


March 19, 2018

**Illicit Discharge Detection & Elimination (IDDE)**  
**General Awareness**

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 George Iftner




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**Today's Agenda**

Time	Topic	Length
11:00-12:00	General Awareness	1 hour
12:00-1:00	Lunch (on your own)	1 hour
1:00-4:00	Response and Enforcement	3 hours

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**Learning Objectives**

- Understand what your City is required to do for IDDE under the NPDES Municipal Stormwater permit
- Understand what illicit discharges and connections are and how to identify them
- Know how to report illicit discharges and connections
- Be aware of how to stay in compliance with the permit



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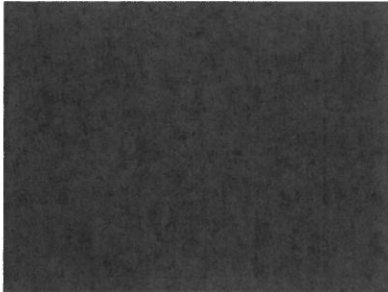
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## Stormwater Video



Source: City of San Diego




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## NPDES Municipal Stormwater Permit Phase II Permit

- Phase I (populations  $\geq$  100,000)
- Phase II (generally populations  $>10,000$ )
- Phase II NPDES municipal stormwater permit (2007-2012, 2013-2018)
- Permit term is 5 years and it will be renewed

Issuance Date: August 1, 2017  
Effective Date: August 1, 2017  
Expiration Date: July 31, 2018  
Modification Date: January 16, 2014

### Western Washington Phase II Municipal Stormwater Permit

National Pollutant Discharge Elimination System and  
State Water Discharge General Permit  
for discharges from Small Municipal Separate Storm Sewers  
in Western Washington

State of Washington  
Department of Ecology  
Olympia, Washington 98504-7000

In consultation with the provisions of:  
The State of Washington Water Pollution Control Law  
Chapter 90.48 Revised Code of Washington  
and  
The Federal Water Pollution Control Act  
(The Clean Water Act)  
Title 33 United States Code, Sections 1251 et seq.




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## NPDES Municipal Stormwater Permit Non-point Source Pollution

- Point source pollution: a single identifiable localized source of pollution
- Non-point sources of pollution: diffuse in nature - introduction of pollution into a surface-water body or an aquifer, usually through a non-direct route




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## NPDES Municipal Stormwater Permit Stormwater Management Program Requirements

- (c) Implement an on-going IDDE program to detect and identify illicit discharges
- (d) Implement an on-going IDDE program to address illicit discharges
- (e) Provide appropriate training for municipal field staff on identification and reporting of illicit discharges
- (f) Track and maintain records of the activities conducted

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## Outline

- NPDES Municipal Stormwater Permit
- Warm-up exercise
- Overview of illicit discharge investigations
- How to identify illicit discharges
- How to report an illicit discharge
- Questions?

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## Warm-up Exercise

- What is a Municipal Separate Storm Sewer System or MS4?



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## Warm-up Exercise

### ■ What does illicit mean?

- Not allowed
- Unlawful
- Breaking social norms



Source: Center for Watershed Protection (CWP)



DARE TO BE DIFFERENT

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## Warm-up Exercise

### Illicit Discharge

#### ■ CFR 40 122.26(b)(2):

- ...any discharge to a municipal separate storm sewer system that is not composed entirely of stormwater except permitted discharges and fire fighting related discharges.
  - Unique frequency, composition, and modes of entry
  - Can result from interaction of sewage disposal system and the MS4
  - Produced from pollution-generating sites, failing septic fields, spills, or dumping

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## Warm-up Exercise

### Illicit Discharge

#### ■ Phase II Permit Definition:

- All non-stormwater discharges to stormwater drainage systems that cause or contribute to a violation of state water quality, sediment quality or ground water quality standards
- Examples: sanitary sewer connections, industrial process water, interior floor drains, car washing, and greywater systems connected directly to the MS4

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## IDDE Investigation Outline

1. Outfall Reconnaissance Inventory (ORI)
2. Catch Basin/Manhole Inspections
3. Drainage Area Investigations
4. On-Site Investigations
5. Septic System Inspections

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## 1. ORI - Purpose

- Locate and map all outfalls
- Identify areas with potential illicit connections or discharges
- Determine conditions of outfall structures
- Locate potential sample collection points
- Identify failing septic systems along stream banks
- Locate abandoned dumps along streambanks



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## 1. ORI - Field Planning Considerations

- Wait at least 48 hours after rainfall to survey outfalls
- Personnel safety and safety equipment
- Property rights
- Traffic control
- Confined space entry
- Opening manhole covers
- Crew size
- Communication and security
- First aid, terrain, plants, insects, and animals



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#### 4. On-site Investigations

- Pinpoint the exact source of a discharge in a drainage segment
- Identify plumbing cross-connections
- Three approaches: dye testing, smoke testing, and video inspection



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#### 5. Septic System Inspections

- Used to find failing septic systems
- Ask the homeowner about the age of their system, when it was last maintained, etc.
- Do a surface condition analysis of the yard
- Conduct a detailed system inspection



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#### Outline

- |  |                                      |
|--|--------------------------------------|
| ■ NPDES Municipal Stormwater Permit            | ■ How to report an illicit discharge |
| ■ Warm-up exercise                             | ■ Questions?                         |
| ■ Overview of illicit discharge investigations |                                      |
| ■ How to identify illicit discharges           |                                      |

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## What are we really looking for?

- If it hasn't rained for 24 – 48 hours, the storm drain should be dry
- Ground water is usually crystal clear
- If it looks or smells polluted, it probably is
- Streaks of lush green grass during dry weather may suggest that something is wrong



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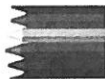
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## Key Observations

- Odor
  - Industrial sources: spoiled organic products (rotten egg smell), oil, gasoline, chemicals, solvents
  - Sewage sources: foul odor
- Color/Turbidity
  - Ground water is usually clear and colorless
  - Illicit discharges are often turbid or discolored water



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## Key Observations

- Floatable Matter
  - Industrial sources: animal fats, food products, oils, solvents, sawdust, foams, packing materials, fuels
  - Sanitary sources: fecal matter, other sanitary wastes
- Deposits and Stains
  - Coatings that remain on the streambank or on the outfall structure after a non-stormwater discharge has ceased.
  - Industrial sources: often dark staining
  - Sanitary sources: black and gray



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## Discharges - Modes of Entry

- Direct entry
  - Plumbing cross-connections: sewage, industrial, or commercial
  - Straight pipe discharge
- Indirect entry
  - Groundwater seepage
  - Spills
  - Dumping
  - Outdoor washing activities



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## Discharges - Frequency

- Continuous discharges
  - Occur most or all of the time (i.e., sewage cross-connection or failing septic field)
- Intermittent discharges
  - Occur over a few hours per day or a few days per year (i.e., industrial cross-connection)
- Transitory discharges
  - Occur rarely (i.e., vehicle accidents, spills, ruptured tanks, sewer main break, illegal dumping)



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## Distinguishing Visual Observations


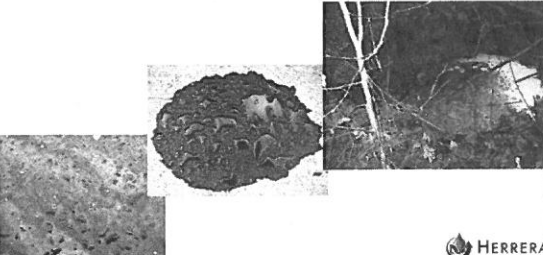
- Natural phenomena
- Nutrient discharges
- Sewage discharges
- Other discharges (wash water, industrial, petroleum, sediment from construction)

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### Other Discharges

- Oily discharge with rainbow sheen or odor
- Wash water with soapy foam



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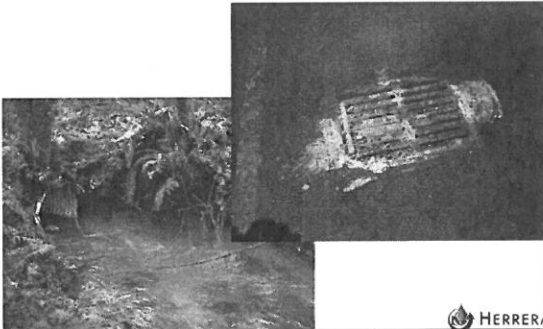
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### Does this look like an Illicit Discharge?



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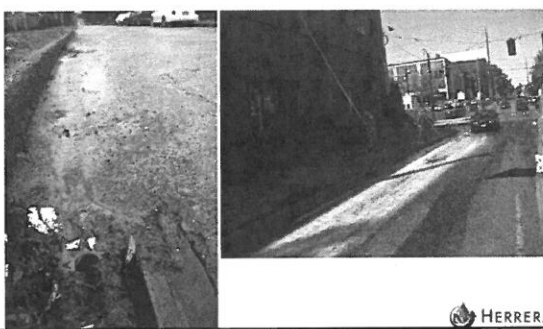
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### Does this look like an Illicit Discharge?



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## How do I Report an Illicit Discharge?



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## How do I Report an Illicit Discharge?

- City Spill Hotline: (425) 831-4919
- Ecology Northwest Regional Office: (425) 649-7000
- Under state law, the Department of Ecology must be notified when a regulated waste or hazardous material that poses an imminent threat to life, health or the environment is released – regardless of the quantity (WAC 173-303-145)

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## How do I Report an Illicit Discharge?

- Report it to your City immediately
- If public safety is threatened also call 911
- Take detailed notes and time/dated photographs
- Document the discharge location, type of material if known, and whether it is threatening a receiving water
- Note who was spoken to, what was said, and the responsible party if known
- A supervisor at your City may also need to notify the Department of Ecology

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