Stormwater Management Utility

2024 Annual Report

Lakewood
Public Works

The Stormwater Management Utility (Utility) provides services and improvements throughout the City of Lakewood (City) such as:

- Maintenance of existing drainage facilities,
- Water quality monitoring, testing, and resolution of pollution issues,
- Funding for improvements to the drainage system,
- Replacement of older, deteriorated facilities, and
- Emergency response to street and drainageway flooding problems during and after significant storm events.

Maintenance

Without maintenance, many drainage facilities lose their capacity to handle the amount of water for which they were designed. Debris is washed into the drainage system where it accumulates and decreases the capacity of inlets, channels, culverts and pipes. Reduced conveyance capacity increases flooding risk.

The Stormwater Management Utility is focused on minimizing damage to property by ensuring the stormwater system is clean and functioning properly. The maintenance program is a cyclical program that ensures certain facilities are inspected every two years. All obstructions are removed the same year as they are identified during inspection. Last year, the following routine work was completed:

- 2,467 inlets were inspected
- Over 25 miles of gulches were inspected
- 152 cubic yards of debris were removed from gulches and waterways, and
- Approximately 118 trash racks and grates were inspected after every storm

The effectiveness of the storm sewer system is reduced when the grates or pipes get plugged with debris not meant to go into the system, which may cause flooding.

Many abandoned camps were found along drainageways. Trash and debris create environmental problems and can wash into the stream during storms, clogging culverts and polluting the stormwater.

In 2024, Stormwater Utility crews and contractors removed trash from several camps throughout the city.

The contractor removed 162 cubic yards of transient camp debris, costing approximately $15,658.00.

Many of Lakewood's storm water pipes are Corrugated Metal pipe (CMP). Most of these pipes have been in the ground for over 50 years and are starting to fail. Lakewood maintenance crews replace many metal pipes throughout the year. One of the largest in-house repairs was the replacement of a 40-inch corrugated metal pipe under the Walmart parking lot at 2nd and Wadsworth. The failing pipe had caused a sinkhole. Crews replaced 40 feet of pipe and a 90-degree elbow. After installation, the trench was backfilled with 156 cubic yards of flash fill. The total cost was approximately $60,000. In 2024, stormwater crews replaced 200 feet of pipe.

Crews routinely perform pipe cleaning via jetting to remove dirt, debris, and sediment from storm pipes. The picture above is a great representation of why this work is vital in flood mitigation

If you notice an area affected by sediment build up please submit a request using the following link: www.lakewood.org/Government/Departments/City-Managers-Office/Communications/Request-Lakewood-service-request-FAQ

The City received many complaints for the W. Bayaud Ave. and S. Brentwood St. grated channel. This channel was used to collect street flows from the area. Residents expressed concerns with the grate as it created a channel to cross traveling east/west. The only other way to travel east/west is to traverse W. 1st Ave. 1,400 feet to the north. Our in-house team installed a new 36-inch pipe and removed the grated channel, this allowed for the street to continually run east/west the entire stretch of W. Bayaud Ave.

Some of the underground storm sewer system has reached the end of its useful life and the Stormwater Management Utility replaces pipes and culverts as necessary. The utility attempts to stay away from metal pipe, and it's only used in areas with very low pipe coverage.

Outreach and Working With Our Community

Adopt A Gulch Program

The Adopt A Gulch program encourages scout troops, neighborhood organizations and other groups to become stewards of a section of gulch. With support from Stormwater Management Utility crews, Adopt A Gulch groups pick up trash and remove debris from the floodplain and channels one to two times a year.

Educational efforts are designed to reach as many groups as possible that may affect municipal stormwater quality. Educational programs during the year include:

- Installing "Dump No Waste – Drains to Stream" medallions on storm sewer inlets.
- Distributing brochures on household waste, landscaping, industrial, and construction activities.
- Electronically distributing brochures encouraging contractors to participate in the Red Rocks Community College courses on erosion, sediment control and construction site management.
- Installing RTD bus shelter advertisements at six locations in Lakewood promoting stormwater pollution awareness and prevention.
- Providing stormwater messaging on the interior of RTD buses with routes within and through Lakewood.
- Displaying art from local artists on top of storm drains throughout the Belmar area in partnership with the Alameda Corridor Business Improvement District to help bring attention to the importance of stormwater quality with the public.

Art from local artists at storm drains throughout Belmar

RTD bus shelter advertisements promoting stormwater pollution awareness and prevention

Series of educational brochures

Construction Projects

The Stormwater Management Utility undertakes construction of several drainage projects each year. Before construction can begin, the Utility activities include:

- Obtaining input from affected property owners during the design process
- Designing improvements and preparing plans
- Acquiring necessary easements for the proposed work
- Identifying funding from the Utility's revenue and the Mile High Flood District
- Receiving bids from contractors
- Notifying adjacent property owners of the construction activities

MHFD MILE HIGH FLOOD DISTRICT + Lakewood Public Works

The Utility partners with Mile High Flood District (MHFD) to improve major drainageways and for maintenance projects along major drainageways. The District provides technical expertise and funds for many of the Utility's projects. The District's funds are derived from a property tax collected throughout the metropolitan region. Obtaining District funds for major improvement projects requires City matching funds. The Utility provides the required matching funds to partner with MHFD to complete major drainage improvements. The Utility prioritizes the District's maintenance projects and routine maintenance activities, which do not require matching funds.

Mile High Flood District funds budgeted for use in Lakewood during the year included:

- Capital projects: $775,000 (North Dry Gulch)
- Flood Hazard Area Delineation projects: $100,000 (Bear Creek MDP FHAD)
- Maintenance restoration projects: $1,256,000
- Routine maintenance activities: $96,000

Local Drainage Projects

The following section highlights some of the local drainage projects that were constructed in 2024. These projects were designed in-house by the Public Works Design Section and contracted out for construction. These projects were funded by the Stormwater Management Utility.

Miller Court – Existing curb, gutter and sidewalk along Miller Court is blocked by vegetation and soil. The project included a small retaining wall to hold back the slope as well as correct the ponding problems in the street. The total project cost was approximately $53,000.

Green Mountain Erosion – A large sink hole was filled and replaced with a riprap rundown for water to safely enter Ravine Gulch in Green Mountain. This project was designed in-house by the Public Works Design Section and contracted out for construction. The total project cost was approximately $117,000.

Shear drop off/Sink hole

Riprap and erosion control blanket was installed to stabilize the slope

W. 31st Ave. Local Drainage Project – Inadequate storm drain infrastructure at a low point at the end of a cul-de-sac was causing two houses to flood during major rain events. The existing, small pipe was removed and replaced with a concrete overflow channel to convey excess water and prevent the houses flooding. The total project cost was approximately $186,000.

Street flooding due to lack of capacity in existing storm system

Concrete overflow channel within existing drainage easement

Major Drainageway Capital Projects Under Construction

The North Dry Gulch Project is funded in part by the Stormwater Management Utility with contributions from Mile High Flood District. This is an Ongoing Project with several phases. Phase 1, along 14th Avenue from Vance to Newland, was completed in 2024 except for final landscaping.

Major Drainageway Maintenance Projects Under Construction

McIntyre Gulch at W. 4th Ave. – Bank erosion from McIntyre Gulch was causing unsafe conditions for property owners along the stretch. Trees were at risk of falling into the gulch. This project was funded entirely by Mile High Flood District maintenance funds.

Before

During Construction

Lakewood Gulch at W. 8th Place – property owner was losing land due to local erosion in Lakewood Gulch. This project was funded entirely by Mile High Flood District maintenance funds.

Projects in the Design Stage

Local Drainage Projects in the Design Stage

Sidewalk Improvements on 20th Avenue (Quail Park to Nelson Street) – Storm sewer improvements will be constructed to address local flooding that has occurred along 20th Avenue. Improvements include the construction of a detention and water quality pond at Quail Park. A new 36-inch to 42-inch diameter storm sewer with storm inlets, and curb, gutter and sidewalk will be installed on the south side of 20th Ave.

Sidewalk Improvements on 20th Avenue (Vance Street to Teller Street) – Storm sewer improvements will be constructed along with sidewalk improvements to address local flooding problems.

Stormwater Improvements at Alameda Avenue and Garrison Street – the intersection of Alameda Ave and Garrison Street floods during major storm events. The existing infrastructure will be upsized to collect and convey the water away from the roadway.

Local drainage at Calahan – Local drainage problems at Calahan Avenue and Quay Street have created safety concerns for the neighborhood. The project will install a stormwater system to collect and convey the water to Sanderson Gulch.

Major Drainageway Projects in the Design Stage

North Dry Gulch – Phase 2 from Newland Street to Teller Street is in design. The project is being coordinated with sidewalk improvements and 40 West Art Line improvements. Construction should begin in early 2025. This multi-year project is anticipated to cost $60M and is funded by the Utility and the Mile High Flood District. For more information about this project, please visit the project webpage at www.lakewood.org/northdrygulch.

Lakewood Gulch – Downstream of Welch – Significant erosion in Lakewood Gulch, downstream of Welch Street is posing a hazard to properties on the north side of the Gulch. The project is in design. An open house with residents was held in November 2024. Design is in progress. Anticipated construction start is late 2026.

Stormwater Quality

The discharge of natural precipitation through Lakewood's storm sewer system affects the health of aquatic life in Lakewood and downstream in the South Platte River. The City is required by the Colorado Department of Public Health and Environment (CDPHE) to provide a water quality program designed to:

- Educate our residents about water quality and their actions that can harm or improve water quality
- Respond to all reports of water pollution and eliminate any pollutant sources
- Monitor the stormwater quality in Lakewood's waterways

Monitoring is conducted at locations within the City to identify and eliminate pollutant sources. The Utility identified and resolved more than 39 illicit discharges of gasoline, motor oil, antifreeze, hydraulic fluid, concrete washout water, restaurant grease, raw sewage and sediment.

Drainage Master Planning and Updated Floodplain Studies

Major drainageways often cross jurisdictional boundaries and the Stormwater Management Utility partners with the Mile High Flood District and other jurisdictions to coordinate master planning efforts. This results in cost-effective and cohesive planning among jurisdictions.

Floodplain mapping is updated to reflect current conditions in the watershed and to accurately show the limits of the floodplain. Flood Hazard Area Delineation studies are sponsored by the Mile High Flood District with participation from the Stormwater Management Utility and other affected jurisdictions.

Floodplain Changes

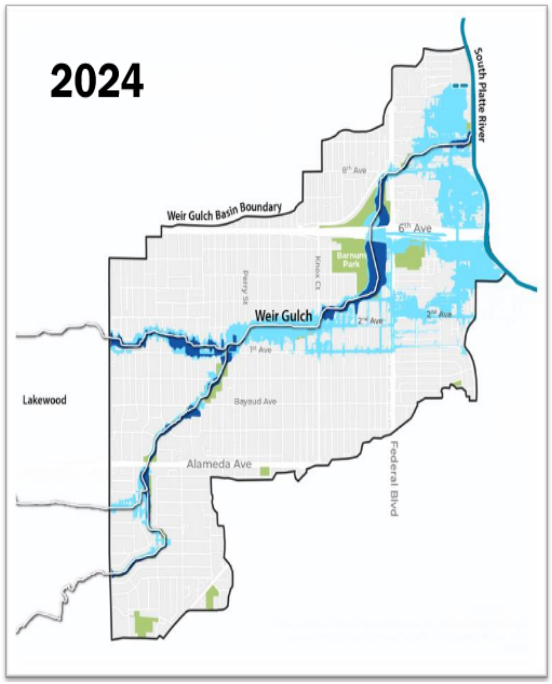
Improvements to major drainageways sometimes result in the 100-year floodplain or floodway being narrowed or removed from properties. These modifications result in reduced potential for flood damage and, in some cases, relieve property owners from the need to obtain flood insurance.

The following floodplain changes were approved by The Federal Emergency Management Agency (FEMA) in 2024:

- Physical Map Revision - North Dry Gulch, Dry Gulch Pierce to Saulsbury, 24-08-0107P, 10th Ave Pierce to Saulsbury, 11/22/2024
- Rooney Gulch, 23-08-0727P, Red Rocks Ranch, 12/20/2024

The Weir Gulch Flood Hazard Area Delineation (FHAD) Study

Updated Flood Risk Information



The FHAD Study provides a revised evaluation of flood risks in the Weir Gulch and its associated streams.

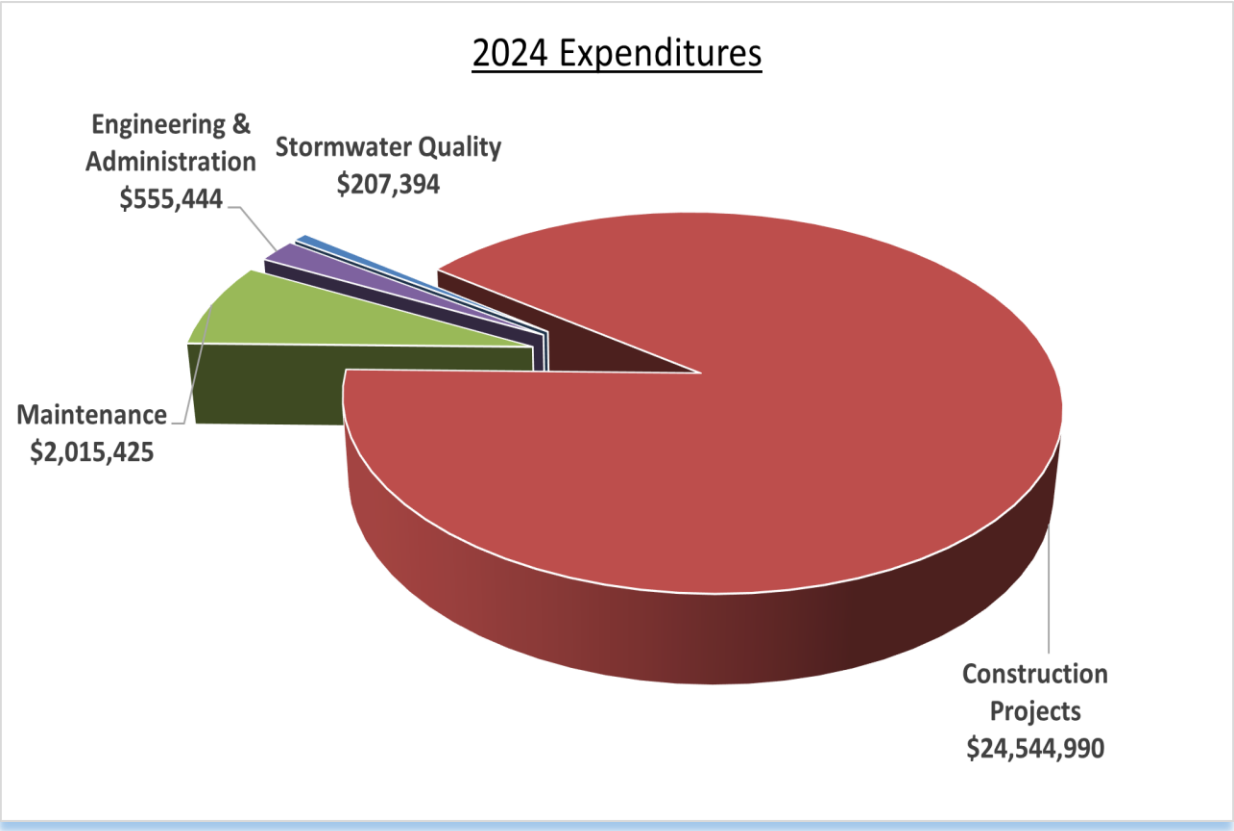
The 2024 FHAD indicates that properties along Weir Gulch are at a higher risk of flooding than previously identified.

Additional monitoring is also conducted in cooperation with other entities. The utility's cooperative approach results in significant cost efficiencies and logical solutions to stormwater issues that cross jurisdictional boundaries. Some of the joint project efforts include:

- Sharing technical data and costs among Denver, Aurora, Mile High Flood District and Lakewood for implementation of State-required permit provisions.
- Participating as a member of the Bear Creek Watershed Association and the Bear Creek Watershed Foundation to protect water quality in Bear Creek and Bear Creek Lake.
- Monitoring stormwater quality at five sites in Bear Creek Lake, seven locations on Turkey and Bear Creek upstream of the park, and six locations along the South Platte River.
- Monitoring of Lakewood's discharge points to the South Platte River was done in partnership with Denver, Aurora, and the Mile High Flood District.

Financial Summary

In 2024, total revenue from the Stormwater Management Utility was approximately $6.47 million. From 2018 through 2023, annual revenues consistently exceeded expenditures, allowing for a deliberate accumulation of fund balance to support major stormwater capital projects. In 2024, total expenditures were estimated at $27.3 million, with the majority of funds directed toward the North Dry Gulch project. To continue supporting these large-scale capital efforts, the Stormwater Fund will receive a $19.6 million loan from the General Fund in 2025.



Beginning in 2000, property owners throughout Lakewood have received annual bills for stormwater management. Nearly 38,000 properties are billed each year. In 2024, single-family homeowners were charged a fee of $56.90 per year. Other property owners pay a proportional amount based on the impervious area on each property.

In 1998 when the Lakewood fee was established, the average cost of Colorado stormwater utilities was $3.11 per month. The average cost has since more than tripled to $11.63 per month. The chart below compares monthly costs for stormwater utilities in Colorado.

2024 Metro Denver Stormwater Utility Fees

Community	Monthly cost for a Single-Family Home in Dollars
Boulder	28.46
Greeley	25.40
Berthoud	24.50
Englewood	20.63
Loveland	25.49
Longmont	18.85
Denver	12.66
Erie	11.98
Fort Collins	11.54
Aurora	11.21
Golden	9.75
Littleton	9.41
Parker	9.17
Colorado Springs	8.00
Castle Rock	7.97
Southeast Metro Stormwater Authority	7.65
Arvada	7.42
Westminster	6.00
Windsor	5.78
Pueblo	5.36
Lakewood	**4.74**
Federal Heights	3.15
Woodland Park	2.00
Northglenn	2.00

Conclusion:

Throughout 2024, the Stormwater Management Utility continued its core mission of protecting people property and water quality by balancing regular maintenance with investment in improvements and long term planning. As the system ages and demand on our stormwater facilities increases, the Utility remained focused on sustaining existing infrastructure, advancing critical projects, and coordinating regionally to improve resilience and reduce flooding risks.

Maintenance:

Routine and emergency maintenance kept the existing drainage system functioning despite increasing stress from aging infrastructure. Crews inspected 2,467 inlets and over 25 miles of gulches, removing 152 cubic yards of debris and addressing localized failures before they became larger problems. Crews also assisted with clean up of abandoned camps along drainageways, removing 162 cubic yards of debris. Crews replaced aging infrastructure, including a 40-inch corrugated metal pipe under the Walmart parking lot, and completed targeted drainage improvements to reduce localized flooding.

Construction:

The Utility invested in a range of drainage improvements in 2024 to reduce flood risk and stabilize erosion-prone areas. Projects included local drainage upgrades at W. 31st Ave., erosion stabilization at Green Mountain, and public access improvements along W. Bayaud Avenue. The North Dry Gulch Project advanced significantly with Phase 1 construction along 14th Avenue completed (excluding final landscaping). These construction efforts reflect a balance between addressing immediate neighborhood-scale issues and building long-term regional drainage solutions.

Planning for the Future:

Effective stormwater management requires coordination beyond individual projects. In 2024, the Utility continued partnering with the Mile High Flood District and neighboring jurisdictions to align master planning and update floodplain delineations. These efforts led to FEMA-approved floodplain changes that clarified risks and, in some cases, reduced regulatory burdens for property owners. As Flood Hazard Area Delineation (FHAD) studies and Master Drainage Plans (MDPs) are completed, recommended capital improvements are prioritized and considered for implementation in future years, as funding allows.

Cover photo: Kendrick Lake Park courtesy of Community Resources Dept.