# Introduction: Dry Weather Field Screening

Presented By: Trenecia Williams

Trenecia.Williams@arlingtontx.gov

City of Arlington Environmental Management

# Agenda

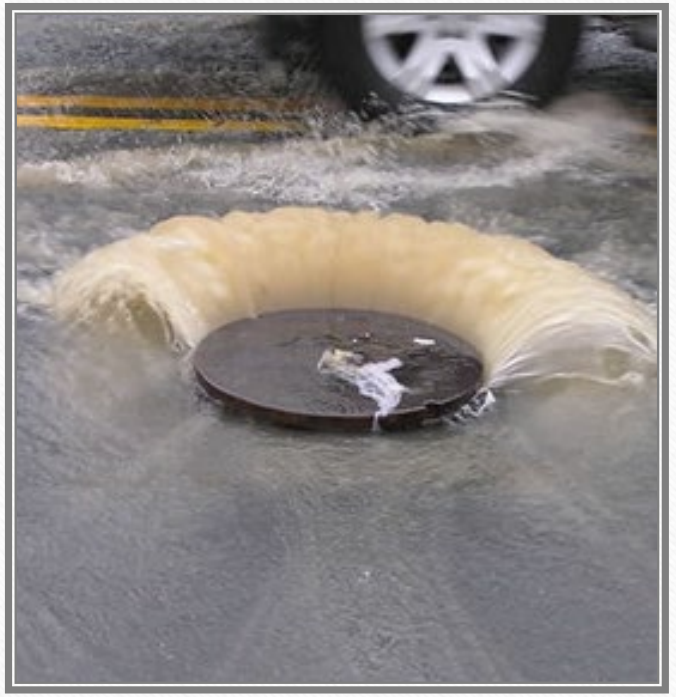
- Intro to Dry Weather Field Screening
- The Outfall Reconnaissance Inventory (ORI)
- Break
- Getting Ready To Sample
- Monitoring Procedures
- LUNCH
- MS4 Phase II Basics
- Field Screen Demo (Virtual)
- Break
- Case Studies

# What is an Illicit Discharge?

- 40 CFR 122.26 (b)(2) defines an illicit discharge as any discharge to an MS4 that is not composed entirely of stormwater, except allowable discharges pursuant to an NPDES permit, including those resulting from fire fighting activities.

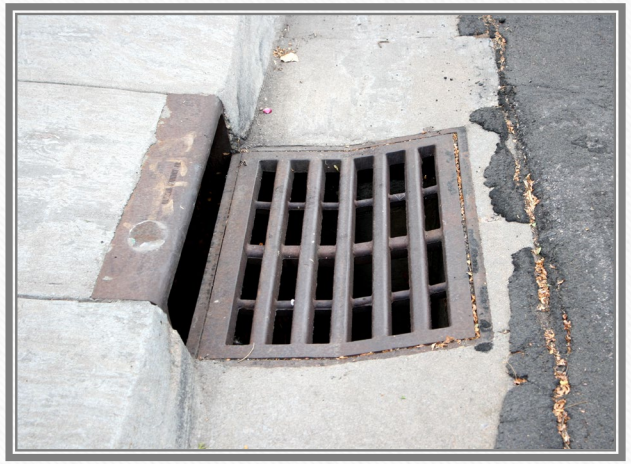
# Illicit Dry Weather Flows

- Originate from  many sources
- The Most IMPORTANT sources being:
  - Sanitary Wastewater
  - Industrial
  - Commercial Pollutant entries
    - Failing septic tank systems and/or
    - Vehicle maintenance activities
  - Accidental or Purposeful



# What is a Storm Drain?

- Enclosed Pipe or Open Channel
- **Major** Storm drain:
  - Defined as enclosed storm drain pipes with a diameter of 36 inches or greater or open channels that drain more than 50 acres.
- **Minor** Storm drain:
  - Are smaller than the above mentioned thresholds.



# Permit Requirements

- National requirements:
  - CWA(1987) – Contained the first provisions to regulate discharges from storm drainage systems.
  - NPDES- EPA issued the rules for Phase I Permit programs (1990) and Phase II (1999) to be implemented via the NPDES permit system.
- TEXAS specific:
  - ALL MS4's Required by Texas Commission on Environmental Quality (TCEQ) to obtain a Texas Pollution Discharge Elimination System (TPDES) permit from the TCEQ to discharge stormwater to "surface waters in the State.

# Phase I- Permit Requirements

- Cities with a population greater than 100,000 were ( large MS4's".)
  - Requirements:
    - Apply for individual permits with specific dry weather screening requirements
  - Must address these in their annual report to TCEQ

| PHASE I HIGHLIGHTS | |
|---|---|
| **Who must meet the requirements?** | MS4s with population ≥ 100,000 |
| **How many Phase I communities exist nationally?** | 1,059 |
| **What are the requirements related to illicit discharges?** | Develop programs to prevent, detect and remove illicit discharges |

# Phase II Permit Requirements

- Small MS4s were issued a TPDES general permit by the TCEQ (also known as a Phase 2 MS4 permit).

| PHASE II HIGHLIGHTS | |
|---|---|
| **Who must meet the requirements?** | Selected small MS4s |
| **How many Phase II communities exist nationally?** | EPA estimates 5,000-6,000 |
| **What are the requirements related to illicit discharges?** | Develop programs to prevent, detect and remove illicit discharges |
| **What is the deadline for meeting these requirements?** | Permits issued by March 10, 2003. Programs must be fully implemented by the end of first permit term (5years) |

# ILLICIT DISCHARGE AND ELIMINATION PROGRAM( IDDE)

- TPDES permit required for phase 1 and level 4 phase 2 cities.
- TXR040000.
  - Phase 1: All outfalls must be screened at least once per permit term.
  - Phase 2: Source investigation and elimination upon detection of an illicit discharge.
  - Level 4 Phase 2: Prioritize problem areas for field screening and implement by end of permit term.

# Regional Protocol

- Developed by NCTCOG under the direction of the Regional Stormwater Management Coordinating Council (RSWMCC)
- Creates a consistent method for IDDE
  - Promotes consistency throughout the region
  - Increases impact of program
- Creates consistent quality control

# IDDE Program Development & Tracking

- **Key Tasks and Products in IDDE Program Implementation**
  1. Audit existing programs
  2. Establish responsibility  and authority
  3. Desktop assessment of illicit discharge potential
  4. Develop program goals and strategies
  5. Search for illicit discharges and problems in the field
  6. Isolate and fix individual discharges
  7. Prevent illicit discharges
  8. Program evaluation

- **Illicit Discharge Detection and Elimination: A Guidance Manual**

https://owl.cwp.org/mdocs-posts/idde-guidance-manual/

# IDDE Program Implementation

**Table 4: Key Tasks and Products in IDDE Program Implementation**

| Program Component | Key Tasks | Products |
|---|---|---|
| 1. Audit existing programs | • Infrastructure Profile<br>• Existing Legal Authority<br>• Available Mapping<br>• Experienced Field Crews<br>• Access to Lab Services<br>• Education and Outreach Outlets<br>• Discharge Removal Capability<br>• Program Budget and Financing | • Agreement on Lead Agency<br>• 5 year Program Development Plan<br>• First Year Budget and Scope of Work |
| 2. Establish responsibility and authority | • Review Existing Ordinances<br>• Define “Illicit”<br>• Provisions for Access/Inspections<br>• Select Enforcement Tools<br>• Design Tracking System | • Adopt or Amend Ordinance<br>• Implement Tracking System |
| 3. Desktop assessment of illicit discharge potential | • Delineate Sub watersheds<br>• Compile Mapping Layers/Data<br>• Define Discharge Screening Factors<br>• Screen Sub watersheds for Illicit Discharge Potential<br>• Generate Maps for Field Screening | • Prioritize Sub watersheds for Field Screening |
| 4. Develop program goals and strategies | • Community Analysis of Illicit Discharge<br>• Public Involvement | • Measurable Program Goals<br>• Implementation Strategies |

# IDDE Program Implementation

**Table 5: Comparison of IDDE Program Components**

| IDDE Program Component | When To Do It | Startup Costs | Annual Cost | Expertise Level | Type of Expertise |
|---|---|---|---|---|---|
| 1. Audit | Immediately | $ | -0- | ?? | Planning/Permitting |
| 2. Authority | Year 1 | $$ | $ | ?? | Legal |
| 3. Desktop Analysis | Year 1 | $$ | -0- | ??? | GIS |
| 4. Goals/Strategies | Year 1 | $ | -0- | ?? | Stakeholder Management |
| 5. Field Search/Monitoring | Year 2 to 5 | $$ | $$$$ | ??? | Monitoring |
| 6. Isolate and Fix | Year 2 to 5 | $ | $$ | ??? | Pipe and Site Investigations |
| 7. Prevention | Year 2 to 5 | $$ | $$$ | ?? | Education |
| 8. Evaluation/Tracking | Annually | -0- | $ | ? | Data Analysis |

*Key:* *$ = <$10,000*
*$$ = $10,000 - 25,000*
*$$$ = $25,000 - 50,000*
*? - Simple*
*?? - Moderately Difficult*
*??? - Complex* *$$$$ = > $50,000*

**Table 4: Key Tasks and Products in IDDE Program Implementation**

| Program Component | Key Tasks | Products |
|---|---|---|
| 5. Search for illicit discharges problems in the field | • Outfall Reconnaissance Inventory (ORI)<br>Integrate ORI data in Tracking System<br>Follow-up Monitoring at Suspect Outfalls | • Initial Storm Drain Outfall Map<br>Develop Monitoring Strategy |
| 6. Isolate and fix individual discharges | • Implement Pollution Hotline<br>Trunk and On-site Investigations<br>Corrections and Enforcement | • Maintain Tracking System |
| 7. Prevent illicit discharges | • Select Key Discharge Behaviors<br>Prioritize Outreach Targets<br>Choose Effective Carrots and Sticks<br>Develop Budget and Delivery System | • Implement Residential, Commercial, Industrial or Municipal Pollution Prevention Programs |
| 8. Program evaluation | • Analyze Tracking System<br>Characterize Illicit Discharges Detected<br>Update Goals and Strategies | • Annual Reports<br>Permit Renegotiation |