



## 4. Illicit Discharge Detection and Elimination

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### 4.1 Overview

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Federal regulations define an illicit discharge as “any discharge to an MS4 that is not comprised entirely of stormwater”, with the exception of certain non-storm water discharges that are allowed under the permit (Section 4.2). Studies have shown that a significant portion of water discharged from MS4s is not directly attributable to precipitation runoff. These dry weather flows originate from illicit and/or inappropriate discharges and connections to the MS4. Sources of illicit discharges may include:

- Sanitary wastewater;
- Car wash wastewater;
- Improper disposal of auto fluids (e.g., oil and radiator fluid);
- Laundry wastewater; and
- Improper disposal of household toxics

Illicit discharges can enter the MS4 system through either direct connections (e.g., wastewater piping mistakenly or deliberately connected to the storm drains instead of the sanitary system) or indirect connections (e.g., infiltration into the MS4 from cracked sanitary systems or spills collected by drain outlets). The result is untreated discharges that have been documented to contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving water bodies. Pollutant levels from illicit discharges have been shown by EPA to significantly degrade receiving water quality and to threaten aquatic, wildlife and human health.

### 4.2 Non-Storm Water Discharges Allowed under the Permit

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The State’s General Permit authorizes the following non-storm water discharges, provided they do not cause or contribute to any violation of water quality standards:

- Water line flushing;
- Landscape irrigation;
- Diverted stream flows;
- Rising ground waters;
- Uncontaminated ground water infiltration (as defined in 40 CFR §35.2005(20));
- Uncontaminated pumped ground water;
- Discharges from potable water sources and foundation drains;
- Air conditioning condensation;
- Irrigation water;
- Springs;
- Water from crawl space pumps and footing drains;
- Lawn watering runoff;
- Water from individual residential car washing;
- Flows from riparian habitats and wetlands;
- Dechlorinated swimming pool discharges;
- Residual street wash water; and
- Discharges or flows from firefighting activities.

### 4.3 Permit Requirement

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The Permit requires an operator of a regulated small MS4 to develop, implement and enforce an illicit discharge detection and elimination (IDDE) program that must include the following:

- Establishment of rules, ordinances, or other regulatory mechanisms, including enforcement procedures and actions, that prohibit non-storm water discharges, except those listed in Section 4.2 that do not cause or contribute to any violations of water quality standards, into the permittee’s small MS4;
- Procedures to detect and eliminate illicit discharges, (as defined in 40 CFR §122.26(b)(2)); and
- Compilation of a list of non-storm water discharges or flows that are considered to be significant contributors of pollutants to the system and measures to be taken to prevent these discharges into the permittee’s regulated small MS4, or reduce the amount of pollutants in these discharges.

### 4.4 Existing County Illicit Discharge Measures

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The County has a variety of measures in place to discourage illicit discharges to their MS4. Maui County Code 20.08, entitled “Soil Erosion and Sedimentation Control”, Section 20.08.260 (Special Provisions) states that “any person depositing or causing to be deposited any silt, refuse paper, trash, glass, nails, wire, bottles, cans, grass clippings, brush, yard trash, concrete, earthen fill, garbage, containers, or other similar debris in any drainageways, ditches, water courses, drainage facilities and public roadways shall remove such silt or other debris”. The Code includes provisions for fines and for recouping County costs for emergency response if necessary.

The County’s plumbing code requires permits for drainage systems. In 2012, the County Council

passed Ordinance No. 3923, establishing a new County Plumbing Code based on the Uniform Plumbing Code, 2006, with some amendments. Section 103.1 of the Plumbing Code requires that any installation, alteration, repair, or replacement of a plumbing system, including drain systems, require a plumbing permit. Violations of the Code are enforced under Section 19.530.030 Administrative Enforcement, which provides for the issuance of a notice of violation, which may include a civil fine up to \$1,000 per day for each day the violation persists, as well as a civil fine not to exceed one percent of the project cost of the code. The County may add unpaid civil fines to any County taxes, fees or charges except residential water or sewer charges. Unpaid fines may also be pursued through judicial civil action.

Maui County Code Chapter 12.12, entitled “Drainageways”, places restrictions on blocking or altering a drainageway on public property without the approval of DPW. The definition of drainageways includes channels, streambeds, streambanks, ditches, and underground drainage lines. Drainageways are also not permitted to block or divert surface storm water in such a manner as to cause storm water to flow on, into, or over any public highways, other than through natural channels and watercourses. Violations are subject to a fine up to \$500 for each day of the violation.

Maui Code Chapter 20.20.050 contains littering and enforcement measures. Pet waste is included as a littering activity when an individual permits an owned animal in their custody to excrete litter (“waste”) upon public or private property without promptly removing waste. The ordinance also promotes stewardship through empowering citizens to report littering offenders. Any person who witnesses discarding of litter from a vehicle may report the incident to MPD. The vehicle license number, as recorded, constitutes prima facie evidence that the littering was done by the person to whom such vehicle is registered. Violators shall be ordered to pay the County for the cost of litter removal and shall be fined not less than \$100 or

more than \$1,000 for each offense, and may be ordered to pick up and remove litter from a public place. The law provides that moneys collected under this section are deposited into a litter control revolving fund established in section 3.25.030 of the Maui County Code.

DEM's webpage on residential recycling guidelines includes a plea for residents to report illegal dumping to the Maui Police Department or to the State Department of Health.

## 4.5 Proposed Illicit Discharge Measures

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The County plans a multi-modal approach to detect illicit discharge:

### 4.5.1 Regulations and Enforcement

The County has the authority to enact ordinances and enforce the resulting rules. The County plans to pursue revision of the Maui County Code to include a more explicit prohibition against illegal non-storm water discharges, i.e., all non-storm water discharges not allowed under this permit. The County will also seek revision of the County Code to require a permit for all private drain connections to its MS4 system.

The County will seek to include enforcement mechanisms in the revised ordinances prohibiting illegal discharges and requiring all connections to the County's MS4 to obtain a permit. It is anticipated that enforcement actions would escalate from Letters of Warning (with specified deadlines for correction) to Notices of Violation and civil fines.

The proposed implementation schedule for the County's proposed ordinance changes is included in Table 4-1 (item 4-1).

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<sup>3</sup> Community Plan Maps for Wailuku-Kahului and Pā'ia - Haiku, County of Maui, Department of Planning.

### 4.5.2 Discharge Detection and Elimination

The County plans to use a phased approach to their illicit discharge detection program, focusing initially on priority areas that are most likely to provide the greatest concern relative to storm water pollutants. Priority areas are identified as areas where industrial/commercial land use is prevalent, or where public complaints have originated. The County plan for detecting and eliminating illicit discharges to their MS4 consists of:

#### Storm Drainage System Mapping

The EPA requires MS4 permittees to develop a storm sewer system map that shows the locations of all outfalls and the names and locations of all waters of the United States that receive discharges from those outfalls. An accurate map of the regulated system facilitates detection and investigation of illicit discharges.

The County has mapped much of its system in two drainage studies. Additional information is available from sources such as construction as-built drawings. Nonetheless, the entire MS4 has not been mapped in a comprehensive manner and the County proposes to develop a GIS layer for their storm drainage system. The project will consist of assessing existing information on drainage systems and outfall locations and conducting field surveys to verify information. An initial assessment for illicit discharge in dry conditions could be conducted in conjunction with the field mapping program. The proposed implementation schedule for mapping the County's storm drainage system is included in Table 4-1 (item 4-2).

#### Investigating Priority Areas

The Wailuku-Kahului and Pā'ia -Haiku Community Plan Maps<sup>3</sup> can be used to identify light industrial land use areas within the UA (Figure C-1 in Attachment C). In addition, the County has

knowledge of industrial users through their wastewater pretreatment program, which requires industrial users to obtain a wastewater discharge permit.

The County proposes to conduct visual surveys to assess the occurrence of illicit discharge. Survey procedures will include:

- Conducting walking surveys of the priority areas during dry weather to assess whether illicit discharge is occurring;
- Conducting surveys of the outfalls from these areas to check for dry weather discharge;
- If dry weather flow is observed, inspecting the flow for characteristics such as color, sheen, odor, and content;
- Making efforts to trace the flow upstream to determine the location of the discharge;
- Documenting observations with photography; and
- Maintaining a database of areas surveyed and investigations conducted.

The proposed implementation schedule for conducting field investigations for illegal discharges is included in Table 4-1 (item 4-3).

#### **Public Complaints**

The County recently initiated “COMConnect,” a smartphone application that allows County residents and visitors to post concerns on a variety of County infrastructure topics. The application feeds the directly to the Managing Director or to County Department Heads, depending on the category of the issue. The County is also investigating other hotline/website/ email systems to receive and document storm water complaints from the general public. The proposed implementation schedule for evaluating a public

complaint procedure is presented in Table 4-1 (item 4-4).

#### **Education and Training**

The County will develop education programs for County employees, businesses, and the general public about the hazards associated with illicit discharges and the improper disposal of waste. The County will seek ways to educate the general public and commercial/industrial land users about illicit discharges, as previously described in Sections 4.3 and 2.5.1.

The County will incorporate into their long-term IDDE program a tracking, analysis and modification process that allows the County to analyze illicit discharge data and make corresponding changes to its public outreach message and materials and IDDE efforts. By analyzing illicit discharge program data, the County may be able to identify one or more commercial sectors, or segments of the general public, that are responsible for a disproportionate share of illicit discharges. The County could work to tailor messages or site visits, or utilize targeted campaign methods such as social marketing, to promote changes in behavior that would reduce the occurrence of illicit discharges.

Training for County employees on illicit discharges will be included in general storm water awareness training (further described in Section 7.5). In addition, field staff will be educated on detecting illegal discharges during their routine storm drainage system inspections and maintenance activities. The County will identify which departments regularly interact with industrial, commercial, and construction communities, and then identify and train staff to implement the IDDE program. Implementation schedules for these training programs are described in the referenced sections.

## 4.6 Assessment of Non-Storm Water Discharges

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Per the permit requirements, the County will assess non-storm water discharges to their MS4, and evaluate whether those flows appear to be significant contributors of pollutants to the system. “Significant contribution” will be defined as a discharge that would cause or contribute to any violation of water quality standards. The County will conduct the following activities:

- Compile a list of non-storm water discharges or flows;

- Evaluate whether these non-storm water discharges are significant contributors of pollutants to the regulated MS4;
- Evaluate measures to be taken to prevent these discharges into the permittee’s regulated small MS4, or to reduce the amount of pollutants in these discharges.

The proposed implementation schedule for the County’s assessment of non-storm water discharges is presented in Table 4-1 (item 4-5).

**Table 4-1. Proposed Schedule and Goals – Illicit Discharge Detection and Elimination**

Item No.	Proposed Activity or BMP	Proposed Development and Implementation Schedule			Quantifiable Target
		2014/15	2016	2017	
4-1	Establish ordinances, rules, and enforcement procedures that prohibit illegal non-storm water discharges and drain connections.	Evaluate current County Code and other municipality ordinances.	Seek ordinance revision from County Council.	Enact ordinance and conduct education campaign to inform public of the revised ordinance and requirements.	<ul style="list-style-type: none"> <li>• Ordinance revision to prohibit illegal non-storm water discharges and drain connections within 3 years.</li> <li>• Conduct education campaign to inform public of the revised ordinance within 3 years.</li> </ul>
4-2	Storm drainage system mapping	Gather existing information on County-owned storm drainage system and facilities; establish platform for GIS.	Conduct field survey for GIS input of priority areas – commercial and industrial areas within the MS4.	Conduct field survey for GIS input of remaining areas within the MS4.	<ul style="list-style-type: none"> <li>• Develop map of County-owned storm drainage system in the UA within 3 years.</li> <li>• Add new drainage system components added to the County system - within one year of completion of as-built drawings.</li> </ul>
4-3	Field investigations of illegal discharge and connections	Pending storm drainage system mapping.	Survey storm drainage system and outfalls for dry weather flow during system mapping field work.	Survey storm drainage system and outfalls for dry weather flow during system mapping field work.	<ul style="list-style-type: none"> <li>• Conduct field surveys for illicit discharges in priority areas within 3 years.</li> </ul>
4-4	Evaluate mechanisms to receive and respond to complaints of illicit discharges.	Evaluate website and telephone complaint options.	Establish a mechanism to receive and respond to public complaints regarding storm water.	Maintain the public complaint mechanism and respond to complaints in a timely manner.	<ul style="list-style-type: none"> <li>• Establish mechanisms to receive and respond to public complaints within 2 years.</li> <li>• Respond to complaints within 5 working days of receiving complaint.</li> </ul>
4-5	Assess non-storm water discharges that may be significant sources of pollutants to the MS4 in the UA.	Compile a list of non-storm water discharges or flows in the UA.	Evaluate such discharges for significant contributors of pollutants to the regulated MS4.	Evaluate measures for prevention or reduction of pollutants.	<ul style="list-style-type: none"> <li>• Assess non-storm water discharges, and target any discharges needing prevention or reduction of pollutants, within 3 years.</li> </ul>