city of golden valley

STORM WATER POLLUTION PREVENTION PROGRAM

2023 Report

SIGNIFICANCE OF PROGRAM

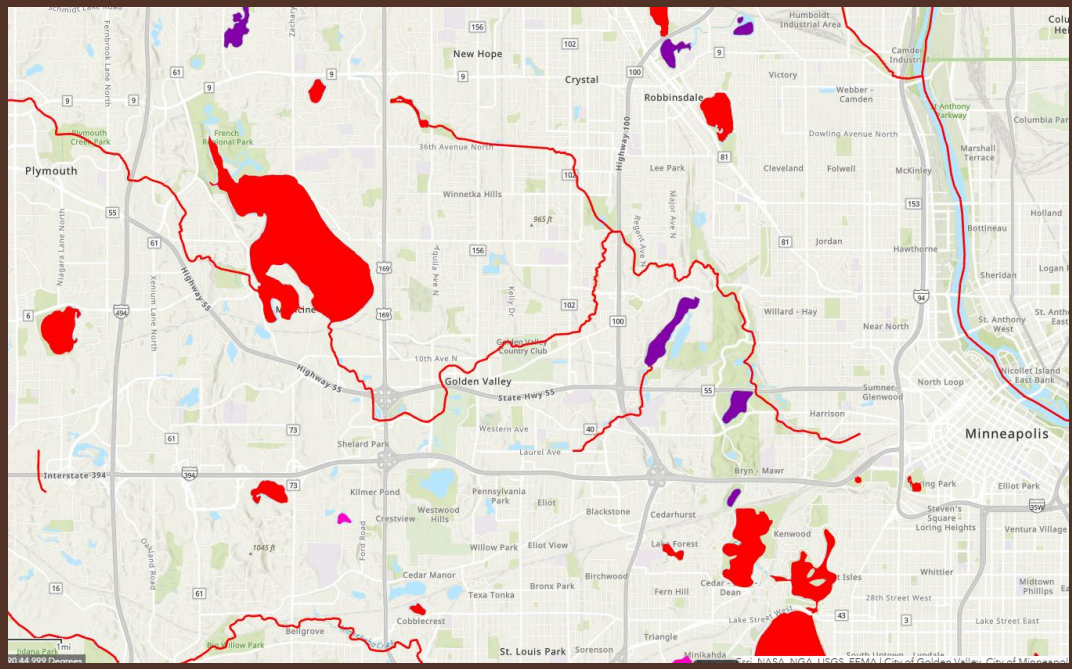
- Federal Clean Water Act passed in 1972
- Meant to Address Point & Non-Point Source Pollution
  - Point source: factories, wastewater treatment plants, pipes, ditches
  - Non-point source: overland runoff
    - Stormwater runoff is #1 source of water pollution today
    - Pollutants include sediment, fertilizers, pesticides, trash, pet waste, chlorides, heavy metals, grease, oil, gas

REGULATORY ENVIRONMENT

- Federal Regulatory Program
  - National Pollutant Discharge Elimination System
  - Environmental Protection Agency delegates to Minnesota Pollution Control Agency (MPCA)
- MPCA requires Stormwater Permits
  - Industrial
  - Construction Sites
  - Municipal (storm sewer operators)
    - For cities with populations over 10,000 like Golden Valley

IMPAIRED WATERS

- Minnesota Impaired Waters List
  - Includes Bassett Creek (Ȟaȟá Wakpádaŋ is the Dakota name for Bassett Creek) and Medicine Lake (red color below)
  - Sweeney, Wirth & Brownie Lakes were delisted (purple color below)
- Impairments may include:
  - Nutrients that grow algae
  - Sediment that clouds water
  - Bacteria that can make water unsafe for swimming
  - Unhealthy conditions for fish and bugs
  - Mercury levels that lead to limits on fish consumption
  - PFOS found in fish tissue
  - Sulfate impairments that may hinder the biological production of wild rice



WATER IS LIFE

- Clean water is essential for a thriving ecosystem of plants, animals, and humans
- We are on Dakota homeland and need to honor the original people of this homeland
- This includes the care and protection of land and water
- Permits and programs provide measurable goals to help protect and improve surface waters

MUNICIPAL GENERAL PERMIT

- Permit from MPCA
  - Municipal Separate Storm Sewer System (MS4) Permit
  - Allows municipalities to operate Storm Sewer System and discharge Stormwater into natural receiving waters (lakes, streams, wetlands)
  - 5-year permit cycle (2020-2025)
- Primary requirements
  - Reduce contamination from runoff; prohibit illicit discharges (anything other than stormwater)
  - Annual public input opportunity
  - Annual reporting to MPCA (data tracked in 2023 is submitted in 2024)

MINIMUM CONTROL MEASURES OF MS4 PERMIT

1. Public Education & Outreach
2. Public Participation/Involvement
3. Illicit Discharge Detection & Elimination
4. Construction Site Runoff Control
5. Post-Construction Storm Water Management
6. Pollution Prevention/Good Housekeeping

1. PUBLIC EDUCATION & OUTREACH

- Develop a stormwater communications plan
  - Yard/pet waste, winter salt, illicit discharge
- Water resource educational materials
- Collaborate with Bassett Creek Watershed
- Educational signs
- Website
- City Newsletter
- Social media

EXAMPLES – BROCHURES, WEBSITE, AND NEWSLETTERS

Golden Valley Works To Reduce Unwanted Bacteria From Waterways

Though Action Not Yet Mandated, Golden Valley Gets Proactive

In the next several years, local waterways are going to get healthier and cleaner. Good news, when you consider the number of Minnesotans who rely on the Mississippi River for recreational activities and drinking water.

The City of Golden Valley is working to reduce excess bacteria from its streams and ponds, an issue highlighted by the Minnesota Pollution Control Agency (MPCA) when it listed both the Mississippi River and its tributary, Bassett Creek, as waters impaired by bacteria.

Impaired Waters

Impaired waters are streams, rivers, and lakes that do not meet water quality standards for their designated use as determined by the MPCA and the federal Clean Water Act. About 40 percent of Minnesota lakes and rivers, including several reaches of the Mississippi River from St Cloud to St Paul, have been labeled impaired.

Water can be labeled impaired for several reasons, explains Eric Eckman, Golden Valley's public works specialist. While Bassett Creek is impaired for bacteria and chloride, three area lakes—Sweeney Lake, Wirth Lake, and Medicine Lake—are impaired because of excess nutrients (phosphorus), which come from organic material and sediment.

"This is more than just a Golden Valley problem, but Golden Valley will have to be part of the solution," says Eckman. "And we have a long list of things we are already doing."

Addressing The Problem At Its Source

Harmful bacteria, such as E. Coli, can build up in waterways from several sources, including humans and warm-blooded animals, failing septic and sanitary sewer systems, and pet waste and fertilizer runoff, among other pollutants. This makes the waters hazardous to health and more difficult to sanitize.

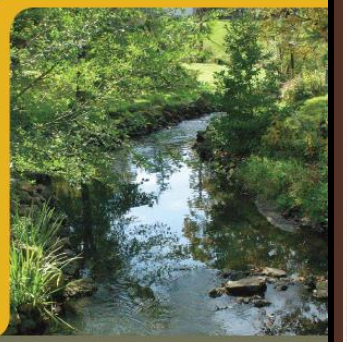
The MPCA has initiated a Total Maximum Daily Load (TMDL) study to determine the sources and reductions of pollution before requiring area cities to take specific action, which probably won't be until 2014, Eckman adds.

In the meantime, the City of Golden Valley wants to get ahead of the problem by taking the following steps to reduce waterway bacteria:

- Continue to implement sanitary sewer Inflow and Infiltration reduction standards and find and seal off leaky pipes.
- Clean out sump manholes and ponds that harbor bacteria.
- Reduce impervious surfaces that lead into waterways and establish vegetative buffers along the banks of ponds and the creek.
- Manage vegetation around shallow basins and ponds to allow UV light penetration.
- Sweep streets of leaf litter and organic debris, which contain nitrogen for bacteria growth.
- Educate residents on and reinforce the pet waste ordinance.

Over the coming years, the MPCA and Minnesota Department of Health will partner to lead this project in close coordination with area land and watershed management organizations, cities, and counties, to improve and restore the water quality of the Upper Mississippi River.

Watch *CityNews* and the City website for updates on the project. For further information on what's happening right now, contact Public Works at 763-593-8030.



Residential Snow and Ice Care

Help keep our water clean!

WMWA

BlueThumb.org

Shoreline Landscaping

Lake shores and other waterfront areas are some of the most biologically diverse communities in the Midwest. Although waterfront lots have specific legal boundaries, a lake, pond, river, or stream benefits or suffers from the cumulative actions of all property owners near the water.

This gives waterfront landowners special responsibilities in the community. How they manage their waterfront property has a significant impact on the water's ecosystem and, in fact, the ecosystem of a large surrounding area.

This shoreline lacked a buffer zone...

The Importance of Buffer Zones

One of the best ways to promote good health in and around a body of water is to create a buffer zone. **A buffer zone is a strip of natural vegetation between your lawn and the water.** Preferably it requires at least 50 percent (75 percent is even better) of the property along the shoreline, extends from 25 to 100 or more feet onto the land and 25 to 50 feet into the water, and consists of vegetation that is natural to the area. The benefits of creating a buffer zone are immense. A good buffer zone:

- **creates a natural filter** to prevent lawn fertilizer and pesticides from running off from the land into the water
- helps purify the water by removing contaminants and encouraging soil particles to settle to the bottom
- stabilizes sediments and shorelines and **increases water clarity**
- reduces acreage of lawn and, therefore, the amount of **time needed for mowing** and maintenance
- **reduces the amount of fertilizers** and herbicides required (native plants do not require fertilizers or herbicides)
- **deters geese** from loitering on the lawn and shoreline, eliminating goose dung
- discourages muskrats burrowing under the lawn area (if property owner does not mow within 25 feet of the water's edge) because their burrows do not extend far enough into the bank to reach the lawn
- absorbs the energy of waves that may erode the soil
- **preserves natural appearance** of shoreline

For the last few years, the owners have been restoring a buffer zone to the land.

EXAMPLES – EDUCATIONAL SIGNAGE

2. PUBLIC PARTICIPATION/INVOLVEMENT

- Adopt-an-Open Space and Adopt-a-Pond programs for residents & businesses
- Green volunteer program - invasive species removal and trash cleanup events
- Storm drain program
- Bassett Creek Watershed public meetings and events
- Environmental Commission meetings
- Annual public input opportunity to comment on the City's stormwater program

ADOPT-A-POND PROGRAM

3. ILLICIT DISCHARGE DETECTION & ELIMINATION

- What is it? (video)
- City has program to detect and address illicit connections, discharge, and illegal dumping
- Perform annual inspection of streams and high priority areas
- Update storm sewer system map
- Inform public of hazards associated with illicit discharges
- Web page for citizen reporting
- Respond to and investigate all reports

EXAMPLES – ILLICIT STORAGE & DUMPING

4. CONSTRUCTION SITE RUNOFF CONTROL

- Review, update, and enforce stormwater management ordinance
- Update permit application and instructions
- Perform site plan reviews
- Perform site inspections and enforcement
  - U of MN certified inspectors
- Receive and respond to citizen complaints

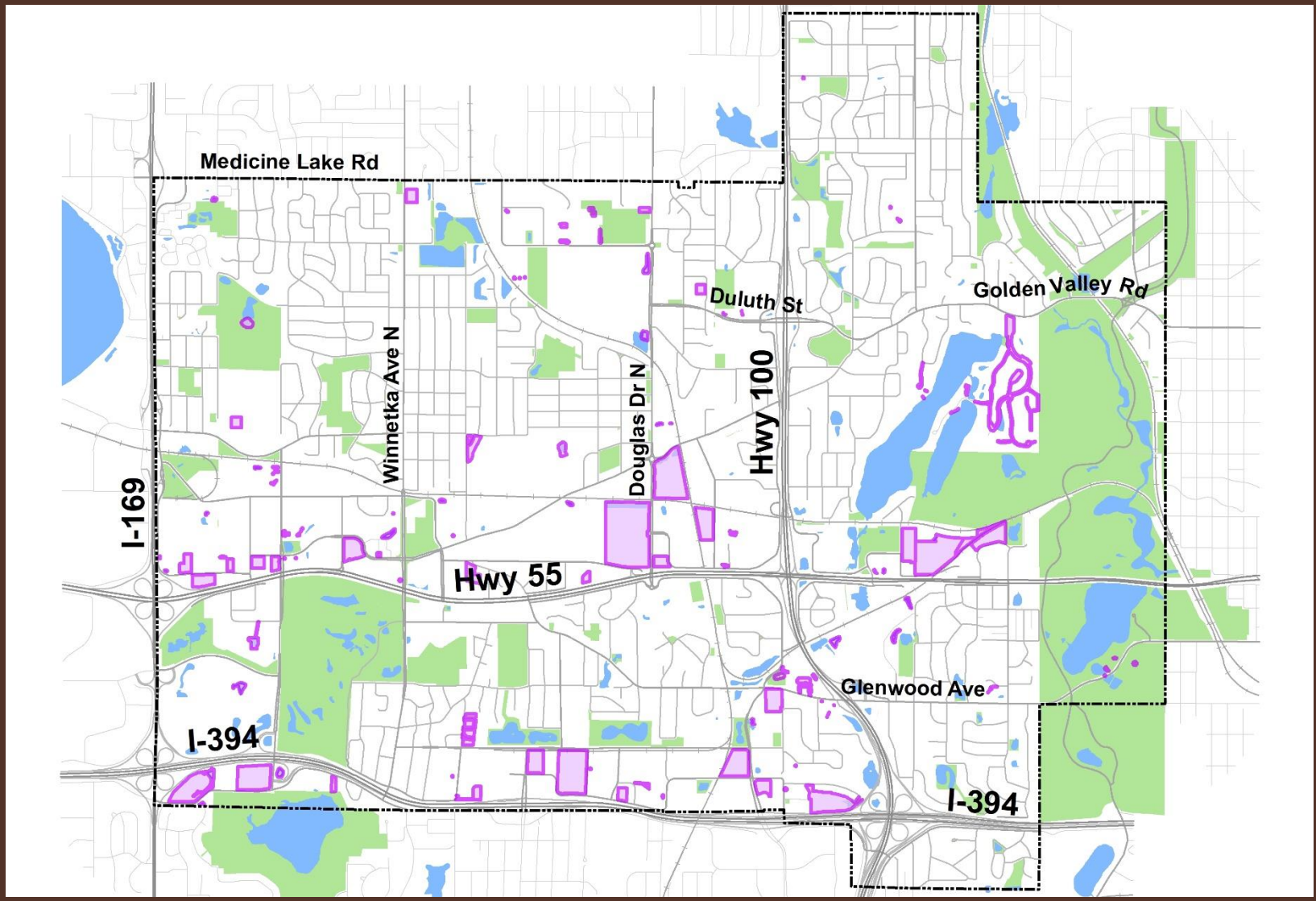
CONSTRUCTION SITE INSPECTIONS

- Average 70 new permits/yr
- ~150 active construction sites
- 1,000s of inspections/yr
- 100s of correction notices issued/yr

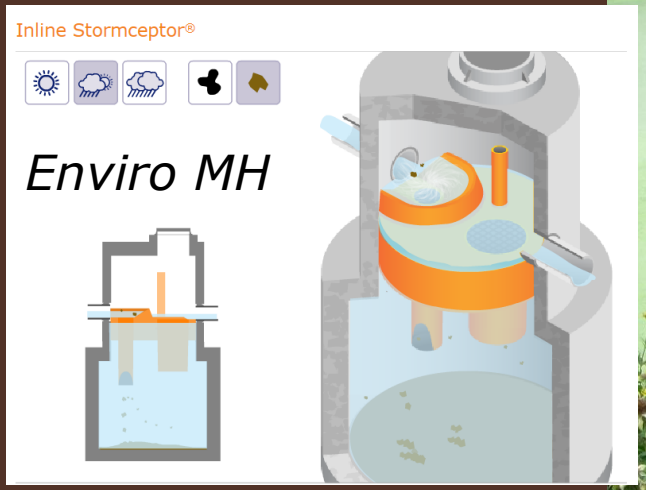
5. POST-CONSTRUCTION STORMWATER MANAGEMENT (FOR DEVELOPMENTS)

- City and Watershed Requirements for Development Proposals
  - Minimal Impact Design Standards – must retain 1.1 inches of runoff onsite
  - Cannot increase stormwater runoff rates
  - Use infiltration, filtration, ponds, reuse, structural devices with filters to treat stormwater
- Maintenance Agreements for permanent stormwater treatment facilities on private property

OVERSEE ~90 MAINTENANCE AGREEMENTS



EXAMPLES: POST-CONSTRUCTION STORMWATER TREATMENT FACILITIES



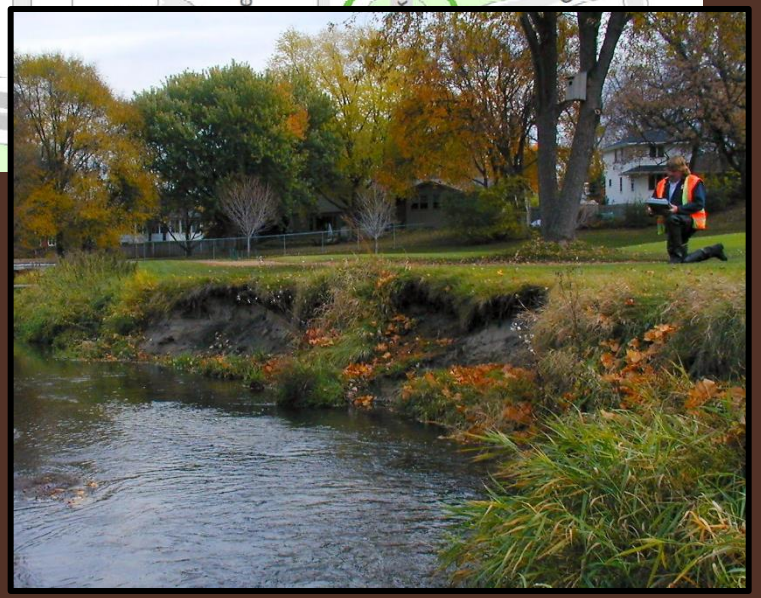
6. POLLUTION PREVENTION/ GOOD HOUSEKEEPING

- Environmental staff - Floodplain, Shoreland, Wetland, and Erosion and Stormwater Management training & certifications
- Maintenance staff - job-specific training and certifications
- Automobile maintenance program
- Street sweeping – spring, fall, summer after storms
- Storm drain and pipe cleaning
- Hazardous materials management
- Road salt storage and handling, winter maintenance/salt certifications
- Spill kits and response plans
- Used oil recycling
- Annually inspect and clean all structural treatment devices
- Inspect 20% of Outfalls, Basins, and Ponds annually
- Inspect all streams annually
- Manage stockpile, storage, and material handling areas
- Inspect high-priority pipe inlets and outlets
- Establish record keeping system to track activities
- **Annual stormwater training for all field staff**

INSPECT/CLEAN ALL STRUCTURAL DEVICES

- 369 sump structures
- 12 environmental MHs
- 3 skimmers/baffles
- 2 underground vaults

INSPECT 20% OF PONDS AND OUTFALLS / YR



City maintains

- 123 ponds/basins
- 176 outfalls
- 85 miles of pipes
- ~3,400 inlet drains

Inspects 9 miles of streams

EXAMPLES - POLLUTION PREVENTION

- Sweep streets in spring and fall; and summer after large storm events
- Target high-priority areas

EXAMPLES - POLLUTION PREVENTION

- Pond Maintenance

EXAMPLES - POLLUTION PREVENTION

- Snow & Ice Control
- Utilize new and emerging technologies and strategies to balance public safety with environmental concerns

RECENT STORMWATER PROJECTS

- DeCola Ponds B and C Improvement 2020
- Georgia Pond Improvements 2020
- Ȟaȟá Wakpádaŋ/Bassett Creek Stream Restoration in Brookview Golf Course 2022
- Medley Park Stormwater Improvement 2023-24
- SEA School-Wildwood Park Stormwater Improvement 2023-24
- 23rd & Winnetka Filtration Basin 2024
- Purchase Enhanced Street Sweeper 2024

PROGRAM EFFECTIVENESS

- Most recent MPCA audit – favorable report

MS4 program area - MCM* 1 public education and outreach (Part III.D.1.)

	C = Compliant N = Noncompliant NI = Not inspected NA = Not Applicable	C	N	NI	NA
1.	Distributed educational materials or conducted equivalent outreach activities on stormwater-related issue(s) of high priority.	☒	☐	☐	☐
2.	Distributed materials or conducted equivalent outreach activities on illicit discharge recognition and reporting.	☒	☐	☐	☐
3.	Implementation plan that consists of the following:				
	a. Target audience(s), including measurable goals for each audience.	☒	☐	☐	☐
	b. Responsible person(s) in charge of overall plan implementation.	☒	☐	☐	☐
	c. Specific activities and schedules to reach measurable goals for each target audience.	☒	☐	☐	☐
	d. A description of any coordination with and/or use of other stormwater education and outreach programs being conducted by other entities, if applicable.	☒	☐	☐	☐
	e. Annual evaluation to measure the extent to which measurable goals for each target audience are attained.	☒	☐	☐	☐
4.	Documentation of the following information:				
	a. A description of any stormwater-related issues.	☒	☐	☐	☐
	b. An implementation plan.	☒	☐	☐	☐
	c. Any modifications made to the program as a result of the annual evaluation.	☒	☐	☐	☐
	d. Activities held, including dates, to reach measurable goals.	☒	☐	☐	☐
	e. Quantities and descriptions of educational materials distributed, including dates distributed.	☒	☐	☐	☐

MCM = Minimum Control Measure

Comments:

Great job on your public education and outreach materials and coordination. You are doing a great job in integrating stormwater into other parts of your City!

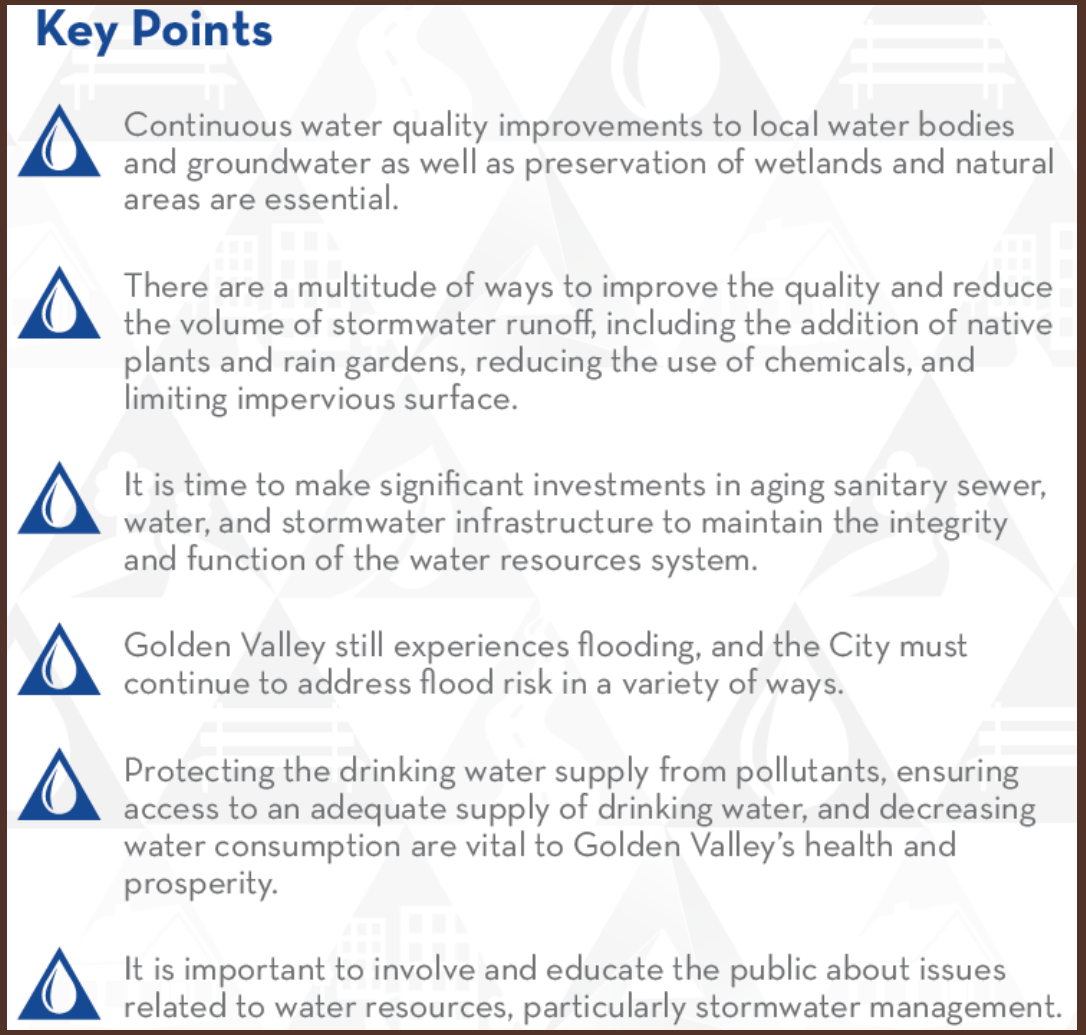
PROGRAM EFFECTIVENESS

- Three public waters have been delisted from the MPCA Impaired Waters list, due in part to the coordination and implementation of projects and best management practices by residents, businesses, and public agency partners.
  - Sweeney Lake (2024)
  - Wirth Lake (2014)
  - Brownie Lake (2010)

PROGRAM WILL CONTINUE TO EVOLVE

- The current MS4 Permit requires municipalities to increase documentation of all activities including inspections, plan reviews, training, chloride (salt) use, progress on improving impaired waters, and more.
- The next MS4 permit is expected to be released around 2025. Staff will review program and propose updates to meet the new permit requirements.
- More studies and projects are being planned to help protect and improve water quality.

Comprehensive Plan Helps Guide Program



STORMWATER PROGRAM

- 2023 Report on City's Stormwater Program
  - Questions or comments?
  - Email Drew Chirpich at dchirpich@goldenvalleymn.gov

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