Stormwater Program and Stormwater Utility

Engineering Department

Stormwater Utility Board Meeting – May 2026

LAWRENCEVILLE
GEORGIA

Stormwater Management Program

Implementing the Municipal Separate Storm Sewer (MS4) Permit

Origins

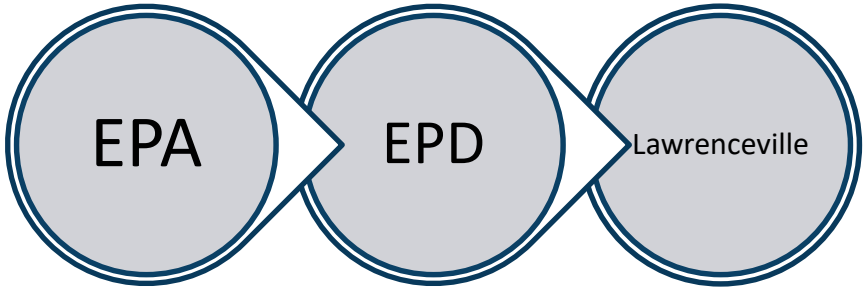
- Clean Water Act
  - Created the National Pollutant Discharge Elimination System (NPDES) Permits authorizing agencies and corporations to discharge stormwater.
  - Established by Environmental Protection Agency (EPA)
  - Reviewed by Georgia Environmental Protection Division (GAEPD)
  - Implemented by City of Lawrenceville
    - NPDES Phase 1 Large Municipal Separate Storm Sewer System (MS4) Permit

NPDES Phase 1 Large MS4 Permit

- City's Permit was reissued June 11, 2024
  - Permit term from June 11, 2024 to June 10, 2029
    - Always 5 year terms
  - Permit Annual Reporting is May 1 to April 30 of the subsequent year
    - i.e. May 1, 2025 to April 30, 2026 (current period)
    - Each year we report on all activities we completed for compliance to the EPD through the Annual Report

MS4 Permit

- Requirements set forth by EPD
  - EPD sets the minimum requirements
- Stormwater Management Program (SWMP)
  - Identifies how the City will implement the permit requirements



Stormwater Management Program

- Stormwater Management Program (SWMP) is the "how" the City will meet compliance with MS4 Permit requirements.
  - Submitted the updated SWMP December 2024 with MS4 permit renewal
  - Received comments on SWMP December 2025 during EPD Audit
    - Updated SWMP to EPD December 2025
    - Updated SWMP for Annual Report April 2026

SWMP

- Organize according to permit requirements
- Written to inform the public and staff of how to meet compliance
  - Planned activities for each of the permit requirements
  - Any additional actions to meet requirements of applicable Total Maximum Daily Loads (TMDLs)
  - Any additional actions to meet requirements for monitoring
- Annual Reporting
  - Document activities
  - Evaluate the program(s) effectiveness
  - Refine program plan and schedule

What is Stormwater(SW)?

Water that originates from precipitation, such as rain, snow and ice melt. Stormwater can soak into the ground, be stored on land in lakes, evaporate, or contribute to surface runoff.

What is SW Runoff?

Water from precipitation that flows across the land and eventually into rivers, creeks, lakes, and ditches bringing with it all the debris, sediment, pollutants, bacteria, and nutrients from sidewalks, streets, parking lots, and other impervious areas.

Why manage stormwater?

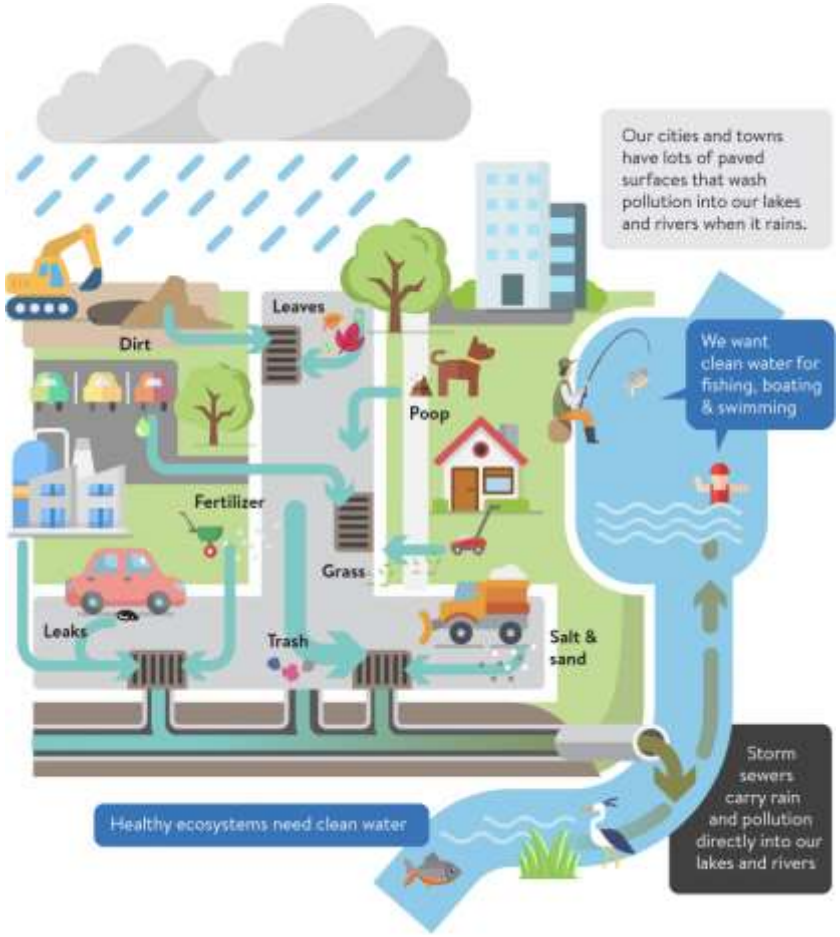
- Minimic natural hydrology
- Reduce physical, chemical, and biological degradation of streams
- Meet local, state, and federal requirements
- Allow for future growth and development
- Stormwater is the leading cause of water quality impairments

Without stormwater management?

- Increased volume of runoff
- Increased peak discharge
- Increased velocities
- Shorter time to max flow
- More frequent flooding
- Higher costs to maintain instead of routine

Connectivity

- Where does stormwater go when it rains and flows away?
  - All inlets drain to waterways



MS4 Permit Requirements

Structural and Source Control Measures

Illicit Discharge Detection and Elimination Program

Industrial Facility Stormwater Discharge Control

Construction Site Management

Highly Visible Pollutant Sources

Enforcement Response Plan

Impaired Waters

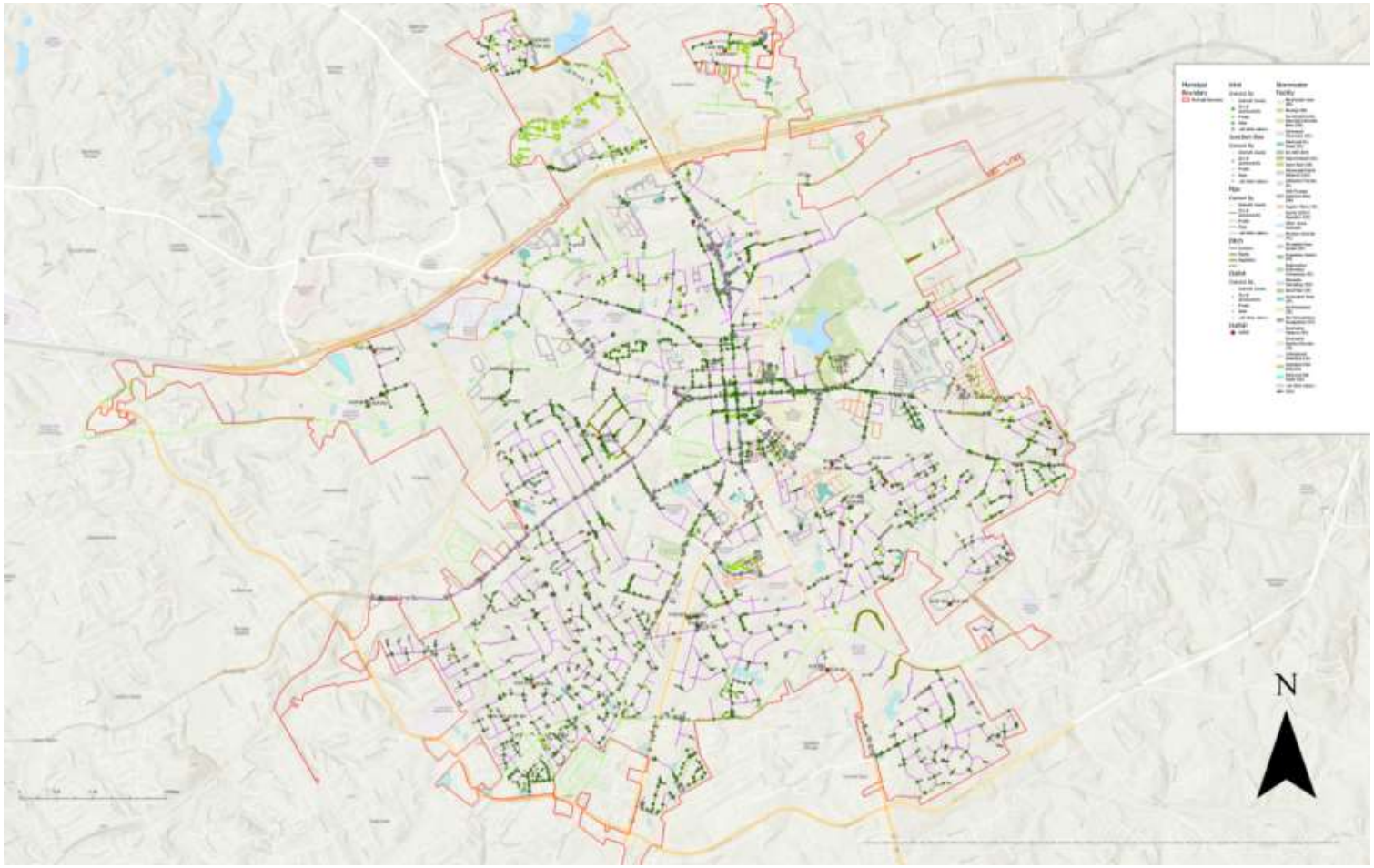
Municipal Employee Training

Public Education

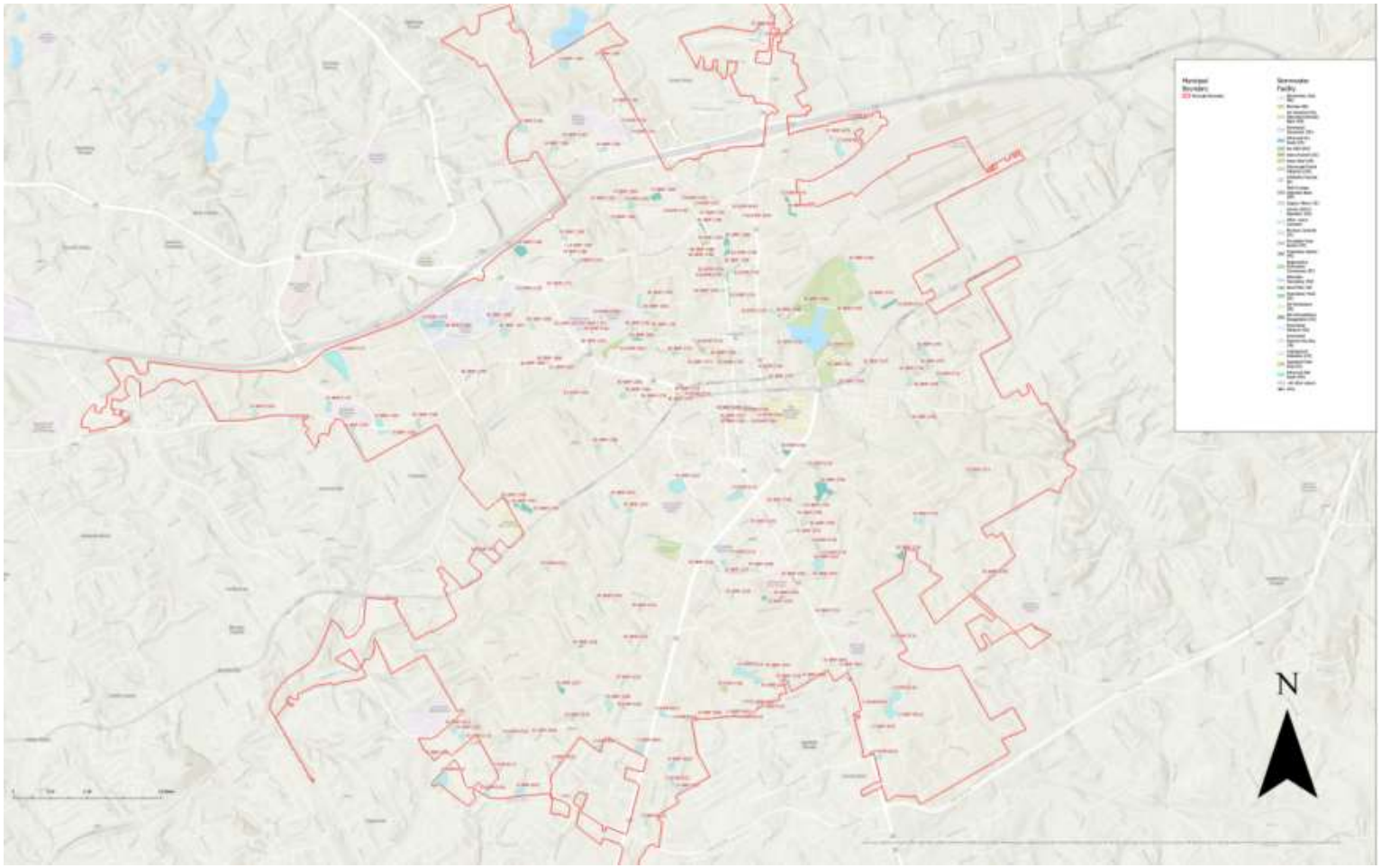
Public Involvement

Post-Construction

SW Utility System



SW Basins



Inspections

- Inspect 100% of city-owned assets over the course of 5-year permit cycle
  - Compliance:
    - Infrastructure
    - Stormwater facilities
    - Commercial properties
    - Industrial facilities
    - Active construction sites
- Inspect remaining assets (privately-owned) to ensure system is maintained and continues to function
  - Goal is to ensure the safe conveyance of stormwater runoff

Infrastructure Assessments

Excellent Condition

Failing Condition

Stormwater Infrastructure Maintenance

- Conduct stormwater infrastructure maintenance, based on inspection results of City-owned systems.
  - Cleaning Practices
  - Maintenance Practices
  - Repair Practices
  - Replacement Practices

Stormwater Pond Maintenance

- Traditional Maintenance
  - Utilizing specialized equipment on vegetative maintenance
- Alternative Maintenance
  - Utilizing alternative methods on vegetative maintenance

Stormwater Program Goals

- Protection of life and property
- Enhance and upgrade aging infrastructure
- Continue to prevent the risk of flooding of roadway
- Prevent the risk of undermining culverts
- Ensuring stormwater design criteria are met to allow for continued economic and development growth
- Improving infrastructure size to reduce the risk of flooding
- Continue to maintain compliance with state and federal requirements

Stormwater Utility and Master Plan

Ensuring the safe conveyance of stormwater

Stormwater Master Plan

- Guideline for the City of Lawrenceville to manage its stormwater utility system.
- Provides a snapshot of the existing stormwater infrastructure system and estimates future conditions and associated costs of maintaining the stormwater system.
- Identifies necessary growth for Stormwater Management Program including, equipment, staffing, external assistance.
- Identifies stormwater operation and maintenance needs.

Condition of System

- Stormwater Pipes
  - Coated CMP: 707 pipes
  - Plain CMP: 930 pipes
- Total % of CMP within the system: 46.8%
- Life of CMP is approximately 20 to 30 years
  - Most communities were constructed between 1980-1989
- Nearing or at the end of CMP's viable life

Identified Project Categories

- Emergency Maintenance
- Replacement of Impaired Culverts
- Replacement of Stormwater System
- Future Televising Inspection Program (CCTV)

Prioritizing Projects

- Emergency Response
  - Protecting Life and Property
  - Identify neighborhoods with single point of roadway access
- Community data
  - Age of community and its infrastructure
  - Community rated grade of all infrastructure for large scale repairs
  - Material of the infrastructure
  - Review with Pavement Condition Index data

Flood Impacts

- Approximately 34 road crossings which may be jeopardized by severe weather.
  - Calculated based on 100-year or 1% chance of a storm
    - Flood that statistically has a 1% chance of occurring in any given year.
    - Probability of a flood heights reaching X feet once in a 100 years.
- Understand our areas of concern during severe weather.
- Identify areas of study to determine infrastructure demands.
- Current and future stormwater infrastructure impacts.

Critical Issues

- Protection of life and property
- Aging infrastructure
- Flood hazard risks
- Culvert collapses
- Increasing development with increasing runoff quantities
- Undersized infrastructure with continued development
- Increasing state and federal compliance requirements

Funding

- Stormwater Utility Fee
  - ~ $2,500,000 annually
- ~ 50% of system is CMP installed approximately 20 to 30 years ago
  - As CMP reaches end of its useful life, the potential for emergency repairs increases.
    - Emergency repairs are more costly than planned repairs.

Typical Useful Life
- CMP 20-25 Years
- HDPE 50-70 Years
- RCP 75-100 Years

Preparing Next Steps

- Evaluate current available data
  - Do we have enough accurate data to support the Stormwater Management Program and Utility?
    - GIS and 2NForm
    - Level of service parameters
    - Extent of service parameters
  - Do we know what we own?
- Master Planning
  - Do we have a plan and course of action for meeting compliance, ensuring an operational system, and planning for future projects?
- Fee Study
  - Does our current fee support the needs of the permit and utility to ensure we compliance requirements, operation demands, and capital needs?