

EPA's 1990 Phase I and 1999 Phase II Stormwater Regulations

Green Country Stormwater Alliance
Employee Training Workshop

September 10, 2013

Tulsa Technology Center, Broken Arrow

NPDES Program Overview

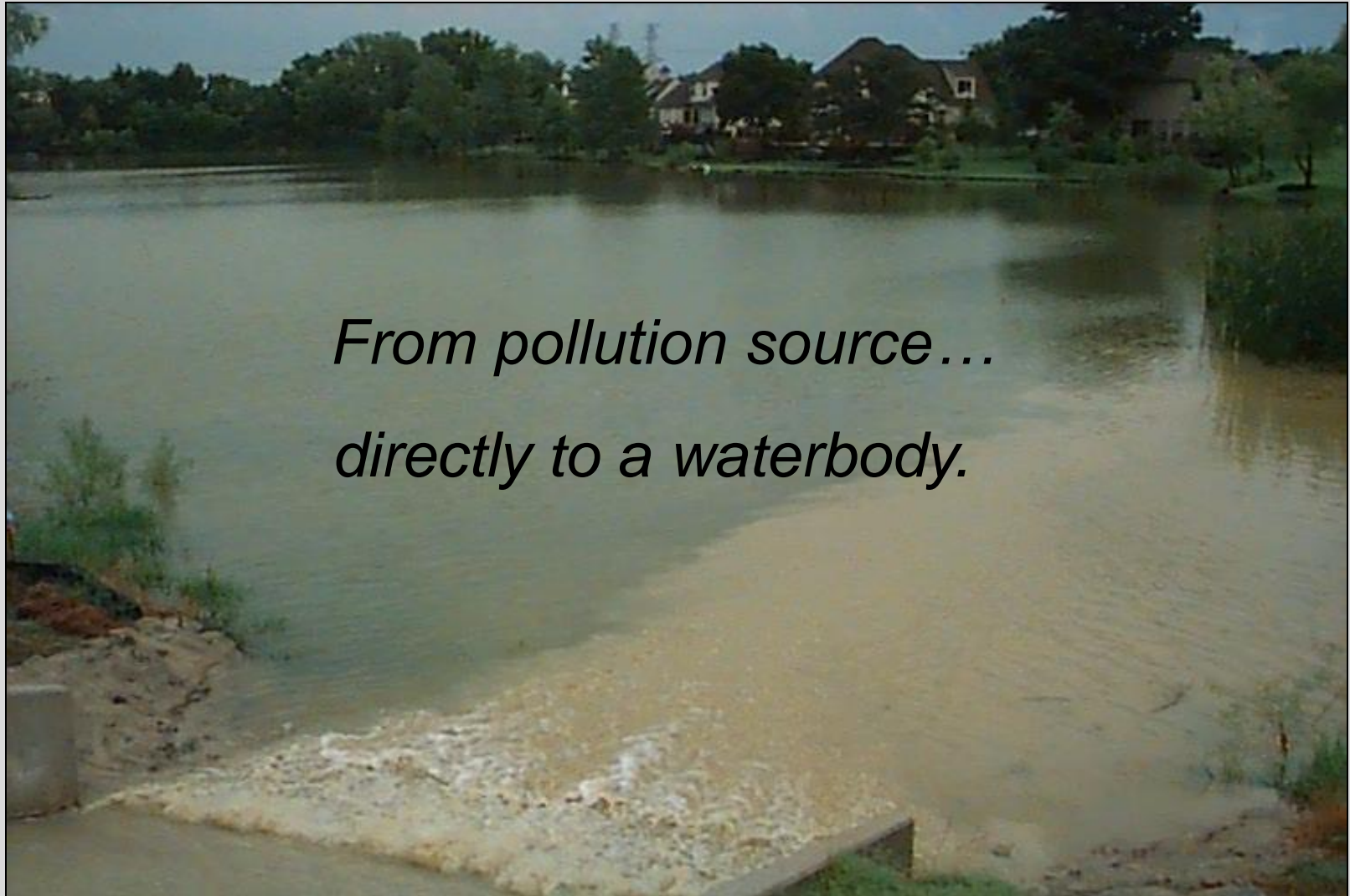
- “National Pollutant Discharge Elimination System”.
- 40 CFR Part 122 of EPA Federal Regulations.
- Oklahoma has Primacy = OPDES
- ODEQ is the “Permitting Authority”
- Addresses “Point Source” discharges from:
 - *Wastewater treatment plants*
 - *Stormwater MS4 runoff (Phase I and II regs)*
 - *Stormwater Construction activities ≥ 1 acre (Phase I regs)*
 - *Stormwater Industrial activities (Phase I regs)*

NPDES Penalties for Non-Compliance

| PENALTY TYPE | PROVISION | AMOUNT | PERIOD | PROVISION | MAX. | PRISON |
|---------------------|--------------------|--------------------|---------|------------------------|-------------|----------|
| Civil | Not to exceed | \$25,000 | Per day | For each violation | -- | -- |
| Admin Class I | Not to exceed | \$10,000 | -- | Per violation | \$25,000 | -- |
| Admin Class II | Not to exceed | \$10,000 | Per day | Of violation | \$125,000 | -- |
| Criminal Negligence | Not less than | \$2,500 - \$25,000 | Per day | Of violation | \$25,000 | 1 year |
| Criminal Knowing | Not less than | \$5,000 - \$50,000 | Per day | Of violation | \$50,000 | 3 years |
| Knowing Endanger. | Not more than | \$250,000 | -- | For first conviction | \$250,000 | 15 years |
| Knowing Endanger. | Not more than | \$500,000 | -- | After first conviction | \$500,000 | 30 years |
| Criminal Endanger. | By an Organization | \$1,000,000 | -- | After first conviction | \$2,000,000 | -- |

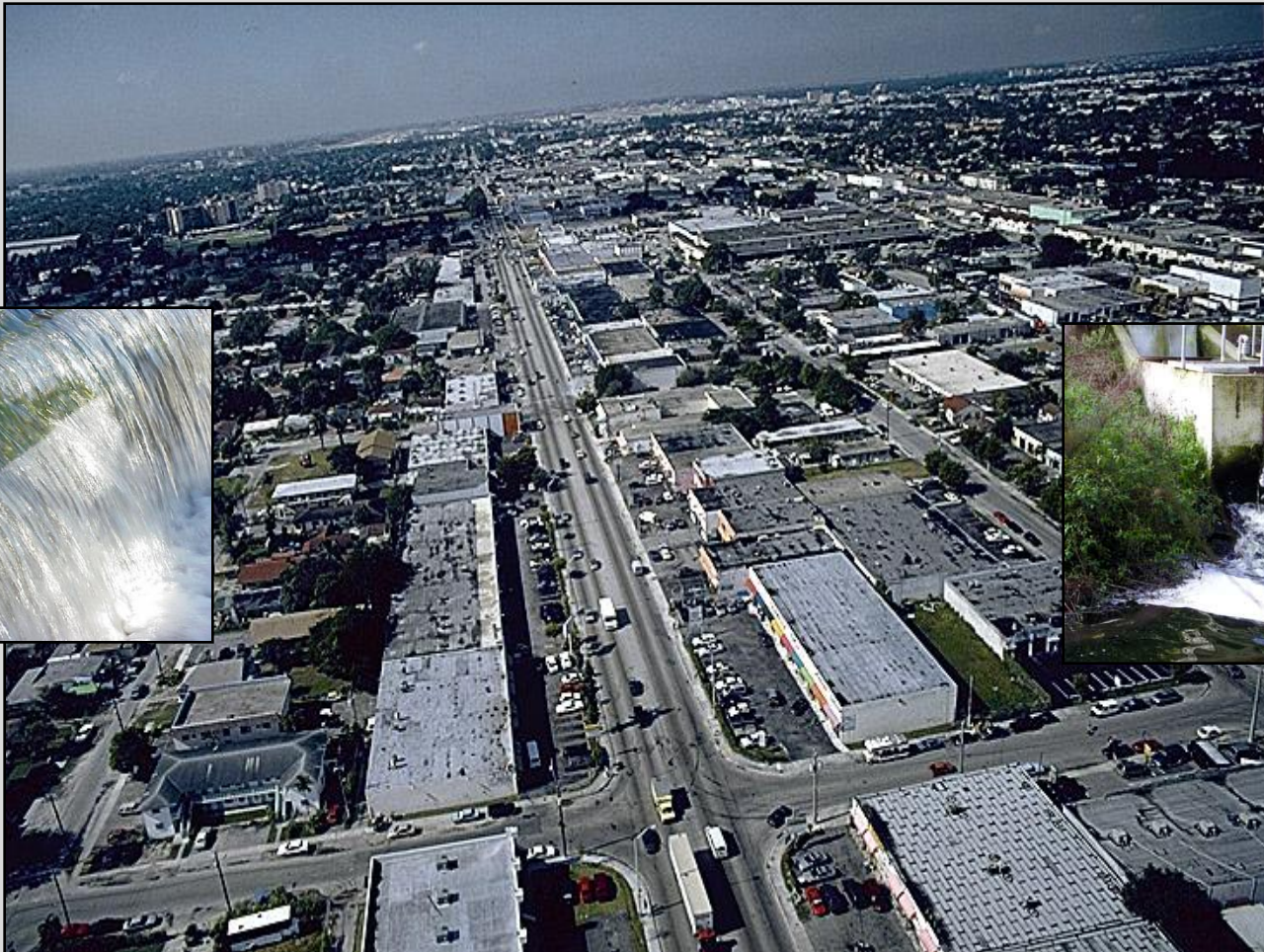
Phase 1 and 2 Basics

A City's Storm Drain System Has No Pollution Treatment



*From pollution source...
directly to a waterbody.*

Urban Non-Point Sources: Are Now Regulated as Point Sources



NPDES Stormwater – Phase I and II

- A true NPDES permitting program with full penalty provisions as other discharge permits.
- Addresses urban nonpoint source pollution using point source regulations.



- **Phase I** addresses:
 - Cities $\geq 100,000$
 - Specific industrial activities
 - Construction ≥ 5 acres
- **Phase II** addresses cities and counties under 100,000 in “Urbanized Areas”, ODEQ-designated, Construction 1-5 acres.



Overview of Phase II Program

- All Phase II permittees must comply with ODEQ's general permit for small MS4s (OKR04).
- Every Phase II permittee must implement a "Stormwater Management Program" (SWMP).
- Phase II must eliminate violations of Water Quality Standards due to urban stormwater runoff.
- Permittees must implement numerous Best Management Practices (BMPs) to control runoff pollution.
- Each permittee must document all actions in order to demonstrate success.

Summary of Phase 2 Permit Requirements

OKR04 Penalties for Non-Compliance

| PENALTY TYPE | PROVISION | AMOUNT | PERIOD | PROVISION | MAX. | PRISON |
|-----------------|---------------|----------|---------|--------------------|-------------|---------|
| Civil | Not to exceed | \$10,000 | Per day | For each violation | -- | -- |
| Admin | Not to exceed | \$10,000 | Per Day | Per violation | \$125,000 | -- |
| Criminal Action | Not less than | \$2,500 | Per day | Of violation | \$2 million | 30 year |
| Permit Fraud | Not more than | \$20,000 | Per day | Of violation | \$20,000 | 4 years |

Illicit Discharge Definition

FROM EPA REGULATIONS:

Part 122.26(b)(2) Illicit discharge means any discharge to a municipal separate storm sewer that is not composed entirely of storm water

except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

Municipal Separate Storm Sewer System (MS4)

According to 40 CFR 122.26(b)(8), “municipal separate storm sewer” means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into waters of the United States.
- (ii) Designed or used for collecting or conveying storm water;
- (iii) Which is not a combined sewer; and
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Six “Minimum Control Measures”

1. Public Education and Outreach
2. Public Participation and Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Runoff Control
6. Pollution Prevention and Good Housekeeping

SWMP Best Management Practices

| BMP DESCRIPTION | CONTROL MEASURE ADDRESSED | | | | | |
|--------------------------------------------------|---------------------------|----------------------|-------------------|--------------|-------------------|-------------------|
| | PUBLIC EDUCATION | PUBLIC PARTICIPATION | ILLICIT DISCHARGE | CONSTRUCTION | POST-CONSTRUCTION | GOOD HOUSEKEEPING |
| BROCHURES | | | | | | |
| Water quality impacts from urban stormwater | X | | | | | |
| Household chemical disposal options | X | X | X | | | |
| Proper on-site sewage disposal system maint. | X | | X | | | |
| Chemical storage and disposal at businesses | X | | X | | | X |
| Construction / erosion control BMPs | | | | X | X | |
| Post-construction / erosion control BMPs | | | | | X | |
| City good house-keeping options | | | | | | X |
| How to become involved in stormwater program | X | | | | | |
| Recycling and re-use benefits | X | X | X | | | |
| Chemical storage and disposal at city facilities | X | | | | | |
| TRAINING MODULES | | | | | | |
| Storage and disposal of chemicals | | | | | | X |
| Water quality impacts and regulations | X | | | | | X |
| Data quality and data management | | | X | | | X |
| How to conduct inspections effectively | | | X | | | |
| Stormwater and city activities | | | | | | X |
| MS4 MAPPING | | | | | | |
| Regional MS4 system maps | | | X | | | |
| Regional GIS databases / set priority areas | | | X | | | |



| BMP DESCRIPTION | CONTROL MEASURE ADDRESSED | | | | | |
|-------------------------------------------------|---------------------------|----------------------|-------------------|--------------|-------------------|-------------------|
| | PUBLIC EDUCATION | PUBLIC PARTICIPATION | ILLICIT DISCHARGE | CONSTRUCTION | POST-CONSTRUCTION | GOOD HOUSEKEEPING |
| ADMINISTRATIVE | | | | | | |
| Adopt illicit discharge ordinance | | | X | | | |
| Adopt construction ordinance | | | | X | | |
| Adopt post-construction ordinance | | | | | X | |
| Comply with state and local public notification | | | | X | X | |
| Program to receive information from the public | | | X | X | X | X |
| Site Plan review to include water quality | X | X | X | X | X | X |
| Support regional agency-sponsored seminars | X | X | X | X | X | X |
| Discuss Phase II in city council meetings | X | | | | | |
| Collect local and regional pollution data | | | X | | | |
| Develop regional stormwater web site | X | X | | | | |
| COMMUNITY INVOLVEMENT | | | | | | |
| Sponsor local clean-up events | X | X | X | | | X |
| Create display board for public meetings | X | | | | | |
| Create signs for community education | X | | | | | |
| Create signs for city work areas | | | | | | X |
| Blue Thumb school presentations | X | X | | | | |
| Blue Thumb volunteer stream monitoring | X | X | X | | | |
| Blue Thumb stormdrain marking | X | X | X | | | |
| Promote household pollutant collection events | X | X | X | | | |
| Promote use of recycling centers | X | X | X | | | |
| Distribute items with water quality logos | X | | | | | |
| INSPECTIONS | | | | | | |
| Complaint investigations for MS4 system | | | X | | | |
| Source tracking of pollutants in MS4 system | | | X | | | |
| Inspection of construction sites and activities | | | | X | X | |
| Good housekeeping inspections of city property | | | | | | X |



Public Education and Participation



- Booths at local festivals and events
- Stormdrain marking
- Volunteer stream monitoring
- Brochures, newsletters
- Give-away items with logos

- Adopt a watershed
- Adopt a stream
- Household Pollutant Collections
- Scouts, Camp Fire, etc.
- Local school clubs & classes

Clean-ups

Future TV, Radio, Print ?



Regional Events: Education and Clean-up



Semi-Annual Household Pollutant Collection Event

Held Twice a Year at
Tulsa Fair Grounds



Blue Thumb Program

(Public Education and Volunteer Monitoring)



“Dump No Waste Drains to River”



Illicit Discharge Control Measures

“You must develop, implement and enforce a program to detect and eliminate illicit discharges...”

- Develop a storm sewer system map showing outfalls and streams.
- Prohibit through ordinance...non-stormwater discharges.
- Implement enforcement procedures.
- Develop a plan to detect and address non-stormwater discharges.
- Inform employees and public about improper disposal hazards.
- EPA “recommends” developing procedures to:
 1. *Locate priority areas*
 2. *Trace the source of the illicit discharge*
 3. *Remove the source of the discharge*
 4. *Evaluate and assess the program.*

Map the City's Storm Drain System

Receiving Streams

Outfalls

Open Channels, Pipes

Detention Ponds

Watersheds



Source-Tracking Inspections

Technical resources and skills will be needed for performing inspections.



Crew Experience

Field Safety

Enforcement



Construction Related Control Measures

Phase 1 addressed 5 acres and greater.

Phase 2 addresses 1 to 5 acres (<1 acre can also be designated).

What cities must do:

- Develop ordinances or other regulations for erosion and sedimentation.
- Require operators to use sediment control BMPs.
- Require water quality considerations in site plans.
- Develop procedures for site inspection and enforcement.
- Develop program to address stormwater runoff from post-construction activities.

City Codes must address construction site runoff and prohibit discharges that impair water quality.



City Inspectors must have the authority to control construction site runoff through enforcement of local codes.

Dry Weather Field Screen and Construction Site Inspections



Visual observations

Chemical test kits

Interviews

Private property entry

Lab samples

Annual Report to Permitting Authority

- Status of compliance with permit conditions.
- Assessment of BMP effectiveness.
- Progress of achieving the Measurable Goals.
- Information analyzed and monitoring data.
- Summary of future planned activities.
- Proposed changes in SWMP and BMPs.
- Description / schedule of additional BMPs.
- Notify PA that another entity is being used to implement part of the SWMP, if any.