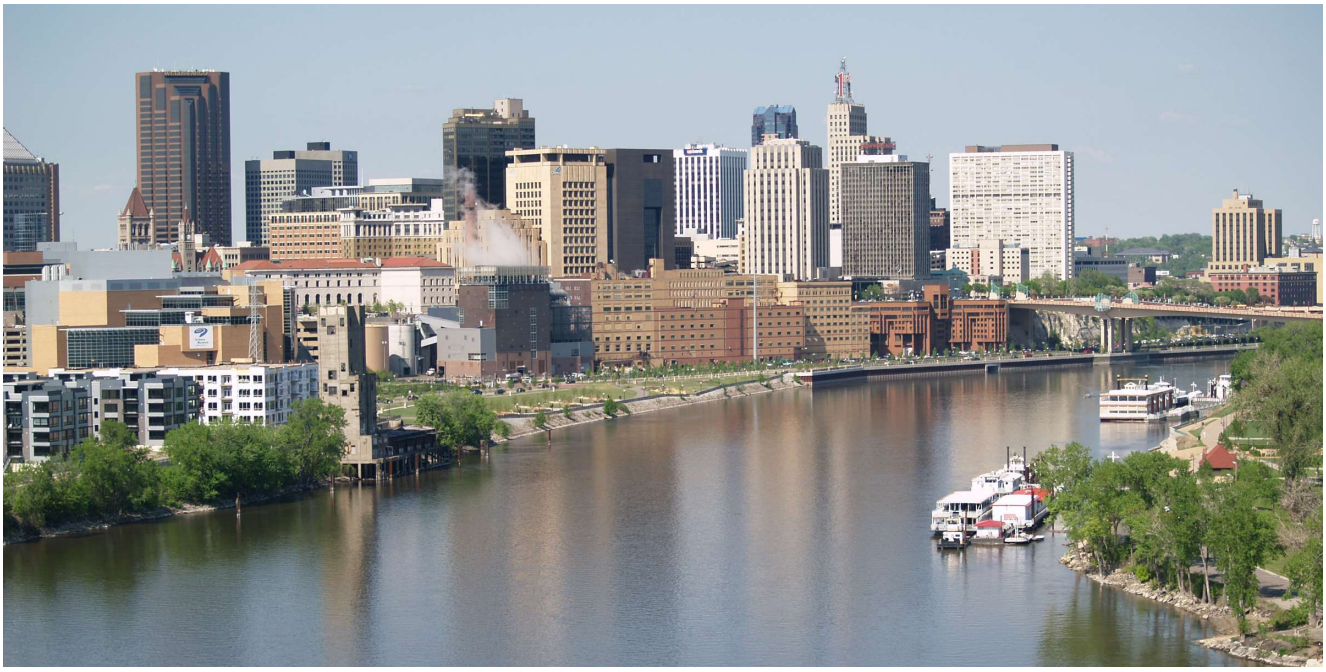
City of Saint Paul's
2023 Stormwater Permit Annual Report



Minnesota Pollution Control Agency
National Pollutant Discharge Elimination System
Permit No. MN 0061263
April 2024

SAINT PAUL
MINNESOTA

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Background

The National Pollutant Discharge Elimination System (NPDES) program was created in 1990 by the United States Environmental Protection Agency to safeguard public waters through the regulation of the discharge of pollutants to surface waters including lakes, streams, wetlands and rivers. The Minnesota Pollution Control Agency (MPCA) is the local authority responsible for administering this program. Under this program, specific permits are issued to regulate different types of municipal, construction and industrial activities.

The MPCA issued the first Municipal Separate Storm Sewer System (MS4) NPDES Permit to the City of Saint Paul on December 1, 2000. The City's MS4 Permit was reissued on January 21, 2011, and again on July 12, 2018. The reissued permit requires submittal of a revised Stormwater Management Program (SWMP), which will be submitted to the MPCA with this Annual Report.

The Saint Paul SWMP was developed, and is administered by various City Departments that are responsible for permit activities. Included are the Public Works Department, Saint Paul Parks and Recreation Department and the Department of Safety and Inspections. These stakeholders are jointly responsible for the completion of the required permit submittals. The Department of Public Works provides program coordination. The Permit also requires public input on the development of the priorities and programs, and adoption by Council Resolution of the Annual Report.

This Report provides documentation of the activities conducted in 2023.

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MCM 1: Public Education & Outreach

BMP 1.1: STORMWATER PUBLIC EDUCATION AND OUTREACH ACTIVITIES

Description

The City implements public education and outreach programs in accordance with the *PUBLIC EDUCATION AND OUTREACH WORK PLAN* (included within the SWMP) to increase the awareness of stormwater pollution impacts on waters of the state to encourage changes in public behavior to reduce impacts to receiving waters.

Assessment Process for Annual Reporting

- Quantities and descriptions of educational materials distributed, and the number of visits by the public, to **stormwater** education websites.
- A summary of the education and outreach activities held, including dates of events.
- Any modifications made to the program as a result of the annual evaluation as described in Part III.C.1.b.(5).
- If the **Permittee** relied upon other organizations for some, or all, of its education and outreach program, include a summary of activities conducted by those other organizations.

2023 Activities

Public Education and Outreach activities continued utilizing a hybrid of self-serve/virtual programs. This included stenciling kits that could be checked out and virtual presentations highlighting urban non-point source pollution and related environmental issues. The Sewer Utility partnered with CRWD on the design of a water quality educational message that was installed on the back of St. Paul no parking signs. These signs will be used throughout the year for various maintenance activities and will promote keeping receiving waters clean. The Sewer Utility participated in Waterfest promoting our stormwater management programs as well as fielding any questions raised by the public. A TMDL factsheet has become part of our water quality education programs in an effort to educate the public on impaired waters within St. Paul. It is available to the public on the City's website and at various in-person public education opportunities. Summaries of the Public Education and Outreach activities are within the Appendix, and within the updated Stormwater Management Program Public Education and Outreach Work Plan.

MCM 2: Public Participation & Involvement

BMP 2.1: Encourage & Solicit Input from the Public

Description

Saint Paul citizens are actively engaged in many aspects of the City's governance, being involved through commissions, district councils, volunteer organizations and electronic communications. Other public involvement techniques include workshops, web page accessibility and outreach by elected officials. The objective of this program is to make the SWMP and related documents available to the public and to provide a process for public input in the development and implementation of the SWMP.

Assessment Process for Annual Reporting

- A summary of the written public input received on the **SWMP** and the **Permittee**'s response to the input as described in Part III.C.2.
- Any modifications made to the **SWMP** as a result of the input received during the public meeting.
- The date and location of the public meeting as described in Part III.C.2.a.
- A formal resolution from the **Permittee**'s governing body adopting the annual report and the **SWMP** as required in Part III.C.2.e. The resolution must be submitted to the **Agency** no later than June 30th of each year if not available at the time of annual report submittal.

2023 Activities

The Annual Report is a coordinated effort by various City Departments. Information in the Annual Report provides documentation of the activities conducted in the previous year.

A notice of the availability of the documents for review, and public comment, was sent to all Saint Paul neighborhood organizations, to the governmental entities that have jurisdiction over activities relating to stormwater management, and to other interested parties. The City held its public meeting at Waterfest on June 3rd, 2023 at Lake Phalen Park. Public Works staff offered rides on a street sweeper, showcased a catch basin cleaning truck, and participated in the event-wide water quality trivia messaging. Our stormwater management and annual reports were available for review in addition to the distribution of factsheets and flyers containing stormwater messaging. This provided the public with the opportunity to inquire and provide feedback on our stormwater management programs and activities. In addition to the public meeting, there was still opportunity for public comments via email and mail format through the Public Works Department.

Once finalized, the Annual Report and updated Stormwater Management Program are also made available on the website. All testimony presented at the public meeting, and all written comments received, are recorded and given due consideration. The public comments, response to comments and a copy of the council resolution adopting the Stormwater Permit Annual Report, and updated Stormwater Management Program, are submitted each year to the Minnesota Pollution Control Agency.

MCM 3: Illicit Discharge Detection & Elimination

BMP 3.1 PROHIBITED DISCHARGE MANAGEMENT PROGRAM

Description

The objective of this program is to effectively prohibit through ordinance or other regulatory mechanism and appropriate enforcement procedures, the introduction of non-stormwater discharges into the MS4.

Assessment Process for Annual Reporting

- The number of spills and **illicit discharge**s that occurred and a description of the response, containment, and cleanup of the spills and **illicit** discharges.
- The number of **illicit discharge** inspections and/or screening activities completed during the reporting year and a description of the response, investigation, and enforcement response procedures utilized to eliminate the **illicit discharge**s.
- Reports of alleged **illicit discharge**s received, including date(s) of the report(s), and a description of the response, investigation, and enforcement response procedures utilized to eliminate the **illicit discharge**(s).
- Sources of **illicit discharge**s, including a description and the responsible party if known.
- Identification of **outfall**s or other areas where **illicit discharge**s have been discovered and a description of the response, investigation, and enforcement response procedures utilized to eliminate the **illicit discharge**(s).
- A description of the education and outreach activities, implemented during the reporting year, to inform municipal employees, the public, and industry about reporting, responding to, and eliminating **illicit discharge**s.

2023 Activities

Spill Response

The Sewer Maintenance section of the Sewer Utility, or Saint Paul Fire Department personnel, typically serve as the first responders to a spill event. The immediate goals of this response are safety, containment of the spill, recovery of hazardous materials and collection of data for use in assessment of site impacts. Recovery efforts can take several forms, but typically fall into two broad categories: recovery for disposal, and the use of absorbents or other media to collect hazardous waste for disposal.

The life cycle of an event requires City personnel to work as a team, utilizing all available resources to protect residents, the environment and property. Outside agencies and private emergency response contractors are incorporated as needed. Spills that fall within the minimum reporting requirements are reported to the Minnesota Pollution Control Agency (MPCA) Public Safety Duty Officer. For these spills, a spill data form must be completed within 24 hours, or by the next business day. The completed forms are used to document the type of spill, as well as the response to the spill. The Sewer Utility follows the spill reporting policy, which is signed off on by employees as part of the annual policy review.

The Sewer Utility maintains a contact list summarizing all the MS4 contacts of adjacent municipalities and agencies. This aids in investigations, notifications, and response activities in multi-jurisdictional illicit discharges.

Prohibited Discharges

Pollution prevention and control is achieved through educational efforts, inspections and coordinated community outreach. These activities may include enforcement, pursuant to applicable City codes, and coordination with other regulatory agencies at the county, state and federal levels. Enforcement yields identification of the responsible party, documentation of clean-up activities, and efforts to reduce the flow of pollutants from illegal dumping and disposal. Complaints are received from the public, City staff and other government agencies. Department of Safety and Inspections and Public Works staff respond to reports of unauthorized discharges and illicit connections. The City adopted an ordinance and created a fact sheet in 2013 defining allowable discharges to the storm sewer system.

The City's Right of Way (ROW) inspectors respond to complaints resulting from utility contractors dewatering or saw cutting and construction site dewatering and tracking. Each year at the Utility Coordination Meeting, requirements and BMPs are reviewed with contractors, and a handout is provided. The ROW inspectors enforce these requirements in the field, respond to complaints and coordinate with DSI to address issues originating on private property.

In 2023, DSI sent out 63 leaf letters to properties throughout the City. This letter states that a complaint was received by the City of leaves being raked into the street. It explains how the leaves negatively impact downstream water bodies and gives information about compost sites in Ramsey County. The first letter is a warning and subsequent complaints will result in a fine to the property owner.

Discharges addressed in 2023 are within the Appendix.

Staff Training

- The Department of Public Works hosts an Annual Utility Coordination meeting to facilitate utility and street system reconstruction projects. A component of this meeting includes stormwater management items such as erosion and sediment control in the public Right-of-Way, Allowable Discharges to the Storm Sewer System, Best Management Practices, etc. Attendees are comprised of various municipal employees and utility companies.
- Various Sewer Utility personnel attend the Sewer Collection System Operators Conference conducted by the Minnesota Pollution Control Agency on an annual basis.

MCM 3: Illicit Discharge Detection & Elimination

BMP 3.2 STORM SEWER SYSTEM MAP & INVENTORY

Description

The objective of this program is to minimize pollutants in stormwater through the effective use of electronic tools for data storage, retrieval, display and analysis. An electronic inventory and map and electronic inventory is under development to support numerous stormwater management system responsibilities and activities, including operation and maintenance, design, hydrologic and hydraulic modeling, Gopher State One Call locates, capacity, condition and water quality studies, illicit discharge detection and management of spills.

Assessment Process for Annual Reporting

- A description and the date of the most recent update to the electronic storm sewer system inventory and map completed during the reporting year.

2023 Activities

Storm Drain System Infrastructure

Approximately 150 years ago, Saint Paul first constructed portions of a sewer system that today comprises 450 miles of storm sewers and over 26,000 catch basins. The system was designed to satisfy the City's obligation to provide reasonable drainage of stormwater and to prevent street flooding, which satisfied the City's responsibility to protect neighboring properties, allow for normal traffic flows, and prevent damage to streets, sidewalks and boulevards.

The Department of Public Works has a computer-based asset and infrastructure management system. This system includes both the storm and sanitary sewer networks. With various sewer system modifications occurring on an annual basis, updating of the computer-based asset and infrastructure management system occurs on an ongoing basis.

In 2023, a comprehensive map was updated that identifies BMP locations, and their contributing drainage areas, that Public Works operate. This map can be utilized to aid in spill response, maintenance, inspection, plan review, and locating.

Watershed and Storm Sewer Outfall Inventory

An inventory of Saint Paul's storm sewer outfalls is located in the Appendix. This inventory includes the outfall identification number, outfall name, watershed name, size of pipe and drainage area. The following information is provided in the Outfall Inventory found in the Appendix for each of the 23 watersheds in St. Paul: drainage area, land use types and distribution, population, percent impervious surface area, and the runoff coefficient. The following table shows the total number of discharge points to each water body in Saint Paul.

Discharge points to receiving waters

Receiving Water	Total Discharge Points
Bridal Veil Creek	1
Mississippi River	170
Upper Lake	8
Crosby Lake	9
Fairview North Pond	2
Lake Como	19
Loeb Lake	1
Lake Phalen	18
Beaver Lake	4
Suburban Pond	2
Little Pig's Eye Lake	1
Pig's Eye Lake	5
Battle Creek	11

Stormwater Ponds

A map showing the stormwater ponding areas in the City of Saint Paul is included in the Appendix. The Appendix also contains the tributary area and design capacity for each City ponding area and a list of ponding areas by watershed.

NPDES Permitted Facilities

Facilities in Saint Paul that are issued NPDES permits by the MPCA are identified in Appendix.

Industrial Land Use

Industrial land uses may generate higher concentrations of hydrocarbons, trace metals, or toxicants than are found in typical stormwater runoff. Maps showing the areas of industrial land use in Saint Paul is included in the Appendix.

MCM 3: Illicit Discharge Detection & Elimination

BMP 3.3 DRY WEATHER FIELD SCREENING PROGRAM

Description

The objective of this program is to develop, and as necessary continue to develop, and implement a dry weather field screening program to detect and eliminate non-stormwater discharges, including illegal dumping, to the system. The City shall inspect each outfall at least once over the five-year term of the current permit for evidence of illicit discharges.

Assessment Process for Annual Reporting

- The number of **illicit discharge** inspections and/or screening activities completed during the reporting year and a description of the response, investigation, and enforcement response procedures utilized to eliminate the **illicit discharge**s.
- Identification of **outfall**s or other areas where **illicit discharge**s have been discovered and a description of the response, investigation, and enforcement response procedures utilized to eliminate the **illicit discharge**(s).
- A description of the education and outreach activities, implemented during the reporting year, to inform municipal employees, the public, and industry about reporting, responding to, and eliminating **illicit discharge**s.

2023 Activities

Detection and Removal Screening Program

The field screening program to detect and investigate contaminated flows in the storm drain system is a part of the City's daily operations. Sewer Maintenance crews routinely inspect and clean the storm sewer system throughout the City. Inspections of flows that generate unusual odors, stains, and deposits are included in the annual outfall inspection program. In addition, Sewer Maintenance performs Gopher State One-Call utility locating for the storm sewer system, integrating visual inspection for illicit discharges

The City conducts its own stormwater quality monitoring activities via a Consultant, and also coordinates with the Capitol Region Watershed District on comprehensive stormwater quality monitoring program in Saint Paul.

The City investigates prohibited discharges as part of its regular tunnel, outfall, and pond inspection program. The City also investigates complaints and issues identified in the monitoring program. The Department of Safety and Inspections carries out enforcement on property code violations. Under Chapter 45 of City Code, the City is authorized to collect via assessment its cost of abating property-related health and safety problems when an owner has failed to perform the work following notice by the City. The City may assess property owners to recover unpaid city charges.

GIS mapping is implemented as a tool to support various activities. Information that is gained through the sewer system inspection program can be used to compile data on non-stormwater discharges, storage of hazardous materials, and activities or operations that may be potential water pollution point sources. The City will continue to investigate prohibited discharges as part of its regular tunnel, outfall and pond inspection programs, stormwater quality monitoring, and day-to-day sewer operations.

Any suspect flows are then reported to appropriate City staff for further investigation. These combined efforts result in an annual screening of more than 20% of City drainage areas.

The best avenue for a continued effective screening program in the City of Saint Paul, without duplication of services, is to continue to use current practices, and to explore the development of certain aspects of the program to improve enforcement results.

Standard Operating Procedures and Checklists

- The Parks Department uses a Spill Reporting form and instructions (See Appendix). Form is completed in the event of a spill if petroleum or hydraulic spills greater than five gallons, and other materials spill of any size. The Minnesota Duty Officer is notified, as required, in the event of a reported spill.
- The Parks Department and Public Works Department have Clean Water Policies which are distributed, reviewed, and signed by all field staff. (See Appendix).
- The Department of Public Works hosts an Annual Utility Coordination meeting to facilitate utility and street system reconstruction projects. A component of this meeting includes stormwater management items such as erosion and sediment control in the public Right-of-Way, etc. Attendees are comprised of various municipal employees and utility companies.
- The Department of Public Works developed a Dry Weather Screening written procedure, included within the Appendix of the SWMP.
- The Department of Public Works developed a IDDE Field Guide, and routinely updates and trains staff on current procedures.
- The Department of Public works partnered with Bolton & Menk to create IDDE training videos for the public and City staff. The public video was added to the Sewer Utility's website to increase awareness and detection of illicit discharges.

MCM 3: Illicit Discharge Detection & Elimination

BMP 3.4 INDUSTRIAL ACTIVITIES MANAGEMENT PROGRAM

Description

The objective of this program is to minimize the discharge of pollutants from industrial activities by administering and enforcing ordinances, exercising municipal authority over activities with high potential for stormwater pollution, and providing information to assist the MPCA in carrying out its industrial permitting program.

Assessment Process for Annual Reporting

- Number of water and land pollution complaints.
- Number of discharge incidents reported to MPCA Industrial Permit Program.
- Industrial facilities inventoried.
- Stormwater hotspots inventoried.
- Number of discharges eliminated from industrial facilities.

2023 Activities

A map of the industrial land use areas in the City is included in the Appendix. Complaints in the ROW are handled by the Public Works ROW inpectors. Those that originate on private property are referred to DSI. The City coordinates with the MPCA Industrial Stormwater Program for sites that are permitted by the MPCA. Discharges addressed in 2023 can be found in the Appendix.

MCM 4: Construction Site Erosion & Sediment Control

BMP 4.1: DEVELOPMENT & REDEVELOPMENT CONTROL PROGRAM

Description

The objective of this program is to minimize the discharge of pollutants from construction sites disturbing one acre or more by requiring erosion prevention and sediment control measures. Chapter 52 of the Saint Paul Code of Ordinances requires projects disturbing one acre or more to provide for erosion and sediment control during construction. Sites one or more acres in size are also required to obtain NPDES General Construction Permits from the Minnesota Pollution Control Agency, the Capitol Region Watershed District and the Ramsey-Washington Metro Watershed District.

This program encompasses a variety of individuals responsible for water quality concerns from construction activities. These individuals include designers of erosion control plans; staff responsible for plan review; and, field inspectors with municipal authority over contractors.

Assessment Process for Annual Reporting

- Report on number of site plans reviewed and approved.
- Report on number of site erosion and sediment control inspections recorded.
- Report on development and implementation of written procedures for site plan review and erosion and sediment control inspections.
- Report on number of non-compliance incidents that were identified and addressed by municipal inspectors.
- Report on development of citizen complaint process and number of citizen complaints received and addressed.
- Report on number of staff trained related to construction site erosion and sediment control.

2023 Activities

Program Overview

Saint Paul Code of Ordinances, Part II – Legislative Code, Title VI - Building and Housing, Chapter 52 Stormwater Runoff contains erosion and sediment control requirements, and stormwater management requirements for new developments and other land-disturbing construction activities. Construction activities and new development projects are reviewed through the City's Site Plan Review process. This review provides comments that are integrated into a final plan submittal that is subsequently routed to the City's Departments for approval. The Department of Safety and Inspections reviews projects for compliance with the erosion & sediment control requirements and water quality requirements. The Sewer Utility reviews projects for rate control, flood protection and capacity issues.

Site Plan Review

DSI and Public Works staff provide a detailed review of site plans, and track process to identify stormwater management opportunities. During 2023, City Departments reviewed 105 site plan applications, and issued final approval and permitting on 62 of them. Continued attention to erosion and sediment control plan submittals, along with increased awareness in the industry, provided for better compliance during site inspections.

Inspection and Enforcement
Ongoing site inspections are performed by DSI inspectors. In 2023, DSI inspectors conducted 250 erosion control inspections at various new and redevelopment sites.

Inspectors may issue a warning notice citation or a "Stop Work Order". Failure of the permittee to comply with the ordinance will constitute a violation and will be considered a nuisance pursuant to the laws of the State of Minnesota. If there is a demonstrated failure to comply, the City reserves the right to terminate a permit at any time. The City then has the option of proceeding with the necessary restoration of the site. This restoration would be done at the expense of the owner/permittee. Increased awareness of the ordinance, improved plan submittals, and a continued compliance-based inspection program resulted in a continued rise in compliance. Inspections were coordinated with the Capitol Region and Ramsey-Washington Metro Watershed Districts.

New public and private developments and other projects that disturb one acre or more will be inspected for erosion and sediment control. This effort will lead to a continued awareness of the problems associated with construction site sediment. This will also result in a continuing increase in the overall rate of compliance citywide. The City will continue to study options to increase compliance, and to help limit the amount of erosion and sediment loss associated with construction projects.

Standard Operating Procedures and Checklists
The standard form utilized for documenting field inspections on private projects is found in the Appendix. The form supplements a database which tracks multiple levels of information including inspections for erosion control. The City has developed the following standard operating procedures (SOPs) and checklists for Erosion and Sediment Control (ESC) on public and private construction sites:

- The City of Saint Paul utilizes standard forms for both public and private construction sites.
- Public Works Right-of-Way Division uses a form when ROW inspectors inspect Utility Installation work. (See Appendix.)
- In 2018, DSI revised the Site Plan Erosion and Sediment Control Review Procedure. City staff will continue to develop performance measures and to improve data collection, tracking and analysis. The City will also pursue means of measuring and understanding water quality impacts.
- Erosion control plans and inspections are tracked in the City's AMANDA system.
- Handouts and worksheets are distributed to all relevant applicants.
- The Department of Public Works developed an Environmental Enforcement Response Procedure for application on Public Works Construction sites included within the Appendix of the SWMP.
- The Department of Public Works developed a SWPPP Inspections standard operating procedure for application on Public Works Construction sites included within the Appendix of the SWMP.

Staff Training

- The Department of Public Works hosts an Annual Utility Coordination meeting to facilitate utility and street system reconstruction projects. A component of this meeting includes stormwater management items such as erosion and sediment

control in the public Right-of-Way, etc. Attendees are comprised of various municipal employees and utility companies.

- City of Saint Paul inspectors are trained and certified through the University of Minnesota's Erosion and Stormwater Management Certification Program. This includes Department of Public Works Street Construction inspectors, Public Works ROW inspectors, Department of Safety and Inspections Building Inspectors and Parks Environmental Services staff. The certification includes a recertification component within a 3-year period, which ensures training stays current with techniques and regulations.

MCM 4: Construction Site Erosion & Sediment Control

BMP 4.2 MUNICIPAL CONTROL PROGRAM

Description

The objective of this program is to minimize the discharge of pollutants from construction sites disturbing 1 acre or more carried out by the City by requiring erosion and sediment control measures. Sites one or more acres in size are required to get NPDES General Construction Permits from the Minnesota Pollution Control Agency, the Capitol Region Watershed District and the Ramsey-Washington Metro Watershed District.

This program encompasses a variety of individuals responsible for water quality concerns from construction activities. These individuals include designers of erosion control plans, staff responsible for plan review and field inspectors.

Assessment Process for Annual Reporting

- The number of construction stormwater complaints received and the responses to those complaints.
- The number of site inspections completed and a summary of inspection findings.
- The number of violations of the Permitee regulatory mechanism(s) for construction site stormwater runoff control and the types of enforcement response procedures utilized.
- The title of construction stormwater training attended by Permitee staff.

2023 Activities

Non-Linear, municipal site projects go through the site plan review process and are inspected by the building inspectors for erosion and sediment control. Please see the description of this program in BMP 4.1. The standard forms utilized for documenting field inspections for street reconstruction projects is intended to be handwritten in the field and included in the project file. Staff started using the forms in 2011. During 2023, Public Works Construction inspectors continued to work with internal forces and watershed district staff on erosion and sediment control compliance.

Standard Operating Procedures and Checklists

- The Department of Public Works developed an Environmental Enforcement Response Procedure for application on Public Works Construction sites included within the Appendix of the SWMP.
- The Department of Public Works developed a SWPPP Inspections standard operating procedure for application on Public Works Construction sites included within the Appendix of the SWMP.

Staff Training

- The Department of Public Works hosts an Annual Utility Coordination meeting to facilitate utility and street system reconstruction projects. A component of this meeting includes stormwater management items such as erosion and sediment control in the public Right-of-Way, etc. Attendees are comprised of various municipal employees and utility companies.
- City of Saint Paul inspectors are trained and certified through the University of Minnesota's Erosion and Stormwater Management Certification Program. This includes Department of Public Works Street Construction inspectors, Public Works ROW inspectors, Department of Safety and Inspections Building

inspectors and Parks Environmental Services staff. The certification includes a recertification component within a 3-year period, which ensures training stays current with techniques and regulations.

MCM 5: Post-Construction Stormwater Management

BMP 5.1: DEVELOPMENT & REDEVELOPMENT MITIGATION PROGRAM

Description

The objective of this program is to minimize the post-construction discharge of pollutants and stormwater runoff volume from construction projects disturbing one acre or more. Chapter 52 of the Saint Paul Code of Ordinances requires projects disturbing one acre or more to provide post-construction stormwater management. Sites one or more acres in size are also required to obtain NPDES General Construction Permits from the Minnesota Pollution Control Agency, the Capitol Region Watershed District and the Ramsey-Washington Metro Watershed District.

Projects are reviewed through the City's site plan review process, which is facilitated by the Department of Safety and Inspections. The Site Plan Review Committee is made up of staff from various departments including the Sewer Utility, Saint Paul Regional Water Services, PW Traffic Division, Zoning and Fire & Safety. Building permits are not issued until site plan review approval is formally attained.

Assessment Process for Annual Reporting

- Narrative on number of projects reviewed, number of projects approved, number and type of structural BMPs constructed or installed.

2023 Activities

Ongoing Stormwater Management

Redevelopment of existing sites provides an opportunity to lessen the impacts of urbanization on the Mississippi River and other Saint Paul water resources. During 2023, Stormwater Best Management Practices (BMPs) were installed on sites reviewed through the Site Plan Review process. BMP types that were constructed include:

- Rain gardens
- Pervious pavement
- Infiltration areas
- Stormwater ponds
- Underground infiltration/filtration and detention facilities

Plan Review

Stormwater management plans are required for all construction projects, which disturb one acre or more of land. These plans are reviewed through the Site Plan review process and approved by the Department of Safety and Inspections and the Saint Paul Public Works Sewer Utility. Sites disturbing less than one acre are also required to provide runoff rate control, if the project disturbs greater the 10,000 square feet. In addition, sites under one acre are encouraged to incorporate green infrastructure stormwater BMPs into their design as a means of satisfying other city codes, such as parking requirements. The City updated its Off-Street Parking Code in 2021 further revision is needed to address stormwater management requirements.

MCM 5: Post-Construction Stormwater Management

BMP 5.2 COMPLIANCE PROGRAM for PRIVATE SITE CONTROLS

Description

The objective of this program is to implement a program for maintenance, inspection, record keeping and reporting of private stormwater devices constructed in accordance with the City's requirements.

Assessment Process for Annual Reporting

- Narrative on development of procedures.
- Number of new listings entered for privately owned BMPs.
- Once procedures are implemented, identify percent compliance with submittal of compliance reporting documents.

2023 Activities

City ordinance requires the design to minimize the need of maintenance and to provide access for equipment and personnel. The facilities must have a plan of operation and maintenance that ensures effective removal of pollutants. The ordinance also allows the City right of entry and inspection. In 2015, the City began a comprehensive review of its stormwater policies. In 2018, the City updated its Local Surface Water Management Plan. As a part of this planning effort, various ordinances were analyzed, and revisions proposed. This will assist in future planning to meet the identified Proposed Activities and Implementation Schedule. The City coordinates with the CRWD and RWMWD in the development of a BMP database and procedures to ensure that private BMPs are maintained. The City's Local Surface Water Management Plan was adopted by City Council in 2019.

MCM 5: Post-Construction Stormwater Management

BMP 5.3 MUNICIPAL MITIGATION PROGRAM

Description

The stormwater management objective of this practice is to reduce the discharge of pollutants through the proper planning, design, and construction management of projects carried out by the City.

Assessment Process for Annual Reporting

- Inventory of new Stormwater Management Practices installed with City capital improvement projects.

2023 Activities

- ***Public Works Projects***
  - Edgcumbe Rd: Public Works installed a filtration trench ($120,000).
  - Griggs-Scheffer (Phase II Rebid): Public Works installed multiple subsurface infiltration trenches ($515,000).
  - Kellogg Blvd: Public Works installed multiple Stormwater Manufactured Treatment Devices ($385,000).
  - Minnesota St: Public Works installed multiple Stormwater Manufactured Treatment Devices ($155,000).
  - Wheelock Pkwy (Phase V): Public Works installed a subsurface infiltration trench ($225,000).
  - Advanced planning and engineering on 2024 Street Reconstruction projects. (Annapolis Street, Grand Ave, Kellogg Phase II, Kellogg-Third Street Bridge, Robert Street, Minnesota Street Phase II, Wabasha St, Wheelock-Grotto Phase I).
  - Bush-Desoto Pond: In 2023 Public Works awarded contract to retrofit pond in 2024 (estimated construction cost $850,000).
  - West Seventh/Goodrich Subwatersheds: In 2023 Public Works completed a detailed Hydrologic and Hydraulic Model of the 800+ acre West 7th/Goodrich Subwatersheds. Included in the scope of work was the development of a P8 water quality model. ($70,000).

- ***Parks and Recreation Projects***
  - Parks and Recreation received 1200 hours of in-kind labor from Conservation Corps Minnesota for installation and maintenance of stormwater best management practices in Saint Paul. Funding was made possible through the Legacy Amendment.
  - Parks and Recreation concluded a Concluded a $116,010 DNR Conservation Partners Legacy grant at Lake Phalen, enhancing 30 acres of woodlands and lakeshore.
  - Parks and Recreation installed 3 acres of native prairie in Mounds Regional Park to keep water on the land to protect the water quality of the Mississippi River.

- Parks and Recreation completed 4.5 acres prairie enhancement at Crosby Farm Regional Park in partnership with Great River Greening to keep water on the land to protect the water quality of the Mississippi River.
- Parks and Recreation completed its 2023 Annual Citywide Spring Cleanup that included 1,119 volunteers, cleaning up our parks and streets at 26 unique sites during a 1-time event. We were joined by the Saint Paul Fire Department, Public Works, Libraries, and many other organizations.
- Rehabbed 4 rain gardens by removing invasive trees, removing built-up sediment, and replanting native grasses, wildflowers, and shrubs. Also, performed minor deferred maintenance activities at more than 60 raingardens on parkland, in 2023.
- Parks and Recreation installed BMPs along Wabash Trail and began construction of BMP at the North End Community Center.

- ***City-Partner Collaborative Efforts***
  - Highland Bridge: Public Works, Parks & Private Development installation of Biofiltration Basins, StormTraps, StormFilters, Stormwater Wet Ponds/ Outlet Structures, Hydrodynamic Separators, and Wetland Expansion.
  - Hillcrest Golf Course: Public Works, Parks, RWMWD, continued review of the Port Authority plans for comprehensive stormwater facilities to service entire 112 acre public/private redevelopment.
  - Parks and Recreation in partnership with surrounding watershed districts, maintained 17 acres of vegetated buffers and raingardens to stop 126 pounds of phosphorus and 5 tons of sediment from entering local freshwater ecosystems.
  - Parks and Recreation collaborated with Capitol Region Watershed District to remove invasive and diseased trees around Como Lake, installed plants and seed, guided by the 2019 Como Lake Shoreline Management Plan.
  - Gold Line Transitway: Public Works & Metro Transit preliminary assessment and planning of comprehensive stormwater facilities to service a 10 mile bus rapid transit corridor.
  - Trout Brook/Lake Como Subwatersheds: In 2023 Public Works partnered with Capitol Region Watershed District and completed a detailed Hydrologic and Hydraulic Model of the 8,000+ acre Trout Brook/Lake Como Subwatersheds. Included in the scope of work was the development of a P8 water quality model. ($100,000).
  - Phalen Creek H&H Model: Public Works and CRWD entered into an agreement to develop Hydrologic and Hydraulic Model of the 1,500 acre Phalen Creek Subwatershed. Included in the scope of work is the development of a P8 water quality model ($100,000).

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.1: STORM SEWER SYSTEM OPERATION & MAINTENANCE

Description

The objective of this program is to minimize the discharge of pollutants through proper and cost-effective operation and maintenance of the City's storm sewer system. General operations and maintenance efforts include inspections, cleaning, repairs, rehabilitation and reconstruction.

The City's stormwater system includes 450 miles of storm sewers, 28 ponding areas, 5 lift stations, numerous water quality best management practices and over 26,000 catch basins. The Sewer Maintenance section allocates substantial resources to cleaning, inspecting and maintaining the City's stormwater system. All installed stormwater facilities are maintained and operated in accordance with adopted policies and ordinances. All storm sewer pipes are cleaned and inspected in advance of various street reconstruction projects. Where defects are observed, repairs are made at the time of discovery or during the reconstruction project. The City also regularly inspects, cleans and maintains stormwater ponding areas. Storm sewer tunnels are inspected every two years.

In 1995, the City completed a ten-year sewer separation program by constructing 189 miles of storm sewer and 12 miles of sanitary sewer (some combined sewer was converted to storm sewer). In 1997, the City began a multi-year rehabilitation program for its storm and sanitary sewer system. The Sewer Utility complies with MnDOT's Standard Specifications for Construction and maintains Standard Plates and Specifications.

Assessment Process for Annual Reporting

- Report on storm sewer and tunnel repair and rehabilitation projects.
- Report on miles of storm sewers and tunnels assessed, miles of storm sewers and tunnels cleaned and amount of material removed.
- Report on development of standard operating procedures.
- Narrative of training activities including number of staff trained and types of training conducted.

2023 Activities

Riverview District Storm Tunnel System

The Riverview District Storm Tunnel System was originally constructed in the 1950s and 1960s. The 1.5-mile-long tunnel system is comprised of cast in place concrete through varying geologic formations (Glacial Till, Decorah Shale, Platteville Limestone, Glenwood Shale and St. Peter Sandstone). In 2022, a multi-phase rehabilitation effort was initiated to address structural deficiencies in the concrete ceiling, walls, and invert of the tunnel system. Phase II of the Riverview District Storm Tunnel System Rehabilitation began in the fall of 2023 with a construction cost of $310,000. Repair work on phase II of the Riverview District Storm Tunnel System Rehabilitation includes high pressure void grouting and crack sealing of the concrete tunnel liner.

Saint Peter Street Storm Tunnel System

The Saint Peter Street Storm Tunnel System was originally constructed in 1873 under the first sewer contract awarded by the City. The tunnel system is both partially brick lined and fully

brick lined through the St. Peter Sandstone geologic formation. A rehabilitation effort was initiated to address structural deficiencies in the brick lined walls and unlined ceiling of the tunnel system. The St. Peter Street Storm Tunnel Rehabilitation began in the fall of 2023 with a construction cost of $610,000. Repair work on the St. Peter Street Storm Tunnel System Rehabilitation includes spincasting of the lined brick tunnel and shafts, and shotcreting of the unlined tunnel ceiling.

2022-2023 Shaft and Tunnel Repair

In 2023, the Sewer Utility completed a various locations tunnel rehabilitation project. Improvements were made to the Riverview system, Pelham system, Sumac system and Highland system. Construction timeframe spanned 2022-2023, construction cost was $1,300,000.

2023-2024 Shaft and Tunnel Repair

In 2023, the Sewer Utility embarked on a various locations tunnel rehabilitation project. Improvements are being made to the Riverview system, St. Peter system, St. Anthony system, Sheridan system, Urban system and St. Peter-Rondo system. Construction timeframe spans 2023-2024, estimated construction cost is $1,500,000.

Pump Stations

The City has five stormwater flood control pump stations that are located along the Mississippi River. These pump stations provide interior drainage during flood events on the Mississippi River. In 2023, an elongated river flooding event required the operation of these pump stations. The stormwater flood control pump stations are inspected and operated twice per year. All of the stations are connected to the City's Supervisory Control and Data Acquisition system.

Broadway Pump Station

In 2018, the Sewer Utility embarked on an upgrade to the Broadway Sanitary Pump Station, which added a stormwater flood control pump station. The stormwater flood control pump station was installed to help mitigate temporary pumping operations required during a river flood scenario. Other improvements included the installation of a natural gas back-up generator. The project was completed in 2019 at a project cost of $1.6 Million.

Levee System Pump Stations

In 2022, the Sewer Utility, via a consultant engineer, conducted a structural evaluation of three pump station control buildings associated with the levee system. Intent of the evaluation will be used to populate a rehabilitation plan to extend the useful life of the facilities. In 2023, the Sewer Utility analyzed the received structural evaluation and began efforts scoping out the rehabilitation priorities and schedules.

Storm Sewer Inspection, Cleaning & Rehabilitation

- Plato Blvd/Lafayette Rd Televised Inspection: 61,400 L.F. of Storm Sewer ($149,000)
- Rice St Televised Inspection: 5,500 L.F. of Storm Sewer ($20,000)
- Rice St/Concordia Blvd Televised Inspection: 129,000 L.F. of Storm Sewer ($318,000)
- Sewer Maintenance Televised Inspection: 2,800 L.F. of Storm Sewer ($4,500)
- Sewer Maintenance Cleaning: 13,500 L.F. of Storm Sewer ($34,500)

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.2: CATCH BASIN/MANHOLE OPERATION & MAINTENANCE

Description

The objective of this program is to minimize the discharge of pollutants through the proper operation and maintenance of the MS4 system's catch basins and manholes. Catch basins are structures located along the city's street system that provide entrance of stormwater runoff into the storm sewer system.

Assessment Process for Annual Reporting

- Report on number of catch basins and manholes cleaned and/or repaired and quantity of material removed.
- Report on implementation of the catch basin sump management program.

Catch Basins

A catch basin is an inlet to the storm drain system. A field survey of the City's catch basins using GPS equipment located all city owned catch basins. The total number of catch basins inventoried was 26,200. As part of the City's street reconstruction activities, existing catch basins within a street reconstruction project area are replaced with new catch basins. Cleaning catch basins, while ensuring proper runoff conveyance from City streets, also removes accumulated sediments, trash, and debris. Catch basins that are reported as plugged or damaged are given a priority for repair and cleaning. Sewer Maintenance has set a goal of cleaning 2,000 catch basins per year. Augmenting this effort is the street sweeping program, carried out by the Street Maintenance Division. The street sweeping program targets the pick-up of street sediment, debris and leaves prior to their reaching catch basins.

2023 Activities

- Catch Basin Maintenance ($301,000)
  - Inspected: 1,250
  - Cleaned: 3,631
  - Repaired: 495
- Manhole Maintenance ($92,000)
  - Inspected: 1,154
  - Cleaned: 376
  - Repaired: 255

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.3: OUTFALL OPERATION & MAINTENANCE

Description

The objective of this program is to minimize the discharge of pollutants through the proper operation and maintenance of outfalls from the MS4 system to receiving water bodies.

Assessment Process for Annual Reporting

- A brief description of all **outfall** inspection findings including any improvement projects completed at the **outfall** locations.

2023 Activities

Storm Drain Outfalls Inspection

A storm drain outfall is the point where the storm sewer system discharges to receiving waters. Outfalls are inspected on a 5-year schedule. Outfall inspections include an evaluation of the general condition of structure, determination of significant erosion and identification of any non-stormwater discharges. When indications of non-stormwater discharges are observed, they are reported to the appropriate City staff for follow-up investigation and resolution and reported to the Minnesota Duty Officer, as required. Any identified structural repairs or maintenance work is prioritized and scheduled within the constraints of available personnel, funding and coordination with other essential operations. In 2023 the following outfalls were inspected:

Mississippi River: 137
Upper Crosby Lake: 8
Crosby Lake: 4
Crosby Pond: 5

Storm Drain Outfalls Repair

In 2023, the Sewer Utility embarked on an outfall Rehabilitation contract. In total five outfalls are scheduled for repair, including major river outfalls at Pelham, Homer and Riverview. Construction timeframe spans 2023-2024, estimated construction cost is $300,000.

Storm Outfall Assessment

In 2022, a consultant engineer working with the Sewer Utility completed a condition survey of outfalls to the Mississippi River. Geologic condition adjacent to the outfall, structural defects, repair options, etc. are included in the comprehensive report. The report is being used to populate a rehabilitation plan for the outfalls. The condition assessment cost $140,000.

In 2023, a consultant engineer working with the Sewer Utility advanced design for outfall replacements at Como Lake in response to condition assessments obtained by televised inspections and field surveys. Condition assessment and engineering cost $235,000.

In 2023, the Sewer Utility advanced plans for televised inspection of the outfalls discharging to Lake Phalen to obtain preliminary condition assessments in 2024 for future rehabilitative needs.

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.4: STORMWATER POND/STRUCTURAL POLLUTION CONTROL DEVICE OPERATION & MAINTENANCE

Description

The objective of this program is to minimize the discharge of pollutants through the proper operation and maintenance of stormwater ponds and water quality devices. Stormwater ponds, filtration/infiltration areas, and structural controls are water quality devices that manage stormwater runoff. General operations and maintenance efforts include assessment and maintenance of the functionality of stormwater ponds and water quality devices.

Assessment Process for Annual Reporting

- Report on number of stormwater ponds and structural pollution control devices inspected, assessed and cleaned, by category. Include date of inspection, date and results of assessment, antecedent weather conditions and nature of repairs.

2023 Activities

Stormwater Ponds

Saint Paul's stormwater ponding areas are constructed to collect and detain flows from storm events and in some cases to also improve water quality. These ponds are designed to reduce peak flow rates in downstream storm sewers. A map showing the stormwater ponding areas in the City of Saint Paul is found in the Appendix. The Appendix also contains the tributary area and design capacity for each of the City's ponding areas and a list of stormwater ponding areas by watershed. The City's stormwater ponding areas are inspected by Sewer Maintenance staff after major rainfall events. Routine maintenance is completed as needed based on the inspection results. Public Works developed written procedures and a schedule to evaluate pond performance. The written procedure is included within the Appendix of the SWMP.

The City implemented a program to evaluate its ponding areas for major sediment removal in 2002. This program involves an initial inspection, prioritization, survey, timber removal, sediment removal and inlet/outlet reconstruction. Major sediment removal took place in a majority of the City's ponds in the winters of 2002/2003, 2003/2004, 2013/2014, and 2017/2018. The estimated cycle for sediment removal from ponding areas is 20 years. Projects included re-installation of riprap at inlet and outlet structures and vegetation restoration by seeding and erosion control blankets. Sediment was tested and disposed of in accordance with state guidelines.

Bush-Desoto Pond

In 2023, Public Works awarded contract to retrofit pond in 2024. The retrofit will provide an increase in infiltration capacity and provide greater volume attenuation during significant storm events.

Flandrau-Case Pond

In 2023, Public Works continued to advance design on a pond retrofit encompassing pond dredging, iron-enhanced filter bench installation, and wetland impact mitigation.

Structural Pollution Control Devices
The city constructs water quality and volume control BMPs as required by the MPCA Construction Permit and Watershed District Rules. Since 2006, the City has constructed BMPs, including infiltration trenches and rain gardens. In 2015, an inventory of constructed BMPs was developed and entered into the City's asset management system. BMPs will be added each year once as-builts are received. The BMPs are programmed to be cleaned annually, beginning in 2015. In 2023, the annual cost for self-performed maintenance of water quality and volume control BMPs was estimated to be $59,000.

As part of the Water Quality and Quantity Monitoring Program, a maintenance inspection is conducted on each of the BMPs that are monitored. This inspection includes documentation of sediment depth in the pre-treatment device, sediment depth in the infiltration gallery, depth of standing water in the infiltration gallery and observation notes.

Snelling-Midway Stormwater Reuse System
2020 was the initial year of operation for the stormwater reuse system at the Snelling-Midway Superblock. Collected and treated stormwater is utilized for irrigation in public and private areas, stormwater reuse capacity is also available for usage at future private developments adjacent to Allianz Field. Sewer Utility contracted with Capitol Region Watershed District (CRWD) for the operation of the reuse system. Annual operating expenditures were approximately $37,000. The 2023 Operation Report is included within the Appendix.

Snelling-Midway Tree Trench System
In 2023, the Sewer Utility contracted out the cleaning and televising of all tree trenches, sumps, and CDS units located at the Snelling-Midway site ($49,840).

Ford Structural Pollution Control Devices
In 2023, the Sewer Utility contracted out the cleaning of all sumps and hydrodynamic units located at the Ford site ($49,850).

Ford Ponds/Biofiltration Systems
In 2023, the Sewer Utility contracted out the vegetation and pond maintenance of all ponds and biofiltration systems at the Ford site ($54,000).

Staff Training
- City staff from multiple departments attended the Minnesota Water Resources Conference.
- City staff obtained certification for Inspection and Maintenance of Permanent Stormwater Treatment Practices.

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.5: HANDLING & DISPOSAL of REMOVED MATERIALS

Description

The objective of this stormwater management program is to minimize the discharge of pollutants through proper handling of stored and stockpiled materials such as those removed from the storm sewer system.

Assessment Process for Annual Reporting

- By categories shown in BMP Sheet 6.1.4, report estimated annual total mass (pounds) removed, characterization and destination(s) of material removed.

Program Overview

Material is collected from catch basin sumps, the storm sewer system, ponding areas and water quality BMPs. Removed substances are screened for visual or olfactory indications of contamination. Representative samples are selected for an environmental analysis. Contaminated substances are disposed of in a landfill or another site that is approved by the Minnesota Pollution Control Agency. During cleaning operations, sediment control measures are applied as needed to prevent removed material from re-entering the storm drain system.

2023 Activities

- Material removed from stormwater ponds, BMPs and catch basins by Sewer Utility: 930 tons ($28,000).

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.6 STREET SWEEPING PROGRAM

Description

The objective of this program is to minimize the discharge of pollutants to the storm sewer system and receiving waterbodies by removing leaf litter, sediment and debris from streets and gutters before the materials and the pollutants attached to them can be washed into storm drain inlets. The other objectives of the street sweeping program are to protect public health and safety, and to improve cleanliness and livability. The program is divided into several categories, that vary in frequency and work practices, to systematically address the approximately 744 miles of residential streets, 127 miles of arterial streets and the city's approximately 330 miles of alleys. They can be described by two general programs: Spring and Fall Citywide comprehensive sweeping programs, and general sweeping activities outside of those two major activities.

Assessment Process for Annual Reporting

- Date of Spring and Fall residential street sweeping activities
- Approximate amount of material removed by street sweeping activities

2023 Activities

Street Sweeping

The City of Saint Paul conducts a street and alley cleaning program to promote the health and welfare of its citizens and to reduce the amount of pollutants to receiving waters from stormwater discharges. Sweeping is a major operation for the Street Maintenance Division and is done during the spring, summer and fall. Elgin Pelican mechanical sweepers handle the vast majority of the sweeping. An Elgin Crosswind regenerative air sweeper is utilized downtown almost every weekday.

Residential street spring sweeping activities occurred April 27, 2023 thru June 2, 2023. The primary material swept in the spring is debris from winter months. Fall sweeping occurred October 16, 2023 thru November 21, 2023. Typically, the fall sweep is timed so that a majority of the leaves are down and enough time is allowed to sweep all Saint Paul streets before the first snow. Due to the diversity of the tree canopy, fall leaf drop occurs over an extended timeframe. To compensate for this, “touch up” sweeping continues most years through November and early December. In the interest of continued improvement to our sweeping program, workers attend training and implement best management practices where available.

In 2023, the City purchased a new TYMCO 500X street sweeper to include in its fleet ($365,000)

Street Sweeping Operations

Streets and alleys are divided into classes, each of which receives a different level of service as defined below:

Class I-A & B Downtown or Loop Streets

Downtown or loop streets are within the following boundaries: Kellogg on the south, 12th on the north, Broadway on the east and Main on the west. These streets are swept approximately two times per week during the spring, summer, fall and winter as weather

allows. All routine maintenance, including patching and repairing of street surfaces, is performed on an as-needed basis.

Class II - Outlying Commercial and Arterial Streets
These streets, which have business or commercial properties fronting on them, are the City's major arteries. They have heavy volumes of both vehicular and pedestrian traffic. Typical examples are University, Snelling, West 7th, East 7th, Rice, Payne, Arcade, Summit and Grand. Class II streets are typically swept or cleaned six to ten times annually on the following schedule: every two weeks in October and November for fall cleanup and every 3 to 6 weeks in April through September for Spring cleanup, litter, tree debris and sediment cleanup. Occasional winter sweeping is done if weather permits, and there are special events. All routine maintenance, including patching and repairing of street surfaces, is done on a scheduled or as-needed basis. The result of this shift in operations was less frequent sweeping between the spring and fall sweeps.

Class III - Residential Streets
In the spring, all residential streets, including oiled, paved, and intermediate streets, receive a thorough sweeping. Patching and repairing is done on a scheduled or as-needed basis. All existing paved and oiled streets are on the 8 year cycle chip seal list. No paved streets were chip sealed in 2023. Oil and sand sealing of oiled streets is no longer done. The City recycles the reclaimed chip seal rock. In the fall, streets are swept for leaf pickup. All material swept up during the fall cleanup is hauled to a State licensed disposal facility.

Class IV - Oiled and Paved Alleys
All oiled and paved alleys are swept during the late spring and summer. All routine maintenance, including patching and repairing of the alley surfaces, is performed on a scheduled or as-needed basis. All existing paved and oiled alleys are now on an 8-year cycle chip seal list. No alleys were chip sealed in 2023.

Class V and VI - Unimproved Streets and Alleys
Unimproved streets and alleys are right-of-ways that have not been developed. There are approximately 50 miles of unimproved streets and approximately 288 miles of unimproved assessed alleys in the City. Because they are City right-of-ways, the City has the responsibility to perform minimal repairs and maintenance work on them to make them passable and to reduce hazards. The maintenance and repair of these streets and alleys consists of patching, minor blading, and placing of crushed rock or other stabilized material.

Disposal
The materials collected from street sweeping are delivered to the City's Pleasant/View and Como/Western yards. The City's hauling contractor hauls the material away to have it screened and disposed of properly. The contractor composts the organic materials, which are mostly collected in the fall sweep.

Street Maintenance has a Hazardous Waste Disposal Policy in place. Any hazardous materials collected from City streets are disposed of in environmentally acceptable means. In 2001, the sweepings collected from City streets and alleys were tested and found to be within the Environmental Protection Agency's guidelines for recycling purposes, after screening out waste and debris. Approximately 7 to 10% of swept up material is disposed of in a landfill. Street

Maintenance also services over 440 trash receptacles and disposes of refuse from neighborhood cleanups each year.

2023 Street Sweeping Quantities (Cubic Yards)

Season	Spring/Summer	Fall
Totals	5,785	5,525

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.7: ROADWAY DEICING MATERIALS MANAGEMENT

Description

The objective of this program is to minimize the runoff of deicing materials applied to roadways under its jurisdiction, consistent with public safety and to properly store deicing materials.

Assessment Process for Annual Reporting

- Report on quantity of deicing materials, chemicals, and sand applied.
- Report location and description of deicing materials storage facilities.
- Report number of staff attending training on use of salt.

2023 Activities

Snow and Ice Control

Minnesota weather conditions may require ice control from late September through early May. Frost forming on bridge decks is usually the first and last ice control event of the winter season. From early November through mid-April, the need for pavement treatment is determined by temperature and precipitation. Frequency of snow events through the winter season influences amounts of material used. The City's foremost objective is to maintain safe roads for all users. The consequences of icy roads are longer travel times, adverse economic impact, accidents and injuries.

Salt is the primary material used to melt snow and ice. Salt and treated salt is effective to 15°F and 0°F respectively, but factors such as darkness, continuing snow, type and quantity of precipitation, all reduce melting performance. Sand is sometimes used to enhance traction, usually when temperatures are below 0°F and snowfall amount is likely to be greater than 3 inches. Specific application rates are decided upon for each snow event and adjusted to the minimum amount necessary to achieve the desired results.

Saint Paul uses treated salt for pavement temperatures below 15°F and regular salt for temperatures from 15°F and above. Salt brine is used to pre-wet salt from the salt spreaders, making the salt more effective. The benefits of pre-wetted salt are better melting performance, less bounce, residual value and reduction in amount of salt used. All salt trucks are presently fitted with salt pre-wetting equipment. Public Works developed and adopted a formal Salt Management Plan in the fall of 2011.

Additionally, Saint Paul implements anti-ice technologies on major streets and bridges with salt brine prior to winter events. Anti-icing helps decrease the bond of snow and ice to the pavement. Anti-icing can be used as the primary tool to fight frost.

Storage of De-icing Materials

Salt and mixed piles of sand and salt are covered year-round to eliminate runoff. Storage facilities are located at the following locations:

873 N. Dale Street
310 South Victoria Street

Snow and Ice Control

Typically 3 or 4 snow emergencies are declared during per winter. It is anticipated that ice control materials used for 2024 will be similar to 2023 quantities.

2022/2023 Ice Control Material Quantities

Regular Salt (tons) 9,698

Treated Salt (tons) 2,462

Staff Training

Saint Paul Public Works is an advocate of networking and regularly attends events such as the American Public Works Association North American Snow Conference and the Fresh Water Society Road Salt Symposium. All new operators attended a Snow and Ice Control training session. The main purpose of this session was to train employees to get the most out of every application, maintaining the safest roads possible in the most economical way, while protecting the environment. The session addressed the following: abrasives, salt, pre-wetting. anti-icing, equipment calibration and material storage. The Minnesota Snow and Ice Control Handbook and Saint Paul Public Works Salt Management Plan are available to all employees and are used as a guide in our best practices. Plow trainings (September 18th thru 22nd, November 6th thru 8th 2023), smart salting classes (October 27th, October 30th, and November 3rd), and SPOT trainings (September 25th thru September 29th, 2023) were completed.

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.8: CITY PARKING LOT & EQUIPMENT YARD MANAGEMENT

Description

The objective of these activities is to minimize the discharge of pollutants by utilizing proper fleet and building maintenance practices, and proper operation and maintenance of parking lots and equipment and storage yards. Program categories include the following:

a.) Saint Paul Parks and Recreation – parks, recreation centers, maintenance facilities
b.) Public Works
- Dale Street Facility includes Street Maintenance, Traffic Operations and Municipal Equipment
- Sewer Maintenance
- Asphalt Plant

Assessment Process for Annual Reporting

- Narrative of training activities
- Report on development of standard operating procedure

2023 Activities

The Parks Department and the Department of Public Works have Clean Water Policies which are distributed, reviewed, and signed by all field staff. (See Appendix)

Dale Street Facility Sediment Control Structure*:* Public Works hired WSB and Associates to complete a Facility Improvements Feasibility Report for four Public Works facilities and one Parks and Recreation facility. In 2012, a large pre-fabricated sediment control and collection structure was constructed at the Public Works' Dale Street Facility. This structure is inspected and cleaned as necessary.

***Parks and Recreation Wash Stations*:** Contracted with ESD Waste2Water, Incorporated to complete site visits and provide five proposals for installation of permanent or portable equipment wash stations. Parks will seek funding for future installation.

SWPPP Development: Public Works hired a consultant to prepare a SWPPP for the Sewer Maintenance Property in 2018. Public Works has draft SWPPPs for Como-Western, Pleasant-View, and the Dale Street Complex.

Employee Training

Saint Paul Public Works is an advocate of networking and regularly attends events such as the American Public Works Association North American Snow Conference and the Fresh Water Society Road Salt Symposium. All new operators attended a Snow and Ice Control training session. The main purpose of this session was to train employees to get the most out of every application, maintaining the safest roads possible in the most economical way, while protecting the environment. The session addressed the following: abrasives, salt, pre-wetting. anti-icing, equipment calibration and material storage. The Minnesota Snow and Ice Control Handbook and Saint Paul Public Works Salt Management Plan are available to all employees and are used as a guide in our best practices. Plow trainings (September 18th thru 22nd, November 6th thru 8th

2023), smart salting classes (October 27th, October 30th, and November 3rd), and SPOT trainings (September 25th thru September 29th, 2023) were completed.

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.9: FIELD OPERATIONS MANAGEMENT

Description

The objective of this program is to minimize the discharge of pollutants from the operation and maintenance of City right-of-way and park property.

Assessment Process for Annual Reporting

- Narrative of training activities
- Report on development of standard operating procedures

2023 Activities

The Parks Department and the Department of Public Works have Clean Water Policies which are distributed, reviewed, and signed by all field staff. (See Appendix)

Employee Training

Saint Paul Public Works is an advocate of networking and regularly attends events such as the American Public Works Association North American Snow Conference and the Fresh Water Society Road Salt Symposium. All new operators attended a Snow and Ice Control training session. The main purpose of this session was to train employees to get the most out of every application, maintaining the safest roads possible in the most economical way, while protecting the environment. The session addressed the following: abrasives, salt, pre-wetting. anti-icing, equipment calibration and material storage. The Minnesota Snow and Ice Control Handbook and Saint Paul Public Works Salt Management Plan are available to all employees and are used as a guide in our best practices. Plow trainings (September 18th thru 22nd, November 6th thru 8th 2023), smart salting classes (October 27th, October 30th, and November 3rd), and SPOT trainings (September 25th thru September 29th, 2023) were completed.

- The Department of Public Works hosts an Annual Utility Coordination meeting to facilitate utility and street system reconstruction projects. A component of this meeting includes stormwater management items such as erosion and sediment control in the public Right-of-Way, etc. Attendees are comprised of various municipal employees and utility companies.
- Various Sewer Utility personnel attend the Sewer Collection System Operators Conference conducted by the Minnesota Pollution Control Agency on an annual basis.
- Various Sewer Utility personnel attend illicit discharge detection and elimination training prepared by a consultant an annual basis.
- Various Parks personnel maintained their non-commercial pesticide application licenses to ensure proper application and management of pesticides.
- Various Parks personnel maintained their certification with the MPCA's Smart Salting for Sidewalks and Parking Lots.

MCM 6: Pollution Prevention & Good Housekeeping

BMP 6.10 STORMATER RUNOFF VOLUME REDUCTION PLAN

Description

The objective of this program is to conduct a study of how stormwater volume reduction practices will best fit into Saint Paul's overall goals of stormwater management for projects that disturb one acre or more. Volume reduction practices include infiltration, biofiltration, stormwater reuse, evapotranspiration, minimizing and disconnecting impervious surfaces.

Assessment Process for Annual Reporting

- Narrative of progress towards plan development and implementation.

2023 Activities

The City submitted its Volume Reduction Plan to the MPCA in January of 2015. This plan provided a summary of the City's volume reduction projects, identified opportunity sites and identified areas in the City where there are limitations on the construction of volume reduction BMPs.

In 2018, the City updated its Local Surface Water Management Plan. As a part of this planning effort, various ordinances were analyzed and revisions proposed. This will assist in future planning to meet the identified Proposed Activities and Implementation Schedule.

In 2023, Parks and Recreation, Public Works, Ramsey-Washington Metro Watershed District, Saint Paul Port Authority, and other partners, continued the development of planning documents and began reviewing plans for the redevelopment of Hillcrest Golf Course that will aid in the installation of water quality improvement projects.

In 2022, the Public Works Department applied for grant funding to retrofit Bush-Desoto Pond for stormwater quality benefits. This retrofit will include the addition of a hydrodynamic separator to provide a level of pretreatment to the pond. The extents of the pond will also be extended to maximize its size and increasing the volume of infiltration. With the award of a successful grant application in 2023, the construction of the Bush-Desoto Pond retrofit began in 2024.

MCM 7: Monitoring & Analysis

BMP 7.1: Cooperative Monitoring Program

Description

The objective of this program is to develop and implement a cooperative monitoring, analysis, and reporting effort with partnerships that could include: adjacent municipalities, Capitol Region Watershed District, Mississippi Watershed Management Organization, Ramsey-Washington Metro Watershed District, and Metropolitan Council Environmental Services.

Assessment Process for Annual Reporting

- Number and type of monitoring sites.
- Annual monitoring and analysis results.

History

As part of the two part application for the NPDES permit, the City of Saint Paul conducted stormwater monitoring at 5 sites for one season. From 2001 through 2004, the Cities of Saint Paul and Minneapolis and the Minneapolis Park and Recreation Board participated in a joint stormwater monitoring program, as required by the stormwater permit. Minneapolis Park Board staff conducted the monitoring program. The Stormwater Monitoring Program Manual was completed by Minneapolis Park Board staff and submitted separately to the MPCA in April of 2001. The joint monitoring agreement was submitted to the MPCA in 2002.

Sampling sites were identified in the Stormwater Monitoring Program Manual. The sampling sites were selected from the sites used in the stormwater permit application monitoring program. Five sites were chosen, representative of the following land use types: two residential sites, two industrial/commercial sites and one mixed use site. Two sites were located in Minneapolis and three were in Saint Paul. The permit required two years of mercury monitoring, which was conducted in 2002 and 2003.

Beginning In 2005, the City began a partnership with the Capitol Region Watershed District, to conduct the stormwater permit monitoring program for Saint Paul as part of CRWD's overall monitoring program. CRWD established a monitoring program in 2004 to collect stormwater data from the major subwatersheds and stormwater best management practices (BMPs).

In 2012, the City began its Stormwater Monitoring Program. Monitoring is completed at various locations including: constructed stormwater BMPs, proposed locations for stormwater BMPs, and groundwater sites. Electronic water monitoring equipment is used to collect water quantity and quality data on a continuous basis from selected sites.

2023 Activities

Monitoring Program

The City of Saint Paul collaborated with CRWD on the 2023 Stormwater Monitoring Program. Sites monitored by CRWD include: outfalls, BMPs, lakes and ponds. Many sites are full water quality monitoring stations, while other sites capture level data. CRWD publishes their current Monitoring information on their website at: www.capitolregionwd.org.

In 2023, the City, through a consultant, conducted the Stormwater Monitoring Program. Below is a list of the range of Stormwater Monitoring. Electronic water monitoring equipment was used to collect water quantity and quality data on a continuous basis from stormwater BMPs, which included:

- Water level at 5 sites
- Flow volumes at 6 sites
- Composite water quality sampling at 6 sites
- Groundwater elevation at 3 locations

Analysis of the collected data generated valuable information related to the performance of each BMP. This information included:

- Average infiltration rates measured in the BMPs exceeded the rates recommended in the Minnesota Stormwater Manual and watershed district rules for specific soil types.
- The BMPs are more effective at reducing stormwater volume and pollutant loads to downstream water bodies than is currently being recognized by the watershed districts.
- The Dynamic Method for sizing volume reduction BMPs was shown to be more accurate than the Simple Method. Allowing the use of the Dynamic Method in demonstrating compliance with watershed district rules would generate significant cost savings to the public.

A comprehensive report summarizing the City's BMP monitoring program can be found on the City's Stormwater page at https://www.stpaul.gov/departments/public-works/sewer-utility-divison/stormwater.

In 2017, the City, through a consultant, participated in the formation of the Twin Cities Water Monitoring and Data Assessment Group. The group is formed from public-sector water resources practitioners as a way to establish and promote standard practices for: water quality monitoring, data analysis and data stewardship. The City's representative has continued to participate in this group on an annual basis.

Stormwater Runoff and Water Quality Modeling

In 2010, the City completed the first phase of a program that includes stormwater modeling, a citywide volume reduction inventory and plan to address stormwater on the street reconstruction projects. The modeling includes the development of an XPSWMM and P8 models. In 2023 modeling projects were completed in support of the sewer and street projects. The citywide modeling map is found in the Appendix. These models will be used by the City in the development of future stormwater programs and projects.

Pollutant Loading Calculations

The estimation of pollutant loadings from 2023 is found in the Appendix. Historically, pollutant loading calculations were offset by one year due to analysis timelines. With improvements in data management, the timeline needed for analysis has been reduced.

MCM 8: Discharges to Impaired Waters with a TMDL

BMP 8.1: TMDL Program

Description

Stormwater runoff from Saint Paul is discharged to several surface waterbodies including the Mississippi River. Several of these have been listed on Minnesota's Impaired Waters List for having the presence of concentrations of certain pollutants identified at levels higher than Minnesota standards.

Assessment Process for Annual Reporting

- On a form provided by the **Commissioner**, an assessment of progress toward meeting each **applicable WLA**. The assessment of progress must include:
  - A list of all **BMP**s being applied to achieve each **applicable WLA**. For each **structural stormwater BMP**, the **Permittee** must provide a unique identification (ID) number and geographic coordinate. If the listed **structural stormwater BMP** was inventoried during the 2011 Phase I **MS4** permit term, the same ID number must be used.
  - **A list of all** BMP**s the** Permittee **submitted with the** TMDL **compliance schedule and the stage of implementation for each** BMP**.**
  - An updated estimate of the cumulative reductions in loading achieved for each **pollutant of concern** associated with each **applicable WLA**.
  - **An updated narrative describing any adaptive management strategies used (including projected dates) for making progress toward achieving each** applicable WLA**.**
  - **The results of the comparison(s) of estimated pollutant loading(s) to each** impaired water **in the** Permittee**'s jurisdiction and the** Permittee**'s** WLA **for that** impaired water**.**

2023 Activities

A TMDL factsheet was created and made part of the City's water quality education programs in effort to educate the public on impaired waters within St. Paul. It was also made available to the public on the City's website. The factsheet defined TMDLs, identified the impaired waters located within St. Paul, and listed possible ways residents can aid in improving water quality. A pdf version of the factsheet can be found in the Appendix.

TCMA Chloride TMDL (Como, Battle Creek, Kasota Ponds West, Mallard Marsh)

- Participation in the Adopt-a-Drain Program.
- Participation in the Storm Drain Stenciling Program.
- Membership and Participation in Watershed Partners and Clean Water MN Public Education Program.
- Public Works equipment upgrades, advancements in de-icing technologies, and training.
- Cooperative Monitoring Program.

South Metro Mississippi River TSS TMDL

- Participation in the Adopt-a-Drain Program.
- Participation in the Storm Drain Stenciling Program.

- Membership and Participation in Watershed Partners and Clean Water MN Public Education Program.
- Public Works Street Sweeping Program.
- Public Works Pond Cleaning and Sump Cleaning Programs.
- Public Works Municipal Mitigation Program (2023: Bush-Desoto Pond, Highland Bridge Site).
- Cooperative Monitoring Program.
- Development & Redevelopment Mitigation Program (2023: Highland Bridge Site Redevelopment, Hillcrest Golf Course, other Private Site Plans).

Como Lake Excess Nutrients TMDL

- Participation in the Adopt-a-Drain Program.
- Participation in the Storm Drain Stenciling Program.
- Membership and Participation in Watershed Partners and Clean Water MN Public Education Program.
- Public Works Street Sweeping Program.
- Public Works Pond Cleaning and Sump Cleaning Programs.
- Cooperative Monitoring Program.
- Participation in Como In-Lake Management Plan
- Participation in Como Park Stormwater Master Plan.

Battle Creek TSS TMDL

- Participation in the Adopt-a-Drain Program.
- Participation in the Storm Drain Stenciling Program.
- Membership and Participation in Watershed Partners and Clean Water MN Public Education Program.
- Public Works Street Sweeping Program.
- Public Works Pond Cleaning and Sump Cleaning Programs.
- Cooperative Monitoring Program.

Fish Creek E. Coli TMDL

- Participation in the Adopt-a-Drain Program.
- Participation in the Storm Drain Stenciling Program.
- Membership and Participation in Watershed Partners and Clean Water MN Public Education Program.
- Public Works Street Sweeping Program.
- Public Works Pond Cleaning and Sump Cleaning Programs.
- Cooperative Monitoring Program.

Wakefield Lake Phosphorus TMDL

- Participation in the Adopt-a-Drain Program.
- Participation in the Storm Drain Stenciling Program.
- Membership and Participation in Watershed Partners and Clean Water MN Public Education Program.
- Public Works Street Sweeping Program.
- Public Works Pond Cleaning and Sump Cleaning Programs.
- Cooperative Monitoring Program.

Lake Pepin TSS TMDL

- Participation in the Adopt-a-Drain Program.
- Participation in the Storm Drain Stenciling Program.
- Membership and Participation in Watershed Partners and Clean Water MN Public Education Program.
- Public Works Street Sweeping Program.
- Public Works Pond Cleaning and Sump Cleaning Programs.
- Public Works Municipal Mitigation Program (2023: Bush-Desoto Pond, Highland Bridge Site).
- Cooperative Monitoring Program.
- Development & Redevelopment Mitigation Program (2023: Highland Bridge Site Redevelopment, Hillcrest Golf Course, other Private Site Plans).

Appendix

Minnesota Pollution Control Agency

National Pollutant Discharge Elimination System

Permit No. MN 0061263

May 2024

SAINT PAUL
MINNESOTA

2023 Budget	2023	2024	2025	2026	2027	2028
Storm Sewer Projects						
Stormwater Quality Improvements	$840,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000
Storm Sewer Tunnel Rehabilitation	$3,720,000	$3,500,000	$4,000,000	$4,000,000	$4,000,000	$4,000,000
	$4,560,000	**$4,500,000**	**$5,000,000**	**$5,000,000**	**$5,000,000**	**$5,000,000**
Storm Sewer Maintenance						
Storm Sewer Cleaning, Inspection & Repair	$525,989	$536,509	$547,239	$558,184	$569,347	$580,734
Pond-Levee Inspection & Maintenance	$108,068	$110,229	$112,434	$114,683	$116,976	$119,316
Catch Basin Inspection, Cleaning & Repair	$300,975	$306,995	$313,134	$319,397	$325,785	$332,301
Manhole Cleaning, Inspection & Repair	$91,803	$93,639	$95,512	$97,422	$99,371	$101,358
BMP Cleaning	$86,786	$88,522	$90,292	$92,098	$93,940	$95,819
Highland Bridge Green Infrastructure District	$85,000	$355,000	$355,000	$355,000	$355,000	$355,000
Snelling Midway Green Infrastructure District	$115,000	$115,000	$115,000	$115,000	$115,000	$115,000
	$1,313,621	**$1,605,893**	**$1,628,611**	**$1,651,784**	**$1,675,419**	**$1,699,528**
Stormwater Modeling & Monitoring						
Stormwater Modeling	$100,000	$102,000	$104,040	$106,121	$108,243	$110,408
Stormwater Monitoring	$185,478	$189,188	$192,971	$196,831	$200,767	$204,783
	$285,478	**$291,188**	**$297,011**	**$302,952**	**$309,011**	**$315,191**
Street Maintenance						
Street Sweeping	$3,802,913	$3,878,971	$3,956,551	$4,035,682	$4,116,395	$4,198,723
Neighborhood Cleanups	$53,581	$40,000	$40,800	$41,616	$42,448	$43,297
	$3,856,494	**$3,918,971**	**$3,997,351**	**$4,077,298**	**$4,158,844**	**$4,242,021**
Public Education Program						
Storm drain stenciling including door hangers	$49,865	$49,815	$50,000	$50,000	$50,000	$50,000
MN Cities Stormwater Coalition	$4,640	$4,733	$4,827	$4,924	$5,022	$5,123
Cleanwater MN & Watershed Partners	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000
Adopt a Drain	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Waster Quality Messaging (No Parking Signs)	$5,300	$4,000	$4,000	$4,000	$4,000	$4,000
	$80,805	**$79,548**	**$79,827**	**$79,924**	**$80,022**	**$80,123**
Total Budget	**$10,096,398**	**$10,395,600**	**$11,002,801**	**$11,111,957**	**$11,223,296**	**$11,336,862**

2% used for annual inflation where projected amounts unknown

City of Saint Paul

Public Education and Outreach Work Plan

NPDES Permit MN0061263

Updated March 2024

2022 Stormwater Mural at Phalen Pavilion Park

1. Multi-lingual program for residents and businesses to increase the level of awareness about stormwater runoff impacts to receiving waters. This activity must utilize a variety of communication tools and methods to reach target audiences and inform them of strategies to reduce pollutants in stormwater runoff.

   Specific Activities:

   a. **Friends of the Mississippi River Water Quality Education Program:** is implemented annually within Saint Paul. The target audience is groups of volunteers comprised of residents or community members (businesses, neighborhood groups, organizations). Major components of the program include: storm drain stenciling, distribution of door hangers, litter clean-up events, educational programs and workshops.

      Various stormwater runoff impact topics are presented through the Program including: pet waste disposal, leaves/grass impacts, litter/trash impacts, proper disposal of hazardous wastes, proper application of fertilizers, car washing techniques, salt application, etc.

      2018 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: engaged 1,113 volunteers and completed 1,976 volunteer hours on water quality improvement activities including: stenciling 2,224 storm drains, distributing 5,738 door hangers, coordinating 2 litter clean-up outings, 31 classroom educational presentations, 2 community education workshops, and 1 storm drain mural project.

      2019 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: engaged 1,259 volunteers and completed 2,426 volunteer hours on water quality improvement activities including: stenciling 2,521 storm drains, distributing 7,686 door hangers, coordinating 3 litter clean-up outings, 29 classroom educational presentations, 2 community education workshops, and 1 storm drain mural project.

      2020 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: engaged 125 volunteers to carry out 337 volunteer hours on water quality improvement activities that included: stenciling 1,013 storm drains, distributing 1,199 door hangers, coordinating 1 litter clean-up outing, 12 classroom presentations, 1 special event (Children's Water Festival virtually), and 1 storm drain mural project. FMR incorporated a TMDL fact sheet into their educational programs and at public events.

      2021 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: engaged 643 volunteers to carry out 1,168 volunteer

hours on water quality improvement activities that included: stenciling 1,368 storm drains, distributing 2,220 door hangers, coordinating 12 litter clean-up outings, 11 classroom presentations, 7 field trips, 670 virtual engagements with online curriculum, and 1 storm drain mural project. Updated the door hanger that is distributed during stenciling events.

2022 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: engaged 666 volunteers to carry out 918 volunteer hours on water quality improvement activities including: stenciling 1,265 storm drains, distributing door hangers, coordinating 4 litter clean-up outings, 7 educational programs, 2 community education workshops, and 1 storm drain mural project. FMR also incorporated TMDL fact sheets into their educational programs and at public events.

2023 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: engaged 475 volunteers to carry out 929 volunteer hours on water quality improvement activities that included: stenciling 1,498 storm drains, distributing 2,537 door hangers, coordinating 4 litter clean-up outings, 4 classroom presentations, 2 rain barrel workshops, and 1 storm drain mural project. Updated the door hanger that is distributed during stenciling events.

2024 Measurable Goals of the Program include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program seeks to: engage 750 volunteers to carry out 1,500 volunteer hours on water quality improvement activities including: stenciling 2,200 storm drains, distributing 3,500 door hangers, coordinating 2-3 litter clean-up outings, 5-10 educational programs, 2 community education workshops, and 1 paddling excursion on the Mississippi River. FMR also plans to incorporate TMDL fact sheets into their educational programs and at public events.

Responsible Municipal Staff: Stormwater Permit Coordinator

b. **Adopt-a-Drain Program:** is implemented annually within Saint Paul. The target audience are individual property occupants within Saint Paul. Major components of the program include: marketing of the Program, distribution of door hangers, distribution of welcome packets/signs, and collection of data.

Various stormwater runoff impact topics are presented through the Program including: pet waste disposal, leaves/grass impacts, litter/trash impacts, proper disposal of hazardous wastes, salt application, etc.

2018 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: distributed 9,600 door hangers, encouraged adoption of

561 storm drains, delivered signs and welcome packets, and continued management of the Adopt-a-Drain website.

2019 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior with an emphasis in the Battle Creek subwatershed. To accomplish these goals, the Program: distributed 2,400 door hangers, encouraged adoption of 851 storm drains, delivered signs and welcome packets, and continued management of the Adopt-a-Drain website.

2020 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior focusing in the Summit-University neighborhoods. To accomplish these goals, the Program: mailed 5,999 postcards, encouraged adoption of 565 storm drains, delivered signs and welcome packets, and continued managing the Adopt-a-Drain website.

2021 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior focusing in the Woodlawn-Jefferson, Wheelock Pkwy and Jefferson-W. Seventh neighborhoods. To accomplish these goals, the Program: delivered 2,000 door hangers, encouraged adoption of 375 storm drains, delivered signs and welcome packets, and continued managing the Adopt-a-Drain website. Updated the door hanger that is distributed in targeted promotion areas.

2022 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in St. Paul. To accomplish these goals, the Program: mailed postcards, encouraged adoption of 319 storm drains, delivered signs and welcome packets, and continued managing the Adopt-a-Drain website.

2023 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in St. Paul. To accomplish these goals, the Program: mailed postcards, encouraged adoption of 406 storm drains, delivered signs and welcome packets, and continued managing the Adopt-a-Drain website.

2024 Measurable Goals of the Program include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior focusing in various neighborhoods. To accomplish these goals, the Program seeks to: distribute door hangers, encourage adoption of storm drains, deliver signs and welcome packets, and continue management of the Adopt-a-Drain website.

Responsible Municipal Staff: Stormwater Permit Coordinator

c. **Watershed Partners and Clean Water Minnesota:** is a collaborative outreach project and coalition providing resources to member organizations to aid in water

quality education. The City of Saint Paul is member of this organization, and annually contributes financial resources to the coalition. The target audience is residents and community stakeholders of the member organizations including watershed districts, cities, counties, higher education, etc.

Various stormwater runoff impact topics are presented through the Program including: lawn care techniques, urban agriculture, native planting/restoration, environmental health, etc. Additionally, the organization sponsors the clean water exhibits at the Minnesota State Fair.

Annual Measurable Goals of the Program include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program seeks to: create monthly blog posts with timely and consistent messages to encourage behaviors that improve water quality, generate photographs that feature local residents taking action to protect lakes and rivers, enhance a metro wide Adopt-a-Drain online registration system, conduct monthly meetings with partner activities and presentations, and develop and implement clean water exhibits at the Minnesota State Fair.

Responsible Municipal Staff: Stormwater Permit Coordinator

d. **No-Parking Sign Water Quality Message:** In 2022 a Water Quality message was included in the printing of temporary No-Parking Signs. The temporary No-Parking Signs are used citywide to prevent parking during programmed street sweeping, snow removal and street repair activities. The message advocates for keeping storm drains clear to prevent localized flooding and to promote knowledge of impacts to water quality in the Mississippi River.

Annual Measurable Goals of the No-Parking Sign Water Quality Message include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior.

Responsible Municipal Staff: Stormwater Permit Coordinator

2. Educate the public, businesses, and commercial applicators on the proper application of pesticides, herbicides, and fertilizers and the benefits of retaining grass clippings and leaf litter on lawn surfaces.

Specific Activities:

a. **Friends of the Mississippi River Water Quality Education Program:** is implemented annually within Saint Paul. The target audience is groups of volunteers comprised of residents or community members (businesses, neighborhood groups, organizations). Major components of the program include: storm drain stenciling, distribution of door hangers, litter clean-up events, educational programs and workshops.

Various stormwater runoff impact topics are presented through the Program including: pet waste disposal, leaves/grass impacts, litter/trash impacts, proper disposal of hazardous wastes, proper application of fertilizers, car washing techniques, salt application, etc.

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2019 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: engaged 1,259 volunteers and completed 2,426 volunteer hours on water quality improvement activities including: stenciling 2,521 storm drains, distributing 7,686 door hangers, coordinating 3 litter clean-up outings, 29 classroom educational presentations, 2 community education workshops, and 1 storm drain mural project.

2020 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: engaged 125 volunteers to carry out 337 volunteer hours on water quality improvement activities that included: stenciling 1,013 storm drains, distributing 1,199 door hangers, coordinating 1 litter clean-up outing, 12 classroom presentations, 1 special event (Children's Water Festival virtually), and 1 storm drain mural project. FMR incorporated a TMDL fact sheet into their educational programs and at public events.

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FMR also incorporated TMDL fact sheets into their educational programs and at public events.

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2024 Measurable Goals of the Program include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program seeks to: engage 750 volunteers to carry out 1,500 volunteer hours on water quality improvement activities including: stenciling 2,200 storm drains, distributing 3,500 door hangers, coordinating 2-3 litter clean-up outings, 5-10 educational programs, 2 community education workshops, and 1 paddling excursion on the Mississippi River. FMR also plans to incorporate TMDL fact sheets into their educational programs and at public events.

Responsible Municipal Staff: Stormwater Permit Coordinator

b. **Adopt-a-Drain Program:** is implemented annually within Saint Paul. The target audience are individual property occupants within Saint Paul. Major components of the program include: marketing of the Program, distribution of door hangers, distribution of welcome packets/signs, and collection of data.

   Various stormwater runoff impact topics are presented through the Program including: pet waste disposal, leaves/grass impacts, litter/trash impacts, proper disposal of hazardous wastes, salt application, etc.

   2018 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: distributed 9,600 door hangers, encouraged adoption of 561 storm drains, delivered signs and welcome packets, and continued management of the Adopt-a-Drain website.

   2019 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior with an emphasis in the Battle Creek subwatershed. To accomplish these goals, the Program: distributed 2,400 door hangers, encouraged adoption of 851 storm drains, delivered signs and welcome packets, and continued management of the Adopt-a-Drain website.

   2020 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior focusing in the

Summit-University neighborhoods. To accomplish these goals, the Program: mailed 5,999 postcards, encouraged adoption of 565 storm drains, delivered signs and welcome packets, and continued managing the Adopt-a-Drain website.

2021 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior focusing in the Woodlawn-Jefferson, Wheelock Pkwy and Jefferson-W. Seventh neighborhoods. To accomplish these goals, the Program: delivered 2,000 door hangers, encouraged adoption of 375 storm drains, delivered signs and welcome packets, and continued managing the Adopt-a-Drain website. Updated the door hanger that is distributed in targeted promotion areas.

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2023 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in St. Paul. To accomplish these goals, the Program: mailed postcards, encouraged adoption of 406 storm drains, delivered signs and welcome packets, and continued managing the Adopt-a-Drain website.

2024 Measurable Goals of the Program include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior focusing in various neighborhoods. To accomplish these goals, the Program seeks to: distribute door hangers, encourage adoption of storm drains, deliver signs and welcome packets, and continue management of the Adopt-a-Drain website.

Responsible Municipal Staff: Stormwater Permit Coordinator

c. **Watershed Partners and Clean Water Minnesota:** is a collaborative outreach project and coalition providing resources to member organizations to aid in water quality education. The City of Saint Paul is member of this organization, and annually contributes financial resources to the coalition. The target audience is residents and community stakeholders of the member organizations including watershed districts, cities, counties, higher education, etc.

Various stormwater runoff impact topics are presented through the Program including: lawn care techniques, urban agriculture, native planting/restoration, environmental health, etc. Additionally, the organization sponsors the clean water exhibits at the Minnesota State Fair.

Annual Measurable Goals of the Program include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish

these goals, the Program seeks to: create monthly blog posts with timely and consistent messages to encourage behaviors that improve water quality, generate photographs that feature local residents taking action to protect lakes and rivers, enhance a metro wide Adopt-a-Drain online registration system, conduct monthly meetings with partner activities and presentations, and develop and implement clean water exhibits at the Minnesota State Fair.

Responsible Municipal Staff: Stormwater Permit Coordinator

d. **No-Parking Sign Water Quality Message:** In 2022 a Water Quality message was included in the printing of temporary No-Parking Signs. The temporary No-Parking Signs are used citywide to prevent parking during programmed street sweeping, snow removal and street repair activities. The message advocates for keeping storm drains clear to prevent localized flooding and to promote knowledge of impacts to water quality in the Mississippi River.

Annual Measurable Goals of the No-Parking Sign Water Quality Message include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior.

Responsible Municipal Staff: Stormwater Permit Coordinator

e. **Pesticide and Fertilizer Applicator Licensing**: The Department of Safety and Inspections maintains a City Ordinance (Chapter 377) and Licensing system for pesticide and fertilizer applicators.

Responsible Municipal Staff: Water Resources Coordinator

3. Educate the public on proper pet waste disposal.

Specific Activities:

a. **Friends of the Mississippi River Water Quality Education Program:** is implemented annually within Saint Paul. The target audience is groups of volunteers comprised of residents or community members (businesses, neighborhood groups, organizations). Major components of the program include: storm drain stenciling, distribution of door hangers, litter clean-up events, educational programs and workshops.

Various stormwater runoff impact topics are presented through the Program including: pet waste disposal, leaves/grass impacts, litter/trash impacts, proper disposal of hazardous wastes, proper application of fertilizers, car washing techniques, salt application, etc.

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volunteer hours on water quality improvement activities including: stenciling 2,224 storm drains, distributing 5,738 door hangers, coordinating 2 litter clean-up outings, 31 classroom educational presentations, 2 community education workshops, and 1 storm drain mural project.

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2020 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: engaged 125 volunteers to carry out 337 volunteer hours on water quality improvement activities that included: stenciling 1,013 storm drains, distributing 1,199 door hangers, coordinating 1 litter clean-up outing, 12 classroom presentations, 1 special event (Children's Water Festival virtually), and 1 storm drain mural project. FMR incorporated a TMDL fact sheet into their educational programs and at public events.

2021 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: engaged 643 volunteers to carry out 1,168 volunteer hours on water quality improvement activities that included: stenciling 1,368 storm drains, distributing 2,220 door hangers, coordinating 12 litter clean-up outings, 11 classroom presentations, 7 field trips, 670 virtual engagements with online curriculum, and 1 storm drain mural project. Updated the door hanger that is distributed during stenciling events.

2022 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: engaged 666 volunteers to carry out 918 volunteer hours on water quality improvement activities including: stenciling 1,265 storm drains, distributing door hangers, coordinating 4 litter clean-up outings, 7 educational programs, 2 community education workshops, and 1 storm drain mural project. FMR also incorporated TMDL fact sheets into their educational programs and at public events.

2023 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: engaged 475 volunteers to carry out 929 volunteer hours on water quality improvement activities that included: stenciling 1,498 storm drains, distributing 2,537 door hangers, coordinating 4 litter clean-up outings, 4

classroom presentations, 2 rain barrel workshops, and 1 storm drain mural project. Updated the door hanger that is distributed during stenciling events.

2024 Measurable Goals of the Program include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program seeks to: engage 750 volunteers to carry out 1,500 volunteer hours on water quality improvement activities including: stenciling 2,200 storm drains, distributing 3,500 door hangers, coordinating 2-3 litter clean-up outings, 5-10 educational programs, 2 community education workshops, and 1 paddling excursion on the Mississippi River. FMR also plans to incorporate TMDL fact sheets into their educational programs and at public events.

Responsible Municipal Staff: Stormwater Permit Coordinator

b. **Adopt-a-Drain Program:** is implemented annually within Saint Paul. The target audience are individual property occupants within Saint Paul. Major components of the program include: marketing of the Program, distribution of door hangers, distribution of welcome packets/signs, and collection of data.

   Various stormwater runoff impact topics are presented through the Program including: pet waste disposal, leaves/grass impacts, litter/trash impacts, proper disposal of hazardous wastes, salt application, etc.

   2018 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: distributed 9,600 door hangers, encouraged adoption of 561 storm drains, delivered signs and welcome packets, and continued management of the Adopt-a-Drain website.

   2019 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior with an emphasis in the Battle Creek subwatershed. To accomplish these goals, the Program: distributed 2,400 door hangers, encouraged adoption of 851 storm drains, delivered signs and welcome packets, and continued management of the Adopt-a-Drain website.

   2020 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior focusing in the Summit-University neighborhoods. To accomplish these goals, the Program: mailed 5,999 postcards, encouraged adoption of 565 storm drains, delivered signs and welcome packets, and continued managing the Adopt-a-Drain website.

   2021 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior focusing in the Woodlawn-Jefferson, Wheelock Pkwy and Jefferson-W. Seventh neighborhoods. To accomplish these goals, the Program: delivered 2,000 door hangers,

encouraged adoption of 375 storm drains, delivered signs and welcome packets, and continued managing the Adopt-a-Drain website. Updated the door hanger that is distributed in targeted promotion areas.

2022 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in St. Paul. To accomplish these goals, the Program: mailed postcards, encouraged adoption of 319 storm drains, delivered signs and welcome packets, and continued managing the Adopt-a-Drain website.

2023 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in St. Paul. To accomplish these goals, the Program: mailed postcards, encouraged adoption of 406 storm drains, delivered signs and welcome packets, and continued managing the Adopt-a-Drain website.

2024 Measurable Goals of the Program include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior focusing in various neighborhoods. To accomplish these goals, the Program seeks to: distribute door hangers, encourage adoption of storm drains, deliver signs and welcome packets, and continue management of the Adopt-a-Drain website.

Responsible Municipal Staff: Stormwater Permit Coordinator

c. **Watershed Partners and Clean Water Minnesota:** is a collaborative outreach project and coalition providing resources to member organizations to aid in water quality education. The City of Saint Paul is member of this organization, and annually contributes financial resources to the coalition. The target audience is residents and community stakeholders of the member organizations including watershed districts, cities, counties, higher education, etc.

Various stormwater runoff impact topics are presented through the Program including: lawn care techniques, urban agriculture, native planting/restoration, environmental health, etc. Additionally, the organization sponsors the clean water exhibits at the Minnesota State Fair.

2018 Measurable Goals of the Program include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program seeks to: create monthly blog posts with timely and consistent messages to encourage behaviors that improve water quality, generate photographs that feature local residents taking action to protect lakes and rivers, enhance a metro wide Adopt-a-Drain online registration system, conduct monthly meetings with partner activities and presentations, and develop and implement clean water exhibits at the Minnesota State Fair.

Responsible Municipal Staff: Stormwater Permit Coordinator

d. **No-Parking Sign Water Quality Message:** In 2022 a Water Quality message was included in the printing of temporary No-Parking Signs. The temporary No-Parking Signs are used citywide to prevent parking during programmed street sweeping, snow removal and street repair activities. The message advocates for keeping storm drains clear to prevent localized flooding and to promote knowledge of impacts to water quality in the Mississippi River.

   Annual Measurable Goals of the No-Parking Sign Water Quality Message include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior.

   Responsible Municipal Staff: Stormwater Permit Coordinator

4. Educate the public and commercial applicators on the proper management and application of de-icing and anti-icing compounds for winter maintenance.

   Specific Activities:

   a. **Friends of the Mississippi River Water Quality Education Program:** is implemented annually within Saint Paul. The target audience is groups of volunteers comprised of residents or community members (businesses, neighborhood groups, organizations). Major components of the program include: storm drain stenciling, distribution of door hangers, litter clean-up events, educational programs and workshops.

      Various stormwater runoff impact topics are presented through the Program including: pet waste disposal, leaves/grass impacts, litter/trash impacts, proper disposal of hazardous wastes, proper application of fertilizers, car washing techniques, salt application, etc.

      2018 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: engaged 1,113 volunteers and completed 1,976 volunteer hours on water quality improvement activities including: stenciling 2,224 storm drains, distributing 5,738 door hangers, coordinating 2 litter clean-up outings, 31 classroom educational presentations, 2 community education workshops, and 1 storm drain mural project.

      2019 Measurable Goals of the Program included: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program: engaged 1,259 volunteers and completed 2,426 volunteer hours on water quality improvement activities including: stenciling 2,521 storm drains, distributing 7,686 door hangers, coordinating 3 litter clean-up outings, 29 classroom educational presentations, 2 community education workshops, and 1 storm drain mural project.

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2024 Measurable Goals of the Program include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program seeks to: engage 750 volunteers to carry out 1,500 volunteer hours on water quality improvement activities including: stenciling 2,200 storm drains, distributing 3,500 door hangers, coordinating 2-3 litter clean-up outings, 5-10 educational programs, 2 community education workshops, and 1 paddling excursion on the Mississippi River. FMR also plans to incorporate TMDL fact sheets into their educational programs and at public events.

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Responsible Municipal Staff: Stormwater Permit Coordinator

c. **Watershed Partners and Clean Water Minnesota:** is a collaborative outreach project and coalition providing resources to member organizations to aid in water quality education. The City of Saint Paul is member of this organization, and annually contributes financial resources to the coalition. The target audience is residents and community stakeholders of the member organizations including watershed districts, cities, counties, higher education, etc.

   Various stormwater runoff impact topics are presented through the Program including: lawn care techniques, urban agriculture, native planting/restoration, environmental health, etc. Additionally, the organization sponsors the clean water exhibits at the Minnesota State Fair.

   Annual Measurable Goals of the Program include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program seeks to: create monthly blog posts with timely and consistent messages to encourage behaviors that improve water quality, generate photographs that feature local residents taking action to protect lakes and rivers, enhance a metro wide Adopt-a-Drain online registration system, conduct monthly meetings with partner activities and presentations, and develop and implement clean water exhibits at the Minnesota State Fair.

   Responsible Municipal Staff: Stormwater Permit Coordinator

d. **No-Parking Sign Water Quality Message:** In 2022 a Water Quality message was included in the printing of temporary No-Parking Signs. The temporary No-Parking Signs are used citywide to prevent parking during programmed street sweeping, snow removal and street repair activities. The message advocates for keeping storm drains clear to prevent localized flooding and to promote knowledge of impacts to water quality in the Mississippi River.

Annual Measurable Goals of the No-Parking Sign Water Quality Message include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior.

Responsible Municipal Staff: Stormwater Permit Coordinator

5. Educate developers and contractors on construction site and post-construction stormwater management BMP design, construction, and maintenance methods.

   Specific Activities:

   a. **Utility Coordination Meeting:** is held annually to present information related to various utility and street improvement projects occurring within the City limits. The target audience for this meeting is contractors, city staff, and utility companies.

      Various stormwater runoff impact topics are presented at this Meeting including illicit discharges and erosion and sediment control measures. Also made available at this meeting is a document detailing Erosion and Sediment Control for Utility Projects in the Right-of-Way.

      Annual Measurable Goals of the meeting include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the meeting seeks to: inform contractors and utility companies of erosion and sediment control requirements the City has in place.

      Responsible Municipal Staff: Right-of-Way Engineer, Water Resource Coordinator

   b. **Chapter 52- Stormwater Runoff Ordinance:** is enforced for development projects occurring in the City. The target audience for this Ordinance is developers and city staff.

      Various stormwater runoff impact topics are presented within this Ordinance including: temporary erosion and sediment control devices and maintenance, permanent stormwater BMPs, rate control, etc. The Ordinance is applied by the City's Site Plan Committee at the time a development seeks City approvals. The Site Plan Committee uses the review as a forum to educate about temporary and permanent stormwater controls.

      Annual Measurable Goals of the Ordinance include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Ordinance seeks to: inform contractors, developers, and city staffs of various Stormwater Runoff requirements the City has in place.

      Responsible Municipal Staff: Sewer Utility Regulatory & Records Engineer, Water Resource Coordinator

6. Educate the public about impaired waters within the jurisdiction and the TMDLs developed to address the impairments.

   Specific Activities:

   a. **Friends of the Mississippi River Water Quality Education Program:** in 2020 a TMDL Fact Sheet was prepared summarizing TMDLs, causes, locations, solutions. The Fact Sheet is available on the City's website and is promoted at various public events by Water Quality Education consultants.

      Annual measurable goals of the fact sheet include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior.

   b. **Watershed Partners and Clean Water Minnesota:** is a collaborative outreach project and coalition providing resources to member organizations to aid in water quality education. The City of Saint Paul is member of this organization, and annually contributes financial resources to the coalition. The target audience is residents and community stakeholders of the member organizations including watershed districts, cities, counties, higher education, etc.

      Various stormwater runoff impact topics are presented through the Program including: lawn care techniques, urban agriculture, native planting/restoration, environmental health, etc. Additionally, the organization sponsors the clean water exhibits at the Minnesota State Fair.

      Annual Measurable Goals of the Program include: increased awareness, increased understanding, acquired skills, and/or desired changes in behavior. To accomplish these goals, the Program seeks to: create monthly blog posts with timely and consistent messages to encourage behaviors that improve water quality, generate photographs that feature local residents taking action to protect lakes and rivers, enhance a metro wide Adopt-a-Drain online registration system, conduct monthly meetings with partner activities and presentations, and develop and implement clean water exhibits at the Minnesota State Fair.

      Responsible Municipal Staff: Stormwater Permit Coordinator

Metro Watershed Partners

2023 Annual Program Report

Metro Watershed Partners is a coalition of more than seventy public, private and non-profit organizations in the Twin Cities metro area. Through collaborative education and outreach, the Metro Watershed Partners promote a public understanding that inspires people to act to protect water in their watershed. Since 1996, partners have cooperated through educational projects, networking, and resource sharing.

MINNESOTA WATER
LET'S KEEP IT CLEAN

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Metro Watershed Partners 2023 Report

Introduction

Metro Watershed Partners is a coalition of more than seventy public, private and non-profit organizations in the Twin Cities metro area. Through collaborative education and outreach, the Metro Watershed Partners promote a public understanding that inspires people to act to protect water in their watershed. Since 1996, partners have cooperated through educational projects, networking, and resource sharing.

The mission of the Metro Watershed Partners is two-fold:

- to provide and promote collaborative watershed education programs with consistent messages to the general public, local government staff and elected officials, and
- to provide WSP members a place and means to share information, generate ideas, and coordinate and support collaborative watershed education programs.

In 2023, members contributed $190,000 to support monthly meetings, exhibit checkout, administrative functions, state fair outreach, Adopt-a-Drain, and the Clean Water Minnesota outreach campaign.

Leadership

The work of **Metro Watershed Partners** is guided by a steering committee that includes stormwater education professionals from watershed organizations, nonprofits and government agencies. In 2023, our steering committee members were:

Abby Moore, Mississippi Watershed Management Organization
Angie Hong, Washington Conservation District
Emily Johnson, Hennepin County
Jen Dullum, Young Environmental Consulting Group, LLC
Kris Meyer, Freshwater
Kristin Seaman, City of Woodbury
Lauren Letsche, City of Columbia Heights
Nick Voss, Vadnais Lake Area Watershed Management Organization
Stephanie Hatzenbihler, City of Rochester
Tracy Fredin, Hamline University, Center for Global Environmental Education
Ann Zawistoski, Hamline University, Center for Global Environmental Education
Sofie Wicklund, Hamline University, Center for Global Environmental Education

Metro Watershed Partners Activities and Accomplishments

Networking and Sharing Information

The Watershed Partners hold monthly meetings that give members an opportunity to network, share information, generate ideas, and form partnerships. These meetings feature presentations by experts in the fields of education, legislation, marketing, and watershed management.

In 2023, The Watershed Partners held 10 meetings, 6 of which were held virtually via Zoom with an average of 32 members attending each meeting. We plan to continue to meet in a variety of formats, both in-person and online to facilitate networking and provide a forum in which the most people can participate. The Zoom format allows us to record and share the presentations to those who were not able to attend and can be found on our YouTube playlist. We were thrilled to be able to once again come together in person in December for our annual year-end potluck, which was graciously hosted by the Mississippi Watershed Management Organization.

Our monthly meetings are a valued part of the Watershed Partners program that facilitates watershed education in Minnesota. We will continue offering these monthly gatherings in 2024, both virtually and in person.

At the December Potluck get-together

2023 Watershed Partner Meetings - Topics and Presenters

Links to the meeting recordings are provided when available

Month	Topic	Presenters	Attendance
January	Low Salt Solutions	Connie Fortin, Bolton & Menk Brooke Asleson, MPCA Chandi McCracken-Holm, MPCA	45
February	Passive House and Legislative Update	John Noterman, Passive House Network Aaron Klemz, MCEA Carly Griffith, MCEA	42
March	Weaving Water Workshop (in person at MWMO)	Sarah Nassif, MWMO Artist in Residence	18
April	Lakes De-listed: How did they do it?	Casey Thiel, Chisago SWCD Ben Elfelt, Chisago Lake Improvement District Matt Downing, Washington Conservation District Angie Hong, Washington Conservation District	47
May	Walking Tour of Highland Bridge Project (in person)	Bob Fossum, Capitol Region Watershed District	19
June	Army Corps Lock and Dam Disposition Study (in person on Magnolia Blossom River Boat)	Colleen O'Connor Toberman, Friends of the Mississippi River	29
September	Equitable Community Engagement for a Resilient Rochester	Lauren Jensen, City of Rochester Sadie Neuman, City of Rochester	24
October	Sustainable Agriculture	Angie Hong, East Metro Water Education Program Summer Badawi, Big River Farms Kevin Ellis, Minneapolis Food Vision Grace Rude, Minneapolis Food Vision	32
November	Round Table: Outreach Success Stories to Shake up the Engagement Doldrums	Michelle Okada, City of Woodbury Shelly Schafer, City of Woodbury Sovatha Oum, Friends of the Mississippi River Henry LaBounta, East Isles Neighborhood Association	33
December	End of Year Potluck with Lighting Round: Outreach Projects (in person at MWMO)		31

Other activities of the Metro Watershed Partners included:

Song-writing workshop which resulted in two original songs: Rusty-Patched Bumble Bee Anthem and the Stormdrain Shanty. These songs are intended to be a community resource to be used however you would like. Audio files, chords, and workshop notes are available on Mobilize.

Members were also invited to participate in a paddle share kayaking trip on the Mississippi Gorge, the Twin Cities premiere of the Northern Night, Starry Skies documentary, and were offered a discounted rate for the Doug McKenzie-Mohr Community-based Social Marketing workshop.

Mobilize

The Metro Watershed Partners listserv is a forum for watershed educators and other industry professionals throughout the state to share information and resources. In 2023, the Metro Watershed Partners listserv provided 294 members with an effective tool to promote watershed education, share information about professional programs, and exchange information with other watershed educators, legislators, and government agencies.

Our listserv is hosted by Mobilize, an online interactive communications platform for discussions, chat, events, files, and networking that is accessible online, via email, and mobile app.

The listserv can be found at:
https://watershedpartners.mobilize.io

Messages can posted online to a feed or sent via email:
watershed-partners@groups.mobilize.io

This is a private forum and anyone who would like to be added to the Mobilize group should send an email request to azawistoski01@hamline.edu.

Exhibit Checkouts

The Metro Watershed Partners offers multiple exhibits that can be checked out for free by partners and volunteer groups. Some have a general watershed and nonpoint source pollution focus, including Tables 2 and 3 (pictured below) and the Eutrophication exhibit-in-a-box. We also offer an Adopt-a-Drain tabletop exhibit and bean bag toss game. This year, we designed and created a smaller bean bag toss that fits perfectly on a table.

In 2023, our exhibits were used for at least 10 community events in the Twin Cities area. In addition to exhibits, you may request free Adopt-a-Drain handouts for your event, and swag items (hats, water bottles, tote bags, etc) are available for purchase.

View more info about exhibit checkouts at cleanwatermn.org/partners/exhibit-check-out/

Adopt-a-Drain Exhibit-in-a-Box

Eutrophication Exhibit-in-a-Box

Table 2: "What is your Watershed Address?"

A map of the Minneapolis/St. Paul metropolitan area and the state of Minnesota with puzzle pieces to lift and reveal the name of the watershed in which one lives. Graphic panels give more information and depict the larger watersheds of the entire United States. Fits on a 6-foot table.

Table 3: “Your Street Flows to the River”

Exemplifies how everyday activities in our own yards and driveways can impact the entire watershed. Many people are unaware that the water that flows into the storm drains in their street goes directly to the lakes and rivers of their community and carries with it the pollutants that cause the lakes and streams to become fouled. Fits on a 6-foot table.

Bean Bag Toss

Full-size (4’ x 2’)

Tabletop (2’ x 1’)

Clean Water MN Update

Clean Water MN is the collaborative outreach project of the Metro Watershed Partners. Working together, we provide resources, training, and support to partners as they work to inspire homeowners in the Twin Cities metro area to keep water clean and healthy.

Cleanwatermn.org features seasonally appropriate stories about metro area residents taking action at home and in their lives to keep Minnesota water clean and healthy. The stories are designed for partners to use in their own communications—via websites, Facebook, Twitter, and newsletters. Along with each story we create a suite of professional photographs, accessible to partners online for use in their own stories and publications.

The cleanwatermn.org website also features informational pages, calls to action, information about the partnership, educational resources, and a list of our partners. While the website is no longer updated as often, we believe that the information provided there is evergreen and we will continue maintaining the site. We encourage our partners to continue to share the resources and information on that site with their residents.

As the social media landscape has evolved, the needs of the Metro Watershed Partners have shifted as well. Platforms are now prioritizing native video and image content and deprioritizing links to external content. In response to those changing needs, we plan to invest in a robust digital resource library in 2024 which will facilitate the curation and sharing of high quality images, videos, and other materials. We hope to transform the Cleanwatermn.org site to become a portal to many varied types of resources for learning and sharing.

Adopt-a-Drain

Activities & Accomplishments in 2023

Adopt-a-Drain continues to expand throughout greater Minnesota, with the city of Paynesville and Freeborn County joining the program this year, and the Eagan-Inver Grove Heights Watershed Management Organization becoming a member of Watershed Partners.

Statewide this year 2,149 new participants signed up to adopt over 3,400 additional storm drains. That is an increase of 37% compared to the number of new participants in 2022. In September during the State Fair, we reached a big milestone in the program: 11,842 Minnesotans signed up to adopt storm drains, a number equivalent to the total number of lakes in Minnesota. Over 121,000 lbs of debris were cleaned up by Adopt-a-Drain participants in 2023, with 2,925 members reporting their work in 2023, for a reporting rate of 24.2%.

Current Adopt-a-Drain totals for the state of Minnesota.

Debris Type	Amount (lbs)
Brown Leaves	65,836.3
Grass and Green Leaves	6,188.6
Sediment and dirt	40,800.7
Trash	8,624.5
Pet Waste	106.7
Salt	83.1
Total	**121,639.9**

Monthly Breakdown of Storm Drain adoptions and cleanings

Month	New Participants	Drains Adopted	Debris collected (lbs)	Time spent (hrs)
January	132	181	1,378.4	188.0
February	70	123	302.8	195.8
March	103	203	848.1	194.5
April	258	438	14,472.1	346.2
May	155	266	11,818.0	210.8
June	79	132	8,014.1	207.9
July	83	151	7,695.0	160.0
August	461	619	5,977.7	133.3
September	430	592	7,731.6	165.3
October	183	363	12,452.1	294.5
November	131	288	41,956.5	653.7
December	64	136	8,993.5	250.5
TOTALS	**2,149**	**3,492**	**121,639.9**	**3,000.4**

Adopt-a-Drain National Program Survey

In 2023, we once again conducted research of adopt-a-drain programs throughout the United States. We found 195 active programs at the city, watershed, county, and state levels. Nearly half of those programs (90) are part of Adopt-a-Drain network, showing just how far-reaching the work of the Watershed Partners is. Adopt-a-Drain programs are now in 7 states (MN, WA, MA, VT, NJ, LA, FL) with plans underway to onboard the state of Utah in early 2024.

We also looked at the success of the adopt a drain programs around the country by comparing the number of drains adopted with that city's population. We're happy to report that cities within the Watershed Partners often ranked at the top by that metric.

Numbers in the charts below were retrieved from the program's website as of Feb. 22, 2024. Cities that are Metro Watershed Partners members are highlighted in blue. Cities that are members of the Adopt-a-Drain.org program are marked with an asterisk.

Large-sized cities of over 100,000 people:

Rank	City	Population	Number of Adopted Drains	Adopted drains per 1,000 people
1	**Minneapolis, MN***	**429,954**	**6801**	**15.8**
2	**Saint Paul, MN***	**311,527**	**3724**	**12.0**
3	San Francisco, CA	808,000	6693	8.3
4	Grand Rapids, MI	197,416	1549	7.8
5 (tie)	Oakland, CA	433,823	1677	3.9
5 (tie)	**Rochester, MN***	**121,395**	**469**	**3.9**

Medium-sized cities of between 10,000-100,000 people:

Rank	City	Population	Number of Adopted Drains	Adopted drains per 1,000 people
1 (tie)	**Columbia Heights, MN***	**21,973**	**317**	**14.4**
1 (tie)	Berkeley Heights, NJ*	13,292	191	14.4
3	**White Bear Lake, MN***	**24,883**	**299**	**12.0**
4 (tie)	Red Wing, MN*	16,547	186	11.2
4 (tie)	Westfield, NJ*	30,004	337	11.2

Small cities of under 10,000 people:

Rank	City	Population	Number of Adopted Drains	Adopted drains per 1,000 people
1	New London, MN*	1,252	36	28.8
2	Lake Crystal, MN*	2,539	44	17.3
3	**Lauderdale, MN***	**2,271**	**34**	**15.0**
4	Spicer, MN*	1,112	12	10.8
5	Duvall, WA*	8,034	82	10.2

Minnesota Twins Game

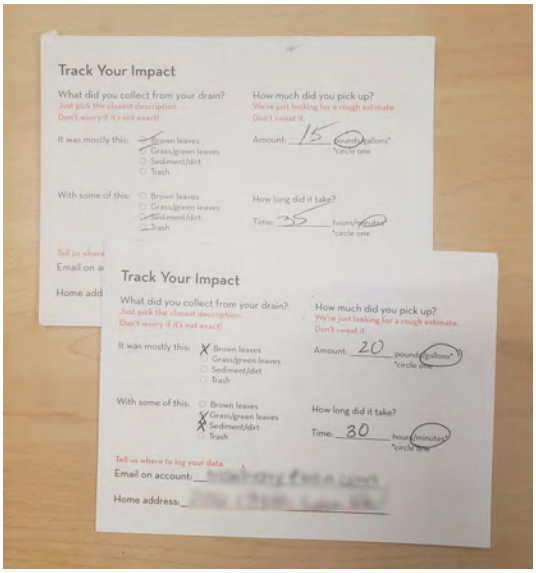
On Sunday, May 15th, we held an appreciation event for the Metro Watershed Partners and our Adopt-a-Drain participants. Over 500 people attended, buying reduced rate tickets in our section in the home run porch. We were able to participate in a pre-game parade around the field and free Adopt-a-Drain hats were provided to everyone in our section. Watershed Partner members and teachers who had participated in the Adopt-a-Drain K12 program that year were provided free tickets to the game.

Lining up for the parade around the field and walking the field before the game.

End of year reporting postcards

Throughout the year, Adopt-a-Drain participants are encouraged to stay engaged and report their work via timely newsletter reminders and automated email reminders that send on a schedule chosen by the participant (monthly, quarterly, or twice per year).

In November, we sent a postcard to all participants who had not yet reported their work online, and received an additional 1,100 responses by the end of January. As a result of this outreach, the reporting rate increased from 20% to 30%.



Social Media Promotion in 2023

In 2023, our Social Media team focused on posting high-quality and consistent content across all of our social media platforms. We implemented strategic tactics to gain followers, increase engagement and reach a large audience on all of our Adopt-a-Drain social media accounts. At the end of 2023, we had 2,225 Instagram followers and 1,536 Facebook followers, an increase of 8% and 12% respectively over 2022. The content focused on water-friendly actions that people can take in their homes and yards.

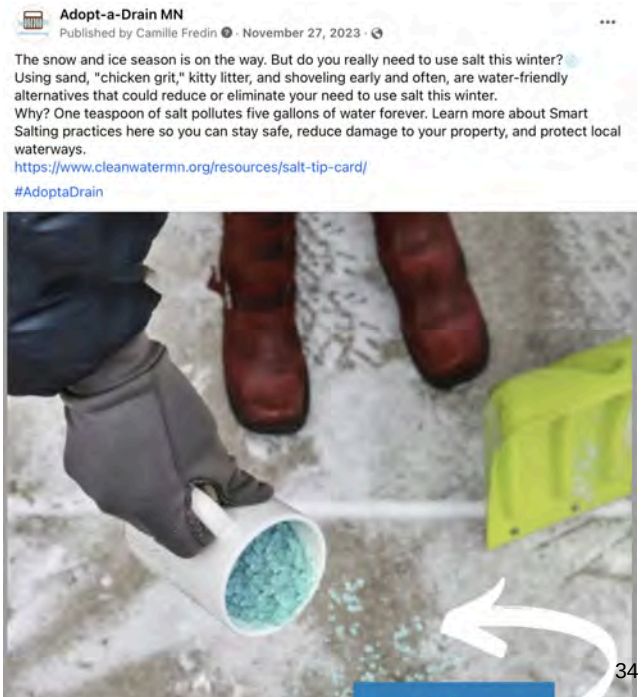
For Earth Day, we created a social media campaign that encouraged people to refer a friend to the Adopt-a-Drain program with both the referrer and their friend receiving an Adopt-a-Drain baseball hat. Thanks to 55 participant referrals, we had 55 new participants sign during the campaign.

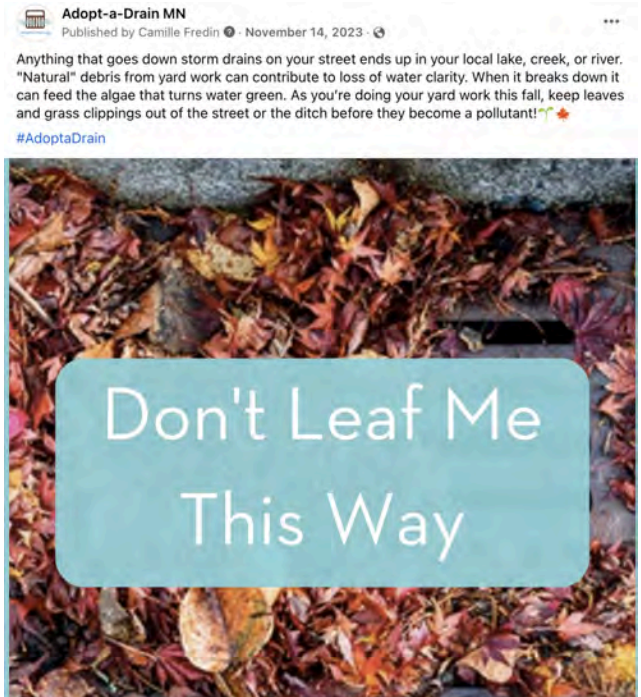
In 2024 we will continue to focus on posting high-quality and consistent content as we strive to educate and engage our current audience and simultaneously continue to reach new audiences.

Social Media Impressions in 2023

Adopt-a-Drain's social media reached a large number of people this year. On Facebook our posts reached over 74,000 people, while our Instagram posts reached over 72,000 people. The posts following the chart were some of our top posts by number of views.

Month	Facebook	Instagram
January	8,235	10,180
February	4,692	9,659
March	5,455	6,184
April	6,092	8,798
May	5,070	6,490
June	5,337	5,252
July	5,053	4,790
August	4,794	5,398
September	6,558	4,756
October	4,353	4,483
November	14,339	3,446
December	4,535	3,295
TOTAL	**74,783**	**72,738**





Adopt-a-Drain Brand Standards and Marketing Materials User Guide

Remember to check out the guide we've developed to help partners promote Adopt-a-Drain in their communities. Access the most up-to-date guide at: https://ms4.adopt-a-drain.org/marketing-guide

In this guide, you will find concise guidelines for using the Adopt-a-Drain brand, as well as a visual resource that guides you through accessing and utilizing the most up-to-date print and digital resources to promote the Adopt-a-Drain program in your community. We continue to refine and update print and digital assets, so take a minute to peruse this guide to find out about promotional resources you might not know about. For example, you can now download design files that will allow you to order Adopt-a-Drain merchandise such as hats, water bottles and tote bags directly from the vendor.

Access and download the standard marketing materials in Google Drive.

Education and Outreach at the Minnesota State Fair

The Minnesota State Fair in 2023 saw over 1.8 million total visitors over the 12 day running time, similar attendance levels to what was seen in 2022. The Eco Experience building saw an estimated 210,000 visitors. The Metro Watershed Partner's Adopt-a-Drain exhibit was also very busy; we took 3,550 photos of visitors in the Adopt-a-Drain photo booth during the course of the fair. The exhibit included many hands-on activities that introduced visitors to information about nonpoint source pollution and actions they could take to protect their waterways.

On the eighth day of the fair, Friday, September 1st, we passed a huge milestone in the program: 11,842 Minnesotans have signed up to adopt storm drains! This number is equivalent to the total number of lakes in Minnesota. We celebrated this milestone with a social media post.

Over the twelve days of the fair, 693 Minnesotans in 94 different cities signed up to adopt storm drains. 644 of these new participants signed up on a kiosk at the Eco Experience building and received a drawstring backpack, an informational packet and a small yard sign that reads "We protect Minnesota lakes, rivers, and wetlands."

We had 24 volunteers sign up to help our staff run the Adopt-a-Drain exhibit. Many of those volunteers came from our outreach to the Watershed Partners and Water Stewards. Our staff and volunteers had the opportunity to chat with current participants in the program, answer their questions, and talk about how their actions help protect our waterways. Many, many thanks to everyone who volunteered to help for making the exhibit a great success! We look forward to returning to the Great Minnesota Get-Together in 2024!

State Fair 2023 Summary

Day	Photos taken	Adopt-a-Drain Sign ups
Thursday 8/24	308	41
Friday 8/25	315	48
Saturday 8/26	385	47
Sunday 8/27	313	65
Monday 8/28	320	51
Tuesday 8/29	293	77
Wednesday 8/30	220	55
Thursday 8/31	256	62
Friday 9/1	323	63
Saturday 9/2	299	82
Sunday 9/3	271	49
Monday 9/4	205	53
TOTAL	**3,550**	**693**

We had new participants sign up at the State Fair from across Minnesota. The chart below shows the number of sign ups for selected cities and watersheds.

New Adopt-a-Drain sign ups at the State Fair by City and Watershed

City	New Sign Ups
Andover	8
Blaine	11
Bloomington	21
Columbia Heights	2
Crystal	2
Duluth	7
Eagan	12
Eden Prairie	12
Edina	5
Excelsior	2
Fridley	4
Hastings	2
Hopkins	3
Inver Grove Heights	3
Lakeville	7
Maple Grove	10
Minneapolis	157
Minnetonka	11
Mound	2
New Brighton	7
New Prague	2
Plymouth	17
Red Wing	6
Richfield	10
Rochester	6
Rosemount	1
Roseville	21
Saint Cloud	7
Saint Louis Park	9
Saint Paul	88
White Bear Lake	7
Stillwater	5
White Bear Lake	7
Woodbury	10

Watershed	New Sign Ups
Bassett Creek	24
Browns Creek	4
Capitol Region	79
Carver County	9
Comfort Lake Forest Lake	2
Coon Creek	20
Eagan-Inver Grove	13
Elm Creek	14
Lower Mississippi River	21
Minnehaha Creek	87
Mississippi	91
Nine Mile Creek	25
Pioneer-Sarah Creek	1
Ramsey-Washington Metro	32
Rice Creek	38
Riley-Purgatory-Bluff Creek	15
Shingle Creek	26
South Washington	12
Vadnais Lake Area	3
Vermillion River	14
West Mississippi	12

2023 Financial Report

Partners contributed $190,500 to the Watershed Partners in support of meetings, state fair outreach, administration, exhibit development (including maintenance and checkout), Adopt-a-Drain, and the Clean Water MN website and public outreach campaign. We remain in good financial standing and plan to shift some funding to building a digital resource library in 2024.

Supporting Members of the Metro Watershed Partners, Adopt-a-Drain, and the Clean Water MN Media Campaign in 2023

Andover
Anoka Conservation District
Bassett Creek WMC
Blaine
Bloomington
Brown's Creek Watershed District
Cannon River Watershed Partnership
Capitol Region Watershed District
Carver County
Circle Pines
Columbia Heights
Comfort Lake-Forest Lake Watershed District
Coon Creek Watershed District
Crystal
East Metro Water Resources
Eden Prairie
Edina
Elm Creek WMC
Excelsior
Fridley
Hastings
Hennepin County
Hopkins
Lakeville
Lauderdale
Lower Mississippi River WMO
Middle St. Croix WMO
Minneapolis
Minnehaha Creek Watershed District
Minnetonka
Mississippi WMO
Mound
New Brighton
Nine Mile Creek Watershed District
Pioneer-Sarah Creek WC
Ramsey-Washington Metro Watershed District
Rice Creek Watershed District
Riley Purgatory Bluff Creek Watershed District
Richfield
Rochester
Rosemount
Roseville
Saint Louis Park
Saint Paul
Shingle Creek WMC
Shoreview
South Washington Watershed District
Vadnais Lake Area WMO
Vermillion River Watershed JPO
Washington Conservation District
Wayzata
West Mississippi WMC
White Bear Lake
White Bear Township
Woodbury

Watershed Partners 2023 Accounting

	IN-KIND	CASH	TOTAL
REVENUE			
2022 Funds rollover		$14,521.32	$14,521.32
2023 Membership		$190,449.99	$190,449.99
Total revenue		$204,971.31	$204,971.31
EXPENSE			
1. Watershed Partners Coordination			
Principle Investigator	$2,500.00	$8,481.43	$10,981.43
Program Coordinator	$9,000.00	$18,000.00	$27,000.00
Steering Committee	$32,400.00		$32,400.00
Mobilize annual membership		$588.00	$588.00
Technology maintenance	$1,400.00	$1,000.00	$2,400.00
Meeting expenses		$1,876.31	$1,876.31
Postage and printing		$200.00	$200.00
Subtotal	$45,300.00	$30,145.74	$75,445.74
2. Watershed Exhibit Implementation			
New exhibit creation		$1,000.00	$1,000.00
Exhibit coordination	$4,500.00	$4,728.00	$9,228.00
State fair expenses	$2,700.00	$22,819.51	$25,519.51
Storage and check-out	$5,000.00		$5,000.00
Subtotal	$12,200.00	$28,547.51	$40,747.51
3. Clean Water MN			
Web hosting and maintenance		$1,328.08	$1,328.08
Earth Month Campaign and MN Twins Event		$6,569.54	$6,569.54
Subtotal	$0.00	$7,897.62	$7,897.62
4. Adopt-a-Drain			
Site license		$30,000.00	$30,000.00
Program coordination		$34,111.50	$34,111.50
Program implementation		$19,000.00	$19,000.00

	IN-KIND	CASH	TOTAL
Social media and communications		$11,000.00	$11,000.00
Promo merch		$0.00	$0.00
End of year mailing		$1,952.30	$1,952.30
Website work and graphic design		$7,640.00	$7,640.00
Subtotal	$0.00	$103,703.80	$103,703.80
TOTAL	**$57,500.00**	**$170,294.67**	**$227,794.67**
Administrative Fee		$20,435.36	$20,435.36
TOTAL (INCL. ADMIN)	**$57,500.00**	**$190,730.03**	**$248,230.03**
2023 Rollover		**$14,241.28**	

Watershed Partners Projected 2024 Budget

	IN-KIND	CASH	TOTAL
REVENUE			
2023 Funds rollover		$14,241.28	$14,241.28
2024 Membership		$210,000.00	$210,000.00
Total revenue		$224,241.28	$224,241.28
EXPENSE			
1. Watershed Partners Coordination			
Principle Investigator	$2,500.00	$8,481.43	$10,981.43
Program Coordination	$9,000.00	$18,000.00	$27,000.00
Steering Committee	$32,400.00		$32,400.00
Mobilize annual membership		$588.00	$588.00
Technology maintenance	$1,400.00	$1,000.00	$2,400.00
Meeting expenses		$2,000.00	$2,000.00
Postage and printing		$200.00	$200.00
Subtotal	$45,300.00	$30,269.43	$75,569.43
2. Watershed Exhibit Implementation			
New exhibit creation		$5,000.00	$5,000.00
Exhibit coordination	$4,500.00	$4,728.00	$9,228.00
State fair expenses	$2,700.00	$23,000.00	$25,700.00
Storage and check-out	$5,000.00		$5,000.00
Subtotal	$12,200.00	$32,728.00	$44,928.00
3. Clean Water MN			
Web hosting and maintenance		$1,400.00	$1,400.00
Earth Month Campaign and MN Twins Event		$7,000.00	$7,000.00
Image and video digital resource library		$24,000.00	$24,000.00
Media curation		$4,000.00	$4,000.00
Subtotal	$0.00	$36,400.00	$36,400.00

	IN-KIND	CASH	TOTAL
4. Adopt-a-Drain			
Site license		$30,000.00	$30,000.00
Program coordination		$29,000.00	$29,000.00
Program implementation		$17,000.00	$17,000.00
Social media and communications		$9,000.00	$9,000.00
Promo merch		$0.00	$0.00
End of year mailing		$2,000.00	$2,000.00
Website work and graphic design		$7,000.00	$7,000.00
Subtotal	$0.00	$94,000.00	$94,000.00
TOTAL	**$57,500.00**	**$193,397.43**	**$250,897.43**
Administrative Fee		$23,207.69	$23,207.69
TOTAL (INCL. ADMIN)	**$57,500.00**	**$216,605.12**	**$274,105.12**
2024 Projected Rollover		**$7,636.16**	

ADOPT A STORM DRAIN

2023 Saint Paul Annual Report

We're Making a Difference!

240 participants 2023

418 drains adopted 2023

2,143 participants TOTAL

3,726 drains adopted TOTAL

Drain Cleaning & Collection Data

418 Saint Paul participants reported cleanings, which represents 19.5% of all participants

Saint Paul participants collected 20,186.7 lbs of debris from their adopted storm drains in 2023

Debris Type	Amount (lbs)
Brown Leaves	12,977.0
Grass and Green Leaves	1,080.0
Sediment and dirt	5,627.9
Trash	501.8
Recyclables	0.0
Pet Waste	0.0
Salt	0.0

Month	New Participants	Drains Adopted	Debris collected (lbs)	Time spent (hrs)
January	17	25	369.35	35.88
February	10	16	75.5	19.6
March	9	26	51.16	26.53
April	25	43	1616.75	40.63
May	16	29	2655.76	39.82
June	8	13	747.08	23.5
July	9	24	1191.82	24.8
August	62	83	1200.32	20.35
September	40	48	619.26	22.62
October	25	51	1804.24	35.75
November	14	38	8323.67	169.3
December	5	22	1539.4	55.73
TOTALS	**240**	**418**	**20,194.3**	**514.5**

Watershed and Subwatershed

Drains Adopted: Cumulative total

Debris collected: 2023 data only

Watershed	Drains adopted	Debris collected (lbs)	Time spent (hours)
Capitol Region	3,083	17,959.0	444.5
Ramsey-Washington Metro	478	1,679.3	57.3
Lower Mississippi River	135	264.2	9.4
Rice Creek	30	291.8	3.4

Subwatershed	Drains adopted	Debris collected (lbs)	Time spent (hours)
Mississippi River (CRWD)	521	4,208.1	88.0
Como Lake	361	3,386.7	76.4
St. Anthony Park towards the Mississippi River	360	2,250.4	37.5
East Kittsondale routes to Mississippi River	350	1,124.9	48.4
St. Anthony Hill towards the Mississippi River	346	919.2	36.7
Trout Brook (City of St. Paul)	344	844.5	38.8
West Kittsondale routes to Mississippi River	196	1,213.0	42.0
St. Paul Beltline pipe to the Mississippi River	178	379.1	8.9
Davern St and routes to Mississippi River	175	2,605.3	31.9
Lake Phalen	162	629.2	33.3
City of St. Paul-Mississippi River	135	264.2	9.4

Subwatersheds continued on next page

Subwatersheds (continued)

Drains Adopted: Cumulative total

Debris collected: 2023 data only

Subwatershed	Drains adopted	Debris collected (lbs)	Time spent (hours)
Crosby Lake	106	575.1	13.1
Phalen Creek	104	87.7	2.2
Goodrich-Western routes to Mississippi River	85	257.9	11.7
Downtown Subwatershed routes to Mississippi River	69	299.6	7.7
West Seventh towards the MIssissippi River	65	251.9	9.4
Battle Creek	60	369.2	7.8
Mississippi River Bottomlands	35	82.3	4.0
Urban Subwatershed towards the Mississippi River	34	184.5	3.4
Beaver Lake	20	15.0	0.3
Blufflands	18	246.8	3.7
Hidden Falls	1	0.0	0.0
Fish Creek	1	0.0	0.0

Mailings and Signs

Sample welcome packet pictured below, including: yard sign and stake, welcome card with safety tips and instructions, and customized welcome letter.

In addition to mailed packets, 88 residents signed up at the State Fair this year and received their packet and “We protect Minnesota lakes and rivers” yard sign there.

Sign	Packets Mailed
Mississippi River	52
Lake Phalen	3
Beaver Lake	1
Como Lake	1
Total	**57**

** Some participants opt out of receiving a yard sign, so the number of packets sent is lower than the total number of new signups this year.*

ADOPT A STORM DRAIN

MINNESOTA STATE SUMMARY

Annual Report
2023 Saint Paul

2,149 participants 2023

3,492 drains adopted 2023

12,102 participants TOTAL

21,940 drains adopted TOTAL

2,925 Minnesota participants reported cleanings, which represents 24.2% of all participants

Minnesota participants collected 121,639.9 lbs of debris from their adopted storm drains in 2023

Debris Type	Amount (lbs)
Brown Leaves	65,943.0
Grass and Green Leaves	6,188.6
Sediment and dirt	40,800.7
Trash	8,624.5
Recyclables	0.0
Pet Waste	0.0
Salt	83.1

Month	New Participants	Drains Adopted	Debris collected (lbs)	Time spent (hrs)
January	132	181	1,378.4	188.0
February	70	123	302.8	195.8
March	103	203	848.1	194.5
April	258	438	14,472.1	346.2
May	155	266	11,818.0	210.8
June	79	132	8,014.1	207.9
July	83	151	7,695.0	160.0
August	461	619	5,977.7	133.3
September	430	592	7,731.6	165.3
October	183	363	12,452.1	294.5
November	131	288	41,956.5	653.7
December	64	136	8,993.5	250.5
TOTALS	**2,149**	**3,492**	**121,639.9**	**3,000.4**

FRIENDS OF THE MISSISSIPPI RIVER

Working to protect the Mississippi River and its watershed in the Twin Cities area.

101 East Fifth Street
Suite 2000
Saint Paul, MN 55101

651-222-2193
www.fmr.org
info@fmr.org

Final Report 2023

Friends of the Mississippi River (FMR) engages people to protect, restore and enhance the Mississippi River and its watershed in the Twin Cities region. We strive to create positive changes that improve water quality, provide habitat for wildlife, develop education and recreation opportunities, and inspire widespread commitment to this natural wonder that flows through our community. We work to produce replicable models for community engagement and regularly measure and refine our goals and benchmarks to ensure that we are achieving tangible improvements in the river's health and vitality and demonstrating a benefit to our community.

The water quality education project is designed to meet the following three objectives:

1. To involve St. Paul residents and community members in hands-on learning experiences about urban runoff pollution and ways to prevent it.
2. To facilitate school service-learning initiatives using storm drain stenciling, litter cleanups and outings, and/or habitat restoration as key components to the programs.
3. To stencil storm drains with the message "Keep 'em Clean—Drains to River," and distribute educational door-hangers to residents and businesses in the stenciled neighborhoods.

As of November 14, 2023, we have:

- Facilitated 29 staffed stenciling outings and stenciling DIY kits.
- Engaged 475 volunteers through stenciling outings and DIY stenciling kit pick-ups in Saint Paul; 243 of these volunteers were associated with school or youth groups.
- Led volunteers in stenciling 1498 storm drains and distributed 2537 educational flyers, for a total of 929.5 volunteer hours.
- Engaged 21 youth in the Environmental Stewardship Institute (ESI) career development program in Saint Paul and nine youth through the school-year ESI Council leadership and career development program.
- Engaged 50 youth through sharing water quality education materials and activities at the Right Track Career Fair in April 2023
- Engaged 173 youth in 5 classroom programs focused on the Mississippi River and watershed protection in St. Paul schools, including Laura Jeffrey Academy and Central High School.
- Interacted with 63 community members while tabling at the Spirit of Water Festival at Hidden Falls Regional Park, having substantive conversations about how to protect water quality and why clean water is so important.

- Led large-scale trash pick-up and stenciling outings in St. Paul with twenty-five University of St. Thomas students on April 25, 2023 and fifty-four Great River School graduating seniors on May 25, 2023, as well as coordinating park clean-ups with youth from our ESI program at Hidden Falls Regional Park, employees from 3M at Swede Hollow Park and Lilydale Regional Park, and employees from Xcel Energy at Trout Brook Nature Sanctuary.
- Engaged in over 2000 education hours with storm drain stenciling kits, outings, outreach programs, community events tabling, and our water quality classroom/youth group education and career development programs.

Storm Drain Stenciling Outings, No-Contact Stenciling Pick Up & Trash Pick Ups:

Storm Drain Stenciling: In 2023, the stenciling kits have continued to be a popular mode of engagement. Small groups and schools have utilized this option to check out a stenciling kit for up to two weeks. These kits include all the materials to stencil storm drains, maps, and background information on pollution and why it is essential to keep storm drains clean. FMR coordinates availability and maintains materials in stenciling kits. In the past we have made it a more accessible location by bringing the kits to local sites, such as during Waterfest at Lake Phalen, for people to pick up. This year we were unable to table at Waterfest due to a conflict with a restoration event on the same date, but we engaged people at Spirit of Water at Hidden Falls in July 2023. We also continue to offer in-person outings led by an FMR staff member, working with schools, corporate groups, and community members. Between April 2023-October 2023, 18 groups opted to schedule a staffed stenciling outing, which included a 15-30-minute presentation from an FMR staff member about the top 8 pollutants that get into the river through storm drains and what people can do to protect clean water. Eleven groups checked out DIY kits in 2023, for a total of 29 stenciling outings. Outings ranged from small neighborhood and family groups using one or two kits to school and youth groups utilizing as many as eight to ten kits on a single outing.

Our ability to offer stenciling outings was somewhat restricted this year due to staff transitions and some short-term position vacancies during 2023, including in our Volunteer Coordinator, Program Associate, and Stewardship and Education Program Director roles. Even with these constraints, we're proud that our volunteers were able to stencil 40 more drains than volunteers stenciled in 2022 (1458 drains in 2022 and 1498 drains in 2023). We are confident that we laid a good foundation this year for further growth and engagement in 2024.

Here are some links to images from 2023 stenciling events:

Great River School students stencil storm drains (May 25, 2023)
https://www.flickr.com/photos/friendsmissriv/albums/72177720308589759

SEA LIFE at Mall of America staff stencil storm drains (June 8, 2023)
https://www.flickr.com/photos/friendsmissriv/albums/72177720309045083

JAMF staff and family stencil storm drains (June 16, 2023)
https://www.flickr.com/photos/friendsmissriv/albums/72177720309117174

Best of 2023 Stenciling
https://www.flickr.com/photos/friendsmissriv/albums/72177720312434009

Litter pick-up events: In 2023, FMR coordinated four litter pick-ups with corporate and school groups at Trout Brook Nature Sanctuary, Hidden Falls Regional Park, Swede Hollow Park, and Lilydale Regional Park, in addition to integrating neighborhood litter pick-up into each stenciling event. We have also promoted several initiatives to encourage people to pick up trash on their own. In coordination with public works, parks, or other agencies/organizations, FMR provides gloves, bags, and trash grabbers, as well as notifying parks staff when we will be leaving trash bags at a park. FMR gives an orientation about the river and water quality at each of these events. Independent litter pick-ups also have been successful, and volunteers have reached out to self-report some of their efforts.

See a link to the independent litter pick-up initiative we continue to promote as an option for community science and water protection here: Plastic Pollution Initiative, which we continue to integrate into school-based programming.

Here are some links to images from two of our 2023 litter clean-up events:

Xcel Energy at Trout Brook Nature Sanctuary (September 9, 2023)
https://www.flickr.com/photos/friendsmissriv/albums/72177720311130363

3M at Lilydale Regional Park (October 18, 2023)
https://www.flickr.com/photos/friendsmissriv/albums/72177720312042547

Storm Drain Mural Project:
Our storm drain murals have successfully generated attention for water quality in St. Paul since 2017. For 2023, we are again working with a local artist to create a mural that reflects the local community's relationship with clean water.

In Summer 2023, we held two mural workshops to gather community input for the mural. The first workshop was held on July 15th at the Spirit of Water: A Celebration of the Mississippi River community event in Hidden Falls Regional Park. FMR gathered community input on the mural by hosting an activity at the event in partnership with Precious Wallace, the artist for this year's mural.

This public input was consolidated into a draft design for the second mural workshop, which engaged our youth Environmental Stewardship Institute (ESI) program with the mural project. The purpose of this process was to create a synergistic activity that engaged our youth program with an artist environmental stewardship opportunity meant to demonstrate to them the various ways they can engage with water quality protection in their community while meeting the

community engagement needs for the mural project. We continued this synergistic opportunity between the two programs by inviting ESI students to participate in painting the mural.
With approval and input from Highland District Council, the mural was installed in August 2023 at the Scenic Overlook parking lot in the 600 block of East Mississippi River Boulevard, with participation from 2 current ESI students and 2 ESI alumni who are now staff members at FMR. FMR published this article about the mural on our website.

"Make & Take Rain Barrel" Workshops: For 2023, we built on past successful rain barrel workshops by hosting two hands-on rain barrel workshops on September 17 and October 8. Each workshop included an introduction to the Mississippi River Watershed, non-point source pollution, and ways to prevent runoff pollution from entering the storm sewer system. A significant component of this workshop was the opportunity for participants to purchase and assemble rain barrels with assistance from FMR staff and supplies donated and discounted by the Coca-Cola Company and the Rain Barrel Depot.

We hosted these in-person workshops at the Neighborhood House in St. Paul, presenting to a total of 73 attendees and distributing 57 rain barrels.

Classroom and K-12 Education Outreach and Engagement:
Qualified FMR staff offered 30- to 90-min education experiences to school and community groups before, after or independent of scheduled service outings. Due to COVID-19, we have slowly resumed in-person experiences with school groups, with almost no online classroom visits, and most groups opting to do outdoor clean-ups and storm drain stenciling in 2023. These experiences provide opportunities to explore water quality and related topics in greater depth through age-appropriate hands-on activities, demonstrations, and discussions.

This spring, due to the hiring of two new staff, a Youth Program Manager to support our more expansive career development and internship programs and an Event Assistant to support our growing program needs, our classroom sessions were delayed as we focused on staff training in April and May 2023. We spent a lot of time onboarding new staff to learn the curriculum and could not reach as many in-classroom visits in the Spring and Fall this year due to these staffing transitions. Staff transitions and further onboarding and training occurred later in the summer and fall, as we hired and onboarded a new Volunteer Coordinator and a new Event Assistant in July 2023 and a new Stewardship and Education Program Director in November 2023.

We continue to offer lessons and activities varying by grade level for teachers to access free online. Examples include this video about the top pollutants that get into the river through Twin Cities storm drains. All of our work ties back to understanding the concept of watersheds and the relationship between human activity, land use, and water quality. Now that our new program staff is on board, we plan to continue to expand our classroom offerings to St. Paul schools. In 2023, we were able to provide the following programs for youth in St. Paul:

- 10 stenciling outings, serving 243 volunteers and resulting in 465.5 volunteer hours..
- 4 classroom visits in St. Paul schools.
- 1 outreach event.

- 15 school-year educational experiences and training opportunities for 9 ESI Council students, including opportunities to present at conferences and to the Met Council
- Summer educational activities for 21 ESI Fellows, for a total of 1260 education hours, including opportunities to develop leadership by organizing a river clean-up at Hidden Falls Regional Park and plant a pollinator garden.
- 1 online video - PBS River Episode accessible to educators and the community filmed in Saint Paul.

This spring and fall, we have been working on building new relationships with schools as well as re-activating prior connections, including presenting at Laura Jeffrey Academy, a STEM-focused St. Paul school. Students engaged in classroom lessons about how the river intersects with culture and how erosion impacts water quality. In both these lessons, students were invited to reflect on their own relationship with land and water. We anticipate building on this relationship through such activities as visiting the river and engaging students in further learning about how they can protect and restore the watershed. Central High School was another St. Paul school that engaged with us in Spring 2023 and was interested in providing more opportunities for their youth to engage in our water quality education-focused internships.

Due to staff turnover at FMR, our goal to engage in a series of water quality education sessions with youth from St. Paul Public High Schools (Como High School, Johnson High School, and Central High School) as part of our Water Knowledge Network Initiative is still in the beginning stages of development. We have begun conversations with these schools and will engage them in learning more about how they can be part of youth-led initiatives to protect water quality through our 2024 ESI program. This is a long-term project to develop the next generation of water stewards in St. Paul.

We were featured on PBS this Spring which has led to interest and inquiries from schools and community members in our water quality education programs such as stenciling and trash clean-ups, learning more about watersheds, and using the Marine Debris Tracker which was featured on the show. Former FMR Stewardship & Education Program Director Laura Mann Hill stars as a STEM role model in the latest "SciGirls" public television series, which premiered on May 26.

SciGirls Episode Link and Article:
https://fmr.org/updates/stewardship-education/fmrs-laura-mann-hill-featured-scigirls-river-rescuers-episode

Finally, during the pandemic, our youth program focus has turned towards working with fewer youth stewards but engaging them over longer periods of time and providing increased contact hours with in-depth training and career development support through our Environmental Stewardship Institute (ESI). ESI's summer intensive program and school-year youth advisory council are extensions of our career pathways program for high school-aged youth. ESI has expanded in the last year from our previous goal of engaging 12 students each summer to a goal of engaging 24 high school youth in our water quality education program. For the ESI summer

fellowship, youth commit to 60 hours throughout the summer and complete independent projects.

We also support 9 high school youth who commit to 80 hours during the school year. During the school year, the ESI Council reached out to other youth environmentalists and students in the metro area and organized presentations with Climate Generation. Students played a key role in representing youth voices to the 2050 Regional Development Guide process. Our ESI high school students presented to the Met Council in May 2023. Through our program, students also gain access to adults in the environmental field, including a visit from a water quality specialist who discussed the adverse effects of water pollutants like road salt, excess leaves, and grass clippings. We continue to work with Right Track, a St. Paul program, to support the development of this program and engage more youth in St. Paul.

ESI Article:
https://fmr.org/updates/stewardship-education/metropolitan-council-consults-fmrs-youth-council-2050-plan

Photos of 2023 Environmental Stewardship Institute Council:
https://flic.kr/s/aHBqjAGEWX

Photos of 2023 Environmental Stewardship Institute Summer Program:
https://www.flickr.com/photos/friendsmissriv/albums/72177720309885632

Teacher/Group Leader Feedback or Reflections:
We collected oral and written data and a survey to gather feedback from our participants.

- The session increased my students' interest in supporting the health of the environment and watershed. 100% of educators surveyed agreed.
- By participating, my students gained a deeper understanding of how human activities impact our water. 100% of educators surveyed agreed.
- After participating, my students expressed an understanding of some personal actions and behaviors they can take to protect the river and improve water quality. 100% of educators surveyed agreed.
- The activities during the session helped my students understand more about people's cultural connections to the river and water. 100% of educators surveyed agreed.
- The activity aligned with standards and/or supported a learning target for my class/group. 100% of educators surveyed agreed.
- This session increased my students' interest in Science Technology Engineering Mathematics (STEM). 50% of educators surveyed agreed. 50% were neutral.

“The day after the lesson we were walking around outside and some of my students pointed out potholes saying, ‘Look at that erosion!’ They were excited to apply their new understanding!” – Middle School Educator, Ms. CeCe

CITY OF SAINT PAUL
Mayor Christopher B. Coleman

390 City Hall
15 West Kellogg Boulevard
Saint Paul, MN 55102

Telephone: 651-266-8510
Facsimile: 651-228-8513

Fact Sheet

Chapter 51. Allowable Discharges to the Storm Sewer System

What is the focus of the new ordinance?

This ordinance is intended to prevent pollution from entering the City's storm sewer system, which discharges directly to our lakes and the Mississippi River. The ordinance formally defines what is allowed and prohibited.

Prohibitions include, but are not limited to:

- Motor oil, paint, solvents, or other liquids poured into a catch basin;
- Grass, leaves, or landscape material intentionally disposed in the street or waters;
- Sanitary connections to the storm system; or,
- Wash water, concrete wash out to the street or other improper disposal of waste.

Why is the ordinance needed?

The Minnesota Pollution Control Agency regulates Saint Paul's stormwater under the federal Clean Water Act. This serves to protect water quality in lakes and rivers. Under this permit, the City is obligated to enact regulatory controls to prevent pollutants from entering the storm sewer system.

What is the City currently doing to address this and how will this help?

- The City educates citizens on how to prevent pollution going into the storm sewer system by working with volunteer groups to stencil "don't pollute, drains to river" graphics on city storm drains and distribute multi-lingual door hangers.
- The City addresses municipal maintenance operations by implementing policies and procedures to avoid improper behaviors leading to stormwater pollution.
- Improper discharges to the storm sewer system are currently addressed on a complaint basis.

Several existing ordinances indirectly address pollution prohibitions, but lack specificity. The new ordinance clarifies and strengthens pollution prevention controls. It better positions the City to take enforcement steps, if necessary. Public Works and DSI jointly share enforcement responsibilities.

How does this ordinance affect citizens, businesses, or other constituents?

It is difficult to generalize due to the range of potential circumstances and impacts of prohibited discharges – from raking leaves into the street to dumping oil into a storm drain.

This ordinance will primarily be used to respond to public complaints. Awareness and education about the new ordinance, and avoiding water quality impacts, will be stressed. Enforcement in the form of abatement letters may be taken, depending on the circumstance and threat to water quality.

DEPARTMENT OF PUBLIC WORKS
Policy and Procedures
FOR FIELD STAFF
Water Protection
Effective Date: November 1, 2017, Revision Date:

POLICY STATEMENT:
As stewards of the environment, employees will take all precautionary measures to protect local water resources. The Department of Public Works is committed to maintaining compliance with applicable environmental laws and regulations and to continually improve operations to prevent pollution of waterways that can harm local ecosystems and public health. This policy applies to any intentional act or unintentional act resulting from poor or neglectful work practices.

PROCEDURES (AND/OR REQUIREMENTS, EXPECTATIONS):

1. No dirt, silt, vegetation, organic material, debris, or other foreign materials will be deposited into any river, lake, stream, pond, or into any sewer system that leads to such water.

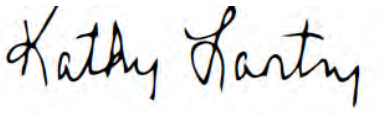
2. Employees will not blow, broom, sweep, whip, or shovel anything including dirt, silt, sand, debris, weeds, or other organic material into such body of water.

3. While performing work near such water, all debris will be picked up and removed from the site to be properly disposed of. In the event that an employee is not sure of proper disposal, the Supervisor should be called immediately.

4. No dirt, grass, organic material, debris or other foreign materials shall be intentionally deposited onto streets or other impervious surfaces without a plan for its immediate removal. This includes anything that may enter the sewer system. Exception: Sand/salt/deicers approved for controlling snow and ice when used appropriately.

5. When sweeping streets or edging curbs, a plan is required to immediately remove all dirt and debris deposited into the street. This may mean coordinating the clean up with other street sweepers prior to the start of the job. If rain is expected, work should be delayed.

Policy Approval:



_____
Kathy Lantry, Public Works Director

Next Review: November 1, 2021

SAINT PAUL PARKS AND RECREATION

POLICY

DEPARTMENT

NUMBER: DIV. 4.4.2
PLACEMENT: Physical Resource Management
SUBJECT: Water Protection Policy

EFECTIVE DATE: 03/2010
UPDATED: 03/10

PURPOSE: To protect natural water bodies through the use of best management practices by all employees working near rivers, streams, lakes, ponds, and/or near storm sewers and impervious surfaces that lead to such water.

SCOPE: All Parks and Recreation employees.

POLICY STATEMENT:
As stewards of the environment, employees will take all precautionary measures to protect local water resources. The Department is committed to maintaining compliance with applicable environmental laws and regulations and to continually improve operations to prevent pollution of waterways that can harm local ecosystems and public health. This policy applies to any intentional act or unintentional act resulting from poor or neglectful work practices.

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4. No dirt, grass, organic material, debris or other foreign materials shall be intentionally deposited onto streets or other impervious surfaces without a plan for its immediate removal. This includes anything that may enter the sewer system. Exception: Sand/salt/deicers approved for controlling snow and ice when used appropriately.

5. When sweeping boulevards or edging curbs, a plan is required to immediately remove all dirt and debris deposited into the street. This may mean coordinating the clean up with Public Works or other street sweepers prior to the start of the job. If rain is expected, work should be delayed.

SAINT PAUL PARKS AND RECREATION

POLICY

DEPARTMENT

REQUIRED ITEMS AND/OR RELATED INFORMATION:

SECTION MANAGER'S RESPONSIBILITIES	SUPERVISOR'S RESPONSIBILITIES	EMPLOYEE'S RESPONSIBILITIES
Ensure all employees under his/her jurisdiction are aware of this policy and procedures.	Advise all employees of this policy and procedures.	Adhere to the policy.
Ensure that supervisors in his/her section enforce this policy and procedures.	Ensure that employees follow this policy and procedures.	Follow the procedures.
	Issue warnings or initiate disciplinary action as needed to ensure employee compliance.	Ask for additional training if needed.

Owner: Karin Misiewicz, Parks Supervisor **Next Review Date:** 02/11

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SPILL REPORTING FORM

City of Saint Paul - Department of Parks and Recreation

INSTRUCTIONS

EMPLOYEE: Form should be filled out as completely as possible, on the same day as the spill occurred, by the individual involved in the spill. Describe all the events in as much detail as possible, especially the cleanup activities. If you have any questions regarding this form, contact your supervisor, or Environmental Services staff (651-632-5111). When completed, return form to your supervisor.

SUPERVISOR: Please return form as soon as possible to Adam Robbins, Como Central Service Facility.

Date of Spill:_____ Name (PRINT):_____

Time of spill:_____ Supervisor:_____

Section:_____ Phone number to reach you:_____

What was spilled?:_____

How much was spilled?:_____

Did the spill flow into a sewer? If yes, what type of sewer (sanitary, storm or unknown)?

_____

What type of surface did the spill occur on (soil, concrete, etc)?:

_____

Location of Spill (Be specific- address, intersection, exact location):

_____

_____

Describe what was happening when the spill occurred:

_____

_____

_____

What caused the spill (overfill, broken line, etc)? Be specific:

_____

Describe how the spill was cleaned up:

_____

_____

How were the spill cleanup materials disposed of?:

_____

List the names of other employees involved in the spill or cleanup:

_____

Was the MN Duty Officer called (651-649-5451)? _____

If yes: Who called?_____ Date_____Time_____

Duty Officer Report #:_____PCA Spill #_____

Employee Signature:_____

Spill Kit Instructions

Stop source of spill, if it can be safely done. If not, immediately call the Minnesota Duty Officer.

Contain spill. Wear gloves. Your first priority is to protect the spill from flowing into a storm sewer or drain. Use the 3" x 4' socks to create a barrier between the spill storm sewers/drains. Use the pillows to absorb pools of contained material (up to a half gallon per pillow). Small spills can be cleaned up with the absorbent pads.

Contact your supervisor or Environmental Services staff as soon as it is safe/practical to do so. If neither are available, contact the MN Duty Officer.

Complete a spill report form for all spills, **regardless of size**. The Minnesota Duty Officer must be notified for:

Petroleum (gasoline, diesel, hydraulic fluid, oil) spills of unknown amounts or over 5 gallons
Non-petroleum (antifreeze, pesticides, etc) spills of any amount

Phone Numbers
Environmental Services – (651) 632-5111
MN Duty Officer – (651) 649-5451

Disposal of used materials:
Used socks, pads and pillows should be placed in yellow hazardous waste bags found in the spill kit. Materials used to soak up petroleum spills should be disposed of in the 55 gallon barrel marked "Used Oil Sorbents" in the fuel shed at the Como Central Service Facility. For instructions on how to dispose of materials used to clean up non-petroleum substances, contact your supervisor or Environmental Services staff.

Replace used spill kit items promptly. All materials found in your spill kit are available from the Storeroom at the Como Central Service Facility.

FACILITY SPILL KIT INVENTORY	**qty**	**type**
kit absorbs ~8 gallons	30	17"x19" pads
	3	3"x4' socks
	4	2"x10"x10" pillows
	4	Hazardous Waste Bags
	2	Pair Nitrile Gloves
	4	Spill Reporting Forms

VEHICLE SPILL KIT INVENTORY	**qty**	**type**
kit absorbs ~5 gallons	10	17"x19" pads
	2	3"x4' socks
	2	Hazardous Waste Bags
	1	Pair Nitrile Gloves
	4	Spill Reporting Forms

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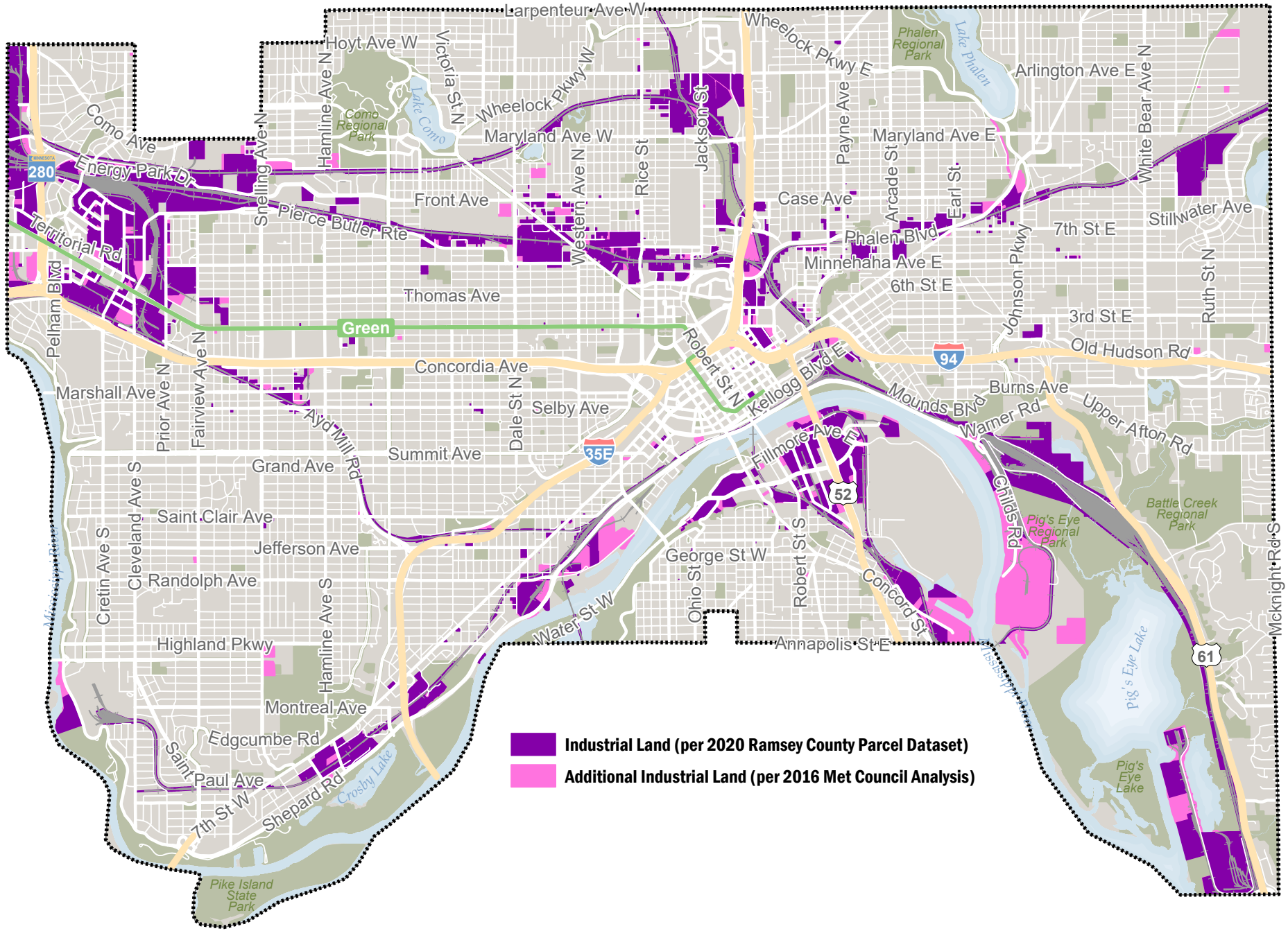
Industrial Land Use in Saint Paul

February 24th, 2020



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0 0.5 1 2 Miles

List of Industrial Stormwater Permit Holders

Obtained from MPCA Industrial Stormwater Permit database on 11/30/2020

Site Permit #	Site Address	Facility Name	Does MPCA consider Site No Exposure	Owner Name
MNR05384T	51 Maryland Ave E	Elliott Auto Supply Co. Inc	No	ELLIOTT AUTO SUPPLY CO., INC.,
MNR0538JV	1061 Red Rock Rd	Gavilon Grain, LLC	No	Gavilon Grain LLC
MNR0538N3	51 State St	Pier Foundry	No	Pier Foundry & Pattern Shop
MNR0538P4	515 Eaton St	Signature Flight Support STP	No	Signature Flight Support
MNR0538PH	701 Eaton St	Hubbard Broadcasting Hanger	No	Hubbard Broadcasting Inc
MNR0538TV	1303 Red Rock Rd	Upper River Services - Pig's Eye	No	Upper River Services Inc
MNR0538TX	40 State St	Upper River Services - State Street	No	Upper River Services
MNR0538VB	719 Eaton St	Minnesota Jet Inc	No	Northern States Power a MN Corp dba Xcel
MNR05396V	954 Minnehaha Ave W	St. Paul Brass & Aluminum Foundry	No	Saint Paul Brass & Aluminum Foundry
MNR0539Q8	867 Forest St	Northern Iron & Machine	No	Northern Iron of St Paul LLC
MNR0539QD	754 Rice St	Ace Auto Parts & Salvage Co., Inc.	No	Ace Auto Parts
MNR0539WR	690 Bayfield St	3M Aviation	No	3M Company
MNR0539XY	1678 Red Rock Rd	Gerdau - Saint Paul Mill	No	Gerdau Corporation
MNR053B2J	795 Barge Channel Rd	St Paul Alter River Terminal	No	Alter Trucking and Terminal Corporation
MNR053B32	801 Barge Channel Rd	Alter Metal Recycling - St. Paul	No	Alter Metal Recycling
MNR053B4B	644 Bayfield St	MAC - STP Downtown Airport	No	Metropolitian Airports Commission
MNR053B8Z	701 Barge Channel Rd	Hawkins - Terminal 2	No	Hawkins Inc
MNR053B94	1125 Childs Rd	Hawkins - Terminal I	No	Hawkins Inc
MNR053B96	309 Como Ave	Advanced Disposal Services - Vasko Solid Waste	No	Advanced Disposal Services
MNR053B97	198 Minnehaha Ave E	Apex Auto Salvage	No	Apex Auto Salvage
MNR053BDW	1425 Red Rock Rd	Hawkins Water Treatment Group - Red Rock	No	Hawkins Inc
MNR053BF3	1701 Pierce Butler Rte	Midway Hub	No	BNSF Railway Co
MNR053BJL	875 Prior Ave N	E-Z Recycling	No	E-Z Recycling
MNR053BK9	1999 Shepard Rd Ste A	Johnson Brothers Liquor Co	No	Johnson Brothers Liquor Company
MNR053BKC	1031 Childs Rd	Northern Metal Recycling - Dock	No	Northern Metals Recycling
MNR053BKF	521 Barge Channel Rd	Northern Metal Recycling - St Paul	No	Northern Metals Recycling
MNR053BRV	318 Water St W	Twin City Refuse & Recycling Inc	No	Twin City Refuse Recycling & Transfer
MNR053BRW	2370 Highway 36 E	TA Schifsky Sons Inc	No	TA Schifsky Sons Inc
MNR053BSQ	268 Water St W	J & L Wire Cloth Co Inc	No	J&L Wire Cloth Co Inc
MNR053BSY	780 Barge Channel Rd	GERDAU - St Paul Raw Materials	No	Gerdau Ameristeel
MNR053BWL	1359 Red Rock Rd	Barton Enterprises Inc / Commercial Asphalt Co	No	Tiller Corporation
MNR053C2P	1000 Shop Rd	St. Paul Yard	No	CP
MNR053C2X	1305 Pierce Butler Rte	Pierce Recycling and Transfer Facility	No	Veit
MNR053C35	106 Arlington Ave E	Action Auto Parts of St Paul, Inc.	No	Action Auto Parts of St Paul, Inc.
MNR053C3X	403 Fillmore Ave E	Americraft Carton, Inc	No	Americraft Carton Inc
MNR053C5K	2229 Childs Rd	Westway Feed Products LLC	No	BWC Terminals LLC
MNR053C5X	508 Cleveland Ave N	Minnesota Commercial Railway Co	No	Minnesota Commercial Railway Company
MNR053C77	2160 Pigs Eye Lake Rd	Hoffman Pigs Eye Maintenance Facility	No	Union Pacific Railroad Company
MNR053C79	500 Block Of Eaton St	Eaton Maintenance Facility	No	Union Pacific Railroad Company

List of Industrial Stormwater Permit Holders

Obtained from MPCA Industrial Stormwater Permit database on 11/30/2020

Site Permit #	Site Address	Facility Name	Does MPCA consider Site No Exposure	Owner Name
MNR053C7Q	2165 Pigs Eye Lake Rd	Environmental Wood Supply	No	City Of Saint Paul Parks And Recreation
MNR053C7S	76 Kellogg Blvd W	District Energy St Paul/St Paul Cogeneration L	No	District Energy Saint Paul Inc
MNR053C8P	858 Transfer Rd	Lubrication Technoloiges Inc	No	Lube-Tech & Partners LLC
MNR053CBY	206 Airport Rd	Army Aviation Support - Holman Field	No	Minnesota Army National Guard, Minnesota Department of Military Affairs
MNR053CJ3	2209 Childs Rd	Flint Hills Resources Pine Bend LLC - St Paul	No	Flint Hills Resources Pine Bend, LLC - St. Paul
MNR053CNY	515 Cleveland Ave N	Metro Transit - Overhaul Base	No	Metro Transit
MNR053CP7	820 L Orient St	Metro Transit - East Metro Garage	No	Metro Transit
MNR053CQY	2576 Doswell Ave	Metro Metals Corp	No	Metro Metals Corp
MNR053CSG	1303 Red Rock Rd	AMG Resources Corp.	No	AMG Resources Corp.
MNR053CSY	228 Sycamore St W	Atlas U Pull	No	ATLAS UPULL LLC
MNR053CV2	270 Airport Rd	St. Paul Flight Center	No	St Paul Flight Center
MNR053D66	90 Fish Hatchery Rd	Dayton's Bluff Yard	No	BNSF Railway Co
MNR053DJC	2313 Wycliff St	Precision Coatings Inc	No	Precision Coatings, Inc.
MNR053DNV	711 Eaton St	Best Jets International	No	Best Jets International
MNR053DW2	1 Ridder Cir	First Transit, Inc. #55872	No	First Transit, Inc.
MNR053DYX	80 Arlington Ave East Suite B & C	First Student, Inc. #11762A	No	First Student Inc
MNR053F2D	340 Broadway St	Metro Transit - Green Line Operation and Maintenance	No	Metro Transit
MNR053F6B	637 Barge Channel Rd	Ingredient Transport	No	Ingredient Transport
MNRNE359L	2020 7th St W	Custom Rock Formliner	Yes	customer rock
MNRNE37SH	5000 Township Pkwy Ste A	Med-Tech Center	Yes	MedTech Center
MNRNE37ZB	1319 Pierce Butler Rte	Twin City Metalfab, Inc.	Yes	Twin City Metal Fab Inc
MNRNE37ZP	223 Plato Blvd E	Tursso Companies, Inc	Yes	Tursso Companies, Inc
MNRNE3845	410 Fillmore Ave E	3M - Building 76	Yes	3M company
MNRNE385Q	2020 Energy Park Dr	Larkin Industries, Inc.	Yes	Larkin Industries Inc
MNRNE38FV	300 Atwater St	Northern Screw Machine Co., Inc	Yes	Northern Screw Machine Co., Inc
MNRNE38HB	3560 Hoffman Rd E	ANDREWS KNITTING MILLS BUILDING LIMITEDPARTNERSHIP	Yes	Andrews Knitting Mills Inc
MNRNE38HM	314 Eva St	USPS St. Paul Vehicle Maintenance Facility	Yes	United States Postal Service
MNRNE38Q5	1835 Energy Park Dr	minnesota wire	Yes	Minnesota Wire
MNRNE38YF	878 Stryker Ave	Palindrome	Yes	Palindrome, Inc.
MNRNE3929	355 State St	Viking Drill & Tool Inc	Yes	Viking Drill & Tool Inc
MNRNE399W	1966 Benson Ave	Amidon Graphics	Yes	Paul S Amidon & Associates Inc
MNRNE39HN	1457 Iglehart Ave	Loes Enterprises Inc	Yes	Loes Enterprises
MNRNE39LD	155 Randolph Ave	Former High Bridge Coal Generating Facility	Yes	Northern States Power Company d/b/a Xcel Energy
MNRNE39RP	888 Minnehaha Ave E	3M - IMP, Saint Paul Building 27	Yes	3M company
MNRNE39RR	42 Water St W	Kindeva Drug Delivery L.P.	Yes	Kindeva Drug Delivery LP

List of Industrial Stormwater Permit Holders

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Site Permit #	Site Address	Facility Name	Does MPCA consider Site No Exposure	Owner Name
MNRNE39WL	1927 Case Ave E	3M - Saint Paul Distribution Center	Yes	Ras Properties LLC
MNRNE39Y8	431 Griggs St N	Rayven Inc.	Yes	Rayven Inc
MNRNE3BHP	1605 Iglehart Ave	Co-operative Plating Co	Yes	Co-operative Plating Co
MNRNE3BLL	1220 Energy Park Dr	Demmer Investments IV, Inc. dba Quality Tool	Yes	Demmer Investments IV dba Quality Tool
MNRNE3BT2	650 Pelham Blvd Ste 100	NOVUS @ LLC	Yes	Colliers International
MNRNE3CDW	1050 Westgate Dr	Impressions Inc.	Yes	Impressions Inc.
MNRNE3CHV	139 Eva St	Rexam BCNA	Yes	Rexam Beverage Can Co
MNRNE3CT7	1280 Energy Park Dr	GLS Companies	Yes	GLS Companies
MNRNE3CWV	432 Front Ave	AAA Metal Finishing, Inc.	Yes	AAA Metal Finishing, Inc.
MNRNE3CYW	181 Florida St	Aero Systems Engineering, Inc.-Florida Street	Yes	Apex Holdings LLC
MNRNE3D2B	2575 University Ave W Ste 180	Synovis Life Technologies Inc	Yes	Synovis Life Technologies
MNRNE3DQF	860 Vandalia St	Tech Dump - Vandalia	Yes	Tech Dump
MNRNE3DVY	550 Wheeler St N	Huot Manufacturing	Yes	Bondhus Corporation, Bondhus LLC
MNRNE3DX4	845 Minnehaha Ave E	The Vomela Companies	Yes	The Vomela Companies
MNRNE3DY6	124 Eva Street	Pier Foundry & Pattern Shop, Inc.	Yes	Pier Foundry & Pattern Shop
MNRNE3DYH	1225 Old Highway 8 NW	Cardiovascular Systems INC.	Yes	CSI
MNRNE3F2F	645 Olive St	Ideal Printers Inc	Yes	Ideal Printers Inc
MNRNE3F4C	821 Vandalia St	AGGRESSIVE INDUSTRIES INC	Yes	Aggressive Industries Inc
MNRNE3F6J	930 Duluth St	Ray Anderson & Sons/ Anderson's Dumpster Box Service/	Yes	Ray Anderson & Sons

BRAUN INTERTEC
The Science You Build On.

SAINT PAUL

CITY OF ST. PAUL
ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) FIELD GUIDE SUMMARY

December 2, 2020

BRAUN INTERTEC
The Science You Build On.

City SWPPP Responsibilities

- Public education and outreach,
- Public participation/involvement,
- Illicit discharge detection and elimination,
- Construction site runoff control,
- Post-construction runoff control,
- Pollution prevention/good housekeeping for municipal operations, and
- Monitoring.

City Code

- The City of St. Paul has a Code of Ordinances (Title VI, Building and Housing), and Chapter 51 (Allowable Discharges to the Storm Sewer System) defines pollutants to the City storm system and allows enforcement of illicit connections or discharges.

City of St. Paul Enforcement and Elimination of Illicit Discharges

Type of property	Responsible
Private property	Department of Safety and Inspections (DSI)
Within City Right-Of-Way	Department of Public Works Right-Of-Way Division and Police Department
City park property	Department of Parks and Recreation

Examples of illicit non-stormwater discharges

- Sanitary sewer spills
- Sanitary wastewater illegally connected to or dumped into the storm sewer system
- Truck washing
- Discharges from residential laundry or carpet washwaters
- Effluent from septic tanks
- Pavement saw cutting slurry discharges
- Construction debris or sediment run-off
- Auto and household toxics such as used motor oil
- Liquid fertilizers and pesticides
- Spills from roadways
- Paint waste

Example photos of illicit discharges

Discharge of Oil

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Example photos of illicit discharges

Discharge of Paint

7

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Example photos of illicit discharges

Discharge of Drilling Mud

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Example photos of illicit discharges

Discharge of Glycol

9

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Example photos of illicit discharges

Sanitary Discharge, Private Storm Drain

10

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Example photos of illicit discharges

Tack Emulsion, Seal Coating

11

Example photos of illicit discharges

Sanitary Discharge, Urban Outfall

Example photos of illicit discharges

Sanitary Discharge to Storm Drain from RV [13]

Examples of prohibited non-stormwater discharges

- Combined sewer overflow
- Noncontact cooling water
- Sewage
- Wash water
- Scrubber water
- Spills
- Oil
- Hazardous substances
- Fill
- Commercial equipment/vehicle cleaning, and
- Maintenance wastewaters

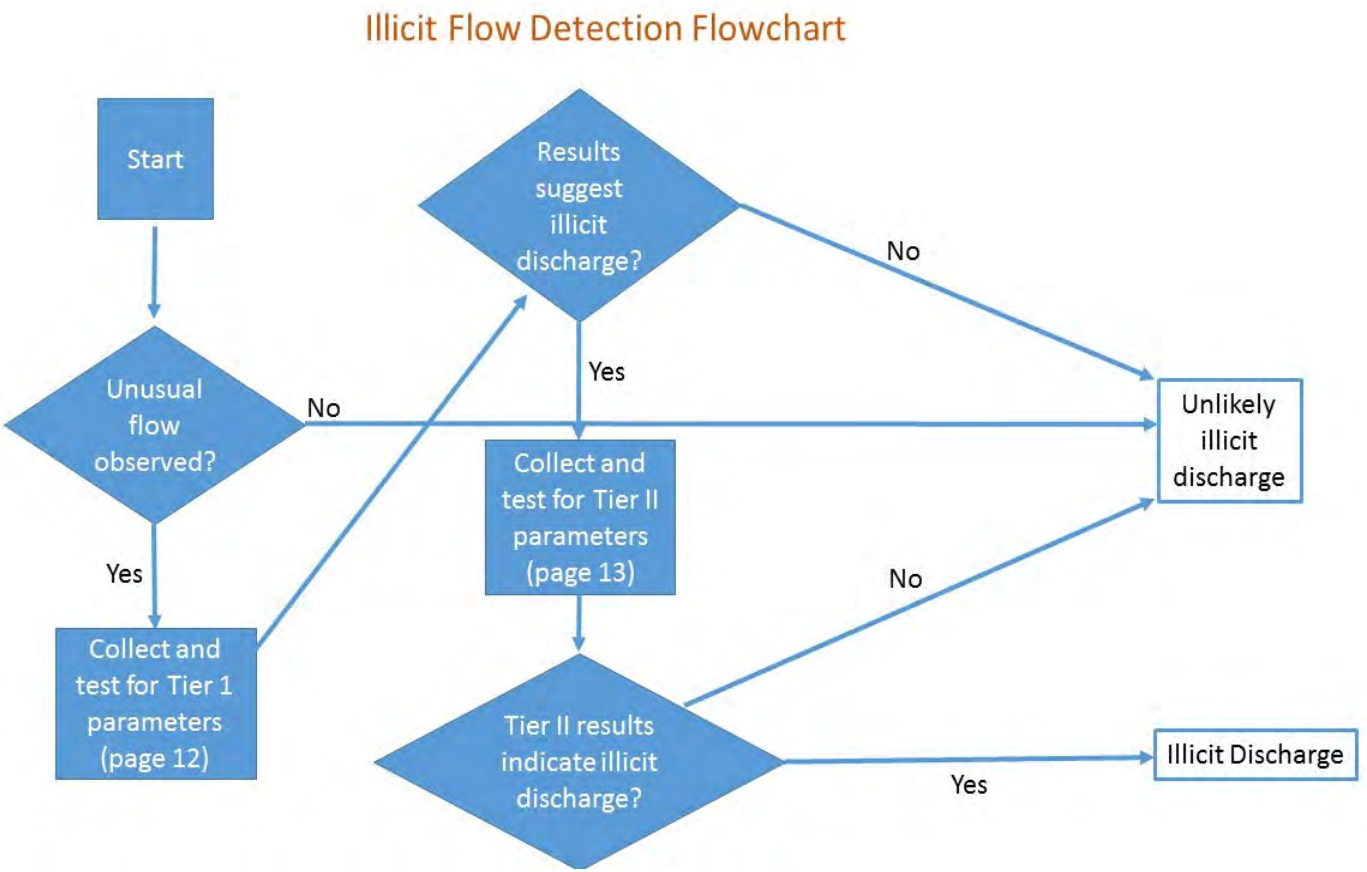
Examples of allowable non-stormwater discharges

- Non-stormwater that is authorized by an MPCA NPDES point source permit;
- Fire-fighting activities and fire suppression systems;
- Water line flushing or other potable water sources;
- Landscape irrigation or lawn watering;
- Diverted stream flows;
- Groundwater;
- Foundation or footing drains;

Examples of allowable non-stormwater discharges (cont.)

- Air conditioning condensation;
- Springs;
- Non-commercial washing of vehicles;
- Natural riparian habitat and wetland flows;
- Street wash water discharges;
- Activities undertaken by the city, or by written authority of the city, deemed necessary to protect public health, welfare, or safety; and
- Any other water source not containing a pollutant.

Illicit discharge investigations



Physical Indicators

- Flow
- Color
- Odor
- Turbidity
- Sewage, Sheens & Surface Scum

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The Science You Build On.

Natural Sheen vs. Synthetic Sheen

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The Science You Build On.

Foam and Suds Examples

Low Severity, Naturally Occurring Suds

High Severity Suds

Biological Indicators

Fish Kill

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The Science You Build On.

Biological Indicators

Algae Bloom

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Biological Indicators

Iron Bacteria on Bulkhead

Chemical Indicators

- Water temperature
- Tier I chemical parameters
- Tier II chemical parameters

Tier I Chemical Parameters

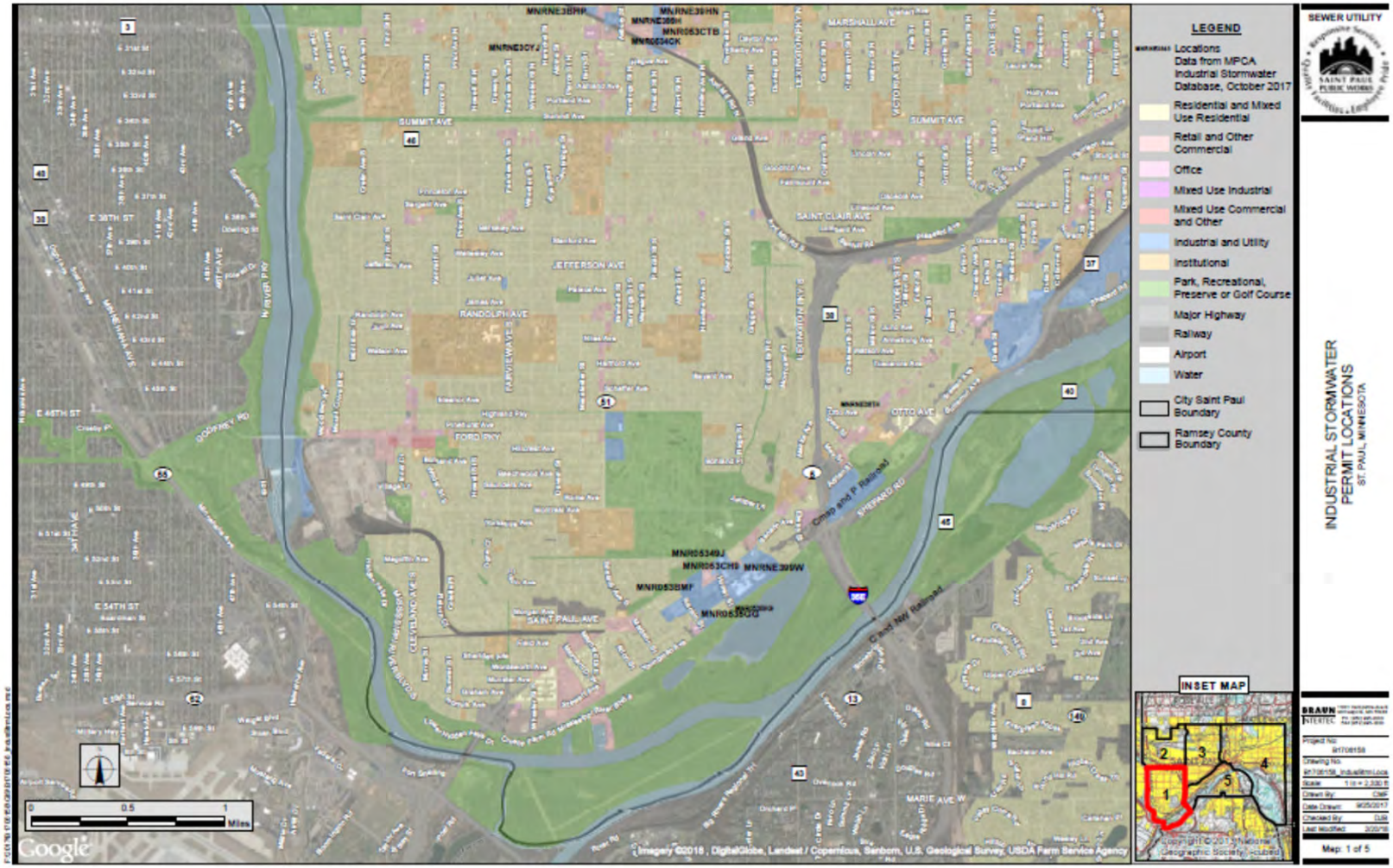
- Ammonia
- Boron
- Potassium
- Fluoride
- GRO, DRO, VOCs
- pH
- Temperature

Tier II Chemical Parameters

- Bacteria (fecal coliform)
- Dissolved oxygen
- Conductivity
- Iron bacteria
- RCRA metals
- Surfactants
- Hardness

IDDE Maps of Industrial Sites in St. Paul

- Maps showing sites that have permitted Industrial Stormwater permits
- Table listing sorted by address


LEGEND
Locations
Data from MPCA Industrial Stormwater Database, October 2017
Residential and Mixed Use Residential
Retail and Other Commercial
Office
Mixed Use Industrial
Mixed Use Commercial and Other
Industrial and Utility
Institutional
Park, Recreational, Preserve or Golf Course
Major Highway
Railway
Airport
Water
City Saint Paul Boundary
Ramsey County Boundary
INSET MAP
SEWER UTILITY
INDUSTRIAL STORMWATER PERMIT LOCATIONS
ST. PAUL, MINNESOTA
Map: 1 of 5
SUMMIT AVE
JEFFERSON AVE
RANDOLPH AVE
SAINT CLAIR AVE
MARSHALL AVE
FORD PKY
OTTO AVE
SHEPARD RD
SAINT PAUL AVE
MARIE AVE W
E 38TH ST
E 46TH ST
E 54TH ST
Google

List of Industrial Stormwater Permit Holders

Obtained from MPCA Industrial Stormwater Permit database on 11/30/2020

Site Permit #	Site Address	Facility Name	Does MPCA consider Site No Exposure	Owner Name
MNR05384T	51 Maryland Ave E	Elliott Auto Supply Co. Inc	No	ELLIOTT AUTO SUPPLY CO., INC.,
MNR0538JV	1061 Red Rock Rd	Gavilon Grain, LLC	No	Gavilon Grain LLC
MNR0538N3	51 State St	Pier Foundry	No	Pier Foundry & Pattern Shop
MNR0538P4	515 Eaton St	Signature Flight Support STP	No	Signature Flight Support
MNR0538PH	701 Eaton St	Hubbard Broadcasting Hanger	No	Hubbard Broadcasting Inc
MNR0538TV	1303 Red Rock Rd	Upper River Services - Pig's Eye	No	Upper River Services Inc
MNR0538TX	40 State St	Upper River Services - State Street	No	Upper River Services
MNR0538VB	719 Eaton St	Minnesota Jet Inc	No	Northern States Power a MN Corp dba Xcel
MNR05396V	954 Minnehaha Ave W	St. Paul Brass & Aluminum Foundry	No	Saint Paul Brass & Aluminum Foundry
MNR0539Q8	867 Forest St	Northern Iron & Machine	No	Northern Iron of St Paul LLC
MNR0539QD	754 Rice St	Ace Auto Parts & Salvage Co., Inc.	No	Ace Auto Parts
MNR0539WR	690 Bayfield St	3M Aviation	No	3M Company
MNR0539XY	1678 Red Rock Rd	Gerdau - Saint Paul Mill	No	Gerdau Corporation
MNR0538ZJ	795 Barge Channel Rd	St Paul Alter River Terminal	No	Alter Trucking and Terminal Corporation
MNR0538Z2	801 Barge Channel Rd	Alter Metal Recycling - St. Paul	No	Alter Metal Recycling
MNR0538B4B	644 Bayfield St	MAC - STP Downtown Airport	No	Metropolitian Airports Commission
MNR0538BZ	701 Barge Channel Rd	Hawkins - Terminal 2	No	Hawkins Inc
MNR0538B94	1125 Childs Rd	Hawkins - Terminal I	No	Hawkins Inc
MNR0538B96	309 Como Ave	Advanced Disposal Services - Vasko Solid Waste	No	Advanced Disposal Services
MNR0538B97	198 Minnehaha Ave E	Apex Auto Salvage	No	Apex Auto Salvage
MNR0538DW	1425 Red Rock Rd	Hawkins Water Treatment Group - Red Rock	No	Hawkins Inc
MNR0538F3	1701 Pierce Butler Rte	Midway Hub	No	BNSF Railway Co
MNR0538JL	875 Prior Ave N	E-Z Recycling	No	E-Z Recycling
MNR0538K9	1999 Shepard Rd Ste A	Johnson Brothers Liquor Co	No	Johnson Brothers Liquor Company
MNR0538KC	1031 Childs Rd	Northern Metal Recycling - Dock	No	Northern Metals Recycling
MNR0538KF	521 Barge Channel Rd	Northern Metal Recycling - St Paul	No	Northern Metals Recycling
MNR0538RV	318 Water St W	Twin City Refuse & Recycling Inc	No	Twin City Refuse Recycling & Transfer
MNR0538RW	2370 Highway 36 E	TA Schifsky Sons Inc	No	TA Schifsky Sons Inc
MNR0538SQ	268 Water St W	J & L Wire Cloth Co Inc	No	J&L Wire Cloth Co Inc
MNR0538SY	780 Barge Channel Rd	GERDAU - St Paul Raw Materials	No	Gerdau Ameristeel
MNR0538WL	1359 Red Rock Rd	Barton Enterprises Inc / Commercial Asphalt Co	No	Tiller Corporation
MNR053C2P	1000 Shop Rd	St. Paul Yard	No	CP
MNR053C2X	1305 Pierce Butler Rte	Pierce Recycling and Transfer Facility	No	Veit
MNR053C35	106 Arlington Ave E	Action Auto Parts of St Paul, Inc.	No	Action Auto Parts of St Paul, Inc.
MNR053C3X	403 Fillmore Ave E	Americraft Carton, Inc	No	Americraft Carton Inc
MNR053C5K	2229 Childs Rd	Westway Feed Products LLC	No	BWC Terminals LLC
MNR053C5X	508 Cleveland Ave N	Minnesota Commercial Railway Co	No	Minnesota Commercial Railway Company
MNR053C77	2160 Pigs Eye Lake Rd	Hoffman Pigs Eye Maintenance Facility	No	Union Pacific Railroad Company
MNR053C79	500 Block Of Eaton St	Eaton Maintenance Facility	No	Union Pacific Railroad Company

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The Science You Build On.

Summary

- City is required and has made commitment to minimize IDDE
- If you suspect IDDE, notify your supervisor
- Use logic and IDDE protocols to investigate potential IDDEs
- Be safe!

Controlling Right-of-Way Impacts to Waters

Utility Coordination Meeting

SAINT PAUL
MINNESOTA

STPAUL.GOV

Water Quality Ordinance

Chapter 51.
Allowable Discharges to the Storm Sewer System

This Ordinance shall be in full force and effect thirty days (30 days) from and after its passage, approval, and publication.

At a meeting of the City Council on 2/13/2013, this Ordinance was Passed.

Yea: 7 Councilmember Bostrom, Councilmember Brendmoen, Councilmember Carter III, City Council President Lantry, Councilmember Stark, Councilmember Thune, and Councilmember Tolbert

Nay: 0

Vote Attested by Council Secretary Trudy Moloney **Date** 2/13/2013

Approved by the Mayor Chris Coleman **Date** 2/20/2013

Focus of Local Control

- Keep pollution out of the storm sewer system
  - Curb and gutter
  - Catch basins
  - Pipes
- Broadly prohibits "non-stormwater"
- Specific requirement of Clean Water Act

Sec. 51.03: Non-stormwater discharges

- No person shall cause any non-stormwater discharges to enter the city's municipal separate storm sewer system, or to any surface waters within the city

CITY OF SAINT PAUL
Melvin Carter III, Mayor

Public Works
Right-of-Way Division

Telephone 651-266-6151
Facsimile: 651-266-9765
Email: PW-ROWpermits@ci.stpaul.mn.us

EROSION AND SEDIMENT CONTROL FOR UTILITY PROJECTS IN THE RIGHT-OF-WAY

It is essential to prevent dirt, debris, oils and other waste from entering storm drains or water resources.
(See official Public Works Right-of-Way Erosion Control Policy, dated 2/23/2015)

Erosion and sediment control devices are REQUIRED for any utility construction or grading project that will result in significant land disturbing activity in the public right-of-way.

- Inlet protection and perimeter control must be installed BEFORE any land disturbance begins.
- Temporary land stabilization practices should be installed:
  - Daily for temporary stockpiles on or near street (including plastic cover); *and*,
  - Within 7 days after work is completed over all disturbed areas not on or near the street (including temporary seeding of spoil piles though seeding and mulching).
- Refer to the Mn/DOT Pocketbook Guide (2017) for guidance to preventing pollutants from leaving construction sites: https://www.erosion.umn.edu/resource-links/pocketbook-guide

PUBLIC WORKS – STANDARD PLATES for TEMPORARY SEDIMENT CONTROL
https://www.stpaul.gov/departments/public-works/standard-plates/sewers-appurtenances

TEMPORARY SEEDING AND MULCHING, OR PLASTIC COVER
Temporary seeding and mulching quickly protects the soil from erosion until establishment of permanent stabilization. Applicable areas include any topsoil stockpiles and any areas disturbed by grading activities.

For areas that must be stabilized each day (located on or near the street) plastic cover should be used instead.

STORM DRAIN INLET PROTECTION
Storm drain inlet protection prevents sediment from entering a storm drain by surrounding or covering the inlet with a filtering material. This allows sediment-laden runoff to pond and settle before entering the storm drain.

Filter types are shown in Public Works standard plates 2400A, 2401, and 2402. Protection(s) must be removed upon completion of work.

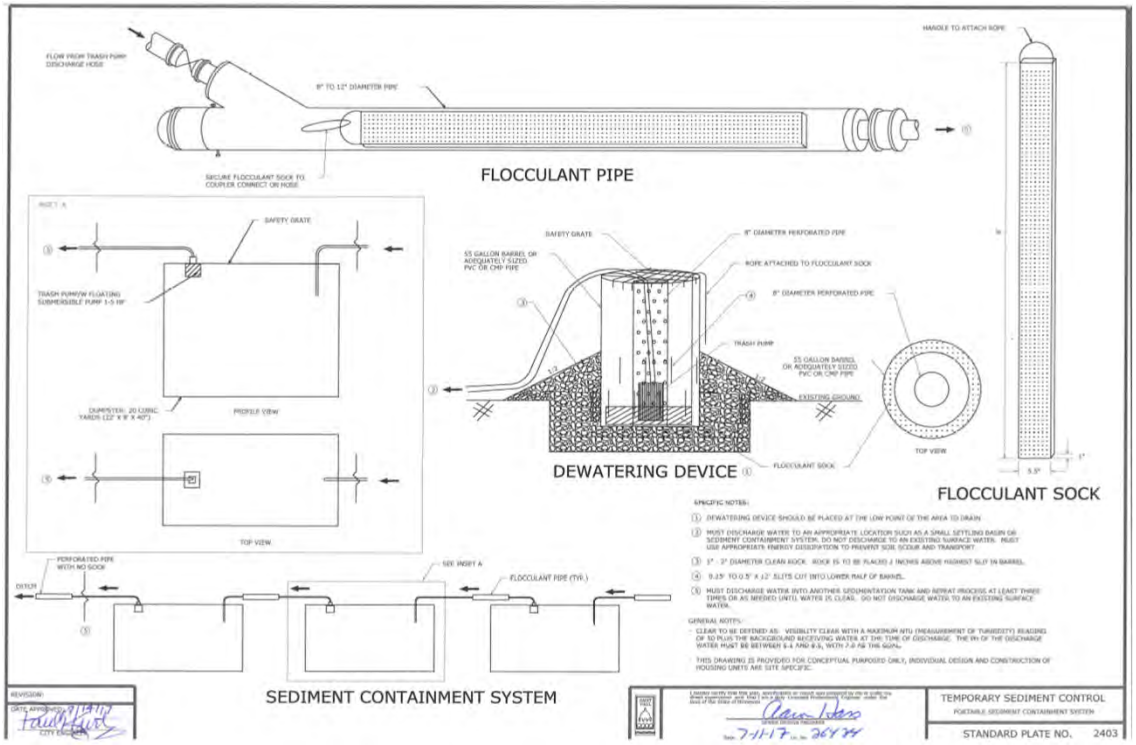
DEWATERING TREATMENT
Site-specific devices, including flocculant pipes or socks, can be used to reduce sediment in pumped discharge. Refer to Public Works standard plate 2403 for controlling dewatering activities.

Clear discharge is defined as a maximum NTU reading of 50 plus the background receiving water at the time of discharge.

DAILY AND AS-NEEDED STREET SWEEPING
Street sweeping is used to clean the pavement and curb-line area on a regular basis to remove tracked sediment, debris, and other pollutants from paved surfaces.

Rev. 2020

Plate 2403


FLOCCULANT PIPE
DEWATERING DEVICE
FLOCCULANT SOCK
SEDIMENT CONTAINMENT SYSTEM
TEMPORARY SEDIMENT CONTROL
STANDARD PLATE NO. 2403

DEPARTMENT OF PUBLIC WORKS

CITY OF SAINT PAUL

Eriks Ludins, ROW Manager

899 North Dale Street
Saint Paul, MN 55103-1512.
ROW Division - Permits
Facsimile 651-266-9765
Telephone 651-266-6151 *www.stpaul.gov*
Email: pw-rowpermits@ci.stpaul.mn.us

Right-of-Way CITY PLAN REVIEW Submittal Form
(this is NOT a PERMIT Application)

1) Submit this Application Form & Engineer Grade 'D' Drawings in PDF format to PW-ROWpermits@ci.stpaul.mn.us
2) Each page of Excavation Plans Shall Be Signed by a Minnesota Certified Civil Engineer.
3) When Approved, an Approval Letter and if needed, a Review List with Conditions will be emailed to the Applicant.
4) Following PLAN Approval, you may request a ROW PERMIT. Refer to the PLAN NUMBER assigned when requesting a permit.

(please print & check items affected) **Do Not** Combine **Excavations & Obstructions** on the same application, **Submit Separately**

PLAN TYPE: ☐ Excavation (Buried Work) or ☐ Obstruction (Aerial, Pulling in Existing Ducts)

Applicants Nam

Email Address:

Company Name

Billing Address:

Company Job/Il

ALL APPLICANTS MUST BE REGISTERED WITH THE ROW DIVISION PRIOR TO PLAN or PERMIT APPROVAL

DESCRIPTION OF WORK: Construction of fiber via directional bore along Energy Park from Lexington Pkwy N westerly 4896'

Describe Project: Bore 500' of Duct & Fiber On X St-Y St to Z St, or Place 1000' of Aerial Cable in alley N of M St-N St to O St, or Install (3) poles on A St, or Pull 100' of Fiber in existing conduit ACR State St-Fillmore to Plato for Service at 10 River Park Plaza.
(What work is being done, Linear Ft or Qty, and Where is it being done)

LOCATION:
Address Energy Park Drive **From Street** Lexington Pkwy N **To Street** Snelling Ave
or Cross St _____ **or Corner (NWC, SWC, etc)** _____

EXCAVATION INFORMATION (Mark all that apply):
Excavation Linear Length (ft) in ROW 4,896

Installation: Poles ☐ Conduit ☑ Fiber ☑ Metallic Cable ☐ MH/Hand Holes ☑ Small Cell on New Pole ☐

Placement Method: Directional Bore ☑ Open Trench ☐ Saw Cut ☐ Dig ☐

OBSTRUCTION INFORMATION (Mark all that apply):
Obstruction Linear Length (ft) in ROW _____

Pull thru Existing Ducts ☐ Aerial Placement: New ☐ or Over-Lash ☐

FORECAST CONSTRUCTION SCHEDULE: Start Date: 10/02/2020 Complete Date: 06/30/2021

By signing this application, I (the applicant/company) hereby acknowledge that I must adhere to all provisions of City of Saint Paul Ordinance Numbers 116, 135 and any other applicable ordinances. The applicant shall also comply with the regulations of all other governmental agencies for the protection of the public.

APPLICANTS SIGNATURE: _____ **DATE:** _____

Outreach

CITY OF SAINT PAUL
Melvin Carter, Mayor

375 Jackson Street Suite 220
Saint Paul, MN 55101-1806

Telephone: 651-266-8989

November 18, 2020

WATER QUALITY COMPLAINT

To whom it may concern:

It has come to our attention that persons acting on behalf of . may have improperly conducted activities including discharging unauthorized liquid material into the city's municipal storm sewer system along Energy Park Drive, between Lexington Pkwy N and Snelling Ave.

A complaint was received by the Capital Region Watershed District and forward to city staff on November 3, 2020, regarding allegations of illicit wastewater drainage into the municipal storm sewer generated from nearby utility boring.

Local regulations prohibit non-stormwater discharges to enter the city's municipal storm sewer system (Saint Paul Legislative Code 51.03a). This regulation implements federal Clean Water Act protections.

CITY OF SAINT PAUL
Melvin Carter III, Mayor

Public Works
Right-of Way Division

Telephone: 651-266-6151
Facsimile: 651-266-9765
Email: PW-ROWpermits@ci.stpaul.mn.us

The Most Livable City in America

EROSION AND SEDIMENT CONTROL FOR UTILITY PROJECTS IN THE RIGHT-OF-WAY

It is essential to prevent dirt, debris, oils and other waste from entering storm drains or water resources. (See official Public Works Right-of-Way Erosion Control Policy, dated 2/23/2015.)

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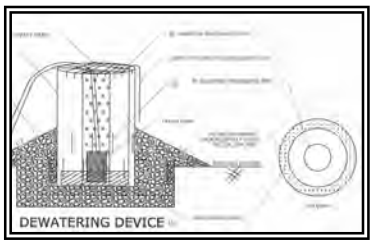

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DAILY AND AS-NEEDED STREET SWEEPING
Street sweeping is used to clean the pavement and curb-line area on a regular basis to remove tracked sediment, debris, and other pollutants from paved surfaces.

CITY OF SAINT PAUL
Christopher B. Coleman, Mayor

Public Works
Right-of-Way Division

Telephone: 651-487-7250
Fax: 651-487-7245

ROW Erosion and Sediment Control Worksheet

Project: **Project File No.**:

Property Address:

Inspection Date: **Re-inspection Date**:

Inspection Type: **Size of Site**:

Inspection Results

Sewer Inlet Protection:

Comments:

Street Condition:

Comments:

Silt Fence/Sediment Control:

Comments:

Stock Pile On or Near Street:

Comments:

Stock Pile Not On or Near Street:

Comments:

Corrective Action:

Comments:

Staff Procedure - Review Checklist for Site Plan Erosion Control
revised 2018

Project Name and/or Address:_____ Site Plan Review Date:_____

1. Does this project result in moving 50 cubic yards or more or will building permit be issued?
   Unless grading activity is included in a general building permit, a grading permit shall be required for the placement, removal or movement of more than fifty (50) cubic yards of fill
   ☐ Yes – Continue ☐ No – Stop

2. Does this project disturb greater than 10,000 square feet?
   Grading activities in excess of ten thousand (10,000) square feet require site plan review in accordance with section 61.402(a) of the Saint Paul Legislative Code.
   ☐ Yes – Continue ☐ No – Complete erosion control review per §33.03(g)3

3. Does this project disturb greater than 1-acre?
   If yes, MPCA Construction Stormwater Permit required; verify watershed permit.
   ☐ Yes – Continue per §52.04 ☐ No – Complete erosion control review per §61.402(c)(11)

Document on this form, or other form as appropriate, the adequacy of erosion and sediment control. Use the minimal criteria below as a starting point for beginning the standard procedure.

Indicate plan sheets containing erosion control methods:

	CRITERIA	OK	Issue	N/A	Comment
	Rock construction entrance identified on plans				
	Perimeter protection				
	Inlet protection for catch basins				
	Street sweeping note on plans				
	Stabilization shown for disturbed areas				
	Other items as scope of work requires				

Supplemental Plan Information
Disturbed area:
Permanent runoff control practice(s):

Staff Notes for site plan revision/approval:

Procedure

1. Review plan in accordance with grading §33.03(g)3, site plan review and approval §61.402(c)(11) and/or stormwater pollution control plan §52.04. (MPCA "Manual for Protecting Water Quality in Urban Areas")
2. Document plan review comments in Site Plan Review Committee conditional approval letter.
3. Document plan review decision in Site Plan Review approval letter. State if MPCA Construction Stormwater Permit is required; if so, approval contingent on obtaining permit card, verified at https://cf.pca.state.mn.us/water/stormwater/csw/search.cfm

DEPARTMENT OF SAFETY AND INSPECTIONS
Ricardo X. Cervantes, Director

CITY OF SAINT PAUL
Christopher B. Coleman, Mayor

375 Jackson Street, Suite 220
Saint Paul, Minnesota 55101-1806

Telephone: *651-266-9090*
Facsimile: *651-266-9124*
Web: *www.stpaul.gov/dsi*

Standard Operating Procedures for Erosion and Sediment Control Complaint

1) Someone sees an erosion and sediment control issue (dirt on street, etc).
- They should call the City Complaints Office: 651-266-8989

2) Complaint is passed on from Complaints Office to Senior Building Inspector (651-266-9021)

3) Building Inspector follows up on complaint using DSI Erosion and Sediment Control Worksheet

4) If Building Inspector determines source is from the Public Right-of-Way (ROW) or from City Construction Projects the complaint will be forwarded to the Public Works Inspectors –
- For Private Utility Construction in ROW: 651-487-7250 (General Number for ROW Permit Section)
- For City Construction Projects: 651-266-6081 (Street Engineering Construction Division)

Public Works Inspector will inspect and follow up accordingly

5) First Inspection
- DSI Erosion and Sediment Control Worksheet completed
- If site is non-compliant: Building Inspector issues immediate verbal order, if possible, or issues a written order if no one is on site, to address situation, sets a compliance date based on the nature of the complaint, and notes details of non-compliance in Worksheet

6) Second Inspection
- Building Inspector Conducts 2nd inspection of site after compliance date
- 2nd DSI Erosion and Sediment Control Worksheet completed
- If continued non-compliance: Building Inspector issues written orders, sets a new compliance date based on the nature of the complaint, and notes details of non-compliance in Worksheet

7) Third Inspection
- Building Inspector Conducts 3rd inspection of site after compliance date
- 3rd DSI Erosion and Sediment Control Worksheet completed
- If continued non-compliance, proceed with stopping construction work at the site, or submitting the violation to the City Attorney for potential prosecution, or pursue abatement if sediment crosses boundary of the site and project is greater than 1 acre.

DEPARTMENT OF SAFETY AND INSPECTIONS
Bob Kessler, Director

CITY OF SAINT PAUL
Christopher B. Coleman, Mayor

375 Jackson Street, Suite 220
Saint Paul, Minnesota 55101-1806

Telephone: *651-266-9090*
Facsimile: *651-266-9124*
Web: *www.stpaul.gov/dsi*

Erosion and Sediment Control Worksheet

Property Address:

Inspector:

Permit # (if applicable):

Inspection Date:

Re-inspection Date:

Inspection Type:

Size of Site:

Inspection Results

Sewer Inlet Protection:

Comments:

Street Condition:

Comments:

Rock Entrance:

Comments:

Concrete Washout Area:

Comments:

Silt Fence/Sediment Control:

Comments:

Stock Pile Erosion Control:

Comments:

Site Erosion Control:

Comments:

Corrective Action:

Comments:

Saint Paul Sewers

CITYWIDE H&H MODELING MAP

Detailed Model Complete 2022 Wheelock Parkway Street Project

LAKE PHALEN
LAKE COMO
TROUT BROOK
SAINT ANTHONY PARK
PHALEN CREEK
BETLINE
WEST KITTSONDALE
SAINT ANTHONY HILL
URBAN
GRIFFITH
PT. DOUGLAS
BATTLE CREEK
DOWN TOWN
GOODRICH
WESTERN
MISSISSIPPI RIVER BLVD.
EAST KITTSONDALE
WEST SEVENTH
RIVERVIEW
HIGHWOOD
PIGS EYE
CROSBY
HIDDEN FALLS
DAVERN

N
W
E
S

Legend

- Detail Model Complete
- Mixed Scale Model Complete
- Skeleton Scale Model Complete

DATA UPDATED 03/2024

Document Path: Z:\sewers\projects\City Stormwater Modeling Projects\Maps & Index\Citywide Modeling Map.mxd

Saint Paul Sewers

CITYWIDE P8 MODELING MAP

P8	MODELS	DONE	BY:
1.	SYLVAN-ACKER POND:		TKDA
2.	BARGE CHANNEL PONDS:		TKDA
3.	FLANDRAU-HOYT;		BARR
4.	FLANDRAU-CASE;		BARR
5.	BIRMINGHAM-YORK:		BARR
6.	HAZEL-NOKOMIS:		BARR
7.	HAZEL-ROSS:		BARR
8.	BIRMINGHAM-MINNEHAHA:		BARR
9.	ETNA-THIRD:		BARR
10.	WILDVIEW-LENNOX:		CITY
11.	HIGHWOOD OAK BLUFF:		CITY
12.	CROSBY BUSINESS PARK:		STANTEC
13.	CROSBY OUTLET:		STANTEC

Legend

- Pond P8 Model Done
- P8 Detail Model Complete

N W E S

DATA UPDATED 04/2023

Document Path: Z:\sewers\projects\City Stormwater Modeling Projects\Maps & Index\Citywide P8 Modeling Map.mxd

Outfall Inventory

Outfall	Location	Watershed	Pipe Size	Acres
	Bridal Veil Creek			
005	South of Buford	Bridal Veil	42"	
	Mississippi River			
010	Eustis	St. Anthony Park	tunnel	2467
020	Lotus	Miss. River Blvd.	tunnel	31
030	Marshall	Miss. River Blvd.	tunnel	121
040	West Kittsondale	West Kittsondale	tunnel	977
050	Otis	Miss. River Blvd.	tunnel	14
060	Portland Ave	Miss. River Blvd.	tunnel	508
070	Summit	Miss. River Blvd.	16" cast iron	30
080	Goodrich	Miss. River Blvd.	tunnel	456
090	Princeton	Miss. River Blvd.	tunnel	150
095	Berkeley	Miss. River Blvd.	24"	
100	Jefferson	Miss. River Blvd.	tunnel	139
110	Randolph	Miss. River Blvd.	tunnel	39
115	Hartford	Miss. River Blvd.	tunnel	580
120	Scheffer	Miss. River Blvd.	tunnel	8
130	Highland Parkway	Miss. River Blvd.	tunnel	165
135	Hidden Falls	Hidden Falls	48"	269
140	Sheridan	Davern	tunnel	145
145	West 7th	Davern	30"	30
150	Davern	Davern	tunnel	963
151	Watergate Marina	Crosby	21"	

Outfall Inventory

Outfall	Location	Watershed	Pipe Size	Acres
156	Elway	Crosby	60"	
158	Elway	Crosby	90"	820
160	Otto	E. Kittsondale	tunnel	177
170	Bay	E. Kittsondale	tunnel	1699
180	Sumac	West 7th	tunnel	8
190	Drake	West 7th	tunnel	158
195	Fountain Cave	West 7th	42"	39
200	Richmond	West 7th	20"	142
201	Richmond	West 7th	42"	
206	Western	West 7th	30"	98
210	Smith -1992	Good/West	tunnel	424
220	Sherman	Downtown	48"	41
230	Chestnut	Downtown	27"	82
240	Eagle	Downtown	3'x5' brick	77
~~250~~	~~Ontario~~ abandoned	~~Downtown~~	~~24"~~	
260	Market	Downtown	24"	
270	St. Peter	St. Anthony Hill	tunnel	2653
280	Cedar	Downtown	tunnel	
290	Minnesota	Downtown	tunnel	115
295	Robert	Downtown	tunnel	5
300	Jackson	Downtown	36"	27
310	Sibley	Downtown	48"	10
~~315~~	~~Wacouta~~	~~Downtown~~	~~12"~~	~~10~~

Outfall Inventory

Outfall	Location	Watershed	Pipe Size	Acres
320	Broadway	Downtown	7'x8' concrete	115
325	Troutbrook	Troutbrook	dual 10'	4025
330	Plum	Phalen Creek	tunnel	1406
340	Urban	Urban	48" brick	328
343	Warner and Childs	Pig's Eye	24"	
346	Warner and Childs	Pig's Eye	18"	
350	Beltline (RWMWD's)	Beltline	9'	3524
~~352~~	~~off Child's Road~~	~~Pig's Eye~~	~~12"~~	
~~354~~	~~off Child's Road~~	~~Pig's Eye~~	~~12"~~	
~~356~~	~~off Child's Road~~	~~Pig's Eye~~	~~12"~~	
360	Battle Creek	Pig's Eye	36"	
365	Wyoming	Riverview	30" culvert	8
380	Page and Barge Ch Rd	Riverview	42"	69
385	Robie and Witham	Riverview	54"	
390	Robie and Kansas	Riverview	42"	264
400	Airport	Riverview	12"	
405	Chester St	Riverview	tunnel	326
407	Eva St	Riverview	36"	
410	Custer St	Riverview	tunnel	188
420	Moses St	Riverview	5'6"	95
430	Belle	Riverview	2-36"x40"	37
440	Riverview	Riverview	2-77"x121"	801
460	Chippewa and Baker	Riverview	16"	71

Outfall Inventory

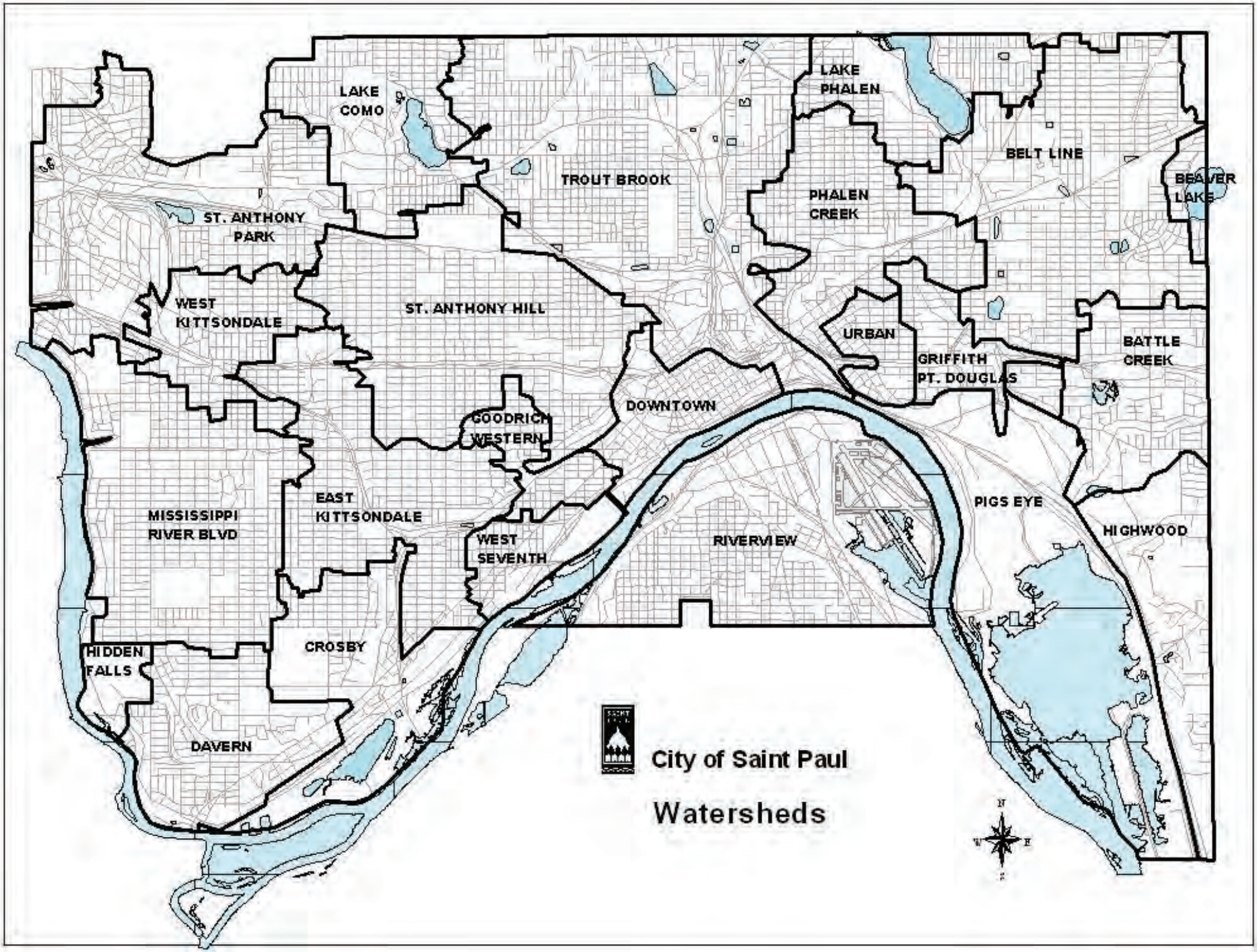
Outfall	Location	Watershed	Pipe Size	Acres
	Upper Lake			
152	Springfield	Crosby	15"	
	Crosby Lake			
153	Rankin	Crosby	27"	
154	Homer	Crosby	30"	
155	Leland	Crosby	30"	
	Fairview North Pond			
500	Tatum & Pierce Butler	St. Anthony Park	6'	
510	Pierce Butler & Aldine	St. Anthony Park	54"	
	Lake Como			
520	Arlington & Chelsea	Como	60"	310
530	Chatsworth North	Como	36"	201
540	Milton North	Como	36"	79
550	Parkview East	Como	18"	17
560	Ivy East	Como	18"	24
570	Wheelock Pkwy East	Como	24"	23
580	Rose East	Como	36"	30
590	Victoria South	Como	30"	49
600	Chatsworth South	Como	24"	75
610	Horton West	Como	15"	311
620	Park West	Como	36"	50

Outfall Inventory

Outfall	Location	Watershed	Pipe Size	Acres
	Loeb Lake			
630	Jessamine	Troutbrook	36"	
	Lake Phalen			
680	Arlington West	Phalen	72"	380
690	Blomquist South	Phalen	36"	71
700	Arlington East	Phalen	42"	209
710	between Hoyt & Neb.	Phalen	42"	69
720	Larpenteur East	Phalen	84"	17
	Beaver Lake			
726	Lacrosse	Beaver	15"	
728	Ames	Beaver	15"	
730	Rose North	Beaver	42"	67
740	McKnight North	Beaver	21"	22
	Suburban Pond			
---	Suburban & VanDyke (RWMWD's)	Battle Creek	102"	
750	Suburban & WB Ave	Battle Creek	27"	
760	Suburban & Hazel	Battle Creek	54"	
	Little Pig's Eye Lake			
770	near fish hatchery	Griffith/Pt. Douglas	72"	
	Pig's Eye Lake			
780	Burlington	Highwood	66"	
784	Winthrop @ Lower Afton	Highwood	30"	

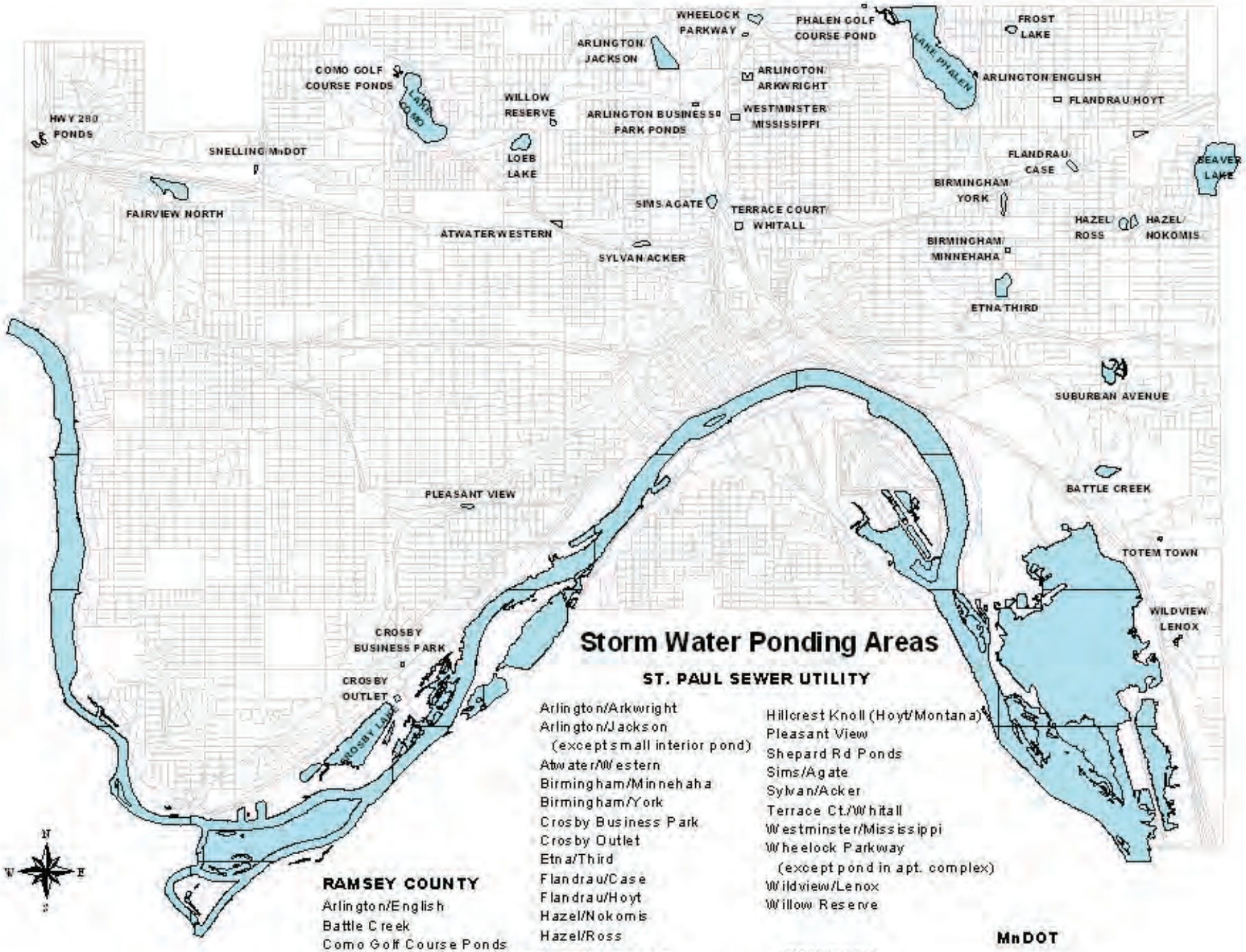
Outfall Inventory

Outfall	Location	Watershed	Pipe Size	Acres
786	Morningside @ Lower Afton	Highwood	18"	
790	Springside Drive	Highwood	33"	
791	Highwood	Highwood	48"	
	Battle Creek			
~~800~~	~~N. Park Drive & Faye~~	~~Battle Creek~~	~~33"~~	
808	Sandralee	Battle Creek	24"	
810	Ruth	Battle Creek	42"&73-1/2" arch	
812	Warren	Battle Creek	18"	
814	Cutler	Battle Creek	24"	
816	Nelson	Battle Creek	24"	
818	Winthrop & Larry Ho	Battle Creek	30"	
820	Winthrop & N. Park Dr	Battle Creek	36"	
825	Michael N	Battle Creek	33"	
826	Michael S	Battle Creek	30"	
830	McKnight & N. Park Dr	Battle Creek	36"	
836	A Street	Battle Creek	18"	


LAKE COMO
LAKE PHALEN
TROUT BROOK
BELT LINE
BEAVER LAKE
PHALEN CREEK
ST. ANTHONY PARK
WEST KITTSONDALE
ST. ANTHONY HILL
URBAN
GRIFFITH
PT. DOUGLAS
BATTLE CREEK
DOWNTOWN
GOODRICH
WESTERN
MISSISSIPPI RIVER BLVD
EAST KITTSONDALE
WEST SEVENTH
RIVERVIEW
PIGS EYE
HIGHWOOD
HIDDEN FALLS
CROSBY
DAVERN
City of Saint Paul
Watersheds

Watershed Inventory

Watershed	WS#	Area (acres)	Population (2000 Census)	Percent Impervious	Runoff Coefficient
Beaver Lake	1	278	2,070	31	0.33
Belt Line	2	2,882	30,994	56	0.55
Lake Phalen	3	995	7,626	41	0.42
Trout Brook	4	3,959	37,665	63	0.62
Lake Como	5	1,240	9,753	47	0.47
St. Anthony Park	6	2,467	13,140	70	0.68
Phalen Creek	7	1,406	18,418	64	0.62
St. Anthony Hill	8	2,542	36,410	66	0.64
Griffith/Pt. Douglas	9	458	5,264	63	0.61
W. Kittsondale	10	847	7,732	69	0.67
Urban	11	339	4,491	58	0.57
Battle Creek	12	1,089	8,201	54	0.54
Downtown	13	669	6,097	78	0.75
E. Kittsondale	14	1,870	18,353	64	0.62
Mississippi River Blvd.	15	2,373	27,251	59	0.58
Goodrich/Western	16	424	5,010	64	0.63
Pigs Eye	17	2,995	913	39	0.40
Riverview	18	2,658	14,860	58	0.57
Highwood	19	1,139	5,216	50	0.50
W. Seventh	20	450	2,543	61	0.60
Crosby	21	1,446	8,804	45	0.45
Davern	22	1,277	6,628	56	0.55
Hidden Falls	23	237	1,263	56	0.55
Total		34,040	278,706		


WHEELOCK PARKWAY
PHALEN GOLF COURSE POND
FROST LAKE
ARLINGTON JACKSON
ARLINGTON ARKWRIGHT
LAKE PHALEN
ARLINGTON ENGLISH
COMO GOLF COURSE PONDS
LAKE COMO
WILLOW RESERVE
ARLINGTON BUSINESS PARK PONDS
WESTMINSTER MISSISSIPPI
FLANDRAU HOYT
HWY 280 PONDS
SNELLING MnDOT
LOEB LAKE
FLANDRAU CASE
BEAVER LAKE
BIRMINGHAM YORK
FAIRVIEW NORTH
SIMS AGATE
TERRACE COURT WHITALL
HAZEL ROSS
HAZEL NOKOMIS
ATWATER WESTERN
BIRMINGHAM MINNEHAHA
SYLVAN ACKER
ETNA THIRD
SUBURBAN AVENUE
PLEASANT VIEW
BATTLE CREEK
TOTEM TOWN
WILDVIEW LENOX
CROSBY BUSINESS PARK
CROSBY OUTLET
CROSBY LAKE
Storm Water Ponding Areas
ST. PAUL SEWER UTILITY
Arlington/Arkwright
Arlington/Jackson
(except small interior pond)
Atwater/Western
Birmingham/Minnehaha
Birmingham/York
Crosby Business Park
Crosby Outlet
Etna/Third
Flandrau/Case
Flandrau/Hoyt
Hazel/Nokomis
Hazel/Ross
Hillcrest Knoll (Hoyt/Montana)
Pleasant View
Shepard Rd Ponds
Sims/Agate
Sylvan/Acker
Terrace Ct./Whitall
Westminster/Mississippi
Wheelock Parkway
(except pond in apt. complex)
Wildview/Lenox
Willow Reserve
RAMSEY COUNTY
Arlington/English
Battle Creek
Como Golf Course Ponds
Surburban Avenue
Totem Town
ST. PAUL PARKS
Phalen Golf Course Pond
RAILROAD
Fairview/North
MnDOT
Hwy. 280
Snelling/MnDOT
N
W
E
S

City of Saint Paul

Storm Water Ponding Area Inventory

Ponding Area	Drainage Area (acres)	Population 2000 Census	Pond Area (acres)	Storage Capacity (Acre-feet
Arlington/Arkwright	302.3	4001	5	20.4
Arlington/Jackson	699.4	6562	14.5	75.6
Atwater/Western	127.3	1230	2.7	13.3
Birmingham/Minnehaha	41.0	457	0.9	2.5
Birmingham/York	146.5	2050	2.2	9.5
Crosby Business Park	39.6	198	1	5.52
Crosby Outlet	866.0	6295	5.5	40.6
Etna/Third	244.0	2457	4.7	25.1
Flandrau/Case	95.2	1331	0.7	3
Flandrau/Hoyt	479.5	4582	1.9	20.8
Hazel/Nokomis	73.0	511	2.3	6.3
Hazel/Ross	67.8	949	4	3.8
Pleasant View	164.5	2053	2.3	14.5
Sims/Agate	174.6	1357	5.3	12.8
Sylvan/Acker	376.9	3617	2.1	11.7
Terrace Ct./Whitall	4.7	28	0.5	0.5
Westminister/Mississippi	123.4	1912	2.2	10.1
Wheelock Parkway	19.0	265	1.3	1.7
Wildview/Lenox	19.3	111	0.73	2.2
Willow Reserve	372.1	3669	20.3	42.6
Total	4436.2	43633.6		

Drainage area only includes area in St. Paul.

Storage capacity is for a 100 year storm in acre-feet.

Storm Water Ponding Areas by Watershed Area

Beaver Lake	None
Belt Line	Birmingham/Minnehaha Birmingham/York Etna/Third Flandrau/Hoyt Flandrau/Case Hazel/Nokomis Hazel/Ross Hillcrest Knoll (Hoyt/Montana)
Lake Phalen	Arlington/English Phalen Golf Course Pond
Trout Brook	Arlington/Jackson Arlington/Arkwright Atwater/Western Sims/Agate Sylvan/Acker Terrace Ct./Whitall Westminster/Mississippi Wheelock Parkway Willow Reserve
Lake Como	Como Golf Course Ponds
St. Anthony Park	Fairvew/North Highway 280 Snelling/MnDOT
Phalen Creek	None
St. Anthony Hill	None
Griffith/ Pt. Douglas	None
W. Kittsondale	None
Urban	None
Battle Creek	Battle Creek Surburban Avenue
Downtown	None

E. Kittsondale	Pleasant View
Mississippi River Blvd.	None
Goodrich/ Western	None
Pigs Eye	None
Riverview	None
Highwood	Totem Town Wildview/Lenox
W. Seventh	None
Crosby	Crosby Business Park Crosby Outlet
Davern	None
Hidden Falls	None

Pond Assessment

Pond Number on P8 Map	Pond	P8 Model	Subwatershed	Drainage Area (Acres)	Pond Area (Acres)	TSS Removal Rate (LBS/YR)	TP Removal Rate (LBS/YR)
1	Sylvan/Acker	2019	Troutbrook	376.9	2.10	40,354.68	33.92
2	Barge Channel Ponds	2018	River View	39.7	0.84	27,314.00	51.61
3	Flandrau/Hoyt	2014	Belt Line	494.7	1.90	229,416.00	209.51
4	Flandrau/Case	2014	Belt Line	95.2	0.70	20,285.00	11.26
5	Birmingham/York	2014	Belt Line	146.5	2.20	55,364.00	32.63
6	Hazel/Nokomis	2014	Belt Line	81.0	2.30	43,513.00	33.07
7	Hazel/Ross	2014	Belt Line	57.0	4.00	14,590.00	10.13
8	Birmingham/Minnehaha	2014	Belt Line	43.8	0.90	6,588.00	8.76
9	Etna/Third	2014	Belt Line	235.9	4.70	84,877.00	68.77
10	Wildview/Lennox	2020	Highwood	19.3	0.73	2,359.70	13.70
11	Highwood/Oak Bluff	2020	Highwood	38.0	0.30	6,149.00	13.70
12	Crosby Business Park	2021	Crosby	34.0	1.00	10,438.00	17.00
13	Crosby Outlet	2021	Crosby	860.0	5.50	1,000,180.00	980.40

Capitol Region Watershed District
595 Aldine Street • Saint Paul, MN 55104
T: 651-644-8888 • F: 651-644-8894 • capitolregionwd.org

DATE: April 19th, 2024
TO: Pat Murphy, PE, City of St. Paul Sewer Utility
FROM: Forrest Kelley, PE, Facility Management Division Manager
RE: Snelling-Midway Superblock Rainwater Reuse System Annual Report

---

Background

Capitol Region Watershed District (CRWD) and City of St. Paul have partnered to operate and maintain the rainwater reuse system installed as part of construction of Allianz Field and the surrounding 35- acre redevelopment of the former Midway Shopping Center and Metro Transit Bus Barn property, termed the Snelling-Midway Superblock. This memorandum serves to summarize the activities conducted during operation of the system in 2023 and satisfy Parts 4.A. and 5.C. of the attached Cooperative Agreement for Maintenance of Green Infrastructure at Snelling-Midway.

2023 Operation

Since 2020, CRWD has contracted with Harris Companies to complete all tasks associated with operating the rainwater treatment, delivery, and monitoring components of the skid within the underground Vault 200 structure, and the pumping system within structure 251. Startup was requested for May 15th, 2023, but delays related to replacement part availability delayed installation of the rainwater pumps, and the domestic water meter was not installed until June 1st, 2023.

Rainwater reuse started with one pump installed on September 1st, 2023, and the second pump installed on September 7th, 2023. Irrigation lines were blown out and the system was shut down for season on October 18th, 2023, resulting in a total irrigation season of 139 days, and reuse system pump run time of 47 days. Total material and labor cost for 2023 was $37,152. Service tickets, invoices, and spreadsheet tabulating labor and material costs are attached for reference.

Performance

Flow data, environmental monitoring, and alarm information collected by the Rainwater Management Systems (RMS) controller is pushed to the City's Supervisory Control and Data Acquisition (SCADA) system. In April of 2021, data streams for Inlet Flow Meter, Irrigation Flow Meter, Drain Flow Meter, Recirculation Flow Meter, City Water Flow Meter, Outlot Flow Meter, and Inlet and Supply Pressure were added to the Opti RTC dashboard. According to data provided on the Opti dashboard, total water use for irrigation in 2023 was 2,770,182 gallons, with 2,118,832 gallons of domestic water use, resulting in approximately 651,350 gallons of treated rainwater use, or 24% of the total irrigation. It should be noted, that while this percentage is low, the irrigation pumps were only operational for a month and a half (47 days). If the amount of rainwater use is compared to the total irrigation during this time period, rainwater accounts for approximately 86% of the use. The Annual Water Use table below compares total irrigation, city water, and rainwater used from 2020 through 2023.

Annual Water Use (gallons)

Year	2020	2021	2022	2023
Total Irrigation Used	1,093,185	3,985,567	3,498,146	2,770,182
Rainwater Used	693,302	1,206,071	599,596	651,350
Potable Water Used	399,883	2,779,496	2,898,550	2,118,832
Percent supplied by rainwater	63.4%	30.3%	17.1%	23.5%

The volume of 2,770,182 gallons of irrigation corresponds to 40.01 inches of irrigation over the 2.55- acre area for the 2023 operational period. This is an average of 2.01 inches per week. Additionally, the MSP International Airport recorded 13.67 inches of rainfall from June 1st, 2023, through October 15, 2023. The 2022 season was the second year in a row with lower than average precipitation, and 2023 was just above average. However, the following paragraph from CRWD's "2023 Climatological Summary" report summarizes the impact on timing of precipitation on the plant growing season.

> *Despite slightly above-normal annual precipitation, the 2023 growing season in CRWD was dry, totaling almost three and half inches below normal. Even after an exceptionally wet spring, a dry spell combined with warm temperatures from mid-May through mid-June sent the majority of Minnesota back into drought at the beginning of the growing season (DNR, 2023h). Despite occasional heavy rain events in June, July, and August, more than 90% of the state experienced below-normal precipitation during each of those months, according to the DNR State Climatology Office (2023i). A second dry period from mid-August to mid-September along with record-breaking heat waves caused high levels of drought to return at the end of the growing season. 2023 demonstrated how despite a year of "normal" annual precipitation, deficits at critical times during the growing season allowed the state to feel a third consecutive year of drought impacts on agricultural activities and plant growth.*

Treated rainwater usage is limited to the broadcast and drip irrigation systems. No private development occurred to provide additional demand for treated rainwater. The MLS stadium does not use treated rainwater. The system treated and reused over 650,000 gallons, and there are not believed to be any storage capacity issues at this time. Reused water is anticipated to be available for future private redevelopment in the Snelling-Midway Superblock. The low flow rate and pressure issues downstream of the treatment skid appear to have been resolved based on the use data from September and October showing 86% of water demand being met by the rainwater pumps.

Issues

During system decommissioning and pump removal in 2022, it was noted that the insulation on the power cords for the submersible pumps was beginning to crack. This premature degradation may be due to multiple factors, including exposure to the ozone disenfection injected and recirculated into the pipe gallery, as well as the wear resulting from the cords being pulled through the below-ground conduit between the MH 251 and Vault 200 during winterization and re-commissioning each year. In April of 2023, a quote to replace the power cords was approved. During disassembly, it was discovered that one of the pump motor casings was cracked and needed to be replaced. CRWD staff was not made aware of this issue until July 6th, 2023, and replacement parts were ordered on July 12th. Supply chain issues resulted in long lead times for parts (~35-days for replacement pump motor), and the two pumps were not reassembled until September 1st, 2023, and September 7th, 2023. Due to this long delay, most of the irrigation demand was satisfied by City water supply. While this was unfortunate, underground storage tanks did not overflow during the time the system

was idle, and all of the water collected in the tanks was used for irrigation prior to shutdown in the fall (October 15th, 2023).

While no specific incident has been attributed to the power cords and the motor casing cracking, the annual during pump removal and re-installation may have increased the wear and tear on these components, and certainly added significant cost with two Harris staff putting in a full day of work, entering the confined space of MH 251, and renting a crane to lower the pumps and running cords through underground conduit to vault 200. CRWD and City of St. Paul worked with WSB and Harris on a solution to allow the pumps to remain in the wet well over the winter without risk of freezing conditions damaging the pumps and riser pipes. Stainless steel valves were installed just above the pumps in the vertical riser pipes so that water can be completely drained, and rigid foam insulation was added to the hatch to reduce the potential for freezing conditions. This retrofit work cost $9,806, but included system winterization (Roughly $10,000 in past years) and should save an estimated $17,000 annually based on previous invoices for winterization and springtime pump installation.

During winter shutdown, it was identified that the electric heater was not functioning. Replacement was approved in December of 2023, and completed on January 15th, 2024.

Recommendations for 2024

System start-up is scheduled for April 5th, 2024. Recommendations for system operation in 2024 are below:

1. As in 2023, continue to operate without the Ozone injection and recirculation system to direct more flow to irrigation booster pumps. Taking this system offline should not impact compliance with plumbing code, as disinfection down to the 2.2 MPN standard for bacteria is primarily achieved through the Ultra-Violet light system.
2. Start operation of system without the bag filters or carbon filters installed.
    a. Take a water sample as required by City of St. Paul plumbing permit to determine if the level of filtration from the 120-micron backflush filters is sufficient or the UV disinfection system to achieve the 2.2 MPN plumbing code requirement.
    b. If bacteria level is greater than 2.2 MPN, install 5-micron bag filters and conduct testing again.
    c. If pressure drop is from bag filters results in need for City water supplement to meet demand, explore higher micron bag filter option.
3. Complete hydrovac removal of sediment within MH 251 (City to coordinate contractor).
4. Conduct pressure testing of the rainwater distribution pipe system (purple pipe) to document integrity as redevelopment projects propose new connections.
5. Add annual Opti subscription cost of $5,000/year for next three years to the Purchase Order amount for a total contract cost not to exceed $50,000 per year.
6. Review and renew agreement between City and CRWD for annual O&M before expiration on October 11th, 2024.

Next Steps

Invoices for 2023 were similar to 2021 ($32,784.09) and 2022 ($35,460.85) at $37,152.00. While costs for 2024 are expected to decrease based on the winterization process improvements made in December of 2023, CRWD recommends the agreement and Purchase Order amount be adjusted to $50,000 to accommodate the additional $5,000 annual fee for the Opti controls subscription. Efforts to update the O&M agreement

between CRWD and the City should start in the summer of 2024 to ensure sufficient time for review, comment, and execution by both parties.

enc: Harris 2023 Work Orders and Invoices
Sage Accounting Output - 2023 Harris Paid Invoices
2023 Water Balance Spreadsheet

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The Science You Build On.

SAINT PAUL

CITY OF ST. PAUL
COMO AND WESTERN FACILITY STORMWATER MANAGEMENT PLAN

December, 2020

Goal of the Como and Western Stormwater Management Plan

- To develop and maintain an ongoing effort to manage the stormwater quality responsibly related to stormwater runoff from the property

BRAUN INTERTEC
The Science You Build On.

Facility Air Photo

Materials Currently Exposed to Stormwater at the Facility

- Street sweepings
- Sewer Department vac truck grit
- Asphalt plant scrubber sediment
- Bituminous millings
- Brush
- Concrete rubble
- Bricks
- Black dirt
- Sand
- Tires
- Roadway solid wastes collected by the Street Department awaiting off-site recycling or disposal

Existing On-site Stormwater Facilities

- Trench drain and berm for vac truck sediment dewatering
- Two storm drains near exit to Western Avenue
- Concrete block bins on west end

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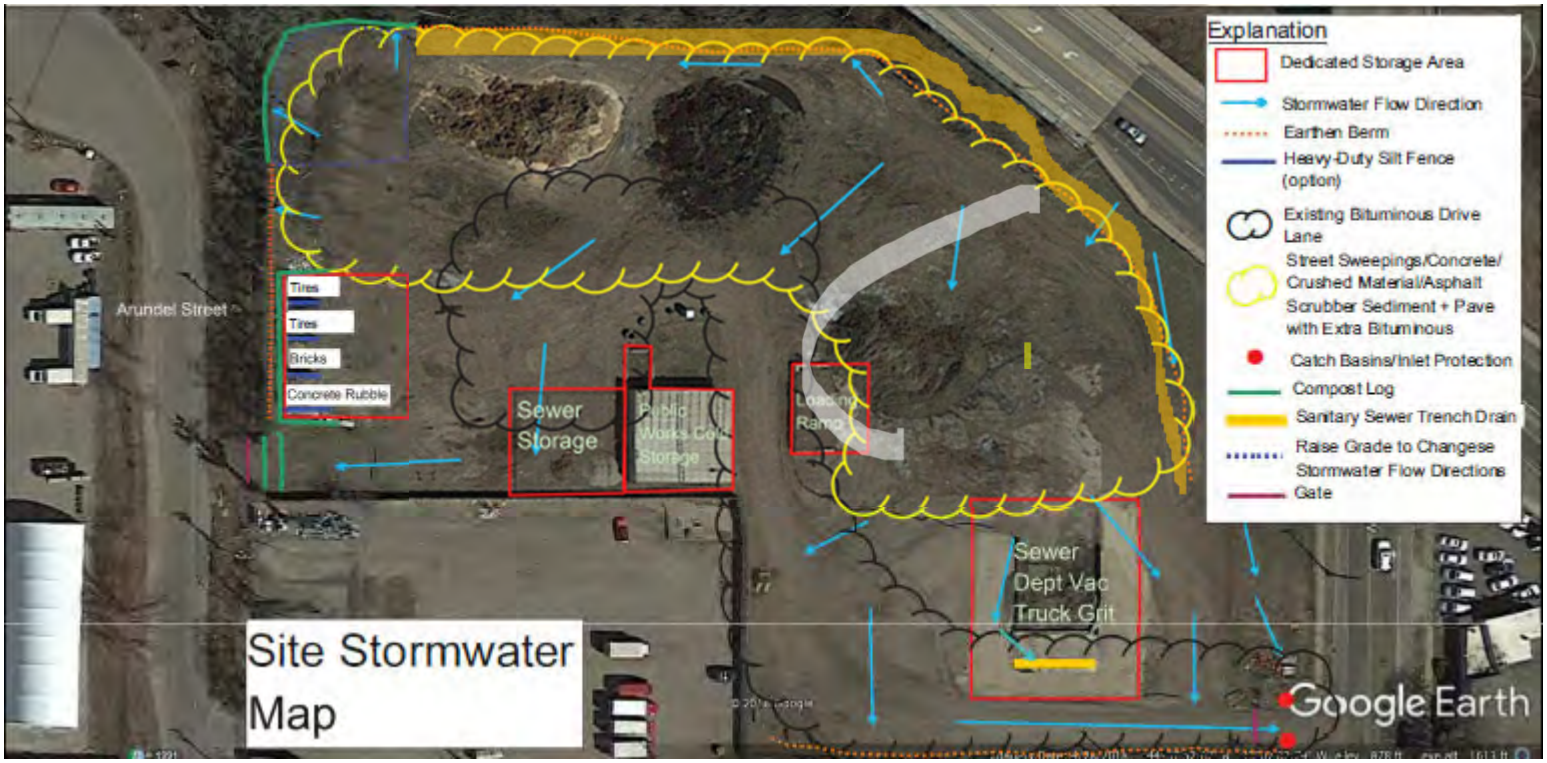
The Science You Build On.

Facility Stormwater Plan



Como and Western Site Stormwater Improvement Plan

The purpose of the improvement plan is to describe site improvements that need to be made in order to affect changes that will minimize sediment transport from the site thereby improving the quality of stormwater that leaves the site. Several actions are recommended.

Recommended Facility Stormwater Best Management Practices

Structural BMPs

- Install biologs at west gate
- Install biologs around concrete bins
- Install new concrete bin for storage of roadway solid wastes
- Raise grade in NW portion of site
- Expand bituminous paved areas of site

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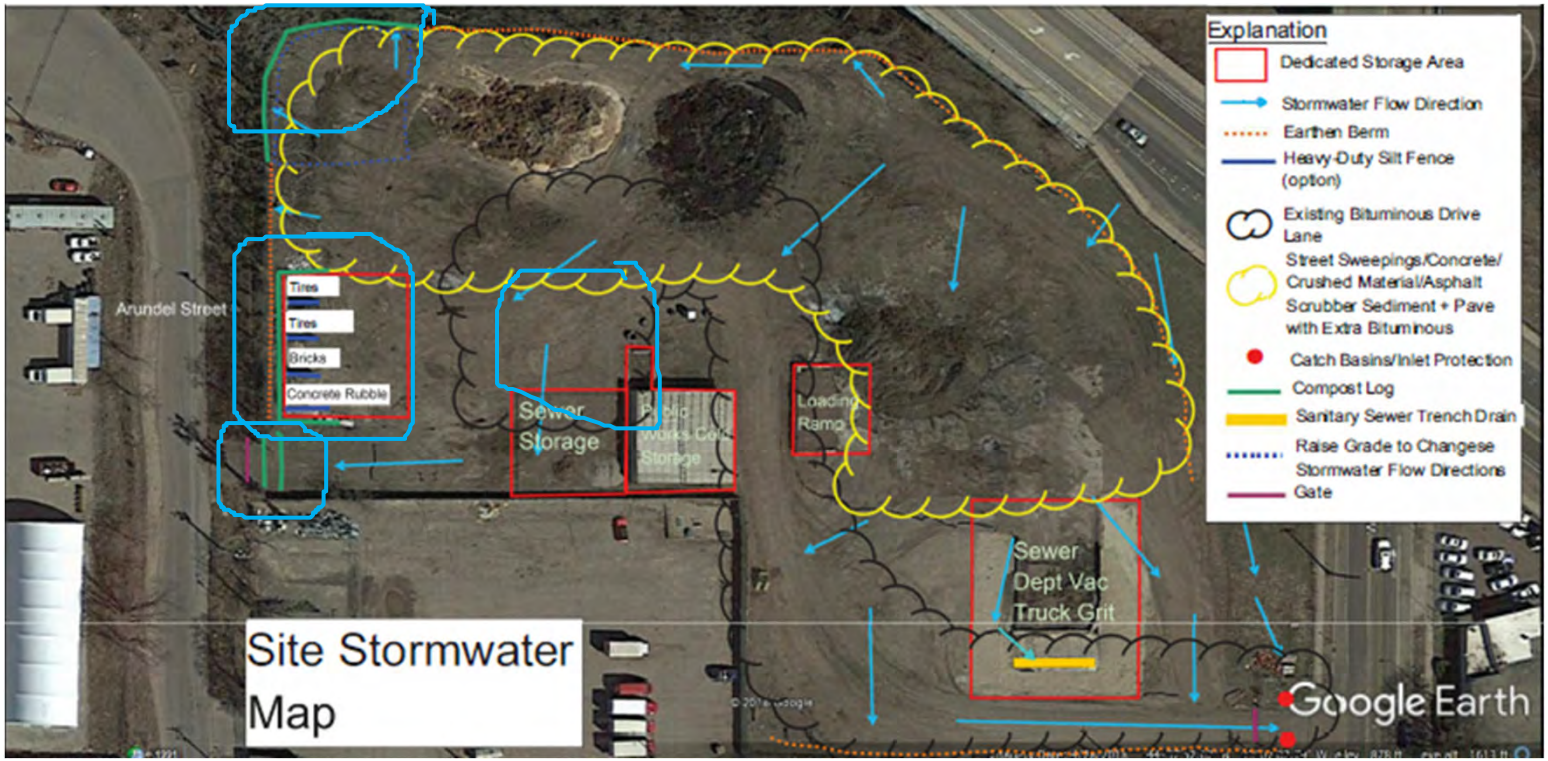
The Science You Build On.



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The Science You Build On.

Recommended Facility Stormwater Best Management Practices (continued)

Non-structural BMPs

- Perform monthly site stormwater inspections and document
- Sweep paved surfaces weekly during spring through fall months
- Jet and vactor site on-site storm sewer catch basins weekly
- Minimize storage of asphalt scrubber sediment
- Keep black dirt pile covered
- Evaluation of stormwater storage BMP needs for new wastes that may come to the site

Facility Stormwater Best Management Practices

- Como and Western Stormwater Management Policy
- Como and Western Stormwater Inspection Plan and Checklist
- Como and Western Site Stormwater Improvement Plan

Como and Western Stormwater Quality Management Policy

- Policy Statement:

The Saint Paul Sewer Utility uses the Como and Western facility to stockpile and dewater sediment obtained from cleaning City storm mains and structures. Accumulated sediment is dewatered at the facility and then trucked for off-site disposal once the facility has reached its holding capacity.

- Reason for the Policy:

This policy has been implemented to standardize how:

- Vector trucks are dumped.
- The site is maintained.
- Stockpiled material is dried
- Sediment transport from the site by stormwater is minimized.

Como and Western Site Stormwater Inspection Plan and Checklist

The City of St. Paul Public Works Department uses the Como & Western site to store various materials including: street sweepings, concrete, bricks, bituminous, brush, and storm sewer sediment. The purpose of the Como and Western storm water management plan is to employ practices that will minimize sediment transport from the site thereby improving the quality of stormwater that leaves the site.

BRAUN INTERTEC

The Science You Build On.

SAINT PAUL

CITY OF ST. PAUL
419 BURGESS STREET FACILITY STORMWATER MANAGEMENT PLAN

December, 2020

Goal of the 419 Burgess Stormwater Management Plan

- To develop and maintain an ongoing effort to manage the stormwater quality responsibly related to stormwater runoff from the property

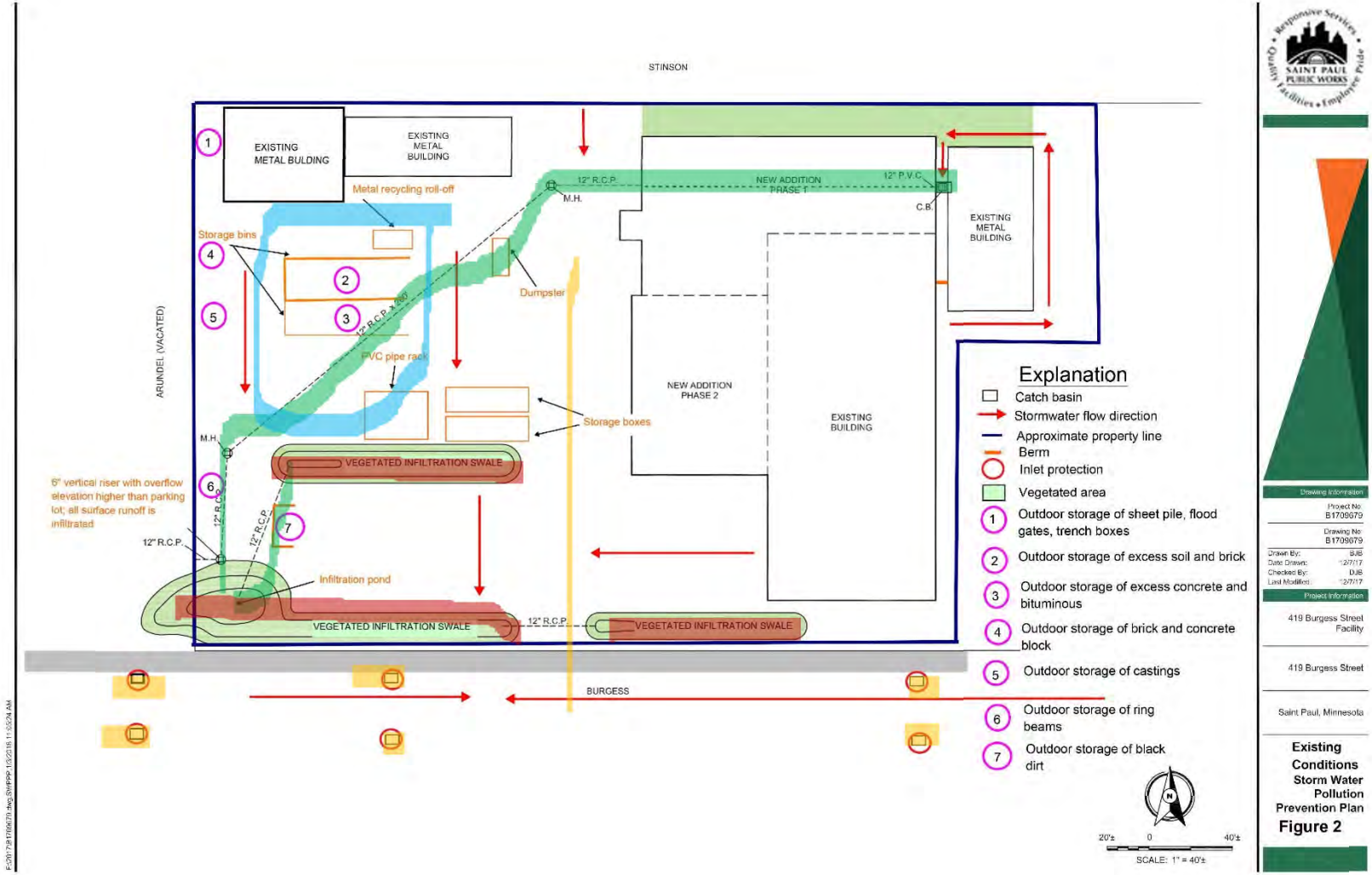
Materials Currently Exposed to Stormwater at the Facility

- Sheet pile, flood gates, trench boxes
- Excess soil and occasional brick
- Excess concrete and bituminous
- Clay, brick and concrete block
- Metal castings
- Ring beams
- Excess black dirt

Existing On-site Stormwater Facilities

- Three vegetated infiltration swales
- Soil, brick and concrete storage bins

BRAUN INTERTEC



Facility Stormwater Best Management Practices

Structural BMPs

- Weekly maintenance of the inlet protection of the 6 catch basins along Burgess Street.

Non-structural BMPs

- Keep dumpster lids closed when not adding waste
- Perform monthly site stormwater inspections and document
- Sweep paved surfaces weekly during spring through fall months
- Sweep up concrete waste from poured catch basin bottoms promptly
- Jet and vactor site 12” storm sewer annually
- Keep black dirt pile covered

Facility Stormwater Best Management Practices

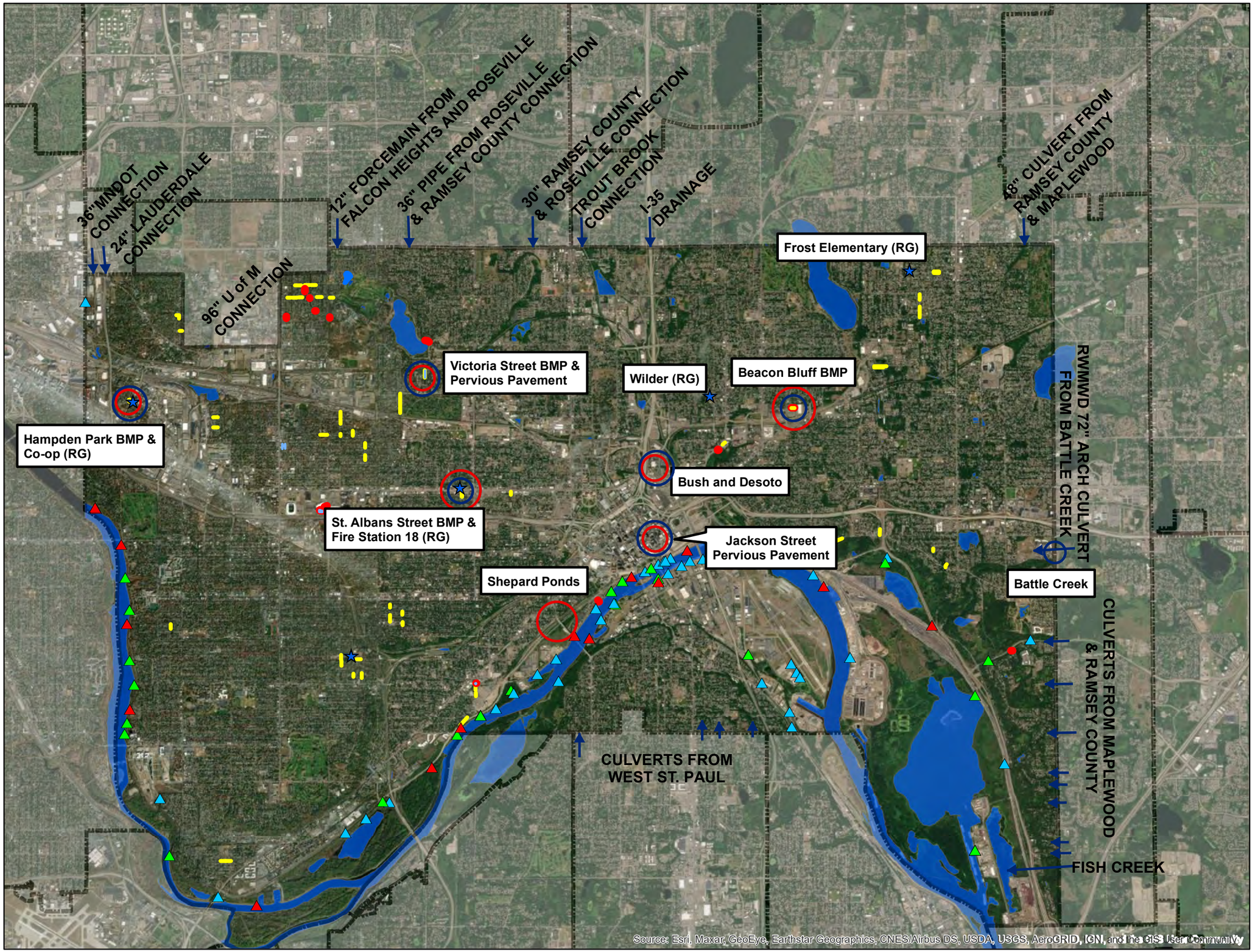
- City of St. Paul Stormwater Management Policy
- 419 Burgess Street Weekly Inspection

City of St. Paul

2023 Water Quantity and Quality Monitoring Program

SAINT PAUL
MINNESOTA

Figure 1-1
2023 Monitoring Site Locations



N
W E
S

0 2,500 5,000 10,000
Feet

Legend

- Raingarden/Infiltration Basin
- Infiltration Trench
- Pervious Pavement
- Capitol Region Watershed District
- Lower Mississippi River WMO
- Mississippi WMO
- Ramsey/Washington/Metro WD
- 2022 Monitoring Locations
- 2023 Monitoring Locations
- Rain Gauge Locations

Outfalls

- 30" - 48"
- 50" - 72"
- > 72"

wsb

12. City-wide Loading Assessment

12.1. 2023 Pollutant Loading Calculations

Monitoring of major outfalls within the City of Saint Paul was completed by the Capitol Region Watershed District (CRWD) in 2023. Annual and seasonal pollutant loads were estimated for each subwatershed within the City for the loading parameters identified in the City's MS4 permit which include chloride (Cl), total kjeldahl nitrogen (TKN), total phosphorus (TP), nitrate plus nitrite (NO3 +NO2), total suspended solids (TSS), and volatile suspended solids (VSS). The subwatersheds within the City are included in **Table 12-1** below.

Monitoring data collected by CRWD from the following subwatersheds was utilized for this assessment: East Kittsondale, St. Anthony Park, Trout Brook, and Phalen Creek. Monitoring of each subwatershed was completed at or near the outfall. The stations were configured to collect continuous flow measurements, and water quality, in accordance with the City's MS4 Permit.

Table 12-1 Watershed Inventory

Watershed	Area [acre]	Runoff Coefficient [.]	Rainfall Station
Battle Creek	1106	0.54	Wilder
Beaver Lake	192	0.33	Wilder
Belt Line	3014	0.55	Wilder
Crosby	1679	0.45	Hampden Park Co-op
Davern	1302	0.55	Hampden Park Co-op
Downtown	550	0.75	Engine House 18
East Kittsondale	1872	0.62	Engine House 18
Fish Creek	46	0.52	Wilder
Goodrich/Western	424	0.63	Engine House 18
Griffith/Pt. Douglas	460	0.61	Wilder
Hidden Falls	313	0.55	Hampden Park Co-op
Highwood	1123	0.50	Wilder
Lake Como	1294	0.47	Hampden Park Co-op
Lake Phalen	1013	0.42	Wilder
Mississippi River Blvd.	2391	0.58	Hampden Park Co-op
MRWMO	135	0.70	Hampden Park Co-op
Phalen Creek	1405	0.62	Wilder
Pigs Eye	3001	0.40	Wilder
Riverview	1017	0.57	Wilder
St. Anthony Hill	2651	0.64	Engine House 18
St. Anthony Park	2481	0.68	Hampden Park Co-op
Trout Brook	3963	0.62	Wilder
Urban	327	0.57	Wilder
West Kittsondale	1042	0.67	Hampden Park Co-op
West Seventh	451	0.60	Fire House 18

Monitored Subwatershed

Annual and seasonal city-wide flow-weighted averages were calculated for each of the loading pollutants from the monitored outfall data. TKN, TP, TSS and VSS loads were generated by CRWD in the WISKI data management program. This allowed for the extraction of baseflow and the associated load from the event load for those parameters. Cl and NO_2+NO_3 loads were calculated for the event-based volume (baseflow volume extracted), although the base flow loading for those parameters was not extracted. The following formula was used to calculate the annual/seasonal flow weighted mean concentrations (**Table 12-2**):

$$C = \frac{\sum(F_i \times C_i)}{\sum(F_i)}$$

C = annual/seasonal flow weighted mean concentration [mg/L]*
F_i = the event based flow for an individual event [cf]
C_i = the pollutant concentration for an individual event [mg/L]

*As described above, the flow-weighted mean concentration for TKN, TP, TSS, and VSS, was calculated from loads generated in the WISKI program, which extracted baseflow loading (not reflected in the formula above)

Table 12-2: City-wide Annual and Seasonal Flow-weighted Mean Concentrations

Parameter	Cl	TKN	TP	NO_2+NO_3	TSS	VSS
Units	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]
Annual	348.1	2.2	0.41	0.70	210.9	50.8
Q1 (Jan-Mar)	750.6	4.2	0.63	0.91	256.1	72.5
Q2 (Apr-Jun)	273.5	2.5	0.42	0.78	225.1	119.4
Q3 (Jul-Sep)	213.9	1.9	0.37	0.58	226.7	53.7
Q4 (Oct-Dec)	375.0	1.6	0.33	0.71	160.2	30.7

Based on these calculated flow-weighted mean concentrations, the Simple Method was used to calculate each subwatershed's pollutant loading. Loads for the four monitored subwatersheds were generated using actual monitored loads. The Simple Method is show below:

$$L = 2.72\left(\frac{PP_jR_v}{12}\right)(CA)$$

L = pollutant loading for the year/season [lb]
P = rainfall depth for the year/season [in]
P_j = correction factor for storms that produce no runoff [.]
R_v = runoff coefficient [.]
C = flow-weighted mean concentration [mg/L]
A = area of the watershed [acre]

Values used in loading calculations:
R_v and A = Table 1
C = Table 2
P = Table 3
P_j = 0.85

The annual/seasonal precipitation totals for four different rainfall monitoring locations in St. Paul are provided in **Section 3** the **Table 3-1**. Each subwatershed was assigned precipitation data from the nearest precipitation monitoring site (see **Table 12-1** for assignments). The rainfall data was used as an input to the Simple Method for load calculations, as described above. Rain data outside the seasonal monitoring period was supplemented with data from the University of Minnesota – St. Paul.

The annual and seasonal pollutant loads for each of the City's subwatersheds are presented in **Tables 12-3 – 12-7**. Loads for the five monitored sites are actual totals calculated for each station. Those sites are highlighted blue.

Table 12-3. Annual Pollutant Loadings (lbs)

Subwatershed	CI	TKN	Total P	NO2+NO3	TSS	VSS
Battle Creek	1146731	7404	1336	2308	694721	167285
Beaver Lake	121654	786	142	245	73702	17747
Belt Line	3182869	20552	3708	6405	1928267	464317
Crosby	1535821	9917	1789	3091	930441	224046
Davern	1455630	9399	1696	2929	881860	212347
Downtown	834070	5386	972	1678	505302	121674
East Kittsondale	190398	4532	863	747	308190	118153
Fish Creek	45928	297	54	92	27824	6700
Goodrich/Western	540114	3487	629	1087	327215	78792
Griffith/Pt. Douglas	538766	3479	628	1084	326399	78595
Hidden Falls	349933	2259	408	704	211999	51048
Highwood	1078109	6961	1256	2170	653147	157275
Lake Como	1236259	7982	1440	2488	748959	180346
Lake Phalen	816905	5275	952	1644	494903	119170
Mississippi River Blvd.	2818934	18202	3284	5673	1707786	411226
MRWMO	192092	1240	224	387	116374	28022
Phalen Creek	226734	4292	781	844	361245	119124
Pigs Eye	2304829	14882	2685	4638	1396327	336229
Riverview	1113034	7187	1297	2240	674306	162370
St. Anthony Hill	3430587	22151	3997	6904	2078342	500454
St. Anthony Park	311400	7306	1203	1859	558390	219637
Trout Brook	89389	4067	993	670	285181	91275
Urban	357878	2311	417	720	216812	52207
West Kittsondale	1419123	9163	1653	2856	859742	207022
West Seventh	547150	3533	637	1101	331478	79818

Table 12-4: Q1 (Jan-Mar) Pollutant Loading (lbs)

Subwatershed	Cl	TKN	Total P	NO2+NO3	TSS	VSS
Battle Creek	513049	2883	432	620	175047	49571
Beaver Lake	54428	306	46	66	18570	5259
Belt Line	1424020	8002	1200	1721	485861	137588
Crosby	649043	3647	547	784	221447	62710
Davern	615154	3457	518	743	209884	59436
Downtown	354351	1991	299	428	120901	34237
East Kittsondale	171790	1622	215	239	73959	30143
Fish Creek	20548	115	17	25	7011	1985
Goodrich/Western	229465	1289	193	277	78291	22171
Griffith/Pt. Douglas	241045	1355	203	291	82242	23290
Hidden Falls	147883	831	125	179	50456	14288
Highwood	482347	2710	406	583	164572	46604
Lake Como	522447	2936	440	631	178254	50479
Lake Phalen	365484	2054	308	442	124700	35313
Mississippi River Blvd.	1191290	6694	1004	1440	406456	115102
MRWMO	81179	456	68	98	27697	7843
Phalen Creek	184841	1157	230	292	112173	32210
Pigs Eye	1031184	5795	869	1246	351829	99633
Riverview	497973	2798	420	602	169903	48114
St. Anthony Hill	1457471	8190	1228	1762	497274	140820
St. Anthony Park	194500	1164	139	422	64688	17522
Trout Brook	21816	668	124	63	45075	12920
Urban	160115	900	135	194	54630	15470
West Kittsondale	599726	3370	505	725	204620	57945
West Seventh	232454	1306	196	281	79311	22460

Table 12-5: Q2 (Apr-Jun) Pollutant Loading (lbs)

Subwatershed	Cl	TKN	Total P	NO2+NO3	TSS	VSS
Battle Creek	198241	1838	302	565	163173	86560
Beaver Lake	21031	195	32	60	17311	9183
Belt Line	550238	5101	839	1569	452904	240255
Crosby	301344	2793	460	859	248038	131578
Davern	285610	2648	436	814	235087	124708
Downtown	147353	1366	225	420	121287	64340
East Kittsondale	10927	1772	325	277	134710	55330
Fish Creek	7940	74	12	23	6535	3467
Goodrich/Western	95420	885	146	272	78541	41664
Griffith/Pt. Douglas	93139	863	142	266	76663	40668
Hidden Falls	68660	636	105	196	56515	29980
Highwood	186378	1728	284	531	153409	81380
Lake Como	242567	2249	370	692	199658	105914
Lake Phalen	141222	1309	215	403	116241	61663
Mississippi River Blvd.	553105	5127	844	1577	455264	241507
MRWMO	37690	349	57	107	31023	16457
Phalen Creek	7719	861	150	191	62654	25113
Pigs Eye	398447	3693	608	1136	327964	173977
Riverview	192416	1784	293	549	158378	84016
St. Anthony Hill	606071	5618	924	1728	498861	264634
St. Anthony Park	42770	1996	320	462	204440	71069
Trout Brook	20711	1084	269	169	77410	25208
Urban	61868	573	94	176	50924	27014
West Kittsondale	278447	2581	425	794	229191	121581
West Seventh	96663	896	147	276	79564	42207

Table 12-6: Q3 (Jul-Sep) Pollutant Loading

Subwatershed	Cl	TKN	Total P	NO2+NO3	TSS	VSS
Battle Creek	294801	2557	512	799	312496	74093
Beaver Lake	31275	271	54	85	33152	7860
Belt Line	818250	7098	1422	2217	867364	205654
Crosby	404386	3508	703	1096	428658	101636
Davern	383271	3325	666	1039	406276	96329
Downtown	213980	1856	372	580	226824	53780
East Kittsondale	5317	980	182	188	81703	28833
Fish Creek	11807	102	21	32	12516	2968
Goodrich/Western	138566	1202	241	376	146883	34826
Griffith/Pt. Douglas	138506	1201	241	375	146819	34811
Hidden Falls	92138	799	160	250	97669	23157
Highwood	277160	2404	482	751	293796	69659
Lake Como	325510	2824	566	882	345048	81812
Lake Phalen	210009	1822	365	569	222615	52782
Mississippi River Blvd.	742233	6438	1290	2011	786784	186548
MRWMO	50578	439	88	137	53614	12712
Phalen Creek	6253	2050	346	268	176292	56646
Pigs Eye	592524	5140	1030	1606	628090	148921
Riverview	286138	2482	497	775	303313	71916
St. Anthony Hill	880114	7634	1529	2385	932941	221202
St. Anthony Park	51793	3969	704	892	278316	51793
Trout Brook	35340	2008	482	377	125182	39235
Urban	92003	798	160	249	97525	23123
West Kittsondale	373659	3241	649	1013	396087	93913
West Seventh	140371	1218	244	380	148796	35280

Table 12-7: Q4 (Oct-Dec) Pollutant Loading (lbs)

Subwatershed	Cl	TKN	Total P	NO2+NO3	TSS	VSS
Battle Creek	295608	1300	264	562	126241	24221
Beaver Lake	31360	138	28	60	13393	2570
Belt Line	820489	3607	732	1560	350395	67228
Crosby	341208	1500	304	649	145715	27957
Davern	323392	1422	288	615	138107	26497
Downtown	216986	954	194	413	92665	17779
East Kittsondale	2364	158	141	43	17818	3846
Fish Creek	11839	52	11	23	5056	970
Goodrich/Western	140512	618	125	267	60007	11513
Griffith/Pt. Douglas	138885	611	124	264	59312	11380
Hidden Falls	77743	342	69	148	33201	6370
Highwood	277918	1222	248	528	118687	22771
Lake Como	274655	1208	245	522	117294	22504
Lake Phalen	368291	1619	328	700	157281	30176
Mississippi River Blvd.	626273	2753	559	1191	267454	51314
MRWMO	42676	188	38	81	18225	3497
Phalen Creek	27921	225	55	93	10126	5155
Pigs Eye	594145	2612	530	1130	253734	48682
Riverview	286921	1261	256	546	122532	23509
St. Anthony Hill	892477	3924	796	1697	381139	73126
St. Anthony Park	22338	177	40	84	10946	22338
Trout Brook	11522	307	118	61	37514	13912
Urban	92255	406	82	175	39398	7559
West Kittsondale	315282	1386	281	600	134643	25833
West Seventh	142343	626	127	271	60788	11663

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

TMDL Annual Report Form

Municipal Separate Storm Sewer Systems (MS4) Program

Doc Type: Annual Report

Form Information

This form is to be completed annually by MS4s in order to track the completed BMP activities and to calculate the cumulative loading reduction for specific pollutants of concern associated with each applicable WLA. Navigate through this form using the tabs at the bottom of the page. All information is collected in accordance with Part III.E of the MS4 Permit.

Green Tabs (REQUIRED): user-input worksheet
Blue Tabs (hidden*): optional user-input worksheet
Yellow Tabs (hidden*): reference worksheet

*Reveal hidden spreadsheet tabs by navigating to Home->Cells->Format->Hide & Unhide->Unhide Sheet

Please refer to the Guidance for Completing the TMDL Reporting Form in the Minnesota Stormwater Manual for additional assistance and instructions. Sections of the guidance are hyperlinked throughout this spreadsheet.

User Information

Date Updated: 4/12/2024

Permittee: St. Paul

Permit ID: MN0061263

Contact Name: Huong Hoang

Contact Phone: 651-266-6231

Contact email: huong.hoang@ci.stpaul.mn.us

Mailing address: 25 W 4th St, St. Paul, MN 55102

Reporting Year	Data Entry Date	Entered by	Notes
2019	4/10/2020	St. Paul Sewers	
2020	3/1/2021	St. Paul Sewers	
2021	4/1/2022	St. Paul Sewers	
2022	4/27/2023	St. Paul Sewers	
2023	4/12/2024	St. Paul Sewers	

BMP - Activities Completed Spreadsheet

For MPCA use only			Required		Optional	Required						Optional		Required: Place an "X" in a cell if the BMP applies to the TMDL shown in the column					
Entry ID	Permittee	MS4 ID	Reporting year	BMP/Activity	BMP Description	Location and ID information Needed?	BMP ID	y-coord (lat, e.g. 44.9866)	x-coord (long, e.g. -93.2581)	Coordinate system (e.g. lat-long, UTM)	Who owns this BMP/activity?	If applicable, name other owner(s)	Year when BMP was implemented	Note(s)	Como Lake: Excess Nutrients TMDL Como Lake - Phosphorus	South Metro Mississippi River TMDL (Metro) South Metro Mississippi River TMDL (Metro) - TSS	Twin Cities Metro Area Chloride TMDL Battle Creek; Como Lake; Kasota Ponds North; Kasota Ponds West; Mallard Marsh -	Ramsey-Washington Metro Watershed District TMDL Battle Creek -TSS	Ramsey-Washington Metro Watershed District TMDL Fish Creek - E. coli	Ramsey-Washington Metro Watershed District TMDL Wakefield Lake - Phosphorus
MN0061263-1	St. Paul	MN0061263																		
MN0061263-2	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1501994	44.9387	-93.1441	Lat-long	Permittee (you)	NA	2006	Chatsworth-Goodrich Trench at Lincoln and Oxford		X				
MN0061263-3	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1501991	44.9371	-93.144	Lat-long	Permittee (you)	NA	2006	Chatsworth-Goodrich Trench at Fairmount and Oxford (North)		X				
MN0061263-4	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1501991	44.9364	-93.144	Lat-long	Permittee (you)	NA	2006	Chatsworth-Goodrich Trench at Fairmount and Oxford (South)		X				
MN0061263-5	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1501997	44.9377	-93.1415	Lat-long	Permittee (you)	NA	2006	Chatsworth-Goodrich Trench at Chatsworth and Goodrich		X				
MN0061263-6	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1501995	44.936	-93.1415	Lat-long	Permittee (you)	NA	2006	Chatsworth-Goodrich Trench at Chatsworth and Osceola		X				
MN0061263-7	St. Paul	MN0061263	2019	Infiltrator	Bioretention with no underdrain (rain garden)	Complete columns H through K	1502184	44.9317	-93.014	Lat-long	Permittee (you)	NA	2006	Londin Lane-Burlington Road Reconstruction		X				
MN0061263-8	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502009	44.9641	-93.1578	Lat-long	Permittee (you)	NA	2007	Hubbard/Griggs Trench at Hamline and Englewood		X				
MN0061263-9	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502012	44.9641	-93.1542	Lat-long	Permittee (you)	NA	2007	Hubbard/Griggs Trench at Syndicate and Englewood		X				
MN0061263-10	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502020	44.9643	-93.1517	Lat-long	Permittee (you)	NA	2007	Hubbard/Griggs Trench at Griggs and Englewood		X				
MN0061263-11	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502014	44.9661	-93.1542	Lat-long	Permittee (you)	NA	2007	Hubbard/Griggs Trench at Syndicate and Hubbard		X				
MN0061263-12	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502015	44.9668	-93.1542	Lat-long	Permittee (you)	NA	2007	Hubbard/Griggs Trench at Syndicate and Hewitt		X				
MN0061263-13	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502015	44.9672	-93.1543	Lat-long	Permittee (you)	NA	2007	Hubbard/Griggs Trench at Syndicate and Taylor		X				
MN0061263-14	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502027	44.9285	-93.1517	Lat-long	Permittee (you)	NA	2007	Jefferson/Griggs Trench at Palace and Griggs		X				
MN0061263-15	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502030	44.9283	-93.1503	Lat-long	Permittee (you)	NA	2007	Jefferson/Griggs Trench at Palace and Edgecumbe		X				
MN0061263-16	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502025	44.9301	-93.1543	Lat-long	Permittee (you)	NA	2007	Jefferson/Griggs Trench at Syndicate and Juliet		X				
MN0061263-17	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502026	44.9311	-93.1543	Lat-long	Permittee (you)	NA	2007	Jefferson/Griggs Trench at Syndicate and Wellesley		X				
MN0061263-18	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1432139	44.9904	-93.035	Lat-long	Permittee (you)	NA	2007	White Bear/Burns Trench at Christie and Idaho		X				
MN0061263-19	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1432139	44.9467	-93.0303	Lat-long	Permittee (you)	NA	2007	White Bear/Burns Trench at Kennard and Louise				X		
MN0061263-20	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1432136	44.9445	-93.0277	Lat-long	Permittee (you)	NA	2007	White Bear/Burns Trench at Flandrau and Upper Afton				X		
MN0061263-21	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502120	44.9465	-93.0557	Lat-long	Permittee (you)	NA	2008	Earl/McLean Trench at Mounds and Earl		X				
MN0061263-22	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502117	44.9461	-93.0533	Lat-long	Permittee (you)	NA	2008	Middle Trench on Mounds (Earl/McLean)		X				
MN0061263-23	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502118	44.9482	-93.0501	Lat-long	Permittee (you)	NA	2008	Easternmost Trench on Mounds (Earl/McLean)		X				
MN0061263-24	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502116	44.9473	-93.0543	Lat-long	Permittee (you)	NA	2008	Earl/McLean Trench at Frank and Thom		X				
MN0061263-25	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502121	44.9493	-93.0414	Lat-long	Permittee (you)	NA	2008	Earl/McLean Trench at Elma and Burns		X				
MN0061263-26	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502115	44.9843	-93.0329	Lat-long	Permittee (you)	NA	2008	Ivy/Kennard Trench at Germain and Sherwood		X				
MN0061263-27	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502111	44.9825	-93.0329	Lat-long	Permittee (you)	NA	2008	Ivy/Kennard Trench at Germain and Cottage		X				
MN0061263-28	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502111	44.9816	-93.0329	Lat-long	Permittee (you)	NA	2008	Ivy/Kennard Trench at Germain and Ivy		X				
MN0061263-29	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502099	44.9215	-93.1287	Lat-long	Permittee (you)	NA	2008	Seventh/Bay Trench at Bay and Butternut		X				
MN0061263-30	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502192	44.9819	-93.1884	Lat-long	Permittee (you)	NA	2009	Knapp/Raymond Trench on Carter		X				
MN0061263-31	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502199	44.9816	-93.1888	Lat-long	Permittee (you)	NA	2009	Knapp/Raymond Trench in Alley		X				
MN0061263-32	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502195	44.9797	-93.1877	Lat-long	Permittee (you)	NA	2009	Knapp/Raymond Trench on Knapp		X				
MN0061263-33	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502536	44.9357	-93.19	Lat-long	Permittee (you)	NA	2009	Cretin/Goodrich Trench at Sargent and Finn		X				
MN0061263-34	St. Paul	MN0061263	2019	Filter	Bioretention with underdrain (rain garden)	Complete columns H through K	1502546	44.978	-93.1359	Lat-long	Permittee (you)	NA	2009	Victoria/Arlington Trench at Como Lake Dr and Maryland	X					
MN0061263-35	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502548	44.9626	-93.0741	Lat-long	Permittee (you)	NA	2009	Payne Trench at Payne and Minnehaha		X				
MN0061263-36	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1216132	44.9552	-93.1289	Lat-long	Permittee (you)	NA	2010	St Albans Trench Aurora to University		X				
MN0061263-37	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1216137	44.9554	-93.1187	Lat-long	Permittee (you)	NA	2010	Arundel Trench Aurora to University		X				
MN0061263-38	St. Paul	MN0061263	2019	Infiltrator	Infiltration basin	Complete columns H through K	1216123	44.9731	-93.1365	Lat-long	Permittee (you)	NA	2010	Front/Victoria Trench at Victoria and Orchard	X					
MN0061263-39	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502554	44.9698	-93.1415	Lat-long	Permittee (you)	NA	2010	Front/Victoria Trench at Chatsworth and Front	X					
MN0061263-40	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502554	44.9688	-93.1416	Lat-long	Permittee (you)	NA	2010	Front/Victoria Trench at Chatsworth and Burgess	X					
MN0061263-41	St. Paul	MN0061263	2019	Infiltrator	Underground infiltration	Complete columns H through K	1718554	44.9732	-93.1385	Lat-long	Permittee (you)	NA	2010	Infiltration Manhole on Colne Street	X					
MN0061263-42	St. Paul	MN0061263	2019	Infiltrator	Underground infiltration	Complete columns H through K	1718552	44.9735	-93.1395	Lat-long	Permittee (you)	NA	2010	Infiltration Manhole on Ryde Street	X					
MN0061263-43	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1227690	44.9678	-93.0599	Lat-long	Permittee (you)	NA	2010	Beacon/Bluff Infiltration system at Wells/Duchess		X				
MN0061263-44	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502575	44.961	-93.1543	Lat-long	Permittee (you)	NA	2011	Blair/Griggs Trench at Syndicate and Blair		X				
MN0061263-45	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502576	44.96	-93.1517	Lat-long	Permittee (you)	NA	2011	Blair/Griggs Trench at Griggs and Lafond		X				
MN0061263-46	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502577	44.96	-93.1492	Lat-long	Permittee (you)	NA	2011	Blair/Griggs Trench at Dunlap and Lafond		X				
MN0061263-47	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502578	44.9624	-93.1492	Lat-long	Permittee (you)	NA	2011	Blair/Griggs Trench at Dunlap and Van Buren		X				
MN0061263-48	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502657	44.9668	-93.1804	Lat-long	Permittee (you)	NA	2012	Hewitt/Tatum Trench at Tatum and Hewitt		X				
MN0061263-49	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502656	44.9652	-93.1804	Lat-long	Permittee (you)	NA	2012	Hewitt/Tatum Trench at Tatum and Pennock		X				
MN0061263-50	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502658	44.9008	-93.1792	Lat-long	Permittee (you)	NA	2012	Madison/Benson Trench at Sue and Wordsworth		X				
MN0061263-51	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502658	44.9008	-93.178	Lat-long	Permittee (you)	NA	2012	Madison/Benson Trench at Edgecumbe and Wordsworth		X				
MN0061263-52	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502660	44.9879	-93.0295	Lat-long	Permittee (you)	NA	2012	Hillcrest Knoll Park and Dale Street stormwater improvement at Hillcrest Knoll Park		X				
MN0061263-53	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1502661	44.9694	-93.1985	Lat-long	Permittee (you)	NA	2013	Hampden Park Trench		X				
MN0061263-54	St. Paul	MN0061263	2019	Filter	Iron enhanced filter	Complete columns H through K	1615136	44.9761	-93.0929	Lat-long	Permittee (you)	NA	2014	Trout Brook Nature Sanctuary (South of Maryland)		X				
MN0061263-55	St. Paul	MN0061263	2019	Filter	Iron enhanced filter	Complete columns H through K	1615151	44.9741	-93.0931	Lat-long	Permittee (you)	NA	2014	Trout Brook Nature Sanctuary (at Magnolia Ave)		X				
MN0061263-56	St. Paul	MN0061263	2019	Filter	Iron enhanced filter	Complete columns H through K	1615153	44.9711	-93.0922	Lat-long	Permittee (you)	NA	2014	Trout Brook Nature Sanctuary (at Jenks Ave)		X				
MN0061263-57	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1613993	44.9483	-93.1165	Lat-long	Permittee (you)	NA	2014	Weslern Ave Trench at Western and Marshall		X				
MN0061263-58	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1718556	44.9124	-93.1678	Lat-long	Permittee (you)	NA	2014	Montreal Ave Trench at Montreal and Snelling		X				
MN0061263-59	St. Paul	MN0061263	2019	Infiltrator	Bioretention with no underdrain (rain garden)	Complete columns H through K	1718548	44.9771	-93.145	Lat-long	Permittee (you)	NA	2015	Como-Chatsworth Filtration Basin (East) at Horton and Churchill	X					
MN0061263-60	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1718548	44.9772	-93.1446	Lat-long	Permittee (you)	NA	2015	Como-Chatsworth Filtration Basin (West) at Como and Churchill	X					
MN0061263-61	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1718536	44.9746727	-93.137728	Lat-long	Permittee (you)	NA	2016	Como-Chatsworth Phase II Trench	X					
MN0061263-62	St. Paul	MN0061263	2019	Manufactured_device	SAFL Baffle	No ID information needed	1705329	44.9579816	-93.0916384	Lat-long	Permittee (you)	NA	2016	University Ave Trench at 12th St		X				
MN0061263-63	St. Paul	MN0061263	2019	Manufactured_device	SAFL Baffle	No ID information needed	1718561	44.976571	-93.190874	Lat-long	Permittee (you)	NA	2016	Raymond Ave Phase III Trench at Priscilla		X				
MN0061263-64	St. Paul	MN0061263	2019	Manufactured_device	SAFL Baffle	No ID information needed	1718564	44.973888	-93.1465827	Lat-long	Permittee (you)	NA	2016	McMurray Field at Lexington and Jessamine	X					
MN0061263-65	St. Paul	MN0061263	2019	Manufactured_device	SAFL Baffle	No ID information needed	1806449	44.9795891	93.1931973	Lat-long	Permittee (you)	NA	2017	Como 2017 Trench at Hillside		X				
MN0061263-66	St. Paul	MN0061263	2019	Manufactured_device	SAFL Baffle	No ID information needed	1802711	44.9756049	-93.1356788	Lat-long	Permittee (you)	NA	2017	Como Park HS at Rose	X					
MN0061263-67	St. Paul	MN0061263	2019	Manufactured_device	Gross pollutant trap	No ID information needed	1806439	44.9775139	-93.1354225	Lat-long	Permittee (you)	NA	2017	Wheelock Parkway-CDS structure at Victoria	X					
MN0061263-68	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1806440	44.9805571	-93.130087	Lat-long	Permittee (you)	NA	2017	Wheelock Parkway Trench at Alameda	X					
MN0061263-69	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1806453	44.9419077	-93.0202492	Lat-long	Permittee (you)	NA	2017	Battle Creek Trench at Upper Afton				X		
MN0061263-70	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1806457	44.9900725	-93.0479802	Lat-long	Permittee (you)	NA	2017	Idaho-Atlantic at Atlantic		X				
MN0061263-71	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1806458	44.9900539	-93.0473107	Lat-long	Permittee (you)	NA	2017	Idaho-Atlantic at Chamber		X				
MN0061263-72	St. Paul	MN0061263	2019	Manufactured_device	SAFL Baffle	No ID information needed	1910955	44.9537302	-93.04947254	Lat-long	Permittee (you)	NA	2018	Jackson St at 12 St		X				
MN0061263-73	St. Paul	MN0061263	2019	Manufactured_device	SAFL Baffle	No ID information needed	1910963	44.9306828	-93.1959043	Lat-long	Permittee (you)	NA	2018	Woodlawn-Jefferson at Woodlawn		X				
MN0061263-74	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1910966	44.9828368	-93.1962685	Lat-long	Permittee (you)	NA	2018	Como Ave at Luther		X				
MN0061263-75	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1910973	44.9829326	-93.1185004	Lat-long	Permittee (you)	NA	2018	Wheelock Parkway at Arundel		X				
MN0061263-76	St. Paul	MN0061263	2019	Infiltrator	Infiltration trench	Complete columns H through K	1910989	44.9604272	-93.0461671	Lat-long	Permittee (you)	NA	2018	Marxwrt St at Sieth		X				
MN0061263-77	St. Paul	MN0061263	2019	Infiltrator	Bioretention with no underdrain (rain garden)	Complete columns H through K	1620389	44.9188322	-93.1349173	Lat-long	Permittee (you)	NA	2018	Stewart Rain Garden at Otto		X				
MN0061263-78	St. Paul	MN0061263	2019	Swale_or_strip	Dry swale	Complete columns H through K	884052	44.9739	-93.0411	Lat-long	Permittee (you)	NA	2009	Vegetated Swale on Magnolia (Mechanic to Barclay)		X				
MN0061263-79	St. Paul	MN0061263	2019	Swale_or_strip	Dry swale	Complete columns H through K	884050	44.9703	-93.0525	Lat-long	Permittee (you)	NA	2009	Vegetated Swale on Case (Frank to Duluth)		X				
MN0061263-80	St. Paul	MN0061263	2019	Manufactured_device	Gross pollutant trap	No ID information needed	1613674	44.9879	-93.0295	Lat-long	Permittee (you)	NA	2012	Dale Street Stormwater Improvement- Vortech Structure		X				
MN0061263-81	St. Paul	MN0061263	2020	Manufactured_device	Hydrodynamic separator	No ID information needed	2009457	44.920	-93.109	Lat-long	Permittee (you)	NA	2020	Cherokee Heights Stormwater Management and Ravine Stabilization (2 CDS units)		x				
MN0061263-82	St. Paul	MN0061263	2020	Infiltrator	Infiltration trench	Complete columns H through K	2009461	44.953	-93.177	Lat-long	Permittee (you)	NA	2020	Fairview Street Project		x				
MN0061263-83	St. Paul	MN0061263	2020	Infiltrator	Infiltration trench	Complete columns H through K	2009460	44.989	-93.114	Lat-long	Permittee (you)	NA	2020	Wheelock Parkway Sreet Project		x				
MN0061263-84	St. Paul	MN0061263	2020	Infiltrator	Tree trench/tree box/planter	Complete columns H through K	Multiple	44.964	-93.206	Lat-long	Permittee (you)	NA	2020	Weyerhauser Development (multiple tree trenches)		x				
MN0061263-85	St. Paul	MN0061263	2020	Filter	Bioretention with underdrain (rain garden)	Complete columns H through K	2019677	44.941	-93.154	Lat-long	Permittee (you)	NA	2020	Summit Bridge		x				
MN0061263-86	St. Paul	MN0061263	2021	Infiltrator	Infiltration trench	Complete columns H through K	2106010	44.924	-93.150	Lat-long	Permittee (you)	NA	2021	Griggs-Scheffer Phase I /Warisorl		X				
MN0061263-87	St. Paul	MN0061263	2021	Infiltrator	Infiltreation trench	Complete columns H through K	2106006	44.922	-93.150	Lat-long	Permittee (you)	NA	2021	Griggs-Scheffer Phase I (Bayard)		X				
MN0061263-88	St. Paul	MN0061263	2021	Infiltrator	Infiltration trench	Complete columns H through K	2106023	44.959	-93.082	Lat-long	Permittee (you)	NA	2021	Tedesco-Payne		X				
MN0061263-89	St. Paul	MN0061263	2021	Filter	Media filter	Complete columns H through K	Multiple	44.953	-93.165	Lat-long	Permittee (you)	NA	2020	Snelling-Midway (multiple tree trenches)		X				
MN0061263-90	St. Paul	MN0061263	2021	Stormwater_reuse	Underground vault	No ID information needed	NA	44.954	-93.165	Lat-long	Permittee (you)	NA	2020	Snelling-Midway Reuse System		X				
MN0061263-91	St. Paul	MN0061263	2021	Supplemental_public_education_outreach	Publications	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Adopt-a-Drain Education Program	X	X	X	X	X	X
MN0061263-92	St. Paul	MN0061263	2021	Supplemental_public_education_outreach	Publications	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Water Quality Education Program	X	X	X	X	X	X
MN0061263-93	St. Paul	MN0061263	2021	Supplemental_public_education_outreach	Publications	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Watershed Partners and Clean Water MN	X	X	X	X	X	X
MN0061263-94	St. Paul	MN0061263	2021	Supplemental_employee_education_training	Staff training	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Annual Utility Coordination Meeting Training	X	X	X	X	X	X
MN0061263-95	St. Paul	MN0061263	2021	Manufactured_device	Sump	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Catch Basin/ Manhole Operation and Maintenance	X	X		X		X
MN0061263-96	St. Paul	MN0061263	2021	Manufactured_device	Water quality inlet	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Outfall Operation and Maintenance	X	X		X		X
MN0061263-97	St. Paul	MN0061263	2021	Manufactured_device	Sump	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Stormwater Pond/Structural Pollution Control Device Operation and Maintenance	X	X		X		X
MN0061263-98	St. Paul	MN0061263	2021	Manufactured_device	Sump	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Handling and Disposal of Removed Materials	X	X		X		X
MN0061263-99	St. Paul	MN0061263	2021	Enhanced_road_salt_management	Salt storage	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Roadway Deicing Materials Management			X			
MN0061263-100	St. Paul	MN0061263	2021	Enhanced_road_salt_management	Winter maintenance education	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Snow Operations Plan			X			
MN0061263-101	St. Paul	MN0061263	2021	Enhanced_road_salt_management	Winter maintenance education	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Snow and Ice Control Annual Training			X			
MN0061263-102	St. Paul	MN0061263	2021	Supplemental_street_sweeping	Street sweeping	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Street Sweesine Proaram	X	X	X	X	X	X
MN0061263-103	St. Paul	MN0061263	2021	Supplemental_public_education_outreach	Publications	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Public Education Program	X	X	X	X	X	X
MN0061263-104	St. Paul	MN0061263	2021	BMP_improvement_enhancement_retrofitting	BMP improvement	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Stormwater Runoff Volume Reduction	X	X		X		X
MN0061263-105	St. Paul	MN0061263	2021	BMP_improvement_enhancement_retrofitting	BMP maintenance	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2018	Pond Cleanings Completed in 2002, 2003, 2017		X				
MN0061263-106	St. Paul	MN0061263	2022	Infiltrator	Infiltration trench	Complete columns H through K	2204985	44.956	-93.182	Lat-long	Permittee (you)	NA	2022	Prior Ave Street Project		X				
MN0061263-107	St. Paul	MN0061263	2023	Filter	Iron enhanced filter	Complete columns H through K	805013	44.990	-93.083	Lat-long	Permittee (you)	NA	2016	Wheelock Pkwy (Edgemont) IESF		X				
MN0061263-108	St. Paul	MN0061263	2023	Supplemental_public_education_outreach	Publications	No ID information needed	NA	NA	NA	NA	Permittee (you)	NA	2012	Cooperative Monitoring Program	X	X	X	X	X	X
MN0061263-109	St. Paul	MN0061263	2023	Filter	Permeable pavement with underdrain	Complete columns H through K	807334	44.962	-93.166	Lat-long	Permittee (you)	NA	2012	Hamline Midway Permeable Pavement (Permeable Alley)		X				
MN0061263-110	St. Paul	MN0061263	2023	Filter	Bioretention with underdrain (rain garden)	Complete columns H through K	814208	44.967	-93.197	Lat-long	Permittee (you)	NA	2016	Raymond Ave Reconstruction (Rain Gardens)		X				
MN0061263-111	St. Paul	MN0061263	2024	Infiltrator	Infiltration trench	Complete columns H through K	808158	44.985	-93.071	Lat-long	Permittee (you)	NA	2023	Wheelock Pkwy Phase V (infiltration trench)		X				
MN0061263-112	St. Paul	MN0061263	2024	Infiltrator	Infiltration trench	Complete columns H through K	811829	44.921	-93.154	Lat-long	Permittee (you)	NA	2023	Griggs-Scheffer T1 (infiltration trench)		X				

Entry ID	Permittee	MS4 ID	Reporting year	BMP/Activity	BMP Description	Location and ID Information Needed?	BMP ID	y-coord (lat, e.g. 44.9866)	x-coord (long, e.g. -93.2581)	Coordinate system (e.g. lat-long, UTM)	Who owns this BMP/activity?	If applicable, name other owner(s)	Year when BMP was implemented	Note(s)	Como Lake - Phosphorus	South Metro Mississippi River TMDL (Metro) - TSS	Battle Creek; Como Lake; Kasota Ponds North; Kasota Ponds West; Mallard Marsh -	Battle Creek -TSS	Fish Creek - E. coli	Wakefield Lake - Phosphorus
MN0061263-113	St. Paul	MN0061263	2024	Infiltrator	Infiltration trench	Complete columns H through K	804431	44.915	-93.153	Lat-long	Permittee (you)	NA	2023	Griggs-Scheffer T2 (infiltration trench)		X				
MN0061263-114	St. Paul	MN0061263	2024	Infiltrator	Infiltration trench	Complete columns H through K	813433	44.914	-93.154	Lat-long	Permittee (you)	NA	2023	Griggs-Scheffer T3 (infiltration trench)		X				
MN0061263-115	St. Paul	MN0061263	2024	Infiltrator	Infiltration trench	Complete columns H through K	803744	44.918	-93.152	Lat-long	Permittee (you)	NA	2023	Griggs-Scheffer T4 (infiltration trench)		X				
MN0061263-116	St. Paul	MN0061263	2024	Infiltrator	Infiltration trench	Complete columns H through K	811054	44.919	-93.152	Lat-long	Permittee (you)	NA	2023	Griggs-Scheffer T5 (infiltration trench)		X				
MN0061263-117	St. Paul	MN0061263	2024	Filter	Media filter	Complete columns H through K	813157	44.946	-93.092	Lat-long	Permittee (you)	NA	2023	Minnesota St i BMP1 (modular wetland)		X				
MN0061263-118	St. Paul	MN0061263	2024	Filter	Media filter	Complete columns H through K	812545	44.947	-93.092	Lat-long	Permittee (you)	NA	2023	Minnesota St i BMP2 (modular wetland)		X				
MN0061263-119	St. Paul	MN0061263	2024	Filter	Underground sand filter	Complete columns H through K	476350	44.907	-93.179	Lat-long	Permittee (you)	NA	2023	Edcumbe Rd (filtration trench)		X				
MN0061263-120	St. Paul	MN0061263	2024	Filter	Underground sand filter	Complete columns H through K	812393	44.945	-93.09	Lat-long	Permittee (you)	NA	2023	Kellowe Blvd Phase I (6 Filterra boxes)		X				
MN0061263-121	St. Paul	MN0061263	2024	Filter	Media filter	Complete columns H through K					Permittee (you)	NA	2023	Highland Bridge Site (Ford) - Numerous BMP combinations (including Biofiltration Basins w/ IESF, StormTraps w/ StormFilters, Ponds). Cumulative TSS removal for full build out has been included in the reductions tab. Design team EOR modeled this and provided total reduction for full development not intermittent values during the many phases of surrounding development.		X				
MN0061263-122																				
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Cumulative Reductions Spreadsheet

Category 1: Summary of quantitative reductions (Annual Pollutant Load Reduction).											Optional	
Permittee	**MS4 ID**	**TMDL project**	Units	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	Calculation method	Notes
St. Paul	**MN0061263**	Como Lake - Phosphorus	pounds reduced	30	30	30	30	30				
St. Paul	**MN0061263**	South Metro Mississippi River TMDL (Metro) - TSS	pounds reduced	247,689	247,705	262,072	262,937	333,971.6				
St. Paul	**MN0061263**	Battle Creek; Como Lake; Kasota Ponds North; Kasota Ponds West; Mallard Marsh - Chloride	pounds reduced	0	0	0	0	0				
St. Paul	**MN0061263**	Battle Creek -TSS	pounds reduced	4,497	4,497	4,497	4,497	4497				
St. Paul	**MN0061263**	Fish Creek - E. coli	pounds reduced	0	0	0	0	0				
St. Paul	**MN0061263**	Wakefield Lake - Phosphorus	pounds reduced	0	0	0	0	0				

Category 2: Summary of qualitative reductions (# of BMPs).									Optional
Permittee	**MS4 ID**	**TMDL project**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	Notes
St. Paul	**MN0061263**	Como Lake - Phosphorus	11	11	11	11	11			
St. Paul	**MN0061263**	South Metro Mississippi River TMDL (Metro) - TSS	12	11	11	11	11			
St. Paul	**MN0061263**	Battle Creek; Como Lake; Kasota Ponds North; Kasota Ponds West;	9	9	9	9	9			
St. Paul	**MN0061263**	Battle Creek -TSS	11	11	11	11	11			
St. Paul	**MN0061263**	Fish Creek - E. coli	6	6	6	6	6			
St. Paul	**MN0061263**	Wakefield Lake - Phosphorus	11	11	11	11	11			

Non-implemented activities (BMP Inventory)

Permittee	MS4 ID	BMP description	Status	Reporting year	Notes (Optional)	Place an "X" in a cell if the activity applies to the TMDL shown in the column: Como Lake - Phosphorus	South Metro Mississippi River TMDL (Metro) - TSS	Battle Creek; Como Lake; Kasota Ponds North; Kasota Ponds West; Mallard Marsh - Chloride	Battle Creek - TSS	Fish Creek - E. coli	Wakefield Lake - Phosphorus
St. Paul	MN0061263	Minnesota St Phase II	Under construction	2025	Filtration		X				
St. Paul	MN0061263	Kellogg Blvd Phase II	Under construction	2025	Filtration		X				
St. Paul	MN0061263	Annapolis Ave	Under construction	2025	3 Infiltration Trenches		X				
St. Paul	MN0061263	Kellogg/Third St Bridge	Planned	2028	Filtration		X				
St. Paul	MN0061263	Grand Ave	Under construction	2025	Infiltration Trench		X				
St. Paul	MN0061263										
St. Paul	MN0061263	Flandrau/Case	Planned	2026	Iron Enhanced Filtration		X				
St. Paul	MN0061263	Pleasant St	Planned	2026	Infiltration Trench						
St. Paul	MN0061263	Shepard Ponds	Planned	TBD - Based on funding	CDS Structures/Infiltration Pond		X				
St. Paul	MN0061263	Bush Desoto	Under construction	2025	CDS Structures/Infiltration Pond		X				
St. Paul	MN0061263	Robert St	Planned	2028	MTDs		X				
St. Paul	MN0061263	Gold Line	Planned	2028	Infiltration/Filtration		X		X		
St. Paul	MN0061263	EB Kellogg Bridge	Planned	2028	MTD		X				
St. Paul	MN0061263	Hillcrest Site	Planned	2028	CDS Structures/Filtration Basins/Filtration Cartridges		X				
St. Paul	MN0061263	Como Regional Park Stormwater BMP	Planned	TBD - Based on funding	CDS Structures/Infiltration Trenches	X	X				
St. Paul	MN0061263	West Side Flats Greenway	Planned	TBD - Based on development	CDS Structures/Fitration Basins		X				
St. Paul	MN0061263										
St. Paul	MN0061263										
St. Paul	MN0061263										
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St. Paul	MN0061263										

Provide an up-dated narrative describing any adaptive management strategies used (including projected dates) for making progress toward achieving each applicable WLA

City Street Construction: The City of Saint Paul proposes to install multiple BMPs throughout the year in 2024. These BMPs will be combined with various pretreatment structures to reduce the loading of TSS into the Mississippi River.
Bush Desoto Pond: The Sewer Utility has begun construction of Bush-Desoto Pond retrofit, with an ancticipated competion date being in 2024.
Flandrau Case Pond: The Sewer Utility has continued design plans retrofitting Flandrau-Case. Construction is anticipated to begin in 2025.
Ford Site: The City of Saint Paul has accepted the majority of the stormwater management system at the Ford Redevelopment Site. Calculations on the effectiveness of TSS and Phosphorus removal for full buildout.
Hillcrest Site: The City of Saint Paul will also be working with RWMWD and SPPA on the design/installation of a major stormwater management system at the Hillcrest Golf Course Site. Calculations on the effectiveness of TSS and Phosphorus removal throughout the site will be determined qualitatively and quantitatively and reported on in the future.