

OKR04 Regulatory History

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Outline

- * **Why are we here?**
- * **Clean Water Act**
- * **DEQ History**
- * **OKR04**
 - * **General Permit for Phase II Small Municipal Separate Storm Sewer System Discharges Within the State of Oklahoma**



Why Are We Here?

- * 55% of U.S. streams and rivers are in poor condition
- * Preventing pollution is easier and more effective than mitigating it later
- * Goal of environmental regulations:
 - * To restore and maintain the chemical, physical, and biological integrity of the nation's waters
- * Spurred by historic events like the Cuyahoga River Fires in the 1950s and 1960s and eventually led to the formation of the EPA



Cuyahoga River, Cleveland, OH

- * Flows into Lake Erie through Akron and then Cleveland, Ohio
- * At one point in the mid 20th century, the stretch of river from Akron to Cleveland was completely devoid of fish
- * Became so polluted with trash and industrial waste that the river caught fire at least 13 times



Pictures Are Worth 1,000 Words



Cuyahoga River Fire 11/3/1952 from Cleveland Press Collection



Cuyahoga River Fire possibly from 1952.

Another 2,000 Words



Reporter Richard Ellers dipped his hand into the Cuyahoga River



Examining a white cloth after being dipped in Cuyahoga River in 1964

Clean Water Act



* Clean Water Act

- * Passed in 1972 during the Nixon Administration
- * Enforced by the EPA
- * Focus on point source discharges
 - * Pipes, drains, other easily identified points of discharge
- * Established the National Pollutant Discharge Elimination System (NPDES)
- * Amended in 1987
 - * Addressed more diffuse sources of pollution, such as stormwater discharges



Regulatory History

- * **Stormwater Regulations**
 - * **Phase I**
 - * Promulgated in 1990
 - * Required the following to be permitted:
 - * Medium and large municipal separate storm sewer systems (MS4s) – generally with populations $\geq 100,000$
 - * Construction activities disturbing ≥ 5 acres
 - * Industrial activities in the thirteen (13) sectors by SIC code



Regulatory History

- * **Stormwater Regulations**

- * **Phase II**

- * **Established December 8, 1999**

- * **Required the following to be permitted:**

- * **Small and medium MS4s and those within urbanized area**

- * **Construction activities disturbing ≥ 1 acre or part of a larger common plan of development**



DEQ History

- * **Formed July 1, 1993**
- * **Received delegation of NPDES Programs**
 - * **November 19, 1996**
 - * **Permitting and enforcement of municipal and industrial wastewater**
 - * **September 9, 1997**
 - * **Stormwater discharges associated with construction and industrial sites**
 - * **Industrial pretreatment**



DEQ Mission Statement

“The mission of the Oklahoma Department of Environmental Quality is to enhance the quality of life in Oklahoma and protect the health of its citizens by protecting, preserving, and restoring the water, land, and air of the state, thus fostering a clean, attractive, healthy, prosperous, and sustainable environment.”



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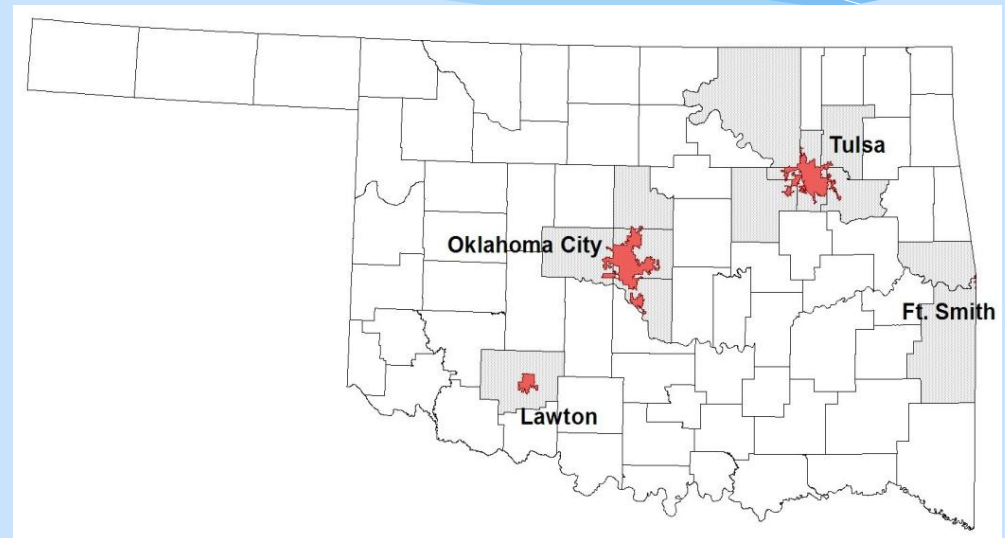
Stormwater

- * DEQ has regulatory authority over the following stormwater discharges:
 - * From MS4s
 - * From industrial activities
 - * OKR05 issued September 5, 2011
 - * From construction activities
 - * OKR10 issued September 13, 2012
- * BMP-based approach instead of numeric limits



Oklahoma's MS4 Permits

- * Phase I (2 permittees)
 - * City of Oklahoma City
 - * City of Tulsa
- * Phase II (43 current permittees)
 - * 34 Cities
 - * 5 Counties
 - * 4 Non-Traditional Entities (e.g. Tinker AFB, OU)



Oklahoma's Phase I MS4 Permits

- * **Individual Permits by DEQ**
 - * Oklahoma City – first issued September 1, 1995
 - * Tulsa - first issued April 1, 1997
 - * Both are co-permittees with ODOT and OTA
- * **Pollution Prevention Approach**
- * **Stormwater Management Program (SWMP)**
 - * Developed by MS4
 - * Spells out how MS4 will address/manage stormwater discharges



Municipal Separate Storm Sewer Systems (MS4s)

- * **Phase II MS4s**

- * **Within an "urbanized area" (UA), as defined by the Bureau of the Census**

OR

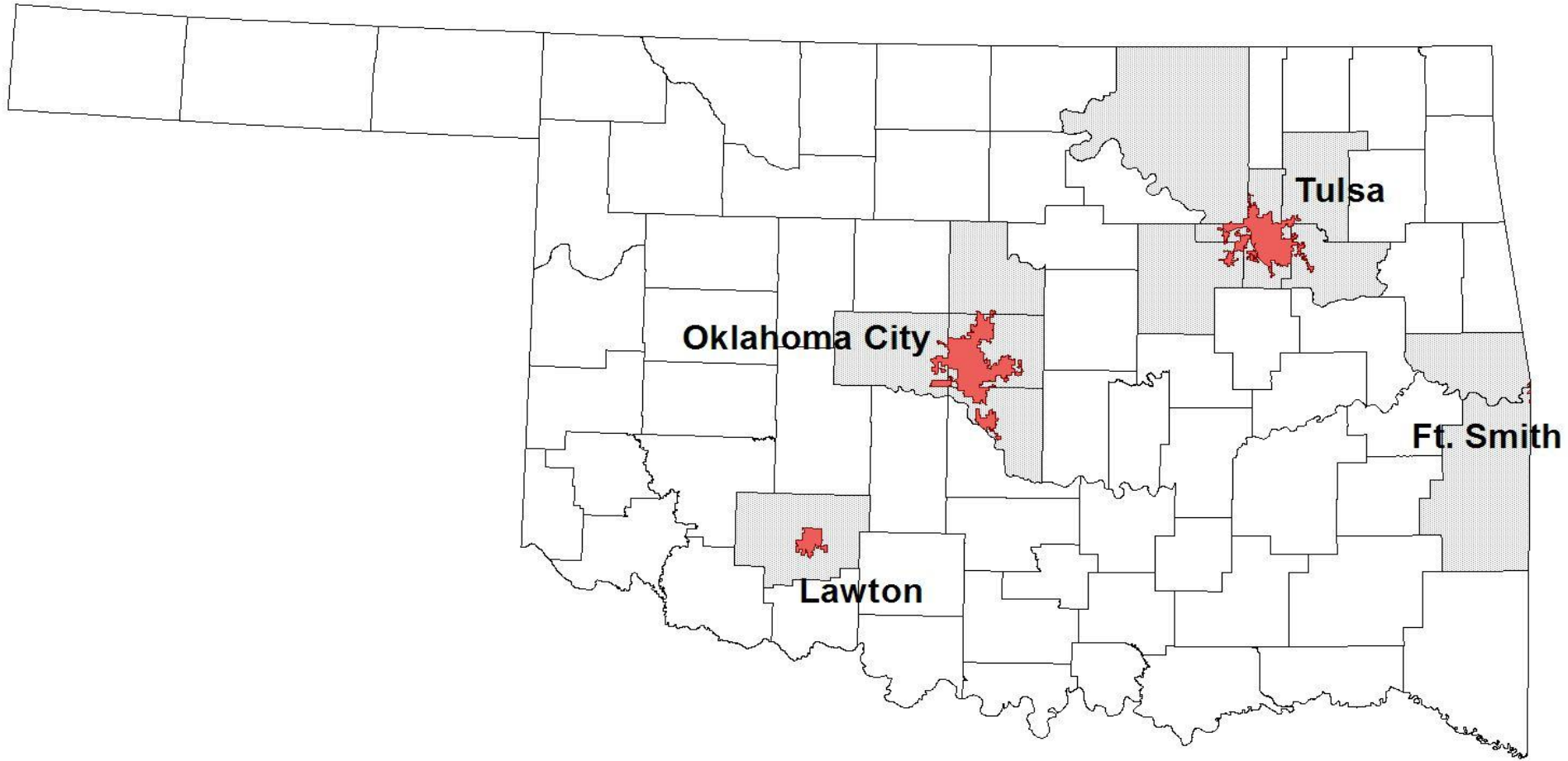
- * **Outside UA with a population $\geq 10,000$**
- * **Population density of at least 1,000 per square mile**

OR

- * **Designated by NPDES permitting authority**



Oklahoma's Urbanized Areas



Phase II MS4 Cities

Altus

Bartlesville

Bethany

Bixby

Broken Arrow

Catoosa

Choctaw

Claremore

Coweta

Del City

Edmond

Jenks

Lawton

McAlester

Miami

Midwest City

Moore

Muskogee

Mustang

Nichols Hills

Nicoma Park

Noble

Norman

Okmulgee

Owasso

Ponca City

Sand Springs

Sapulpa

Spencer

Stillwater

Tahlequah

The Village

Warr Acres

Yukon

New for 2015:

Arkoma

Glenpool

Harrah

Jones

Kiefer

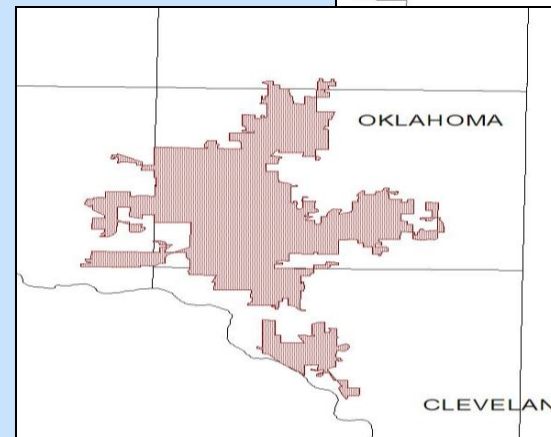
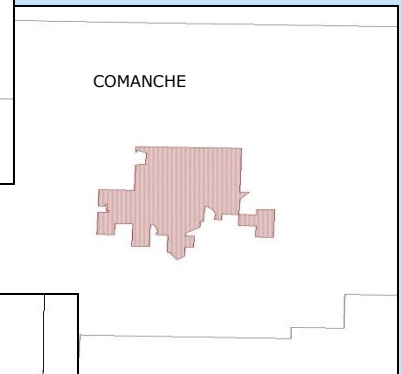
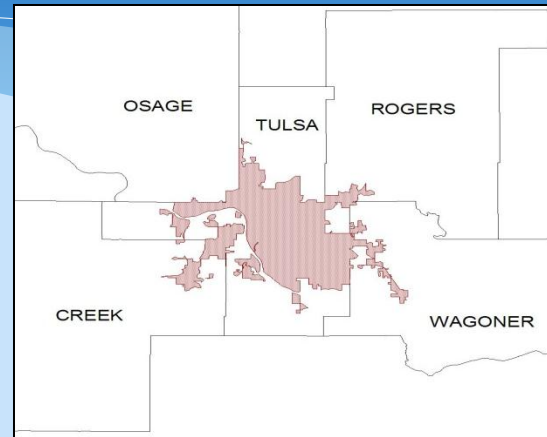


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Counties Designated as Phase II MS4s

Comanche County
Creek County
Oklahoma County
Tulsa County
Wagoner County

New for 2015:
Logan County
Rogers County



Non-Traditional Phase II MS4s

Fort Sill Army Base

Tinker Air Force Base

University of Oklahoma

Oklahoma Department Of Transportation (ODOT)

Oklahoma Turnpike Authority (OTA)



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Oklahoma's Phase II MS4 Permit

- * **General Permit, OKR04**
- * **Effective February 8, 2005**
- * **Expired February 8, 2010**
- * **Administratively continued until new OKR04 issued**
- * **Pollution prevention approach**
 - * **Uses SWMP**
 - * **Must address six minimum control measures**
 - * *Select BMPs*
 - * *Identify “Measurable Goals”*
 - * *Evaluate effectiveness*



MS4 Program Evaluations

- * **2004**
 - * Guidelines and procedures developed by EPA
- * **2005**
 - * First Phase I MS4s audited by EPA
- * **2006**
 - * First Phase I MS4 audited by DEQ
- * **2007**
 - * Second Phase I MS4 Audits
 - * EPA MS4 Evaluation Guide released
 - * First Phase II MS4 audit conducted by DEQ
- * **2008 – December 2012**
 - * Phase II MS4 Screening Evaluations conducted



Activities in Oklahoma

- * Phase I Audits
 - * Tulsa
 - * Conducted in November 2006 and December 2013
 - * Oklahoma City
 - * Conducted in November 2007 and November 2014
- * Audit team included permitting and enforcement personnel
- * Used modified EPA checklist



PART 1: GENERAL INFORMATION

Audit Team: Wayne T. Craney, Joe Don Willingham, Agency: ODEQ Phone: (405) 702-8100
 Bob Giger, Carrie Evenson, Karen Milford
 Control Authority Name: Oklahoma Department of Environmental Quality
 Mailing Address: 707 N. Robinson, P.O. Box 1677, Oklahoma City, OK 73101

Permit Signatory (designated official to sign permit, reports): Roy Foster
 Title: Quality Assurance Manager
 Phone: (918) 596-1344 Fax: (918) 591-4388
 E-mail: rfoster@cityoftulsa.org

MS4 SWMP Contact:

NAME	TITLE	PHONE NO.
Roy Foster	Quality Assurance Manager	(918) 596-1344

Control Authority Representative(s):

NAME	TITLE	PHONE NO.
Roy Foster	Quality Assurance Manager	(918) 596-1344
Scott VanLoo	Stormwater Quality Manager	(918) 591-4379

Co-Permittee(s):

NAME	MAILING ADDRESS	PHONE NO.
Oklahoma Transportation Authority	P.O. Box 11357, OKC, OK 73136-0357	(405) 425-3600
Oklahoma Dept. of Transportation	200 NE 21 st Street, OKC, OK 73105	(405) 521-2701

Co-Permittee Representative(s):

NAME	TITLE	PHONE NO.
Daniel Humphrey	Project Engineer	(405) 425-3600
John Fuller	Chief Engineer	(405) 521-2701

Co-Permittee MS4 SWMP Contact:

NAME	TITLE	PHONE NO.
Scott VanLoo	Stormwater Quality Manager	(918) 591-4379

Auditor(s):

NAME	MAILING ADDRESS	PHONE NO.
Wayne T. Craney, P.E.	707 N. Robinson, P.O. Box 1677, OKC, OK 73101	(405) 702-8139
Joe Don Willingham, P.E.	Same	(405) 702-8129
Bob Giger	Same	(405) 702-8112
Dr. Carrie Evenson	Same	(405) 702-8136
Karen Milford	Same	(405) 702-8191

Date of Audit: November 14-17, 2006

MS4 SWMP Approval Date:

OPDES MS4 Permit No.: OKS000201

Annual Report Due Date: October 15 Annually

Audit Period: 2001 to 2006

Activities in Oklahoma

- * Phase II MS4s
- * All were evaluated as of December 2012
- * Next round of evaluations to begin again after reauthorization of OKRo4



OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

Date of Evaluation April 25-26, 2012	Phase II Municipal Separate Storm Sewer System (MS4) Screening Evaluation Checklist Instructions: Use this worksheet as a guide for questioning MS4 staff and reviewing applicable documents. Keep in mind that additional questions may be necessary based on local regulations, MS4 permit requirements, implementation strategies, or water quality issues. Remember to obtain copies of any applicable documents or files which may assist in writing the MS4 evaluation report.
Evaluator Name(s), Title Carrie J. Evenson, PhD Michele Loudenberg, RPES Wayne T. Craney, PE	
MS4 Permittee City of Nicoma Park	

Permit Issued On: January 5, 2006	Permit Expires On: February 8, 2010
Authorization No.: OKR040038	
Staff Interviewed	
Name	Department/Agency

Section 1: General Program Information											
Interview Questions	Response										
1. Stormwater Management Plan (SWMP)											
A. SWMP developed?	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA										
B. How are in-house departments coordinated?											
C. Is there a stormwater task force or committee in place?	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA										
D. Does the MS4 involve outside organizations/groups in SWMP-related activities?	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA										
E. Name of Organization(s)/Group(s):											
F. Has an organizational chart been developed?	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA										
G. Have roles and responsibilities been assigned?	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA										
H. Have measurable goals or standards been developed for each SWMP program component?	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA										
I. Do the goals address water quality impacts or effectiveness? How?	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA										
J. Have pollutants of concern (POC) been established? If yes, based on what? <ul style="list-style-type: none"> • 303(d) list? • TMDLs? • Land uses of concern? • Existing watershed planning efforts? 	Basis:										
K. Have POC-specific strategies been developed in the SWMP?	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA										
L. How does the permittee decide program implementation priorities for resource allocation?											
M. Has the permittee met specific annual goals as outlined in the SWMP?	<table border="0"> <tr> <td>Year 1</td> <td><input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA</td> </tr> <tr> <td>Year 2</td> <td><input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA</td> </tr> <tr> <td>Year 3</td> <td><input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA</td> </tr> <tr> <td>Year 4</td> <td><input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA</td> </tr> <tr> <td>Year 5</td> <td><input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA</td> </tr> </table>	Year 1	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA	Year 2	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA	Year 3	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA	Year 4	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA	Year 5	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
Year 1	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA										
Year 2	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA										
Year 3	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA										
Year 4	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA										
Year 5	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA										
N. Is the SWMP reviewed on an annual basis?	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA										

Role of Enforcement

- * Encourager, coach, & supporter
IF
- * Everyone advances to developed program status
- * If you aren't there yet, you have to get there.
- * *If enforcement is necessary, then it will be taken.*



Role of Enforcement

- * All of the evaluated efforts were done for benefit of both MS4 and DEQ.
- * Findings and evaluations were presented to each permittee.
- * Generally fall into Gaussian Distribution.



What is the impact of the MS4 program?



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Pollutant Removal

- * Can be illustrated by data from Phase I MS4s
- * Phase II MS4s do similar activities under a modified format – i.e. 6 (or 7) MCMs
- * Similar results can be expected from Phase II MS4s regarding pollutant removal.
- * The more pollutant removal can be quantified, the better use of the BMP approach can be justified

Oklahoma City Phase I MS4

- * **Area:** 621 square miles
- * **Population within city limits:** 610,000
- * **Population within metro area:** 1,300,000
- * **Number of Stormwater FTEs:** 29
- * **Annual Program Magnitude:** \$15,500,000.00
- * **Waste Removed:**
 - * **Curb Inlets** 477.17 tons
 - * **Street Sweeping** 3,079.23 tons
 - * **Floatables:** 327.6 tons



OKC Household Hazardous Waste

Material	Amount (lbs)
Flammables Bulk	21,768
Pesticide	41,409
Paint Bulk	273,482
Acid	5,565
Base	3,845
Oxidizers	2,157
Aerosols	16,412
Oil	66,350
Flammable Lab Pack	21,387
Miscellaneous	165,097
Totals	617,472

Tulsa Phase I MS4

- * **Area:** 200 square miles
- * **Population within city limits:** 391,906
- * **Population within metro area:** 961,561
- * **Number of Stormwater FTEs:** 11
- * **Annual Program Magnitude:** \$719,898(SWQ)/\$18,743,346(Total)
- * **Waste Removed:**
 - * **Street Sweeping:** 10,486 cubic yds
 - * **Litter Removed:** 19,719 bags = 1,618.75 tons
 - * **Floatables** 14,401 33-gal trash bags



Tulsa Household Hazardous Waste Collection

Material	Amount
Oil	2,500 gals
Paint	5,573 containers
Flammables	15,599 lbs
Corrosives	4,922 lbs
Aerosols	3,159 lbs
Oxidizers	1,060 lbs
Batteries	8,150 lbs automobile 5,220 lbs household
Pesticides/poisons	13,435 lbs
Other hazardous substances	18,201 lbs
Medication (packaged in Mineral Oil)	1,010 lbs
Mercury Debris	67 Lbs 68 2,016 lbs fluorescent light bulbs
Cooking Grease	210 gals
Antifreeze	410 gals

Tulsa Recycling

Material	Amount
Oil	19,861 gals
Antifreeze	540 gals
Plastics	421,202 lbs
Aluminum	85,212 lbs
Glass	1,125,040 lbs
Batteries	16,175 lbs automobile 15,795 lbs household
Newspaper	1,069,270 lbs
Cooking Grease	1,500 gals



“Nuggets of Wisdom”

- * The stormwater programs use the “Doctrine of Cumulative Effects” to achieve program goals.
- * Stormwater discharges are considered to be point source discharges under NPDES.
- * The intent is to assist permittees to build and/or document program viability.
- * You can’t stay where you’re at per the EPA.
- * A rising tide lifts all boats. We will succeed in this together.



DEQ Stormwater Contacts

* Permitting

- * Michael Moe – (405) 702-8184
- * Karen Milford – (405) 702-8191
- * Ismat Esrar – (405) 702-8193

* Permit Administration

- * Loree Boyanton- (405) 702-6177
- * Anamari Holcomb- (405) 702-6178
- * Sandra Purvis- (405) 702-6182

* Compliance/Enforcement

- * Wayne T. Craney - (405) 702-8139
- * Michele Loudenback (North) - (405) 702-8116
- * Michelle Chao (West) - (405) 702-8112
- * Lorinda Mollenkamp (South) - (405) 702-8156

