

## **CHAPTER 6**

# **ILLICIT DISCHARGE DETECTION AND ELIMINATION**

The objectives of the Illicit Discharge Detection and Elimination Program (Illicit Discharge Program) are to detect and prevent illicit discharges into the Oahu MS4 and to remove illegal connections to the Oahu MS4. In addition to maintaining the existing program that administers permitting or licensing of private drain connections into or discharges to the Oahu MS4, the Illicit Discharge Program conducts investigations of parcels suspected of illicit discharges or illegal connections identified through:

- Follow-up investigations of a survey conducted in the year 2000;
- Public complaints or reports about potential illicit discharges or illegal connections; and
- Field screening of Oahu MS4 outfalls.

The Illicit Discharge Program also includes:

- Using the tools provided by the AMS, which includes a GIS databases of connection permit properties and illicit discharges;
- Preventing and responding better to hazardous spills, including wastewater spills, within Oahu highway rights-of-way;
- Informing the public about the proper use and disposal of household toxins; and
- Training program so that those involved in this program have the necessary knowledge and skills to conduct investigations of illicit discharges.

An “illicit discharge” is 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;
- De-chlorinated 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.

An “illegal connection” is a connection to the Oahu MS4 without a drain connection permit issued by HDOT Highways. This chapter will serve as a reference for members of the Oahu SWMP team who have responsibilities associated with the detection and elimination of illicit discharges to the Oahu MS4.

## **6.1 Permitting (Licensing) of Oahu MS4 Connections**

Since 1994, HDOT Highways has administered a permitting program for any individual, business (commercial or industrial), or agency that wishes to establish a permanent physical connection to the Oahu MS4 (connection permit) and/or discharge its storm water runoff into the Oahu MS4 (discharge permit). The permitting program is currently administered by HWY-OM/DDU. Under the Illicit Discharge Program, HDOT Highways will continue this regulatory program, and maintain a database of all permitted connections to the MS4.

A request for a physical connection to the Oahu MS4 is made by submitting a completed *Application and Permit for A Private Storm Drain Connection to the State of Hawaii Highways Division Storm Drain System (Oahu District)* (See Appendix D.1). For each connection, the applicant is required to submit information on the connection location, size, type of discharge, and flow rate, as well as a drainage report. In addition, the applicant is required to indicate whether their property or facility generates storm water associated with an “industrial” activity. Similarly, a discharge permit would be required for a construction project where storm water runoff would drain to the Oahu MS4. The owner or applicant would be required to submit a completed *Application and Permit To Discharge to the State of Hawaii Highways Division Storm Drain System (Oahu District)* (see Appendix D.2), and is required to indicate the type and location of discharge, its flow rate, area of disturbance, and submit a plan with BMPs shown.

During the application process, applicants for both the connection permit and discharge permit are required to disclose whether or not the subject facility, activity or property has an NPDES permit. If the property does not have an NPDES permit, but the MS4 Task Force/DDU finds that the property is engaged in an activity that should be covered by the NPDES program based on the information contained in the application, the applicant will be notified of the legal requirements to obtain NPDES coverage. The applicant will not be granted an Oahu MS4 connection or discharge permit until he or she has secured NPDES coverage from the HDOH. In addition, connection permit applicants may be required to provide permanent BMPs if the Oahu MS4 connection also includes the creation of at least one acre new permanent impervious surface within the property (see Chapter Eight).

Since July 2000, discharge permit holders have been required to notify HDOT Highways when the discharge to the Oahu MS4 ceases. Also, connection permit holders are required to notify HDOT Highways of changes in activities at the facilities or change of ownership.

Owners of properties associated with certain types of industrial activities are required by 40 CFR 122.26(c) to monitor storm water discharges that leave their property, regardless of whether the activity or facility directly or indirectly discharges into the Oahu MS4. For those holding connection or discharge permits, they are required receipt to report monitoring results to HDOH.

## 6.2 Identification and Inspection of Illicit Discharges and Illegal Connections

This section describes the procedures that will be used to identify, investigate, and respond to possible illicit discharges and illegal connections to the Oahu District's MS4. These procedures would include specific time deadlines for responding to identified discharges, and would be coordinated with the Industrial and Commercial Activities Discharge Management Program (see Chapter Ten).

The identification and investigation of potential illicit discharges and illegal connections would be triggered by the following:

- Follow-up investigations of parcels identified from the *Storm Water Questionnaire Survey of Parcels Adjacent to Highway Rights-of-Way* (December 2000) (2000 Questionnaire Survey),
- Public reporting or complaints, and
- Field screening of major and minor outfalls.

During an inspection of a property or facility suspected of illicit discharges or illegal connections, the inspector shall record observations on an Oahu MS4 Site Investigation Sheet (see Appendix D.3). However, in the future, inspectors may use electronic forms contained in hand-held GPS/PDA units that have been enabled with a personal digital assistant (PDA) to record observations. The GPS/PDA units will be capable of "plug-in" uploading of information into the AMS, eliminating the need for inspectors or other personnel to physically input the data. Investigations for non-storm water discharges will be conducted during dry weather. The general procedures for conducting illicit discharge or illegal connection investigations are as follows. The inspector shall:

1. Obtain plans of the relevant drainage facilities within HDOT Highways right-of-way (i.e., location of all associated Oahu MS4 outfalls or flow paths by which the suspected illicit discharge or illegal connection could enter or affect State waters) using the AMS prior to conducting the site investigation.
2. Confirm the location of the reported or suspected illicit discharge or illegal connection to the Oahu MS4, if any.
3. Record the location, size, depth, and orientation of any illicit discharge or illegal connection.
4. Record any unusual colors, stains, or odors observed from any illicit discharge or illegal connection.
5. Assess the likely source of any illegal connection and the point of entry into the right-of-way based on the connection's configuration and alignment.
6. Record the location of any stains or other evidence proving the direction of flow into the MS4 system for any surface discharges.
7. Photograph the location of any discharge or connection at or along the suspected point of entry into the right-of-way. Include photographs of any surface stains and of all adjacent properties. Note and record the frame numbers of the film, the time and location of the photograph, and other pertinent information for future reference.
8. Prepare a neat, accurate sketch of the relevant aspects of the site and the potential illegal connection or flow path of the illicit discharge.
9. Record the date and time of the investigation and complete the checklist or GPS data inputs as fully as possible.

10. Use the AMS to determine the location of the Oahu MS4 outfall, or flow path by which flow from the suspected illicit discharge or illegal connection would enter State waters. This and all other information and findings of suspected illicit dischargers or illegal connections would be reported to the MS4 Task Force/DDU manager, who shall then make a determination of the legality of the discharge or connection and select the appropriate follow-up action, which may include the following:
  - Sending the property owner a letter, with an attached application for a connection or discharge permit, requiring the owner to complete and return the application;
  - Sending a letter to the property owner requesting additional information regarding the discharge or connection;
  - Scheduling a site meeting with the property owner to obtain additional information regarding the illicit discharge or illegal connection; and
  - Sending a warning letter to the property owner advising the owner to remove the illegal connection or eliminate the illicit discharge by a specified date or face an enforcement action (see Section 2.4).

For those parcels or activities where no illicit discharge or illegal connection was identified, the inspector would then document that the parcel or activity has:

- No physical connection with the Oahu MS4, or
- No discharges other than overland storm water sheet flow through non-industrial activities.

Inspection reports shall be submitted to HDOH within two months of the inspection date, and records of all inspections shall be maintained for a minimum of five years.

If HDOT Highways later grants a connection or discharge permit to a parcel used for industrial or commercial activities that had been subject to an investigation, this parcel would then undergo regular inspections as described in Section 10.2.1.

As noted above, the investigations of illicit discharges and illegal connections would be triggered from the results of the 2000 Questionnaire Survey, reports or complaints from the public, and outfall screening. Each of these triggers is described below in the Sections 6.2.1 through 6.2.3.

### **6.2.1 Follow-Up Investigations**

A survey of property owners in areas zoned for industrial, commercial, and high-density residential was conducted in the year 2000 and the results of this survey were reported in the 2000 Questionnaire Survey. The survey resulted in HDOT Highways assigning priority levels ranging from 1 to 30 to those parcels whose owners responded to the survey. The follow-up investigations will involve these parcels to determine whether they have illegal connections or illicit discharges. The order of the follow-up investigations will be conducted in the following manner:

1. Tier 1 parcels, which were assigned priorities 1 to 4 based on the results of the 2000 Questionnaire Survey, will be investigated first and will be completed within 18 months of the effective date of the Oahu MS4 NPDES Permit;

2. Tier 2 parcels, which were assigned priorities 5 to 16 based on the results of the Questionnaire Survey, will be investigated after completing investigations of all the Tier 1 parcels and will be completed within three years of the effective date of the Oahu MS4 NPDES Permit; and
3. Tier 3 parcels, which were assigned priorities 17-30 based on the results of the 2000 Questionnaire Survey, will be investigated last, and like the Tier 2 parcels, the investigations will be completed within three years of the effective date of the Oahu MS4 NPDES Permit.

### **6.2.2 Response to Public Complaints**

Information from the general public is an important source for identifying illicit discharges or illegal connections. Currently, public complaints are received either through referral from the City ENV and the HDOH or through the Oahu District complaint line. HDOT Highways maintains a database of complaints about potential illegal connections and illicit discharges. Complaints are prioritized based on perceived urgency and addressed by staff as soon as practicable. A new telephone hotline will be established to provide the public with the means to report potential illicit discharges or illegal connections. The hotline will be advertised in the public website, and possibly in public service announcements (see Section 4.2.1).

Records from the website public complaint database and recordings from the hotline will be transferred to the illicit discharge/illegal connection investigation database (see Section 3.3.2). The current system will be integrated into the new database.

The complaint investigation database will include a number of fields to map and track the progress of potential investigations, such as the TMK of the offending parcel, information about each suspected improper discharge, the nature of the investigation of that discharge, follow-up activities, and the resolution of each investigation. The database will also contain a field requiring the program to research whether the offending property (i.e., the property where the potential illicit discharge or illegal connection may be located) has NPDES permit coverage. If the property or facility has such coverage, HDOH will be informed about the complaint and the potential violation. Upon receipt of confirmation from HDOH that they will address the complaint, the record of the complaint will be closed by logging that the complaint has been referred to HDOH.

Once the complaint database has been updated to reflect the newest records from the website and hotline and that the offending property does not have NPDES permit coverage, investigations will be scheduled based on the potential seriousness of the complaint, and other workload responsibilities of the inspectors.

### **6.2.3 Oahu MS4 Outfalls Screening**

Oahu MS4 outfalls will be field screened for illicit discharges. Any sign of an illicit discharge at an outfall may be an indication that one or more parcels or even the roadways along the drainage system of the outfall are causing an illicit discharge.

As noted in Section 9.3.4, all outfalls with a minimum diameter of 36 inches were inspected specifically to check for erosion and erosion potential below the outfalls. In addition, inspectors collected data regarding the presence of pollutants, a sign of illicit discharges. According to the *Outfall Field Screening Plan* (see Appendix D.4), the entire inventory of outfalls (approximately 1500) was prioritized based on whether or not they are located in watersheds assigned Waste Load Allocations (WLA) (see Section 11.2) or high priority watersheds (as defined in Appendix A of the Consent Decree). The over 700 outfalls located in these watersheds will be screened or inspected once every calendar year. The remaining outfalls, which are located outside of these watersheds, will be screened once every three years.

The procedures for finding and reporting illicit discharges identified at Oahu MS4 outfalls are similar to other inspection procedures. Data gathered from the outfall screenings will be reviewed by master consultant staff on a regular basis. Any reported illicit discharge will be referred to the MS4 Task Force/DDU, which may likely trigger site investigations of one or more nearby parcels.

### **6.3 Tracking and Reporting**

The existing list of permitted Oahu MS4 connections and discharges along with the illicit discharge database will be integrated into the AMS, as described in Section 3.3.2. The database includes fields that identify the permit holder, permit number, location of the property, tax map key, type of discharge and Oahu MS4 connection, and records of inspection or investigation, among other pertinent information. All new permits will be recorded into the database. The illicit discharge/illegal connection database will also contain information regarding illicit connections, illegal discharges, and spills including the type of discharge, responsible party, response by HDOT Highways, and resolution of the discharge to the MS4. The records in this database will be partially created by compiling public complaints collected through the hotline (see Section 4.2.1.5), GIS analysis, and field inspections.

### **6.4 Spill Prevention and Response**

The infiltration of wastewater effluent from surrounding properties is a potential pollutant that could enter the Oahu MS4. To address this issue, HDOT Highways shall continue to support other State and City, and federal agencies to prevent entry of spills into the Oahu MS4 and contamination of surface water, ground water, and soil to the maximum extent practicable.

The Honolulu Fire Department (HFD) is normally the lead agency for emergency response to spills on all non-military lands of Oahu. In the event of a spill or overflow from a municipal wastewater facility, the City is responsible for immediately responding to the clean-up and repair to the system. If requested, HDOT Highways would assist the HFD and City with spill response for spills within HDOT Highways rights-of-way. HDOT Highways would notify HDOH of any municipal wastewater spills or overflows from private laterals and failing septic systems that discharges into the Oahu MS4.

## **6.5 Toxins Awareness**

The Illicit Discharge Program includes a public outreach component described in Section 4.2.3.1, which notes that brochures about the safe use and proper disposal of household toxins would be made available at major hardware stores and other retailers to distribute whenever someone purchases certain household toxins.

## **6.6 Training**

Training is an important element of the Illicit Discharge Program because it ensures that personnel responsible for conducting inspections or managing the program's system are knowledgeable in the process of detecting and eliminating illicit discharges or illegal connections. The HDOT Highways MS4 Task Force has been working on the training element of the Illicit Discharge Program since the year 2000. The current details of the training regimen are as follows:

### Training Recipients

Training will be required of any current new inspector responsible for carrying out any element of the Illicit Discharge Program, including any additional inspection staff contracted by the State or through the master consultant contract. This includes, but is not necessarily limited to, inspectors responsible for duties specified in Section 6.2.

### Training Method

Training will be conducted through a formalized "on-the-job" method.

### Trainer Qualifications

The managers and/or supervisors conducting training will have the following qualifications:

- Awareness of HDOT Highways activities, policies and procedures; and
- Knowledgeable in identifying and eliminating illegal connection, illicit discharges and spills to the Oahu MS4.

### Topics

The following topics of the training will include:

- Information and awareness of the Oahu MS4 NPDES Permit, and the overall Oahu SWMP;
- Informing staff that they serve an important role in protecting the water quality in the State;
- Environmental background and regulatory requirements;
- Highway responsibilities for storm water management;
- Identifying and eliminating illegal connection, illicit discharges and spills to the Oahu MS4; and
- Inspection and enforcement techniques.

### Training Schedule and Reporting

The Illicit Discharge Program training component is scheduled to begin by March 30, 2007, and following this first session, additional training sessions shall be held on as-needed basis (e.g., when new employees are hired or contracted) and refresher courses shall be held at a minimum once per year for inspection staff involved in the program.

Each “on-the-job” training session will be recorded and entered into this program’s training database. The trainer and training recipient will be recorded in the database. The Mid-Year and End-of-Year reports will contain information on the number and dates of training sessions, types of training, and recipients of the training as described in Chapter Thirteen.

## **6.7 Organizational Structure**

As shown on Figure 6-1, the MS4 Task Force/DDU oversees the Illicit Discharge Program. The HWY-OM/DDU will continue to administer the connection and discharge permit program. The head of the DDU, an Engineer V, is the main point of contact for the program, and is assisted by an Engineer III and an Inspector IV who are in charge of investigating public complaints.

The master consultant is responsible for conducting the follow-up investigations, data management and collection, and preparing procedures and methods to conduct illicit discharge and illegal connection investigations and outfall field screening. The program execution engineer (see Section 2.2.2) conducts independent reviews and quality checks of each investigative case prior to submission to DDU.

