A4**Materials Storage BMP****Description**

A variety of products and materials that may adversely affect water quality are stored at DOT facilities. This BMP is intended to reduce the potential for the contamination of storm water by minimizing exposure of such products and materials to storm water.

Limitations

There are no major limitations to the implementation of this BMP.

#	Approach	Check
A4-1	Store materials in appropriate containers as recommended by the manufacturer.	<input type="checkbox"/>
A4-2	Ensure that all containers are closed, securely fastened, stored neatly, and properly labeled.	<input type="checkbox"/>
A4-3	Maintain accurate inventory of stored supplies. Periodically review inventory and storage areas to evaluate the need to keep stored materials. Supplies that are past their expiration date should be evaluated to see if they are still suitable for use. Supplies that are deteriorating or in bad condition should be discarded regardless of their expiration date. Properly dispose of materials that do not need to be kept.	<input type="checkbox"/>
A4-4	Store materials and containers indoors or in covered areas whenever practical.	<input type="checkbox"/>
A4-5	Place containers atop pallets when storing containers outdoors, to minimize contact with run off/run-on.	<input type="checkbox"/>
A4-6	Cover containers and materials with a tarp when storing them outdoors, wherever practical.	<input type="checkbox"/>
A4-7	Store materials that must be stored in the open away from drain inlets and natural waterways to minimize their contact with storm water. Berm uncovered areas where stockpile erosion or contaminated runoff can occur. Direct collected runoff from within the berms to a sump or low area for removal by pumping or vacuuming. Dispose of collected water in the sanitary sewer.	<input type="checkbox"/>
A4-8	Maintain an ample supply of spill clean-up materials near storage areas.	<input type="checkbox"/>
A4-9	Clean small spills with rags or absorbent material. For larger spills, contact spill response personnel immediately.	<input type="checkbox"/>
A4-10	Sweep or vacuum up spilled materials that can be conveyed in storm water flows.	<input type="checkbox"/>
A4-11	Inspect storage areas regularly. Look for leaking or corroded containers, chemical discoloration, or other changes in the containers or contents that may indicate a potentially hazardous condition or chemical deterioration.	<input type="checkbox"/>

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A5**Spill Prevention and Response BMP****Description**

Spills of materials used and stored at DOT facilities can contaminate storm water runoff. The guidelines outlined in this BMP are intended to prevent spills from occurring and to outline procedures to be followed in the event of a spill.

Small spills of oil (less than 25 gallons) which are capable of being cleaned up within 72 hours and do not threaten ground or surface waters will be cleaned up using absorbent materials or other acceptable practices, without disrupting facility operations. Daily inspections of the facility will identify any small spills, which will be addressed immediately.

In the event of a large or uncontrolled release, the Supervisor shall act as the Emergency Coordinator (EC) until relieved by the appropriate DOT personnel. Employees should follow the guidelines listed below where practicable.

Limitations

DOT does not have legal responsibility for cleanup outside of the right-of-way in cases where a third party generates the spill. The County of Hawai'i Fire Department is typically the lead agency for emergency response to hazardous spills on all non-military lands of Hawai'i. Highways Division assists the County of Hawai'i Fire Department with spill response for spills within Highways Division's rights-of-way. Once the emergency is stabilized, the release response may be turned over to DOH. In certain situations, DOH may be the lead agency. The Military Fire Department is the lead agency for emergency response to hazardous spills on military lands.

#	Approach	Check
A5-1	Stop work.	<input type="checkbox"/>
A5-2	Shut down pumps and equipment and secure valves and work operations.	<input type="checkbox"/>
A5-3	Shut down any nearby propane tanks.	<input type="checkbox"/>
A5-4	Move away from the affected area.	<input type="checkbox"/>
A5-5	Notify and alert others of the incident via: (1) Voice; (2) Hand-held radios; and/or (3) Other effective means.	<input type="checkbox"/>
A5-6	Keep non-essential employees away from the spill area.	<input type="checkbox"/>
A5-7	Notify the EC.	<input type="checkbox"/>
A5-8	The EC shall evaluate the situation and decide whether to implement a "fight or flight" (stay and contain the hazard or evacuate for personal safety) response by gathering the following information, if it can be done safely: <ol style="list-style-type: none"> 1. Your name, location, and how you may be reached. 2. Location of the release. 3. Type, quantity, and description of the release. 4. Hazards of the release. 5. Type of media affected (soil, asphalt, concrete, etc.). 6. Rate of the release. 	<input type="checkbox"/>

APPENDIX A5

SPILL PREVENTION AND RESPONSE BEST MANAGEMENT PRACTICE (Continued)

#	Approach	Check
	<ol style="list-style-type: none"> 7. Migratory direction of the release. 8. Potential for fire or explosion. 9. Potential for human exposure. 10. Potential for migration to surface water (ocean, storm drains, etc.). 	
A5-9	Never subject yourself or other personnel to unreasonable risk of illness or injury.	<input type="checkbox"/>
A5-10	Remove all injured persons from the immediate area of danger and render first aid. If injuries are severe, call 911 for emergency medical assistance.	<input type="checkbox"/>
A5-11	If the decision is to "fight," personnel are to don the appropriate personal protective equipment (PPE).	<input type="checkbox"/>
A5-12	Eliminate all possible sources of ignition/detonation such as vehicle engines, welding and grinding operations, and smoking.	<input type="checkbox"/>
A5-13	If the spill is of a flammable substance, remove or isolate ignitable and incompatible materials from the area of the release.	<input type="checkbox"/>
A5-14	Locate, stop, and contain the source of the release by: <ol style="list-style-type: none"> 1. Closing, checking, repairing, plugging valves; and/or 2. Plugging and patching holes. 	<input type="checkbox"/>
A5-15	Confine the release to prevent further migration by: <ol style="list-style-type: none"> 1. Diking and berming using sand, soil, or other inert material; 2. Sealing storm drains with plastic and sandbags; 3. Placing granular sorbent or absorbent pads and booms; 4. Diverting the chemicals from entering drains, manholes, streams, etc.; or 5. Implementing retention techniques. 	<input type="checkbox"/>
A5-16	Call the facility spill response contractor for cleanup and removal of accumulated product resulting from the release. The contractor will remove spilled product and properly dispose of the material in accordance with applicable state and federal regulations.	<input type="checkbox"/>
A5-17	If the release is not readily and easily controlled, evacuation may be necessary.	<input type="checkbox"/>
A5-18	If the EC decides on the "flight" option, the EC is to immediately alert and evacuate all personnel.	<input type="checkbox"/>
A5-19	Call H3 tunnel dispatch at 485-6200 and notify them of the spill. If H3 Tunnel dispatch is not available, call 911 for emergency situations (Refer to Storm Water Pollution Control Plan Table 4-2)	<input type="checkbox"/>
A5-20	Personnel are to proceed along the nearest evacuation route to the designated assembly area as shown on Figure 2-1.	<input type="checkbox"/>
A5-21	Implement proper decontamination procedures on vehicles, affected media, PPE, and equipment.	<input type="checkbox"/>
A5-22	All used decontamination solution, disposable PPE and affected media must be properly packaged in U.S. Department of Transportation (U.S. DOT) - specified containers.	<input type="checkbox"/>
A5-23	Labeling, transportation and subsequent disposal of hazardous materials/waste must be in accordance with applicable government regulations.	<input type="checkbox"/>
A5-24	Complete the Spill Response Documentation form provided in Appendix B.	<input type="checkbox"/>

A6**Hazardous Waste Management BMP****Description**

Many of the chemicals used on-site are hazardous materials, which become hazardous waste upon disposal. These wastes may include:

- Paints and solvents;
- Petroleum products such as oils, fuels, and grease;
- Herbicides and pesticides;
- Acids from lead/acid batteries; and
- Other compounds.

The procedures outlined in this BMP are intended to prevent or reduce the discharge of pollutants to storm water *and to the land* from hazardous waste through proper material use, waste disposal, and training of employees and subcontractors.

Limitations

Hazardous waste that cannot be reused or recycled must be disposed of by a licensed hazardous waste transporter.

#	Approach	Check
A6-1	Use the entire product before disposing of the container.	<input type="checkbox"/>
A6-2	Do not remove the original product label; it contains important safety and disposal information.	<input type="checkbox"/>
A6-3	Do not over-apply herbicides and pesticides. Prepare only the amount needed. Follow the recommended usage instructions. Over-application is expensive and environmentally harmful. Apply surface dressings in several smaller applications, as opposed to one large application, to allow time for infiltration and to avoid excess material being carried offsite by runoff. Do not apply these chemicals just before it rains. Follow DOT Chemical Application Plan.	<input type="checkbox"/>
A6-4	Do not clean out brushes or rinse paint containers into the dirt, street, gutter, storm drain, or stream. "Paint out" brushes as much as possible. Rinse water-based paints to the sanitary sewer. Filter and re-use thinners and solvents. Dispose of excess oil based paints and sludge as hazardous waste.	<input type="checkbox"/>
A6-5	Only purchase and store reasonable quantities of hazardous materials.	<input type="checkbox"/>
A6-6	Select designated hazardous waste collection areas on-site.	<input type="checkbox"/>
A6-7	Hazardous materials and wastes should be stored in covered containers and protected from vandalism.	<input type="checkbox"/>
A6-8	Place hazardous waste containers in secondary containment.	<input type="checkbox"/>
A6-9	Do not mix wastes, this can cause chemical reactions, make recycling impossible, and complicates disposal.	<input type="checkbox"/>
A6-10	Recycle any useful material such as used oil or water-based paint.	<input type="checkbox"/>
A6-11	Make sure that toxic liquid wastes (used oils, solvents, and paints) and	<input type="checkbox"/>

APPENDIX A6**HAZARDOUS WASTE MANAGEMENT BEST MANAGEMENT PRACTICE (Continued)**

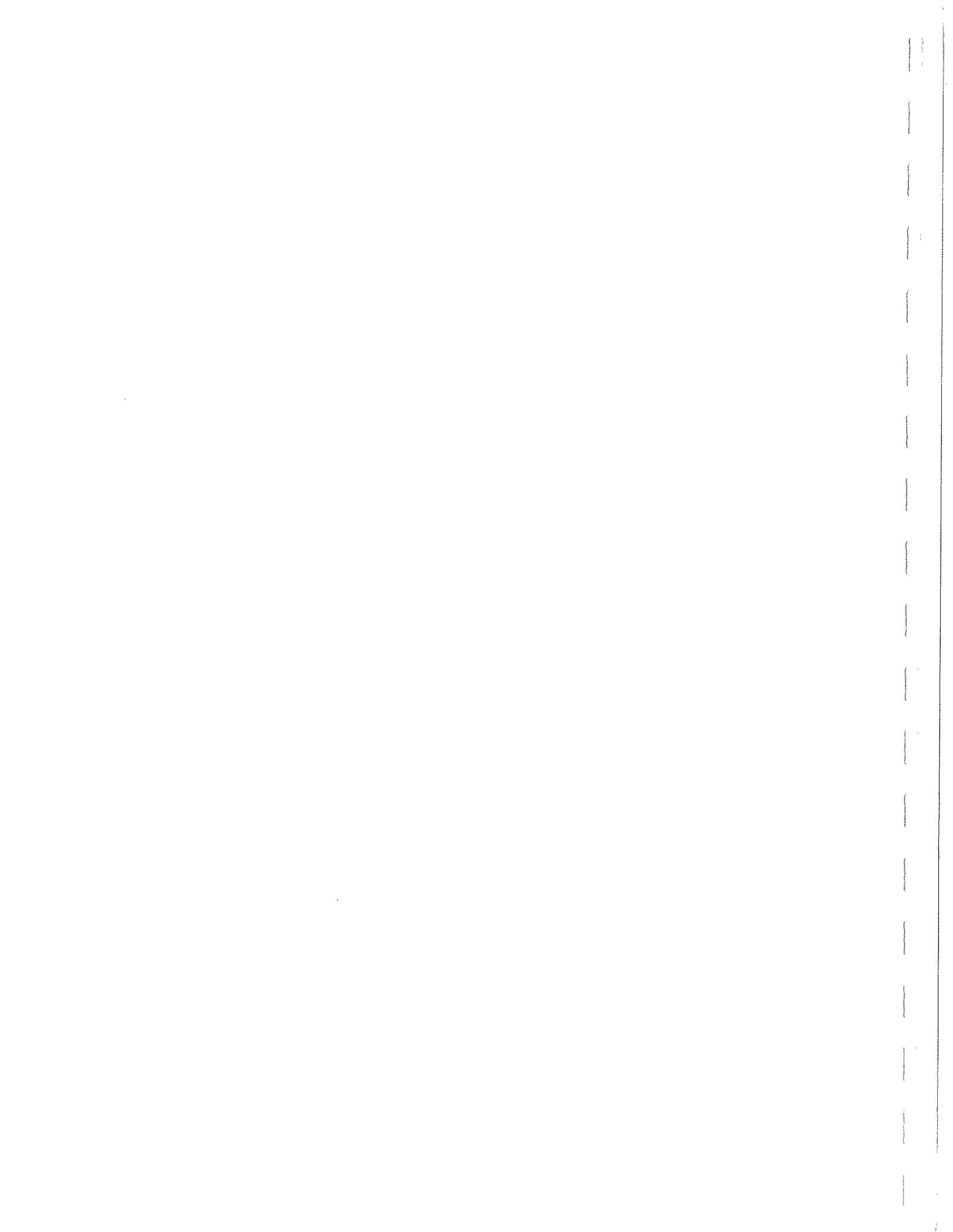
#	Approach	Check
	chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.	
A6-12	Arrange for regular waste collection before containers overflow.	<input type="checkbox"/>
A6-13	Make sure that hazardous waste (e.g. excess oil-based paints and sludges) is collected, removed, and disposed of only at authorized disposal areas by a licensed hazardous waste transporter.	<input type="checkbox"/>
A6-14	Place a stockpile of spill cleanup materials where it will be readily accessible.	<input type="checkbox"/>
A6-15	If a container does spill, clean up immediately.	<input type="checkbox"/>

*Appendix B: Spill Response Documentation
Form*

Appendix B: Bill Response Documentation
Form

Spill Response Documentation Form

Date:	Completed By:
Date of Spill:	
Material Spilled:	Quantity of Material Spilled:
Describe Location of Spill:	
Ground surface on which material was spilled:	
Describe how the spill occurred:	
Duration before spill response action was implemented:	Duration before spill response action was completed:
Describe how the source of the release was stopped or contained:	
Describe measures taken to prevent further migration of spilled material:	
Describe the material used to remediate the spill:	
Describe how the material used to remediate the spill was stored and disposed:	
Describe measures taken to prevent this type of spill in the future:	
Provide other relevant information:	



*Appendix C: Discharge Monitoring Report
Form*

Appendix C: Discharge Assessment Report
Form

***Appendix D: Site-Specific Storm Water
Pollution Control Plan (SWPCP) Training Log***

Appendix D: 20e Specific Exam Items
Examination Control Item (SIFCT) Training Log



*Appendix E: Third-Party Site-specific SWPCP
Facility Inspection Form*

1954
1955

1956 1957 1958 1959

1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

Appendix E: The 4-part tree-specific ZWAP
Monthly Expenditure Report

Third-Party Site-Specific SWPCP Facility Inspection Form

Facility Name:	
Inspector's Name & Title:	
Date & Time of Inspection:	
Weather:	<input type="checkbox"/> Raining <input type="checkbox"/> Sunny <input type="checkbox"/> Cloudy <input type="checkbox"/> High Wind <input type="checkbox"/> Moderate Wind <input type="checkbox"/> Calm Precipitation in last 24 hours? <input type="checkbox"/> Yes <input type="checkbox"/> No

SITE OBSERVATIONS / MANAGEMENT CONTROLS / BMPs

Issue Being Evaluated	Yes	No	N/A	Comments and Corrective Actions
Are preventive maintenance and housekeeping activities being implemented and documented?				
Are all work areas and storage areas neat and clean?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the loading and unloading areas clean?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the drainage area clean of debris (paper, leaves)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Catch basins cleaned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Regular removal/disposal of trash and waste products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are dumpsters and recycle bins kept closed when not in use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are potential pollutants stored under covered areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are drums stored within secondary structures / containment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Issue Being Evaluated	Yes	No	N/A	Comments and Corrective Actions
Are any material storage containers, equipment, etc. leaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are oily parts and/or chemical containers exposed to storm water contact?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are materials properly labeled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Identification of all chemicals (MSDSs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Prevention of chemical accumulation on ground in building	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Vehicles are serviced in covered areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is any equipment maintenance being performed outdoors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is equipment or vehicles being washed in designated areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are drip pans placed under equipment and vehicles?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are drip pans clean and in good condition (not leaking)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Petroleum products recycled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there dirt and grease buildup in the parking lot?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Issue Being Evaluated	Yes	No	N/A	Comments and Corrective Actions
Are there stains on the paved areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Any water flowing into outfall/offsite? (if yes, identify source)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Visual inspection of facility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Maintenance of inspection log (documented and current)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Proper training of employees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Restrict access to area and equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have spill prevention and response procedures been implemented and is spill prevention equipment operational and ready?				
Visual inspection of paved areas for spills and leaks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Prompt removal of any spills or leaks using spill kits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spill response equipment stocked and inspected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

REVIEW OF SWPCP

Issue Being Evaluated	Yes	No	Comments
Are there changes to the site description?	<input type="checkbox"/>	<input type="checkbox"/>	
Are there changes to storm water control features?	<input type="checkbox"/>	<input type="checkbox"/>	
Are there changes to potential pollutant sources or activities?	<input type="checkbox"/>	<input type="checkbox"/>	
Are there changes to storm water program personnel?	<input type="checkbox"/>	<input type="checkbox"/>	
Have there been any spills or releases?	<input type="checkbox"/>	<input type="checkbox"/>	
Are corrective actions necessary?	<input type="checkbox"/>	<input type="checkbox"/>	
Are there changes in employee responsibilities regarding storm water protection?	<input type="checkbox"/>	<input type="checkbox"/>	

Question	Yes	No
If yes to any of the above, have revisions to the SWPCP Plan been made?	<input type="checkbox"/>	<input type="checkbox"/>
Are additional revisions recommended?	<input type="checkbox"/>	<input type="checkbox"/>
If revisions have not been made or are not recommended, indicate reason:		
Do the existing management controls/best management practices appear to be effective in reducing the potential for storm water pollution? If no, indicate reason:	<input type="checkbox"/>	<input type="checkbox"/>
Are there any additional management controls/best management practices recommended as a result of the site inspection? If yes, describe new storm water management/best management control needed to address sources of pollutants and a time schedule for implementation:	<input type="checkbox"/>	<input type="checkbox"/>

REVIEW OF TRAINING

Issue Being Evaluated	Yes	No	Comments
Have employees been informed and trained of revisions?	<input type="checkbox"/>	<input type="checkbox"/>	
Is annual employee training current?	<input type="checkbox"/>	<input type="checkbox"/>	
Are employee training records documented?	<input type="checkbox"/>	<input type="checkbox"/>	
If no to any of the above, indicate reason for discrepancy and what corrective actions will be taken:			

REVISIONS OF STORM WATER POLLUTION CONTROL PLAN

Question	Yes	No
Have all revisions been made to the SWPCP, re-signed, and submitted to the Hawai'i State Department of Health within 30 days of the revision (if applicable)?	<input type="checkbox"/>	<input type="checkbox"/>
If no, indicate reason:		

STORM WATER POLLUTION CONTROL PLAN COMPLIANCE

Based on site observations and review of facility records conducted as part of this inspection report, this facility is determined to be in compliance with the facility's SWPCP.

Facility: _____

Printed Name: _____

Signature: _____

Title: _____

Date: _____

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Appendix F: SWPCP Revision Logs

F1: SWPCP Revision Log

F2: SWPCP Revision History

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F2 - SWPCP Revision History

Section	Title	Current Revision Date
	Approvals Page	27-Feb-09
	Table of Contents	27-Feb-09
	List of Acronyms	27-Feb-09
1	Introduction	27-Feb-09
1.1	Background	27-Feb-09
1.2	Purpose	27-Feb-09
2	Site Description	27-Feb-09
2.1	Facility Operations	27-Feb-09
2.2	Site Drainage	27-Feb-09
2.3	Climate	27-Feb-09
3	Potential Pollutants and Site Runoff	27-Feb-09
3.1	Potential Pollutants	27-Feb-09
3.2	Routine Runoff	27-Feb-09
3.3	Non-Routine Runoff	27-Feb-09
3.4	Historical Pollution Sources	27-Feb-09
4	Pollutant Control Program	27-Feb-09
4.1	Best Management Practices	27-Feb-09
4.2	Spill Prevention and Response Plan	27-Feb-09
4.2.1	Safety Measures	27-Feb-09
4.2.2	Responsible Personnel and Emergency Contact Procedures	27-Feb-09
4.2.3	Spill Containment and Remediation	27-Feb-09
5	Storm Water Monitoring Program	27-Feb-09
5.1	Representative Storm Event	27-Feb-09
5.2	Sampling Equipment	27-Feb-09
5.3	Storm Runoff Sample Collection	27-Feb-09
5.4	Sample Labeling and Chain of Custody	27-Feb-09
5.5	Sample Handling and Shipping	27-Feb-09
5.6	Sample Analysis	27-Feb-09
5.7	Reporting Requirements	27-Feb-09
6	SWPCP Implementation	27-Feb-09
6.1	Employee Training Program	27-Feb-09
6.2	Protocol for Site Inspections	27-Feb-09
6.3	Documentation Procedures	27-Feb-09
6.4	Revisions to the SWPCP	27-Feb-09
7	References	27-Feb-09
Figures		
Fig. 2-1	Site Plan	27-Feb-09
Tables		
Table 4-1	Summary of Best Management Practices	27-Feb-09
Table 4-2	Emergency Contact Information	27-Feb-09
Table 5-1	Storm Water Monitoring Parameters	27-Feb-09
Appendices		
App. A	Best Management Practices (BMPs)	27-Feb-09
App. B	Spill Response Documentation Form	27-Feb-09
App. C	Discharge Monitoring Report Form	27-Feb-09
App. D	Site-Specific SWPCP Training Log	27-Feb-09
App. E1	Third-Party Site-Specific SWPCP Inspection Form	27-Feb-09
App. E2	SWPCP Revision Logs	27-Feb-09

