The City of
OKLAHOMA CITY

# STORM WATER QUALITY

## 2018 ANNUAL REPORT

**Purpose**

The City of Oklahoma City, the Oklahoma Turnpike Authority and the Oklahoma Department of Transportation were granted authorization to discharge storm water in compliance with the Oklahoma Pollutant Discharge Elimination System Act and the rules of the Oklahoma Department of Environmental Quality.

The Storm Water Management Program was updated in 2018 and provides measures to meet the National Pollutant Discharge Elimination System Phase I Municipal Separate Storm Sewer System storm water regulations.

The permit became effective on March 15, 2013 and will expire March 14, 2018.

**Mission**

To provide inspections, enforcement, water quality assessments, public outreach and household hazardous waste services to residents, businesses and government agencies so they can comply with the Clean Water Act and enjoy a safe and clean environment.

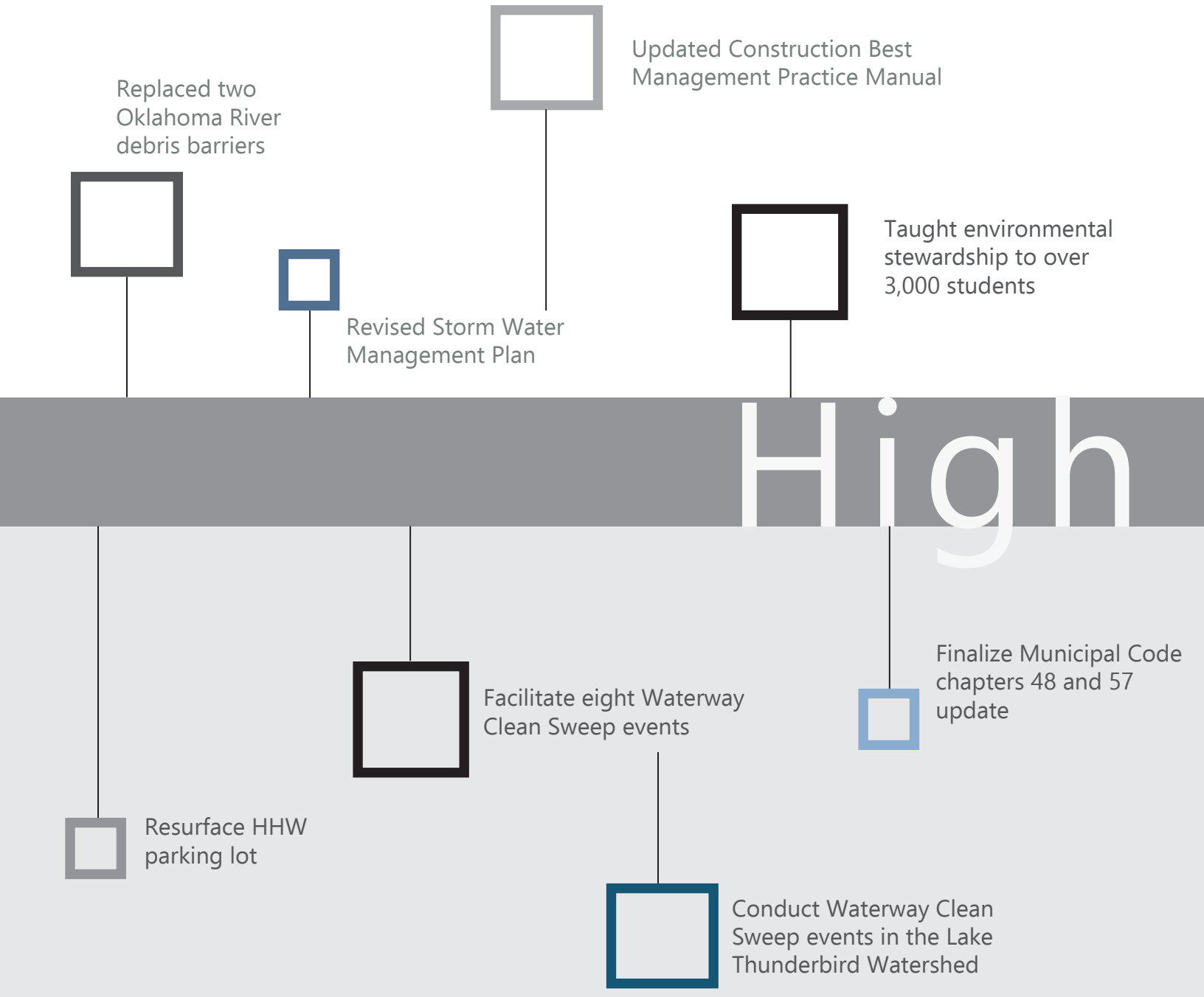
Oklahoma City Permit Number OKS000101

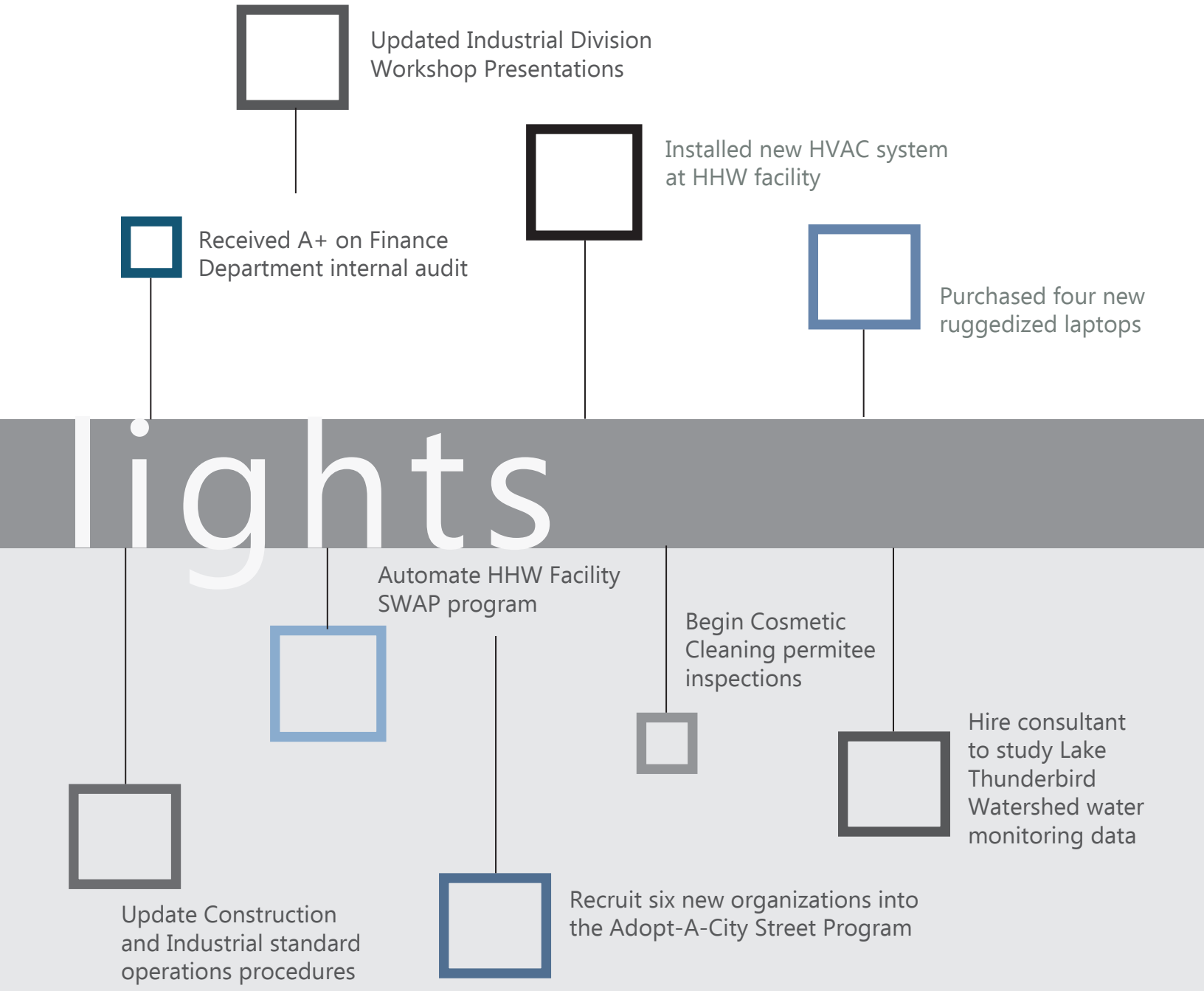
# STORM WATER QUALITY PROGRAM

includes: educational and regulatory initiatives to encourage environmentally sound development and redevelopment

# CONTENTS

# **2018** Accomplishments




Updated Industrial Division Workshop Presentations
Installed new HVAC system at HHW facility
Received A+ on Finance Department internal audit
Purchased four new ruggedized laptops
lights
Automate HHW Facility SWAP program
Begin Cosmetic Cleaning permitee inspections
Hire consultant to study Lake Thunderbird Watershed water monitoring data
Update Construction and Industrial standard operations procedures
Recruit six new organizations into the Adopt-A-City Street Program

# **2019** Goals

## New and Re-Development Projects

The Public Works Department's permitting program requires a plan review process on all plans submitted to the City. During this process, Storm Water Quality reviews plans submitted to the City to ensure inclusion of:

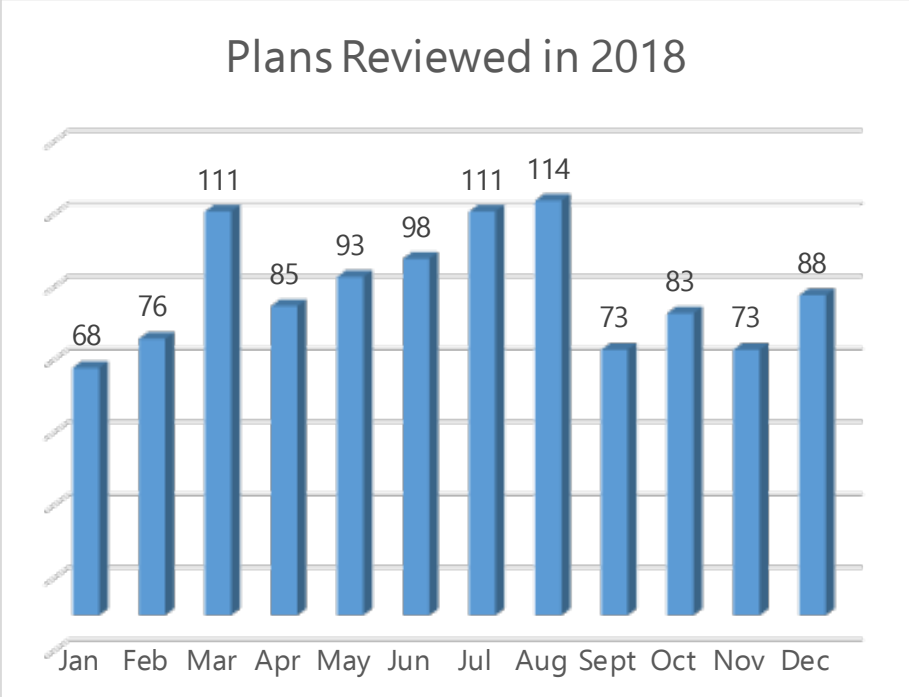
- erosion control site plan and detail sheet
- Best Management Practices (BMP's) used to control erosion and sediment

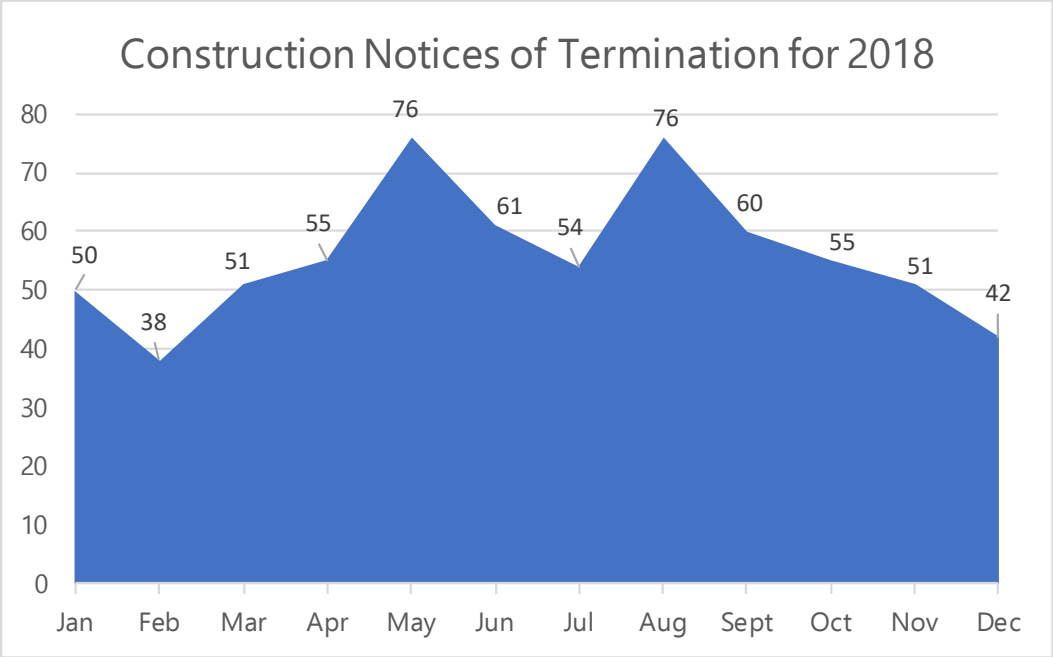
The engineer submits the final set of plans with all the required changes for review.

1,073 construction plans reviewed

When the land disturbing activity is finished and perennial vegetation has been established on all exposed soil, the permittee will notify the manager and submit a Notice of Termination (NOT) for the project. A storm water construction technician will inspect the site to determine if one of the following conditions for the NOT have been met:

- site stabilized with a density of at least 70% of the original native vegetation, or
- all storm water discharges from construction activities have been eliminated, or
- if the owner/operator is no longer the owner/operator of the site, then a transfer of coverage to a different owner/operator must have been received.






If the NOT is approved, a final inspection is approved and a Certificate of Occupancy is issued. 670 NOTs were approved in 2018.

A re-inspection fee of $35.00 is assessed for each additional inspection of construction sites due to non-compliance. In 2018, a total of 20 re-inspection fees were assessed.

Each application for a storm water quality construction land disturbing permit, or an existing permit renewal, is accompanied by a fee of $55.00. Permits expire one year from the date of issuance. Other fees include a late fee of $15.00 per month and a re-issuance fee of $55.00.

If the work described in the permit has not begun within six months after issuance, the permit will expire and the permittee must re-submit all required forms and pay the reissuance fee in order to begin work.

The SWMP was revised to reflect the permit requirements of OKS000101 dated March 15, 2013, and includes criteria and procedures for determining requirements for structural and non-structural controls on new and significant reconstruction of roadways and highways.

## State Fair Park Sand Filter

The 2007 Bond Program funded a sand filter at State Fair Park. Construction began in January of 2015 and the filter became operational in September the same year. The sand filter has processed 4 million gallons of storm water runoff from since it became operational. Monitoring results indicate 685 lbs. of biochemical oxygen demanding substances (BOD), 5 lbs. of oil and grease, 29 lbs. of total phosphorus, 2,321 lbs. of chemical oxygen demanding substances, 9 lbs. of total nitrogen, 20 lbs. of total kjeldahl nitrogen and 713 lbs. of total suspended solids (TSS) were removed by the filtering process.

SWQ continued to monitor the sand filter during the 2018 permit term. Maintenance is indicated by observing the frequency of discharge intervals from the forebay to the sand filter bed. A significant increase in time between discharge intervals is indicative of poor drainage through the sand media. Hand raking breaks surface crusts formed on the sand bed surface which can inhibit efficient drainage through the sand media. The sand filter bed was raked in October and December of 2018. Telemetry is provided by a data logger installed in the forebay which enables near real-time measurements of the water level to manage the sand filter unit. To determine the pollutant reductions, personnel periodically monitor the influent and effluent water quality. These monitoring data provide the information needed to determine the amount of pollutants removed from the captured storm water. Monitoring results indicate that 935,173 gallons of water were processed through the filter in 2018. The filter removed an estimated 77 lbs. of BOD substances. 0.03 lbs. of oil and grease, 9 lbs. of total phosphorus, 560 lbs. of chemical oxygen demanding substances, 2 lbs. of total nitrogen, 10 lbs. of total kjeldahl nitrogen, and 182 lbs. of TSS were removed by the filtering process. Nitrate plus nitrite values exhibited an export of 7 lbs. from the filter.

State Fair Park Sand Filter

## Flood Control Projects and Structural Controls

On December 11, 2007, Oklahoma City voters passed an $835 million bond issue, with all 11 propositions garnering at least 78% approval of the vote.


The largest portion, $497 million, was allocated to roadway improvements. Among other projects, the bond issue includes $90 million for parks and $32 million for drainage projects.

Prior to 2015, private contractors maintained drainage related property within the City limits. As contracts expired through 2018, the total budget was $185,550. The Streets, Traffic and Drainage Maintenance Division assumed maintenance operations of existing detention ponds, unimproved channels and creeks, tributaries and river banks of the North Canadian River including area designated as the Oklahoma River and City owned vacant lots purchased for storm water drainage projects. In 2018, 53 miles of creeks, 248 acres of detention ponds, 18 acres of vacant lots along with 22 miles of concrete lined channel were cleaned and maintained.

Public Works Drainage Maintenance Division is also responsible for repairs made to drainage structures, concrete-lined channels, creeks and manholes. There were 788 repairs to drainage structures and 229 repairs to creek/concrete channels. Eight staff members, with a budget of $934,300, provided routine maintenance repairs to the waterways, dams and locks on the Oklahoma River and removed 195 tons of debris in 2018.

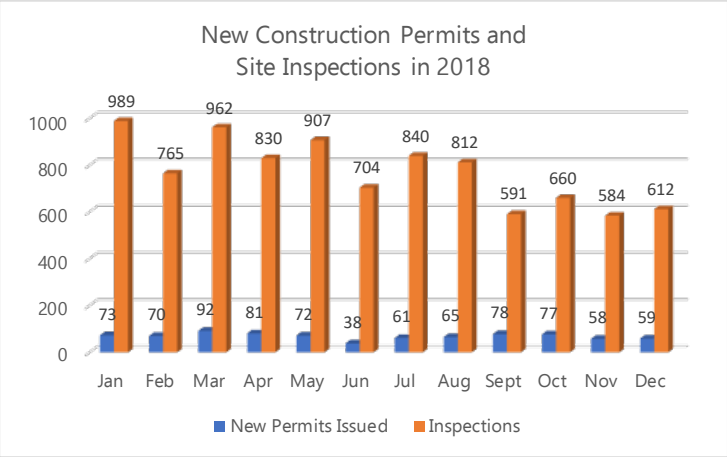
The Public Works Storm Water Quality Construction Section and Engineering Division will continue to review construction plans for the development of retention/detention ponds for compliance with the Oklahoma drainage and flood control ordinances.

The City continues to evaluate, prioritize and install structural controls on developed areas and/or retrofit existing structures.

## Construction Site Runoff

A construction storm water quality discharge permit is required prior to the start of all land disturbing activities for the construction of:

- New utilities
- Industrial, commercial or institutional facilities
- Residential subdivisions
- Demolition of structures




It is the responsibility of the owner/operator to secure the permit. A total of 824 construction storm water quality discharge permits were issued in this reporting period for a total of 1,333 active permits.

As permits are issued, they are entered in the V360 Accela Automation permitting database. This database provides multiple departments within the City a solution to automate workflow. It manages all land use and community development activities such as permits, inspection and reviews, zoning, project plans and code enforcement. The program provides multiple City departments the ability to track, change and share information regarding permitted activities.

### Quality Assurance Program (QAP)

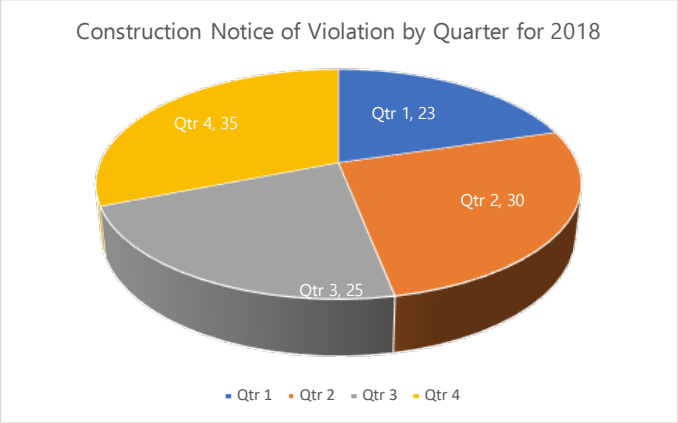
In 2018, the construction environmental unit supervisor conducted 66 inspector audits under the QAP - an internal program where the supervisor evaluates a technicians' ability to correctly performs audits. This allows the technician to ask questions and ensures that audits are being performed consistently within federal and state guidelines.

A total of 9,256 construction site inspections were completed during this reporting year.

Construction field laptops are fully ruggedized. The laptops enable the technicians to complete their work more efficiently. The speed and dependability allow technicians to immediately load their audits, input the data, print and/or email the results to site operators.

If the operator is not at the site, a call will be made following the inspection to discuss any deficiencies. If the deficiencies are not corrected, a Notice of Violation (NOV) will be issued to the operator, with a date set for the site to be in compliance. If the site is not in compliance on the set date, an Affidavit of Probable Cause will be filed with the City's Municipal Counselor's office.

One hundred thirteen Notices of Violation were issued and five affidavits processed for construction-related activities during this reporting period.




2018 workshop in OKC

**2018 Construction Workshop**

A two-session (one-day) workshop on October 10th covering the storm water permitting, storm water pollution prevention plans, site inspections, enforcement and special permitting for the Lake Thunderbird watershed TMDL. A total of 55 attended the workshop.

## Industrial and High Risk Runoff

In order to minimize the impact of storm water discharges from industrial facilities, the storm water quality program includes an industrial storm water permitting component. Operators of industrial facilities that are in one of the 11 categories of storm water discharges associated with industrial activity that discharge or have the potential to discharge storm water to a Municipal Separate Storm Sewer System (MS4) or directly to waters of the United States, require authorization under an NPDES industrial storm water permit.

Permitting requires that a Notice of Intent (NOI) be submitted along with the permit fee. A Storm Water Pollution Prevention Plan (SWPPP) for the facility must be kept on site. A total of 29 new industrial storm water discharge permits were issued during this reporting period, for a total of 409 active permits.

Any deficiencies are noted on the report and discussed at the time of the inspection. During the next inspection, if the deficiencies have not been corrected, a Notice of Violation (NOV) will be issued. If the facility remains deficient, SWQ will begin enforcement procedures with Oklahoma City's Municipal Counselor's Office. During this reporting period, a total of 40 Notices of Violation relating to industrial discharge activities were issued. The majority of NOV's were issued for failure to maintain SWPPP documentation (site inspections, visual monitoring, annual report).

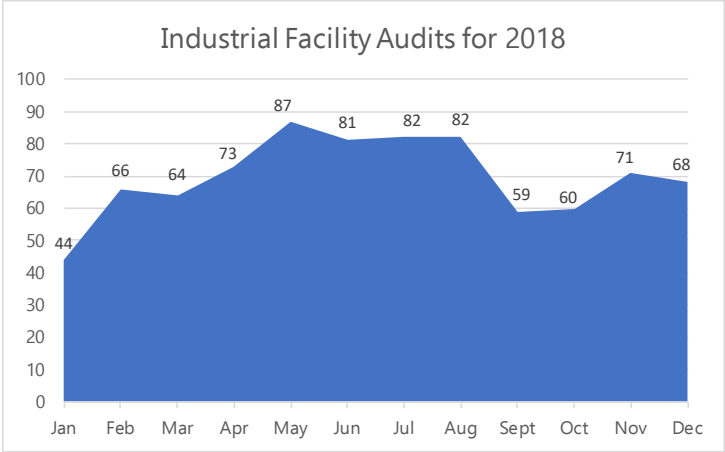
A re-inspection fee of $35.00 is assessed for each additional inspection to facilities due to non-compliance. In 2018, six industrial facility re-inspection fees were assessed. A $15.00 per month late fee applies to facilities and/or properties that have failed to renew their permit prior to its expiration.

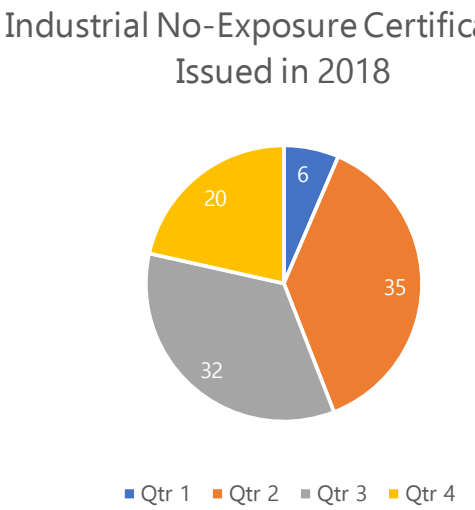
### Industrial Audit Report

Permitted businesses located within the City limits are audited on a regular basis. The intent of these audits is to reduce or eliminate the potential to pollute the surface runoff at each facility. An industrial environmental technician screens these businesses, and other facilities with the potential to cause pollution, for inclusion in the semi-annual industrial auditing program.

837 industrial facility audits were performed in 2018

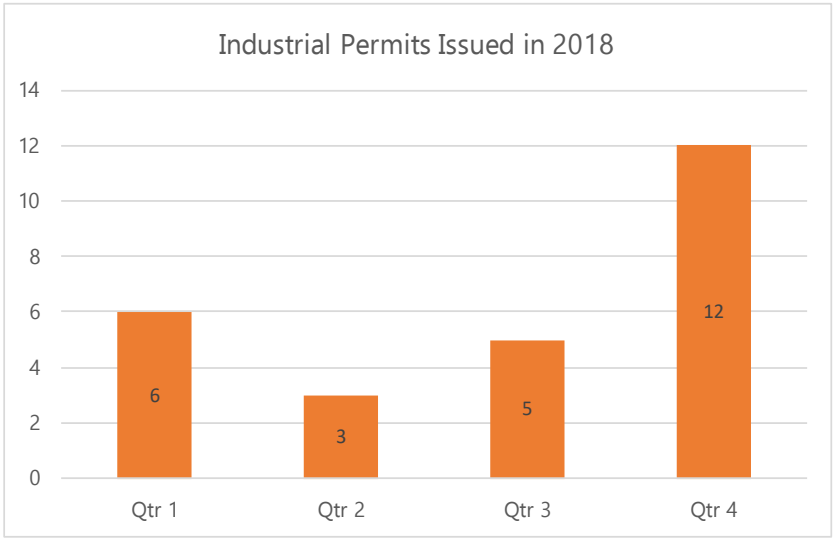
A No-Exposure Certification (NEC) for exclusion from storm water quality permitting is issued to industrial facilities that meet strict guidelines. A condition of no exposure exists at an industrial facility when all industrial materials and activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. The owner/operator is required to submit the certification form once every five years and must allow the local SWQ industrial environmental technician to perform inspections to confirm the conditions of no exposure.




During the reporting period, 93 new no-exposure certifications were issued for a total of 830.

In 2018, Industrial Environmental Technicians continued the five-year re-certification process for businesses with an existing industrial no-exposure certification. During this reporting period, 9 re-certifications were completed.



Cosmetic cleaning permits are issued to companies using any system or machine to remove undesirable substances from any surface or façade creating free foreign matter. This includes carpet cleaning and power washing companies.

In 2018, SWQ continued the self-audit process. Each active permittee was mailed a self-audit form approximately one month before the permit expired. A total of 183 self-audits were performed in 2018. During the reporting period, a total of 24 new cosmetic cleaning permits were issued for a total of 222 active permits.

The Industrial Storm Water Section held a two-day workshop in the Spring and Fall to provide information to permittiees regarding storm water requirements and permit updates. A total of 258 attended the workshops. Industrial workshop sessions included the following topics:

258 attendees at the two day industrial workshop

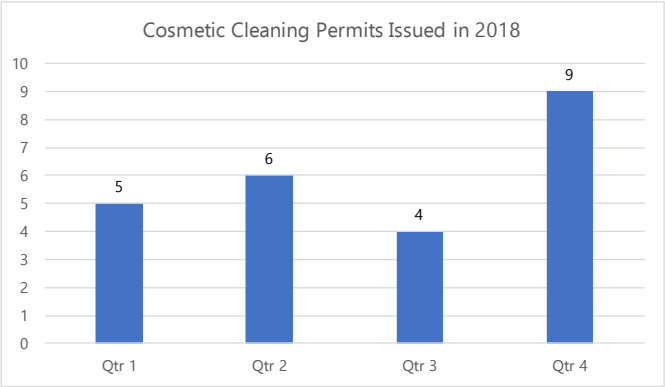
- Guidelines and regulations
- Spill remediation
- OKR05 permit overview and updates
- SWP3 requirements
- Forms and reports
- Permit administration
- Inspections and enforcement
- Quarterly visual monitoring

As a part of Oklahoma City's permit requirements from the Environmental Protection Agency (EPA) and the Oklahoma Department of Environmental Quality (ODEQ), the City is requiring all Emergency Planning & Community Right to Know Act (EPCRA) Superfund Amendments and Reauthorization Act [SARA] Title III, Section 313 reporters (Toxic Release Inventory [TRI] facilities), Treatment, Storage, and Disposal (TSD) facilities, and municipal landfills that do not qualify for no-exposure, to establish a 5-year "high risk" storm water runoff sampling event in conjunction with all other permit requirements.

Currently, there are 78 industrial facilities that are classified as high-risk sites. Of the 78 facilities there are 22 no-exposures, one Affidavit of No Discharge, and 55 high-risk sites that are required to submit analytical sampling data. No-exposure and Affidavit of No Discharge facilities that are classified as high-risk are not required to sample sites.

Data collected by the industrial facility to satisfy the monitoring requirements of an OPDES or NPDES permit may be used to satisfy the "high risk" sampling requirement, provided that each of the required constituents are analyzed. The City requires that the indicated industrial facilities conduct self-monitoring and report the analytical results to the City's Storm Water Quality Division once every five years.

After testing, if it is determined that the constituents are above any state, federal or local criteria, then remediation, further testing and/or additional best management practices may be required.

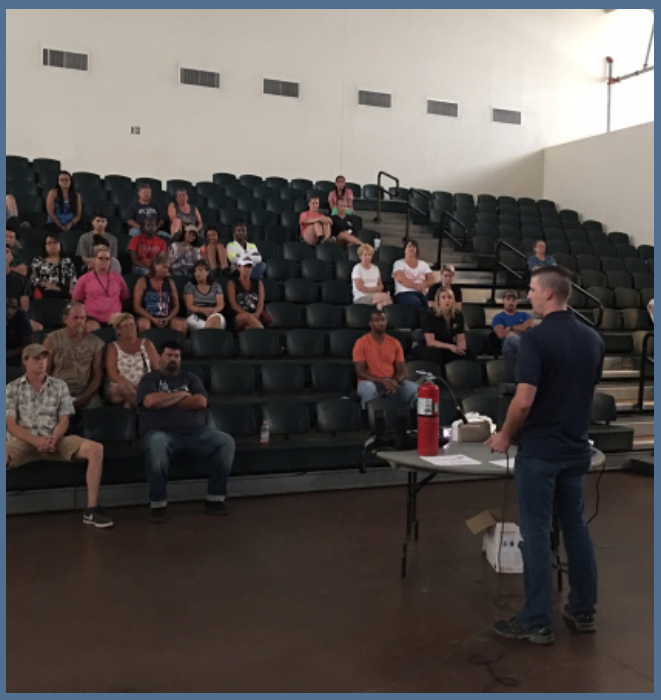



The Affidavit of No Discharge for storm water discharges associated with industrial activities program certifies that a condition of no discharge exists at an industrial facility or site. The affidavit is re-submitted at least once every five years. The industrial facility operator must maintain a condition of no discharge at its facility in order for the no discharge exclusion to remain applicable. If conditions change which result in storm water discharges into State waters, including Municipal Separate Storm Sewer Systems (MS4s), the facility operator must obtain authorization to discharge under a storm water permit before any discharges occur beyond the boundaries of the facility. There are 13 active no discharge permits.

The Quality Assurance Program (QAP) is an internal program where the supervisor evaluates a technicians' ability to correctly perform audits. Criteria such as "Were City safety policies followed (PPE, driving, etc.)?," "Was all documentation reviewed for updates and compliance?" and "Was enforcement required and performed properly?" are noted. This allows the technician to clarify and ensure that audits are observed and being performed consistently with federal and state guidelines. In 2018, there were 42 QAP industrial audits performed.

## Oklahoma State Fair

The Industrial Section trained 1,049 food vendors, in conjunction with the Oklahoma City County Health Department, regarding the proper disposal of wastewater and grease. The section also conducted 30 vendor inspections during the state fair, which included the setup and dismantling of vendor booths and rides.



State fair vendor training

## Household Hazardous Waste/Used Motor Vehicle Fluids

### Mobile Collection Events

An outreach program designed to collect household chemicals from residents in their neighborhoods. Not only does this program allow staff to educate residents on identifying household hazardous chemicals and proper disposal methods, the program also provides a remote service to the elderly and home bound residents of Oklahoma City.  Doing the right thing couldn't be easier. Just drive or walk by and drop off your leftover household hazardous waste products.

There were three mobile collection events held with 264 participants and a total of 83,729 pounds of waste collected. One special collection event was held at the Oklahoma State Fairgrounds to accept tires, e-waste, medications and ammunition for recycling or disposal.

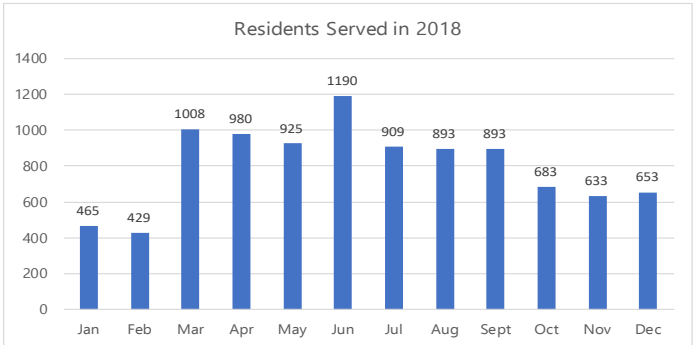
Mobile events  collected 83,729 pounds of waste

Two special neighborhood collection events were also held for Putnam Heights and Windsor Oaks neighborhood residents. The hazardous wastes received were properly packaged for transportation and disposal. Special collection events will continue to be provided during 2019.

Opened in 2003, the Household Hazardous Waste Collection Facility (HHWCF) diverts hazardous materials from the municipal waste streams and provides numerous benefits:

- An opportunity for waste reduction education
- Allows for the recovery of materials as resources
- Reduces toxicity of solid waste landfills and wastewater systems
- Helps the public to avoid improper disposal practices
- Protects waste processing equipment and handlers from exposure to hazardous materials

Oklahoma City's HHWCF  is conveniently located near the I-40 and I-44 junction. The facility is designed to accommodate a high volume of traffic and manage large quantities of household hazardous waste on an annual basis. The HHWCF serves the residents of Oklahoma City covering 620 square miles.



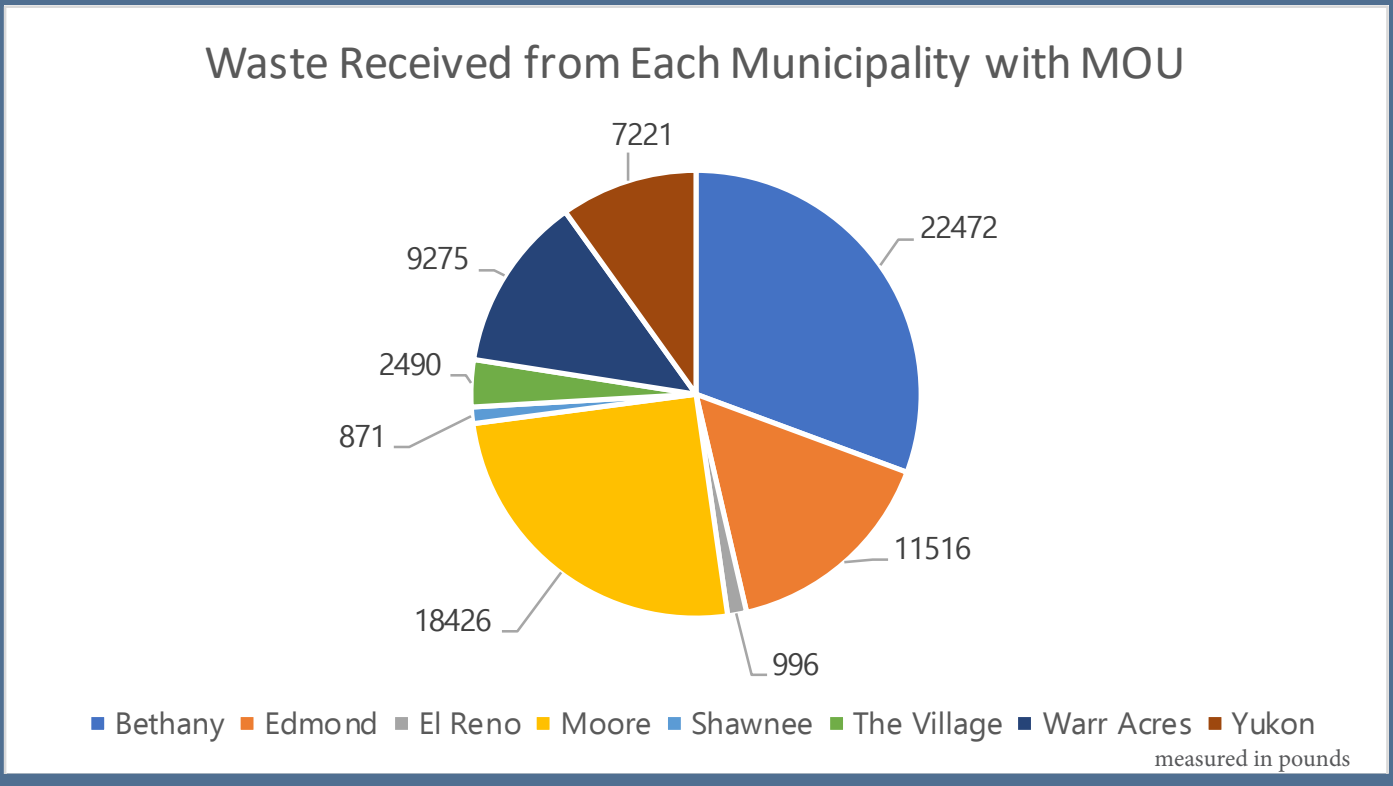
The HHWCF provides a safe and economical process for managing a full range of hazardous materials. Typical types of household hazardous waste received include cleaning products, automotive products, flammable products, lawn and garden chemicals, indoor pesticides, workshop/painting supplies and other products containing hazardous materials.

Due to permit restrictions, unacceptable wastes include: radioactive materials, high-pressure gas cylinders, biohazards, explosives, PCB containing materials, dioxins and highly reactive chemicals.

State fairgrounds collection

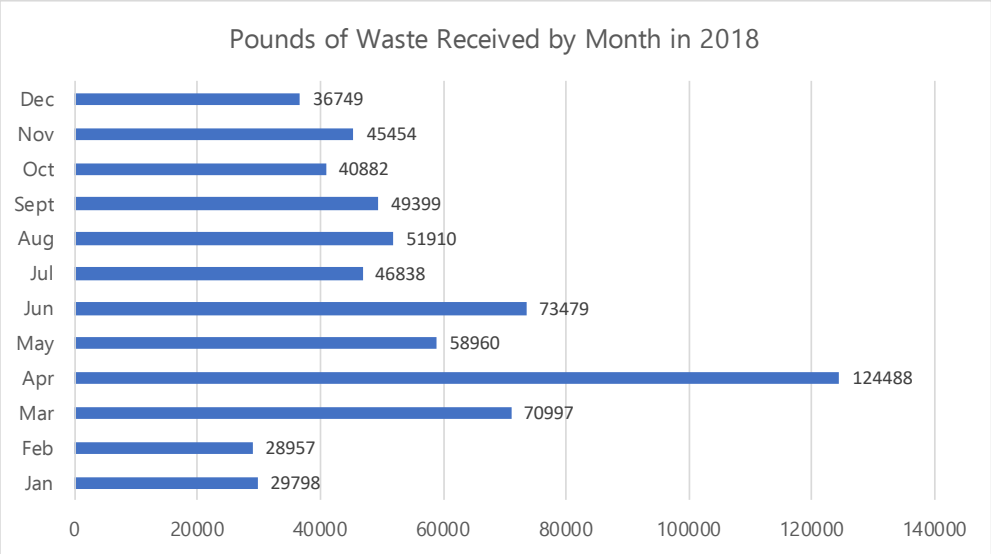
## Memorandum of Understanding (MOU)

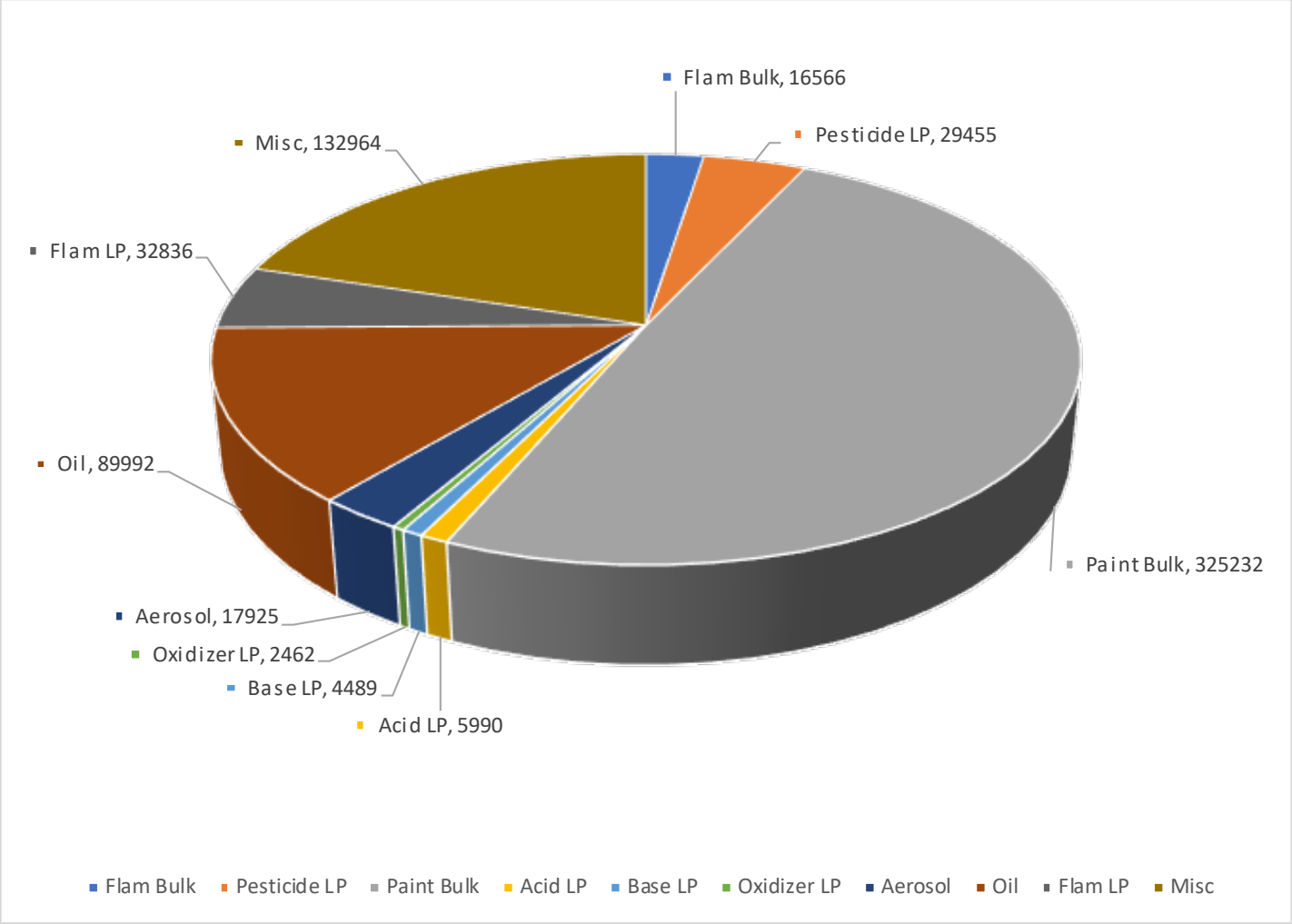
allows: residents outside the City limits to utilize services offered at the HHWCF - an excellent opportunity for the surrounding Phase II communities to work with the City to properly manage household hazardous waste.



The HHWCF received 583,465 pounds of household hazardous waste for recycling or disposal. Additionally, 74,446 pounds of household hazardous waste were collected, separated and released to the public for reuse.

A total of 657,911 pounds of household hazardous waste was received and processed by the HHWCF.



## Resident Comments

"Thank you so much for the very informative and educational tours you gave us last week! The students really appreciated the time you took out of your busy schedules to work with us.

The students' thoughts about the tour:
- Enthusiastic and excitement of job made tours and learning information fun.
- Knowledgable and able to answer all questions well.
- Appreciate time took to share knowledge.
- Friendly and happy to do tour.
- Explain science aspect in understandable way - well communicated.
- Thought it was cool to go to restricted areas and have access to all parts of facility to really understand and see how everything works.

Thanks again so much on behalf of myself and the students and we hope to visit again next year."

Janine Perry
UD Science Dept
Casady School


Household Hazardous Waste Facility

## Public Outreach

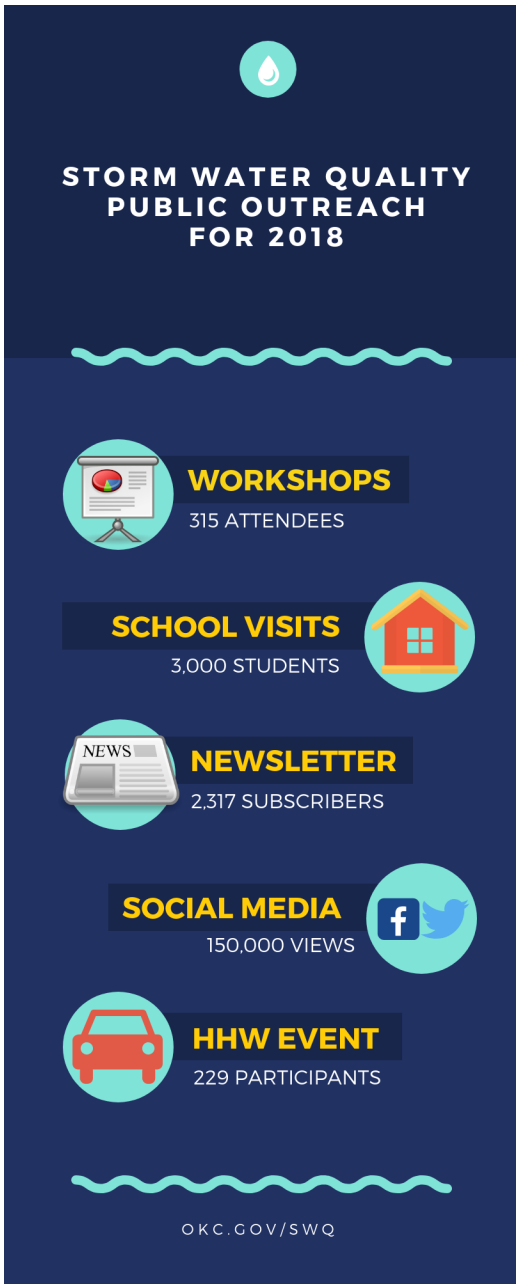
Storm Water Quality has a variety of outreach programs that include outreach to local neighborhoods, schools, and businesses. Some

Educational presentation

of the programs offered are, Adopt-a-City Street, Curbs to Creeks, Waterway Clean Sweep and a variety of workshops. In 2018, Storm Water Quality continued the "Protecting Our Water Resources" program for Oklahoma City schools. Storm Water Quality also hosted five training workshops, two included a partnership with the Oklahoma Department of Environmental Quality. There was also one Household Hazardous Waste special collection event. In addition to hosting events, Storm Water Quality reaches out to the public by using a variety of media outlets.

The Storm Water Quality Downstream Newsletter is an effective communication tool, distributed quarterly, to deliver its message on clean water issues. The newsletter is circulated through e-notices to 2,317 subscribers.

The Protecting Our Water Resources program is for elementary school students throughout Oklahoma City. The program teaches students about storm water pollution prevention using hands-on activities. The program was also featured at school assemblies with Wayne Drop the Storm Water Quality mascot. Five Oklahoma City elementary schools participated in the program in 2018. Storm Water Quality also provided education to one high school and three local colleges. Over 3,000 students participated in the program last year.



The spring 2018 advertising campaign to promote awareness of services provided by the HHWCF to the residents of Oklahoma City and other metro municipalities, was planned and implemented. After evaluating a variety of advertising alternatives, staff determined that the most effective impact could be accomplished by utilizing the following media outlets during the 2018 ad campaign:

The Daily Oklahoman campaign occurred during a three month period. The Oklahoman was distributed to the following geo targeted areas: Edmond, Yukon, Mustang, Piedmont, Deer Creek, NW Oklahoma City, Nichols Hills, The Village, Quail Creek, Moore, Oklahoma City (South), Midwest City, Del City and Choctaw. These impressions were 1/4 page advertisements. The Oklahoma has a weekday circulation of over 124,667. Impressions also appeared on NewsOK.com with estimated views of over 22,000 per month.

The Daily Oklahoman digital video screen located in downtown Oklahoma City was also utilized during this ad campaign. 15 ads appeared daily on the third Saturday of each month over the same three month period.

The Tyler Media Radio campaign aired on radio stations 107.7 KRXO 'The Franchise' and 92.2 KOMA throughout August and September. This campaign utilized the slogan 'Everyday Environmentalist' while addressing the issue of proper disposal of household chemicals. A live interview was also conducted with the HHWCF Annual Special Collection as the primary topic. The Tyler Media Outdoor Advertising campaign consisted of printed ads on 35 bus stop shelters and benches throughout the city during the month of August. These ads featured the slogan 'Bring It On' encouraging residents to bring common household chemicals to HHWCF for proper disposal or recycling.

During these campaign months, there was an increase in public participation and pounds of hazardous waste collected compared to the previous year.

Bus stop shelter and bench advertisements

## Public Participation and Involvement

### Curbs to Creeks

As provided in Part III. An Implementation and Augmentation of SWMP(s), SWMP component 7(b) "Install an average of 500 curb markers annually using volunteers and City employees." Storm Water Quality personnel and volunteer groups installed, replaced, or identified 532 curb markers during the 2018 permit term. After installation, all markers affixed in the field were recorded into a field book and entered into the City's Geographic Information System database.

Industrial Audit Section inspectors continued encouragement of permitted industries to participate in the program. Information regarding the Curbs to Creeks Program was added to presentations to industries attending the spring and fall industrial workshops.

Storm drain marking kits were distributed to two organizations: Classen Ten Penn Neighborhood Association and Dell Computers during the 2018 permit term. Volunteers installed 95 markers.

Storm drain marker installation

# 2018 News

Jan 16

Residents encouraged to conserve water with rain barrels

Mar 15

Residents encouraged to conserve water with rain barrels

Mar 21

Special collection set for computers, tires, ammunition and medication

Apr 2

Special collection set for computers, tires, ammunition and medication

### Waterway Cleanup Program

The Creek Sweep Program encourages residents to take an active role in preserving the health and beauty of our local waterways. This program offers groups an opportunity to help restore impaired waterways through litter collection. In 2018, seven events were held during which 73 volunteers donated 146 hours to this program. These volunteers collected 226 bags which totaled 6,378 pounds of litter.

Waterway Clean Sweep

### Trunk or Treat

The City hosted the 5th Annual 'Trunk or Treat" event for City employees and their families on October 29th at the Police and Fire Training Center. More than 500 children and parents attended. Andrea Shelton, Kevin Bahjet and Sylvain Hache wore costumes and distributed candy, stickers and coloring books about preventing storm water pollution. Kids even had the chance to meet the Storm Water mascot "Wayne Drop."

### Earth Day

Storm Water Quality celebrated Earth Day by participating in various festival style events. At our booths, we taught residents how to prevent storm water pollution and distributed information about positive environmental practices. The following are some of the outreach events Storm Water Quality participated in and the estimated number of visitors to our booths:

- Earth Day Festival at Mike Monroney Aeronautical Center - 1,000 booth visitors
- Dell Earth Day Festival - 500 booth visitors

# Releases

**May 3** — Residents encouraged to conserve water with rain barrels

**May 10** — Residents encouraged to use fertilizer properly

**Sept 26** — Residents advised not to release swimming pool water into storm drains

## Adopt-A-City Street Program

Residents, organizations and businesses can make a difference in their community by adopting a city street. The Adopt-A-City Street Program supports environmental stewardship while encouraging the spirit of volunteerism.

# NEW ORGANIZATIONS FOR 2018

Forest Village Estates
Durdy Boyz and Durdy Girlz of OKC
OKC Ruff Riders
TopGolf
Global Embassy of Activists for Peace
Navy SeaBees


Additional information about the Adopt-A-City Street Program can be found at www.okc.gov

Participants may adopt 1 mile of a city maintained street for a two-year period. A minimum of four litter collection events are required each year. The participating group is also required to submit an Activity Request form prior to each event and a Litter Collection Report after each event. Each group receives a sign installed at each end of their adopted street which remains in place until the group discontinues participation in the program. Other support from the City includes:  orientation meetings, safety information, safety vests, work gloves, trash bags, and trash bag collection by the City's Utilities Department.

Volunteers in the program include groups of all sizes with individuals of all abilities. In 2018, 80 activity permits were issued for litter collection events. During these events, 857 volunteers collected 591 bags of litter. This partnership between residents and city government has multiple social, environmental, public health and economic benefits for all parties involved.

### Central Oklahoma Storm Water Alliance

The City and the Central Oklahoma Storm Water Alliance (COSWA) partnered together to encourage residents to conserve water and reduce pollution through the use of rain barrels.

City Municipal Code allows a maximum of two 85-gallon rain barrels in the front yard. Any number of rain barrels can be placed on the side or back of a property, as long as they are not visible from the street. The containers must be securely covered, and any openings must be covered with a screen that prevents infestation by insects and other pests.

COSWA, with the support of the Oklahoma Department of Environmental Quality organized a display booth at the January OKC Home and Garden show, held at the Oklahoma State Fairgrounds Park. The purpose was to promote the use of rain barrels and other storm water best management practices.

The annual rain barrel event was promoted on social media with an estimated 150,000 views on Facebook, Instagram, Nextdoor and Google. Oklahoma City held a two-day pick-up event and distributed 289 rain barrels with 647 distributed metro-wide.

Other COSWA outreach opportunities include news releases, Facebook, water utility bills, information cards and a COSWA webpage. The COSWA webpage had 685 views from 210 visitors.

OKC Home and Garden Show

## Employee Education

### Training

OKC Fire Academy Training

A total of 1,195 training hours were accomplished by Storm Water Quality staff members to meet safety, license, professional development or certification training requirements. Safety topics included subjects such as winter driving safety, vehicle fueling safety, rail car incident response, railroad emergency response, defensive driving, lock-out-tag-out (LOTO), heat stress, fire prevention, fire extinguisher safety, personal protective equipment, compressed gas cylinder safety, blood borne pathogens, hazard communication and forklift safety.

### Licenses

Oklahoma Department of Environmental Quality Class C and D Water Works Operators, Class B, C and D Wastewater Works Operators, Class A Wastewater Works Laboratory Operator, Confined Entry/Rescue, 40-Hour HAZWOPER, and 40 Hour HAZWOPER for First Receivers Operations Level.


OKC Police Academy Training

### Memberships

- Central Oklahoma Storm Water Alliance
- International Erosion Control Association
- Local Emergency Planning Committee
- American Public Works Association
- National Storm Water Center Certified Storm Water Inspector
- Enviro-Cert International Inc. Certified Professional in Erosion and Sediment Control
- Enviro-Cert International Inc. Certified Professional in Storm Water Quality

### Professional Development

Training included policy review, workshops, conferences, meetings, online seminars, tabletop excercises and presentations. Subjects included low impact development, collaborative storm water solutions, sustainability, structural management practices, erosion and sediment control, emergency planning, spill response procedures, employee ethics, cybersecurity, discrimination and sexual harrassment, disaster recovery and communication in difficult situations.

### Conferences and Workshops Attended

- APWA State Conference
- G191 Interface Workshop
- Region 6 LEPC Workshop
- Oklahoma Brownfields Conference
- Okalhoma City Industrial Storm Water
- 20th Annual EPA Region 6 Storm Water
- Oklahoma City Construction Storm Water
- Oklahoma Floodplain Managers Technical
- Oklahoma Municipal Clerk/Treasure Association Conference

## Roadway Operations and Maintenance

The Public Works Department, Streets and Drainage Maintenance Division, manages the panning crews which provide maintenance of the curb inlets. Through this program, twelve staff members are equipped with three Vactor trucks, loaders, trucks and various other support vehicles/equipment used to remove sediment and debris from the storm sewer system. The reporting period budget was $1,000,000. Crews removed 60 tons (119,580 pounds) of debris during the permit term.

Oklahoma City uses a roadway inspection company called Fugro-Roadware to inspect the arterial streets, and two in-house pavement inspectors to evaluate residential streets. Inspections by Fugro-Roadware are completed by driving each arterial, while sensors collect the amount and type of distress on that road. These distresses are used to calculate a Pavement Condition Index (PCI), a scale of 0-100, according to American Society for Testing and Materials (ASTM) standards. The in-house inspectors use ArcGIS mobile application to record the type and amount of distress seen on the residential streets and that is then used to calculate a PCI using MicroPaver, which operates on the same ASTM standards. The final score for each segment, along with traffic count, citizen input and past treatments, is used to prioritize maintenance needs.

The SWMP was updated to include any roadway operation and management changes. The most recent revision was April 2018.

Unlimited Sweepers & Cleaners LLC swept 21,377 curb miles during this permit period. The average amount monthly was 1,781 curb miles. A total of 3,319 tons of debris was collected.

A total of 21,377 curb miles were swept in 2018

## Pesticide, Herbicide and Fertilizer Application

The City is required to provide at least one annual training/educational event for City employees related to pesticide and fertilizer application. To address this requirement, the SWQ Division facilitates and provides pesticide/ fertilizer training.

Our goal is to assure that every City employee who works with, or applies pesticides, is a Certified Applicator, Certified Service Technician or an applicator-in-training. This requires a close relationship with the Oklahoma Department of Agriculture Food and Forestry (ODAFF) to assure the appropriate regulatory training requirements are met, annual certification examinations are provided and consistent documentation and maintenance of Continuing Education Units (CEU) are achieved. Oklahoma State University's Cooperative Extension Service, in Stillwater and Oklahoma City, are essential resources in our technical pesticide, herbicide and fertilizer training.

Pesticide and Fertilizer Training

Classes are publicized by e-mail, e-newsletter, word of mouth and fax communications. The Parks and Recreation, Public Works and Utilities Departments all participated in the class.

In accordance with the "Combined Pesticide Law & Rules: Title 2, Oklahoma Statutes, Section 3-81 through 3-86; 35:30-17-1 through 35:30-17-99", our CEU and initial classes cover:

- Laws and rules
- Pesticides (formulations, registrations, labeling and label comprehension, handling and storage, toxicity, and hazards)
- Application equipment and calibration
- Pests and Integrated Pest Management
- Identification of hazardous areas
- Drift prevention
- Endangered species
- Surface and groundwater protection
- Worker protection

Speakers, and trainers, are drawn from a knowledgeable and experienced group of professionals, including: pesticide vendors, Oklahoma State University professors and instructors, ODAFF Inspectors, and City employees. The workshops are designed to provide guidance and up-to-date information to assist workers, using Best Management Practices. Speakers included Derek Johnson, Jeri Fleming, and Dr. Erik Rebek, who covered the pesticide general permit for Oklahoma City, the history of state and federal regulations, pesticides as a water quality stressor and protective native insect pollinators.

The workshop was held December 5th at the Mike DeGiacomo Training Facility and offered a total of 3 CEUs; 2 units in Ornamental and Turf (category 3a) and 1unit Aquatics (category 5). A total of 48 CEUs were earned during the training.

Pesticide General Permit

Oklahoma City submitted a Notice of Intent (NOI) to the Environmental Protection Agency for coverage under the first National Pollutant Discharge Elimination System (NPDES) Pesticide General Permit (PGP) in 2012. Permit coverage began on March 4, 2012 and expired on October 31, 2016. On December 20, 2012, ODAFF received authorization to regulate certain PGP activities in Oklahoma. On expiration of the first permit, the ODAFF revised the PGP and Oklahoma City submitted a second NOI on July 17, 2017 covering the pesticide use activities on mosquito/other flying insect pest control and weed/algae pest control. Oklahoma City requested one stream segment classified as Tier 2 or Sensitive Public and Private Water Supply (SWS) be considered as existing discharge (discharges existing prior to June 11, 1989) and two stream segments be considered new discharges eligible for herbicidal treatment. In addition, Oklahoma City requested that ODAFF consider Lake Stanley Draper for continued herbicide treatment activities to control Phragmites.

Oklahoma River tributary

## Mosquito Larvicide Application Program

Oklahoma City has worked with the Oklahoma City/County Health Department (OCCHD) for 16 years to monitor and control mosquito populations within Oklahoma City.

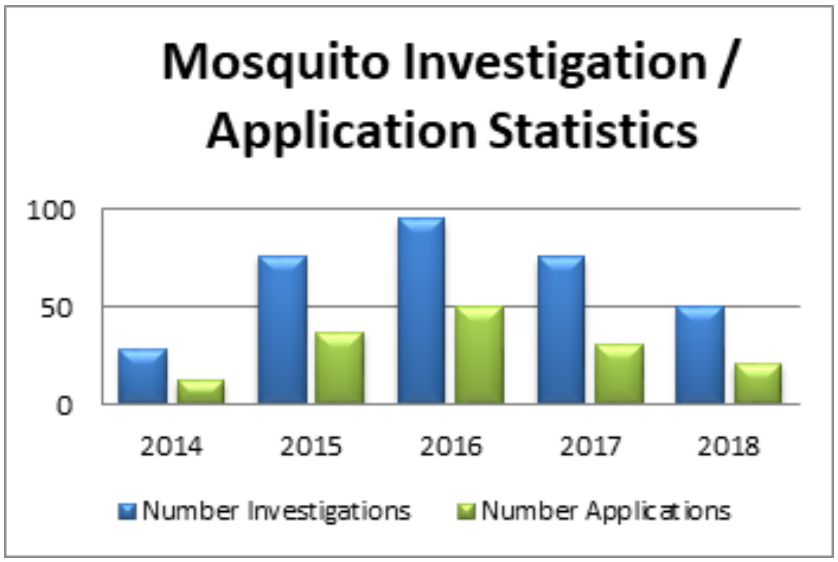
SWQ used larvicides to control temporary and permanent mosquito nursery pools, which included applications to the MS4. Altosid XR (EPA Registration Number 2724-421), is used in transitory or perennially inundated areas that support mosquito egg laying, larvae growth and emergence. The pesticide's active ingredient is (s)-Methoprene (2.1% dry weight basis) which functions as a larval growth inhibitor. This larval growth inhibitor specifically stops the mosquito life cycle in larval stages and can be effective up to 150 days in the application area.

Mosquito habitat investigation equipment

Altosid Pro-G (EPA Registration Number 2724-451) was added as an alternative to Altosid XR. As with Altosid XR, (s)-Methoprene is the active ingredient. However, Altosid Pro-G is effective for a shorter duration of time (~30 days versus ~150). A granular formula was preferred for habitats which required smaller applications due to water depth, proximity to larger non-infested waters or waters which are transient and more permanent control was unnecessary

OCCHD provided Oklahoma City an additional pesticide for larvae control. FourStar (EPA Registration Number 8336-3) is used in temporary or permanent water sources and can control mosquito larvae through a sustained release of up to 180 days. This particular formulation is in briquette form and is a *Bacillus sphaericus* strain 2362, *Bacillus thuringiensis* sp. Israelensis Serotype H14.

Trained personnel respond to calls regarding suspected or confirmed mosquito habitat. Field observations are recorded and applications will be conducted if habitat is present and mosquito larvae are detected.



During the 2018 permit term, SWQ personnel conducted 50 mosquito investigations, which resulted in 21 applications and a surface treatment area of approximately 10,100 sq. feet. The application rate versus the investigation rate was 42%.

In early 2013, efforts were initiated between Oklahoma City and OCCHD to begin an adult mosquito surveillance program. This program was continued during the 2018 permit term. Oklahoma City staff provided secure mosquito monitoring locations, personnel and maintenance of the surveillance equipment. OCCHD provided the adult mosquito traps, taxonomic identification and testing for the presence of West Nile Virus (WNV). Two types of mosquito traps are currently used; six gravid traps and two BG Sentinel 2 traps. The BG Sentinel 2 trap uses a chemical attractant to specifically target the Aedes mosquito. Eight monitoring stations were assessed throughout the mosquito season accounting for 184 field visits. Technicians collected 11,191 adult mosquitos of which approximately 91% (10,290) were tested for the presence of the WNV. Fifty station test results were positive for the presence of WNV. Monitoring results are currently being used to understand local mosquito population densities and dynamics, identify the presence of the WNV in mosquito populations, and identify key mosquito species which show the presence of WNV. The program is expected to continue during the 2019 mosquito season.

Mosquito monitoring

## Pollution Complaints and Spill Response Program

### Action Center

In an effort to make neighborhoods a great place to live, the City provides a one-stop resident assistance office. Residents can contact the Action Center to report problems or get information about City services. When a problem is reported, the appropriate department is notified. The Action Center request is tracked and a letter is sent to the resident to let them know the City is working on a solution. During the reporting period, SWQ personnel responded to 421 Action Center requests.

The online Action Center service request form makes it easier for residents to find and accurately report problems in their neighborhood. The system includes all valid Oklahoma City street addresses, an expanded list of service types and access to previously reported requests.

To report a problem, residents select a request type such as: swimming pool water discharge, grass clippings being dumped into the MS4, or blowing dust and debris. Detailed comments may also be submitted with the request. The system assigns the request a confirmation number that allows a person to check the status of the request. Not only can residents check the status of their service request, they can see if there are existing requests on a specific address.

Residents are encouraged to use the online system to report non-emergent problems. The online service request form may be submitted 24 hours a day, seven days a week. Problems may also be reported by calling the Action Center.

### Hazardous Spills and Illicit Discharges Response

The Storm Water Quality Management Division responds as technical advisors to the fire department hazardous materials unit on emergency spill calls to ensure proper cleanup. SWQ Environmental Technicians are on-call 24 hours a day for response to spills and to serve as technical advisors to prevent/or mitigate contaminated runoff from entering the storm sewer system. During the reporting period, SWQ technicians responded to 107 hazardous material incidents.

SWQ Environmental Technicians also respond to pollution source investigations. Discharges can occur through illicit plumbing connections to the City's storm sewer system, deliberate dumping, or accidental spills. The program works to reduce the number of discharges by tracking and eliminating illicit connections, enforcing state and local statutes regarding illegal discharges, and responding to spills to ensure material containment and cleanup. During the reporting period, SWQ responded to 7 pollution source investigations.

SWQ responded to 107 hazardous materials incidents

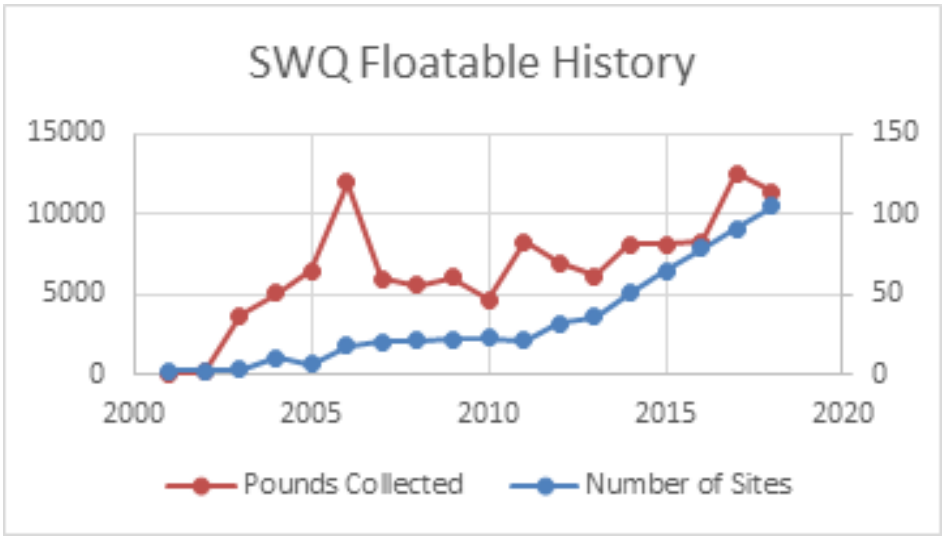
## PUBLIC WORKS RESPONSE MANAGER

Storm Water Quality utilizes an internal system to follow resident concerns. The system, known as the Public Works Response Manager, allows employees to enter the residents' concern, assign the concern to the appropriate division, check the status of the concern and mark the item as complete. The system assists in the timely response to concerned residents.

Storm Water Quality responded to 10 Response Manager Requests in 2018.

## Floatable Monitoring Program

One hundred and five stations (excluding the Oklahoma River debris barriers) were active during the 2018 permit term.




Oklahoma City uses channel-wide netting, circular outfall netting, storm drain inserts and debris barriers to capture or contain floating debris from the drainage systems and waterways.

To reduce the discharge of floating debris into the Oklahoma River, 26 river debris barriers were installed in the Paul H. Brum, May Avenue, and Eastern Avenue river basins. The barriers are continuously monitored and debris is removed on an as-needed basis by Oklahoma City crews. As these structures are subjected to harsh environmental conditions, damage to the debris barriers is anticipated. Twenty-five barriers are still in place. One barrier station was retired due to non-use and that barrier re-purposed as a replacement for a failing barrier. A comprehensive inspection was conducted in January 2019. Field notes indicate that one debris barrier will need replacement during the 2019 permit term.

2018 Waterway Clean Sweep Event

The Floatable Debris Program is targeted to assess factors from human-generated debris carried into streams and storm drainage networks during elevated flow conditions. Quantities collected are expected to fluctuate with the volume of runoff associated with each individual storm event. Certain debris items, such as algal biomass and grass clippings, are also expected to fluctuate seasonally when algae metabolism slows or warm season grasses become dormant.


Removal and categorization of debris from the 105 stations was maintained after each rainfall event or on an as-needed basis. A total of 11,401 pounds were collected during 490 site visits. Approximately 1,162 pounds of trash was collected from these events. The remaining 10,239 pounds of the debris collected was classified as natural debris.

The Public Works Department, Streets and Drainage Maintenance Division provides a significant role with regard to the floatable debris management. On average, the division employs six staff members to remove debris and provide maintenance in the impounded segments of the Oklahoma River. Seasonally, additional employees may be added on an as needed basis to provide increased support for the debris removal activities.

During 2018, the Oklahoma River Maintenance Crew removed and properly disposed of 195 tons of debris. Records are maintained for each basin (Western, Eastern and May Avenue basins). The Western Avenue basin accounted for the highest amount of debris removed (142 tons) followed by the Eastern Avenue (52 tons) and the May Avenue (1 ton).

## Wet Weather Analytical Monitoring

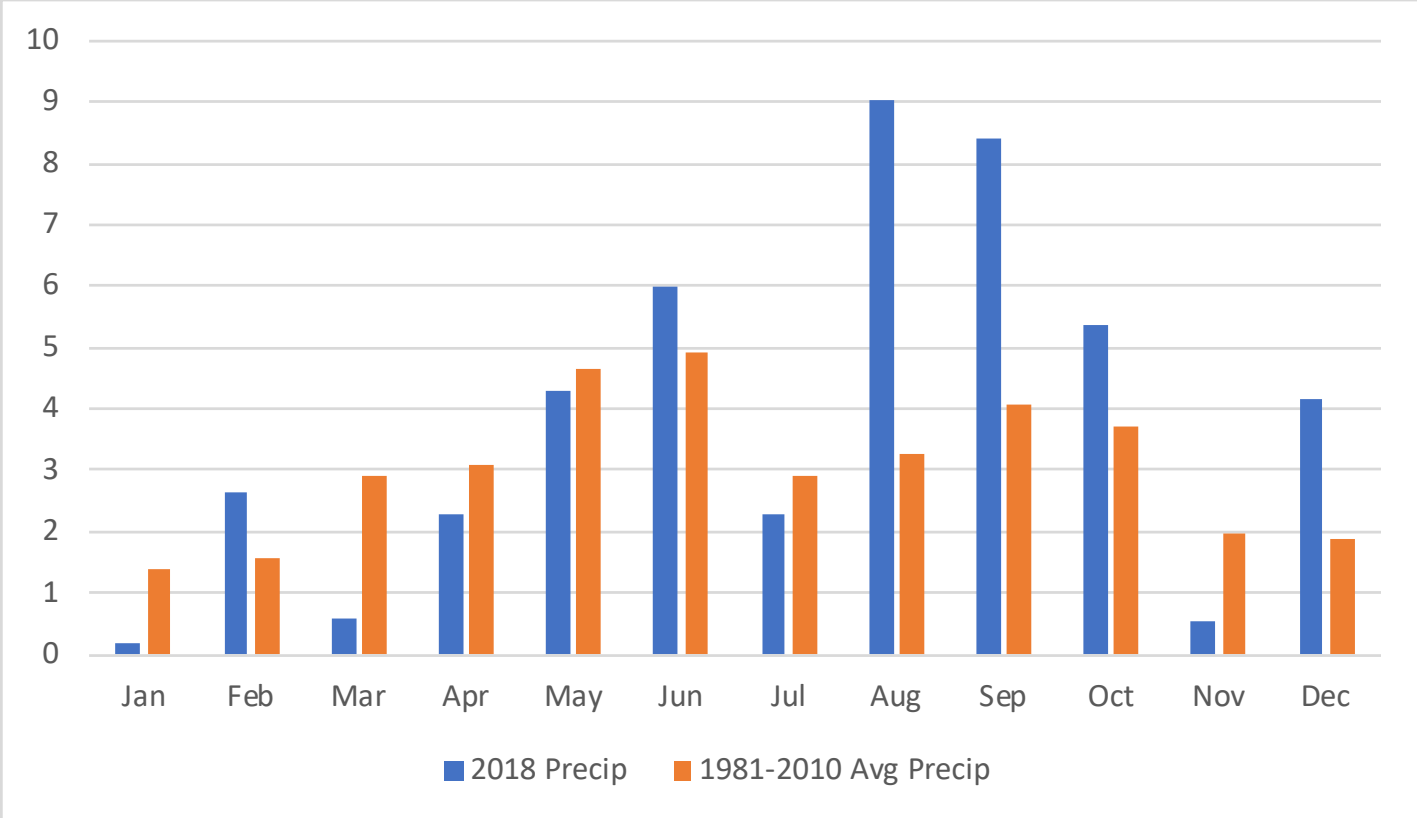
During the 2018 permit term, SWQ selected three stations to monitor; 85, 616 and 754. No optional stations were monitored during the permit term.

Accomplishments for this program included 66% completion of the three permit required wet weather stations at a frequency of two times per permit year. A total of six rainfall events were attempted or conducted. Four monitoring events were successfully monitored and two monitoring event was cancelled due to lack of qualifying rainfall conditions.

### Precipitation Amounts for 2018

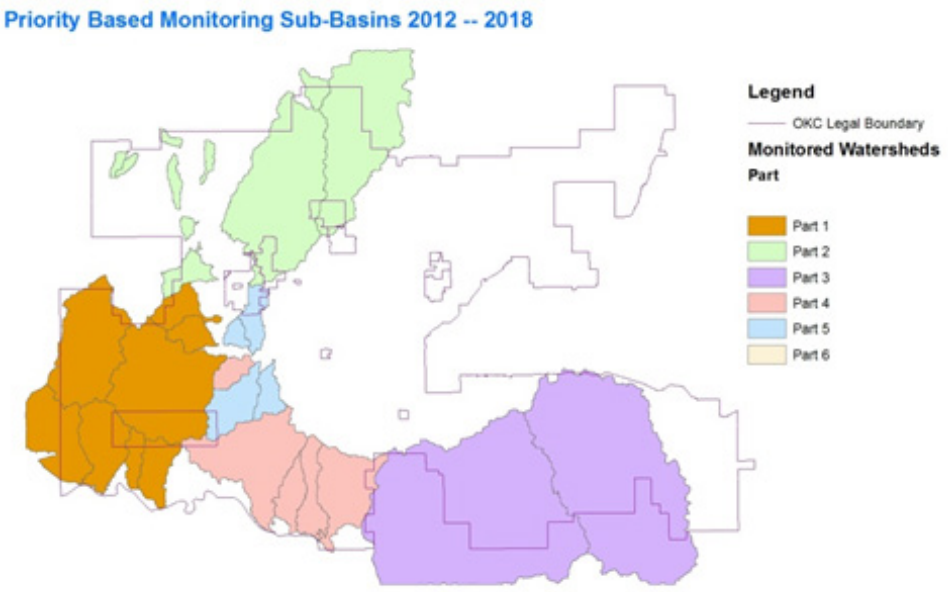
National Weather Service historical records for Oklahoma City (Will Rogers World Airport) were researched for precipitation data. The 2018 monthly precipitation totals were compared to the corresponding thirty-year average monthly totals from 1981 through 2010.

The annual precipitation for Oklahoma City in 2018 was 45.85 inches, 9.49 inches greater than the thirty-year average of 36.36 inches. In February, June, August, September, October, and December of 2018, Oklahoma City received greater precipitation than the 30-year average for the corresponding months. For all other months, Oklahoma City received less than average monthly precipitation. Monthly precipitation in Oklahoma City was below average for 50% of 2018.



## Priority Based Monitoring Program

The Priority Based Monitoring Program was developed to acquire additional information within basins identified during the Watershed Characterization Program as not meeting one or more State Water Quality Standard. Impairment listings identified in the most recent Integrated Report were used to prioritize additional watersheds for inclusion in the program. Quality Assurance Project Plans (QAPPs) were developed for each study basin. QAPPs describe the purpose, scope and quality assurance/quality control objectives for the monitoring efforts. The scope of the project is to identify specific sub-drainage areas which may be contributing to the impairment listing.




The initial planning stages for the project were implemented during late 2011 and early 2012. The anticipated project completion is expected to span two Municipal Separate Storm Sewer System Permit cycles. Part I monitoring requirement was initiated in April 2012. Basins selected for monitoring are generally grouped in geographically close proximity for efficiency purposes.

Program milestones:

- Completion of QAPP documentation for Part I through Part VII.
- 100% completion of all monitoring requirements for Part I, II, III, IV and V.
- 100% completion of summary reporting for Part I, II, and III (Parts I-III summary reports are included with this annual report).
- 100% data review of Part IV monitoring efforts.
- 83% completion of the monitoring requirements for Part VI.

Recording Monitoring Results

## Water Quality Monitoring Activities

### General Overview

The number of monitoring stations selected is based on the data needs of each study area. In situ monitoring and laboratory test parameters are determined based on information needed to describe any relevant water quality problems identified by previous water studies or external sources. Generally, each location selected for study will be visited during thirty fixed interval monitoring events over a fifteen month period. Other monitoring efforts, such as diurnal dissolved oxygen, caffeine, triclosan, indicator bacteria, optical brightener, conductivity and biological studies will be conducted seasonally or as determined by other targeted conditions.

Water quality monitoring

Storm Sampling

Passive Sampler

A tailored monitoring plan for each basin was developed by selecting from a list of field observations and laboratory parameters. Laboratory study parameters may include; total phosphorus, total nitrogen, nitrate as nitrogen, nitrate plus nitrite, biochemical oxygen demanding substances (BOD), carbonaceous biochemical oxygen demanding substances (CBOD), chemical oxygen demanding substances (COD), E. coli, Enterococci, total suspended solids (TSS), total dissolved solids (TDS), sulfate, caffeine, triclosan, optical brightener, ammonia nitrogen and selenium. In situ test parameters may include dissolved oxygen (grab and diurnal), swath based optical brightener, water temperature, specific conductance, discharge, oil & grease (visual), pH, habitat assessment, turbidity, total chlorine and free chlorine. Biological collections (fish) may be collected at certain stations.

## Priority Monitoring Part V Water Quality Monitoring Summary

Twelve monitoring locations were selected in four sub-basins of the North Canadian River watershed.

Monitoring activities started in December 2016 and continued through the January 2018.

36 station records were reviewed which included the collection of 17 water samples, 21 field chemistry reports and 12 quality control samples.

At the closure of the 2018 permit term, the water sampling component of Part V was 100% complete.

## Priority Monitoring Part VI Water Quality Monitoring Summary

Eleven monitoring locations were selected in five sub-basins of the North Canadian River and Deep Fork River watersheds.

Monitoring activities started in January 2018 and continued through the permit year.

293 station records were reviewed which included the collection of 130 water samples, 257 field chemistry reports and 41 quality control samples.

Four diel studies were completed in July and August 2018 (stations 1432, 656, 1327, and 1561). 1,158 dissolved oxygen measurements were reported during the permit term. An additional six stations scheduled for diel studies were attempted, however the streams were dry at the time of the site visitation (stations 1431, 1562, 1321, 1446, 1447, and 1325).

Twenty-eight water samples (excluding quality control samples) were acquired for triclosan and caffeine.

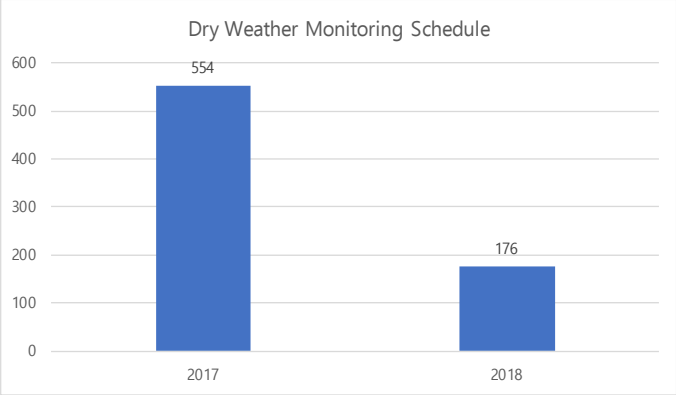
No fish collections were scheduled for the 2018 permit term.

At the closure of the 2018 permit term, the water sampling component of Part VI was 83% complete.

The final sampling efforts are scheduled for completion in March 2019.

## Illicit Discharge Detection and Elimination Program

Dry weather screening is a field monitoring technique used by the City to detect illicit discharges such as illegal connections, potable water line leaks, wastewater line leaks, illegal discharges and out of compliance discharges from construction activities, industrial operations and residential land uses.




Part III.A.14 of the OKC MS4 Permit requires the completion of 100% of the 554 Dry Weather Field Screening stations three times each permit term. Year 1 and 5, 100% of the sites will be monitored. Year 2, 3 and 4 roughly 1/3 of the sites will be monitored. Screening results identified as illicit non-storm water discharges were investigated and appropriate actions taken.

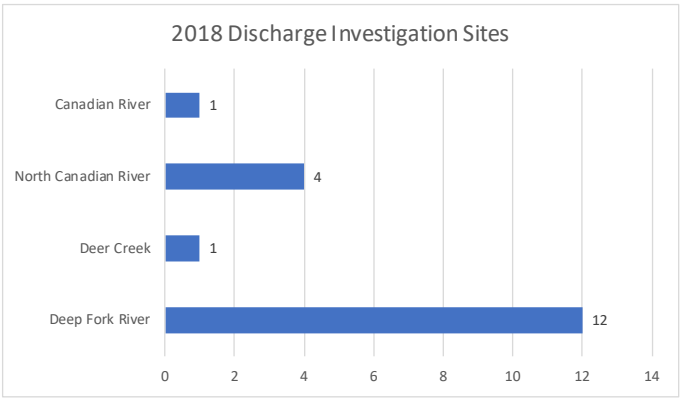
A total of 349 station visits were completed from February through November 2018. This accounts for roughly a 100% completion rate of the 2018 testing requirements. Verification of field paperwork indicated that 18 stations have pending follow-up investigations to determine the cause of the elevated field testing results.

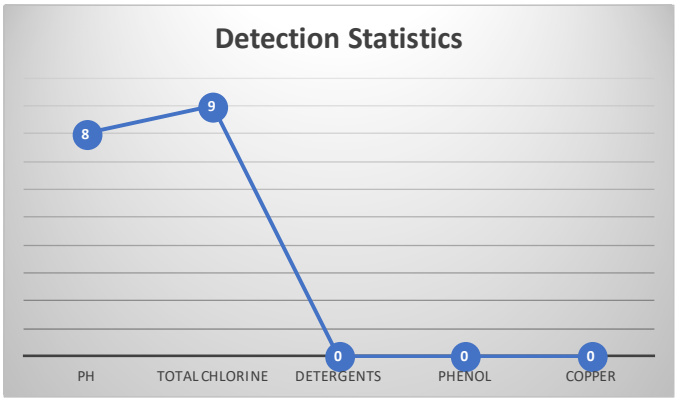
Seventy-one percent of the stations monitored had sufficient water for testing. The remaining

29% were determined to have insufficient water for sampling; however, field observations were conducted.

Eighteen follow-up investigations were accomplished and remedial actions sought by the responsible parties, when applicable. Any pending investigation activities will be completed during the 2019 permit term.

2018 field testing results indicated variability with regard to parameters which require additional follow-up. Total chlorine accounted for the highest percentage (50%) followed by pH (44%), and detergents (6%).





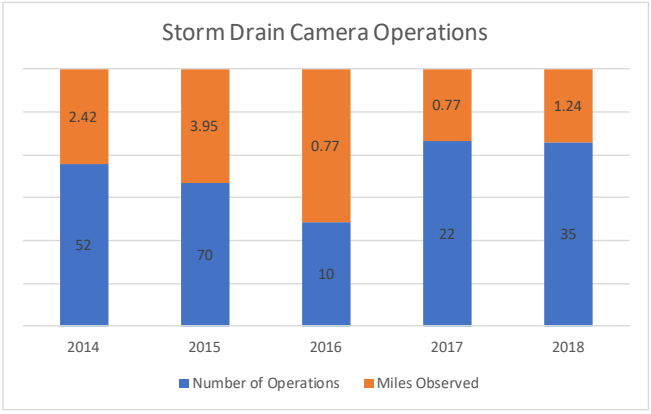

Storm Water Quality continued to utilize the CUES steerable storm drain camera system to identify sources of pollutants, verify structural defects, confirm repairs and isolate blockages within the storm drainage network. The camera system is housed in an enclosed cargo trailer which can be used as a stand-alone unit or towed behind a vehicle to locations throughout the City. Video inspections are recorded onto a DVD for documentation purposes.

CUES camera

A standardized field form is completed for each video inspection, which includes investigation location information, conduit size and configuration, time, defects or other problems encountered. Specific distances of items noted are recorded for any necessary follow-up actions.

During 2018, Storm Water Quality Management performed 35 camera operations. 6,563 feet (1.24 miles) of storm drains were inspected during these investigations. The transporter and camera unit assisted in the discovery of structural problems, sanitary sewer infiltration, potable water infiltration, and commercial illicit connections.

In addition to Storm Water Quality's camera operations, the Streets and Drainage Maintenance Division of the Public Works Department provides camera inspection services. Crew tasks generally include isolating structural problems, responding to poor drainage or inspecting replaced or reconditioned storm drainage structures. Thirty camera inspections were completed during the permit term which totaled 5,280 feet (0.99 miles). The crews performed a combined total of 65 closed circuit storm drain camera inspections during the 2018 permit term which accounted for 11,771 feet (2.23 miles) of assessed structural assets.



## SPECIAL ROXBORO PROJECT

SWQ continued several special water sampling programs during the 2018 permit term including the Special Project Roxboro Addition. This project originally included the collection of field water quality information at three monitoring stations twice per month.

The Roxboro Addition project area is located between Hefner and Rockwell near NW 116th Street in a single family medium density residential area. The program was initiated by citizen request. Field parameters include estimated or measured discharge, total chlorine, pH, water temperature, phenol, total copper and detergents. During the 2018 permit term, six site visits were conducted for the Special Project Roxboro Addition program. The project was terminated in May of 2018.

Roxboro Project water sampling

## Oklahoma River Bacteria Program

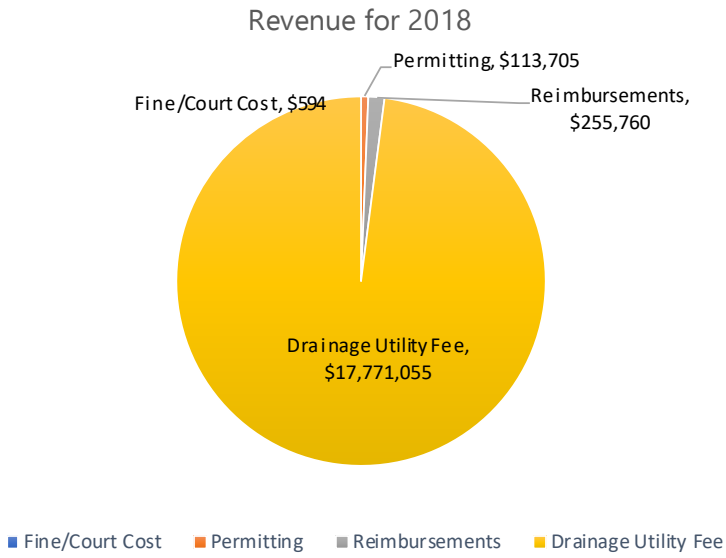
To generate the information needed to assess the levels of fecal contamination indicators in the Oklahoma and North Canadian River, SWQ initiated a three part bacteria monitoring program. The program includes dry weather, wet weather and fixed interval sampling efforts with focus on the bacterial parameters E. coli and enterococci. Data were reported for one monitoring station (1359) during 2018. Forty-nine sampling events were recorded during the permit year. An additional seven samples were collected or created as part of the project's quality assurance efforts. Quality control samples included three trip blanks, three sample splits and one sample replicate.

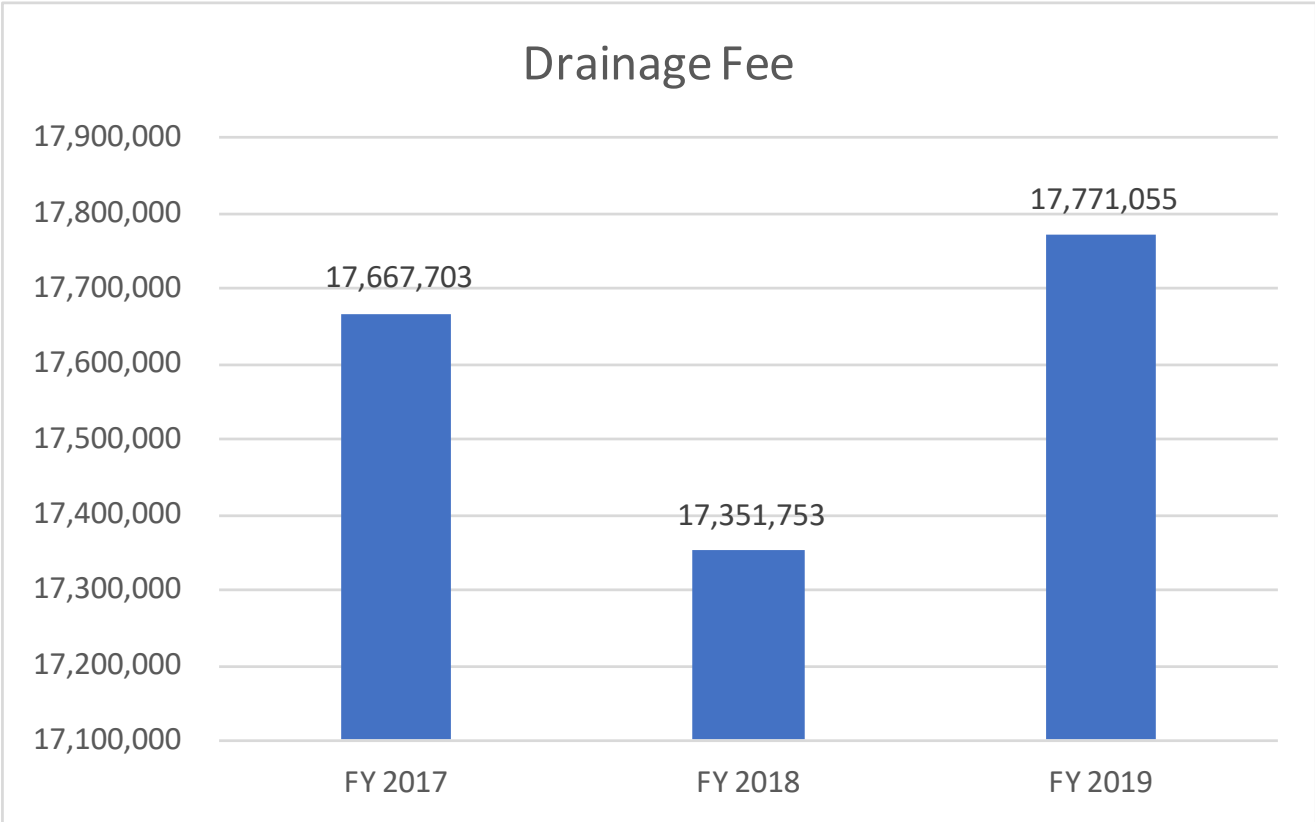
In efforts to foster safe water recreation, Oklahoma City allows swimming in natural waters on a permit basis. These revocable permits have specific language detailing indicator bacteria (E. coli) and blue-green algae threshold counts to continue an event which includes primary body contact recreation. Ten sampling events were conducted in support of permitted swimming activities. Samples were collected for the Redman Triathlon at Lake Hefner in September and the Holiday River Parade in December.

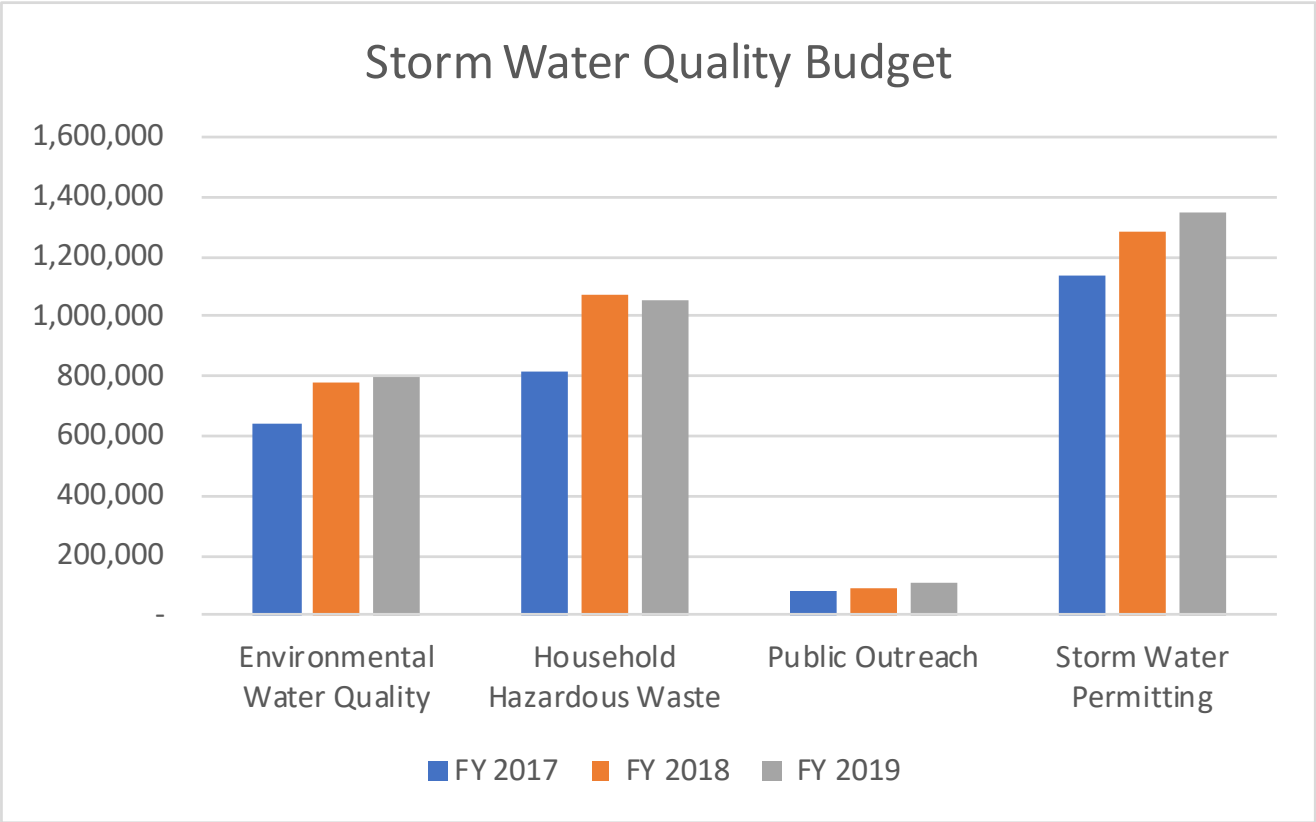
Oklahoma River

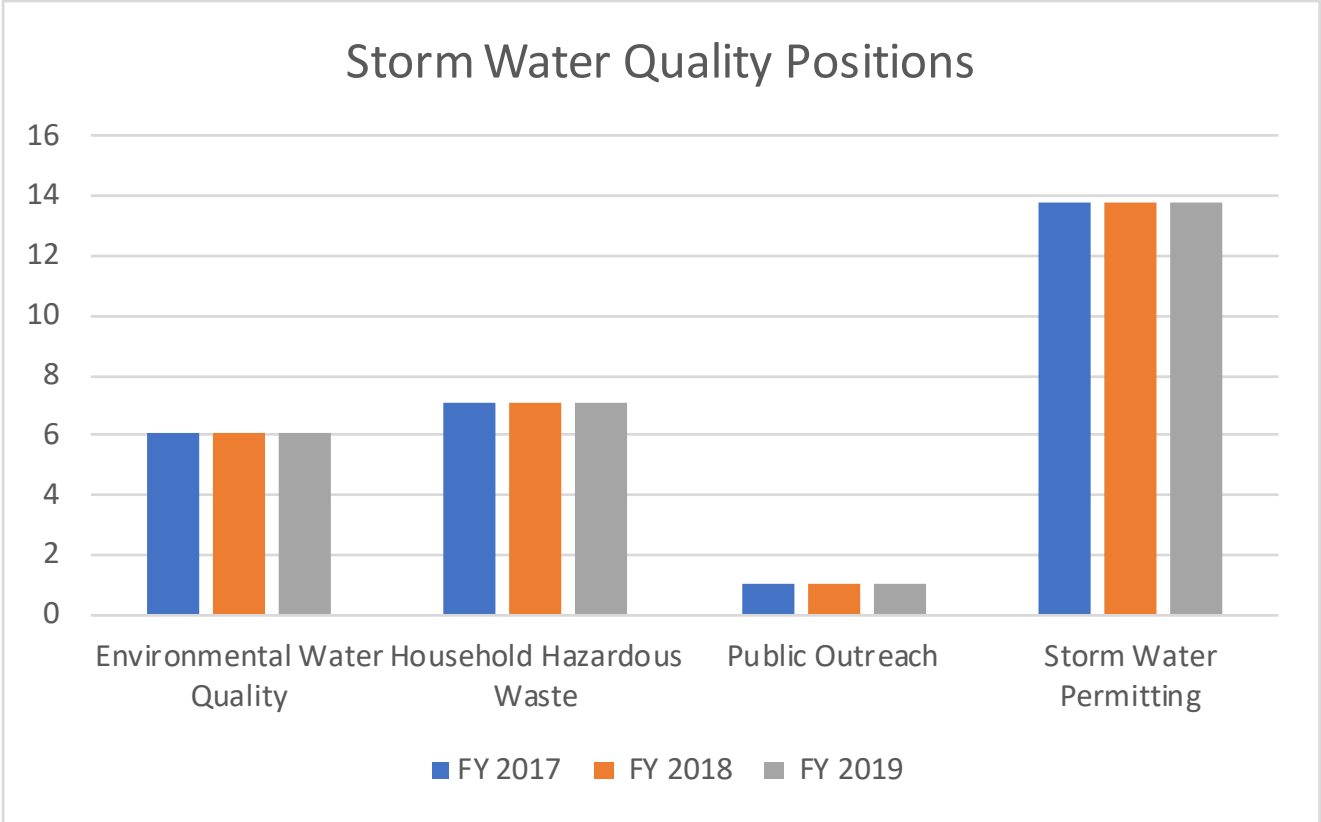
# BUDGET

The storm water drainage utility was established by city council on June 13, 1995 to address federal mandates governing National Pollution Discharge Elimination System (NPDES) programs, and is responsible for planning and implementing strategies to improve the quality of storm and other runoff waters. The utility is an enterprise with operating revenues generated from a drainage fee. Fees are billed monthly, along with water, wastewater and solid waste fees.




Storm Water Quality Budget
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
-
Environmental Water Quality
Household Hazardous Waste
Public Outreach
Storm Water Permitting
FY 2017
FY 2018
FY 2019


Storm Water Quality Positions
16
14
12
10
8
6
4
2
0
Environmental Water Quality
Household Hazardous Waste
Public Outreach
Storm Water Permitting
FY 2017
FY 2018
FY 2019

# Storm Water Quality Management Division Staff

**Administration**

Raymond Melton, Environmental Protection Manager
Tonya Barnes, Administrative Coordinator
Shantal Craig, Office Coordinator
Brandy Morgan, Administrative Technician
Andrea Shelton, Community Relations Coordinator

**Household Hazardous Waste**

Lyndel Gibson, Environmental Unit Supervisor
Jessica Gravlin, Administrative Coordinator
Chris Stuart, Environmental Unit Specialist
Bryan Blalack, Environmental Technician
Brian Mairet, Environmental Technician
Aaron Sears, Environmental Technician
Ricky Vera, Environmental Technician

**Construction**

Scott Cox, Environmental Unit Supervisor
Josh Adams, Environmental Technician
Bruce Teel, Environmental Technician
Bryan Jones, Environmental Technician
Jimmy Stotts, Environmental Technician
Joseph Billington, Environmental Technician

**Environmental**

Derek Johnson, Environmental Unit Supervisor
Heather Collier, Environmental Technician
Dawson McNeill, Environmental Unit Specialist
Seth Naizer, Environmental Technician
Martin Tolbert, Professional Technician
Donny Li, Environmental Technician

**Industrial**

Rebecca Dallen, Environmental Unit Supervisor
Buck Pearson, Environmental Technician
Kevin Bahjat, Environmental Technician
Sylvain Hache, Environmental Technician


**PUBLIC WORKS DEPARTMENT**

*Stormwater Quality Management Division*

*Current Organizational Chart FY 2019-2020*

**Public Works Director / City Engineer**
**ERIC WENGER, P.E.**

**Stormwater Quality Environmental Protection Manager**
**RAYMOND MELTON**

**Administration**
- **Administrative Coordinator** TONYA BARNES
- Office Coordinator SHANTAL CRAIG
- **Community Relations Coordinator** ANDREA SHELTON

**Industrial Permitting & Auditing**
- **Environmental Unit Supervisor** REBECCA DALLEN
- Environmental Technician KEVIN BAHJAT
- Environmental Technician SYLVAIN HACHE
- Environmental Technician BUCK PEARSON
- Environmental Technician VACANT

**Construction Permitting & Auditing**
- **Environmental Unit Supervisor** SCOTT COX
- Environmental Technician JOSH ADAMS
- Environmental Technician JOSEPH BILLINGTON
- Environmental Technician BRYAN JONES
- Environmental Technician BRUCE TEEL
- Environmental Technician JIMMY STOTTS

**Household Hazardous Waste**
- **Environmental Unit Supervisor** LYNDEL GIBSON
- Administrative Coordinator JESSICA GRAVLIN
- Environmental Unit Specialist CHRIS STUART
- Environmental Technician BRYAN BLALACK
- Environmental Technician BRIAN MAIRET
- Environmental Technician AARON SEARS
- Environmental Technician RICARDO VERA

**Environmental Water Quality**
- **Environmental Unit Supervisor** DEREK JOHNSON
- Environmental Unit Specialist DAWSON MCNEILL
- Environmental Technician HEATHER COLLIER
- Environmental Technician DONNY LE
- Environmental Technician SETH NAIZER
- Environmental Technician VACANT
- Administrative Technician BRANDY MORGAN
- Professional Technician MARTIN TOLBERT
- Professional Technician VACANT

## MS4 Specific Requirements

Program Component - Part II.B.2 of the Oklahoma City MS4 Permit requires certain initiatives to incorporate, plan and implement to reduce pollutants discharged into waters of the State. The following sections provide the requirements and annual program accomplishments for the applicable Total Maximum Daily Loads (TMDLs) in Oklahoma City.

Lake Thunderbird TMDL sampling

Part II.B.2 Total Maximum Daily Load (TMDL) Allocations

1. Discharge of a pollutant into any water for which a TMDL or watershed plan in lieu of a TMDL for that pollutant has been either established or approved by the DEQ or EPA is prohibited, unless your discharge is consistent with that TMDL or watershed plan. You must incorporate any limitations, conditions, monitoring and other requirements applicable to your discharges into your SWMP to ensure that the waste load allocation, load allocation and/or the TMDLs associated implementation plan will be met within any time frames established in the TMDL or water shed plan. You must adopt any WLAs assigned to your discharges specified in the TMDL as measurable goals within the permit.

2. If a TMDL or watershed plan in lieu of a TMDL is approved for any water body into which you discharge after the date that your permit becomes effective, you must incorporate any limitations, conditions, and requirements applicable to your discharges into your SWMP to ensure that the waste load allocation, load allocation and/or the TMDLs associated implementation plan will be met within any time frames established in the TMDL or watershed plan. Monitoring and reporting of the discharges may also be required as appropriate to ensure compliance with the TMDL or water shed plan. You must adopt any WLAs assigned to your discharges specified in the TMDL as measurable goals within the permit.

Lake Thunderbird Report for Nutrient, Turbidity, and Dissolved Oxygen TMDL

- November 20, 2013, OKC was notified by the Oklahoma Department of Environmental Quality of EPA approval of the Lake Thunderbird TMDL for Nutrient, Turbidity and Dissolved Oxygen.
- Requirements included incorporation of the TMDL Waste Load Allocations into the City's Storm Water Management Plan, and development of a TMDL Compliance and Monitoring Plan for the Lake Thunderbird water shed in Oklahoma City.

## 2018 TMDL Milestones

**Monitoring Summary Quarterly Grab Sample** Collection for Hog Creek (Site 24), Elm Creek (Site 570) and Unnamed Tributary to Little River (Site 568).

- Dec 27, 17 – Complete 1st quarter samples
- April 3 – Complete 2nd quarter grab samples
- July 10 – Complete 3rd quarter grab samples
- Oct 2 – Complete 4th quarter grab samples. A trip blank, sample split and replicate quality control samples were acquired on this sampling trip.

TMDL auto-sampling station

### Trend Monitoring

Continued monitoring at the three stations in the OKC Lake Thunderbird watershed providing continuous discharge measurements and sample collection. Each sample consists of flow proportioned aliquots using data to calculate the loading for each week of sample collection.

- Sixty-nine sampling events were conducted at Station 24. Fifty-six event mean concentrations meeting quality assurance were used to calculate the total phosphorus (TP) and total suspended solids (TSS) loads. Approximately 81% of the year was sampled. Thirteen samples were flagged for quality assurance violations and not used for calculating the estimated annual load. The average TP and TSS loads were 5.01 kg/day and 5,999.79 kg/day, respectively.
- Sixty-nine sampling events were conducted at Station 570. Fifty-two TP and forty-nine TSS results were used to estimate the annual loads. Approximately 72% and 76% of the year was sampled for TSS and TP. Nineteen samples were flagged for quality assurance violations and not used for calculating the estimated annual load. The average TP and TSS loads were 3.75 kg/day and 4,369.23 kg/day, respectively.
- Seventy sampling events were conducted at Station 568. Forty-three TP and thirty-six TSS results were used to estimate the annual loads. Approximately 49% and 61% of the year was sampled for TSS and TP, respectively. Thirty-one samples were flagged for quality assurance violations and not used for calculating the estimated annual load. The average TP and TSS were 0.56 kg/day and 839.23 kg/day, respectively.
- Compliance with the TMDL was assessed by using total loads estimated for 2018 to calculate the long-term average (LTA) load. Data was assessed to determine if any maximum daily load (MDL) violations occurred. Eleven MDL violations were noted at Stations 570 (1 TP, 4 TSS), 568 (1 TSS), and 24 (5 TSS). The long-term averages were below the required TMDL LTAs.

### Major Outfall Monitoring (Passive Sampling)

- March 27 – Sampling event conducted. Group 1, 79% of stations sampled. Group 2, 86% of stations sampled.
- April 25 – Sampling event conducted. Group 2, 100% of stations sampled.
- October 25 - Sampling event conducted. Group 2, 86% of stations sampled.

### Dry Weather Screening (IDDE Monitoring)

- Thirty-to stations were visited from June 5 - November 8, 2018.
- Sixteen stations were dry and sixteen stations were screened with the field test kits.
- Site #37 screening reports indicated chlorinated water slightly above SWQ's follow-up levels. Follow-up reports indicate that the source of the chlorinated water was not present at the time of re-testing.

### Other

- April 25 - June 22: Deployment of door hanger information pamphlets at 196 residential properties in the Lake Thunderbird watershed.
- Outreach efforts included an estimated 267,911 contacts with water quality information applicable to the Lake Thunderbird TMDL.
- Two Rain barrels were sold to residents in the Lake Thunderbird watershed.
- Oklahoma City personnel installed storm drain markers (9 markers) or identified embossed storm drain inlets (17 locations) at 26 sites in the Lake Thunderbird watershed.
- The Lake Thunderbird Watershed Partnership website www.thunderbirdwatershed.org was activated on December 14, 2018.

### TMDL Compliance Plan and TMDL Monitoring Plan

- No changes to the OKC Compliance Plan or TMDL Monitoring Plan were made during the annual review period.

TMDL related training for City staff

**Training**

Several trainings, seminars and conferences related to best management practices, storm water infrastructure, sustainability, and other storm water related topics were provided during the annual review period. OKC and other agency staff participated in these trainings. Training on subject matter which is related to the TMDL totaled over 300 hours.

## Meetings

March 7:  Lake Thunderbird Watershed Partnership.
March 13:  Meeting Satelytics and Black & Veatch regarding data collection through satellite imagery and other data collection methods.
April 3:  Lake Thunderbird Watershed Partnership.
May 10:  Lake Thunderbird Watershed Partnership.
June 18:  Lake Thunderbird Watershed Partnership.
October 12:  Lake Thunderbird Watershed Partnership.
December 11:  Consultant interviews for DC-0299, Lake Thunderbird Watershed, Hog Creek; and DC-0300, Lake Thunderbird Watershed, Elm Creek.
December 12:  Lake Thunderbird TMDL presentation for City staff.
December 14:  Lake Thunderbird Watershed Partnership.

## Non-Structural BMP Load Reductions

Existing non-structural BMP pollutant removals (calculated using the Watershed Treatment Model) includes erosion & sediment control, street sweeping, and catch basin cleanouts. These non-structural BMPs were calculated to remove 40 lbs./year total nitrogen, 8 lbs./year total phosphorus, and 22,535 lbs./year total suspended solids.

## Structural BMP Load Reductions

Ongoing modeling of structural BMPs (calculated using the Watershed Treatment Model) such as detention, retention, and bio-infiltration has provided the estimated annual removal of 680 lbs/year total nitrogen, 230 lbs/year total phosphorus and 22,059 lbs/year total suspended solids.

Technician monitoring

Monitoring documentation

The City of
**OKLAHOMA CITY**
DEPARTMENT OF PUBLIC WORKS

## CERTIFICATION STATEMENT

**NPDES Permit No. OKS000101**
**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 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.

Eric J. Wenger, P.E., Director
Public Works/City Engineer

3/13/19
Date

March 11, 2019

Eric J. Wenger, P.E., Director
Public Works/ City Engineer
City of Oklahoma City
420 West Main Street, 7th Floor
Oklahoma City, OK 73102

Attention: Raymond Melton

Dear Mr. Melton:

Enclosed is the Oklahoma Department of Transportation portion of the Fiscal Year 2018 Annual Report to be submitted to the Oklahoma Department of Environmental Quality in accordance with the Oklahoma City Municipal Separate Storm Sewer System (MS4) Permit Number OKS000101. This report covers the period from January 1, 2018 through December 31, 2018.

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 Mr. Steven Gauthe at (405) 212-7920.

Sincerely,

Brian Taylor
Chief Engineer

Enclosure

CERTIFICATION STATEMENT

NPDES Permit No. OKS000101
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.

3/12/15

Brian Taylor
Chief Engineer

Date

FISCAL YEAR
2018
ANNUAL REPORT
BY THE
OKLAHOMA DEPARTMENT OF TRANSPORTATION (ODOT)
ON
OKLAHOMA CITY MS4 PERMIT # OKS000101

March 11, 2019

## 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 Oklahoma City metro area highway system shoulders are swept to remove sediment and debris. This sweeping program for the annual report period swept one thousand eight hundred sixteen(1,816) cubic yards of debris at a cost of approximately $412,506.55. A private contractor picks up litter from the highways in the city at an annual cost of approximately $400,000. A private contractor provides storm drain cleaning along the highways in the city at an annual cost of approximately $90,000. The estimated total expenditure for ODOT in anti-litter efforts statewide is approximately $4,500,000.

## Erosion and Sediment Control

ODOT's "Storm Water Management Guidelines for Design and Construction Activities" is used by ODOT design, construction and maintenance personnel, consulting engineers and contractors to select, design and maintain appropriate erosion control measures for our construction and maintenance activities. Currently, ODOT is working with a consultant to create manuals for Design, Implementation and Inspection of erosion and sediment control devices for construction projects. An internal Erosion and Sediment Control task force was formed in January 2003 to improve and standardize best management practices for ODOT and entities acting on their behalf.

The Department formed four Storm Water Advisory Teams (SWAT) for the development of Design, Construction, Maintenance and Public Education/ Public Involvement Best Management Practices for the agency in 2009. Currently, these teams are in the process of developing and conducting training and materials for educating ODOT personnel on Storm Water regulations.

ODOT/DEQ Enforcement staff has conducted multiple inspections on 9 construction road projects across the state. Any project with compliance issues was given fourteen days to remedy prior to a second inspection. Three Contractors were given non-compliance assessments from DEQ. These inspections will be ongoing for the foreseeable future. The goal is to inspect all road construction contractors with every ODOT construction office at least one time.

ODOT adopted a non-compliance assessment specification for construction contractors. The specification gives ODOT a mechanism to assess per day monetary fees for failure to comply with effective and timely measures, as requested by the weekly construction inspections.

Phase II MS4 Program

As of February 2005, ODOT was required to obtain a Phase II MS4 permit from DEQ. During this process, ODOT has been reviewing all aspects of our operations to comply with these additional requirements. ODOT has hired a consultant to advise the agency on the six Minimum Control Measures; Public Education and Outreach, Public Participation and Involvement, Illicit Discharge Detection and Elimination, Construction, Post Construction and Good Housekeeping / Pollution Prevention programs. ODOT has a proposed Combined Phase I and Phase II application that is currently waiting to be reviewed by DEQ.

Oklahoma Department of Environmental Quality personnel conducted a review of the ODOT Phase II MS4 Program on November 13th – 16th, 2012. The purpose of the review was to evaluate the current status of the ODOT Phase II MS4 program. The assessment consisted of a records review of ODOT's Storm Water Management Plan and site inspections of ODOT maintenance yards. Inspections were performed at the Cherokee County Maintenance Yard in Tahlequah, the Comanche County Maintenance Yard in Lawton, the Rogers County Maintenance Yard in Claremore and the Division One Headquarters in Muskogee. Overall, the maintenance yards visited were in good condition and the pride superintendents take over their yards was noted by the ODEQ inspectors. Additional storm water-related training for maintenance crews and engineering staff was encouraged and will be scheduled in the coming year.

ODEQ personnel inspected the ODOT central office garage and the Oklahoma City maintenance yard in November 2014. Minor violations such as, dumpsters without lids, were noted by the inspectors but have since been corrected. There were no spills of reportable quantity for 2018.

Illicit Discharge Detection and Elimination Program (IDDE)

ODOT continues to conduct Outfall Mapping in the regulated areas of the State. This effort is being done by Consultants. This data (pictures, inspection results) is being built into ODOT's Geographical Resource Intranet Portal system that contains multiple databases with many facets of highway information. A guidance document was developed to assist ODOT personnel in identifying and reporting an Illicit Discharge. It was distributed to all ODOT Maintenance staff. Discussion on tracking Highway Spills from accidents is ongoing between DEQ, ODOT Risk Managers, Maintenance personnel and the Highway Patrol.

Good Housekeeping / Pollution Prevention Plans (GHPPP)

ODOT has completed an inventory survey of facilities statewide to develop training on Good Housekeeping and Pollution Prevention. Funding for facility upgrades and/ or relocation is being pursued by the Agency. ODOT has built new maintenance facilities for McIntosh, Atoka, Cleveland, Kingfisher, Oklahoma City Annex, Jackson, Roger Mills, Woodward, Ellis, Cotton, and Creek Counties. Currently, each of the eight Field Divisions are evaluating location, condition and need to determine which County facility will be moved or rebuilt on site. These upgrades will further the Good Housekeeping /Pollution Prevention Minimum Control Measure by adding updated secondary containment devices and retention facilities. In addition, ODOT has developed a Good Housekeeping Pollution Prevention Plan Facility template. The templates are being completed for facilities in the regulated areas to satisfy DEQ requirements. Currently, all the facilities located in the regulated areas have been inspected for pollution prevention opportunities, procedures have been reviewed with their Maintenance Supervisors. GHPPP's and training are being developed.

ODOT has incorporated a "Clean Sweep" program at all of the facilities throughout the State. This program is intended to remove old materials that may be potential pollutants. This program is ongoing and is being conducted with the assistance of the Department of Central Services on the sale of the material that can be repurposed. This undertaking is being done for the Good Housekeeping/ Pollution Prevention MCM, as well as evaluating which facilities will require Spill Prevention, Control and Countermeasure (SPCC) plans. It has been determined that many facilities will not meet the required capacity for SPCC plans, after the Clean Sweep operation has been conducted.

Additionally, ODOT has hired a Consultant to map all the maintenance facilities in the regulated areas for possible water quality impacts, e.g., sensitive waters, aquatic resources of concern, endangered and threatened species. This information will be incorporated into the mapping database mentioned in the IDDE section.

Herbicide Application

The application of herbicides is performed by Oklahoma Department of Transportation employees. ODOT closely follows the procedures, rules, and regulations contained in the Oklahoma Pesticide Applicators Law. ODOT requires all its applicators to be licensed and are subject to the implementing regulations of this law. ODOT partners with the Oklahoma Department of Agriculture to offer the Pesticide Applicators test required for a license during our annual workshops.

ODOT has a contract with the Oklahoma State University/ Oklahoma Cooperative Extension Service to provide annual herbicide applicator workshops. Fourteen continuing education workshops were held across the state in each of the eight field divisions. Approximately five hundred seventy five people attended the workshops statewide, which includes eighty employees from the Oklahoma City area. A large portion of this workshop covered the various issues concerning environmentally safe usage of herbicides. Calibration/ Equipment Assessment Workshops were held statewide in February/April 2018. Four Certification Workshops were held statewide with about seventy employees attending. ODOT has scheduled the continuation of this training/certification for the coming year.

On October 31st, 2011, new EPA regulations were promulgated that brought Pesticide Application under the Clean Water Act, if applicable. ODOT has adopted a thirty foot buffer zone from all USGS "Blue Line" streams to meet EPA's Pesticide General Permit requirements. By using "terrestrial only" applications, ODOT will not be required to obtain Pesticide Application permits under the Clean Water Act. ODOT Environmental Programs Division attended the Field Division workshops, explained the buffer zone requirements, demonstrated how this process of shutting off the spray in the correct areas and the importance of complying with this regulation. An interactive, online map of Oklahoma USGS "Blue Line" streams was created by ODOT GIS personnel to assist applicators in identifying shut off areas for their prospective roadways.

Public Education/ Litter Program

ODOT has continued the statewide anti-litter campaign, "Oklahoma, Keep Our Land Grand". The litter hot-line (1-888-5-LITTER), is available to report littering anywhere across the state. Callers can report the offenders tag number. The people observed littering were sent a postcard requesting them to help "Keep Our Land Grand". Littering is against the law and offenders can be fined from $200 to $2000.

School-age children are invited annually to enter a poster contest, sponsored by ODOT; Oklahoma Department of Environmental Quality, Oklahoma State Department of Education, Keep Oklahoma Beautiful, Oklahoma Environmental Management Authority, Oklahoma Rural Water Association, Oklahoma Chapter of the Sierra Club, Solid Waste Institute of NE Oklahoma, Waste Research, Inc., Oklahoma Arts Council, Oklahoma Employees Credit Union,

OGE Energy Corporation, Veolia Water, Oklahoma Tourism & Recreation Department (Oklahoma State Parks), Wal-Mart, AEP-Public Service Company of Oklahoma, Oklahoma Turnpike Authority and the Oklahoma Highway Safety Office. Nearly fourteen thousand students, grade Kindergarten through 12th participated in the 2018 contest. The winning posters are printed for distribution to schools, businesses, and chambers of commerce. A quantity of forty five thousand calendars, featuring the winning posters, will be printed and distributed statewide to schools, libraries city, county, state and federal offices. One of the twelve winning posters will be featured on fourteen thousand color reprints distributed for promotional display purposes to spread the anti-litter message to Oklahoma citizens of all ages.

The 26th Annual State poster contest winners were honored at an April awards luncheon at ODOT's office in Oklahoma City. Each state poster winner received a monetary award of $250, $150 or $100 for first, second or third place. Winners also received a mounted reprint of their poster, placemats and t-shirts bearing their design. The twelve winners were then presented to the Oklahoma State House of Representatives at the Capitol. Each of the 12 students had the opportunity to get their photos taken with their respective representative.

As a component of ODOT's continuing education efforts, monthly Spotlight on Storm Water email bulletins began being developed and distributed in August 2013. The bulletins can be discussed at safety meetings, posted on bulletin boards or at the construction site field offices. They are intended to inform ODOT personnel about common problem areas on the construction site, new regulations and also highlight examples of effective erosion control.

Adopt-a-Highway/ TRASH-OFF

ODOT'S anti-litter efforts are still on-going and include one hundred thirty eight separate "Adopt-a-Highway" groups who remove litter from their two mile section of state highways at an interval of four times a year, and the "TRASH-OFF", an annual volunteer spring roadside cleaning sponsored by ODOT. Oklahoma City has twenty five "Adopt-a-Highway" groups covering fifty miles at a minimum of four times a year.

The Thirtieth Annual TRASH-OFF was held on Saturday, April 21, 2018. This year's event involved one hundred and thirty eight cities, eighteen counties, twenty five groups/organizations, two Corps of Engineers lakes, sixty one "Adopt-a-Highway" groups and twenty State parks in the cleanup effort. Many groups have expanded TRASH-OFF day to TRASH-OFF week or month. ODOT distributes trash bags for the annual TRASH-OFF. Last year, this effort resulted in one million five hundred thousand pounds of litter and debris collected from Oklahoma roadsides and public areas by 50,000 volunteers. This saved taxpayers an estimated 5 million dollars in clean-up costs. In addition, Keep Oklahoma Beautiful sponsors a banquet in the fall where awards are given to participants for "Best First Effort" and "Best Overall Effort".

ODOT is a member of the Central Oklahoma Storm Water Alliance (COWSA.) ODOT created a Storm Water contact link to the Website to receive questions or concerns regarding our processes and/or construction projects.

Wildflowers

Wildflower planting was ODOT's first landscaping program which started in 1976, but went into full scale planting in 1987. There are more than two thousand, two hundred acres in five hundred eighty six sites planted statewide. The Oklahoma Legislature passed a bill in May 2006 creating a new Oklahoma wildflower car tag. Every wildflower tag will donate twenty dollars toward the planting of wildflowers on Oklahoma roadsides.

Citizen donations of $280,086 have purchased wildflower seed for planting along highways during the last 25 years. To date, ODOT has planted approximately two thousand three hundred acres on roadside sites statewide.

Three drill seeders, specifically designed for wildflower seed, are used by ODOT for planting on highway roadsides. These drills are available for use by Oklahoma communities and organizations.

In the spring of 2016 a memorandum of agreement was signed in partnership with the Federal Highway Administration and the Missouri, Texas, Iowa, Kansas and Minnesota DOTs designating Interstate 35 as the Monarch Highway. The goal is to protect more of the Monarch Butterfly's natural habitat by allowing milkweed and native flowers to grow in the right-of-way where possible. In anticipation of the collaboration, ODOT began refraining from mowing highway rights-of-way statewide, except where necessary, until July when the flowers are primed for seed dispersal. Mowing was continued in urban areas and safety zones, which includes medians and rights-of-way up to 30 feet from the pavement's edge. A pollinator garden was also planted by ODOT staff at the Oklahoma City Welcome Center. The garden, a registered Monarch Waystation, is a 20 foot by 40 foot plot containing five types of milkweed, Black-eyed Susans, purple coneflower and other types of wildflowers. The garden will serve as educational tool for the public to help them recognize and protect milkweed and other native wildflowers.

Collection and Recycling

ODOT's Oklahoma City Maintenance personnel recycled approximately 100 gallons of oil this past year. The oil is picked up by a private contractor six times a year. Approximately, 2853 tires were recycled in 2018.

Mowing

ODOT's maintenance activities are being performed by private contractors that mow just over forty seven hundred acres per year in the Oklahoma City metropolitan area. This is done three times a year at a cost of approximately.

OKLAHOMA
TURNPIKE
AUTHORITY

March 8, 2019

Eric J. Wenger, P.E.
Director Public Works/City Engineer
City of Oklahoma City
420 West Main Street, Suite 700
Oklahoma City, OK 73102

Dear Mr. Wenger,

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 Oklahoma City's Separate Storm Sewer System (MS4) Permit Number OKS000101. This report covers the period from January 1, 2018 through December 31, 2018.

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

Sincerely,

Edward Dihrberg, P.E.
Project Engineer

OKLAHOMA
TURNPIKE
AUTHORITY

NPDES Permit No. OKS000101
January 1, 2018 through December 31, 2018
Annual Report for
Oklahoma Turnpike Authority (OTA)

This report covers OTA's stormwater management activities for the Turnpikes within the Oklahoma City MS4 (OKCMS4) area. Currently 12.5 miles of the west end of the Turner Turnpike and the entire 25.3 miles of the John Kilpatrick Turnpike are in the OKCMS4. As part of the Driving Forward initiative, the OTA is constructing an extension to the John Kilpatrick Turnpike and a new turnpike in eastern Oklahoma County connecting Turner Turnpike (I-44) with I-40. Construction on these Turnpikes is currently underway, and when complete, the OTA will have a total of 48.3 miles of roadway within the OKCMS4 area.

1. Status of the Implementation of the Storm Water Management Program (SWMP).

   Requirements outlined in the Part 2 of OPDES Permit OKS000101 have been met.

   *Structural Controls and Storm Water Collection System Operations:*

   All of OTA's below ground stormwater carrying structures are inspected on a biannual time schedule as part of OTA's commitment to a well-maintained stormwater system. In 2018, 487 structures were inspected on the John Kilpatrick Turnpike. There were no critical findings. Next year the structures on the Turner Turnpike will be inspected.

   Above ground stormwater controls are monitored daily by the maintenance staff who are equipped to handle any flow problems that could arise. Examples of such controls include detention areas and roadside ditches. To ensure the stormwater is flowing efficiently, OTA mows four (4) cycles per season. Approximately one thousand eighty one (1,081) acres are mowed per cycle.

*Roadways:*

Seventy-five (75) lane miles are swept twice per year to ensure that the John Kilpatrick and Turner Turnpikes are operating in a manner that will minimize discharge of pollutants from the roadway. During this operation, shoulders are swept to remove accumulated sediment, salt, and other debris.

In addition to the five (5) trash containers that are maintained year round along the John Kilpatrick and Turner Turnpikes, maintenance staff also collected and properly disposed of approximately seven hundred twenty (720) cubic yards of trash.

The OTA also participates in the Great American Clean-up from March to May, in which trash and litter are picked up from the Turnpike roadsides and the volume is reported to Keep Oklahoma Beautiful (KOB).

*Pesticide, Herbicide, and Fertilizer Application:*

The OTA requires all turnpike herbicide applicators as well as all contract applicators to be licensed and subject to all of the regulations under the Oklahoma Herbicide Applicators Law including re-certification. Applicators receive yearly training on pesticides, herbicides, and fertilizers from the Oklahoma Vegetation Management Association (OVMA). The OTA has eleven (11) certified applicators on the John Kilpatrick and Turner Turnpikes. Approximately three hundred twenty five (325) gallons of herbicide were applied around sign footings, fences, and at various other locations within the limits of the right of way.

*Illicit Discharge and Improper Disposal:*

As part of the below ground stormwater control structures inspection, no illicit discharges were detected.

OTA's maintenance staff collected and recycled one thousand five hundred seventy one (1,571) quarts of oil. The oil is routinely picked up at the maintenance yard by a private contractor. In addition to the oil, OTA recycled fifty-six (56) filters. OTA also returned ten (10) batteries and fifty-five (55) tires for recycling to the location where new ones were purchased.

*Spill Prevention and Response:*

OTA operates two Maintenance facilities on the Kilpatrick Turnpike, and the OTA has developed a Stormwater Pollution Prevention Plan (SWPPP) for each. Spill prevention and response procedures are specified in Section 3.4 of their respective SWPPPs. An SWPPP will be developed for two salt barns in the OKCMS4 area: the barn at I-44 and I-35, and the barn at I-44 and Hogback Road.

*Construction Site Runoff:*

The Oklahoma Turnpike Authority *Standard Specification for Turnpike Construction* (current edition is 2010) sets forth requirements designed to "minimize or eliminate air pollution and pollution of rivers, streams, impoundments, and private properties from the discharge of dust and/or storm water associated with construction activity.

OTA will use a number of Best Management Practices (BMPs) on a site-specific basis to implement an effective erosion and pollutant control program for active construction sites. Where needed, plan sheets are developed to note the location/description of projects, sequence of erosion control activities, areas disturbed, names of receiving waters, soil stabilization practices, structural practices, offsite vehicle tracking, and a layout showing exactly where soil stabilization and structural practices should be placed.

During construction, all stormwater activities are monitored and enforced daily by the OTA's on-site representative.

Upon project completion, OTA conducts a final inspection and requires that the areas impacted by OTA projects are restored to compliance level within 30 days after the final inspection.

*Public Education:*

OTA maintains a "Stormwater Management" section on the agency's website. This section includes educational materials such as brochures and bookmarks. The website includes documents related to OTA's Phase I and Phase II MS4 permits that the public can review. One of OTA's Assistant Directors of Maintenance gave a presentation to the vegetative management association on OTA use of herbicides. The presentation took place on February 28, 2018.

*Employee Education:*

OTA John Kilpatrick Turnpike Maintenance employees attend quarterly safety meetings that can include stormwater topics. Four (4) OTA employees attended Oklahoma City's Construction Workshop on October 10, 2018. A web-based class on "MS4 Permits and OTA" was presented to eighty-six (86) OTA Maintenance employees in December.

*Public Participation and Response:*

OTA is part of the anti-litter campaign, "Oklahoma Keep Our Land Grand." As part of this campaign, OTA offers a toll free number to call to report littering as well as a place to report littering on the website. Individuals who are observed littering are sent a notice to remind them that littering is a punishable offense and

that the goal is to keep Oklahoma land looking grand. For the year 2018, five hundred eight (508) litter calls were received by the Pikepass Office, which is an 8.3% decrease over the number of calls received in year 2017.

*Landscape:*

OTA maintains seven (7) wildflower plots and two (2) tree farms on the right-of-way adjacent to the turnpikes.

2. Proposed SWMP Changes.

The OTA does not propose any changes to the SWMP.

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

The OTA proposes no revision to the assessments of controls. The Fiscal Analysis is shown on the City of Oklahoma City's Report.

4. Monitoring Data Accumulated Throughout the Reporting Year.

Refer to the Regional Storm Monitoring Report.

5. Annual Expenditures for the Reporting Period with a Breakdown for the Major Elements of the SWMP and the Anticipated Expenditures for the Year Following each Annual Report.

| Description | Cost |
|---|---|
| Structural Controls Inspections | $ 8,290.00 |
| Mowing | $ 137,198.91 |
| Sweeping | $ 43,057.13 |
| Trash Collection and Disposal | $ 90,315.01 |
| Herbicide Licensing | $ 1,730.00 |
| Herbicide (Product + Application) | $ 37,129.36 |
| Landscape | $ 579.50 |
| Public Education | $ 2,000.00 |
| **Total** | **$ 320,299.91** |

OTA will spend an estimated $ 350,000.00 in 2019 for the major elements of this SWMP.

6. A Summary Describing the Number and Nature of Enforcement Actions, and Inspections.

   All enforcement actions in OTA's watershed located within the City's jurisdiction are issued by the City of Oklahoma City in concurrence with the OTA.

   All Turnpike roadway areas are inspected regularly as part of ongoing Maintenance activities. Routine monthly inspections and quarterly visual assessment inspections take place at the John Kilpatrick Turnpike Maintenance yards per the SWPPPs developed for those facilities.

   Additional inspections of OTA stormwater infrastructure are described in the *Structural Controls and Storm Water Collection System Operations* section earlier in this report.

7. Identification of Water Quality Improvements or Degradation.

   OTA did not identify any water quality improvements or degradations during this report period.

8. Regional Monitoring Report.

   Please see the City of Oklahoma City'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 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.

Edward Dihrberg, P.E.
Oklahoma Turnpike Authority

March 8, 2019
Date


# Storm Water Quality Management 2018 Annual Report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