

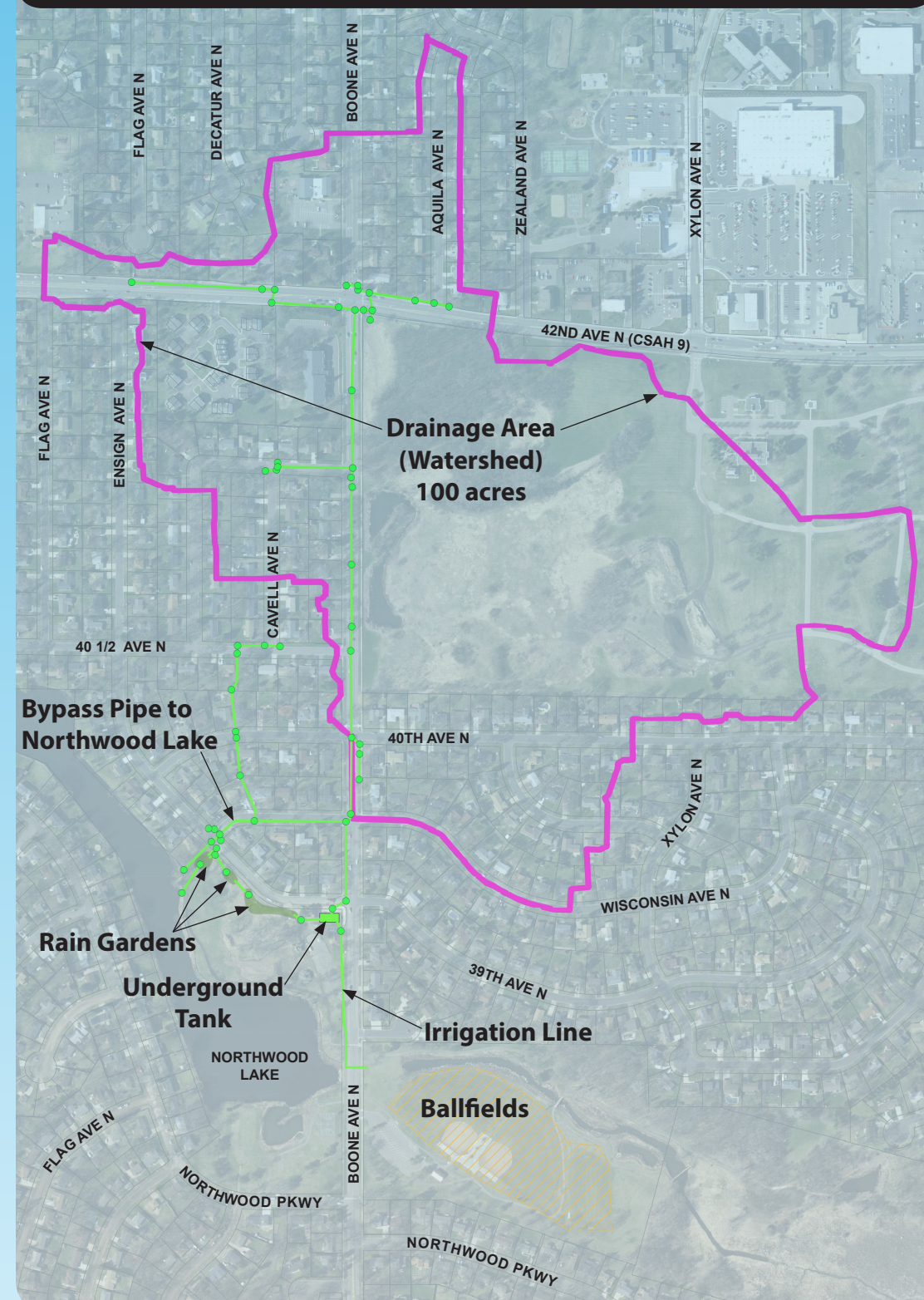
City of New Hope Rainwater Harvesting (Stormwater Re-use) Water Quality System

Project Description

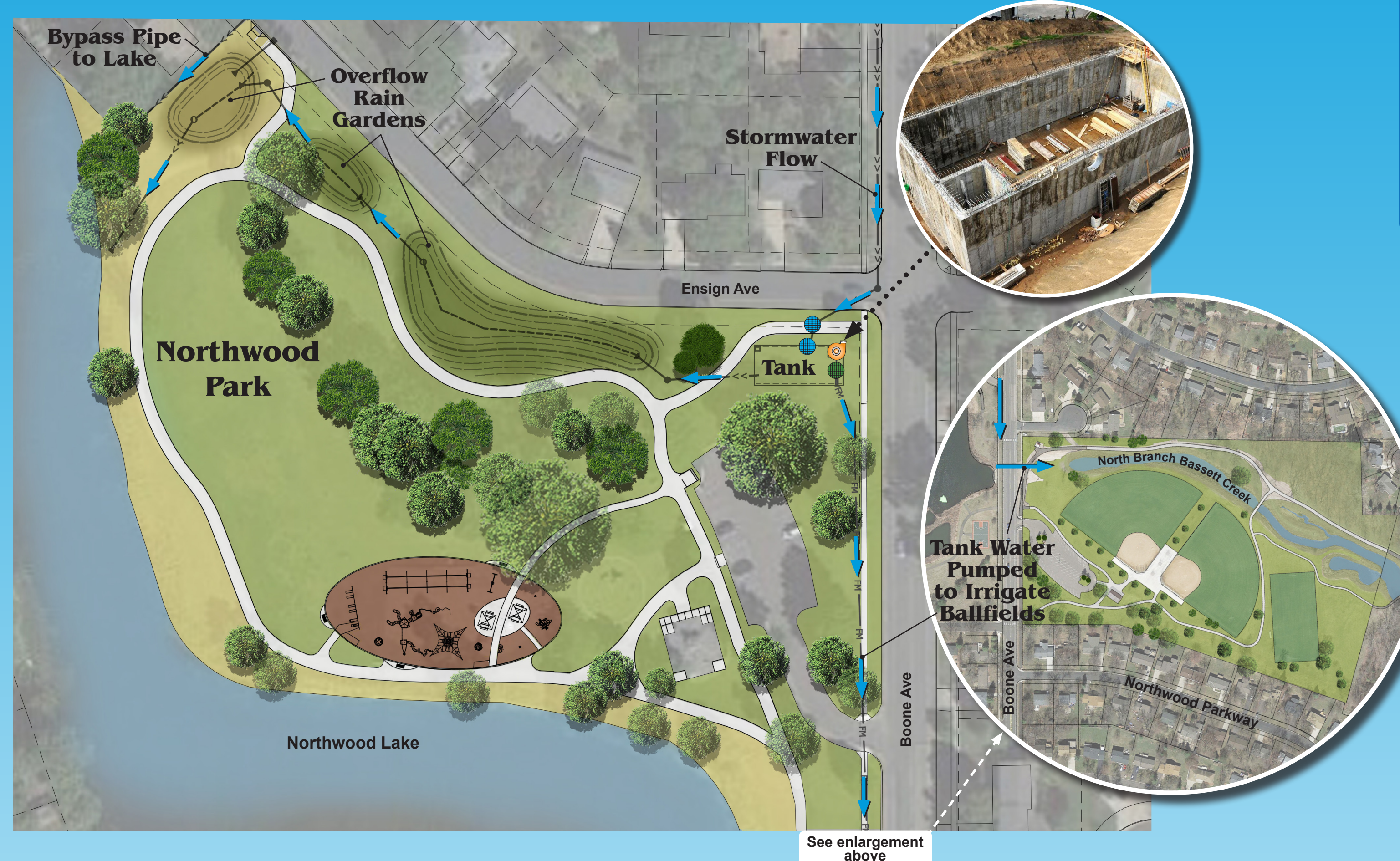
In 2016, the City of New Hope implemented several Best Management Practices (BMP's) to improve the water quality of Northwood Lake and downstream waters. Currently the lake does not meet State standards for water quality due to excessive nutrients. So, it was a priority for the city and the watershed organization to install improvements to help clean the water.

This project was constructed in coordination with the Bassett Creek Watershed Management Commission (BCWMC) to capture, treat, and reuse stormwater with the underground tank and a series of biofiltration basins (rain gardens). Now instead of rainwater polluted with fertilizers, grass clippings and pet waste flowing directly into the lake, it's captured, cleaned and reused or infiltrated into the ground.

Area Drainage Map



Northwood Park Stormwater Harvesting Map



We All Have Waterfront Property! Here's How You Can Help Keep Our Lakes and Streams Clean:

- Sweep up debris like fertilizer, grass clippings and winter salt from your driveway and sidewalks so it doesn't flow downstream.
- Pick up your pet's waste in your yard and dispose of it in the trash.
- Direct downspouts away from pavement. Install a raingarden! Make a "bathtub" for rain in your yard.
- Cleanout stormdrains in front of your home to prevent potential flooding and pollutants from entering the storm sewer system.

Water Conservation Benefits

- Uses recycled runoff to irrigate the 6.4 acres Northwood Park ball fields and soccer field.
- Reduce the City's annual water usage by up to 2.5 million gallons.

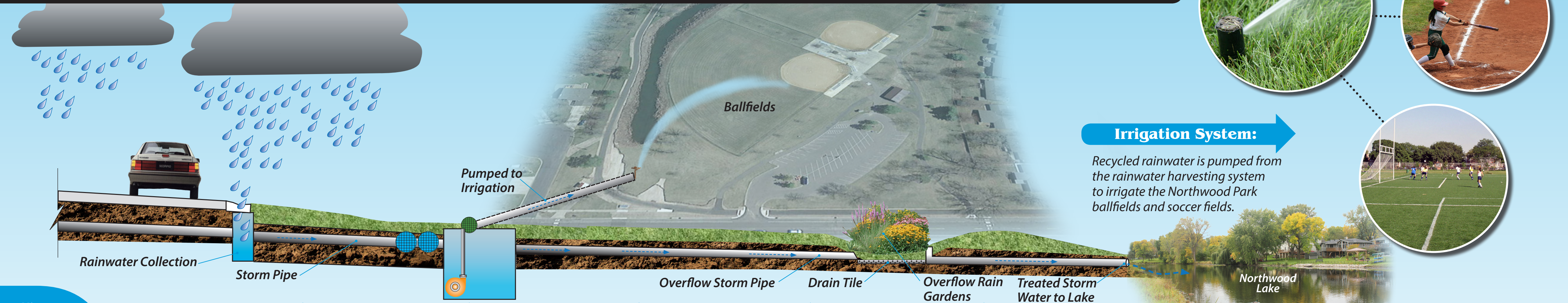
Runoff Control Benefits

- Redirect runoff from approximately 100 acres, including 22 acres of impervious surfaces to the rainwater harvesting tank.
- Recycle up to 335,000 cubic feet of stormwater runoff volume annually.
- Stores runoff from a 1-inch rainfall in the 160,000 gallon rainwater harvesting tank.

Water Quality Benefits

- Helps prevent pollutants from entering Northwood Lake.
- Prevents approximately 16 lbs. of phosphorous per year from entering Northwood Lake, ultimately reducing the amount of algae in the lake.
- Prevents approximately 4,600 lbs. of suspended solids (trash, debris, erosion, etc.) per year from entering Northwood Lake, ultimately improving the clarity of the water.

Rainwater Harvesting System Diagram



Irrigation System:

Recycled rainwater is pumped from the rainwater harvesting system to irrigate the Northwood Park ballfields and soccer fields.

This rainwater harvesting project was made possible through the partnership and funding from Minnesota Pollution Control Agency Clean Water Partnership Grant, the Minnesota Board of Water and Soil Resources Clean Water Fund Grant, Bassett Creek Watershed Management Commission, and the City of New Hope.



- Rainwater Filter:** The rainwater filter/swirl underground structures remove leaves, debris, and sediment prior to entering the underground tank.
- Tank:** A 160,000 gallon tank provides rainwater storage for up to 2 weeks of irrigation for the Northwood Park ballfields and soccer field.
- Pump:** Draws rainwater out of tank and feeds the irrigation system.
- Fine Filter:** Provides fine filtration of smaller particles.
- Rain Gardens:** Three rain gardens provide treatment of the stormwater overflows from the tank prior to entering Northwood Lake.

