

STORMWATER UTILITY 2020 ANNUAL REPORT



WESTMINSTER

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Introduction

The City of Westminster's Stormwater Utility provides a range of services to the community to promote sustainability, environmental protection, and regulatory compliance. These include:

- Maintenance of existing city-owned drainage facilities,
- Funding for improvements to the city-owned drainage system,
- Street sweeping,
- Emergency response to flooding during and after significant storm events,
- Emergency spill response and remediation for hazardous spills,
- Household Hazardous Waste Program,
- Public education and outreach,
- Construction site inspection program,
- Post-construction site inspection program, and
- State permit compliance.

The city's Stormwater Utility is funded from monthly fees charged to residents and businesses. The city's Geographic Information System (GIS) staff determine stormwater fees and maintain an inventory of both impervious surface areas and stormwater infrastructure (i.e., pipes, inlets, ponds, etc.) throughout the city. Residential single-family homes pay a \$6.00 flat fee, which forms the basis for all stormwater fees in the city. Considering the average home in Westminster has 3,100 square feet (sq. ft.) of impervious surface, other residential and commercial properties are billed \$1.94 per 1,000 sq. ft. of impervious surface ($\$6.00 / 3100 = .001935 * 1000 = \1.94). Once these fees are calculated, the city's Utility Billing Division incorporates them into monthly water bills for each customer (residential and commercial).

These fees are deposited into the city's Storm Drainage Fund. This enterprise fund was created in 2001 to provide resources for the city to maintain the city's storm drainage system and comply with the requirements set forth in the state-administered Municipal Separate Stormwater System (MS4) permit. This permit is federally mandated in accordance with the Clean Water Act of 1972. Since the fund's creation, its use has been expanded to include sustainable operations, infrastructure investment and reinvestment, and activities to protect the city's waterways.

This report highlights the value added to the community through the use of stormwater fees in 2020.

Maintenance

As development increases throughout the city, drainage infrastructure can lose the capacity to handle the amount of water for which it was designed. Sediment, trash, and debris is washed into the drainage system, which then accumulates, eventually overwhelming the capacity of inlets, channels, culverts and pipes. This can lead to an increased flood risk, resulting in property damage.

The Stormwater Utility is dedicated to minimizing flood damage to property by ensuring the stormwater system is clear of debris and functioning properly.

| 2020 Stormwater Division Maintenance | | |
|--------------------------------------|--------------------------|-----------|
| Maintenance Type | Number of Projects/Miles | Cost |
| Drainage Maintenance | 17 projects | \$129,690 |

Our **Streets Division** is an integral part of the stormwater program and is responsible for open drainage maintenance and street sweeping. In 2020, the following routine work was completed:

| 2020 Streets Division Maintenance | | |
|-----------------------------------|--------------------------|-----------|
| Maintenance Type | Number of Projects/Miles | Cost |
| Drainage Maintenance | 26 projects | \$141,677 |
| Street Sweeping | 2,562 miles of roadway | \$113,098 |



The City's Parks, Recreation and Libraries Department is a vital contributor in the Stormwater Utility's success by managing contracts for open drainage maintenance, inlet cleaning, detention basin maintenance, goose waste control and waste management throughout the city, totaling approximately \$245,000. In 2020, the following work was conducted:

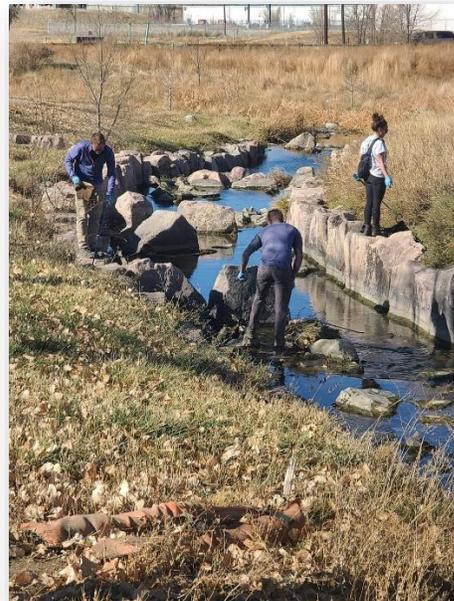
| 2020 Parks/Open Space Division Maintenance | | |
|--|--------------------------|-----------|
| Maintenance Type | Number of Projects/Miles | Cost |
| Drainage Maintenance | 19 projects | \$143,958 |



Last, but certainly not least, the City's Open Space Division contributes greatly to the success of the Stormwater Utility. The preservation of City open space is extremely important not only for stormwater management, but also for aesthetics and overall environmental health. Open Space provides pervious areas, which act as natural buffers for stormwater, helping to reduce the volume of water entering our waterways along with providing water quality. Our Open Space Division also provides education and outreach to the residents of Westminster by organizing fantastic events and projects, such as the Earth Day Festival. In 2020, Open Space organized the third "Honor the Land and Stream" waterway cleanup project in Westminster, which gathered volunteers to

remove trash and debris from the City's waterways. In 2020, the Honor the Land and Stream event drew in 350 volunteers each working 3 hours for a total of 1,050 hours.

Honor the Land and Streams



Construction Projects

The City's stormwater engineers are responsible for the construction of several drainage projects every year. Before construction begins, there are multiple steps the City and contractors must take to assure the effectiveness of the project. These procedures include:

- Gathering input from affected or surrounding property owners during the design process,
- Designing the improvements and preparing plans,
- Acquiring the necessary easements for the proposed work,
- Appropriating funding from the Stormwater Utility revenue along with the Mile High Flood District (District) (when applicable),
- Receiving bids from contractors, and
- Notifying adjacent/surrounding property owners of the construction activities.

The Stormwater Utility often partners with the District to improve and maintain major drainageways. They provide technical expertise and funds for many of the City's stormwater projects. Funds are derived from a property tax collected throughout the special district. The Districts' mill levy was increased in 2018, allowing for expanded support and services. Obtaining District funds for major improvement projects requires the City to match funds. However, maintenance projects and routine maintenance activities do not require matching funds from the city.

The following projects summarize some work highlights from 2020.

70th Ave. and Raleigh St. TRUEGRID Project

In May 2016, a private rental housing property owner approached the City of Westminster council members at a public meeting stating that he needed help with a code compliance violation. According to the City's rental housing code, all parking lots are required to be paved, but the lot designated to his tenants was dirt and relied on infiltration and evaporation to control stormwater. For him, this code requirement was a hardship, and he requested assistance to obtain compliance.

The parking lot, located behind the units, is accessed by a shared drive off of Raleigh Street. On-site space constraints did not allow for construction of a detention pond for stormwater. The elevation differential to Raleigh Street, where existing stormwater infrastructure exists, made it expensive to connect to the public system. Therefore, an innovative alternative was proposed by the City's Stormwater Utility.

Existing Conditions:



The City's Stormwater Utility had been studying Low Impact Development (LID) alternatives for stormwater compliance and found this site to be a perfect opportunity to partner with the property owner to solve his compliance issue. This also allowed the City to implement and study a permeable pavement pilot project for potential use in other areas with stormwater challenges. The City agreed to pay for the materials and labor of a plastic permeable interlocking pavement known as "True Grid," and the property owner would pay for any remaining cost.

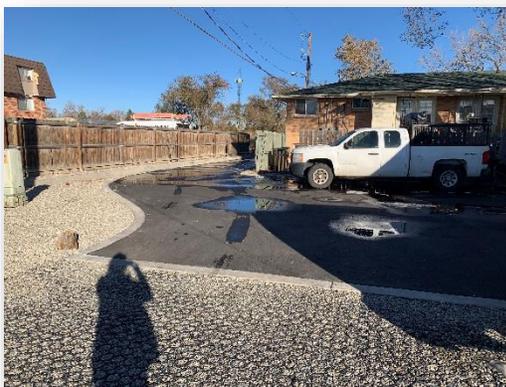
TRUEGRID Pro Permeable Pavers:





Installation occurred in summer of 2020 and has improved the drainage issues on-site while providing a more stable surface. Since the True Grid product is more permeable than grass or dirt, snow melts and infiltrates more quickly and reduces icy conditions. This project will be maintained and observed for the next 5 years in order to gain confidence that permeable pavement can be utilized successfully in challenging drainage situations such as this. It also meets a strategic goal of a Citywide commitment to sustainable practices by providing stormwater quality.

Current Conditions:



2020 Asset Management Program

The City of Westminster's Stormwater Infrastructure Assessment project kicked off in summer 2020 to evaluate and, in some cases, find stormwater infrastructure throughout the city. Assessments, such as these, are common for sanitary sewer and drinking water lines but has only recently been applied to stormwater in the United States.

There are 211 miles of pipe and over 10,000 manholes, inlets and outlets owned and maintained by the City. This does not include privately-owned infrastructure; taking this privately-owned infrastructure into account would add 50% more!

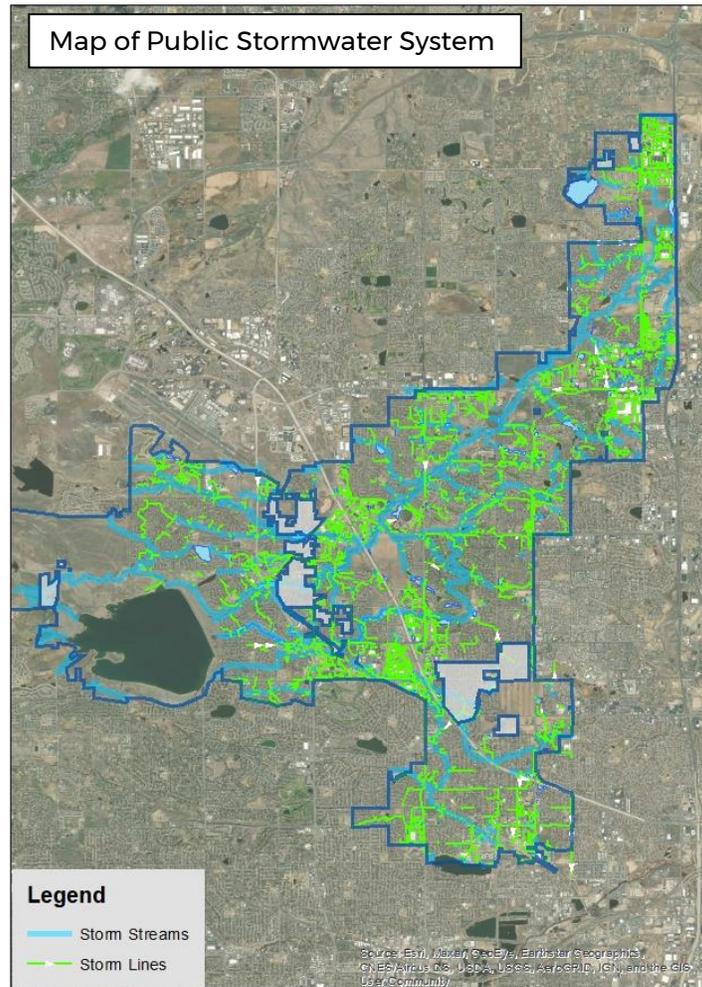


Separated Outfall Pipe



Collapsed Outfall Pipe

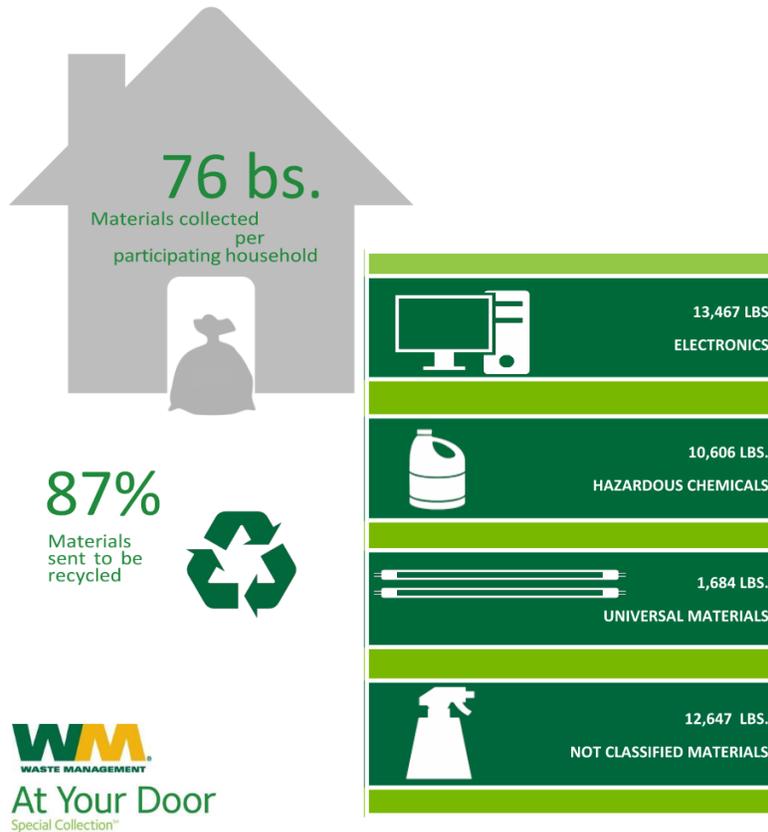
The value of the public system is expected to be around \$500M and has a 50-year design life. The city will be implementing national standards for inspection and classifying storm drainage pipes, manholes, inlets and outlets. The City's mapping data has been outdated for several years and, in older sections of Westminster, the pipe alignments were merely a best guess due to lack of records. Locating buried pipes relied heavily on institutional knowledge and, as a result, some pipe damages occurred during construction projects due to inaccurate location marking. Updating this information will reduce these damages in the future and prevent costly repairs.



Over the next few years, approximately 75% of the public stormwater drainage system will be fully mapped, inspected and captured on close-circuit television (CCTV) media. This information will be integrated into the City's existing geographic information system (GIS). The stormwater group will be categorizing the inspection results for criticality and risk to prioritize areas for immediate repairs, minor repairs, pipe lining, maintenance and future monitoring. The project will also recommend a level of service for the stormwater program to address future preventative maintenance of the system.

Household Hazardous Waste Program

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The City of Westminster offers a door-to-door household hazardous waste (HHW) collection program to collect and properly dispose of or recycle HHW directly from single and multifamily residences within the city boundaries. This program is designed for Westminster residential use only with items derived from retail sales to the general public. Items must relate to reasonable activities of a homeowner and resident such as car care, lawn and garden care, pool cleaning, home maintenance, health care, recreation, and arts and crafts. The program will not accept wastes that derive from commercial activity including home improvement contractors.

Residents have the ability to call and schedule inspections from 6:00 a.m. to 7:00 p.m. Monday through Friday or schedule a collection electronically via website. For more information on this free program, please visit:

<https://www.cityofwestminster.us/Residents/TrashRecycling/Recycling/HouseholdHazardousWaste>

Illicit Discharge Detection and Elimination (IDDE) Program

An illicit discharge is defined as any discharge that is not composed entirely of rainwater or snowmelt. According to the US EPA's 2000 National Water Quality Inventory, 39 percent of assessed river and stream miles, 46 percent of assessed lake acres, and 51 percent of assessed estuarine square miles do not meet water quality standards. The top causes of impairment include siltation, nutrients, bacteria, metals (primarily mercury), and oxygen-depleting substances. Polluted stormwater runoff, including runoff from urban/suburban areas and construction sites, is a leading source of this impairment.

The City maintains an IDDE program that is managed by the Stormwater Utility staff in the Engineering Division. City operations and maintenance staff and construction site inspectors also play an important role in identifying illicit discharge problems and responding to clean-up requests. However, all Public Works, Community Development, Parks, Police, and Fire Department staff across the city, along with the public, play a huge role in locating, identifying and reporting potential illicit discharges. The total discharge reports identified in the table below summarize the total amount of calls/complaints to the city. *Please note that not all reports lead to escalated enforcement, some discharges are not identified upon further investigation and often times a responsible party is not identified.*

| 2020 Illicit Discharge Program | |
|---------------------------------|----------|
| Total Illicit Discharge Reports | 46 |
| Verbal Warnings/Education | 21 |
| Escalated Enforcement | 3 |
| Remediation Costs | \$58,798 |

To report an illicit discharge, please contact the Stormwater Hotline at 303-706-3367 or email us at stormwaterhotline@cityofwestminster.us. **Please provide the nature of the discharge, pictures of the discharge (if available) and the responsible party (if applicable).**

Illicit Discharges



WHAT IS AN ILLICIT DISCHARGE?

Any discharge to the storm sewer system that is not composed entirely of stormwater, except discharges that are exempt under Westminster City Code 8-11-8.

WHAT IS THE STORM SEWER SYSTEM?

Systems including pipes, ditches, culverts, swales, curbs, gutters and waterways that convey stormwater downstream.



ARE THESE ILLICIT DISCHARGES REALLY THAT BIG OF A DEAL?

Yes!!! The substances that flow into the storm sewer system are **UNTREATED**, and can seriously damage water quality, having major impacts on aquatic life and public health!

The City can also fine you **\$999** per violation per day!! (W.M.C 8-11-10)



How Do I Report Illicit Discharges and Where Do I Learn More??

Stormwater Hotline:
303-706-3367

City website:
www.cityofwestminster.us/stormwater

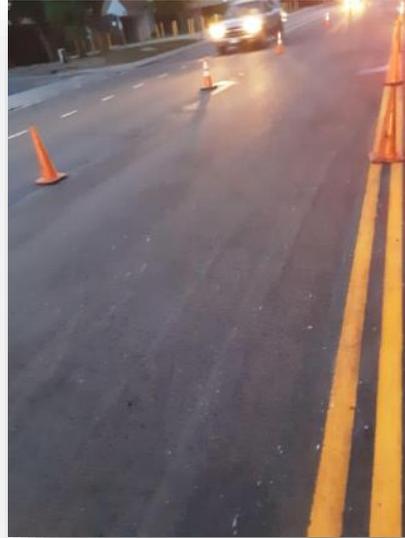


Paint Spill (68th Ave. & Lowell Blvd.) - \$12,471.70

Before:



After:



Haze Remover Gel Spill (1624 W. 120th Ave. – Big Dry Creek Park) - \$2,887.26

Before:



After:



Construction Site Inspection Program

The City's stormwater utility started a new citywide construction site inspection program in the fall of 2017. The purpose of the program was to verify that appropriate stormwater control measures were in place and properly maintain at every active construction site to prevent pollution of the City's storm sewers and waterways. Inspections are conducted by city staff and documented in digital reports with photographs. Where deficiencies and city code violations exist, construction site managers are required to respond in writing with a description and photos of their corrective actions.

Well Maintained Stormwater Control Measures:



Poorly Maintained Stormwater Control Measures:



If a pattern of violations exists, city staff will escalate enforcement actions, including stop work orders, notices of violation, and fines. The goal of enforcement is always to educate, ensure compliance and prevent pollution.

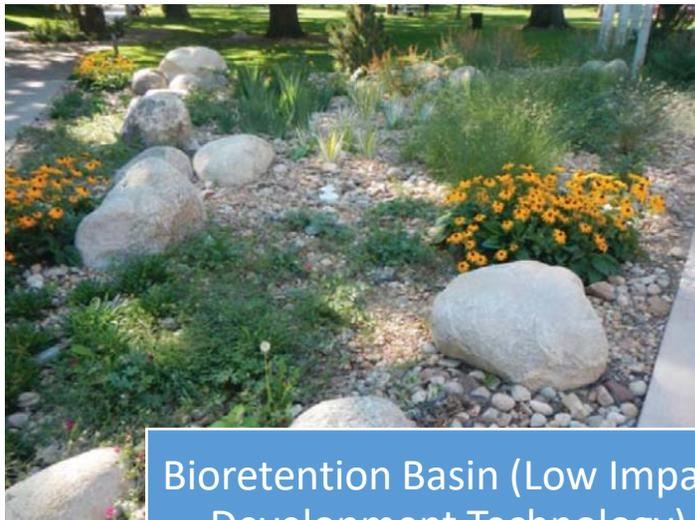
| 2020 Construction Site Inspection Program | |
|---|------------------|
| Construction Sites Inspected | 42 |
| Total Inspections | 345 |
| Notices of Violation | 11 |
| Stop Work Orders | 1 |
| Fines Issued | \$9,000 (1 fine) |

Stormwater Treatment Facility (STF) Program

STFs are permanently constructed facilities or technologies designed to improve the quality of stormwater from roads, parking lots, residential neighborhoods, commercial areas and industrial sites. In addition, STFs reduce flooding by providing temporary storage during larger storm events. STF's include, but are not limited to, extended detention basins, low impact development technologies, and underground storage systems.



Extended Detention Basin (EDB)



Bioretention Basin (Low Impact Development Technology)

The goal of the STF Program is to ensure that STF's are functioning and maintained properly through inspection and providing education and outreach as well as reviewing designs and inspecting all STF's for new development or redevelopment. The City is required to inspect all STF's throughout the city, including our own, equating to approximately 360 facilities. The City of Westminster's Engineering Division works directly with developers, Homeowners Associations (HOA's), private property managers, other City departments and commercial property owners to achieve this goal. The graphic below provides further understanding of the ownership for these facilities.



Example City-Owned STF at Westminster Station



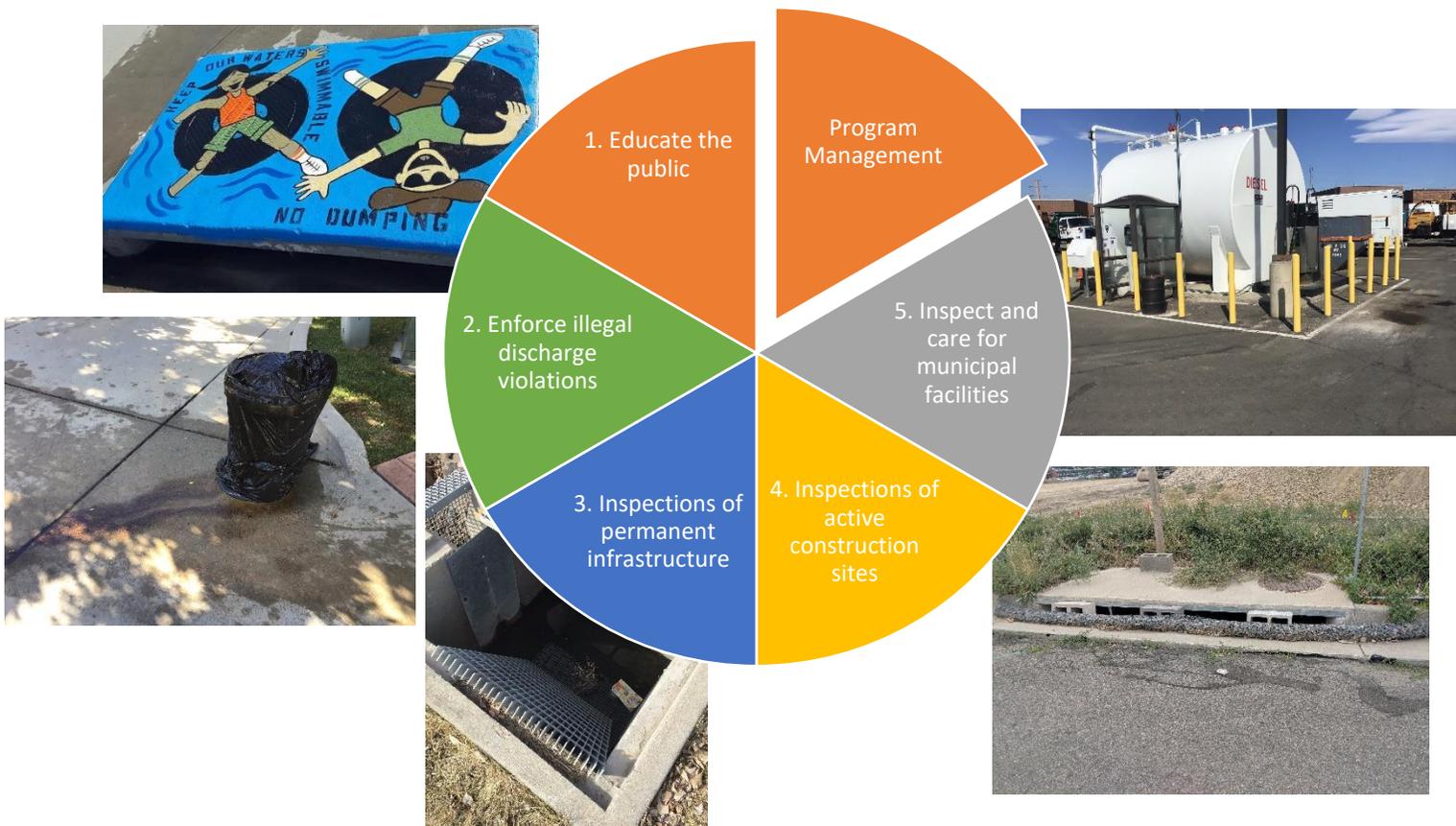
The table below outlines the inspection and follow-up efforts by city staff.

| 2020 STF Inspection Program | |
|-------------------------------------|-----|
| Developments/Subdivisions | 241 |
| Total Inspections | 316 |
| Compliance/Maintenance Letters Sent | 76 |

State Permit Compliance

A driving factor for all of the accomplishments described in this report is compliance with the state MS4 permit. Polluted stormwater runoff from urbanized areas is commonly transported through storm sewers, and then often discharged, untreated, into local water bodies. Permit requirements are in place to require local jurisdictions, like Westminster, to conform to best practices for engineering design, pollution prevention, public education, and facility operations to reduce the level of pollution in waterways from urban runoff.

Westminster has operated under an MS4 permit since 2003 when they were first issued the permit by the Colorado Department of Public Health and Environment. The city's current permit, effective July 1, 2016, is 63 pages long and describes requirements in five broad categories:



1. Public Education and Outreach: Educate residents and members of the business community to help reduce water quality impacts associated with pollutants in stormwater runoff.



2. Illicit Discharge Detection and Elimination: Develop, implement and enforce a program to detect and eliminate spills, illegal dumping and other non-stormwater discharges into the City's storm sewer system.
3. Post-Construction Stormwater Management: Prevent or minimize impacts to stormwater from new development or redevelopment by ensuring that stormwater treatment facilities (e.g. detention ponds, rain gardens) operate as designed and are maintained.
4. Construction Site Pollutant Control: Develop, implement and enforce a program to reduce the discharge of pollutants from construction activities.
5. Pollution Prevention/Good Housekeeping for Municipal Operations: Develop and implement an operation and maintenance program to prevent or reduce pollutants from municipal operations.

In November 2019, the city conducted an internal full program audit, ensuring compliance with state and federal environmental regulations. City staff are very passionate about water quality and would like to leave it to the next generation in

better condition than it is now. We strive to not only make Westminster the most sustainable city in the nation, but also one in which our residents are proud to live in.

Looking Ahead

The Stormwater team is looking to progress efforts as it relates to asset management for the stormwater system throughout the city. This entails a multi-year study that will provide an accurate location and condition assessment for all our underground stormwater infrastructure (pipes, manholes, inlets, etc.). In time, this will allow us to perform routine maintenance and repairs on this system, not only providing cleaner water to our downstream neighbors, but also helping to make the city safer for our residents.

This officially documents another year of achievements that support compliance and sustainability! The City's Stormwater Utility Team looks forward to sharing accomplishments and value realized from stormwater fees.

THANK YOU FROM ALL OF US AT WESTMINSTER!

