



2025 Annual Report

For the period of July 1, 2024 – June 30, 2025

Prepared by:
City of Tulsa Public Works Department
Stormwater Maintenance and Operations



Save
Our
Streams™



Annual Report



Save Our Streams™

OPDES Stormwater Permit #OKS000201

July 1, 2024 to June 30, 2025

Co-Permittees:

Oklahoma Department of Transportation

Oklahoma Turnpike Authority

Table of Contents

TABLE OF CONTENTS

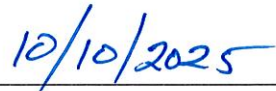
CONTENTS	PAGE
Certification Statement	I
Section 1 – Status of Implementing the Stormwater Management Program	1
1. Structural Controls and Stormwater Collection System Operation	1
2. New Development and Significant Redevelopment	3
3. Roadways	7
4. Flood Control Projects	9
5. Pesticide, Herbicide, and Fertilizer Application	11
6. Illicit Discharge and Improper Disposal	13
7. Spill Prevention and Response	33
8. Industrial and High-Risk Runoff	35
9. Construction Site Runoff	36
10. Public Education	40
11. Employee Education	51
12. Monitoring Programs	52
Section 2 – Proposed Changes to the Stormwater Management Program	55
Section 3 – Revisions to Assessments of Controls and Fiscal Analysis	56
Section 4 – Summary of the Data	57
Section 5 – Annual Expenditures	62
Section 6 – Summary of Enforcement Actions, Inspections, and Public Ed.	65
• Education Material Distributed or Used 2024-2025	Attachment A
• Education Events 2024-2025	Attachment B
Section 7 – Identification of Water Quality Improvements or Degradation	68
Section 8 – Watershed Characterization Program	69
Section 9 – TMDL Implementation Report	70
Section 10 – Co-Permittee Reports	71
• Oklahoma Department of Transportation	Appendix A
• Oklahoma Turnpike Authority	Appendix B

CERTIFICATION STATEMENT
OPDES Permit No. OKS000201
Review of Stormwater Annual
Report

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing of violations.



Heath Kirkeby
Division Manager
Stormwater Maintenance and Operations
Division



Date

Section 1

The Status of Implementing the Stormwater Management Program (SWMP)

The most current municipal stormwater discharge permit #OKS000201 for the City of Tulsa became effective on February 1, 2024. In accordance with Part II of the permit, the City was required to review its existing Stormwater Management Program (SWMP), revise or update Best Management Practices (BMPs) and measurable goals as needed to meet the new permit requirements, and document all modifications within one year of the effective date of the permit. Implementation of the revised SWMP is required to occur within two years of the permit effective date, or by February 1, 2026.

The City completed its review and revision of the SWMP during 2024, finalized the updated document in January 2025, and scheduled for implementation on July 1, 2025. As implementation of the revised SWMP will not begin until July 1, 2025, the activities described in this FY 24/25 Annual Report (covering July 1, 2024 – June 30, 2025) reflect actions and progress under the previous SWMP. However, this report will include updates and activities related to new permit annual report requirements such as the TMDL implementation report.

Additionally, the layout and structures of this year’s Annual Report correspond to the format and organization of the previous permit cycle. The revised SWMP and its associated reporting format will be incorporated into the next Annual Report covering FY 25/26 (July 1, 2025 – June 30, 2026).

The City’s SWMP includes twelve program areas that guide efforts to reduce stormwater pollution and protect local water quality. This report provides an overview of each program and highlights progress made during the reporting year toward meeting permit goals and maintaining compliance.

Part II(A)(1) Structural Controls and Stormwater Collection System Operation

Status: Compliant and Ongoing

The City of Tulsa’s SWMP provides for the maintenance of both above and below ground structural stormwater controls including detention ponds, inlets, conduits, and channels. The primary purpose of this program is to ensure proper operation of these structural controls for better control of stormwater quantity. Additionally, stormwater quality benefited from the removal of sediment, floatables, and regular inspections of all structures. The following table is an inventory of the work performed on these structures during this reporting period.

Section 1 – Status of Implementing the Stormwater Management Program

Maintenance of Above Ground Stormwater Structural Controls

ABOVE GROUND STRUCTURE(S)	INVENTORY (FOR REPORTING PERIOD)	OPERATIONS & MAINTENANCE (O&M) ACTIVITY	O&M ACTIVITY (COMPLETED EACH REPORTING PERIOD)
Channels/ Streams/ Detention Ponds	1,640 acres	Mowing	14x/year of mowable property (totaling 22,960 acres/year)
Channels & Streams/ Detention Ponds (Conger Contractor TAC 295)	2,336 acres	Weed control (Herbicide)	All parcels 1x/year for broad leaf weed control (totaling 2,336 acres)
Maintenance Trails (Conger Contractor TAC 295)	27.8 miles	Weed control (Herbicide)	All trails 6x/year for all vegetation control (totaling 166.8 miles)
Channels & Streams (Conger Contractor TAC 100)	408 acres	Weed Control (Herbicide)	All parcels 8x/year for growth control (totaling 3,264 acres)
Channels & Streams (Inhouse)	348 acres	Weed Control (Herbicide)	All parcels 4x/year for growth control (totaling 1,392 acres)
Wet Ponds	67 acres	Algae Control	All ponds 4x/year for growth control (totaling 268 acres)
Channels/ Streams/ Detention Ponds	1,640 acres	Cleaning/ Sediment Removal (Ponds/Streams)	85,882 cubic yards/period
Roadside Ditches	978 miles	Sediment Removal (Roadside Ditching)	39,735 linear feet/period

Section 1 – Status of Implementing the Stormwater Management Program

Maintenance of Below Ground Stormwater Structural Controls

BELOW GROUND STRUCTURE(S)	INVENTORY (FOR REPORTING PERIOD)	OPERATIONS & MAINTENANCE (O&M) ACTIVITY	O&M ACTIVITY (COMPLETED EACH REPORTING PERIOD)
Storm Sewer Pipe (all pipe - driveway pipe, crossover pipe, etc.)	1,174 miles	Inspect	9.41 miles/period
		Flush/clean	18.86 miles/period
		Repair or Replace	1,128 linear feet units/period
Catch Basin/Inlets	36,265 units	Inspect & Clean	1, 888 units/period
		Repair	125 units/period
Pump Station	14 units	Clean interior, Inspect, & Maintain	652 maintenance activities

Additionally, prior to the mowing of all stormwater control structures, all trash was collected and disposed of properly. Detention ponds that are multi-use had trash cans for disposal of litter. These cans were emptied on a regular basis.

Compliance shall be based on completion of the O&M ACTIVITY column found in the charts.

Part II(A)(2) Areas of New Development and Significant Redevelopment

Status: Compliant and ongoing

This requirement was met through the continued implementation of the Stormwater Master Drainage Plan, Tulsa Stormwater Management Criteria Manual and ordinances (Title 11-A, Chapter 3, Watershed Development Regulations; Title 11-A, Chapter 5, Pollution; Title 42, Chapter 11, Planned Unit Development) that relate to any new development and significant re-development that occurs in Tulsa. These documents were created in order to reduce flooding due to new development and significant re-development. A secondary benefit was to reduce the impact on water quality as a result of construction. The City of Tulsa follows a city-wide Comprehensive Plan. This plan addresses all facets of activities including water quality and had undergone an update in 2023 with guidance from many groups, including Stormwater Quality and Engineering Services - Stormwater Design Section. See summary below:

Section 1 – Status of Implementing the Stormwater Management Program

Per Oklahoma State Statutes, cities should develop and adopt comprehensive plans to provide guidance in bringing about a coordinated physical development in accordance with the present and future needs of their residents; to conserve natural resources; to ensure the efficient expenditure of public funds; and to promote the health, safety, convenience, prosperity, and welfare of the people in the area.

Planitulsa is the comprehensive plan for the City of Tulsa. The previous plan had been adopted in 2010 and a progress report released in 2016 showed that 74% of the 2010 planitulsa action items were identified as In Progress, Ongoing, or Complete. In 2019, the Tulsa Planning Office took on the task of updating planitulsa. More than 5,000 Tulsa residents contributed, 200 subject matter expert organizations were engaged, and more than 30 comprehensive plans were studied. The update to planitulsa was adopted in June of 2023.

The updated planitulsa is divided into ten chapters with the chapters on Future Land Use, Parks & Recreation, Environment & Natural Resources, and Public Services being the most relevant for guidance related to stormwater and environmental outcomes. Subject matter experts were consulted from a broad range of fields including water, flooding, wildlife & habitats, pollution, and sustainability. Recommendations included protecting Tulsans from flood events, protecting and enhancing wildlife habitats, seeking new forms of energy, managing waste and pollution in ways that do not negatively affect residents or the environment, and updating the 2011 Sustainability Plan with goals and metrics to monitor progress.

Various Departments within the City of Tulsa are working on ways to implement the plan through priority identification and alignment, building partnerships, allocating resources, and seeking new funding sources. Planning staff is also developing a system to facilitate navigation and track plan implementation. The system will be launched in 2025

The City of Tulsa also utilizes the Master Drainage Plans (MDPs) specific to each basin. MDPs are planning tools used to determine capital improvements to reduce flooding, providing solutions to stormwater drainage, maintenance and management issues. These capital improvement projects are prioritized based on benefits and costs. MDPs are updated as funds become available.

Tulsa has developed stormwater MDPs for 31 watersheds that cover the entire city. The MDP's are used as planning tools to determine/regulate fully developed floodplains that extend beyond the typical FEMA floodplain. MDPs are also used as planning tools to develop capital improvement projects that will mitigate flooding problems in the basins. They identify and provide solutions to stormwater drainage, maintenance and management issues. Projects are

Section 1 – Status of Implementing the Stormwater Management Program

prioritized based on benefits and costs. These MDPs are being updated as funds become available.

Tulsa continued to implement the “Tulsa Stormwater Criteria Manual”. This manual, created and adopted in 1994, is a comprehensive manual designed to assist engineers, designers and construction operators in aspects of stormwater runoff control before, during and after construction activities are completed. This includes both water quality and quantity. The Criteria Manual has several purposes including minimizing water quality degradation by preventing siltation and erosion of the City waterways and preserving environmental quality. This manual is utilized by the City of Tulsa staff, as well as site development engineers during the design and review phases of all new developments and significant redevelopment projects that occur within the City of Tulsa. Tulsa completed an update of this document to reflect more current policies and practices in 2019. Additionally, the Watershed Development Regulations (Title 11-A, Ordinance # 16959) lists the current practices regarding regulation of new development and significant redevelopment for the control of stormwater runoff.

Anyone planning to develop or redevelop areas of Tulsa must follow a process with the Development Services Division of the City of Tulsa. This process requires developers to follow extensive planning, designing, and review. This ensures the area targeted for development meets all City requirements, including reducing the impact of flooding, impacts on city-owned utilities, traffic needs, etc., after construction is completed.

The City completed and achieved final stabilization at 39 Capital Improvement Projects (CIP), which are projects that are designed to enhance various aspects of Tulsa, such as street rehabilitations programs and flood control. These are long-term projects that can take up to several years to complete in some cases. 121 Infrastructure Development Projects (IDP) permits were issued and 367 were completed while also achieving final stabilization on site. IDPs are tracked by Development Services and involve the construction and maintenance of public works and systems such as roadways and stormwater structures.

The City of Tulsa has completed work on a major update of its zoning code. Including a separate rewrite of the Landscaping Chapter which was completed between March of 2017 and December 2018. A Stormwater Quality representative was involved in the working group and draft updates to ensure Low Impact Development (LID) impediments are removed and LID is incentivized to the maximum extent practicable.

The Subdivision and Development Regulations has also undergone an update completed in May 2018. This effort was a recommended strategy from our Comprehensive Plan, planitulsa, which

Section 1 – Status of Implementing the Stormwater Management Program

was approved by City Council in 2010 and has recently begun another update. The guiding principles of this plan include a desire for Tulsa to become a more environmentally and fiscally sustainable city. The City of Tulsa hired a contractor to perform tasks associated with the subdivision regulation update outlined in a Request for Proposals. Stormwater Quality staff have been actively involved in working groups to remove barriers and encourage LID.

The City’s Comprehensive Plan had recently undergone a review and was finalized in 2023 with input from Stormwater Quality. This document provides direction and goals for various elements of Tulsa’s growth and development. Language was added that promoted the recreational use of waterways, maintaining high water quality, LID, and adding increased enforcement efforts to developments and erosion control.

As mentioned above, the Stormwater Design Criteria Manual is working to incorporate a revised Chapter 1100, now titled Low Impact Development. This Chapter simply references the Low Impact Development Design Manual, which is complete, led by Dr. Jason Vogel at the University of Oklahoma. This Manual is currently under review and scheduled to be presented to the Storm Drainage Hazard Mitigation Advisory Board (SDHMAB) for approval in October, 2025, followed by submission to the City Council for adoption as a voluntary program. When this chapter is adopted, Tulsa will have taken a big step toward promoting and providing guidance on LID projects in Tulsa. The City of Tulsa also worked with Dr. Vogel on a LID Maintenance and Inspection Manual. This process began in early 2018 and will be completed by the milestone set in the new Permit. Workshops were held with regulators and developers to fine-tune these documents. Further promotion of LID was accomplished by implementation of the following:

- LID was promoted at 30 predevelopment meetings and 14 additional educational events, particularly those with key personnel, including engineers, planners, and developers/contractors.
- Continuous review of Tulsa’s development regulations to determine if they are LID friendly.
- Continued to distribute updated “Guide to Low Impact Development” and other literature that is available at public events.

Stormwater Quality has adopted an already existing City Program to recognize Low Impact Development practices in Tulsa. The program, Partners for A Clean Environment (PACE) is a voluntary, non-regulatory recognition program coordinated by the City of Tulsa’s Quality Assurance and Stormwater Quality groups. The focus of the program is to provide recognition to businesses, individuals and groups who go above and beyond environmental regulations in an

Section 1 – Status of Implementing the Stormwater Management Program

effort to be better stewards of our land and water. Currently there are 19 members of this program, though more LID features have been implemented in Tulsa and time should be devoted in the future to promoting membership in this program.

Part II(A)(3) Roadways

Status: Compliant and ongoing

This requirement was met through the City's street sweeping and mowing activities performed and managed by the Public Works Department.

Through the utilization of private contractors, Public Works Department contractors swept arterial streets 12 times per year. Emphasis was placed on sweeping after de-icing material was no longer required as a result of a snow or ice event. Residential streets were swept 4 times. The program's progress is measured in curb miles swept and yds³ of material removed. Arterial and residential mileage per year may vary due to weather variations as well as contractor issues from one year to the next. BMPs that prevent run-off from de-icing material are in place at Tulsa's east and west maintenance yards. All of Tulsa's truck washing facilities drain to the sanitary sewer, thus avoiding potential contamination in the storm sewer.

Street Sweeping

Type	Sweeping Requirement	Sweeping completed	O & M Activity (for reporting period)	Material Removed
Arterial	~8x annually	12x annually	8,599.1 miles	5,106.5 yds ³
Residential	~4x annually	4x annually	11,547.8 miles	35,402.5 yds ³

Contractors performing work for the City of Tulsa were made aware of the SWMP, Pollution Ordinance (Title 11A, Chapter 5), and the MS4 Permit requirements through preconstruction meetings direct communication as necessary to prevent contamination of the waters of the State. As contracts for sweeping and mowing come up for renewal, addendums were and will continue to be added to include a water quality requirement. This addendum will require the contractor to

Section 1 – Status of Implementing the Stormwater Management Program

review and acknowledge they fully understand the SWMP, MS4 permit, and local, state, and federal regulations.



During this reporting period, trash removal was also conducted on all street right-of-ways prior to any mowing. This program has faced a decline of participants for a variety of reasons including the pandemic and inmates being routed to other programs. Numbers for inmate work crews are as follows:

Litter Removal from Roadways

Collected by	Amount Collected	
Inmate work crews	2,518 bags	245 tons

Due to a change in the contractor for the City landfill, it is no longer possible to differentiate the litter collected by different crews used by Security in their various litter programs. The above information represents all the tons of material disposed of through their programs throughout the year, as opposed to the past, when the metrics reported were more specific to that work group.

The Tulsa Stadium Improvement District (TSID) is responsible for various litter cleaning activities in the Central Business District, of the downtown area of Tulsa. This area consists of 1.4 square miles containing 58.37 curb miles. TSID cleaning services, such as sidewalk cleaning

Section 1 – Status of Implementing the Stormwater Management Program

and storm sewer intake structure cleaning, resulted in approximately 423,500 pounds of trash and debris collected this year.

Central Business District

Type of Activity	Interval
134 Trash Cans (inspect/clean)	6x/week
12 Pet Waste Stations (refilled)	3x/week

Stormwater Quality continued to warn citizens and companies not to sweep or blow grass/leaves/debris into the street or storm sewer as it is a violation of Tulsa’s ordinances and could result in a fine. In addition, literature was distributed titled “Landscaping BMP”. This literature is given to anyone believed to be disposing of leaves and grass into the MS4 (Municipal Separate Storm Sewer System). It directs the alleged disposer against further disposal of this material into the MS4.

Permit compliance was achieved with the completion of the specified street sweeping and litter removal.

Part II(A)(4) Flood Control Projects

Status: Compliant and ongoing

To address this program requirement, the City of Tulsa has continued to implement the following activities:

1. Flood Management Project Design Review
2. Utilization of the NPDES Permit Evaluation Study – Water Quality Enhancement Assessment of Existing Flood Control Detention Facilities, September 15, 1998.

A discussion of the procedures for each activity is presented below.

Flood Management Project Design Review

To ensure that proposed flood control projects assess the impacts on the water quality of receiving water bodies, the City has and will perform a project design review for all current and future major flood control projects. The project design review utilizes criteria derived from design considerations included in the Stormwater Design Criteria Manual.

Section 1 – Status of Implementing the Stormwater Management Program

By definition, the purpose of a flood control project is to reduce flood damage. Flood control and water quality management strategies differ greatly. Flood control projects are designed to manage stormwater runoff resulting from large, infrequent storm events. Normally, these projects are designed to quickly convey runoff resulting from up to a 100-year storm event. Conversely, water quality management facilities are designed to handle runoff from much smaller, more frequent storm events (1-2 year storm event). In a given year, 70-90 percent of all runoff (and generally the associated pollutants) typically result from storm events producing less than 2 inches of rainfall. Water quality management facilities attempt to slow stormwater runoff, maximizing hydraulic detention periods to facilitate sedimentation and biological uptake. Therefore, this program element does not attempt to provide comprehensive water quality management utilizing "flood control" structures. The goal is to assure that project impacts to receiving waters are assessed and minimized through the use of sound engineering design principles. Where possible, water quality treatment principles will be incorporated into the design of flood control projects.

Sections 700 and 900 of the City of Tulsa Stormwater Design Criteria Manual document minimum design criteria. These criteria address the following design considerations:

- Channel Design
 - Maximum velocity
 - Channel geometry, side slopes
 - Channel material/stabilization
 - Side slope vegetation

Additional City review will take into consideration:

- Detention Structure Design
 - Storage volume to maximize residence time
 - Outflow structure design to slowly release detained flows without causing flooding
 - Energy Dissipaters to slow velocity
- Location
 - Downstream effects
 - Existing receiving water quality
 - Maintainability
 - Proximity in the watershed with respect to impervious areas

Section 1 – Status of Implementing the Stormwater Management Program

Existing Flood Control Structure Evaluation - NPDES Permit Evaluation Study

In September 1998, Tulsa evaluated the feasibility of retrofitting 19 existing flood control structures to provide additional pollutant removal. This study recommended using upper watershed Best Management Practices (BMPs) or control of pollutants at the source, rather than retrofitting existing flood control structures. This is currently addressed through the implementation of a number of stormwater management programs. This includes street sweeping, construction site erosion control and public education. These programs will continue to be utilized.

The City of Tulsa has guidelines for development in the upper 1/3 of drainage basins to have detention. These detention ponds help slow the rate of stormwater runoff as well as improve the quality of runoff by allowing pollutants to settle out.

Compliance will be based upon the assessment of the impact(s) to receiving water quality during the design phase of flood control projects. Where possible, water quality treatment principles will be incorporated into the design of these projects.

Part II(A)(5) Pesticide, Herbicide, and Fertilizer Application

Status: Compliant and ongoing

The City of Tulsa’s Street Maintenance, Stormwater Management, and Parks Department applied pesticides, herbicides and fertilizers during this reporting period. The City of Tulsa requires all personnel, as well as all contract applicators that apply pesticide and herbicides, to be licensed and subject to all the regulations under the Oklahoma Pesticide Applicators Law, including re-certification.

OKVMA (Oklahoma Vegetation Management Association) and OTRF (Oklahoma Turfgrass Research Foundation) conferences were held during this reporting period on proper application and disposal for pesticides, fertilizers, and herbicides for Parks personnel:

October 1, 2, 2024 – OKVMA

November 20, 21, 2024 - OTRF

With the issuance of the Oklahoma Department of Agriculture Food and Forestry’s Pesticide General Permit in October 2011, which was renewed in 2023, the City of Tulsa was required to formulate a Pesticide Discharge Management Plan (PDMP) as per the “Weed and Algae Control” category. The primary purpose of the PDMP is to protect water quality from abuse and

Section 1 – Status of Implementing the Stormwater Management Program

misuse of pesticides. The City of Tulsa is compliant with all requirements of the PDMP and will continue to remain vigilant in their protection of waterways from pesticide misuse.

The Master Gardeners Program, available through the Oklahoma State University (OSU) Cooperative Extension Service, is a free service that offers expert advice to the public on all aspects of gardening, including the proper application of pesticides, herbicides and fertilizers as well as other gardening and lawn care tips and information. This service is available to the public either by visiting the extension services at 4116 East 15th, accessing the website www.tulsamastergardeners.org/ or utilizing the telephone hotline at (918) 746-3701. The Tulsa Master Gardeners answer approximately 100,000 gardening questions/contacts a year, and conduct 2,500 soil, water, and forage tests annually to assist homeowners in applying the proper type and amount of nutrients to their properties.

These questions are answered by volunteers trained in various horticultural issues including proper application of pesticides, herbicides and fertilizers. This program also distributes "Fact Sheets", which discuss choices of chemicals and application rates for most of the common uses of pesticides and fertilizers in urban areas. Gardening education is further accomplished by various media outlets including TV, radio, print, and online newsletters. This is also accomplished by numerous Home and Garden Shows throughout the year. The Master Gardener Program was also promoted through distribution of the "City Life" newsletter in the months of August 2024 and January 2025. The City of Tulsa further promoted the Master Gardeners Program through the distribution of brochures and on the City of Tulsa's stormwater quality website. See Attachment A for a list of brochures distributed.

Tulsa continued to maintain a website that is accessible to the public, which contains guidance for pesticide and fertilizer application for both commercial and residential applicators. This website is located at www.cityoftulsa.org/sos and is regularly promoted. The website and subsequent tabs were viewed a total of 20,521 times by the public. This number has doubled from previous years. This increase is likely attributed to the addition of a full-time supervisor and second community involvement coordinator for the education and outreach program for Stormwater Quality. Staff additions allowed the program to advance, provided additional education opportunities, and ultimately increased website impressions.

City of Tulsa Stormwater Quality Website Views	
10 Solutions to Stormwater Pollution	97
Adopt-A-Spot	378
Adopt-A-Stream	256
Brochures	82
Contact Us	560

Section 1 – Status of Implementing the Stormwater Management Program

Erosion and Sediment Control	450
Fertilizers	42
History of Tulsa Stormwater	327
Household Pollutant Collection Facility	13,989
Industry	63
Low Impact Development	110
Motor Oil	46
My Watershed Map	2,144
Newsletters and Videos	87
Outside Washing	69
PACE	44
Pesticides	26
Rain Barrels	246
Responsible Pet Ownership	69
Stormwater Quality Main Page	1,398
Watershed Story Map	38
Zink Lake Dashboard	26,590
TOTAL PAGE VIEWS	47,111

See Part II(A)(10)(c) “Public Education” for additional public education on the proper use, storage and disposal of pesticides, herbicides and fertilizers by Tulsa during this period.

Part II(A)(6) Illicit Discharge and Improper Disposal

Status: Compliant and ongoing

The location and removal of illicit discharges and improper disposal continued to be an important aspect of the City of Tulsa’s SWMP. Many departments within the City of Tulsa maintain various programs that involve locating and removing non-stormwater discharges to the storm sewer system and/or educating the public on proper disposal practices.

a.) Non-stormwater discharges

Tulsa allows the discharge of exempt non-stormwater discharges, as defined by 40 CFR 122.26(d)(2)(iv)(B)(1), to the storm sewer unless these discharges are determined to be contributing significant amounts of pollutants to the storm sewer. When an exempt non-stormwater discharge is found to be contributing significant amounts of pollutants to the storm sewer, enforcement action will be taken using Tulsa’s Pollution Ordinance.

Section 1 – Status of Implementing the Stormwater Management Program

Other categories of allowable non-stormwater discharges to the MS4 are:

- Car Washing (non-commercial and charity)
- Swimming Pool / Hot Tub (dechlorinated/non-saltwater)
- Outside Washing (pavement washing)

For the above discharges, Tulsa has established BMPs that must be implemented prior to allowing the discharge to the MS4. Failure to implement these measures may result in a violation of the Pollution Ordinance.

Discharges from emergency firefighting activities were monitored during all phases of Tulsa's firefighting activities for potential releases of pollutants. This was accomplished through the continued implementation of Tulsa's Fire Department (TFD) policies. These policies were implemented to ensure public health and safety and reduce the release of pollutants.

Currently, Tulsa's fire training activities do not result in any illicit discharges to the MS4. Hydrant testing, hose stream practices, and pumping evolutions result in the discharge of water to the MS4 though no contaminants are contacted in the application or runoff. These practices are very similar to the allowed discharge category of water line flushing. The City of Tulsa completed the construction of a new fire training facility in 2017. The training facility includes two fire training areas that use water. These areas are called the Class A burn area and the drill tower. Permeable concrete was laid in both areas to capture the water used during training. All discharged domestic water and stormwater produced on or about the new fire training facility will be directed to a retention pond that will include an aerator. The pond will allow the fire department to develop training programs on how to acquire fire suppression water from static sources as well as produce water for selected training evolutions.

Although it rarely occurs, if the burning of an existing structure was approved for training purposes, Tulsa will capture all the runoff and dispose of it in a manner that complies with all federal, state and local water quality regulations. This includes but is not limited to the current edition of NFPA 1403 which requires the consideration of water runoff.

TFD is no longer using Class B foams, such as aqueous film-forming foam (AFFF), and all foam has been retracted from all apparatuses. This change is due to the presence of PFAS, also known as forever chemicals, found in Class B foams and the environmental and health risks associated with these chemicals. If any foam use is necessary to fight a fire, only Class A foam is and will be used. The City of Tulsa HAZMAT Response Team are the only members that carry Class B foam (in small amounts) and a foam eductor; the foam will be used in rare circumstances.

Section 1 – Status of Implementing the Stormwater Management Program

Members of this team are trained to dike, dam, divert & retain any discharges before deploying foam). TFD is currently in the process of updating their policies and procedures to ensure compliance with the City’s MS4 permit requirements regarding Class B foam. This policy will be reviewed and, if necessary, updated at least annually.

The Stormwater Management and Operations Division has and will continue to work very closely with the TFD, responding to potential releases. particularly fire-fighting Class A foam, to the MS4 when necessary. Additionally, if pollutants do enter or have the potential to enter the MS4, the Stormwater Management Section will continue to monitor the portion of the MS4 and/or receiving stream to ensure no pollutant releases.

During this reporting period, 280 investigations were conducted identifying 192 illicit discharges to the storm sewers. Tulsa’s Pollution Ordinance was adopted in November 1995 and continues to be utilized for the removal of non-stormwater discharges (see Section 6). This Ordinance allows the City of Tulsa to recover cleanup costs from the responsible party.

Additionally, the City of Tulsa achieves permit compliance by performing industrial stormwater inspections at City of Tulsa facilities. These inspections are performed to control pollutants that may be discharged into the MS4 system through routine operations and maintenance. These inspections focus on the proper storage of outdoor parts and materials, the condition of tanks and containers that store liquids and processes that may be conducted outdoors. 30 City facility inspections were also conducted during this time and are now compliant with Permit objectives.

Once an illicit discharge was identified, the responsible party was required to stop the discharge, redirect the discharge to the sanitary sewer or obtain an OPDES wastewater discharge permit from the Oklahoma Department of Environmental Quality (ODEQ). This was accomplished using the Pollution Ordinance.

Fliers titled “Cause and Effect” and “Stormwater Quality Programs”, were distributed at events and activities during this reporting period. These flyers educated the reader on the negative aspects of not collecting and disposing of pet waste properly. These programs were also promoted on the City of Tulsa’s Stormwater Quality website.

The City of Tulsa co-sponsored the “Bark in the Park” theme night at the Tulsa Drillers baseball games. “Cause and Effect” flyers and pet waste bags as well as other promotional items were passed out to Tulsa area pet owners. Attendance increased this year, averaging around 3,600 per game. These games were good opportunities to interact with pet owners on responsible ways to clean up after their pet.

Section 1 – Status of Implementing the Stormwater Management Program

In an effort to control runoff from pet waste, Tulsa parks have a total of 31 pet waste stations. Pet stations provide pet waste disposal bags to properly dispose of pet waste in the trash. The stations are checked and refilled 1-4 times per month depending on usage and weather conditions.

Public reporting of an illicit discharge or illegal disposal by concerned citizens (via the 311 call center or directly to the Stormwater Maintenance and Operations [SMO] Division), other City departments and government agencies (ODEQ or the EPA) are regularly promoted on the city's website or at educational events (see Attachment B). Multiple channels for reporting illicit discharges are a valuable part of the City's effort to locate illicit discharges and improper disposals. This year Stormwater Quality staff completed 229 service requests related to the investigation of illicit discharges. 106 of these investigations were from the Mayor's Action Center.

Promotion of the proper disposal of leaves, grass and pet waste was accomplished through the utility bill stuffer in October 2024, November of 2024 and February 2025. The "Cause and Effect" brochure was prioritized at events to hand out to the public. The brochure includes information and a visual of common issues that contribute to illicit discharges. 400 of these brochures were handed out.

Dry-weather field screening and dry weather flow follow-up continue to be used, resulting in the location, identification and removal of illicit discharges and improper disposals that occurred during this reporting period (see Part II(A)(6)(e)) and Part II(A)(6)(f)).

One of the most common Dry Weather Field Screening causes of flow and follow-ups is from potable water discharges, commonly caused by water line leaks/breaks or flushing. Chlorinated water is a known stressor or toxin to aquatic life. Tulsa's Water and Sewer Department valves down water breaks in an attempt to reduce the amount of chlorinated water discharged to streams after breaks. Water Distribution continues to work with Water Design to reduce dead-end lines in the system. Dead-ends are reduced via waterline extension work included in street rehabilitation projects. The city also reduces or eliminates dead-ends individually when funding is available, which helps maintain drinking water standards.

Within the last few years, the Stormwater Quality group has been involved in the special event planning process. Information about the City of Tulsa's pollution ordinance and illicit discharges is provided in the Special Permit Event Application. Additionally, special events are regularly inspected by stormwater quality staff to ensure no violations occur. Last fiscal year the City of Tulsa processed approximately 275 special event permit applications.

Section 1 – Status of Implementing the Stormwater Management Program

b.) Sanitary sewer overflows

In a continuing effort to eliminate sanitary sewer overflows during this reporting period, the City of Tulsa initiated 15 sanitary sewer manhole and/or pipeline rehabilitation projects. 11 sanitary sewer evaluation studies were initiated and 6 were completed during this reporting period. Two sewer area projects were completed during this reporting year. Excess wet weather flow to the sanitary sewer was diverted to 7 flow equalization basins which reduce the amount of non-target rainwater from entering the sanitary sewer system. The Haikey Creek Flow Equalization Basin Project was completed this year in order to reduce dry and wet weather sanitary sewer overflows as well as seepage from the sanitary into the storm sewer.

The City of Tulsa's Working in Neighborhood's Department utilizes two programs that help eliminate sanitary sewer contamination of waterways. The Emergency Repair Grant consists of a \$7,500 maximum grant to very low-income residents to make emergency repairs to conditions that threaten the health and safety of the occupants. Areas of service include electrical, plumbing, roofs, heating, and sewer lines. The Rehabilitation Loan Program is a \$45,000 maximum rehabilitation loan available for moderate to very low-income residents to assist citizens with home repairs, weatherization, and energy efficiency. Each residence is given a rigorous inspection to include lead-based paint (LBP), electrical/mechanical/plumbing (EMP), structural, and interior repairs. Areas of service include lead-based paint, electrical, plumbing, security (doors and windows), roofs, heating, interior issues, weatherization, and sewer lines. Two sewer lines were repaired/rehabilitated under these programs in the past fiscal year.

Sewer cleaning crews targeted specific sewer lines known for grease accumulation problems, cleaning 49.26 miles. This maintenance program reduced the likelihood of sanitary sewer backups and overflows. Emergency cleaning of 18.52 miles of sanitary sewer was also conducted to remove grease and reduce sanitary sewer overflows.

To reduce grease blockages that result in sanitary sewer overflows, Tulsa continued its grease abatement program, better known as FOG (Fats, Oils, Grease) Best Management Practices Program, for the sanitary sewer. This voluntary program encourages restaurant owners to follow best management practices (BMPs) that ensure proper kitchen and grease management practices. Various meetings with business owners also facilitated discussion on the proper care and maintenance for trash receptacles, grease rendering bins, and parking lots.

As a result of the FOG BMP program the following actions took place during this reporting period:

Section 1 – Status of Implementing the Stormwater Management Program

Action	Results
Businesses Inspected	1315
FOG Trainings Conducted	7 trainings 1,700 attendees
Businesses Participating in the FOG Program	567
Samples Obtained	2
Number of Enforcement Actions	0
Fines Issued	\$0

Public education and outreach in the proper management and disposal of household grease waste was accomplished through the City of Tulsa’s FOG grease abatement program. Through this program, 1,099 FOG BMP door hangers and 300 apartment packets (can toppers, grease bags, FOG BMP literature) were handed to residents involved in grease-related sewer blockage/overflow investigations. The FOG program ran television commercials highlighting the importance of proper household grease disposal through the trash rather than through the sanitary sewer. The commercials were aired on the following television networks:

Television Network	Frequency (# times aired)	Impressions (# views)
KOTV Channel 6	47	1645
KJRH Channel 2	30	1050
KTUL Channel 8	39	1365
KOKI Channel 23	39	1365
KQCW Channel 19	90	3150

In addition to television, the FOG program ran radio advertisements 249 commercials over 4 weeks. The average impressions were 1,203,000 at an average frequency of 4. Advertisements were also displayed on outdoor billboards digital and static. There were 8 locations with a total weekly impression of 539,650.

Section 1 – Status of Implementing the Stormwater Management Program

The FOG program increases residential educational activities during the holiday months to prevent residential grease blockages due to holiday cooking activities. This year, these activities included ‘Trap the Grease’ promotional outreach at Oklahoma State University’s Back to School Bash, where over 1600 people attended. A fryer oil collection event was held in which 25 citizens collected dropped-off fryer oil. Approximately 200 Union Public Schools cafeteria workers were educated about the proper disposal of fats, oil, and grease. At the Enviro Expo, hosted annually by The Metropolitan Environmental Trust (M.e.t.), over 300 citizens were in attendance and educated about the consequences of pouring grease down the drain when stopping by the booth.

Tulsa continued efforts to reduce sanitary sewer overflows into storm sewer through the use of TV inspection and smoke testing techniques. Work completed during the reporting period included:

- 117.62 miles of sanitary sewer TV inspected
- 179 sanitary manholes raised to grade
- 178 main line sanitary sewer repairs
- 33,086.3 feet of main line sanitary sewer replaced or rehabilitated

These repairs reduced stormwater inflow to the sanitary sewer, which in turn reduced sanitary sewer overflows and illicit discharges to the stormwater sewer. Permit compliance was achieved through implementation of these programs.

A Sewer Nuisance Abatement Program was established to facilitate the remediation of defective private sanitary sewers and to provide a mechanism for owner-occupied properties to connect to new sanitary sewer mains in previously unserved areas. The remediation of the private sewer defects helps prevent seepage in storm drains. Private defects are discovered through field investigations (smoke testing, dye tests, building inspections, service lateral TV) during SSES projects and daily preventative maintenance. When problems are found by smoke testing, the owner is contacted, and education and/or enforcement occur. Additionally, the City has a no-interest repayment program to help low-income residents with repairs to private lines. For fiscal year 2024-2025, staff have abated the following sewer nuisances: 371 defective or missing cleanout caps, 7 cross connections, 5 illegal connections and 113 defective service lateral lines.

These repairs reduced stormwater inflow to the sanitary sewer, which in turn reduced sanitary sewer overflows and illicit discharges to the stormwater sewer. Permit compliance was achieved through implementation of these programs.

The number of sanitary sewer overflows during this time was 185. This is 66% increase from the prior year and in line/out of line with the long-term average goal for the program. Of the 185

Section 1 – Status of Implementing the Stormwater Management Program

SSO's, 105 were wet weather related; there was a 43% increase in rainfall from the previous year.

The Water and Sewer Department has several area-wide repair, rehabilitation, and replacement projects underway to reduce both dry weather and wet weather overflows. Risk-based prioritization methodologies are used to analyze sanitary sewer overflows and information from SSES studies, flow monitoring, pipe & manhole condition assessment projects to identify and prioritize locations for rehabilitation based on risk to develop specific remediation plans. In addition, Tulsa utilizes a flow monitoring network of 100 permanent flow meters to assist in monitoring flow; updating & calibrating our four (4) hydraulic models; determining where to conduct inflow & infiltration abatement programs; and planning and design of capacity enhancements.

c.) Floatables

Reducing floatables (litter) is an important aspect of Tulsa's SWMP. Numerous organizations and COT departments maintain a number of programs to remove and prevent litter from various areas of Tulsa, including the storm sewer.

The City of Tulsa, the "Keep Oklahoma Beautiful" organization, and the Metropolitan Environmental Trust (M.e.t.) sponsor many programs that directly or indirectly target litter control. These programs include but are not limited to:

Great Tulsa Cleanup – Held throughout April 2025; 973 volunteers removed 512 trash bags from 37 creeks, stormwater facilities, and locations around Tulsa. Not only did this clean-up remove litter from the creeks, but it also helped to bring attention to the importance of reducing litter discharges to urban streams and waterways. A dashboard was created where citizens could go online and sign up for their location, date, and time they wanted to participate. Staff ensured each location was ranked on accessibility and how much trash was present. This allowed citizens to choose a location that was best for them and to sign up with family members or groups.

Earth Month – This program throughout the month of April consisted of activities targeting the protection of resources including the reduction of litter and nonpoint source pollution.

Tulsa took advantage of the opportunity to educate citizens on the importance of eliminating litter at many special events during this reporting period. Public education aims to educate on the impact of litter by handing out BMPs such as our Trash Breakdown Brochure (143), Animal

Section 1 – Status of Implementing the Stormwater Management Program

Waste Bags (2963), and Reusable Litter Bags (1635). A full list of public education activities conducted by the City of Tulsa can be found in Attachment B.

Tulsa’s exhibit booth at “The Greater Tulsa Home and Garden Show” highlighted the impacts of floatable pollution through outreach materials, engaging citizens on pollution prevention practices such as proper pollutant disposal, provided brochures for the Household Pollution Collection Facility, and recruited Tulsans for the monthly curbside recycling program.

The Curbside Recycling Program continued offering weekly pickups of plastic, glass, paper, bimetals, aluminum, and other recyclables. Tulsans participated in the collection of 20,364 tons of recyclables for this reporting period. This program is promoted on the city website.

Tulsa, in conjunction with the Tulsa County Conservation District/Blue Thumb historically had a storm sewer inlet placarding program which included the message “No Dumping Save Our Streams Tulsa” or “Dump No Waste Drains to River” and has a telephone number to report violators. All new storm sewer inlets have a similar message pre-stamped on the hood. Therefore, any placarded inlets will eventually be replaced with stamped inlets, making the placarding program unnecessary.

Tulsa’s Stormwater Quality group began a litter monitoring program in September of 2017 with the goal of better understanding the litter problem in Tulsa and doing more targeted education. As more data has become collected, it is apparent that much of the litter in Tulsa is caused by or is associated with homeless populations. Tulsa has created several working groups and taskforce to mitigate homelessness and the negative impact to water quality via litter issues as well as bacteria from these encampments.

The following is a breakdown of litter inspections completed this year. This program will rotate through sections (watersheds) of Tulsa each year with the main goal of the program being to educate property owners on the need to keep litter picked up and prevent it from impacting the MS4. This program has two litter inspectors; one full-time position and one which splits their time approximately 50/50 between conducting litter inspections and working in the Household Pollutant Collection Facility. The litter team was able to accomplish the following:

- 518 litter inspections
- 5,884 total sq ft. of litter directed to be cleaned up
- 4 Notices of Violation

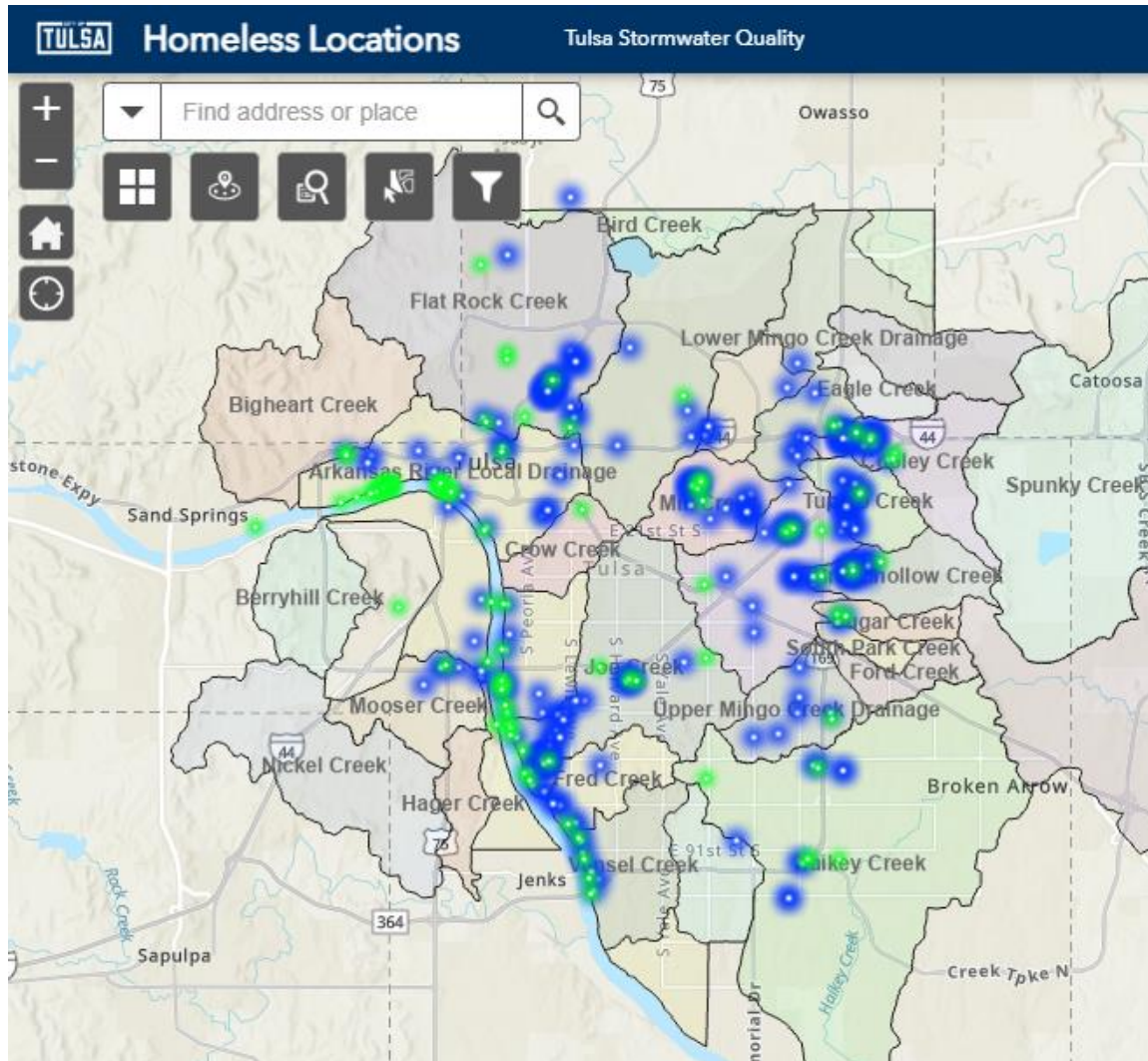
Section 1 – Status of Implementing the Stormwater Management Program

Litter inspection efforts are partially focused on proximity to stormwater management areas, so these features do not become conductors of litter throughout Tulsa. The intention of this program is to rotate through Tulsa’s watersheds in conjunction with the Watershed Characterization program while also inspecting problematic areas of concern.

A breakdown of the number of hours and amounts of litter associated with homeless camp cleanup, primarily on City of Tulsa Stormwater Maintenance and Operation property is below. Additionally, GIS maps are being utilized to track the locations of these camps. Further analysis will be carried out in future years to determine how resource-intensive the issues with homeless and litter have become and if additional work groups are needed to assist in this area.

FY 24-25	Number	Hours	Total Cubic Yards Cleaned
Homeless Debris Removal	61	3210.75	1893.5
Homeless Camp Inspections	54	502.5	NA

Section 1 – Status of Implementing the Stormwater Management Program



Two sets of litter BMPs were created and printed previously, one targeted towards businesses and the other towards citizens. This literature has been passed out as a result of one-one contact with citizens regarding issues as well as during public events.

The City of Tulsa has anecdotally noticed a continued increase in the amount of litter and illegal dumping issues in Tulsa. Many of these pieces of litter end up in Tulsa's streams as "floatables" potentially causing blockages and creating eyesores for the community's perception of its natural resources. It is these two issues that this litter inspection program aims to abate, though the amount of time and resources currently dedicated to this issue is small compared to the breadth of the problem.

Section 1 – Status of Implementing the Stormwater Management Program

The Metropolitan Environmental Trust (The M.e.t.) continued to operate nine recycling depots that are conveniently located throughout the metropolitan Tulsa area. Citizens can bring aluminum cans, batteries, glass, cardboard, mix paper, newspapers, electronic recycling (at six locations) steel cans (at seven locations), cooking grease, and used motor oil for recycling. These depots were also used for the distribution of environmental educational information, including brochures and environmental events posters. Additionally, the M.e.t. distributed approximately 2,850 car litter bags, displayed anti-litter posters at the depots and at booths throughout the year and on Facebook and Instagrams. The M.e.t. supplied trash bags and gloves for groups like Tulsa and Union Elementary Schools, who have picked up litter in the past. In FY 24/25, the M.e.t. provided these items for about 11 groups. In addition, the M.e.t. staff had about 62 educational booths, as well as giving 265 speeches to school classrooms and scouting groups on trash, recycling and litter.

Tulsa Parks emptied approximately 1,150 trash containers (placed at 102 parks and 15 stormwater detention sites) 1-2 times per week. Stormwater detention structures are multiple use facilities, which serve as city parks when not in use for stormwater detention. Additional trash containers were placed in parks to serve special events and scheduled activities. In addition, maintenance crews picked up loose trash from parks a minimum of once per week. Trash containers with hinged lids have replaced opened topped barrels which have resulted in a reduction of loose trash blown about by the wind.

The Stormwater Management Section has crews that removed litter from 10 wet ponds and miles of lined and earthen channels that comprise Tulsa's storm sewer, thus reducing the amount of floatables discharged to waters of the state. During this fiscal year they spent 194 hours collecting 262.25 cubic yards of debris. The City of Tulsa's Public Facilities Section continued to utilize inmate work crews to remove litter along streets and expressways throughout Tulsa in an effort to keep the city free of roadside trash and debris. These crews removed trash from along Tulsa's roads, though recently with a change in disposal contractors, the number of bags disposed of through this program is unavailable.

Stormwater Management has a crew that collects trash and other material discarded along roads, right-of-ways, and other city property. During this fiscal year they spent 194 hours collecting 262.25 cubic yards of debris.

Street curb lines within the Inner Dispersal Loop (Downtown Business District) were cleaned on a weekly basis. During this cleaning, crews simultaneously removed debris from the storm sewer intake structures. Pole mounted trashcans were inspected and emptied daily as needed.

Section 1 – Status of Implementing the Stormwater Management Program

The City of Tulsa also has an Adopt a Stream program. This has 8 adoptees. The creeks that are adopted are: Upper Mill Creek, Fred Creek, Arkansas River, Cherry Creek, Sugar Creek, Coal Creek, Crow Creek, and Vensel Creek. Adoptees must clean at least two times a year to continue to adopt their creek and the groups are recognized through road signage throughout the watershed. These signs also alert citizens which watershed they are in. These signs are aimed at making citizens more aware of Tulsa's streams and the need to keep them clean.

Tulsa's Solid Waste Division accomplished the removal of approximately 1,531 tons of trash through the placement of thirty cubic yard trash dumpsters in neighborhoods in Tulsa, 465 times. Tulsa had 13,028 requests by citizens to pick up bulky waste (appliances, white goods, furniture) of which approximately 150 pounds of Freon from Freon bearing items were properly evacuated.

The Solid Waste Program uses the visual observation efforts of various field officers and citizen reports to identify and locate dumpsites throughout the City of Tulsa. The sites are thoroughly searched for evidence to be used for possible enforcement actions. Active sites are monitored using intense visual inspection and when possible, concealed surveillance. After these activities are completed, the sites are cleaned, charted, and monitored for new dump activity. These activities serve to deter the reactivation of dumping in the area and encourage the use of proper disposal methods. As additional enforcement efforts, signage is suggested to be placed in these areas indicating 'No Dumping' and 'Dumpers Will Be Prosecuted'.

Section 1 – Status of Implementing the Stormwater Management Program



This year, the Solid Waste Division located 1,441 illegal dumpsites and conducted 1,034 investigations of illegal dumpsites within the city limits. Fourteen citations were issued based on these investigations. 63 signs have been added at routine dump locations in an effort to deter this continued illegal dumping. Dumpsite contents were from construction activities, demolitions, green waste, furniture, appliances, tires and other household items. During this fiscal year, they collected 309 tons of debris from these dumpsites.

City of Tulsa Security also was involved in approximately 1,250 homeless encampment removal and cleanup efforts. Nationwide populations of unhoused individuals have increased, and Tulsa is seeing a rise in these same populations with various side effects to water quality including increased amounts of litter and the likely connection to increased fecal material being transported into waterways. A working group has been meeting to address this issue both from a City Mayor administration and Division's working group.

Other programs which clean up litter and trash throughout Tulsa include:

Section 1 – Status of Implementing the Stormwater Management Program

- The Better Way Program picked up 3,060 bags of trash
- Center of Employment Opportunities program cleaned up 236.84 tons of trash and limb debris from the Right-of-way as well as removed and trimmed green waste from roadways and sidewalks.
- Community service crews removed 412 bags of trash and debris, totaling 1.03 tons

In addition, the City of Tulsa continued to collect and dispose of trash at its five floatable monitoring locations (see Section 4-Monitoring Data).

d.) Collection of used motor vehicle fluids and household hazardous wastes

Financial support continued for the M.e.t.'s recycling depots, which accept oil, antifreeze (only 2 of the 9 locations collect antifreeze), cooking grease and batteries, as well as other recyclable materials. All depots are open 24 hours per day (attended approximately 6 to 8 hours/day), seven days per week and are located in areas which are easily accessible to the public. The amount of material collected at these depots for the reporting period can be found in the following table. These numbers reflect totals from all the recycling depots and a pilot program that collects from nine restaurants/bars located throughout the greater Tulsa metropolitan area.

Material	Amount
Oil	25,921 gals
Antifreeze	1,125 gals
Plastics	280,366 lbs.
Aluminum, Steel Cans, and Scrap Metal from Broken Arrow	237,062 lbs.
Glass	590,073 lbs.
Batteries	24,058 lbs. automobile 39,040 lbs. household
Mix Paper and Newspaper	495,436 lbs.
Cooking Grease	2,801 gals

Additionally, The M.e.t. conducts special collection events and partnerships for special collection events for hard-to-recycle items like tires and electronics. These collection events are also used to distribute educational material to the public regarding locations of the recycling depots and proper pollutant disposal.

Section 1 – Status of Implementing the Stormwater Management Program

During these collection events, educational fliers are distributed to the public. Each car received fliers regarding the following topics: (1) locations of the recycling depots, (2) latex paint disposal, and (3) Tulsa’s Household Pollutant Facility.

The following are the collection amounts from M.e.t.’s specialized events within the City of Tulsa:

Fire Extinguisher & Smoke Alarm Event

Thursday, September 12, 2024, 8AM-1PM

DEA Prescription Drug Take Back Event

Saturday, October 26, 2024 10AM-2PM

Great Pumpkin Rescue Event

Month of November 2024

Used Cooking Oil Fryer Oil Collection Event

Saturday, November 30, 2024

The Big Spring Clean Event

Saturday, March 1, 2025, 9AM-2PM

Tulsa County, Oakhurst Tire and E-Waste Event

Saturday, March 13, 14, 15, 2025 8AM-1PM

Fire Extinguisher & Smoke Alarm Event

Thursday, March 20, 2025, 8AM-1PM

Environmental Expo 2025

Wednesday, April 23, 2025, 11AM-1:30PM

Tulsa County Turley Community Cleanup Day

Saturday, April 26, 2025 8AM-12:30PM

Fire Extinguisher & Smoke Alarm Event

Thursday, May 8, 2025, 8AM-1PM

In FY 24/25, The M.e.t. Staff answered calls and emails from citizens who asked what to do with their pollutants. Staff educate people in where to take items and how to handle them responsibly. Staff gave out voucher numbers to citizens who live in outlying communities. This voucher number(s) allows citizens to use the City of Tulsa’s Household Pollutant Collection Facility at no charge (if below 45 pounds). The charge is given to the outlying community through a contract arrangement between The M.e.t. and the City of Tulsa.

The City of Tulsa has a Household Pollutant Collection Facility at 4502 South Galveston Ave. The facility is open 2 days a week (Wednesdays and Saturdays) from 8:00am till 4:30pm. This facility replaced the biannual collection events and has resulted in an easier and quicker method of pollutant disposal for Tulsans and the surrounding communities. This facility has been well received by the public as evidenced by our survey results and social media recognition. This

Section 1 – Status of Implementing the Stormwater Management Program

facility was promoted in the September 2024, February 2025, and March 2025 Utility Bill Stuffers. Plans are currently being discussed to comply with new permit requirements to open the Facility additional days. Preparations are being made and facility layout configurations are being considered to add space for future employees and increased operation.



Summary of Pollutants Collected During FY25	
Total Weight	418,023 lbs
Total Tulsa Customers	3,738
Total M.e.t. Customers	757
Total Customers from outside Tulsa and M.e.t. Communities	45

Section 1 – Status of Implementing the Stormwater Management Program

The following is a breakdown of the wastestreams per category:

Wastestream	Amount Collected
Toxic Liquid	13,687 lbs
Toxic Solid	8,416 lbs
Aerosols	10,039 lbs
Low Viscous	15,677 lbs
High Viscous	18,107 lbs
Bulbs	2,585 lbs
Bases	6,857 lbs
Acids	4,200 lbs
Oxidizers	1,479 lbs
Flammable Loosepack	14,824 lbs
Oxidizing Pool Chemicals	2,226 lbs

In addition to the above household pollutants, the facility also collected and disposed of:

Items Collected	Amount Collected
Latex Paint	245,639 lbs
Used Oil	2,800 gal
Antifreeze	800 gal
Cooking Oil	350 gal
Electronics	4,610 lbs
Batteries	4,631 lbs
Ni-Cad Batteries	544 lbs
Lithium Batteries	478 lbs
Fire Extinguishers	512 lbs
Gas Cylinders	336 lbs
Foaming Aerosols	650 lbs
Mercury Thermostats	22 lbs
Trash-to-Energy	58,554 lbs

The Swap Shop has continued to be popular throughout the year. 1,923 residents visited the Swap Shop during FY 24/25, taking 8,208 items, totaling 21,364 lbs removed. (a 6.04% increase from FY 23/24 of 20,111 lbs).

Section 1 – Status of Implementing the Stormwater Management Program

e.) Locate and eliminate illicit discharges and improper disposal

Dry weather field screening was conducted on approximately 91.0 square miles (57,212 acres) of the Tulsa's storm sewer system during the period of July 1, 2024 to June 30, 2025. Outfalls were screened in the Northwest and Southeast quadrants of the city, amounting to 51% of designated outfalls. Thus, compliance with this section of the permit was achieved by screening > 40 % of the Tulsa's MS4. The dry weather field screening program was designed to locate illicit discharges and illegal disposals into Tulsa's storm sewer.

A total of 322 outfalls were screened, of which 181 contained flows during dry weather periods. Once dry weather flow was located, the flow was sampled and tested for pH, temperature, appearance, conductivity, detergents, chlorine, copper, ammonia, and fluoride (See Section 4 for specific data collected during dry weather field screening). If contaminants were identified in concentrations above action levels, then a dry weather flow follow-up investigation was conducted. Dry weather flow follow-up investigations continued until the source of the flow was identified. When the source of the illicit discharge was identified, it was eliminated.

The SMO Division continued to conduct random industrial inspections. Inspections were conducted to achieve compliance with Part II(A)(8) Industrial and High-Risk Runoff. During these inspections, inspectors were checking for illicit discharges to the MS4 or the potential for an illicit discharge. If an illicit discharge was found, action was taken to halt the discharge using the Pollution Ordinance.

As addressed in Part II(A)(6)(b), Tulsa continued efforts to reduce sanitary sewer overflows into storm sewers during this reporting period. This was accomplished through the use of TV inspections and smoke testing techniques. Work completed during the reporting period included:

- 117.62 miles of sanitary sewer TV inspected
- 9.41 miles of storm sewer TV inspected
- 179 sanitary manholes raised to grade
- 1,128 linear feet of main line storm sewer repairs
- 178 main line sanitary sewer repairs
- 33,086 linear feet of main line sanitary sewer replaced or rehabilitated

A Sewer Nuisance Abatement Program was established to facilitate the remediation of defective private sanitary sewers and to provide a mechanism for owner-occupied properties to connect to new sanitary sewer mains in previously unserved areas. The remediation of the private sewer defects helps prevent seepage in storm drains. Private defects are discovered through field

Section 1 – Status of Implementing the Stormwater Management Program

investigations (smoke testing, dye tests, building inspections, service lateral TV) during SSES projects and daily preventative maintenance. When problems are found by smoke testing, the owner is contacted, and education and/or enforcement occur. Additionally, the City has a no-interest repayment program to help low-income residents with repairs to private lines. For fiscal year 2024-2025, staff has abated the following sewer nuisances: 371 defective or missing cleanout caps, 7 cross connections, 5 illegal connections, and 113 defective service lateral lines.

These repairs resulted in the reduction of stormwater inflow and infiltration into the sanitary sewer, which in turn reduced sanitary sewer overflows and illicit discharges to the storm sewer system. Rehabilitation projects supplemented Tulsa's efforts by correcting known structural storm sewer problem areas (see Part II(A)(6)(b) Sanitary Sewer Overflows).

Stormwater Quality continued to strengthen its illicit discharge detection capabilities using microbial source tracking (MST) to support more precise identification of bacterial contamination sources. In partnership with Dr. Jason Vogel with the University of Oklahoma's Oklahoma Water Survey, MST methods are being evaluated as a supplemental tool to conventional detection techniques such as ammonia sampling and dye testing. Although sufficient data is not yet available to make firm determinations, preliminary efforts have been focused on developing sampling protocols and determining sampling areas within the MS4. The addition of MST into the program will improve the ability to distinguish between human and non-human bacterial sources and effectively decide the appropriate corrective actions necessary.

As previously mentioned, investigation/complaint procedures currently in place continue to be very effective in locating illicit discharges and improper disposal practices during this reporting period.

f.) Removal of illicit discharges

Once the source of an illicit discharge was located, the responsible party was required to halt the discharge, redirect the discharge to the sanitary sewer or obtain an OPDES wastewater discharge permit from the ODEQ. 210 illicit discharges were eliminated from Tulsa's MS4 during this reporting period as a result of enforcement of the Pollution Ordinance.

Section 1 – Status of Implementing the Stormwater Management Program

g.) Maintain a list of OPDES permit holders within the City of Tulsa

Databases are maintained for all OPDES permits for all discharges from construction, industrial activities, and OPDES wastewater discharge permittees within Tulsa. These databases include the name, address, OPDES permit number, contact person, SIC code(s) and other information. Updates were made when information became available. This information is usually obtained through inspections or ODEQ notification.

Part II(A)(7) Spill Prevention and Response

Status: Compliant and ongoing

All agencies and City Departments responding to spills are instructed to follow the City's Pollution Ordinance. This ordinance requires the removal of a pollutant rather than disposing to the storm sewer, unless there is an immediate threat to life and health. The Pollution Ordinance provides SMO with the authority to require the responsible party to clean up the spill. This Ordinance also gives the authority to recoup all costs incurred from the responsible party. The Stormwater Maintenance and Operations Division has authority to oversee all clean-up work involving spills within the City of Tulsa.

This requirement was achieved as delineated in a Memorandum of Agreement between the Tulsa Fire Department (TFD) Hazardous Materials Unit, the Tulsa City –County Health Department and the Public Works Department. In accordance with Section 300 of the TFD Emergency Operation Procedures, all agencies and City departments responding to spills ensured compliance with the Pollution Ordinance by removing spilled pollutants rather than flushing it into the storm sewer, unless there was an immediate threat to public health and safety.

The TFD Haz-Mat Unit responded to incidents involving spills or possible releases of chemicals or pollutants which either had the potential to or were discharged to the City's sanitary or storm sewer. Whenever the TFD responded to a spill that had entered either the sanitary or storm sewer system, the Public Works Department was notified to evaluate impact on sewer systems and coordinate remediation activities.

If the responsible party was identified, they were required to conduct the clean up or hire a remediation company. In cases involving remediation, all work was inspected to ensure a proper and thorough clean up.

Section 1 – Status of Implementing the Stormwater Management Program

Below is a summary of the investigations conducted by the Stormwater Maintenance and Operations Division:

Number of Investigations	Description of Investigations
14	Construction (relating to construction site potential violations)
10	Hazmat (relating to potential discharges of pollutants from fire department responses involving the hazardous materials unit)
255	Stormwater (relating to potential releases of pollutants to the storm sewer or violations of the Pollution Ordinance)
1	Drug Labs (relating to the potential release of pollutants from drug lab remediation to the storm sewer or violations of the Pollution Ordinance)
280	Total number of investigations for this reporting year

SMO inspectors conducted 523 industrial stormwater runoff inspections, each involving a discussion regarding spill prevention and management with industrial representatives.

Agreements have been put into place between Tulsa and both the Oklahoma Turnpike Authority (OTA) and the Oklahoma Department of Transportation (ODOT) that address spills that occur on OTA or ODOT MS4s within Tulsa.

Part II(A)(8) Industrial & High-Risk Runoff

Status: Compliant and ongoing



Tulsa continued to use the Industrial & High Risk Runoff program to identify, monitor and control pollutants from municipal landfills; treatment, storage and disposal facilities for municipal waste; facilities subject to EPCRA (Emergency Planning and Community Right-to-know Act) Title III, Section 313 reporting requirements; and any other industrial or commercial discharge the City determined had the potential to contribute substantial pollutant loading to the City's storm sewer system. This program contains procedures for inspecting, monitoring, and controlling pollution from the aforementioned sources. A new GIS-based database was implemented to better inventory and manage industrial facilities. The new database features allow for more fluid and streamlined inspection workflows, as well as integration of spatial data with compliance tracking for more informed decision-making.

During this reporting period, 523 industrial stormwater inspections were conducted. 6 enforcement actions were taken against industries or facilities in order to eliminate illegal or illicit discharges. \$100 in fines was associated with these enforcement actions.

This program has also provided an opportunity to educate owners and operators of industrial or commercial facilities concerning stormwater quality regulations and requirements as per ordinances and regulations.

Section 1 – Status of Implementing the Stormwater Management Program

Part II(A)(9) Construction Site Runoff

Status: Compliant and ongoing

a.) Structural and non-structural best management practices

Through inspections and enforcement actions, Tulsa required construction sites to implement and maintain adequate structural and non-structural BMPs during this reporting period. The use and maintenance of these BMPs to reduce pollutants discharged to the City's storm sewer from construction sites has been achieved through control measures provided in the Pollution Ordinance, Title 11-A, Chapter 3 (Watershed Development Regulations), Chapter 5 (Pollution Ordinance), Title 35 Infrastructure Development Process (IDP), and building permits. During this reporting period Tulsa's Development Services section issued:

73 Watershed Development permits, which include Earth Change permits.

124 Stormwater Drainage permits

985 Stormwater Connection permits

129 Floodplain permits

17 Floodway permits

These permits require the operator to have adequate erosion control measures in place and maintained prior to, and throughout the duration of the project until final stabilization. Prior to receiving an Earth Change permit, applicants were required to submit an NOI and stormwater pollution prevention plan for all sites disturbing at least one acre. Additionally, 21 Stormwater Pollution Prevention plans were reviewed to ensure the use and maintenance of structural and nonstructural erosion control BMPs at construction sites.

For City projects, 39 Capital Improvement Projects (CIP) were completed with final stabilization measures in place. 121 Infrastructure Development Projects (IDP) permits were issued and 367 were completed while also achieving final stabilization on site.

b.) Inspection and control of construction sites

Inspection and enforcement of control measures to reduce soil erosion at construction sites is shared between several City groups (SMO, Development Services and Engineering Services). SMO conducted a total of 2,403 construction site inspections for compliance with erosion control measures at 877 construction sites and issued 8 enforcement actions. The total amount of fines and penalties collected was \$200.

Section 1 – Status of Implementing the Stormwater Management Program

Development Services conducted 2,830 soil erosion control inspections at the same number of construction sites. Pre-construction erosion control inspections were conducted on all sites, and this resulted in 357 required re-inspections. If a site is in violation, the inspector contacts the builder and informs him/her of the actions which must be taken to come into compliance. If voluntary compliance is not achieved, the SMO Division conducts a follow-up inspection to ensure compliance with the Pollution Ordinance. If the site is still non-compliant appropriate enforcement action is taken. Building permits were not issued for construction sites larger than one acre until a stormwater pollution prevention plan was in place.

Engineering Services Division conducted daily inspections on 83 city and 95 privately funded Infrastructure Development Process (IDP) projects. Implementation and continued compliance with the Pollution Ordinance were enforced. Appropriate structural and nonstructural erosion control measures were inspected during these site inspections. If the existing erosion control methods were inadequate, additional structural or nonstructural BMPs were required. Engineering Services has the authority to revoke Watershed Development Permits as a result of failure to implement and maintain adequate erosion control measures. None of these permits were revoked during this reporting period, and violations were reported to the contractors at weekly progress meetings. This resulted in corrective action leading to compliance.

Section 1 – Status of Implementing the Stormwater Management Program



c.) Education and training of construction site operators

The brochure “Construction Site Best Management Practices” was available to construction operators at the Permit Center. This brochure lists erosion and sediment controls that can be utilized at construction activities. This brochure was also available at other events (see Attachment B). Approximately 146 of these brochures were distributed during this reporting period.

To assist local developers and builders with the use, installation and maintenance of erosion control measures, City of Tulsa representatives in the past attended Builders Council or Developers Council meetings held at the Greater Tulsa Home Builders Association as available.

Section 1 – Status of Implementing the Stormwater Management Program

City inspectors conducting soil erosion control inspections at construction sites, informed construction site operators on aspects of use and maintenance of appropriate structural and nonstructural BMPs. Additionally, City of Tulsa supervisors answered questions regarding construction site OPDES requirements and erosion control requirements.

Although formal training was not conducted by Field Engineering, whenever a contractor was out of compliance, Field Engineering took the time to train contractors on the correct installation of erosion control measures. City inspectors conduct soil erosion control inspections at construction sites informing construction site operators on aspects of use and maintenance of appropriate structural and nonstructural BMPs. Additionally, City of Tulsa supervisors answered questions regarding construction site OPDES requirements and erosion control requirements.

Building permit applicants of all private developments were notified of their responsibility under the OPDES permitting program during the building permit application review process and during any pre-submittal meetings. Through the infrastructure development process (IDP), proposed developments were reviewed, and applicants were notified of the OPDES erosion and sediment control requirements prior to issuing IDP project permits. The City of Tulsa offers pre-development meetings to those considering a new development within the city. These meetings are site-specific and provide guidance on all requirements. Included in the discussion are the requirements for erosion control throughout the construction period and the permanent requirements to prevent stormwater pollution. In addition, the city explains stormwater pollution requirements when we conduct presentations or training to the development and building communities.

d.) Building permit applicants notification

Building permit applicants of all private developments were notified of their responsibility under the OPDES permitting program during the building permit application review process and during any pre-submittal meetings. Through the infrastructure development process (IDP), proposed developments were reviewed, and applicants were notified of the OPDES erosion and sediment control requirements prior to issuing IDP project permits.

In addition, the City explains stormwater pollution including the use of Low Impact Development (LID) as an effective Best Management Practice. Utilizing the predevelopment meetings and the IDP process to open the discussion about implementing LID practices before any development has taken place makes successful implementation of practices more likely to occur. In addition, the City explains stormwater pollution requirements and the benefits of LID when conducting presentations or training to the development and building communities.

Section 1 – Status of Implementing the Stormwater Management Program

Developers and design engineers were provided with the "OPDES General Permit for Stormwater Discharges from Construction Activities (OKR10)" information. Anyone obtaining an OPDES General Permit for Stormwater Discharges from Construction Activities (OKR10) submitted a stormwater pollution prevention plan along with an NOI, for review and approval prior to receiving an Earth Change permit. A stormwater pollution prevention plan checklist was utilized during the review process.

Part II(A)(10) Public Education

Status: Compliant and ongoing

The City of Tulsa Stormwater Quality group continues its robust public education efforts through the implementation of strong media campaigns. Stormwater Quality outreach was viewed via digital media, tv ads, public events, utility bill stuffers, and other sources. The Stormwater Quality group continued the collaboration with Byers Creative to develop new radio ads to help deliver stormwater quality public education messages. City Communications staff posted 94 stormwater-related messages to social media this fiscal year, creating 583,248 impressions and 22,703 engagements. Tulsa's social media has approximately 60,462 Facebook followers, 64,142 Twitter followers, and 11,379 followers on Instagram.

The table below shows the number of views from the commercials, in addition to the number of radio and digital ad impressions.

Media	Impressions
Spotify	341,390
Pandora	127,383
KRMG Public Radio	748,800
KWEN Public Radio	366,760
KWGS Public Radio	4,500,000
OTT (Digital streaming ads)	2,880,000

The City of Tulsa maintains a TV channel for the broadcast of public meetings, events, and forums. During non-broadcast times, various videos including several Stormwater Quality videos are shown, including the Household Pollutant Collection Facility commercial in a rotation in background programming that plays 7 days a week, 24 hours a day when live meetings are not scheduled. Live meetings comprise about 10 hours a week, so each video has played around 158 times a week, or 8,216 plays for each video during a fiscal year. The

Section 1 – Status of Implementing the Stormwater Management Program

audience size is all of Cox Cable subscribers in the Tulsa area, since TGOV is on basic cable. According to a 2011 City of Tulsa Citizen Survey, TGOV is viewed by nearly 50 percent of Tulsa households. According to 2020 U.S. Census data, the estimate for the number of households in Tulsa is 175,943 so TGOV is viewed by approximately 87,971 households. TGOV also streams continuously online at tgovonline.org.

The City of Tulsa passes out tote bags, reusable litter bags, pens, pencils, bass stress balls, rain gauges, and other promotional products with the website and the Save Our Streams brand. These items are very popular and well received at in-person events and are geared toward starting a conversation with a citizen about water quality topics. Pet waste bags are given away to encourage citizens to pick up their pet's waste. Citizens are educated on how much pet waste is washed into our storm drains and how that impacts our environment. Magnetic chip clips are also given away as a useful reminder to help citizens know where they can properly dispose of their household cleaners and have the Household Pollutant Collection Facility contact information.



Tulsa and its educational partners continued to educate the public on the prevention of pollution at the source. To get the most from each educational opportunity, many public educational activities targeted multiple sources of non-point source pollution, including vehicle fluids, pesticides, herbicides, fertilizers, and erosion control practices. Approximately 1,136,040 people were exposed to stormwater education opportunities during the reporting period. A detailed description of the City of Tulsa's public education efforts can be found in Section 6(c).

Section 1 – Status of Implementing the Stormwater Management Program

The following groups participated in various public education events during this reporting period:

- City of Tulsa
 - Public Works Department
 - Parks Department
 - Communications Department
- Tulsa County Conservation District (Blue Thumb Program)
- Metropolitan Environmental Trust (M.e.t.)
- The Sustainability Alliance

Educational Activities Included:

- Displays at workshops and conferences
- Public presentations at conferences and seminars
- Presentations/demonstrations at summer camps
- Creation and distribution of educational material (brochures and giveaways) at a number of events
- News press releases and articles informing the public about environmental issues, including non-point source pollution
- Quarterly stormwater newsletter
- Environmental awareness at numerous events
- Utility bill stuffer – stormwater information sent to all citizens that purchase water and sewer as well as pay utility bills to the City of Tulsa

See Attachment B for a full list of Educational Activities.



During this reporting period, Tulsa continued to create and utilize existing brochures, pamphlets and handouts to meet and exceed all its public education requirements. A complete listing of these materials can be found in Attachment A “Educational Material Distributed 2024-2025”. Attachment B “Education Events 2024-2025” is a complete listing of all the public education events the Stormwater Quality group participated in during this reporting period. Both these attachments can be found in the appendix of Section 6.

Section 1 – Status of Implementing the Stormwater Management Program



The Tulsa County Blue Thumb Program continued its efforts to reduce non-point source pollution. The Tulsa County Conservation District (TCCD) is involved with this Clean Water Act Section 319 funded program, which utilizes citizen volunteers. This year, 81 volunteers contributed approximately 1,700 hours of work to the Blue Thumb program's activities. Tulsa County has the most streams monitored statewide. 29 streams are monitored by this group in the Tulsa area. The program's goal is to make citizens of Tulsa aware of non-point source pollution and to encourage the adoption of practices that protect Tulsa's streams. This program has contributed greatly to the education of the public through the organization and training of citizen watershed monitoring groups and distribution of the "Blue Thumb Fish Prints" that depict the importance of riparian area and how to keep water clean. The Blue Thumb Program continues to collect data from area streams and uses this data to focus on educational activities within the affected watersheds. This education involves informing local citizens on how to protect their streams against non-point source pollution. The TCCD continues to promote the Blue Thumb Program and encourage participation at public events, such as the Greater Tulsa Home and Garden Show and the Enviro Expo.

The City continues to maintain strong public education efforts related to flood concerns. Outreach efforts focus on increasing public understanding of flood risks, promoting flood insurance awareness, and encouraging residents to take proactive measures to protect property

Section 1 – Status of Implementing the Stormwater Management Program

and water quality. Education materials and targeted mailings help ensure that property owners understand both their personal risk and their role in reducing flooding and pollution impacts within the community.

The following flood education materials were distributed at various events, online, and by mail:

“City of Tulsa – General Guide to Regulatory Floodplains” is a brochure designed to guide the public through floodplain requirements within the City of Tulsa. It provides a telephone number and encourages the public to report illegal discharges into the storm sewer.

“City of Tulsa Official Floodplain Notice” and *“Flood Hazard Information About Your Property”*, are two brochures that were sent to approximately 14,000 residences last year who live in or near the floodplain, have the potential to experience flooding and what to do in case of flooding. It provides a contact telephone number and encourages the public to report illegal discharges into the storm sewer.

“2024 Repetitive Loss Area Notice” is an annual publication that goes to approximately 750 property owners who are near a repetitive loss property. A repetitive loss property is defined as a property that has filed one or more insurance claims for flood losses in the past 10 years. This publication provides phone numbers for citizens to report blocked drains or illegal dumping.

“Know Your Risk of Flooding” is a brochure handed out during public events and/or meetings. They provide tips on what to do before, during, and after a flood event.

“Know the Facts about Flooding Before You Buy or Remodel a Home” and *“Flood Insurance Facts”* are brochures that are handed out during public events and meetings. They provide information on things to consider when buying or remodeling a home in or near a regulated floodplain. They also provide facts on floodplain determinations, building permits, and flood insurance.

“City of Tulsa Floodplain Map Atlas” is a hardcopy atlas/book that shows the FEMA SFHAs and the City of Tulsa Regulatory Floodplains throughout the City. The atlas also provides flood hazard information as well as provides phone numbers for citizens to report blocked drains or illegal dumping. The Map Atlas book will be republished in 2026.

The Stormwater Quality group administers an electronic newsletter that is sent out quarterly to an estimated 2,439 email addresses. Through this newsletter, recipients are educated on stormwater issues such as pollution-related concerns that affect households, environmental

Section 1 – Status of Implementing the Stormwater Management Program

community efforts performed by the City of Tulsa, and a Species Spotlight article with information about species native to the Tulsa area. The public is also informed of ways they can help improve and maintain stormwater quality, how they can contact the City of Tulsa for more information, request personnel to come speak at an event and how to report illicit discharges. This newsletter was sent out in July 2024, November 2024, and December 2024, and April 2025.

The City of Tulsa hosted a rain barrel sale on May 2-3rd and 9-10th which resulted in the sale of 330 barrels from 195 citizens. These events also resulted in water quality education and promotion of the Tulsa Household Pollutant Collection Facility, which is where the event was hosted.

Green Country Watersheds Coalition is a group of environmental organizations and citizens with the shared goal of improving the water quality in Crow Creek and now across the greater Tulsa metro area. Previously under the name of Crow Creek Community, this group came together in approximately 2016 and has conducted many water quality events, demonstrations, creek walks, and litter pickups during that time. The group has a quarterly newsletter which is sent to around 250 citizens as well as printed and given out to many businesses in the watershed.

The Stormwater Quality group created several brochures and flyers that focus on different types of pollutants that can flow into storm drains. Not all of these were distributed during this fiscal year, and several of them are being phased out as we transition the information to newer streamlined brochures. The list of materials distributed can be found in Attachment A. Some of our other available brochures include Pool Water Disposal, Carpet Cleaning, Trash Breakdown, and Cause and Effect.

In the past, Stormwater Quality partnered with the City of Tulsa's Working in Neighborhoods (WIN) department to further public education efforts. The WIN newsletter goes to approximately 500 neighborhoods and over 100,000 members on the Nextdoor app. This newsletter sometimes includes information on Stormwater Quality topics including upcoming educational events and programs.

The City of Tulsa has undertaken many additional outreach videos over the last several years, including an explanation and overview of the Watershed Characterization Program. This video has been shared on social media and posted to YouTube and has been viewed 149 times. In addition to the new Biosampling video, stormwater has videos on YouTube that demonstrate the importance of keeping our storm drains clean. The most viewed stormwater video was watched 8,762 times. In total the Stormwater Quality group has produced 25 videos, with current views at

Section 1 – Status of Implementing the Stormwater Management Program

14,818. The videos focus on pollutants such as pet waste, litter, and motor oil, and discuss how to remediate these problems.

a.) Public reporting of illicit discharges and improper disposal

Numerous publications that promote the public reporting of illicit discharges and improper disposal were created and distributed by the City of Tulsa. Regular distribution locations included Tulsa Parks, Recreation Centers, and all libraries within city limits. All illicit discharges or improper disposals can be reported to City of Tulsa’s Customer Care or to Stormwater Quality. During this reporting period, 2274 pieces of literature were given out at these venues. Material was also distributed at all events attended by Stormwater Quality. The following is a partial list of publications distributed:

“Stormwater Quality Programs” is a general brochure highlighting the current stormwater quality programs in the City of Tulsa. Also provided in the brochure are ten solutions to stormwater pollution, including the reporting of illicit discharges, and lists the number for City of Tulsa’s Customer Care and instructions on how to do so. The phone number for Customer Care is promoted in all educational material distributed through our stormwater quality programs.

“How Long Does It Take for Your Trash to Break Down?” lists common types of litter such as apple cores, styrofoam cups, and plastic bottles along with how long these items take to break down. On the opposite side it provides solutions to litter seen around Tulsa.

“Causes and Effects of Pollution in Our Local Creeks and Streams” is a handout that the effects of oil and grease, fertilizer and pesticide, pet waste, grass and leaves, and litter has on our waterways and how to prevent pollution from these sources. The other side of the handout has an infographic showing how these pollutants can be washed into our streams and creeks and the impact it has on the environment.

“Motor Oil” talks about how motor oil can impact water, how to prevent oil from getting into local waterways, and how to safely dispose of oil.

“Stormwater: Where Does It Go and What Can It Impact?” touches on leaves, grass clippings, and tree trimmings and their impact on stormwater quality. It educates the public on how to properly dispose of lawn waste

During this reporting period, information was placed into four monthly utility bill stuffers in August and October 2024 and January and February 2025, encouraging the public to report illegal discharges. These articles gave instructions on the proper procedures for reporting, along

Section 1 – Status of Implementing the Stormwater Management Program

with telephone numbers for the 311 Center, which is the primary method for citizens to report any issues. Multiple message topics were conveyed to callers during this time period. In previous years, almost 600,000 calls were made to the Customer Care Center.

Tulsa maintains a website, www.cityoftulsa.org/sos that has several links to tips that promote ways to reduce stormwater runoff pollution, including the public reporting of illegal discharges to the storm sewer. The number of pageviews was 1,398 during this time, another decrease from previous years. Though the main Stormwater Quality webpage visits were down, the Household Pollutant Collection Facility webpage visits were very strong with 13,989 visits. While conducting inspections, City of Tulsa personnel continued to direct citizens, business owners, or operators to our website for more information about our programs.

The Great Tulsa Cleanup. Co-sponsored with the City of Tulsa’s Parks Department during the month of April 2025. Volunteers removed litter from their choice of over 40 different creek or park locations, such as Haikey Creek, Joe Creek, Mingo Creek, Dirty Butter Creek, Coal Creek, and Vensel Creek. Not only did this cleanup remove litter from the creeks, but it also helped to bring attention to the importance of reducing litter discharges to urban streams and waterways. The Save Our Streams social media pages posted ads promoting the Great Tulsa Cleanup as well as multiple media interviews were conducted and flyers handed out at events. The event continued its successful run with 973 participants who collected about 512 bags of trash from 36 locations across Tulsa.

As a result of public awareness of the reporting of illicit discharges and improper disposal, 280 investigations were conducted involving the identification and removal of illicit discharges to the storm sewer during this reporting period.

b.) Proper management and disposal of used motor vehicle fluids and household hazardous wastes

Public education in the proper management and disposal of used motor vehicle fluids and other household hazardous wastes was accomplished through various methods. These methods include the distribution of the following educational material:

“Causes and Effects of Pollution in Our Local Creeks and Streams” highlights the effects of oil and grease, fertilizer and pesticide, pet waste, grass and leaves, and litter have on our waterways and how to prevent pollution from these sources. The other side of the handout has an infographic showing how these pollutants can be washed into our streams and creeks and the impacts they have on the environment.

Section 1 – Status of Implementing the Stormwater Management Program

“Stormwater Quality Programs” is a brochure given to the public detailing our stormwater quality programs. Included in the brochure is information on the adverse effects of household chemicals on the environment as well as instructions on how to dispose of chemicals properly.

“Household Pollution Collection Facility” informs citizens about the City of Tulsa’s Household Pollution Collection Facility where they can dispose of their hazardous waste and pollutants in a safe manner. The handout goes over the importance of proper disposal of chemicals, accepted and non-accepted items, and has the contact information.

“Motor Oil”, talks about how motor oil can impact water, how to prevent oil from getting into local waterways, and how to safely dispose of oil.

The City of Tulsa has had a Household Pollutant Collection Facility at 4502 South Galveston Ave since 2016. The facility is open 2 days a week (Wednesdays and Saturdays) from 8:00 am till 4:30 pm. See Part II(A)(6)(d) for a summary of the pollutants collected this year, including motor oil, various vehicle fluids, and most household pollutants. Education material is distributed at this Facility.

At most of the major events and outreach, the *“Motor Oil”* and the *“The Household Pollutant Collection Facility”* were distributed. See attachments for specific information.

Currently, The M.e.t. has nine drop-off recycling depots with collection containers for used motor oil, cooking grease and batteries. Two of the nine locations have containers for antifreeze collections. The “Recycling Locations” map flier and the “Tulsa Area Recycling Directory” both provide locations to the recycling centers. These handouts are given during speeches, booths and events. The website, www.metrecycle.com promotes the Household Pollutant Collection Facility and depots. (Fliers are distributed at booths, speeches and events throughout the year (see list below).

The following is a list detailing the quantity of materials the M.e.t. distributed:

FY 24/25 distribution estimates below:

Tulsa Area Recycling Directory: 2,834

Buy Recycled, Close the Loop: 80

Latex Paint and the Environment: 2,834

Don’t Flush Your Unused Medications Down the Toilet or the Frog Gets It: 1,855

Deep Green Clean: 515

Recycling Locations Map: 2,834

Why Should I Recycle Batteries: 2,834

Where Should I Recycle E-waste: 2,386

Section 1 – Status of Implementing the Stormwater Management Program

Focus on the Four: 3,900

COT Medication Flier: 2,268

Mercury in Your Home: 326

The revised specifications for new storm sewer inlet hoods include the message “Dump No Waste, Drains to River”. These specifications were accepted by the City of Tulsa and the new inlet hoods have been obtained. As a result, all new or repaired catch basins will now have the message permanently cast into the hood therefore not requiring a placard.

Environmental educational activities were conducted at Tulsa Parks, Summer Camps, and STEM Fairs. Combined these events involved approximately 2,083 children. Children were educated on the importance of reducing litter, non-point source pollution and recycling through various activities. Other education activities included the use of videos, hands on landscape displays (i.e., “Enviroscape”), distribution of handouts and material containing non-point source pollution information, and fish, macroinvertebrate, and plant demonstrations. Details can be seen in the following:

Date	Event Name	Description	Attendance
8.24.2024	City Hall on the Go	A Back to School Event for local students and families	200
10.30.2024	Build My Future	Trade learning event for high school students	1150
1.24.2025	MOHWTP/Lab Tour	Discussed existing and new methods used to monitor stormwater quality with NSF EPSCoR students	3
3.28.2025	River Lab Field Trip	Education event for TPS students to learn about water quality through fish identification	30
3.31.2025	Union High School Sustainability Fair	Environmental Fair to distribute stormwater quality information to high school students at UPS	450
5.5.2025	Water Wise	Tabled event to distribute SWQ to TPS students	250

c.) Proper use, application and disposal of pesticides, herbicides and fertilizers

The responsibility of educating the public on the proper use, application, and disposal of pesticides, herbicides, and fertilizers was accomplished through the distribution of educational material (brochures, videos, ads, etc.), public education events, and utility bill stuffers. The following section lists some of the materials and activities used to comply with this requirement.

Section 1 – Status of Implementing the Stormwater Management Program

An extensive list, along with the number of pamphlets distributed, can be found in Appendix A and B of Section 6. This information was also promoted in three utility bill stuffers, during August 2024 and January 2025.

“Fertilizers” and “Pesticides” are two brochures which emphasize the proper application and disposal for the use of pesticides and fertilizers. It also lists alternatives to chemicals to control pests and fertilize lawns.

“Stormwater Quality Programs” is a brochure given to the public detailing our stormwater quality programs. Included in the brochure is information on the adverse effects of pesticides and fertilizers on the environment as well as instructions on how to dispose of them properly.

“Pollution Prevention Plan” is a Best Management Practice (BMP) created to guide citizens to do their part to keep our storm sewer clean. It addresses a number of pollutants including but not limited to fertilizers, herbicides and pesticides.

The Master Gardeners Program sponsored by Oklahoma State University - Tulsa Cooperative Extension Office maintains a telephone information service for the public regarding all aspects of gardening and landscaping, including the proper application and disposal of pesticides, herbicides and fertilizers. This service is offered five days a week, between 9 a.m. and 4 p.m. and has numerous brochures available to the public. See Part II (A) (5) “Pesticide, Herbicide and Fertilizer Application” for more information about this program. This program was publicized by Tulsa through the distribution of the *“Fertilizers”* brochure. OSU provided additional advertising through various means.

The Tulsa County Conservation District and Oklahoma Conservation Commission recently began a program to recognize and promote healthy yards for pollinators, soil, and water quality. This program is called Yard-by-Yard and has 62 members in Tulsa County. Below is their summary of the program:

Through our Yard-by-Yard Community Resiliency Project, residents will find not only support to do the right things for their yard and community, but also recognition for their efforts and the chance to encourage others. Whole neighborhoods coming together for the greater good can absolutely add strength, health, and resilience to our city. Wonderful and impactful things will happen. participants will get to enjoy wildlife neighbors like birds, butterflies, and bees. They will cut down on the amount of waste going into a landfill. They will enjoy the blossoms of native plants and will savor the taste of home-grown fruits and vegetables. Participants will improve the health of the soil and conserve our most precious resource of all: water. We believe

Section 1 – Status of Implementing the Stormwater Management Program

individual stewardship efforts contribute to a greater movement reclaiming our connection to the Earth one yard at a time.

The City of Tulsa requires all City personnel, as well as all City contractors that apply pesticides and herbicides to be licensed and subject to all the regulations under the Oklahoma Pesticide Applicators Law, including re-certification. City personnel that apply pesticides, herbicides and fertilizers received annual in-house training on specific types of pesticides, herbicides and fertilizers that are applied. When available, employees attended workshops, conferences and additional training on pesticides, herbicides and fertilizers application and disposal. The Tulsa Parks Department and SMO Division received training many times throughout the fiscal year including OKVMA in October 2024 and OTRF in November of 2024.

Tulsa’s website contains guidance for pesticide and fertilizers application for both commercial and residential applicators. This website is located at www.cityoftulsa.org/sos and is regularly promoted.

Part II(A)(11) Employee Education

Status: Compliant and ongoing

Education was conducted for personnel from Tulsa Fire Department, Sewer Operations and Maintenance, and Street Maintenance among others on their responsibilities at facilities and job sites.

Employees in the Public Works Department are eligible for promotional advancement upon completion of a “Stormwater Operator Certification” program conducted by the Stormwater Maintenance and Operations group. This two day, sixteen-hour course covers topics such as stormwater history in Tulsa, maintenance responsibilities, and Low Impact Development. Attendees are required to pass a test for certification. To date 225 employees have been certified. During this FY, 11 employees attended the training.

All City of Tulsa contractors as well as all employees that are required to apply pesticides, herbicides and fertilizers are required to be licensed under the Oklahoma Pesticide Applicators Law. In-house training regarding the application of various chemicals was conducted for city applicators during this reporting period.

City contractors responsible for herbicide, pesticide and fertilizer application, as well as landscape specialists and other lawn care providers, were specifically educated on the proper use of chemicals, disposal thereof and spill prevention procedures. The City of Tulsa requires all

Section 1 – Status of Implementing the Stormwater Management Program

contract applicators to be licensed under the Oklahoma Combined Pesticide Law and Rules (Title 2 of the Oklahoma Statutes). This license requires each applicator to properly apply, dispose and address spills in an environmentally friendly manner.

Part II(A)(12) Monitoring Programs

Status: Compliant and ongoing

a.) Dry weather field screening program

The dry weather field screening program continued during this reporting period. The details of this program are previously mentioned in Part II (A) (6) (e).

b.) Watershed Characterization Program

See Section 4. This section includes information on the analytical, biological, and habitat measurements taken during this year's sampling, as well as follow-up and response information and program details and data.

c.) Industrial and High-Risk runoff

The following table is a list of facilities classified under the SWMP as “Industrial and High-Risk Runoff”. This designation requires them to conduct self-monitoring of their stormwater runoff at least once per permit period. A summary of the number of industries that conduct monitoring during the permit life is as follows:

Section 1 – Status of Implementing the Stormwater Management Program

I&HRR Facility Categories	# of facilities identified	# conducting monitoring
Municipal landfills	1	1
Other treatment, storage and disposal facilities of municipal waste (e.g. transfer stations, incinerators, etc.)	6	1
Hazardous waste treatment, storage, disposal and recovery facilities	2	0
Facilities that are subject to EPCRA Title III, Section 313	27	27
Industrial or commercial discharges the permittee determines are contributing a substantial pollutant loading to the MS4.	1	1

Letters informing industries of their responsibility to conduct monitoring were sent out at the end of FY 13-14 and FY 22-23. All monitoring results were required to be submitted to the Stormwater Maintenance and Operations Division within one year. All monitoring results were reviewed and placed in the industry's activity file. Additional information regarding this program can be found at Part II (A) (8) Industrial & High-Risk Runoff.

Legal Authority

The City of Tulsa utilizes several Ordinances to ensure compliance with OPDES Permit #OKS000201. The following is a list of the most commonly used Ordinances accompanied by a brief description:

Title 11-A Chapter 3 (Watershed Development Regulations) – This Ordinance allows for the regulation of the methods for handling and disposing of stormwater run-off; the development, excavation, grading, regrading, paving, land filling, berming and diking of land; allows for the regulation of development within flood plains in order to assure that development is not dangerous to health, safety or property due to stormwater run-off; and allows for the regulation of the connection to and use of the stormwater drainage system. Through this Ordinance, Tulsa permits construction activities that are one acre or greater.

Title 11-A, Chapter 5 (Pollution) – This Ordinance was adopted in November of 1995 in order to give Tulsa the legal authority needed to comply with all of the municipal separate storm sewer system discharge permit requirements that were not covered by existing Ordinances. It prohibits

Section 1 – Status of Implementing the Stormwater Management Program

illicit discharges to the storm sewer; allows for the control and monitoring of stormwater runoff; provides Tulsa with the legal means to inspect and investigate potential sources of pollution to the storm sewer; and contains judicial enforcement remedies. This Ordinance was revised during 2006-2007 reporting period to include provision for recovery of cost incurred by Tulsa against violators of this Ordinance. Maximum amount of fines per violation per day is \$1,000.00. Other enforcement measures are also made available within the Ordinance as Administrative orders, such as Consent, Compliance, and Cease and desist orders.

Title 11-C, Chapter 12 (Requirements For Industrial Users To Discharge To The Sanitary Sewer Systems) – This Ordinance provides general sewer use requirements; allows for wastewater discharge permit issuance and inspection of all industries that discharge to the sanitary sewer; prohibit the inflow of stormwater into the sanitary sewer system; and contains judicial enforcement remedies.

Title 24, Chapters 1 and 2 (Nuisances) - These Ordinances provides for abatement of nuisances, including litter, industrial wastes, sewage, etc. from any area lake, basin, public park, alley, highway or street through enforcement actions including total cost recovery to the City of Tulsa from the any person, firm corporation, partnership, or other legal entity who commits or who permits the creation or continuation of a nuisance.

Title 42, Chapter 11 (Planned Unit Development) – This ordinance encourages innovative land development while maintaining appropriate limitation on the character and intensity of use and assuring compatibility with adjoining and proximate properties. It also promotes greater flexibility within the development to best utilize the unique physical features of a particular site. Creative land use design and open space preservation are also promoted in this Ordinance. Further, the final purpose of this Ordinance is to achieve a continuity of function and design within the development.

Section 2

Proposed Changes to the Stormwater Management Program

Throughout the reporting year, the City of Tulsa conducted a comprehensive review and update of the Stormwater Management Program (SWMP) to ensure continued alignment with requirements of the current MS4 permit (OKS000201). As part of this review, each minimum control measure was examined to determine where refinements or updates were necessary to improve implementation and overall program effectiveness.

Proposed changes were identified in many areas, with the degree of modification varying based on program needs. Some sections required only minor updates, such as clarifying procedures with better verbiage and terminology to match current practices (e.g. the upcoming use of microbial source tracking), or reorganizing content for better readability and correlation to the new permit. Other areas involved more substantive revisions, particularly those that required new solutions to meet permit requirements. All areas were given expanded descriptions of measurable goals.

These updates also strengthen the City’s ability to reach permit compliance through interdepartmental coordination by further elaborating on each department’s responsibilities regarding stormwater. In turn, this allowed for the identification of opportunities for improved education between City departments and sections. Future modifications will continue to focus on building these connections and integrating new strategies that support ongoing evaluation and improvement for all programs involved.

Collectively, the proposed updates to the SWMP ensure that each program element accurately reflects current operations, supports progress toward water quality measurable goals, and provides a practical framework for maintaining compliance under new and evolving regulations.

Section 3

Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under OAC 252.606-1-3(b)(3)(L) adopting and incorporating by reference 40 CFR 122.26(d)(2)(iv) and (d)(2)(v)

As part of the City's review of its Stormwater Management Program (SWMP), staff also examined how well the City's stormwater controls are working and evaluated the financial resources needed to continue meeting permit requirements. These reviews were completed in January 2025 and are reflected in the updated SWMP that will take effect July 1, 2025. The updates helped ensure that the City's program remains effective, sufficiently funded, and aligned with the goals of the new stormwater permit.

Through this review, the City confirmed that the existing best management practices (BMPs) and control measures remain effective for managing stormwater quality throughout the MS4. The modifications made to the SWMP ensured that controls are appropriately structured to meet current regulatory and operational needs. Based on the SWMP updates and evaluations, the City determined that the management programs and controls are adequate to address drainage areas and discharges within the MS4. Future changes to drainage patterns, development practices, or permit requirements will continue to be reviewed to determine whether additional program adjustments are warranted.

Section 4

A Summary of the Data/Monitoring Data Accumulated Throughout the Reporting Year

To comply with the permit, individual programs were created or adopted and then implemented. Implementation resulted in the creation of databases that track dry weather field screening and floatables monitoring. Data was collected during this reporting period, reviewed for accuracy and completeness and then entered into specific databases. Each program is explained in the following paragraphs along with associated data.

Dry Weather Field Screening

Dry weather field screening continued during this reporting period in an ongoing effort to detect the presence of illicit connections and improper disposal. 322 outfalls were screened, covering approximately 57,212 acres (91.0 square miles). Of the 322 outfalls screened, 181 contained dry weather flow. Once dry weather flow was located, the flow was sampled and tested for pH, temperature, appearance, conductivity, detergents, chlorine, copper, ammonia, and fluoride. If contaminants were identified in concentrations above action levels, then dry weather flow follow-up activities were implemented. Dry weather flow follow-up procedures continued until the source was identified. When an illicit discharge was identified, it was eliminated. Specific numbers for this reporting period are as follows:

Total # of outfalls screened	322
Total area screened	57,212 acres 91.0 sq. mi.
# of outfalls that did not require follow-up (without flow)	141
# of outfalls with dry weather flows not requiring follow-up (flows present but pollutant concentration below action levels)	171
# of outfalls requiring dry weather flow follow-up (flow with concentrations of pollutants above the action levels)	10

Section 4 – Summary of the Data

Floatable Monitoring Summary

Data was obtained from five floatable monitoring locations inspections were performed after rainfall events (> 0.1 in.) during this reporting period. If floatables were present during an inspection, they were collected, and data was gathered regarding the quantity in cubic yards and make-up in percent (organic and inorganic). A summary of the data is as follows:

Floatables Monitoring Summary

Station: 4800 W. 8th St.

Date	Floatables Present	Collection (Cubic Yards)	% Organic	% Inorganic
7/4/2024	yes	2	90%	10%
7/8/2024	yes	0.5	60%	40%
8/11/2024	yes	0.5	60%	40%
9/23/2024	yes	0.25	80%	30%
9/24/2024	no	0	0%	0%
1/30/2025	yes	0.25	100%	0%
2/10/2025	no	0	0%	0%
2/11/2025	no	0	0%	0%
3/29/2025	yes	1.5	80%	20%
4/3/2025	yes	0.25	50%	50%
4/5/2025	yes	0.5	60%	40%
4/19/2025	yes	0.25	50%	50%
5/6/2025	no	0	0%	0%
5/23/2025	yes	1	80%	20%
5/28/2025	no	0	0%	0%
6/17/2025	yes	1	90%	10%
Total Cubic Yards		8		
Average Floatable Makeup (%)			75%	25%

Section 4 – Summary of the Data

Floatables Monitoring Summary

Station: Osage Detention, 1101 West Pine Street

Date	Floatables Present	Collection (Cubic Yards)	% Organic	% Inorganic
7/4/24	yes	2	80%	20%
7/8/24	no	0	0%	0%
8/11/2024	yes	0.75	70%	30%
9/23/2024	yes	0.5	50%	50%
9/24/2024	no	0	0%	0%
1/30/2025	no	0	0%	0%
2/10/2025	no	0	0%	0%
2/11/2025	no	0	0%	0%
3/29/2025	yes	2	90%	10%
4/2/2025	yes	0.5	50%	50%
4/5/2025	yes	1	100%	0%
5/6/2025	no	0	0%	0%
5/19/2025	yes	0.5	50%	50%
5/23/2025	yes	12	90%	10%
5/28/2025	no	0	0%	0%
6/17/2025	no	0	0%	0%
Total Cubic Yards		24		
Average Floatable Makeup (%)			75%	25%

Section 4 – Summary of the Data

Floatables Monitoring Summary

Station: Reed Park 4200 S. Union Ave.

Date	Floatables Present	Collection (Cubic Yards)	% Organic	% Inorganic
7/8/24	yes	0.25	20%	80%
8/11/24	no	0	0%	0%
9/23/2024	no	0	0%	0%
9/24/2024	no	0	0%	0%
10/30/2024	no	0	0%	0%
11/2/2024	no	0	0%	0%
1/30/2025	no	0	0%	0%
2/10/2025	no	0	0%	0%
2/11/2025	no	0	0%	0%
4/2/2025	no	0	0%	0%
4/5/2025	no	0	0%	0%
5/6/2025	no	0	0%	0%
5/19/2025	yes	0.25	80%	20%
5/23/2025	no	0	0%	0%
5/28/2025	no	0	0%	0%
6/17/2025	no	0	0%	0%
Total Cubic Yards		0.5		
Average Floatable Makeup (%)			90%	10%

Section 4 – Summary of the Data

Floatables Monitoring Summary

Station: Sheridan Park, 10400 South 67th East Avenue

Date	Floatables Present	Collection (Cubic Yards)	% Organic	% Inorganic
7/8/2024	yes	2	100%	0%
8/11/2024	yes	0.5	80%	20%
8/15/2024	yes	0.25	100%	0%
9/23/2024	yes	0.5	90%	10%
9/24/2024	yes	0.5	80%	20%
11/2/2024	yes	1	100%	0%
11/8/2024	yes	0.5	80%	20%
11/18/2024	yes	1	100%	0%
1/30/2025	yes	0.5	100%	0%
3/29/2025	yes	2.25	90%	10%
4/2/2025	yes	0.5	100%	0%
4/5/2025	yes	0.25	90%	10%
4/19/2025	yes	1.5	70%	30%
5/6/2025	yes	0.25	90%	10%
5/7/2025	no	0	0%	0%
5/19/2025	yes	0.25	90%	10%
5/25/2025	yes	1	90%	10%
6/2/2025	yes	0.5	100%	0%
6/17/2025	yes	0.5	100%	0%
6/29/2025	yes	0.25	100%	0%
Total Cubic Yard		14		
Average Floatable Makeup (%)			95%	5%

Section 4 – Summary of the Data

Floatables Monitoring Summary

Station: Vensel Creek 11100 S. Yale Ave.

Date	Floatables Present	Collection (Cubic Yards)	% Organic	% Inorganic
7/4/24	yes	3	100%	0%
7/8/2024	yes	2	100%	0%
8/12/2025	yes	0.5	90%	10%
8/15/2025	yes	1	100%	0%
9/23/2024	yes	1	80%	20%
9/24/2024	yes	0.25	100%	0%
11/4/2024	yes	1	100%	0%
11/8/2024	yes	1	100%	0%
11/18/2024	yes	1.5	100%	0%
1/3/2025	no	0	0%	0%
2/10/2025	yes	1	100%	0%
2/11/2025	no	0	0%	0%
3/4/2025	yes	1	100%	0%
3/29/2025	yes	1.5	80%	20%
4/2/2025	no	0	0%	0%
4/5/2025	no	0	0%	0%
4/19/2025	yes	0.5	100%	0%
5/6/2025	yes	1	90%	10%
5/7/2025	yes	0.5	100%	0%
5/19/2025	yes	1	100%	0%
5/28/2025	yes	1.5	100%	0%
6/3/2025	yes	0.5	100%	0%
6/11/2025	yes	0.25	100%	0%
6/17/2025	yes	1.5	100%	0%
6/29/2025	yes	0.25	100%	0%
Total Cubic Yards		21.75		
Average Floatable Makeup (%)			96%	4%

Watershed Characterization - Stream Monitoring Reports

The following is a comprehensive report of biological and analytical assessments for sampled creeks during the reporting period.

To enhance this program, microbial source tracking (MST) efforts are being conducted in collaboration with the University of Oklahoma's Oklahoma Water Survey, led by Dr. Jason Vogel. Sampling is occurring within watershed characterization locations, TMDL waterbodies, Zink Lake sites, and other areas of concern to evaluate potential sources of bacterial contamination. MST analyses focus on detecting specific genetic markers that act as biological indicators to differentiate between different sources of bacteria, such as human, dog, avian, and ruminant host groups. These markers provide valuable insight to the origins of bacteria detected in stormwater and surface waters. Although sufficient data is not yet available to make significant determinations, the City anticipates that continued sampling and lab analysis will produce results in the forthcoming years to guide future water quality improvement strategies.

CITY OF TULSA
WATERSHED CHARACTERIZATION PROGRAM

**Comprehensive Watershed Characterization Assessment
Year 1 (2024-2025):**

City of Tulsa Public Works
Stormwater Maintenance and Operations
4502 South Galveston
Tulsa, OK 74107

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Watershed Characterization Project

October 14, 2025

Table of Contents

1.0	INTRODUCTION	4
1.1	Objective	4
2.0	BENEFICIAL USES.....	7
2.1	Agriculture.....	7
2.1.1	Total Dissolved Solids	7
2.2	Fish and Wildlife Propagation: Warm Water Aquatic Community	8
2.2.1	Dissolved Oxygen.....	8
2.2.2	Toxicants/Metals	9
2.2.3	pH Hydrogen Ion Activity	9
2.2.4	Oil and Grease	10
2.2.5	Suspended and Bedded Sediments	10
2.2.5.1	Turbidity.....	11
2.2.5.2	Habitat Assessment	11
2.2.6	Biological.....	13
2.2.6.1	Fish Collections	13
2.2.6.2	Macroinvertebrate Collections.....	13
2.3	Primary Body Contact.....	14
2.4	Anti-Degradation Policy.....	15
2.4.1	Nutrients	15
3.0	SUMMARY	16
4.0	TABLES	17
5.0	REFERENCES	24

List of Tables

TABLE 1: THE FY 24-25 SAMPLE SITES, THEIR LOCATIONS, WATERSHED SIZE AND ECOREGION.....	5
TABLE 2: TOTAL DISSOLVED SOLIDS VALUES IN FY 24-25 STREAMS.....	7
TABLE 3: DISSOLVED OXYGEN AVERAGES IN FY 24-25 STREAMS.....	8
TABLE 4: TOXICANTS AND METALS IN FY 24-25 STREAMS.....	9
TABLE 5: PH RANGE FOR FY 24-25 STREAMS.	10
TABLE 6: TURBIDITY READINGS IN FY 24-25 STREAMS.....	11
TABLE 7: THE HABITAT ASSESSMENT SCORES FOR FY 24-25 STREAMS.....	12
TABLE 8: INDEX OF BIOLOGICAL INTEGRITY SCORES FOR FISH IN FY 24-25 STREAMS.....	13
TABLE 9: BENTHIC MACROINVERTEBRATE METRICS AND ASSESSMENTS FOR FY 24-25 STREAMS.	14
TABLE 10: E. COLI TOTALS FOR FY 24-25 STREAMS.....	15
TABLE 11: NUTRIENT TOTALS FOR FY 24-25 STREAMS.....	15
TABLE 12: COMPLETE ANALYTICAL SAMPLING RESULTS FOR BERRYHILL CREEK.	17
TABLE 13: COMPLETE E. COLI SAMPLING RESULTS FOR BERRYHILL CREEK	17
TABLE 14: COMPLETE ANALYTICAL SAMPLING RESULTS FOR DOUGLAS CREEK.	18
TABLE 15: COMPLETE E. COLI RESULTS FOR DOUGLAS CREEK.	18
TABLE 16: COMPLETE ANALYTICAL SAMPLING RESULTS FOR EAGLE CREEK.	19
TABLE 17: COMPLETE E. COLI RESULTS FOR EAGLE CREEK.	19
TABLE 18: COMPLETE ANALYTICAL SAMPLING RESULTS FOR LOWER MINGO CREEK.	20
TABLE 19: COMPLETE E. COLI SAMPLING FOR LOWER MINGO CREEK.	20
TABLE 20: COMPLETE ANALYTICAL SAMPLING RESULTS FOR QUARRY CREEK.....	21
TABLE 21: COMPLETE E. COLI RESULTS FOR QUARRY CREEK	21
TABLE 22: COMPLETE ANALYTICAL SAMPLING RESULTS FOR SALT CREEK	22
TABLE 23: COMPLETE E. COLI RESULTS FOR SALT CREEK.....	22
TABLE 24: COMPLETE ANALYTICAL SAMPLING RESULTS FOR UPPER MINGO CREEK.	23
TABLE 25: COMPLETE E. COLI RESULTS FOR UPPER MINGO CREEK.....	23

List of Figures

FIGURE 1: A MAP OF THE 24-25 SAMPLING SITES AND THEIR WATERSHEDS.....	6
FIGURE 2: THE SALT CREEK SAMPLE SITE.	7
FIGURE 3: OIL SHEEN ON STREAM SURFACE AT THE QUARRY CREEK SAMPLE SITE.	10
FIGURE 4: THE SAMPLE SITE AT QUARRY CREEK.	11
FIGURE 5: HABITAT ASSESSMENT IN PROGRESS AT BERRYHILL CREEK.	12
FIGURE 6: AN ADULT WARMOUTH (LEPOMIS GULOSUS) CAUGHT DURING FISH SAMPLING AT DOUGLAS CREEK.	13
FIGURE 7: TECHNICIANS SAMPLING MACROINVERTEBRATES FROM A RIFFLE IN SALT CREEK.	14

1.0 INTRODUCTION

1.1 Objective

The purpose of this document is to provide a comprehensive report of results from the biological and analytical assessments of Berryhill Creek, Douglas Creek, Eagle Creek, Lower Mingo Creek, Quarry Creek, Salt Creek and Upper Mingo Creek. These assessments were performed in order to comply with requirements set forth in Part II(A)(13)(12)(b) and (13)(a) and (b) and Part IV(A)(1) and (2) of Oklahoma Pollutant Discharge Elimination System (OPDES) Municipal Separate Storm Sewer System (MS4) Permit No. OKS000201 for the City of Tulsa, Oklahoma (ODEQ, OPDES Permit OKS000201, 2024). Additionally, assessment results are applied to Oklahoma Water Quality Standards to ensure attainment of beneficial use standards. These standards are described in both OWRB, 2020a and OWRB, 2020b. While these implementations describe a multitude of surface water quality standards, this document will compare and describe only the standards applicable to the parameters required in the Watershed Characterization Program subsection of the Municipal Separate Storm Sewer System (MS4) permit (ODEQ, OPDES Permit OKS000201, 2024). All additional parameter results without applicable water quality standards are included in this report.

The data presented in this report were collected over a one-year period beginning in July 2024 and completed in June 2025, except for benthic macroinvertebrate data which require a minimum of four sampling events within a two-year period. Field collection and assessment methodology followed project standard operating procedures (SOPs) as provided in the quality assurance project plans (QAPPs) for the biological component (CCRC & FTN, 2014) and the analytical component (CCRC & FTN, 2014) of the City of Tulsa's watershed characterization program. The QAPPs provide quality assurance and quality control procedures for all components of the watershed characterization program. The QAPPs were submitted to and received approval from the Oklahoma Department of Environmental Quality (ODEQ), to ensure compliance with MS4 requirements. All field data sheets were scanned electronically and paper copies archived at the City of Tulsa Stormwater Management Division. All field measurements (in situ measurements, flow measurements, visual observations), biological information (taxonomic identification, species counts, biodiversity analyses), and analytical results were compiled in Microsoft Excel spreadsheets and verified (data entry, formula calculations) per project quality assurance (QA)/quality control (QC) procedures (CCRC & FTN, 2014) (CCRC & FTN, 2014). All raw data, SOPs, and QAPPs are available upon request.

Table 1: The FY 24-25 sample sites, their locations, watershed size within City of Tulsa boundaries, and ecoregion.

Waterbody	WBID	Latitude	Longitude	Watershed Area (mi ²)	Ecoregion
Berryhill Creek	OK120420010120_00	36.121591	-96.056168	4.89	Cross Timbers
Douglas Creek	OK121300010035_00	36.181696	-95.873289	3.32	Central Irregular Plains
Eagle Creek	OK121300010075_00	36.186241	-95.850988	1.13	Central Irregular Plains
Lower Mingo Creek	OK121300010030_00	36.220278	-95.858056	57.95	Central Irregular Plains
Quarry Creek	OK121300010040_00	36.197471	-95.851230	4.71	Central Irregular Plains
Salt Creek	OK121500020270_00	36.146361	-95.690694	3.39	Central Irregular Plains
Upper Mingo Creek	OK121300010030_00	36.076005	-95.870934	1.30	Central Irregular Plains

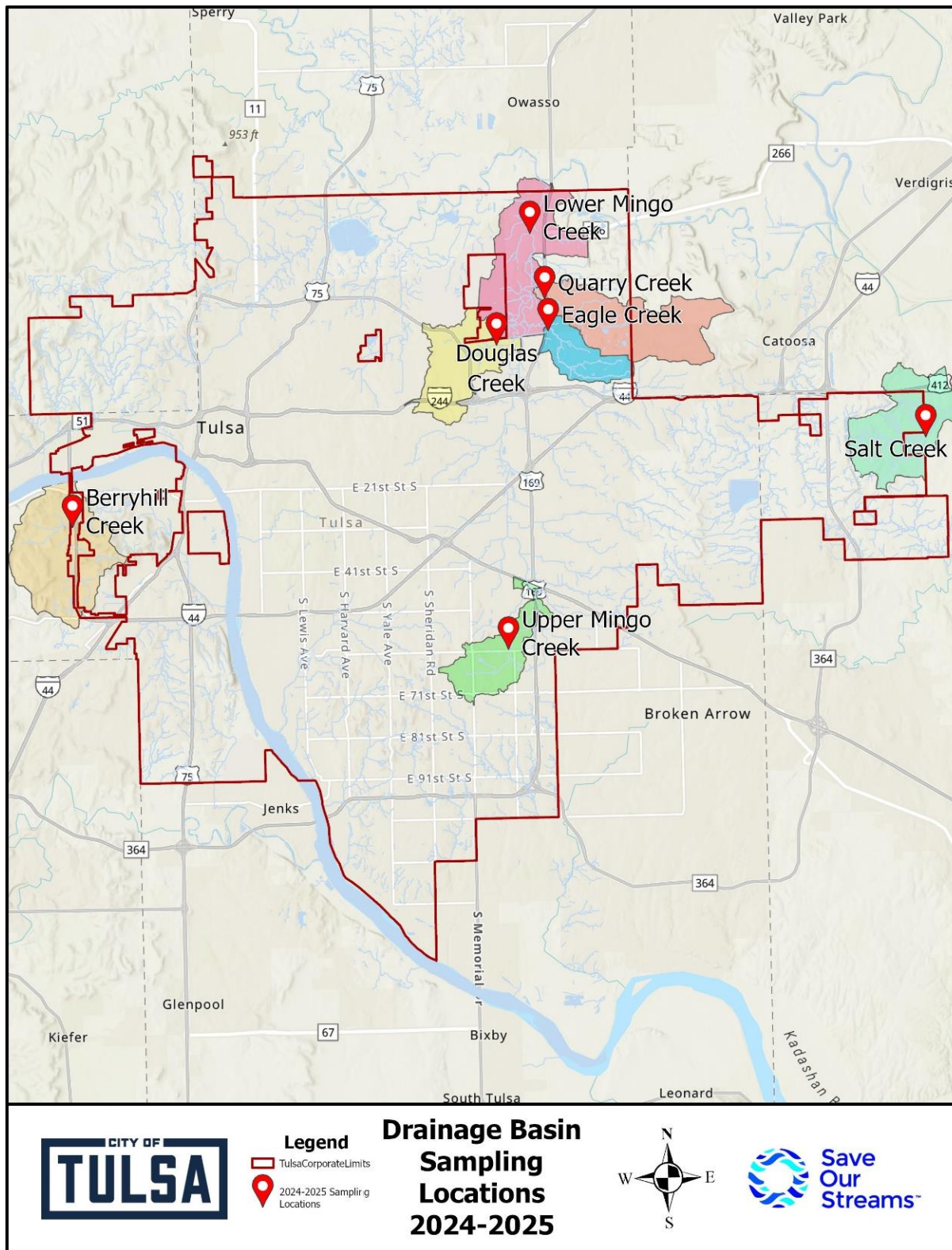


Figure 1: A map of the FY 24-25 sampling sites and watersheds.



Figure 2: The Salt creek sample site.

2.0 BENEFICIAL USES

2.1 Agriculture

2.1.1 Total Dissolved Solids

Data collected on Total Dissolved Solids for the following streams indicate a few impairments of the agricultural beneficial use. TDS values from 2024-2025 sampling can be found in table 2. The beneficial use of surface waters for agriculture is determined by analyzing the mineralization of water. Mineralization is measured by analyzing the concentration of total dissolved solids (TDS) in milligrams per liter. A minimum of 10 samples are required to determine if the stream meets water quality standards (WQS). The number of samples collected exceeds the number of samples required by water quality standards. If the sample mean is less than the yearly mean standard, and not more than 10% of individual samples exceed the sample standard, then the beneficial use is supported. Salt Creek is not attaining the agricultural beneficial use based TDS results that exceed WQS.

Table 2: Total Dissolved Solids values in FY 24-25 streams.

Waterbody	Sample Mean (mg/L)	Single Sample (mg/L)	Water Quality Standard (mg/L)
Berryhill Creek	242.5	326	Sample: 1868, Yearly: 1496
Douglas Creek	361.4	523	Sample: 470, Yearly: 387
Eagle Creek	371.3	572	
Lower Mingo Creek	348.3	510	
Quarry Creek	350.2	465	
Upper Mingo Creek	456.8	725	
Salt Creek	1879.2	2350	Sample: 456, Yearly: 350

2.2 Fish and Wildlife Propagation: Warm Water Aquatic Community

2.2.1 Dissolved Oxygen

Dissolved oxygen (D.O.) values for the 2024-2025 sampling year can be found in table 3. Data collected on Dissolved Oxygen concentrations indicate the beneficial use is not supported for four of the seven streams. Water quality standards require ten samples, the number of samples collected exceeds the number of samples required. The Warm Water Aquatic Community (WWAC) subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be fully supported with respect to the D.O. criterion if no more than 10% of the samples from the stream are less than 6.0 mg/L from April 1 through June 15 and less than 5.0 mg/L from June 16 to March 30. The streams marked with an asterisk have limited flow which may contribute to low dissolved oxygen concentrations. Streams are supporting beneficial use if less than 10% of samples are not below the DO threshold.

Table 3: Dissolved oxygen averages in FY 24-25 streams.

Waterbody	Sample Mean (mg/L)	% of samples in exceedance	Water Quality Standard (mg/L)
Berryhill Creek	8.53	0%	April 1 – June 15: 6.0 June 16 – March 30: 5.0
Douglas Creek*	6.38	30%	
Eagle Creek*	8.25	25%	
Lower Mingo Creek	8.94	0%	
Quarry Creek	9.88	0%	
Salt Creek	8.39	17%	
Upper Mingo Creek*	9.06	25%	

2.2.2 Toxicants/Metals

Data collected indicate full support of the beneficial use for Toxicants and Metals for all streams. Five samples are required to make a determination for water quality standards. The number of samples collected exceeds the number of samples required. Water quality standards are met if no more than one sample exceeds the acute standard and no more than 10% of samples exceeds the chronic standard.

Table 4: Toxicants and metals in FY 24-25 streams.

Waterbody	Parameter	Sample Mean (µg/L)	Single Sample (µg/L)	Water Quality Standard (µg/L)
Berryhill Creek	Cadmium	0.500	0.500	Cd - Acute: 102.36, Chronic: 2.45 Cu - Acute: 48.56, Chronic: 29.69 Pb - Acute: 286.15, Chronic: 11.15 Zn - Acute: 269.64, Chronic: 244.23
	Copper	1.29	2.38	
	Lead	0.549	0.803	
	Zinc	10.00	10.00	
Douglas Creek	Cadmium	0.500	0.500	Cd - Acute: 54.43, Chronic: 1.58 Cu - Acute: 28.65, Chronic: 18.40 Pb - Acute: 140.29, Chronic: 5.46 Zn - Acute: 167.79, Chronic: 151.97
	Copper	2.011	4.84	
	Lead	0.859	2.900	
	Zinc	11.58	21.40	
Eagle Creek	Cadmium	0.500	0.500	
	Copper	1.260	2.27	
	Lead	0.702	1.920	
	Zinc	11.56	18.90	
Lower Mingo Creek	Cadmium	0.500	0.500	
	Copper	1.312	1.87	
	Lead	0.5064	0.577	
	Zinc	11.642	29.70	
Quarry Creek	Cadmium	0.500	0.500	
	Copper	0.7591	1.63	
	Lead	0.500	0.500	
	Zinc	10	10	
Upper Mingo Creek	Cadmium	0.500	0.500	
	Copper	2.59	3.69	
	Lead	0.5043	0.552	
	Zinc	22.17	156.00	
Salt Creek	Cadmium	0.500	0.500	Cd - Acute: 58.21, Chronic: 1.66 Cu - Acute: 30.31, Chronic: 19.36 Pb - Acute: 151.33, Chronic: 5.90 Zn - Acute: 176.46, Chronic: 159.83
	Copper	0.893	2.86	
	Lead	0.500	0.500	
	Zinc	15.86	56.50	

2.2.3 pH Hydrogen Ion Activity

Data collected on pH readings indicate full support of the beneficial use for all streams. The pH range for the creeks can be found in table X, for the creeks to be considered attaining with respect to pH no more than 10% of samples can exceed 6.5-9.0 s.u. (OAC 252:730-5-12).

Table 5: Ph range for FY 24-25 streams.

Waterbody	Sample Range (s.u)	Water Quality Standard Range (s.u)
Berryhill Creek	7.50-8.10	6.5 – 9.0
Douglas Creek	7.18-8.19	
Eagle Creek	7.50-8.42	
Lower Mingo Creek	7.28-8.85	
Quarry Creek	7.96-8.33	
Salt Creek	7.50-8.17	
Upper Mingo	7.96-8.46	

2.2.4 Oil and Grease

Oil and grease are identified in creeks by visual assessment and can be found on the surface or become suspended when the benthos is disturbed. For a creek to be attaining water quality standards, oil and grease cannot be observed on the stream surface for more than 10% of the total observations during the sampling year (OAC 252). Oil and grease were only observed once in Quarry Creek and once in Douglas Creek, meaning all FY 24-25 streams are meeting beneficial use water quality standards for oil and grease.



Figure 3: Oil sheen on stream surface at the Quarry Creek sample site.

2.2.5 Suspended and Bedded Sediments

The determination of the suspended and bedded sediments use is accomplished using the monthly turbidity data in conjunction with habitat assessment data. This beneficial use is also conditional on the support based on fish and macroinvertebrate collection results.



Figure 4: The sample site at Quarry Creek.

2.2.5.1 Turbidity

Data collected from turbidity readings indicate all FY 24-25 streams are supporting the beneficial use. Water quality standards are met when no more than 10% of samples exceed the sample standard. The number of samples collected exceeded the number of samples required (ODEQ 2023a).

Table 6: Turbidity readings in FY 24-25 streams.

Waterbody	Sample Mean (NTU)	% of samples in exceedance	Water Quality Standard (NTU)
Berryhill Creek	8.64	0%	50
Douglas Creek	31.83	8%	
Eagle Creek	9.51	0%	
Lower Mingo Creek	4.76	0%	
Quarry Creek	2.00	0%	
Salt Creek	4.63	0%	
Upper Mingo Creek	5.88	0%	

2.2.5.2 Habitat Assessment

The scores found in Table 4 are obtained from habitat assessments conducted by the City of Tulsa's stormwater quality group are compared to the average score of a high-quality reference site provided by the Oklahoma Conservation Commission, from a workbook provided by the Oklahoma Water Resources Board (OWRB, 2001).

The habitat scores are compared to reference sites within the same ecoregion. For the 2024-2025 sampling year all the creeks are within the Central Irregular Plains ecoregion, except for Berryhill Creek which is in the Cross Timbers ecoregion.

Table 7: The habitat assessment scores for FY 24-25 streams.

Waterbody	Instream Habitat	Pool Bottom Substrate	Pool Variability	Canopy Cover	Presence of Rocky Runs and Riffles	Flow	Channel Alteration	Channel Sinuosity	Bank Stability	Bank Vegetation Stability	Streamside Cover	Total Score	Mean Score
Berryhill Creek	13.4	11.9	0.0	17.9	16.3	10.8	5.8	0.3	10.0	6.3	9.9	102.5	93.1
Douglas Creek	19.6	5.9	17.9	12.1	0.0	3.0	11.1	0.1	2.1	1.7	10.0	83.5	84.1
Eagle Creek	19.2	9.0	0.0	16.2	0.0	0.9	12.3	0.5	6.6	6.2	10.0	80.9	
Lower Mingo Creek	18.7	10.1	14.0	19.3	5.9	19.4	16.5	0.5	4.0	1.9	10.0	120.3	
Quarry Creek	11.3	9.6	17.2	16.3	14.7	10.3	8.7	0.5	8.9	6.7	8.4	112.6	
Salt Creek	19.4	5.9	5.5	14.6	5.9	9.2	16.5	0.5	6.6	6.3	10.0	100.5	
Upper Mingo Creek	18.4	3.7	0.0	20.0	4.1	1.5	9.9	0.5	4.4	1.4	10.0	74.0	



Figure 5: Habitat assessment in progress at Berryhill Creek.

2.2.6 Biological

2.2.6.1 Fish Collections

The data obtained from the fish collections can be found in Table 5. Sampled fish were identified and assessed for deformities, fin erosion, lesions, and tumors in situ and released following collection. The fish data were recorded in the field and input into a workbook to obtain a score to determine if the creek is meeting the biological criteria for fish and wildlife beneficial use.

Table 8: Index of biological integrity scores for fish in FY 24-25 streams.

Waterbody	Sample Composition	Fish Condition	Total Score	Score Key
Berryhill Creek	18	15	33	30+ Beneficial Use Supported. 23 – 29 Undetermined. <22 Impaired
Douglas Creek	15	13	28	
Eagle Creek	13	13	26	
Lower Mingo Creek	21	15	36	
Quarry Creek	16	15	31	
Salt Creek	16	15	31	
Upper Mingo Creek	6	11	17	



Figure 6: An adult Warmouth (*Lepomis gulosus*) caught during fish sampling at Douglas Creek.

2.2.6.2 Macroinvertebrate Collections

The data from the winter and summer index periods and the determination of the macroinvertebrate status can be found below in Table 6 (ODEQ, Continuing Planning Process, 2012).

Table 9: Benthic macroinvertebrate metrics and assessments for FY 24-25 streams.

Waterbody	Summer 2023 Score	Winter 2024 Score	Summer 2024 Score	Winter 2025 Score	Final Macroinvertebrate Assessment
Berryhill Creek	81%	71%	81%	65%	Attaining
Douglas Creek	69%	53%	48%	59%	Undetermined
Eagle Creek	-	52%	34%	52%	Undetermined
Lower Mingo Creek	71%	52%	97%	52%	Undetermined
Quarry Creek	41%	52%	90%	35%	Undetermined
Salt Creek	65%	78%	71%	87%	Undetermined
Upper Mingo Creek	62%	43%	70%	43%	Not Attaining
>80% Attaining: 80 – 50% Undetermined: <50% Not Attaining					



Figure 7: Technicians sampling macroinvertebrates from a riffle in Salt Creek.

2.3 Primary Body Contact

The *Escherichia coli* data collected from the 2024-2025 sampling year can be found in Table 7. Water quality standards require a minimum of ten samples to be taken during the one-year sampling period; the number of samples collected exceeded the number of samples required. The monitoring period for primary body contact recreation begins May 1st and continues through Sept 30th. For swimming advisory and permitting purposes, *E. coli* shall not exceed a monthly geometric mean of 126/100 MPN/100mL based upon a minimum of not less than five (5) samples collected over a period of not more than thirty (30) days (ODEQ, 2023a). Water quality standards are met when the geometric mean does not exceed the water quality standard 126 MPN/100mL (ODEQ, 2023a).

Table 10: *E. coli* totals for FY 24-25 streams.

Waterbody	<i>E. coli</i> Recreation Sample Geometric Mean (MPN/100mL)	<i>E. coli</i> Non- recreation Sample Geometric Mean (MPN/100mL)	Single Sample Maximum (MPN/100mL)	Water Quality Standard (MPN/100mL)
Berryhill Creek	399	167	1990	Recreational Period Geometric Mean: 126. Non-recreational Period Geometric Mean: 630
Douglas Creek	578	137	8300	
Eagle Creek	32	68	579	
Lower Mingo Creek	116	69	5760	
Quarry Creek	88	55	687	
Salt Creek	45	61	1050	
Upper Mingo Creek	227	542	9590	

2.4 Anti-Degradation Policy

2.4.1 Nutrients

Analytical results for Total Phosphorus and Nitrate/Nitrite show no need for further investigation to show support of the beneficial use. Water quality standards require 10 samples. The number of samples collected exceeds the number of required samples. Water quality standards are met if no more than 10% of samples are out of range. While Nitrate/Nitrite concentrations have an action level, it is not a required parameter within the MS4 permit (ODEQ, OPDES Permit OKS000201, 2024).

Table 11: Nutrient totals for FY 24-25 streams.

Waterbody	Total Phosphorus Sample Mean (mg/L)	Nitrite - Nitrate Sample Mean (mg/L)	% of samples in exceedance	Water Quality Threshold (mg/L)
Berryhill Creek	0.03	0.35	8%	Total Phosphorus: 0.24 Nitrate/Nitrite: 4.95
Douglas Creek	0.08	0.55	8%	
Eagle Creek	0.04	0.24	0%	
Lower Mingo Creek	0.03	0.36	0%	
Quarry Creek	0.02	0.25	0%	
Salt Creek	0.06	0.22	0%	
Upper Mingo Creek	0.03	0.40	0%	

3.0 SUMMARY

The following creeks did not meet the agricultural beneficial use Douglas Creek, Eagle Creek, Lower Mingo Creek, Upper Mingo Creek, and Salt Creek based on elevated total dissolved solids results. All the aforementioned creeks except for Lower Mingo Creek have exceeded water quality standards for TDS in the past. The headwaters for Salt Creek are located near mines which may contribute to elevated TDS and conductivity values. Additionally, Eagle Creek and Lower Mingo Creek have limestone streambeds which may contribute to elevated TDS. Douglas Creek, Eagle Creek, Salt Creek, and Upper Mingo Creek did not meet water quality standards for dissolved oxygen. This is likely a result of high temperatures and low flow conditions created by natural and man-made impoundments on these creeks. In the past only Douglas Creek, Quarry Creek, and Upper Mingo exceeded D.O. water quality standards. None of the creeks exceeded water quality standards for toxicants, oil and grease, pH, or turbidity. Douglas Creek, Eagle Creek, and Upper Mingo Creek did not receive acceptable habitat assessment scores for their ecoregion. The low habitat scores may be due to low flow conditions and channel alteration in these creeks. Upper Mingo Creek, in addition to receiving a low habitat score, is not attaining the beneficial use for biological criteria based on fish index of biological integrity and macroinvertebrate scores. Berryhill Creek, Douglas Creek, and Upper Mingo Creek exceeded the recreational period geometric mean.

Visual observations identified oil and grease sheen in Quarry and Douglas creek during sampling events. A sample from Quarry Creek was obtained to identify the source of the oil sheen at Quarry, but the sample did not detect any oil. The oil sheen identified at Douglas Creek may have been a result of low flow. A pollution event occurred in Douglas Creek on January 13th, 2025, which caused a fish kill and elevated turbidity. All sampled creeks had elevated bacteria and turbidity for the month of November, this is likely related to all samples having been grabbed within <72 hours of a rain event, due to high rains and sampling limitations

4.0 TABLES

Table 12: Complete analytical sampling results for Berryhill Creek.

ANALYTE	Date Sampled											
	7/11/24	8/19/24	9/5/24	10/1/24	11/19/24	12/10/24	1/15/25	2/17/25	3/10/25	4/16/25	5/5/25	6/3/25
BOD (5) Day (BDL 2.0) mg/L	3.00	3.00	3.80	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Cadmium, Total (BDL 0.50) µg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Conductivity µS	332.0	338.9	311.7	299.2	261.7	278.1	318.5	320.7	340.8	390.5	407.4	485.0
Copper, Total (BDL 0.50) µg/L	1.100	1.430	1.700	1.520	2.380	0.809	1.050	0.953	1.290	0.878	1.300	1.100
Flow CFS	0.980	1.143	1.437	1.975	8.510	1.941	1.261	1.204	3.162	2.228	4.410	2.470
Hardness, Total (BDL 20) mg/L	130	140	130	130	130	170	190	200	200	190	200	210
Lead, Total (BDL 0.50) µg/L	0.500	0.633	0.649	0.500	0.803	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Nitrogen, Kjeldahl, Total (BDL 0.50) mg/L	0.500	0.663	0.562	0.500	0.651	0.500	0.582	0.500	0.500	0.500	0.529	0.500
Nitrogen, Nitrate-Nitrite (BDL 0.20) mg/L	0.330	0.330	0.380	0.330	0.620	0.260	0.270	0.350	0.360	0.220	0.380	0.410
Nitrogen, Total as N (BDL 0.50) mg/L	0.500	0.993	0.942	0.500	1.271	0.500	0.852	0.500	0.500	0.500	0.909	0.500
Oxygen Demand, Chemical (BDL 20) mg/L	20	20	20	20	25	20	23	20	20	20	20	20
Oxygen, Dissolved mg/L	5.50	5.48	6.93	7.32	8.07	9.46	12.17	13.50	10.96	7.84	8.59	6.51
pH (s.u.)	7.69	7.75	8.10	8.01	7.69	8.06	7.96	7.90	7.59	7.52	7.58	7.50
Phosphorus, Total (BDL 0.010) mg/L	0.031	0.037	0.036	0.030	0.067	0.020	0.025	0.026	0.029	0.025	0.035	0.033
Phosphorus, Total Dissolved BDL (0.010) mg/L	0.015	0.019	0.032	0.020	0.061	0.012	0.025	0.025	0.019	0.010	0.028	0.019
Solids, Total Dissolved (BDL 25) mg/L	163	192	172	176	201	222	296	294	279	326	292	297
Solids, Total Suspended (BDL 2.5) mg/L	5.1	10.0	6.6	5.5	9.3	2.7	9.0	3.4	4.5	4.6	5.7	5.6
Temperature, Water °C	25.90	26.70	23.60	20.60	14.20	8.50	3.60	2.60	8.90	14.40	15.10	23.10
Turbidity (NTU)	8.86	11.70	8.96	6.60	20.40	4.69	6.61	4.08	7.87	7.67	9.38	6.82
Zinc, Total (BDL 10) µg/L	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Results found to be below the detection limit are reported as the detection limit												

Table 13: Complete E. coli sampling results for Berryhill Creek

ANALYTE	Date Sampled																				
	7/11/24	8/5/24	8/7/24	8/19/24	8/26/24	8/28/24	9/5/24	9/16/24	10/1/24	11/19/24	12/10/24	1/15/25	2/17/25	3/10/25	4/16/25	5/5/25	5/5/25	5/13/25	5/22/25	6/3/25	6/3/25
E. coli (BDL 1) MPN/100mL	291	488	488	980	727	435	488	365	210	1990	70	8	201	201	365	179	185	579	292	291	435
																					387

Table 14: Complete analytical sampling results for Douglas Creek.

ANALYTE	Date Sampled											
	7/24/24	8/8/24	9/12/24	10/7/24	11/14/24	12/4/24	1/13/25	2/13/25	3/17/25	4/15/25	5/14/25	6/11/25
BOD (5) Day (BDL 2.0) mg/L	3.00	3.00	3.50	3.00	3.00	4.50	3.00	31.10	2.10	3.20	5.00	3.00
Cadmium, Total (BDL 0.50) µg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Conductivity µS	736.0	493.0	835.0	540.0	332.4	569.0	237.0	442.3	668.0	707.0	774.0	731.0
Copper, Total (BDL 0.50) µg/L	2.390	1.340	1.670	0.900	2.750	1.560	4.840	2.670	1.540	1.480	1.560	1.430
Flow CFS	0.000	0.000	0.000	0.000	1.659	0.373	2.279	0.543	0.422	0.202	0.852	0.922
Hardness, Total (BDL 20) mg/L	130	150	200	150	140	280	150	170	290	280	290	280
Lead, Total (BDL 0.50) µg/L	1.020	0.500	0.500	0.861	0.836	0.500	2.900	1.200	0.500	0.500	0.500	0.500
Nitrogen, Kjeldahl, Total (BDL 0.50) mg/L	0.590	0.793	8.320	0.567	0.500	0.500	0.915	1.130	0.501	0.500	0.581	0.500
Nitrogen, Nitrate-Nitrite (BDL 0.20) mg/L	0.200	0.200	0.200	0.200	0.560	0.930	0.210	0.560	0.960	0.790	0.990	0.810
Nitrogen, Total as N (BDL 0.50) mg/L	0.590	0.793	8.320	0.567	0.560	0.930	1.125	1.690	1.461	0.790	1.571	0.810
Oxygen Demand, Chemical (BDL 20) mg/L	20	23	27	20	20	20	20	390	20	20	20	20
Oxygen, Dissolved mg/L	0.55	2.17	0.50	0.14	8.77	8.81	11.67	12.67	10.08	7.66	6.96	6.60
pH (s.u.)	7.31	7.54	7.27	7.18	8.02	7.94	8.19	7.90	8.19	7.87	7.87	7.97
Phosphorus, Total (BDL 0.010) mg/L	0.043	0.059	0.426	0.082	0.066	0.031	0.105	0.046	0.017	0.027	0.048	0.045
Phosphorus, Total Dissolved BDL (0.010) mg/L	0.024	0.039	0.344	0.039	0.041	0.023	0.025	0.028	0.014	0.016	0.034	0.038
Solids, Total Dissolved (BDL 25) mg/L	205	280	376	253	185	440	216	421	523	500	485	453
Solids, Total Suspended (BDL 2.5) mg/L	9.7	3.4	5.4	10.0	4.0	3.3	230.0	6.8	2.9	4.2	2.5	2.5
Temperature, Water °C	24.20	24.90	20.40	19.30	13.30	5.70	6.20	1.70	10.50	15.70	20.60	22.80
Turbidity (NTU)	6.52	3.62	4.75	9.05	12.80	2.81	324.00	0.22	5.14	4.93	4.02	4.08
Zinc, Total (BDL 10) µg/L	10.00	10.00	10.00	10.00	10.00	10.00	21.40	17.50	10.00	10.00	10.00	10.00
Results found to be below the detection limit are reported as the detection limit												

Table 15: Complete E. coli results for Douglas Creek.

ANALYTE	Date Sampled																					
	7/24/24	8/5/24	8/7/24	8/8/24	8/26/24	8/28/24	9/12/24	9/16/24	10/7/24	11/14/24	12/4/24	1/13/25	2/13/25	3/17/25	4/15/25	5/5/25	5/13/25	5/14/25	5/22/25	6/3/25	6/11/25	6/11/25
E. coli (BDL 1) MPN/100mL	109	8300	2420	1550	249	210	135	579	461	2420	81	1	218	166	276	579	236	387	411	1410	770	816

Table 16: Complete analytical sampling results for Eagle Creek.

ANALYTE	Date Sampled											
	7/16/24	8/21/24	9/12/24	10/8/24	11/14/24	12/5/24	1/15/25	2/6/25	3/13/25	4/8/25	5/22/25	6/24/25
BOD (5) Day (BDL 2.0) mg/L	3.10	2.70	5.80	3.00	3.00	3.00	3.00	5.70	3.00	3.00	3.00	3.00
Cadmium, Total (BDL 0.50) µg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Conductivity µS	916.0	376.9	660.0	663.0	510.0	447.3	420.9	497.0	524.0	401.2	507.0	447.0
Copper, Total (BDL 0.50) µg/L	2.000	1.180	2.270	0.790	1.600	0.775	0.702	0.702	1.010	1.060	0.937	1.500
Flow CFS	0.000	0.000	0.000	0.000	0.879	0.000	0.182	0.036	0.195	0.703	0.070	0.000
Hardness, Total (BDL 20) mg/L	180	110	150	300	240	320	270	300	280	240	210	140
Lead, Total (BDL 0.50) µg/L	1.430	0.500	0.572	1.920	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Nitrogen, Kjeldahl, Total (BDL 0.50) mg/L	3.720	0.789	2.360	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.522
Nitrogen, Nitrate-Nitrite (BDL 0.20) mg/L	0.200	0.200	0.200	0.200	0.480	0.200	0.200	0.200	0.330	0.280	0.200	0.200
Nitrogen, Total as N (BDL 0.50) mg/L	3.720	0.789	2.360	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.522
Oxygen Demand, Chemical (BDL 20) mg/L	65	20	56	20	20	20	20	20	20	20	20	20
Oxygen, Dissolved mg/L	2.29	4.73	4.09	5.92	8.27	12.73	12.73	11.10	12.45	10.71	8.43	5.52
pH (s.u.)	7.79	8.37	8.16	7.66	7.50	8.42	7.92	7.92	8.03	7.94	8.30	8.11
Phosphorus, Total (BDL 0.010) mg/L	0.144	0.032	0.098	0.040	0.038	0.013	0.025	0.025	0.014	0.019	0.031	0.034
Phosphorus, Total Dissolved BDL (0.010) mg/L	0.025	0.010	0.028	0.014	0.027	0.010	0.025	0.032	0.012	0.012	0.018	0.010
Solids, Total Dissolved (BDL 25) mg/L	487	256	572	422	289	409	385	411	393	329	294	209
Solids, Total Suspended (BDL 2.5) mg/L	43.0	7.4	19.0	14.0	5.2	2.5	2.5	2.5	2.5	4.7	3.6	6.6
Temperature, Water °C	27.00	24.80	22.20	17.80	14.00	3.70	4.70	8.40	13.60	11.80	25.10	29.30
Turbidity (NTU)	43.80	6.44	14.10	16.50	6.88	2.08	3.63	1.90	4.43	4.69	3.73	5.96
Zinc, Total (BDL 10) µg/L	14.20	10.00	10.00	10.00	10.60	10.00	14.30	18.90	10.70	10.00	10.00	10.00
Results found to be below the detection limit are reported as the detection limit												

Table 17: Complete E. coli results for Eagle Creek.

ANALYTE	Date Sampled																					
	7/16/24	8/5/24	8/7/24	8/21/24	8/26/24	8/28/24	9/12/24	9/16/24	10/8/24	11/14/24	12/5/24	1/15/25	2/6/25	3/13/25	4/8/25	5/5/25	5/13/25	5/22/25	5/22/25	6/3/25	6/11/25	6/24/25
E. coli (BDL 1) MPN/100mL	36	3	1	9	2	579	6	155	108	291	15	20	74	61	166	75	19	201	147	84	435	23

Table 18: Complete analytical sampling results for Lower Mingo Creek.

ANALYTE	Date Sampled											
	7/24/24	8/20/24	9/17/24	10/9/24	11/20/24	12/12/24	1/22/25	2/25/25	3/11/25	4/14/25	5/12/25	6/23/25
BOD (5) Day (BDL 2.0) mg/L	3.00	3.00	5.60	3.00	3.00	3.00	3.00	11.00	3.00	3.00	3.00	3.00
Cadmium, Total (BDL 0.50) µg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Conductivity µS	392.0	367.0	449.9	363.7	412.6	451.4	508.0	603.0	579.0	620.0	569.0	595.0
Copper, Total (BDL 0.50) µg/L	1.730	1.340	1.400	1.190	1.710	1.120	1.300	1.870	1.100	0.944	0.952	1.090
Flow CFS	11.700	6.867	1.048	6.633	59.830	17.060	5.634	32.600	21.280	16.610	18.580	21.580
Hardness, Total (BDL 20) mg/L	150	130	160	150	220	250	320	220	280	310	250	230
Lead, Total (BDL 0.50) µg/L	0.577	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Nitrogen, Kjeldahl, Total (BDL 0.50) mg/L	1.130	0.500	0.581	0.528	0.647	0.570	0.500	0.726	0.500	0.500	0.500	0.500
Nitrogen, Nitrate-Nitrite (BDL 0.20) mg/L	0.290	0.200	0.200	0.200	0.960	0.520	0.260	0.450	0.600	0.250	0.200	0.200
Nitrogen, Total as N (BDL 0.50) mg/L	1.420	0.500	0.581	0.528	1.607	1.590	0.760	1.176	0.500	0.500	0.500	0.500
Oxygen Demand, Chemical (BDL 20) mg/L	20	20	20	20	20	20	20	20	20	20	20	20
Oxygen, Dissolved mg/L	6.08	5.22	6.76	7.56	9.35	12.29	16.75	12.66	9.75	7.52	6.95	6.41
pH (s.u.)	7.70	7.71	7.99	8.12	8.09	8.74	8.07	8.85	8.45	8.01	7.28	7.80
Phosphorus, Total (BDL 0.010) mg/L	0.053	0.032	0.025	0.027	0.067	0.025	0.026	0.031	0.026	0.024	0.021	0.033
Phosphorus, Total Dissolved BDL (0.010) mg/L	0.027	0.023	0.018	0.016	0.061	0.025	0.029	0.015	0.014	0.014	0.014	0.011
Solids, Total Dissolved (BDL 25) mg/L	208	192	271	225	305	404	510	508	410	411	382	343
Solids, Total Suspended (BDL 2.5) mg/L	6.7	2.5	5.7	2.6	3.7	2.8	5.6	5.0	6.7	2.5	2.5	4.2
Temperature, Water °C	26.30	27.60	25.20	18.80	13.40	6.20	0.40	5.90	12.30	19.50	19.90	26.80
Turbidity (NTU)	10.80	3.11	2.29	2.67	5.45	3.42	8.11	8.20	3.86	2.31	2.91	4.02
Zinc, Total (BDL 10) µg/L	10.00	10.00	29.70	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Results found to be below the detection limit are reported as the detection limit												

Table 19: Complete E. coli sampling for Lower Mingo Creek.

ANALYTE	Date Sampled																					
	7/24/24	8/5/24	8/7/24	8/20/24	8/20/24	9/17/24	10/9/24	11/20/24	12/12/24	1/22/25	2/25/25	3/11/25	4/14/25	5/5/25	5/12/25	5/13/25	5/14/25	5/15/25	5/22/25	6/3/25	6/11/25	6/23/25
E. coli (BDL 1) MPN/100mL	201	33	51	137	119	50	199	2420	33	21	35	13	49	107	45	51	47	49	5760	411	219	124

Table 20: Complete analytical sampling results for Quarry Creek.

ANALYTE	Date Sampled											
	7/16/24	8/20/24	9/4/24	10/7/24	11/12/24	12/3/24	1/8/25	2/6/25	3/18/25	4/15/25	5/13/25	6/23/25
BOD (5) Day (BDL 2.0) mg/L	3.00	3.00	3.00	3.00	3.00	4.30	3.00*	6.10	3.00	2.40	3.00	2.20
Cadmium, Total (BDL 0.50) µg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Conductivity µS	399.0	387.0	361.6	333.0	552.0	436.1	433.3	542.0	510.0	584.0	600.0	675.0
Copper, Total (BDL 0.50) µg/L	0.679	0.541	0.500	0.595	1.630	0.802	0.774	0.559	0.815	0.732	0.745	0.737
Flow CFS	0.000	0.000	0.393	0.722	6.714	1.933	0.923	1.539	1.492	1.494	7.890	3.105
Hardness, Total (BDL 20) mg/L	160	170	160	160	290	310	350	340	310	280	300	280
Lead, Total (BDL 0.50) µg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Nitrogen, Kjeldahl, Total (BDL 0.50) mg/L	0.500	0.500	0.500	0.500	0.750	0.534	0.500	0.500	0.500	0.500	0.500	0.500
Nitrogen, Nitrate-Nitrite (BDL 0.20) mg/L	0.200	0.200	0.200	0.200	0.700	0.200	0.250	0.220	0.200	0.200	0.200	0.200
Nitrogen, Total as N (BDL 0.50) mg/L	0.500	0.500	0.500	0.500	1.450	0.734	0.750	0.720	0.500	0.500	0.500	0.500
Oxygen Demand, Chemical (BDL 20) mg/L	20	20	20	20	23	51	20	20	20	20	20	20
Oxygen, Dissolved mg/L	5.32	6.39	8.35	9.36	9.01	14.70	14.81	12.18	10.78	11.78	7.89	7.96
pH (s.u.)	8.05	8.02	7.96	8.07	7.97	8.33	8.25	8.16	8.28	8.17	8.01	8.07
Phosphorus, Total (BDL 0.010) mg/L	0.014	0.014	0.022	0.013	0.028	0.010	0.025	0.025	0.010	0.010	0.014	0.025
Phosphorus, Total Dissolved BDL (0.010) mg/L	0.010	0.010	0.014	0.010	0.023	0.010	0.025	0.025	0.010	0.010	0.010	0.010
Solids, Total Dissolved (BDL 25) mg/L	206	214	199	200	407	372	465	493	404	381	464	397
Solids, Total Suspended (BDL 2.5) mg/L	2.5	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	5.9	3.5
Temperature, Water °C	27.80	24.70	23.40	19.20	14.90	5.40	0.90	8.50	13.50	16.50	20.40	26.90
Turbidity (NTU)	3.15	2.69	0.96	0.74	3.02	0.93	1.32	1.58	1.09	1.64	2.88	3.95
Zinc, Total (BDL 10) µg/L	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Results found to be below the detection limit are reported as the detection limit												

Table 21: Complete E. coli results for Quarry Creek

ANALYTE	Date Sampled																					
	7/16/24	8/5/24	8/7/24	8/20/24	8/26/24	8/28/24	9/4/24	9/16/24	10/7/24	11/12/24	12/3/24	1/8/25	2/6/25	3/18/25	4/15/25	5/5/25	5/13/25	5/13/25	5/22/25	6/3/25	6/11/25	6/23/25
E. coli (BDL 1) MPN/100mL	345	94	70	50	75	35	19	67	46	148	86	33	66	50	26	47	687	144	78	55	133	172

Table 22: Complete analytical sampling results for Salt Creek

ANALYTE	Date Sampled											
	7/25/24	8/21/24	9/16/24	10/2/24	11/19/24	12/2/24	1/14/25	2/10/25	3/12/25	4/22/25	5/5/25	6/24/25
BOD (5) Day (BDL 2.0) mg/L	3.00	3.00	3.00	3.00	3.00	3.00	3.70	3.00	8.00	3.00	3.00	3.00
Cadmium, Total (BDL 0.50) µg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Conductivity µS	2521.0	2587.0	2291.0	2460.0	590.0	1663.0	1468.0	1630.0	1832.0	1190.0	1949.0	2259.0
Copper, Total (BDL 0.50) µg/L	0.500	0.500	0.706	1.050	2.860	0.813	0.910	0.500	0.736	1.140	0.505	0.500
Flow CFS	0.000	1.110	0.781	0.628	5.336	1.613	0.932	0.984	1.168	2.631	2.684	4.300
Hardness, Total (BDL 20) mg/L	1300	1400	1500	1600	270	1400	1400	1400	1400	710	1300	1300
Lead, Total (BDL 0.50) µg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Nitrogen, Kjeldahl, Total (BDL 0.50) mg/L	0.500	0.587	0.500	0.597	0.986	1.250	0.500	0.500	0.500	1.540	0.551	0.500
Nitrogen, Nitrate-Nitrite (BDL 0.20) mg/L	0.200	0.200	0.200	0.200	0.350	0.200	0.260	0.200	0.200	0.200	0.220	0.220
Nitrogen, Total as N (BDL 0.50) mg/L	0.500	0.587	0.500	0.597	1.336	1.450	0.760	0.500	0.500	1.540	0.771	0.720
Oxygen Demand, Chemical (BDL 20) mg/L	20	20	20	20	34	20	20	20	20	20	20	20
Oxygen, Dissolved mg/L	5.80	4.73	3.88	5.90	8.27	12.39	13.05	12.19	8.58	7.69	9.72	8.44
pH (s.u.)	7.88	7.82	7.82	7.92	7.50	8.17	7.96	8.13	7.94	7.67	7.96	7.87
Phosphorus, Total (BDL 0.010) mg/L	0.015	0.029	0.025	0.031	0.034	0.020	0.025	0.030	0.035	0.090	0.035	0.027
Phosphorus, Total Dissolved BDL (0.010) mg/L	0.013	0.024	0.022	0.025	0.288	0.017	0.025	0.028	0.024	0.063	0.028	0.013
Solids, Total Dissolved (BDL 25) mg/L	2120	2160	2320	2350	440	2110	2100	2120	1980	1040	1960	1850
Solids, Total Suspended (BDL 2.5) mg/L	2.9	2.9	2.5	3.3	5.9	2.5	9.2	2.5	5.2	6.2	3.7	2.5
Temperature, Water °C	25.00	24.70	22.60	18.70	14.00	5.80	2.40	6.10	13.30	17.50	18.30	22.50
Turbidity (NTU)	2.30	2.26	1.13	2.76	10.60	0.78	10.40	1.74	5.42	8.49	3.51	6.17
Zinc, Total (BDL 10) µg/L	10.00	10.00	33.80	56.50	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Results found to be below the detection limit are reported as the detection limit												

Table 23: Complete E. coli results for Salt Creek.

ANALYTE	Date Sampled																					
	7/25/24	8/5/24	8/7/24	8/21/24	8/26/24	8/28/24	9/16/24	9/16/24	10/2/24	11/19/24	12/2/24	1/14/25	2/10/25	3/12/25	4/22/25	5/5/25	5/5/25	5/13/25	5/22/25	6/3/25	6/11/25	6/24/25
E. coli (BDL 1) MPN/100mL	62	74	50	67	62	36	47	41	44	1050	75	99	25	3	122	33	26	16	147	30	64	22

Table 24: Complete analytical sampling results for Upper Mingo Creek.

ANALYTE	Date Sampled											
	7/25/24	8/22/24	9/17/24	10/8/24	11/14/24	12/9/24	1/7/25	2/24/25	3/20/25	4/22/25	5/22/25	6/11/25
BOD (5) Day (BDL 2.0) mg/L	3.00	3.00	4.00	3.00	3.70	3.00	3.80*	3.00	3.00	3.00*	3.00	9.60
Cadmium, Total (BDL 0.50) µg/L	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Conductivity µS	757.0	709.0	621.0	589.0	440.0	542.0	466.0	840.0	650.0	787.0	742.0	716.0
Copper, Total (BDL 0.50) µg/L	3.160	2.920	2.910	1.860	2.790	1.640	3.600	2.250	2.210	1.920	2.140	3.680
Flow CFS	0.000	0.000	0.000	0.000	0.629	0.196	0.036	0.734	0.152	1.093	0.298	0.405
Hardness, Total (BDL 20) mg/L	200	190	190	180	190	260	260	260	280	350	230	200
Lead, Total (BDL 0.50) µg/L	0.500	0.500	0.552	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
Nitrogen, Kjeldahl, Total (BDL 0.50) mg/L	0.629	0.500	0.750	0.553	0.548	2.540	0.822	0.763	0.521	0.576	0.641	0.500
Nitrogen, Nitrate-Nitrite (BDL 0.20) mg/L	0.200	0.200	0.200	0.200	0.580	0.200	0.420	1.100	0.200	1.100	0.200	0.200
Nitrogen, Total as N (BDL 0.50) mg/L	0.629	0.500	0.750	0.553	1.128	2.540	1.242	1.863	0.521	1.676	0.641	0.500
Oxygen Demand, Chemical (BDL 20) mg/L	20	20	20	20	25	20	36	23	20	20	21	31
Oxygen, Dissolved mg/L	4.92	4.44	5.75	7.21	7.62	12.94	18.18	13.15	12.14	8.23	8.24	5.86
pH (s.u.)	8.13	8.10	8.07	8.08	7.96	8.14	8.46	8.09	8.26	8.02	8.06	8.11
Phosphorus, Total (BDL 0.010) mg/L	0.021	0.024	0.059	0.033	0.042	0.024	0.033	0.043	0.015	0.035	0.027	0.038
Phosphorus, Total Dissolved BDL (0.010) mg/L	0.012	0.01	0.018	0.014	0.016	0.013	0.031	0.026	0.015	0.026	0.018	0.017
Solids, Total Dissolved (BDL 25) mg/L	398	404	365	360	290	441	466	725	595	563	460	415
Solids, Total Suspended (BDL 2.5) mg/L	2.8	2.7	20.0	5.2	6.1	4.0	7.7	4.2	18.0	2.5	4.4	4.0
Temperature, Water °C	28.60	24.90	24.60	19.00	12.00	9.00	2.60	5.70	7.50	15.90	22.60	25.80
Turbidity (NTU)	3.96	3.30	12.80	6.20	7.08	5.64	5.54	7.17	5.20	2.30	5.05	6.30
Zinc, Total (BDL 10) µg/L	10.00	10.00	156.0	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Results found to be below the detection limit are reported as the detection limit												

Table 25: Complete E. coli results for Upper Mingo Creek.

ANALYTE	Date Sampled																			
	7/25/24	8/5/24	8/7/24	8/22/24	8/26/24	8/25/24	9/16/24	9/17/24	10/8/24	11/14/24	12/9/24	1/7/25	2/24/25	3/20/25	4/22/25	5/5/25	5/13/25	5/22/25	5/22/25	6/3/25
E. coli (BDL 1) MPN/100mL	74	365	214	166	47	41	52	36	40	3230	201	411	613	222	9590	461	488	1200	1200	435
																				1990

* Indicates resampling,

4.0 REFERENCES

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Follow-Up and Response Program

The follow up and response program examines and attempts to eliminate any illicit discharges as evidenced in the results found primarily in the analytical sampling portion of the watershed characterization program in addition to the results of biological collections. This includes verifying laboratory procedures in analyzation, duplicate relative percent difference calculations and comparison of results to water quality standards. If a single monthly sample exceeds water quality standard limits, a follow-up investigation will take place to determine a potential source of pollution. This includes re-sampling, field test kit investigations, a review of sanitary sewer overflows or water line break reports and reviewing ArcGIS maps to identify sanitary sewer infrastructure.

In the City of Tulsa, most follow-ups were investigations into elevated E. coli results from the monthly single sample obtained during watershed characterization sampling. E. coli results which exceeded water quality standards were investigated using field ammonia and chlorine test kits, additional sampling, and reviewing sanitary sewer overflow reports and sanitary sewer maps. Total dissolved solids (TDS) is another parameter which would often exceed the water quality standards. Follow-ups for TDS were performed using a TDS pen and YSI multiparameter probes. Often the high TDS was a result of natural features, construction, or surface runoff from rain events. A complete overview of all follow-ups conducted during the 24-25 fiscal year can be found below.

Month	Follow up assigned	Parameter	Method	Result	Source Found	Evaluation	SSO Occurrence
July	None assigned						
August	Berryhill Creek	E.coli	Ammonia and chlorine	No evidence of active source, SSO map reviewed	No	Source not found	
	Douglas Creek	E.coli	Ammonia and chlorine	Investigated several areas along the stream. There was water pooling on the street.	No	Source not found	SSO at 1575 N 93rd E Ave
September	None assigned						

October	Berryhill Creek	E.coli	Ammonia and chlorine	No evidence of active source, SSO map reviewed	No	Source not found	
	Douglas Creek	E.coli	Ammonia and chlorine	Water cleared up. No evidence of active source, SSO map reviewed.	No	Source not found	
	Lower Mingo	E.coli	Ammonia and chlorine	No evidence of active source, SSO map reviewed	No	Source not found	
	Upper Mingo	TDS	TDS pen	No evidence of active source, SSO map reviewed. Tracked to where stream goes underground.	No	Source not found	
November	Berryhill Creek	E.coli	Ammonia and chlorine	No evidence of active source, SSO map reviewed	No	Source not found	
	Douglas Creek	E.coli	Ammonia and chlorine	Fish kill event. No evidence of active source, SSO map reviewed.	No	Source not found	
	Lower Mingo	E.coli	Ammonia and chlorine	No evidence of active source, SSO map reviewed	No	Source not found	
	Salt Creek	E.coli	Ammonia and chlorine	No evidence of active source, SSO map reviewed	No	Source not found	
	Upper Mingo	E.coli	Ammonia and chlorine	No evidence of active source, SSO map reviewed	No	Source not found	8536 E. 56 ST.

December	Upper Mingo	E.coli and TDS	Ammonia, chlorine, and TDS pen	No evidence of active source, SSO map reviewed	No	Source not found	
January	Upper Mingo	E.coli and TDS	Ammonia, chlorine, and TDS pen	No evidence of active source, SSO map reviewed	No	Source not found	
February	Lower Mingo	TDS	TDS pen	No evidence of active source, SSO map reviewed	No	Source not found	
	Quarry Creek	TDS	TDS pen	No evidence of active source, SSO map reviewed	No	Source not found	
	Upper Mingo	E.coli and TDS	Ammonia, chlorine, and TDS pen	No evidence of active source, SSO map reviewed	No	Source not found	
March	None assigned						
April	None assigned						
May	Berryhill Creek	E.coli	Ammonia and chlorine	No evidence of active source, SSO map reviewed	No	Source not found	
	Douglas Creek	E.coli and TDS	Ammonia, chlorine, and TDS pen	Deceased fish present. No evidence of SSO. High chlorine present.	Yes	Leaking water meter	
	Eagle Creek	E.coli	Ammonia and chlorine	No evidence of active source, SSO map reviewed	No	No evidence of active source, SSO map reviewed	
	Lower Mingo	TDS	TDS pen	No evidence of active source, SSO map reviewed	No	No evidence of active source, SSO map reviewed	

	Quarry Creek	E.coli and TDS	Ammonia, chlorine, and TDS pen	No evidence of active source, SSO map reviewed	No	No evidence of active source, SSO map reviewed	
	Upper Mingo	E.coli and TDS	Ammonia, chlorine, and TDS pen	No evidence of active source, SSO map reviewed	No	No evidence of active source, SSO map reviewed	
June	Berryhill Creek	E.coli	Ammonia and chlorine	No evidence of active source, SSO map reviewed	No	Source not found	
	Douglas Creek	E.coli and TDS	Ammonia, chlorine, and TDS pen	No evidence of active source, SSO map reviewed	No	Source not found	7806 E. 4 ST.
	Quarry Creek	E.coli	Ammonia and chlorine	No evidence of active source, SSO map reviewed	No	Source not found	
	Upper Mingo	E.coli and TDS	Ammonia, chlorine, and TDS pen	No evidence of active source, SSO map reviewed	No	Source not found	

Follow-Up Overviews by Watershed

Berryhill Creek

Berryhill Creek received a score “of attaining beneficial use” from the data collected which means that this stream received a favorable fish score. Berryhill is in a small community that has a lot of vegetation, mostly natural stream bottoms, and experiences less erosion compared to other Tulsa streams. It also has many areas that offer riparian buffers. Berryhill obtained a score of “attaining” for macroinvertebrates. This watershed does not receive as much residential runoff as most of the Tulsa streams.

Douglas Creek

Douglas Creek received a score of “undetermined” for fish and macroinvertebrates. This stream is likely impacted by industrial runoff, residential runoff, and aged sanitary sewer infrastructure.

Eagle Creek

Eagle Creek is an ephemeral stream; the ephemerality of Eagle Creek likely contributes to poor biological sampling results and analytical results which exceed water quality standards. The fish score is listed as “undetermined,” it is possible by reducing the fragmentation in Eagle Creek the stream would be capable of supporting a more diverse fish community.

Lower Mingo

Lower Mingo Creek is supporting the beneficial use for fish The macroinvertebrate score is listed as “undetermined.” Lower Mingo Creek receives a large amount of runoff and debris due to its large watershed and being the receiving waterbody for several streams.

Quarry Creek

Quarry Creek is supporting the beneficial use for fish but received a score of “undetermined” for macroinvertebrates. The low macroinvertebrate score may be related to low flow and fragmentation observed in Quarry Creek during dry periods.

Salt Creek

Salt Creek’s headwaters are located near mining areas, which is likely the source of high TDS and conductivity in Salt Creek. The stream received a “supporting beneficial use” score for fish and an “undetermined” score for macroinvertebrates.

Upper Mingo Creek

Upper Mingo Creek is a heavily modified stream in an urban watershed. Upper Mingo received a macroinvertebrate score of “not attaining” and a fish score of “impaired.” Erosion, residential runoff, and extensive impervious surface cover in the Upper Mingo watershed and channel likely contribute to low biological scores.

Section 5

Annual Expenditures for the Reporting Period/Budget for the Year Following Each Annual Report

Section Name	FY 24/25 Actuals	FY 25/26 Budget
Fin Dir Internal IT	8,018	8,985
Warehouse	-	56,887
Utilities Administration	738,805	821,217
Chief Data Office - Project Management	62,192	68,964
Fin OCDO Admin	6,027	68,964
Fin OCDO Operations	22,717	-
Fin OCDO Innovation	8,640	-
Fin OCDO Governance & Analytic	24,808	-
Customer Care	411,343	484,815
Security (Direct Charge Fund 560)	53,756	63,000
Asset Management Admin	3,747	2,547
Security	-	344,473
Building Operations – Contracts	-	6,986
Building Maintenance	-	38,109
Custodial Services	-	13,611
IT Administration	26,264	63,201
IT Cio Admin	16,332	18,176
IT Cio Internal IT	9,932	4,569
IT Mgt Admin	-	40,457
IT Operations	60,344	290,510
IT Ops Support Admin	11,101	11,414
IT Ops Radio Services	49,243	50,749
IT Ops Network	-	99,902
IT Ops Database Svs	-	70,818
IT Ops Server Svs	-	57,626
IT Client Services	147,352	414,343
IT Client Deploy Svs	50,923	70,833
IT Client Services Operations	-	19,226
IT Client Financial	3,654	-
IT Client Project	-	5,425

Annual Report FY 2024-2025

Section 5 – Annual Expenditures

IT Client Sys Maint	-	104,805
IT Client Architecture Svs	-	47,602
IT Development Svs	-	77,527
IT Client Support Svs	92,775	88,924
IT Capital Direct Charges	36,571	36,000
IT Cloud Services	132,702	154,850
IT Ent Cld Sup Svs	98,115	115,479
IT Utl Sys Etl Sup	88	107
IT Utl Bill Sys Sup	34,500	39,264
Engineering Administration – Stormwater	267	-
Hydrology And Hydraulics	45,000	-
Floodplain Management	216,415	-
Public Works - Administration	249,825	344,883
S&SW Dir Admin	242,273	336,633
S&SW Dir Admin	-	-
PW Admin D Director	7,552	8,250
SS Payroll & Accts Payable	-	127,265
S&SW Dir Stormwater Fund	6,314,019	7,237,223
SS - Legal Representation	48,977	48,977
S&SW Dir Internal IT	187,232	113,694
Stormwater & Land Management Admin	1,598,083	1,728,582
S&SW Stm Mgt Admin	1,598,083	1,364,662
S&SW Stm Mgt Admin	-	363,920
Detention, Ditch, Concrete Channel	1,409,876	2,139,347
Channel Maintenance And Ditching	2,474,683	4,286,165
Storm Sewer Maintenance	3,659,558	4,477,462
Stormwater Quality	2,411,751	2,915,468
Stormwater Vegetation	3,115,995	3,638,430
Land Reclamation Site	67,411	111,884
Household Pollutant Collection	40,881	186,475
S&SW Household Pollut Collection	40,881	92,500
S&SW Household Pollut Collection	-	93,975
Street Maint & Inspections - Admin	-	221,052
Street Maintenance -- Patching	-	1,097,047
S&SW Str Mt Patching	-	1,097,047
Paving Cut Administration	30,421	43,098
S&SW Mowing And SWeeping	2,386,748	3,264,720
S&SW Invest/inspection	806,567	912,999
S&SW Stormsewer Cleaning	1,010,959	1,062,967

Annual Report FY 2024-2025

Section 5 – Annual Expenditures

S&SW Stormsewer Repairs	1,597,679	2,396,275
PW Ad Central Svs	98,948	92,326
PW Design Admin	46,742	82,883
PW Design Services	113,936	115,255
PW Field Administration	79,356	137,897
PW Field Const Inspect	662,838	654,700
PW Field Surveys	201,260	235,453
PW Planning Admin	120,325	94,745
PW Planning Proj Mgt	47,524	73,012
PW Planning Infrastructure	65,797	64,724
PW Planning Row Acquisition	247,322	296,603
Water And Sewer Admin.	26,468	23,626
Water & Sewer Dept. – Stormwater	1,518,884	3,059,050
W&S Admin Internal IT	18,581	30,320
QualITy Assurance – Administration	-	20,115
QualITy Assurance – Operations Support	-	3,080
Laboratories	-	294,651
Distribution Systems - Administration	19,278	20,770
Field Cust. Serv. Rep. I (meter Reading)	-	151,401
Field Cust. Serv. Rep. Ii (meter Turn On/off)	-	100,333
Sewer O & M – Admin	113,031	115,475
Lift And Pump Stations	377,024	358,754
Utility Planning & Design Admin	85,544	87,578
Utility Design	867,140	1,054,748
Utility Asset Planning	246,251	328,012
GIS Services	452,697	671,619
Utility GIS	409,334	618,152
GIS Services	43,363	53,467
General Site Services Changed To P&R Fac Sys Land & Gen Maint	418,712	473,087
Horticulture Changed To P&R Uti Svs Horticulture	122,223	121,570
Park - Fac Svs Forestry - New Split From Horticulture	65,807	72,732
Debt Service	3,226,207	5,029,000
Transfer To Capital Projects	6,670,000	7,985,000

Section 6

A Summary of Enforcement Actions, Inspections, and Public Education

A. Enforcement Actions

It is the philosophy of the City of Tulsa to bring responsible parties into compliance through education prior to initiating any enforcement action. Enforcement actions are taken only when deemed necessary to ensure permit compliance.

During this reporting period 266 investigations were conducted identifying 34 illicit discharges to the storm sewers. Title 11-A Chapter 5 (Pollution Ordinance) was adopted November 1995 and continues to be utilized for the removal of non-storm water discharges. This Ordinance allows the City of Tulsa to recover cleanup costs from the responsible party.

A summary of the investigations conducted by the Stormwater Management Division is as follows:

Number of Investigations	Description of Investigations
14	Construction (relating to construction site potential violations)
10	Hazmat (relating to potential discharges of pollutants from fire department responses involving the hazardous materials unit)
255	Stormwater (relating to potential releases of pollutants to the storm sewer or violations of the pollution ordinance)
1	Drug Labs (relating to the potential release of pollutants from drug lab remediation to the storm sewer or violations of the pollution ordinance)
280	Total number of investigations for this reporting year

Section 6 – A Summary of Enforcement Actions, Inspections and Public Education

- Construction Site – Erosion Control
 - The Stormwater Management Division conducted 2,403 construction site inspections at 877 construction sites resulting in 8 enforcement actions. These actions consisted of issuing a notice of violation that may involve fines and cost recovery. The total amount of fines and penalties collected was \$200.
- Industrial, Commercial and Residential Sites
 - Tulsa continued to use the Industrial and High Risk Runoff program to identify, monitor and control pollutants from municipal landfills; treatment, storage and disposal facilities for municipal waste; facilities subject to EPCRA Title III, Section 313 reporting requirements; and any other industrial or commercial discharge the City determined had the potential to contribute substantial pollutant loading to the City's storm sewer system. This program contains procedures for inspecting, monitoring and controlling pollution from the aforementioned sources. A new GIS-based database was implemented to better inventory and manage industrial facilities. The new database features allow for more fluid and streamlined inspection workflows, as well as integration of spatial data with compliance tracking for more informed decision-making. During this reporting period, 523 industrial stormwater inspections were conducted. 6 enforcement actions were taken against industries or facilities in order to eliminate illegal or illicit discharges. \$100 in fines was levied during this fiscal year.

B. Inspections

The following is a summary of inspections that were conducted during this reporting period. These inspections were previously mentioned in other sections of this report.

Sewer Operations Maintenance and SM conducted the following:

- Sanitary sewer lines TV inspected – 117.62 miles

SM conducted the following inspections:

- Storm sewer lines inspected – 9.41 miles
- Industrial and commercial storm water runoff inspections – 523
- Construction site erosion control inspections – 2,403

Section 6 – A Summary of Enforcement Actions, Inspections and Public Education

Development Services conducted the following number of inspections:

- 2,830 construction site inspections were conducted with attention on erosion control measures.

Engineering Services conducted the following inspections:

- Daily inspections at construction projects (83 city and 95 privately funded Infrastructure Development Process [IDP] projects).

C. Public Education Programs

The public education programs utilized by the City of Tulsa have been described in Section 1 of this report. The City of Tulsa understands that public education plays a major role in reducing non-point source pollution and improving stormwater runoff quality. Tulsa believes that it is better to prevent non-point source pollution at the source through education than to control it after it is generated. Many educational programs used by the City of Tulsa to meet permit requirements are completed through the cooperative efforts of other groups, such as The M.e.t. and the Tulsa County Conservation District, as well as various City of Tulsa departments. Through activities such as educational events, presentations, school visits, summer day camps, conferences, television/radio commercials, billboards etc. education material was viewed many millions of times during this reporting period. See below for more information on Tulsa's Public Education Programs.

Attachment A "Education Materials Distributed 2024-2025" lists the educational material distributed during this reporting period by the City of Tulsa.

Attachment B "Education Events 2024-2025" lists the educational activities performed during this period by the City of Tulsa.

Attachment A: Education materials distributed or used in FY 24-25

[illegible]

[illegible]

Attachment B: Events in FY 24

Date	Event Name	Description	# attended
7.1.2024	Pre-Development Meeting	This meeting was for the construction of the Hills at NW Passage Development.	16
7.10.2024	Drillers Game	Tabled event to distribute SWQ info to attendees	3353
7.31.2024	Drillers Game	Tabled event to distribute SWQ info to attendees	3344
8.1.2024	Sustainable Tulsa First Thursday	Sustainable Tulsa meeting and presentations on Zink Lake	61
8.1.2024	City Life	Utility Bill Stuffer (Keep Streams Clean)	152950
8.5.2024	Pre-Development Meeting	This meeting was for the construction of an EMSA parking lot expansion.	10
8.6.2024	Zink Lake Public Meeting	Zink Lake RiverParks Authority planning meeting	36
8.14.2024	Tulsa Driller's Game	Tabled event to distribute SWQ info to attendees	3445
8.15.2024	Tulsa Driller's Game	Tabled event to distribute SWQ info to attendees	3710
8.19.2024	Pre-Development Meeting	This meeting was for the construction of a Panda Express.	15
8.19.2024	Pre-Development Meeting	This meeting was for the construction of an EMSA parking lot expansion.	13
8.24.2024	City Hall on the Go	Tabled event to distribute SWQ info to attendees and students	200
8.26.2024	Pre-Development Meeting	This meeting was for the construction of a FOP Lodge.	10
9.1.2024	City Life	Utility Bill Stuffer (Swimming Pool Disposal, HPCF, Low Impact Development)	152950
9.5.2024	Customer Care Campus Tour	Provided tour to customer care representatives and staff	6
9.9.2024	Pre-Development Meeting	This meeting was for the construction of a trucking terminal.	11
9.21.2024	Monarch on the Mountain	Tabled event to distribute SWQ info to attendees	100
9.26-10.06.2024	Tulsa State Fair	State fair at the fairgrounds. We gave out stormwater promo items and discussed the impact of pollution in the environment.	1000000
10.1.2024	City Life	Utility Bill Stuffer (Pet Waste Disposal)	152950
10.12.2024	Crawford Creek Clean Up	Creek Clean Up and Fish/Bug Demonstration for Volunteers	18
10.24.2024	Tulsa Oiler's Game	Tabled event to distribute SWQ info to attendees	7208
10.21.2024	Pre-Development Meeting	This meeting was for the construction of a Tulsa Oklahoma Temple.	10
10.21.2024	Pre-Development Meeting	This meeting was for the construction of a Cacia Hall Wellness Center.	14
10.26.2024	Tulsa Oiler's Game	Tabled event to distribute SWQ info to attendees	5177
10.30.2024	Build My Future	Trade Learning event for high school students	1150

Attachment B: Events in FY 24

Date	Event Name	Description	# attended
11.1.2024	City Life	Utility Bill Stuffer (Leaf and Grass Disposal)	152950
11.1.2024	Crow Creek Meadow Bench Dedication	Boy Scout Bench dedication for neighborhood	8
11.8.2024	Zink Lake Sustainability Task Force	Review impacts from engagements of Zink Lake	14
11.20.2024	Green Country Watershed Coalition	Discussed environmental issues for Tulsa	7
11.21.2024	Tulsa Oiler's Game	Tabled event to distribute SWQ info to attendees	5297
11.22.2024	MS4 Contractor Compliance	Tulsa contractors notified of MS4 permit changes	5
12.2.2024	Pre-Development Meeting	This meeting was for the construction of a medical facility.	16
12.7.2024	Vensel Creek (Riverside) Creek Clean Up	Provided creek cleanup supplies along with SWQ information	60
12.7.2024	Dawson Creek Clean Up	Provided creek cleanup supplies	25
12.7.2024	Tulsa Oiler's Game	Tabled event to distribute SWQ info to attendees	7118
12.9.2024	Pre-Development Meeting	This meeting was for the construction of a solar panel company.	13
12.9.2024	Pre-Development Meeting	This meeting was for the construction of a warehouse/office space.	16
1.1.2025	City Life	Utility Bill Stuffer (General SOS)	152950
1.6.2025	Pre-Development Meeting	This meeting was for the construction of a warehouse park.	12
1.10.2025	Tulsa Oiler's Game	Tabled event to distribute SWQ info to attendees	5200
1.13.2025	Pre-Development Meeting	This meeting was for the construction of a Bojangles.	11
1.13.2025	Pre-Development Meeting	This meeting was for the construction PepsiCo Warehouse.	8
1.16.2025	Green Country Watershed Coalition	Tabled event to distribute SWQ info to attendees	12
1.17.2025	Tulsa Oiler's Game	Tabled event to distribute SWQ info to attendees	6640
1.24.2025	MOH WTP/Lab Tour	Discussed existing and new methods used to monitor stormwater quality to NSF EPSCoR students	3
1.27.2025	Pre-Development Meeting	This meeting was for the construction of "Sweet Water Duplexes".	11
1.27.2025	Pre-Development Meeting	This meeting was for River Spirit Flood Protection updates.	13
1.29.2025	Non-Point Pollution Solution Task Force	Discussed ways to address citizen involved non-point source pollution solutions.	5
2.1.2025	City Life	Utility Bill Stuffer (Pet Waste Disposal, Trap the Grease, HPCF)	152950
2.4.2025	Pre-Development Meeting	This meeting was for Greenheck Building Expansion.	11
2.4.2025	Pre-Development Meeting	This meeting was for Residential Development.	13
2.6.2025	Sustainable Tulsa First Thursday	Tabled event to distribute SWQ info to attendees	51

Attachment B: Events in FY 24

Date	Event Name	Description	# attended
2.6.2025	Tulsa Oiler's Game	Tabled event to distribute SWQ info to attendees	4647
2.7.2025	Tulsa Oiler's Game	Tabled event to distribute SWQ info to attendees	5564
2.10.2025	Pre-Development Meeting	This meeting was for Tulsack Railroad Crossing modification.	12
2.10.2025	Pre-Development Meeting	This meeting was for Quarry Landfill warehouse addition.	16
2.12.2025	Sustainability Alliance	Discussed impacts of environmental concerns for Zink Lake and Tulsa Community	18
2.24.2025	Pre-Development Meeting	This meeting was for a Quick Quack Car Wash Eastside Market.	18
2.27.2025	SWOCC	Internal Stormwater Operator's Certification Course; discussed MS4 permit, environmental compliance, and HPCF	11
3.1.2025	City Life	Utility Bill Stuffer (HPCF)	152950
3.1.2025	Spring Clean	Spring Clean Event for HPCF. Flyers for rain barrel sale and Great Tulsa Clean Up handed out	90
3.1.2025	Mingo Creek Cleanup at Shannon Park	Creek cleanup for Blue Thumb	6
3.3.2025	Oklahoma Native Plant Society LID Presentation	Presentation regarding LID and native plants that can be utilized	23
3.3.2025	Pre-Development Meeting	This meeting was for a Tulsa FOP Lodge.	15
3.5.2025	HHP	Distributed Rain Barrel and Great Tulsa Cleanup Flyers	49
3.8.2025	HHP	Distributed Rain Barrel and Great Tulsa Cleanup Flyers	38
3.9-3.9.2025	Tulsa Home and Garden Show	Home and Garden Show at the fairgrounds. Distributed SWQ info to attendees	21882
3.12.2025	HHP	Distributed Rain Barrel and Great Tulsa Cleanup Flyers	43
3.21.2025	Tulsa Oiler's Games	Tabled event to distribute SWQ info to attendees	6488
3.22.2025	HHP	Distributed Rain Barrel and Great Tulsa Cleanup Flyers	80
3.27.2025	Tulsa Oiler's Game	Tabled event to distribute SWQ info to attendees	5320
3.28.2025	River Lab Field Trip	Education event for students to learn about water quality through fish identification	
3.29.2025	Tulsa Oiler's Game	Tabled event to distribute SWQ info to attendees	7240
3.31.2025	Union High School Sustainability Fair	Tabled event to distribute SWQ info to high school students	450
4.4.2025	Tulsa Oiler's Game	Tabled event to distribute SWQ info to attendees	8286
4.11-4.12.2025	SpringFest	Tabled event to distribute SWQ info to attendees	10,000
4.21.2025	Mayor's Community Conversations	Tabled event to distribute SWQ info to attendees	103

Attachment B: Events in FY 24

Date	Event Name	Description	# attended
4.23.2025	MET Environmental Expo	Tabled event to distribute SWQ info to attendees	300
4.28.2025	Mayor's Community Conversations	Tabled event to distribute SWQ info to attendees	150
4.28.2025	Pre-Development Meeting	This meeting was for a Citizen Energy Headquarters.	12
4.1-4.30.2025	The Great Tulsa Cleanup	City-wide creek/park cleanup event	986
5.5.2025	Water Wise	Tabled event to distribute SWQ info to students	250
5.5.2025	Mayor's Community Conversations	Tabled event to distribute SWQ info to attendees	61
5.9.2025	Whiteside Spring Carnival	Tabled event to distribute SWQ info to attendees	300
5.10.2025	Trash Cleanup	Neighborhood cleanup with City Council members	15
5.15.2025	Mayor's Community Conversations	Tabled event to distribute SWQ info to attendees	200
5.19.2025	Pre-Development Meeting	This meeting was for a SW/C 41st and 145th Housing Development proposition.	13
5.19.2025	Pre-Development Meeting	This meeting was for a SW/C 41st and 161st Housing Development proposition.	13
5.21.2025	Tulsa Driller's Game	Tabled event to distribute SWQ info to attendees	3,792
5.22.2025	Mayor's Community Conversations	Tabled event to distribute SWQ info to attendees	263
5.22.2025	Byer's Creative Campus Tour	Provided tour of stormwater quality facility to Byer's Creative employees	2
5.28.2025	Crow Creek Meadow Planting Event	Planted native plants at Crow Creek Meadow	12
6.4.2025	Tulsa Driller's Game	Tabled event to distribute SWQ info to attendees	4,181
6.9.2025	Pre-Development Meeting	This meeting was for Collett Residential single family residential development.	11
6.16.2025	Pre-Development Meeting	This meeting was for Stephenson OU Cancer Research Facility.	18
6.16.2025	Vensel Creek MDP Public Meeting	Tabled event to distribute SWQ info to attendees	70
6.18.2025	Crow Creek Meadow Maintenance	Maintenance for Crow Creek Meadow	12
6.21.2025	Sugar Creek/Shannon Park Clean Up	Provided supplies for creek cleanup	6
6.23.2025	Pre-Development Meeting	This meeting was for a mansion-type neighborhood addition at 31st and 177th.	12
6.23.2025	Pre-Development Meeting	This meeting was for a trailer park addition.	12

Section 7

Identification of Water Quality Improvements or Degradation

No measurable water quality improvements or degradation were noted during this reporting period. The City of Tulsa continues to evaluate and track factors that appear to be negatively influencing the health of Tulsa’s streams. Ongoing and developing data collection efforts, including the growth of dry weather field screening and the watershed characterization program, are expected to strengthen future evaluations of water quality trends. Additional staff resources have supported the development of new program components targeting impaired waterbodies, as well as enhanced databases and GIS mapping capabilities, which will improve the ability to identify, document, and respond to changes in water quality conditions in subsequent reporting years.

Section 8 – Watershed Characterization Program

Section 8

Watershed Characterization Program

In accordance with the previous 2011 MS4 Permit #OKS000201 requirement Part IV C.8, the City of Tulsa submitted the Comprehensive Assessment of the Watershed Characterization Project in the FY 2014-2015 Annual Report. In the that report, a summary of the Watershed Characterization Data was presented to satisfy Part II A.13.b Permit requirement. The new permit requirement (Part II A.8.b) milestone, as it pertains to Watershed Characterization, will be met within the designated timeframe.

Section 9

TMDL Implementation Report

The City of Tulsa’s Total Maximum Daily Load (TMDL) Implementation Plan fulfills the requirements set forth in the City’s newest MS4 Permit (Part I.G.3.e, Part III.A.6.c, and Part IV.C.7) by outlining actions to reduce pollutants of concern (Bacteria) in TMDL-listed watersheds. This section summarizes implementation activities and measurable progress toward maintaining designated wasteload allocations for watersheds within the city. The plan is a living document and will be updated as new data, best management practices, program advancements, or permit requirements are developed to ensure ongoing consistency with approved TMDLs and watershed planning.

TMDL Implementation Report

ACRONYMS

BMP	Best Management Practices
CCTV	Closed Circuit Televiewing
FOG	Fats, Oils & Grease
GIS	Geographic Information System
IDDE	Illicit Discharge Detection and Elimination
LID	Low Impact Development
MS4	Municipal Separate Storm Sewer System
MST	Microbial Source Tracking
ODEQ	Oklahoma Department of Environmental Quality
OSSF	On-site Sewage Facilities
SSO	Sanitary Sewer Overflow
SWMP	Stormwater Management Program
TMDL	Total Maximum Daily Load

This document fulfills the requirements of annual reporting of progress towards meeting the long-term goals of the City of Tulsa's Total Maximum Daily Load (TMDL) Pollutant Reduction Plan, as required by City of Tulsa's MS4 permit and the TMDLs approved by the Oklahoma Department of Environmental Quality (ODEQ):

- Arkansas River and Haikey Creek Bacteria TMDLs – 2008
- Lower Bird Creek Watershed Bacteria TMDLs – 2011
- Arkansas River and Verdigris River Area – Bacteria and Turbidity TMDLs – 2012

The purpose is to document actions taken to implement the TMDL and progress towards improving water quality.

Implementation Activities:

1. **Sanitary Sewer Systems.** Continue to reduce or eliminate SSOs and repair or replace aging or damaged infrastructure. Failure of sanitary sewer systems often indicates a problem with the system. Problems that can cause SSOs include blockages, tree roots, leaky sewers, inappropriate connections, improper or inadequate maintenance, inadequate lift/pump station maintenance and lack of backup power, undersized sewers and/or pumps and equipment failures.
2. **On-site Sewage Facilities.** Identify failing systems and address inadequate maintenance issues. Septic systems fail because of inappropriate design or poor maintenance. One of the biggest challenges in addressing septic system problems is a lack of inventory.
3. **Illicit Discharge Detection and Elimination.** Continue to detect and eliminate illicit discharges. Detecting and eliminating illicit discharges and dumping is problematic due to their temporary and intermittent nature. Illicit discharges are often masked by storm water, making identification a challenge.

4. **Domestic Animals & Wildlife.** Expand existing programs to identify and target potential animal sources of bacteria. In urban areas, nonpoint sources of animal bacteria are pet waste and droppings from urban wildlife.

5. **Public Education.** Continue to implement and revise the public education program to distribute information and educational materials to the community and outreach activities to promote behavior changes to reduce pollutants in stormwater runoff and eliminate illicit discharges. Public education on nonpoint sources in urban areas is key to raising awareness of how everyday activities contribute to contamination.

6. **Low Impact Development.** Continue to promote low impact development. Low impact development is an important strategy for managing bacteria nonpoint source in urban areas. Urbanization drastically increases impervious surfaces, preventing stormwater from soaking into the ground. LID uses natural processes to minimize runoff and capture pollutants.

7. **GIS.** Continue to develop and integrate GIS to aid in locating, analyzing and tracking pollution sources. GIS is essential for managing urban pollution due to the difficult nature of nonpoint sources and bacteria.

8. **Monitoring.** Continue to utilize monitoring program data to identify sources and assess the effectiveness of best management practices. Monitoring programs are an important tool to pinpoint urban activities and locations contributing to high bacteria loads, demonstrates if programs and BMPs are working, and provides guidance needed to make informed decisions on where to focus mitigation efforts.

City of Tulsa				
TMDL Implementation Tracking Matrix 2024-2025				
Strategy	Activity	Actions	Progress	TMDL Segment
POLLUTANT: BACTERIA				
Stormwater Management Program	Revise and update SWMP in relation to discharges to 303(d) impaired waters and TMDL reduction goals		By February 1 st , 2025 Complete	All
TMDL Pollutant Reduction Plan	Prepare TMDL Pollutant Reduction Plan for stream segments with existing approved TMDLs		By August 1 st , 2025 Complete	All
TMDL Pollutant Monitoring Plan	Prepare TMDL Pollutant Monitoring Plan for stream segments with existing approved TMDLs		By February 1 st , 2026 In progress	All
Sanitary Sewer Systems	Track and analyze sanitary sewer system data within	Analyze data in TMDL watersheds with a focus on:	In Progress	All

	TMDL watersheds to better understand where to focus efforts to reduce or eliminate SSOs	Miles of sanitary sewer CCTV inspected Number of smoke tests performed Main line sanitary sewer repairs Main line sanitary sewer replaced or rehabilitated Miles of sanitary sewer lines cleaned Sanitary sewer evaluation studies Number of SSOs and causes Lift/pump station maintenance		
On-site Sewage Facilities	Identify and update OSSF inventory to determine if a source of concern	Request information from ODEQ, Tulsa Health Department, and septic system installers Request information on number of residences connected to the public sewer system to determine if OSSF was decommissioned Compile list of resources and assistance for homeowners	Not Started	All
Illicit Discharge Detection and Elimination	Continue to implement and revise IDDE	Identify priority areas with a higher likelihood of illicit	In Progress	All

	program by placing additional efforts into reducing waste sources of bacteria	connections or discharges Analyze number of investigations conducted and number of investigations that resulted in a discovery of a bacteria source Compile number of illicit sanitary connections to MS4 Increase number of outfalls screened per year and during the permit term		
		Add personnel to accomplish increased workload	Completed	
Domestic Animals & Wildlife	Identify and target potential animal sources of bacteria	Research geese population control/deterrents Identify and locate horse stables Identify and locate livestock sale barns	Not Started	All
		Investigate BMPs at Expo Square where numerous animal events are held Zoo inspections	Initiated	
Public Education	Continue to implement and revise public education program	Additional pet waste signs/stations Target veterinary clinics and pet boarding facilities Address wildlife food source	Not Started	All

		Add/update billboards		
		Focused creek clean-ups		
		Update surveys		
		Coordinate with FOG program		
		Update website	In Progress	
		Add personnel to accomplish increased workload	Completed	
Low Impact Development	Continue to promote LID projects	Number and location of LID projects	In progress	All
		Number of rain barrels sold		
		Wildflower meadows pilot project	Completed	
Geographic Information Systems	Continue to integrate GIS to aid in assessing bacteria pollutant loading	Water quality modeling	Initiated	All
		SSO map	In Progress	
		OSSF map		
		Outfall map		
		Implement GIS based software		
Monitoring	Continue to utilize monitoring programs	Analyze watershed characterization data	In Progress	All
		Analyze DWFS data		
		Collect MST data and analyze		

Section 10

Co-permittee Reports

The City of Tulsa attests to the best of our knowledge, that the unaltered annual reports as submitted by both co-permittee's contain the required information.

August 20, 2025

Heath Kirkeby, Stormwater and Land Management Division Manager
Department of Streets and Stormwater
City of Tulsa
4502 S. Galveston Ave.
Tulsa, OK 74107

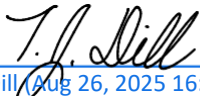
Attention: Skyler Robson

Dear Mr. Robson:

Enclosed is the Oklahoma Department of Transportation portion of the Fiscal Year 2025 Annual Report to be submitted to the Oklahoma Department of Environmental Quality in accordance with the Tulsa Municipal Separate Storm Sewer System (MS4) Permit Number OKS000201. This report covers the period from July 1, 2024 through June 30, 2025.

Please provide this office with one copy of the Annual Report as it is submitted. If you have any questions or require further information, please contact Matt Pace, 405-421-2359.

Sincerely,



[TJ Dill \(Aug 26, 2025 16:29:44 CDT\)](#)

TJ Dill, P.E.
Chief Engineer

Enclosure



OKLAHOMA
Transportation

200 N.E. 21st Street
Oklahoma City, OK 73105-3204
www.odot.org

Annual Report

For

July 1, 2024 through June 30, 2025

"The mission of the Oklahoma Department of Transportation is to provide a safe, economical, and effective transportation network for the people, commerce and communities of Oklahoma."

AN EQUAL OPPORTUNITY EMPLOYER



CERTIFICATION STATEMENT

NPDES Permit No. OKS000201
Review of Storm Water Annual Report

I certify under penalty that this document and all attachments were prepared under my direction or supervision, in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

A handwritten signature in black ink, appearing to read "T.J. Dill".

[TJ Dill \(Aug 26, 2025 16:29:44 CDT\)](#)

TJ Dill, P.E.
Chief Engineer

08/26/2025

Date

FISCAL YEAR
2025
ANNUAL REPORT
BY THE
OKLAHOMA DEPARTMENT OF TRANSPORTATION (ODOT)
ON
TULSA MS4 PERMIT # OKS000201

August 20, 2025

Status

The Oklahoma Department of Transportation (ODOT) has implemented and is in compliance with the Storm Water Management Plan. The following items demonstrate activities undertaken for this annual report period.

Expenditures

As part of ODOT's Storm Water Management Program, the Tulsa metro area highway system shoulders are swept to remove sediment and debris. During this fiscal year, litter was picked up 11 times over a 4,659 acre area for a total of 24,243 bags of trash. This was done for a total amount of \$441,895.68. In addition, there are four two-mile increment Adopt-a-Highway locations in the Tulsa metro where litter is picked up twice a year, and five one-mile increment Adopt-a-Highway Corporation locations where litter is picked up once per month. In addition, ODOT right-of-way areas, covering 4,923.08 acres, were mowed in 7 cycles at the expense of \$994,216.03

Erosion and Sediment Control

The Department continues to monitor and inspect construction sites across the state with the goal to maintain compliance for OKR10 permits. Environmental Programs personnel conducted 242 stormwater inspections in District 8 alone. In addition, District 8 also utilizes a consultant for environmental compliance for certain projects.

Illicit Discharge Detection and Elimination Program (IDDE)

ODOT Maintenance facilities continue to use the guidance document which was developed to assist ODOT personnel in identifying and reporting an Illicit Discharge. As well as the stormwater program having opportunity for IDDE reporting on their webpage. Discussion on tracking Highway Spills from accidents is ongoing between ODOT Environmental Division, Maintenance personnel and the Highway Patrol. For this fiscal year, there were no reported illicit discharges reported.

Good Housekeeping / Pollution Prevention Plans (GHPPP)

The District 8 Headquarters continues to practice Good House Keeping Pollution Prevention practices in their maintenance facilities. Reports from inspections are attached in the appendices of this report.

In addition, the agency continues to evaluate any new county or local maintenance facilities which may be moved or rebuilt in current locations. Any new facilities will have upgrades which will aid the agency in complying with the GHPPP Minimum Control Measure by adding updated secondary containment devices and retention facilities.

Public Education/ Litter Program

In October of 2024, ODOT in partnership with the Oklahoma Turnpike Authority (OTA), Association of Oklahoma General Contractors, and the Department of Environmental Quality (ODEQ) held the Third Annual Contractor Construction Compliance Conference (C4). This event was moved to Stillwater, Oklahoma where we were able to split the day between traditional lecture-style presentations and outdoor demonstrations. The demonstrations were a large success, and the 2025 event will be conducted all outdoors.

ODOT is an active member of the Central Oklahoma Storm Water Alliance (COSWA) and participates in their outreach events, such as radio ads and the Home and Garden Show. Internally, the ODOT Clean Water Program has developed an OKR10 training and used that for training for the field liaisons. This training will be used moving forward in districts for local staff.

Every year, school-age children participate in our annual poster contest. This year's contest was sponsored by ODOT, Oklahoma Department of Environmental Quality, Oklahoma Turnpike Authority, Cherokee Nation, OG&E, Oklahoma's Credit Union, Oklahoma Office of Management Enterprises – Web & Citizen Experience, Oklahoma Tourism & Recreation Department – State Parks Division, Keep Oklahoma Beautiful, Ardmore Beautification Council, Oklahoma City Beautiful, Oklahoma Rural Water Association, Solid Waste Institute of Northeast Oklahoma, Oklahoma State Department of Education, Oklahoma Department of Public Safety/Oklahoma Highway Patrol, and the Oklahoma Highway Safety Office. The resulting contest Calendar, Entry Form, and Promotional Poster is created and printed for distribution to all Oklahoma public schools, tribal and homeschools, charter, private, parochial, and religious schools, juvenile correctional centers, businesses, libraries, and government agencies, Oklahoma's government offices, the House of Representatives, the Senate, chambers of commerce, managers/mayors, sheriffs, district attorneys, Corps of Engineers Lakes, Correctional Libraries, Oklahoma Lake Associations, all of the Dept. of Transportations in the US 50 States, Adopt-a-Highway groups, Oklahoma Military Bases, Oklahoma Military Recruitment Centers, Oklahoma Tribal Nations, USDA Conservation Districts, Oklahoma Universities, Colleges, and Vocational-Technical Schools, Oklahoma Tag Agencies, Oklahoma Newspapers, Radio Stations, and TV Stations, Oklahoma Schools of the Deaf and Blind, Main Street Associations, ODOT Field Districts & Maintenance & Construction Offices Statewide, TPC Contest Judges, TPC Contest Sponsors, to the citizens of the State of Oklahoma, and to all the State Winners, Teachers, and to 160 Poster Honorable Mention students and

teachers. 30,000 posters, entry forms, and 2024 Trash Poster Calendars were printed and distributed in December throughout Oklahoma and the United States.

There were 3,867 poster entries from 176 K-12 Oklahoma Schools. This was a representation of 59 counties across the state.

Adopt-a-Highway/ TRASH-OFF

ODOT'S anti-litter efforts are on-going and include 150 separate "Adopt-a-Highway" groups statewide who remove litter from their two-mile section of state highways at an interval of four times a year, for a two-year commitment. Tulsa has approximately 30 "Adopt-a-Highway" groups covering over 60 miles.

Each Spring, the Annual ODOT Trash-Off is held, to go along with the annual Great American Cleanup. Groups have expanded Trash-Off day to Trash-Off week or month. ODOT, in partnership with Keep Oklahoma Beautiful (KOB), distributes trash bags, gloves, vests, water, etc., all over the state of Oklahoma for the annual Trash-Off. Last year, this effort resulted in excess of over three million pounds of litter and debris collected from Oklahoma roadsides and public areas. This saved taxpayers over an estimated five million dollars. In addition, ODOT is the Executive Patron Sponsor of KOB annual Environmental Excellence Awards Banquet, where ODOT presents two environmental Trash-Off awards given to judged/chosen participants for "Best First "Rookie" Effort" and "Best Overall Trash-Off Effort". Over 600 winners, finalists, guests, and attendees participate in this in-person Environmental Excellence Awards Celebration event. For the last 14 years, ODOT has won the "National Keep America Beautiful Government Partnership Award" through these partnerships.

Herbicide Application

ODOT continues to use integrated roadside vegetation management (IRVM). This includes proper vegetation selection, installation and post-installation management. In compliance with the Oklahoma Department of Agriculture, Food and Forestry, ODOT has an Herbicide Program Policy Directive that all personnel applying herbicides are Certified Pesticide Applicator and participate in yearly training pertaining to vegetation management. ODOT partners with Oklahoma State University and the Oklahoma Cooperative Extension Service to offer the Pesticide Applicators test required for a license during our annual workshops.

In December of 2024, 85 employees statewide who took a course for the initial Pesticide Applicator Certification School. Two of the courses for this school were held at the District 8 Headquarters in Tulsa. In addition, Certification schools for the Right-of-way Examination had 21 people participate in the District 8 training.

Continuing Education Unit (CEU) workshops were held statewide with 59 participants at the District 8 Headquarters. These workshops covered topics such as calibration of hand sprayers, a review of new herbicides and adjuvants added to the AHAL, and a review of recordkeeping requirements.

Record of certified applicators continues to be maintained and updated, as needed.

Wildflowers

In 2024, ODOT managed 15,897 acres of their land system ROW corridors through conservation mowing, set asides, and brush management for the benefit of the monarch butterfly. In order to promote monarch habitat resources and conservation practices across all eight field districts, ODOT distributed updated ROW landscape prioritization maps of roadside habitat.

An educational pollinator display garden is in place and was maintained at the ODOT State Capitol Complex building.

ODOT Presented information on the Monarch CCAA Program implementation to the 2024 Oklahoma Monarch Summit, the National Cooperative Highway Research Program (NCHRP) US Domestic Scan Research Program, and to the ODOT Environmental NEPA Program Managers.

ODOT participated in the steering committee of the Oklahoma Monarch and Pollinator Collaborative, and multi-agency group providing resources to state residents and agencies as part of the statewide Monarch Conservation Plan. In addition, educational materials were developed and distributed at events state-wide, such as the Norman Pollinator Week's "Monarchs in the Park" Festival and an Okies for Monarchs event in Woodward, OK. ODOT also participates on the National Science Foundation Transportation Research Board AKR20 Subcommittee on Pollinators.

The Monarch Team represented ODOT in Minneapolis at the 2025 North American Monarch Summit. At the summit, ODOT received Monarch CCAA awards for 2024 including: Most Asclepias Milkweed in Rights-of-Way (South and Western Region) and the Highest Percentage of Plots with Monarchs Observed.

Collection and Recycling

ODOT recycled 110gallons of oil filters, 500 gallons of oil and 110 gallons of antifreeze this fiscal year.



August 21, 2025

Mr. Skyler Robson
Stormwater Quality Manager
Stormwater Quality, City of Tulsa Public Works
4502 S. Galveston Ave.
Tulsa, Oklahoma 74107

Dear Mr. Robson:

Enclosed is the Oklahoma Turnpike Authority's portion of the Annual Report to be submitted to the Oklahoma Department of Environmental Quality (DEQ) in accordance with the City of Tulsa Municipal Separate Storm Sewer System (MS4) Permit Number OKS000201. This report covers the period from July 1, 2024, through June 30, 2025.

Please provide this office with one copy of the Annual Report as it is submitted to DEQ.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Butler", written over a horizontal line.

[Darian Butler \(Aug 19, 2025 12:43:42 CDT\)](#)

Darian L. Butler, P.E.
Director of Engineering



NPDES Permit No. OKS000201
July 1, 2024 through June 30, 2025
Annual Report for
Oklahoma Turnpike Authority (OTA)

Overview

This report summarizes the OTA stormwater management activities for Turnpike areas in the City of Tulsa Municipal Separate Storm Sewer System (MS4) area. The Creek Turnpike Maintenance yard at Riverside, the 11th Street Salt Barn, and approximately 10 miles of Creek Turnpike roadway are within Tulsa's MS4 boundary. The Creek Turnpike areas include 5.8 miles of roadway in the south Tulsa area that crosses parts of the Vensel Creek, Fry Ditch, and Haikey Creek watersheds. The roadway areas also include 4 miles in the east Tulsa area that crosses parts of the Spunky Creek and Adams Creek watersheds. The Creek Turnpike statistics shown in the remainder of this report refer to the entire Creek Turnpike, not just the portions that are in the Tulsa MS4 area. Approximately 5 miles of the Gilcrease Turnpike are within Tulsa's MS4 boundary. The Gilcrease Turnpike areas include 0.8 miles in the Mooser Creek-Arkansas River watershed and 4.2 miles in the Harlo Creek- Arkansas River watershed.

1. Status of the Implementation of the Storm Water Management Program.

Responsibilities of OTA outlined in the NPDES Part 2 Application have been met.

Structural Controls and Storm Water Collection System Operations:

OTA's commitment to a superior functioning storm water system is demonstrated by its regular inspections of all below ground storm water carrying structures. All stormwater structures on the Creek Turnpike within the Tulsa MS4 area were inspected earlier in 2025. The initial inspections for the Gilcrease structures were completed in 2024 and will be inspected again in 2026.

Above ground storm water controls are monitored daily by the maintenance staff who are equipped to handle any flow problems that could potentially arise. Examples of

such controls would be detention areas, roadside ditches, and culverts. To ensure the storm water is flowing efficiently, OTA mows 4 to 7 cycles per season (4 cycles were mowed this reporting period). Approximately 1606 acres are mowed per cycle (combined total for the Creek and Gilcrease Turnpikes).

Areas of New Development and significant redevelopment:

A five (5) year capital plan has been developed by the Turnpike Authority to identify future construction projects. This Capital Plan is updated yearly to incorporate priority areas and any lessons learned are incorporated into future projects. OTA shall continue to look for opportunities to use low impact development and adopt Best Management Practices to minimize the impact of stormwater runoff to receiving streams.

Roadways:

All storm grates are cleaned daily, and storm drains are cleaned as needed.

OTA requires a storm water management plan for all construction projects. The OTA requires contractors to obtain necessary permits for placement of dredge or fill material (from the US Army Corps of Engineers) as well as floodplain and watershed permits (from relevant municipalities).

Approximately 900 cubic yards of litter were collected and properly disposed of by Creek Turnpike Maintenance staff. Approximately 80 cubic yards of litter were collected from the Gilcrease Turnpike and properly disposed of by Turner Turnpike Maintenance staff.

Finally, OTA Maintenance covers sand piles at Creek Turnpike Maintenance yards with tarps to prevent sand from washing off in the rain or from the wind.

Pesticide, Herbicide, and Fertilizer Application:

The OTA requires all turnpike herbicide applicators as well as all contract applicators to be licensed and subject to the regulations under the Oklahoma Herbicide Applicators Law including re-certification. Applicators receive yearly training on pesticides, herbicides, and fertilizer chemicals from the Oklahoma Vegetation Management Association (OKVMA). The OTA has seven certified applicators on the Creek Turnpike. Herbicide was applied around sign footings, fences, center medians and at various other locations within the limits of the right of way. Approximately 478 gallons of herbicide were applied on the Creek Turnpike, and 350 gallons of herbicide were applied on the Gilcrease Turnpike.

Illicit Discharge and Improper Disposal:

The bridges and culverts on the turnpike system are inspected every other year. The Creek Turnpike culverts were inspected earlier in 2025 and will be inspected again in 2027. The Creek bridges were inspected in 2024 and will be inspected again in 2026. The Gilcrease bridges are on the 2025 inspection cycle. The Gilcrease culverts were inspected for the first time in 2024 and will be inspected again in 2026. In addition to these programmatic inspections, OTA Maintenance staff inspect the Turnpike roadways continuously. No illicit discharges were observed during the period covered by this Annual Report.

No illicit discharges

OTA's maintenance staff collects and recycles oil. The oil is picked up twice a year at the Creek Turnpike Maintenance yard by a private contractor. Batteries and tires were returned to locations where new ones could be purchased. For this reporting period OTA recycled 216 gallons of oil, 114 filters, 40 tires, and 14 batteries.

Construction Site Runoff:

The OTA understands the significance of construction site runoff and the adverse effects it can cause. As a result, strict guidelines are set forth to ensure that each construction site has adequate controls for reducing pollutants. As stated previously, all construction plans that are produced by or for the OTA have a mandatory Storm Water Management Plan (SWMP) and Erosion Control Plan (ECP).

These sheets provide information such as location/description of project, sequence of erosion control activities, area disturbed, name of receiving waters, soil stabilization practices, structural practices, offsite vehicle tracking, a layout drawing showing exactly where soil stabilization and structural practices should be placed, and references to the ODOT Standard Specification for all Storm Water Guidelines. The most optimal approach and recommendations are discussed and agreed upon prior to project implementation to ensure the best option is chosen for the project.

During construction, the approved storm water management plan is monitored and enforced regularly by the OTA's on-site representative. Upon project completion, OTA conducts a final inspection and assures that the work areas are restored to compliance level.

Public Education:

The OTA dedicates space on its website to the subject of Storm Water Management. On the site there are links to the Phase I Annual Reports. The site includes a phone number to allow the public to contact OTA with suggestions, comments, or questions about OTA's stormwater program.

The OTA is also part of the anti-litter campaign, “Oklahoma Keep Our Land Grand.” As part of this campaign, the OTA offers a toll-free number to call to report littering as well as a place to report it on the website. Individuals who are reported littering are sent a postcard to remind them that littering is a punishable offense and that the goal is to keep Oklahoma’s land looking grand. For the period July 1, 2024 – June 30, 2025, the OTA received 347 littering report calls for the entire statewide turnpike system.

Landscape:

OTA partners with the organization “Up With Trees” to landscape areas in and around the major interchanges in the Tulsa and Broken Arrow communities. OTA also partners with “Color Oklahoma” and maintains one wildflower plot on the right of way adjacent to the Creek Turnpike.

Pollution Prevention/Good Housekeeping

OTA has developed stormwater pollution prevention plans (SWPPPs) for the Riverside Maintenance facility and the 11th Street Salt Barn. The SWPPPs require annual walk-through inspections at both facilities, quarterly visual monitoring at Riverside, and semi-annual visual monitoring at the 11th Street Salt Barn. There were no findings during the inspections that took place between July 1, 2024, and June 20, 2025.

2. Revision to the Assessment of Controls and the Fiscal Analysis.

OTA proposes no revision to the assessments of controls. The Fiscal Analysis is as shown in the City of Tulsa’s Report.

3. Monitoring Data Accumulated Throughout the Reporting Year.

Refer to the Regional Storm Monitoring Report.

4. Annual Expenditures for the Reporting Period with a Breakdown for the Major Elements of the Storm Water Management Program.

Description	Cost
Inspections	15,500.00
Mowing	166,670.00
Sweeping	51,938.00
Trash Collection and Disposal	224,142.00
Herbicide	40,904.00
Total	\$ 499,154.00

5. A Summary Describing the Number and Nature of Enforcement Actions, Inspection and Public Education Program.

All enforcement actions in OTA's watershed are issued by the City of Tulsa in concurrence with the OTA. None occurred during the 12-month period covered by this report.

6. Identification of Water Quality Improvements or Degradation.

OTA was not able to identify any water quality improvements or degradations during this report period.

7. Regional Monitoring Report.

Please see the City of Tulsa's report.

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

01.15
Darian Butler (Aug 19, 2025 12:43:42 CDT)

Darian L. Butler, P.E.
Oklahoma Turnpike Authority

08/19/2025

Date _____