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## 10.0 ILLEGAL DISCHARGES/ILLCIT CONNECTIONS

### 10.1 Program Summary

#### 10.1.1 Program Overview

Since illegal discharges and illicit connections can be a significant source of pollutants from the municipal storm drain system, the DAMP includes a comprehensive program for detecting, responding to, investigating and eliminating these types of discharges/connections in an efficient and timely manner. Illegal discharges may originate from illegal dumping or from internal floor drains, appliances, industrial processes, sinks, and toilets that are connected to the nearby storm drainage system. These discharges (which may include: process waste waters, cooling waters, wash waters, and sanitary wastewater) can carry substances (such as paint, oil, fuel and other automotive fluids, chemicals and other pollutants) into storm drains. In addition, spills and leaks, if not properly controlled, can adversely impact the storm drain system and receiving waters.

In order to ensure that the program is efficient and effective, the Permittees have instituted regular documentation procedures for their water pollution complaint and spill response activities. The objectives of this model program are:

- Effectively prohibit the discharge of non-storm flows into the municipal storm drain system
- Respond to non-stormwater discharges when they occur
- Link the detection, response and elimination of illegal discharges and illicit connections in an interactive process to increase the effectiveness of the ID/IC component and the overall stormwater program

This section details model procedures for conducting program administration (Section 10.2.2); an Illegal Discharge Program (Section 10.2.3); a Spill Response Program (Section 10.2.4) and a Sewage Spill Response Program (Section 10.2.5); an Illicit Connection Investigations program (Section 10.2.6); and a Source Investigations Program (Section 10.2.7). The section also details model procedures for education and enforcement (Section 10.3) and a Training and Outreach Program (10.6).

To assist the Permittees with the implementation of this program component within their jurisdiction, a Model Local Implementation Plan (LIP) was developed (Appendix A-10).

#### 10.1.2 Program Commitments

##### *Key Commitments*

Although the Municipal Activities Program provides the framework and approach for complying with the NPDES permit requirements, the program is structured to assist the Permittees in the maintenance and update of their LIPs (**Appendix A-10**). This is a requirement for the San Diego Region Permittees and an optional task for the Santa Ana Region Permittees.

The major program commitments include:

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- Conduct inspections and monitoring to identify water pollution problems caused by various pollutant sources. Prohibited discharges typically are generated from poorly managed on-site operations, illegal dumping and/or contaminated stormwater discharges
- Operate and maintain public reporting hotlines for the detection of potential illegal discharges or illicit connections
- Operate and maintain a spill response program. While illegal discharge complaints are usually non-emergency and often do not involve hazardous materials, spill incidents are typically larger scale and may result from an accidental release or illegal discharge and often involves hazardous materials.
- Operate and maintain a sewage spill response program. While all spills to municipal storm drain systems are important and responses are often the same as other spills, sewage spills have merited special regulatory attention since coordination with other public agencies as well as private owners is often involved; for this reason, the sewage spill response procedures were developed separately.
- Conduct inspection and documentation program to identify illegal connections as part of the routine maintenance of storm drain facilities. Any illicit connection identified during routine inspection is investigated by the affected Permittee and appropriate actions are then taken to approve undocumented connections by permit procedure and/or pursue removal of those connections that are determined to be illicit connections and not permissible.
- Conduct source investigations when an illicit discharge is detected or suspected, and the source is not readily identifiable. The purpose of the investigation is to locate the source so that measures to eliminate the ID/IC can be implemented. Source investigations will be initiated when appropriate information suggests evidence of an ID/IC.
- Take Enforcement actions according to the adopted Water Quality Ordinances and accompanying Enforcement Consistency Guide (**DAMP Section 4.0, Exhibits 4.II and 4.I**). Water pollution cases may be handled administratively or in more serious instances, be prepared for prosecution by the Orange County District Attorney who may prosecute under the applicable sections of the Water Quality Ordinance, State Fish and Game Code, State Water Code, Uniform Fire Code, and Penal Code that address pollutant discharges.
- Conduct education and training of municipal and/or other agency staff in the illegal discharge/illicit connections program. This is especially true with the ID/IC Program because the Permittees will be in the public eye when conducting inspections, investigation efforts and proceeding with enforcement actions.

This Model Program is intended to be implemented as described in Section A-10 of each Permittee's Local Implementation Plan. In developing its Local Implementation Plan, the Permittee may modify the Model Program in response to local conditions. It is not the intent for this Model Program to restrict city or county governing bodies from imposing additional stormwater management requirements to control

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Although each Permittee is ultimately responsible for responding to water pollution complaints and incidents of illegal discharges and illicit connections to the storm drain systems within their jurisdiction, a number of cities chose to contract with the Orange County Flood Control District (OCFCD) to perform these services by entering into a Water Quality Ordinance (WQO) Implementation Agreement. The agreement allows the Permittees to utilize OCFCD to provide scientific, technical, and enforcement services that the Permittees may be unable to provide. The Permittees may also have other alternatives than contracting with OCFCD. Outside service providers/contractors may be used by Permittees to implement the program. The description of general and specific responsibilities under the different approaches is described in Section 10.2.2.

### 10.1.3 Regulatory Requirements

The federal regulations require that municipal stormwater programs include a component to detect and effectively eliminate illegal discharges/illicit connections into the municipal storm drain systems. The Fourth Term Permits similarly specify that the Permittees continue to implement and the existing ID/IC program.

The ID/IC program component fulfills the municipal commitments and requirements of:

- Sections III 1 and VII 1&2 of the Santa Ana Regional Water Quality Control Board Municipal NPDES Stormwater permit, [Order No. R8-2002-0010](#); and
- Sections B.1 and F.5<sup>1</sup>, of the San Diego Regional Water Quality Control Board Municipal NPDES Stormwater permit, [Order No. R9-2002-0001](#).

## 10.2 Illegal Discharges/Illicit Connections Program Details

### 10.2.1 Program Introduction

The ID/IC Program provides practical guidance for Permittees when identifying, responding to and mitigating the effects of illegal discharges, including sewage spills, eliminating illicit connections, and enforcing the ID/IC Program component for the protection of public health and the environment. The ID/IC Program provides the framework and a process for conducting the following NPDES permit compliance activities for illegal discharges and illicit connections:

- Program administration
- Detection of illegal discharges and illicit connections
- Responding to water pollution incidents and complaints including sewage spills
- Inspections/investigations

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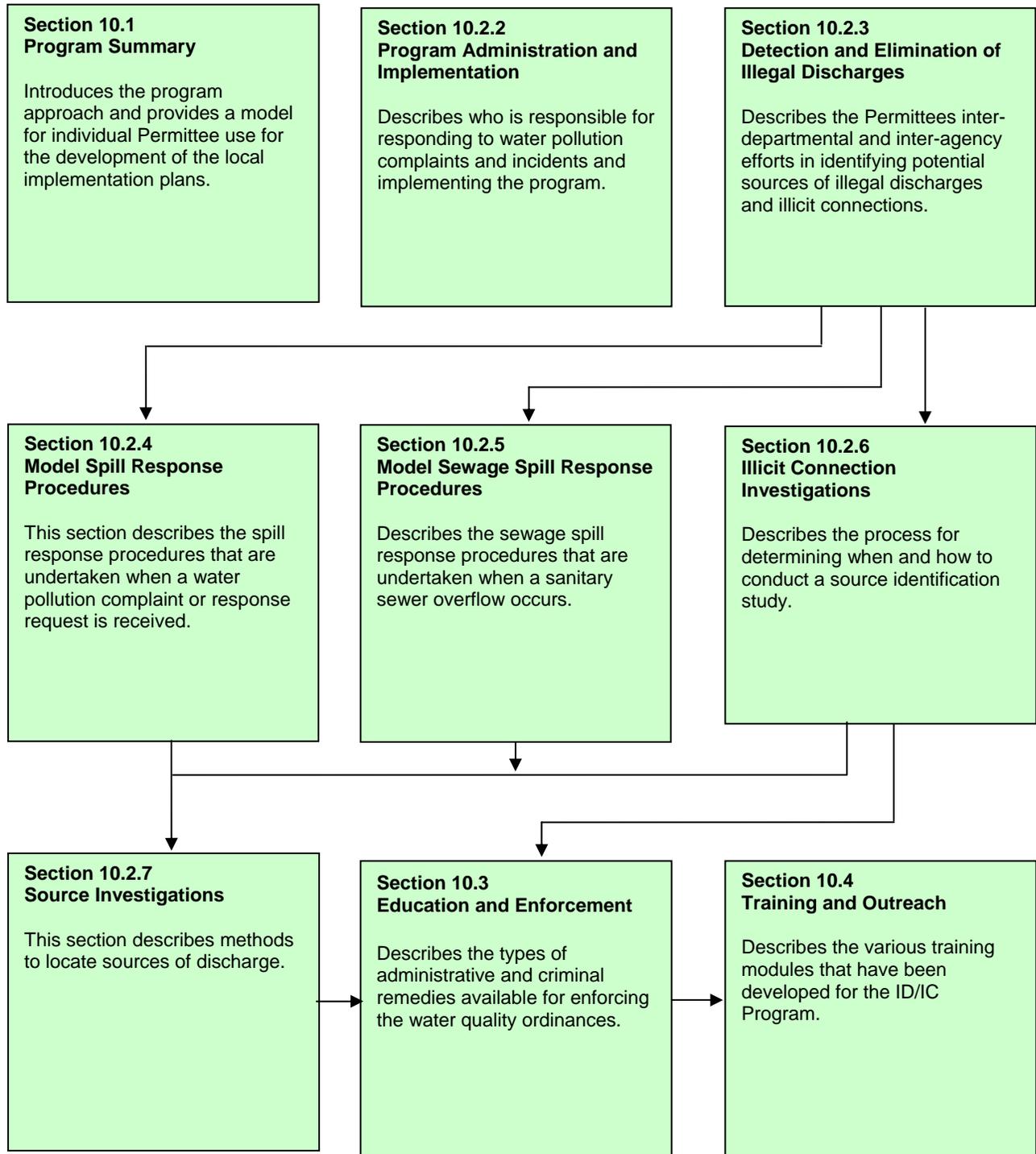
<sup>1</sup> Order WDR 2002-0014 grants a stay for provision F.5.f and part of Finding 26 of Order No. R9-2002-0001 issued by the San Diego Regional Water Quality Control Board for discharges of urban runoff from the municipal storm drain system draining the watersheds of the County of Orange, the Incorporated Cities of Orange County.

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- Education/Enforcement
- Assessments of program effectiveness; and
- Annual training

In order to be effective, the ID/IC program has been integrated with the municipal, industrial, commercial, residential and construction inspection programs so that if an illegal discharge or illicit connection is discovered during an inspection it can be properly addressed and eliminated. In addition, on behalf of the Permittees, the Principal Permittee implements the water quality monitoring programs which can also assist in identifying illegal discharges and illicit connections. **Figure 10.2** represents the flow of the program with a brief description of each section. Information from one section supports subsequent sections. Definitions are provided in Section 10.5.

**Figure 10.2  
Model Program Structure**



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### 10.2.2 Program Administration and Implementation

The ID/IC Program is comprised of many elements, each with a specific defined set of roles and responsibilities for administration and implementation of the program. These elements are described below along with how they are integrated into the ID/IC Program.

#### 10.2.2.1 Program Roles and Responsibilities

Assigning roles and responsibilities reduces the duplication of efforts and increases program efficiency and effectiveness.

The key roles for the ID/IC Program include the following:

- Authorized Inspector (AI) - The AI may be assigned to investigate compliance with and detect incidences of violations of the Ordinance and should be trained to recognize and appropriately respond to various types of incidents.
- Spill Responder - The spill response personnel may be Authorized Inspectors and other City/County personnel responsible for coordinating with the local fire department for the immediate response to any accidental spill, leak or prohibited discharge of pollutants requiring immediate cleanup.
- Enforcing Attorney - The Enforcing Attorney should be either the City Attorney [County Counsel] or District Attorney (DA) acting as counsel for the Permittee and their appointee. For purposes of criminal prosecution, only the DA or designee [and/or City Attorney, and Deputy District and City Attorneys as assigned] should act as the enforcing attorney.

For a more detailed discussion regarding the primary roles and responsibilities, the Model Water Quality Ordinance (**Section 4.0, Exhibit 4.II**), Enforcement Consistency Guide (**Section 4.0, Exhibit 4.I**), and/or the Model Investigative Guidance Manual (**Exhibit 10.III**) should be referenced.

For many of the Permittees and the Orange County Flood Control District (OCFCD), there are additional roles and responsibilities for implementing the program. Although each Permittee is responsible for responding to water pollution complaints and incidents within their jurisdiction, a number of cities chose to contract with the OCFCD to perform some of the Authorized Inspector and Spill Responder functions by entering into a Water Quality Ordinance (WQO) Implementation Agreement. The agreement allows the Permittees to utilize scientific, technical, and enforcement services provided by OCFCD to supplement their resources to implement their ID/IC Program.

The **Tables 10.1** and **10.2** below clarify the general differences in the roles and responsibilities between the Permittees that have chosen to contract with OCFCD and Permittees without the Agreement.

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Table 10.1 Responsibilities of Permittee with OCFCD WQO Implementation Agreement	
<i>Roles</i>	<i>Responsibilities</i>
Reporting Hotline and Dispatch	Establish and maintain, receive complaints, and make notifications – <i>Contact OCFCD to respond when necessary</i>
Designated Authorized Inspector or Spill Responder	Assess and investigate non-hazardous incidents - <i>refer hazardous or after hours incidents to OCFCD</i>
Authorized Inspector or Code Enforcement	Initiate, track and report enforcement activities related to non-hazardous incidents – <i>refer hazardous or after hours incidents to OCFCD. Obtain information from OCFCD for annual report.</i>
Authorized Inspector, Public Works or Contractor	Initiate, supervise and report non-hazardous clean-up activities - <i>refer hazardous or after hours incidents to OCFCD. Obtain information from OCFCD for annual report.</i>
Authorized Inspector or NPDES Representative	Complete annual reporting requirements – <i>obtain information from OCFCD for annual report.</i>

Table 10.2 Responsibilities of Permittee without OCFCD WQO Implementation Agreement	
<i>Roles</i>	<i>Responsibilities</i>
Reporting Hotline and Dispatch	Establish and maintain, receive complaints, and make notifications
Designated Authorized Inspector or Spill Responder	Assess and investigate incidents.
Authorized Inspector or Code Enforcement	Initiate, track and report the enforcement activities
Authorized Inspector, Public Works or Contractor	Initiate, supervise and report the clean-up activities. Obtain contractor if necessary.
Authorized Inspector or NPDES Representative	Complete annual reporting requirements

In addition to OCFCD, a few Permittees also utilize other outside service providers/contractors for additional resources to implement their program.

Training and support for managing and implementing the ID/IC Program was initiated in early 2002 when, in response to the Third Term Permit requirements, the Permittees re-evaluated their program implementation structure and established a number of new committees and task force groups. The Authorized Inspectors Sub-Committee was established to provide a forum for the coordination, investigation, enforcement and training aspects of the water pollution response and enforcement program. The meetings were held quarterly and provided water quality enforcement program and authorized inspector responsibilities training and served as a forum to discuss ongoing or new issues and to profile cases or incidents.

## 10.2.3 Detection and Elimination of Illegal Discharges

### 10.2.3.1 Types of Illegal Discharges

The ID/IC Program provides guidance to the Permittees on how to detect, respond to, and investigate water pollution problems caused by various illegal discharges.

An illegal discharge is any discharge to the municipal separate storm sewer that is not composed entirely of stormwater and that is not covered by a NPDES permit. An illegal discharge refers to the disposal of non-stormwater materials such as paint or waste oil into the storm drain or the discharge of waste streams containing pollutants to the storm drain.

The Model Ordinance prohibits illegal discharges by defining the term “prohibited discharges” as any discharge from public or private property containing any pollutant to: the stormwater drainage system, any upstream flow which is tributary to the stormwater drainage system, groundwater, river, stream, creek, wash, dry weather arroyo, wetlands, marsh, coastal slough/bay/harbor, or Pacific Ocean.

Below are detailed descriptions of prohibited discharges that may be the result of illegal discharges, including sewage spills and illicit connections.

#### *Water Pollution Incidents/Spills*

Prohibited discharges may be generally result from poorly managed on-site operations, illegal disposal and/or polluted stormwater discharges. Examples of problematic site operations may include:

- Pressurized washing and steam cleaning areas;
- Auto repair shops where operations occur out of doors in unprotected areas and no provision is made for preventing contamination from leaving the site;
- A non-retail fueling area where vehicle washing occurs and flows offsite;
- Manufacturing storage yard for concrete materials where materials are uncovered and wash off flows directly to storm drain;
- Construction location where debris, materials, and silt flows off the construction site; or
- Trauma scene clean up operations.

Examples of illegal disposal activities may include:

- Home/yard debris discarded near curb inlet to stormwater drainage system;
- Trash, drums or discarded materials left on creek or wash area banks;
- Used oil poured on the ground or into storm drains; or
- Paint waste poured on the ground or discharged into storm drains.

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Stormwater pollution can also occur when rain water is polluted after it comes into contact with and flows off of contaminated impervious surfaces. Although the runoff is occurring due to the storm event, poor housekeeping and/or materials management at a site can result in a prohibited discharge.

Examples of poor facility/site practices that can result in contaminated stormwater discharges leaving the site include the following:

- Construction or work on an exposed site where soils are being tracked onto the street;
- Exposed petroleum contaminated soils in equipment servicing areas;
- Uncovered areas of stockpiled construction materials;
- Uncovered materials storage areas;
- Outside storage of unsealed paint and solvent containers; and
- Exposed truck loading docks with uncovered materials.

### *Sewage Spills*

Sewage spills are considered prohibited discharges; therefore the Permittees have begun to pay special attention to sewage spills to ensure that there is better coordination between the municipalities and the sanitation districts (**Section 10.4**). In addition, the Permittees conducted two focused studies in 2003 to estimate the potential impact associated with septic systems and portable toilets on receiving water quality.

- Septic Systems - The *Septic System Inventory and Assessment* (presented in **Appendix E4**) consisted of a GIS inventory of septic systems throughout the County and a random field survey of septic system owners within four selected major areas to evaluate existing system performance. Of the eighty field surveys that were conducted, only one failed system was noted, representing a failure rate of 1.25%. A spreadsheet model was also developed to estimate the loading of pathogen indicators and total Kjeldahl nitrogen (TKN) from the failed systems, which indicated that the load from the failed septic systems is a very marginal contributor to pathogen indicators in the receiving waters and is an insignificant contributor for TKN. The study concluded that septic systems do not represent a significant source of constituents of concern for Orange County receiving waters.
- Portable Toilets - The Permittees conducted an evaluation of practices and impacts associated with the use, maintenance, and oversight of portable toilets in Orange County. Industry standard practices related to siting, maintenance, transport, disposal, and storage were identified and water quality impacts associated with portable toilets were assessed based on a review of reported pollution incidents and anecdotal information derived from interviews. The assessment identified a small number of formal incidents over the past several years where an observed or potential direct impact to a drainage channel from a portable toilet occurred, probably through flooding or vandalism. The study also found that current standard industry practices for use,

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maintenance, transport and storage of portable toilets within Orange County are generally sufficient to prevent impacts to receiving waters, but that these practices should be formalized and shared with suppliers and users within Orange County to ensure their consistent application. The *Portable Toilet Pollution Prevention Study* is presented in **Appendix E5**.

In 2004 the Permittees re-evaluated the need for each of the sub-committees. Due to the potential overlap between sub-committees, the Authorized Inspectors sub-committee was merged with the Existing Development Task Force to form a new Inspection sub-committee. The Inspection sub-committee is attended by the ID/IC and Existing Development inspectors and provides a forum for training, inspection, spill response and enforcement discussions.

### 10.2.3.2 Detection of Illegal Discharges

The Permittees have a number of programs in place that facilitate the proactive detection of sources of illegal discharges and illicit connections. These programs include the following:

- Municipal Activities (DAMP Section 5) – field inspectors and facility managers assist in the identification of illegal discharges and illicit connections during their daily activities. For example, during the routine maintenance of a drainage facility, a field inspector will report any dumped materials and/or undocumented connections to the NPDES representative.
- Public Education (DAMP Section 6) – assists with the distribution of public education materials that provide phone numbers and encourage the reporting of spills
- Construction Activities (DAMP Section 8) - assists with the identification of illegal discharges from construction sites
- Existing Development Programs (DAMP Section 9) – assists with the identification of actual or threatened illegal discharges from industrial, commercial and residential areas
- Water Quality Monitoring Program (DAMP Section 11) – assists with the identification of problem areas through the collection of water quality data

These programs are well integrated through the exchange of information and thus results in a more proactive ID/IC Program.

#### *Industrial Facility Inspection*

In addition to the integrated program coordination, the Permittees also participate with other departments and agencies for industrial facility inspections. On behalf of the Permittees, the Principal Permittee coordinates with a number of public agencies who routinely conduct inspections of industrial facilities in Orange County. These agencies and their areas of responsibility include the following:

- The Orange County Health Care Agency regulates the storage and disposal of hazardous wastes. Approximately 6,400 businesses are inspected annually to ensure proper waste management.

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- The Fire Departments in Orange County regulate the storage of hazardous materials through disclosure ordinances such as OCC Sec 4-3-200-300 and Article 80 of the Fire Code. This regulation involves inspection at approximately 7,000 businesses.
- Agricultural chemicals, notably pesticides, are regulated by the Agriculture Commissioner through the State Agriculture Code (California Code of Regulations (CCR) Title 3, Sec. 6000 et seq.). The Commissioner's office performs facility inspections at about 200 facilities/year out of a total of approximately 700 facilities that use/store pesticides. The Commissioner's office also initiates enforcement action for non-compliance (NC).
- Discharges to the sanitary sewers are mostly regulated by the Orange County Sanitation District (OCS D) and the South Orange County Wastewater Authority (SOCWA), who routinely conduct pre-treatment facility inspections.

Routine coordination with staff of these inspection programs occurs through the Orange County Hazardous Materials Strike Force. The Strike Force is headed by the Orange County District Attorney's (DA) Office and includes representatives of a wide variety of local, regional, and state agencies.

In addition, the Principal Permittee provides Stormwater Awareness training for these inspectors so that they are cognizant of stormwater issues and as a result, notify the Principal Permittee of potential or observed water pollution problems.

### *Countywide Reconnaissance Monitoring*

During the First Term Permit and part of the Second Term Permit, the Permittees conducted field screening/reconnaissance every year, which included conducting a site investigation and chemical analysis once during dry weather and once during storm events. While the primary objective of this component of the water quality monitoring program was to detect gross contamination from illegal discharges through field analyses, few incidences were detected.

New monitoring program objectives set in the Second Term Permit prompted a re-evaluation of the monitoring program starting in 1997. In May 1999, a final report outlining a new monitoring program that addressed the requirements of this permit was submitted to the Regional Boards and the program was implemented.

The reconnaissance and source identification section of the third term permit water quality monitoring program addresses the need to determine if an identified water quality problem is the result of an illegal discharge or illicit connection through a series of source identification studies. If problems are found, they are referred to the Permittees' Authorized Inspectors or NPDES program representatives.

### *Water Pollution Problem Reporting*

The public reporting of water pollution complaints/incidents is also very important to the detection of illegal discharges and illicit connections. As the public becomes increasingly educated on urban runoff, they will serve as an important source of information for detecting illegal discharges and illicit connections.

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The public reporting of water pollution problems is facilitated by the following:

- Permittee business telephone numbers in materials produced and distributed by the NPDES Stormwater Program's public education activities (brochures, posters, magnets);
- The inclusion of the countywide water pollution problem reporting telephone number in the Orange County "White Pages" telephone directories;
- The countywide 24 hour water pollution problem reporting hotline (714) 567-6363 and corresponding pollution notification web page ([http://www.ocwatersheds.com/WQHotline/wqh\\_reporting.asp](http://www.ocwatersheds.com/WQHotline/wqh_reporting.asp)) in materials produced and distributed by the NPDES Stormwater Program's public education activities;
- The development and advertisement of the Principal Permittee's website ([www.ocwatersheds.com](http://www.ocwatersheds.com)) which contains information on behalf of the Permittees such as public education information, brochures and an online reporting form for reporting water pollution complaints.

### 10.2.3.3 Spill Response Program

In addition to the proactive detection and elimination of threatened or occurring discharges, a large portion of the Permittees' ID/IC Program is responding to water pollution complaints and incidents. Complaints are usually non-emergency and often do not involve hazardous materials. Spill incidents however are typically larger scale that may result from an accidental release or illegal discharge and often involves hazardous materials. Each Permittee is responsible for responding to complaints and spill incidents in their jurisdiction and have set up their own Spill Response Program within their ID/IC Program or as part of the fire department's hazardous materials response unit. To assist the Permittees in responding to complaints and spill incidents, a Model Spill Response Procedure has been developed and presented below in **Section 10.2.4**. In addition, model procedures for responding specifically to sewage spills are contained in **Section 10.2.5**.

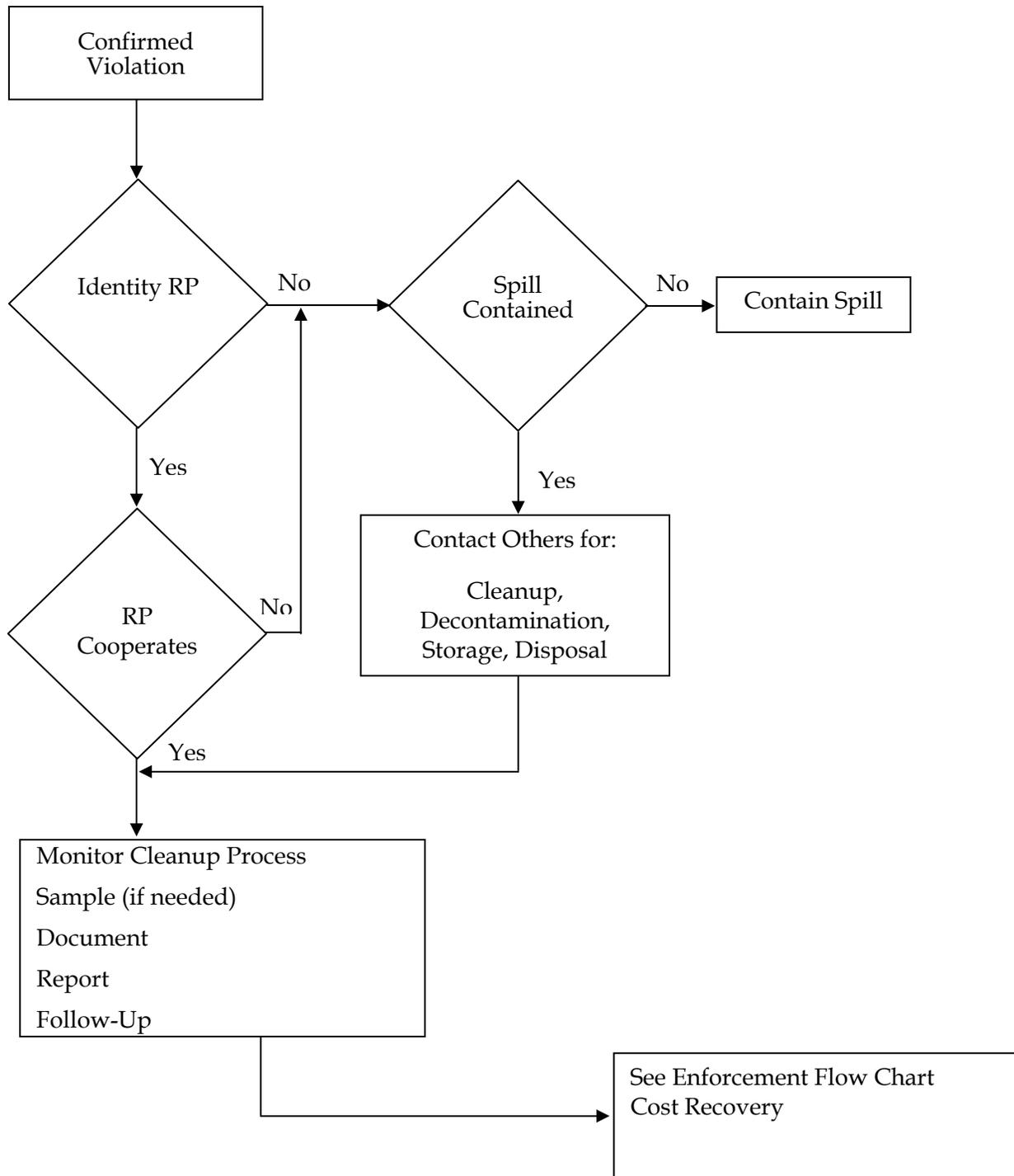
## 10.2.4 Model Spill Response Procedures

### 10.2.4.1 Introduction

During the Third Term Permit the Permittees re-evaluated the ID/IC Program and determined the need to develop guidance for Authorized Inspectors and Spill Responders to follow in the investigation of spills and water pollution complaints. This guidance is the Model Spill Response Procedure which was designed so that Permittees may modify it to accommodate their local situation. After the Permittees develop their specific Spill Response Procedures it is incorporated into their Local Implementation Plan.

While spills to municipal storm drain system are important and responses are often the same, sewage spills have merited special regulatory attention as coordination with other public agencies as well as private owners is often involved; for this reason, sewage spill response procedures are covered separately in **Section 10.2.5**. The general response to a spill is illustrated in **Figure 10.3**.

**Figure 10-3**  
**Spill Response Procedures**  
**(cont'd)**



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Protocols used in responding to any type of spill are essentially the same. The primary objectives in a response to a water pollution incident or spill include:

- Protection of human health and welfare
- Preservation of surface water quality and protection of environmentally sensitive areas
- Protection of personnel that may come in contact with the spill
- Protection of storm drain infrastructure
- Protection of private and public property

The response procedures consist of the following elements, each of which are briefly described below and described in further detail in the *Model Investigative Guidance Manual, December 2004 (DAMP Section 10.0, Exhibit 10.III)* and related training modules:

- Record Keeping
- Notifications and Response Requests
- Response
- Investigations
- Clean-Up
  - Trauma Scene Cleanup
  - Cleanup Costs
  - Follow-up
  - Decontamination
  - Waste Storage and Disposal
- Reporting

### 10.2.4.2 Record Keeping

In order to ensure that the program is efficient and effective, the Permittees have instituted regular documentation procedures for their water pollution complaint and spill response activities. Information from a complaint, notification, or response request is documented throughout the entire process in order to:

- Provide accurate information for any personnel involved in the incident;
- Allow the data to be analyzed in order to determine if there are repeat offenders, problematic areas, problematic types of businesses, etc.
- Ensure that the required regulatory notification and/or reports are completed;

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- Provide the required information for any enforcement actions and/or cost recovery;
- Assist with the annual reporting and program effectiveness evaluations; and
- Allow for better decision making for program improvements.

Documentation for each incident may include one or more of the following:

- A reporting form or field logbook;
- Photographs;
- The collection of samples;
- Detailed notes on observations;
- Witness interviews; and
- Other information relevant to the investigation.

After the initial entry of the information on the Pollution Notification/Investigation Request (PNIR) or related form, the information is typically entered into a database so that the data can be analyzed and future enforcement activities focused on either problematic responsible parties, locations or constituents. In addition, the use of a database allows the Permittees to quickly and accurately provide the information that is necessary for the annual Program Effectiveness Assessment (**Section C-10**).

### 10.2.4.3 Notifications and Response Requests

In order to have a successful ID/IC program, the Permittees need to obtain information about potential or existing complaints and spills as soon as possible so that the problem can be mitigated as quickly as possible.

Notifications of water pollution complaints or spill response requests generally come from a variety of sources including:

- The general public;
- Permittee staff such as field inspectors;
- Other agency personnel such as Health Care inspectors or Regional Board staff; and
- Emergency personnel such as police and fire departments.
- In order to facilitate the reporting of problems by the general public, the Permittees advertise the County's 24 hour water pollution problem reporting hotline number (714-567-6363), the website reporting form ([www.ocwatersheds.com](http://www.ocwatersheds.com)) and/or their local hotline numbers on the of the public education brochures and posters. In addition, the Permittees created a magnet for the sole purpose of advertising the County's hotline number (DAMP Section 6).

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- The Permittees also coordinate with internal staff and other agency and emergency response personnel and hold various training sessions and meetings so that they understand how to identify a problem and who to report it to. An example of this type of inter-agency coordination is Orange County Hazardous Materials Strike Force.

### 10.2.4.4 Response

After receiving a notification of a water pollution problem or spill, Permittee staff either refers the problem to their internal Authorized Inspector and/or Spill Responder or to the OCFCD's Authorized Inspector and/or Spill Responder if they are under contract. Each complaint or spill is investigated as soon as possible to ensure that valuable information is not lost and to minimize any potential human health and environmental impact.

The response typically consists of:

- An on scene assessment – Since the information collected during the initial report may, at times, be inaccurate, the on-scene assessment must be conducted in order to verify the complaint and gather more specific information.
- Notifications – After conducting the on-scene assessment, several notifications may be necessary including notifications to other agencies requesting assistance and/or notifications to regulating agencies for reporting purposes.
- Containment of the material(s) involved - The discharge or release of pollutants should be discontinued and contained as close to the originating site as possible after the initial assessment has been completed. This is critical in preventing further contamination or degradation downstream and can assist in an easier and less expensive cleanup.

### 10.2.4.5 Investigations

After the initial assessment and containment, the Inspector or Responder will try to determine why the incident occurred and whether the discharge or release was deliberate or accidental and if the incident is a repeat occurrence. The objective in conducting the investigation is to obtain legally defensible documentation of the incident.

A thorough investigation may include one of more of the following:

- Collection of Samples – in many cases, it may be necessary to collect samples for possible enforcement action. Samples may be collected of suspect runoff after the material(s) have been identified and contained.
- Photographs – During the course of an investigation, it may be necessary to take photographs to record visual observations and to document evidence for possible enforcement action.
- Interviews – Informal interviews are a useful tool in determining the cause of the discharge as well as the extent of pollutants involved. These types of interviews should be conducted as soon as possible after arriving at the site.

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- Incident Report/Write Up - After the investigation, the Inspector or Responder may prepare a detailed written report, including a description of the site, the processes thereon, the location of each sample point, the names and addresses of the potential witnesses, recorded observation of physical conditions indicating possible discharge, the findings of the investigation.

The *Enforcement Consistency Guide* and/or the *Model Investigative Guidance Manual* should be consulted for further information on inspections and the collection of defensible data.

### 10.2.4.6 Clean-up

The main objective in a clean-up operation is to restore the impacted area back to its original state (to the maximum extent practicable) and prevent further environmental degradation in the surrounding area of the incident. During the clean-up phase of the response, the Inspector or Responder is generally overseeing and directing the cleanup and should re-evaluate the resources necessary to perform the clean-up and ensure that they are being prepared and sent to the site.

Typical clean-up measures may include pumping operations, absorbent booms and pads, granular absorbent, steam cleaning/power washing and/or soil removal. Although incident clean-up procedures are fairly similar, there are some special circumstances such as trauma scenes which may require slightly different approaches.

#### *Trauma Scene Cleanup*

Trauma scene cleanup requires special procedures in addition to the general cleanup procedures described above. Trauma scene wastes (i.e. blood and human tissue) may be generated at various types of crime or accident scenes. These types of wastes can pose a serious human health risk to those who are responsible for overseeing and conducting the cleanup. It is important that the procedures described below be employed when feasible to protect personnel and prevent any unnecessary discharges of material into the storm drain. The types of blood borne pathogens that may be encountered at a trauma scene include, but are not limited to HIV, Hepatitis B and Hepatitis C.

#### General Trauma Scene Cleanup Procedures

- Trauma scene cleanup operations must be performed in accordance with the Medical Waste Management Act, *California Health and Safety Code, Sections 117600 - 118360*. The Act may be viewed on the California Department of Health Services web page at: [www.dhs.ca.gov/ps/ddwem/environmental/Med\\_Waste/mdm\\_act.pdf](http://www.dhs.ca.gov/ps/ddwem/environmental/Med_Waste/mdm_act.pdf)
- Fire Departments on emergency calls who clean up a scene themselves are not required to have a Biowaste Hauling Permit to remove liquid or solid trauma scene waste(s) from the scene for temporary storage or disposal. The County of Orange Medical Waste Section (Emergency Response through Control 1 after hours at (714) 628-7008) is available for consultation/assistance with trauma scene management.

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- A Registered Trauma Scene Management Practitioner (RTSMP) is necessary when a scene requires decontamination and cleanup beyond the capability of Public Agency personnel on scene. RTSMP's are registered with the Department of Health Services pursuant to Section 118321 of the Medical Waste Management Act. A list of RTSMP's can be obtained from the California Department of Health Services web page at: ([www.dhs.ca.gov/ps/ddwem/environmental/Med\\_Waste/medwasteindex.practitioners.pdf](http://www.dhs.ca.gov/ps/ddwem/environmental/Med_Waste/medwasteindex.practitioners.pdf)). Additional information may be obtained by calling the Department of Health Services at (916) 327-6904.
- Universal precautions and adequate personal protective equipment must be utilized during any clean-up operation. Additional information and guidance for cleanup policies and procedures for bodily fluids may be obtained 24 hours a day by contacting the Orange County Health Care Agency (HCA), Regulatory Health Services. During Business hours call (714) 433-6000, after hours, call Control One at (714) 628-7008.
- Implement appropriate BMPs and protect the storm drain system to the maximum extent practicable when conducting cleanup of trauma scenes. Notifications regarding significant potential impacts to the storm drain system and additional information and guidance on BMPs to be implemented may be obtained 24 hours a day by contacting the County of Orange Public Facilities and Resources Department at (714) 567-6363 or through Control One at (714) 628-7008.

### Cleanup of Trauma Scene Wastes on Public Property

Public Agency personnel should observe the following points:

- Cleanup of trauma scene waste(s) on public property should be performed by properly trained (OSHA- blood borne pathogen trained) Public Agency personnel (police, fire or safety personnel), or by a Registered Trauma Scene Management Practitioner (RTSMP) called to the scene by the incident commander.
- Before proceeding with site cleanup, Public Agency personnel should possess proper personal protective equipment, adequate supplies of bleach and sufficient water to properly complete the cleanup operation.
- Wear gloves when washing or handling contaminated equipment, clothing or other materials. Wear other personal protective gear as necessary according to the potential for splashing.
- The Coroner's Office should remove any human tissue or body parts at the scene of a fatality. Coroner's Office personnel should follow their own departmental policies and procedures for removing any human tissue found on scene. The Coroner will not respond to a non-fatal incident for the purpose of human tissue removal.
- Human tissue, body parts, or blood/body fluids in a solid state can not be allowed to enter a storm drain. Appropriate BMPs should be implemented to prevent tissue from entering or being washed into the storm drain system; tissue found in the storm drain system should be removed to the maximum extent practicable.

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- Dispose of sharps waste in a rigid sharps container. Dispose of the sealed container in an appropriate manner in compliance with the Medical Waste Management Act.
- The Orange County Health Care Agency (HCA), Regulatory Health Services may be contacted if needed for consultation/assistance in trauma scene management or questions regarding legal disposition of medical waste.
- For incidents on freeways, discuss with CHP the potential use of CALTRANS for cleanup of trauma scene waste.
- When a Registered Trauma Scene Management Practitioner (RTSMP) is called to a scene, each agency or jurisdiction shall have a policy in place that establishes which department (fire, law enforcement, public works, etc.) is responsible for staying on scene until the RTSMP arrives on scene. In no case shall the scene be abandoned prior to the arrival of the RTSMP.

### Specific Cleanup Procedure for Small Spills:

Public Agency personnel may decontaminate and then wash down small amounts of human blood/body fluids that are still in a liquid state. A “small” spill shall be defined as a spill that can be thoroughly and completely disinfected with one gallon of 10% chlorine disinfectant. This determination should be made with the understanding that multiple applications may be necessary to accomplish full disinfection. When it is determined that the incident may be designated as small the following procedures may apply:

- Apparatus shall carry a Hudson sprayer, maximum capacity 1 gallon. The sprayer shall be filled to 90% capacity with clean tap water.
- In a separate container, apparatus shall carry liquid household chlorine bleach and the ability to measure ¼ cup quantities of it.
- When decontamination of a liquid trauma scene waste becomes necessary, personnel shall add a minimum of ¼ cup of the liquid bleach to the water in the Hudson sprayer. This will create a 10% solution.
  - *If an agency chooses to premix a 10:1 water to chlorine solution, they must replace it with fresh solution daily.*
  - *In lieu of using a 10% chlorine solution for decontamination, a Public Agency may follow a pre-described sanitization protocol outlined by OSHA (29 CFR 1910.1030) or other professionally recognized state or federal documents*
- Personnel shall wear PPE's to protect skin, mucus membranes, lungs and clothing from chlorine or trauma scene waste during the mixing and cleanup process.
- Personnel shall apply disinfectant to the liquid biowaste (they may see foam develop) and let it sit for a minimum of 10 minutes.
- After 10 minutes, personnel shall wash down the area using a fire hose, pressurized water extinguisher, etc.

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- In non-emergency situations, and when circumstances permit, personnel should:
  - Attempt to move trash or miscellaneous debris from the path of the runoff so no additional or unnecessary material is discharged and carried into the storm drain.
  - If the incident location provides personnel with a choice between directing the runoff down a storm drain, or a sewer, always use the sewer (with permission from the sewer agency).
  - Porous surfaces such as asphalt may require multiple repetitions of the procedure to completely disinfect and thoroughly clean the area. Unless the repeat decontamination and wash down procedure can be accomplished until the area is thoroughly cleaned from start to finish with 1 gallon of 10% bleach solution, a RTSMP should be called.
  - No biowaste in a solid state, or the water associated with the clean up of this waste shall be washed down a storm drain. If present, call a RTSMP to handle the cleanup.

If the material requiring cleanup meets any of the following criteria, Public Agency personnel should call in a Registered Trauma Scene Management Practitioner (RTSMP).

- Criteria:
  - The amount of liquid trauma scene waste at the incident reasonably exceeds the ability to thoroughly disinfect the incident with 1 (one) gallon of 10% chlorine disinfectant.
  - The material requiring clean up is human tissue or a body part, and Coroner's Office personnel will not be responding to the scene to remove the material because the incident did not involve a fatality.
- A Registered Trauma Scene Management Practitioner (RTSMP) can be requested through dispatch when needed.
- When a Registered Trauma Scene Management Practitioner (RTSMP) is called to a scene, each agency or jurisdiction shall have a policy in place that establishes which department (fire, law enforcement, public works, etc.) is responsible for staying on scene until the RTSMP arrives on scene. In no case shall the scene be abandoned prior to the arrival of the RTSMP.

### Cleanup of Trauma Scene Wastes on Private Property

- The property owner has two options. Hire a Registered Trauma Scene Management Practitioner (RTSMP) or cleanup the affected area personally while observing the following restrictions.
  - Employees of the property owner who have not been given OSHA mandated Blood borne Pathogens training, proper personal protective equipment, and adequate supplies of bleach and water to complete the cleanup operation shall not be used for this task.
  - Trauma scene wastes must be disposed of properly and shall not be discharged to a storm drain.

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- A list of RTSMP's that offer trauma scene waste cleanup service may be obtained from the California Department of Health Services web page at ([www.dhs.ca.gov/ps/ddwem/environmental/Med\\_Waste/medwasteindex.practitioners.pdf](http://www.dhs.ca.gov/ps/ddwem/environmental/Med_Waste/medwasteindex.practitioners.pdf)). Note: List is not a recommendation for these companies.

### *Clean-up Costs*

Since clean-up costs may be substantial, the Inspector or Responder should determine how clean-up costs may be recovered. Prior to initiating spill clean-up, it is essential that the RP be contacted and that they clearly accept or deny responsibility for clean-up and response costs.

If the clean-up is too large and the RP cannot be located or persuaded to assume clean-up responsibility, and the incident requires immediate action to protect life, property or the environment, the Inspector or Responder may need to immediately contract a clean-up company for clean-up. To prepare for this situation, the Inspector or Responder should be authorized to initiate clean-ups. This authorization states that the individual has signature authority for contracting private clean-up companies to conduct clean-up without the usual purchasing procedure.

After the cleanup is completed, if the RP is subsequently found or was previously uncooperative, the Ordinance contains a provision for the recovery of costs from the RP.

In certain situations, clean-ups that exceed \$25,000 may be eligible for State and Federal emergency funds. Additional information may be obtained by contacting the State Water Resources Control Board or Coast Guard, respectively.

### *Follow-up*

After clean-up is completed, a follow-up inspection is conducted to ensure that the clean-up is adequate. Follow-up inspection tasks may include:

- Verification that the problem has been mitigated;
- Inspect for any remaining residue in street curbside, storm drain or channel;
- Monitoring, using applicable field instrumentation, for pH, conductivity, or hydrocarbons at random locations, which may have been affected by the incident discharge;
- Collecting and analyzing random samples to verify extent of pollutant removal;
- Requesting additional clean-up of inadequately cleaned areas;

Each incident should be evaluated after its occurrence to determine if appropriate action and corrective measures were taken.

### *Decontamination*

Decontamination refers to both the equipment and tools used by the clean-up personnel, as well as decontamination of the spill area. After the clean-up is completed the vehicles, equipment and Personal Protective Equipment should be decontaminated. Clean, non-contaminated equipment is essential for the safety of the next user.

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### *Waste Storage and Disposal*

Wastes generated from the mitigation and clean-up of pollutants need to be properly transported and stored for subsequent disposal. The wastes may be non-hazardous or hazardous

Non-hazardous wastes may be disposed of by common methods including disposing of solid wastes with the regular trash or rubbish. In some cases, non-hazardous wastewater may be diverted or discharged, with prior approval from the appropriate sewer collection agency, to the sanitary sewer system.

The hazardous wastes generated from the incident, including absorbents and decontamination items, should be properly packaged by a clean-up contractor in Department of Transportation (DOT) containers accompanied with manifest forms, transported, and disposed of in accordance with Resource Conservation and Recovery Act (RCRA) guidelines.

Whether the wastes are generated from clean-up performed by agency staff or a private contractor, if the RP has not been identified, the local jurisdiction has to assume responsibility for the transportation, storage, and disposal of the material.

#### 10.2.4.7 Reporting

The ID program has a number of reporting requirements. These requirements are summarized below.

- Proposition 65 Notification – Health and Safety Code 25180.7 provides that “Any designated government employee who obtains information in the course of his official duties revealing the illegal discharge or threatened illegal discharge of a hazardous waste within the geographical area of his jurisdiction, and who knows that such discharge or threatened discharge is likely to cause substantial injury to public health or safety, should, within 72 hours, disclose such information to the local health officer.” In Orange County, the Proposition 65 Hotline telephone number is (714) 433-6401.
- Regional Board Notifications – If a spill, leak or illegal dumping is determined to pose a threat to human health or the environment, the Permittees are required to report this information to the Regional Boards by phone or e-mail within 24 hours of the discovery followed by a written report within 5 days.

### 10.2.5 Model Sewage Spill Response Procedures

#### 10.2.5.1 Introduction

While all spills to municipal storm drain systems are important and responses are often the same as other spills, sewage spills have merited special regulatory attention since coordination with other public agencies as well as private owners is often involved; for this reason, the sewage spill response procedures were developed separately. The Model Sewage Spill Response Procedure has been developed and the Permittees may develop their respective Spill Response Procedures for their Local Implementation Plans. The general response to a sewage spill is illustrated in **Figure 10.4**.

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A sewage spill may be the result of an accidental or irregular discharge of raw (untreated) sewage from a sanitary sewer system or from private property tributary to a public sewage system. The definition has been expanded in recent years to include discharges of treated (partial, secondary or to Title 22 standards) wastewater as well as other human wastes (e.g., septic tank overflows, etc.).

While the protocols used in responding to any type of spill are essentially the same, the specific differences for sewage spills are described within this section.

Definitions of terms relevant for sewage spills are provided in Section 10.5.

The primary response procedures for sewage spills are the same as for other types of spills and consist of the following elements:

- Record Keeping
- Notifications and Response Requests
- Response
- Investigations
- Clean-Up
- Reporting

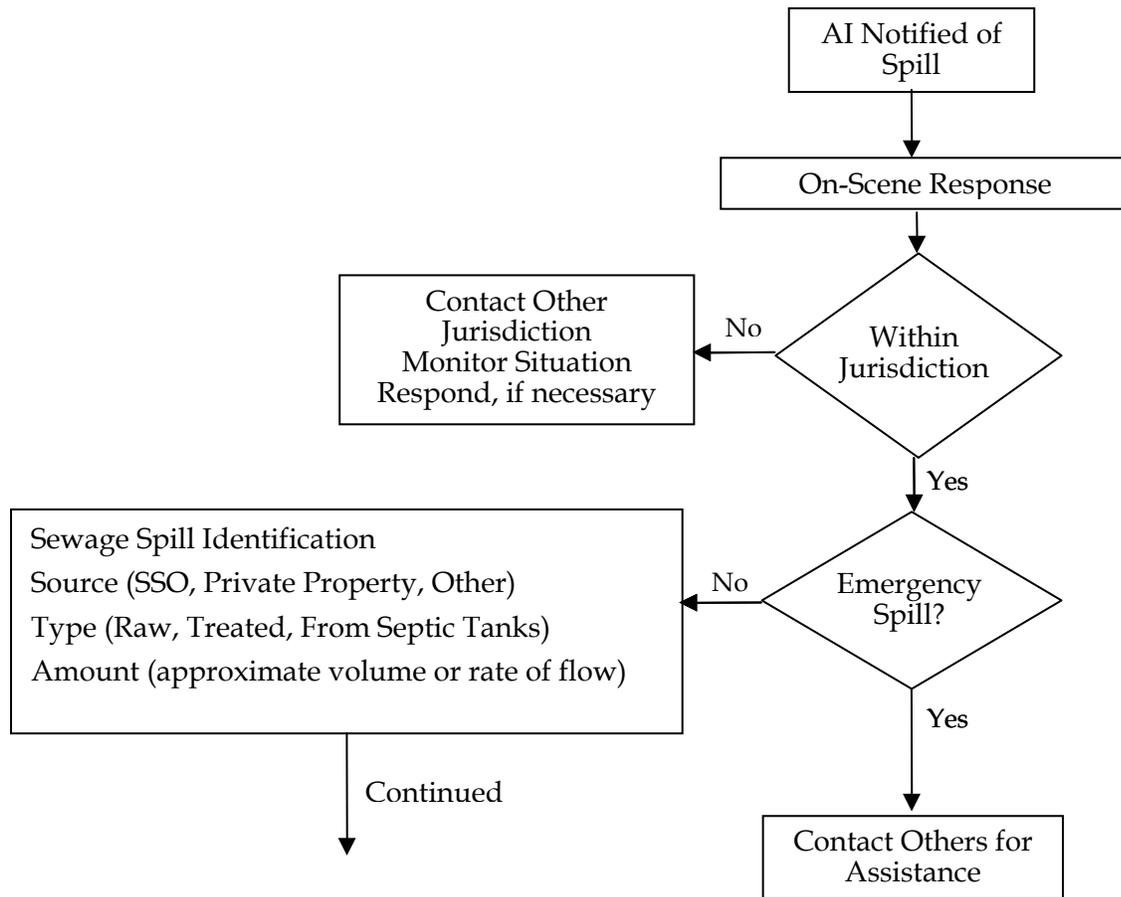
**Figure 10.4** presents a flow chart that outlines the typical sewage spill response procedures.

### 10.2.5.2 Record Keeping

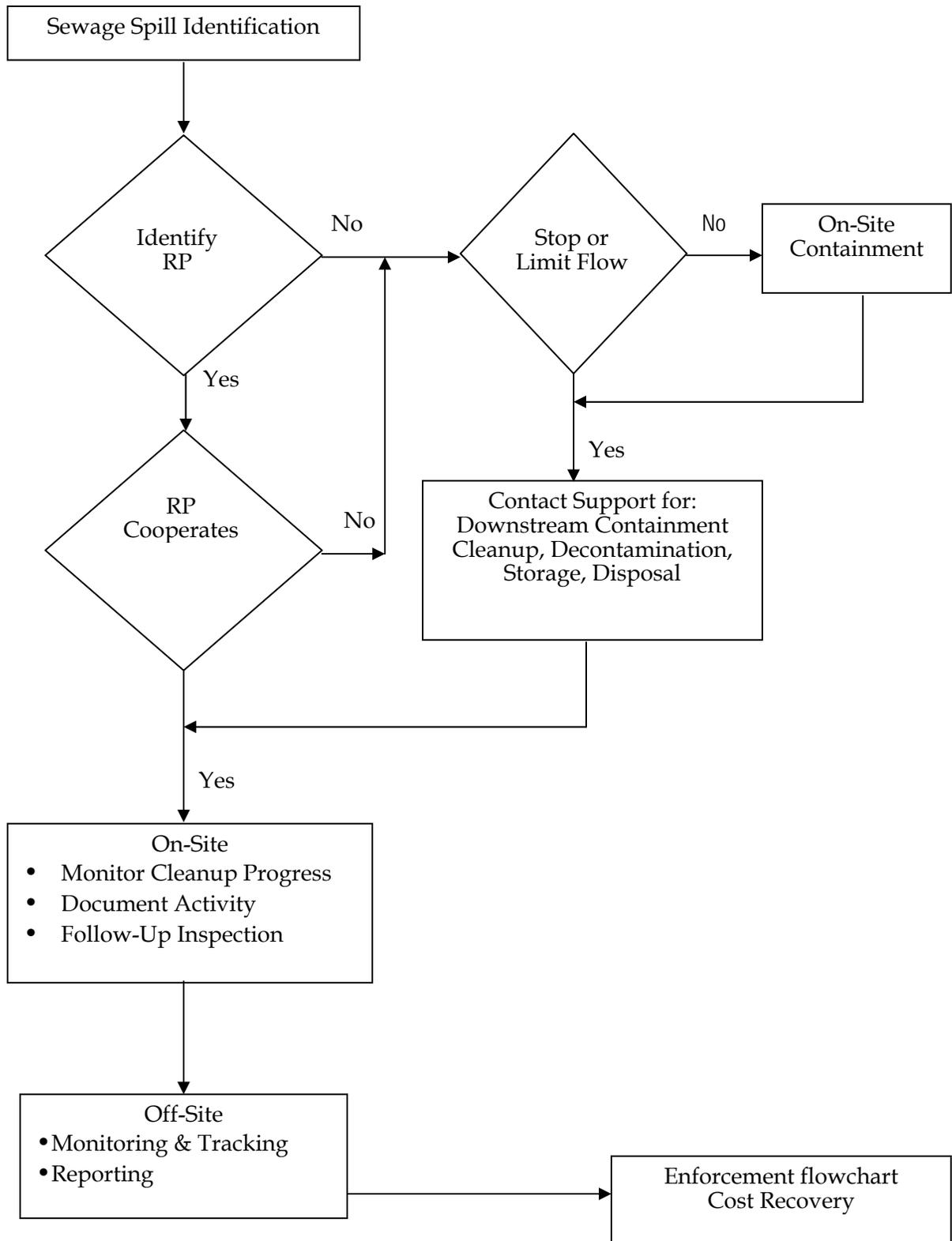
To ensure that the necessary information is collected, the Permittees use forms similar to the County's Pollution Notification and Investigation Request (PNIR) form. In addition to the information that is collected on the PNIR form, the following pieces of information are helpful when documenting a sewage spill:

- Information regarding whether a sewage spill entered a storm drain (i.e. where sewage is observed running into a drain, or directly to a receiving water, creek, channel, etc. or there is residual evidence thereof), including the location and name of the receiving water;
- Determination of spill start and stop time;
- A determination of spill volume

**Figure 10.4**  
**Sewage Spill Response Procedures**



**Figure 10.4  
Sewage Spill Response Procedures (cont'd)**



## SECTION 10, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

### 10.2.5.3 Response

Although there are instances where the municipal storm drain and sanitary sewage collection systems are under the same public agency (City) ownership, there are also many situations where there are several jurisdictions involved. Responding to overflows that reach the municipal storm drain system is, in these instances, a joint or shared responsibility of both (stormwater and waste water) Permittees.

Following is a list of the types of spills that may occur and who has primary responsibility for responding to them:

- Private Property – property owner has the responsibility of clearing the line from the sewer main to the property and typically contacts a plumber
- Local sewer system - local sewer collection agency has primary responsibility for responding to the spill and clearing the line
- Regional trunk sewers – Local sanitation district has the primary responsibility for responding the spill and clearing the line.

Regardless of where the spill originates, if the spill has entered or may enter the storm drain system, the Permittees respond to assist with the cleanup and remediation of the area.

If not already completed upon arriving on scene, the discharge or release of sewage should be discontinued and contained as close to the originating site as possible after the initial assessment has been completed. This is critical in preventing further contamination or degradation downstream and will ultimately result in an easier and less costly cleanup effort.

### 10.2.5.4 Clean-Up

The main objective in the clean-up operation is to restore the impacted area back to its original state (to the maximum extent practicable) and prevent further environmental degradation in the surrounding area of the incident. During this phase of the response, the Inspector or Responder is generally overseeing and directing the cleanup and should re-evaluate the resources necessary to perform the clean-up and ensure that they are being prepared and sent to the site.

The general responsibilities for sewage spill cleanup include:

- Coordinate with sanitation districts or others for clean-up actions;
- Provide list of clean-up companies for the RP to contact;
- Secure spill site to prevent contact by the public;
- Oversee clean-up – provide clean-up directions and verify pollutant removal. No readily identified residue, e.g., sewage solids, papers, etc. should remain;
- Ensure that any debris that the wastewater was in contact with is removed for proper disposal;
- Disinfect where appropriate. If disinfected, the wastewater should be contained and disposed of properly;

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- Document clean-up company's activities (proper and safe procedures) and verify appropriate clean-up charges;
- Document amount of waste or pollutant removed for reporting purposes and to verify disposal costs;

### 10.2.5.5 Reporting

Sewage spill reporting to various regulatory agencies has parallel and overlapping requirements. However, reporting spills to one regulatory agency will not necessarily satisfy the requirements of the other. Therefore, the Permittees should report to each entity designated to receive sewage spill reports.

#### Storm Drain Dischargers Notifications

- Regional Board Notifications - If a spill, leak or illegal discharge is determined to pose a threat to human health or the environment the Permittees report this information to the Regional Boards by phone or e-mail within 24 hours of the discovery followed by a written report within 5 days.

#### Sewage Discharger Notifications

- Orange County Health Care Agency (HCA) - California Health and Safety Code Section 5411.5 requires that sewage spills be immediately reported to the HCA 24-hours a day. During standard work hours (M-F, 8:00 a.m. to 5:00 p.m.) sewage spills that may impact beaches or the ocean should be called in by phone directly to Regulatory Health Services, Environmental Health, Ocean Water Protection Program staff personnel at (714) 433-6000. After hours reports for emergency spills can be phoned in through the County Communications number (714) 628-7008.
- State Office of Emergency Services (OES) - California Water Code Section 13271 and the CCR Section 2250 require that the State OES be notified immediately of sewage spills of 1,000 gallons or more from public sewer systems by telephone (800) 852-7550.
- Santa Ana Regional Board - Order No. 2002-0014 requires that sewage dischargers immediately report SSOs entering a storm drain, drainage channel, or surface water body to the Board by telephone, voice mail, e-mail, or FAX. Completed SSO Report Forms, or equivalent, for each and every overflow event should be submitted within five days of the initial notice. Full reports for each SSO occurrence including photos and mitigation measures should be submitted electronically to the RWQCB at the end of each month. Submittal of SSO Summary Reports and certification statements are also required 30 days following the spill report period.
- San Diego Regional Board - Order No. 96-50 requires that sewage dischargers report spills of at least 1,000 gallons, or to surface waters, within 24-hours by FAX or telephone. In these instances the discharger should fax a SSO Report Form to the Board within five days of the spill. The completed SSO Form should also be faxed to the Department of Health Services (DHS). A quarterly report of the sanitary sewer spills, including those not meeting the criteria stated above, should be submitted electronically to the Regional Board.

## SECTION 10, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

### 10.2.5.6 Sewage Spill Response Planning

In an effort to develop more proactive response procedures for sewage spills, the County and the Orange County Sanitation District (OCSD) have been cooperatively coordinating a sewage spill prevention and response demonstration project called the “Tustin Area Spill Control Demonstration (TASC) Project”.

The project includes portions of the City of Tustin and the unincorporated area of North Tustin. This geographical area was chosen due to the high number of “preventable” small sewage spills (those that occur in small diameter pipes and are less than 1,000 gallons) that occur primarily as a result of grease or root blockages.

The main objectives of the project are to:

- Create broader awareness on causes SSOs and measures to prevent them;
- Improve the interagency coordination when responding to SSOs;
- Understand the resource needs in responding and mitigating impacts;
- Develop predictive tools for identifying impacts; and
- Protect the beneficial uses of local water bodies.

Updates on the project are provided as a part of the annual Program Effectiveness Assessments.

### 10.2.6 Illicit Connection Investigations

An illicit connection to the storm drain system is an undocumented and/or unpermitted physical connection from a facility to the storm drain system. The First Term Permit required the Permittees to undertake programs to identify and effectively eliminate illicit connections to the storm drain system. The Permittees developed a facility inspection and documentation program to identify such connections and currently implement the program through the routine maintenance of their facilities.

The Ordinance defines the term “Illicit Connection” as any man-made conveyance or drainage system through which the discharge of any pollutant to the stormwater drainage system occurs or may occur. Constructed (man-made) Illicit Connections include: pipelines, conduits, inlets or outlets, connected impervious areas, channels or swales.

Examples of Illicit Connections include:

- Unpermitted pipes which discharge onto adjacent property;
- Facilities constructed adjacent to construction areas which allow dewatering runoff to flow to the stormwater drainage system (the dewatering activities, except those authorized by each respective permit, require coverage under either a general or individual permit from either of the RWQCBs);
- Storm drain inlets that drain from equipment, vehicle or similar wash areas directly into the stormwater drainage system

## SECTION 10, ILLEGAL DISCHARGES/ILLCIT CONNECTIONS

Any illicit connection identified during routine inspection is investigated by the affected Permittee. Appropriate actions are then taken to approve undocumented connections by permit procedure and/or pursue removal of those connections that are determined to be illicit connections and not permissible. If evidence of an illegal discharge is observed but the source could not be located, a source investigation may be conducted to determine if the discharge is being conveyed through an illicit connection.

### 10.2.7 Source Investigations

#### 10.2.7.1 Introduction

Source investigations may be conducted when an ID/IC is detected or suspected, and the source is not readily identifiable. The purpose of the investigation is to locate the source so that measures to eliminate the ID/IC can be implemented. Source investigations will be initiated when appropriate information suggests evidence of an ID/IC.

Examples of potential ID/IC evidence include:

- The dry weather monitoring program detects constituent levels which meet or exceed action criteria (see below);
- Monitoring personnel determine that there is a reasonable evidence of a potential ID/IC due to observations and measurements; or
- A public or Permittee staff report indicates the possibility of an ID/IC with an unknown source

In order to facilitate the determination of when source investigation studies are warranted, the Dry Weather Monitoring Program (**DAMP Section 11.0**) includes a set of criteria that will trigger focused ID/IC studies by the Permittee when the monitoring data indicate the presence of a problem. These criteria are designed to identify sites that:

- Exceed the overall regional average by a substantial amount in one or more constituents
- Exhibit substantial changes in their characteristics over time that could be indicative of worsening or improving conditions. (It may be informative to continue monitoring where conditions are improving in order to gain information that could be useful elsewhere.)

When data from the routine Dry Weather Monitoring Program exceeds these criteria, this triggers a consideration that follow-up investigations are necessary. With this trigger, the County Dry Weather Monitoring Program will have identified a stormdrain that exceeded the criteria, and the Permittee will be notified that a follow-up ID/IC investigation may be necessary. For extreme conditions that represent a clear and immediate risk to human health or receiving water quality then the appropriate Permittee inspector will be notified immediately. This situation may require a hazardous materials response.

In instances, where the monitored site is near a jurisdictional boundary and the upstream drainage network for the site extends into a neighboring jurisdiction(s), all appropriate jurisdictions will be notified.

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### 10.2.7.2 Tracking a Pollutant Upstream

Once the Permittee is notified of the potential problem and it is determined that a source investigation is warranted, the approach used for tracking a pollutant source upstream or identifying an illicit connection primarily involves the following steps:

- Step One - Initial Screening
- Step Two - Source Evaluations and Inspections
- Step Three - Monitoring
- Step Four - Document, Notify and Report

**Figure 10.5** presents a flow chart that outlines the typical source investigation procedures.

#### Step One - Initial Screening

The purpose of the initial screening process is to collect information from data and available sources to proceed with further investigation and may consist of the following steps:

- Compile and analyze the available water quality data from the drainage area in question to determine if a potential source may be identified. Laboratory data used in conjunction with previous investigation notes may be reviewed to help identify pollutant sources;
- Review previous source investigations within the city to determine if there are any similarities;
- Contact other local agencies/Permittees who may have performed similar source investigation studies;
- Collect data and information on sources that have been identified in other jurisdictions with similar circumstances or conditions for comparison;
- Review land use maps or aerial photo images of the drainage area to determine the type of land use (industrial, commercial or agricultural ... etc.); and,
- Review other records such as connections or encroachment permits to determine if a permitted connection may be the source.

In the search for potential sources of pollutant discharges, it is important to correlate the type of pollutant with type of industry or business in the area. Below are examples of pollutants and their potential associated industrial or business sources or chemical properties.

**Figure 10.5**  
**Source Investigation Procedures**

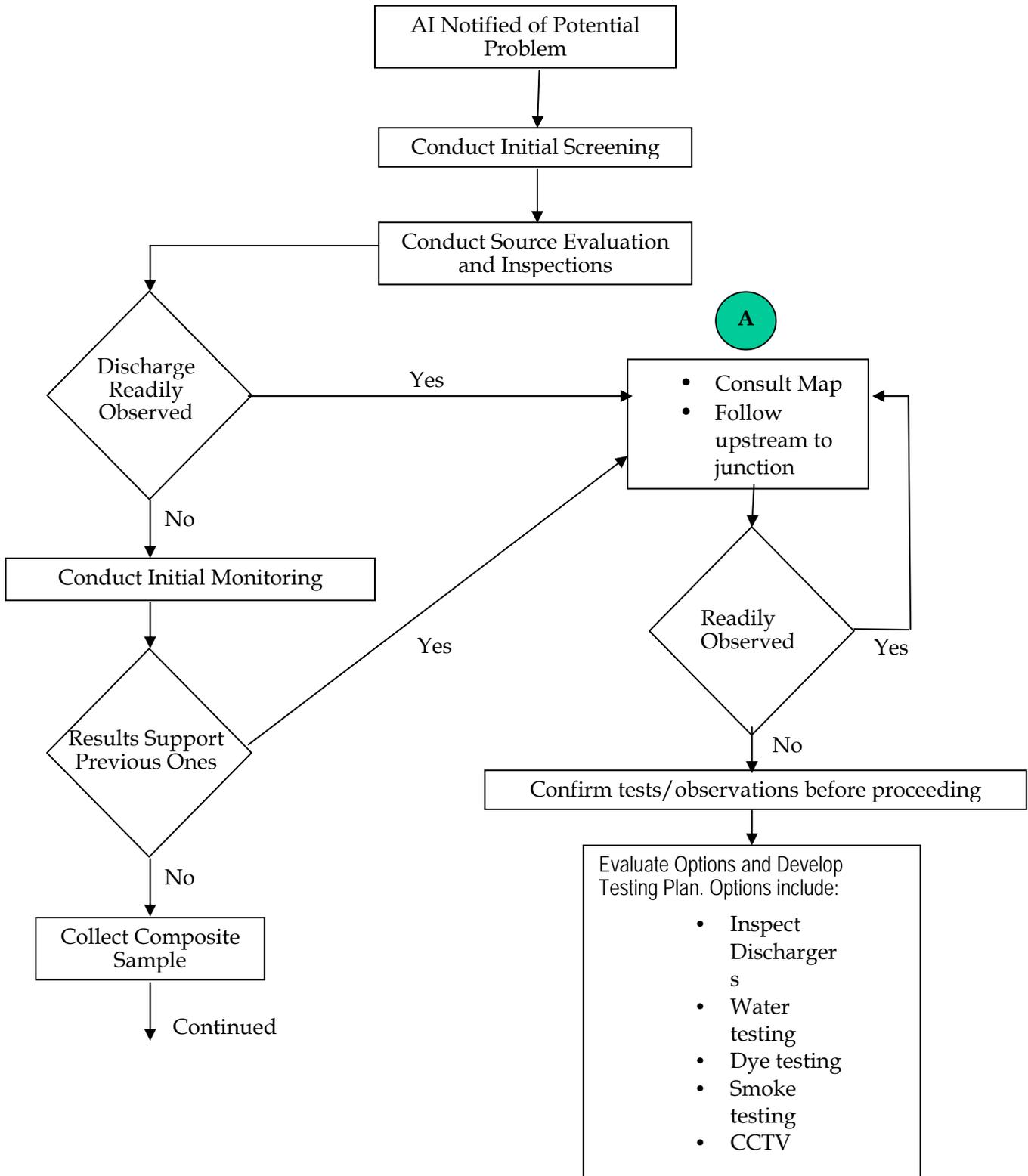
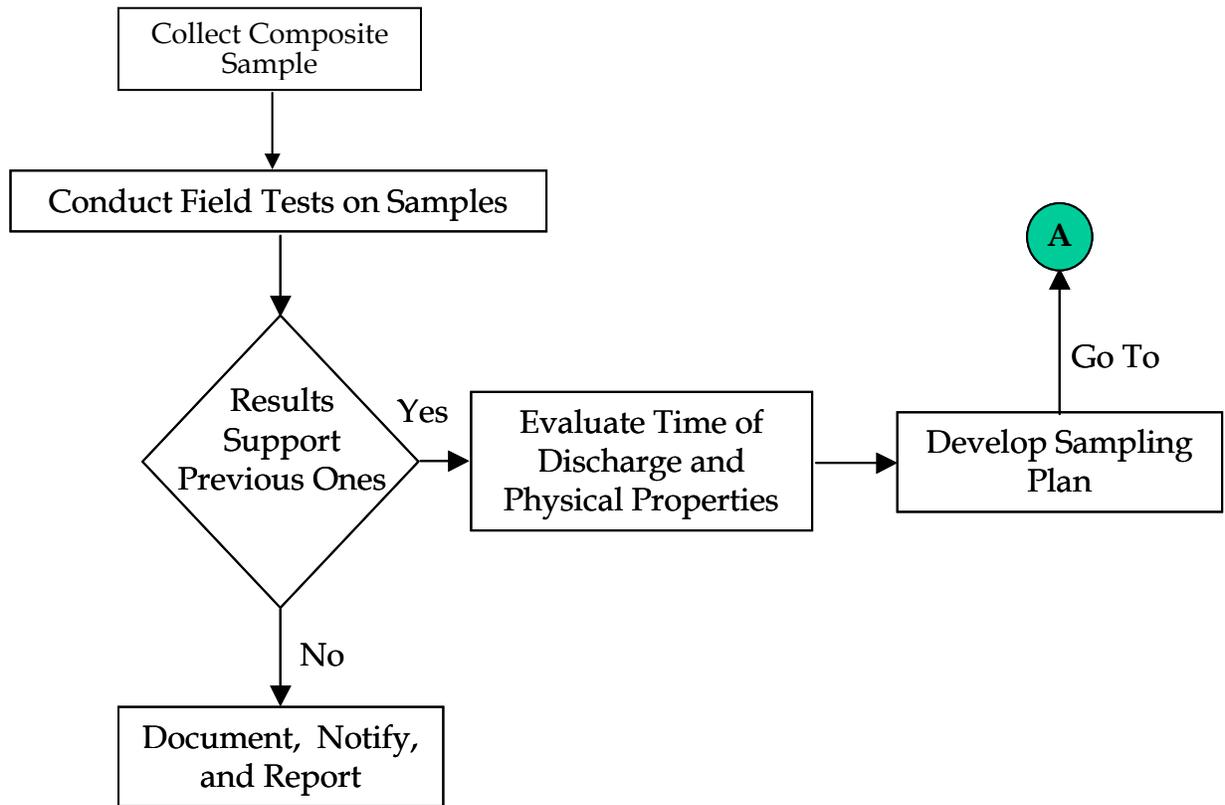


Figure 10.5  
Source Investigation Procedures (Cont'd)



## SECTION 10, ILLEGAL DISCHARGES/ILLCIT CONNECTIONS

- Solid particle materials, such as: chips, dusts, plastic pellets, wood or metal shavings. The metals may be cadmium, lead, zinc, copper, silver, nickel or chromium. Non-metal solid materials may also include phosphorus and silica. These particles range in size from clearly visible pieces to microscopic granules, in which case they might appear as a layer or sediment. Potential sources for these pollutants may include manufacturing and textile facilities, lumber mills, and metal operations.
- Petroleum products and engine coolants, such as: fuels, oils, solvents, grease or coolants. These may be observed as oil or rainbow sheens on the surface of water, or brown staining of dry areas. Possible sources are petroleum refineries or vehicle storage facilities, or locations where vehicle maintenance takes place or petroleum products are stored.
- Miscellaneous physical indicators can include:
  - High or low pH in waters indicating acid or base discharge;
  - Liquids or stains colored yellow (indicating a chemical or textile source), brown (packing plants, printing, metal works, stone/concrete works, refineries), green (chemical or textile sources), red (meat packing plants), or gray (dairies);
  - Cloudy or opaque waters (indicating some form of suspended substance);
  - Foul odors typical to decomposing materials such as sewage or sulfide (rotten egg) or rancid-sour smells, indicating a release of decomposed organic compounds;
  - High BOD, COD, TOC, or temperature in waters;
  - Dying, stained, or burnt-appearing vegetation, indicating toxics; and
  - Residues, stains or actual etching damage to concrete or corroded metal storm drain structures, may indicate caustics.
- Pollutants from construction sites typically include sediments, petroleum products and engine coolants, metal shavings or materials, pesticides, fertilizers, toxic chemicals such as solvents, cleaners, sealers, adhesives, or paints. Construction sites are also sources of miscellaneous wastes such as wash waters, landscape or yard waste materials, packaging materials, trash and sewage.
- Pollutants from residential activities typically include petroleum products, engine coolants, pesticides, fertilizers, landscape or yard waste and trash.

### Step Two - Source Evaluations and Inspections

When conducting an inspection in an above or below ground system with multiple inlets and flow is observed coming from more than one of the tributaries, track each inlet one at a time, using visual observations, odors, and/or sampling to determine the possible source(s).

## SECTION 10, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

It is generally easiest to track the largest flow first, however if they are about the same, start with the inlet that is easiest, shortest, or with the least number of junctions. Otherwise track those originating from areas with the greatest potential for illegal discharges based on the pollutant data and land use map.

The source evaluation may include the following steps:

- Review the drainage maps and identify key locations for physical inspections along the main stream or storm drain as well as the tributaries that are flowing into the storm drain
- Review the drainage facilities maps within the problem area and locate the upstream connections and drainage basins;
- Maintain notes of observations and interviews, as well as photographs, forms, items of evidence, and other documents in a formal dated Field Notebook. Information should be entered in ink and legible for others to read. If possible, each notation should also indicate the time of day it was entered to the nearest half-hour. Corrections should be in ink, initialed and dated. If additional information is entered at a later time, it should also be noted in the Field Notebook and dated as a subsequent entry in the Field Notebook.
- Conduct an above ground physical inspection in the drainage area to see if a source can be readily identified. Physical inspections of storm drains from manhole accesses, catch basins, and drainage channels may provide a safe and easy way to track underground flows upstream or to locate illicit connections. By observing the differences in flows and appearances from one manhole to the next, it may be possible to identify a pathway for the pollutant.
- During the inspection check catch-basins and gutters between manholes for evidence of flows such as runoff from steam-cleaning operations, car washing, irrigation runoff, etc. and look for evidence of recent or past discharges, such as wet or stained pavement or gutters.
- Conduct a below ground physical inspection - Facilities that are large enough for personnel to enter can also be physically inspected, however, entry into these facilities requires strict adherence to health and safety procedures, including confined space entry procedures.

In general, a space is defined as confined if it is not intended for human occupancy, has limited openings for entry or exit, and has insufficient natural or mechanical ventilation. Information on safety procedures can be found in many documents, including the Occupational Safety and Health Guidance Manual, National Institute for Occupational Safety and Health; OSHA Safety and Health Standards 29 CFR 1910 (General Industry), US Department of Labor, and Title 8 of the CCR, General Industry Safety Order.

## SECTION 10, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

Once underground, the storm drain system can be inspected for inlet connections or other conveyance that may be directing a discharge into the storm drain facility. Observations include any flows, staining, etching or any other signs of a discharge.

### *Video Inspections*

In addition to using personnel to conduct underground inspections, closed circuit television (CCTV) inspections can also reveal evidence of illicit connections. Robotized or mobile television cameras allow visual inspection of storm drains (pipes) too small or dangerous for personnel to enter. Although an excellent method of identifying and documenting illicit connections, CCTV inspection carries higher costs for longer lengths of pipe unless equipment is owned or borrowed from neighboring agencies.

- Once completed, evaluate the information and narrow the investigation based upon the results and repeat as necessary.

### Step Three - Monitoring

Monitoring for illegal discharges and illicit connections may include the following steps:

- Review the drainage maps and identify key locations for monitoring locations along the main stream or storm drain as well as the tributaries that are flowing into the storm drain.
- Visit the identified sampling locations and determine their suitability for the investigation. Items to consider include vehicle traffic, accessibility, flows within the channel, etc.
- Conducting initial field screening monitoring  
Field screening consists of a series of qualitative field observations, flow measurement, and field analyses of selected water quality parameters. Information relating to weather conditions, the amount of time since last rainfall/storm discharge, and type of stormwater conveyance facility should also be recorded. Specific observations and results of the field water quality analyses are recorded on a standard field data sheet. The data sheet can also serve as a record of the field visit and should be completed for every site visit regardless of whether samples are collected or not.

Qualitative field observations should be made during each site visit regardless of whether ponded or flowing water is observed or not. Such observations are intended to provide a general assessment of the site and include variables like odor, water clarity, presence of floatables, visible deposits/stains, and biological status. Evidence of present or past illegal discharges to a municipal storm drain system can often be ascertained by careful field observations. Each field screening location should be photographed to provide additional information and documentation of site conditions. While conducting observations, if evidence of hazardous materials or waste is suspected, appropriate safety precautions must be implemented. If there is imminent danger, immediate notifications to the fire department should be made through 911. Otherwise, notify appropriate AI or spill responder for follow-up action.

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- Obtaining flow measurements. Flow measurements should be obtained for each site visit. Flows can be used to estimate pollutant mass loading, prioritize storm drains for future investigation, and/or identify significant changes in discharge that may be indicative of an illegal release upstream. In the absence of a permanent flow measurement installation, several field methods may be employed to measure discharge rates.
- Prepare a monitoring plan and identify the following:
  - Locations and descriptions of the sampling sites;
  - Types of analyses that will be conducted on the samples (nutrients, metals, coliform, etc);
  - Field crews and analytical laboratories that will be used;
  - Days and times that the samples will be collected;
  - Types of samples that will be collected (grab or composite);
  - Types of sample bottles that will be used (plastic, glass, etc.);
  - Types of preservatives that will be used;
  - Holding times that the samples must be analyzed within;
  - Types of Quality Assurance/Quality Control (QA/QC) that will be followed both in the field as well as within the laboratory; and
  - Chain of Custody procedures that will be followed.
- Conduct monitoring according to Sections 10.5.2.1 and/or 10.5.2.2 below

### *Field Water Quality Analysis*

At the start of the investigation, characterization of a suspected illegal discharge source through field water quality analysis. Both flow and concentration measurements are necessary to determine the mass emission of pollutant being discharged and assist Permittee staff to locate a source should there be more than one flow to the site.

In following flows upstream, Permittee staff may find more than one flow converging into a manhole access or junction box. In this case, Permittee staff can use color, clarity, or temperature to distinguish which flow should be followed to determine the source. If these physical indicators are cannot be differentiated, field water quality sampling can be used to determine which is the likely flow source. Water quality testing is also used to verify that a flow being investigated by Permittee staff shows the same characteristics as the original flow identified as being the problem. When the source is identified, Permittee staff should also use field water quality testing to confirm that the source has the same characteristics as the original flow.

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Dry weather flow sampling typically involves collection of grab samples using the following sampling procedures:

- Inspect the sample container to confirm that it is clean and dry;
- If practical, collect a grab sample from at about 60 percent of the stream depth (from the surface) in an area of maximum turbulence. Avoid stagnant pools near the edge of flowing streams. Enter the channel downstream of the sampling location and move upstream, disturbing as little of the bottom material as possible;
- Rinse the sample container with the sample at least twice;
- Carry the sample container out of the stream to a stable location where you can perform the field analysis;
- Follow the field water quality analysis kit instructions for the test;
- Record the qualitative observations and field testing results on the field data sheet for subsequent entry into the database. Estimate the flow rate and note any deviations from the standard procedures (for whatever reason), and describe any unusual or noteworthy conditions or results in detail on the bottom of the sheet;
- Water quality meters should be calibrated in the laboratory or office before field use. Calibration solutions should be protected from contamination and not be used after their expiration dates;
- Field meters and cameras should be in proper working order. Make sure that batteries have sufficient voltage to power the equipment for the entire field trip. Recharge or replace them as necessary. Keep extra batteries in the instrument case. Probes should be inspected, cleaned and reconditioned regularly;
- Clean and rinse sampling equipment after returning from the field. Store clean equipment in clear polyethylene bags or storage cases;
- Glassware used in the field (e.g., graduated cylinders for sample dilutions, test kit flasks and/or beakers) should be cleaned immediately after usage. Use laboratory detergent, a brush, and hot tap water or 10% Analytical Grade hydrochloric acid. Rinse three to four times with deionized water and wipe the outside of the glassware dry with a white paper towel. Dry in an inverted position. Store the dry glassware in the cabinets with stoppers intact (volumetric flasks) or in an inverted position (beakers).

### *Sample Collection for Laboratory Testing*

Permittee staff may need to collect samples for analysis by a certified laboratory for water quality monitoring, confirmation sample for a cleanup or evidentiary sample in a civil or criminal case. Reasons for laboratory analysis include: field test kits are not able to obtain results at low concentrations, confirmation of field results, or there is no field test kits for the pollutant of concern and no surrogate parameter. The duties for equipment maintenance and safety are the same as those described above.

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### Laboratory Sampling Procedures

Laboratory samples are typically grab samples. If a composite sample is required, it is best to use an automatic sampler unless for volatile organics. Sample collection procedures are as follows:

- Use appropriate containers. Laboratories routinely provide pre-cleaned sample bottles with preservatives already added.
  - Rinse the container with the sample at least twice. Do not rinse pre-cleaned, preserved containers, as the preservative will be lost.
  - Use the proper preservatives. Use only analytical or higher grade reagents for preserving samples. Store samples in an ice chest (at 4° C) until custody is transferred to the analytical laboratory directly or via contracted courier.
  - Avoid contaminating the sample. Wear latex or vinyl gloves.
- Collect a representative sample from the stream as described in above sampling procedures for field water quality analysis;
- Record the qualitative observations and field testing results on the field data sheet, noting any deviations from standard procedures (for whatever reason), and describe any unusual or noteworthy conditions or results in detail on the bottom of the sheet;
- Dispose spent reagents, reacted samples, and rinse solutions in the appropriate waste containers. Upon returning to the office or laboratory, decant these wastes into the office or laboratory sewer unless otherwise instructed by the sewerage agency. Be sure to clean the equipment (recheck calibration if any results were questionable), and restock reagents (if necessary);
- If filtering samples in the field for dissolved trace metals analysis, do not preserve with HNO<sub>3</sub> until after the sample is filtered. If field personnel are submitting unfiltered samples for dissolved trace metals analysis those samples should not be preserved with HNO<sub>3</sub>;
- Samples collected for laboratory analysis should be submitted to the laboratory as soon as possible after collection. Complete the following tasks:
  - Fill out the chain-of-custody form making sure that the sample bottles are correctly labeled;
  - Carefully pack the sample bottles in the cooler;
  - Transport the samples to the laboratory;
  - Complete the chain-of-custody form to transfer the samples to the laboratory.
- Samples should be analyzed using the same methods and detection limits as used by the Dry Weather Monitoring Program (See **DAMP Section 11**) to ensure comparable results.

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### Step Four – Document, Notify and Report

Once the source investigation is completed it should be properly documented and followed up so that any identified sources are eliminated and necessary notifications are made.

If an illegal discharge or illicit connection is found, the site visit should be documented and appropriate actions taken to ensure that the source of flow is eliminated. If the flow originates in another jurisdiction, investigators should immediately inform the neighboring agency of the situation.

If the source is still not found, and the discharge has ceased, the field investigation should document and map the location of the last observed flow so that the area can be further investigated at a later date.

## 10.3 Education and Enforcement

### 10.3.1 Introduction

Enforcement actions are undertaken according to the adopted Water Quality Ordinances and accompanying Enforcement Consistency Guide (**DAMP Section 4.0, Exhibits 4.II and 4.I**). Water pollution cases may be handled administratively or in more serious instances, be prepared for prosecution by the Orange County District Attorney who may prosecute under the applicable sections of the Water Quality Ordinance, State Fish and Game Code, State Water Code, Uniform Fire Code, and Penal Code that address pollutant discharges.

The Permittees have formally designated the staff responsible for carrying out the enforcement actions according to the Enforcement Consistency Guide and update these designations every year as a part of Program Effectiveness Assessment.

As provided for in the Enforcement Consistency Guide, when selecting enforcement options, it is important that the Permittees ensure that violations of a similar nature are subjected to similar types of enforcement remedies. Nonetheless, a more severe enforcement option may be selected when a violator has either a history of noncompliance or has failed to take good faith actions to eliminate continuing violations or to meet a previously imposed compliance schedule.

The Permittees generally utilize four types of remedies including:

- Educational letters;
- Administrative Remedies - Notices of Noncompliance, Administrative Compliance Orders, Cease and Desist Orders;
- Criminal Remedies – Misdemeanors, Infractions, Issuance of Citations or Complaints; and
- Other civil or criminal remedies as appropriate

### 10.3.2 Choosing the Type of Enforcement

The Enforcement Consistency Guide provides a framework to the Permittees for selecting the type of enforcement that may be pursued. Some of the factors that influence this decision include: the duration and significance of the violation; cooperation and willingness of the responsible party to remedy the conditions; whether the incident is isolated or re-occurring; and whether the violation or potential impacts will affect or harm human health or the environment.

Although the discussion below provides some guidelines on the use of various enforcement options and the Enforcement Consistency Guide is the primary reference for enforcement procedures and processes, each Permittee reserves the right to determine, by their own discretion, how to enforce each violation.

#### 10.3.2.1 Educational Letters

Although the Authorized Inspectors primarily rely on the administrative remedies as discussed below, there are still a few occasions when an enforcement letter is appropriate.

These situations may occur when:

- An authorized inspector believes that the water pollution complaint may be valid, but does not have evidence to substantiate it; and/or
- A second party, or resident, hires a contractor who causes an incident. In this case the contractor should receive the administrative remedy and the resident should receive an educational letter.

A couple of examples include:

- A complaint is filed against a private residence and, upon investigation, the authorized inspector determines that a contractor hired by the resident caused the violation. The appropriate action may be to issue the contractor a Notice of Noncompliance in the field and an enforcement letter to the resident.
- A group of adjacent businesses are suspected of chronic violations, but several inspections produce no hard evidence. An enforcement letter to each shop may be appropriate in this situation, to make the business owners/managers aware of exactly what the regulations are and why they should comply.

Educational brochures, pamphlets, posters, magnets, etc. are included with the letter so that the responsible party has additional information regarding the proper handling/disposal of the materials involved in the complaint (e.g. pool water, concrete, dog waste, etc.).

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Educational materials include, but are not limited to, the following topics:

- Carpet Cleaners
- Restaurant Cleaning
- Automotive Service Center
- Gas Station
- Horse and Livestock
- Dog Waste
- Pool Maintenance
- Waste Oil Collection
- Pest Control Products
- Permitted Lot and Pool Drains
- Car Wash Fundraisers

### 10.3.2.2 Administrative Remedies

The Permittees generally utilize four types of administrative remedies

- Notices of Non-compliance – This is the least onerous enforcement tool and constitutes a basic request that the RP rectify the condition causing or threatening to cause non-compliance with the Ordinance.

The Notice of Non-compliance may be issued when one or more of the following circumstances exist:

- The violation or potential impact is not significant and has been short in duration;
- The RP is cooperative and has indicated a willingness to remedy the conditions;
- The violation or potential impact is an isolated incident; and,
- The violation or potential impact does not affect and will not harm human health or the environment.

Prior to the issuance of an Administrative Compliance Order or a Cease and Desist Order to a responsible party (RP), the Permittee may consider issuing a Notice of Non-compliance, which states the act or acts constituting the violation and directs that the violation be corrected. The Notice of Non-compliance should provide the RP with a reasonable time period to correct the violation before further proceedings are brought against the RP. However, a Notice of Non-compliance should not be the first enforcement method used if circumstances indicate that a more stringent enforcement method is appropriate.

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- Administrative Compliance Orders – This is an appropriate enforcement tool in the following circumstances:
  - An actual condition of Non-compliance exists, but the condition cannot be remedied within a relatively short period of time
  - The owner of the property or facility operator has indicated willingness to come into compliance by meeting milestones established in a reasonable schedule
  - The violation causes a discharge to the storm drain system but does not pose an immediate threat to human health or the environment
- Cease and Desist Orders – This is appropriate when the immediate action of the RP is necessary to stop an existing discharge, which is occurring in violation of the Ordinance. The cease and desist order may also be appropriately issued as a first step in ordering the removal of nuisance conditions, which threaten to cause an unauthorized discharge of pollutants if exposed to rain or surface water runoff.

The cease and desist order may be issued when one or more of the following circumstances exist:

- The violation or threat is immediate in nature and may require an emergency spill response or immediate nuisance abatement if left unattended;
  - The violation or threat exhibits a potential situation that may harm human health or the environment;
  - The AI's contacts with the property owner or facility operator indicate that further authority may need to be demonstrated before remedial action is forthcoming; and,
  - The AI's prior Notices of Non-compliance have not obtained a favorable response.
- Other Administrative Procedures or Civil Actions
    - Where the Permittee has issued a local permit, the AI may elect to initiate administrative proceedings to suspend, revoke or modify the permit if the permit terms are violated or if changed conditions occur; and
    - In consultation with the Enforcing Attorney, the AI may also consider the use of an injunction or other civil enforcement proceedings.

### 10.3.2.3 Criminal Remedies

Criminal enforcement is appropriate when evidence indicates that the responsible party has acted willfully with intent to cause, allow to continue, or conceal a discharge in violation of the Ordinance.

The Permittees generally utilize three types of criminal remedies

- Issuance of Citation - Where criminal enforcement is indicated, and the AI witnesses the violation, the AI may cause issuance of a citation to the responsible party. The citation shall include:

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- The name and address of the violator
- The provisions of the Ordinance violated
- The time and place of required appearance before a magistrate

The responsible party should sign the citation thereby promising to appear. If the cited party refuses to sign the citation, the AI may cause the arrest of the discharger, or may refer the matter to the Enforcing Attorney for the filing of a criminal complaint and the issuance of a warrant for arrest.

- **Infractions** - At the discretion of the Enforcing Attorney, misdemeanor acts may be treated as infractions. Factors that the EA may use in determining whether the misdemeanor is more appropriately treated as an infraction may include but are not limited to:
  - The duration of the violation or threatened violation
  - The compliance history of the person, business or entity
  - The effort made to comply with an established compliance schedule
  - The existence of prior enforcement actions
  - The actual harm to human health or the environment from the violation

An infraction is punishable by a fine of not more than \$100 for a first violation, \$200 for a second violation, and a fine not exceeding \$500 for each additional violation occurring within one year.

- **Misdemeanors** - Criminal enforcement is appropriate when the evidence indicates that the violator of the Ordinance has acted willfully with intent to cause, allow to continue or conceal a discharge in violation of the Ordinance.

### 10.3.2.4 Administrative Hearings

The ordinance provides for appeals of the Authorized Inspector's decisions to a designated Hearing Officer. The final decisions of Hearing Officers (or city counsel, if a hearing officer's decision is not final or is appeal able to the city counsel) are appeal able to the court with proper jurisdiction under statutory review procedures. For further information on the administrative hearing process, see the Enforcement Consistency Guide (**DAMP Section 4.0, Exhibit 4.I**).

## 10.4 Training and Outreach

Education and training of municipal and/or other agency staff is one of the keys to a successful stormwater program. This is especially true with the ID/IC Program because the Permittees will be in the public eye when conducting inspections, investigation efforts and proceeding with enforcement actions. To assist the responsible municipal and/or other agency staff in understanding the ID/IC Program, a number of different training modules have been or are being developed.

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In addition to Permittee sponsored training, staff are also encouraged to attend training seminars or workshops related to stormwater management and water quality conducted by other organizations.

In order to adequately address the different areas of the ID/IC Program, seven training modules have been developed and are included in **Appendix B-10**.

The training modules include:

- Program Management Training- Introductory (Exhibit B-10.I-A)

This training module is targeted towards new stormwater program managers and addresses the overall program framework, objectives and approach. Its goal is to help program managers gain a broader understanding of how the program is developed and implemented at a local level. It also includes the tools necessary to: determine program responsibilities, conduct investigations, implement proper enforcement procedures and report incidents of non-compliance.

- Program Management Training - Experienced (**Exhibit B-10.I-B**)

This training module is generally targeted for experienced stormwater program managers and provides an annual refresher on the overall program framework, objectives and approach so that the managers understand how the program is implemented and reported on at a local level. It also includes information on the goals, objectives and information needs for the Program Effectiveness Assessment.

- Authorized Inspector Training - Introductory (**Exhibit B-10.II-A**)

This training module is generally targeted for new authorized inspectors, spill responders and/or code enforcement officers and addresses the responsibilities of the field personnel implementing the ID/IC Program. This training includes reporting requirements, spill response, inspection, clean-up and enforcement procedures.

- Authorized Inspector Field Implementation (**Exhibit B-10.II-B**)

This training module is targeted towards authorized inspectors, spill responders and/or code enforcement officers and addresses the responsibilities of the field personnel implementing the ID/IC Program. This training module helps staff understand various difficult field situations that may be encountered by providing visual examples and explanations of BMP implementation, previous inspections and water pollution complaints/spill incident responses. More specifically, it addresses these issues using "hands-on" case specific information and encourages exchange of experience and insight among inspectors/responders.

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- Sewage Spill Response Training - Introductory (**Exhibit B-10.III-A**)

This training module is targeted towards municipal authorized inspectors or spill responders as well as sanitation/sanitary district and city utility staff responsible for responding to sewage spills and specifically focuses on the responsibilities of the field personnel in responding to sanitary sewer overflows (SSOs). The training addresses a sewage spill from both the sanitation and municipal stormwater perspective and provides a framework for responders to follow to ensure that both sets regulatory requirements are met. This module stresses the importance of inter-agency coordination, sanitary sewer overflow response plan and notification and reporting requirements.

- “Hands-On” Sewage Spill Response Training - Experienced (**Exhibit B-10.III-B**)

This training module is targeted towards experienced municipal authorized inspectors and spill responders as well as sanitation district staff and specifically focuses on the key steps involved when responding to sewage spills. The training includes a classroom and field portion and walks the inspectors through a simulated sewage spill so that the responders can identify the key issues and understand how to respond.

- Fire Department Activities (**Exhibit B-10.IV**)

This training module was developed as a train the trainer module and is targeted towards fire department personnel. The module provides an overview of the ID/IC program framework and focuses on fire department personnel responsibilities in implementing BMPs during non-emergency activities. In addition, the module also provides BMP guidance during various types of emergency incidents.

- Investigative Guidance Manual (**Exhibit B-V**)

This training module is targeted towards authorized inspectors, spill responders and/or code enforcement staff responsible for responding to and investigating illegal discharges. The module provides detailed instruction on the use of the Model Investigative Guidance Manual and addresses: fundamental techniques necessary for conducting legally defensible investigations, investigative procedures, environmental sampling, photographs, and enforcement. This module was conducted in a “hands-on” format which allows the attendees to participate in exercises for record keeping, hazards identification, environmental sampling, photography and enforcement.

### 10.5 Definitions

For the purposes of this program, the following definitions are provided:

*Illegal discharge* - any discharge to a municipal separate storm sewer that is not composed entirely of stormwater and that is not covered by a National Pollutant Discharge Elimination System (NPDES) permit. An illegal discharge or “prohibited discharge” refers to the disposal of non-stormwater materials such as paint or waste oil into the storm drain or the discharge of waste streams containing pollutants to the storm drain.

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*Illicit connection* - an undocumented and/or unpermitted physical connection from a facility to the storm drain system.

The following definitions of terms are relevant for sewage spills:

- Sanitary Sewer System – A wastewater collection system including sewers, pipes, pumps or other conveyances that convey sewage wastewater (e.g. domestic, commercial and industrial wastewaters) to a treatment plant. The sanitary sewer collection system also includes the temporary storage and conveyance facilities.
- Sewage Collection Agency – City or any other public entity (e.g., water, sewer, sanitary, sanitation district) responsible for the operation, maintenance, repair and replacement of the sanitary sewer system (from a regulatory standpoint, considered as a wastewater discharger even if responsibility is placed with a regional treatment and disposal agency).
- Sewage Spill/Sanitary Sewer Overflow (SSO) – Any spill, release, discharge or diversion of wastewater from a sanitary sewer system. The definition has been expanded in recent years to include the discharges of treated (partial, secondary or to Title 22 standards) wastewater as well as other human wastes (e.g., septic tank overflows, etc.) that are explicitly prohibited from entering municipal storm drain system and subsequently the waters of the US. Sewage spills/overflows, irrespective of source or level of processing, constitute an illegal discharge to the municipal storm drain system.