ILLICIT DISCHARGE DETECTION AND ELIMINATION

Prepared by INCOG for Stormwater 101:
Basics of Permits and Regulations,
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OKR04 General Permit

- Current permit is dated February 8, 2005. This permit has expired, but until a new permit has been approved, permittees must abide by these terms.
- This permit authorizes discharges from small MS4s to "Waters of the State"
- All discharges are to be stormwater or certain exempted non-stormwater discharges.

OKR04 Limitations

Part I.C Limitations On Coverage states

"This permit does not authorize:"

1. Discharges Mixed with Non-Storm Water
2. Storm Water Discharges Associated with Industrial Activity

Part IV.C Minimum Control Measures

"The six minimum control measures that must be included in your storm water management program are listed below."

Minimum control measure number 3 is:

"Illicit Discharge Detection and Elimination"

Why Is This In The Permit?

The whole point is to determine if dry or wet weather flows are due to natural occurrences or illicit (illegal) discharges.

Detect and Eliminate

Permit Requirement:

> "Develop, implement and enforce a program to detect and eliminate illicit discharges into your SMS4, including a dry weather field screening program to identify non-storm water flows."

Detect and Eliminate

Proposed Permit Requirement:

Must address, at a minimum, procedures for:

(a) Locating priority areas

(b) Addressing on-site sewage disposal systems

(c) Tracing the source of an illicit discharge

(d) Removing the source of an illicit discharge

(e) Program evaluation and assessment

Stormwater Outfall Map

Permit Requirement:

> "Develop, if not already completed, a storm sewer map, showing the location of all outfalls and names and location of all waters of the state that receive discharges from those outfalls."

Proposed Permit Requirement:

> "Maintain and regularly update a storm sewer system map …"

Ordinances

Permit Requirement:

"To the extent allowable under State or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into your storm sewer system and implement appropriate enforcement procedures and actions. Where the permittee lacks legal authority for direct enforcement action, the program must include procedures to notify the DEQ when a party fails to comply with procedures or policies established by the permittee. The permittee may rely on the DEQ for assistance in enforcement of this provision of the permit in these cases."

Illegal Dumping

Permit Requirement:

> "Develop and implement a plan to detect and address non-storm water discharges including illegal dumping to your system;"

Look For Clues To Illicit Discharges

Deposits, stains and vegetation may indicate previous discharges or intermittent flows.

Hazards

Permit Requirement:

> "Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste;"

Incidental Non-Storm Water Discharges

Permit Requirement:

"Develop a list of non-storm water discharges or flows as allowed in PART I.B.2. that will not be addressed as illicit discharges. These non-storm water discharges must not be reasonably expected (based on information available to the permittee) to be significant sources of pollutants to the SMS4, …"

Incidental Non-Storm Water Discharges

- Examples:
- Water line flushing
- Landscape irrigation
- Residential building wash water without detergents
- Discharges from potable water sources
- De-chlorinated swimming pool discharges
- Non-commercial or charity car washes
- Individual residential car washing
- Air conditioning condensate

BMPs
(Best Management Practice)

Proposed Permit Requirement:

"You must list and define the BMPs that you or another entity will implement in the program. You must include, as appropriate, the months and years in which you will undertake required actions, including interim milestones and the frequency of the action. Also you must identify who will be responsible for implementation of coordinating the BMPs in your program."

Dry Weather Field Screening

The purpose of dry weather field screening is to detect unusual flows and if flows are found, determine the source of the flow and whether any pollutants are present.

Therefore, conduct these activities during the dry summer months when groundwater flows and springs are minimal or dry and there is no runoff from recent precipitation.

If flows are found under these conditions, try to trace them back to their source.

Dry Weather Field Screening

- Document all of your activities and take pictures of potential problems. You will need to develop and document a case before any action can be taken if you find an illicit discharge.
- If necessary, in addition to your field screening, you may need to collect samples and have them analyzed by a certified laboratory. Know in advance what types of containers and preservation techniques may be needed.

Site Information

- Outfall ID:
- Date:
- Time:
- Latitude (N):
- Longitude (W):
- Investigators:
- Dominant Watershed Land Use (1=Primary use, 2=Secondary use):

☐ Suburban Residential	☐ Industrial	☐ Open Space
☐ Urban Residential	☐ Commercial	☐ Other:

- Receiving Stream:
- Access Instructions:

Describe the Outfall or Conveyance

- Type
- Shape
  - □ Closed Pipe □ Box Culvert □ Open Channel
  - □ Single □ Double □ Triple
- Material
  - □ Concrete □ Poly
  - □ Steel □ Other

If Open Channel:

- Width: Top_____ Bottom _____
- □ Earthen □ Rip-rap
- □ Concrete □ Parabolic □ Rectangle □ Trapezoid
- Other:

Flow Estimation

- Flow Present: □ Yes □ No
- Standing Water Present: □ Yes □ No
- Amount: □ Trickle □ Moderate □ Substantial
- Estimated Flow:
- Width At Water Surface:
- Depth Of Water:
- Approximate Flow Velocity:
- Calculated Flow Rate:

Environmental Conditions

- **Cloud Cover (%):**
- **Air Temp. (°C):**
- **Wind:**

- **Last Rain Event:**
- **□ <48 Hours**
- **□ 48 to 72 Hours**
- **□ >72 Hours**
- **Amount:**

Analytical Results

Samples Collected From:
□ Flow □ Pool

Date: **Time:**
Initials:

Were Samples Collected For The Laboratory:
□ Yes □ No

- **Water Temperature**
- **Color**
- **pH**
- **Copper**
- **Conductivity**
- **Detergents**
- **Dissolved Oxygen**
- **Fluoride**
- **Oxygen % Sat.**
- **Hardness**
- **Ammonia**
- **Phenols**
- **Chlorine**
- **Turbidity**

Outfall Physical Indicators

Odor: ☐ None ☐ Sewage
☐ Rancid/sour ☐ Oil/Gas
☐ Sulfide ☐ Chlorine
☐ Solvents ☐ Other:
☐ Faint ☐ Easily Detected
☐ Noticeable from a distance

- Color
  ☐ Clear ☐ Gray ☐ Green
  ☐ Red ☐ Brown ☐ Yellow
  ☐ Orange ☐ Other
  ☐ Faint Color In Sample Bottle
  ☐ Clearly Visible In Sample Bottle
  ☐ Clearly Visible In Outfall Flow

- Particles
  ☐ None ☐ Fine
  ☐ Medium ☐ Large
  ☐ Slight ☐ Moderate ☐ Heavy

- Floatables
  ☐ None ☐ Sewage ☐ Oil ☐ Foam
  ☐ Litter ☐ Other:
  ☐ Slight ☐ Moderate ☐ Heavy

- Biology
  ☐ None ☐ Insects ☐ Mollusks
  ☐ Amphibians ☐ Reptiles ☐ Fish
  ☐ Mosquito Larvae

- Outfall Damage
  ☐ Normal ☐ Apparent Damage

- Algae & Bacteria
  ☐ None ☐ Green
  ☐ Brown ☐ Orange
  ☐ Slight ☐ Moderate ☐ Excessive

Illicit Discharge Concerns

Non-Stormwater Flow Indicators

- ☐ **Not Obvious** ☐ **Possible Illicit Discharge**
- ☐ **Obvious Illicit Discharge**

Comments:


Questions?